QUADREL
LABELING SYSTEMS

Operating & Maintenance
Manual
For

STATE CHEMICAL MANUFACTURING

TECHLINE FRONT/BACK/WRAP

Automatic Labeling System

Labeler Model #: Q120 STEPPER
Serial #: 84239-100

QUADREL LABELING SYSTEMS
7670 Jenther Drive
Mentor, Ohio 44060
440.602.4700
customerservice@quadrel.com
parts@quadrel.com

TERMS AND CONDITIONS OF SALE
QUADREL, INC
D/B/A Quadrel Labeling Systems Hereinafter Referred to as Quadrel

PERFORMANCE GUARANTEE:

If the surface of the product to be labeled is free from contamination so as to ensure proper label adhesion, the labels are manufactured in accordance with label specifications provided and the equipment is operated and maintained in accordance with the instructions contained in the Quadrel manual (two copies of the manual will be supplied by Quadrel with the labeling system; one printed copy, and one electronic copy). Quadrel guarantees the EQUIPMENT to perform after installation as stated.

1. Provided a sufficient amount of products are presented to the labeling system.
2. Dimensional inconsistency from one like product to be labeled to the other may result in additional label placement inaccuracy in direct relationship to the product inconsistency.
3. Slitting inconsistency within a given roll of labels or from one like roll to another may result in additional label placement inaccuracy in direct relationship to the slitting inconsistency.
4. If the Quadrel labeling system proposed herein does not include physical control of the product during label application, additional placement inaccuracy can occur in direct relationship to the product control inconsistency.
5. Label Placement Accuracy: Within Sigma 2 (approximately 95.5%) to be normal.

In the event of the failure if the Quadrel system to meet customer's specifications, as quoted by Quadrel or subsequently agreed to by Quadrel. Quadrel upon written notice from buyer shall, at its option, repair the system, or refund the purchase price upon return of the system. The warranty provided in this article and the obligations and liabilities of Quadrel thereunder are exclusive and in lieu of, and buyer hereby waived, other remedies warranties, guarantees or liabilities, express or implied arising by law or otherwise (including without limitation, any obligations of Quadrel with respect to fitness for a particular purpose, merchantability, specific performance, incidental and consequential damages) whether or not occasioned by Quadrel's negligence. This warranty should not be extended altered or varied except by written instrument signed by Quadrel and buyer.

EXCLUSIVE TERMS OF SALE: The proposal attached hereto or to which these Terms and Conditions of Sale apply (the "Proposal"), together with these Terms and Conditions of sale (collectively, the "Sale Agreement"), constitutes the complete and exclusive statement of the agreement between Quadrel and the purchaser specified in the Proposal ("Purchaser") concerning the equipment and other goods specified in the Proposal (collectively, the "Equipment"), as well as any and all services specified in the Proposal (collectively, the "Services"), and supersedes all prior contemporaneous agreements, representations and/or communications, either oral or written, between Quadrel and Purchaser or any representative such as parties with the respect to the subject matter of the Sale Agreement. No change to the Sale Agreement or waiver of any provision thereof will be binding on Quadrel unless made in writing and signed off by and authorized officer of Quadrel. Acceptance of the Equipment, in whole or part, or other express or implied assent by Purchaser to the terms hereof shall constitute Purchaser's agreement to the terms of the Sale Agreement. Acceptance of any purchase order or other document of Purchaser by Quadrel is expressly made conditional on the Purchaser's assent to the Sale Agreement. ANY ATTEMPTED MEMORIALIZATION OF THIS SALE BY A PURCHASE ORDER OR OTHER DOCUMENT CONTAINING TERMAND CONDITIONS INCOSISTANT WITH OR IN ADDITION TO THE CONDITIONS CONTAINED IN THE SALE AGREEMENT SHALL NOT BE BINDING UPON QUADREL AND QUADREL HEREBY EXPRESSLY OBJECTS TO AND REJECTS THE SAME.

GENERAL WARRANTY (EXCLUDES TABLETOP LABELERS)

Time from date of shipment	Covered Expenses
Up to 90 Days	All Parts , service time, living and travel expenses
UP to 12 Months	All parts

THE WARRANTIES PROVIDED ABOVE ARE IN LIEU OF ANY AND ALL OTHER WARRANTIES AND LIABILITIES, EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE. NO OTHER WARRANTIES ARE OFFERED BY QUADREL WITH RESPECT TO THE EQUIPMENT OR SERVICES AND QUADREL HAS NOT AUTHORIZED ANY EMPLOYEE OR AGENT TO OFFER ANY WARRANTIES EXCEPT THOSE PROVIDED ABOVE. PURCHASER AND QUADREL EXPRESSLY AGREE THAT THE WARRANTIES PROVIDED ABOVE SHALL SERVE AS PURCHASER'S SOLE AND EXCLUSIVE REMEDY WITH RESPECT TO THE EQUIPMENT AND SERVICES.

PURCHASER REEQUIRMENTS. Purchaser must provide Quadrel descriptions and specifications of all labels and items to be labeled, including, without limitation, label material, product and label dimensions, and any other items required by Quadrel. Further, purchaser shall furnish Quadrel one (1) production size roll of each label and 100 samples of each item to be labeled for testing purposes. **Quadrel shall have no liability (whether under its Limited One-Year Warranty or otherwise) for labeling performance on labels or items to be labeled:**

(a) Which were not specified or sufficiently described in the Proposal: or

(b) With respect to which Purchaser fails to provide Quadrel the samples specified herein, even if such labels or items to be labeled were specified in the Proposal. Further, Quadrel shall have no liability for delays caused by Purchaser's failure to furnish samples as specified herein.

LIMITATION OF WARRANTIES. Quadrel shall have no obligation to honor its warranties and shall have no liability with respect to defective Equipment if:

(a) The Equipment has been modified, altered, damaged, abused or used for any other than those purposes intended by Quadrel.
(b) The Equipment has been changed without prior written consent from Quadrel.
(c) The equipment has not been operated and maintained in accordance with generally accepted commercial practices for similar equipment and Quadrel's specifications and instructions, as published in the Quadrel manual.
(d) The surface if the product to be labeled is not clean and free of contamination, including, but not limited to, mold release agents, condensation, dirt and oil.
(e) Labels are not manufactured in accordance with label specifications provided by Quadrel, or are not from defects such as cracked edges, deep die strikes, *etc*.
(f) Labels and items to be labeled are not set forth in the Proposal.
(g) Samples of all products and labels were not provided to Quadrel for testing prior to Equipment shipment as required under "Purchaser Requirements" outlined above.
(h) There is dimensional inconsistency from one like roll of labels to another.
(i) *The Equipment does NOT include physical control of the product.*

LIMITATION OF REMEDIES. All warranty claims shall be subject to review and approval by Quadrel. Quadrel's obligation to honor warranties is in all cases limited to, at Quadrel's sole option:

(a) Repair of defective Equipment or components: or
(b) Providing a cash refund or credit, after Purchaser has returned Equipment to Quadrel.

Where warranty service is to be provided at the Quadrel facility, Purchaser shall return Equipment claimed to be defective to Quadrel, freight prepaid, for review. No Equipment shall be returned to Quadrel, whether for inspection, repair, refund, or any other reason, without prior return authorization from Quadrel. Quadrel may charge Purchaser cost resulting from testing, handling and disposition of Equipment claimed to be defective by Purchaser which is found by Quadrel to conform to Quadrel's warranties.

LIMITIATION OF LIABILITY. QUADREL SHALL HAVE NO LIABILITY FOR ANY CONSEQUENTIAL, INCIDENTAL, PUNITIVE OR SPECIAL DAMAGES BY REASON OF ANY ACT OR OMISSION OR ARISING OUT OF OR IN CONNECTION WITH THE (a) EQUIPMENT OR ITS SALE, DELIVERY, INSTALLATION, MAINTENANCE, OPERATION, OR PERFORMANCE, OR (b) SERVICES. IN NO EVENT SHALL QUADREL'S LIABILITY EXCEED THE PRICE OF THE EQUIPMENT (OR THE PRICE OF THE SERVICES IF A CLAIM IS MADE WITH RESPECT TO THE SERVICES) WITH RESPECT TO WHICH A CLAIM IS MADE REGARDLESS OF WHETHER SUCH CLAIM IS BROUGHT

AT LAS OR IN EQUITY AND REGARDLESS OF WHETHER SUCH CLAIM IS BROUGHT UNDER CONTRACT, BREACH OF WARRANTY, TORT OR ANY OTHER THEORY OF LAW OR EQUITY.

ORDERS:
Orders entered, verbal or written, cannot be cancelled except upon terms that will compensate Quadrel against any and all claims

START-UP SERVICE:
Quadrel will provide, at standard installation rates, the number of normal eight-hour working days for the Quadrel Field Service Technician to start the EQUIPMENT and to train PURCHASER'S operating and maintenance personnel. EQUIPMENT is not uncrated and emplaced in desired location by PURCHSER prior to arrival of Quadrel Field Service Technician, or if the EQUIPMENT cannot be made operational due to non-availability of products, labels, appropriate utilities and/or related production equipment, PURCHASER shall pay Quadrel for additional service time required including travel expenses, if applicable, in accordance with Quadrel's Field Service rates. It is PURCHASER's obligation to schedule the start-up service at a time when PURCHSER'S engineering, maintenance and selected production personnel are available.

SERVICE AFTER INSTALLATION:
Quadrel Field Service Technicians are available to customers who do not maintain their own service departments. This can be handles on a per visit basis. Field Service rates are available on request.

PAYMENT TERMS:
Payment terms are as follows: 50% of purchase with purchase order, 40% of purchase at the time of shipment, 10% of purchase (plus freight charges) due net 30 days. If shipment is delayed beyond 30 days after the EQUIPMENT has been made ready for shipment, and the delay is caused directly or indirectly by the PURCHASER, then the total of the unpaid balance, at option of Quadrel, may become immediately due and payable upon written notice. Payments not paid when due shall thereafter bear monthly service charges at the rate of 1.5% per month on the unpaid balance until paid. If, in Quadrel's opinion, PURCHASER'S financial condition does not justify continuance of production or shipment on the terms of payment specified above, Quadrel may require payments in advance.

FINANCIAL IMPAIRMENT. Quadrel may, at its option, suspend performance if in its opinion the credit of the Purchaser becomes impaired until such time as Quadrel has received full payment, including any general price increases or surcharges, is satisfactory security for deliveries made and is satisfied as to Purchasers credit for future deliveries. Quadrel reserves the right to cancel Purchaser's credit at any time for any reason. In addition, Quadrel reserves the right by written notice to cancel any order or require full or partial payment or adequate assurance of performance from Purchaser without Liability to Quadrel in the event of:

(a) Purchaser's insolvency
(b) Filing of a voluntary petition in bankruptcy by Purchaser
(c) Filing of an involuntary petition in bankruptcy against Purchaser
(d) Appointment of a receiver or trustee for Purchaser
(e) Execution by Purchaser of an assignment for the benefit of creditors

TAXES:
The amount of any present or future federal, state, local or other taxes applicable to the sale of EQUIPMENT shall be added to the price and paid by PURCHASER unless PURCHASER provides a valid exemption certificate acceptable to Quadrel and the appropriate tax authority.

GOVERNING LAW AND JURISDICTION. The sale agreement shall be governed and construed in accordance with the domestic laws of the State of Ohio without giving effect to any choice or conflict of law provision or rule that would cause the application of the laws of any jurisdiction other than the State of Ohio. Any legal action, suit or proceeding relating to the Sale Agreement shall be heard and determined exclusively in the United States District Court for the Northern District of Ohio or the Court of Common Pleas of Lake County, Ohio, and each party irrevocably submits to the jurisdiction of either such courts and waives any objection which such party may have to the laying of venue of any such legal action, suit or proceeding in any such court.

The Sale Agreement shall not be governed by the United Nations Convention on the International Sales of Goods. No actions arising out of the sale of Equipment or Services may be brought by either party more than one (1) year after shipment.

RETURNS:
EQUIPMENT sold by Quadrel is returnable only in accordance with the provisions hereof. Before returning of any EQUIPMENT or items thereof, PURCHASER must obtain Quadrel's written return authorization and instructions.

FORCE MAJEURE:
Quadrel shall not be liable for any loss, damage, delay, changes in shipment schedules or failure to deliver due to act of God, accidents, fires, strikes, riots, civil commotion, insurrection, war, the elements, embargoes, failure of carriers, inability to obtain electricity or other type of energy, transportation facilities, raw material, equipment or any problem or any similar or different contingency beyond its reasonable control which would make performance commercially impractical whether or not the contingency is of the same class as those above. Quadrel shall in no event be liable for any consequential damages.

TITLE AND RISK OF LOSS:
Title and risk of loss to EQUIPMENT shall pass to PURCHASER upon delivery by Quadrel to a common carrier, regardless of the freight terms stated or method of payment for transportation charges. Quadrel reserves the right to specify routing of shipments.

ENTIRE AGREEMENT:
This agreement embodies the entire agreement and understanding between the parties, is intended as complete and exclusive statement of terms of the agreement between the parties and supersedes any prior agreements or understandings between the parties relating to the subject matter hereof. PURCHASER acknowledges that Quadrel has not made any representations to PURCHASER other than those which are contained herein. Except as provided in this agreement, no change in or addition to the terms contained herein shall be valid as between the parties unless set forth in writing which is signed by an authorized representative of both parties and which specifically states that it constitutes an amendment to this agreement.

The parties may use their normal commercial forms in connection herewith: however, any such forms shall be used for convenience only and any terms or provisions which may be contained therein inconsistent with or in addition to those contained herein shall have no force or effect whatsoever between parties hereto.

EFFECTIVE:
This proposal is based upon the current cost of labor and materials and shall remain in effect for a period of sixty (60) days from the date hereof unless revoked by Quadrel in writing prior to acceptance.

INDEMNIFICATION:
The purchaser of this product ("Customer") hereby agrees to release, indemnify and hold harmless Quadrel and its agents, assignees and representatives for any and all liabilities, losses, costs, damages and expenses (including attorneys' fees and expenses) arising, directly or indirectly, from any and all manner of claims, demands, actions and proceedings that may be instituted against Quadrel on any grounds.
The Customer agrees to, at the Customer's own expense, promptly defend and continue the defense of any such claim, demands, actions or proceeding that may be brought against Quadrel, provided that Quadrel shall, within thirty (30) days of Quadrel receiving notice thereof, notify the Customer of such claims, demand, action or proceeding.
Quadrel shall at all times retain the right to defend itself and/or to otherwise participate in the defense of any such claim or action, and no settlement or other resolution of any such claims or action shall be finalized without Quadrel's written approval. Any failure by Quadrel to give prompt notice or provide copies of documents or furnish relevant data shall not constitute a defense in whole or in part to any claim by Quadrel against the Customer except to extend that such failure by Quadrel shall result in a material prejudice to the Customer.
The forgoing notwithstanding, if suit shall have been against Quadrel and the Customer shall have failed, after the lapse of a reasonable time after written notice to it of such suit, to take action to defend the same. Quadrel shall have the sole right to

defend the claim and shall be entitled to charge the customer with the reasonable cost of any such defense, including reasonable attorney's fees, and Quadrel shall have the right, after notifying but without consulting the Customer, to settle or compromise such claim on any terms reasonably provided by Quadrel.

This release and indemnification is and shall be binding upon the Customer, as well as the Customer's respective heirs, subsidiaries, affiliates, successors, assigns, agents and employees. If any provision or provisions of this release and indemnification shall be held to be invalid, illegal or unenforceable for any reason whatsoever, the validity, legality and enforceability of the remaining provisions aft h Agreement shall not in any way be affected or impaired thereby. No supplement, modification or amendment of this Agreement shall be binding unless executed in writing by all of the parties hereto.

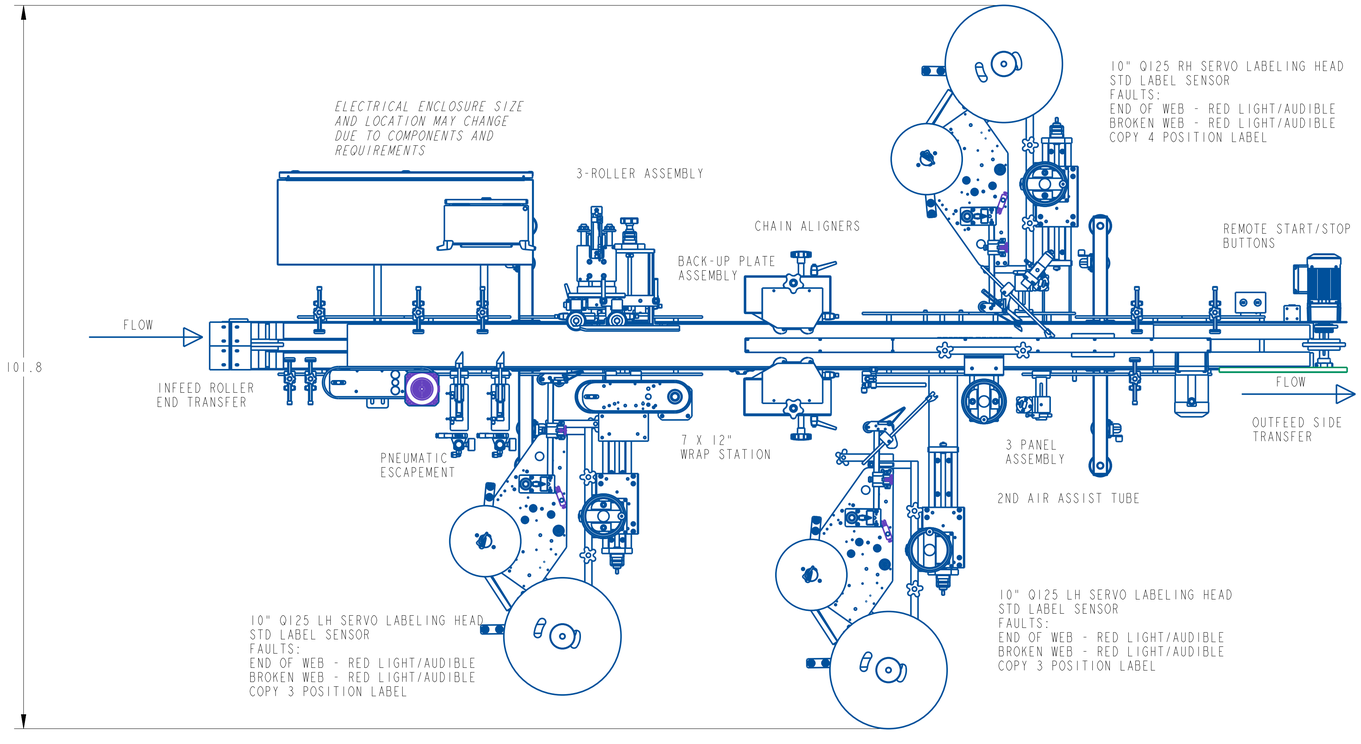
Any order put on hold or left dormant for any reason for 90 days will be considered cancelled. See Cancellation Policy below.

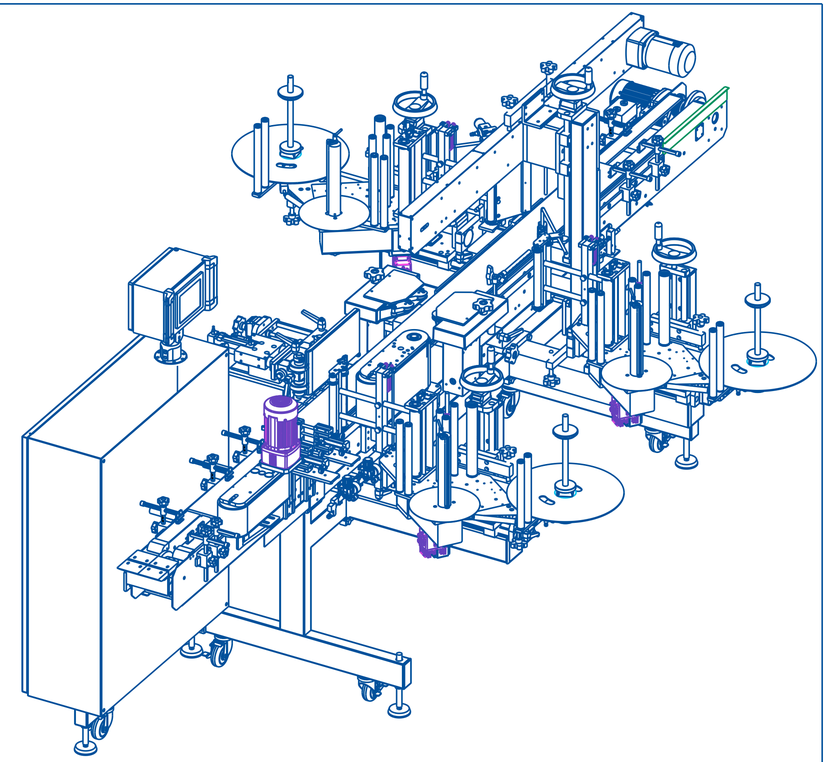
CANCELLATION POLICY:

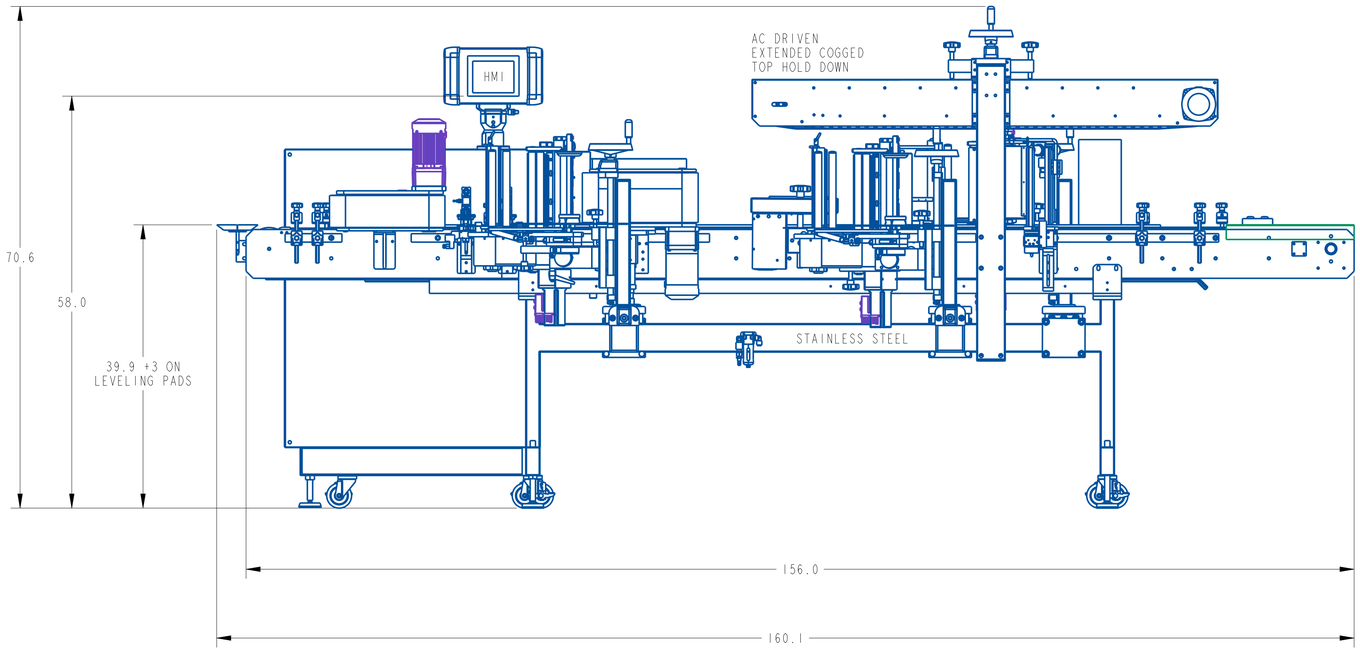
In the event of order cancellation, the 50% down payment is non-refundable. Customer may also be responsible for additional charges covering engineering resources expended and committed materials depending upon the custom nature of the project and the point in the order process in which the cancellation occurs.

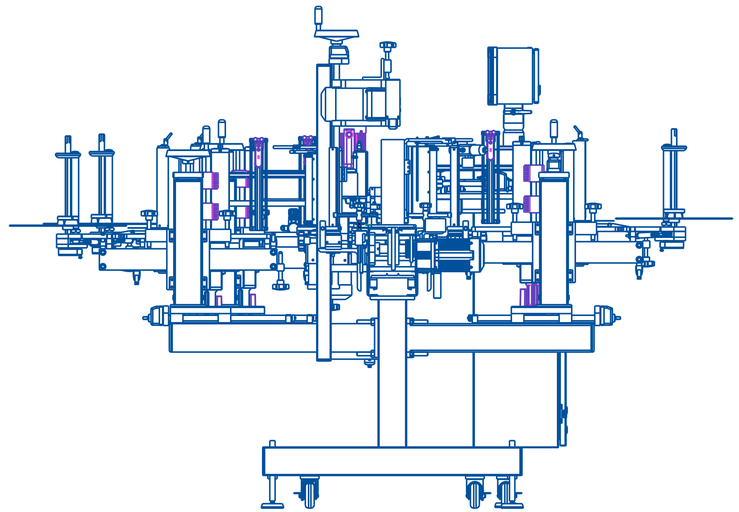
NOTE. No salesman, representative or agent of Quadrel is authorized to give a guarantee, warranty or make any representation contrary to above.

Please sign and acknowledge acceptance to these terms and conditions_____Date_____









SIMILAR TO 83881

SHEET 1 OF 1

REV	DATE	DESCRIPTION	BY
B	Nov-06-25	SHORTENED HMI HEIGHT	TAZ
A	Oct-31-25	NEW DRAWING	TAZ

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE
X ± .1
XX ± .01
XXX ± .005
ANGLES ± 30'
SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030
ALL ANGLES ARE 90°

QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

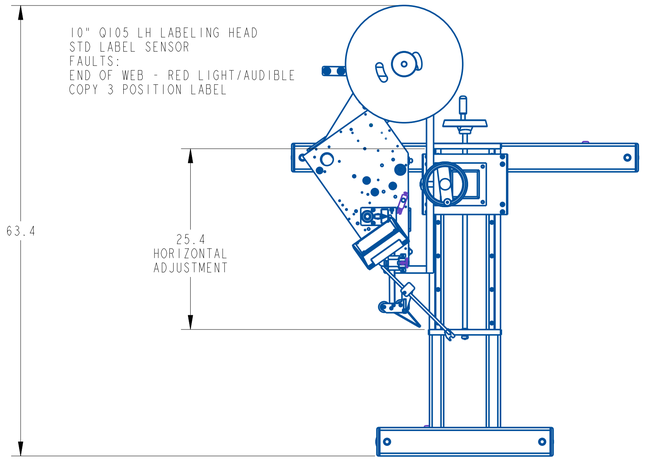
SCALE: 3/32
DATE: Oct-31-25
DRW BY: TAZ
CHK BY:
APPR BY:

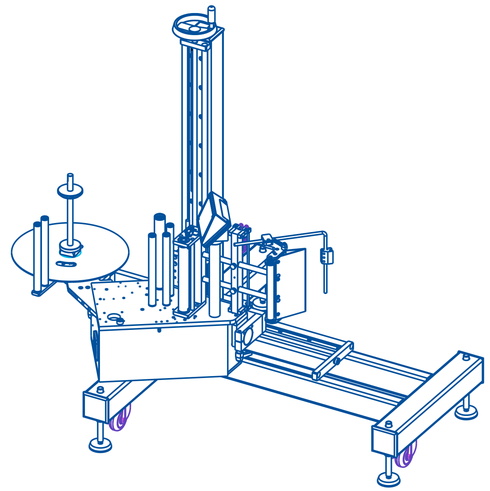
TECHLINE F/B/W LABELING SYSTEM

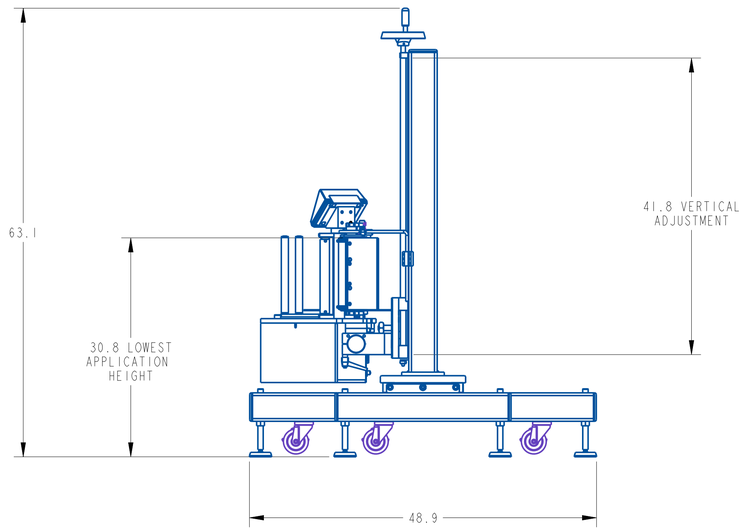
MAT'L

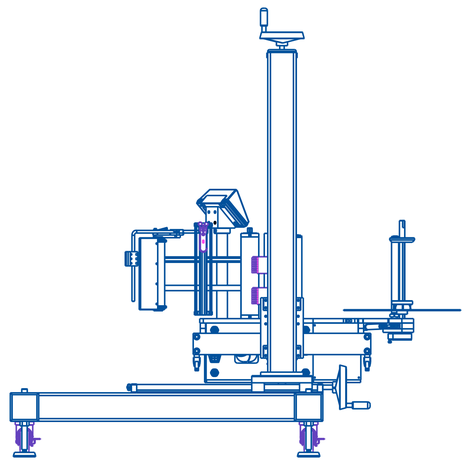
STATE INDUSTRIAL PRODUCTS
APPROVAL DRAWING

84239-100









REV	DATE	DESCRIPTION	BY
C	Nov-07-25	BACK TO REV A	TAZ
B	Nov-07-25	WAS RIGHT HAND	TAZ
A	Oct-31-25	NEW DRAWING	TAZ

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
X ± .1
XX ± .01
XXX ± .005
ANGLES ± 30'
SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030
ALL ANGLES ARE 90°

QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

SCALE: 3/32
DATE: Oct-31-25
DRW BY: TAZ
CHK BY:
APPR BY:

Q105 ON A STAND LABELING SYSTEM

MAT'L STATE INDUSTRIAL PRODUCTS
APPROVAL DRAWING

84239-200

TABLE OF CONTENTS

1 MANUAL PREFACE

2 GENERAL DISCTRIPTION

3 WARNING/CAUTION SAFETY INSTRUCTION
- 3.1.1 SAFETY INTEGRATION
- 3.1.2 GENERAL SAFETY INFORMATION

4 INSTALLATION / REASSEMBLY INSTRUCTIONS

5 HMI GUIDE

6 SET UP SHEETS

7 LABELING HEAD
- 7.1.1 LABELING HEAD INFORMATION
  - 7.1.1.1 LOADING AND UNLOADING STOCK ROLL
  - 7.1.1.2 THREADING DIAGRAMS
  - 7.1.1.3 LABELER ADJUSTMENTS
  - 7.1.1.4 FUNCTION, OPERATION, & TROUBLESHOOTING
- 7.1.2 SIDE PLATE ASSEMBLY
  - 7.1.2.1 ASSEMBLY WRITE UP
  - 7.1.2.2 DRAWING
- 7.1.3 UNWIND ASSEMBLY
  - 7.1.3.1 ASSEMBLY WRITE UP
  - 7.1.3.2 DRAWING
- 7.1.4 IMPRINTER MOUNT – **(OPTIONAL)**
  - 7.1.4.1 ASSEMBLY WRITE UP
  - 7.1.4.2 DRAWING
- 7.1.5 PEEL PLATE ASSEMBLY
  - 7.1.5.1 ASSEMBLY WRITE UP
  - 7.1.5.2 DRAWING
- 7.1.6 BRUSH IMPRESSER ASSEMBLY – **(OPTIONAL)**
  - 7.1.6.1 ASSEMBLY WRITE UP
  - 7.1.6.2 DRAWING
- 7.1.7 DRIVE AND PINCH ROLL ASSEMBLY
  - 7.1.7.1 ASSEMBLY WRITE UP
  - 7.1.7.2 DRAWING
- 7.1.8 STEPPER/SERVO MOTOR DRIVER ASSEMBLY
  - 7.1.8.1 ASSEMBLY WRITE UP
  - 7.1.8.2 DRAWING
- 7.1.9 REWIND ASSEMBLY
  - 7.1.9.1 ASSEMBLY WRITE UP

7.1.9.2 DRAWING
7.1.10 SLOT SENSOR ASSEMBLY
7.1.10.1 ASSEMBLY WRITE UP
7.1.10.2 DRAWING
7.2 LABELING HEAD FAULTS – **(OPTIONAL)**
7.2.1 ASSEMBLY WRITE UP
7.2.2 DRAWING
7.2.3 END OF WEB / BROKEN WEB / LOW LABEL
8 MECHANICAL COMPONENTS
8.1.1 FRAME ASSEMBLY
8.1.1.1 ASSEMBLY WRITE UP
8.1.1.2 DRAWING
8.1.2 CONVEYOR ASSEMBLY
8.1.2.1 ASSEMBLY WRITE UP
8.1.2.2 DRAWING
8.1.3 HEAD SUPPORT ASSEMBLY
8.1.3.1 ASSEMBLY WRITE UP
8.1.3.2 DRAWING
8.1.4 PACING WHEEL/BELT ASSEMBLY/FEEDSCRW
8.1.4.1 GENERAL INFORMATION
8.1.4.2 ADJUSTMENTS
8.1.4.3 ASSEMBLY WRITE UP
8.1.4.4 DRAWING
8.1.5 WRAP STATION ASSEMBLY
8.1.5.1 GENERAL INFORMATION
8.1.5.2 ADJUSTMENTS
8.1.5.3 ASSEMBLY WRITE UP
8.1.5.4 DRAWING
8.1.6 BACK UP PLATE ASSEMBLY
8.1.6.1 GENERAL INFORMATION
8.1.6.2 ADJUSTMENTS
8.1.6.3 ASSEMBLY WRITE UP
8.1.6.4 DRAWING
8.1.7 TOP HOLD DOWN ASSEMBLY
8.1.7.1 GENERAL INFORMATION
8.1.7.2 ADJUSTMENTS
8.1.7.3 ASSEMBLY WRITE UP
8.1.7.4 DRAWING
8.1.8 PRODUCT DETECT ASSEMBLY
8.1.8.1 ASSEMBLY WRITE UP
8.1.8.2 DRAWING
8.1.9 CHAIN ALIGNER / HUGGER BELT ASSEMBLY – **(OPTIONAL)**
8.1.9.1 GENERAL INFORMATION
8.1.9.2 ADJUSTMENTS
8.1.9.3 ASSEMBLY WRITE UP

8.1.9.4 DRAWING

8.1.10 ROTARY ACTUATOR SQUEEGEE ASSEMBLY – **(OPTIONAL)**

8.1.10.1 GENERAL INFORMATION
8.1.10.2 ADJUSTMENTS
8.1.10.3 ASSEMBLY WRITE UP
8.1.10.4 DRAWING

8.1.11 STOP GATE ASSEMBLY / BLADDER – **(OPTIONAL)**

8.1.11.1.1 GENERAL INFORMATION
8.1.11.1.2 ADJUSTMENTS
8.1.11.1.3 ASSEMBLY WRITE UP
8.1.11.1.4 DRAWING

8.1.12 INFEED / OUTFEED BANK SENSORS – **(OPTIONAL)**

8.1.12.1.1 GENERAL INFORMATION
8.1.12.1.2 ADJUSTMENTS
8.1.12.1.3 ASSEMBLY WRITE UP
8.1.12.1.4 DRAWING

8.1.13 EJECT STATION ASSEMBLY – (**OPTIONAL)**

8.1.13.1.1 GENERAL INFORMATION
8.1.13.1.2 ADJUSTMENTS
8.1.13.1.3 ASSEMBLY WRITE UP
8.1.13.1.4 DRAWING

9 ELECTRONICS / SCHEMATICS

10 MAINTENANCE

10.1.1 GENERAL INFORMATION
10.1.2 BELTS
10.1.3 ROLLERS
10.1.4 SENSORS
10.1.5 CONVEYOR
10.1.6 CLEANING
10.1.7 WARRANTY

Quadrel Labeling Systems
Quality Manual

Quality Statment:

Quadrel Labeling Systems strives to provide our customers with the highest quality labeling/sleeving solutions available on the market. In order to achieve total customer satisfaction, we shall adhere to the following objectives:

100% on-time delivery

zero defects

Value added service and support

Engineered solutions

Employee development and diversity

We will commit to continuously improve each facet of our business operations through implementation of, and compliance of this manual.

C. Wepl

Chuck Wepler
General Manager / President

Approved by: Jim Brazee
Issue Date: 1/1/2018

1 MANUAL PREFACE

Thank you for choosing Quadrel Labeling Systems. We have designed and manufactured this equipment with the upmost pride and care ensuring you the absolute best quality, maximum versatility and reliability.

This equipment is intended to be used only as described in this document. Quadrel Labeling Systems Inc. cannot be held responsible for the improper use or functioning of non-described functions of this machinery. Liability for any personal injury, loss of production or revenues, or property damage occasioned by the use of this manual in effect maintenance, operation, or repair of the equipment is in no way assumed by Quadrel Labeling Systems Inc. Anyone one using a procedure not recommended by the end user should first completely satisfy himself/herself that personal safety and equipment integrity will not be jeopardized in the method selected.

DO NOT attempt to install, operate, or adjust the labeling system without first reading and understanding the contents of this manual.

Only a trained person is to be permitted to operate this equipment. Training should include instruction in operation under normal conditions and emergency situations. Under no circumstances should an untrained person operate this machine.

This manual will provide operating instructions, parts listing and schematics. The information contained in this manual will help the user in his/her operations, troubleshooting, and maintaining the machine in good operating conditions. Information, illustrations and specifications contained in this manual are based on the latest product information available at the time of this manual release. Quadrel Labeling Systems Inc. reserves the right to alter and substitute information contained herein at any time.

Due to the customization it is also possible that you have received a different variation of this equipment, with several different options. Some pictures used in this manual may not totally reflect your configuration, although the labeling is completely the same.

All rights reserved while every precaution has been taken in the preparation of this manual, Quadrel Labeling Systems Inc. cannot be held responsible for errors, omissions, damages, loss of production, or revenues resulting from the use of the information contain herein.

2 GENERAL DISCRIPTION - TECHLINE

In-line labeling machines apply labels to a wide variety of container shapes. In addition to conventional cylindrical containers, the in-line labeler can be used with specially contoured, elliptical or flat-sided containers. In-line labelers are manufacturing in a variety of configuration. Diagrams illustrate standard in-line labeler arrangements for different container designs.

The Techline labeling system is a high performance, economically priced labeling system for front/ back, wrap or custom applications with production rates up to 275 ppm. Built with quality, versatility and durability from the bottom up. This system surpasses all equipment in its price range and is suitable for multi-shift operations where long-term reliability is important. All critical components are designed for 24/7 reliability. The versatility of Techline makes it ideal for contract packagers or companies requiring frequent changeovers on a wide variety of products. Features such as PLC control with color touchscreen and simple “no tool/ no change parts” operation provide maximum flexibility for today’s packagers. This system has a compact footprint, suitable for harsh/ multi-shift environments. Allen-Bradley PLC control with color touchscreen with 50 programmable product presets. Encoder-based speed compensation. AC inverter controlled product handling. Ideal for Pharmaceutical, Food, Personal Care, Automotive and other markets.

3 WARNING/CAUTION SAFETY INSTRUCTION

Where safety is dependent upon starting or stopping devices, or both, they are to be kept free of obstructions that could endanger personnel.

The areas around loading and unloading points are to be kept free of obstructions that could endanger personnel. Instruct personnel working on or near this equipment as to the location and operation of pertinent stopping devices.

This equipment is to be used only for the purpose for which it is constructed.

Under no circumstances are the safety characteristics of this equipment to be altered.

Conduct routine inspections and corrective / preventive maintenance measures to ensure that all guards are installed and function properly. Alert personnel to the potential hazards indicated by the safety labels on this equipment.

3.1 SAFETY INTEGRATION

The end user's safety risk assessment will be the guiding document for proper integration of the equipment provided. Consideration of the following guidelines is recommended in order to achieve a safe result:

- Open areas under the equipment are to be guarded by the end user to prevent entry.
- Where conveyor flight lugs or product enters or exits the equipment, proper guarding and interlock are put in place by the end user to ensure mitigation of shear/jam points.
- The end user is responsible for properly guarding drive components on equipment that requires mechanical drive integration.

3.2 GENERAL SAFETY INFORMATION

This Quadrel Labeling System is engineered to feed and apply labels on your products. In designing the device, Quadrel valued personal safety; however we would like to draw your attention to the following safety acknowledgments.

⚠ WARNING Hazards or unsafe practices, which **COULD** result in severe personal injury or death.

⚠ CAUTION Hazards or unsafe practices, which **COULD** result in minor injury

⚠ CAUTION The presence of safety systems in these units does not exempt the operators to act cautiously, avoiding behaviors that could

endanger their health or the equipment. These models are engineered to feed and apply labels on your products. In designing this device, Quadrel valued personal safety; however we would like to draw your attention to the following safety acknowledgments.

- Operators should know the basic operations and setup procedures before operating this equipment.
- Safe operations should be maintained at all times.
- Know the location of E-stops and power switches prior to operating machinery such as this.

⚠ WARNING

To reduce risk of fire, electrocution, or other personal injury when operating. Follow basic safety precautions, including the following:

- This equipment must have an operator attending the machine at all times to monitor the operations. **DO NOT** leave this equipment unattended during maintenance or perform any maintenance unless the e-stop condition has been activated or power turned off.
- The electrical power to device is: ____220__ Volts, _SINGLE (1)_Phase, __60__Hz, ___20_Amps. While installing make sure it's properly configured and connected by a qualified electrical technician.
- **DO NOT** by pass any of the safety circuits or safety features designed into this equipment.





- ALWAYS turn off **power and pneumatics** before performing repairs.
- The doors on all electrical enclosures must be closed. All covers on labeling heads must be on labeling heads. (if applicable)

- This device is built to perform in humid conditions, but must not be pressure washed. Wiping down the device is the recommended cleaning method.





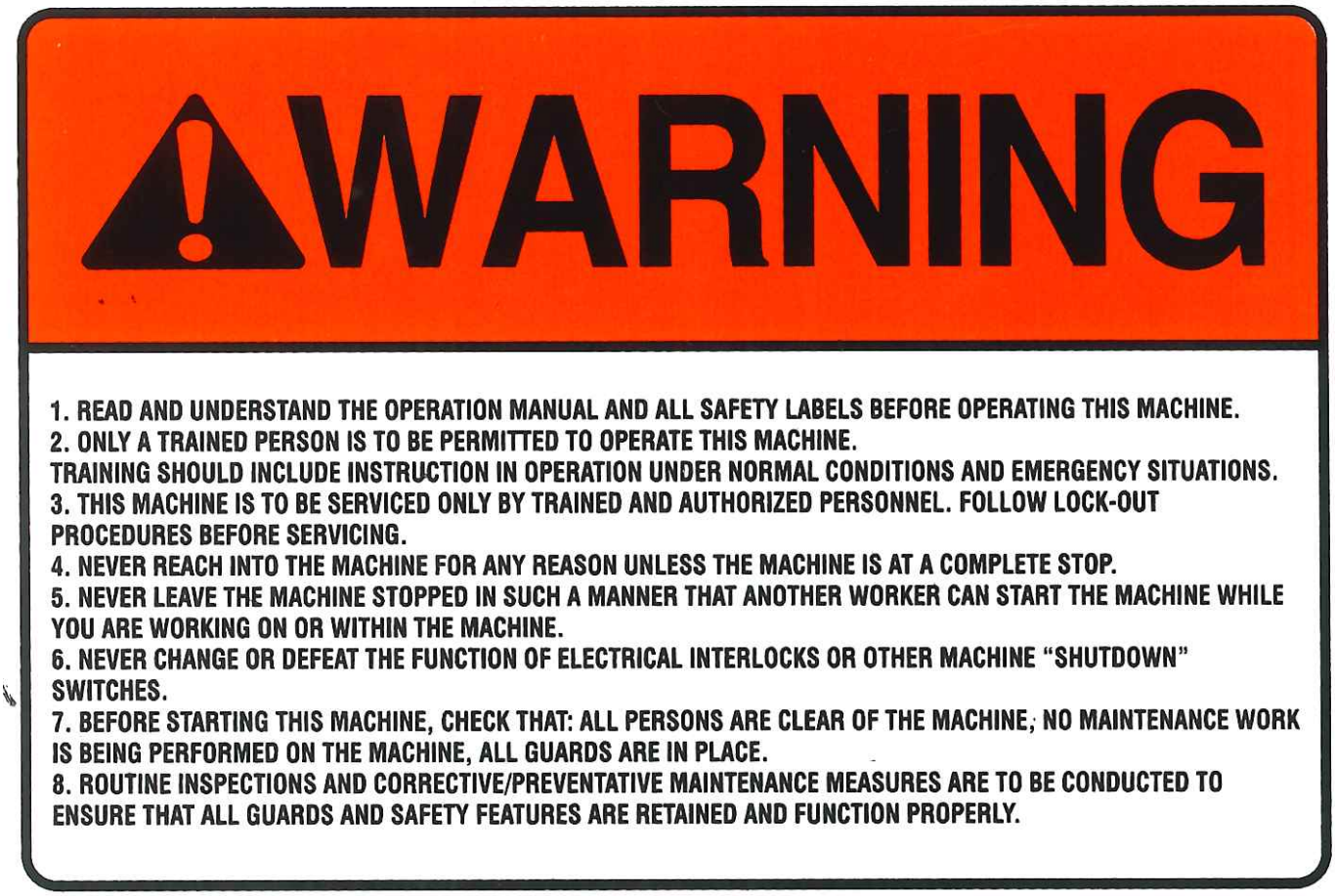
- Do not stand, sit, or allow any personnel to be within reach of the tamp cylinder/ swing arm activation (if so equip).
- Report any malfunctions, or problems with the equipment to qualified maintenance personnel for repair or adjustments that may be required.
- Keep hands clear of moving parts. Do not place hands near labeling head when in operation.

For systems containing conveyors, you must be vigilant with loose clothing or bodily parts as they can get caught in the conveyor's belt or chains as direct injury or death can incur. **DO NOT** use the conveyor as a working platform or walkway.

TUCK IN ANY LOOSE CLOTHING. DO NOT WEAR TIES. PENDANTS, JEWLERY OR ANY OTHER ARTICLE OF CLOTHING OR ACCESSORY THAT MAY GET CAUGHT ON ANY PORTION OF THE SYSTEM.

FOR PROLINE SYSTEMS ONLY

CASTERS WERE IMPLEMENTED FOR EASE OF SHIPPING PURPOSES ONLY. PLEASE USE CAUTION WHEN MOVING PROLINE THROUGH FACILITY. THE PROLINE RECOMMENDED USE: SET IN PLACE/POSITION WITH LEVELING PADS DOWN TO SECURE.



Using VFDs On GFCI Devices

By Bill Szatkiewicz, Senior Software Engineer
KB Electronics
for more information, email: info@kbelectronics.net
or visit: www.kbelectronics.com

The National Electrical Code, or NEC, continues to expand protection requirements for safety reasons resulting in an increase in Ground-Fault Circuit-Interrupter (GFCI) outlets being used in more environments. As a result, the Variable Frequency Drives (VFDs) industry is finding more instances of VFDs being powered from GFCIs. VFDs introduce high frequency harmonic content which may cause nuisance tripping on some GFCI devices. This paper is intended to assist anyone that needs to use a VFD on a circuit with GFCI protection. KB Electronics has developed special VFDs suitable for use with most GFCIs*.
* Please contact KB Electronics with information regarding your specific GFCI.

What is a VFD?

A VFD (also termed adjustable frequency drive, variable speed drive, AC drive, adjustable speed drive, micro drive, motor control, or inverter drive) is a power conversion device that will accept normal fixed branch circuit voltage of (115V or 230V) and frequency (50 Hz or 60 Hz) and allow the operator to control the speed of an induction motor (AC Motor) by varying the output voltage and frequency. A simplistic version of a typical VFD system is shown in Figure-1.

In addition to operator controllability, the VFD with soft start/stop features offers extended equipment life, increased performance, reduced maintenance, protection from excessive currents and voltages, as well as energy savings.

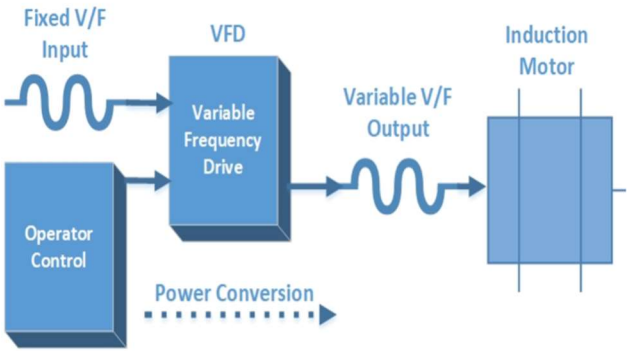


Figure-1: Typical VFD System

What is a GFCI?

A GFCI (shown in Figure-2) is a circuit breaker device which is designed to protect people from hazardous shock or electrocution by shutting off an electric power circuit when it detects current flowing in a way that it is not meant to, such as through water or a person.



Figure-2: Typical GFCI Outlet

The GFCI is intended to protect people from electrical shock, therefore, it is completely different from a fuse in the sense that it needs to shut off the electric power circuit at a low current, typically no more than 5 mA, in a quick amount of time (less than 1/10 of a second).

The GFCI does this by measuring and comparing the amount of current flowing in the ungrounded (hot) and grounded (neutral) conductors of the circuit. If the GFCI detects an imbalance in the circuit, it immediately shuts off the circuit.

Why Nuisance Trips Occur with Standard VFDs

Standard VFDs, when powered from GFCI outlets, can cause the GFCI to trip due to the leakage currents generated from the high switching frequency of the VFD's power devices and the harmonics associated with them. These high frequency leakage currents are not at the base frequency of the drive output which is normally 50 Hz or 60 Hz. These high frequency leakage currents, typically greater than 4 kHz, may cause the GFCI to trip because the GFCI is designed to work with 50 Hz or 60 Hz frequency inputs, not this higher value.

The high switching frequency of the VFD's power devices induce more capacitive-coupled currents, since a capacitor approximates a short circuit at high frequencies. This creates common-mode noise, referred to as leakage current, which travels through ground and can cause the GFCI to trip. The path to ground is made through the motor bearings or auxiliary equipment bearings.

In addition to the high switching frequency of the drive, there can be many other contributing factors which cause the GFCI to trip. Some drives have built-in filters which couple additional leakage current to earth ground. Other drives use external filters and replacing them with a low leakage filter may help.

One way to help determine if the GFCI tripping is occurring from the input filter or the VFD output is to remove either the input filter or the motor and observe if the GFCI still trips. For example, if the input filter is easily removed and doing so prevents the GFCI from tripping, the source of the leakage currents tripping the GFCI was largely from the input filter.

Another method is to disconnect the motor. If doing so prevents the GFCI from tripping the contributing source of leakage current is most likely from the output stage of the VFD. However, most often than not, the GFCI is tripping from a combination of the two and improvements on both the input and output will help.

Long motor power cables can also create noise spikes. These long leads add more capacitance which increases noise spikes from the fast switching power devices of the VFD. Use a VFD rated cable with the shortest leads possible when connecting the motor power cables. A choke on the VFD's motor outputs may help reduce noise spikes.

In addition, ensure that motor cables are properly shielded, sized, routed, terminated, and grounded at both the motor and drive.

KB's GFCI Solution

KB's engineering team has studied VFDs powered from a variety of GFCI devices. A solution has been created which considers all contributing factors to get a best-case scenario that successfully works with most GFCIs.

KB investigated switching frequencies and developed custom switching frequency algorithms to reduce audible noise and leakage currents. High frequency noise spikes and ringing were reduced by modifying our proprietary power circuits for optimal results. In addition, output chokes, low leakage filters, and shielded cable were introduced, if needed, to find a GFCI solution.

Conclusion

KB has had great success providing VFDs that work with GFCIs for numerous original equipment manufacturers (OEMs). KB offers a full range of motor controls (shown in Figure-3) which can be customized to work with GFCIs. Let KB Electronics provide a solution for you.



Figure-3: VFDs Available from KB Electronics

Unboxing & Installation of your

Quadrel Labeling Systems Machine

This section of your manual is aimed towards making the transition from Shipping Crate to Assembly line less Dramatic. If you have scheduled an install with one of our Professional Technicians the set-up of your machine will be a breeze. If not your manual as all of the information needed to get you going. In this section there may be some equipment shown that does not apply to the machine you purchased.

NOTE This is general instruction for all equipment (your equipment may vary slightly).

Let's get started…

First things first, check your crate/box/machine for damage. If there is damage please note the exception and contact Quadrel immediately. Any extra boxes or pallets will be either in your crate or tethered to the crate or pallet. Once you have inspected your shipment you can open the crate. Check packing slip Bill of lading against boxes received. Notify Quadrel of any discrepancies.



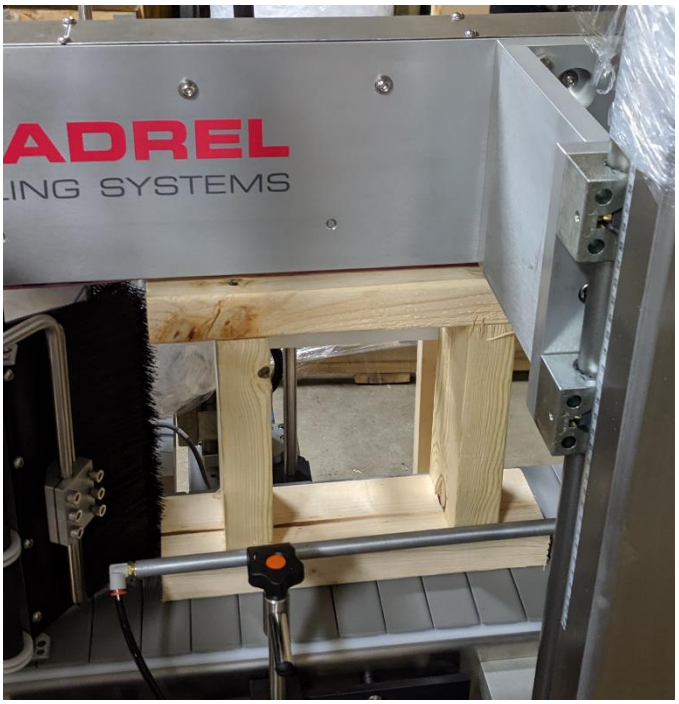
Carefully remove all banding on the legs, misc. boxes and assemblies in the crate or on the pallet. If your machine is wrapped in bubble wrap or plastic wrap go ahead and carefully cut and remove that as well. Ensure you are wearing the appropriate safety gear when removing your machine from the crate.





Ensure all plastic wrap is removed from the assembly you are removing the support from before removing the support.

Remove the supports under your labeling heads, wrap station, top trap, HMI, Pacing wheel or belt. See images for various supported assemblies.



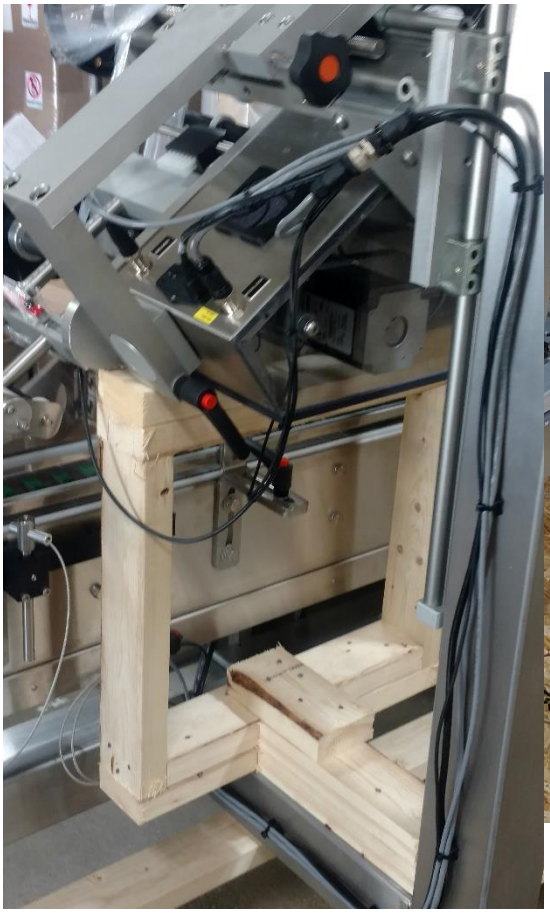
Most assemblies supported have a tool-less vertical adjustment using a knob or hand wheel.

The hand wheel may be wrapped to the assembly to prevent damage.

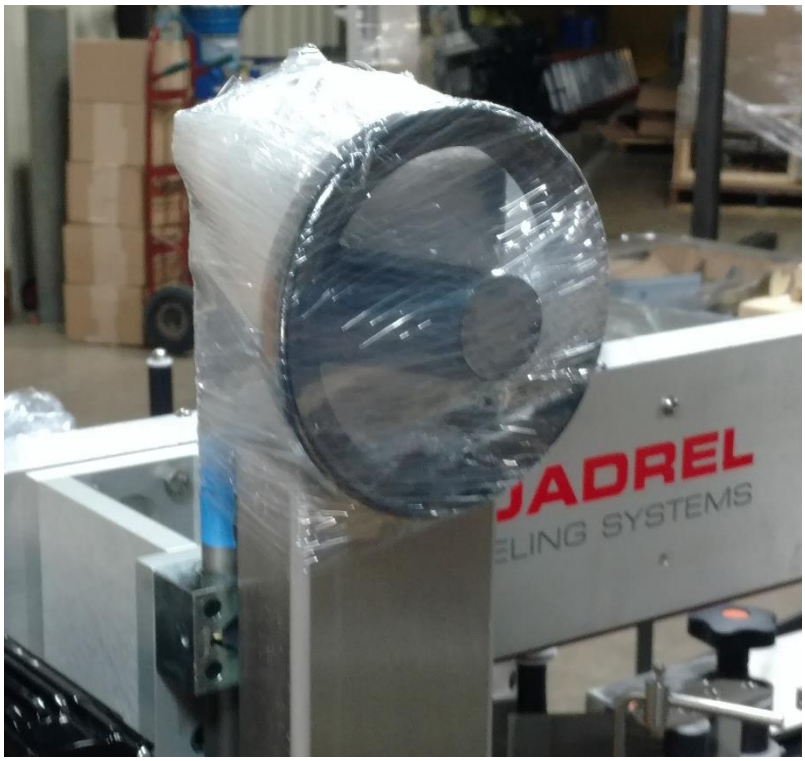
Remove the hand wheel from the wrap, then fasten the hand wheel to the square end on the lead screw using a 3/32 “L” handle Allen wrench.

Turn the handle/knob to raise the assembly this will take the weight off the supports so you can remove them.

Top Trap Support (top) Labeler Head Support (bottom) Plastic wrapped hand wheel (right)



All top and bottom labeling heads will be supported

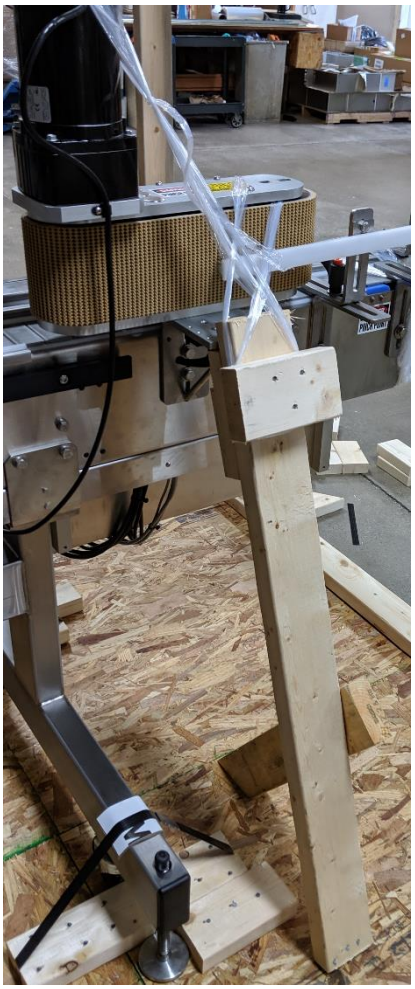


similar to the image shown on the left.

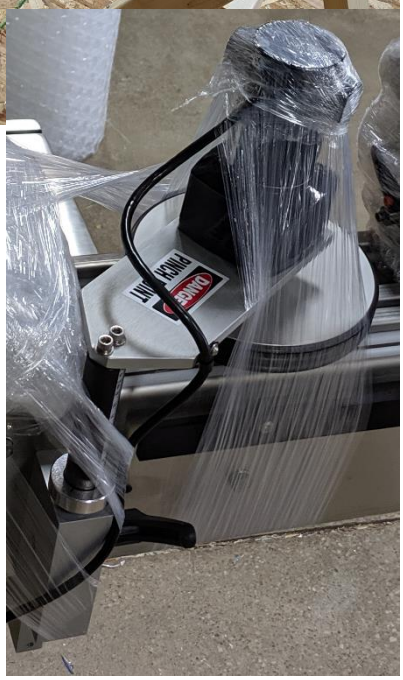
Wrap stations will have supports similar to the image to the right. These supports do not require moving the assembly.



Pacing belt assembly supports can be removed will be without raising the assembly.

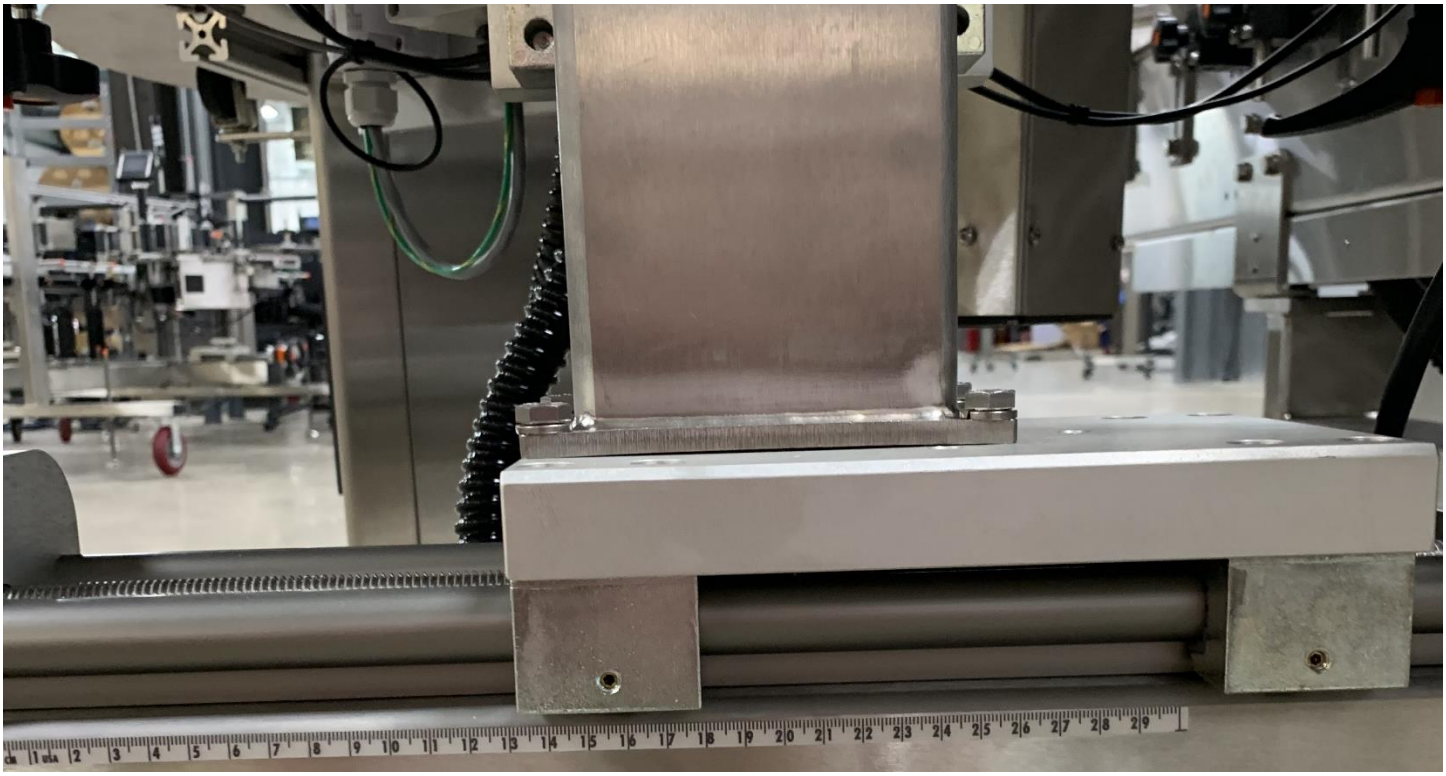


Pacing wheels supported as shown





Often the head support will be moved in shipping or moved to be supported. When you are setting up your machine refer to your set up sheet in this manual. There are scales on the side of the assembly to line the carriage up to (as shown in the Image to the left and below).



Peel plates with or without the rods may be removed from the labeling head to move the head all the way in during shipping.

All assemblies removed will be bubble wrapped then plastic wrapped to the machine (as shown in image on the right) or in box on the pallet the machine is on (as shown in image below).







Mount the peel plate assembly using a 5/16 L handle Allen wrench (as shown in image on the left). The bolts are located in the assembly. You simply put the wrench in the quick change access holes to loosen or tighten the assembly.

NOTE When you are setting up your machine make sure the peel plate assembly is perpendicular to the conveyor. When the peel plate assembly is on the rods there is a small amount of play allowing you to make small adjustments to the assembly.

If you have the peel plate rods removed with the peel plate assembly and the label detect assembly (as shown below).

All assemblies removed will be bubble wrapped then plastic wrapped to the machine or in box on the pallet the machine is on.

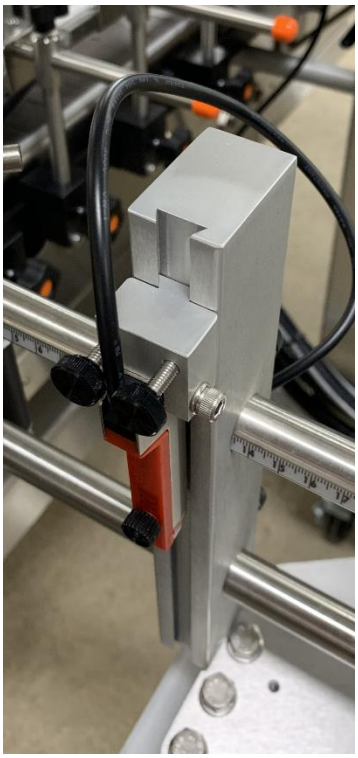


First back the head out all the way. Locate your peel plate assembly and slide it into the holes in the drive roll assembly (as shown on the left of the image above). Make sure you take the bolts out of the end of the rods before putting them into the drive roll assembly.



Fasten the assembly to the drive roll with the bolts supplied using a 5/16 L handle Allen wrench. Make sure you have the lock washers on the bolts.

NOTE When you are setting up your machine make sure the peel plate assembly is perpendicular to the conveyor. When the peel plate assembly is on the rods there is a small amount of play allowing you to make small adjustments to the assembly.



When the peel plate rods are removed the label detect sensor is removed with it (show in image to the left). The sensor is locked into place so it won't move or need adjusted. All that will need done is simply reconnect the sensor to the zip port. To re-connect the sensor first locate the zip port (as shown in image on the right). The zip port is located under the head on the chassis or mounting plate. Take the cable coming from the sensor, route it neatly under the head, and screw it into the zip port where it says "label detect".





Some machines may have the unwind flange (shown in image to the right) removed to protect the flange during shipping do to the width of the machine.

All assemblies removed will be bubble wrapped then plastic wrapped to the machine or in box on the pallet the machine is on.

First, slide the unwind flange (with the collar facing towards you as shown in image to the right) over the unwind shaft. Make sure the top of the flange is 1 ¼ inches off the side plate.

Then, lock into place by tightening the collar with a 5/32 L handle Allen wrench.

Slide the quick lock collar over the shaft by lining the set screw up with the flat. The collar locks into place by rotating the collar 90 degrees.



Some machines may have the rewind flange (shown in image to the right) removed to protect the flange during shipping do to the width of the machine.



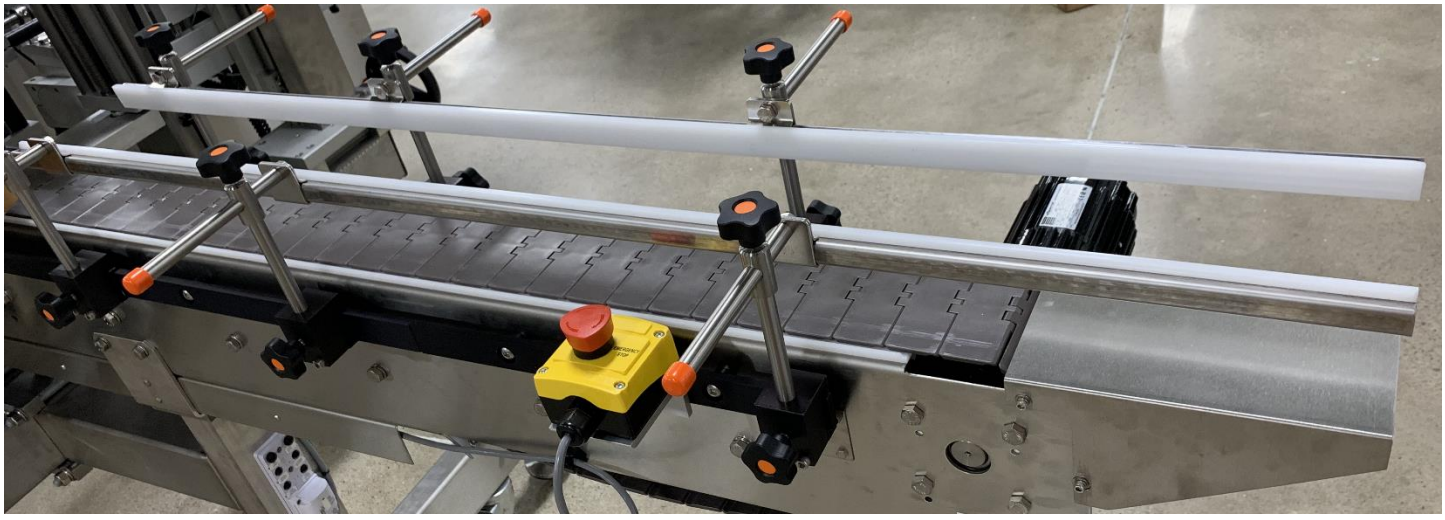
All assemblies removed will be bubble wrapped then plastic wrapped to the machine or in box on the pallet the machine is on.

First, slide the rewind flange (with the collar facing away from you as shown in image to the right) over the rewind hub make sure the flange just above the rubber bumper roughly 1/2 inch off the side plate.

Then, lock into place by tightening the collar with a 5/32 L handle Allen wrench.

Rails and transfers on the infeed and outfeed may be removed for shipping purposes. They will be wrapped in bubble wrap and wrapped to the machine. Carefully remove wrap and place in position as shown lock into place by tightening the knobs or ratchet handles.

NOTE Your machine may have a different rail system either adjustment is tool-less and fastened by a knob of ratchet handle.



End transfers will be wrapped in bubble wrap and plastic wrap. They will be located in a box on the pallet with your machine or wrapped to the machine itself.

Fasten the end transfer plate to the machine using a 5/32 L handle Allen wrench and the supplied 10-32 socket head screws. Ensure the transfer plate is both level with the conveyor and DOES NOT hit the conveyor chain.

Stack lamps are usually placed at the highest point of the machine and for that reason they are either removed or rotated 180 degrees. The stack lamp will wrapped in bubble wrap and wrapped to the machine.

If the stack lamp is rotated then all you need to do is remove one of the bolts, rotate the stack lamp and put the screw back in. We use various screws on stack lamps you will need one of the following tools for the job.

-3/32 L handle Allen wrench

-1/8 L handle Allen wrench

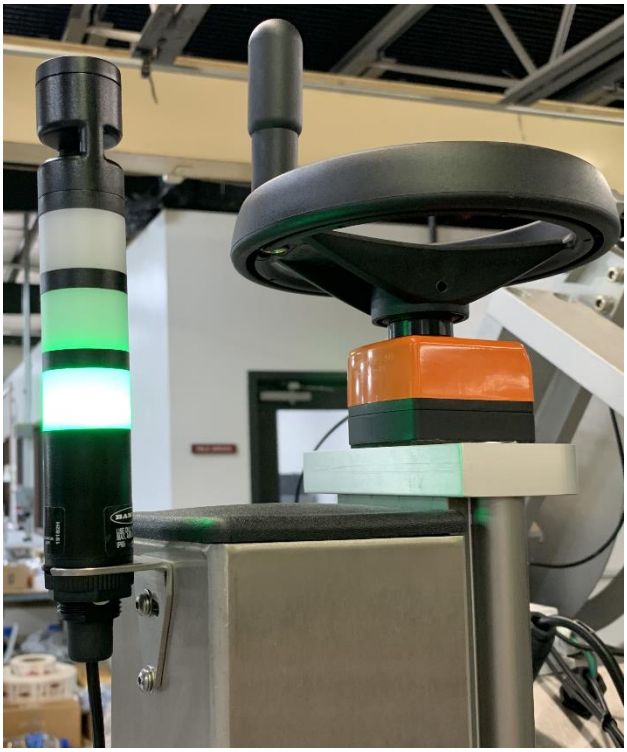
-5/32 L handle Allen wrench

-3/16 L handle Allen wrench

-1/2 open end wrench







HMI over head touch screen displays may be laid flat across the top of the enclosure wrapped in bubble wrap and plastic wrap.

Carefully remove the plastic wrap and bubble wrap.

Rotate the HMI 90 degrees and slide into the mount on the enclosure.

Fasten the pole in place by tightening the 2 set screws on the mount with a 6MM L handle Allen wrench.





The HMI may be enclosed in a wooden support off the enclosure to hold it in place during shipping.

If HMI is located remotely off the enclosure it will still be supported during shipping.

If so, carefully remove the supports and you are done.

All printers, printer controllers and lasers are removed from the machine when shipping and placed in the manufacturer's box. The cabling will remain on the machine for ease of installation.

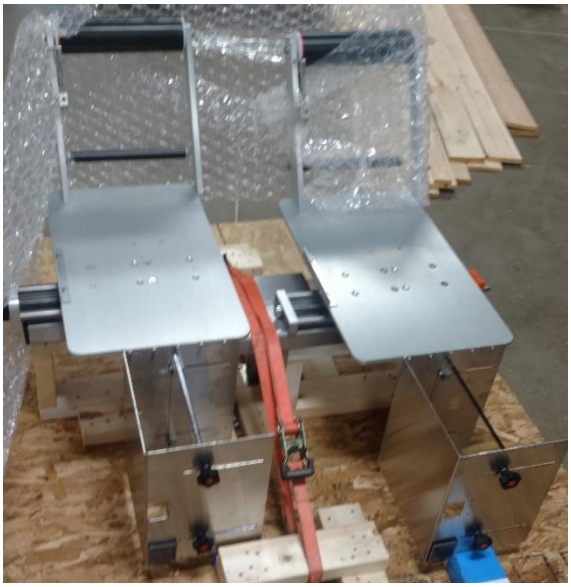
The printer is mounted to the printer mount with 1 ¼-20 ratchet handle. Make sure you line up the indents in the plates with the brass nut on the threaded rod. Then slide the ratchet handle through the center of all of the blocks and tighten. Plug in the cables and you are done.







Table top printers with printer tables will ship in separate boxes or pallets (as shown to the left) the printer will be disconnected and placed in the manufacturer's box. The table will either get banded to the pallet with the machine or a separate pallet tethered to the machine pallet. Printer tables may be connected to the machine via weldment or a remote from machine. If you have a weldment connected table, refer to the lay out drawing of your machine in this manual. Fasten the weldment to the frame of the conveyor using the supplied hardware and an open end wrench. If the table is remote then move into the desired position referring to your layout drawing. Remove the printer from the box set on the table and plug in the pre-wired connectors.





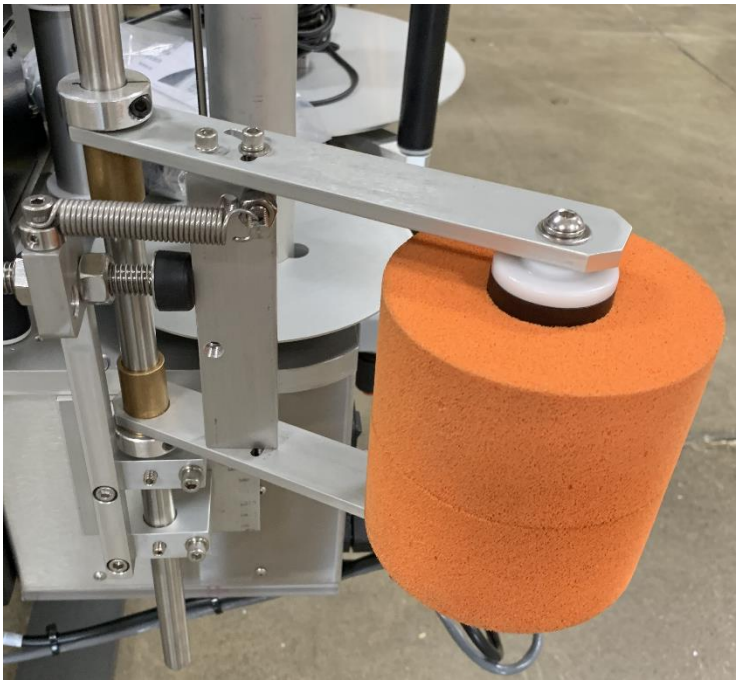


Print and apply printers will be removed from the labeling head as well and placed in the manufacturer's box. Your labeling head will likely ship in its own boxes with a few of the assemblies or flanges removed. Occasionally your head on a stand will ship on a framed pallet which will requires little work to get started.

The unwind flange is installed like the previous one discussed previously.



Remove the printer from the box and place it into the opening of the labeling head (as shown in image to the right). Fasten the printer to the side plate of the labeling head using the supplied (5) 10-32 socket head screws and a 5/32 L handle Allen wrench. Then, plug the printer in.

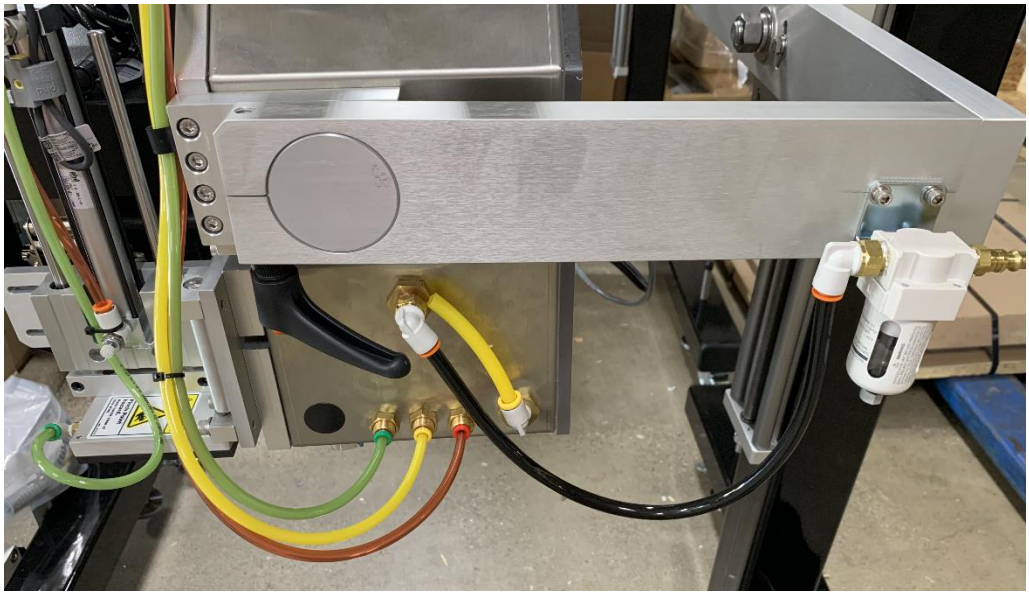


The corner wrap modules will be removed for shipping purposes. They will be wrapped in bubble wrap, plastic wrap, and placed into the box with the labeler.

Take out of the box, carefully remove the wrapping.

Then mount to the labeling head with (4) ¼-20 bolts using a 3/16 L handle Allen wrench.

To prevent kinking of the air lines during shipping on our q34 print and apply labeling heads. All lines are pulled and labeled to the corresponding color. The hoses are color coded and marked. Simply plug in hose into the matching color (as shown in image to the right).



Rotary accumulation tables are banded to a pallet and wrapped.

These tables usually operate independently to the machine.

Carefully un-band and unwrap the table.

Line it up to the transfer plate on the conveyor.

Level the table using the leveling pads.

Plus in and adjust speed through the control box.





Sleeving applicators are typically on a stand and will ship on a pallet. They will be banded have many supports and be wrapped to protect the machine during the shipping process.



Carefully remove the banding and wrapping.

Raise the head and remove the supports.

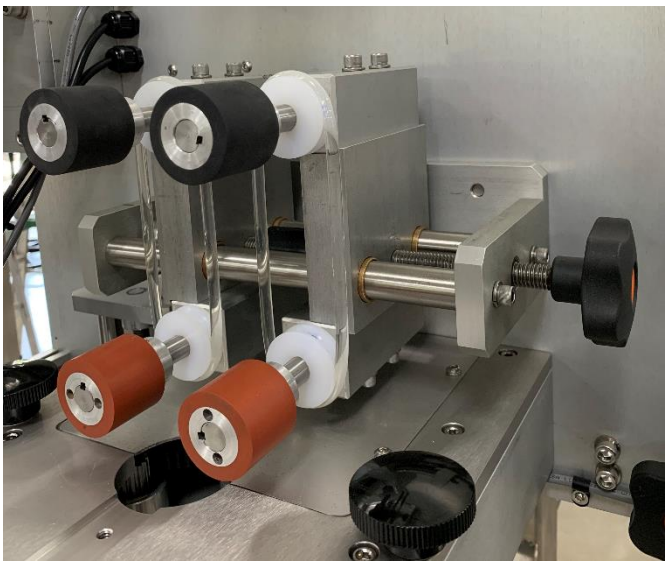
The pallet will contain boxes with. Misc assemblies and or parts (ie mandrels).

Below is an image of the mandrel. The mandrel is the most precise and important part of the sleever system. Always handle the mandrel extremely carefully.



Your mandrel will be located on the machine pallet tethered to the machine. It will be wrapped and in a box or tube (as shown below).





Carefully remove the mandrel from the packaging.

Rotate the black handle to move the throw down rollers apart far enough to slide the mandrel in.

Ensure each roller is between 2 bearings, the fin on the top is between the sensor, and the cutter blades are in line with the cut in the mandrel.

Rotate the black handle to move the throw down rollers closer to the mandrel pinching it in the middle. DO NOT OVER TIGHTEN THE THROW DOWN ROLLERS INTO THE MANDREL. They need to be just tight enough that the bearing spins and a label feeds through.

Proline machines with guarding will either be left on the machine and have wooden supports to protect during shipping or the guards are removed and places on a pallet.

If the guarding has supports carefully remove the supports from the guarding.

If the guarding is removed from the machine each panel will be labeled and the machine will be labeled to make it easy to figure out which door goes where.





The doors are fastened to the frame of the machine with the supplied hardware.

Line the hinges up to the holes on the frame put the bolt through.

Tighten a nut on the opposite end with the supplied flat and lock washer.





During shipment if the conveyor gets skewed you may need to re-square it. First check the conveyor with a square to verify (as shown in images below). If the conveyor needs adjusted, adjust the conveyor by slightly loosening the 4 bolts connecting the 2 sections on conveyor you would like to adjust (as shown in image to left).

Make your adjustments and check the top and side with a square. Placing a square across the top will check the squareness vertically. Placing a square along the side will check squareness horizontally.





When the conveyor is square tighten the bolts and you are all set.

When shipping a proline with an extended boom the dual swiveling elbows in the center of the boom get flipped 180 degrees to allow the machine to have enough over head clearance to ship safely (shown in image below).



Below are the instructions to flip the elbows to the correct configuration (as shown in image below)



Ensure the overhead controls are safely supported by a tow motor or at least 2 people so it does not fall when disconnecting the elbows.

Locate the 2 screws on the top and 2 screw on the bottom holding the prospective covers on.





With a t25 torx bit screw driver, loosen the 2 bolts holding the cover on the top and bottom.

With the cover off you can now access the 4 bolts holding each of the tubes in place.

Ensure the overhead enclosure is supported enough to hold for a few minutes while you loosen the bolts and flip the elbow.

Using a 6MM L handle Allen wrench loosen the 4 bolts on the top and bottom tube.



Quickly pull the tubes out and rotate the elbow as shown below.



BEFORE



AFTER

Slide the tubes in. the overhead enclosures elevation is going to change when flipping the elbows if you have it supported via tow motor you will have to raise it.

Fasten the 8 bolts with a 6MM L handle Allen wrench.

Fasten the covers to the top and bottom elbow using a T25 torx bit screw driver.



To the left shows the correct orientation of the dual elbow boom for the overhead enclosure.

If you have any questions please give our professional technicians a call.

HMI GUIDE

Operator Interface Guide

Techline Labeling System

For 84239_v000

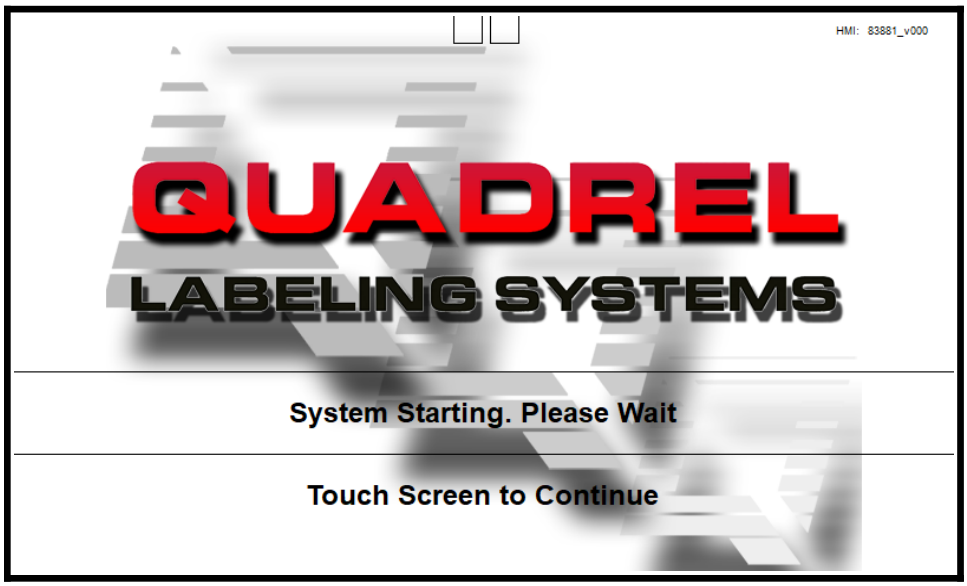
Micrologix 1400 PLC and Maple HMI

Table of Contents

Opening Splash Screen....3
Main Screen....4
System Menus:....6
Recipe Menu:....7
Labeler Menu....8
Labeler Setup Menu....10
System Speed / Setup Menu....12
Speed Calibration Menu....13
Product Flow Menu:....15
Three Roller Indexer Menu....17
User Menu:....18
Password Menu:....19
Fault Menu:....20
Fault Messages and Indicators:....21
Warning Messages....21
Fatal Messages....21
Fatal Messages, cont....22

Opening Splash Screen

Upon initial power up, the terminal will initialize and display a splash screen.



Note that the screen will be on a slight delay while the PLC and Drive boot up. During this time, the screen will display "System Starting. Please Wait"

Button / Indicator Reference:

Menu Navigation Buttons: Navigation buttons will be purple circles with white outlines and icons of the target screen. Some buttons will have text below them to identify the target screen.

Standard Buttons: Standard buttons are used to turn features on/off, reset faults, clear counters, or various other functions that require operator control. Toggle buttons will typically have icons to reflect the status of the function that is being toggled while momentary buttons like Resets are circular and do not change images/colors.

Indicators: Status Indicators will be circular and will change color based on states. Mode indicators will be oval in shape and will change colors and texts based on states.

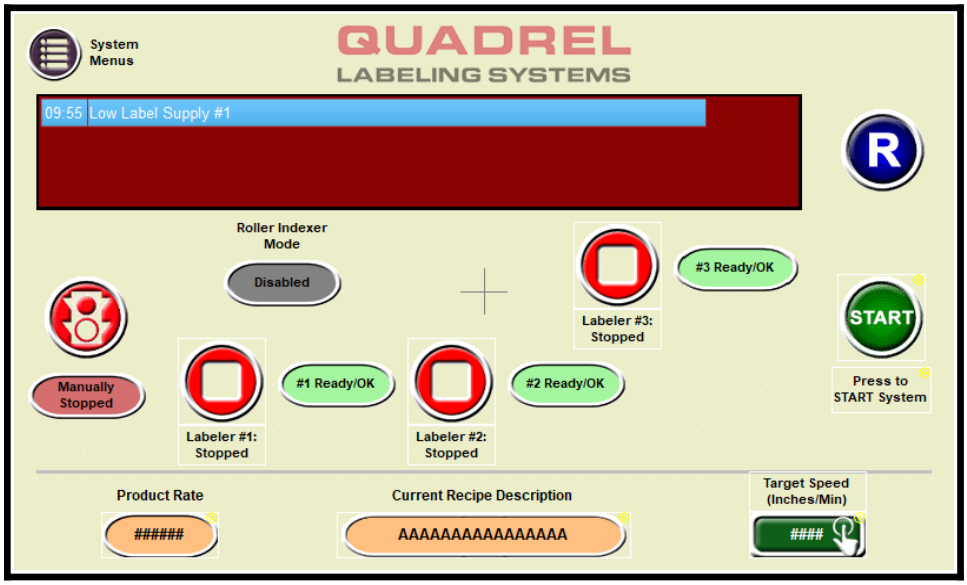
Numeric and Text Displays: Numbers or Text displays will have a light orange background with black text, surrounded by a grey border. These are used to reflect numbers or text.

Numeric and Text Inputs: If a number can be entered, the button will have a dark green background with white text. The right side of the button will have a touch icon signify that it is an entry box.

Text Descriptions: If the description above an entry point or toggle is flashing red, it indicates the current value does not equal the saved value in the recipe. This is a reminder that the recipe must be saved in order to store the current value.

Main Screen

After touching the splash screen, the touch screen will display the Main screen. You can also get to the Main screen by pressing the Home icon (pictured left).



System Menus Button:
Pressing this button will display all of the System Menu buttons available to the system as it is configured.

Fault/Message window:
The Red box at the top of the screen will appear if there is an active fault or message on the system. Pressing the blue Reset button to the right will clear these messages if the source of the fault has been remedied.

System Run Mode:
The conveyor and all enabled motors can be stopped and started using this button.

Green "Start" Button: Pressing this button will start the system (assuming no fatal faults are present on the system. It functions the same as pressing the optional green physical start button mounted to the electrical enclosure door.

Red "Stop" Button: Pressing this button will stop the system. It functions the same as pressing the optional red physical stop button mounted to the electrical enclosure door.

Labeler Run/Stop:
Each Labeler can be toggled between Run and Stop (pending fault conditions). The Run/Stop button will change colors and text based on the current status.

Green "Running" Button: This indicates the labeler is currently running and cannot be jogged. While running, the labeler will automatically apply labels to passing products. To **stop** the labeler, press this button.

Red "Stopped" Button: This indicates the labeler is currently stopped and may be jogged. While stopped, the labeler will ignore products passing by. To **run** the labeler, press this button.

Product Flow Control:
When the indexer is disabled, the pacing belt can be stopped independently of the main system in order to prevent products from flowing into the system. If the indexer is enabled, this button will control the escapement.


Green "Automatic" Button: This indicates the system will stop and start the pacing belt or allow the escapement to function based on external conditions.

The Pacing Belt / Escapement will prevent products from entering when:

- The system is stopped
- The infeed sensor does not see a product or is "starved".
- The outfeed sensor is blocked by products or is "full".
- The Product Flow button has been toggled to "Manually Stopped"
- A Cycle Stop is active

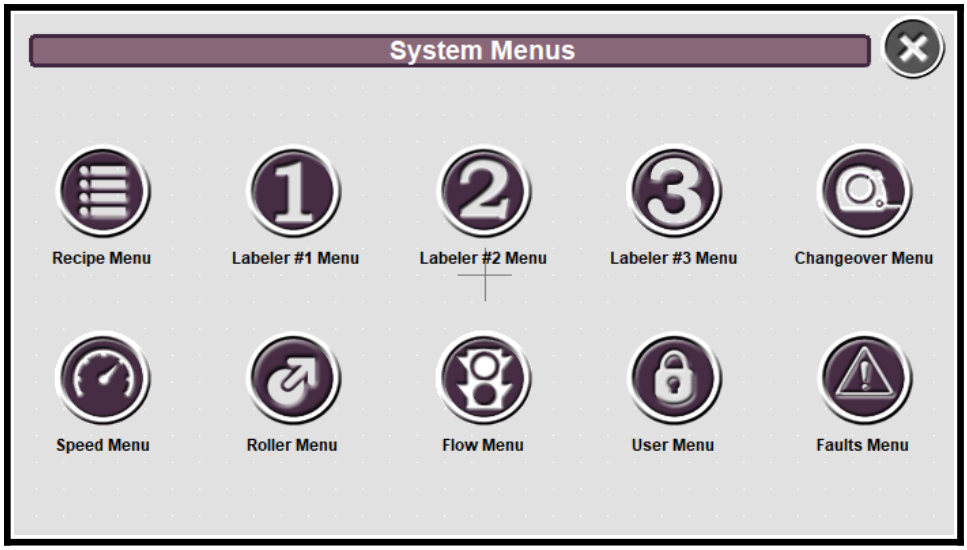

Red "Manually Stopped" Button: This indicates the pacing belt / escapement is stopped and will not allow products into the system until toggled back to Automatic.

Product Rate (Parts Per Minute):
This indicator will reflect how many parts per minute are passing by the product detect sensor (under the top trap belt). This number will start being calculated after 5 products pass and will continue to average out until no product is detected for 30 seconds.

Target Speed / Rate:
Indexer Enabled: The target speed of the system will be entered here as Inches per Minute.
Indexer Disabled: The target rate of the system will be entered here as Parts per Minute.

System Menus:

After touching the button to the left from the Main screen, the actual menu will vary based on actual Machine Type. All sub menu descriptions and buttons will be listed below.



Main Menu:
Press this to return to the Main Menu.

Recipe Menu:
The system can store 9 recipes. The Recipe Menu allows saving, copying, and changing the description.

Labeler #1-3 Menus:
The Labeler Menu contains the parameters associated with dispensing labels onto products.

Changeover:
The Changeover Menu will store and display numbers that correspond to various adjustments on the machine.

System Speed:
The System Speed menu will have all of the parameters and toggles related to the various motors on the machine.

Three Roller Indexer Menu:
An optional three roller indexing module can be controlled in this menu.

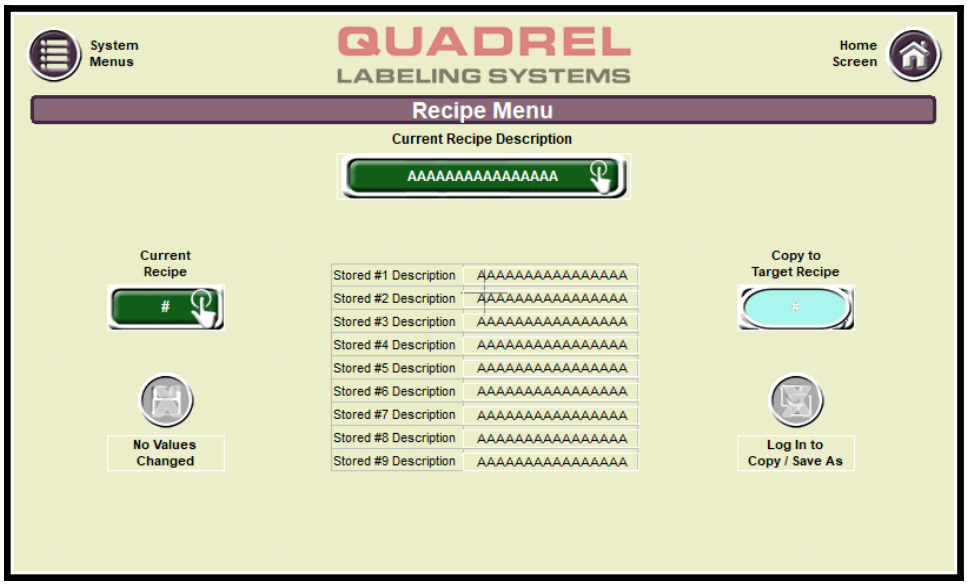
Flow Menu:
The Flow Menu has the timers associated with the Pacing Belt control.

Fault Menu:
The Fault Menu has a larger fault window to show all active fault messages on the system. Stepper Drive diagnostics can also be accessed from this menu.

User Menu:
The User Menu allows an operator to log in at different levels to change protected parameters and toggles.

Recipe Menu:

The Recipe Menu allows the user to change recipes, view all recipes by descriptions, save recipes, and save recipes as new.



Recipe:
Recipes are presets that contain parameters unique to each product. Setting Recipes for different products expedites changeover times. A total of 9 recipes can be stored and descriptions can be changed by pressing the bottom description box when logged in at a Supervisor Level.
Recipes store the following information:
Description (displayed in the list on the center of the screen)
Speed Parameters: Target Speed/Rate, Product Pitch, Product Width, Wrap Ratio
Labeler Parameters: Product Delay, Label Stop, Max Feed, Speed Ratio
Roller Parameters: Enable, Capture Delay
Wipe Parameters: Enable, Wipe Delay, Wipe Duration

Loading:
Recipes can be loaded by entering a new Recipe number on the left side. Once entered, all stored toggles and parameters will be loaded to the system. If a new recipe is loaded it can trigger the save button to appear in the event the system loaded default/non-zero values to various toggles and parameters.

Saving:
Pressing the Save button in the bottom left will save all current recipe parameters to the current Recipe number.

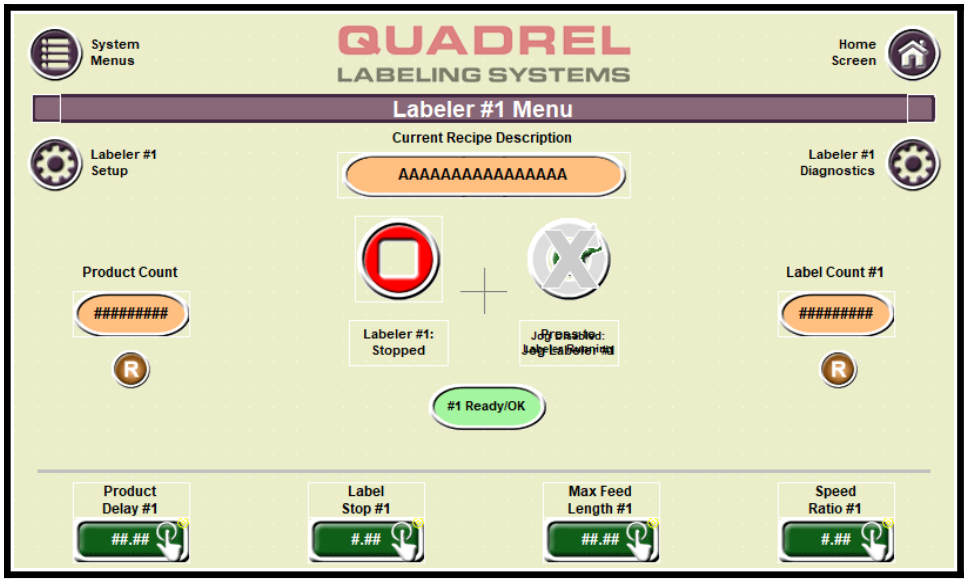
Save As Target Recipe (Supervisor Level):
This number can be used to create a copy of the current recipe when using the Save As button.

Save As (Supervisor Level):
Pressing the pink Save As button in the bottom left will save all current recipe parameters to the Save As Recipe number. Note that this button does not save the current values to the current recipe.

Change Description (Supervisor Level):
Pressing the Recipe Description at the top will bring up a keyboard that allows the user to enter a new description for the current recipe.

Labeler Menu

After touching the button to the left from the Menus screen, the following screen appears. Note that the fault display will still appear over the title bar if the system has an active fault.



Labeler Setup and Diagnostics Menu:
The Setup and Diagnostics menu contain parameters and information for setup and troubleshooting purposes.

Labeler Run/Stop:
The Labeler can be toggled between Run and Stop (pending fault conditions). The Run/Stop button will change colors and text based on the current status.

Green "Running" Button: This indicates the labeler is currently running and cannot be jogged. While running, the labeler will automatically apply labels to passing products. To **stop** the labeler, press this button.

Red "Stopped" Button: This indicates the labeler is currently stopped and may be jogged. While stopped, the labeler will ignore products passing by. To **run** the labeler, press this button.

Labeler Jog:
When the Labeler is stopped, the Jog button becomes available. Pressing the Jog button will cause the labeler to dispense one label (pending proper threading and label gap detection). It is important to jog labels upon threading or changing over to verify the labeler is threaded and functioning properly.

Green "Jog" Button: This indicates the labeler can be jogged. Press this button to start a jog process. This button will be grey while the labeler is jogging.

Greyed out "Jog" Button: This indicates the labeler is currently running, and may not be manually jogged.

Product Delay:
The Product Delay is used to center the label on the product in the left/right direction. A higher value in the Product Delay parameter will move the label towards the infeed side of the conveyor.

Label Stop:
The Label Stop controls the label's stop position. Typically the label should stop with 1/8" to ¼" sticking off of the peel plate. A higher Label Stop will result in more label off of the peel plate. The Label Stop value is entered as inches.

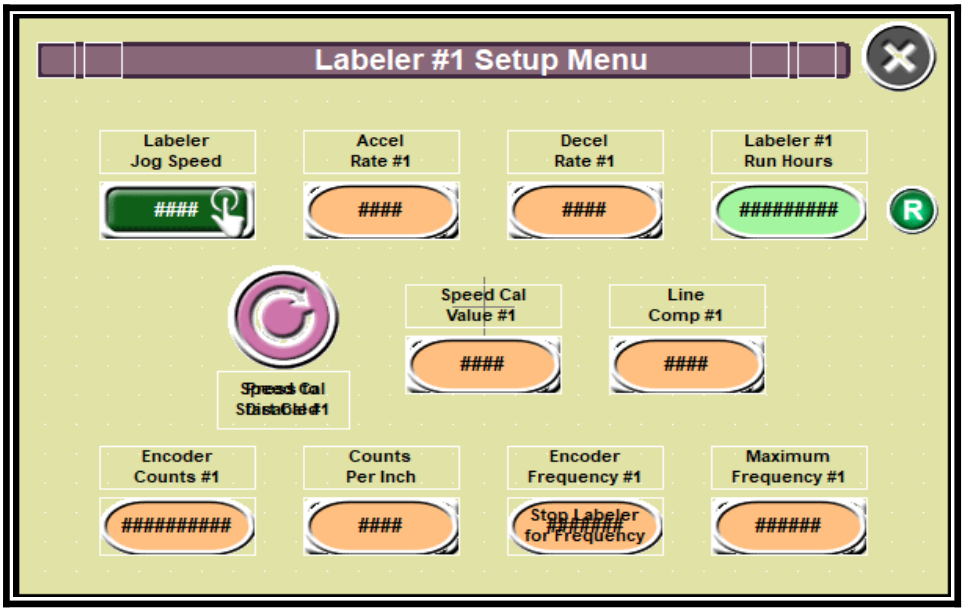
Max Feed Length:
The Max Feed controls how much liner (in inches) will be dispensed in the event no label gap is found. This is to prevent label runaway conditions and can be used to determine if labels are missing on the liner.
After a label is set up properly, this value can be set to the label length + .25.
When setting up a new label, it may be necessary to set this value to 2x the actual label length. This will allow the labeler to dispense more label to find and process the label stop value.

Speed Ratio:
This speed Ratio is the value that determines the actual dispensing speed of the labeler. A value of 1.00 means that the labeler will dispense the label at the speed of the conveyor. Labeler #1's ratio should be close to/equal to the Wrap Ratio.

Labeler Status Indicator:
The status indicator below the Run/Stop buttons will identify which fault state the labeler is in.
Green: Ready / OK. The labeler has no fault conditions and may operate normally.
Yellow: Warning. The labeler has a warning present (typically low on labels). The labeler may operate normally, but will require attention soon.
Red: Faulted. The labeler has a fault on it that will prevent it from dispensing labels.
Pink: Processing New Speed. If the labeler is running and speed ratio is changed, the labeler will toggle itself out of run momentarily so the new ratio can be processed.
Grey: Disabled/Bypassed. The labeler is disabled. Power to the drive is turned off and all functions are bypassed.

Labeler Setup Menu

After touching the button to the left from the Labeler Menu, the following screen appears.



Labeler Jog Speed:
The manual feed speed of the labeler can be changed here. It is entered as inches per minute.

Accel (Supervisor Level):
The acceleration rate of the labeler (the time it takes the label to reach the target dispensing speed) can be changed here. A higher value increases the acceleration rate, but a value that is too high can lead to motor stalling. A lower number decreases the acceleration rate, but a value that is too low can lead to inaccuracy if system speed is frequently changed. Typical values are between 2000 and 5000 for reference.

Decel (Supervisor Level):
The deceleration rate of the labeler (the time it takes the label to stop from the target dispensing speed) can be changed here. A higher value increases the deceleration rate, but a value that is too high can lead to inaccurate label stopping position. A lower number decreases the deceleration rate, but a value that is too low can lead to missed products if spacing between products is close. Typical values are between 2000 and 5000 for reference.

Labeler Run Hours and Reset (Supervisor Level):
This counter will count the hours that the Labeler has been in the run mode while the conveyor is running. The reset button is only visible when logged in at the Supervisor Level.

Calibration: Pressing this button will put the labeler into a Calibration Mode. While active, the labeler's drive system will continue to spin until Calibration Mode is turned off.
Use Caution and make sure the drive and rewind drum are clear before turning the Calibration on!
While the Calibration is active, the Speed Cal value can be changed so the labeler's drive roll speed is equal to that of the master encoder (conveyor). The Labeler should be Stopped to use the Calibration mode.

Speed Cal (Supervisor Level):
The Speed Calibration number is a factor that allows the labeler to dispense at the conveyor speed for encoder based systems. For standard conveyor systems this number is typically 300, but may change on top/bottom labelers, vertical rollers, or other custom systems.

Labeler Compensation (Supervisor Level):
The Compensation value adds and subtracts product delay based on the master encoder frequency. This allows the labeler to be accurate across all speed ranges. The Compensation value is set at the factory by running products and a slow speed and max speed and then altering the value until the labeler applies the labels in the same location. Note that the Compensation is based off of the Max Frequency value. Changing the Max Frequency will force the need to change the Compensation value.

Encoder Counts:
This will show the encoder count number of the labeler drive. This is used to calculate the Counts per Inch value.

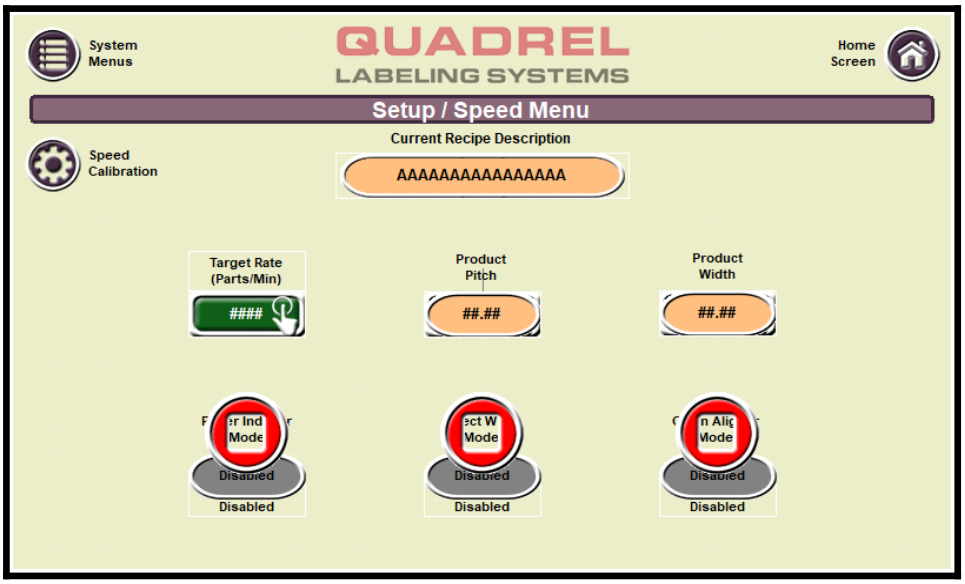
Counts per Inch (Quadrel Level):
This number should be how many encoder counts are counted for every inch of conveyor/belt travel. This value is used to ensure accuracy of the Product Delay parameter.

Drive Frequency:
This indicator reflects the current encoder frequency as interpreted by the labeler's drive and will only update if the labeler is stopped and calibration off. Note that this value can be "stuck" on a last known value if no frequency signal is detected. If an encoder signal is received, this value will constantly change.

Max Frequency (Supervisor Level):
The Max Frequency is calculated by running the system at max speed and adding 200 to 300 Hz to the displayed Drive

System Speed / Setup Menu

After touching the button to the left from the System Menu screen, the following screen appears.



Target Speed / Rate:
Indexer Enabled: The target speed of the system will be entered here as Inches per Minute.
Indexer Disabled: The target rate of the system will be entered here as Parts per Minute.

Product Pitch (Maintenance Level):
The system uses the Product Pitch (entered as inches) to determine the speed of Conveyor Belt. This value determines the spacing of the products as they exit the Pacing Belt.

Product Width / Diameter (Maintenance Level):
The system uses the Product Width (entered as inches) to determine the speed of the pacing belt, which is explained in the Speed Calibration Menu.

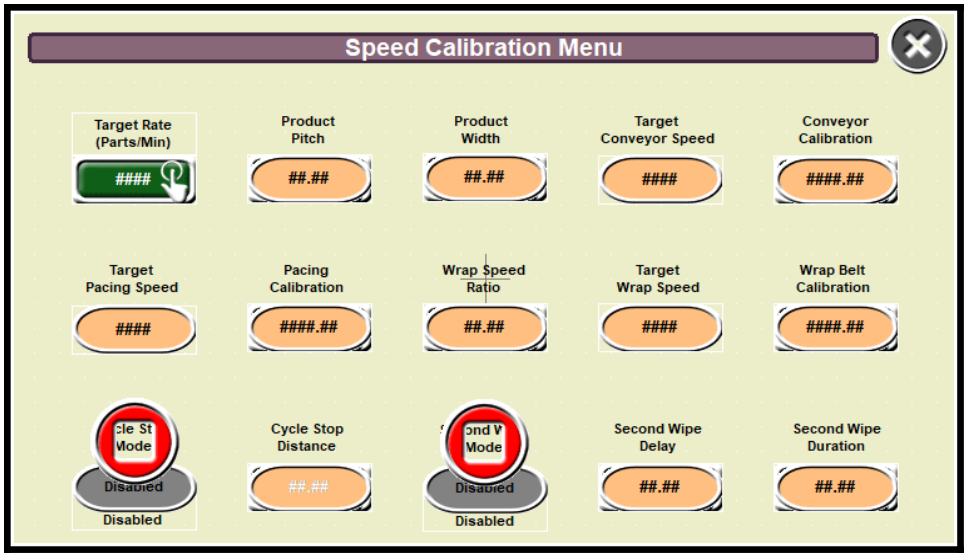
Roller Indexer Mode (Supervisor Level):
Enabled: The system will use the Escapement, Labeler #1, Indexer Module, and Wrap Belt to label products. While enabled the system will bypass the Labelers #2 and #3.
Disabled: Other modes may be used

Direct Wrap Mode (Supervisor Level):
Enabled: The system will use Labeler #1 and the Wrap Belt to label round products. While enabled the system will bypass the Labelers #2 and #3.
Disabled: Other modes may be used

Chain Aligner Mode (Supervisor Level):
Enabled: The Chain Aligners will start and stop with the system. These are used to center oval shaped products.
Disabled: When disabled, the Chain Aligners will not function and should be moved clear of the products.

Speed Calibration Menu

The Calibration Menu contains the parameters and displays for making sure all motors are running at target speeds.



Target Speed / Rate:
Indexer Enabled: The target speed of the system will be entered here as Inches per Minute.
Indexer Disabled: The target rate of the system will be entered here as Parts per Minute.

Product Pitch (Maintenance Level):
The system uses the Product Pitch (entered as inches) to determine the speed of Conveyor Belt. This value determines the spacing of the products as they exit the Pacing Belt.

Product Width / Diameter (Maintenance Level):
The system uses the Product Width (entered as inches) to determine the speed of the pacing belt, which is explained in the Speed Calibration Menu.

Target Conveyor Speed:
The Target Conveyor Speed (inches per minute) is calculated by the Target Rate x (Pitch + Width). This will be the linear speed of the conveyor.

Conveyor Calibration (Supervisor Level):
This is the voltage multiplier that allows the Conveyor to run at the Target Linear Speed. This is calibrated at the factory and should not need further adjustment.

Target Pacing Speed:
The Target Pacing Speed (inches per minute) is calculated by the Target Rate x Product Width. In direct wrap applications the target linear speed will be double. This will be the linear speed of the pacing belt.

Pacing Calibration (Supervisor Level):
This is the voltage multiplier that allows the Pacing Belt to run at the Target Speed. This is calibrated at the factory and should not need further adjustment.

Wrap Speed Ratio (Maintenance Level):
The speed of the Wrap Belt will be based on the Conveyor Speed. A ratio of 2.0 will set the target speed of the wrap at twice the conveyor speed.

Target Wrap Speed:
The Target Wrap Speed (inches per minute) is calculated by the Target Conveyor Speed x Wrap Ratio.

Wrap Belt Calibration (Supervisor Level):
This is the voltage multiplier that allows the Wrap Belt to run at the Target Speed. This is calibrated at the factory and should not need further adjustment.

Cycle Stop Mode (Supervisor Level):
Enabled: When the Cycle Stop Mode is enabled, the system will continue running for a set amount of conveyor travel when a fatal fault occurs or the stop button is pressed. This is used to purge products out of the system when stopping.
Disabled: When disabled, the system will immediately stop when requested.

Cycle Stop Distance (Supervisor Level):
The Cycle Stop Distance is entered in inches, and is the distance the conveyor will travel when a cycle stop is activated.

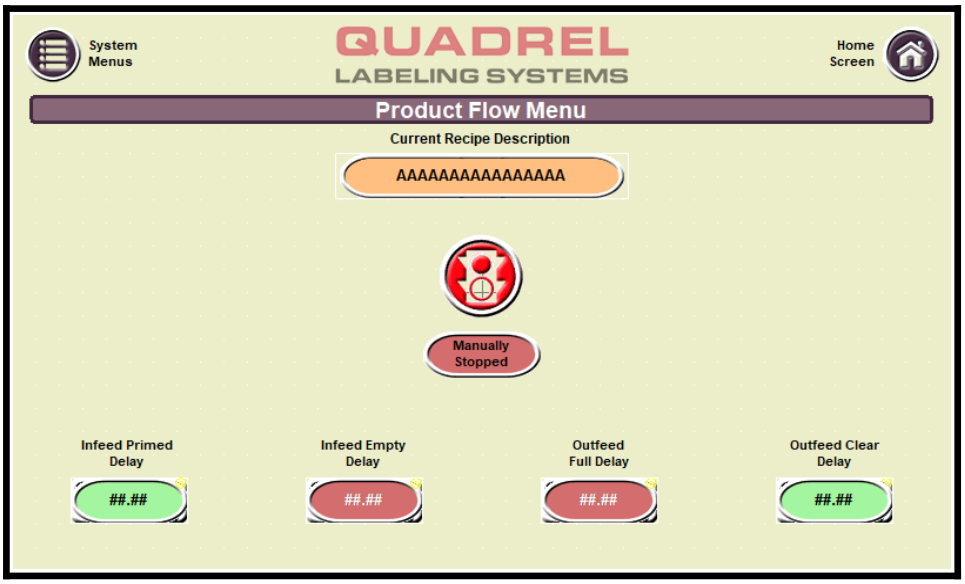
Second Wipe Mode (Supervisor Level):
Enabled: The system will energize an output used for a wipe cylinder to wrap the trailing edge of a label on a passing product.
Disabled: When disabled, the second wipe cylinder will not function.

Second Wipe Delay (Maintenance Level):
This delay determines when the cylinder activates. It is set in inches the distance starts when Labeler #2 finishes dispensing a label.

Second Wipe Duration (Maintenance Level):
When the cylinder activates, this timer in seconds will start. The cylinder will be active while the timer is counting.

Product Flow Menu:

After touching the button to the left from the System Menu screen, the following screen appears.



Product Flow Control:
When the indexer is disabled, the pacing belt can be stopped independently of the main system in order to prevent products from flowing into the system. If the indexer is enabled, this button will control the escapement.

Green "Automatic" Button: This indicates the system will stop and start the pacing belt or allow the escapement to function based on external conditions.

The Pacing Belt / Escapement will prevent products from entering when:

- The system is stopped
- The infeed sensor does not see a product or is "starved".
- The outfeed sensor is blocked by products or is "full".
- The Product Flow button has been toggled to "Manually Stopped"
- A Cycle Stop is active

Red "Manually Stopped" Button: This indicates the pacing belt / escapement is stopped and will not allow products into the system until toggled back to Automatic.

Status Indicator:
The indicator below the Flow Mode button reflects the status of the flow system.
Red: Manually Stopped. The Flow Mode is in the manually stopped state and will not allow products to enter.
Yellow: Waiting. The flow system is not allowing products to enter the system due to a condition mentioned above not being met.
Green: Running/Open. Products are currently entering the system.

Infeed Empty Delay (Maintenance Level):
This timer will start when the Infeed sensor does NOT see products, which results in an Empty/Starved condition. After this timer expires, the product flow will stop.

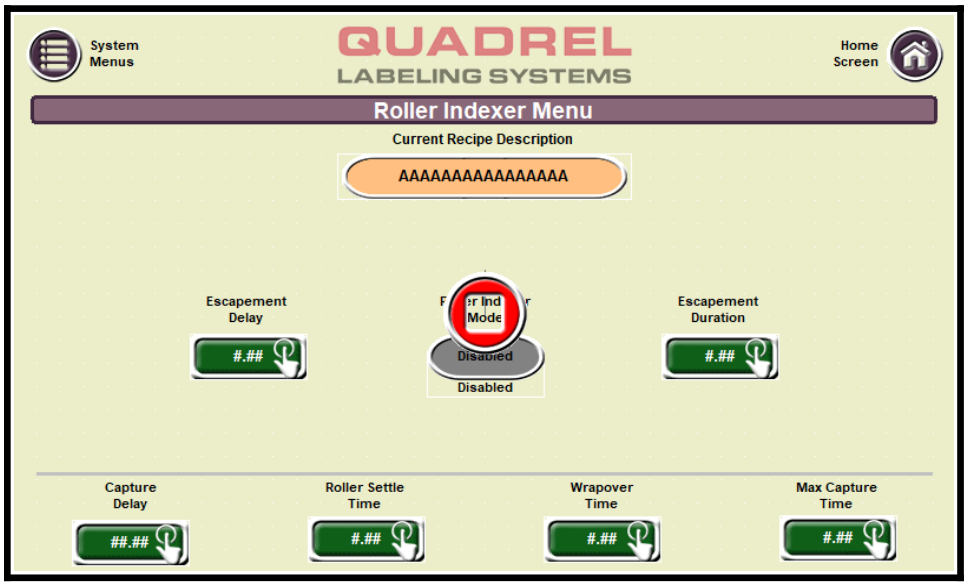
Infeed Primed Delay (Maintenance Level):
This timer will start when the Infeed sensor sees products, which results in a Primed/Full condition. After this timer expires, the product flow will start.

Outfeed Clear Delay (Maintenance Level):
This timer will start when the Outfeed sensor does NOT see products, which results in a Clear/Empty condition. After this timer expires, the product flow will start.

Outfeed Full Delay (Maintenance Level):
This timer will start when the Outfeed sensor sees products, which results in a Backed Up/Full condition. After this timer expires, the product flow will stop.

Three Roller Indexer Menu

After touching the button to the left from the System Menu screen, the following screen appears.



Roller Mode:

Enabled: The Roller module will extend and capture products against the wrap belt for the labeling process. The system will monitor a registration sensor while the product is trapped to determine when a label is dispensed. While enabled, the Wrap speed can be changed via the Wrap Ratio. While enabled only the Escapement, Labeler #1, Indexer, and Wrap will function. The chain aligners, top hold down, and other labelers will be bypassed.

Disabled: The Escapement, Labeler #1, Indexer, and Wrap Belt will be bypassed.

Escapement Delay (Maintenance Level):
When the Escapement Sensor is blocked and system is running, this timer (in seconds) will start. Once the timer expires, the escapement will activate to release a product.

Escapement Duration (Maintenance Level):
When the Escapement becomes active to release a product, this timer (in seconds) will start. Once the timer expires, the escapement will deactivate. This timer should be set so the escapement properly releases a product.

Capture Delay (Maintenance Level):
After a product passes the product detect sensor, this is the distance (in inches) until the roller extends to capture a product.

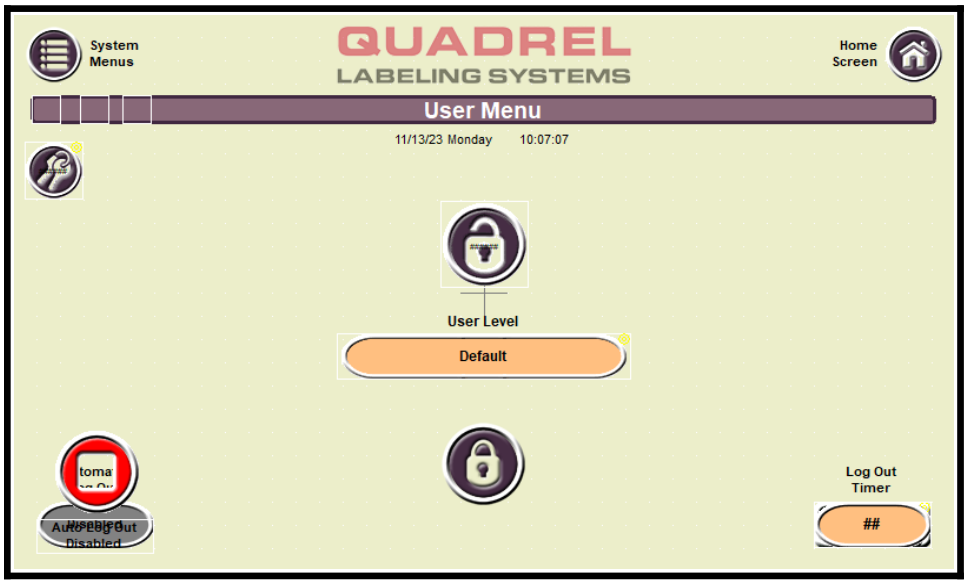
Settle Delay (Maintenance Level):
When the Roller extends, this timer will start (entered in seconds). After this timer expires, the registration sensor will be monitored. This timer is used to make sure the product is properly captured before monitoring the registration sensor. Note that the settle timer starts once the roller solenoid is energized.

Wrapover Time (Maintenance Level):
After the label is dispensed, the Wrapover timer (entered in seconds) begins. After this timer expires, the Roller station will retract and release the product.

Maximum Capture Time (Maintenance Level):
This timer is used to monitor the overall process. If this timer (in seconds) expires prior to a product being released, a fault will occur.

User Menu:

Log in, Log Out, and Set Custom Passwords



Password Input: Press this button to enter a user password.

Log Out: Press this button to log the current user out.

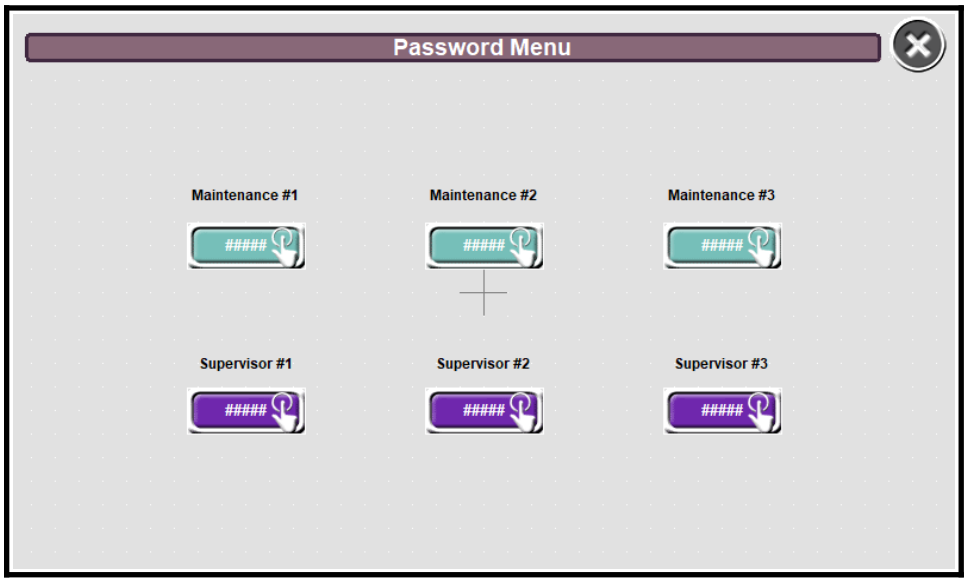
Password Menu: This will open up a security prompt before opening the password menu, where the passwords for the Maintenance and Supervisor levels are set.

Auto Log Out (Supervisor Level):
When Enabled (button will be Green), the logged in user will automatically be logged off at a set amount of time. Note that the system automatically enables the Auto Log Out feature upon startup.

Log Out Timer (Supervisor Level):
This timer (in minutes) determines the time it takes to log off a user if Auto Log Out is enabled.

Password Menu:

The Password Menu allows the creation and editing of the passwords for different security levels.



Maintenance:
There can be 3 user defined passwords for the Maintenance level. Note that there is one hard coded Maintenance Level password that cannot be viewed or changed.

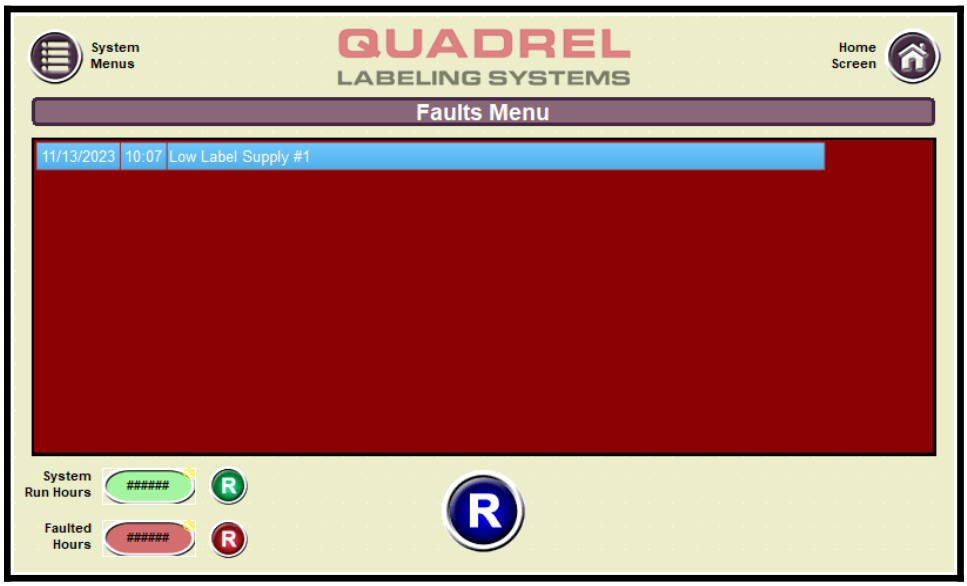
Supervisor:
There can be 3 user defined passwords for the Supervisor level. Note that there is one hard coded Supervisor Level password that cannot be viewed or changed.

If a Maintenance and Supervisor password are the same, the system will log that user in at the Maintenance level.

The password(s) to open the Password Menu are stored in the HMI and cannot be modified. This will prevent any password loss in the event the PLC logic is altered.

Fault Menu:

The Fault Menu displays all fault messages, shows system level counters, and gives access to a Fault History. You can access this Menu by pressing the Alert icon (pictured left).



Fault/Message window:
The Red box in the middle of the screen will display any active fault or message on the system. Pressing the blue Reset button will clear these messages if the source of the fault has been remedied.
If multiple faults exist, it is necessary to scroll down to view them.

Fault Reset:
Used to reset active faults displayed above.

System Run Hours:
This counts how many hours the conveyor has been physically running. The reset button (Supervisor Level) next to the counter will reset this value to 0.

Faulted Hours:
This counts how many hours the system has had an active fatal fault on it, preventing the system from running. The reset button (Supervisor Level) next to the counter will reset this value to 0.

Fault Messages and Indicators:

Green Lamp (option): A Green lamp will be steady to signal the labeler is free of all faults.

Amber Lamp (option): An Amber lamp will signal that there is a warning condition present on the system. Warning conditions typically allow the system to function normally, but action will be needed soon to replace labels, ribbon, etc. Some warning messages will turn into fatal faults if they are not addressed before taking additional actions.

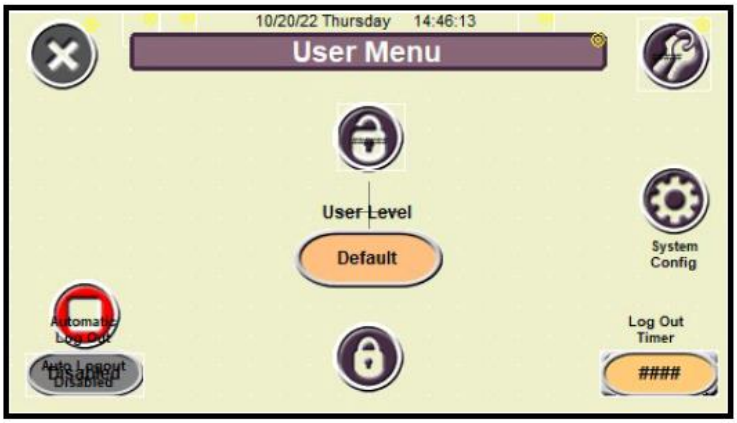
Red Lamp / Buzzer (option): A Red lamp indicates that a fatal fault occurred and the system is unable to run properly.

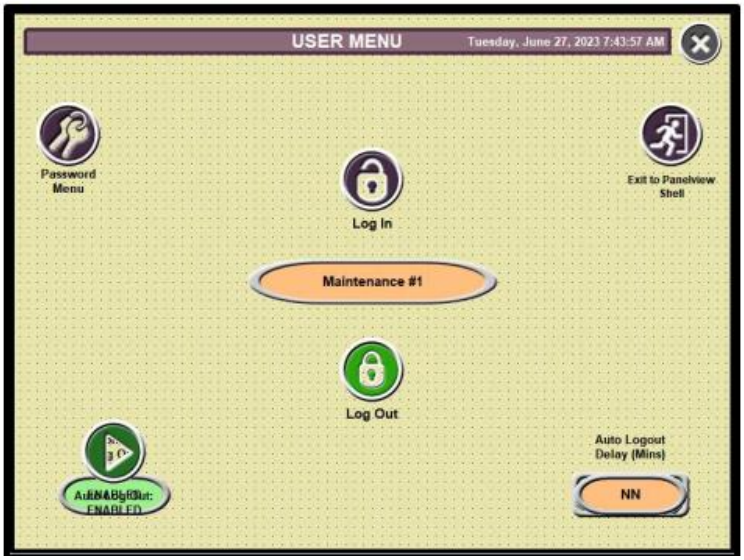
Messages	Cause/Solution
Warning Messages	
Screen Boot Sequence Warning	The PLC will not execute it's internal program until the screen starts up. If the PLC powered was cycled but screen was not, this message will appear. Cycle power to the entire labeling head.
Low Label Supply #X	The label supply on the listed labeler has been determined low by the sensor fiber under the flange. Note that this message will not appear until the labeler is placed in run or is currently running.
End of Web Warning #X	The End Of Web sensor (between the drive system and unwind) on the listed Labeler is active and the Labeler is Stopped. Placing the Labeler into Run will generate a Fatal Fault.
Broken Web Warning #X	The Broken Web sensor (between the drive system and rewind) on the listed Labeler is active and the Labeler is Stopped. Placing the Labeler into Run will generate a Fatal Fault.
Missing Label / Max Feed #X	This message will appear if the drive determined there was no label gap detected when dispensing. Check the Max Feed distance, label sensor, and labels if this frequently occurs.
Infeed Starved / Outfeed Full. Product Flow Stopped	The Product Flow device is currently stopped because the Infeed area is starved of products and/or the outfeed area is full of products.
Labeler #X Drive Faulted Warning	The driver that controls the stepping motor on the labeler has been turned off or has become faulted. The warning indicated the labeler is Stopped. Placing the Labeler into Run will generate a Fatal Fault.
Program #X Warning	The program running in the listed labeler's drive may be stopped or did not start properly. If pressing the reset button does not clear this, cycle power to the drive.
DRx Speed Command Warning	The target speed reference that needs to be sent to the listed drive has exceeded an internal limit. Check the calibration, speed, and ratio values. If needed, the listed drive's upper frequency limit may need to be increased.

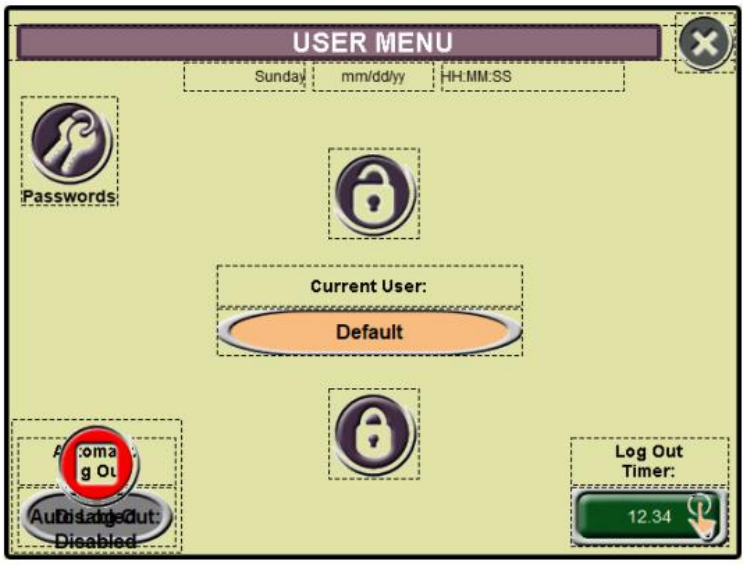
Fatal Messages	
Safety Fault. Check E-Stops	An emergency stop is pressed in. When released, the safety circuit will restart, but the fault message must be manually cleared from the HMI.
Labeler #x Drive Faulted / Turned Off	The driver that controls the stepping motor on the labeler has been turned off or has become faulted. Cycle labeler power and reset or refer to the stepper drive manual to read fault codes on the drive itself. This fault will become active if the labeler is Running or placed into Run.
Labeler #x Broken Web Fault	The Broken Web sensor (between the drive system and rewind) on the Labeler is active and the Labeler was Running or placed into Run.
Labeler #x End of Web Fault	The End Of Web sensor (between the drive system and unwind) on the Labeler is active and the Labeler was Running or placed into Run.

Fatal Messages, cont.	
Missing Label / Max Feed #X	This message will appear if the drive determined there was no label gap detected when dispensing. Check the Max Feed distance, label sensor, and labels if this frequently occurs.
DRx Faulted	The listed drive did not send data back to the PLC that it is running when the system was started. Check that the drive is powered up, has no faults, and communication cabling is correct.
Roller Timeout Fault	The Roller Indexer process timed out. This can be from a Max Capture Time value being set too low, product not being captured properly, or registration feature not detected.
Roller Not Home Fault	The Roller Indexer was requested to capture a product, but the home sensor on the cylinder was not active. This can be from products being too close, loss of air pressure, faulty home sensor, or cylinder pinching an object like a cable or hose.

To set user passwords during initial setup navigate to the passwords screen, then Log in using password “7670” Once logged in users can set passwords per HMI Guide.






USER MENU
Sunday
mm/dd/yy
HH:MM:SS
Passwords
Current User:
Default
Log Out
Timer:
12.34
Disabled

Setup Sheets

QUADREL
LABELING SYSTEMS

SERIAL # 84239-100

TECHLINE SETUP PARAMETERS

PRODUCT: 1 Gallon

PRODUCT PITCH _7_ PRODUCT RATE_23__

MAIN MENU

RECIPE	1
TARGET RATE/PPM/IPM	800

LABELER MENU

	LABELER 1 WRAP	LABELER 2	LABELER 3
RECIPE	1		
PRODUCT DELAY	4.85		
LABEL STOP	7.75		
MAX FEED	20		
SPEED RATIO	1.94		

LABELER SERVICE MENU

	LABELER 1 WRAP	LABELER 2	LABELER 3
SPEED CALIBRATION	322		
SPEED COMPENSATION	50		
JOG SPEED	600		
ACCEL	500		
DECEL	500		
MAX FREQUENCY	15000		
WIPES	NA		

LABELER DIAGNOSTICS MENU

COUNTS PER INCH	**515**	**515**	**515**

SETUP/ SPEED MENU

QUADREL
LABELING SYSTEMS

SERIAL # 84239-100

TARGET RATE / PPM/IPM	800
PRODUCT PITCH	7.0
PRODUCT WIDTH	6.0
INDEXER	Enabled
DIRECT WRAP	Disabled
CHAIN ALIGNERS	Disabled

SPEED CALIBRATION MENU

TARGET RATE / PPM/IPM	800
PRODUCT PITCH	7.0
PRODUCT WIDTH	6.0
CONVEYOR CALIBRATION	2.48
PACING BELT CALIBRATION	2.28
WRAP SPEED RATIO	2.0
WRAP BELT CALIBRATION	1.28
CYCLE STOP	Disabled
CYCLE STOP DISTANCE	96
SECONDARY WIPE	Disabled
SECOND WIPE DELAY	
SECOND WIPE DURATION	

PRODUCT FLOW MENU

INFEED PRIMED DELAY	1.0
INFEED STARVED DELAY	1.0
OUTFEED CLEAR DELAY	1.0
OUTFEED FULL DELAY	1.0

QUADREL
LABELING SYSTEMS

SERIAL # 84239-100

ROLLER INDEXER MENU

ESCAPEMENT DELAY	.20
ESCAPEMENT DURATION	2.5
ROLLER INDEXER MODE	ENABLED
CAPTURE DELAY	9.0
ROLLER SETTLE TIME	.50
WRAPOVER TIME	.10
MAX CAPTURE TIME	4.0

CHANGEOVER SETTING MENU

BACKPLATE UP/DOWN	NA
BACKPLATE IN/OUT	NA
WRAP IN/OUT	46
WRAP UP/DOWN	32
TOP TRAP UP/DOWN	UP Not Used
INDEXER IN/OUT	
INDEXER UP/DOWN	33
PACING IN/OUT	
LABELER 1 UP/DOWN	1543
LABELER 1 IN/OUT	1020
LABELER 2 UP/DOWN	
LABELER 2 IN/OUT	OPEN
LABELER 3 UP/DOWN	
LABELER 3 IN/OUT	OPEN
ALIGNERS	OPEN

AIR SETTINGS

AIR ASSIST #1	**30 psi**
SQUEEGEE WIPES	**30 psi**
3 ROLLER INDEXER	**60 psi**
ESCAPEMENT	**60 psi**

QUADREL
LABELING SYSTEMS

SERIAL # 84239-100

TECHLINE SETUP PARAMETERS

PRODUCT: 128 oz 3 Panel

PRODUCT PITCH __14____ PRODUCT RATE_25__

MAIN MENU

RECIPE	2
TARGET RATE/PPM/IPM	23

LABELER MENU

	LABELER 1 WRAP	LABELER 2	LABELER 3
RECIPE		2	
PRODUCT DELAY		9.8	
LABEL STOP		5.7	
MAX FEED		16.0	
SPEED RATIO		1.0	

LABELER SERVICE MENU

	LABELER 1 WRAP	LABELER 2	LABELER 3
SPEED CALIBRATION	322	322	322
SPEED COMPENSATION	50	50	50
JOG SPEED	600	600	600
ACCEL	500	500	500
DECEL	500	500	500
MAX FREQUENCY	15000	15000	15000
SECONDARY WIPES	DISABLED	DISABLED	DISABLED

LABELER DIAGNOSTICS MENU

COUNTS PER INCH	**515**	**515**	**515**

SETUP/ SPEED MENU

QUADREL
LABELING SYSTEMS

SERIAL # 84239-100

TARGET RATE / PPM/IPM	25
PRODUCT PITCH	14
PRODUCT WIDTH	5
INDEXER	DISABLED
DIRECT WRAP	DISABLED
CHAIN ALIGNERS	ENABLED

SPEED CALIBRATION MENU

TARGET RATE / PPM/IPM	25
PRODUCT PITCH	14
PRODUCT WIDTH	5
CONVEYOR CALIBRATION	2.48
PACING BELT CALIBRATION	2.28
WRAP SPEED RATIO	2.0
WRAP BELT CALIBRATION	1.28
CYCLE STOP	Disabled
CYCLE STOP DISTANCE	96
SECONDARY WIPE	Disabled
SECOND WIPE DELAY	
SECOND WIPE DURATION	

PRODUCT FLOW MENU

INFEED PRIMED DELAY	1.0
INFEED STARVED DELAY	1.0
OUTFEED CLEAR DELAY	1.0
OUTFEED FULL DELAY	1.0

QUADREL
LABELING SYSTEMS

SERIAL # 84239-100

ROLLER INDEXER MENU

ESCAPEMENT DELAY	
ESCAPEMENT DURATION	
ROLLER INDEXER MODE	DISABLED
CAPTURE DELAY	
ROLLER SETTLE TIME	
WRAPOVER TIME	
MAX CAPTURE TIME	

CHANGEOVER SETTING MENU

BACKPLATE UP/DOWN	NA
BACKPLATE IN/OUT	NA
WRAP IN/OUT	46
WRAP UP/DOWN	32
TOP TRAP UP/DOWN	UP Not Used
INDEXER IN/OUT	NA
INDEXER UP/DOWN	NA
PACING IN/OUT	
LABELER 1 UP/DOWN	1543
LABELER 1 IN/OUT	1020
LABELER 2 UP/DOWN	562
LABELER 2 IN/OUT	854
LABELER 3 UP/DOWN	
LABELER 3 IN/OUT	OPEN
ALIGNERS	OPEN

AIR SETTINGS

AIR ASSIST	30 psi
SQUEEGEE WIPES	30 psi
3 ROLLER INDEXER	60 psi
ESCAPEMENT	60 psi

QUADREL
LABELING SYSTEMS

SERIAL # 84239-100

TECHLINE SETUP PARAMETERS

PRODUCT: 32oz F/B

PRODUCT PITCH _8_____ PRODUCT RATE_60ppm_

MAIN MENU

RECIPE	3
TARGET RATE/PPM/IPM	60

LABELER MENU

	LABELER 1 WRAP	LABELER 2	LABELER 3
RECIPE		3	3
PRODUCT DELAY		8.1	26.20
LABEL STOP		1.75	1.75
MAX FEED		5.0	5.0
SPEED RATIO		.98	.98

LABELER SERVICE MENU

	LABELER 1 WRAP	LABELER 2	LABELER 3
SPEED CALIBRATION	322	322	322
SPEED COMPENSATION	50	50	50
JOG SPEED	600	600	600
ACCEL	500	500	500
DECEL	500	500	500
MAX FREQUENCY	15000	15000	15000
WIPES	NA	NA	NA

LABELER DIAGNOSTICS MENU

COUNTS PER INCH	**515**	**515**	**515**

SETUP/ SPEED MENU

QUADREL
LABELING SYSTEMS

SERIAL # 84239-100

TARGET RATE / PPM/IPM	60
PRODUCT PITCH	6.0
PRODUCT WIDTH	4.5
INDEXER	DISABLED
DIRECT WRAP	DISABLED
CHAIN ALIGNERS	ENABLED

SPEED CALIBRATION MENU

TARGET RATE / PPM/IPM	60
PRODUCT PITCH	6.0
PRODUCT WIDTH	4.5
CONVEYOR CALIBRATION	2.48
PACING BELT CALIBRATION	2.28
WRAP SPEED RATIO	2.0
WRAP BELT CALIBRATION	1.28
CYCLE STOP	Disabled
CYCLE STOP DISTANCE	96
SECONDARY WIPE	Disabled
SECOND WIPE DELAY	NA
SECOND WIPE DURATION	NA

PRODUCT FLOW MENU

INFEED PRIMED DELAY	1.0
INFEED STARVED DELAY	1.0
OUTFEED CLEAR DELAY	1.0
OUTFEED FULL DELAY	1.0

QUADREL
LABELING SYSTEMS

SERIAL # 84239-100

ROLLER INDEXER MENU

ESCAPEMENT DELAY	
ESCAPEMENT DURATION	DISABLED
ROLLER INDEXER MODE	
CAPTURE DELAY	
ROLLER SETTLE TIME	
WRAPOVER TIME	
MAX CAPTURE TIME	

CHANGEOVER SETTING MENU

BACKPLATE UP/DOWN	NA
BACKPLATE IN/OUT	NA
WRAP IN/OUT	NA
WRAP UP/DOWN	NA
TOP TRAP UP/DOWN	98176
INDEXER IN/OUT	NA
INDEXER UP/DOWN	33
PACING IN/OUT	
LABELER 1 UP/DOWN	1543
LABELER 1 IN/OUT	OPEN
LABELER 2 UP/DOWN	759
LABELER 2 IN/OUT	98907
LABELER 3 UP/DOWN	1515
LABELER 3 IN/OUT	99940
ALIGNERS	

AIR SETTINGS

AIR ASSIST #1	30 psi
Head 2 WIPES	50 psi
3 ROLLER INDEXER	30 psi
ESCAPEMENT	60 psi

QUADREL
LABELING SYSTEMS

SERIAL # 84239-100

TECHLINE SETUP PARAMETERS

PRODUCT: QUART DIRECT WRAP

PRODUCT PITCH _8_____ PRODUCT RATE_50ppm_

MAIN MENU

RECIPE	4
TARGET RATE/PPM/IPM	50

LABELER MENU

	LABELER 1 WRAP	LABELER 2	LABELER 3
RECIPE	4		
PRODUCT DELAY	9.50		
LABEL STOP	7.75		
MAX FEED	14.00		
SPEED RATIO	2.00		

LABELER SERVICE MENU

	LABELER 1 WRAP	LABELER 2	LABELER 3
SPEED CALIBRATION	322	322	322
SPEED COMPENSATION	50	50	50
JOG SPEED	600	600	600
ACCEL	500	500	500
DECEL	500	500	500
MAX FREQUENCY	15000	15000	15000
WIPES	NA	NA	NA

LABELER DIAGNOSTICS MENU

COUNTS PER INCH	**515**	**515**	**515**

SETUP/ SPEED MENU

QUADREL
LABELING SYSTEMS

SERIAL # 84239-100

TARGET RATE / PPM/IPM	50 ppm
PRODUCT PITCH	12.0
PRODUCT WIDTH	3.50
INDEXER	Disabled
DIRECT WRAP	Enabled
CHAIN ALIGNERS	Disabled

SPEED CALIBRATION MENU

TARGET RATE / PPM/IPM	50 ppm
PRODUCT PITCH	12.0
PRODUCT WIDTH	3.50
CONVEYOR CALIBRATION	2.48
PACING BELT CALIBRATION	2.28
WRAP SPEED RATIO	2.0
WRAP BELT CALIBRATION	1.28
CYCLE STOP	Disabled
CYCLE STOP DISTANCE	96
SECONDARY WIPE	Disabled
SECOND WIPE DELAY	NA
SECOND WIPE DURATION	NA

PRODUCT FLOW MENU

INFEED PRIMED DELAY	1.0
INFEED STARVED DELAY	1.0
OUTFEED CLEAR DELAY	1.0
OUTFEED FULL DELAY	1.0

QUADREL
LABELING SYSTEMS

SERIAL # 84239-100

ROLLER INDEXER MENU

ESCAPEMENT DELAY	
ESCAPEMENT DURATION	
ROLLER INDEXER MODE	**DISABLED**
CAPTURE DELAY	
ROLLER SETTLE TIME	
WRAPOVER TIME	
MAX CAPTURE TIME	

CHANGEOVER SETTING MENU

BACKPLATE UP/DOWN	100
BACKPLATE IN/OUT	120
WRAP IN/OUT	46
WRAP UP/DOWN	19
TOP TRAP UP/DOWN	96721
INDEXER IN/OUT	NA
INDEXER UP/DOWN	33
PACING IN/OUT	
LABELER 1 UP/DOWN	1873
LABELER 1 IN/OUT	1025
LABELER 2 UP/DOWN	Open
LABELER 2 IN/OUT	98907
LABELER 3 UP/DOWN	Open
LABELER 3 IN/OUT	99940
ALIGNERS	Open

AIR SETTINGS

AIR ASSIST #1	**30 psi**
Head 2 WIPES	**50 psi**
3 ROLLER INDEXER	**30 psi**
ESCAPEMENT	**60 psi**

QUADREL
LABELING SYSTEMS

SERIAL # 84239-100

TECHLINE SETUP PARAMETERS

PRODUCT:

PRODUCT PITCH _____ PRODUCT RATE_____

IMPRESSORS:

MAIN MENU

RECIPE	
TARGET RATE/PPM/IPM	

LABELER MENU

	LABELER 1 WRAP	LABELER 2	LABELER 3
RECIPE			
PRODUCT DELAY			
LABEL STOP			
MAX FEED			
SPEED RATIO			

LABELER SERVICE MENU

	LABELER 1 WRAP	LABELER 2	LABELER 3
SPEED CALIBRATION			
SPEED COMPENSATION			
JOG SPEED			
ACCEL			
DECEL			
MAX FREQUENCY			
WIPES			

LABELER DIAGNOSTICS MENU

COUNTS PER INCH			

QUADREL
LABELING SYSTEMS

SERIAL # 84239-100

SETUP/ SPEED MENU

TARGET RATE / PPM/IPM	
PRODUCT PITCH	
PRODUCT WIDTH	
INDEXER	
DIRECT WRAP	
CHAIN ALIGNERS	

SPEED CALIBRATION MENU

TARGET RATE / PPM/IPM	
PRODUCT PITCH	
PRODUCT WIDTH	
CONVEYOR CALIBRATION	
PACING BELT CALIBRATION	
WRAP SPEED RATIO	
WRAP BELT CALIBRATION	
CYCLE STOP	
CYCLE STOP DISTANCE	
SECONDARY WIPE	
SECOND WIPE DELAY	
SECOND WIPE DURATION	

PRODUCT FLOW MENU

INFEED PRIMED DELAY	
INFEED STARVED DELAY	
OUTFEED CLEAR DELAY	
OUTFEED FULL DELAY	

QUADREL
LABELING SYSTEMS

SERIAL # 84239-100

ROLLER INDEXER MENU

ESCAPEMENT DELAY	
ESCAPEMENT DURATION	
ROLLER INDEXER MODE	
CAPTURE DELAY	
ROLLER SETTLE TIME	
WRAPOVER TIME	
MAX CAPTURE TIME	

CHANGEOVER SETTING MENU

BACKPLATE UP/DOWN	
BACKPLATE IN/OUT	
WRAP IN/OUT	
WRAP UP/DOWN	
TOP TRAP UP/DOWN	
INDEXER IN/OUT	
INDEXER UP/DOWN	
PACING IN/OUT	
LABELER 1 UP/DOWN	
LABELER 1 IN/OUT	
LABELER 2 UP/DOWN	
LABELER 2 IN/OUT	
LABELER 3 UP/DOWN	
LABELER 3 IN/OUT	
ALIGNERS	

AIR SETTINGS

AIR ASSIST #1	
AIR ASSIST #2	
HEAD #2 WIPES	
HEAD #1 WIPES	
3 ROLLER INDEXER	
ESCAPEMENT	

QUADREL
LABELING SYSTEMS

SERIAL # 84239-100

Fuji Frenic Mini v.012

For use with Techlines with Keyence Nano PLC & Weintek/Maple HMI

Job: 84239-100 Drive: 1 Motor: Conveyor

SETUP AND ADJUSTMENTS: (Reference Fuji drive manual for detailed information)

Set Primary Parameters:

Parameter	Fuji Default	Quadrel Default Value	Quadrel Final Value	Description
F01	4	0 (Keypad)	1 ✓	Freq. Command
F02	2	1 (Terminals)	1 ✓	Operation
F03*	60.0	60.0	90	Max Frequency
F07	6.0	3.0	3.0	Accel Time
F08	6.0	3.0	3.0	Decel Time
F15	70	70	90	Frequency Limit
F42	0	2	2 ✓	Control Mode
H30**	0	1	1 → 0	Comm Function
E27	99	0	0 ✓	Relay Function
P99	0	1 (HP)	1 ✓	Motor Type
P02	Varies	See Motor Nameplate	✓	Rated Capacity (HP)
Y01***	1	1	1 (Conveyor Only) ✓	Drive Address
Y10	1	0	0 ✓	Protocol

***: If F03 needs to be greater than 70.0 (F15 Default), F15 must be changed first.**
****: 1 for Conveyor, Feedscrew, or Three Roller Wrap. 0 for all others.**
*****: 1 for Conveyor, 2 for Three Roller Wrap, 3 for Feedscrew**
P02 Reference for frequently used motors:
3/8 HP: 0.38, 1/6 HP: 0.17

Initialize Parameters

- **Navigate to Parameter H03**
- **Use the STOP and UP Arrow to change H03 to "2". Press the Func/Data button.**
- **"Save" will flash on the display. H03 will revert back to "0" once the parameters are automatically set.**

Set the Motor Current based on the Motor Nameplate value. Entered as Amps.

Parameter	Fuji Default	Motor Nameplate	Quadrel Final value
P03	Varies	1.9	1.9

P03 Reference for frequently used motors:
3/8 HP: 1.9, 1/6 HP: 0.73

S03 Jumper Setting:
Default is in the OFF position.
Standard Systems: Set DR1 Conveyor to ON position. Other drives set to default/OFF.
Three Roller Systems: Set Wrap drive to ON position. Other drives set to default/OFF.
Feedscrew systems: Set Feedscrew drive to ON position. Other drives set to default/OFF.

SINK/SOURCE Jumper Setting: SOURCE (All Drives)

When Chain Aligners Installed, F30 (Analog Out Adjustment) on DR2 will change the Chain Aligner Speed

Parameter	Fuji Default	Quadrel Default Value	Quadrel Final value
F30	100	200	

Fuji Frenic Mini v.012

For use with Techlines with Keyence Nano PLC & Weintek/Maple HMI

Job: 84239-100 Drive: 2 Motor: Top Trap

SETUP AND ADJUSTMENTS: (Reference Fuji drive manual for detailed information)

Set Primary Parameters:

Parameter	Fuji Default	Quadrel Default Value	Quadrel Final Value	Description
F01	4	0 (Keypad)	1 ✓	Freq. Command
F02	2	1 (Terminals)	1 ✓	Operation
F03*	60.0	60.0	90	Max Frequency
F07	6.0	3.0	3.0	Accel Time
F08	6.0	3.0	3.0	Decel Time
F15	70	70	90	Frequency Limit
F42	0	2	2 ✓	Control Mode
H30**	0	1	~~1~~ 0	Comm Function
E27	99	0	0 ✓	Relay Function
P99	0	1 (HP)	1 ✓	Motor Type
P02	Varies	See Motor Nameplate	.38	Rated Capacity (HP)
Y01***	1	1	~~1~~ (Conveyor Only) 2	Drive Address
Y10	1	0	0	Protocol

***: If F03 needs to be greater than 70.0 (F15 Default), F15 must be changed first.**
****: 1 for Conveyor, Feedscrew, or Three Roller Wrap. 0 for all others.**
*****: 1 for Conveyor, 2 for Three Roller Wrap, 3 for Feedscrew**
P02 Reference for frequently used motors:
3/8 HP: 0.38, 1/6 HP: 0.17

Initialize Parameters

- **Navigate to Parameter H03**
- **Use the STOP and UP Arrow to change H03 to "2". Press the Func/Data button.**
- **"Save" will flash on the display. H03 will revert back to "0" once the parameters are automatically set.**

Set the Motor Current based on the Motor Nameplate value. Entered as Amps.

Parameter	Fuji Default	Motor Nameplate	Quadrel Final value
P03	Varies	1.9	1.9

P03 Reference for frequently used motors:
3/8 HP: 1.9, 1/6 HP: 0.73

S03 Jumper Setting:
Default is in the OFF position.
Standard Systems: Set DR1 Conveyor to ON position. Other drives set to default/OFF.
Three Roller Systems: Set Wrap drive to ON position. Other drives set to default/OFF.
Feedscrew systems: Set Feedscrew drive to ON position. Other drives set to default/OFF.

SINK/SOURCE Jumper Setting: SOURCE (All Drives)

When Chain Aligners Installed, F30 (Analog Out Adjustment) on DR2 will change the Chain Aligner Speed

Parameter	Fuji Default	Quadrel Default Value	Quadrel Final value
F30	100	200	19

Fuji Frenic Mini v.012

For use with Techlines with Keyence Nano PLC & Weintek/Maple HMI

Job: 84239-100 **Drive:** 3 **Motor:** Wrap

SETUP AND ADJUSTMENTS: (Reference Fuji drive manual for detailed information)

Set Primary Parameters:

Parameter	Fuji Default	Quadrel Default Value	Quadrel Final Value	Description
F01	4	0 (Keypad)	1 ✓	Freq. Command
F02	2	1 (Terminals)	1 ✓	Operation
F03*	60.0	60.0	85	Max Frequency
F07	6.0	3.0	3.0	Accel Time
F08	6.0	3.0	3.0	Decel Time
F15	70	70	90	Frequency Limit
F42	0	2	2 ✓	Control Mode
H30**	0	1	~~1~~ 0	Comm Function
E27	99	0	0 ✓	Relay Function
P99	0	1 (HP)	1 ✓	Motor Type
P02	Varies	See Motor Nameplate	.38	Rated Capacity (HP)
Y01***	1	1	~~1~~ (Conveyor Only) 3	Drive Address
Y10	1	0	0 ✓	Protocol

***: If F03 needs to be greater than 70.0 (F15 Default), F15 must be changed first.**
****: 1 for Conveyor, Feedscrew, or Three Roller Wrap. 0 for all others.**
*****: 1 for Conveyor, 2 for Three Roller Wrap, 3 for Feedscrew**
P02 Reference for frequently used motors:
3/8 HP: 0.38, 1/6 HP: 0.17

Initialize Parameters

- **Navigate to Parameter H03**
- **Use the STOP and UP Arrow to change H03 to "2". Press the Func/Data button.**
- **"Save" will flash on the display. H03 will revert back to "0" once the parameters are automatically set.**

Set the Motor Current based on the Motor Nameplate value. Entered as Amps.

Parameter	Fuji Default	Motor Nameplate	Quadrel Final value
P03	Varies	1.9	1.9

P03 Reference for frequently used motors:
3/8 HP: 1.9, 1/6 HP: 0.73

S03 Jumper Setting:
Default is in the OFF position.
Standard Systems: Set DR1 Conveyor to ON position. Other drives set to default/OFF.
Three Roller Systems: Set Wrap drive to ON position. Other drives set to default/OFF.
Feedscrew systems: Set Feedscrew drive to ON position. Other drives set to default/OFF.

SINK/SOURCE Jumper Setting: SOURCE (All Drives)

When Chain Aligners Installed, F30 (Analog Out Adjustment) on DR2 will change the Chain Aligner Speed

Parameter	Fuji Default	Quadrel Default Value	Quadrel Final value
F30	100	200	

Fuji Frenic Mini v.012

For use with Techlines with Keyence Nano PLC & Weintek/Maple HMI

Job: 84239-100 **Drive:** 4 **Motor:** Pacing Belt

SETUP AND ADJUSTMENTS: (Reference Fuji drive manual for detailed information)

Set Primary Parameters:

Parameter	Fuji Default	Quadrel Default Value	Quadrel Final Value	Description
F01	4	0 (Keypad)	1 ✓	Freq. Command
F02	2	1 (Terminals)	1 ✓	Operation
F03*	60.0	60.0	90	Max Frequency
F07	6.0	3.0	3.0	Accel Time
F08	6.0	3.0	3.0	Decel Time
F15	70	70	90	Frequency Limit
F42	0	2	2 ✓	Control Mode
H30**	0	1	10	Comm Function
E27	99	0	0 ✓	Relay Function
P99	0	1 (HP)	1 ✓	Motor Type
P02	Varies	See Motor Nameplate	.38	Rated Capacity (HP)
Y01***	1	1	1 (Conveyor Only) 4	Drive Address
Y10	1	0	0	Protocol

***: If F03 needs to be greater than 70.0 (F15 Default), F15 must be changed first.**
****: 1 for Conveyor, Feedscrew, or Three Roller Wrap. 0 for all others.**
*****: 1 for Conveyor, 2 for Three Roller Wrap, 3 for Feedscrew**
P02 Reference for frequently used motors:
3/8 HP: 0.38, 1/6 HP: 0.17

Initialize Parameters

- **Navigate to Parameter H03**
- **Use the STOP and UP Arrow to change H03 to "2". Press the Func/Data button.**
- **"Save" will flash on the display. H03 will revert back to "0" once the parameters are automatically set.**

Set the Motor Current based on the Motor Nameplate value. Entered as Amps.

Parameter	Fuji Default	Motor Nameplate	Quadrel Final value
P03	Varies	1.9	1.9

P03 Reference for frequently used motors:
3/8 HP: 1.9, 1/6 HP: 0.73

S03 Jumper Setting:
Default is in the OFF position.
Standard Systems: Set DR1 Conveyor to ON position. Other drives set to default/OFF.
Three Roller Systems: Set Wrap drive to ON position. Other drives set to default/OFF.
Feedscrew systems: Set Feedscrew drive to ON position. Other drives set to default/OFF.

SINK/SOURCE Jumper Setting: SOURCE (All Drives)

When Chain Aligners Installed, F30 (Analog Out Adjustment) on DR2 will change the Chain Aligner Speed

Parameter	Fuji Default	Quadrel Default Value	Quadrel Final value
F30	100	200	

QUADREL
LABELING SYSTEMS

Serial Number: ___84239-200_____

Label Size: 6x5.50_____ Product: __No Product___

Labeler Menu

	FACTORY	USER
Recipe	**1 Test**	
Product Delay	**.800**	
Label Stop	**4.50**	
Feed Speed	**500**	

Setup Menu

	FACTORY	USER
Dispensing Speed	**500**	
Accel Duration	**100**	
Decel Duration	**100**	

Applicator Service Menu

Encoder / Fixed Speed Mode	**Fixed Speed**	
Encoder Counts Per Inch	**128**	
Feed Speed	**500**	

Mechanical Settings

	FACTORY	USER
Labeler Up/Down		

QUADREL
LABELING SYSTEMS

QUADREL
LABELING SYSTEMS

SERIAL # 84239-100

TECHLINE SETUP PARAMETERS

PRODUCT:

PRODUCT PITCH _____ PRODUCT RATE_____

IMPRESSORS:

MAIN MENU

RECIPE	
TARGET RATE/PPM/IPM	

LABELER MENU

	LABELER 1 WRAP	LABELER 2	LABELER 3
RECIPE			
PRODUCT DELAY			
LABEL STOP			
MAX FEED			
SPEED RATIO			

LABELER SERVICE MENU

	LABELER 1 WRAP	LABELER 2	LABELER 3
SPEED CALIBRATION			
SPEED COMPENSATION			
JOG SPEED			
ACCEL			
DECEL			
MAX FREQUENCY			
WIPES			

LABELER DIAGNOSTICS MENU

COUNTS PER INCH			

QUADREL
LABELING SYSTEMS

SERIAL # 84239-100

SETUP/ SPEED MENU

TARGET RATE / PPM/IPM	
PRODUCT PITCH	
PRODUCT WIDTH	
INDEXER	
DIRECT WRAP	
CHAIN ALIGNERS	

SPEED CALIBRATION MENU

TARGET RATE / PPM/IPM	
PRODUCT PITCH	
PRODUCT WIDTH	
CONVEYOR CALIBRATION	
PACING BELT CALIBRATION	
WRAP SPEED RATIO	
WRAP BELT CALIBRATION	
CYCLE STOP	
CYCLE STOP DISTANCE	
SECONDARY WIPE	
SECOND WIPE DELAY	
SECOND WIPE DURATION	

PRODUCT FLOW MENU

INFEED PRIMED DELAY	
INFEED STARVED DELAY	
OUTFEED CLEAR DELAY	
OUTFEED FULL DELAY	

QUADREL
LABELING SYSTEMS

SERIAL # 84239-100

ROLLER INDEXER MENU

ESCAPEMENT DELAY	
ESCAPEMENT DURATION	
ROLLER INDEXER MODE	
CAPTURE DELAY	
ROLLER SETTLE TIME	
WRAPOVER TIME	
MAX CAPTURE TIME	

CHANGEOVER SETTING MENU

BACKPLATE UP/DOWN	
BACKPLATE IN/OUT	
WRAP IN/OUT	
WRAP UP/DOWN	
TOP TRAP UP/DOWN	
INDEXER IN/OUT	
INDEXER UP/DOWN	
PACING IN/OUT	
LABELER 1 UP/DOWN	
LABELER 1 IN/OUT	
LABELER 2 UP/DOWN	
LABELER 2 IN/OUT	
LABELER 3 UP/DOWN	
LABELER 3 IN/OUT	
ALIGNERS	

AIR SETTINGS

AIR ASSIST #1	
AIR ASSIST #2	
HEAD #2 WIPES	
HEAD #1 WIPES	
3 ROLLER INDEXER	
ESCAPEMENT	

QUADREL
LABELING SYSTEMS

SERIAL # 84239-100

WARNING



- **KEEP HAND CLEAR OF MOVING PARTS. DO NOT PLACE HANDS NEAR LABELING HEAD WHEN IN OPERATION**



- **DO NOT OPERATE EQUIPMENT WITHOUT GUARDS OR COVERS INSTALLED**





6.1 LABELING HEAD INFORMATION

6.1.1 LOADING AND UNLOADING STOCK ROLL

⚠ CAUTION

To avoid injuries, you must keep the labeler stopped/paused. You can manually jog labels with the JOG button.

Look carefully at the diagram and follow the threading procedures indicated below.

You will also find the threading diagram directly on the labeling head.

1) Place the label stock roll on the unwind shaft. Press the roll firmly against the flange. Then slide the locking collar over the unwind shaft aligning the set screw with the shaft. Press into the roll and twist to lock the collar in place.









2) Pull Approximately 36-40” of stock from label stock roll.



3) Follow the threading diagram on the labeling head for routing the web.
4) Thread through the dancer to the peel plate.

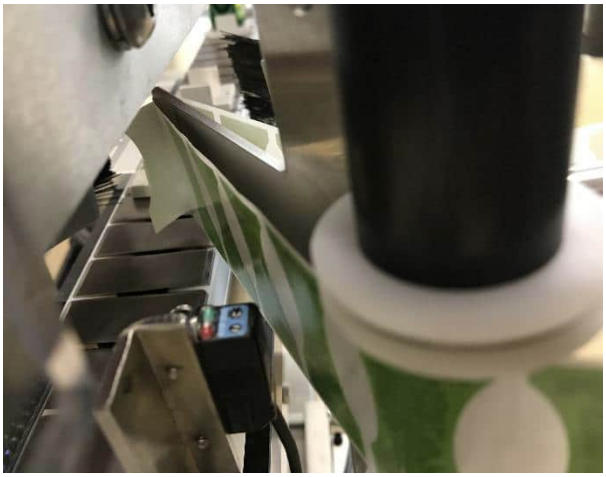


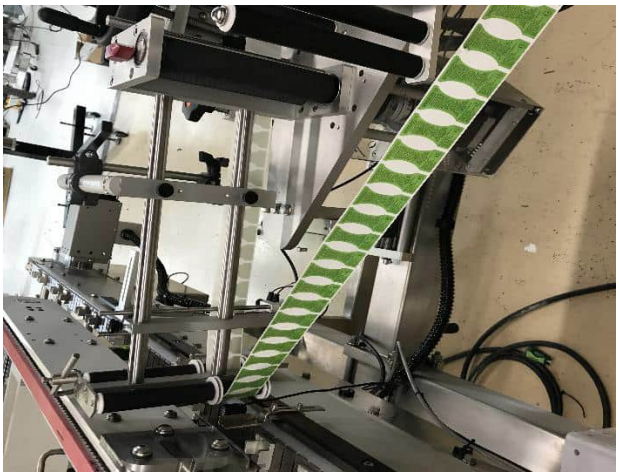




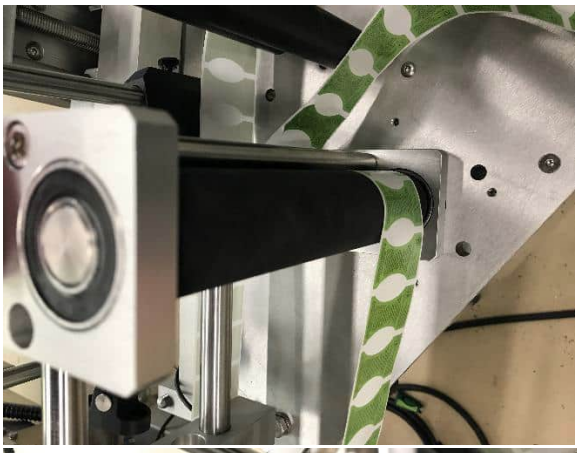


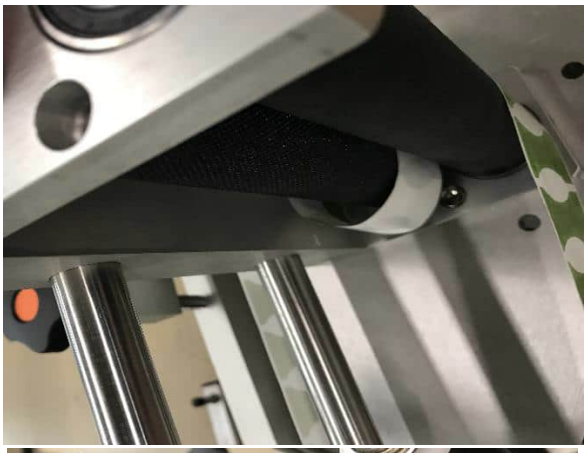
5) Feed the label around the peel plate and under the pressure shoe if (if there is one). Feed the label up the head to the pull roll. Pull all the slack out.

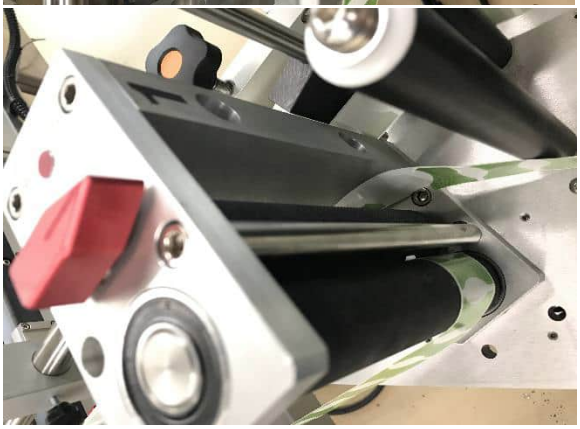




6) Wrap labels around the rubber roller as shown, then around the knurled roller. Make sure the knurled roller is not locked in by turning the red knob to the left or right of the red dot on the drive roll. When you have the labels completely threaded you can turn the knob to the red dot.

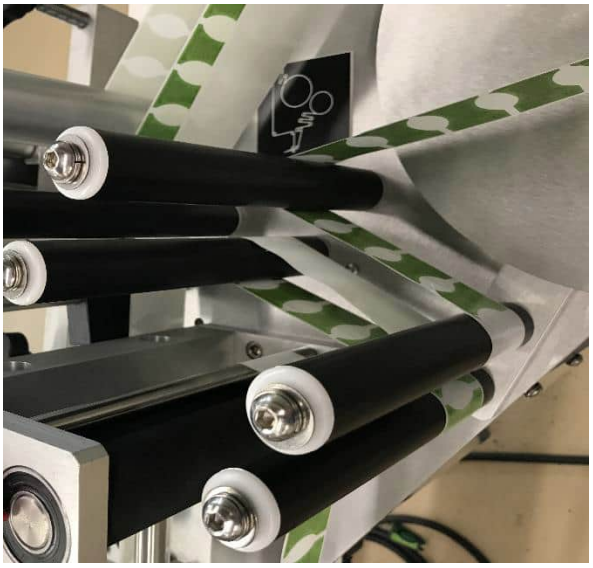








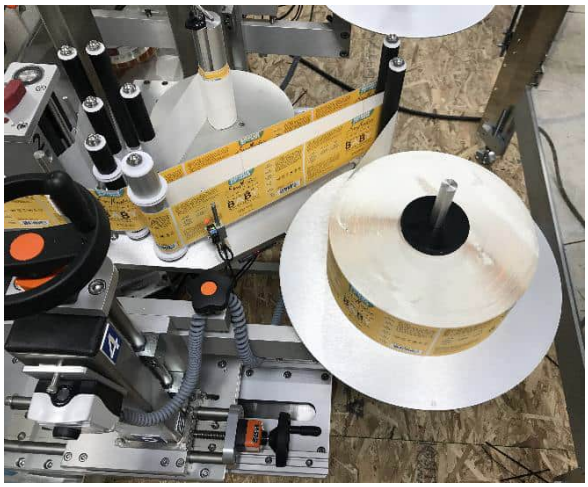
7) Thread the labels through the rewind dancers to the rewind shaft. Place the end of the label through the clip and rotate the rewind hub to take up the slack.





8) The finished product should look similar to the pictures below. Some heads are threaded differently depending on the style head you have. See threading diagrams on the head itself or the manual.



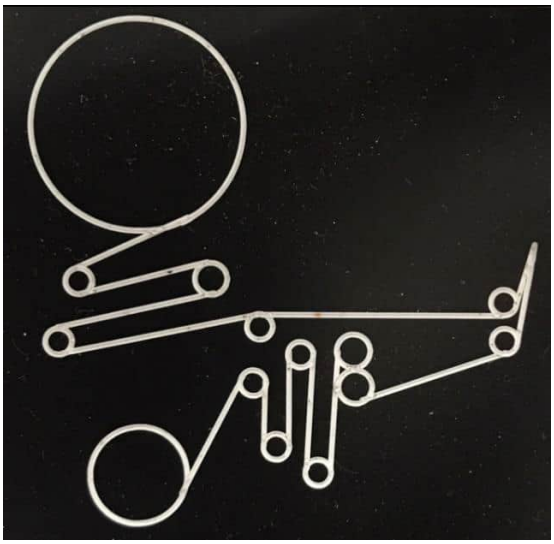


9) To unload the rewind loosen (counter clockwise) the “clevis” bolt on the top of the rewind hub. this will collapse the rewind and you can pull the liner off the hub.

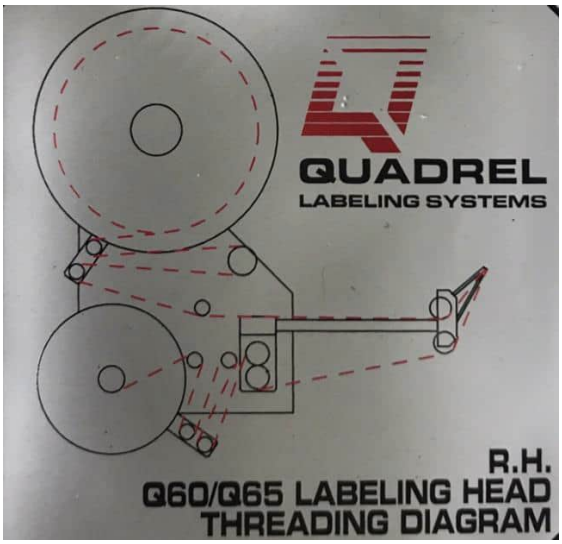
⚠ CAUTION There are many pinch points on a labeler. to avoid injury read and understand the owner’s manual before operating.

6.1.2 THREADING DIAGRAMS

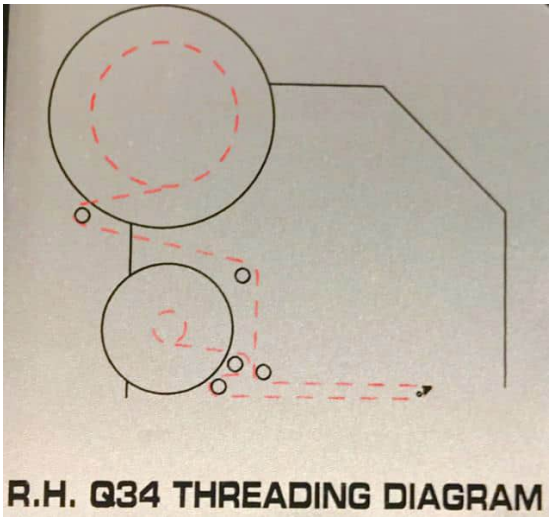
Here are the following threading diagrams for our standard labeling heads.



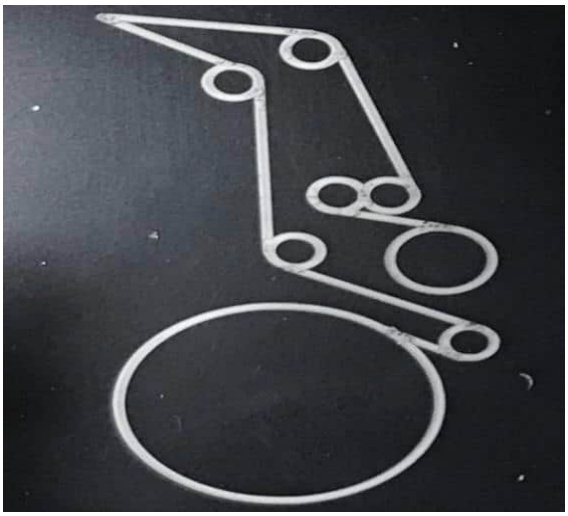
Q120/Q125/Q115/Q110



Q60/Q65



Q34



E100

6.1.3 LABELER ADJUSTMENTS

The vertical adjustment is to position the label on the container at different heights. It's practical if you have different size labels and/or containers. To adjust the height you simply rotate the handwheel at the top of the labeler counter clockwise to go down and clockwise to go up.



Horizontal adjustments are made the same way except you rotate the hand wheel under the labeler. Rotating the hand wheel counter clockwise will move the labeler in and rotating clockwise with move the labeler out.



To adjust the angle of the labeling head you first need to loosen the large ¾-10 nut with a 1 ¼ “wrench and the 5/16-18 hex head bolt. The angular adjustment is very important to increase the repeatability of the process. A good adjustment is when the exit of the label is tangent with the surface of the application.

⚠ CAUTION DO NOT remove the nut & bolt.



Now to adjust the tilt of the labeling head by tightening and loosening the jack screws.



Rotate adjustment is achieved by loosening the 2 ratchet handles under the labeling head. There is a jack screw holding the labeling head in place, but still use caution when loosening the ratchet handles the labeling head can rotate

freely when loose. This is a fine adjustment that increases the parallelism of the label to the shape of the container.

⚠ CAUTION When loosening the labeling head, the head may rotate freely. Keep positive pressure against the head to prevent the head from rotating on its own. `







QUADREL LABELING SYSTEMS

Q125 LABELING HEAD

GENERAL DESCRIPTION

- The Q125 has been developed as a heavy duty automatic labeling head system for integration into high speed, high rate production environments. The labeling head can be configured for either wrap or wipe on applications. The Q125 uses a servo drive and motor system that can be used independently or in conjunction with a PLC. All settings are controlled from a touch screen interface for easy setup and adjustments. In addition, a built in system of fault logic can easily interface with a host of optional sensors.

PRINCIPLE OF FUNCTION

- The Q125 labeling head applies pressure sensitive labels onto moving products. Various principles are involved to achieve accurate label application. In general, a labeling system integrates three (3) basic functions:

  - Product Handling: The most common product handling component is the conveyor. Conveyors allow the product to transport smoothly through the labeling station. The Q125 labeler can be supplied either as a stand alone head (head on a stand) or integrated into a complete conveying/product handling system. An encoder from the product handling system must be tied into the labeler's drive.

  - Label Application: Usually the label is "tacked" directly to the product during the label dispensing cycle. Secondary label applicators such as brushes, roller or wrap belts are used to finish the label application and to ensure good adhesion.

- Label Dispensing: The Q125 utilizes two movement types to dispense labels. The first movement is a fixed speed, “jog” movement that is used during setup purposes. Jogging labels verifies proper label threading and labeler operation prior applying labels to products. The second movement is a synchronized “run” movement that is used to apply labels on passing products. The labeler's drive system will synchronize speed with the product handling system from an encoder. This eliminates the need to change settings based on system speed and allows for accurate and repeatable labeling.

SEQUENCE OF OPERATION:

- The electrical and mechanical operating sequence described below is intended only to acquaint the operator with the operation of the label dispensing head and its related control circuitry.

- The Jog function is used for manual set-up of label dispensing. Under proper conditions, a jog sequence will dispense one label. Labels must be threaded properly and the labeler stopped (indicated on the touch screen) before Jogging labels.

- The Jog cycle is described in the following manner:

1. After verifying that labels are threaded properly and the labeler is stopped, a jog button (physical green button near the labeler or a button on the touch screen) must be pressed.
2. The labeler will start dispensing labels at a fixed speed.
3. The labeler's drive will monitor a label gap sensor input before finishing a dispensing cycle.
4. Once the label's gap is detected by the sensor, the labeler will continue dispensing the label for a length defined by the “Label Stop” parameter on the touch screen. This distance is entered as inches.
5. After the Label Stop distance is reached, the Jog cycle is complete and the labeler stops dispensing labels.
6. If no label gap is detected, the labeler will only index a maximum distance which is set by the “Max Feed” parameter on the touch screen. This distance is entered as inches.

– When the labeler is in the “Run” mode it will automatically dispense labels on products that are passing by. Labels must be threaded properly and the labeler placed in the Run mode (indicated on the touch screen) to automatically dispense labels

1. A product activates the Product Detect sensor.
2. The labeler drive captures the position of the product on the product handling system and starts an internal delay, which is the “Product Delay” parameter on the touch screen.
3. The Product Delay is equal to inches, so once the product travels the Product Delay distance from the product detect sensor, a label will be dispensed.
4. The labeler dispenses a label at the speed of the product which is multiplied by the “Speed Ratio” parameter found on the touch screen. The ratio is a multiplier, so a value of 1.0 determines the labeler will dispense at the exact speed of the conveyor.
5. The labeler monitors the label gap sensor in the same manner of the Jog movement before finishing the dispensing cycle.

ASSEMBLY TITLE: **Q125 LABELING HEAD ASSEMBLY**

DRAWING NO.: **NONE**

GENERAL FUNCTION:

- Applies labels to the front and/or back, top/bottom of the products
- Wraps labels around cylindrical products

SET-UP AND ADJUSTMENTS:

- Tighten all loose connections and screws
- As noted in each sub-assembly

MAINTENANCE:

- Remove glue residue and labels from all rollers and idlers
- As noted in each sub-assembly

TROUBLESHOOTING:

- As noted in each sub-assembly

ASSEMBLY TITLE: **Q125 LABELING HEAD - THREADING**

GENERAL FUNCTION:

- This section is used to guide the user through loading and feeding the label through the web path.

SET UP AND ADJUSTMENTS:

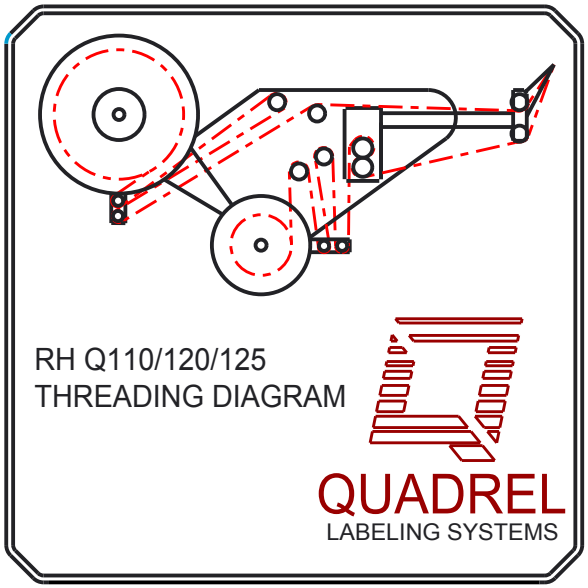
- Load label spool onto unwind hub. Secure unwind retainer onto hub and lock. Pull 3-4 feet of web from unwind and strip labels free of web.
- Unlock the drive roller locking handle.
- Using the threading diagram located on the labeling head, feed the web through the labeling head. Start at the unwind dancer assembly and work forward.
- Feed the web through the drive roller assembly.
- Feed the web around the rewind dancer assembly and onto the rewind hub. Wrap the web around the hub once. Lock the web in place with the rewind retaining bracket.
- Once the web has been threaded, lock down the drive roll assembly by rotating the drive roll locking arm into the locked position. (Towards the drive roller assembly)

MAINTENANCE:

- None this section.

TROUBLESHOOTING:

PROBLEM	WHAT TO DO
- Web break	- Check web path and insure web routed correctly. - Debris causing web tear and break. Clear as needed.
- No Web Tension	- Check web path through unwind and dancer assembly. - Check drive roller lock position.



NOTES:

1) LABEL MATERIAL IS .003" ALUMINUM FOIL W/PERMANENT PRESSURE SENSITIVE ADHESIVE.

2) ALL LETTERING IS .125" HIGH EUROSTYLE 2, BOLD EXTENDED 2.

3) USE QUADREL STANDARD LOGO.

4) ALL LINES AND LETTERS ARE BLACK ON A SILVER BACKGROUND QUADREL AND (WEB PATH) ARE RED #(199c) LINES ARE DASHED LINES.

5) LABEL SIZE 3.0" X 3.0".

REV	DATE	DESCRIPTION
A	5-8-19	NEW DRAWING

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE

.X± .1
.XX± .01
.XXX± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030

QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

SCALE:	DRAWING SCALE
DATE:	5-8-19
DRW BY:	TJS
CHK BY:	
APPR BY:	

Q110/120/125 R.H. THREADING DIAGRAM

MAT'L
SEE NOTES

A26222-110RH

ASSEMBLY TITLE: **Q110 SIDE PLATE ASSEMBLY**

DRAWING NO.: **D24272-000**

GENERAL FUNCTION:

- To provide a rigid mounting surface for outboard labeling components, electronic components, and system components.
- The side plate also supports the system mount

SET UP AND ADJUSTMENTS:

- None

MAINTENANCE:

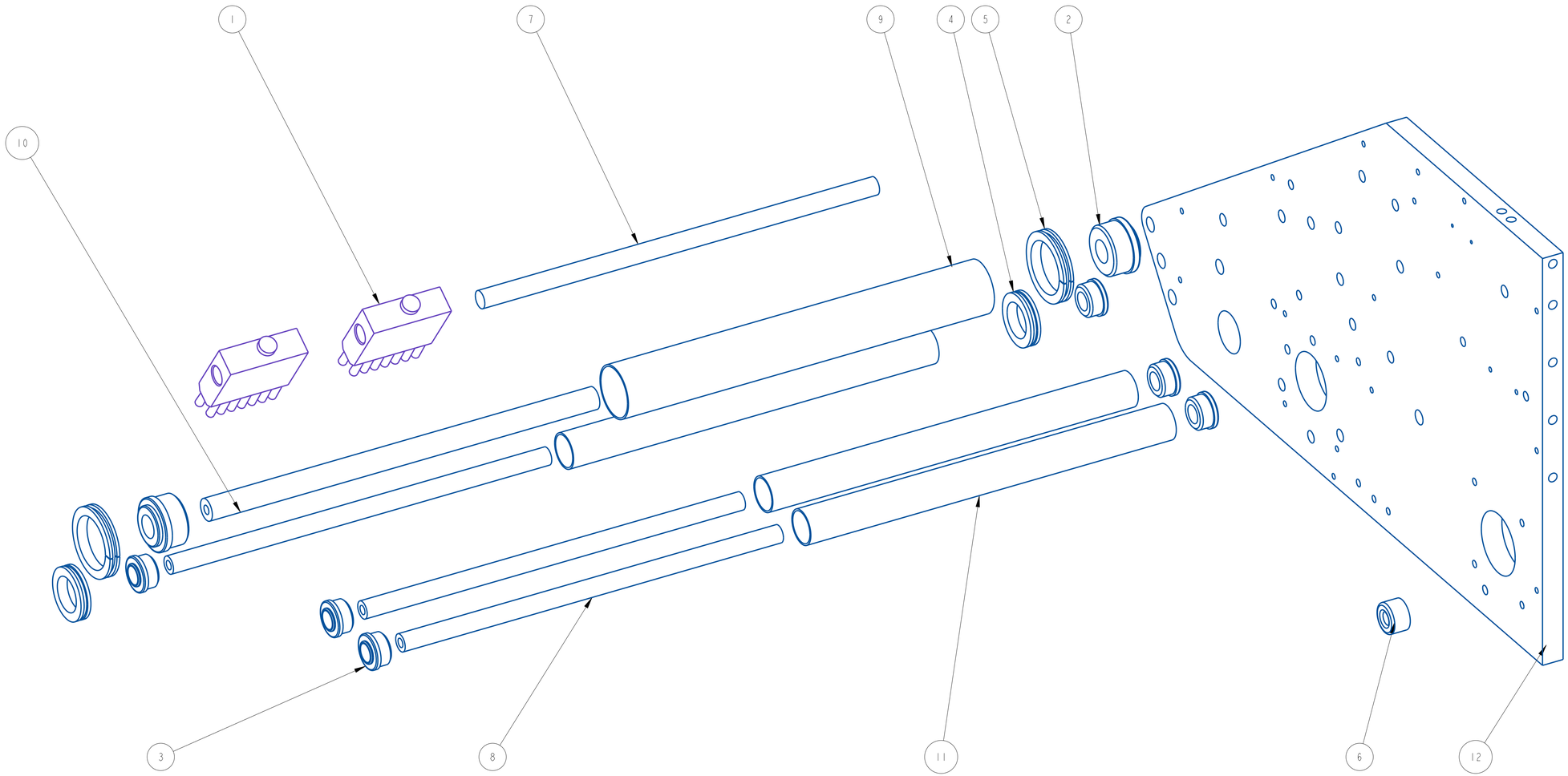
- None

TROUBLESHOOTING:

- None



ITEM	QTY	PART NO.	DESCRIPTION	PARENT ITEM
1	2	00669-01	BRAKE BRUSH 2 x 7 nylon	23100SP-010LH
2	2	181062-000	BEARING, ROLL END	23100SP-010LH
3	6	181063-000	BEARING, ROLL END	23100SP-010LH
4	2	361198-000	COLLAR, GUIDE, 1" ID	23100SP-010LH
5	2	361199-000	COLLAR, GUIDE, 1-1/2 IN. ID	23100SP-010LH
6	1	791459-000	RUBBER BUMPER	23100SP-010LH
7	1	A20654-001	ADJ. ROD	23100SP-010LH
8	3	A20928-000	ROLLER SHAFT	23100SP-010LH
9	1	A21259-004	IDLER ROLLER	23100SP-010LH
10	1	A21618-002	IDLER SHAFT	23100SP-010LH
11	3	B20071-011	IDLER ROLLER (DANCER)	23100SP-010LH
12	1	D22800-120_REVC	SIDE PLATE, MOD.	23100SP-010LH



REV	DATE	DESCRIPTION	BY
A	Oct-06-25	NEW DRAWING	RDL

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE
.X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIOS .010/.030

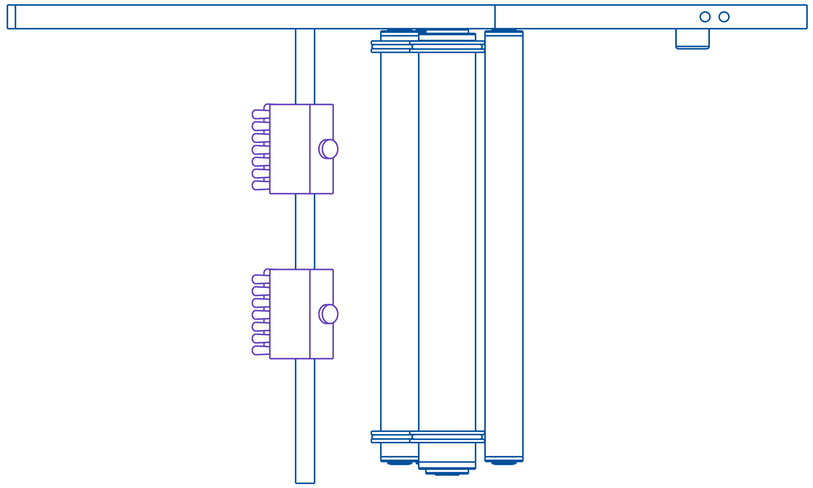
QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

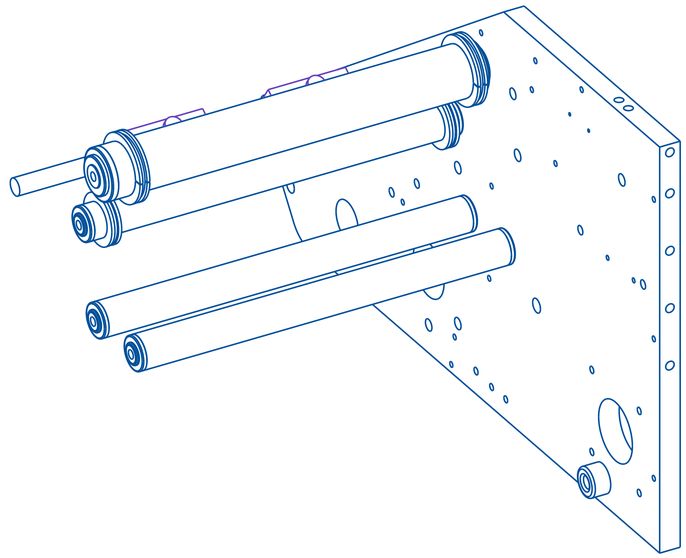
SCALE: 5/8
DATE: Oct-06-25
DRW BY: RDL
CHK BY:
APPR BY:

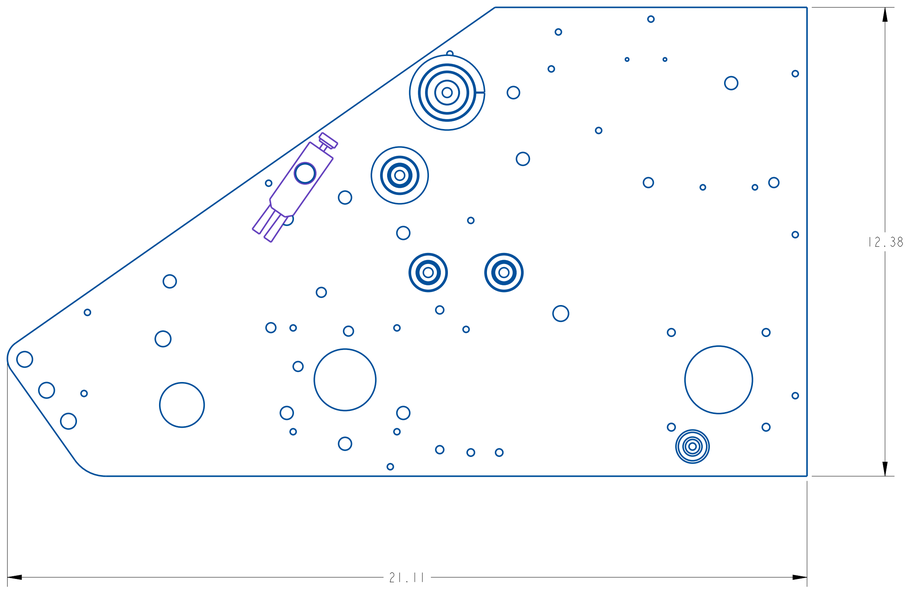
10" SIDE PLATE ASSEMBLY, LHH

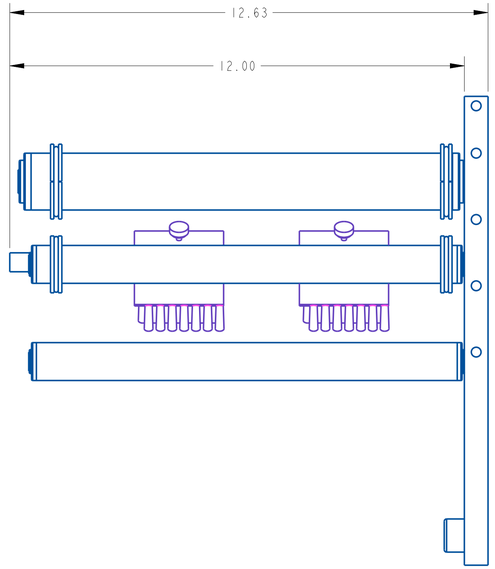
MAT'L

23100SP-010LH









REV	DATE	DESCRIPTION	BY
A	Oct-06-25	NEW DRAWING	RDL

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE
.X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'
SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030
ALL ANGLES ARE 90°

QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

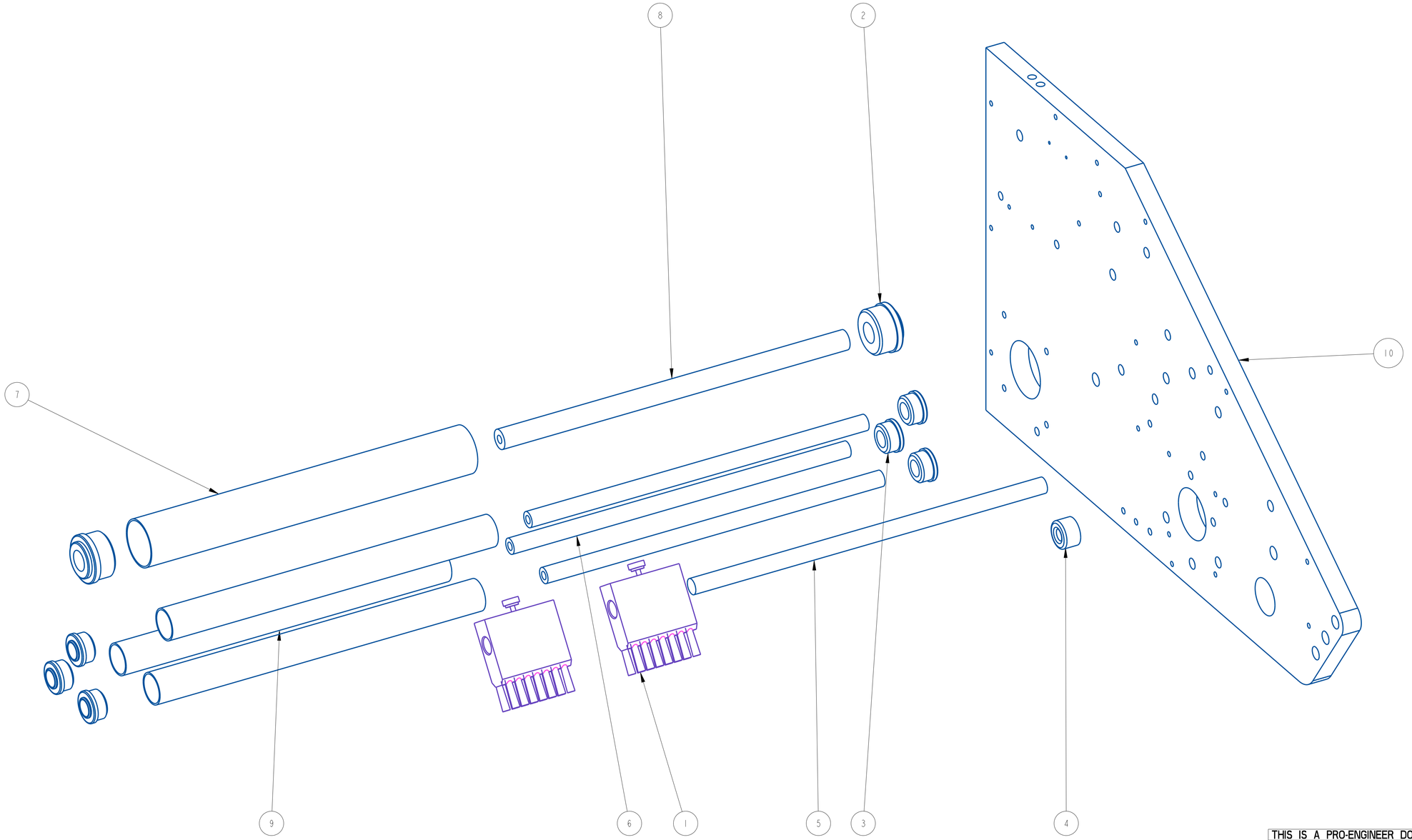
SCALE: 1/2
DATE: Oct-06-25
DRW BY: RDL
CHK BY:
APPR BY:

10" SIDE PLATE ASSEMBLY, LHH

MAT'L

23100SP-010LH

ITEM	QTY	PART NO.	DESCRIPTION	PARENT ITEM
1	2	00669-01	BRAKE BRUSH 2 x 7 nylon	23100SP-010RH
2	2	181062-000	BEARING, ROLL END	23100SP-010RH
3	6	181063-000	BEARING, ROLL END	23100SP-010RH
4	1	791459-000	RUBBER BUMPER	23100SP-010RH
5	1	A20654-001	ADJ. ROD	23100SP-010RH
6	3	A20928-000	ROLLER SHAFT	23100SP-010RH
7	1	A21259-004	IDLER ROLLER	23100SP-010RH
8	1	A21618-002	IDLER SHAFT	23100SP-010RH
9	3	B20071-011	IDLER ROLLER (DANCER)	23100SP-010RH
10	1	D22800-120_REVC	SIDE PLATE, MOD.	23100SP-010RH



REV	DATE	DESCRIPTION	BY
B	01/29/26	REVISED DRAWING	SEM
A	Oct-01-25	NEW DRAWING	RDL

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE
.X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030

QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

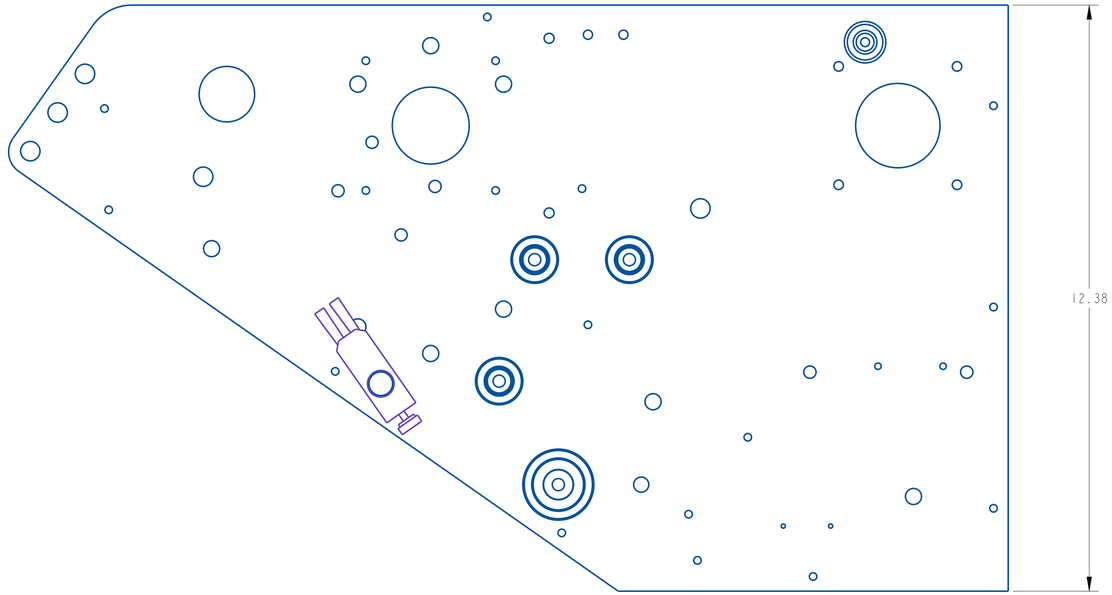
SCALE: 5/8
DATE: Oct-01-25
DRW BY: RDL
CHK BY:
APPR BY:

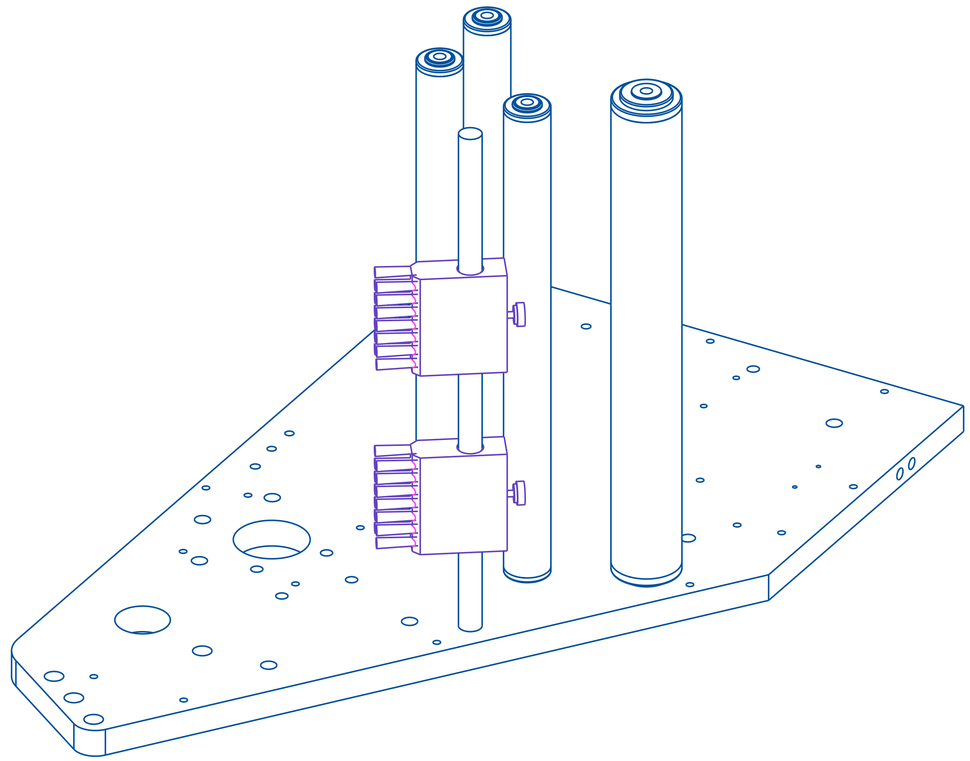
10" SIDE PLATE ASSEMBLY, RH

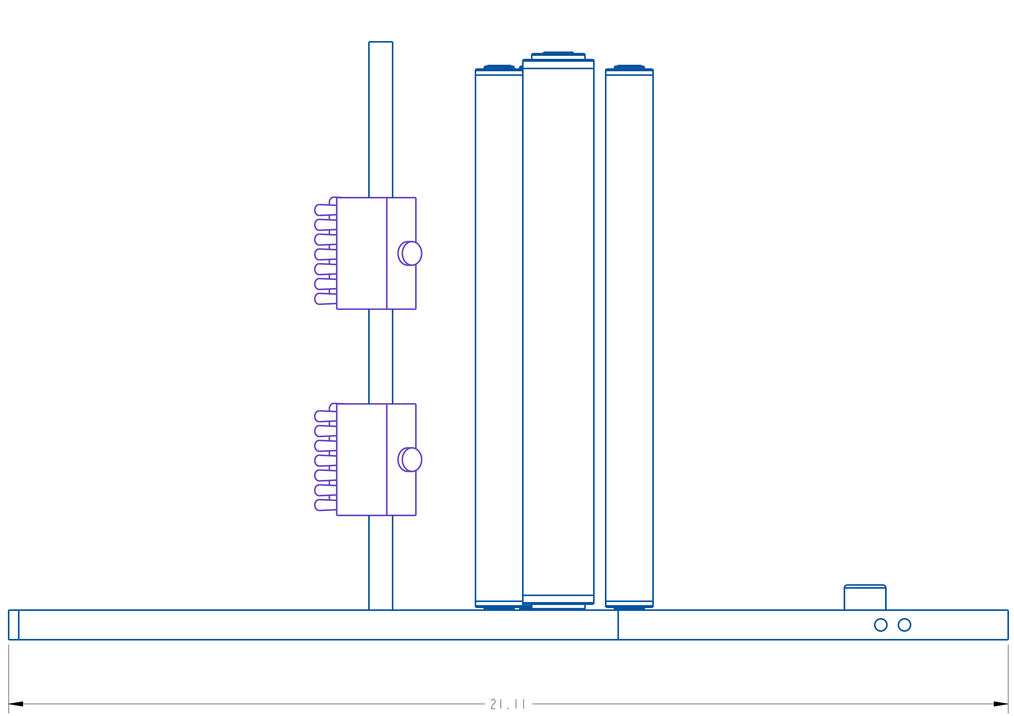
MAT'L

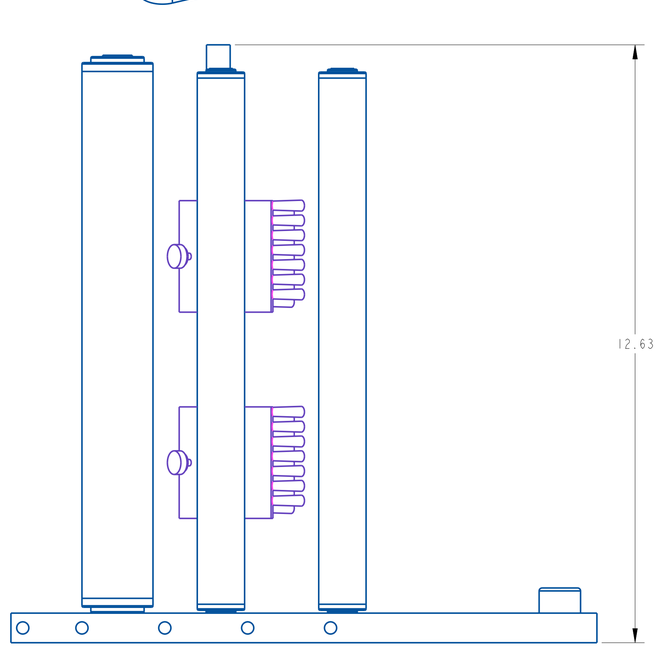
23100SP-010RH

SHEET 1 OF 2









REV	DATE	DESCRIPTION	BY
B	01/29/26	UPDATE DRAWING	SEM
A	Oct-01-25	NEW DRAWING	RDL

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE
X ± .1
XX ± .01
XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030
ALL ANGLES ARE 90°

QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

SCALE: 5/8
DATE: Oct-01-25
DRW BY: RDL
CHK BY:
APPR BY:

10" SIDE PLATE ASSEMBLY, RH

MAT'L

23100SP-010RH

ASSEMBLY TITLE: **Q120 UNWIND ASSEMBLY**

GENERAL FUNCTION:

- Unwind flange provides support for label rolls (side application)
- Dual flanges prevent roll and label movement (top application)
- Dancer arm prevents roll run-away.
- Idler roller with guide collars guides web through slot sensor.
- Brake brush prevents web buckling through slot sensor.

SET UP AND ADJUSTMENTS:

- Move flange to required height and tighten set screw in flange hub.
- For top labeling, add second flange and tighten ratchet knob.
- Adjust dancer tension by turning check nut so that dancer roll snaps back to braking position when labeling head is threaded.
- Slide brake brush so that center of brush lines up with center of web. Rotate brush to provide web tension, then lock into place using the locking knob.
- Position guide collars on idler roll, one slightly above, the other slightly below the web.

DANCER TENSION ADJUSTMENT LOCATION:

- **The unwind tension adjustment is located on the middle underside of the Q120 head. Use the knurled ring to adjust the dancer tension.**

MAINTENANCE:

- Clean all the parts that may acquire glue residue

TROUBLESHOOTING:

PROBLEM	**WHAT TO DO**
- Unwind roll run-away	- Tighten dancer spring, check nut or replace dancer spring, if necessary.
- Unwind roll not stopping	- Replace brake ring-belt if broken, or unevenly worn.
- Drive roll stalling	- Release web tension produced by brake brush.
- Brush taking fixed shape	- Turn brush around



ASSEMBLY TITLE: **Q120 LABELING HEAD - DANCER ARM ASSEMBLY**

DRAWING NO.: **None Applicable**

GENERAL FUNCTION:

- The dancer arm and braking mechanism are used to control the unwind unit which will only advance a few inches of web at any time
- The position of the dancer arm affects the advancement of the web off the label roll.

SET UP AND ADJUSTMENTS:

- The dancer normal position of the dancer arm is reached when the dancer arm locks the supply reel.
- The spring tension can be adjusted to correctly locate the dance arm
- The spring may be adjusted by turning the threaded tensioner located near the unwind unit.
- The spring should be tight enough to bring the dancer arm back to its normal position and hold it with some force, but not tight enough to tear the web during label feed.
- Spring adjustment is also possible by rotating the spring mounting pin on the spring take up pulley around the mounting shaft.
- While in its normal position, the dancer arm roller should not interfere with the supply reel flange.

MAINTENANCE:

- Replace dancer spring if final spring tension is too soft.

TROUBLESHOOTING:

PROBLEM	WHAT TO DO
- Web break	- Lower spring tension on dancer arm
- Too much web slack	- Increase sprint tension
- Dancer arm hits supply flange	- Correct dancer arm final position by loosening the brake cam.

ASSEMBLY TITLE: **Q120 LABELING HEAD - BRAKE BRUSH ASSEMBLY**

GENERAL FUNCTION:

- The brake brush establishes web tension and controls backlash

SET UP AND ADJUSTMENTS:

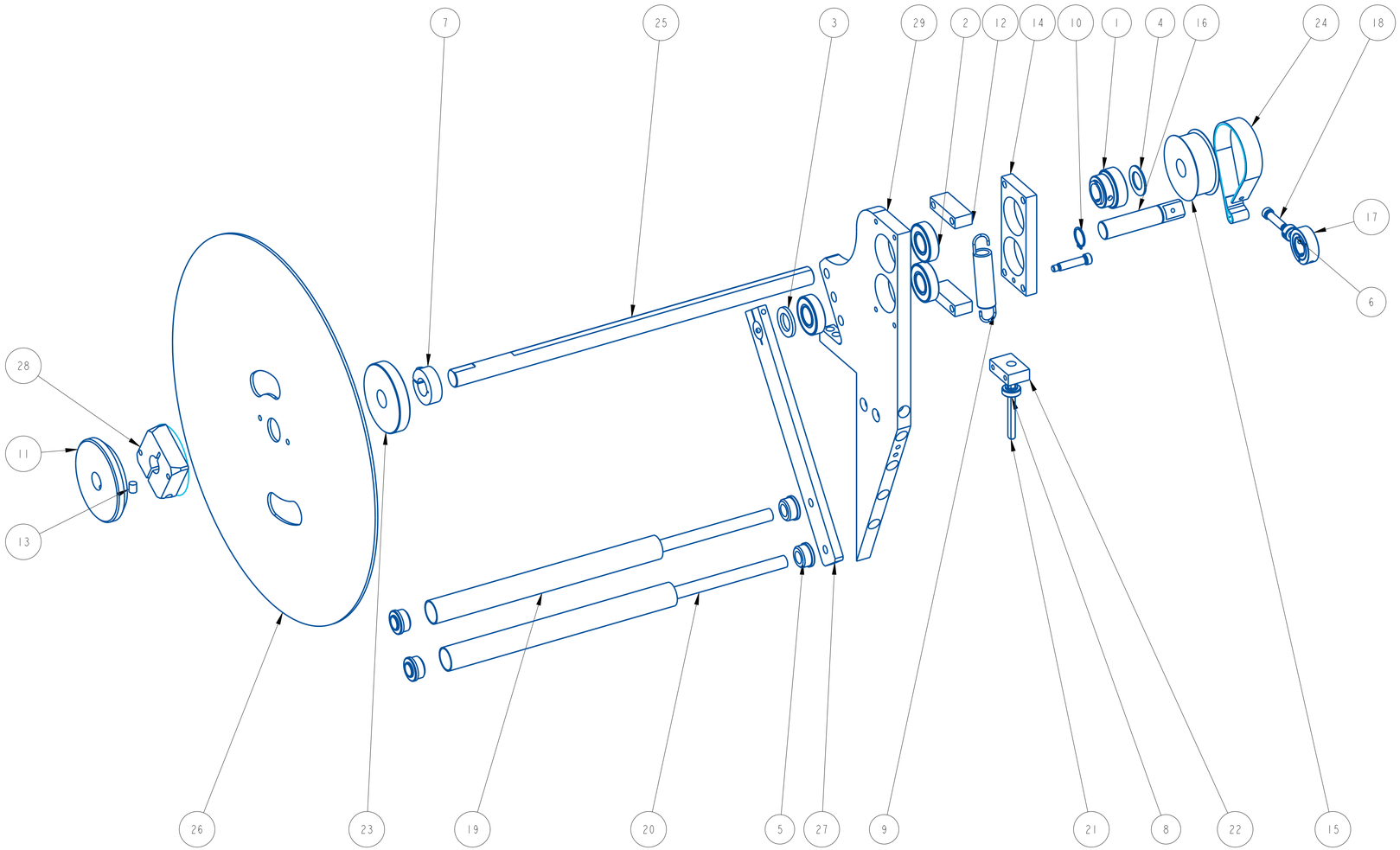
- For accurate label feeds, the web must establish proper tension.
- Loosen the holding set screw in the brake brush body. The brake brush assembly can now be rotated on axis.
- Turn brush body into the web and tighten. To check for proper web tension, jog a label and check for web slack. If the web is tight and the label feeds correctly, the brush tension is set correctly.
- If backlash persists, continue to increase brake brush tension.

MAINTENANCE:

- Replace brake brush when brush body contour no longer viable or bristles are worn down.

TROUBLESHOOTING:

PROBLEM	WHAT TO DO
- Web break	-Too much brake tension. Decrease until no slack in web. - Debris or brake flaw causing web tear
- Motor stall	- Decrease brake tension
- Too much web slack	- Increase brake tension



ITEM	QTY	PART NO.	DESCRIPTION	PARENT ITEM
1	1	111044-000	BEARING, 3/4 ID CLAMP TYPE	23100U-010LH
2	3	111074-000	BEARING, BALL	23100U-010LH
3	1	151001-000	BEARING, THRUST WASHER	23100U-010LH
4	1	151006-000	BEARING, THRUST WASHER	23100U-010LH
5	4	181063-000	BEARING, ROLL END	23100U-010LH
6	1	361165-000	COLLAR, SETSCREW, 5/16" BORE	23100U-010LH
7	1	361183-000	COLLAR, 3/4 ID ONE PIECE- S.S.	23100U-010LH
8	1	801601-000	CHECK NUT	23100U-010LH
9	1	811216-000	EXTENSION SPRING, STAINLESS	23100U-010LH
10	1	871025-000	EXTERNAL SNAP RING	23100U-010LH
11	1	A20583-000	QUICK LOCK COLLAR REWORK	23100U-010LH
12	2	A20585-000	SUPPORT SPACER	23100U-010LH
13	1	A20586-000	WHITE NYLON SLUG	23100U-010LH
14	1	A20590-000	BEARING PLATE	23100U-010LH
15	1	A20591-000	UNWIND BRAKE DRUM	23100U-010LH
16	1	A20592-200	UNWIND DANCER SHAFT	23100U-010LH
17	1	A20595-000	DANCER COLLAR	23100U-010LH
18	2	A20596-000	DANCER BOLT	23100U-010LH
19	2	A20931-000	IDLER ROLLER TUBE 12"	23100U-010LH
20	2	A20932-000	DANCER ROLL SHAFT 12"	23100U-010LH
21	1	A23131-000	STUD	23100U-010LH
22	1	A23298-000	BLOCK, SPRING TENSION	23100U-010LH
23	1	A23406-000	SUPPLY REEL CENTER HUB	23100U-010LH
24	1	A25825_000	BRAKE BAND	23100U-010LH
25	1	B20345-000	UNWIND SHAFT 12.50"	23100U-010LH
26	1	B20980-001	UNWIND FLANGE	23100U-010LH
27	1	B21113-000	DANCER ARM, 16" UNWIND	23100U-010LH
28	1	B21931-001	CORE HUB	23100U-010LH
29	1	C21236-120	UNWIND SUPPORT PLATE	23100U-010LH

REV	DATE	DESCRIPTION	BY
A	10/16/25	NEW DRAWING	SEM

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
.X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'
SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030
ALL ANGLES ARE 90°

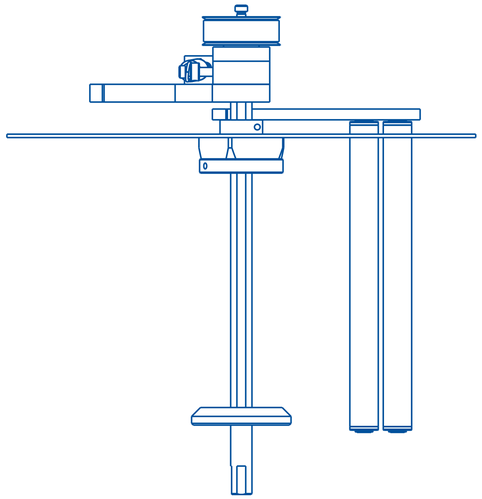
QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

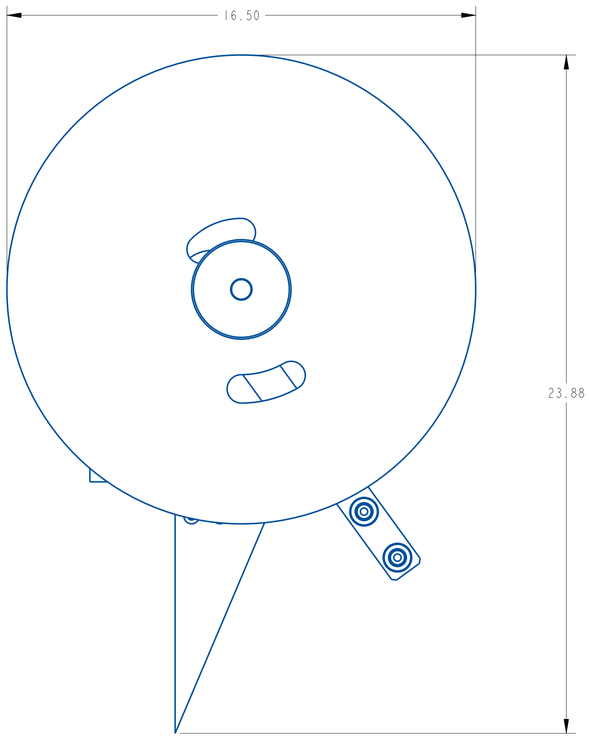
SCALE:	3/8
DATE:	10/16/25
DRW BY:	SEM
CHK BY:	SEM
APPR BY:	

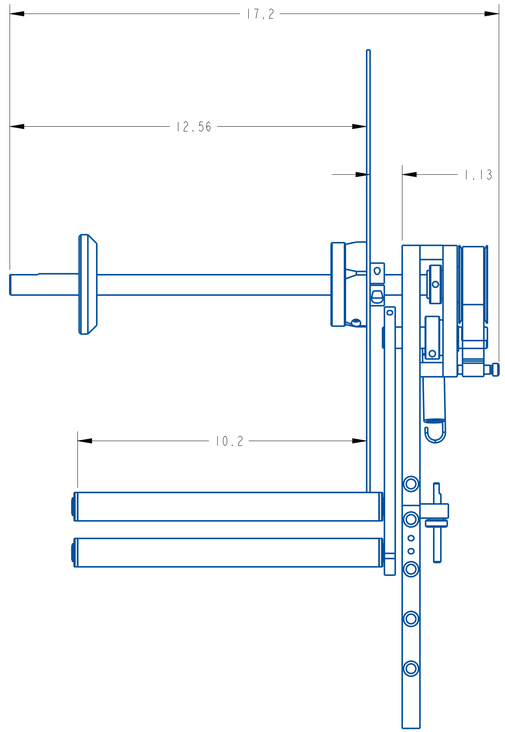
10" UNWIND ASSEMBLY

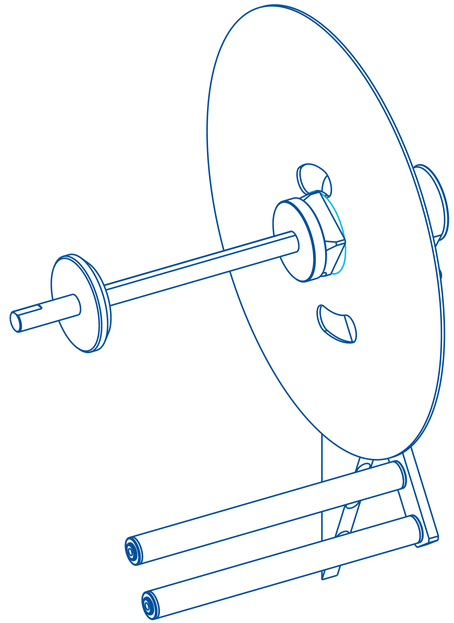
MAT'L

23100U-010LH









REV	DATE	DESCRIPTION	BY
A	10/16/25	NEW DRAWING	SEM

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
.X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'
SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030
ALL ANGLES ARE 90°

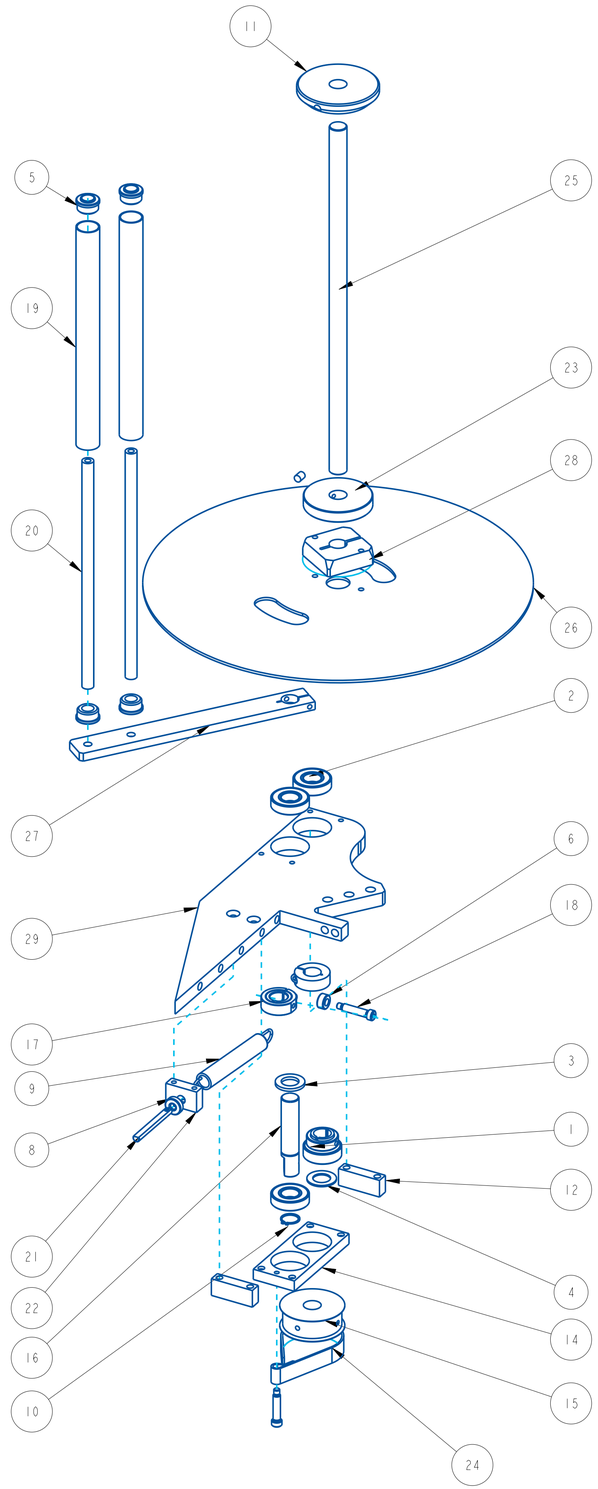
QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

SCALE:	3/8
DATE:	10/16/25
DRW BY:	SEM
CHK BY:	SEM
APPR BY:	

10" UNWIND ASSEMBLY

MAT'L

23100U-010LH



ITEM	QTY	PART NO.	DESCRIPTION	PARENT ITEM
1	1	111044-000	BEARING, 3/4 ID CLAMP TYPE	23100U-010RH
2	3	111074-000	BEARING, BALL	23100U-010RH
3	1	151001-000	BEARING, THRUST WASHER	23100U-010RH
4	1	151006-000	BEARING, THRUST WASHER	23100U-010RH
5	4	181063-000	BEARING, ROLL END	23100U-010RH
6	1	361165-000	COLLAR, SETSCREW, 5/16" BORE	23100U-010RH
7	1	361183-000	COLLAR, 3/4 ID ONE PIECE- S.S.	23100U-010RH
8	1	801601-000	CHECK NUT	23100U-010RH
9	1	811216-000	EXTENSION SPRING, STAINLESS	23100U-010RH
10	1	871025-000	EXTERNAL SNAP RING	23100U-010RH
11	1	A20583-000	QUICK LOCK COLLAR REWORK	23100U-010RH
12	2	A20585-000	SUPPORT SPACER	23100U-010RH
13	1	A20586-000	WHITE NYLON SLUG	23100U-010RH
14	1	A20590-000	BEARING PLATE	23100U-010RH
15	1	A20591-000	UNWIND BRAKE DRUM	23100U-010RH
16	1	A20592-200	UNWIND DANCER SHAFT	23100U-010RH
17	1	A20595-000	DANCER COLLAR	23100U-010RH
18	2	A20596-000	DANCER BOLT	23100U-010RH
19	2	A20931-000	IDLER ROLLER TUBE 12"	23100U-010RH
20	2	A20932-000	DANCER ROLL SHAFT 12"	23100U-010RH
21	1	A23131-000	STUD	23100U-010RH
22	1	A23298-000	BLOCK, SPRING TENSION	23100U-010RH
23	1	A23406-000	SUPPLY REEL CENTER HUB	23100U-010RH
24	1	A25825-000_22620	BRAKE BAND	23100U-010RH
25	1	B20345-000	UNWIND SHAFT 12.50"	23100U-010RH
26	1	B20980-001	UNWIND FLANGE	23100U-010RH
27	1	B21113-000	DANCER ARM, 16" UNWIND	23100U-010RH
28	1	B21931-001	CORE HUB	23100U-010RH
29	1	C21236-120	UNWIND SUPPORT PLATE	23100U-010RH

REV	DATE	DESCRIPTION	BY
A	Oct-13-25	NEW DRAWING	RDL

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE
.X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030

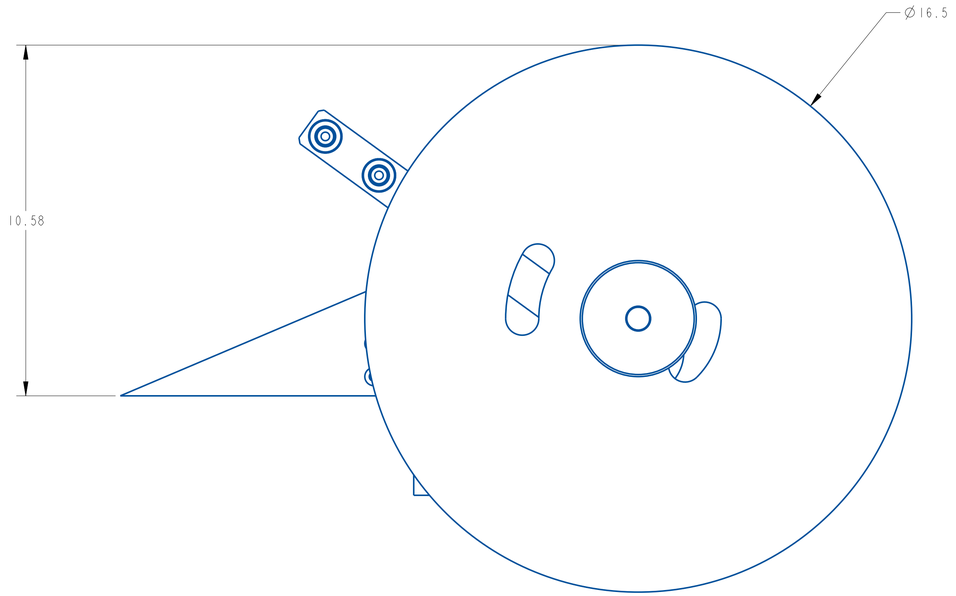
QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

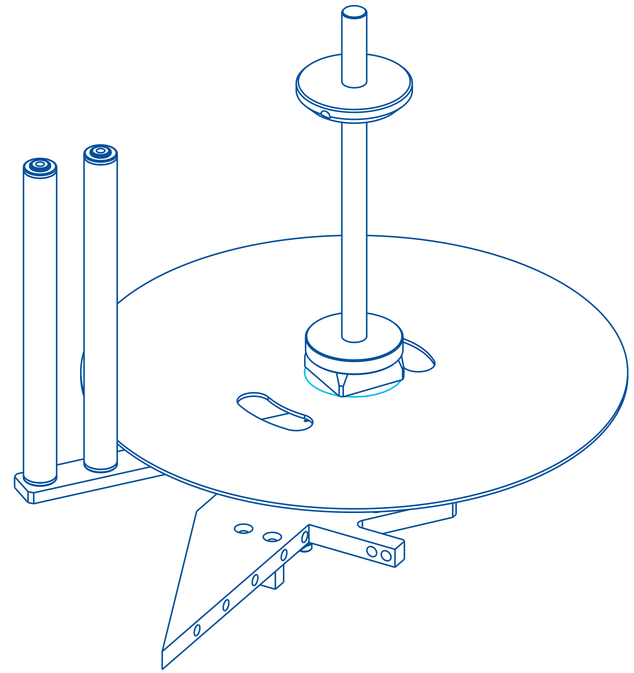
SCALE: 5/16
DATE: Oct-13-25
DRW BY: RDL
CHK BY:
APPR BY:

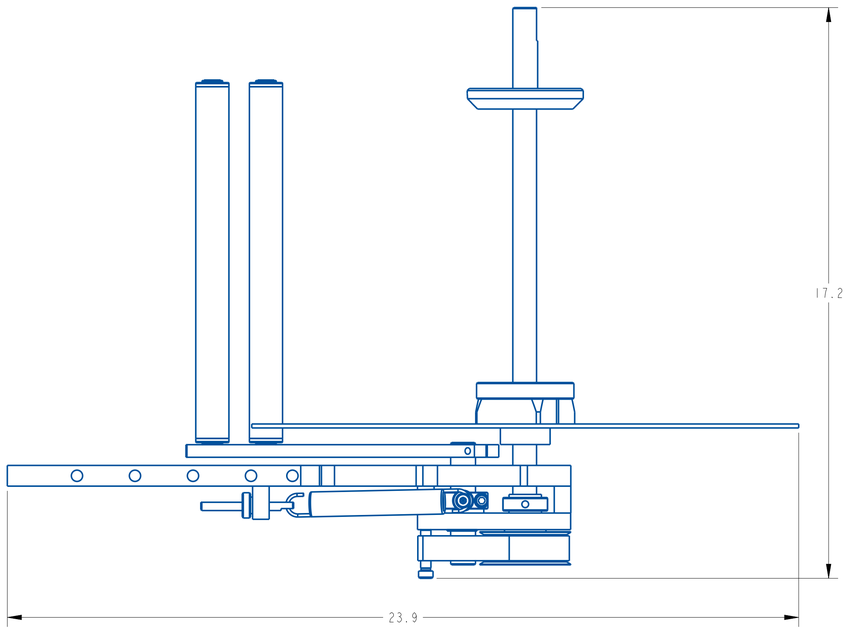
10" UNWIND ASSEMBLY

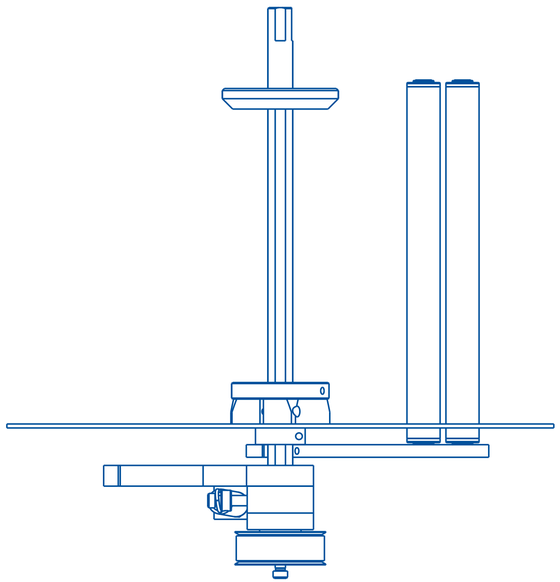
MAT'L

23100U-010RH









REV	DATE	DESCRIPTION	BY
A	Oct-13-25	NEW DRAWING	RDL

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
X ± .1
XX ± .01
XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030
ALL ANGLES ARE 90°

QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

SCALE:	7/16
DATE:	Oct-13-25
DRW BY:	RDL
CHK BY:	
APPR BY:	

10" UNWIND ASSEMBLY

MAT'L

23100U-010RH

ASSEMBLY TITLE: **Q120 PEEL PLATE ASSEMBLY**

GENERAL FUNCTION:

- The peel plate separates the label from the liner and puts the label in a “Flag" position.
- The mounting rods support the slot sensor assembly.
- The guide collars and the idler roller guide the web position over the peel plate
- The pivot pin provides for yoke mounting of the labeling head.

SET UP AND ADJUSTMENTS:

- On machines so equipped, the peel plate may be pivoted at various angles relating to the product by loosening the peel plate mounting bar. (The peel plate of all other models is mounted at a fixed angle and cannot be adjusted)
- To advance label flag on peel plate, move the slot sensor towards the peel plate. To decrease label flag, move slot sensor away from the peel plate.
- Position guide collars on idler roll, one slightly above and the other slightly below the web.

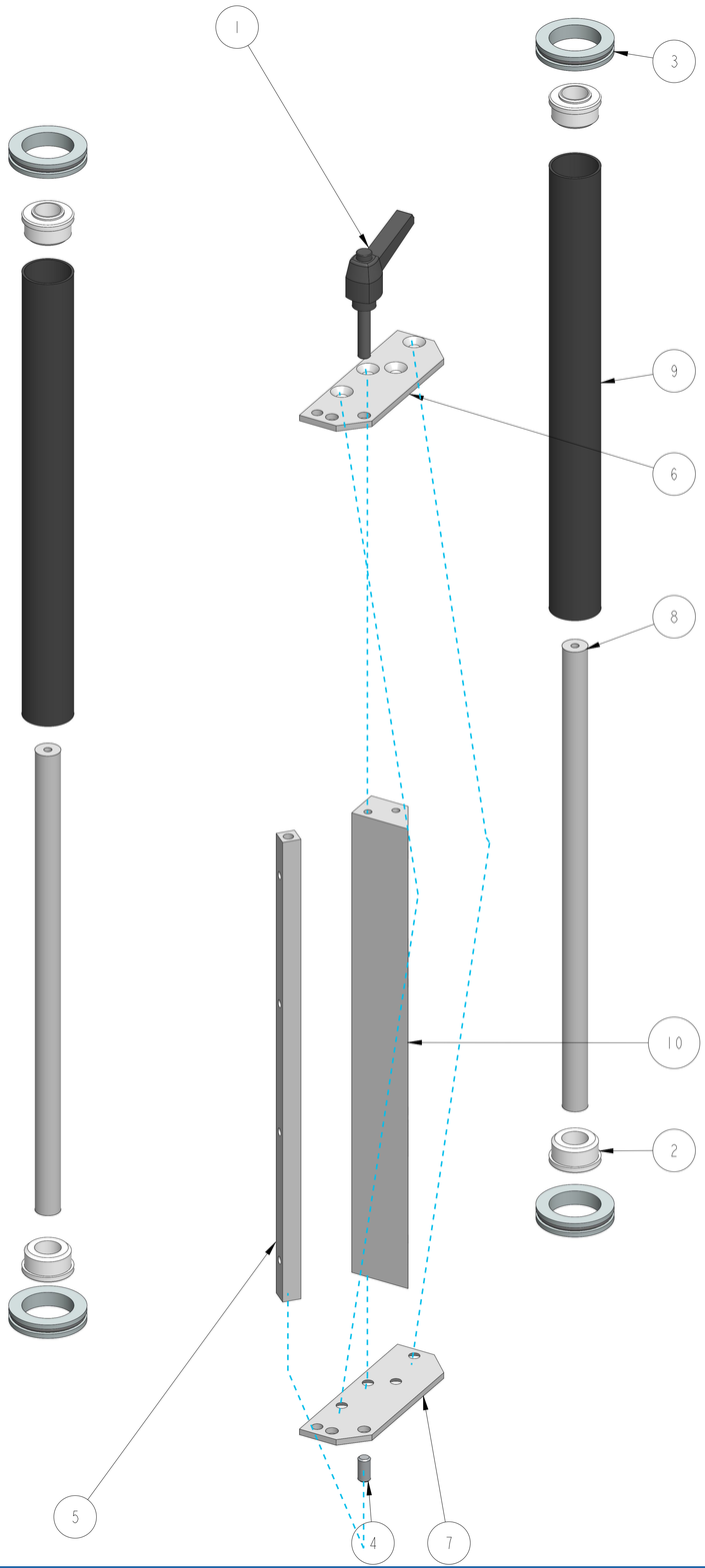
MAINTENANCE:

- Clean all the parts that may acquire labels or glue residue.

TROUBLESHOOTING:

PROBLEM	WHAT TO DO
- Too much label flag at peel plate	- Move slot sensor away from peel edge
- Too little label flag at peel	- Move slot sensor towards peel plate edge
- Web moving up and down peel plate	- Make sure guide collars are properly positioned on idler roll.





ITEM	QTY	PART NO.	DESCRIPTION	PARENT ITEM
1	1	22811-000	HANDLE ASSEMBLY, LEFT HANDED	20828PP-00L
2	4	181063-000	BEARING, ROLL END	20828PP-00L
3	4	361198-000	COLLAR, GUIDE, 1" ID	20828PP-00L
4	1	871369-000	DOWEL PIN, 1/4 DIA X 1/2 LONG	20828PP-00L
5	1	A21371-001	PRESSURE SHOE MOUNTING BAR	20828PP-00L
6	1	A21758-000	SIDE PLATE	20828PP-00L
7	1	A21758-001	SIDE PLATE	20828PP-00L
8	2	A23791-001	SHAFT, IDLER ROLLER	20828PP-00L
9	2	B21198-002	10" WEB IDLER ROLLER (PEEL PLATE)	20828PP-00L
10	1	B21274-000	10" PEEL PLATE MOUNTING BAR	20828PP-00L

NOT SHOWN:

A22019-000 PEEL PLATE
A21388-000 PRESSURE SHOE
791852-000 PEEL PLATE TAPE

REV	DATE	DESCRIPTION	BY
A	02-APR-2024	NEW DRAWING	CRT

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE
.X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030

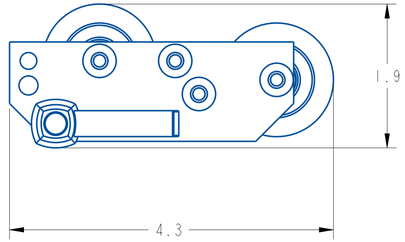
QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

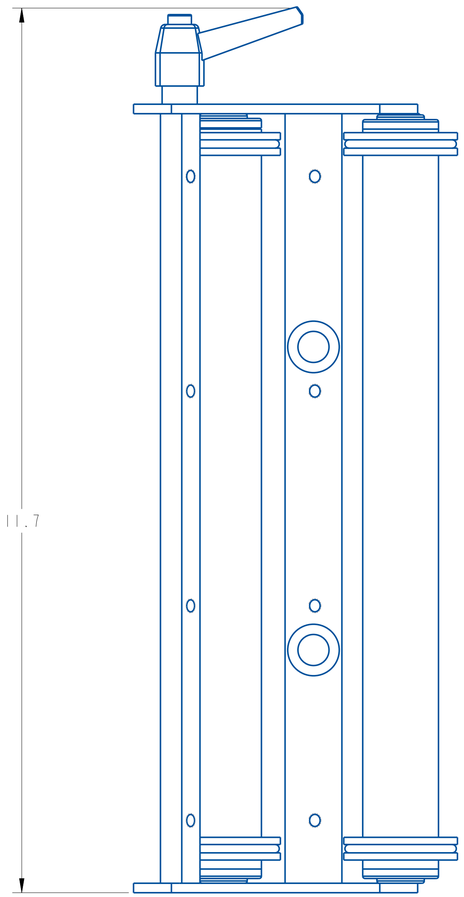
SCALE: 0.690
DATE: 02-APR-2024
DRW BY: CRT
CHK BY: 04/19/2024-SEM
APPR BY:

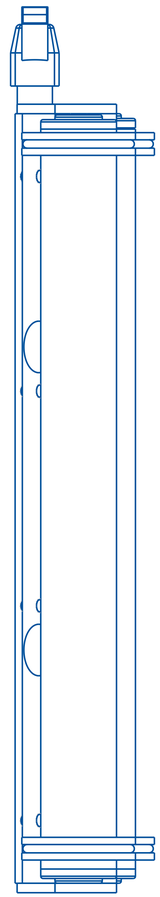
Q10 RH PEEL PLATE, 10"

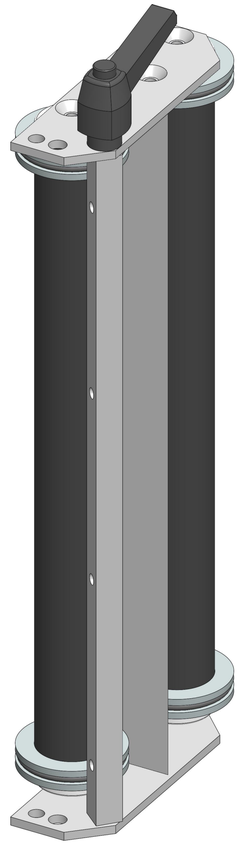
MAT'L 20828PP-000

20828PP-00L









REV	DATE	DESCRIPTION	BY
A	02-APR-2024	NEW DRAWING	CRT

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE

.X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030

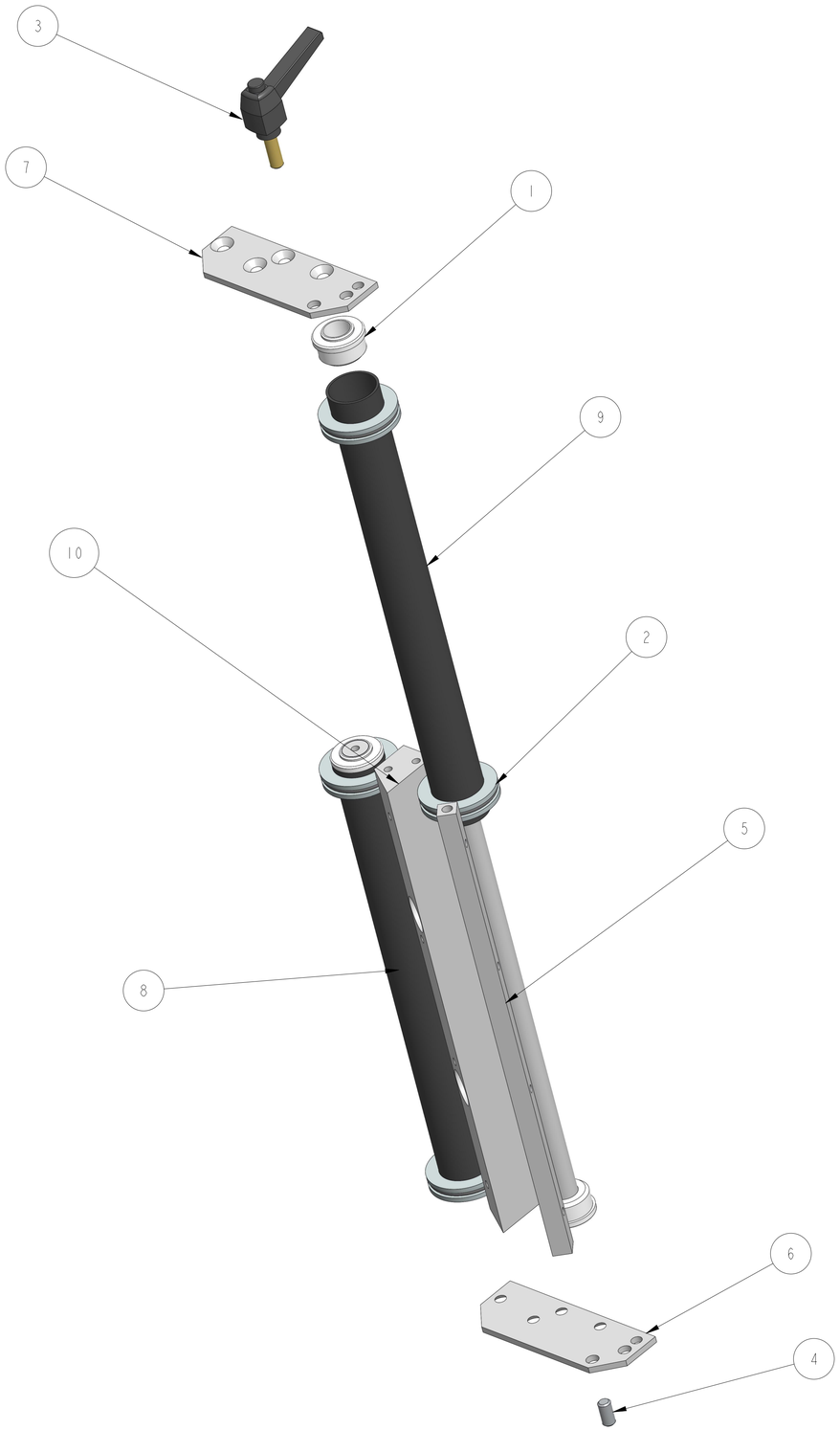
QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

SCALE: 1.000
DATE: 02-APR-2024
DRW BY: CRT
CHK BY: 04/19/2024-SEM
APPR BY:

Q10 RH PEEL PLATE, 10"

MAT'L: 20828PP-00L

20828PP-00L



ITEM	QTY	PART NO.	DESCRIPTION	PARENT ITEM
1	4	181063-000	BEARING, ROLL END	20828PP-00R
2	4	361198-000	COLLAR, GUIDE, 1" ID	20828PP-00R
3	1	801857-000	ADJUSTABLE HANDLE	20828PP-00R
4	1	871369-000	DOWEL PIN, 1/4 DIA X 1/2 LONG	20828PP-00R
5	1	A21371-000	PRESSURE SHOE MOUNTING BAR	20828PP-00R
6	1	A21758-000	SIDE PLATE	20828PP-00R
7	1	A21758-001	SIDE PLATE	20828PP-00R
8	2	A23791-001	SHAFT, IDLER ROLLER	20828PP-00R
9	2	B21198-002	10" WEB IDLER ROLLER (PEEL PLATE)	20828PP-00R
10	1	B21274-000	10" PEEL PLATE MOUNTING BAR	20828PP-00R

NOT SHOWN:

A22019-000 PEEL PLATE
A21388-000 PRESSURE SHOE
791852-000 PEEL PLATE TAPE

A22019-001 PEEL PLATE FOR DIVERTER
A24149-009 PEEL PLATE DIVERTER

REV	DATE	DESCRIPTION	BY
B	02-APR-2024	UPDATED DRAWING AND BOM	CRT
A	02-APR-2024	NEW DRAWING	CRT

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE
.X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030

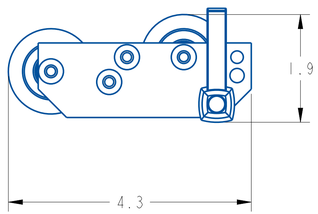
QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

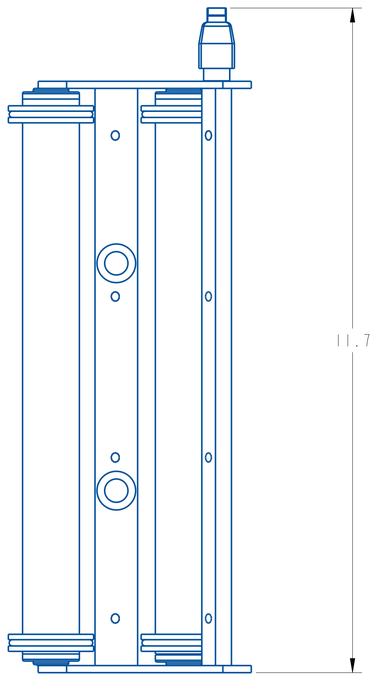
SCALE: 0.750
DATE: 02-ARP-2024
DRW BY: CRT
CHK BY:
APPR BY:

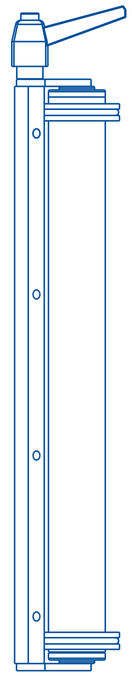
Q10 RH PEEL PLATE, 10"

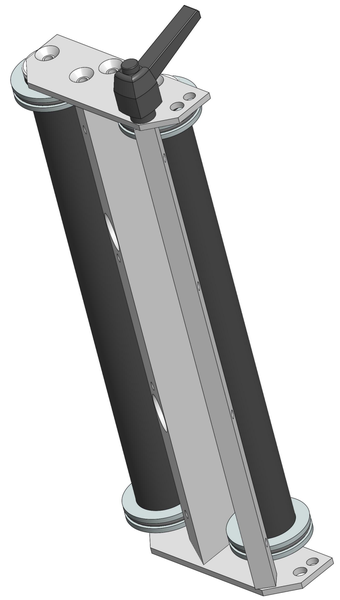
MAT'L 20828PP-000

20828PP-00R









REV	DATE	DESCRIPTION	BY
B	02-APR-2024	UPDATED DRAWING AND BOM	CRT
A	02-APR-2024	NEW DRAWING	CRT

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE
.X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030

QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

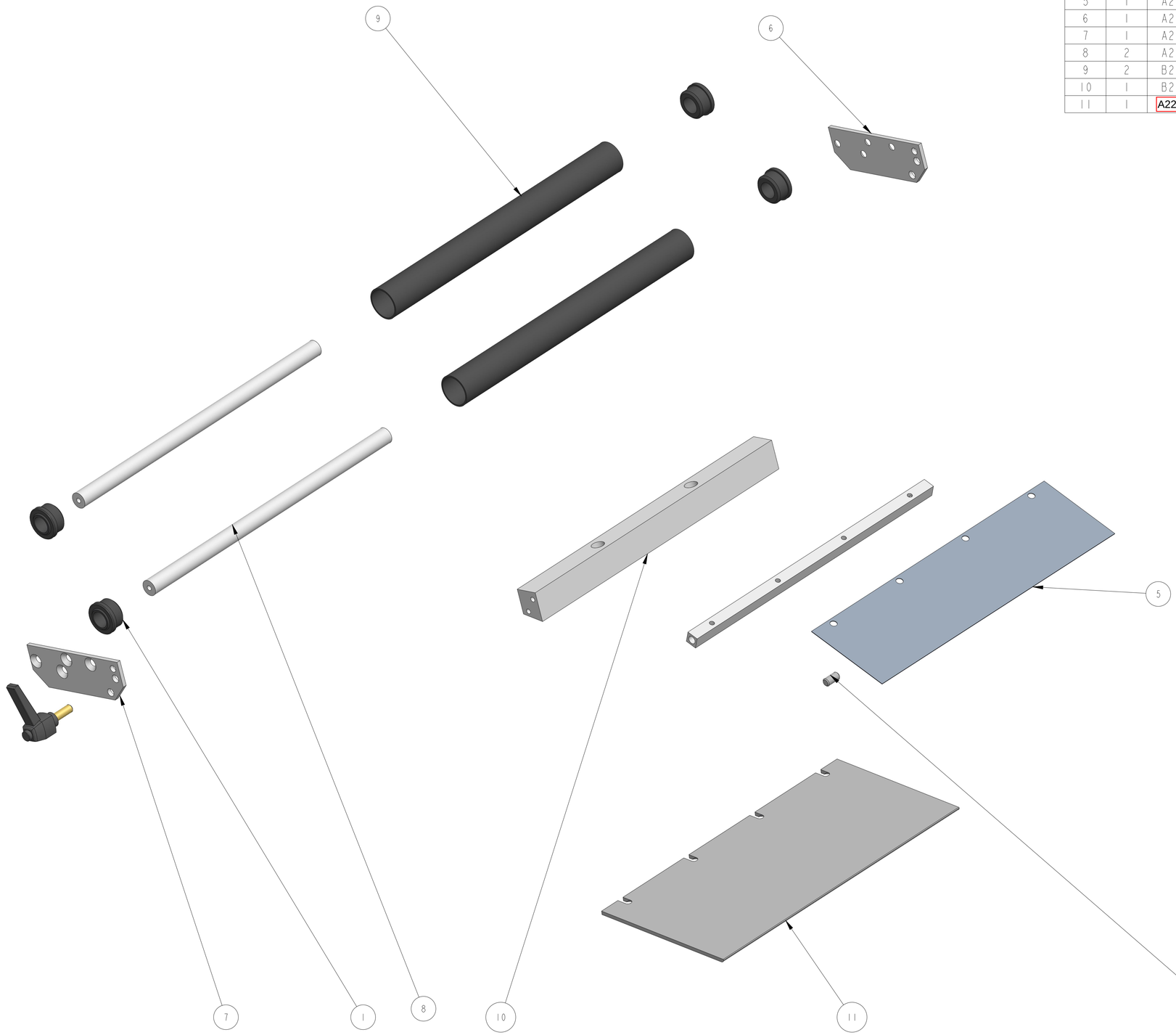
SCALE: 0.750
DATE: 02-ARP-2024
DRW BY: CRT
CHK BY:
APPR BY:

Q10 RH PEEL PLATE, 10"

MAT'L 20828PP-000

20828PP-00R

ITEM	QTY	PART NO.	DESCRIPTION	PARENT ITEM
1	4	181063-001	BEARING, ROLL END, ANTI-STATIC	20828PP-002
2	1	801857-000	ADJUSTABLE HANDLE	20828PP-002
3	1	871369-000	DOWEL PIN, 1/4 DIA X 1/2 LONG	20828PP-002
4	1	A21371-000	PRESSURE SHOE MOUNTING BAR	20828PP-002
5	1	A21388-002	PRESSURE SHOE	20828PP-002
6	1	A21758-000	SIDE PLATE	20828PP-002
7	1	A21758-001	SIDE PLATE	20828PP-002
8	2	A23791-001	SHAFT, IDLER ROLLER	20828PP-002
9	2	B21198-002	10" WEB IDLER ROLLER (PEEL PLATE)	20828PP-002
10	1	B21274-002	10" PEEL PLATE MOUNTING BAR	20828PP-002
11	1	A22019-000	PEEL PLATE, 10"	20828PP-002



SHEET 1 OF 2

REV	DATE	DESCRIPTION	BY
A	03/07/24	NEW DRAWING	SEM

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE
.X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'
SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030
ALL ANGLES ARE 90°

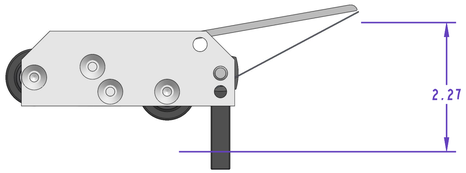
QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

SCALE: 5/8
DATE: 03/07/24
DRW BY: SEM
CHK BY:03/07/2024-SEM
APPR BY:

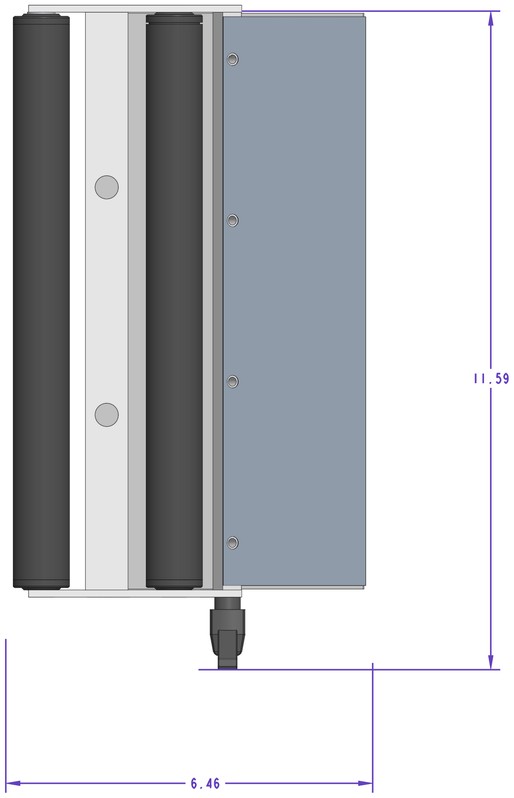
Q10 RH PEEL PLATE, 10"

MAT'L

20828PP-002









REV	DATE	DESCRIPTION	BY
A		NEW DRAWING	

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
X ± .1
XX ± .01
XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030
ALL ANGLES ARE 90°

QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

SCALE:	3/4
DATE:	03/07/24
DRW BY:	SEM
CHK BY:	03/07/2024-SEM
APPR BY:	

Q10 RH PEEL PLATE, 10"

MAT'L 20828PP-000

20828PP-002

ASSEMBLY TITLE: **FIXED BRUSH IMPRESSER**

DRAWING NO.: **D21651-000**

GENERAL FUNCTION:

-The fixed roller impresser is an option used in applications where a secondary wipe down or label wipe is necessary.

SET UP AND ADJUSTMENTS:

- When installed, the brush assembly will be mounted by an adjustable clamp. The mounting assembly is fastener to the option rail located on the peel plate side wall.
- Four axis of adjustment is available by loosening the set screw locking the roller arm in place.
- Locate the brush as necessary and re-tighten the clamping screws.
- Run a product through the brush area and insure the brush layed on the product but do not impede product travel. The brush can be adjusted too close to the product which will prevent the product from smoothly traversing through the brush area.

MAINTENANCE:

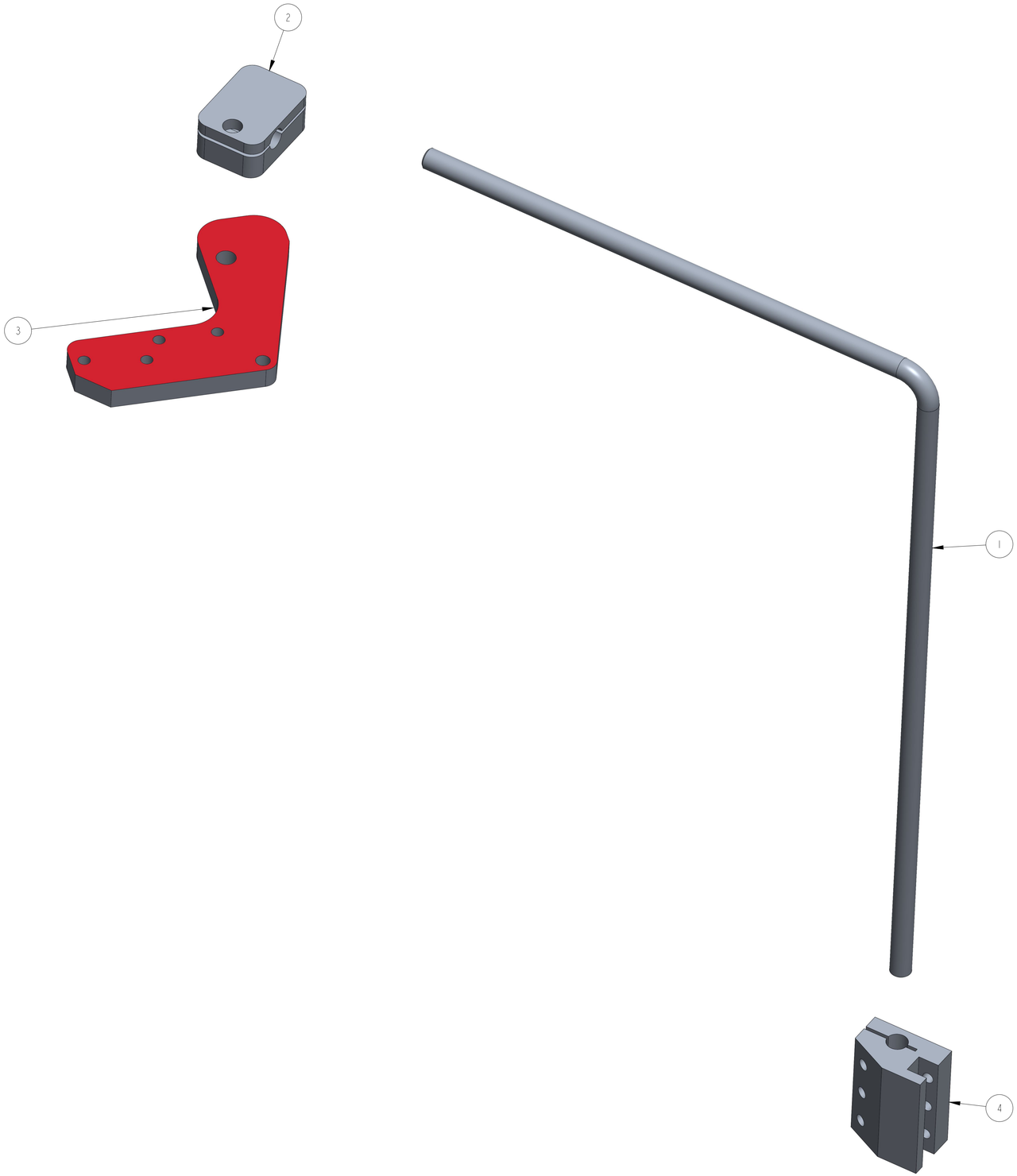
- Keep the brush free of label flash, glue and debris. This will prevent jamming and web tears.

NOTE: Exercise caution when removing bad labels from brush. Careless removal can result in brisals being pull out which may leave the labeler inoperable until the brush is replaced!

TROUBLESHOOTING:

PROBLEM	WHAT TO DO
- Product jams at brush area	- Increase brush spacing.
- Bubbles in label	- Decrease labeling speed
- Label edge curling	- Decrease product delay
- Wipedown inadequate	- Decrease brush spacing.

ITEM	QTY	PART NO.	DESCRIPTION	PARENT ITEM
1	1	A21264-018	CROSS ARM	10228-005_R
2	1	A21693-300	IMPRESSOR MOUNTING BLOCK	10228-005_R
3	1	A21758-300	PEEL PLATE SIDE PLATE .375"THK	10228-005_R
4	1	A23463-100	BRUSH HOLDER	10228-005_R



REV	DATE	DESCRIPTION	BY
A	Mar-02-20	NEW DRAWING	TJS

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE

.X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030

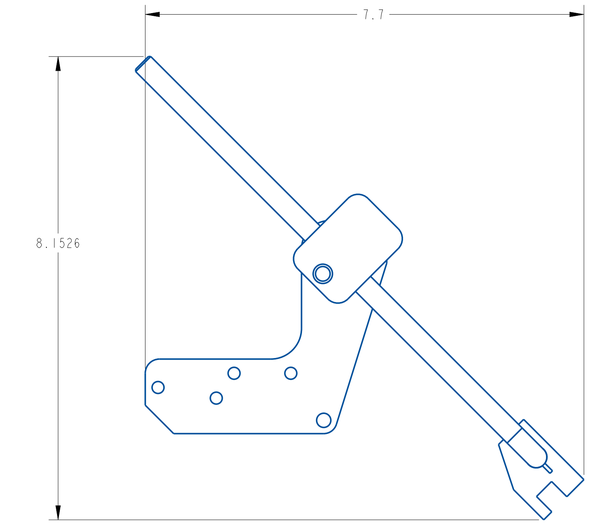
QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

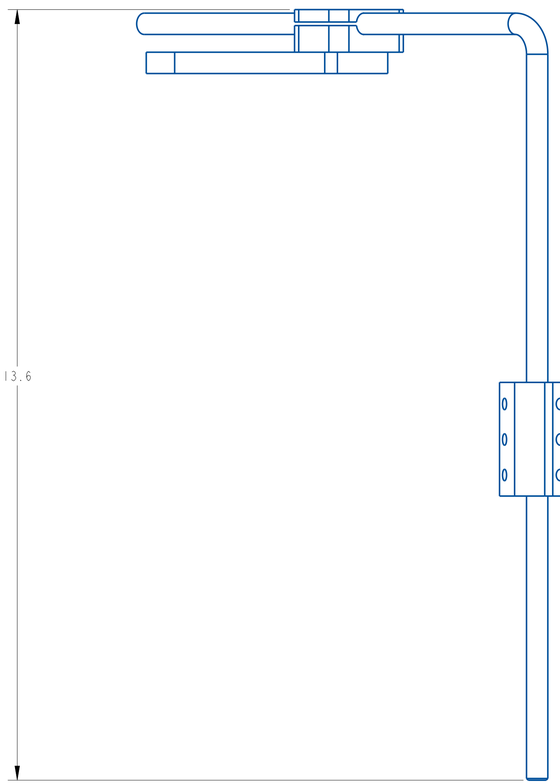
SCALE: 1/1
DATE: Mar-02-20
DRW BY: TJS
CHK BY: 03/06/2024-SEM
APPR BY:

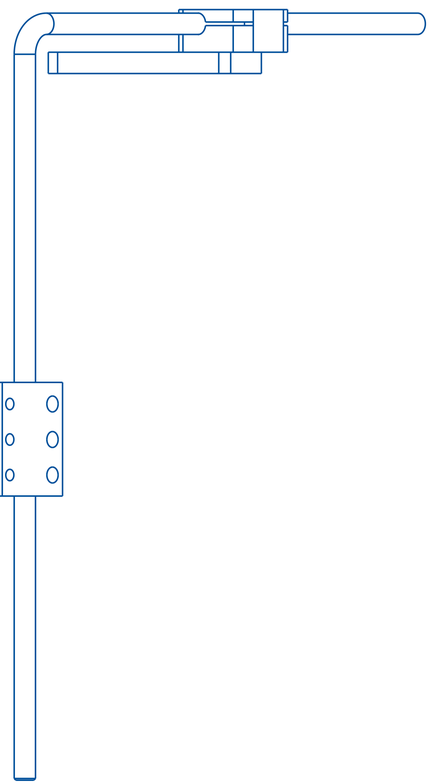
HEAVY DUTY IMPRESSOR

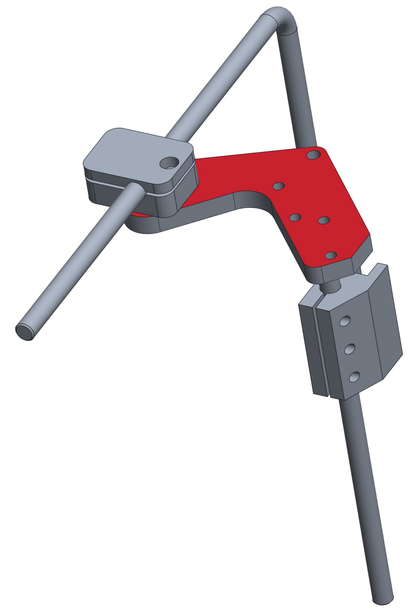
MAT'L

10228-005









REV	DATE	DESCRIPTION	BY
A	Mar-02-20	NEW DRAWING	TJS

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
X ± .1
XX ± .01
XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030
ALL ANGLES ARE 90°

QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

SCALE: 3/4
DATE: Mar-02-20
DRW BY: TJS
CHK BY:03/06/2024-SEM
APPR BY:

HEAVY DUTY IMPRESSOR

MAT'L

10228-005

ASSEMBLY TITLE: **Q120 DRIVE AND PINCH ROLL ASSEMBLY**

GENERAL FUNCTION:

- The drive roll pulls the liner through the entire labeling head. As the liner is pulled over the peel edge, the label dispenses.
- The spring-loaded pinch roll squeezes the liner against the drive roll to provide positive drive.
- The primary roll is the pull or drive roll as shown. The knurl roll provides a constant pressure against the pull roll.

SET UP AND ADJUSTMENTS:

- When threading the labeling head, use the pinch roll lever to release the pinch roll from the drive roll.
- Use the spring plunger adjustment screws to adjust the contact pressure. between the knurl and pull rollers.
- The pressure should be adjusted as tight as necessary to prevent a loose liner, while still allowing full rotation of the pressure release arm.

MAINTENANCE:

- Clean all parts that may have acquired label or glue residue

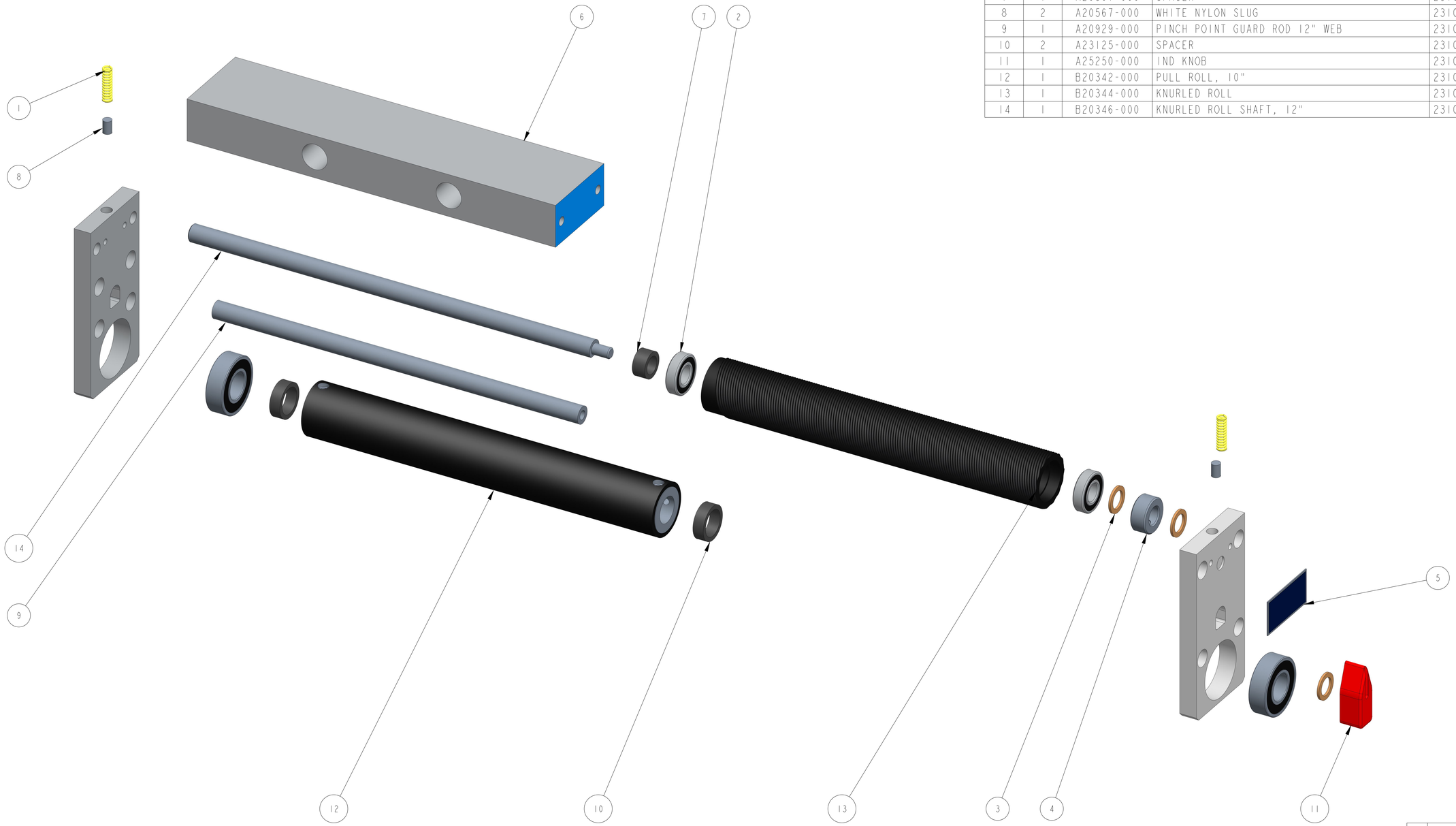
TROUBLESHOOTING:

PROBLEM	WHAT TO DO
- Meter pulley rubbing against side plate	- Center pulley on motor shaft and tighten two (2) set screws in pulley.
- Web slips	- Drive roller not closed. Turn drive roll arm to closed position.
- Drive roll not rotating when stepping motor rotates	- Replace timing belt from motor to drive roll
- Pinch roll not providing enough pressure against drive roll	- Replace pinch roll spring - Increase tension on drive roll by adjusting spring loaded locking pins.
- Drive roll unevenly worn causing tracking problem	- Replace drive roll





ITEM	QTY	PART NO.	DESCRIPTION	PARENT ITEM
1	2	00301-17	SPRING, .275 x .052 x .94	23100DR-010LH
2	2	111072-000	BEARING, BALL	23100DR-010LH
3	3	151004-000	BEARING, THRUST WASHER	23100DR-010LH
4	1	362161-000	COLLAR, SETSCREW, 1/2 IN. ID	23100DR-010LH
5	1	791789-000	NAMEPLATE	23100DR-010LH
6	1	21701DY-000_LH	3 PIECE ROLL ASSEMBLY	23100DR-010LH
7	1	A20507-000	SPACER	23100DR-010LH
8	2	A20567-000	WHITE NYLON SLUG	23100DR-010LH
9	1	A20929-000	PINCH POINT GUARD ROD 12" WEB	23100DR-010LH
10	2	A23125-000	SPACER	23100DR-010LH
11	1	A25250-000	IND KNOB	23100DR-010LH
12	1	B20342-000	PULL ROLL, 10"	23100DR-010LH
13	1	B20344-000	KNURLED ROLL	23100DR-010LH
14	1	B20346-000	KNURLED ROLL SHAFT, 12"	23100DR-010LH



REV	DATE	DESCRIPTION	BY
A	10/17/25	NEW DRAWING	SEM

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'
SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030
ALL ANGLES ARE 90°

QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

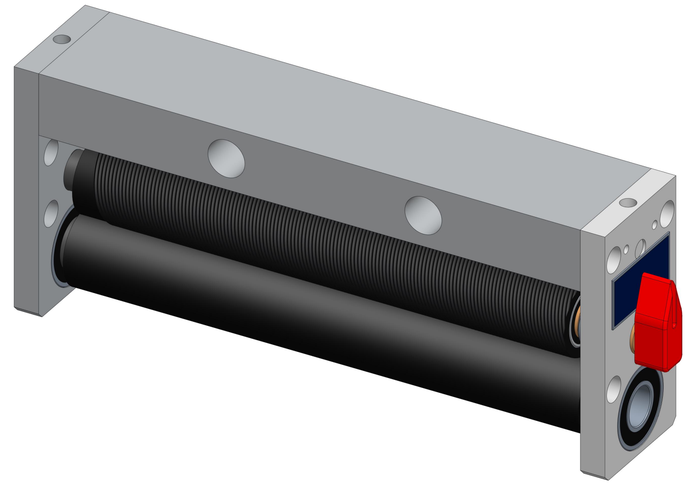
SCALE: 3/4
DATE: 10/17/25
DRW BY: SEM
CHK BY: &CREO_CHK
APPR BY:

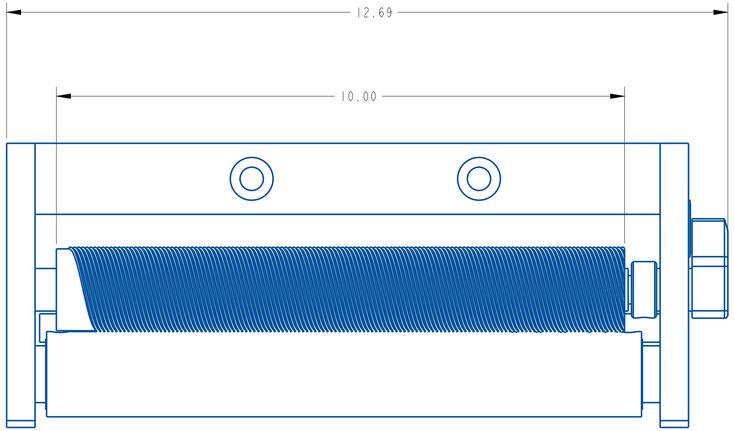
DRIVE ROLL ASSEMBLY, 10"

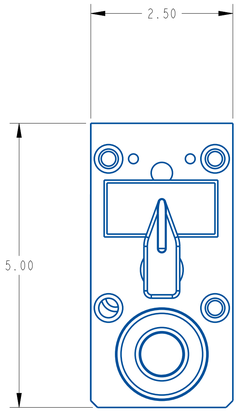
MAT'L

23100DR-010LH









REV	DATE	DESCRIPTION	BY
A	SEM	NEW DRAWING	SEM

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
.X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'
SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030
ALL ANGLES ARE 90°

QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

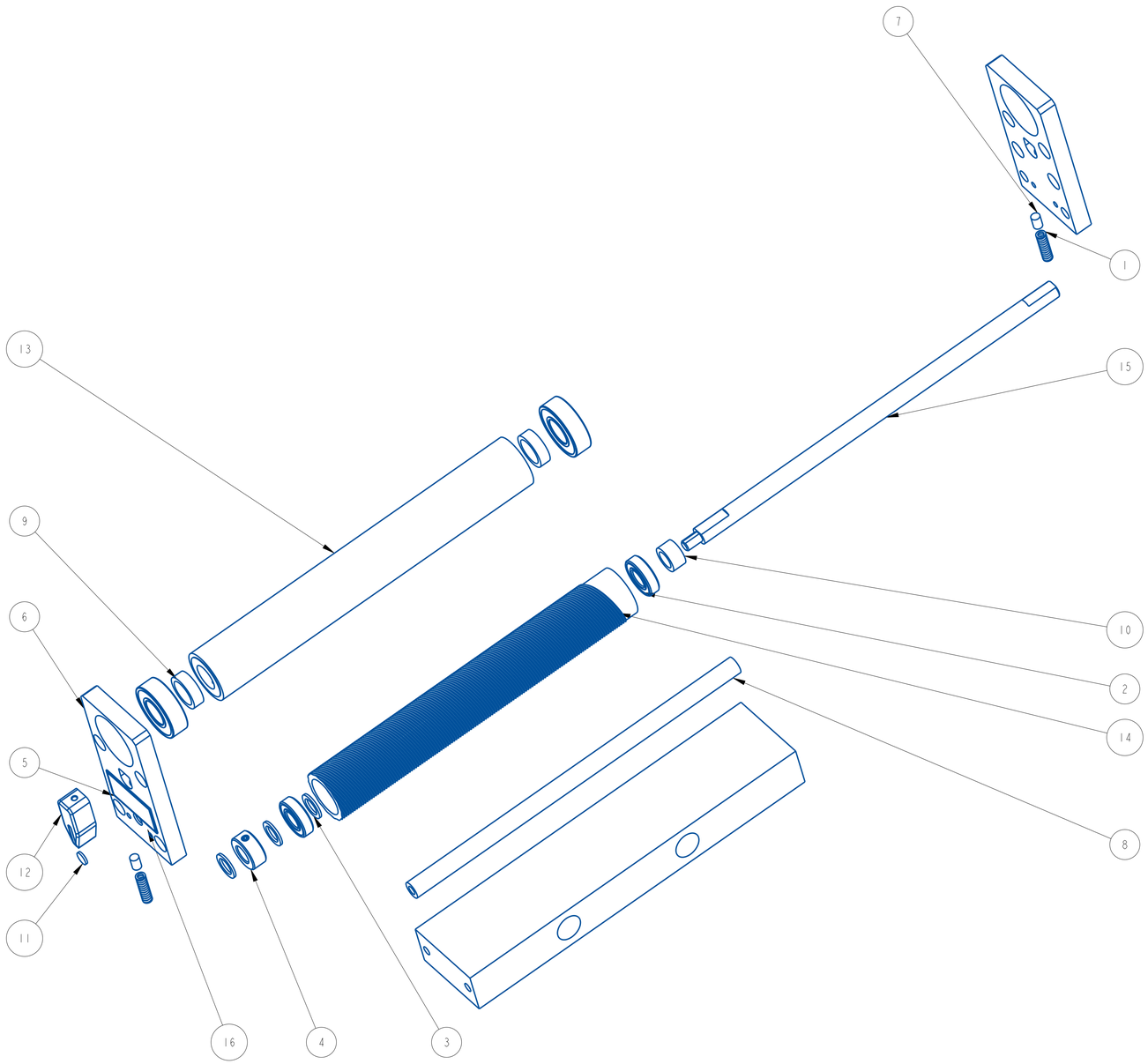
SCALE: 3/4
DATE: 10/17/25
DRW BY: SEM
CHK BY: &CREO_CHK
APPR BY:

DRIVE ROLL ASSEMBLY, 10"

MAT'L 21915D-001

23100DR-010LH

ITEM	QTY	PART NO.	DESCRIPTION	PARENT ITEM
1	2	00301-17	SPRING, .275 x .052 x .94	23100DR-010RH
2	2	111072-000	BEARING, BALL	23100DR-010RH
3	3	151004-000	BEARING, THRUST WASHER	23100DR-010RH
4	1	362161-000	COLLAR, SETSCREW, 1/2 IN. ID	23100DR-010RH
5	1	791789-000	NAMEPLATE	23100DR-010RH
6	1	21701DY-000_LH	3 PIECE ROLL ASSEMBLY	23100DR-010RH
7	2	A20567-000	WHITE NYLON SLUG	23100DR-010RH
8	1	A20929-000	PINCH POINT GUARD ROD 12" WEB	23100DR-010RH
9	2	A23125-000	SPACER	23100DR-010RH
10	1	A23751-000	SPACER	23100DR-010RH
11	1	A25249-000	INDEX DOT	23100DR-010RH
12	1	A25250-000	IND KNOB	23100DR-010RH
13	1	B20342-000	PULL ROLL, 10"	23100DR-010RH
14	1	B20344-000	KNURLED ROLL	23100DR-010RH
15	1	B20346-000	KNURLED ROLL SHAFT, 12"	23100DR-010RH
16	1	SYE121		23100DR-010RH



REV	DATE	DESCRIPTION	BY
A	Oct-13-25	NEW DRAWING	RDL

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE
.X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'
SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030
ALL ANGLES ARE 90°

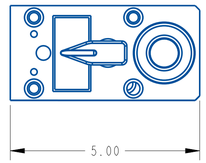
QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

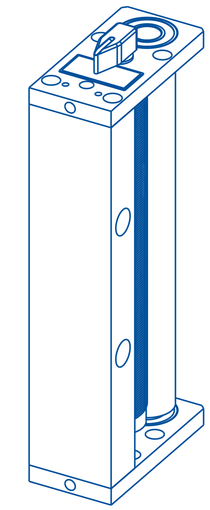
SCALE:	9/16
DATE:	Oct-13-25
DRW BY:	RDL
CHK BY:	
APPR BY:	

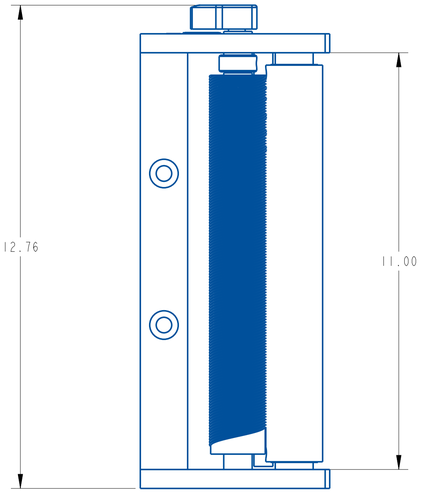
10" DRIVE ROLL ASSEMBLY

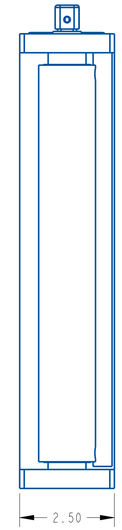
MAT'L

23100DR-010RH









REV	DATE	DESCRIPTION	BY
A	Oct-13-25	NEW DRAWING	RDL

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
X ± .1
XX ± .01
XXX ± .005
ANGLES ± 30'
SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030
ALL ANGLES ARE 90°

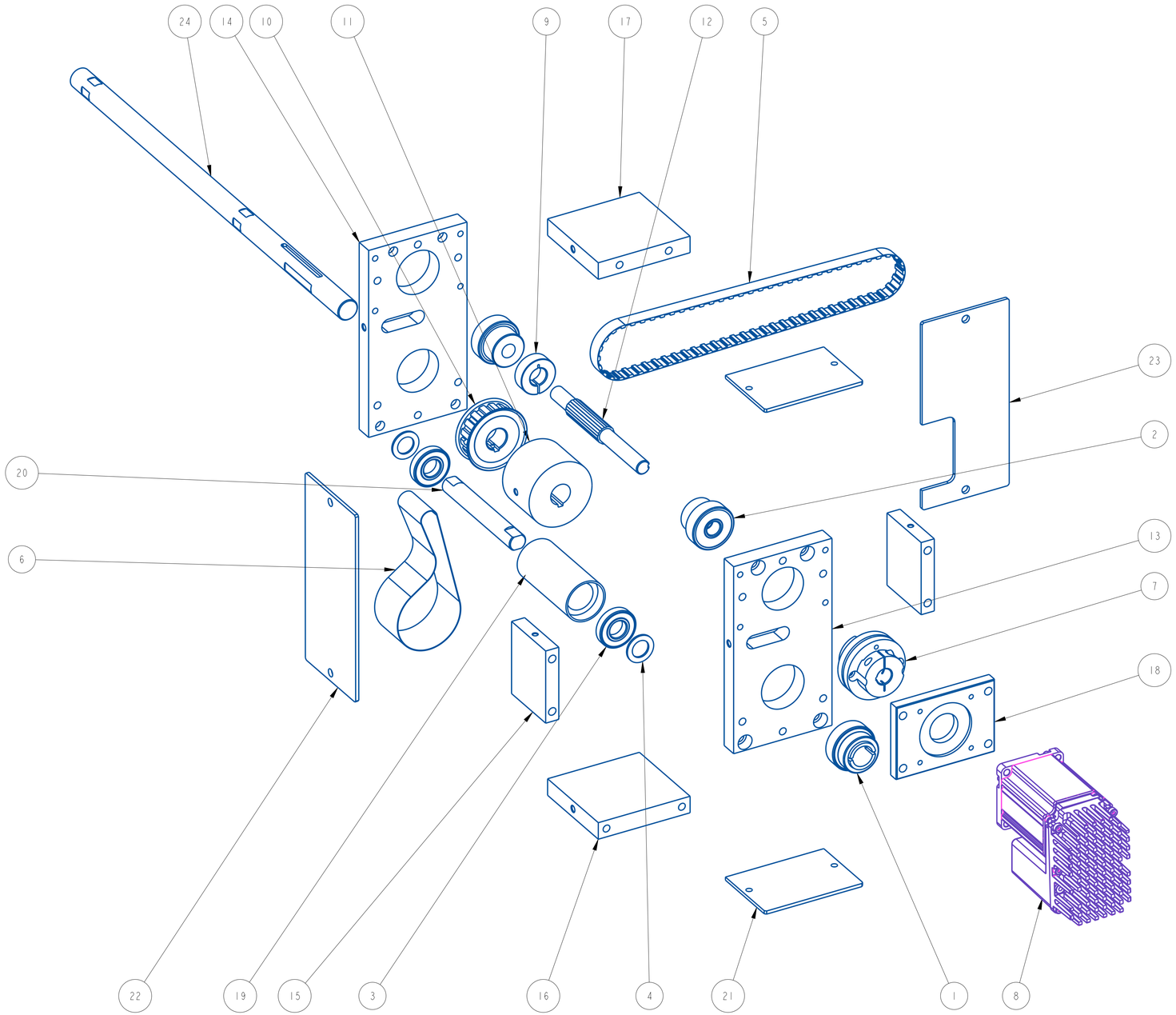
QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

SCALE:	1/2
DATE:	Oct-13-25
DRW BY:	RDL
CHK BY:	
APPR BY:	

10" DRIVE ROLL ASSEMBLY

MAT'L

23100DR-010RH



ITEM	QTY	PART NO.	DESCRIPTION	PARENT ITEM
1	1	111044-000	BEARING, 3/4 ID CLAMP TYPE	23125D-020RH
2	2	111072-100	BEARING BALL, LOCKING COLLAR .5"IDx1.574"OD	23125D-020RH
3	2	111075-000	BEARING, BALL	23125D-020RH
4	2	151008-000	BEARING, THRUST WASHER	23125D-020RH
5	1	191592-000	BELT, TIMING, 1/2P	23125D-020RH
6	1	192503-150	TIMING BELT	23125D-020RH
7	1	363159-000	SERVO COUPLING-1/2"BORE & KEY 14 MM BORE	23125D-020RH
8	1	412495-000	SERVO MOTOR/DRIVE, 60mm	23125D-020RH
9	1	A20595-120	COLLAR REWORK	23125D-020RH
10	1	A21421-001	DRIVE PULLEY (MODIFIED)	23125D-020RH
11	1	A26003-100	DRIVE PULLEY	23125D-020RH
12	1	A26004-120	SERVO MOTOR PULLEY	23125D-020RH
13	1	B22842-100RH	BEARING PLATE	23125D-020RH
14	1	B22842-101RH	BEARING PLATE	23125D-020RH
15	2	B22844-100	SPACER	23125D-020RH
16	1	B22844-220	SPACER	23125D-020RH
17	1	B22844-320	SPACER	23125D-020RH
18	1	B22847-100	MOTOR MOUNTING PLATE	23125D-020RH
19	1	B22848-120	TENSION ROLLER	23125D-020RH
20	1	B22849-120	TENSIONER SHAFT	23125D-020RH
21	2	B22850-100	COVER	23125D-020RH
22	1	B22850-120	COVER	23125D-020RH
23	1	B22850-121	COVER	23125D-020RH
24	1	C20097-420	PULL ROLL DRIVE SHAFT	23125D-020RH

REV	DATE	DESCRIPTION	BY
A	10/11/25	NEW DRAWING	SEM

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE
X ± .1
XX ± .01
XXX ± .005
ANGLES ± 30'
SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030

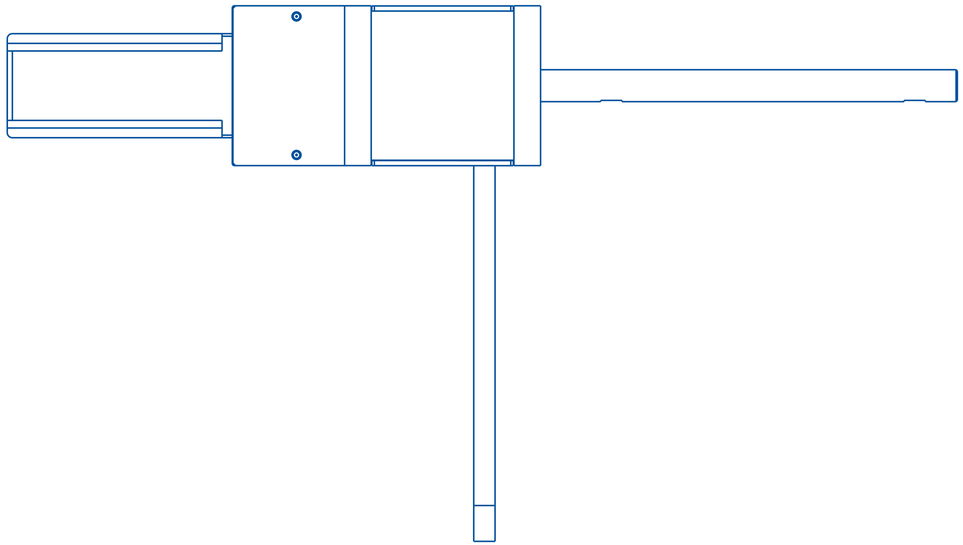
QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

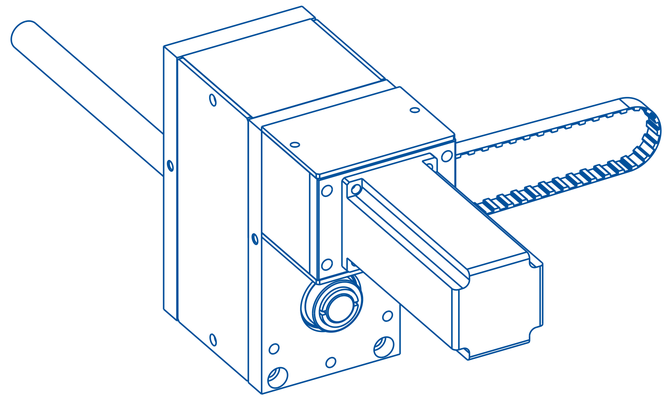
SCALE: 1/2
DATE: 11/10/25
DRW BY: SEM
CHK BY: &CREO_CHK
APPR BY:

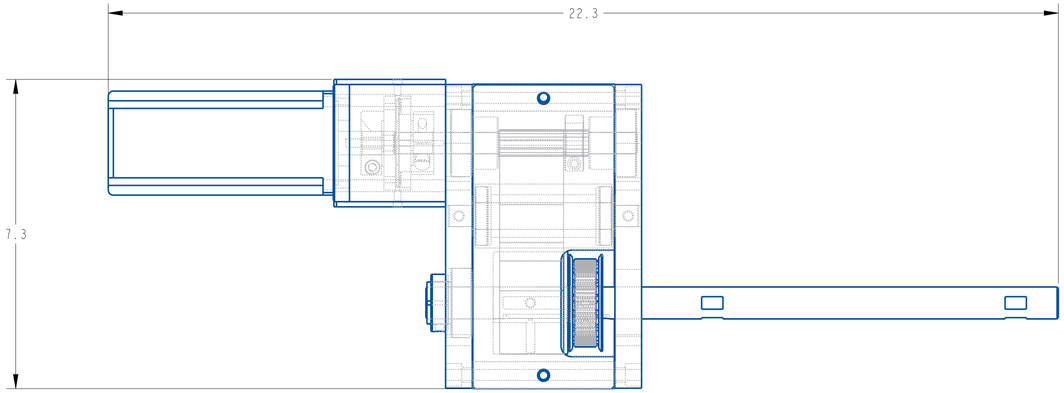
Q120 10" SERVO DRIVE & REWIND, RH

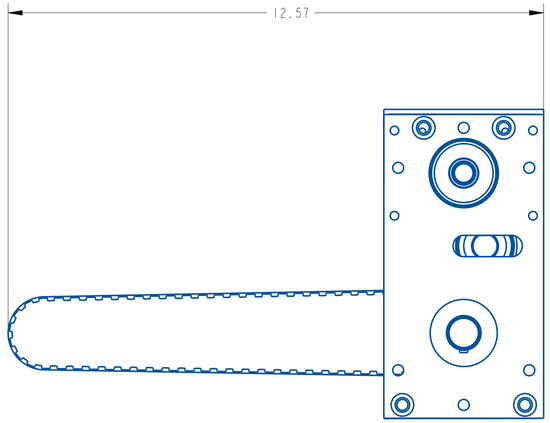
MAT'L

23125D-020RH









SHEET 2 OF 2

REV	DATE	DESCRIPTION	BY
A	06-OCT-15	NEW DRAWING	CRT

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
.X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030
ALL ANGLES ARE 90°

QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

SCALE: 9/16
DATE: 06-OCT-15
DRW BY: CRT
CHK BY:09/05/2025-SEM
APPR BY:

Q120 10" SERVO DRIVE & REWIND, RH

MAT'L

23125D-020RH

Servo Belt Removal & Installation

Remove the clear cover on the side of the coupling of the servo motor. Then loosen the 4 5/16-18 socket heads holding the motor mounting plate to the spacer blocks. (Shown in image on the right)





Loosen the 2 bolts on the coupling. Then remove the motor and coupling assembly. (Shown in image on the left)

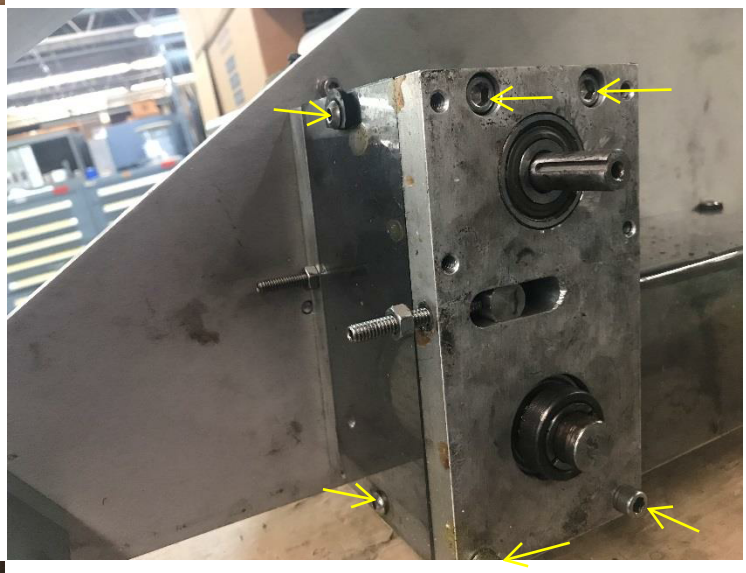
Loosen the tension on the servo belt by removing loosening the 2 jam nuts on the set screws shown and removing the set screws. (Shown in image on the right)





Loosen set screw in the collar on the end of the drive shaft. Then remove the collar. (Shown in image on the left)

Remove the 4 5/16-18 socket head bolts that hold the bottom plate to the spacer blocks. Then remove the two button head screws holding the lexan cover on and remove cover. (Shown in image on the right)





Remove the set screw on the eccentric collar then spin the collar to loosen from shaft. (Shown in image on the left)

Once the bolts are removed, remove the bottom plate. This may take some prying and finessing, be careful to not bend the plate, shafts, or ruin the bearings during the removal of the plate. Once removed clean the plate and bearings. (Shown in image on the right & bottom)







If Equipped

Remove the cover over the rewind kinetrol and other side of the servo belt. (Shown in image on the left)

Remove the tensioner, belt and smaller diameter shaft with the pulley teeth on it. (Shown in image on the right)





Once removed clean all surfaces shafts bearing and check the rewind belt for cracks or uneven wear. You can use a scotch brite pad the clean up the shafts and ect. (Shown in image on the left)

Check the lock collar on the shaft with the pulley grooves ensure the collar is tight and the stack up is correct. The washer goes on top of the collar and shall be flush with the end of the pulley grooves as shown in the image below. Slide the collar over the end of the shaft as shown. This stack up is extremely important.







Ensure your belt is riding properly on the kinetrol pulley. The belt should be running in the middle of the pulley of as close to centered as you can get. Spin the kinetrol and ensure the belt is tracking well. (Shown below)





To adjust this rotate the pulley until you see the set screw. Loosen the set screws and slide the pulley accordingly. Slide the larger pulley down or up as well these pulleys should be together. (Shown in image on the right)



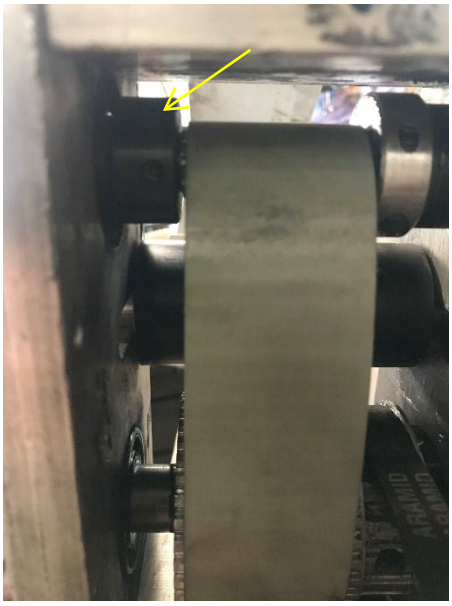


After you have cleaned everything up, checked the rewind belt and properly checked alignment of the pulleys. It is now time to re-assemble. Start by putting the belt in then the tensioner. Ensure the idler has the oil lite washers installed on the top and bottom of the idler. (Shown in the image to the left)

NOTE Blue Loctite is recommended on all fasters.

Place the eccentric collar over the smaller diameter shaft and slide the bottom servo plate on. Ensure the tensioner is positioned properly in the slot on the bottom plate with the oil lite washer in place. Fasten the plate to the spacer blocks. Once fastened rotate the eccentric collar to lock it into place make sure it is tight this is very important. Lock into place with set screw. (Shown in image below)

NOTE Blue Loctite is recommended on all fasteners.

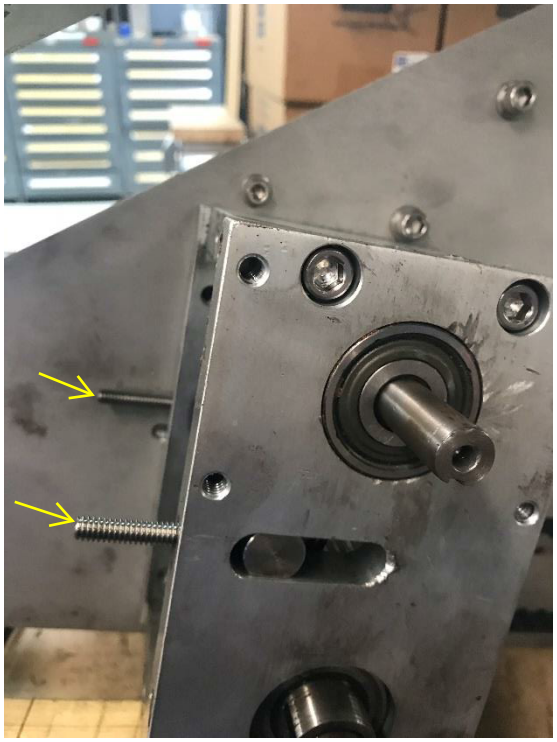


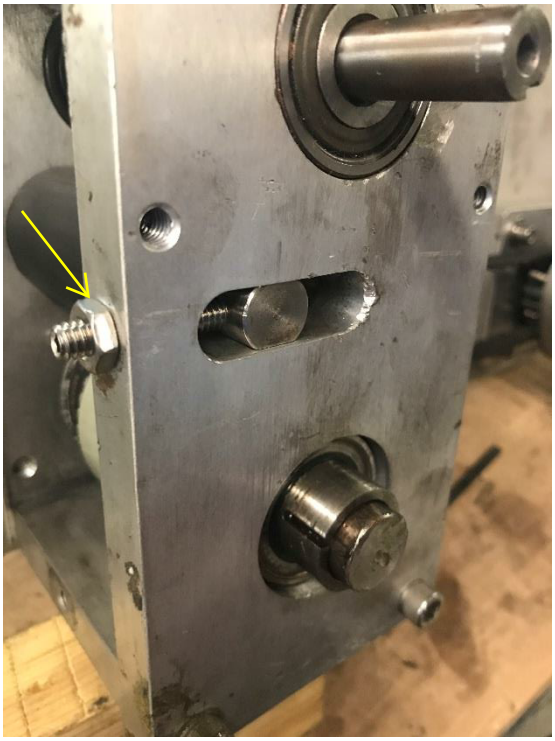


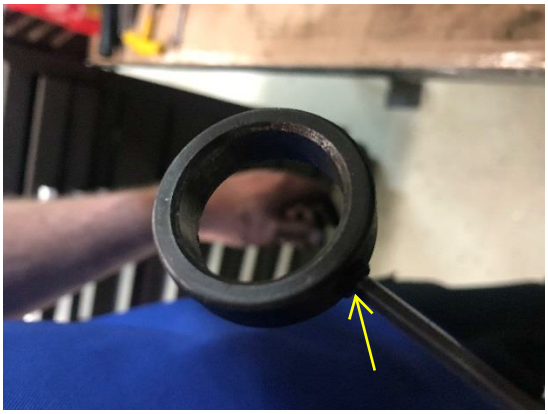


Thread in the set screws evenly to set tension on the belt the belt should not be too tight if you reach around the back you can push against the belt as you tighten it. This is more of a touch setting you do not want the belt to be solid to the touch more like $1/8^{th}$ -$1/4^{th}$ inch of travel when you push on the belt. If it is too loose it can skip teeth. When the tension is set lock into place using the jam nuts. (Shown in image below)

NOTE Do <u>NOT</u> loctite set screws for the tensioner.



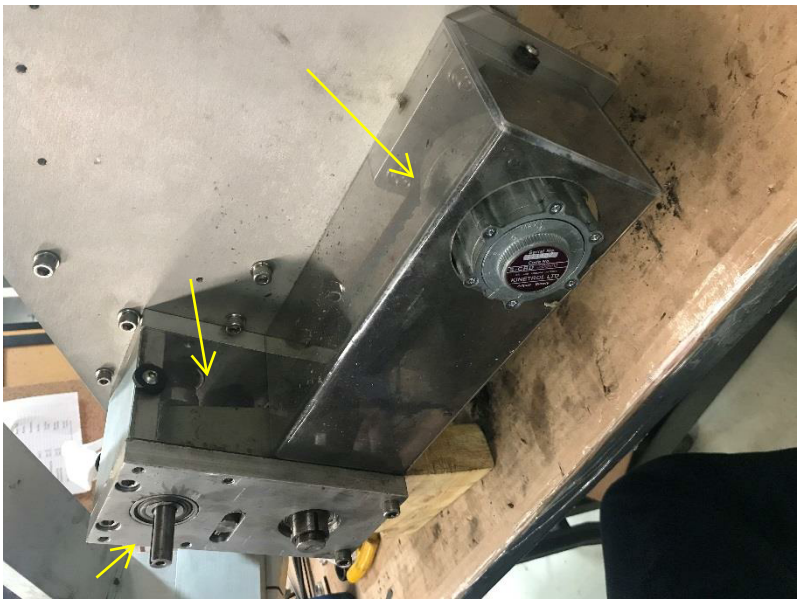




Fasten the collar to the end of the larger diameter shaft as shown.

NOTE Blue Loctite is recommended on all fasters.





Place the lexan covers on the 2 sides of the servo belt assembly and the cover over the rewind kinetrol assembly. Make sure the fasteners has blue Loctite and rubber grommets. (Shown in image on the left)

Place the servo motor coupling over the end of the smaller diameter shaft. Fasten the motor mounting assembly to the bottom plate using blue Loctite. Align the coupling centered between the shafts so the coupling has enough to fasten to on each of the shafts. Fasten the coupling to the shafts. Mount the lexan covers make sure the fasteners has blue Loctite and rubber grommets. (Shown in image on the right)

NOTE Blue Loctite is recommended on all fasters.



ASSEMBLY TITLE: **Q120 REWIND ASSEMBLY**

GENERAL FUNCTION:

- The rewind drum rolls up the liner
- The rewind pin, when pulled out, allows the liner to be released from the rewind drum.
- The rewind flange supports and guides the liner.
- The friction clutch allows for slippage to accommodate for varying speeds between the drive roll and rewind drum.
- The adjusting knob controls the torque adjustment of the drum.

SET UP AND ADJUSTMENTS:

- Position the rewind flange slightly below the web path and lock with the set screw in the hub.
- When threading liner to the rewind, place the liner between the drum and pin.
- Tighten adjusting knob just enough to allow the rewind drum to keep up with the drive roll.

NOTE: Excessive tightening will cause the web to be wound very tight, causing difficulty in removal and possible step motor stall.

MAINTENANCE:

- Clean all parts that have acquired label or glue residue
- Replace friction disc when worn out.

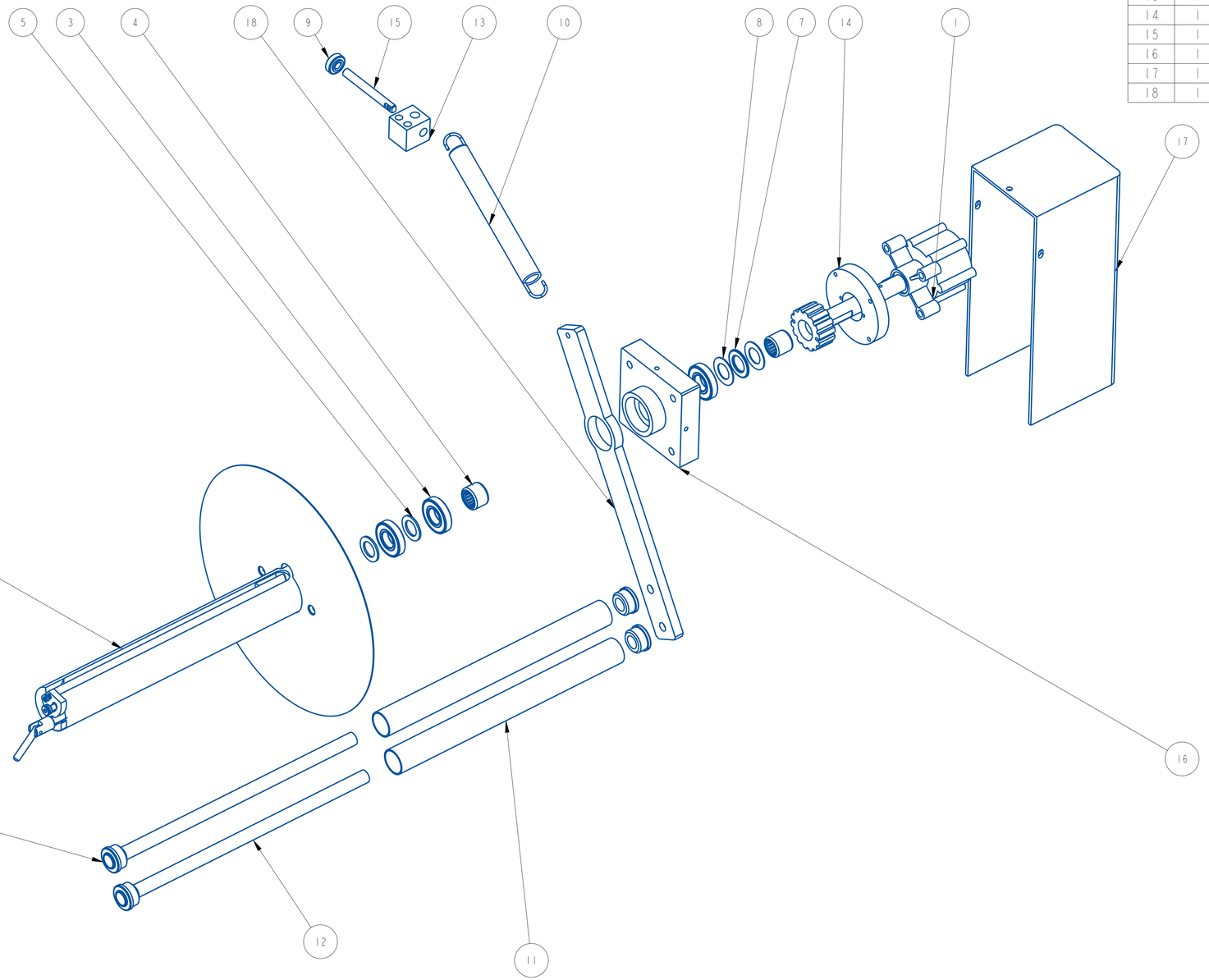
TROUBLESHOOTING:

PROBLEM	**WHAT TO DO**
- Rewind drum not rotating when stepping motor rotates	- Replace timing belt from motor to rewind
- Rewind drum not keeping up with drive roll	- Tighten adjusting knob
- Web winding too tight on hub	- Loosen adjusting knob
- Grinding in rewind hub	- Replace friction disc by removing knob and sliding off rewind drum





ITEM	QTY	PART NO.	DESCRIPTION	PARENT ITEM
1	1	20499-001	DASHPOT & SHAFT ASSEMBLY	23100R-010LH
2	1	22189-000	COLLAPSIBLE REWIND	23100R-010LH
3	3	111075-000	BEARING, BALL	23100R-010LH
4	1	121067-000	BEARING, NEEDLE	23100R-010LH
5	2	151008-000	BEARING, THRUST WASHER	23100R-010LH
6	4	181063-000	BEARING, ROLL END	23100R-010LH
7	1	181081-000	BEARING, NEEDLE ROLLER	23100R-010LH
8	2	181082-000	BEARING, THRUST WASHER	23100R-010LH
9	1	801601-000	CHECK NUT	23100R-010LH
10	1	811216-000	EXTENSION SPRING, STAINLESS	23100R-010LH
11	2	A20931-000	IDLER ROLLER TUBE 12"	23100R-010LH
12	2	A20932-000	DANCER ROLL SHAFT 12"	23100R-010LH
13	1	A21479-000	SPRING ADJUSTMENT BLOCK	23100R-010LH
14	1	A22120-000	REWIND PULLEY ASSEMBLY	23100R-010LH
15	1	A23131-000	STUD	23100R-010LH
16	1	B20004-007	REWIND BEARING PLATE	23100R-010LH
17	1	B20005-120	GUARD	23100R-010LH
18	1	C20894-004	REWIND DANCER ARM	23100R-010LH







REV	DATE	DESCRIPTION	BY
A	12/03/25	NEW DRAWING	SEM

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
.X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030

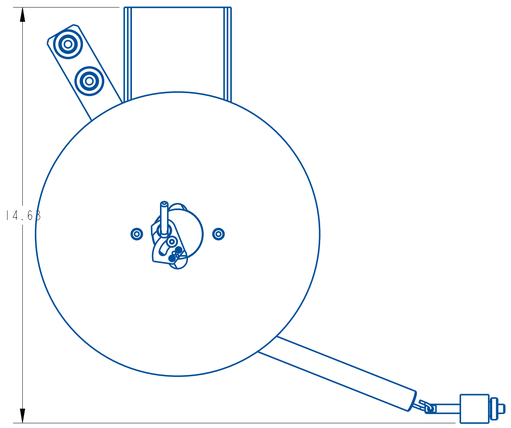
QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

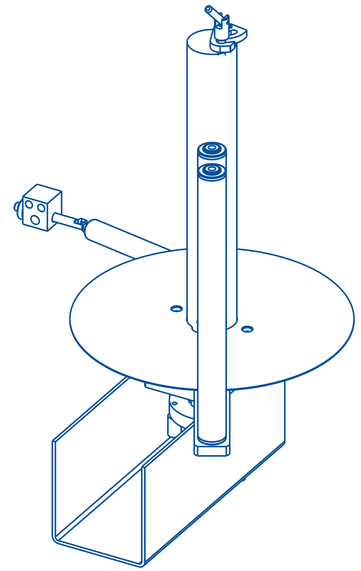
SCALE: 7/16
DATE: Oct-06-25
DRW BY: RDL
CHK BY:
APPR BY:

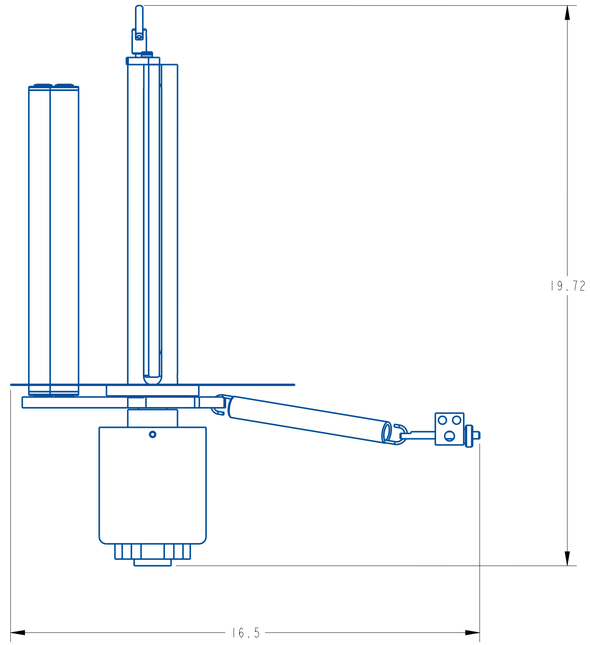
10" REWIND ASSEMBLY RHH

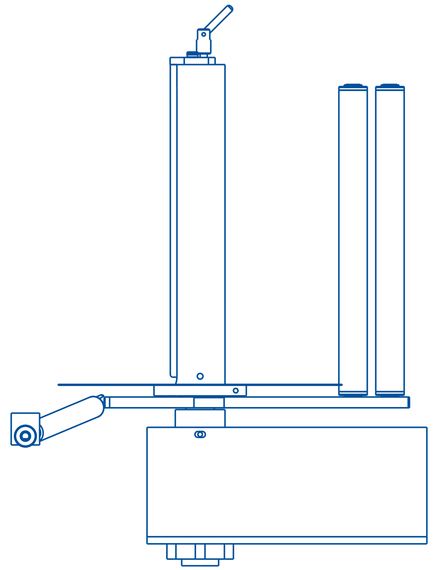
MAT'L 23100R-010RH

23100R-010LH









REV	DATE	DESCRIPTION	BY
A	Oct-06-25	NEW DRAWING	RDL

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
.X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'
SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030
ALL ANGLES ARE 90°

QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

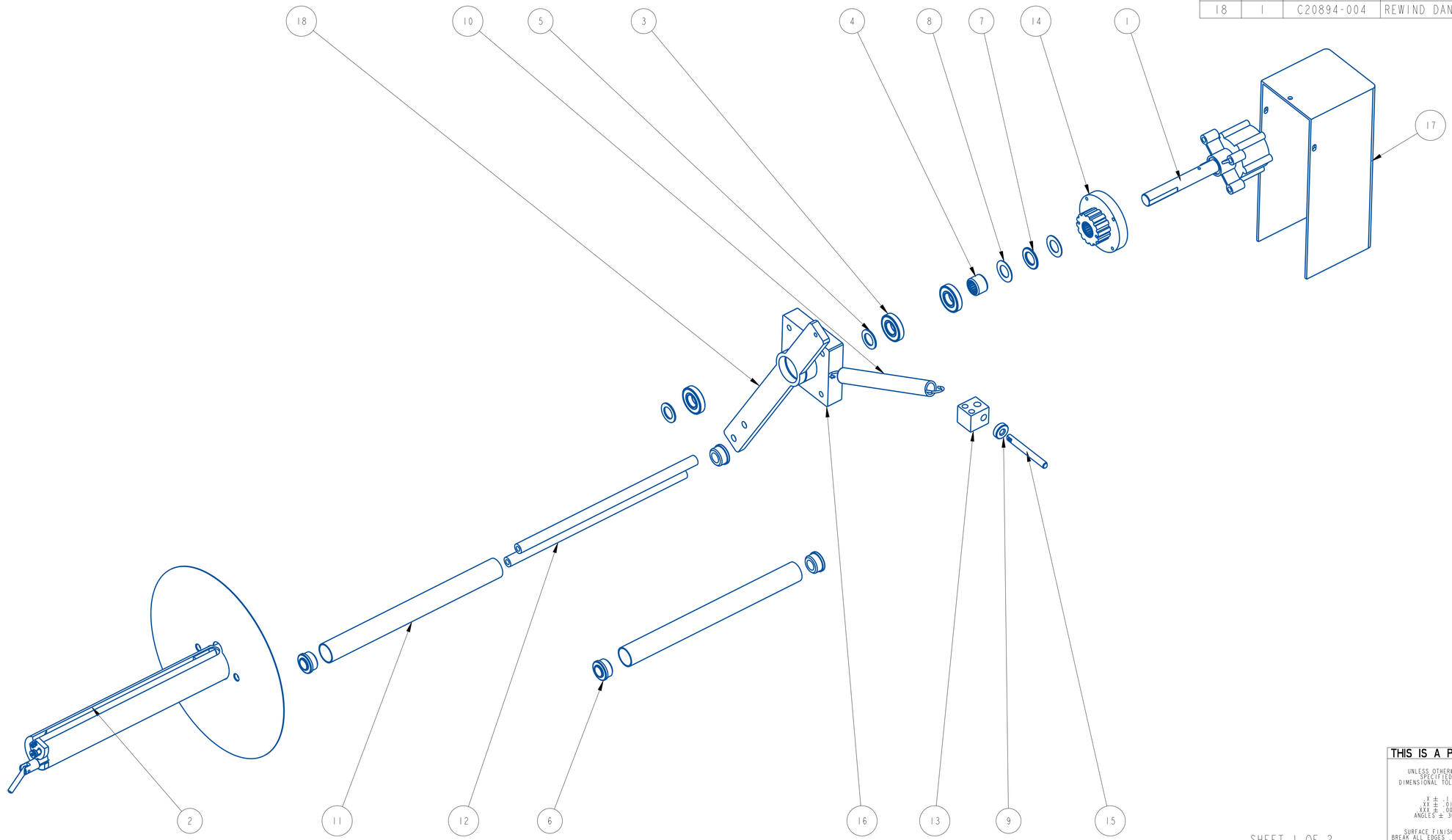
SCALE:	3/8
DATE:	Oct-06-25
DRW BY:	RDL
CHK BY:	
APPR BY:	

10" REWIND ASSEMBLY RHH

MAT'L: 23100R-010RH

23100R-010LH

ITEM	QTY	PART NO.	DESCRIPTION	PARENT ITEM
1	1	20499-001	DASHPOT & SHAFT ASSEMBLY	23100R-010RH
2	1	22189-000	COLLAPSIBLE REWIND	23100R-010RH
3	3	111075-000	BEARING, BALL	23100R-010RH
4	1	121067-000	BEARING, NEEDLE	23100R-010RH
5	2	151008-000	BEARING, THRUST WASHER	23100R-010RH
6	4	181063-000	BEARING, ROLL END	23100R-010RH
7	1	181081-000	BEARING, NEEDLE ROLLER	23100R-010RH
8	2	181082-000	BEARING, THRUST WASHER	23100R-010RH
9	1	801601-000	CHECK NUT	23100R-010RH
10	1	811216-000	EXTENSION SPRING, STAINLESS	23100R-010RH
11	2	A20931-000	IDLER ROLLER TUBE 12"	23100R-010RH
12	2	A20932-000	DANCER ROLL SHAFT 12"	23100R-010RH
13	1	A21479-000	SPRING ADJUSTMENT BLOCK	23100R-010RH
14	1	A22120-000	REWIND PULLEY ASSEMBLY	23100R-010RH
15	1	A23131-000	STUD	23100R-010RH
16	1	B20004-007	REWIND BEARING PLATE	23100R-010RH
17	1	B20005-120	GUARD	23100R-010RH
18	1	C20894-004	REWIND DANCER ARM	23100R-010RH







REV	DATE	DESCRIPTION	BY
A	12/03/25	NEW DRAWING	SEM

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE
X ± .1
XX ± .01
XXX ± .005
ANGLES ± 30°

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030

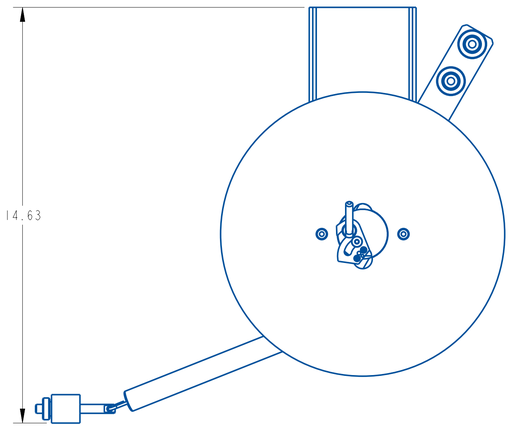
QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

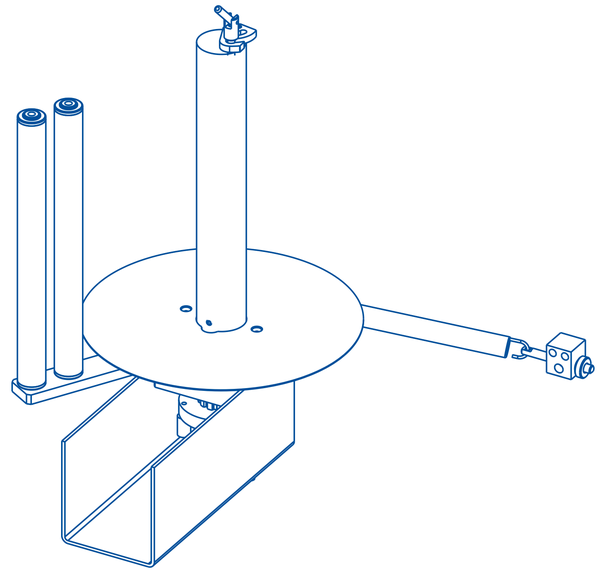
SCALE: 3/8
DATE: Oct-02-25
DRW BY: RDL
CHK BY:
APPR BY:

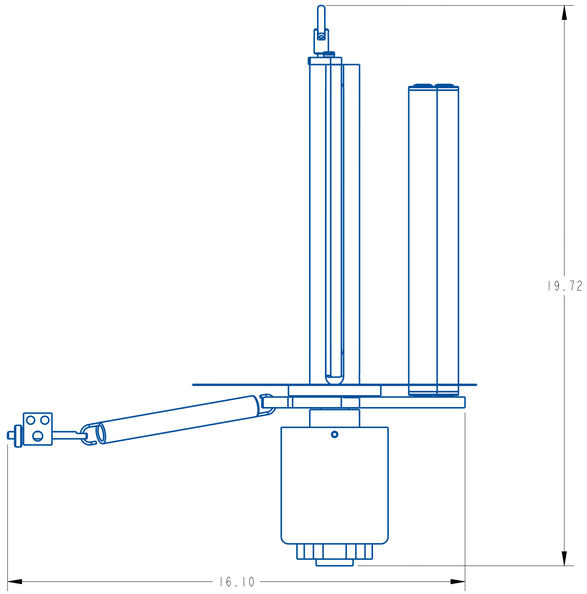
10" REWIND ASSEMBLY RHH

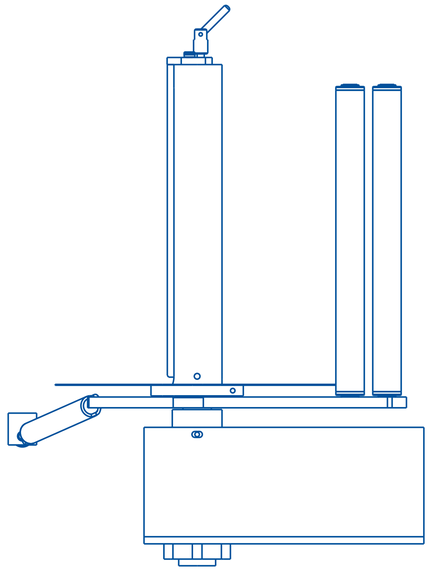
MAT'L 23100R-010RH

23100R-010RH









SHEET 2 OF 2

REV	DATE	DESCRIPTION	BY
A	Oct-02-25	NEW DRAWING	RDL

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
.X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'
SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030
ALL ANGLES ARE 90°

QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

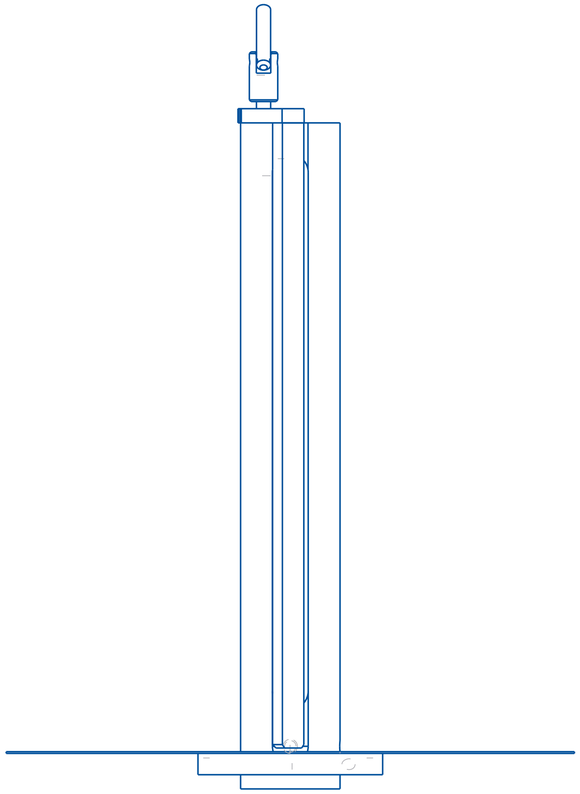
SCALE:	3/8
DATE:	Oct-02-25
DRW BY:	RDL
CHK BY:	
APPR BY:	

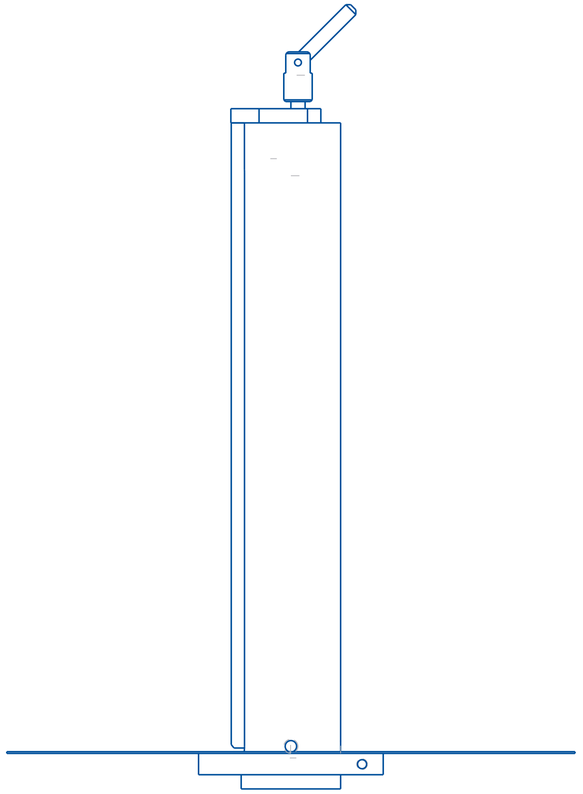
10" REWIND ASSEMBLY RHH

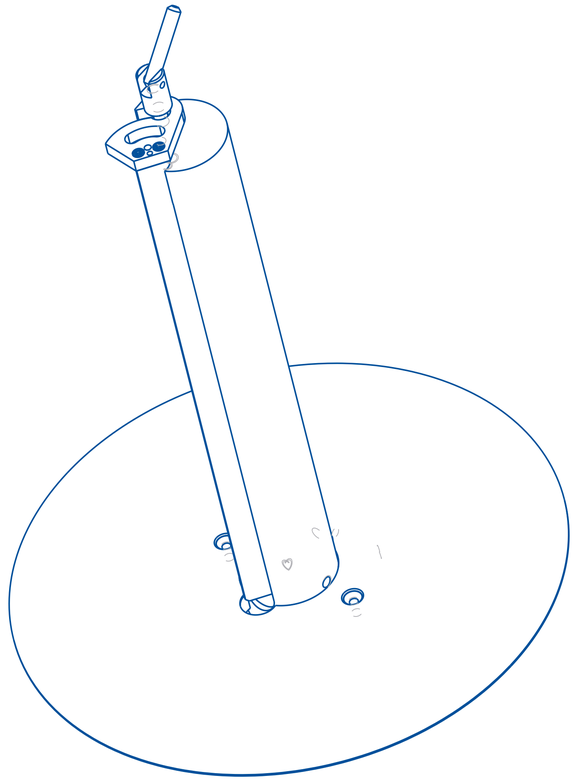
MAT'L: 23100R-010RH

23100R-010RH

ITEM	QTY	PART NO.	DESCRIPTION	PARENT ITEM
1	1	22597-000	COLLAPSIBLE REWIND LOCKING HANDLE	22189-000
2	1	841145-000<CSSD>		22189-000
3	1	A21226-000	REWIND FLANGE HUB COLLAR	22189-000
4	1	A22085-001	COLLAPSIBLE REWIND REEL	22189-000
5	1	B22103-002	10" COLLAPSIBLE REWIND DRUM	22189-000
6	1	B22141-002	SHAFT ASSEMBLY	22189-000
7	1	SYE103		22189-000







REV	DATE	DESCRIPTION	BY
A	06/09/2008	NEW DRAWING	SEM

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE

.X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030

QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

SCALE: 3/4
DATE: 06/09/2008
DRW BY: SEM
CHK BY:
APPR BY:

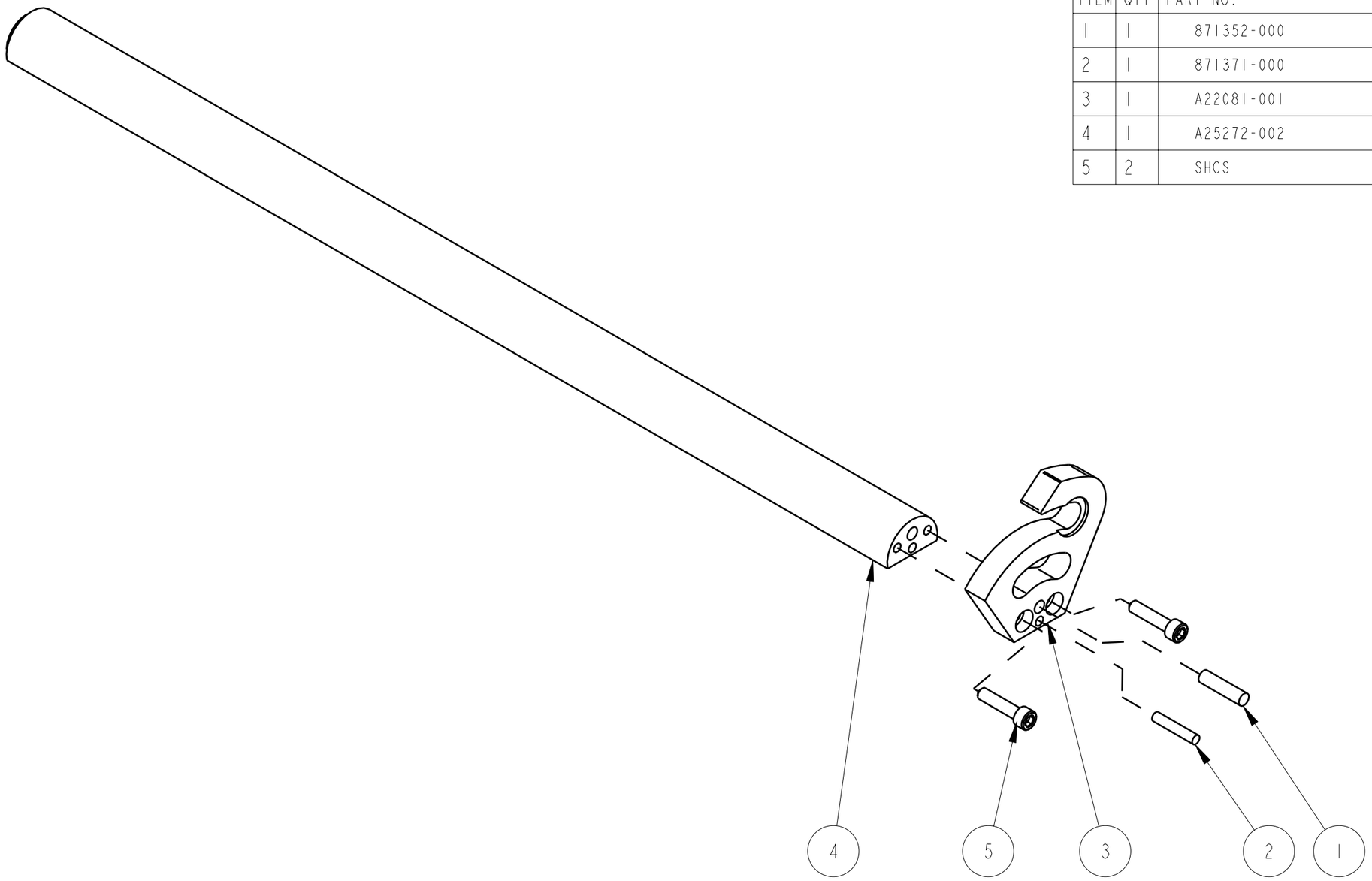
COLLAPSIBLE REWIND

MAT'L 22189-000

D22393-000

SHEET 1 OF 1

ITEM	QTY	PART NO.	DESCRIPTION
1	1	871352-000	DOWELL,PIN 1/8" x 1/2" SS.
2	1	871371-000	DOWELL,PIN 3/32" x 1/2" SS.
3	1	A22081-001	COLLAPSIBLE REWIND CAM
4	1	A25272-002	COLLAPSIBLE REWIND SHAFT
5	2	SHCS	4-40 X 1/2 LG. SHCS



REV	DATE	DESCRIPTION
A	06/09/2008	NEW DRAWING

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE

.X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030

QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(216) 975-0006

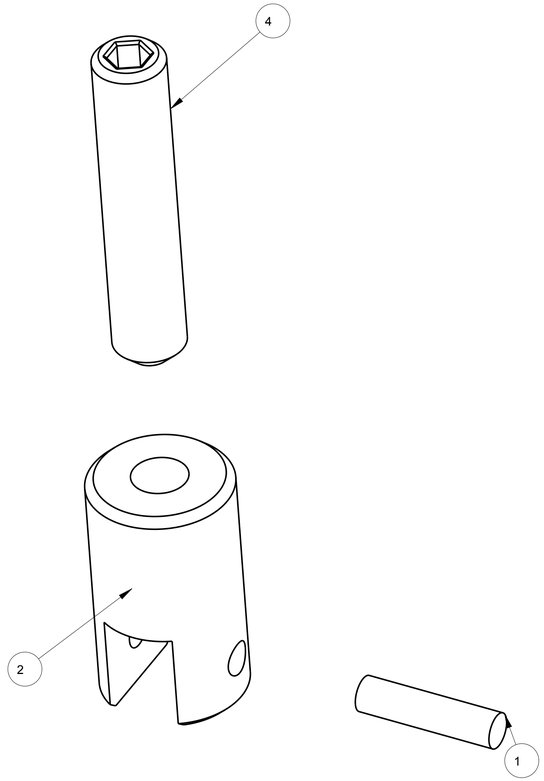
SCALE:	1/1
DATE:	06/09/2008
DRW BY:	SEM
CHK BY:	
APPR BY:	

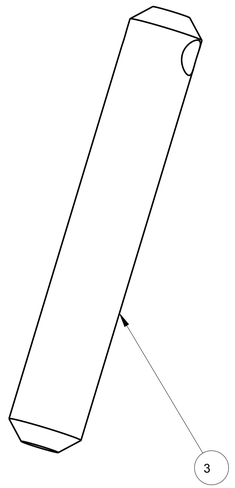
SHAFT ASSEMBLY 10.0"

MAT'L

B22141-002

ITEM	QTY	PART NO.	DESCRIPTION
1	1	871352-000	DOWELL,PIN 1/8" x 1/2" SS.
2	1	A26128-000	CLEVIS
3	1	A26129-000	HANDLE
4	1	SYE601	1/4-20 X 1-1/4 LG. SET SCREW





REV	DATE	DESCRIPTION	BY
A	12-11-14	NEW DRAWING	

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
X± .1
XX± .01
XXX± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030

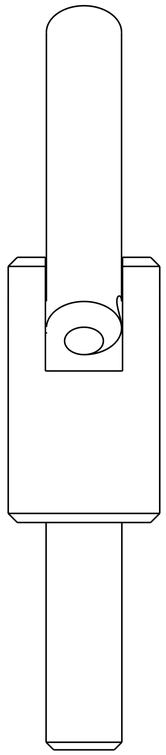
QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

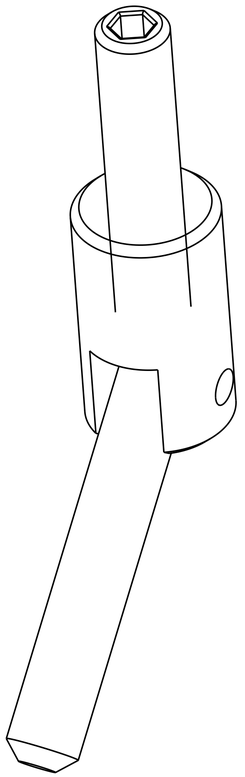
SCALE	4/1
DATE	12-11-14
DRAWN BY	ATT

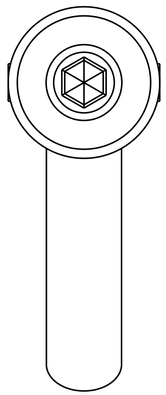
COLLAPSIBLE REWIND LOCKING HANDLE

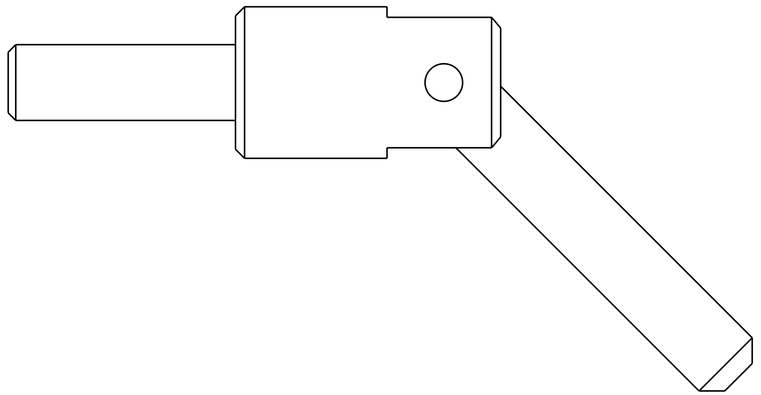
MAT'L 22597-000

22597-000









REV	DATE	DESCRIPTION	BY
A	12-11-14	NEW DRAWING	

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE

X± .1
XX± .01
XXX± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030

QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

SCALE	4/1
DATE	12-11-14
DRAWN BY	ATT

COLLAPSIBLE REWIND LOCKING HANDLE

MAT'L 22597-000

22597-000

ASSEMBLY TITLE: **Q60 KINETROL REWIND**

GENERAL FUNCTION:

- The rewind drum rolls up the liner
- The collapsible rewind shaft when closed allows the liner to be removed easily. The normal running position for the shaft is in the open position
- The rewind flange supports and guides the liner
- The Kinetrol clutch allows for slippage to accommodate for varying speeds between the drive roll and rewind drum
- The adjusting knob controls the torque adjustment of the drum and is set at the factory.

SET UP AND ADJUSTMENTS:

- Position the rewind flange slightly below the web path and lock with the set screw in the hub
- When threading liner to the rewind, place the liner between the drum and pin
- Tighten adjusting knob just enough to allow the rewind drum to keep up with the drive roll.
- Loosen set screw before adjustment and re-tighten after adjustment

NOTE: Excessive tightening will cause the web to be wound very tight, causing difficulty in removal and possible step motor stall.

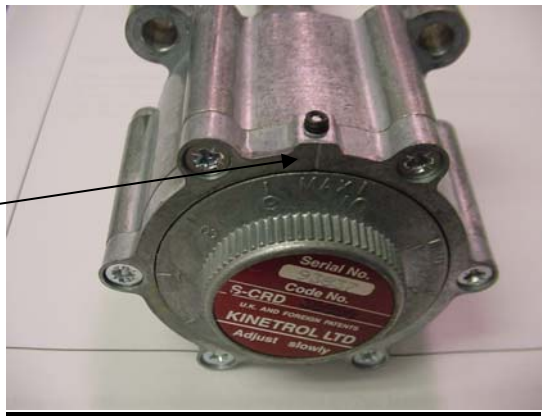
MAINTENANCE:

- Clean all parts that have acquired label or glue residue

TROUBLESHOOTING:

PROBLEM	**WHAT TO DO**
- Rewind drum not rotating when stepping motor rotates	- Replace timing belt from motor to rewind
- Rewind drum not keeping up with drive roll	- Adjust clutch dial (1 being loosest & 10 being tightest)
- Web winding too tight on hub	- Loosen adjusting knob
- Grinding in rewind hub	- Replace Kinetrol

Set screw location



ASSEMBLY TITLE: **SLOT SENSOR ASSEMBLY**

GENERAL FUNCTION:

- The slot sensor detects the separation between labels. This signals the electronics to stop the drive motor.
- The two (2) liner support rods prevent the liner from wearing out the slot sensor.
- The knob and thumbscrew lock the sensor firmly on the mounting rods.
- The male connector provides quick connection to the labeling head.

SET UP AND ADJUSTMENTS:

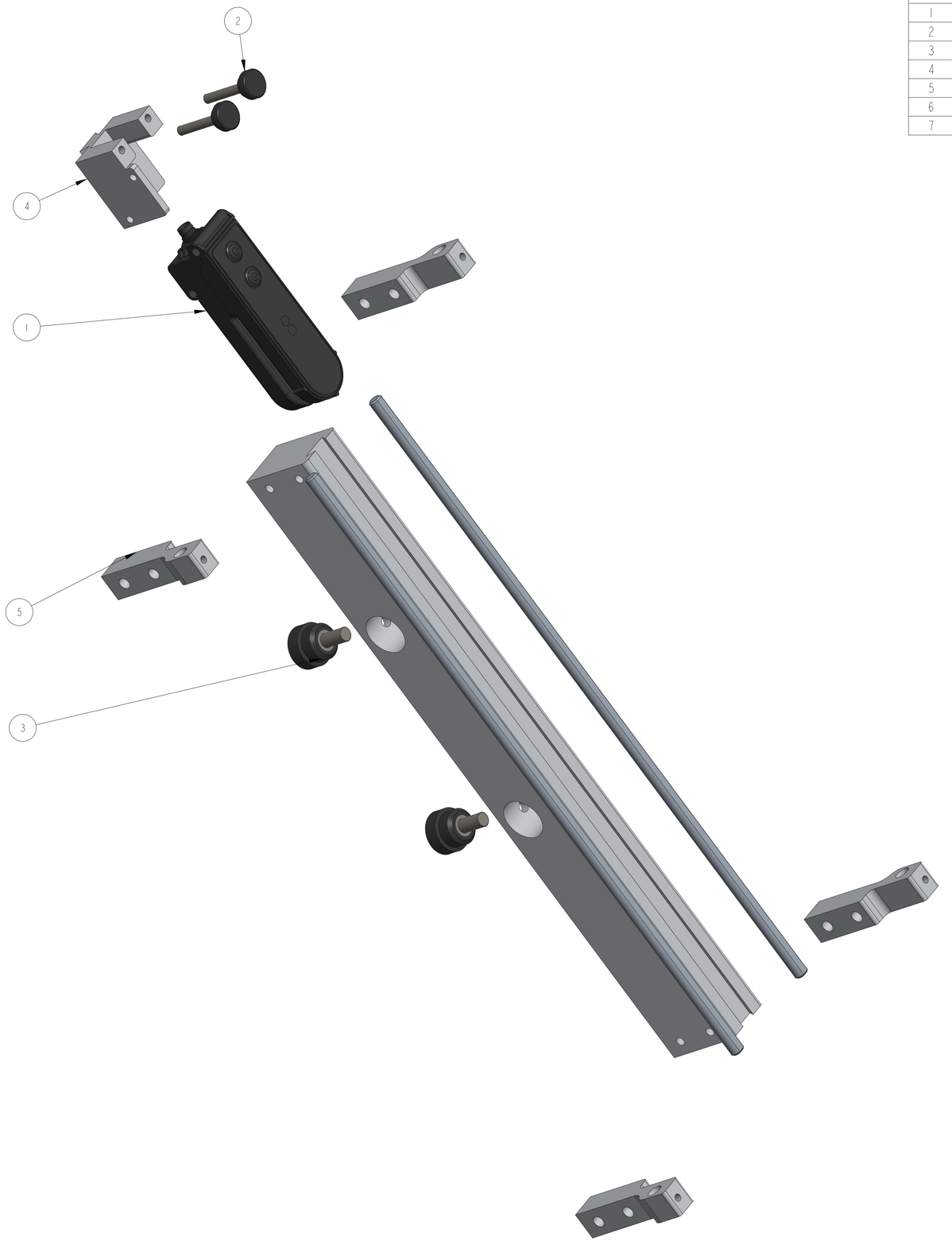
- See attached cut sheet

MAINTENANCE:

- Keep the sensor optical area clean from label and glue residue

TROUBLESHOOTING:

PROBLEM	WHAT TO DO
- No power to the sensor	- Check male connector and tightly secure connection to the head.
- Liner dragging over the slot	- Loosen knob and rotate slot sensor slot sensor surface liner rests on both support rods
- Too much slack through slot sensor	- Adjust brake brush tension
- Slot sensor moving with web	- Tighten all three (3) adjusting knobs



ITEM	QTY	PART NO.	DESCRIPTION	PARENT ITEM
1	1	201444-300		20033-310
2	2	801297-000	THUMB SCREW	20033-310
3	2	801299-000	KNOB WITH STUD	20033-310
4	1	A21391-301	SLOT SENSOR ADAPTER	20033-310
5	4	A21749-300	SLOT SENSOR SUPPORT ROD MTG BLOCK	20033-310
6	2	A21770-310	SUPPORT ROD WITH FLAT	20033-310
7	1	B20852-310	7 IN. WEB SLOT SENSOR MTG. BAR	20033-310

REV	DATE	DESCRIPTION	BY
A	Mar-05-21	NEW DRAWING	TAZ

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE
X ± .1
XX ± .01
XXX ± .005
ANGLES ± 30'
SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030

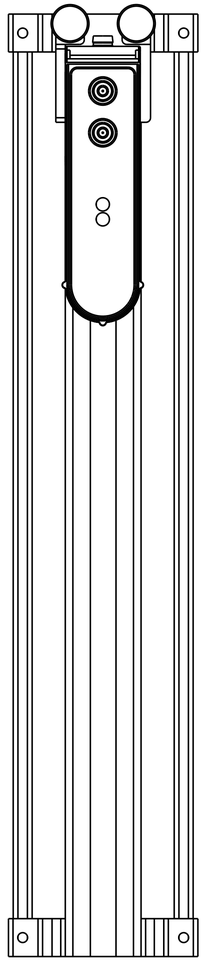
QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

SCALE	1/1
DATE	Mar-05-21
DRAWN BY	TAZ

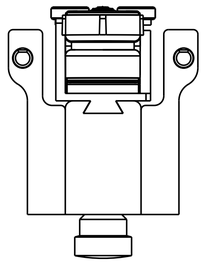
LABEL DETECT ASSEMBLY 10"

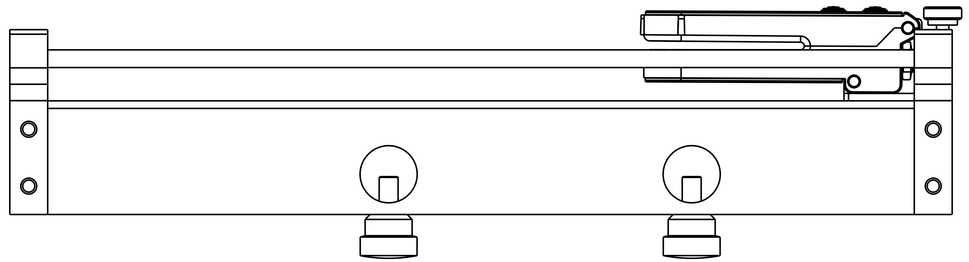
MAT'L: 20033-310

20033-310









A	Mar-04-21	NEW DRAWING	TJS
REV	DATE	DESCRIPTION	BY

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
.X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'
SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030

QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

SCALE	1/1
DATE	Mar-04-21
DRAWN BY	TJS

LABEL DETECT ASSEMBLY

MAT'L: 20033-310

20033-310

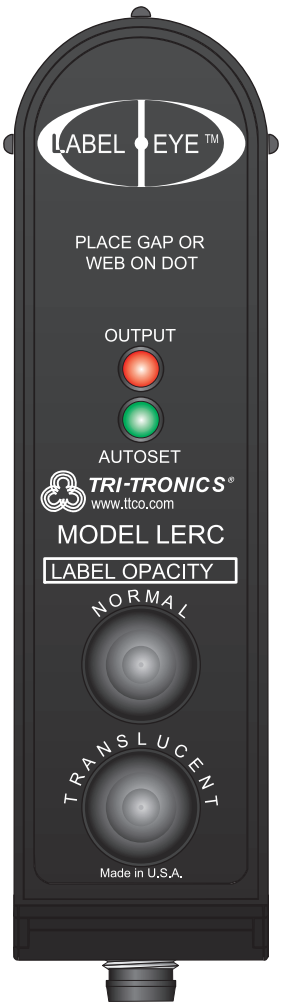
LABEL•EYE
Set-Up Instructions

Standard LABEL•EYE

Normal Label Opacity AUTOSET Button
This category includes most paper or melallized film labels adhering to paper or transparent backing materials. To implement the one button AUTOSET routine, utilize the external alignment guides to position the gap between labels in line with the dot shown in the center of the detection zone. Then push the AUTOSET button marked "Normal."

An alternative set up procedure would be to remove a label and the push the "Normal" AUTOSET button.

On rare occasions, when the light is unable to penetrate the backing materials, both the red and green led indicators will blink four times. When this indication occurs, the sensor will be unable to detect the presence of the labels.



Translucent Label Opacity AUTOSET Button
This category includes translucent labels adhering to transparent or paper backing materials. To implement the one button AUTOSET routine, utilize the external alignment guides to position the gap between labels in line with the dot shown in the center of the detection zone. Then push the AUTOSET button marked "Translucent".
Note: This sensor cannot detect transparent labels.

INVERT OUTPUT: The status of the red LED and output transistors can be inverted by pressing both buttons simultaneously. When the output status has been inverted, the red LED and the output transistors will turn off when the label comes into view.

TRI-TRONICS®

SPECIFICATIONS

SUPPLY VOLTAGE
- 10 to 30Vdc
- Polarity Protected
- Intended for use in class two circuits

CURRENT REQUIREMENTS
- 45 milliamps (exclusive of load)

OUTPUT TRANSISTORS
- (1) NPN and (1) PNP output transistors
- Sensor outputs can sink or source up to 150 milliamps (current limit)
- All outputs are continuously short circuit protected

REMOTE AUTOSET INPUT
- opto isolated momentary sinking input (10 milliamps)

Note: Remote models only

RESPONSE TIME
- Light state response = 100 microseconds
- Dark state response = 100 microseconds

LED LIGHT SOURCE
- High intensity red LED
- Pulse modulated

PUSH BUTTON CONTROL
- Automatic set-up routines based on web opacity
- One push button set-up
- Simultaneously pushing both buttons inverts the output

HYSTERESIS
- Minimal hysteresis promotes the detection between the backing material and the label depending on the settings

LIGHT IMMUNITY
- Responds to sensor's pulsed modulated light source … immune to most ambient light

INDICATORS
- Green LED flashes when AUTOSET routine is activated and stays illuminated when AUTOSET is completed
- Red LED illuminates when sensors output transistors are ON. *Note: The status of the output transistors can be inverted by pushing both buttons simultaneously. If Output LED flashes, a short circuit condition exists.*

AMBIENT TEMPERATURE
- -40°C to 70°C (-40°F to 158°F)

RUGGED CONSTRUCTION
- Chemical resistance to harsh cleaners such as detergents, alcohols, and ketones
- Type 1 Enclosure
- Conforms to heavy industry grade CE and UL requirements

RoHS Compliant
Product subject to change without notice.

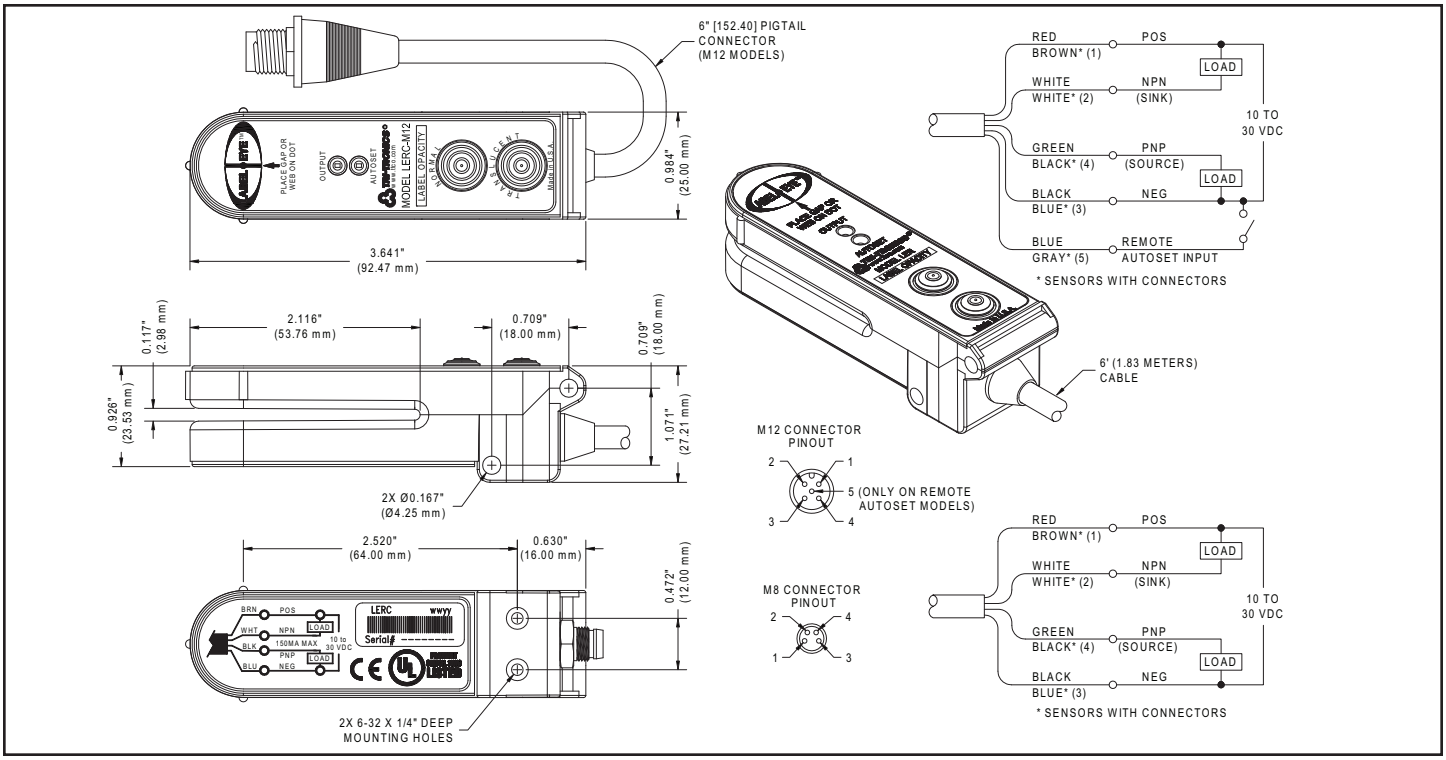
Model Numbers:

Label•Eye	Description
LER	Red LED, 4 Conductor 6ft Cable
LERC	Red LED, 4-pin M8 Connector
LERR	Red LED, 5 Conductor, 6ft Cable
LERRC-M12	Red LED, 5-Pin M12 Pigtail Connector
LERC-M12	Red LED, 4-Pin M12 Pigtail Connector

Nano Cable (M8) Selection Guide

P/N	Length	Thread Coupling
GEC-6	6ft (1.8m	Straight Female
GEC-15	15ft (4.6m)	Straight Female
RGEC-6	6ft (1.8m)	90° Female
RGEC-15	15ft (4.6m)	90° Female

DIMENSIONS



TRI-TRONICS®
P.O. BOX 25135, TAMPA, FL 33622-5135
813-886-4000 / 800-237-0946
ttco.com / info@ttco.com

ASSEMBLY TITLE: **BROKEN WEB / END OF WEB**

DRAWING NO:

GENERAL FUNCTION:

- The broken web fault indicates that the labeler label stock has broken after the labeler pull roll. It consists of a reflective sensor and a reflector. The sensor is capable of reading clear or opaque label liner.

-When the broken web passes through the sensor, a signal is generated, that signal will shut the conveyor system down and light the red lamp on the stack lamp assembly.

-To reset the fault condition, rethread labels and press labeler run/pause to turn off the red light and place the labeler in run mode. The conveyor will restart and the labeling process will continue.

SET-UP AND ADJUSTMENTS:

- The sensor is set in light on operation mode. It is a retro-reflective operation. To set the sensor, refer to the following manufacture's instruction sheet.

- Ensure that all label material is removed from the sensor and reflector area for proper set up.

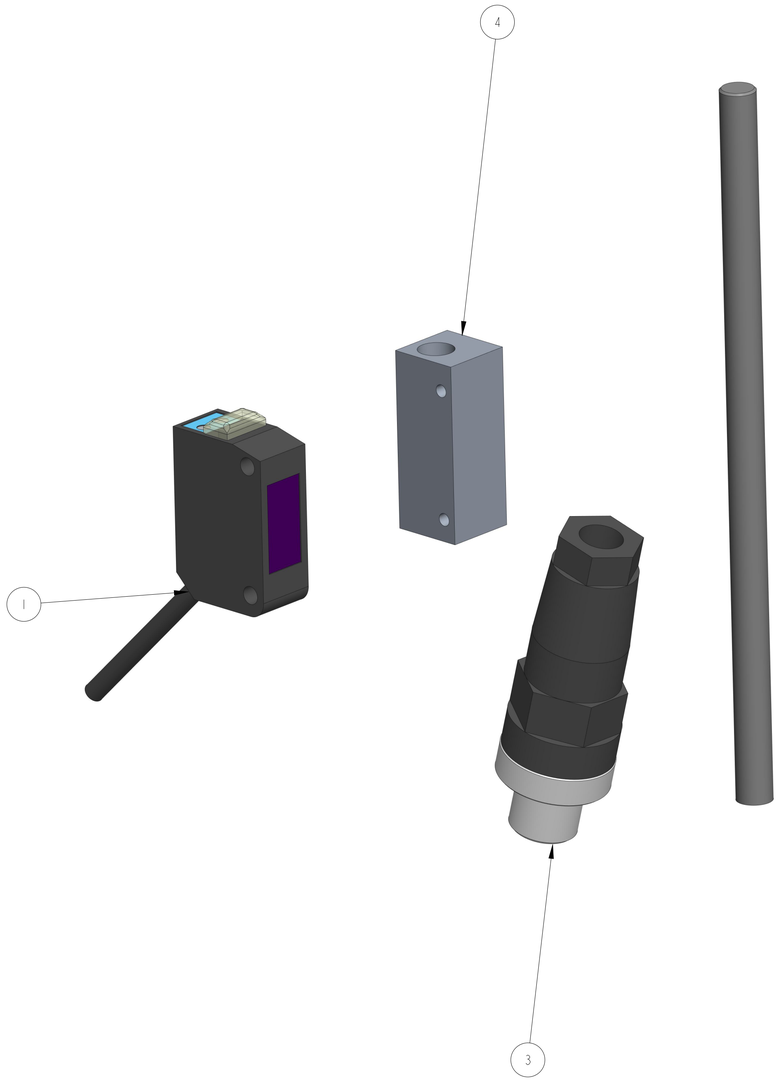
MAINTENANCE:

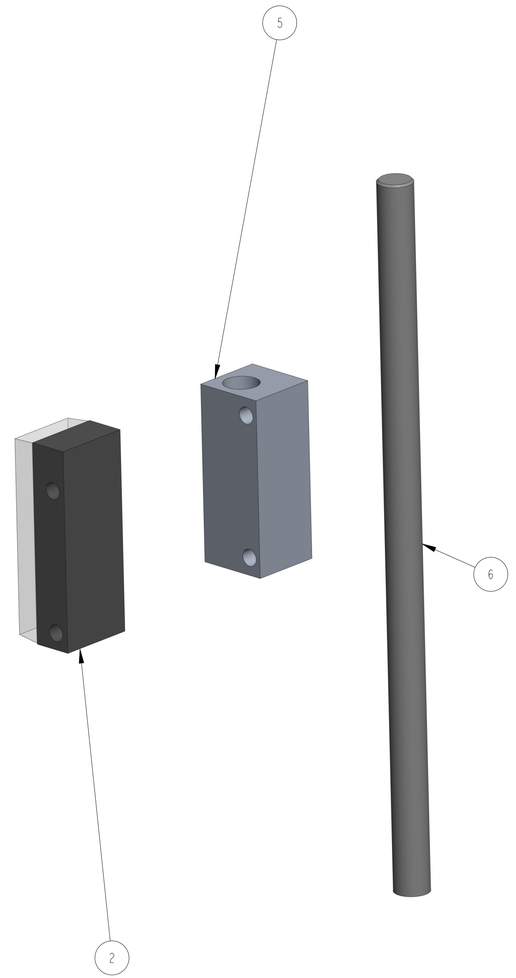
- See Maintenance Section

TROUBLESHOOTING:

- See Troubleshooting Section

ITEM	QTY	PART NO.	DESCRIPTION	PARENT ITEM
1	1	202192-002	CLEAR PRODUCT SENSOR	21606-012
2	1	203161-000	REFLECTOR	21606-012
3	1	252019-000	4 PIN MALE CONNECTOR	21606-012
4	1	A24242-000	SENSOR MTG. BLOCK	21606-012
5	1	A24243-000	REFLECTOR MTG. BLOCK	21606-012
6	2	A25772-000	POST, SENSOR	21606-012





REV	DATE	DESCRIPTION	BY
A	11/11/24	NEW DRAWING	SEM

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE
.X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030

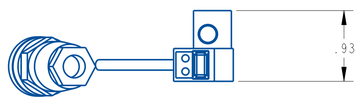
QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

SCALE: 2/1
DATE: 11/11/24
DRW BY: SEM
CHK BY: CREO_CHK
APPR BY:

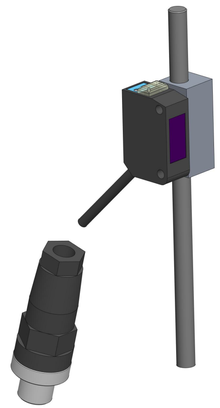
BROKEN WEB/END OF WEB, PNP DUAL POSTS, USE PZ-G62P

MAT'L

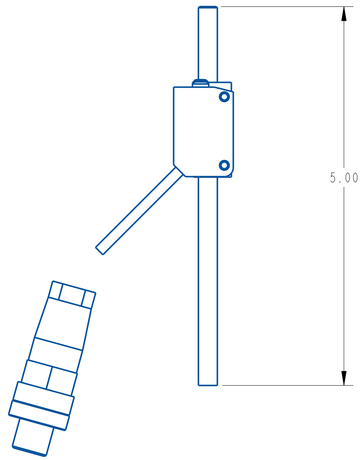
21606-012















SHEET 2 OF 2

REV	DATE	DESCRIPTION	BY
A	11/11/24	NEW DRAWING	SEM

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
X ± .1
XX ± .01
XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030
ALL ANGLES ARE 90°

QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

SCALE:	1/1
DATE:	11/11/24
DRW BY:	SEM
CHK BY:	CREO_CHK
APPR BY:	

BROKEN WEB/END OF WEB, PNP DUAL POSTS, USE PZ-G62P

MAT'L

21606-012

KEYENCE

96M11227

Self-contained
Photoelectric Sensor

PZ-G Series
Instruction Manual

Read this manual thoroughly before using the product.
Keep this manual readily available for future reference.



■ Safety precautions

- Avoid running the PZ-G cable along with power and high voltage lines, as this may cause interference and/or permanent damage.
- When using a commercially available switching regulator, ground its chassis grounding and earth grounding terminals.
- Do not use in locations where direct ambient light or external light directly shines on the light receiving surface.
- With retro-reflective type sensors, when detecting highly reflective materials (such as mirrored surfaces), stabilization may be difficult. To correct this, change the angle of the sensor head, or adjust the sensitivity.
- Avoid using power which exceeds the specifications for ripple (10% max)
- Avoid using excess force when rotating the operation mode selector switch (Light-on, Dark-on) and the sensitivity adjustment trimmer.
- This product is just intended to detect the object(s). Do not use this product for the purpose to protect a human body or a part of human body.
- This product is not intended for use as explosion-proof product. Do not use this product in a hazardous location and/or potentially explosive atmosphere.

Precautions on Regulations and Standards

■ UL Certificate

This product is an UL/C-UL Listed product.

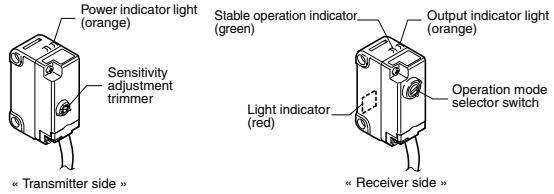
- UL File No. E301717
- Category NRKH,NRKH7
- Enclosure Type 1 (Based on UL50)

Be sure to consider the following specifications when using this product as an UL/C-UL Listed Product.

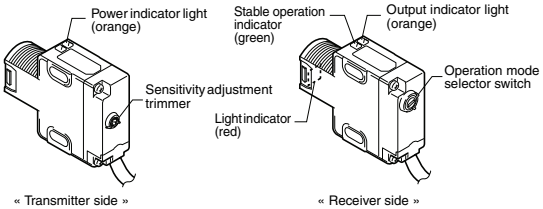
- Use the power supply with Class 2 output defined in NFPA70 (NEC: National Electrical Code).
- Power supply/ Control input/ Control output circuits shall be connected to a single Class 2 source only.
- Use with the over current protection device which is rated 30V or more and not more than 1A.

Part Names

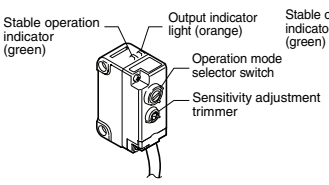
● **PZ-G5xN/G5xP**



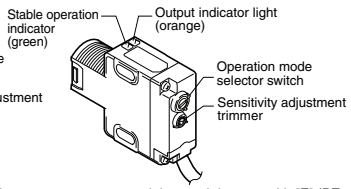
● **PZ-G5xB**



● **PZ-G4xN/G4xP/G10xN/ G10xP/G6xN/G6xP**



● **PZ-G4xB/G10xB/G6xB**

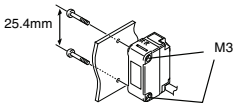


* The model name with "C" (PZ-GxxCx) is the connector type, and the model name with "E" (PZ-GxxEx) is the pigtail quick disconnect type.

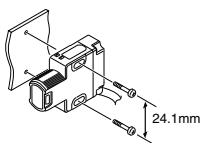
Mounting Method

■ Side Mounting (Prepare M3 screws)

Tightening torque: 0.5 N·m or less

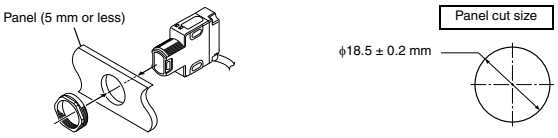


Tightening torque: 0.5 N·m or less



■ Mounting with the M18 nut (includes nut type)

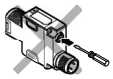
The M18 nut is also available separately as OP-84225 (2 pcs. supplied).
Tightening torque:1.0 N·m or less



Note

- Mount the M18 nut (supplied) straight in. If mounted at an angle it cannot be tightened properly.
- When tightening the M18 nut (supplied), firmly hold the main body down. The case of the main body may be damaged if held in place with a tool such as pliers.
- When tightening the M18 nut (supplied), if excess force is applied to the nut with a tool such as pliers, it may bend it out of shape. Therefore, do not apply excess force.

Sensitivity Adjustment Method

Caution ⚠	Avoid using excess force when rotating the sensitivity adjustment trimmer and operation mode selector switch as it may cause damage.	

■ Operation mode selector switch

With the operation mode selector switch, you can select either the LIGHT-ON mode (L) or the DARK-ON (D) mode.



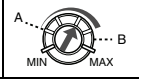
LIGHT-ON setting



DARK-ON setting

■ Reflective type (PZ-G41/G42/G101/G102/G10R/G10G/G10B Series)

The following assumes LIGHT-ON (L) is set.

Sequence	Adjustment method	Sensitivity adjustment trimmer
①	Position target in place. Slowly rotate the sensitivity trimmer from the MIN position towards the MAX position until the (orange) output indicator turns on (Position "A"). If the output indicator does not turn off, even at MIN, then MIN is considered Position "A".	
②	Remove the target. Adjust the sensitivity trimmer from MIN towards MAX until the (orange) output indicator turns on (Position "B"). If the output indicator does not light up, the MAX position is considered Position "B".	
③	Adjust the sensitivity trimmer to the midpoint between "A" and "B". Verify that the (green) stable operation light turns on with and without a target in place.	

Reference To use the sensor in DARK-ON mode, adjust the mode selector switch to "D".

■ Thrubeam type (PZ-G51/G52 Series) / Retro-reflective type (PZ-G61/G62 Series)

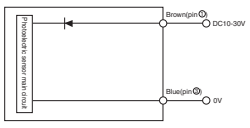
The following assumes DARK-ON (D) is set.

Sequence	Adjustment method	Sensitivity adjustment trimmer
①	Remove the target. Adjust the sensitivity trimmer to MAX. Mount the sensor heads in place so the (orange) output indicator turns off (on thrubeam models, the red light on the receiver face will turn on)	
②	Position target in place. Verify that the orange output indicator turns on (on thrubeam models, the red light on the receiver face will turn off). Adjust sensitivity lower if the output indicator does not turn on (or if the red light on the receiver face does not turn off on thrubeam models)	

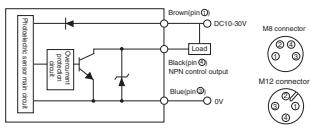
Reference To use the sensor in LIGHT-ON mode, adjust the mode selector switch to "L".

I/O Circuit Diagram

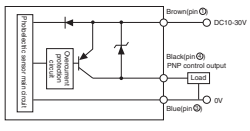
● **PZ-G5xN/G5xP/G5xB (Transmitter side)**



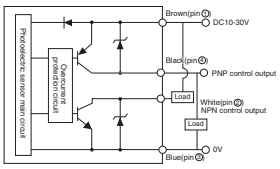
● **PZ-G5xN (Receiver side)/ G4xN/G10xN/G6xN**



● **PZ-G5xP (Receiver side)/ G4xP/G10xP/G6xP**



● **PZ-G5xB (Receiver side)/ G4xB/G10xB/G6xB**



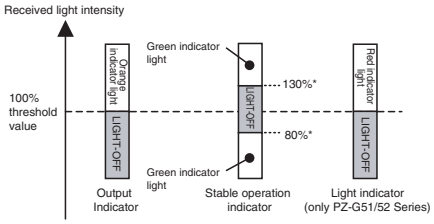
* The pin numbers represent those of the connector type / pigtail quick disconnect type. The model name with "C" (PZ-GxxCx) is the connector type, and the model name with "E" (PZ-GxxEx) is the pigtail quick disconnect type.

PZ-GxxCN/GxxCP..... M8 connector
PZ-GxxCB/GxxEN/GxxEP..... M12 connector

■ Indicators

The following describes each ON/OFF condition of indicator when LIGHT-ON (L) is set.

Reference When the DARK-ON (D) is set, the output indicator ON/OFF will reverse.



* For PZ-G62, the upper limit is 107% and the lower limit is 93%.

If the stable operation indicator turns off during operation, readjust or fine-adjust the sensitivity.

■ Mutual interference

- For reflective type / retro-reflective type sensors, mutual interference protection can be set for up to 2 units. However, when the sensors are mounted facing each other, change the angle of the sensor head to prevent light being emitted into each unit.(The mark detection type does not include the mutual interference function.)
- Mutual interference prevention can be set when mounting a polarizing filter attachment (optional with thrubeam type sensors) (If operation is unstable even after mounting the polarizing filter, slightly lower the sensitivity.)
- For more detailed information about mutual interference or attachment, see the PZ-G Series catalog or contact your nearest KEYENCE office.

Specifications

Type			Thrubeam		Reflective				Retro-reflective		Mark detection		
Configuration	Cable shape	Output mode	Normal	High-power	Diffuse-reflective Long-detecting distance	Diffuse-reflective Short-detecting distance	Narrow-view reflective	Definite reflective	Long detecting distance (with P.R.O. function)	Transparent target detection (without P.R.O. function)	Red	Green	Blue
Rectangular	Cable	NPN	PZ-G51N	PZ-G52N	PZ-G41N	PZ-G42N	PZ-G101N	PZ-G102N	PZ-G61N	PZ-G62N	-		
		PNP	PZ-G51P	PZ-G52P	PZ-G41P	PZ-G42P	PZ-G101P	PZ-G102P	PZ-G61P	PZ-G62P			
	M8 connector	NPN	PZ-G51CN	PZ-G52CN	PZ-G41CN	PZ-G42CN	PZ-G101CN	PZ-G102CN	PZ-G61CN	PZ-G62CN	PZ-G10RCN	PZ-G10GCN	PZ-G10BCN
		PNP	PZ-G51CP	PZ-G52CP	PZ-G41CP	PZ-G42CP	PZ-G101CP	PZ-G102CP	PZ-G61CP	PZ-G62CP	PZ-G10RCP	PZ-G10GCP	PZ-G10BCP
	M12 pigtail quick disconnect	NPN	PZ-G51EN	PZ-G52EN	PZ-G41EN	PZ-G42EN	PZ-G101EN	PZ-G102EN	PZ-G61EN	PZ-G62EN	-		
		PNP	PZ-G51EP	PZ-G52EP	PZ-G41EP	PZ-G42EP	PZ-G101EP	PZ-G102EP	PZ-G61EP	PZ-G62EP			
Nut	Cable	Bipolar (NPN+PNP)	PZ-G51B	PZ-G52B	PZ-G41B	PZ-G42B	PZ-G101B	PZ-G102B	PZ-G61B	PZ-G62B			
	M12 connector		PZ-G51CB	PZ-G52CB	PZ-G41CB	PZ-G42CB	PZ-G101CB	PZ-G102CB	PZ-G61CB	PZ-G62CB			
Detecting distance*1			20 m	40 m	1 m (30 × 30 cm white mat paper)	300 mm (10 × 10 cm white mat paper)	200 mm	5 to 45 mm	0.1 to 4.2 m (when R-2L reflector is used)	0.1 to 1 m (when R-2L reflector is used)	8 to 15 mm		
Spot diameter			-	-	-	-	Approx. ϕ 5 mm (when the detecting distance is 100 mm)	Approx. ϕ 2 mm (when the detecting distance is 40 mm)	-	-	Approx. 1.5 × 4 mm (when the detecting distance is 10 mm)		
Light source (LED)			Red LED	Infrared LED × 2	Red LED					Infrared LED	Red LED	Green LED	Blue LED
Sensitivity adjustment			1-turn trimmer (230 degrees)										
Response time			500 µs								50 µs		
Operation mode			LIGHT-ON/DARK-ON, trimmer-selectable										
Indicator (LED)			Transmitter: power (orange) Receiver: output (orange), stable operation (green), light (red)		Output (orange), stable operation (green)								
Control output			Open-collector 100 mA max. (30 V max.), Residual voltage 1 V max.										
Protection circuit			Reverse-polarity protection, over-current protection, output surge absorber										
Ratings	Power voltage		10 to 30 VDC, Ripple (P-P): ±10% max, Class 2.										
	Current consumption		Transmitter: 20 mA max. Receiver: 28 mA max.	Transmitter: 25 mA max. Receiver: 28 mA max.	34 mA max.								
Environmental resistance	Enclosure rating		IEC,JEM: IP67 / NEMA: 4X,6,12 / DIN: IP69K										
	Ambient light		Incandescent lamp: 5,000 (lx) max, Sunlight: 20,000 (lx) max.										
	Ambient temperature		-20 °C to +55°C (No freezing)										
	Relative humidity		35 to 85 % RH (No condensation)										
	Vibration resistance		10 to 55 Hz, 1.5 mm double amplitude in X, Y, Z directions, 2 hours each										
	Shock resistance		1000 m/s^2 in X, Y, Z directions, 6 times each										
Interference prevention			2 units (when polarizing filter attachment is used)		2 units (with the automatic different cycle function)						-		
Material			Case, M18 nut (nut type only): reinforced glass polybutylene terephthalate (PBT), Trimmer: reinforced glass polyamide (PA) Cable (Cable type / pigtail quick disconnect type only): Polyvinyl chloride (PVC), Screw (Case connection): Steel, zinc-nickel plated, Packing (Case connection): Nitrile-butadiene rubber (NBR) Connector (pigtail quick disconnect type only): Brass-nickel plated, Polybutyleneterephtalate (PBT), Polyvinyl chloride (PVC)										
	Lens cover		Polyarylate (PAR)						Acrylic plastic (PMMA)	Polyarylate (PAR)			
Tightening torque			Rectangular type (side screw part): 0.5 N·m max. Nut type (front M18 part): 1.0 N·m max., (side slot part): 0.5 N·m max.										
Accessory*2			Instruction manual, M18 nut x 2 (nut thrubeam type), M18 nut x 1 (other nut types)										
Weight			Rectangular cable type: Approx. 60 g (Approx. 50 g for thrubeam transmitter), Rectangular M8 connector type: Approx 10 g, rectangular M12 pigtail quick disconnect type: Approx. 30 g Nut type cable type: Approx. 65 g (Approx. 55 g for thrubeam transmitter), Nut type M12 connector type: Approx 15 g										

*1 The detection distance is measured with the maximum sensitivity.
*2 The cable for the connector type / pigtail quick disconnect type is sold separately. The reflector for the retro-reflective type is sold separately.

WARRANTY

KEYENCE products are strictly factory-inspected. However, in the event of a failure, contact your nearest KEYENCE office with details of the failure.

1. WARRANTY PERIOD

The warranty period shall be for one year from the date that the product has been delivered to the location specified by the purchaser.

2. WARRANTY SCOPE

(1) If a failure attributable to KEYENCE occurs within the abovementioned warranty period, we will repair the product, free of charge. However, the following cases shall be excluded from the warranty scope.
- Any failure resulting from improper conditions, improper environments, improper handling, or improper usage other than described in the instruction manual, the user's manual, or the specifications specifically arranged between the purchaser and KEYENCE.
- Any failure resulting from factors other than a defect of our product, such as the purchaser's equipment or the design of the purchaser's software.
- Any failure resulting from modifications or repairs carried out by any person other than KEYENCE staff.
- Any failure that can certainly be prevented when the expendable part(s) is maintained or replaced correctly as described in the instruction manual, the user's manual, etc.
- Any failure caused by a factor that cannot be foreseen at a scientific/technical level at the time when the product has been shipped from KEYENCE.
- Any disaster such as fire, earthquake, and flood, or any other external factor, such as abnormal voltage, for which we are not liable.

(2) The warranty scope is limited to the extent set forth in item (1), and KEYENCE assumes no liability for any purchaser's secondary damage (damage of equipment, loss of opportunities, loss of profits, etc.) or any other damage resulting from a failure of our product.

3. PRODUCT APPLICABILITY

KEYENCE products are designed and manufactured as general-purpose products for general industries.

Therefore, our products are not intended for the applications below and are not applicable to them. If, however, the purchaser consults with us in advance regarding the employment of our product, understands the specifications, ratings, and performance of the product on their own responsibility, and takes necessary safety measures, the product may be applied. In this case, the warranty scope shall be the same as above.
- Facilities where the product may greatly affect human life or property, such as nuclear power plants, aviation, railroads, ships, motor vehicles, or medical equipment
- Public utilities such as electricity, gas, or water services
- Usage outdoors, under similar conditions or in similar environments

E 1040-1

KEYENCE CORPORATION

1-3-14, Higashi-Nakajima, Higashi-Yodogawa-ku,
Osaka, 533-8555, Japan
PHONE: +81-6-6379-2211 www.keyence.com

Specifications are subject to change without notice. A7WW1-MAN-0069

Copyright (c) 2010 KEYENCE CORPORATION. All rights reserved.

11227E 1070-1 96M11227
Printed in Japan

ASSEMBLY TITLE: **BROKEN WEB / END OF WEB**

DRAWING NO:

GENERAL FUNCTION:

- The broken web fault indicates that the labeler label stock has broken after the labeler pull roll. It consists of a reflective sensor and a reflector. The sensor is capable of reading clear or opaque label liner.

-When the broken web passes through the sensor, a signal is generated, that signal will shut the conveyor system down and light the red lamp on the stack lamp assembly.

-To reset the fault condition, rethread labels and press labeler run/pause to turn off the red light and place the labeler in run mode. The conveyor will restart and the labeling process will continue.

SET-UP AND ADJUSTMENTS:

- The sensor is set in light on operation mode. It is a retro-reflective operation. To set the sensor, refer to the following manufacture's instruction sheet.

- Ensure that all label material is removed from the sensor and reflector area for proper set up.

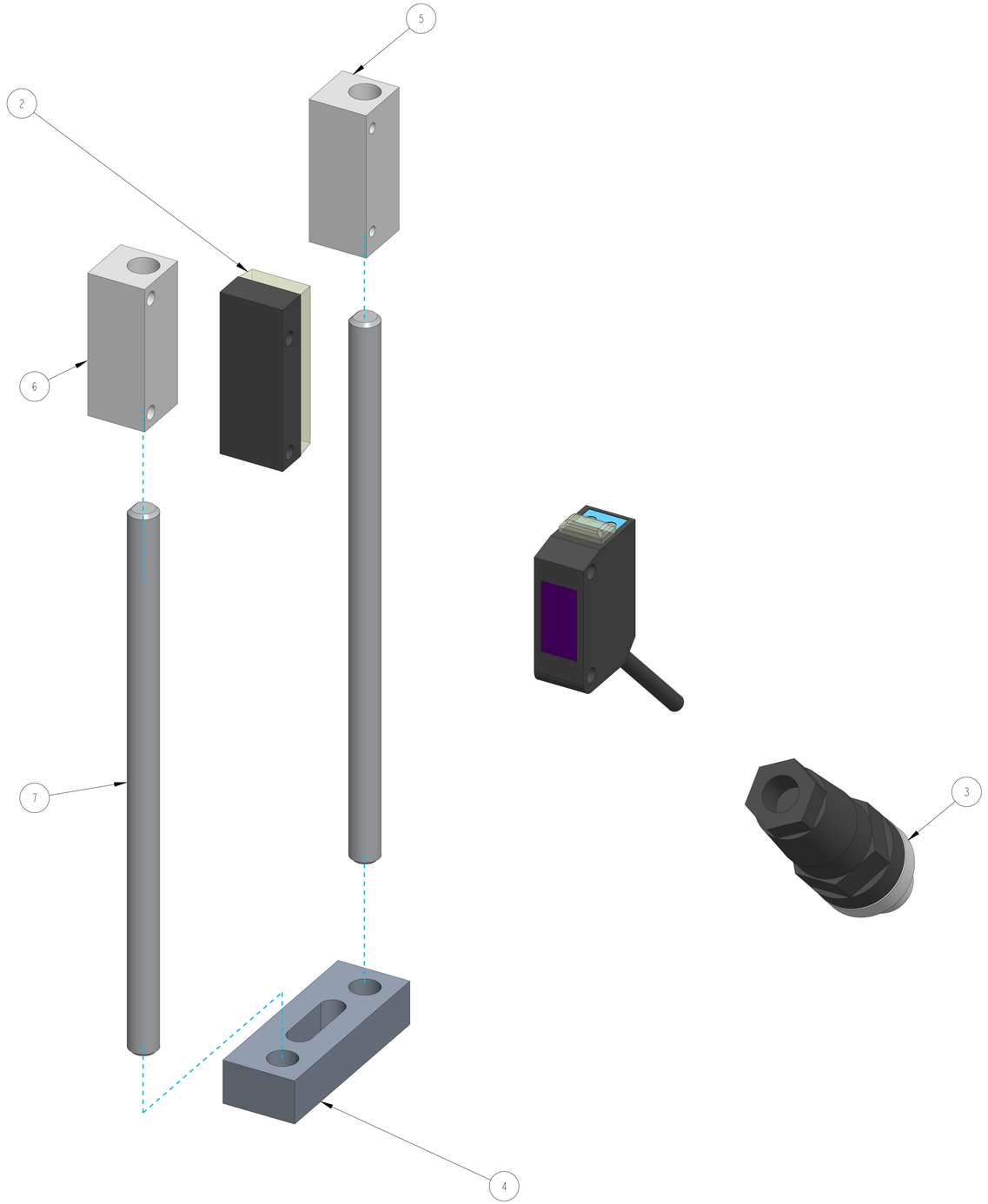
MAINTENANCE:

- See Maintenance Section

TROUBLESHOOTING:

- See Troubleshooting Section

ITEM	QTY	PART NO.	DESCRIPTION	PARENT ITEM
1	1	202192-002	CLEAR PRODUCT SENSOR	21606-013
2	1	203161-000	REFLECTOR	21606-013
3	1	252019-000	4 PIN MALE CONNECTOR	21606-013
4	1	A24241-000	MOUNTING BLOCK	21606-013
5	1	A24242-000	SENSOR MTG. BLOCK	21606-013
6	1	A24243-000	REFLECTOR MTG. BLOCK	21606-013
7	2	A24244-000	SUPPORT ROD WITH FLAT	21606-013



REV	DATE	DESCRIPTION	BY
A	11/11/24	NEW DRAWING	SEM

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE
X ± .1
XX ± .01
XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .0107.030

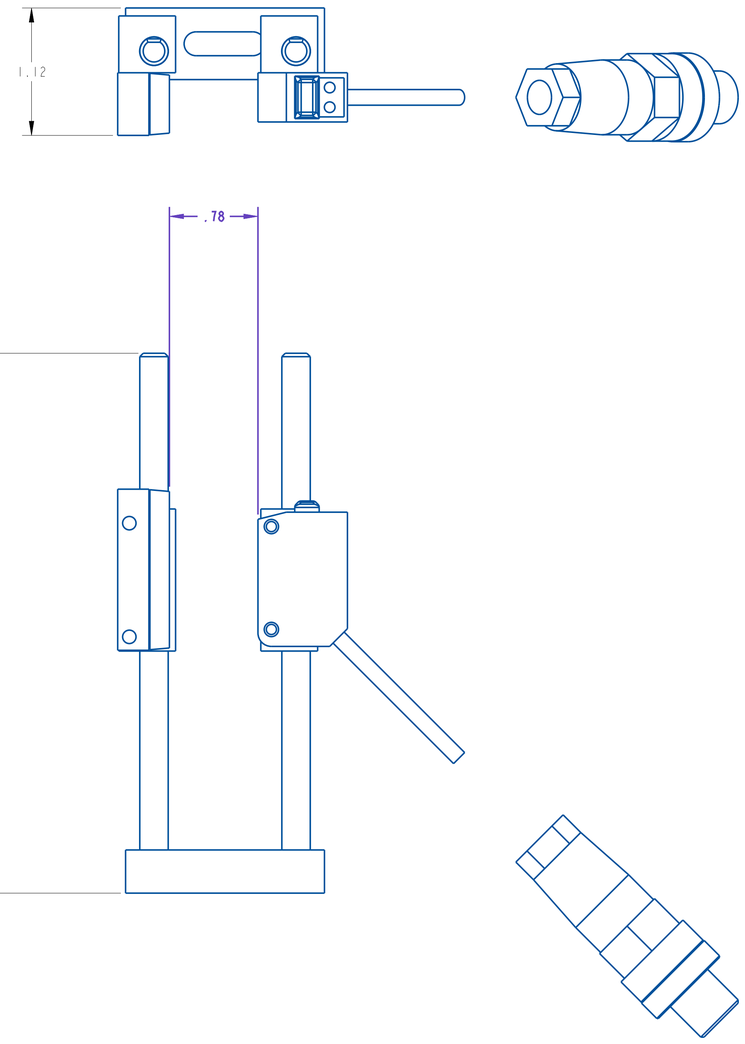
QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

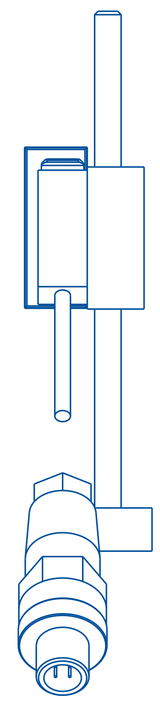
SCALE: 2/1
DATE: 11/11/24
DRW BY: SEM
CHK BY: &CREO_CHK
APPR BY:

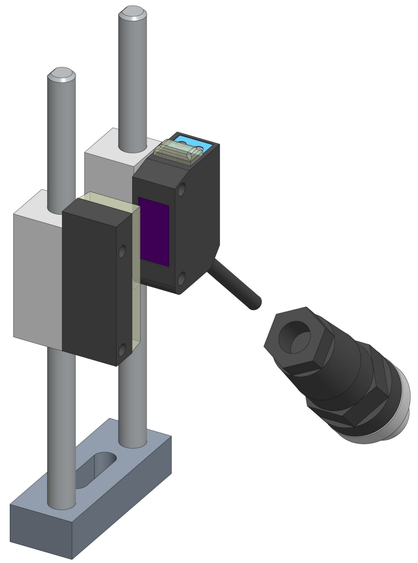
BROKEN WEB/END OF WEB, PNP SINGLE BASE, USE PZ-G62P

MAT'L

21606-013







A	11/11/24	NEW DRAWING	SEM
REV	DATE	DESCRIPTION	BY

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
.X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030
ALL ANGLES ARE 90°

QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

SCALE:	3/2
DATE:	11/11/24
DRW BY:	SEM
CHK BY:	CREO_CHK
APPR BY:	

BROKEN WEB/END OF WEB, PNP SINGLE BASE, USE PZ-G62P

MAT'L -

21606-013

KEYENCE

96M11227

Self-contained
Photoelectric Sensor

PZ-G Series
Instruction Manual

Read this manual thoroughly before using the product.
Keep this manual readily available for future reference.



■ Safety precautions

- Avoid running the PZ-G cable along with power and high voltage lines, as this may cause interference and/or permanent damage.
- When using a commercially available switching regulator, ground its chassis grounding and earth grounding terminals.
- Do not use in locations where direct ambient light or external light directly shines on the light receiving surface.
- With retro-reflective type sensors, when detecting highly reflective materials (such as mirrored surfaces), stabilization may be difficult. To correct this, change the angle of the sensor head, or adjust the sensitivity.
- Avoid using power which exceeds the specifications for ripple (10% max)
- Avoid using excess force when rotating the operation mode selector switch (Light-on, Dark-on) and the sensitivity adjustment trimmer.
- This product is just intended to detect the object(s). Do not use this product for the purpose to protect a human body or a part of human body.
- This product is not intended for use as explosion-proof product. Do not use this product in a hazardous location and/or potentially explosive atmosphere.

Precautions on Regulations and Standards

■ UL Certificate

This product is an UL/C-UL Listed product.

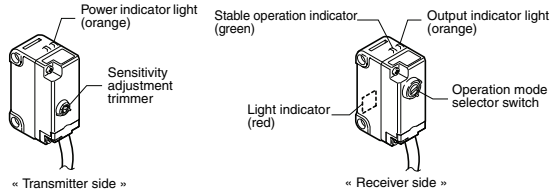
- UL File No. E301717
- Category NRKH,NRKH7
- Enclosure Type 1 (Based on UL50)

Be sure to consider the following specifications when using this product as an UL/C-UL Listed Product.

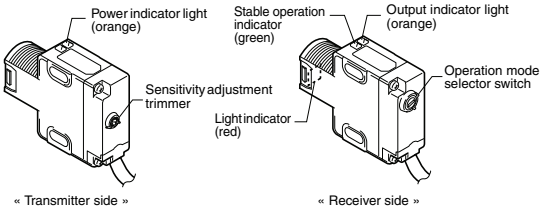
- Use the power supply with Class 2 output defined in NFPA70 (NEC: National Electrical Code).
- Power supply/ Control input/ Control output circuits shall be connected to a single Class 2 source only.
- Use with the over current protection device which is rated 30V or more and not more than 1A.

Part Names

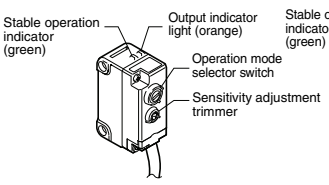
● **PZ-G5xN/G5xP**



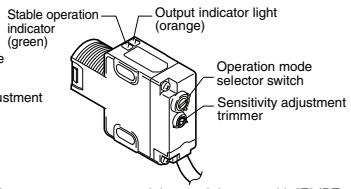
● **PZ-G5xB**



● **PZ-G4xN/G4xP/G10xN/ G10xP/G6xN/G6xP**



● **PZ-G4xB/G10xB/G6xB**

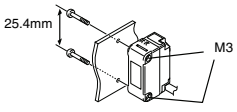


* The model name with "C" (PZ-GxxCx) is the connector type, and the model name with "E" (PZ-GxxEx) is the pigtail quick disconnect type.

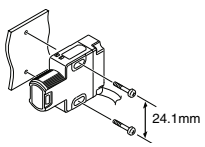
Mounting Method

■ Side Mounting (Prepare M3 screws)

Tightening torque: 0.5 N·m or less

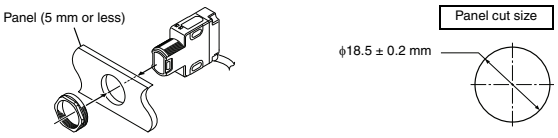


Tightening torque: 0.5 N·m or less



■ Mounting with the M18 nut (includes nut type)

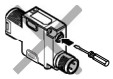
The M18 nut is also available separately as OP-84225 (2 pcs. supplied).
Tightening torque:1.0 N·m or less



Note

- Mount the M18 nut (supplied) straight in. If mounted at an angle it cannot be tightened properly.
- When tightening the M18 nut (supplied), firmly hold the main body down. The case of the main body may be damaged if held in place with a tool such as pliers.
- When tightening the M18 nut (supplied), if excess force is applied to the nut with a tool such as pliers, it may bend it out of shape. Therefore, do not apply excess force.

Sensitivity Adjustment Method

Caution ⚠	Avoid using excess force when rotating the sensitivity adjustment trimmer and operation mode selector switch as it may cause damage.	

■ Operation mode selector switch

With the operation mode selector switch, you can select either the LIGHT-ON mode (L) or the DARK-ON (D) mode.



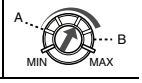
LIGHT-ON setting



DARK-ON setting

■ Reflective type (PZ-G41/G42/G101/G102/G10R/G10G/G10B Series)

The following assumes LIGHT-ON (L) is set.

Sequence	Adjustment method	Sensitivity adjustment trimmer
①	Position target in place. Slowly rotate the sensitivity trimmer from the MIN position towards the MAX position until the (orange) output indicator turns on (Position "A"). If the output indicator does not turn off, even at MIN, then MIN is considered Position "A".	
②	Remove the target. Adjust the sensitivity trimmer from MIN towards MAX until the (orange) output indicator turns on (Position "B"). If the output indicator does not light up, the MAX position is considered Position "B".	
③	Adjust the sensitivity trimmer to the midpoint between "A" and "B". Verify that the (green) stable operation light turns on with and without a target in place.	

Reference To use the sensor in DARK-ON mode, adjust the mode selector switch to "D".

■ Thrubeam type (PZ-G51/G52 Series) / Retro-reflective type (PZ-G61/G62 Series)

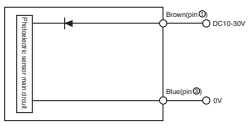
The following assumes DARK-ON (D) is set.

Sequence	Adjustment method	Sensitivity adjustment trimmer
①	Remove the target. Adjust the sensitivity trimmer to MAX. Mount the sensor heads in place so the (orange) output indicator turns off (on thrubeam models, the red light on the receiver face will turn on)	
②	Position target in place. Verify that the orange output indicator turns on (on thrubeam models, the red light on the receiver face will turn off). Adjust sensitivity lower if the output indicator does not turn on (or if the red light on the receiver face does not turn off on thrubeam models)	

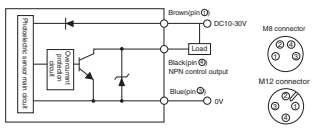
Reference To use the sensor in LIGHT-ON mode, adjust the mode selector switch to "L".

I/O Circuit Diagram

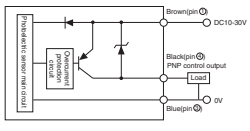
● **PZ-G5xN/G5xP/G5xB (Transmitter side)**



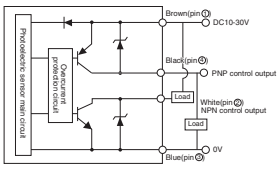
● **PZ-G5xN (Receiver side)/ G4xN/G10xN/G6xN**



● **PZ-G5xP (Receiver side)/ G4xP/G10xP/G6xP**



● **PZ-G5xB (Receiver side)/ G4xB/G10xB/G6xB**



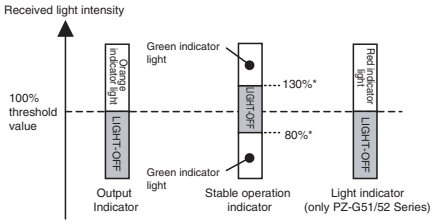
* The pin numbers represent those of the connector type / pigtail quick disconnect type. The model name with "C" (PZ-GxxCx) is the connector type, and the model name with "E" (PZ-GxxEx) is the pigtail quick disconnect type.

PZ-GxxCN/GxxCP..... M8 connector
PZ-GxxCB/GxxEN/GxxEP..... M12 connector

■ Indicators

The following describes each ON/OFF condition of indicator when LIGHT-ON (L) is set.

Reference When the DARK-ON (D) is set, the output indicator ON/OFF will reverse.



* For PZ-G62, the upper limit is 107% and the lower limit is 93%.

If the stable operation indicator turns off during operation, readjust or fine-adjust the sensitivity.

■ Mutual interference

- For reflective type / retro-reflective type sensors, mutual interference protection can be set for up to 2 units. However, when the sensors are mounted facing each other, change the angle of the sensor head to prevent light being emitted into each unit.(The mark detection type does not include the mutual interference function.)
- Mutual interference prevention can be set when mounting a polarizing filter attachment (optional with thrubeam type sensors) (If operation is unstable even after mounting the polarizing filter, slightly lower the sensitivity.)
- For more detailed information about mutual interference or attachment, see the PZ-G Series catalog or contact your nearest KEYENCE office.

Specifications

Type			Thrubeam		Reflective				Retro-reflective		Mark detection		
Configuration	Cable shape	Output mode	Normal	High-power	Diffuse-reflective Long-detecting distance	Diffuse-reflective Short-detecting distance	Narrow-view reflective	Definite reflective	Long detecting distance (with P.R.O. function)	Transparent target detection (without P.R.O. function)	Red	Green	Blue
Rectangular	Cable	NPN	PZ-G51N	PZ-G52N	PZ-G41N	PZ-G42N	PZ-G101N	PZ-G102N	PZ-G61N	PZ-G62N	-		
		PNP	PZ-G51P	PZ-G52P	PZ-G41P	PZ-G42P	PZ-G101P	PZ-G102P	PZ-G61P	PZ-G62P			
	M8 connector	NPN	PZ-G51CN	PZ-G52CN	PZ-G41CN	PZ-G42CN	PZ-G101CN	PZ-G102CN	PZ-G61CN	PZ-G62CN	PZ-G10RCN	PZ-G10GCN	PZ-G10BCN
		PNP	PZ-G51CP	PZ-G52CP	PZ-G41CP	PZ-G42CP	PZ-G101CP	PZ-G102CP	PZ-G61CP	PZ-G62CP	PZ-G10RCP	PZ-G10GCP	PZ-G10BCP
	M12 pigtail quick disconnect	NPN	PZ-G51EN	PZ-G52EN	PZ-G41EN	PZ-G42EN	PZ-G101EN	PZ-G102EN	PZ-G61EN	PZ-G62EN	-		
		PNP	PZ-G51EP	PZ-G52EP	PZ-G41EP	PZ-G42EP	PZ-G101EP	PZ-G102EP	PZ-G61EP	PZ-G62EP			
Nut	Cable	Bipolar (NPN+PNP)	PZ-G51B	PZ-G52B	PZ-G41B	PZ-G42B	PZ-G101B	PZ-G102B	PZ-G61B	PZ-G62B			
	M12 connector		PZ-G51CB	PZ-G52CB	PZ-G41CB	PZ-G42CB	PZ-G101CB	PZ-G102CB	PZ-G61CB	PZ-G62CB			
Detecting distance*1			20 m	40 m	1 m (30 × 30 cm white mat paper)	300 mm (10 × 10 cm white mat paper)	200 mm	5 to 45 mm	0.1 to 4.2 m (when R-2L reflector is used)	0.1 to 1 m (when R-2L reflector is used)	8 to 15 mm		
Spot diameter			-	-	-	-	Approx. ϕ 5 mm (when the detecting distance is 100 mm)	Approx. ϕ 2 mm (when the detecting distance is 40 mm)	-	-	Approx. 1.5 × 4 mm (when the detecting distance is 10 mm)		
Light source (LED)			Red LED	Infrared LED × 2	Red LED					Infrared LED	Red LED	Green LED	Blue LED
Sensitivity adjustment			1-turn trimmer (230 degrees)										
Response time			500 µs								50 µs		
Operation mode			LIGHT-ON/DARK-ON, trimmer-selectable										
Indicator (LED)			Transmitter: power (orange) Receiver: output (orange), stable operation (green), light (red)		Output (orange), stable operation (green)								
Control output			Open-collector 100 mA max. (30 V max.), Residual voltage 1 V max.										
Protection circuit			Reverse-polarity protection, over-current protection, output surge absorber										
Ratings	Power voltage		10 to 30 VDC, Ripple (P-P): ±10% max, Class 2.										
	Current consumption		Transmitter: 20 mA max. Receiver: 28 mA max.	Transmitter: 25 mA max. Receiver: 28 mA max.	34 mA max.								
Environmental resistance	Enclosure rating		IEC,JEM: IP67 / NEMA: 4X,6,12 / DIN: IP69K										
	Ambient light		Incandescent lamp: 5,000 (lx) max, Sunlight: 20,000 (lx) max.										
	Ambient temperature		-20 °C to +55°C (No freezing)										
	Relative humidity		35 to 85 % RH (No condensation)										
	Vibration resistance		10 to 55 Hz, 1.5 mm double amplitude in X, Y, Z directions, 2 hours each										
	Shock resistance		1000 m/s^2 in X, Y, Z directions, 6 times each										
Interference prevention			2 units (when polarizing filter attachment is used)		2 units (with the automatic different cycle function)						-		
Material			Case, M18 nut (nut type only): reinforced glass polybutylene terephthalate (PBT), Trimmer: reinforced glass polyamide (PA) Cable (Cable type / pigtail quick disconnect type only): Polyvinyl chloride (PVC), Screw (Case connection): Steel, zinc-nickel plated, Packing (Case connection): Nitrile-butadiene rubber (NBR) Connector (pigtail quick disconnect type only): Brass-nickel plated, Polybutyleneterephtalate (PBT), Polyvinyl chloride (PVC)										
	Lens cover		Polyarylate (PAR)						Acrylic plastic (PMMA)	Polyarylate (PAR)			
Tightening torque			Rectangular type (side screw part): 0.5 N·m max. Nut type (front M18 part): 1.0 N·m max., (side slot part): 0.5 N·m max.										
Accessory*2			Instruction manual, M18 nut x 2 (nut thrubeam type), M18 nut x 1 (other nut types)										
Weight			Rectangular cable type: Approx. 60 g (Approx. 50 g for thrubeam transmitter), Rectangular M8 connector type: Approx 10 g, rectangular M12 pigtail quick disconnect type: Approx. 30 g Nut type cable type: Approx. 65 g (Approx. 55 g for thrubeam transmitter), Nut type M12 connector type: Approx 15 g										

*1 The detection distance is measured with the maximum sensitivity.
*2 The cable for the connector type / pigtail quick disconnect type is sold separately. The reflector for the retro-reflective type is sold separately.

WARRANTY

KEYENCE products are strictly factory-inspected. However, in the event of a failure, contact your nearest KEYENCE office with details of the failure.

1. WARRANTY PERIOD

The warranty period shall be for one year from the date that the product has been delivered to the location specified by the purchaser.

2. WARRANTY SCOPE

(1) If a failure attributable to KEYENCE occurs within the abovementioned warranty period, we will repair the product, free of charge. However, the following cases shall be excluded from the warranty scope.
- Any failure resulting from improper conditions, improper environments, improper handling, or improper usage other than described in the instruction manual, the user's manual, or the specifications specifically arranged between the purchaser and KEYENCE.
- Any failure resulting from factors other than a defect of our product, such as the purchaser's equipment or the design of the purchaser's software.
- Any failure resulting from modifications or repairs carried out by any person other than KEYENCE staff.
- Any failure that can certainly be prevented when the expendable part(s) is maintained or replaced correctly as described in the instruction manual, the user's manual, etc.
- Any failure caused by a factor that cannot be foreseen at a scientific/technical level at the time when the product has been shipped from KEYENCE.
- Any disaster such as fire, earthquake, and flood, or any other external factor, such as abnormal voltage, for which we are not liable.

(2) The warranty scope is limited to the extent set forth in item (1), and KEYENCE assumes no liability for any purchaser's secondary damage (damage of equipment, loss of opportunities, loss of profits, etc.) or any other damage resulting from a failure of our product.

3. PRODUCT APPLICABILITY

KEYENCE products are designed and manufactured as general-purpose products for general industries.

Therefore, our products are not intended for the applications below and are not applicable to them. If, however, the purchaser consults with us in advance regarding the employment of our product, understands the specifications, ratings, and performance of the product on their own responsibility, and takes necessary safety measures, the product may be applied. In this case, the warranty scope shall be the same as above.
- Facilities where the product may greatly affect human life or property, such as nuclear power plants, aviation, railroads, ships, motor vehicles, or medical equipment
- Public utilities such as electricity, gas, or water services
- Usage outdoors, under similar conditions or in similar environments

E 1040-1

KEYENCE CORPORATION

1-3-14, Higashi-Nakajima, Higashi-Yodogawa-ku,
Osaka, 533-8555, Japan
PHONE: +81-6-6379-2211 www.keyence.com

Specifications are subject to change without notice. A7WW1-MAN-0069

Copyright (c) 2010 KEYENCE CORPORATION. All rights reserved.

11227E 1070-1 96M11227
Printed in Japan


System

ASSEMBLY TITLE: **FRAME ASSEMBLY**

GENERAL FUNCTION:

- Provides solid mounting for labeling head if not installed on a system that allows for vertical and horizontal adjustment.
- Allows for vertical and horizontal adjustment in the setup of the labeling head operation.

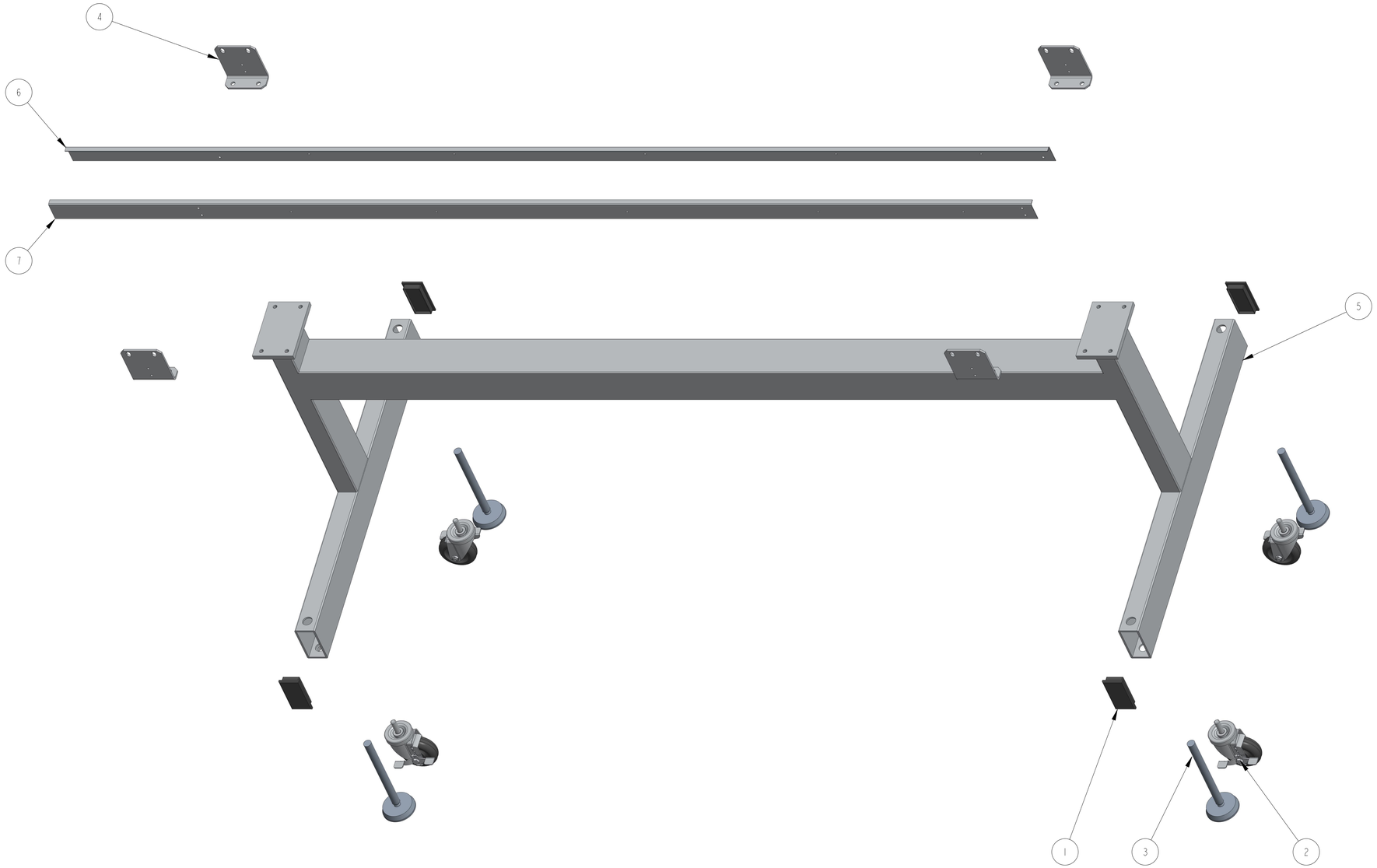
SET-UP AND ADJUSTMENTS:

- Rotate leveling pads to appropriate position. Secure locknut when proper height is achieved.
- Using ratchet handle, adjust labeling head vertical and horizontal position.

MAINTENANCE:

- Clean wipe down rails with clean cloth.

ITEM	QTY	PART NO.	DESCRIPTION	PARENT ITEM
1	4	729006-000	CAP INSERT FOR 2 X 4 TUBE	8388IF-000
2	4	791449-000	SWIVEL CASTER	8388IF-000
3	4	793020-000	LEVELING MOUNT	8388IF-000
4	4	B22787-000	CONVEYOR RISER	8388IF-000
5	1	D24424-8388I	WELDED FRAME ASSEMBLY	8388IF-000
6	1	D24425-8388IL	WIRE COVER	8388IF-000
7	1	D24425-8388IR	WIRE COVER	8388IF-000



REV	DATE	DESCRIPTION	BY
A	Oct-25-23	NEW DRAWING	TAZ

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE
.X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030

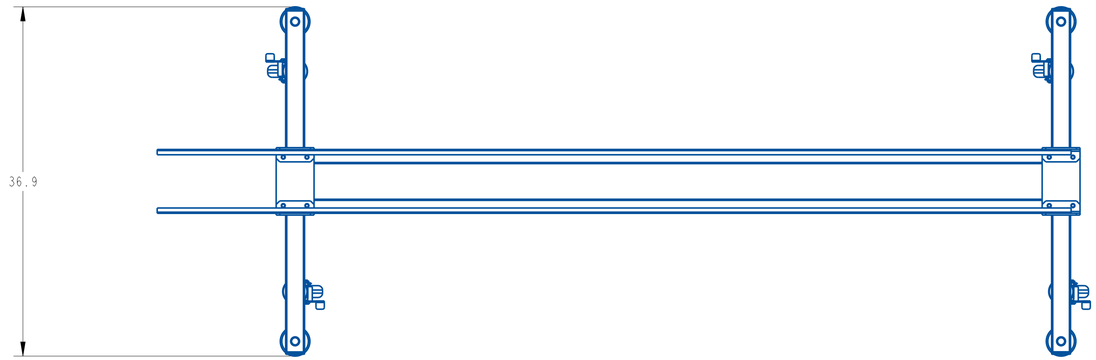
QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

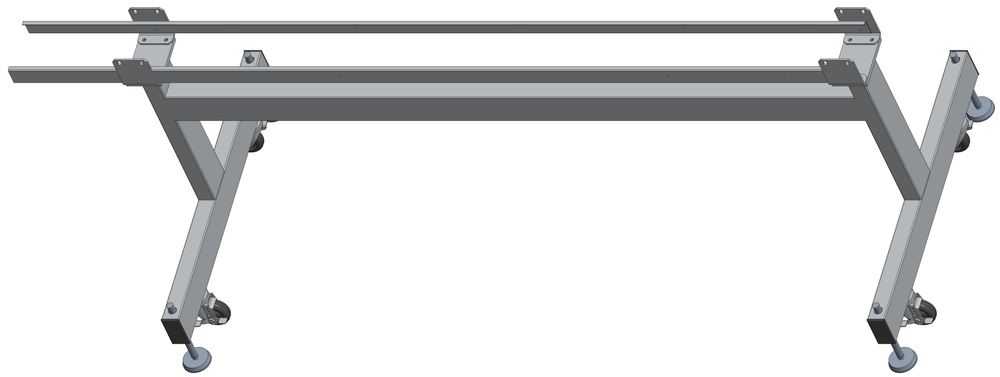
SCALE: 3/16
DATE: Oct-25-23
DRW BY: TAZ
CHK BY: 11/05/2025-SEM
APPR BY:

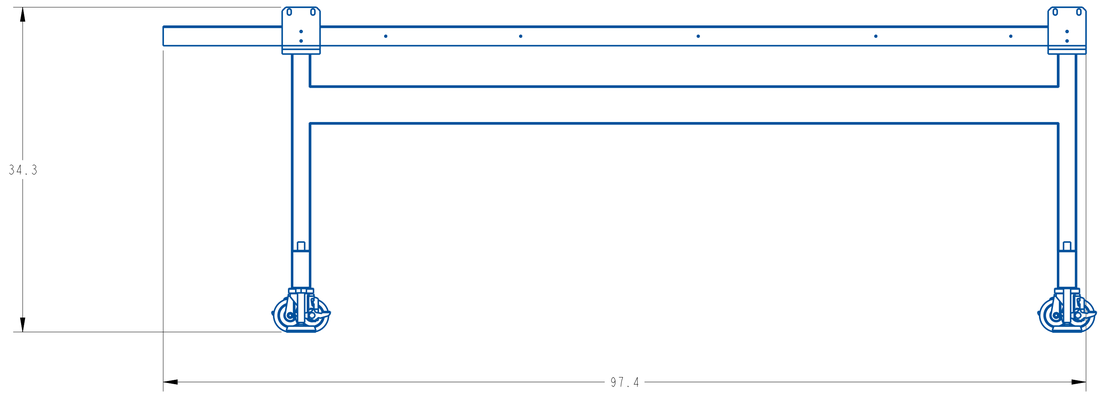
CONVEYOR MTG FRAME

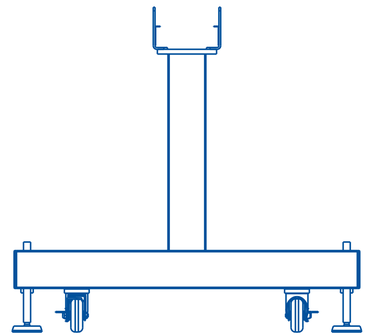
MAT'L 22529-034S

8388IF-000









REV	DATE	DESCRIPTION	BY
A	Oct-25-23	NEW DRAWING	TAZ

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
X ± .1
XX ± .01
XXX ± .005
ANGLES ± 30'
SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030
ALL ANGLES ARE 90°

QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

SCALE: 1/8
DATE: Oct-25-23
DRW BY: TAZ
CHK BY:11/05/2025-SEM
APPR BY:

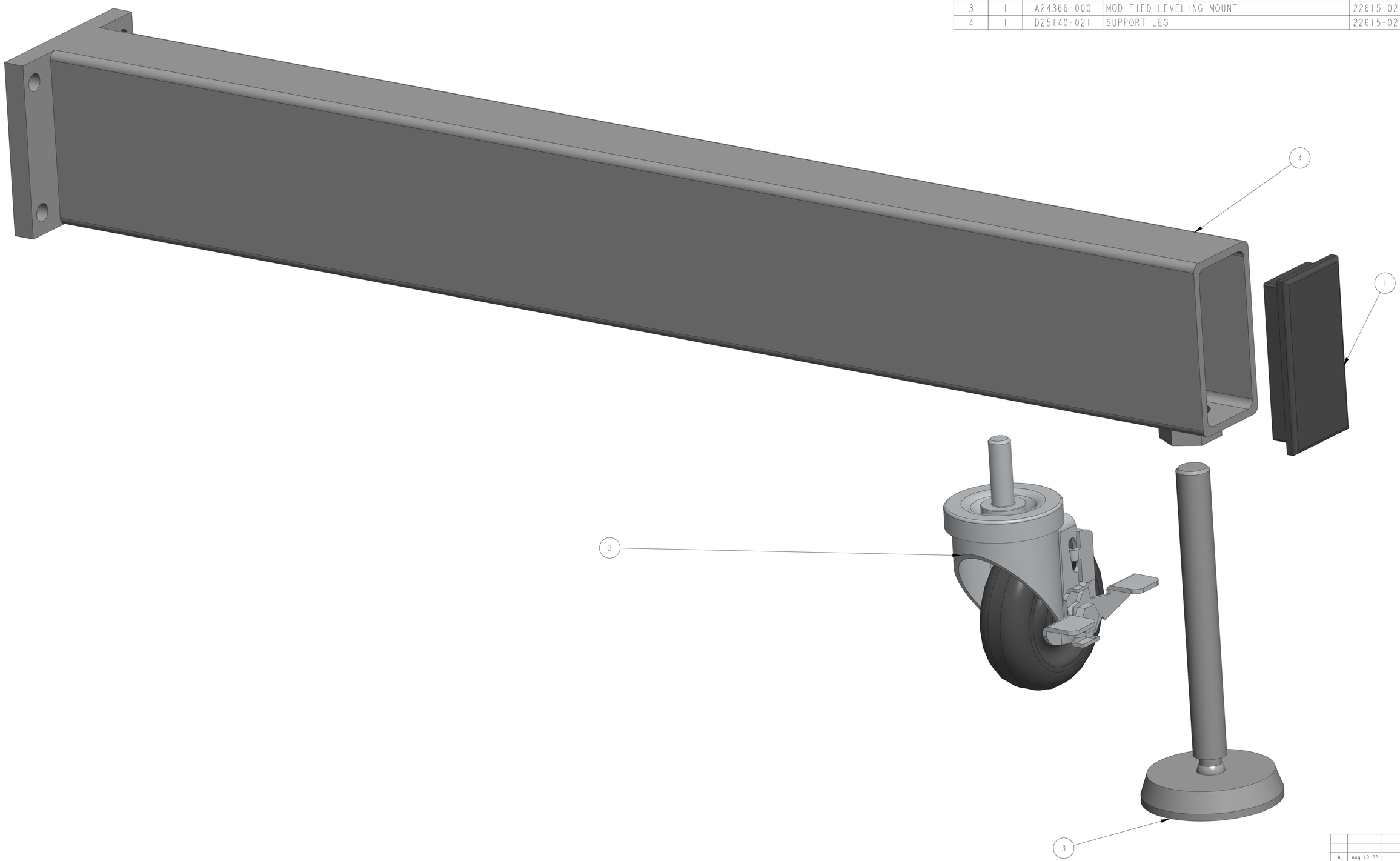
CONVEYOR MTG FRAME

MAT'L 22529-034S

83881F-000

SHEET 2 OF 2

ITEM	QTY	PART NO.	DESCRIPTION	PARENT ITEM
1	1	729006-000	CAP INSERT FOR 2 X 4 TUBE	22615-021
2	1	791449-000	SWIVEL CASTER	22615-021
3	1	A24366-000	MODIFIED LEVELING MOUNT	22615-021
4	1	D25140-021	SUPPORT LEG	22615-021



REV	DATE	DESCRIPTION	BY
A	Aug-19-22	NEW DRAWING	TJS

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE
X ± .01
XX ± .01
XXX ± .005
ANGLES ± 30'
SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030

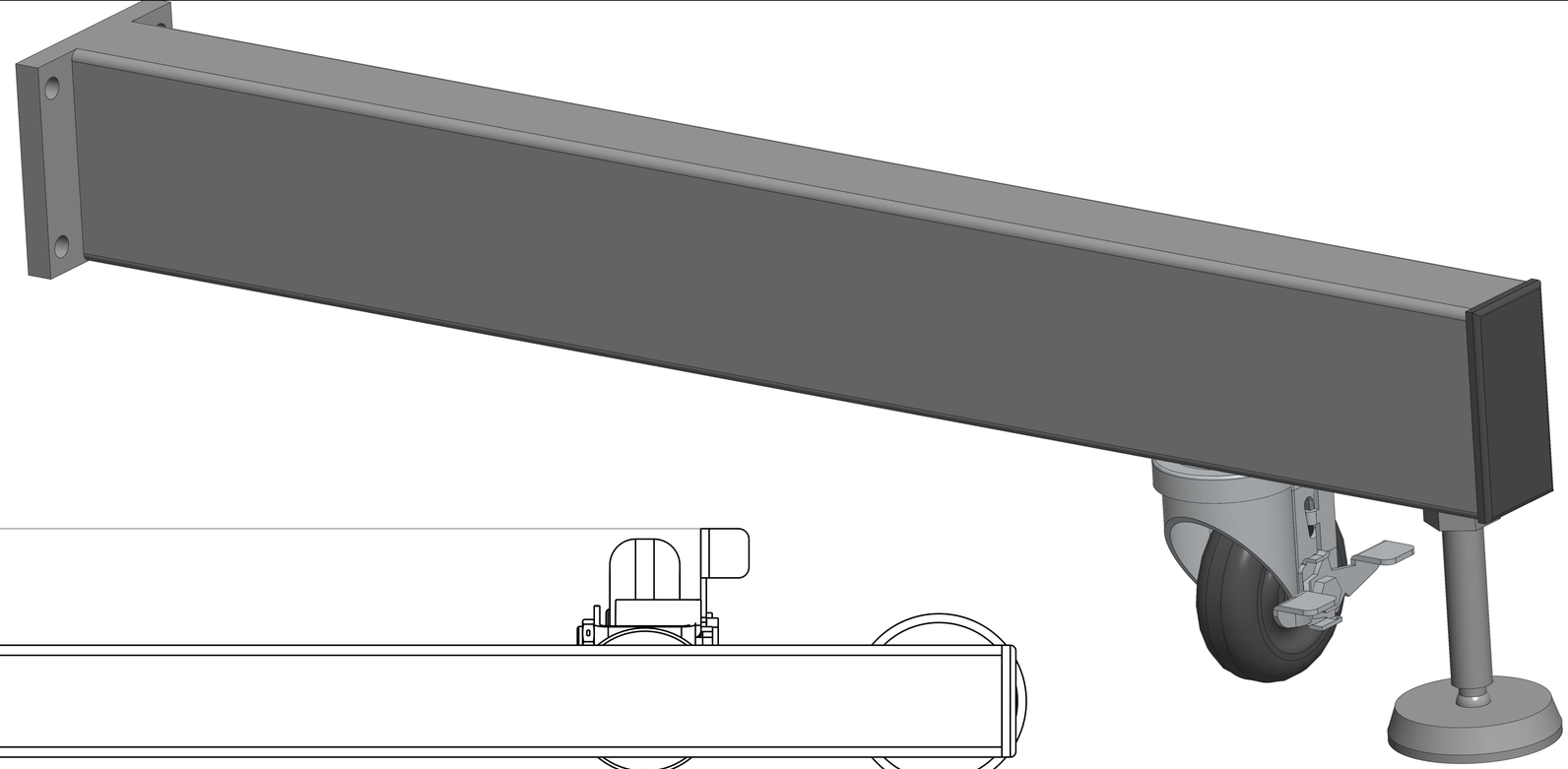
QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

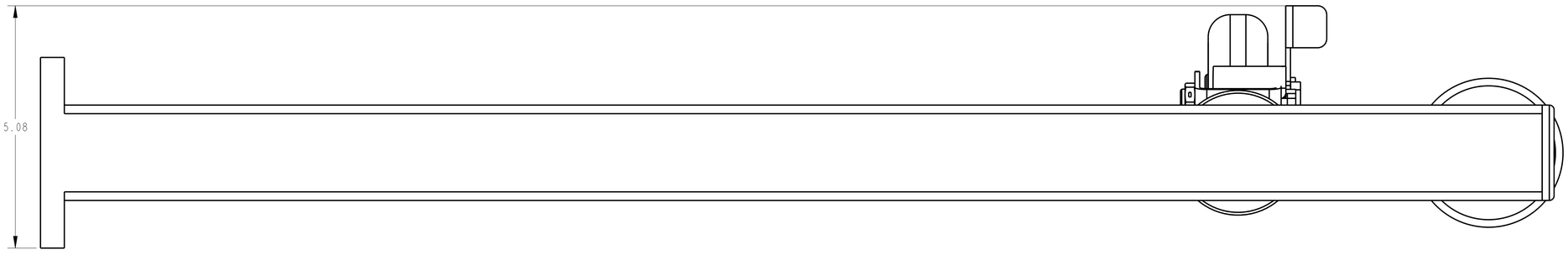
SCALE	1/1
DATE	Aug-19-22
DRAWN BY	TJS

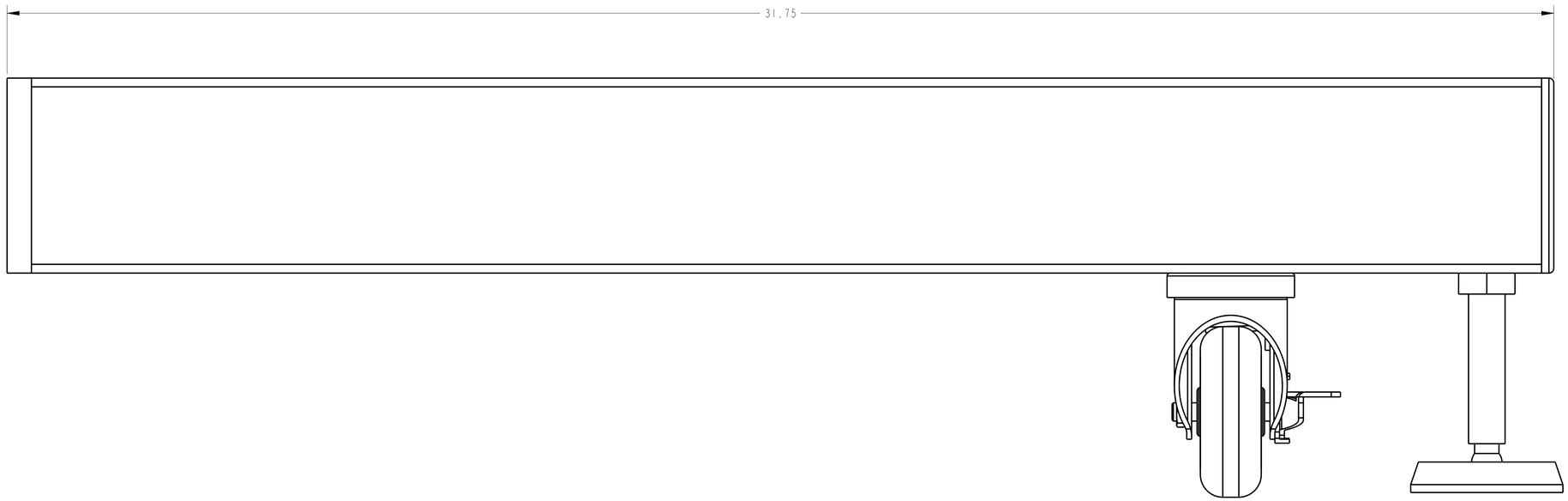
ELECTRICAL BOX SUPPORT LEG

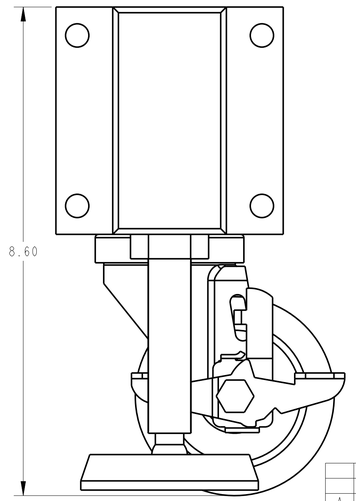
MAT'L 22615-021

22615-021









REV	DATE	DESCRIPTION	BY
A	Aug-19-22	NEW DRAWING	TJS

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE
.X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030

QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

SCALE	3/4
DATE	Aug-19-22
DRAWN BY	TJS

ELECTRICAL BOX SUPPORT LEG

MAT'L 22615-021

22615-021

ASSEMBLY TITLE: **NON-INTEGRATED CONVEYOR**

GENERAL FUNCTION:

- To transfer the product to the labeling heads at a predetermined speed.
- To provide retention for the head support and guide rails.

SET-UP AND ADJUSTMENTS:

- Adjust conveyor to proper working height by rotating leveling pads to appropriate position. Secure locknut when proper height is achieved.
- Using ratchet handles, adjust guide rails to the product.
- Adjust conveyor speed by means of conveyor speed potentiometer (if applicable) located in the remote electronics enclosure mounted to the conveyor, or through the operator's touchscreen if provided.

MAINTENANCE:

- The conveyor drive chain must be greased with white lithium grease.
- Do not allow chain and sprockets to run dry, lubricate periodically.
- The gear motor gearbox should be checked quarterly and filled with Synthetic based Tivela Oil SC320 or an ISO320 Gear Lube lubricant.
- Grease flange bearings often to prevent them from running dry.

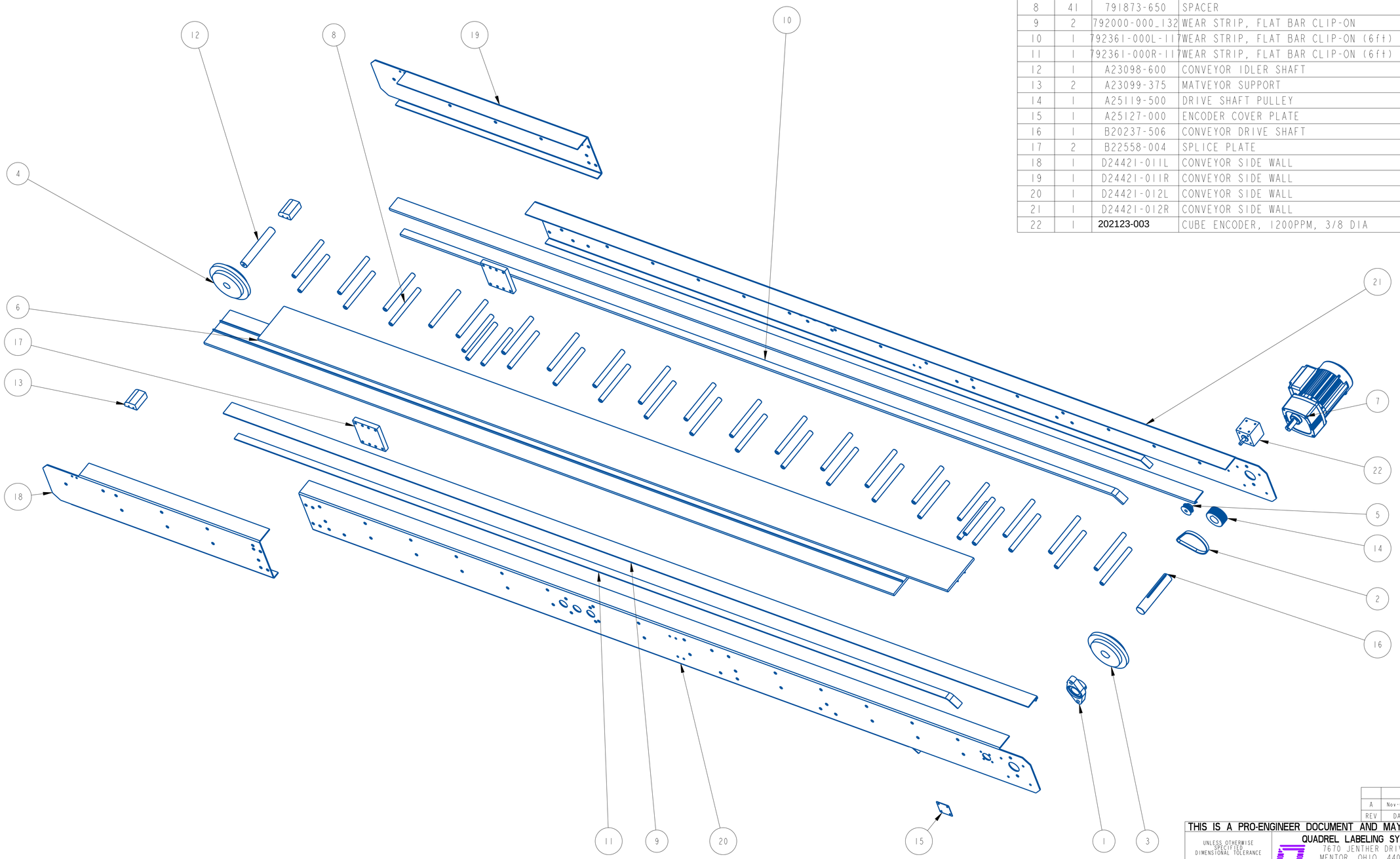
TROUBLESHOOTING:

PROBLEM	WHAT TO DO
- Excessive Noise	- Realign sprocket. - Check if chain and sprockets are lubricated. If dry, lubricate as discussed above.
- Chain too loose	- Slide gear motor downward to create more tension on chain.
- Uneven wear on sprockets.	- Realign sprockets.
- Shaft not running concentric	- Replace flange bearing.





ITEM	QTY	PART NO.	DESCRIPTION	PARENT ITEM
1	1	171033-001	BEARING	84239C-000
2	1	192571-000	TIMING BELT 150XL037	84239C-000
3	1	342043-001	DRIVE SPROCKET	84239C-000
4	1	342044-000	DRIVE SPROCKET	84239C-000
5	1	351166-000	TIMING PULLEY	84239C-000
6	2	361174-600	MATVEYOR CHAIN	84239C-000
7	1	413016-000	GEARMOTOR 3/8HP-57RPM AC	84239C-000
8	41	791873-650	SPACER	84239C-000
9	2	792000-000_132	WEAR STRIP, FLAT BAR CLIP-ON	84239C-000
10	1	792361-000L-117	WEAR STRIP, FLAT BAR CLIP-ON (6ft)	84239C-000
11	1	792361-000R-117	WEAR STRIP, FLAT BAR CLIP-ON (6ft)	84239C-000
12	1	A23098-600	CONVEYOR IDLER SHAFT	84239C-000
13	2	A23099-375	MATVEYOR SUPPORT	84239C-000
14	1	A25119-500	DRIVE SHAFT PULLEY	84239C-000
15	1	A25127-000	ENCODER COVER PLATE	84239C-000
16	1	B20237-506	CONVEYOR DRIVE SHAFT	84239C-000
17	2	B22558-004	SPLICE PLATE	84239C-000
18	1	D24421-011L	CONVEYOR SIDE WALL	84239C-000
19	1	D24421-011R	CONVEYOR SIDE WALL	84239C-000
20	1	D24421-012L	CONVEYOR SIDE WALL	84239C-000
21	1	D24421-012R	CONVEYOR SIDE WALL	84239C-000
22	1	202123-003	CUBE ENCODER, 1200PPM, 3/8 DIA	84239C-000



REV	DATE	DESCRIPTION	BY
A	Nov-07-25	NEW DRAWING	TAZ

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE
.X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIOS .0107.030

QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

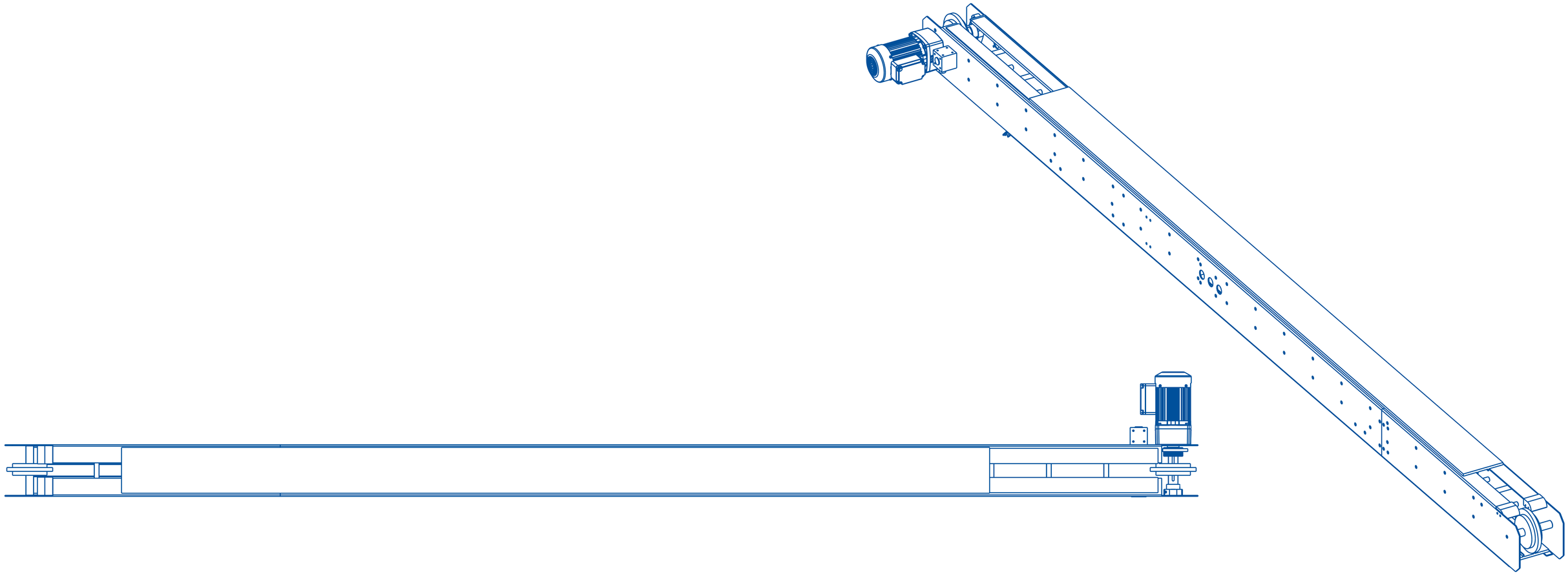
SCALE: 5/32
DATE: Nov-07-25
DRW BY: TAZ
CHK BY:
APPR BY:

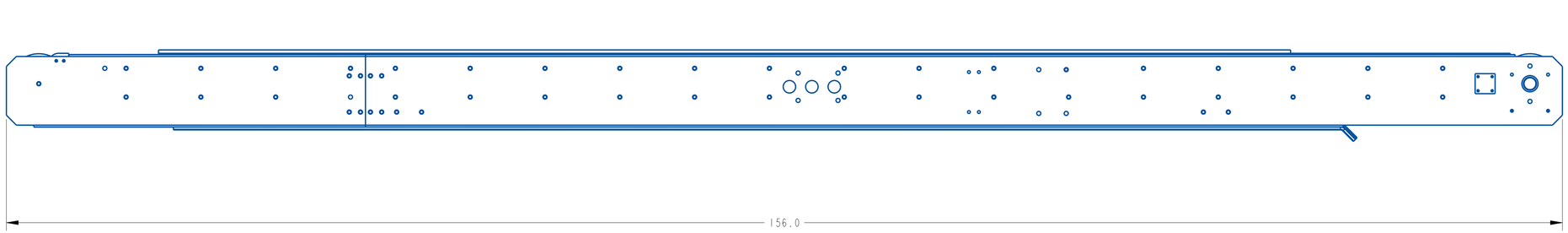
13' LONG X 6" WIDE CONVEYOR

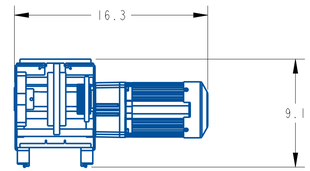
MAT'L 84239C-000

84239C-000

SHEET 1 OF 2







REV	DATE	DESCRIPTION	BY
A	Nov-07-25	NEW DRAWING	TAZ

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
.X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'
SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030
ALL ANGLES ARE 90°

QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

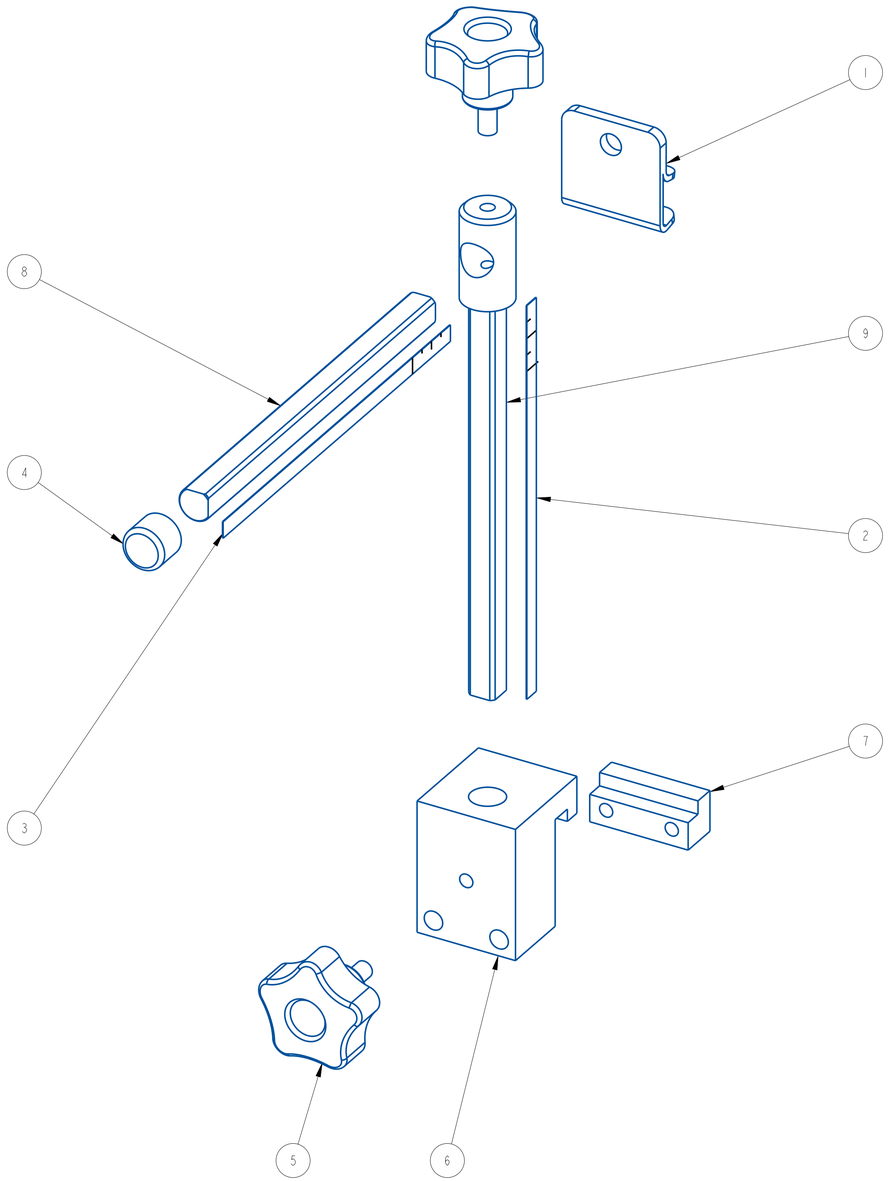
SCALE:	5/32
DATE:	Nov-07-25
DRW BY:	TAZ
CHK BY:	
APPR BY:	

13' LONG X 6" WIDE CONVEYOR

MAT'L 84239C-000

84239C-000

ITEM	QTY	PART NO.	DESCRIPTION	PARENT ITEM
1	1	791732-000	CLAMP FOR CONICAL SIDE GUIDE	22435-034
2	1	791914-002_06	MYLAR SCALE, QUADREL LOGO	22435-034
3	1	791914-003_06	MYLAR SCALE, QUADREL LOGO, 6" LG.	22435-034
4	1	792711-000	CAP, ORANGE	22435-034
5	2	801308-000	KNOB W/ 1/4-20 STUD	22435-034
6	1	A20875-000	RETAINER BLOCK, CONV. RAIL	22435-034
7	1	A20876-000	RETAINER BLOCK	22435-034
8	1	A21198-199	ADJUSTMENT ROD	22435-034
9	1	A28000-000	CLAMPING ROD ASSEMBLY 6"	22435-034



REV	DATE	DESCRIPTION	BY
A	Aug-07-25	NEW DRAWING	TAZ

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
.X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'
SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030
ALL ANGLES ARE 90°

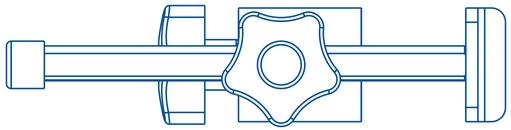
QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

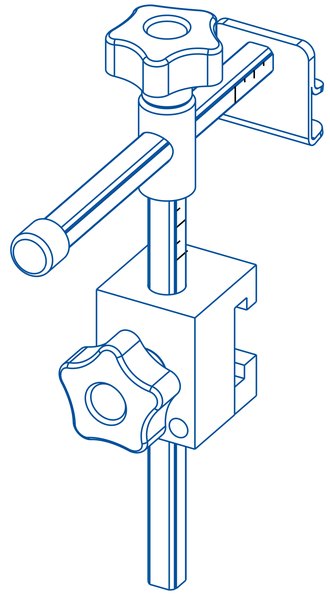
SCALE: 1/1
DATE: Aug-07-25
DRW BY: TAZ
CHK BY:08/28/2025-SEM
APPR BY:

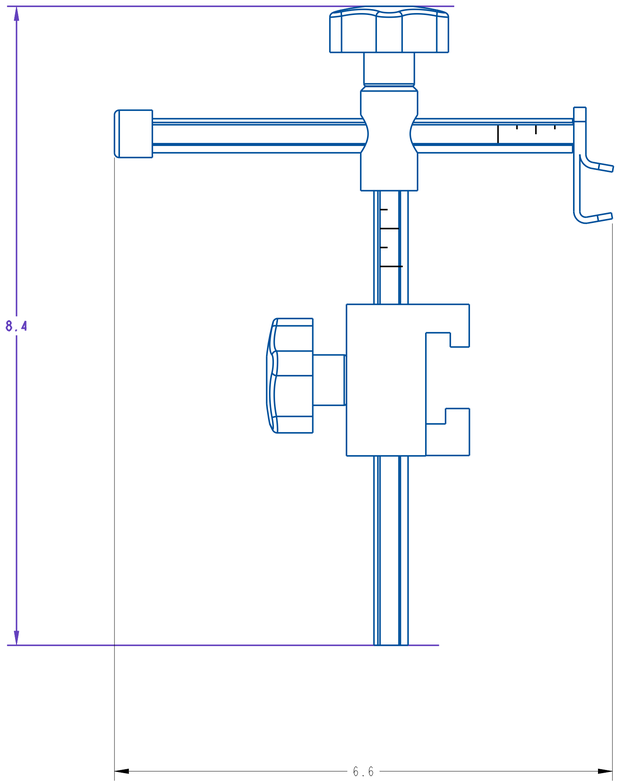
RAIL KIT WITH SCALES

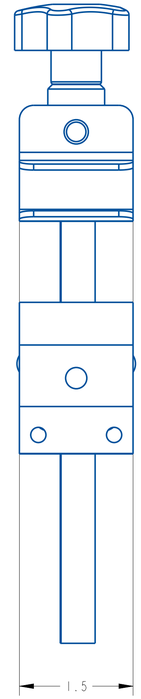
MAT'L

22435-034









REV	DATE	DESCRIPTION	BY
A	Aug-07-25	NEW DRAWING	TAZ

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
.X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030
ALL ANGLES ARE 90°

QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

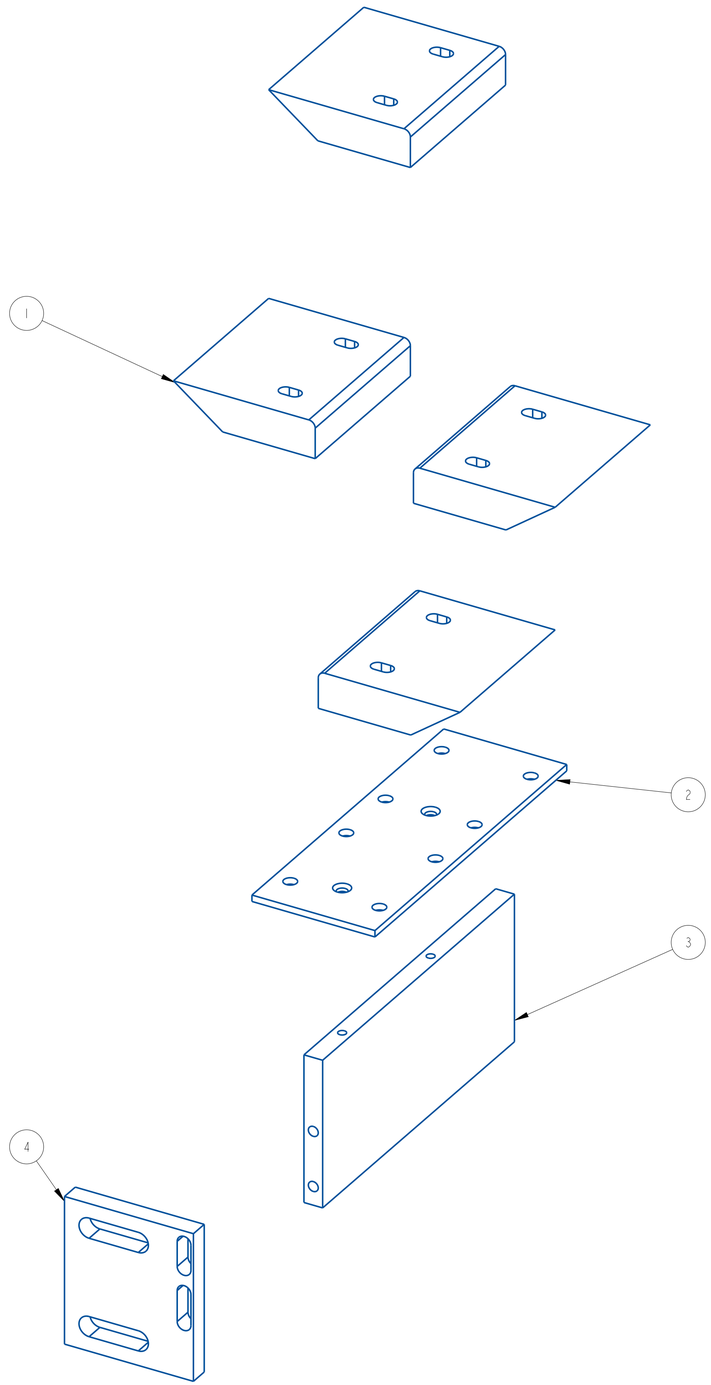
SCALE: 1/1
DATE: Aug-07-25
DRW BY: TAZ
CHK BY:08/28/2025-SEM
APPR BY:

RAIL KIT WITH SCALES

MAT'L

22435-034

ITEM	QTY	PART NO.	DESCRIPTION	PARENT ITEM
1	4	792185-001	TRANSFER ROLLERS	22836-004
2	1	B21924-007	6" ROLLER MOUNTING PLATE	22836-004
3	1	B21925-011	TRANSFER SUPPORT PLATE	22836-004
4	1	B21926-003	TRANSFER CONNECTING PLATE	22836-004



REV	DATE	DESCRIPTION	BY
A	Nov-05-25	NEW DRAWING	TAZ

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE
.X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'
SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030
ALL ANGLES ARE 90°

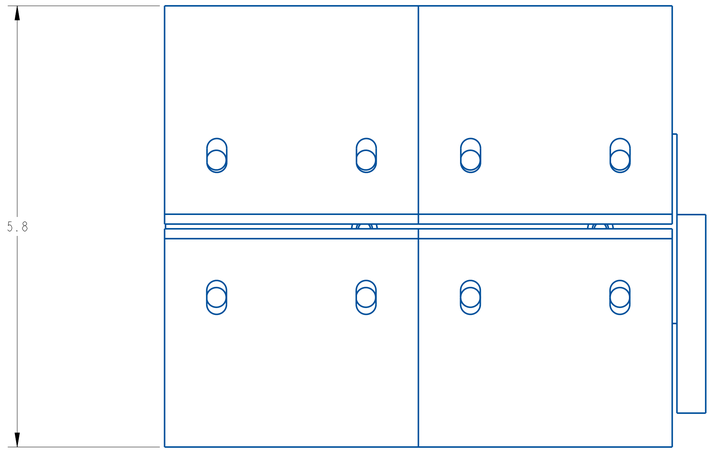
QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

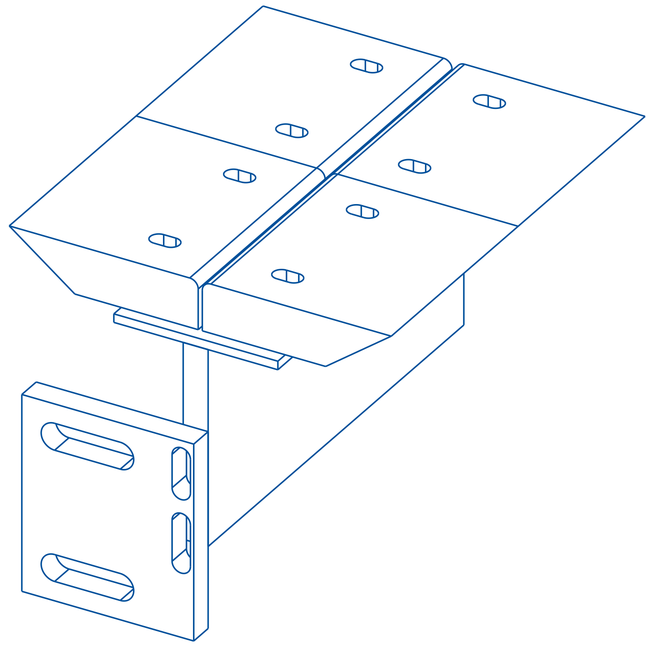
SCALE: 3/4
DATE: Nov-05-25
DRW BY: TAZ
CHK BY: 11/05/2025-SEM
APPR BY:

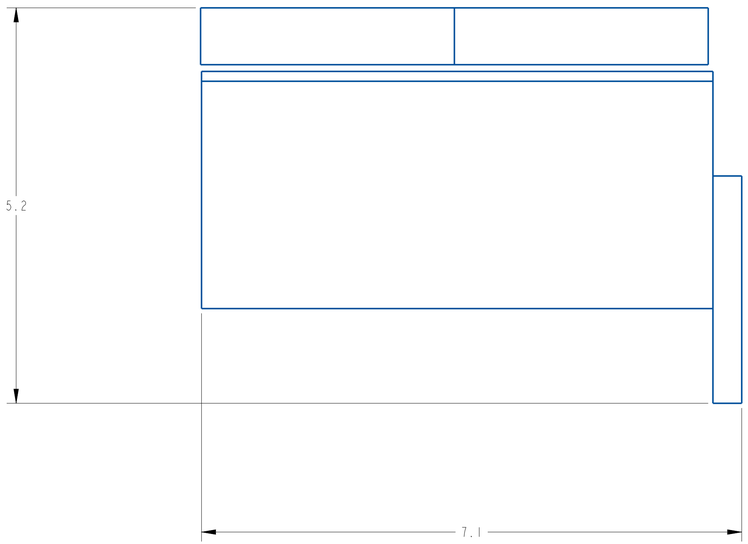
6" CONV. ROLLER TRANSFER

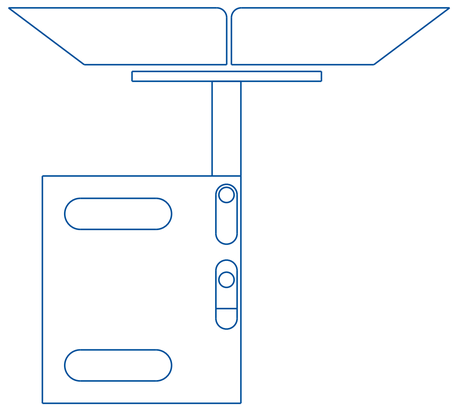
MAT'L

22836-004









REV	DATE	DESCRIPTION	BY
A	Nov-05-25	NEW DRAWING	TAZ

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
X ± .1
XX ± .01
XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030
ALL ANGLES ARE 90°

QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

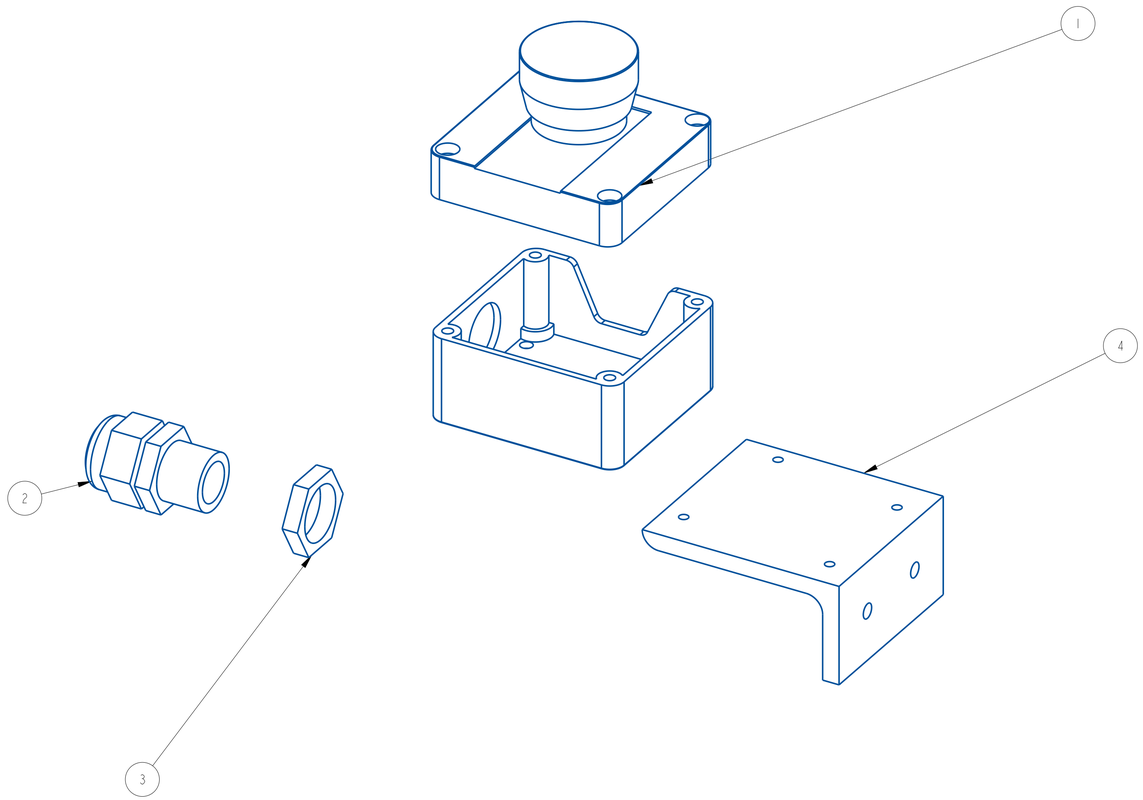
SCALE: 1/1
DATE: Nov-05-25
DRW BY: TAZ
CHK BY:11/05/2025-SEM
APPR BY:

6" CONV. ROLLER TRANSFER

MAT'L

22836-004

ITEM	QTY	PART NO.	DESCRIPTION	PARENT ITEM
1	1	221152-005	ENCLOSURE, E-STOP W/ BUTTON	20789-000
2	1	241780-000	STRAIN RELIEF, CABLE	20789-000
3	1	241780-001	STRAIN RELIEF, CABLE PANEL	20789-000
4	1	A25719-000	CYLINDER MOUNTING ANGLE	20789-000



REV	DATE	DESCRIPTION	BY
A	8-29-16	NEW DRAWING	TJS

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE

.X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030

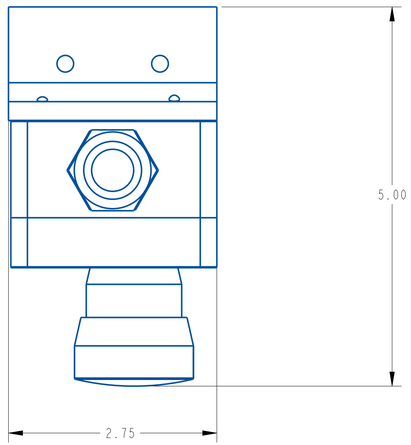
QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

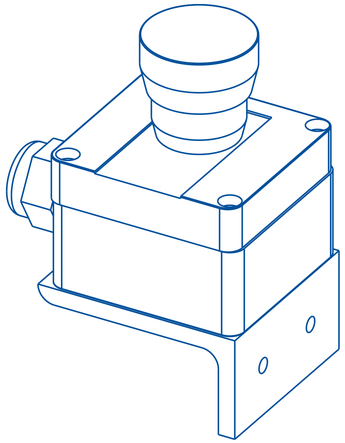
SCALE: 1/1
DATE: 8-29-16
DRW BY: TJS
CHK BY: 03/08/2024-SEM
APPR BY:

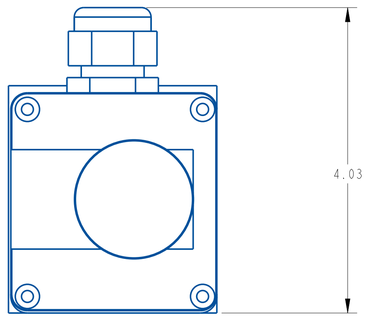
EMERGENCY STOP ASSEMBLY

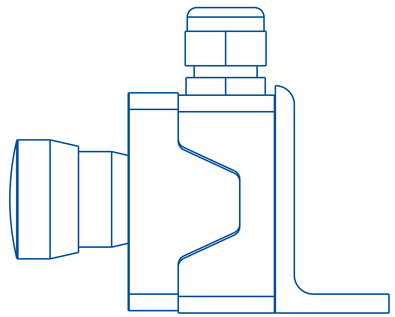
MAT'L

20789-000









REV	DATE	DESCRIPTION	BY
A	8-29-16	NEW DRAWING	TJS

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
X ± .1
XX ± .01
XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030
ALL ANGLES ARE 90°

QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

SCALE: 1/1
DATE: 8-29-16
DRW BY: TJS
CHK BY:03/08/2024-SEM
APPR BY:

EMERGENCY STOP ASSEMBLY

MAT'L

20789-000

ASSEMBLY TITLE: HEAD SUPPORT ASSEMBLY

GENERAL FUNCTION:

The head support assembly keeps the labeling head in a “locked position” and prevents head vibration and wobbling as the label motor is engaged. The head support assembly is also used to set the camber or front/back tilt of the head.

SETUP AND ADJUSTMENTS:

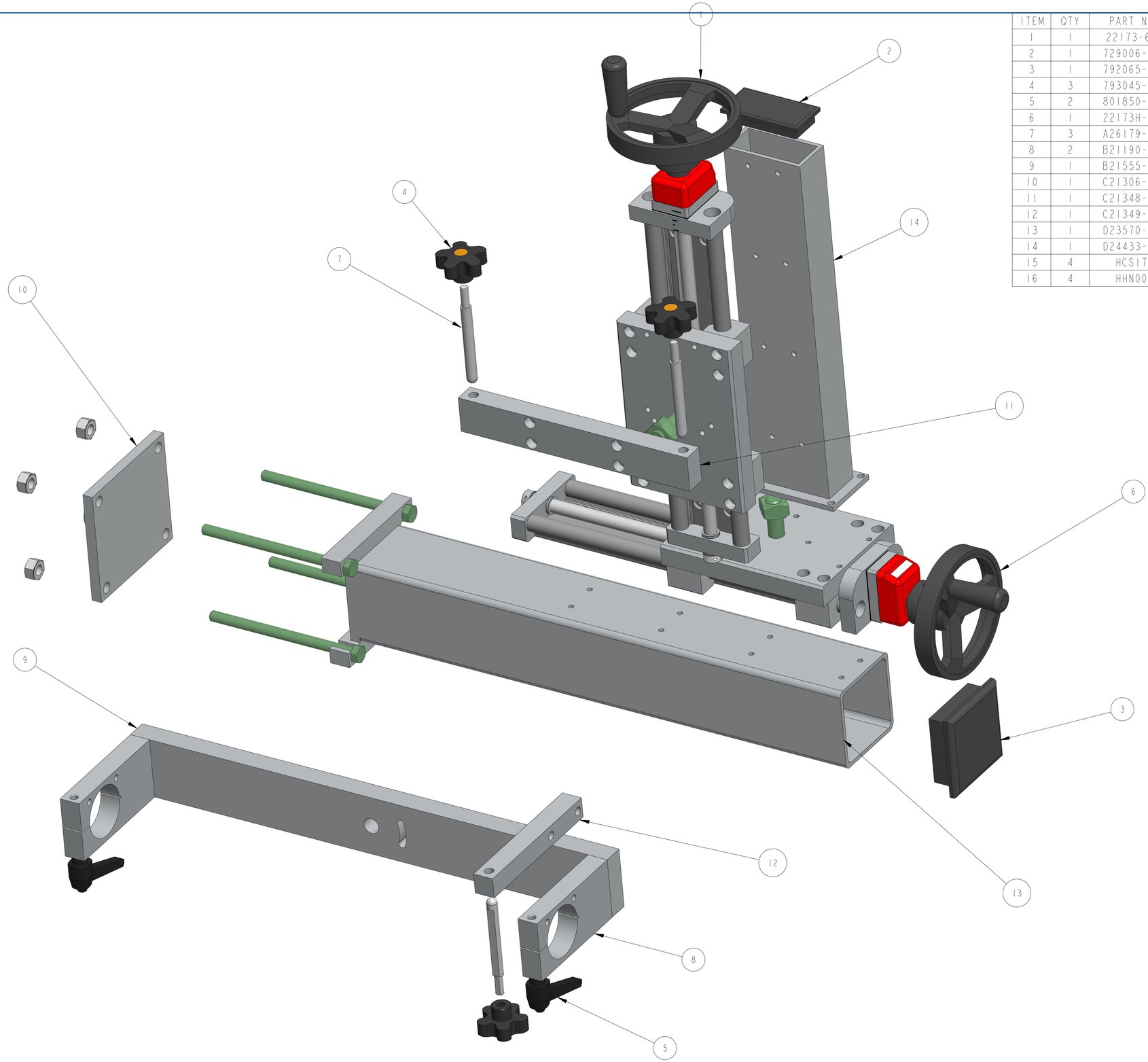
HORIZONTAL ADJUSTMENT: To set the horizontal position of the labeling head, use the side mount wheel handle (some older systems may feature the ratcheted handle). Turn the handle clockwise to move the head towards the conveyor. Turn it counter clockwise to move the head away from the conveyor.

VERTICAL ADJUSTMENT: Using the lower wheel handle to set the vertical position of the labeling head. Turn the wheel clockwise to lower labeling head. Turn the wheel counter clockwise to raise the labeling head.

MAINTENANCE:

No scheduled maintenance is required for this assembly. Always keep the drive areas free of label flash and debris.

TROUBLESHOOTING: None this section.



ITEM	QTY	PART NO.	DESCRIPTION	PARENT ITEM
1	1	22173-601	VERTICAL IGUS SLIDE, 17.5"	22530-220-LH
2	1	729006-000	CAP INSERT FOR 2 X 4 TUBE	22530-220-LH
3	1	792065-000	CAP INSERT FOR 4X4 TUBE (1/4WALL)	22530-220-LH
4	3	793045-000	DIAMOND KNURL KNOB	22530-220-LH
5	2	801850-000	CLAMPING LEVER	22530-220-LH
6	1	22173H-601	VERTICAL IGUS SLIDE, 17.5"	22530-220-LH
7	3	A26179-120	KNOB STUD	22530-220-LH
8	2	B21190-114	YOKE SIDE PLATE	22530-220-LH
9	1	B21555-000	MTG YOKE BACK PLATE	22530-220-LH
10	1	C21306-000	HEAD SUPPORT BACKING PLATE	22530-220-LH
11	1	C21348-120	ADJUSTMENT PLATE	22530-220-LH
12	1	C21349-120	ADJUSTMENT BLOCK	22530-220-LH
13	1	D23570-125	HORIZONTAL MOUNTING FRAME	22530-220-LH
14	1	D24433-125	HEAD SUPPORT RISER	22530-220-LH
15	4	HCS173		22530-220-LH
16	4	HHN002		22530-220-LH

REV	DATE	DESCRIPTION	BY
B	20-FEB-2024	UPDATED THE DRAWING AND BOM	CRT
A	OCT-27-22	NEW DRAWING	TJS

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE
.X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030

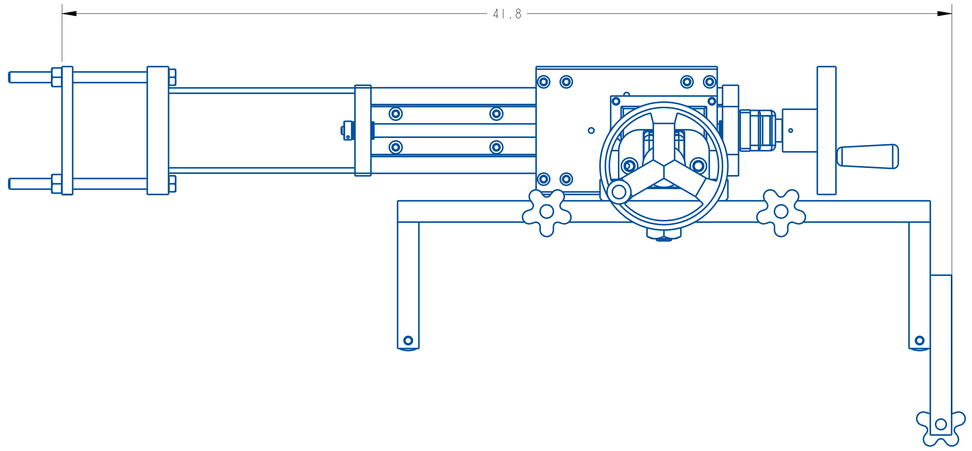
QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

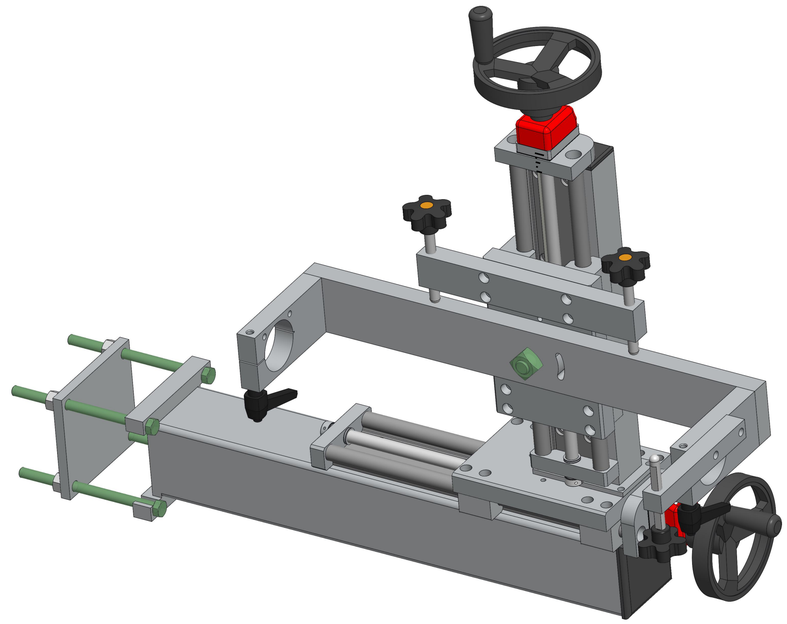
SCALE: 1/16
DATE: OCT-27-22
DRW BY: TJS
CHK BY: 03/02/24-SEM
APPR BY:

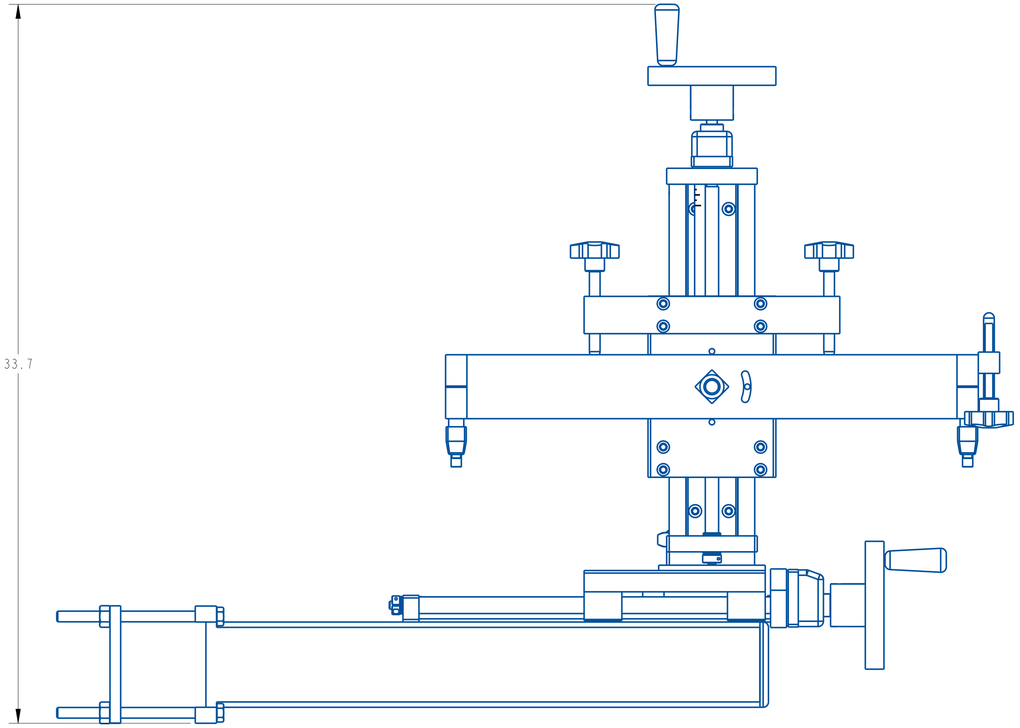
OPENLINE HEAD SUPPORT FOR Q120 W/ SIKO

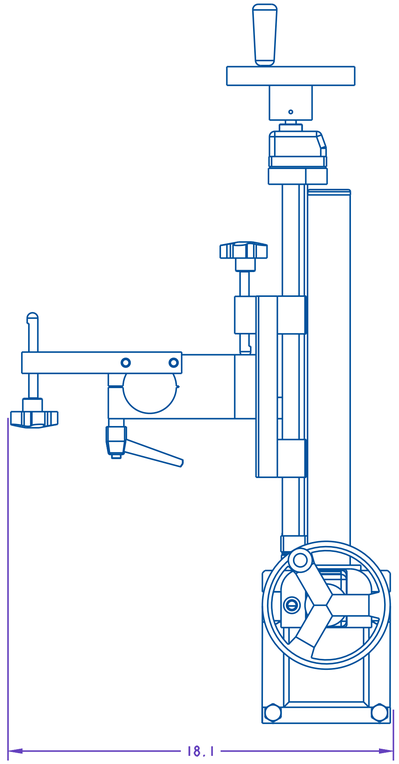
MAT'L 22530-220-LH

22530-220-LH









REV	DATE	DESCRIPTION	BY
B	20-FEB-2024	UPDATE THE DRAWING AND BOM	CRT
A	OCT-27-22	NEW DRAWING	TJS

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE

.X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030

QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

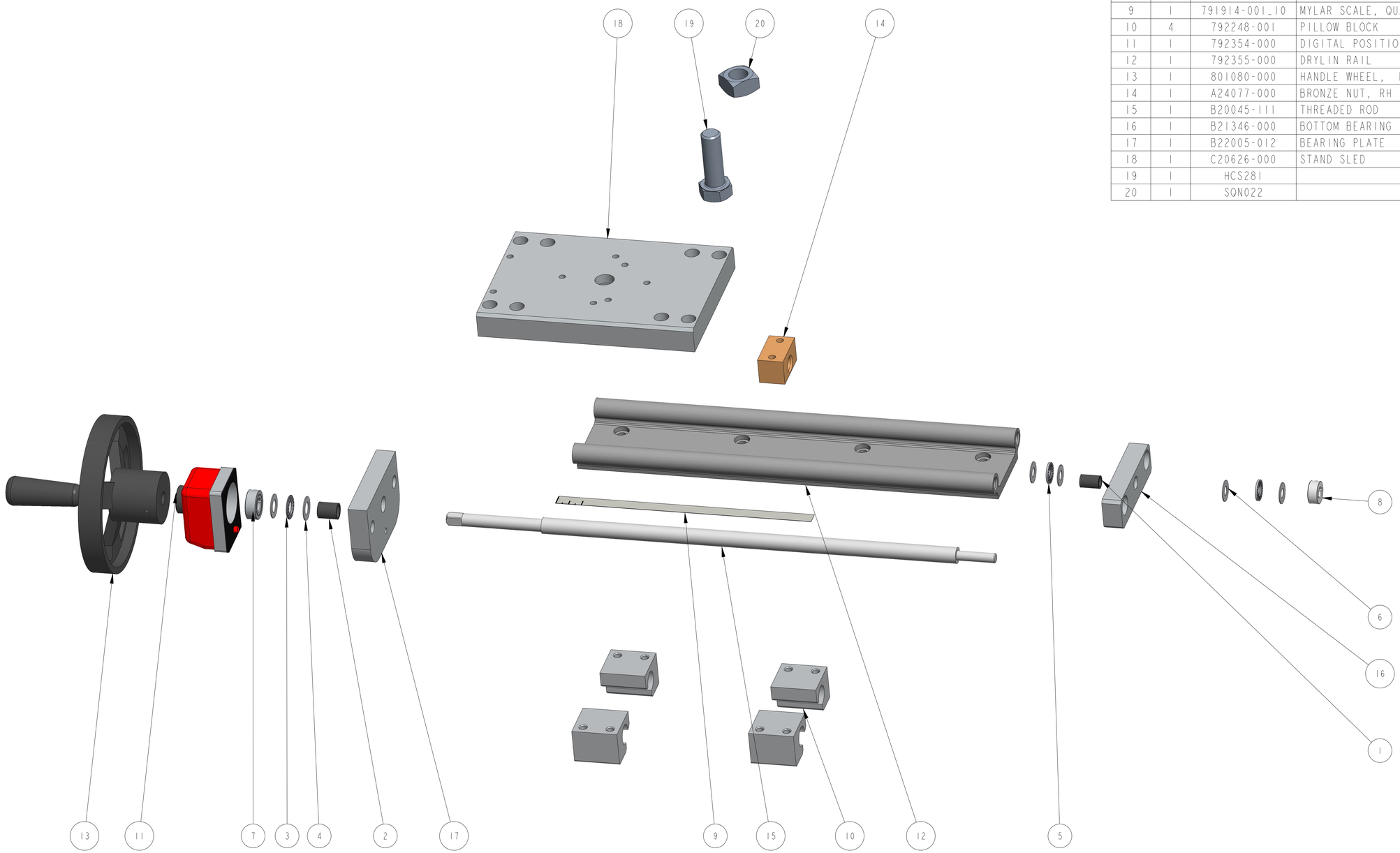
SCALE: 9/32
DATE: OCT-27-22
DRW BY: TJS
CHK BY: 03/02/24-SEM
APPR BY:

OPENLINE HEAD SUPPORT FOR Q120 W/ SIKO

MAT'L 22530-220-LH

22530-220-LH

ITEM	QTY	PART NO.	DESCRIPTION	PARENT ITEM
1	1	141172-000	SLEEVE BEARING, 1/2OD. x 3/8ID. x 3/4LNG	22173-601
2	1	141177-000	SLEEVE BEARING, 5/8OD. x 1/2ID. x 3/4LNG	22173-601
3	1	181079-000	BEARING, NEEDLE ROLLER	22173-601
4	2	181080-000	BEARING, THRUST WASHER	22173-601
5	2	181108-000	BEARING, NEEDLE ROLLER	22173-601
6	4	181111-000	THRUST WASHER	22173-601
7	1	361169-000	COLLAR, 1/2 IN. ID ONE-PIECE CLAMP	22173-601
8	1	362186-000	COLLAR, 3/8 IN. ID ONE-PIECE CLAMP	22173-601
9	1	791914-001_10	MYLAR SCALE, QUADREL LOGO	22173-601
10	4	792248-001	PILLOW BLOCK	22173-601
11	1	792354-000	DIGITAL POSITION INDICATOR	22173-601
12	1	792355-000	DRYLIN RAIL	22173-601
13	1	801080-000	HANDLE WHEEL, MODIFIED	22173-601
14	1	A24077-000	BRONZE NUT, RH	22173-601
15	1	B20045-111	THREADED ROD	22173-601
16	1	B21346-000	BOTTOM BEARING PLATE	22173-601
17	1	B22005-012	BEARING PLATE	22173-601
18	1	C20626-000	STAND SLED	22173-601
19	1	HCS281		22173-601
20	1	SQN022		22173-601



REV	DATE	DESCRIPTION	BY
A	3-25-20	NEW DRAWING	ATT

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
.X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'
SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030

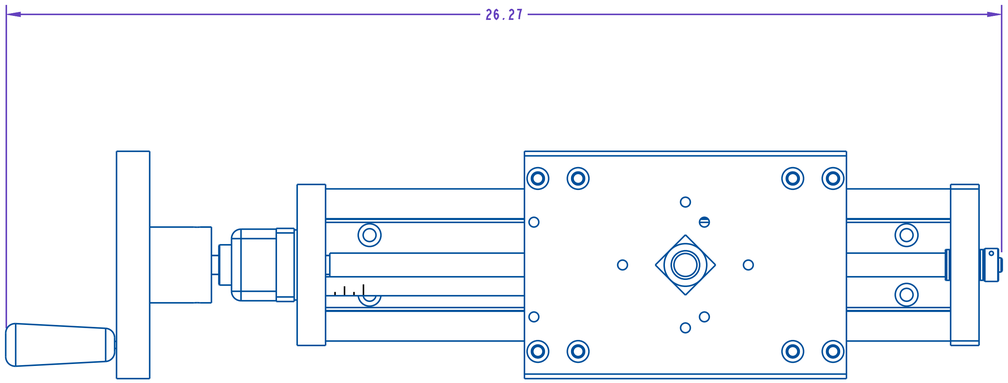
QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

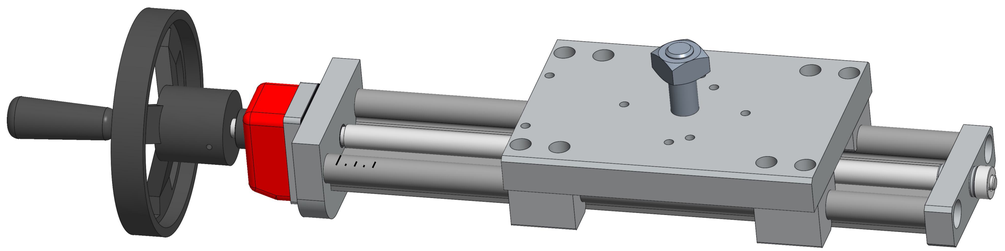
SCALE: 1/2
DATE: 3-25-20
DRW BY: ATT
CHK BY: 03/02/24-SEM
APPR BY:

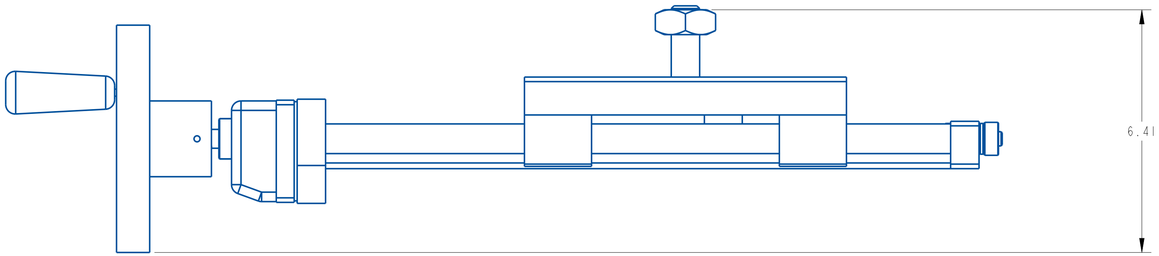
VERTICAL IGUS SLIDE, 17.5"

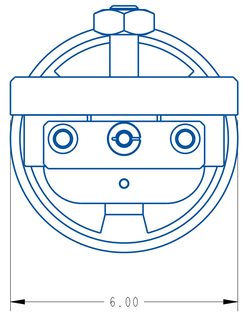
MAT'L 22173-000

22173-601









REV	DATE	DESCRIPTION	BY
A	3-25-20	NEW DRAWING	ATT

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
X ± .1
XX ± .01
XXX ± .005
ANGLES ± 30'
SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030
ALL ANGLES ARE 90°

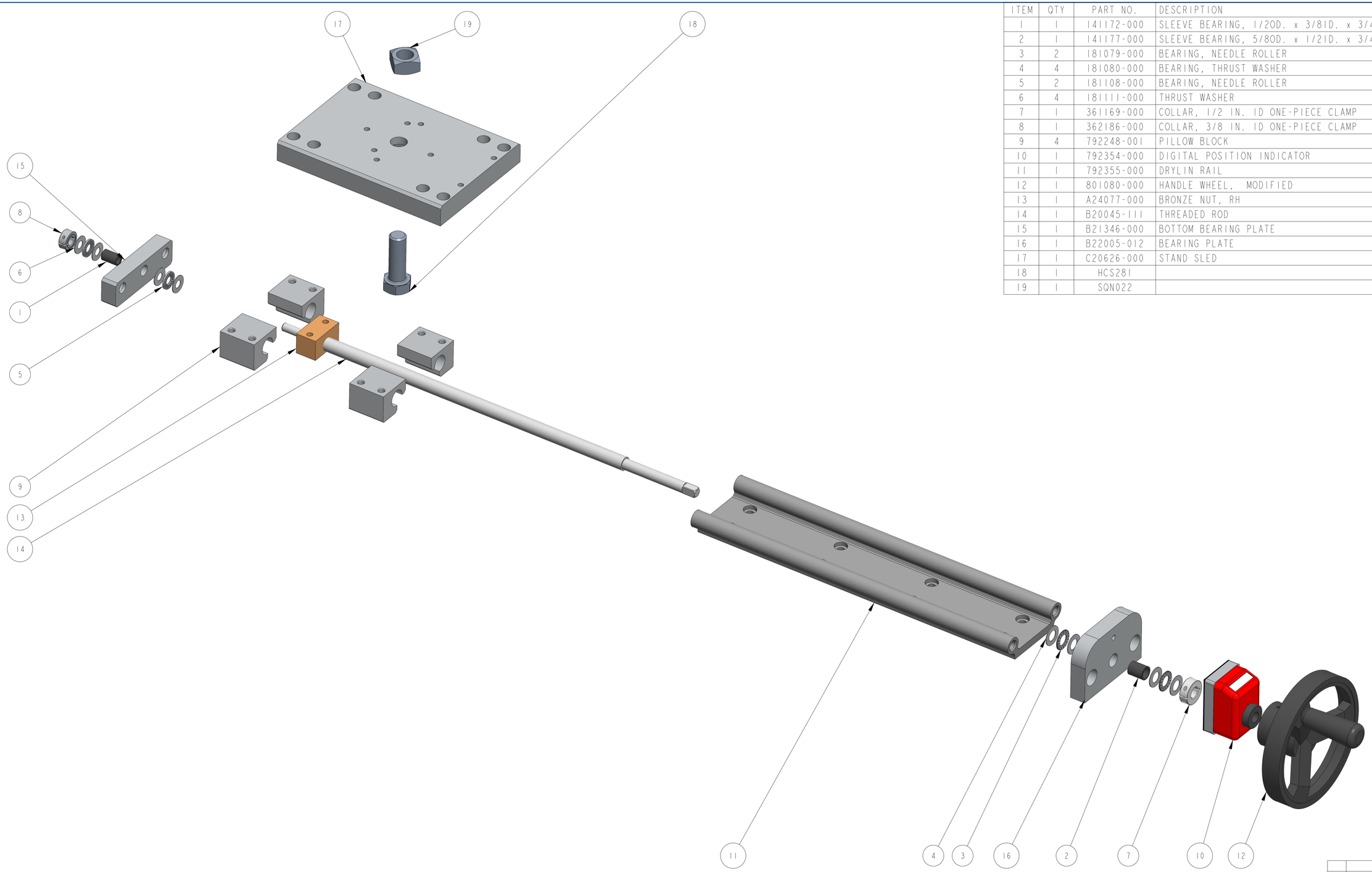
QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

SCALE: 1/2
DATE: 3-25-20
DRW BY: ATT
CHK BY: 03/02/24-SEM
APPR BY:

VERTICAL IGUS SLIDE, 17.5"

MAT'L: 22173-000

22173-601



ITEM	QTY	PART NO.	DESCRIPTION	PARENT ITEM
1	1	141172-000	SLEEVE BEARING, 1/2OD. x 3/8ID. x 3/4LNG	22173H-601
2	1	141177-000	SLEEVE BEARING, 5/8OD. x 1/2ID. x 3/4LNG	22173H-601
3	2	181079-000	BEARING, NEEDLE ROLLER	22173H-601
4	4	181080-000	BEARING, THRUST WASHER	22173H-601
5	2	181108-000	BEARING, NEEDLE ROLLER	22173H-601
6	4	181111-000	THRUST WASHER	22173H-601
7	1	361169-000	COLLAR, 1/2 IN. ID ONE-PIECE CLAMP	22173H-601
8	1	362186-000	COLLAR, 3/8 IN. ID ONE-PIECE CLAMP	22173H-601
9	4	792248-001	PILLOW BLOCK	22173H-601
10	1	792354-000	DIGITAL POSITION INDICATOR	22173H-601
11	1	792355-000	DRYLIN RAIL	22173H-601
12	1	801080-000	HANDLE WHEEL, MODIFIED	22173H-601
13	1	A24077-000	BRONZE NUT, RH	22173H-601
14	1	B20045-111	THREADED ROD	22173H-601
15	1	B21346-000	BOTTOM BEARING PLATE	22173H-601
16	1	B22005-012	BEARING PLATE	22173H-601
17	1	C20626-000	STAND SLED	22173H-601
18	1	HCS281		22173H-601
19	1	SQN022		22173H-601

REV	DATE	DESCRIPTION	BY
A	2-24-20	NEW DRAWING	TJS

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
.X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030

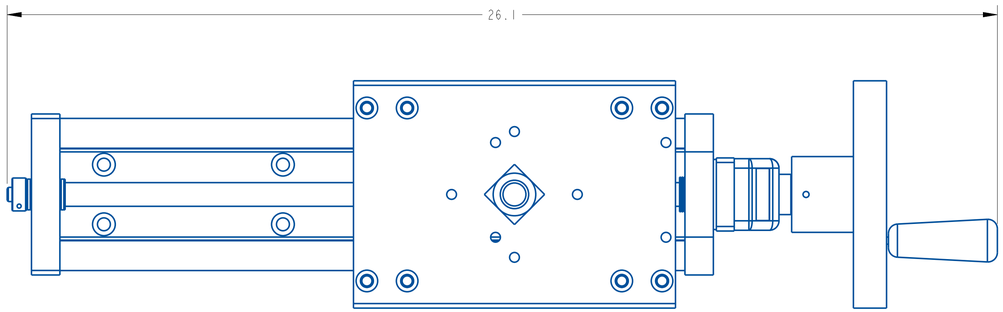
QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

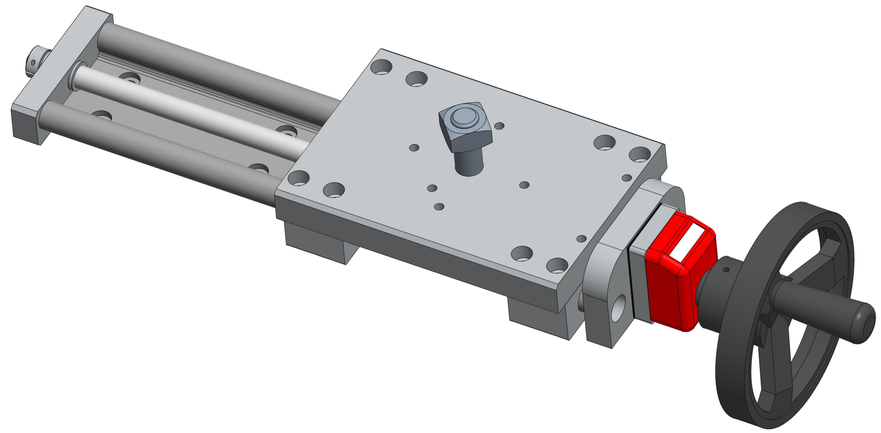
SCALE: 1/2
DATE: 2-24-20
DRW BY: TJS
CHK BY: 03/02/24-SEM
APPR BY:

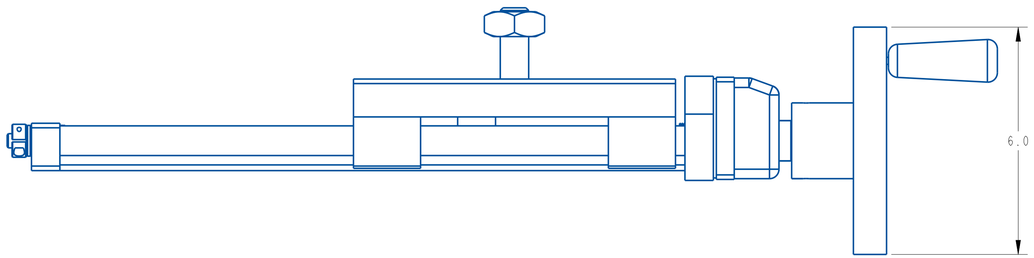
VERTICAL IGUS SLIDE, 17.5"

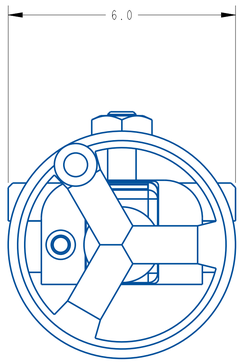
MAT'L

22173H-601









REV	DATE	DESCRIPTION	BY
A	2-24-20	NEW DRAWING	TJS

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
X ± .1
XX ± .01
XXX ± .005
ANGLES ± 30'
SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030
ALL ANGLES ARE 90°

QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

SCALE: 1/2
DATE: 2-24-20
DRW BY: TJS
CHK BY: 03/02/24-SEM
APPR BY:

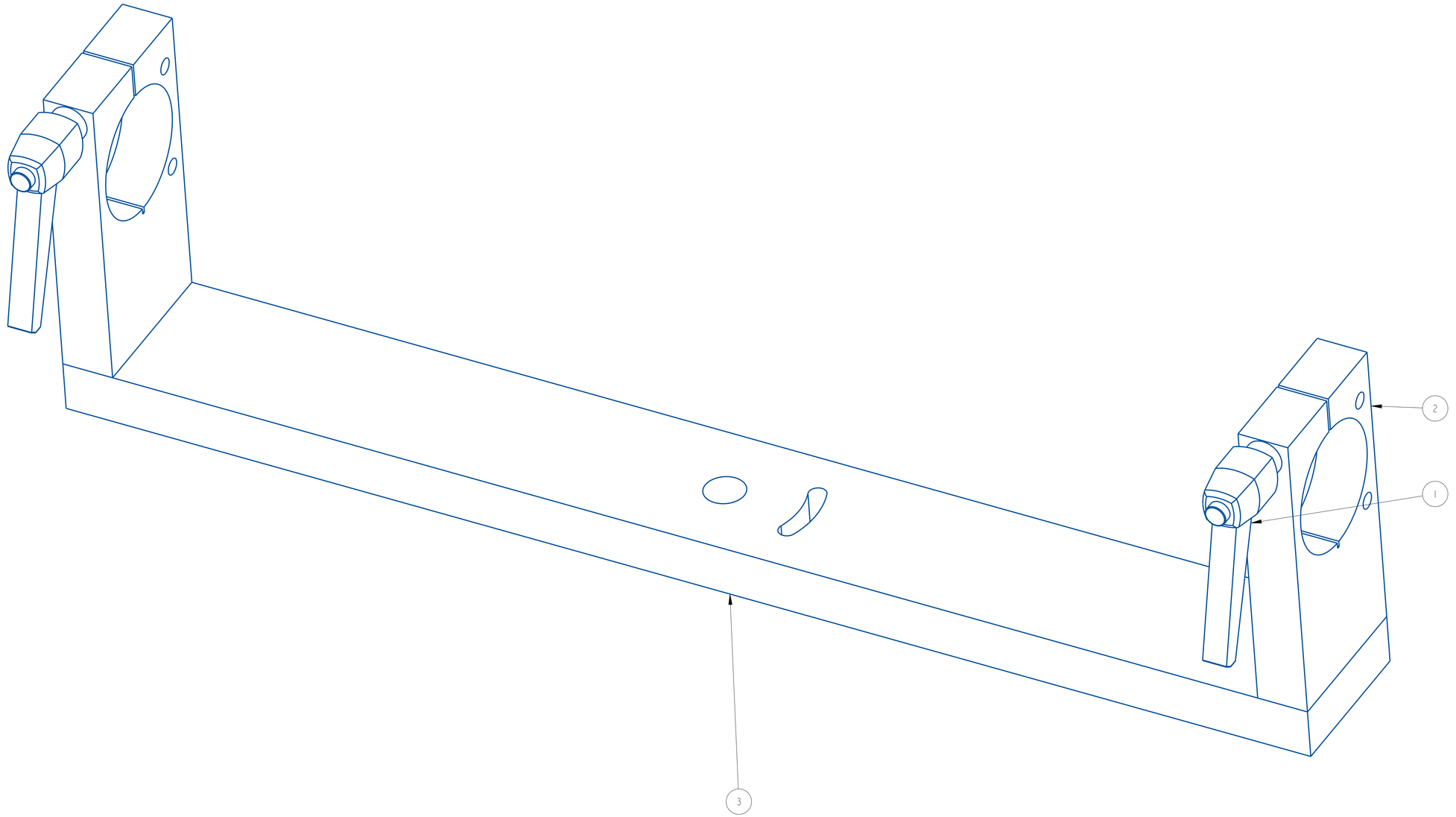
VERTICAL IGUS SLIDE, 17.5"

MAT'L

22173H-601

SHEET 2 OF 2

ITEM	QTY	PART NO.	DESCRIPTION	PARENT ITEM
1	2	801850-000	CLAMPING LEVER	22620Y-RHH
2	2	B21190-114	YOKE SIDE PLATE	22620Y-RHH
3	1	B21555-000	MTG YOKE BACK PLATE	22620Y-RHH



REV	DATE	DESCRIPTION	BY
A	11-26-13	NEW DRAWING	ATT

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE
X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030

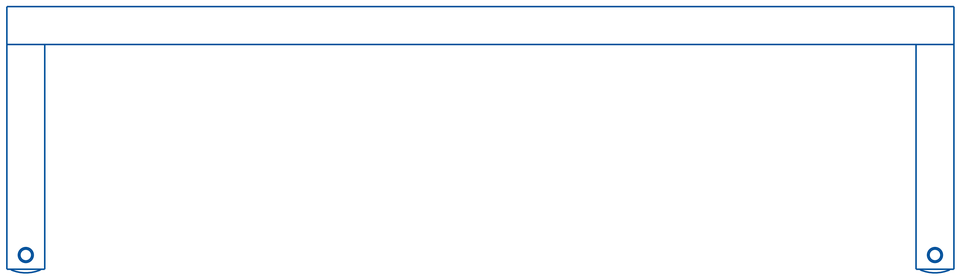
QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

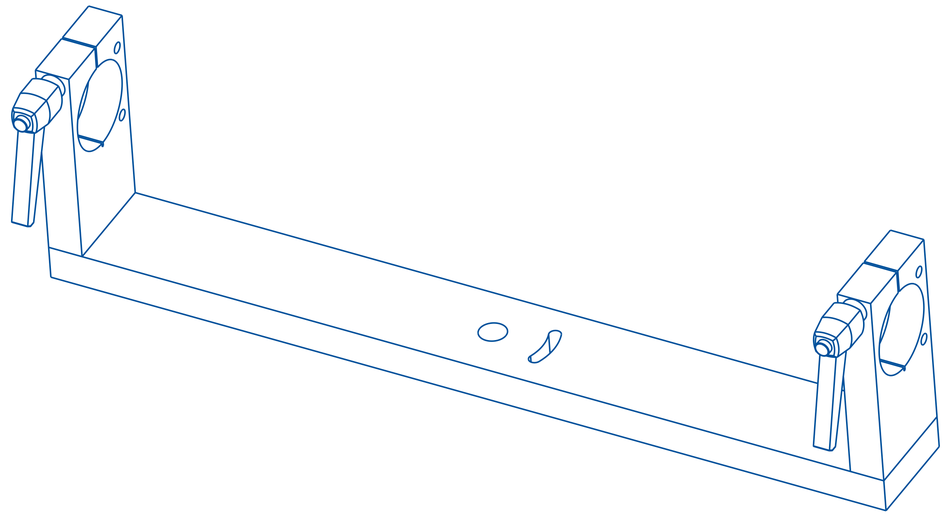
SCALE: 1/1
DATE: 11-26-13
DRW BY: ATT
CHK BY: 03/07/2024-SEM
APPR BY:

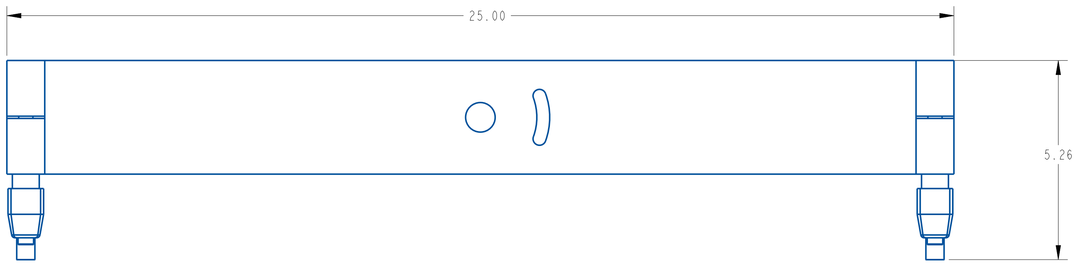
Q120 YOKE ASSEMBLY

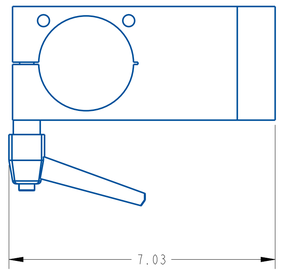
MAT'L

22620Y-RHH









REV	DATE	DESCRIPTION	BY
A	11-26-13	NEW DRAWING	ATT

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
X ± .1
XX ± .01
XXX ± .005
ANGLES ± 30'
SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030
ALL ANGLES ARE 90°

QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

SCALE: 1/2
DATE: 11-26-13
DRW BY: ATT
CHK BY:03/07/2024-SEM
APPR BY:

Q120 YOKE ASSEMBLY

MAT'L

22620Y-RHH

ASSEMBLY TITLE: HEAD SUPPORT ASSEMBLY

GENERAL FUNCTION:

The head support assembly keeps the labeling head in a “locked position” and prevents head vibration and wobbling as the label motor is engaged. The head support assembly is also used to set the camber or front/back tilt of the head.

SETUP AND ADJUSTMENTS:

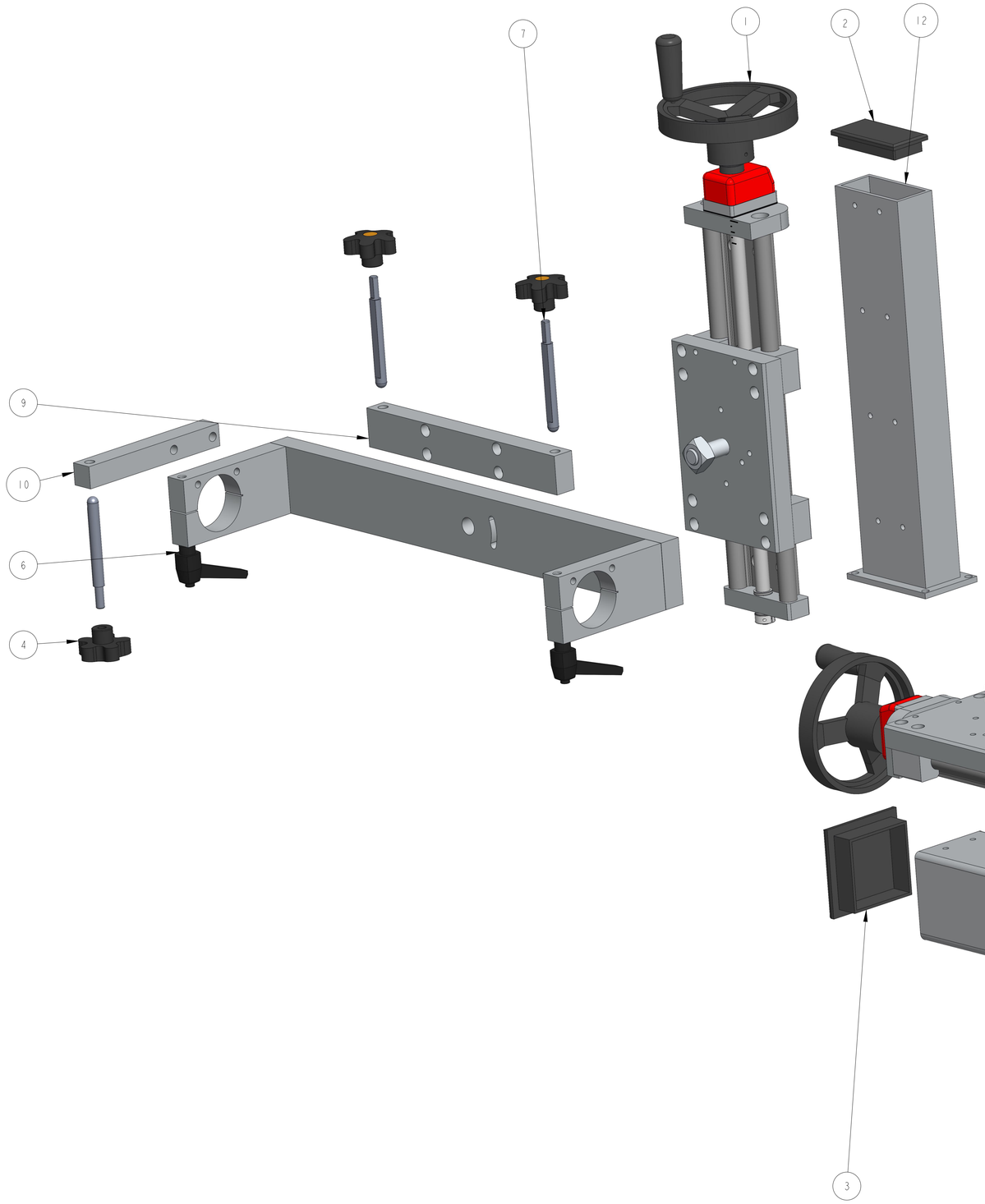
HORIZONTAL ADJUSTMENT: To set the horizontal position of the labeling head, use the side mount wheel handle (some older systems may feature the ratcheted handle). Turn the handle clockwise to move the head towards the conveyor. Turn it counter clockwise to move the head away from the conveyor.

VERTICAL ADJUSTMENT: Using the lower wheel handle to set the vertical position of the labeling head. Turn the wheel clockwise to lower labeling head. Turn the wheel counter clockwise to raise the labeling head.

MAINTENANCE:

No scheduled maintenance is required for this assembly. Always keep the drive areas free of label flash and debris.

TROUBLESHOOTING: None this section.



ITEM	QTY	PART NO.	DESCRIPTION	PARENT ITEM
1	1	22173-601	VERTICAL IGUS SLIDE, 17.5"	22530-220-RH
2	1	729006-000	CAP INSERT FOR 2 X 4 TUBE	22530-220-RH
3	1	792065-000	CAP INSERT FOR 4X4 TUBE (1/4WALL)	22530-220-RH
4	3	793045-000	DIAMOND KNURL KNOB	22530-220-RH
5	1	22173H-601	VERTICAL IGUS SLIDE, 17.5"	22530-220-RH
6	1	22620Y-RHH	Q120 YOKE ASSEMBLY	22530-220-RH
7	3	A26179-120	KNOB STUD	22530-220-RH
8	1	C21306-000	HEAD SUPPORT BACKING PLATE	22530-220-RH
9	1	C21348-120	ADJUSTMENT PLATE	22530-220-RH
10	1	C21349-120	ADJUSTMENT BLOCK	22530-220-RH
11	1	D23570-125	HORIZONTAL MOUNTING FRAME	22530-220-RH
12	1	D24433-125	HEAD SUPPORT RISER	22530-220-RH
13	4	HCSI73		22530-220-RH
14	4	HHN002		22530-220-RH

REV	DATE	DESCRIPTION	BY
B	20-FEB-2024	UPDATE THE DRAWING AND BOM	CRT
A	OCT-27-22	NEW DRAWING	TJS

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
.X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030

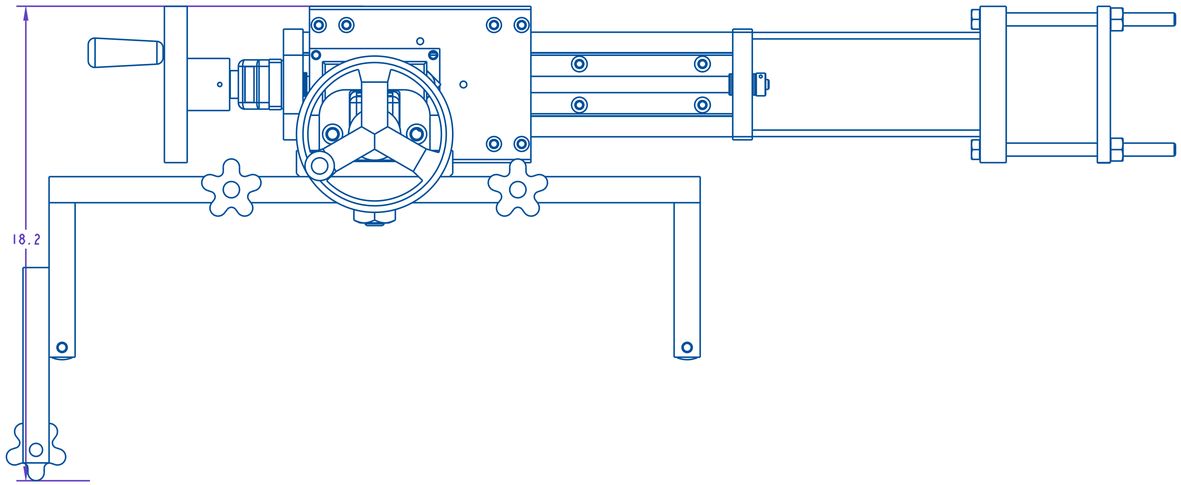
QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

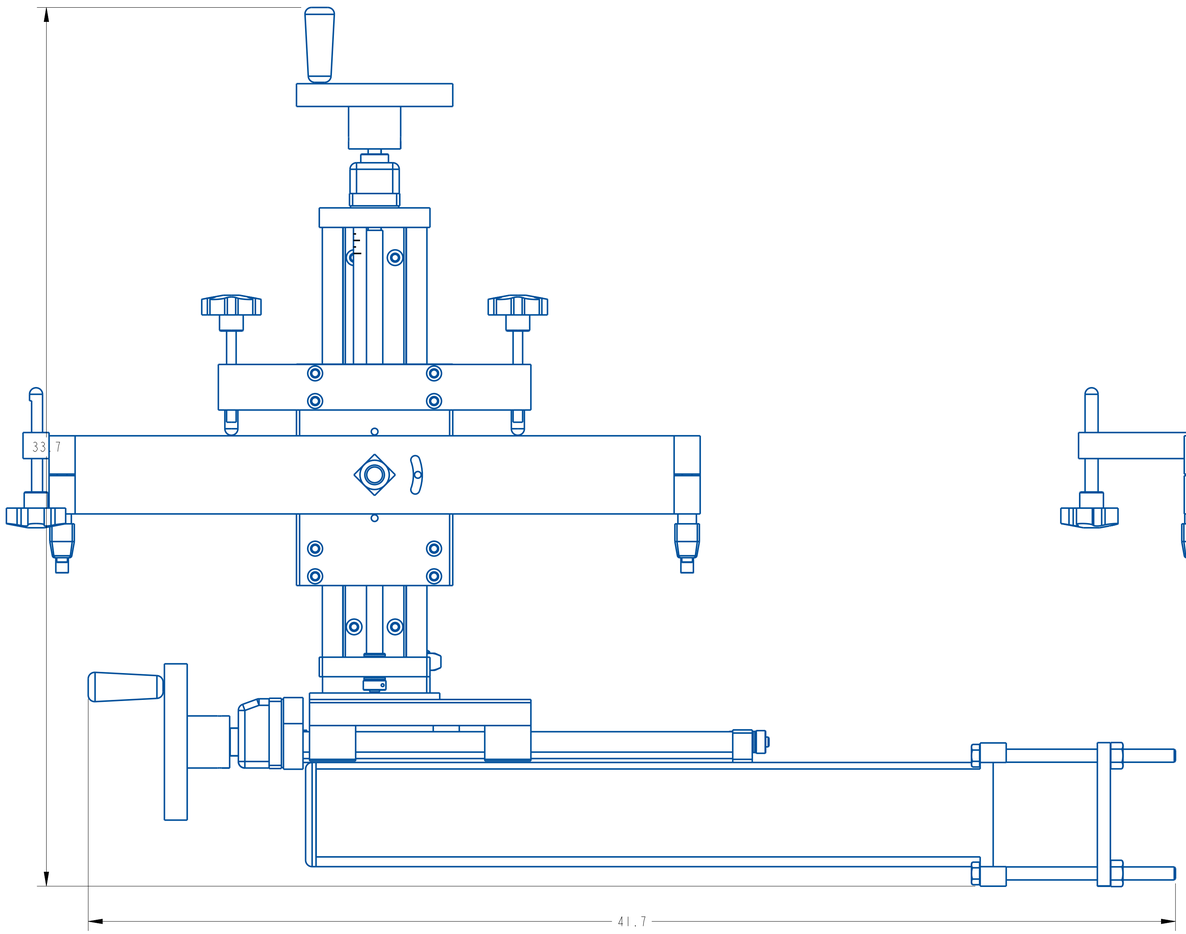
SCALE: 3/8
DATE: Oct-27-22
DRW BY: TJS
CHK BY:03/07/2024-SEM
APPR BY:

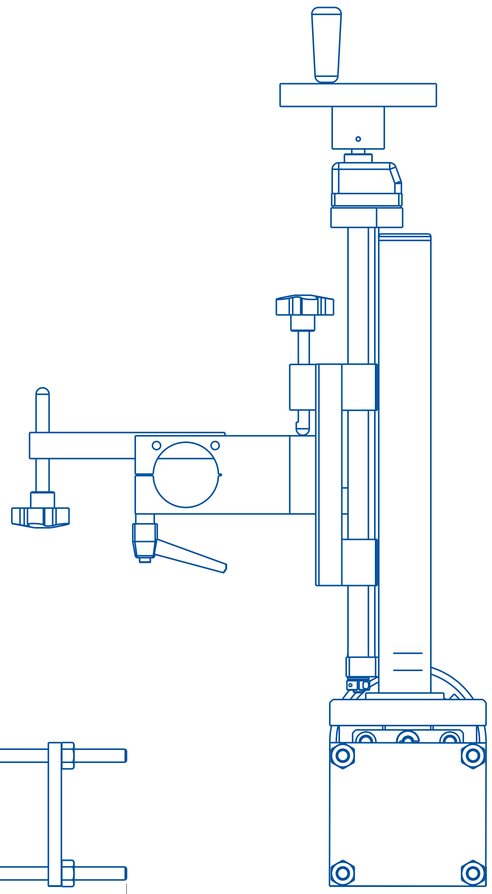
OPENLINE HEAD SUPPORT FOR Q120 W/ SIKO

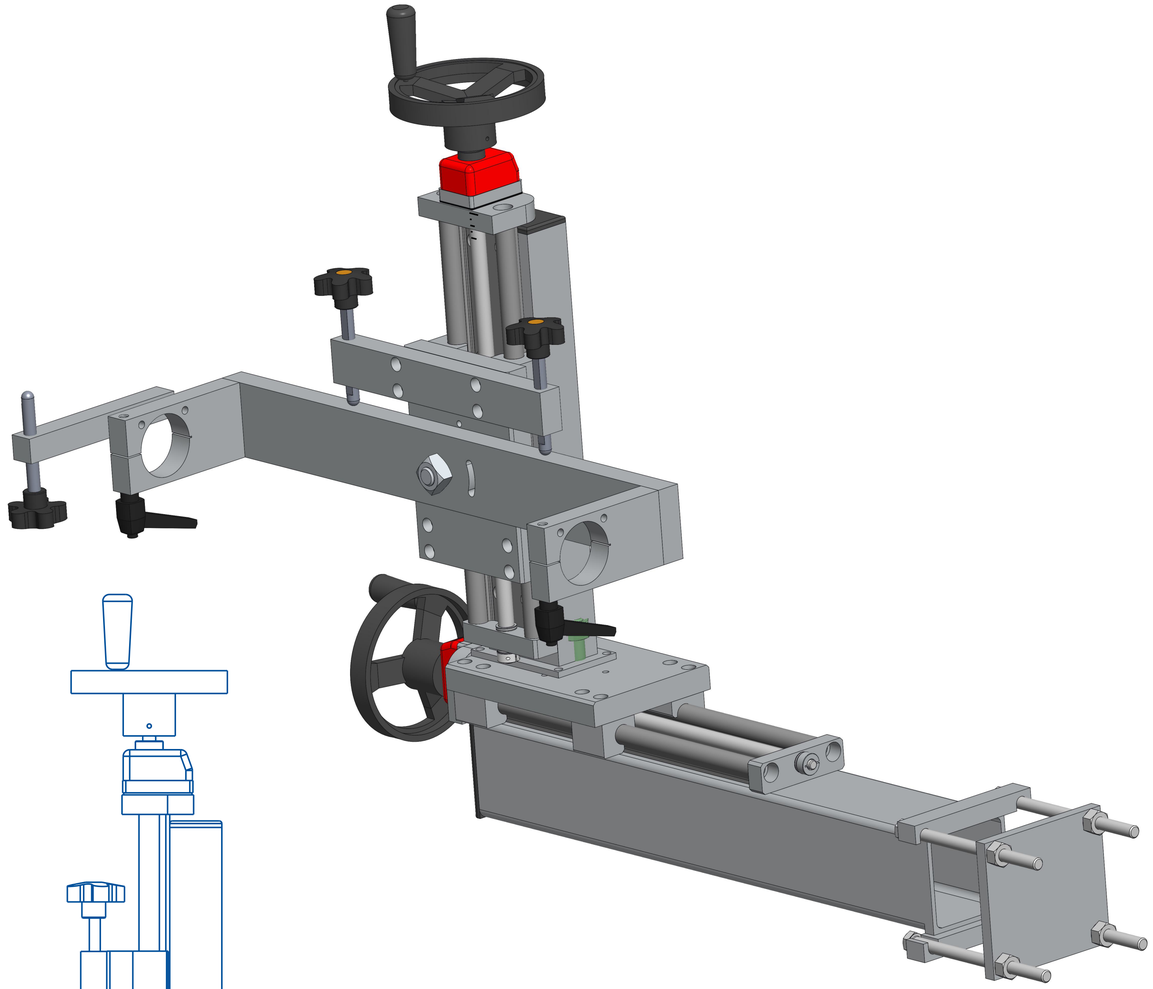
MAT'L

22530-220-RH









REV	DATE	DESCRIPTION	BY
A	Oct-27-22	NEW DRAWING	TJS

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
X ± .1
XX ± .01
XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030
ALL ANGLES ARE 90°

QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

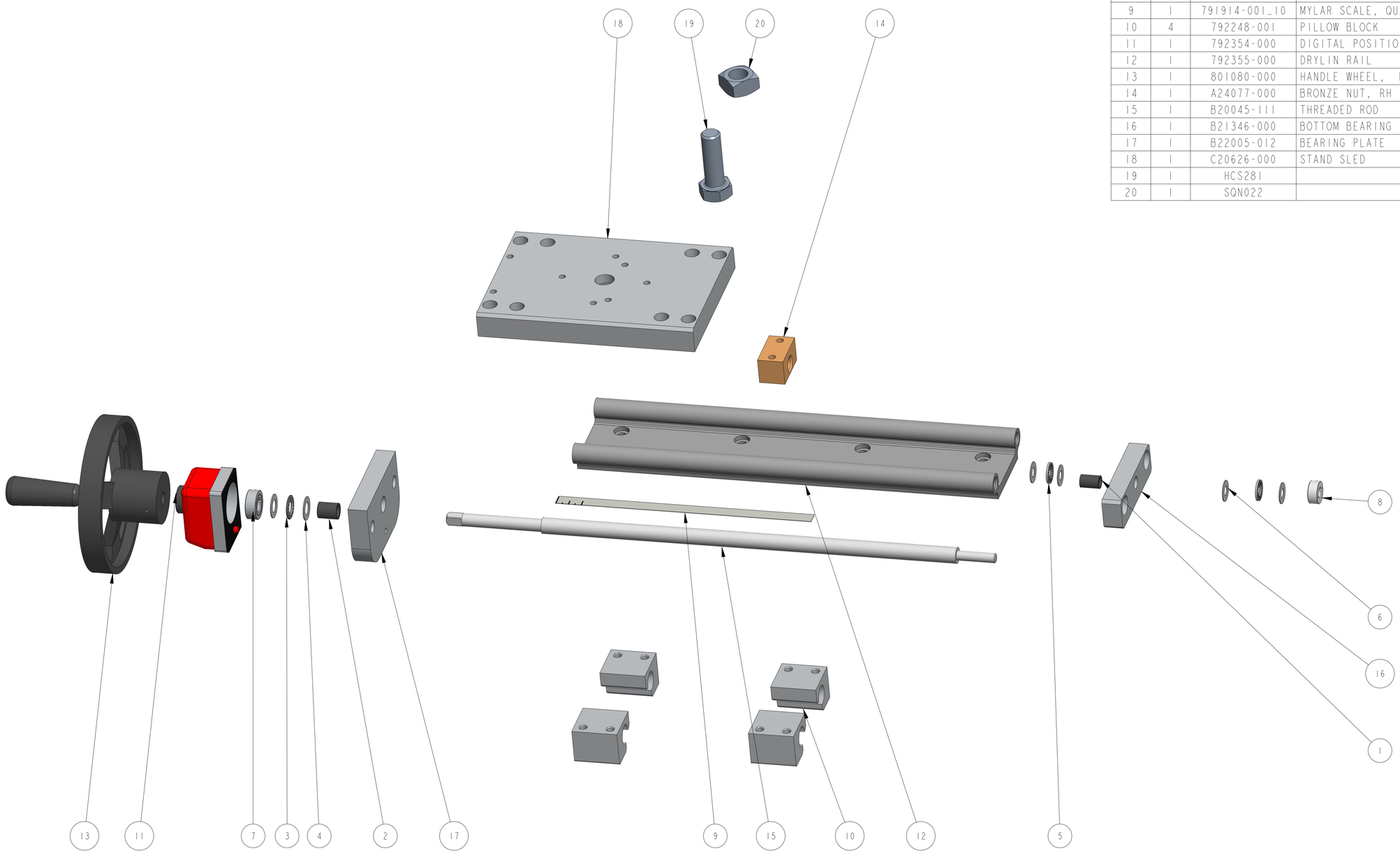
SCALE:	1/1/32
DATE:	Oct-27-22
DRW BY:	TJS
CHK BY:	03/07/2024-SEM
APPR BY:	

OPENLINE HEAD SUPPORT FOR Q120 W/ SIKO

MAT'L

22530-220-RH

ITEM	QTY	PART NO.	DESCRIPTION	PARENT ITEM
1	1	141172-000	SLEEVE BEARING, 1/2OD. x 3/8ID. x 3/4LNG	22173-601
2	1	141177-000	SLEEVE BEARING, 5/8OD. x 1/2ID. x 3/4LNG	22173-601
3	1	181079-000	BEARING, NEEDLE ROLLER	22173-601
4	2	181080-000	BEARING, THRUST WASHER	22173-601
5	2	181108-000	BEARING, NEEDLE ROLLER	22173-601
6	4	181111-000	THRUST WASHER	22173-601
7	1	361169-000	COLLAR, 1/2 IN. ID ONE-PIECE CLAMP	22173-601
8	1	362186-000	COLLAR, 3/8 IN. ID ONE-PIECE CLAMP	22173-601
9	1	791914-001_10	MYLAR SCALE, QUADREL LOGO	22173-601
10	4	792248-001	PILLOW BLOCK	22173-601
11	1	792354-000	DIGITAL POSITION INDICATOR	22173-601
12	1	792355-000	DRYLIN RAIL	22173-601
13	1	801080-000	HANDLE WHEEL, MODIFIED	22173-601
14	1	A24077-000	BRONZE NUT, RH	22173-601
15	1	B20045-111	THREADED ROD	22173-601
16	1	B21346-000	BOTTOM BEARING PLATE	22173-601
17	1	B22005-012	BEARING PLATE	22173-601
18	1	C20626-000	STAND SLED	22173-601
19	1	HCS281		22173-601
20	1	SQN022		22173-601



REV	DATE	DESCRIPTION	BY
A	3-25-20	NEW DRAWING	ATT

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
.X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'
SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030

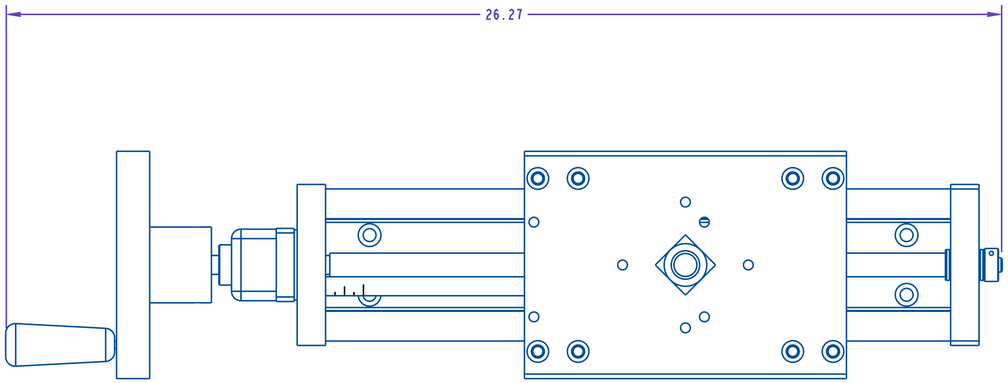
QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

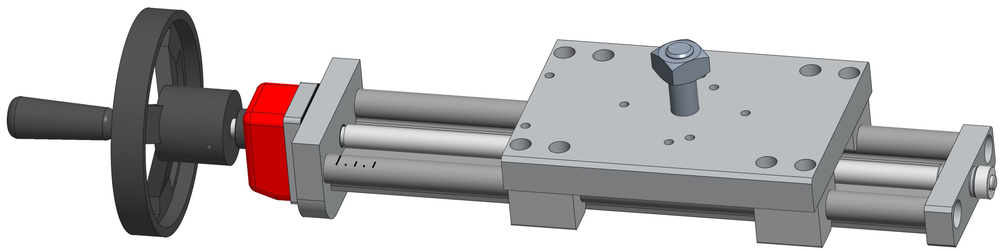
SCALE: 1/2
DATE: 3-25-20
DRW BY: ATT
CHK BY: 03/02/24-SEM
APPR BY:

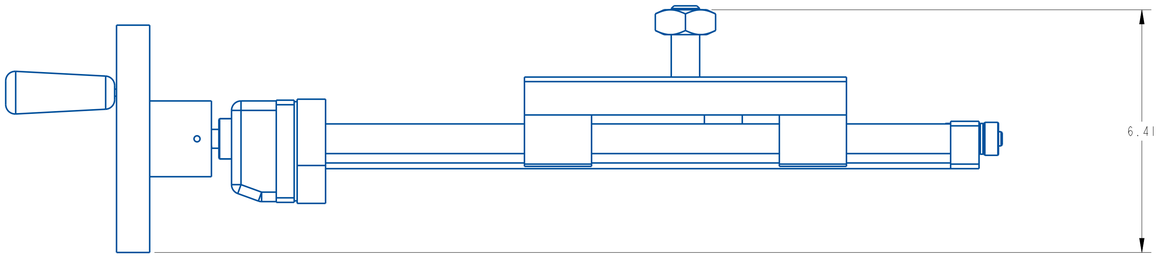
VERTICAL IGUS SLIDE, 17.5"

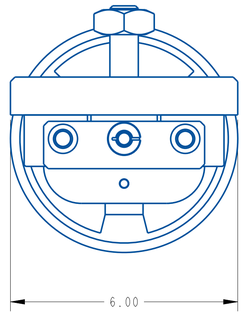
MAT'L 22173-000

22173-601









REV	DATE	DESCRIPTION	BY
A	3-25-20	NEW DRAWING	ATT

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
X ± .1
XX ± .01
XXX ± .005
ANGLES ± 30'
SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030
ALL ANGLES ARE 90°

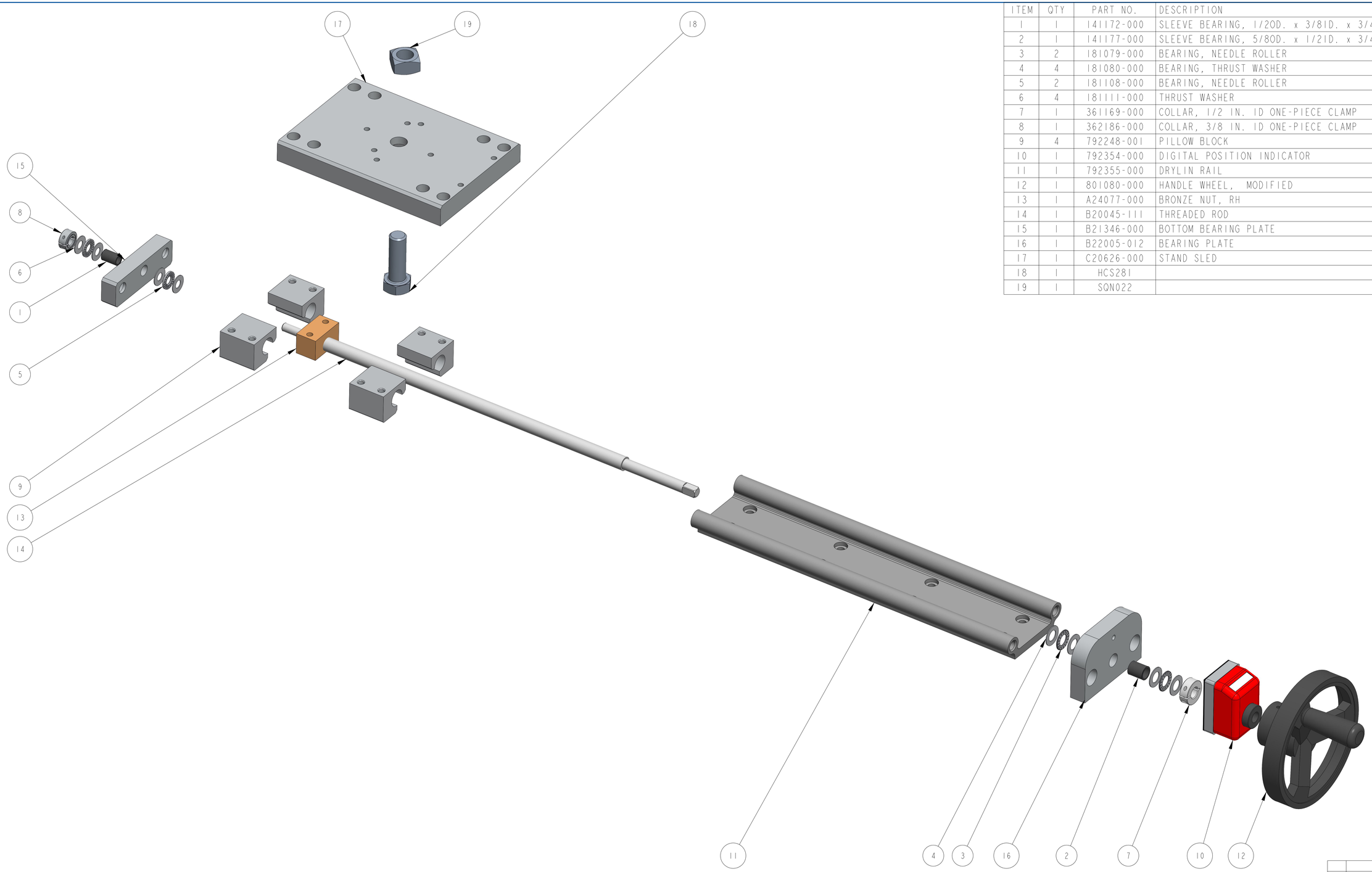
QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

SCALE: 1/2
DATE: 3-25-20
DRW BY: ATT
CHK BY: 03/02/24-SEM
APPR BY:

VERTICAL IGUS SLIDE, 17.5"

MAT'L: 22173-000

22173-601



ITEM	QTY	PART NO.	DESCRIPTION	PARENT ITEM
1	1	141172-000	SLEEVE BEARING, 1/2OD. x 3/8ID. x 3/4LNG	22173H-601
2	1	141177-000	SLEEVE BEARING, 5/8OD. x 1/2ID. x 3/4LNG	22173H-601
3	2	181079-000	BEARING, NEEDLE ROLLER	22173H-601
4	4	181080-000	BEARING, THRUST WASHER	22173H-601
5	2	181108-000	BEARING, NEEDLE ROLLER	22173H-601
6	4	181111-000	THRUST WASHER	22173H-601
7	1	361169-000	COLLAR, 1/2 IN. ID ONE-PIECE CLAMP	22173H-601
8	1	362186-000	COLLAR, 3/8 IN. ID ONE-PIECE CLAMP	22173H-601
9	4	792248-001	PILLOW BLOCK	22173H-601
10	1	792354-000	DIGITAL POSITION INDICATOR	22173H-601
11	1	792355-000	DRYLIN RAIL	22173H-601
12	1	801080-000	HANDLE WHEEL, MODIFIED	22173H-601
13	1	A24077-000	BRONZE NUT, RH	22173H-601
14	1	B20045-111	THREADED ROD	22173H-601
15	1	B21346-000	BOTTOM BEARING PLATE	22173H-601
16	1	B22005-012	BEARING PLATE	22173H-601
17	1	C20626-000	STAND SLED	22173H-601
18	1	HCS281		22173H-601
19	1	SQN022		22173H-601

REV	DATE	DESCRIPTION	BY
A	2-24-20	NEW DRAWING	TJS

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
.X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030

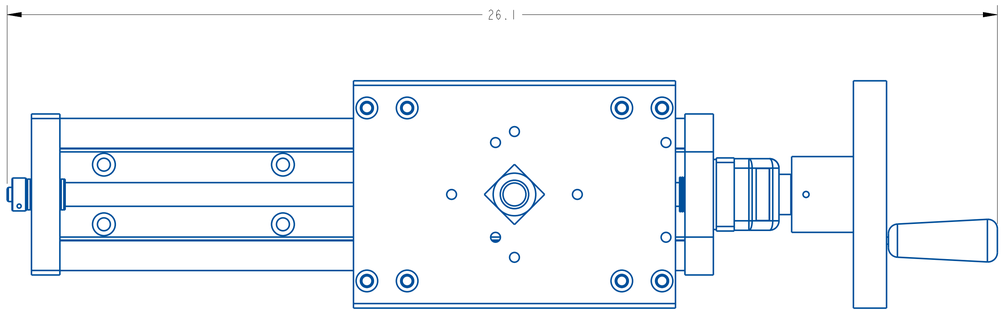
QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

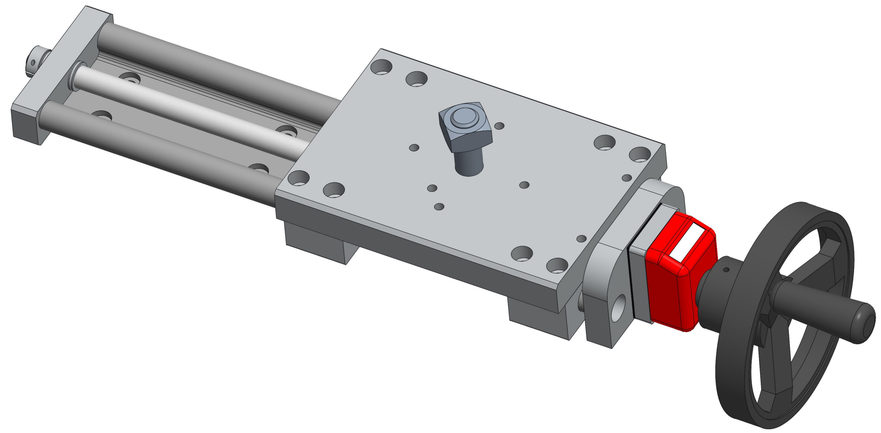
SCALE: 1/2
DATE: 2-24-20
DRW BY: TJS
CHK BY: 03/02/24-SEM
APPR BY:

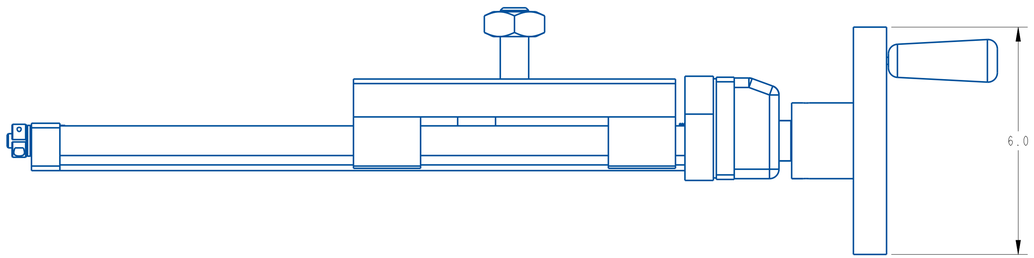
VERTICAL IGUS SLIDE, 17.5"

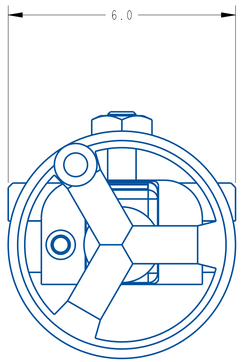
MAT'L

22173H-601









REV	DATE	DESCRIPTION	BY
A	2-24-20	NEW DRAWING	TJS

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
X ± .1
XX ± .01
XXX ± .005
ANGLES ± 30'
SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030
ALL ANGLES ARE 90°

QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

SCALE: 1/2
DATE: 2-24-20
DRW BY: TJS
CHK BY: 03/02/24-SEM
APPR BY:

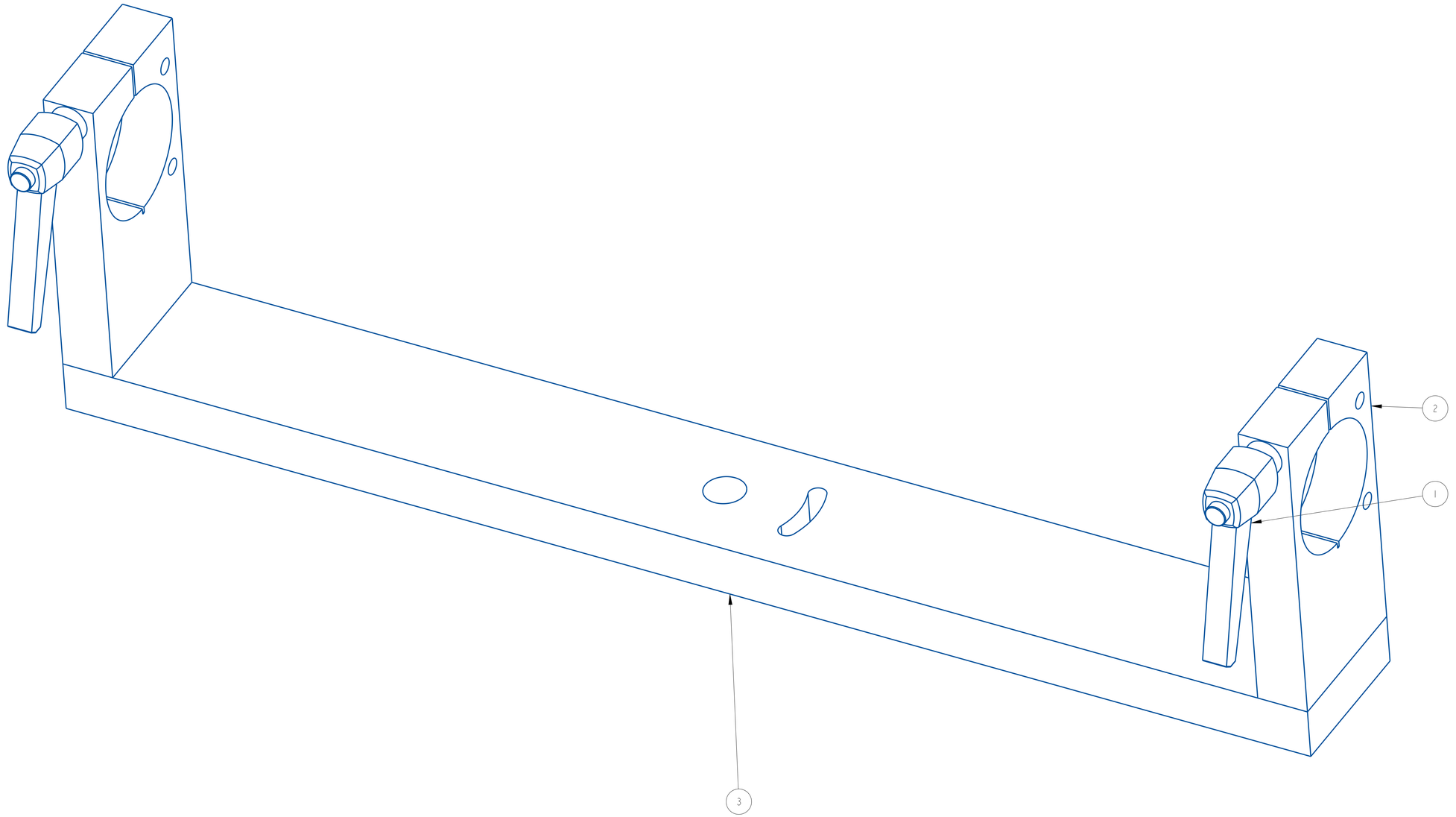
VERTICAL IGUS SLIDE, 17.5"

MAT'L

22173H-601

SHEET 2 OF 2

ITEM	QTY	PART NO.	DESCRIPTION	PARENT ITEM
1	2	801850-000	CLAMPING LEVER	22620Y-RHH
2	2	B21190-114	YOKE SIDE PLATE	22620Y-RHH
3	1	B21555-000	MTG YOKE BACK PLATE	22620Y-RHH



REV	DATE	DESCRIPTION	BY
A	11-26-13	NEW DRAWING	ATT

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE
X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030

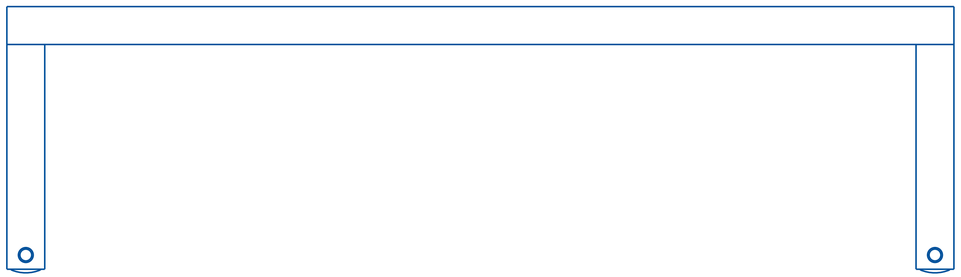
QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

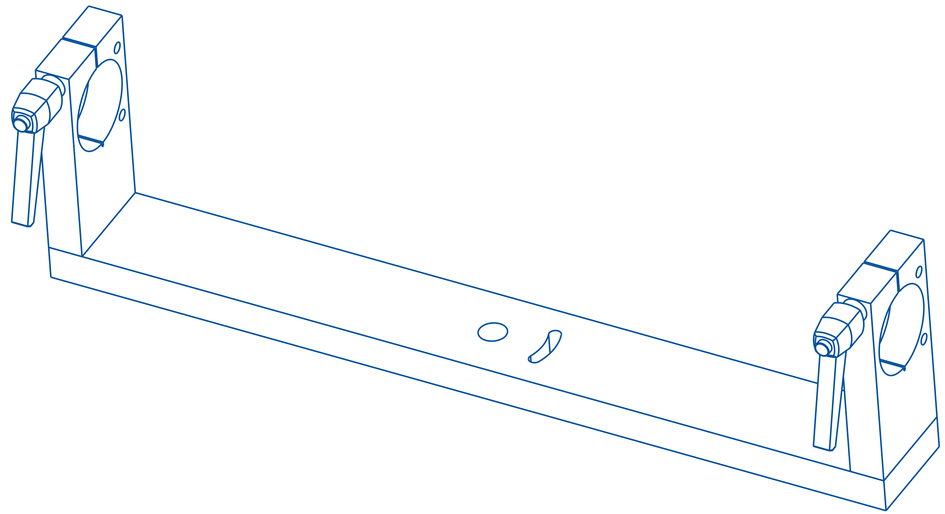
SCALE: 1/1
DATE: 11-26-13
DRW BY: ATT
CHK BY: 03/07/2024-SEM
APPR BY:

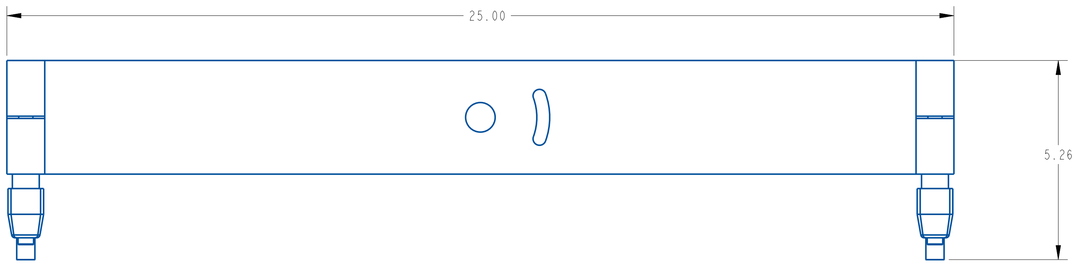
Q120 YOKE ASSEMBLY

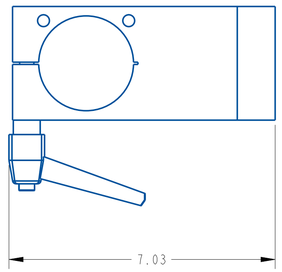
MAT'L

22620Y-RHH









REV	DATE	DESCRIPTION	BY
A	11-26-13	NEW DRAWING	ATT

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
X ± .1
XX ± .01
XXX ± .005
ANGLES ± 30'
SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030
ALL ANGLES ARE 90°

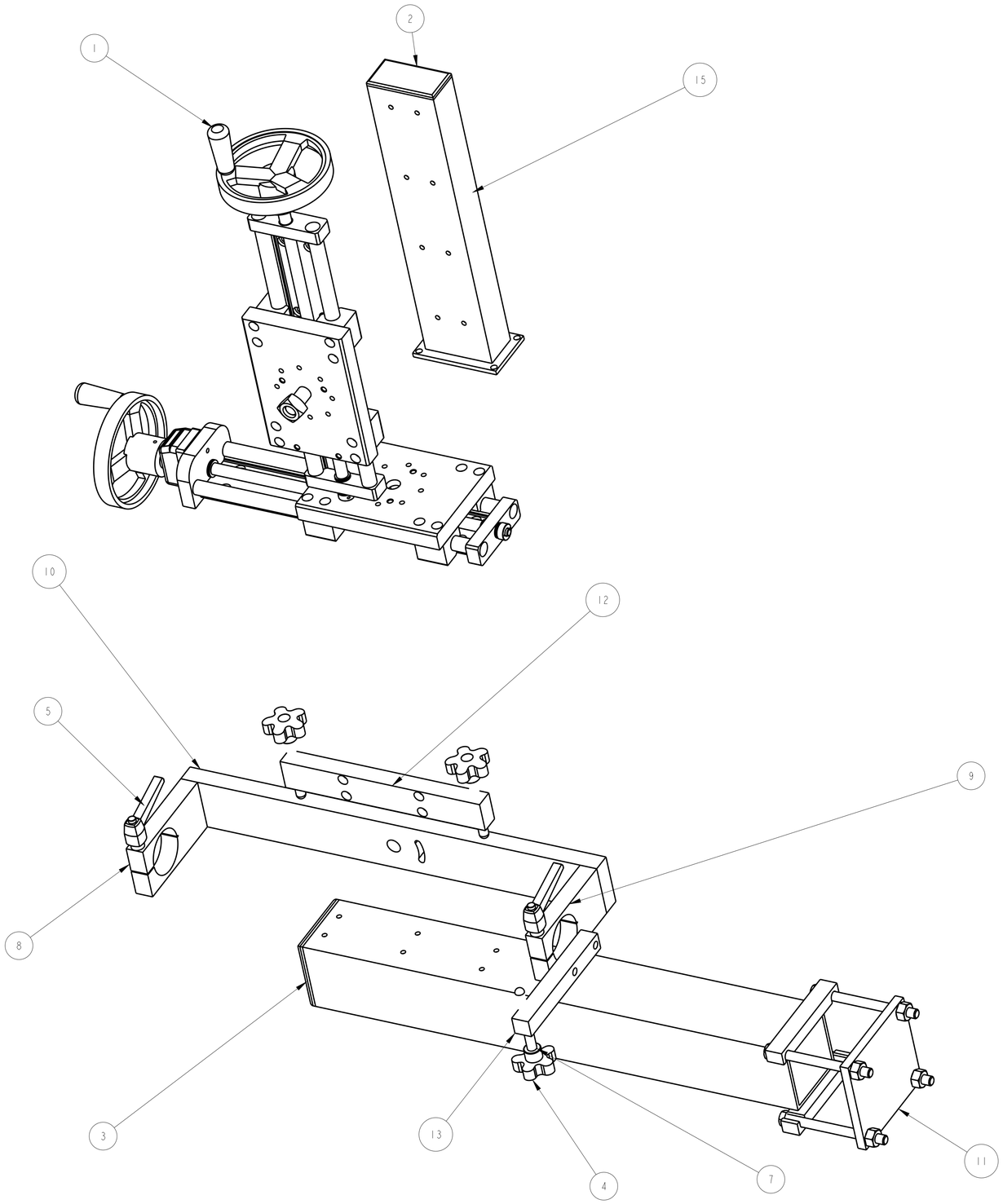
QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

SCALE: 1/2
DATE: 11-26-13
DRW BY: ATT
CHK BY:03/07/2024-SEM
APPR BY:

Q120 YOKE ASSEMBLY

MAT'L

22620Y-RHH



ITEM	QTY	PART NO.	DESCRIPTION	PARENT ITEM
1	1	22173-000	VERTICAL IGUS SLIDE, 17.5"	83798HS-000
2	1	729006-000	CAP INSERT FOR 2 X 4 TUBE	83798HS-000
3	1	792065-000	CAP INSERT FOR 4X4 TUBE (1/4WALL)	83798HS-000
4	3	793045-000	DIAMOND KNURL KNOB	83798HS-000
5	2	801834-000	CLAMPING LEVER	83798HS-000
6	1	22173H-601_83798	VERTICAL IGUS SLIDE, 17.5"	83798HS-000
7	3	A26179-000	KNOB STUD	83798HS-000
8	1	B21190-014	YOKE SIDE PLATE	83798HS-000
9	1	B21190-114	YOKE SIDE PLATE	83798HS-000
10	1	B21555-000	MTG YOKE BACK PLATE	83798HS-000
11	1	C21306-000	HEAD SUPPORT BACKING PLATE	83798HS-000
12	1	C21348-120	ADJUSTMENT PLATE	83798HS-000
13	1	C21349-120	ADJUSTMENT BLOCK	83798HS-000
14	1	D23570-83798	HORIZONTAL MOUNTING FRAME	83798HS-000
15	1	D24433-000	HEAD SUPPORT RISER	83798HS-000
16	4	HCS173	1/2-13 X 6 LG. HEX HEAD BOLT	83798HS-000
17	4	HHN002		83798HS-000

REV	DATE	DESCRIPTION	BY
A	Jul-06-23	NEW DRAWING	CRT

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE
X ± .1
XX ± .01
XXX ± .005
ANGLES ± 30'

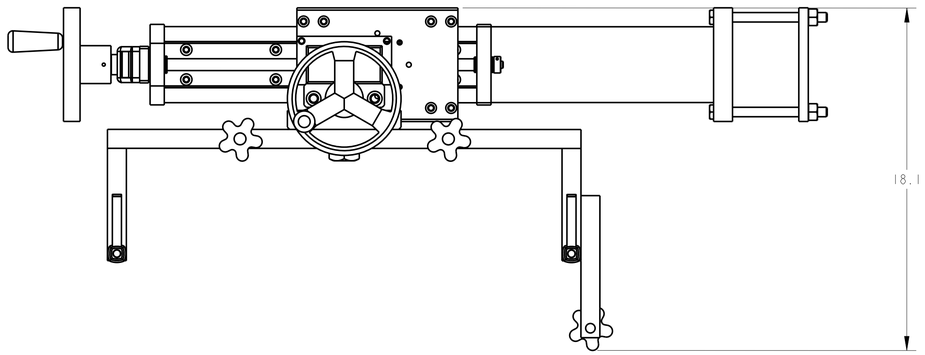
SURFACE FINISH 125
BREAK ALL EDGES .065/.015
CORNER RADIUS .010/.030

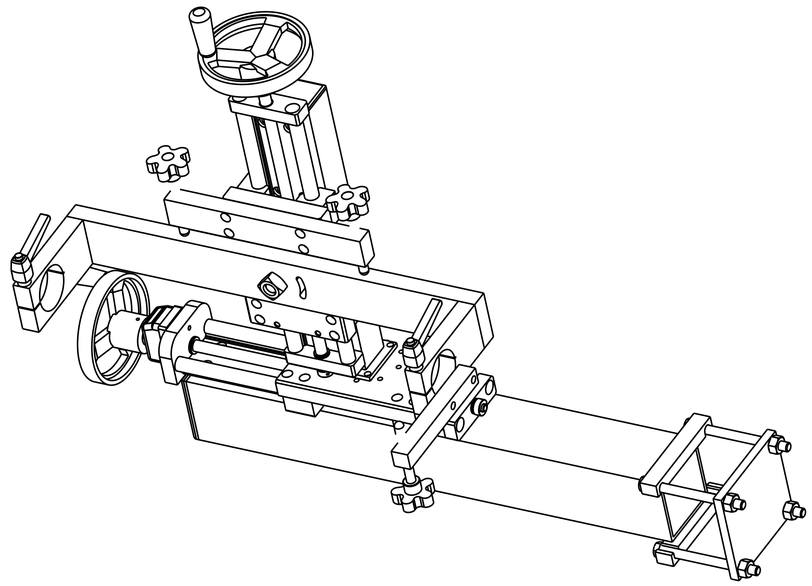
QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

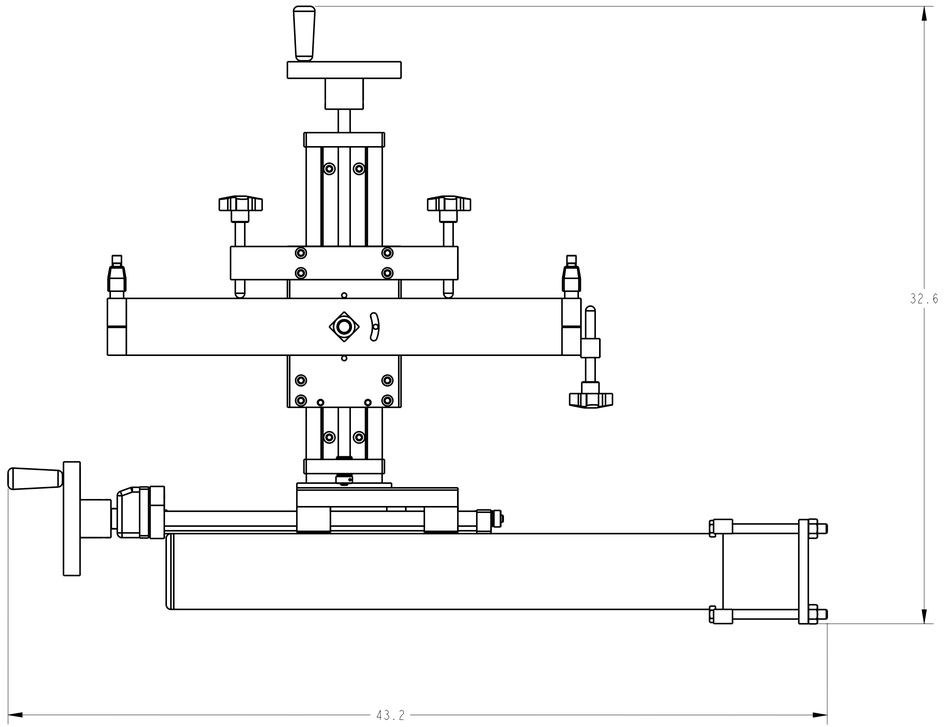
SCALE	5/16
DATE	Jul-06-23
DRAWN BY	CRT

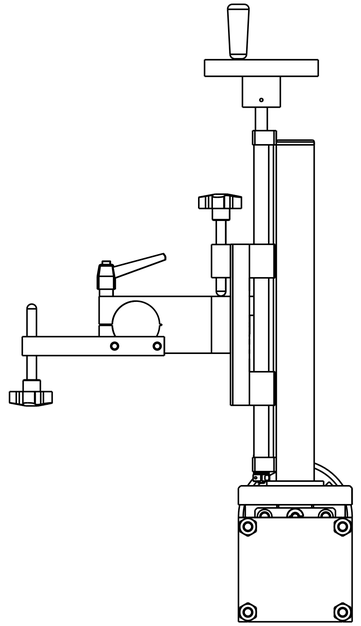
HEAD SUPPORT

MAT'L | 83798HS-000 | 83798HS-000









REV	DATE	DESCRIPTION	BY
A	Jul-05-23	NEW DRAWING	CRT

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
.X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .0107.030

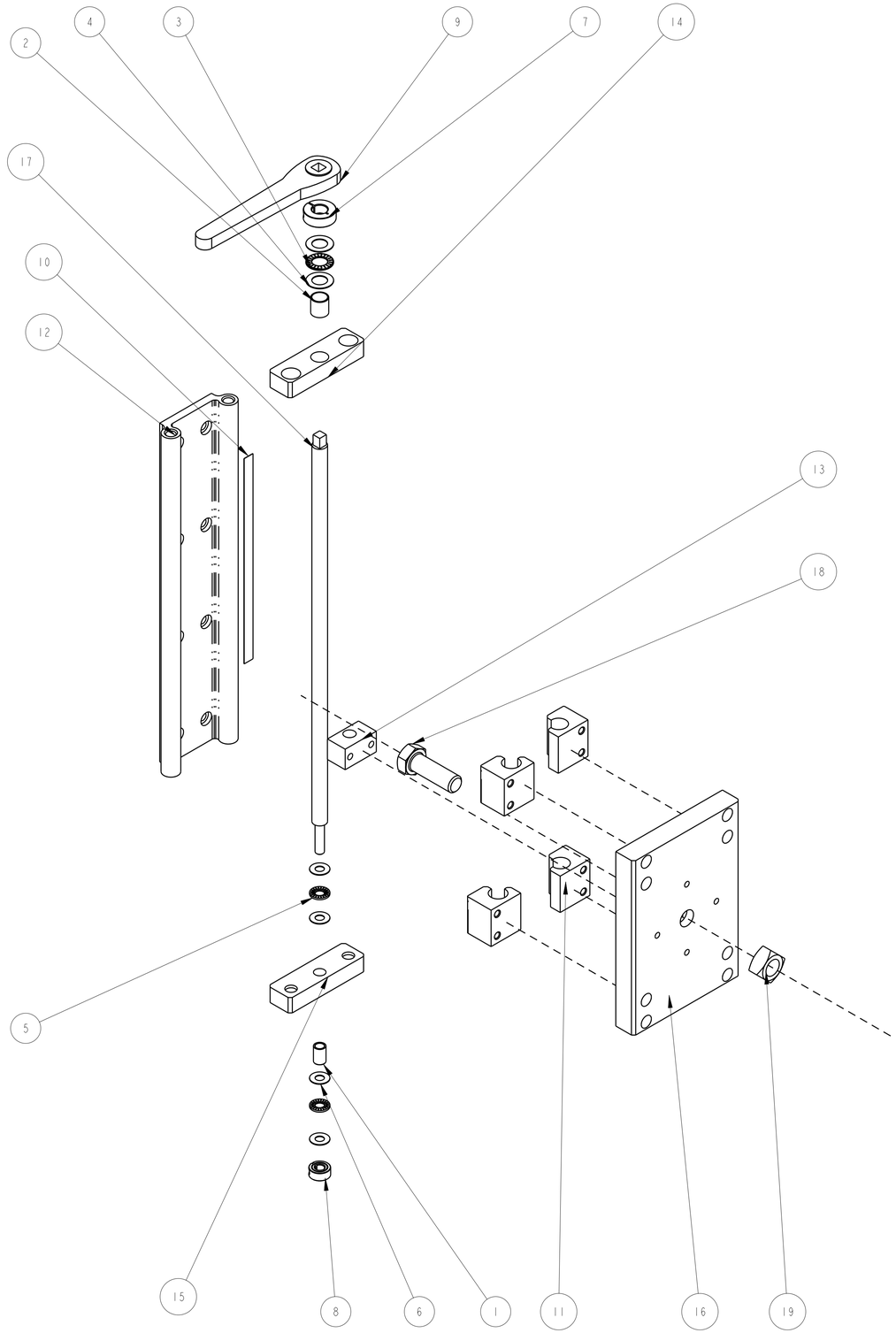
QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

SCALE	1/4
DATE	Jul-05-23
DRAWN BY	CRT

HEAD SUPPORT

MAT'L 83798HS-000

83798HS-000



ITEM	QTY	PART NO.	DESCRIPTION
1	1	141172-000	SLEEVE BEARING
2	1	141173-000	SLEEVE BEARING-5/8 O.D. X .75 LG.
3	1	181081-000	BEARING, NEEDLE ROLLER
4	2	181082-000	BEARING, THRUST WASHER
5	2	181108-000	BEARING, NEEDLE ROLLER
6	4	181111-000	THRUST WASHER
7	1	361182-000	COLLAR, 5/8 IN. ID ONE-PIECE CLAMP
8	1	362186-000	COLLAR, 3/8 IN. ID ONE-PIECE CLAMP
9	1	791752-000	RATCHET HANDLE
10	1	791914-001_10	MYLAR SCALE, QUADREL LOGO
11	4	792248-000	PILLOW BLOCK
12	1	792355-000	DRYLIN RAIL
13	1	A24077-000	BRONZE NUT, RH
14	1	B21345-000	TOP BEARING PLATE
15	1	B21346-000	BOTTOM BEARING PLATE
16	1	C20626-000	STAND SLED
17	1	C20910-001	THREADED ROD
18	1	HCS281	3/4-10 X 2-1/4 LG. HEX HEAD BOLT
19	1	SQN022	SQUARE NUT

REV	DATE	DESCRIPTION
A	10-14-09	NEW DRAWING

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE
X ± .1
XX ± .01
XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030

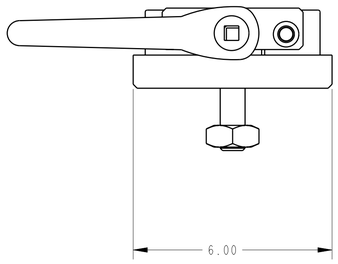
QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

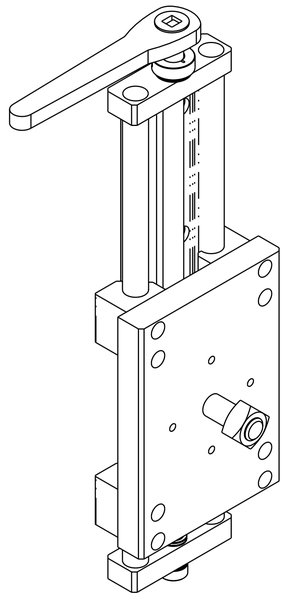
SCALE: 3/8
DATE: 10-14-09
DRW BY: DC
CHK BY:
APPR BY:

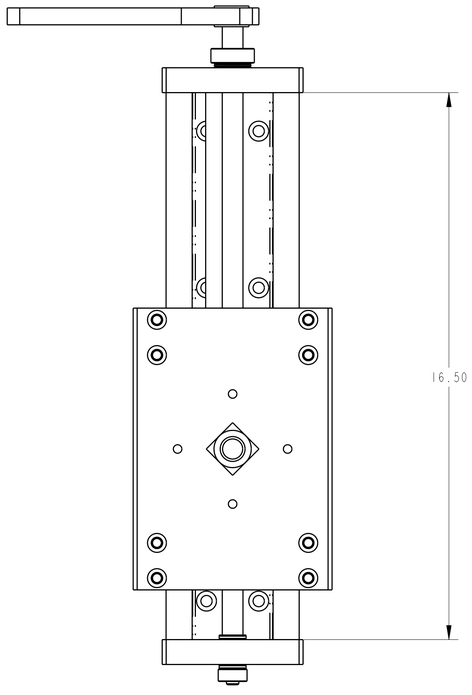
VERTICAL IGUS SLIDE, 17.5"

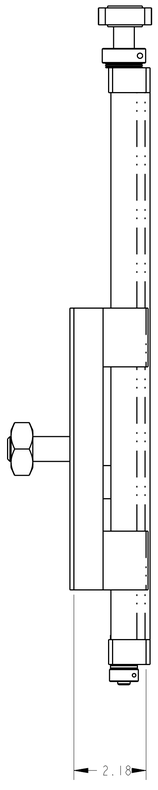
MAT'L 22173-000

D23025-000









REV	DATE	DESCRIPTION
A	10-14-09	NEW DRAWING

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE
.X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .0107.030

QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

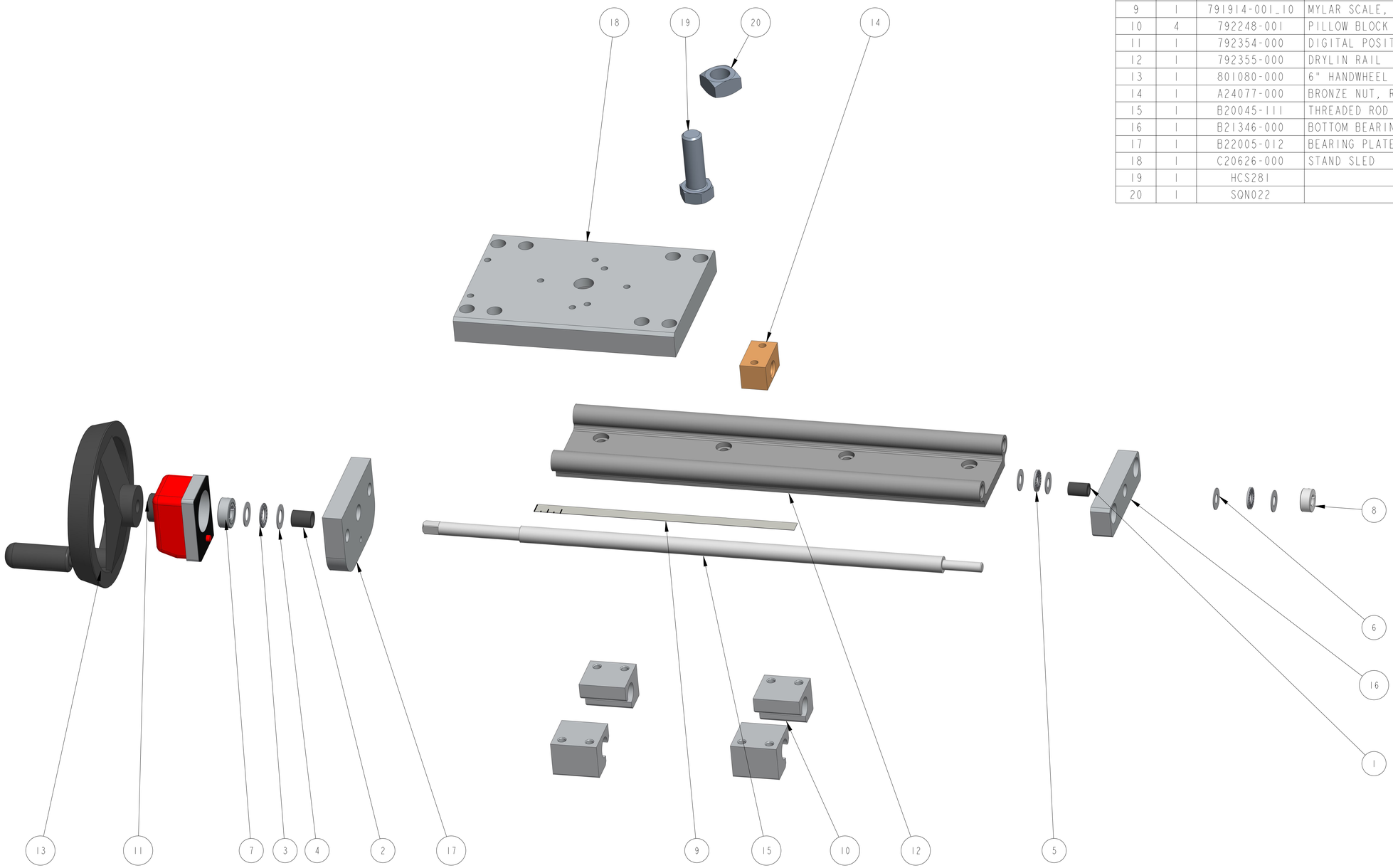
SCALE: 7/16
DATE: 10-14-09
DRW BY: DC
CHK BY:
APPR BY:

VERTICAL IGUS SLIDE, 17.5"

MAT'L 22173-000

D23025-000

ITEM	QTY	PART NO.	DESCRIPTION	PARENT ITEM
1	1	141172-000	SLEEVE BEARING, 1/2OD. x 3/8ID. x 3/4LNG	22173-601
2	1	141177-000	SLEEVE BEARING, 5/8OD. x 1/2ID. x 3/4LNG	22173-601
3	1	181079-000	BEARING, NEEDLE ROLLER	22173-601
4	2	181080-000	BEARING, THRUST WASHER	22173-601
5	2	181108-000	BEARING, NEEDLE ROLLER	22173-601
6	4	181111-000	THRUST WASHER	22173-601
7	1	361169-000	COLLAR, 1/2 IN. ID ONE-PIECE CLAMP	22173-601
8	1	362186-000	COLLAR, 3/8 IN. ID ONE-PIECE CLAMP	22173-601
9	1	791914-001_10	MYLAR SCALE, QUADREL LOGO	22173-601
10	4	792248-001	PILLOW BLOCK	22173-601
11	1	792354-000	DIGITAL POSITION INDICATOR	22173-601
12	1	792355-000	DRYLIN RAIL	22173-601
13	1	801080-000	6" HANDWHEEL	22173-601
14	1	A24077-000	BRONZE NUT, RH	22173-601
15	1	B20045-111	THREADED ROD	22173-601
16	1	B21346-000	BOTTOM BEARING PLATE	22173-601
17	1	B22005-012	BEARING PLATE	22173-601
18	1	C20626-000	STAND SLED	22173-601
19	1	HCS281		22173-601
20	1	SQN022		22173-601



REV	DATE	DESCRIPTION	BY
A	3-25-20	NEW DRAWING	ATT

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
.X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030

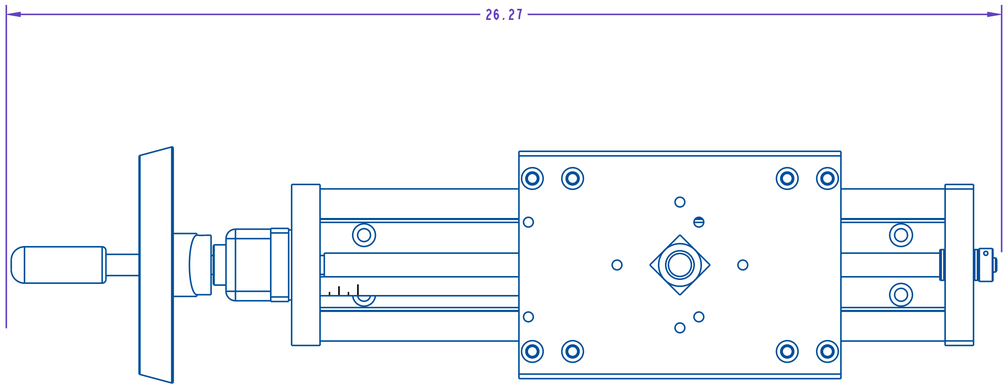
QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

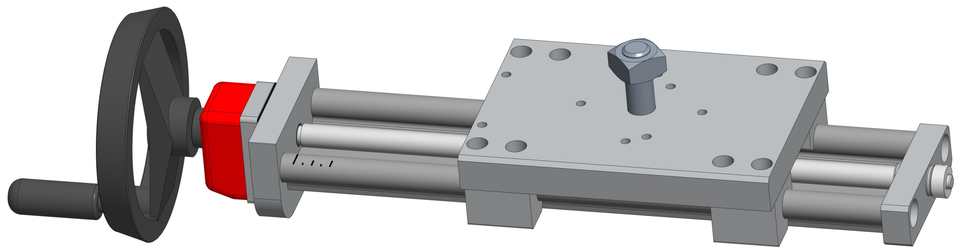
SCALE: 1/2
DATE: 3-25-20
DRW BY: ATT
CHK BY: 03/02/24-SEM
APPR BY:

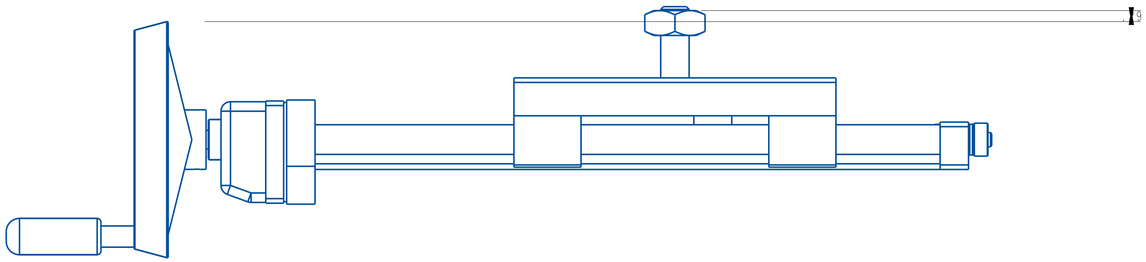
VERTICAL IGUS SLIDE, 17.5"

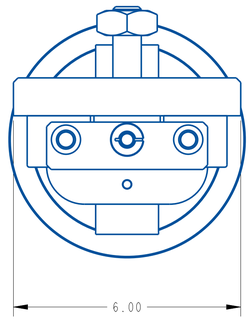
MAT'L

22173-601









REV	DATE	DESCRIPTION	BY
A	3-25-20	NEW DRAWING	ATT

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
X ± .1
XX ± .01
XXX ± .005
ANGLES ± 30'
SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030
ALL ANGLES ARE 90°

QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

SCALE: 1/2
DATE: 3-25-20
DRW BY: ATT
CHK BY: 03/02/24-SEM
APPR BY:

VERTICAL IGUS SLIDE, 17.5"

MAT'L
22173-000

22173-601

7.4 PACING WHEEL / BELT ASSEMBLY

7.4.1 GENERAL INFORMATION

The pacing wheel/belt are an optional module that is generally placed at the entrance of the conveyor to allow adequate spacing of products as they travel towards the labeling head. The speed of the wheel/belt will vary how much spacing is created between the products. It is controlled by a DC motor and DC drive located in the electrical enclosure.

7.4.2 ADJUSTMENTS

The adjustments for both assemblies are fairly straight forward. The pacing wheel assembly has a pivoting in and out adjustment and height adjustment. The pivot in and out adjustment is made by loosening the ratcheting handle on the mount and rotating the assembly as needed.







The vertical adjustment for the pacing wheel is achieved by loosening the collar on the shaft then loosening the ratchet handle and manually pull up or push down as needed. The height is locked in place with the lock collar. Tighten the ratchet handle when finished.

⚠ **CAUTION** **Do not make any adjustments when assembly or conveyor are running.**

The pacing belt assembly has both vertical and horizontal adjustments. To adjust vertically loosen the 2 3/8-16 bolts and pull up on the assembly. To adjust horizontally (in and out) loosen the 2 ratchet handles under the assembly and slide in and out as needed.





ASSEMBLY TITLE: **WRAP ASSEMBLY**

DRAWING NO: **D21938-001**

GENERAL FUNCTION:

The product pacing wrap is offsets each product a variable distance from the preceding product and guarantees adequate product separation.

SETUP AND ADJUSTMENTS:

- Adjust the brackets so that the pacing wheel slightly presses the product against the back rail. Lock into place using the adjustment knobs.

- The speed of the pacing wheel is controlled by a potentiometer located in the remote enclosure mounted on the conveyor riser.

MAINTENANCE:

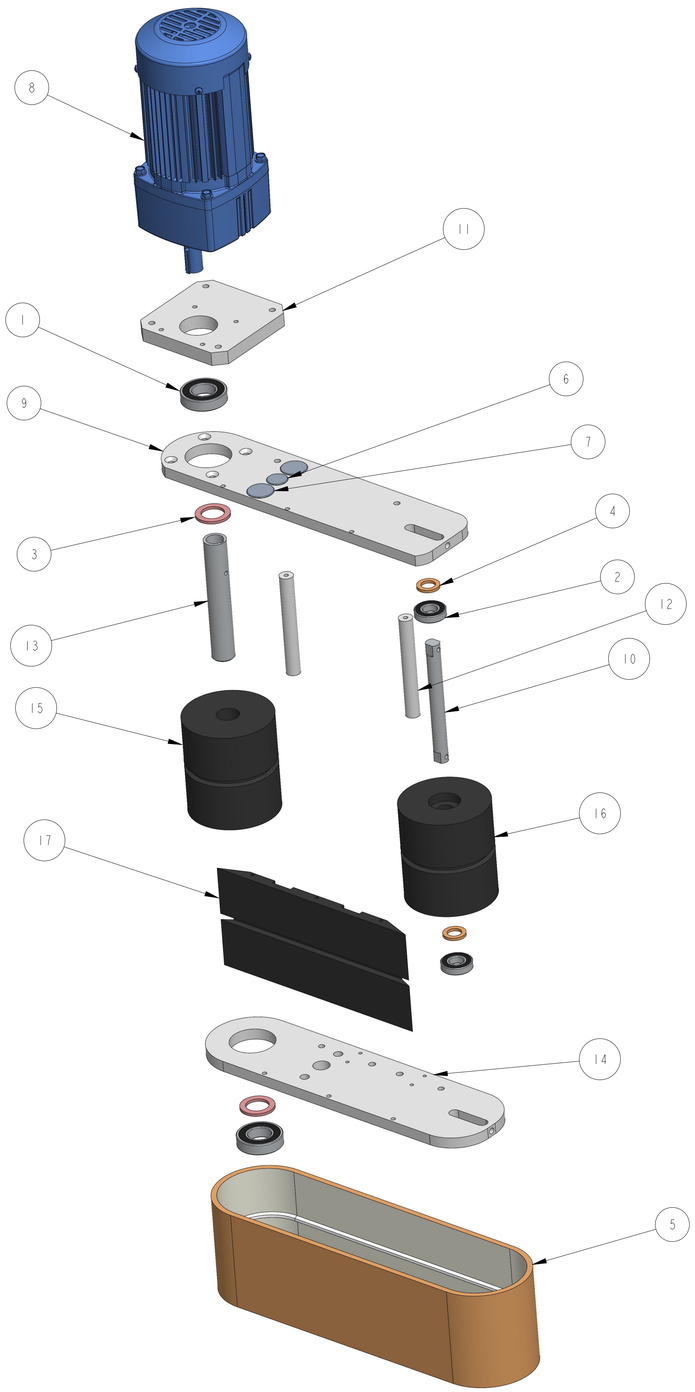
No scheduled maintenance is required for this assembly. Always keep the drive areas free of label flash and debris.

CAUTION:

Before performing any maintenance or cleaning make sure the system is powered down.

TROUBLESHOOTING:

PROBLEM:	WHAT TO DO:
- Product spaced to close	- Reduce the speed of the pacing wheel.
- Product spaced too far apart	- Increase the speed of the pacing wheel.



ITEM	QTY	PART NO.	DESCRIPTION	PARENT ITEM
1	2	111064-000	BEARING, BANDED THRUST BALL	21978-100
2	2	111075-000	BEARING, BALL	21978-100
3	2	151011-000	BEARING, THRUST WASHER	21978-100
4	2	151017-000	BEARING, THRUST WASHER	21978-100
5	1	193366-001	BELT, WRAP RUFTEX W/V-GUIDE	21978-100
6	1	261823-000	PLUG BUTTON, 3/4 DIA	21978-100
7	2	262883-000	PLUG BUTTON	21978-100
8	1	413006-000	GEARMOTOR, 3/8 HP, 85 RMP, AC MOTOR	21978-100
9	1	A21277-000	LOWER PLATE (MODULINE WRAP)	21978-100
10	1	A21743-000	IDLER SHAFT	21978-100
11	1	A23731-000	MOTOR MTG. PLATE (MODULINE)	21978-100
12	2	A25302-007	SPACER	21978-100
13	1	B20776-000	DRIVE SHAFT	21978-100
14	1	B21200-000	UPPER PLATE (MODULINE WRAP)	21978-100
15	1	B21968-000	DRIVE ROLL W/GROOVE	21978-100
16	1	B21969-000	IDLER ROLL W/GROOVE	21978-100
17	1	D21857-000	BACK-UP PLATE W/ V-GROOVE SLOT	21978-100

REV	DATE	DESCRIPTION
C	09-APR-2024	REMOVED A21257-010, A23798-05 - CRT
B	Feb-05-24	UPDATED DRAWING AND BOM - CRT
A	6-15-22	NEW DRAWING

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
X ± .1
XX ± .01
XXX ± .005
ANGLES ± 30°
SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030

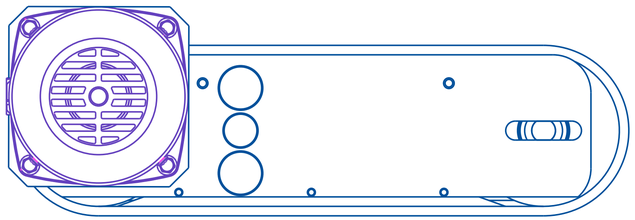
QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

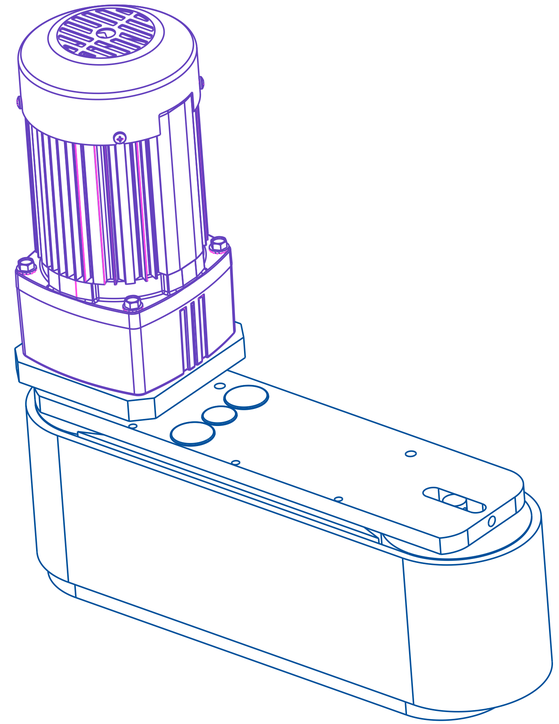
SCALE: 5/16
DATE: 6-15-22
DRW BY: ATT
CHK BY:03/13/2024-SEM
APPR BY:

AC PACING BELT

MAT'L 21978-100

21978-100





REV	DATE	DESCRIPTION
C	09-APR-2024	REMOVED A21257-010, A23798-05 - CRT
B	Feb-05-24	UPDATED DRAWING AND BOM - CRT
A	6-15-22	NEW DRAWING

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE
X ± .1
XX ± .01
XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030

QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

SCALE: 1/2
DATE: 6-15-22
DRW BY: ATT
CHK BY: 03/13/2024-SEM
APPR BY:

AC PACING BELT

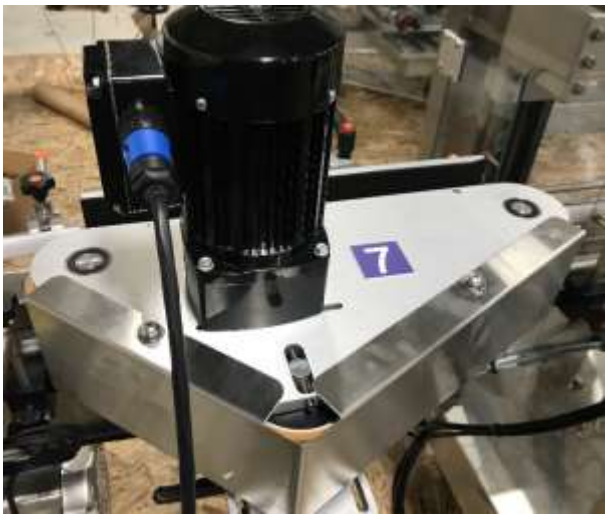
MAT'L 21978-100

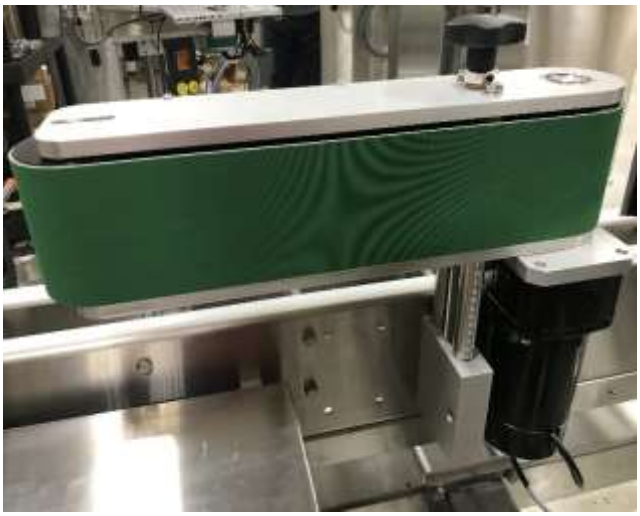
21978-100

7.5 WRAP STATION ASSEMBLY

7.5.1 GENERAL INFORMATION

The wrap station is generally positioned near the labeler and is made up of a belt/roller assembly activated by a DC motor (with encoder), and AC motor, or servo motor coupled to a gear box and adjusting plate. The wrap station paired with a foam back plate assembly is used for cylindrical products to ensure impression 360 degrees around the container. There are two wrap styles depending on your specific application. A triangle wrap station (pictured on the left) is used primarily in “flag and wrap” applications where the wrap station is positioned after the top hold down. Our direct wrap or rectangle wrap station (pictured on the right) is positioned directly after the peel plate. This wrap station comes with a dc motor with an encoder to ensure absolute synchrony with the labeling head.









7.5.2 ADJUSTMENTS

Depending on the height of your product and placment of your label you may need to adjust the height of the wrap station. Adjusting the hieght on your wrap station is very simple. On a triangle wrap station rotate the handwheel counter clockwise or clockwise to raise and lower the wrap station.



On a rectangle wrap station locate the handle on the mount for the wrap station. loosen the ratchet handle, then simply turn the knob on top of the wrap station clockwise and counter clockwise to raise and lower the wrap station. This is the only adjustment for the rectangle wrap station on this mount.





The triangle wrap station has the ability to travel in and out. This adjustment is used in applications with skinnier products, or a cituation where you need to move the wrap out of the way. To achieve this adjustment loosen both ratchet handles und the wrap station. Tighten when in place.

⚠ **CAUTION** **Do not make this adjustment when the wrap station is running.**



In more difficult applications such as tapered containers you may need to adjust the tilt of the wrap station to match the products taper (If the taper is too great other methods are used). To adjust the tilt or to square the wrap station to the conveyor or container locate the 4 set screws on the wrap mount loosen the jam nuts and tighten or loosen the set screws to tilt the wrap station as desired.



ASSEMBLY TITLE: **WRAP ASSEMBLY**

GENERAL FUNCTION:

- The wrap station is used in conjunction with a single labeling head to apply a label around a cylindrical product. The wrap station length will vary with respect to the maximum length of label being applied.

SET UP AND ADJUSTMENTS:

- The wrap station is attached to mounting blocks which clamp to mounting rails affixed to the conveyor side plate. The wrap station can be moved by loosening the locking levers holding the wrap station in place. Position as needed and retighten locking levers.
- Set the speed of the wrap station with the manual speed control. The final wrap speed should be set from 1.5 to 2 times the rate of the conveyor. All line compensation systems will automatically adjust the labeling head speed with respect to the speed of the wrap station.

MAINTENANCE:

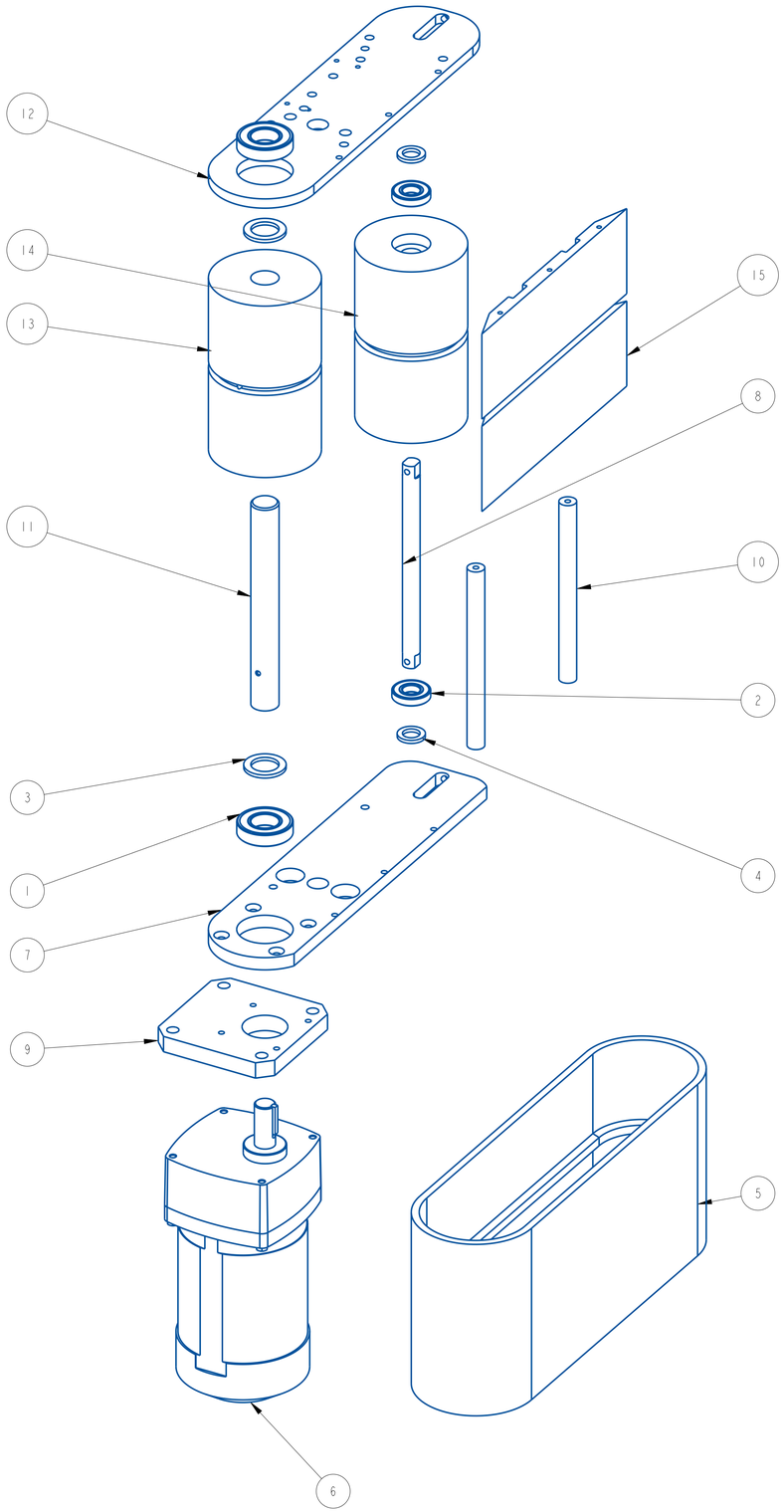
- Keep the wrap belt free of label adhesive and debris. This will prevent jamming and web tears.
- Periodically check belt tension. Use the setscrew adjustment at each end to control belt tension.

CAUTION:

- **Before performing any maintenance or cleaning make sure the system is powered down.**

TROUBLESHOOTING:

PROBLEM	WHAT TO DO
- Belt not fully engaged	- Increase tension on belt by adjusting tensioner set screws.
- Wrap station not feeding the label correctly	- Adjust wrap station inward.
- Speed set incorrectly	- Reset speed as necessary.
- Belt Jam	- Speed set incorrectly, reset speed as necessary.
- Tension too stiff	- Relieve tension.



ITEM	QTY	PART NO.	DESCRIPTION	PARENT ITEM
1	2	111064-000	BEARING, BANDED THRUST BALL	22235-107
2	2	111075-000	BEARING, BALL	22235-107
3	2	151011-000	BEARING, THRUST WASHER	22235-107
4	2	151017-000	BEARING, THRUST WASHER	22235-107
5	1	193371-007	BELT, WRAP RFG 6mm, w/ PVC V-GUIDE	22235-107
6	1	412173-000	GEARMOTOR; 3/8 HP 170RPM 3PH AC	22235-107
7	1	A21277-000	LOWER PLATE (MODULINE WRAP)	22235-107
8	1	A21743-003	IDLER SHAFT	22235-107
9	1	A23731-000	MOTOR MTG. PLATE (MODULINE)	22235-107
10	2	A25302-009	SPACER	22235-107
11	1	B20776-004	DRIVE SHAFT	22235-107
12	1	B21200-003	UPPER PLATE (MODULINE WRAP)	22235-107
13	1	B21968-003	DRIVE ROLL W/GROOVE	22235-107
14	1	B21969-001	IDLER ROLL W/GROOVE	22235-107
15	1	D21857-007	BACK-UP PLATE W/ V-GROOVE SLOT	22235-107

NOT SHOWN:

A25217-037 CUT DOWN BLET, 4.75"

REV	DATE	DESCRIPTION	BY
A	Jan-24-18	NEW DRAWING	CRT

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE

.X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030

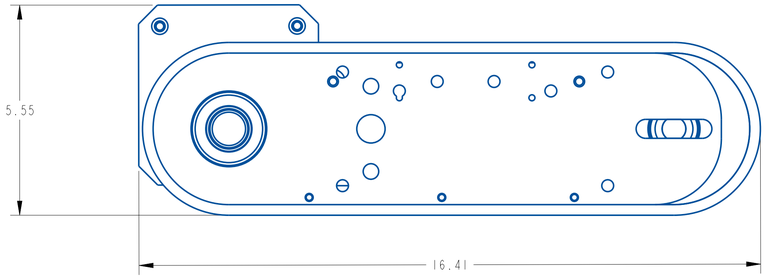
QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

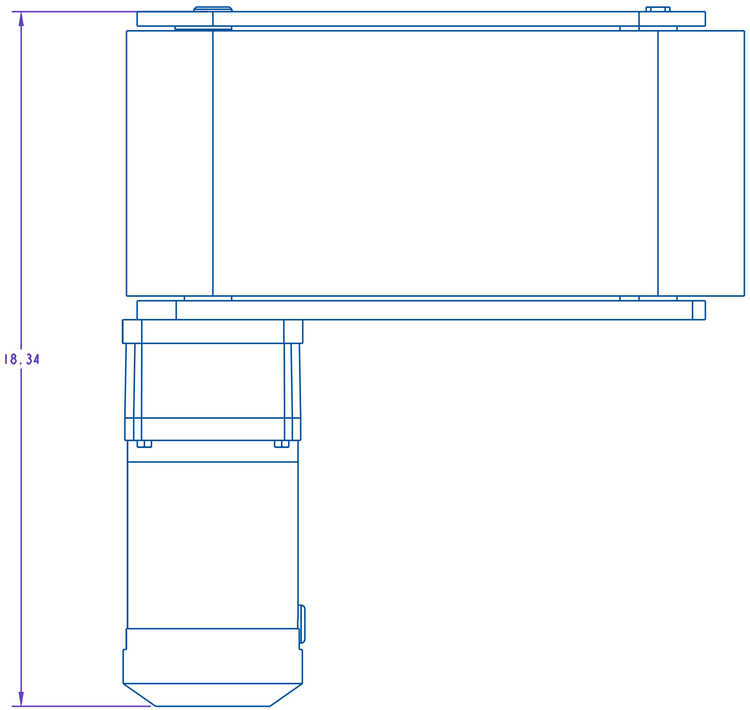
SCALE: 3/8
DATE: Jan-24-18
DRW BY: CRT
CHK BY: 2025/11/05-SEM
APPR BY:

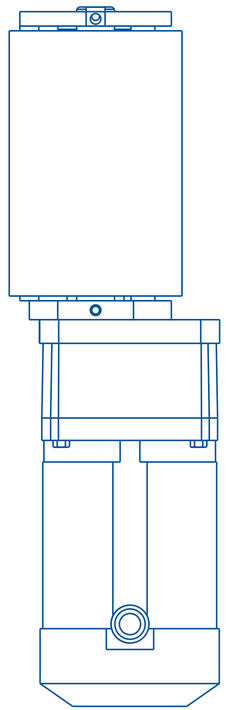
7 X 12 WRAP, AC VARIABLE SPEED

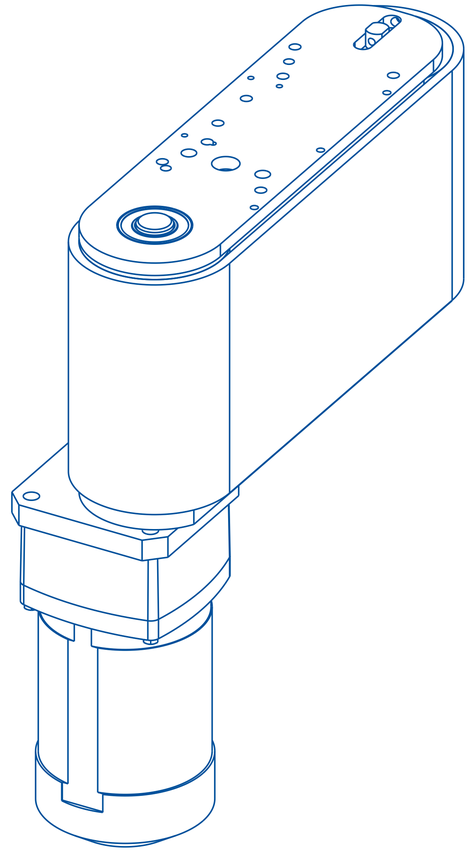
MAT'L

22235-107









REV	DATE	DESCRIPTION	BY
A	Jan-24-18	NEW DRAWING	CRT

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
X ± .1
XX ± .01
XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030
ALL ANGLES ARE 90°

QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

SCALE:	1/2
DATE:	Jan-24-18
DRW BY:	CRT
CHK BY:	2025/11/05-SEM
APPR BY:	

7 X 12 WRAP, AC VARIABLE SPEED

MAT'L

22235-107

ASSEMBLY TITLE: **WRAP ASSEMBLY**

DRAWING: **20306-003**

GENERAL FUNCTION:

The wrap station is used in conjunction with a single labeling head to apply a label around a cylindrical product. The wrap station length will vary with respect to the maximum length of label being applied.

SET UP AND ADJUSTMENTS:

The wrap station is attached to mounting blocks which clamp to mounting rails affixed to the conveyor side plate. The wrap station can be moved by loosening the locking levers holding the wrap station in place. Position as needed and retighten locking levers.

Set the speed of the wrap station with the manual speed control mounted in the drive/disconnect enclosure. The maximum rate allowable is 1000 in/min as this is the maximum application rate of the Q10 labeling head.

The final wrap speed should be set from 1.5 to 2 times the rate of the conveyor. All line compensation systems will automatically adjust the labeling head speed with respect to the speed of the wrap station.

MAINTENANCE:

Keep the wrap belt free of label adhesive and debris. This will prevent jamming and web tears.

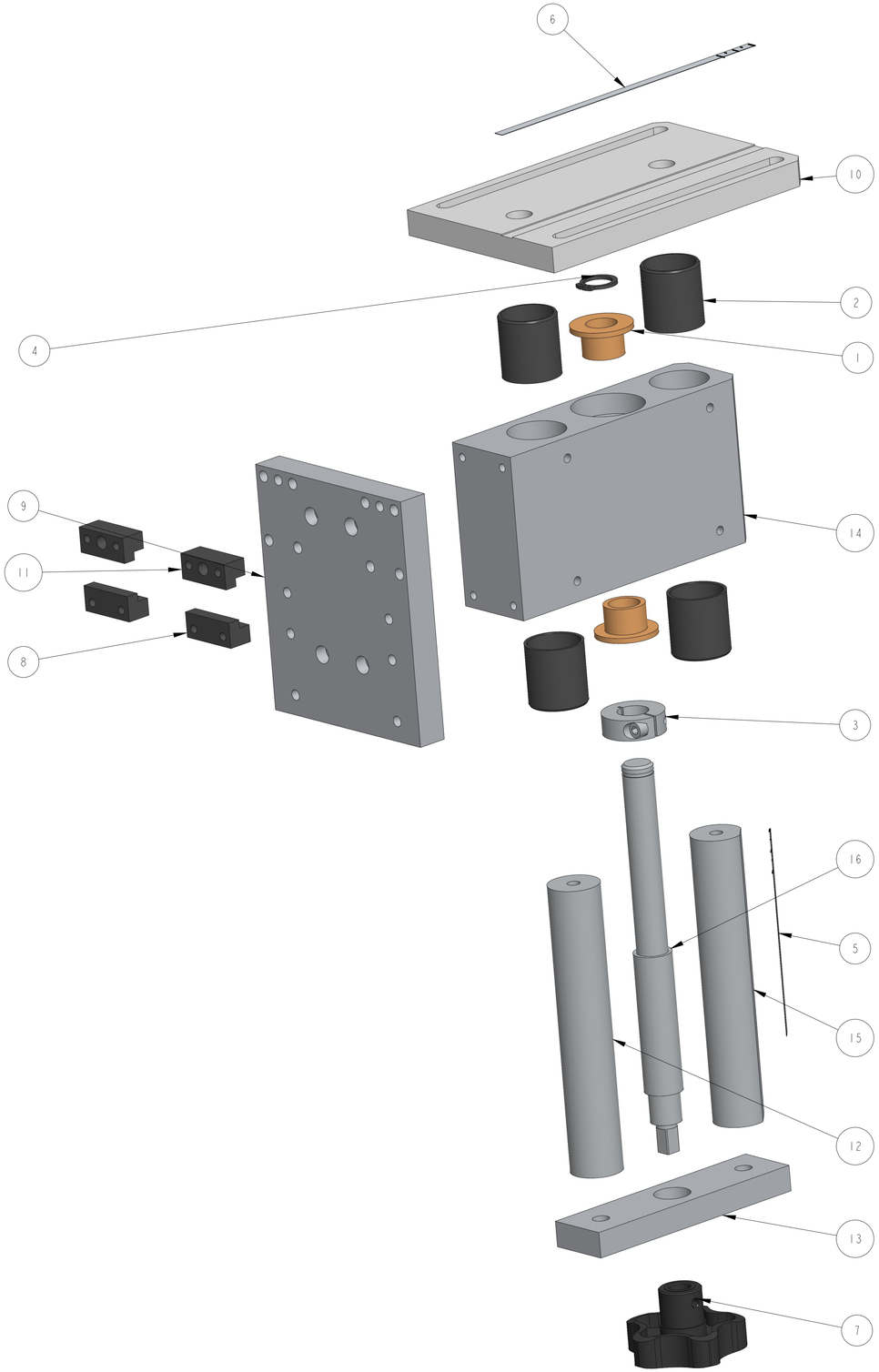
Periodically check belt tension. Use the setscrew adjustment at each end to control belt tension.

CAUTION:

Before performing any maintenance or cleaning make sure the system is powered down.

TROUBLESHOOTING:

PROBLEM	WHAT TO DO
Belt not fully engaged	Increase tension on belt by adjusting tensioner set screws.
Wrap station not feeding the label correctly	Adjust wrap station inward.
Speed set incorrectly	Reset speed as necessary.
Belt Jam	Speed set incorrectly, reset speed as necessary.
Tension too stiff	Relieve tension.



ITEM	QTY	PART NO.	DESCRIPTION	PARENT ITEM
1	2	131076-000	BEARING, FLANGED	20306-003
2	4	141193-000	SLEEVE BEARING	20306-003
3	1	361183-000	COLLAR, 3/4 ID ONE PIECE- S.S.	20306-003
4	1	791790-000	EXTERNAL RETAINING RING	20306-003
5	1	791914-002_05	MYLAR SCALE, QUADREL LOGO	20306-003
6	1	791914-002_08	MYLAR SCALE, QUADREL LOGO	20306-003
7	1	801332-000	LOBE KNOB W/ ORANGE CENTER	20306-003
8	2	A20876-000	RETAINER BLOCK	20306-003
9	1	A21031-000	CONVEYOR MOUNTING PLATE	20306-003
10	1	A21034-000	ADJUSTMENT ROD MOUNTING PLATE	20306-003
11	2	A21367-000	RETAINER BLOCK	20306-003
12	1	A21552-102	GUIDE ROD	20306-003
13	1	A21553-000	BEARING PLATE	20306-003
14	1	A21588-100	BEARING MOUNTING BLOCK	20306-003
15	1	A23903-102	GUIDE ROD WITH FLAT	20306-003
16	1	B21299-102	VERTICAL ADJ. SCREW	20306-003

NOT SHOWN:

A23798-000 ADAPTER PLATE
A23489-000 GUIDE

REV	DATE	DESCRIPTION	BY
A	Feb-07-22	NEW DRAWING	TJS

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE
.X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030

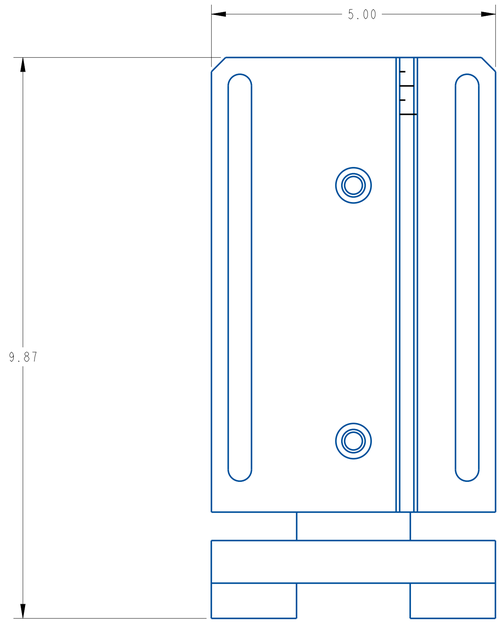
QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

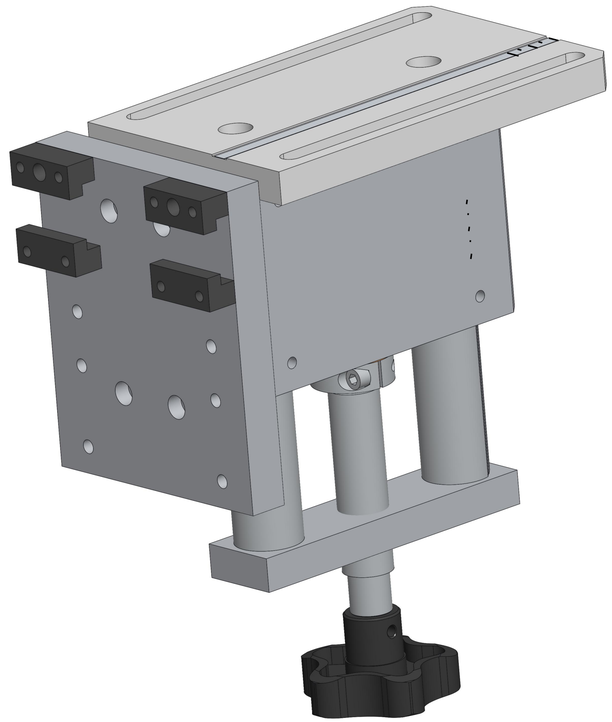
SCALE: 5/8
DATE: Feb-07-22
DRW BY: TJS
CHK BY: 03/18/2024-SEM
APPR BY:

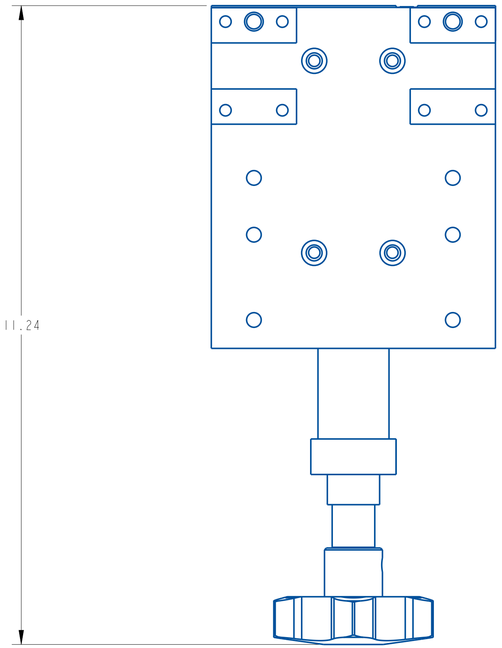
VERSALINE WRAP MOUNTING ASSEMBLY

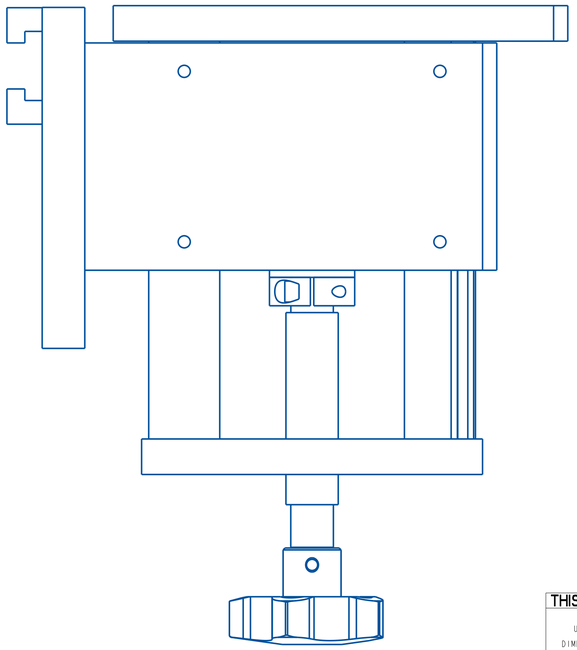
MAT'L 20306-000

20306-003









SHEET 2 OF 2

REV	DATE	DESCRIPTION	BY
A	Feb-07-22	NEW DRAWING	TJS

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
X ± .1
XX ± .01
XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030
ALL ANGLES ARE 90°

QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

SCALE: 3/4
DATE: Feb-07-22
DRW BY: TJS
CHK BY:03/18/2024-SEM
APPR BY:

VERSALINE WRAP MOUNTING ASSEMBLY

MAT'L
20306-000

20306-003

7.6 BACK UP PLATE ASSEMBLY

7.6.1 GENERAL INFORMATION

The back up plate assembly paired with the wrap station applies pressure to cylindrical containers to apply labels.

7.6.2 ADJUSTMENTS



The back up plate assembly has a variety of adjustments. To adjust vertically loosen the 2 ratchet handles in the main mounting blocks and pull up or push down. To make adjustments left or right loosen the 8 socket head bolts and slide the assembly along the black rail towards the infeed or outfeed of the conveyor.

Moving the back up plate assembly in and out is achieved by loosening the 2 ratchet handles on the top of the assembly and turning the knob clockwise or counter clockwise. To tilt the back up plate assembly to accommodate a tapered container loosen the 2 5/16-18 bolts at the end of the shafts tilt the plate as needed and retighten the bolts.





ASSEMBLY TITLE: **BACK-UP PLATE ASSEMBLY**

GENERAL FUNCTION:

The back up plate assembly is mounted opposite the wrap station. The assembly provides the pressure to rotate the product plus impression of the label to the product. The back up plate must cover the entire label width and length to ensure complete impression. Certain products may require the use of different size plates to impress into recessed areas of the product.

SET-UP AND ADJUSTMENTS:

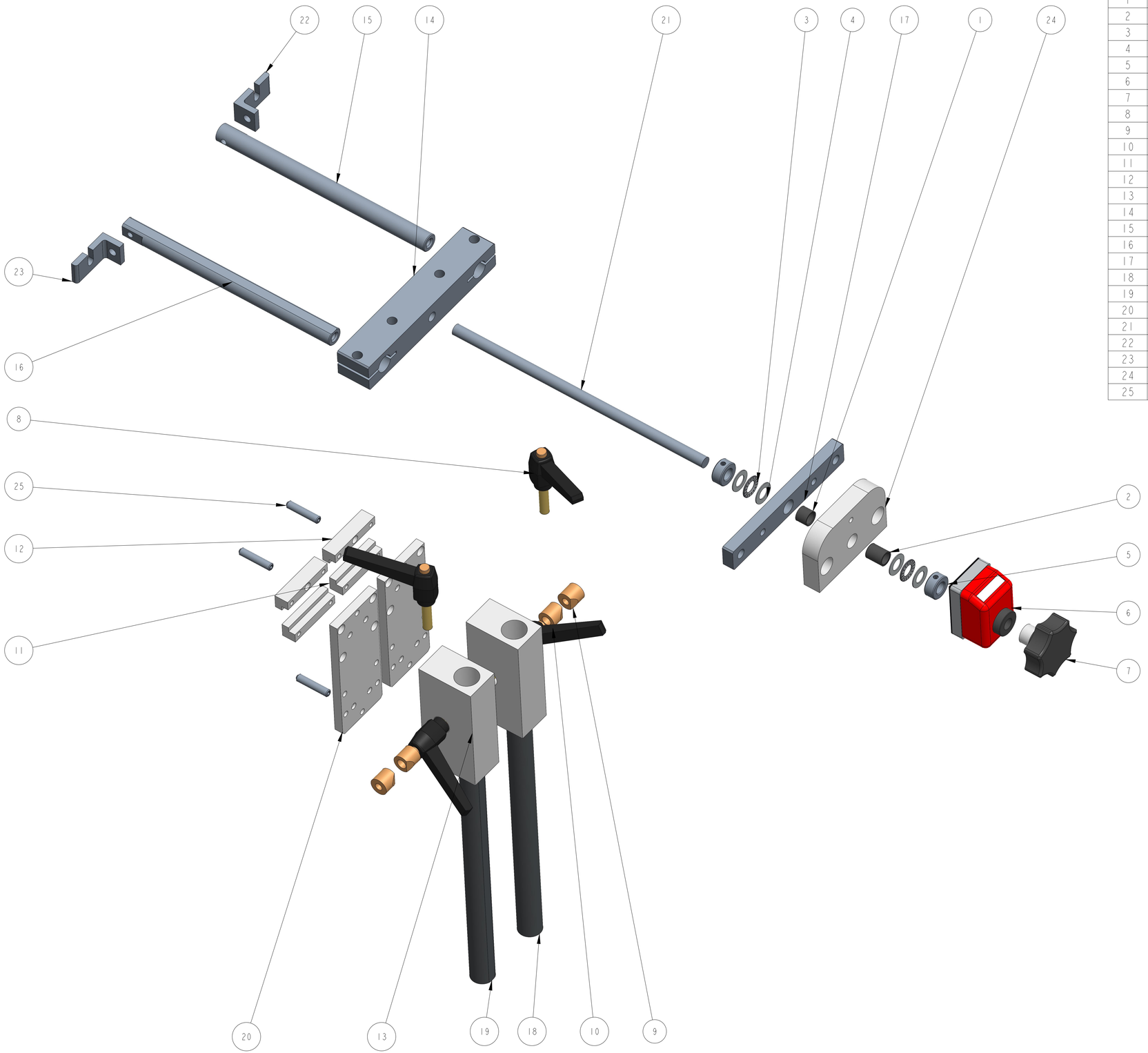
The only adjustment necessary is to ensure the horizontal pressure is sufficient to rotate the product completely and provide complete impression of the label. Place three products in wrap station area, one in the center of the wrap station, the other two at the in-feed and out-feed ends. Loosen knobs and slide backup plate close to the wrap station in order to apply light pressure to products. Retighten knobs when correct pressure is achieved.

MAINTENANCE:

- Clean all the parts that may acquire labels or glue residue.
- Exercise caution when removing bad labels from foam. Careless removal can result in torn foam which may leave the labeler inoperable until the roller is replaced.

TROUBLESHOOTING:

- none this section



ITEM	QTY	PART NO.	DESCRIPTION	PARENT ITEM
1	1	141166-000	BEARING, SLEEVE	21485-002-S
2	1	141177-000	SLEEVE BEARING, 5/8OD. x 1/2ID. x 3/4LNG	21485-002-S
3	2	181079-000	BEARING, NEEDLE ROLLER	21485-002-S
4	4	181080-000	BEARING, THRUST WASHER	21485-002-S
5	2	362161-000	COLLAR, SETSCREW, 1/2 IN. ID	21485-002-S
6	1	792354-000	DIGITAL POSITION INDICATOR	21485-002-S
7	1	801320-000	HAND KNOB	21485-002-S
8	4	801805-000	CLAMPING LEVER	21485-002-S
9	2	A20688-000	LOCKING CLAMP	21485-002-S
10	2	A20689-000	LOCKING CLAMP	21485-002-S
11	2	A20844-000	GUIDE RAIL CLAMP BAR	21485-002-S
12	2	A20845-000	GUIDE RAIL CLAMP BAR	21485-002-S
13	2	A21691-000	MOUNTING BLOCK	21485-002-S
14	1	A23474-000	TRAVEL PLATE	21485-002-S
15	1	A23475-000	HORIZONTAL ADJUST ROD	21485-002-S
16	1	A23476-000	HORIZONTAL ADJUST ROD W/ FLAT	21485-002-S
17	1	A23477-003	ADJUSTMENT PLATE	21485-002-S
18	1	A23478-003	VERTICAL ADJUSTMENT ROD	21485-002-S
19	1	A23479-003	VERTICAL ADJUSTMENT ROD W/ FLAT	21485-002-S
20	2	A23483-000	MOUNTING PLATE	21485-002-S
21	1	A23490-004	THREADED ROD	21485-002-S
22	1	A23853-010	BACK-UP MOUNTING ANGLE	21485-002-S
23	1	A23853-011	BACK-UP MOUNTING ANGLE	21485-002-S
24	1	B22005-012	BEARING PLATE	21485-002-S
25	4	SYE612		21485-002-S

NOT SHOWN:

C20537-132 BACKUP PLATE ASSY, 7" X 14"

REV	DATE	DESCRIPTION	BY
A	May-06-20	NEW DRAWING	TJS

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
.X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030

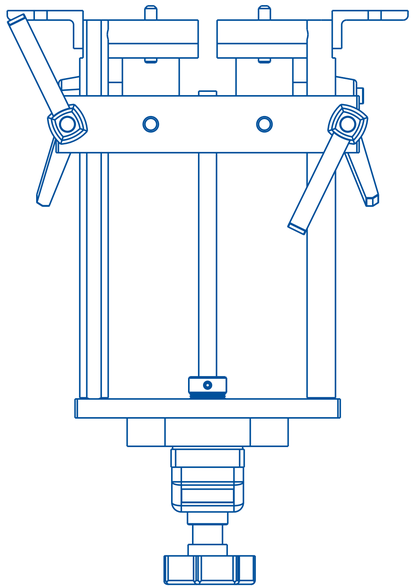
QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

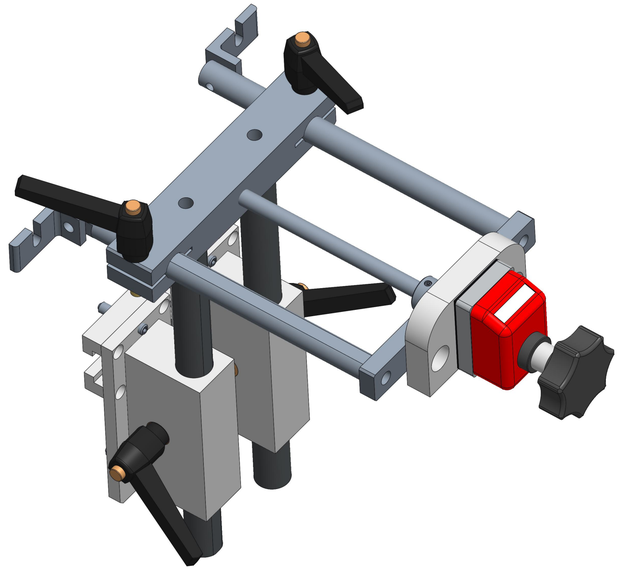
SCALE: 1/2
DATE: May-06-20
DRW BY: TJS
CHK BY:03/09/2024-SEM
APPR BY:

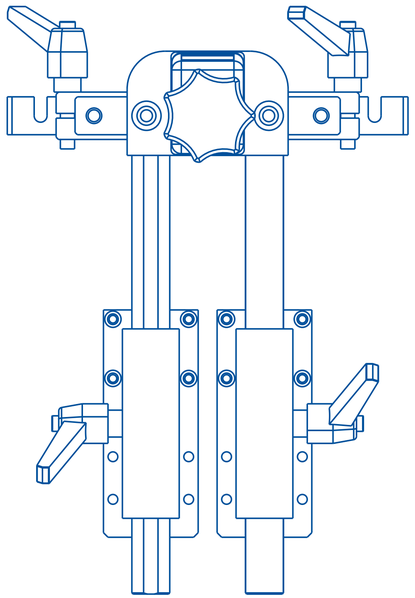
ADJUSTABLE BACK-UP PLATE ASSEMBLY W/SIKO

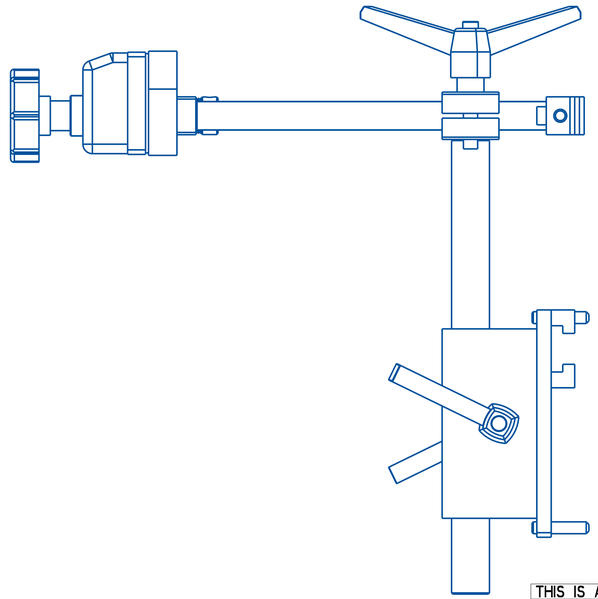
MAT'L 21485-002

21485-002-S









SHEET 2 OF 2

REV	DATE	DESCRIPTION	BY
A	May-06-20	NEW DRAWING	TJS

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
X ± .1
XX ± .01
XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030
ALL ANGLES ARE 90°

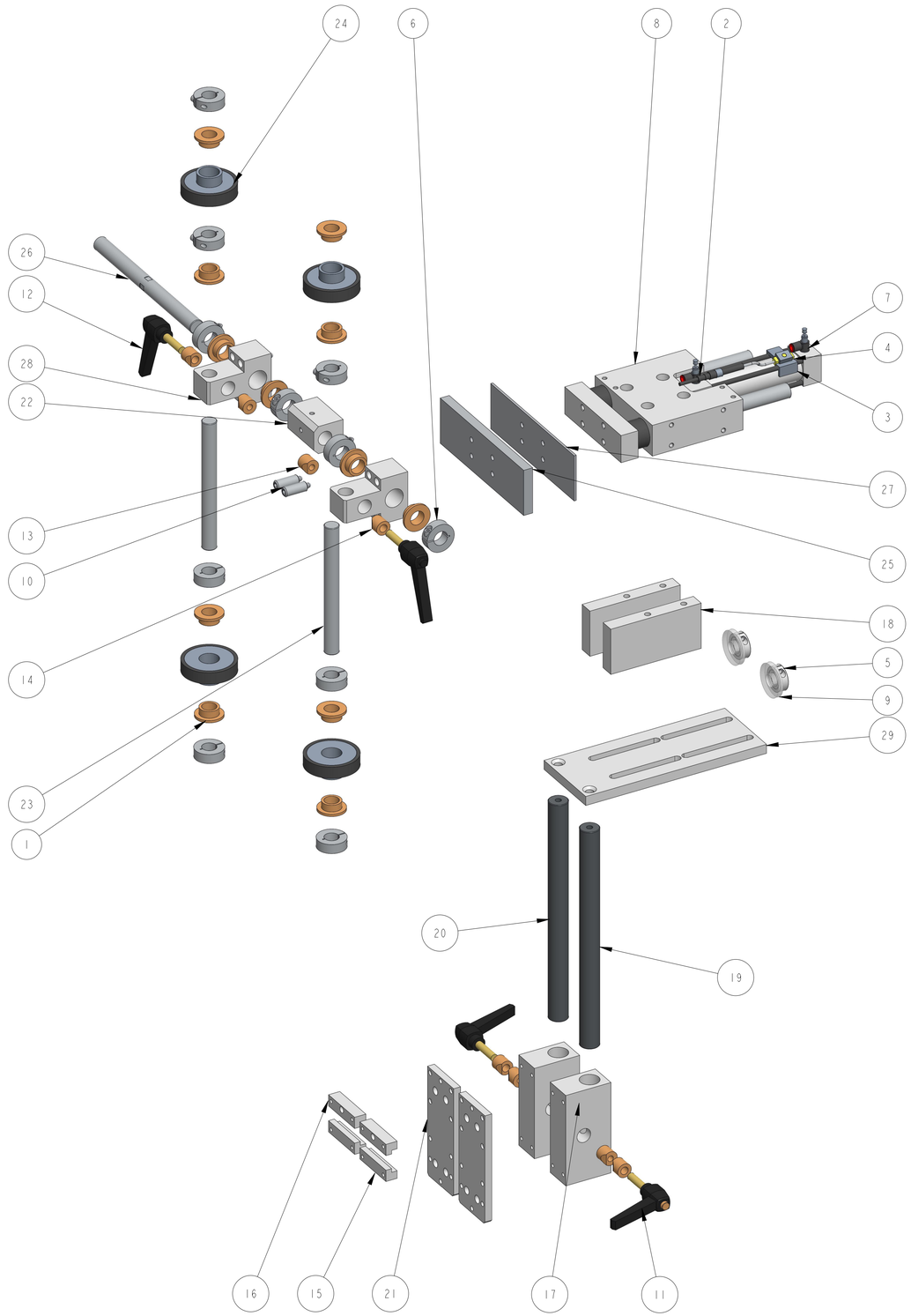
QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

SCALE: 1/2
DATE: May-06-20
DRW BY: &CREO_CHK
CHK BY: TJS
APPR BY:

ADJUSTABLE BACK-UP PLATE ASSEMBLY W/SIKO

MAT'L
21485-002

21485-002-S



ITEM	QTY	PART NO.	DESCRIPTION	PARENT ITEM
1	12	131084-000	FLANGED BEARING	21859-002
2	1	271299-000	SENSOR F-CONNECTION & CABLE	21859-002
3	1	271308-000	BRACKET FOR SENSOR	21859-002
4	1	271309-000	HALL-EFFECT SWITCH	21859-002
5	2	361182-000	COLLAR, 5/8 IN. ID ONE-PIECE CLAMP	21859-002
6	12	361183-000	COLLAR, 3/4 ID ONE PIECE- S.S.	21859-002
7	2	392029-000	FLOW CONTROL FITTING	21859-002
8	1	392511-000	POWERSLIDE, 3"STROKE	21859-002
9	2	393562-001	BUMPERS FOR PHD CYLINDER	21859-002
10	8	791858-000	SPRING PLUNGER	21859-002
11	2	801805-000	CLAMPING LEVER	21859-002
12	2	801834-000	CLAMPING LEVER	21859-002
13	4	A20688-000	LOCKING CLAMP	21859-002
14	4	A20689-000	LOCKING CLAMP	21859-002
15	2	A20844-000	GUIDE RAIL CLAMP BAR	21859-002
16	2	A20845-000	GUIDE RAIL CLAMP BAR	21859-002
17	2	A21691-000	MOUNTING BLOCK	21859-002
18	2	A22355-002	SLIDE SPACER	21859-002
19	1	A23478-003	VERTICAL ADJUSTMENT ROD	21859-002
20	1	A23479-003	VERTICAL ADJUSTMENT ROD W/ FLAT	21859-002
21	2	A23483-000	MOUNTING PLATE	21859-002
22	1	A24831-000	ROD MOUNTING BLOCK	21859-002
23	2	A24833-000	PIVOT ROD, VERTICAL	21859-002
24	4	A24834-000	IDLER ROLLER	21859-002
25	1	B21831-000	SLIDE TOOL MOUNTING PLATE	21859-002
26	1	B21832-000	PIVOT ROD	21859-002
27	1	B21833-000	SLIDE TOOL MOUNTING PLATE	21859-002
28	2	C20883-000	PIVOT ROD MOUNTING BLOCK	21859-002
29	1	C20884-002	SLIDE MOUNTING PLATE	21859-002

REV	DATE	DESCRIPTION	BY
A	Sep-04-20	NEW DRAWING	TJS

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE
.X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030

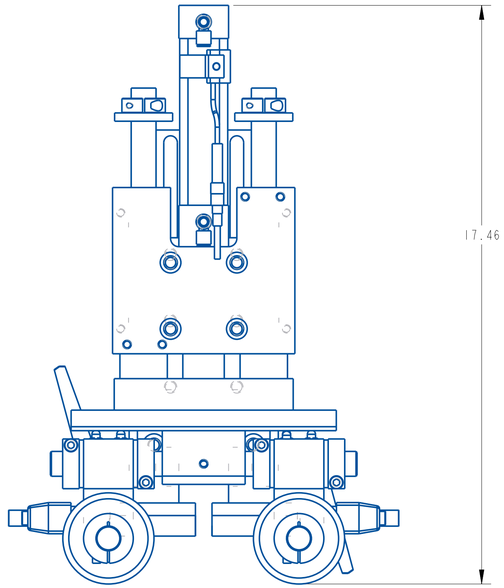
QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

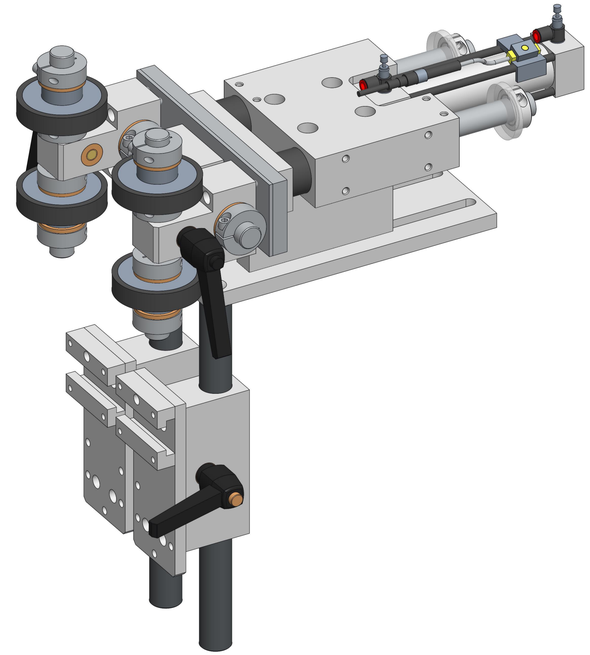
SCALE: 5/16
DATE: Sep-04-20
DRW BY: TJS
CHK BY: &CREO_CHK
APPR BY:

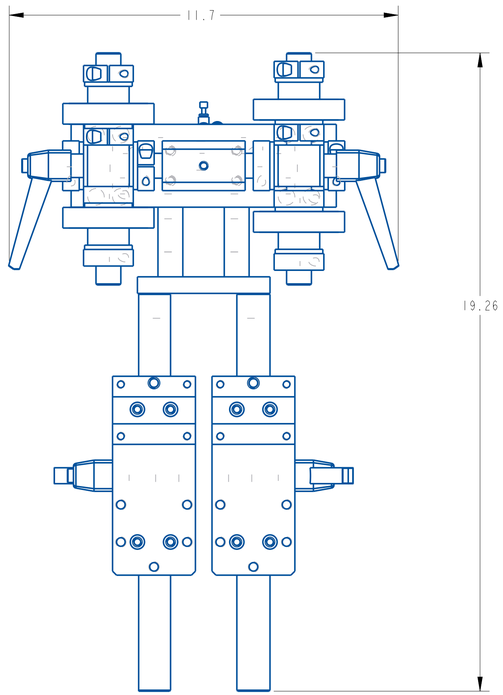
3-ROLLER INDEXER, IDLER ROLLERS

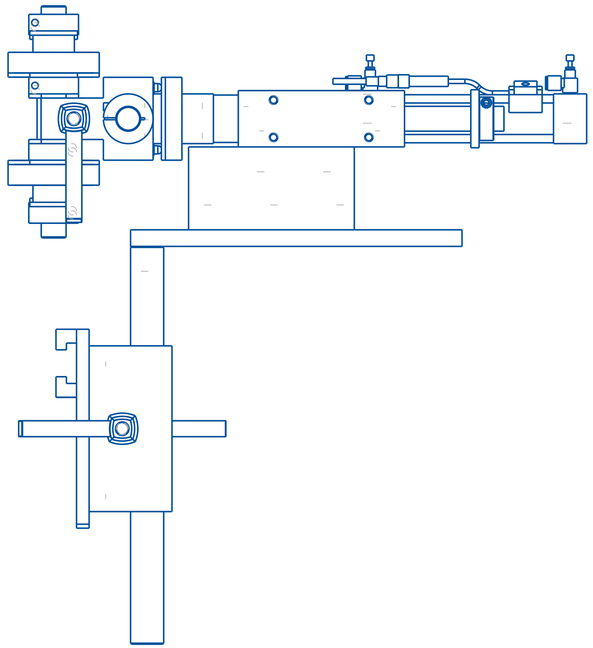
MAT'L

21859-002









REV	DATE	DESCRIPTION	BY
A	Sep-04-20	NEW DRAWING	TJS

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
.X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030
ALL ANGLES ARE 90°

QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

SCALE: 7/16
DATE: Sep-04-20
DRW BY: TJS
CHK BY:09/18/2024-SEM
APPR BY:

3-ROLLER INDEXER, IDLER ROLLERS

MAT'L

21859-002

7.7 TOP HOLD DOWN ASSEMBLY

7.7.1 GENERAL INFORMATION

The top hold down module is a motor driven spring loaded belt that applies overhead pressure to the containers and enables the product to remain stable as the label is applied. This assembly is powered by an AC motor or servo motor. Ideal for front / back or single side applications.

7.7.2 ADJUSTMENTS

Adjusting the height of the top hold down is achieved by turning the hand wheel on the top of the assembly counter clockwise or clockwise.







ASSEMBLY TITLE: **TOP TRAP ASSEMBLY**

GENERAL FUNCTION:

- As a product enters the label application area near the labeling head, it needs additional support to prevent it from being upset as a label is applied. A product hold down conveyor or more commonly known as a "top trap" is used to provide product support.

  The speed of the top trap is set to match the speed of the conveyor and is encoder matched to follow conveyor speed changes.

SETUP AND ADJUSTMENTS:

- Place the product to be labeled under the top trap. Loosen clamp lever and turn the hand wheel so that the rubber belt of the top trap compresses the product slightly.
- When the desired height is achieved, tighten the clamp lever.
- The top trap is spring loaded to accommodate products that vary in height slightly.
- Top trap belt tension can be adjusted by tightening or loosening the set screws at the infeed end of the top trap.

MAINTENANCE:

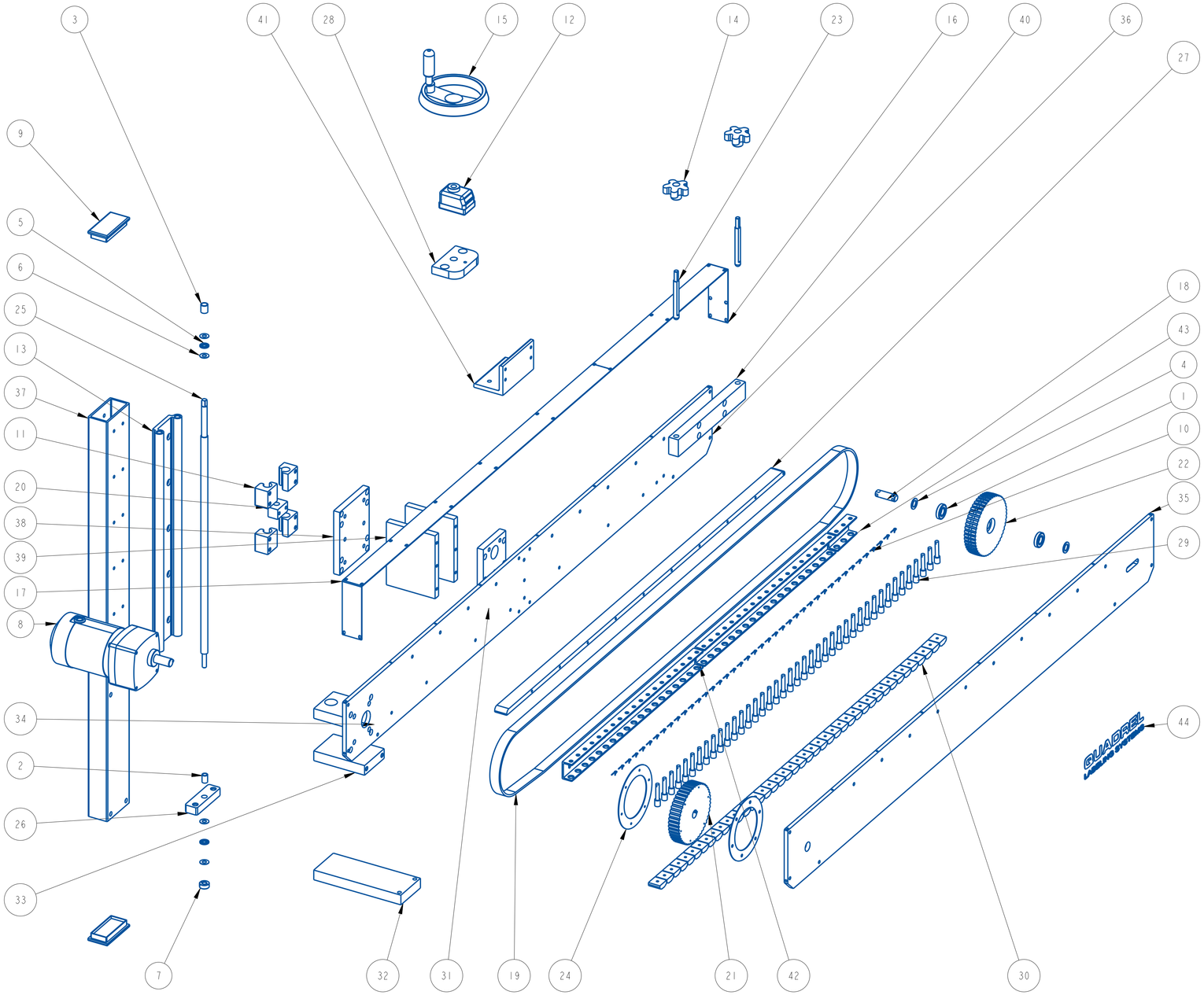
- No maintenance is required except for an occasional belt replacement.

TROUBLESHOOTING:

PROBLEM	WHAT TO DO
- Top trap jumping teeth	- Tighten top trap belt
- Too much pressure on product	- Raise top trap
- Top trap not moving	- Check drive belts and replace if broken.
- Top trap swaying under load.	- Tighten clamp lever. Tighten pulleys and shafts.







ITEM	QTY	PART NO.	DESCRIPTION	PARENT ITEM
1	2	111075-000	BEARING, BALL	22730-01L
2	1	141172-000	SLEEVE BEARING, 1/2OD. x 3/8ID. x 3/4LNG	22730-01L
3	1	141177-000	SLEEVE BEARING, 5/8OD. x 1/2ID. x 3/4LNG	22730-01L
4	2	151008-000	BEARING, THRUST WASHER	22730-01L
5	2	181108-000	BEARING, NEEDLE ROLLER	22730-01L
6	4	181111-000	THRUST WASHER	22730-01L
7	1	362186-000	COLLAR, 3/8 IN. ID ONE-PIECE CLAMP	22730-01L
8	1	412175-000	MOTOR, 3/8HP 57 RPM 220VAC	22730-01L
9	2	729006-000	CAP INSERT FOR 2 X 4 TUBE	22730-01L
10	41	791975-001	R-CLIP	22730-01L
11	4	792248-001	PILLOW BLOCK	22730-01L
12	1	792354-002	DIGITAL POSITION INDICATOR	22730-01L
13	1	793035-001	DRYLIN RAIL	22730-01L
14	2	793045-000	DIAMOND KNURL KNOB	22730-01L
15	1	801080-001	6" HANDWHEEL	22730-01L
16	1	A21578-040	TOP TRAP COVER PLATE	22730-01L
17	1	A21578-141	TOP TRAP COVER PLATE	22730-01L
18	1	A21823-000	IDLER SHAFT	22730-01L
19	1	A21830-600_TT	ENDLESS BELT	22730-01L
20	1	A24077-000	BRONZE NUT, RH	22730-01L
21	1	A25122-600	DRIVE PULLEY	22730-01L
22	1	A25122-602	IDLER PULLEY	22730-01L
23	2	A26179-120	KNOB STUD	22730-01L
24	2	A26197-000	PULLEY FLANGE	22730-01L
25	1	B20045-200	THREADED ROD	22730-01L
26	1	B21346-000	BOTTOM BEARING PLATE	22730-01L
27	1	B21769-020	TOP TRAP SPACER	22730-01L
28	1	B22005-012	BEARING PLATE	22730-01L
29	41	B22784-000	SPRING BLOCK STEM	22730-01L
30	41	B22785-000	SPRING BLOCK PLATE	22730-01L
31	1	B22790-002	TOP PACING CONNECTOR PLATE	22730-01L
32	1	B22791-012	TOP TRAP SPACER 12.75"	22730-01L
33	1	B22791_810	TOP TRAP SPACER	22730-01L
34	1	B22791_813	TOP TRAP SPACER	22730-01L
35	1	C21268-141	INSIDE TOP TRAP PLATE	22730-01L
36	1	C21268-340	INSIDE TOP TRAP PLATE	22730-01L
37	1	C21292-001	TOP TRAP RISER	22730-01L
38	1	C21293-001	TOP TRAP MOUNTING PLATE	22730-01L
39	2	C21293-83516	MOUNTING PLATE	22730-01L
40	1	C21348-120	ADJUSTMENT PLATE	22730-01L
41	1	C21348-83516	ADJUSTMENT PLATE	22730-01L
42	2	D24415-000	SPRING BLOCK MOUNTING CHANNEL	22730-01L
43	1	D24415-001	SPRING BLOCK MOUNTING CHANNEL	22730-01L
44	1	QUADREL_LOGO_I	QUADREL Logo (3"x11")	22730-01L

REV	DATE	DESCRIPTION	BY
A	Nov-05-25	NEW DRAWING	TAZ

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
X ± .1
XX ± .01
XXX ± .005
ANGLES ± 30'
SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030
ALL ANGLES ARE 90°

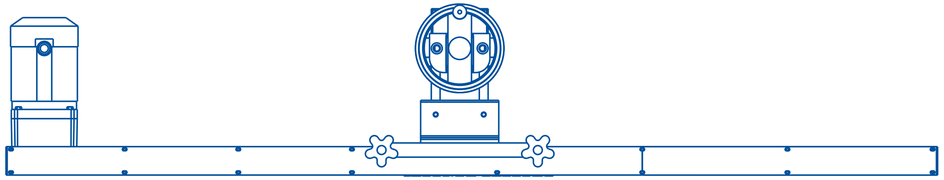
QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

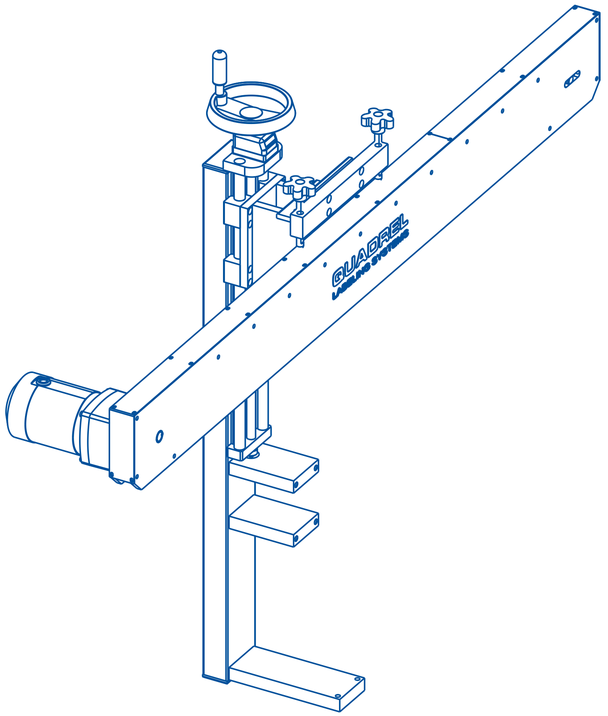
SCALE:	3/16
DATE:	Nov-05-25
DRW BY:	TAZ
CHK BY:	
APPR BY:	

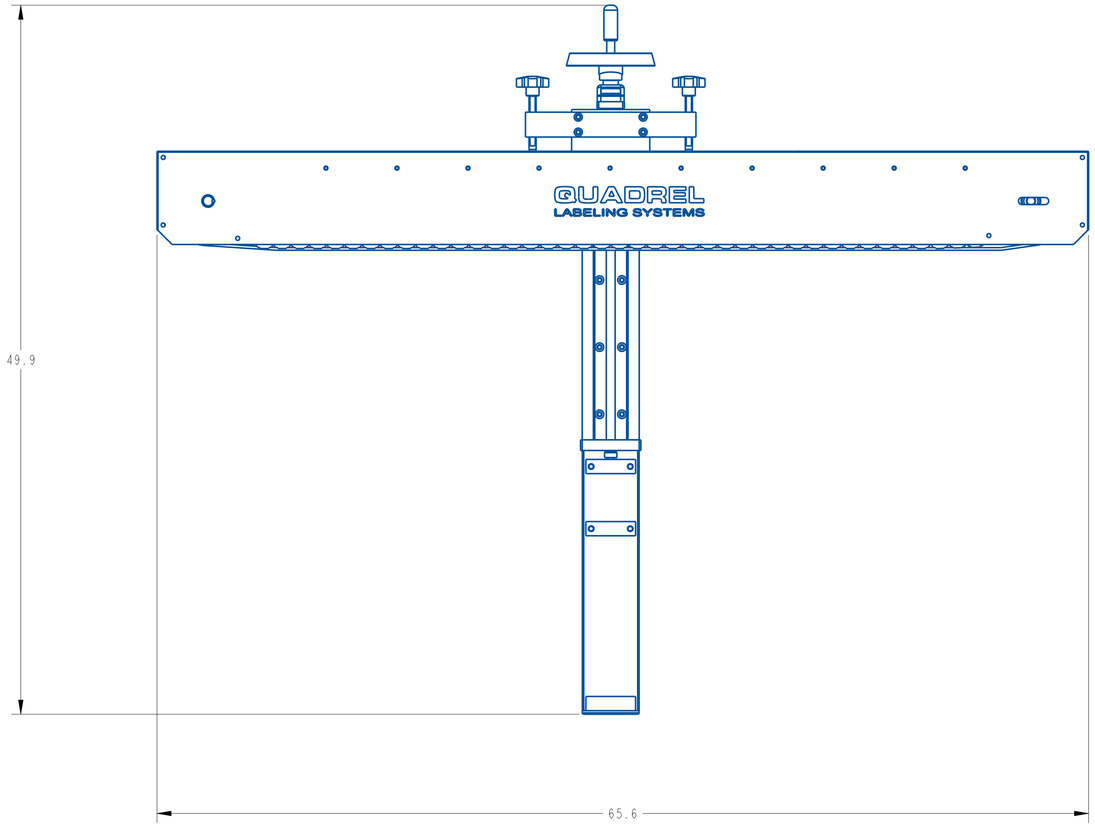
OPEN LINE TOP TRAP - EXTENDED

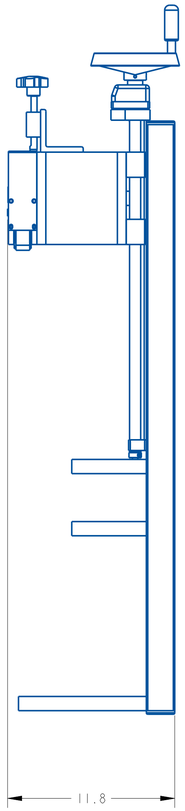
MAT'L 22730-01L

22730-01L









REV	DATE	DESCRIPTION	BY
A	Nov-05-25	NEW DRAWING	TAZ

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'
SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030
ALL ANGLES ARE 90°

QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

SCALE:	3/16
DATE:	Nov-05-25
DRW BY:	TAZ
CHK BY:	
APPR BY:	

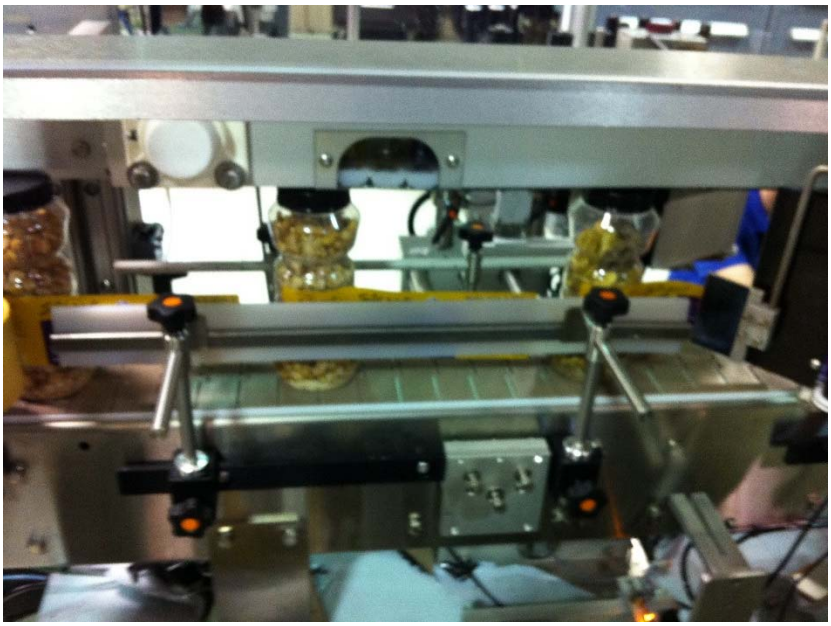
OPEN LINE TOP TRAP - EXTENDED

MAT'L 22730-01L

22730-01L

FLAG AND WRAP AIR ASSIST

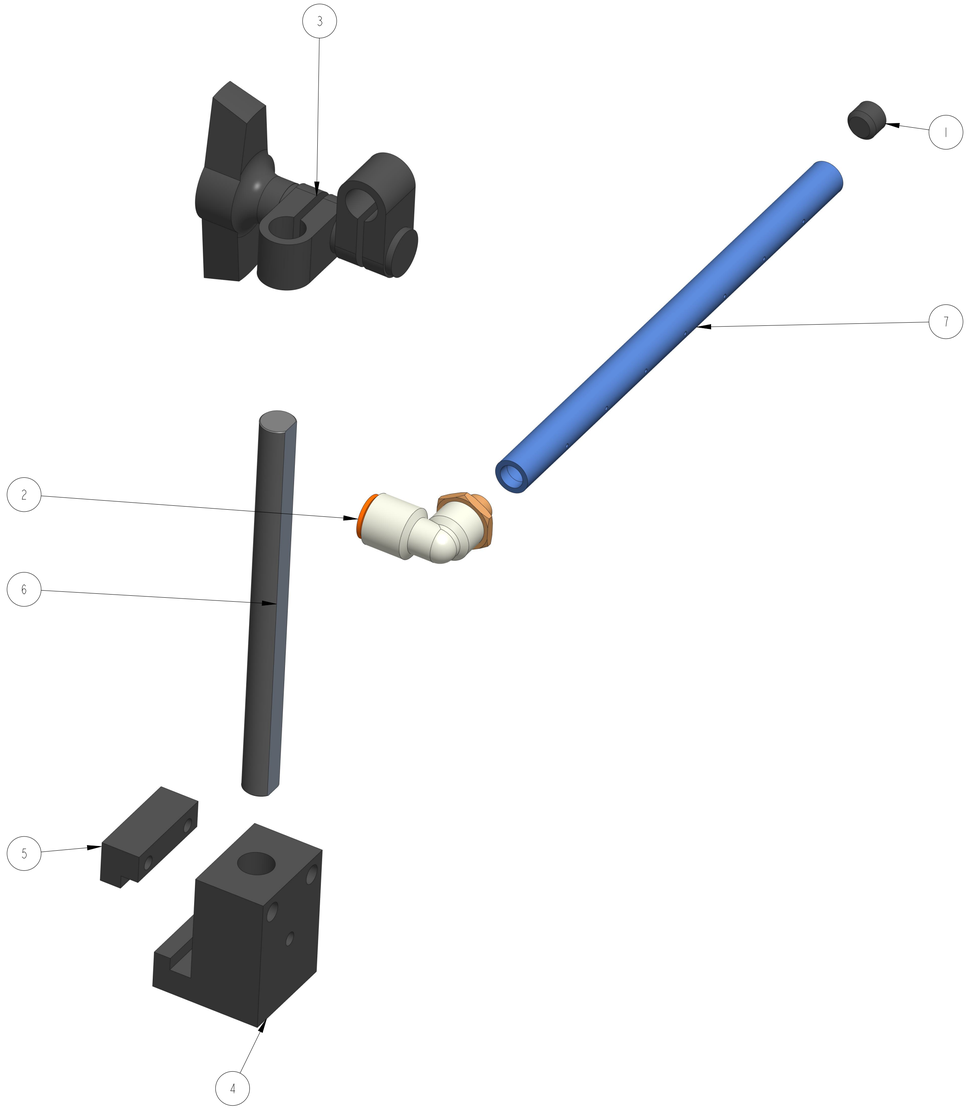
On wrap around applications where the label is applied to the product under the top trap and the product travels to the wrap station, as air assist system is utilized. It consists of an air tube and opposing rail that allows the label trailing panel to remain straight while the product approaches the wrap station.



The air tube supplies air pressure to the label to keep it against the opposing rail to ensure it re mains straight as it begins rotation through the wrap station.



ITEM	QTY	PART NO.	DESCRIPTION	PARENT ITEM
1	1	391862-000	PLUG, 1/8 NPT	83825AA-000
2	1	392111-000	3/8" TUBE TO 1/8" THREAD MALE ELBOW	83825AA-000
3	1	791724-000_180	ROTOCON ASSEMBLY	83825AA-000
4	1	A20875-000	RETAINER BLOCK, CONV. RAIL	83825AA-000
5	1	A20876-000	RETAINER BLOCK	83825AA-000
6	1	A21198-201	ADJUSTMENT ROD	83825AA-000
7	1	A25745-008	AIR ASSIST TUBE 1/2 DIA. 8.00" LG	83825AA-000



REV	DATE	DESCRIPTION	BY
A	Mar-02-20	NEW DRAWING	CRT

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
.X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030

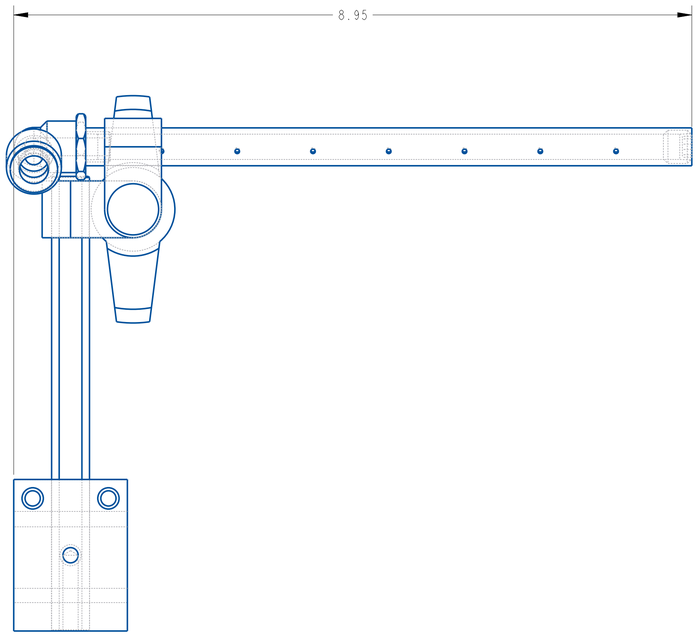
QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

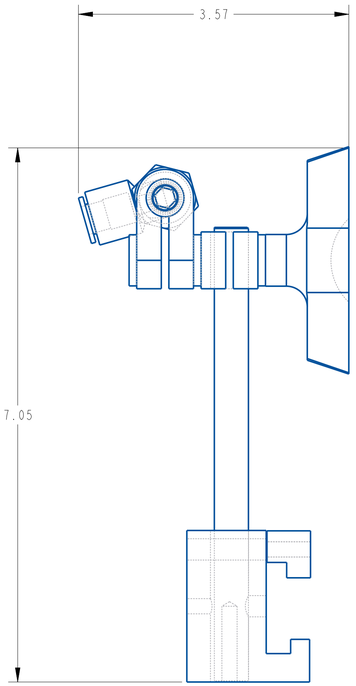
SCALE: 1/1
DATE: Mar-02-20
DRW BY: CRT
CHK BY: 11/05/2025-SEM
APPR BY:

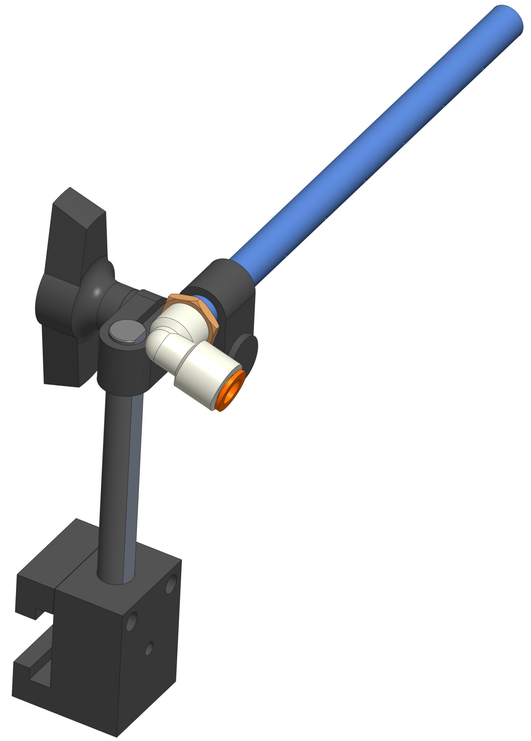
AIR ASSIST ASSEMBLY, HEAVY DUTY

MAT'L

83825AA-000







REV	DATE	DESCRIPTION	BY
A	Mar-02-20	NEW DRAWING	CRT

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
X ± .1
XX ± .01
XXX ± .005
ANGLES ± 30'
SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030
ALL ANGLES ARE 90°

QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

SCALE: 1/1
DATE: Mar-02-20
DRW BY: CRT
CHK BY:11/05/2025-SEM
APPR BY:

AIR ASSIST ASSEMBLY, HEAVY DUTY

MAT'L

83825AA-000

ASSEMBLY TITLE: **PRODUCT DETECT ASSEMBLY**

GENERAL FUNCTION:

The product detect signal is used to trigger the labeling cycle. Optimum placement and setup of the product detect sensor is critical to accurate and repeatable label placement.

SETUP AND ADJUSTMENTS:

Set the position of the product detect sensor at a point up-steam of the peel plate area. Set the vertical position of the sensor at a point on the product that provides a stable and repeatable sense area. Loosen the vertical adjustment knobs to move the assembly along the vertical axis.

Follow the manufactures data sheet for a particular set and calibration.

MAINTENANCE:

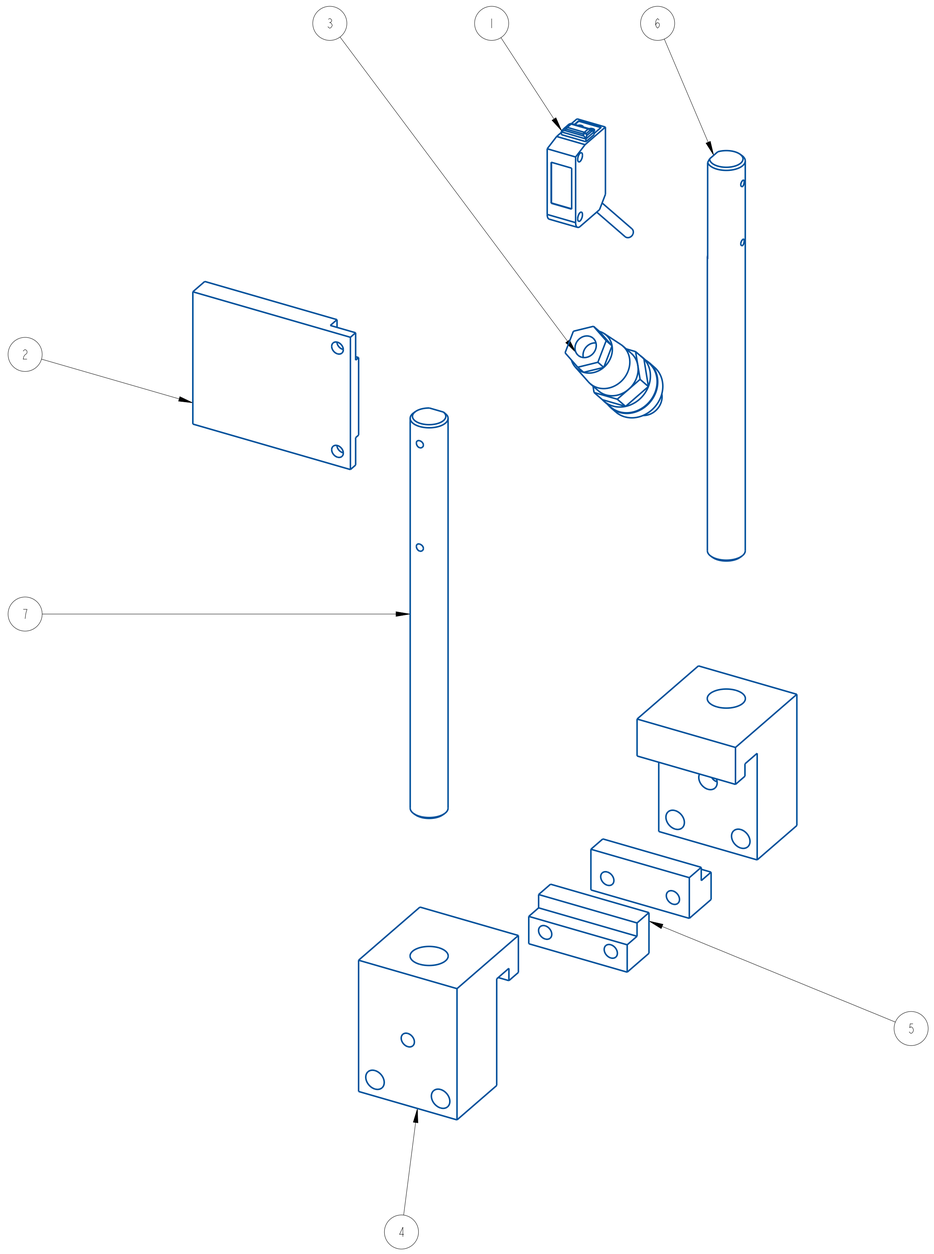
No scheduled maintenance is required for this assembly. Always keep the drive areas free of label flash and debris.

CAUTION: Before performing any maintenance or cleaning make sure the system is powered down.

TROUBLESHOOTING:

PROBLEM:	**WHAT TO DO:**
- No label trigger or intermittent trigger.	- Product does not intersect sensor scan field. Adjust sensor position until sensor detects product. - Sensor gain set is too low. Increase gain until sensor indicator displays ON status(with product in sensor field).

ITEM	QTY	PART NO.	DESCRIPTION	PARENT ITEM
1	1	202192-002	CLEAR PRODUCT SENSOR	21560-012
2	1	203160-000	REFLECTOR	21560-012
3	1	252019-000	4 PIN MALE CONNECTOR	21560-012
4	2	A20875-000	RETAINER BLOCK, CONV. RAIL	21560-012
5	2	A20876-000	RETAINER BLOCK	21560-012
6	1	A24278-000	SENSOR MTG. SHAFT	21560-012
7	1	A24279-000	REFLECTOR MTG. SHAFT	21560-012



REV	DATE	DESCRIPTION	BY
A	07/18/2024	NEW DRAWING	SEM

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE

.X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030

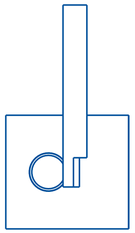
QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

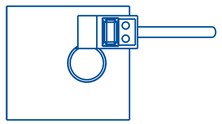
SCALE: 1/1
DATE: 07/18/2024
DRW BY: SEM
CHK BY: 07/18/2024-SEM
APPR BY:

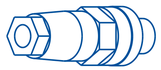
CLEAR PRODUCT DETECT, PNP

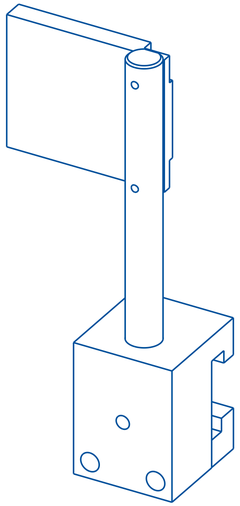
MAT'L 21560-002

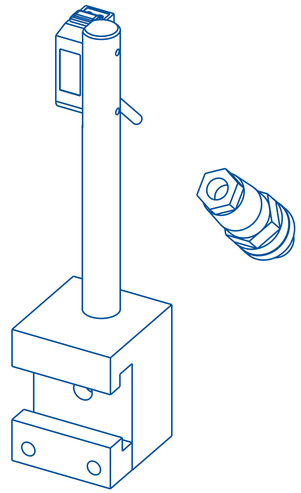
21560-012

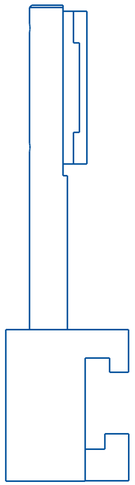


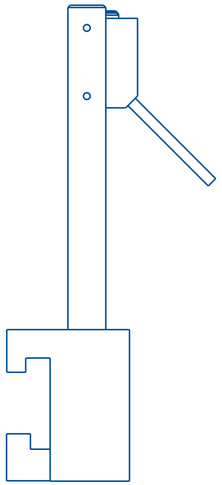


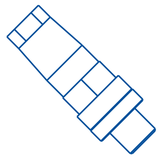


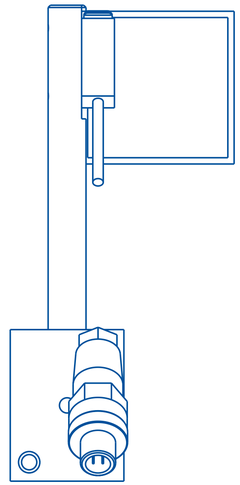












SHEET 2 OF 2

REV	DATE	DESCRIPTION	BY
A	07/18/2024	NEW DRAWING	SEM

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
X ± .1
XX ± .01
XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030
ALL ANGLES ARE 90°

QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

SCALE: 1/1
DATE: 07/18/2024
DRW BY: SEM
CHK BY:07/18/2024-SEM
APPR BY:

CLEAR PRODUCT DETECT, PNP

MAT'L
21560-002

21560-012

KEYENCE

96M11227

Self-contained
Photoelectric Sensor

PZ-G Series
Instruction Manual

Read this manual thoroughly before using the product.
Keep this manual readily available for future reference.



■ Safety precautions

- Avoid running the PZ-G cable along with power and high voltage lines, as this may cause interference and/or permanent damage.
- When using a commercially available switching regulator, ground its chassis grounding and earth grounding terminals.
- Do not use in locations where direct ambient light or external light directly shines on the light receiving surface.
- With retro-reflective type sensors, when detecting highly reflective materials (such as mirrored surfaces), stabilization may be difficult. To correct this, change the angle of the sensor head, or adjust the sensitivity.
- Avoid using power which exceeds the specifications for ripple (10% max)
- Avoid using excess force when rotating the operation mode selector switch (Light-on, Dark-on) and the sensitivity adjustment trimmer.
- This product is just intended to detect the object(s). Do not use this product for the purpose to protect a human body or a part of human body.
- This product is not intended for use as explosion-proof product. Do not use this product in a hazardous location and/or potentially explosive atmosphere.

Precautions on Regulations and Standards

■ UL Certificate

This product is an UL/C-UL Listed product.

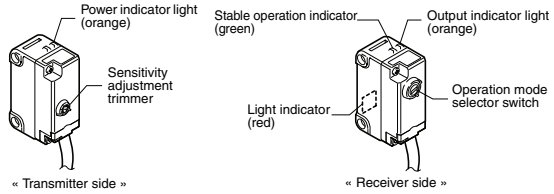
- UL File No. E301717
- Category NRKH,NRKH7
- Enclosure Type 1 (Based on UL50)

Be sure to consider the following specifications when using this product as an UL/C-UL Listed Product.

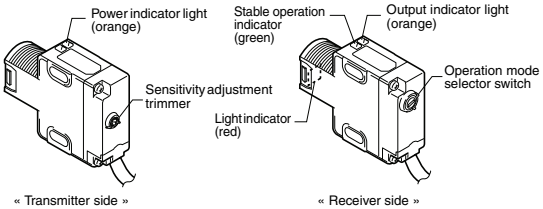
- Use the power supply with Class 2 output defined in NFPA70 (NEC: National Electrical Code).
- Power supply/ Control input/ Control output circuits shall be connected to a single Class 2 source only.
- Use with the over current protection device which is rated 30V or more and not more than 1A.

Part Names

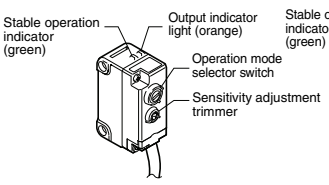
● **PZ-G5xN/G5xP**



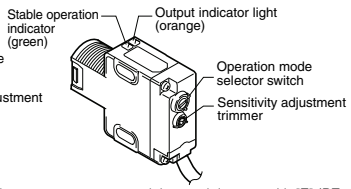
● **PZ-G5xB**



● **PZ-G4xN/G4xP/G10xN/ G10xP/G6xN/G6xP**



● **PZ-G4xB/G10xB/G6xB**

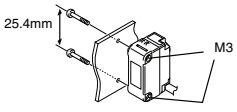


* The model name with "C" (PZ-GxxCx) is the connector type, and the model name with "E" (PZ-GxxEx) is the pigtail quick disconnect type.

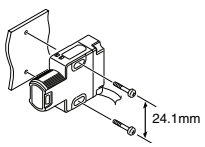
Mounting Method

■ Side Mounting (Prepare M3 screws)

Tightening torque: 0.5 N·m or less

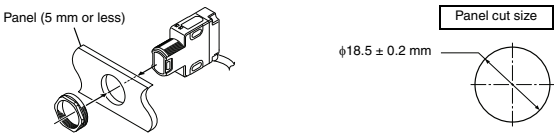


Tightening torque: 0.5 N·m or less



■ Mounting with the M18 nut (includes nut type)

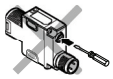
The M18 nut is also available separately as OP-84225 (2 pcs. supplied).
Tightening torque:1.0 N·m or less



Note

- Mount the M18 nut (supplied) straight in. If mounted at an angle it cannot be tightened properly.
- When tightening the M18 nut (supplied), firmly hold the main body down. The case of the main body may be damaged if held in place with a tool such as pliers.
- When tightening the M18 nut (supplied), if excess force is applied to the nut with a tool such as pliers, it may bend it out of shape. Therefore, do not apply excess force.

Sensitivity Adjustment Method

Caution ⚠	Avoid using excess force when rotating the sensitivity adjustment trimmer and operation mode selector switch as it may cause damage.	

■ Operation mode selector switch

With the operation mode selector switch, you can select either the LIGHT-ON mode (L) or the DARK-ON (D) mode.



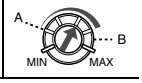
LIGHT-ON setting



DARK-ON setting

■ Reflective type (PZ-G41/G42/G101/G102/G10R/G10G/G10B Series)

The following assumes LIGHT-ON (L) is set.

Sequence	Adjustment method	Sensitivity adjustment trimmer
①	Position target in place. Slowly rotate the sensitivity trimmer from the MIN position towards the MAX position until the (orange) output indicator turns on (Position "A"). If the output indicator does not turn off, even at MIN, then MIN is considered Position "A".	
②	Remove the target. Adjust the sensitivity trimmer from MIN towards MAX until the (orange) output indicator turns on (Position "B"). If the output indicator does not light up, the MAX position is considered Position "B".	
③	Adjust the sensitivity trimmer to the midpoint between "A" and "B". Verify that the (green) stable operation light turns on with and without a target in place.	

Reference To use the sensor in DARK-ON mode, adjust the mode selector switch to "D".

■ Thrubeam type (PZ-G51/G52 Series) / Retro-reflective type (PZ-G61/G62 Series)

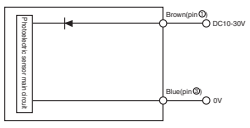
The following assumes DARK-ON (D) is set.

Sequence	Adjustment method	Sensitivity adjustment trimmer
①	Remove the target. Adjust the sensitivity trimmer to MAX. Mount the sensor heads in place so the (orange) output indicator turns off (on thrubeam models, the red light on the receiver face will turn on)	
②	Position target in place. Verify that the orange output indicator turns on (on thrubeam models, the red light on the receiver face will turn off). Adjust sensitivity lower if the output indicator does not turn on (or if the red light on the receiver face does not turn off on thrubeam models)	

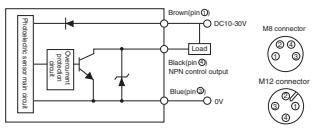
Reference To use the sensor in LIGHT-ON mode, adjust the mode selector switch to "L".

I/O Circuit Diagram

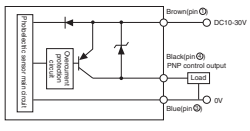
● **PZ-G5xN/G5xP/G5xB (Transmitter side)**



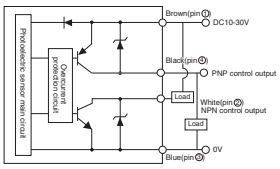
● **PZ-G5xN (Receiver side)/ G4xN/G10xN/G6xN**



● **PZ-G5xP (Receiver side)/ G4xP/G10xP/G6xP**



● **PZ-G5xB (Receiver side)/ G4xB/G10xB/G6xB**



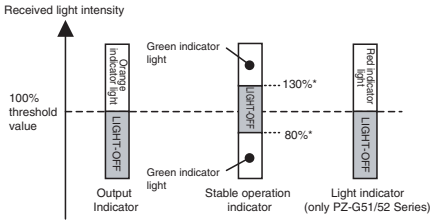
* The pin numbers represent those of the connector type / pigtail quick disconnect type. The model name with "C" (PZ-GxxCx) is the connector type, and the model name with "E" (PZ-GxxEx) is the pigtail quick disconnect type.

PZ-GxxCN/GxxCP..... M8 connector
PZ-GxxCB/GxxEN/GxxEP..... M12 connector

■ Indicators

The following describes each ON/OFF condition of indicator when LIGHT-ON (L) is set.

Reference When the DARK-ON (D) is set, the output indicator ON/OFF will reverse.



* For PZ-G62, the upper limit is 107% and the lower limit is 93%.

If the stable operation indicator turns off during operation, readjust or fine-adjust the sensitivity.

■ Mutual interference

- For reflective type / retro-reflective type sensors, mutual interference protection can be set for up to 2 units. However, when the sensors are mounted facing each other, change the angle of the sensor head to prevent light being emitted into each unit.(The mark detection type does not include the mutual interference function.)
- Mutual interference prevention can be set when mounting a polarizing filter attachment (optional with thrubeam type sensors) (If operation is unstable even after mounting the polarizing filter, slightly lower the sensitivity.)
- For more detailed information about mutual interference or attachment, see the PZ-G Series catalog or contact your nearest KEYENCE office.

Specifications

Type			Thrubeam		Reflective				Retro-reflective		Mark detection		
Configuration	Cable shape	Output mode	Normal	High-power	Diffuse-reflective Long-detecting distance	Diffuse-reflective Short-detecting distance	Narrow-view reflective	Definite reflective	Long detecting distance (with P.R.O. function)	Transparent target detection (without P.R.O. function)	Red	Green	Blue
Rectangular	Cable	NPN	PZ-G51N	PZ-G52N	PZ-G41N	PZ-G42N	PZ-G101N	PZ-G102N	PZ-G61N	PZ-G62N	-		
		PNP	PZ-G51P	PZ-G52P	PZ-G41P	PZ-G42P	PZ-G101P	PZ-G102P	PZ-G61P	PZ-G62P			
	M8 connector	NPN	PZ-G51CN	PZ-G52CN	PZ-G41CN	PZ-G42CN	PZ-G101CN	PZ-G102CN	PZ-G61CN	PZ-G62CN	PZ-G10RCN	PZ-G10GCN	PZ-G10BCN
		PNP	PZ-G51CP	PZ-G52CP	PZ-G41CP	PZ-G42CP	PZ-G101CP	PZ-G102CP	PZ-G61CP	PZ-G62CP	PZ-G10RCP	PZ-G10GCP	PZ-G10BCP
	M12 pigtail quick disconnect	NPN	PZ-G51EN	PZ-G52EN	PZ-G41EN	PZ-G42EN	PZ-G101EN	PZ-G102EN	PZ-G61EN	PZ-G62EN	-		
		PNP	PZ-G51EP	PZ-G52EP	PZ-G41EP	PZ-G42EP	PZ-G101EP	PZ-G102EP	PZ-G61EP	PZ-G62EP			
Nut	Cable	Bipolar (NPN+PNP)	PZ-G51B	PZ-G52B	PZ-G41B	PZ-G42B	PZ-G101B	PZ-G102B	PZ-G61B	PZ-G62B			
	M12 connector		PZ-G51CB	PZ-G52CB	PZ-G41CB	PZ-G42CB	PZ-G101CB	PZ-G102CB	PZ-G61CB	PZ-G62CB			
Detecting distance*1			20 m	40 m	1 m (30 × 30 cm white mat paper)	300 mm (10 × 10 cm white mat paper)	200 mm	5 to 45 mm	0.1 to 4.2 m (when R-2L reflector is used)	0.1 to 1 m (when R-2L reflector is used)	8 to 15 mm		
Spot diameter			-	-	-	-	Approx. ϕ 5 mm (when the detecting distance is 100 mm)	Approx. ϕ 2 mm (when the detecting distance is 40 mm)	-	-	Approx. 1.5 × 4 mm (when the detecting distance is 10 mm)		
Light source (LED)			Red LED	Infrared LED × 2	Red LED					Infrared LED	Red LED	Green LED	Blue LED
Sensitivity adjustment			1-turn trimmer (230 degrees)										
Response time			500 µs								50 µs		
Operation mode			LIGHT-ON/DARK-ON, trimmer-selectable										
Indicator (LED)			Transmitter: power (orange) Receiver: output (orange), stable operation (green), light (red)		Output (orange), stable operation (green)								
Control output			Open-collector 100 mA max. (30 V max.), Residual voltage 1 V max.										
Protection circuit			Reverse-polarity protection, over-current protection, output surge absorber										
Ratings	Power voltage		10 to 30 VDC, Ripple (P-P): ±10% max, Class 2.										
	Current consumption		Transmitter: 20 mA max. Receiver: 28 mA max.	Transmitter: 25 mA max. Receiver: 28 mA max.	34 mA max.								
Environmental resistance	Enclosure rating		IEC,JEM: IP67 / NEMA: 4X,6,12 / DIN: IP69K										
	Ambient light		Incandescent lamp: 5,000 (lx) max, Sunlight: 20,000 (lx) max.										
	Ambient temperature		-20 °C to +55°C (No freezing)										
	Relative humidity		35 to 85 % RH (No condensation)										
	Vibration resistance		10 to 55 Hz, 1.5 mm double amplitude in X, Y, Z directions, 2 hours each										
	Shock resistance		1000 m/s^2 in X, Y, Z directions, 6 times each										
Interference prevention			2 units (when polarizing filter attachment is used)		2 units (with the automatic different cycle function)						-		
Material			Case, M18 nut (nut type only): reinforced glass polybutylene terephthalate (PBT), Trimmer: reinforced glass polyamide (PA) Cable (Cable type / pigtail quick disconnect type only): Polyvinyl chloride (PVC), Screw (Case connection): Steel, zinc-nickel plated, Packing (Case connection): Nitrile-butadiene rubber (NBR) Connector (pigtail quick disconnect type only): Brass-nickel plated, Polybutyleneterephtalate (PBT), Polyvinyl chloride (PVC)										
	Lens cover		Polyarylate (PAR)						Acrylic plastic (PMMA)	Polyarylate (PAR)			
Tightening torque			Rectangular type (side screw part): 0.5 N·m max. Nut type (front M18 part): 1.0 N·m max., (side slot part): 0.5 N·m max.										
Accessory*2			Instruction manual, M18 nut x 2 (nut thrubeam type), M18 nut x 1 (other nut types)										
Weight			Rectangular cable type: Approx. 60 g (Approx. 50 g for thrubeam transmitter), Rectangular M8 connector type: Approx 10 g, rectangular M12 pigtail quick disconnect type: Approx. 30 g Nut type cable type: Approx. 65 g (Approx. 55 g for thrubeam transmitter), Nut type M12 connector type: Approx 15 g										

*1 The detection distance is measured with the maximum sensitivity.
*2 The cable for the connector type / pigtail quick disconnect type is sold separately. The reflector for the retro-reflective type is sold separately.

WARRANTY

KEYENCE products are strictly factory-inspected. However, in the event of a failure, contact your nearest KEYENCE office with details of the failure.

1. WARRANTY PERIOD

The warranty period shall be for one year from the date that the product has been delivered to the location specified by the purchaser.

2. WARRANTY SCOPE

(1) If a failure attributable to KEYENCE occurs within the abovementioned warranty period, we will repair the product, free of charge. However, the following cases shall be excluded from the warranty scope.
- Any failure resulting from improper conditions, improper environments, improper handling, or improper usage other than described in the instruction manual, the user's manual, or the specifications specifically arranged between the purchaser and KEYENCE.
- Any failure resulting from factors other than a defect of our product, such as the purchaser's equipment or the design of the purchaser's software.
- Any failure resulting from modifications or repairs carried out by any person other than KEYENCE staff.
- Any failure that can certainly be prevented when the expendable part(s) is maintained or replaced correctly as described in the instruction manual, the user's manual, etc.
- Any failure caused by a factor that cannot be foreseen at a scientific/technical level at the time when the product has been shipped from KEYENCE.
- Any disaster such as fire, earthquake, and flood, or any other external factor, such as abnormal voltage, for which we are not liable.

(2) The warranty scope is limited to the extent set forth in item (1), and KEYENCE assumes no liability for any purchaser's secondary damage (damage of equipment, loss of opportunities, loss of profits, etc.) or any other damage resulting from a failure of our product.

3. PRODUCT APPLICABILITY

KEYENCE products are designed and manufactured as general-purpose products for general industries.

Therefore, our products are not intended for the applications below and are not applicable to them. If, however, the purchaser consults with us in advance regarding the employment of our product, understands the specifications, ratings, and performance of the product on their own responsibility, and takes necessary safety measures, the product may be applied. In this case, the warranty scope shall be the same as above.
- Facilities where the product may greatly affect human life or property, such as nuclear power plants, aviation, railroads, ships, motor vehicles, or medical equipment
- Public utilities such as electricity, gas, or water services
- Usage outdoors, under similar conditions or in similar environments

E 1040-1

KEYENCE CORPORATION

1-3-14, Higashi-Nakajima, Higashi-Yodogawa-ku,
Osaka, 533-8555, Japan
PHONE: +81-6-6379-2211 www.keyence.com

Specifications are subject to change without notice. A7WW1-MAN-0069

Copyright (c) 2010 KEYENCE CORPORATION. All rights reserved.

11227E 1070-1 96M11227
Printed in Japan

ASSEMBLY TITLE: **PRODUCT DETECT ASSEMBLY**

GENERAL FUNCTION:

The product detect signal is used to trigger the labeling cycle. Optimum placement and setup of the product detect sensor is critical to accurate and repeatable label placement.

SETUP AND ADJUSTMENTS:

Set the position of the product detect sensor at a point up-steam of the peel plate area. Set the vertical position of the sensor at a point on the product that provides a stable and repeatable sense area. Loosen the vertical adjustment knobs to move the assembly along the vertical axis.

Follow the manufactures data sheet for a particular set and calibration.

MAINTENANCE:

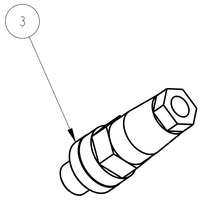
No scheduled maintenance is required for this assembly. Always keep the drive areas free of label flash and debris.

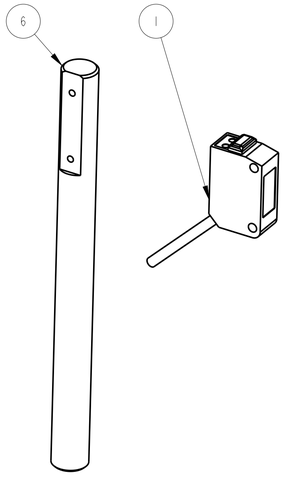
CAUTION: Before performing any maintenance or cleaning make sure the system is powered down.

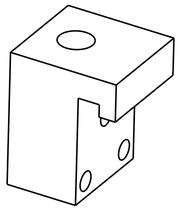
TROUBLESHOOTING:

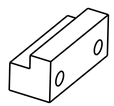
PROBLEM:	**WHAT TO DO:**
- No label trigger or intermittent trigger.	- Product does not intersect sensor scan field. Adjust sensor position until sensor detects product. - Sensor gain set is too low. Increase gain until sensor indicator displays ON status(with product in sensor field).

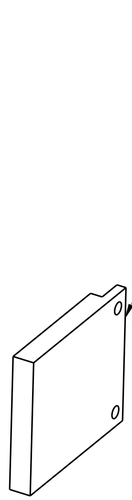
ITEM	QTY	PART NO.	DESCRIPTION	PARENT ITEM
1	1	202192-003	CLEAR PRODUCT SENSOR, PNP	21560-013
2	1	203160-000	REFLECTOR	21560-013
3	1	252019-000	4 PIN MALE CONNECTOR	21560-013
4	2	A20875-000	RETAINER BLOCK, CONV. RAIL	21560-013
5	2	A20876-000	RETAINER BLOCK	21560-013
6	1	A24278-001	REFLECTOR MTG. SHAFT	21560-013
7	1	A24279-000	REFLECTOR MTG. SHAFT	21560-013

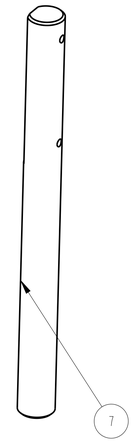


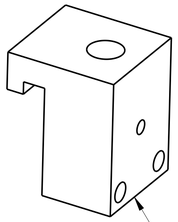


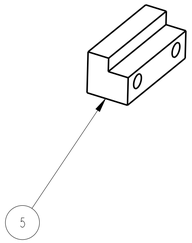












REV	DATE	DESCRIPTION	BY
A	Aug-03-21	NEW DRAWING	TAZ

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

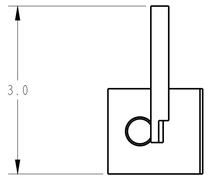
UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'
SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030

QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

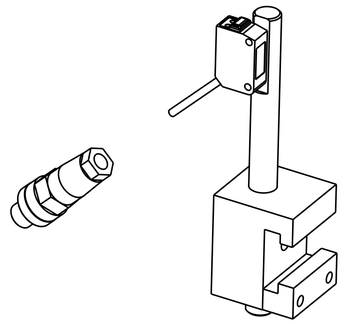
SCALE	1/1
DATE	Aug-03-21
DRAWN BY	TAZ

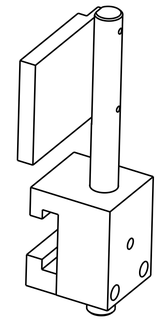
NPN PRODUCT DETECT MOUNT

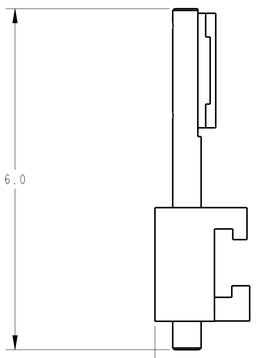
MAT'L | 21560-013 | 21560-013

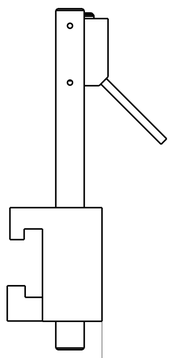


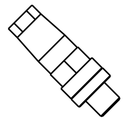


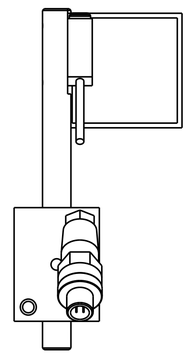












REV	DATE	DESCRIPTION	BY
A	Aug-03-21	NEW DRAWING	TAZ

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
.X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030

QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

SCALE	3/4
DATE	Aug-03-21
DRAWN BY	TAZ

NPN PRODUCT DETECT MOUNT

MAT'L: 21560-013

21560-013

KEYENCE

96M11227

Self-contained
Photoelectric Sensor

PZ-G Series
Instruction Manual

Read this manual thoroughly before using the product.
Keep this manual readily available for future reference.



■ Safety precautions

- Avoid running the PZ-G cable along with power and high voltage lines, as this may cause interference and/or permanent damage.
- When using a commercially available switching regulator, ground its chassis grounding and earth grounding terminals.
- Do not use in locations where direct ambient light or external light directly shines on the light receiving surface.
- With retro-reflective type sensors, when detecting highly reflective materials (such as mirrored surfaces), stabilization may be difficult. To correct this, change the angle of the sensor head, or adjust the sensitivity.
- Avoid using power which exceeds the specifications for ripple (10% max)
- Avoid using excess force when rotating the operation mode selector switch (Light-on, Dark-on) and the sensitivity adjustment trimmer.
- This product is just intended to detect the object(s). Do not use this product for the purpose to protect a human body or a part of human body.
- This product is not intended for use as explosion-proof product. Do not use this product in a hazardous location and/or potentially explosive atmosphere.

Precautions on Regulations and Standards

■ UL Certificate

This product is an UL/C-UL Listed product.

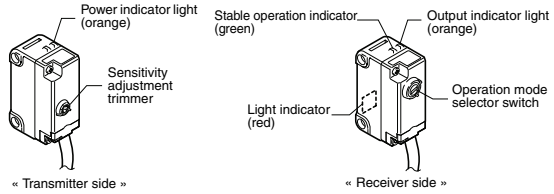
- UL File No. E301717
- Category NRKH,NRKH7
- Enclosure Type 1 (Based on UL50)

Be sure to consider the following specifications when using this product as an UL/C-UL Listed Product.

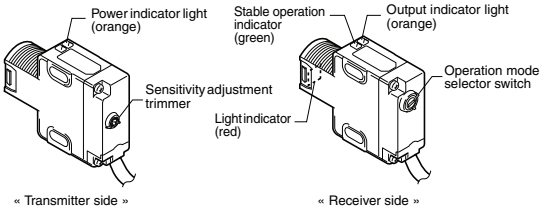
- Use the power supply with Class 2 output defined in NFPA70 (NEC: National Electrical Code).
- Power supply/ Control input/ Control output circuits shall be connected to a single Class 2 source only.
- Use with the over current protection device which is rated 30V or more and not more than 1A.

Part Names

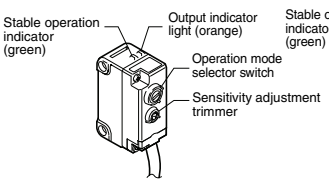
● **PZ-G5xN/G5xP**



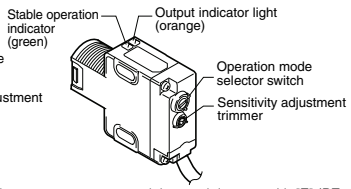
● **PZ-G5xB**



● **PZ-G4xN/G4xP/G10xN/ G10xP/G6xN/G6xP**



● **PZ-G4xB/G10xB/G6xB**

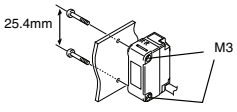


* The model name with "C" (PZ-GxxCx) is the connector type, and the model name with "E" (PZ-GxxEx) is the pigtail quick disconnect type.

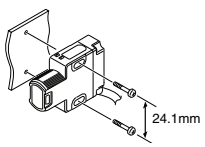
Mounting Method

■ Side Mounting (Prepare M3 screws)

Tightening torque: 0.5 N·m or less

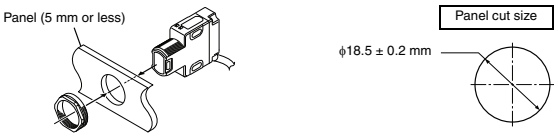


Tightening torque: 0.5 N·m or less



■ Mounting with the M18 nut (includes nut type)

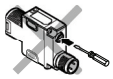
The M18 nut is also available separately as OP-84225 (2 pcs. supplied).
Tightening torque:1.0 N·m or less



Note

- Mount the M18 nut (supplied) straight in. If mounted at an angle it cannot be tightened properly.
- When tightening the M18 nut (supplied), firmly hold the main body down. The case of the main body may be damaged if held in place with a tool such as pliers.
- When tightening the M18 nut (supplied), if excess force is applied to the nut with a tool such as pliers, it may bend it out of shape. Therefore, do not apply excess force.

Sensitivity Adjustment Method

Caution ⚠	Avoid using excess force when rotating the sensitivity adjustment trimmer and operation mode selector switch as it may cause damage.	

■ Operation mode selector switch

With the operation mode selector switch, you can select either the LIGHT-ON mode (L) or the DARK-ON (D) mode.



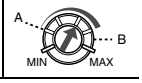
LIGHT-ON setting



DARK-ON setting

■ Reflective type (PZ-G41/G42/G101/G102/G10R/G10G/G10B Series)

The following assumes LIGHT-ON (L) is set.

Sequence	Adjustment method	Sensitivity adjustment trimmer
①	Position target in place. Slowly rotate the sensitivity trimmer from the MIN position towards the MAX position until the (orange) output indicator turns on (Position "A"). If the output indicator does not turn off, even at MIN, then MIN is considered Position "A".	
②	Remove the target. Adjust the sensitivity trimmer from MIN towards MAX until the (orange) output indicator turns on (Position "B"). If the output indicator does not light up, the MAX position is considered Position "B".	
③	Adjust the sensitivity trimmer to the midpoint between "A" and "B". Verify that the (green) stable operation light turns on with and without a target in place.	

Reference To use the sensor in DARK-ON mode, adjust the mode selector switch to "D".

■ Thrubeam type (PZ-G51/G52 Series) / Retro-reflective type (PZ-G61/G62 Series)

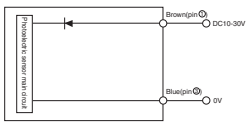
The following assumes DARK-ON (D) is set.

Sequence	Adjustment method	Sensitivity adjustment trimmer
①	Remove the target. Adjust the sensitivity trimmer to MAX. Mount the sensor heads in place so the (orange) output indicator turns off (on thrubeam models, the red light on the receiver face will turn on)	
②	Position target in place. Verify that the orange output indicator turns on (on thrubeam models, the red light on the receiver face will turn off). Adjust sensitivity lower if the output indicator does not turn on (or if the red light on the receiver face does not turn off on thrubeam models)	

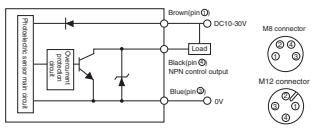
Reference To use the sensor in LIGHT-ON mode, adjust the mode selector switch to "L".

I/O Circuit Diagram

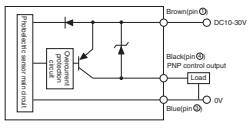
● **PZ-G5xN/G5xP/G5xB (Transmitter side)**



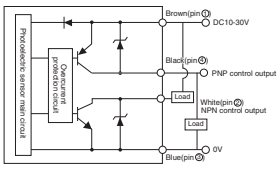
● **PZ-G5xN (Receiver side)/ G4xN/G10xN/G6xN**



● **PZ-G5xP (Receiver side)/ G4xP/G10xP/G6xP**



● **PZ-G5xB (Receiver side)/ G4xB/G10xB/G6xB**



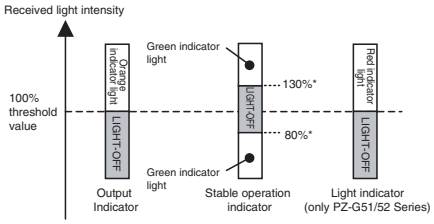
* The pin numbers represent those of the connector type / pigtail quick disconnect type. The model name with "C" (PZ-GxxCx) is the connector type, and the model name with "E" (PZ-GxxEx) is the pigtail quick disconnect type.

PZ-GxxCN/GxxCP..... M8 connector
PZ-GxxCB/GxxEN/GxxEP..... M12 connector

■ Indicators

The following describes each ON/OFF condition of indicator when LIGHT-ON (L) is set.

Reference When the DARK-ON (D) is set, the output indicator ON/OFF will reverse.



* For PZ-G62, the upper limit is 107% and the lower limit is 93%.

If the stable operation indicator turns off during operation, readjust or fine-adjust the sensitivity.

■ Mutual interference

- For reflective type / retro-reflective type sensors, mutual interference protection can be set for up to 2 units. However, when the sensors are mounted facing each other, change the angle of the sensor head to prevent light being emitted into each unit.(The mark detection type does not include the mutual interference function.)
- Mutual interference prevention can be set when mounting a polarizing filter attachment (optional with thrubeam type sensors) (If operation is unstable even after mounting the polarizing filter, slightly lower the sensitivity.)
- For more detailed information about mutual interference or attachment, see the PZ-G Series catalog or contact your nearest KEYENCE office.

Specifications

Type			Thrubeam		Reflective				Retro-reflective		Mark detection		
Configuration	Cable shape	Output mode	Normal	High-power	Diffuse-reflective Long-detecting distance	Diffuse-reflective Short-detecting distance	Narrow-view reflective	Definite reflective	Long detecting distance (with P.R.O. function)	Transparent target detection (without P.R.O. function)	Red	Green	Blue
Rectangular	Cable	NPN	PZ-G51N	PZ-G52N	PZ-G41N	PZ-G42N	PZ-G101N	PZ-G102N	PZ-G61N	PZ-G62N	-		
		PNP	PZ-G51P	PZ-G52P	PZ-G41P	PZ-G42P	PZ-G101P	PZ-G102P	PZ-G61P	PZ-G62P			
	M8 connector	NPN	PZ-G51CN	PZ-G52CN	PZ-G41CN	PZ-G42CN	PZ-G101CN	PZ-G102CN	PZ-G61CN	PZ-G62CN	PZ-G10RCN	PZ-G10GCN	PZ-G10BCN
		PNP	PZ-G51CP	PZ-G52CP	PZ-G41CP	PZ-G42CP	PZ-G101CP	PZ-G102CP	PZ-G61CP	PZ-G62CP	PZ-G10RCP	PZ-G10GCP	PZ-G10BCP
	M12 pigtail quick disconnect	NPN	PZ-G51EN	PZ-G52EN	PZ-G41EN	PZ-G42EN	PZ-G101EN	PZ-G102EN	PZ-G61EN	PZ-G62EN	-		
		PNP	PZ-G51EP	PZ-G52EP	PZ-G41EP	PZ-G42EP	PZ-G101EP	PZ-G102EP	PZ-G61EP	PZ-G62EP			
Nut	Cable	Bipolar (NPN+PNP)	PZ-G51B	PZ-G52B	PZ-G41B	PZ-G42B	PZ-G101B	PZ-G102B	PZ-G61B	PZ-G62B			
	M12 connector		PZ-G51CB	PZ-G52CB	PZ-G41CB	PZ-G42CB	PZ-G101CB	PZ-G102CB	PZ-G61CB	PZ-G62CB			
Detecting distance*1			20 m	40 m	1 m (30 × 30 cm white mat paper)	300 mm (10 × 10 cm white mat paper)	200 mm	5 to 45 mm	0.1 to 4.2 m (when R-2L reflector is used)	0.1 to 1 m (when R-2L reflector is used)	8 to 15 mm		
Spot diameter			-	-	-	-	Approx. ϕ 5 mm (when the detecting distance is 100 mm)	Approx. ϕ 2 mm (when the detecting distance is 40 mm)	-	-	Approx. 1.5 × 4 mm (when the detecting distance is 10 mm)		
Light source (LED)			Red LED	Infrared LED × 2	Red LED					Infrared LED	Red LED	Green LED	Blue LED
Sensitivity adjustment			1-turn trimmer (230 degrees)										
Response time			500 µs								50 µs		
Operation mode			LIGHT-ON/DARK-ON, trimmer-selectable										
Indicator (LED)			Transmitter: power (orange) Receiver: output (orange), stable operation (green), light (red)		Output (orange), stable operation (green)								
Control output			Open-collector 100 mA max. (30 V max.), Residual voltage 1 V max.										
Protection circuit			Reverse-polarity protection, over-current protection, output surge absorber										
Ratings	Power voltage		10 to 30 VDC, Ripple (P-P): ±10% max, Class 2.										
	Current consumption		Transmitter: 20 mA max. Receiver: 28 mA max.	Transmitter: 25 mA max. Receiver: 28 mA max.	34 mA max.								
Environmental resistance	Enclosure rating		IEC,JEM: IP67 / NEMA: 4X,6,12 / DIN: IP69K										
	Ambient light		Incandescent lamp: 5,000 (lx) max, Sunlight: 20,000 (lx) max.										
	Ambient temperature		-20 °C to +55°C (No freezing)										
	Relative humidity		35 to 85 % RH (No condensation)										
	Vibration resistance		10 to 55 Hz, 1.5 mm double amplitude in X, Y, Z directions, 2 hours each										
	Shock resistance		1000 m/s^2 in X, Y, Z directions, 6 times each										
Interference prevention			2 units (when polarizing filter attachment is used)		2 units (with the automatic different cycle function)						-		
Material			Case, M18 nut (nut type only): reinforced glass polybutylene terephthalate (PBT), Trimmer: reinforced glass polyamide (PA) Cable (Cable type / pigtail quick disconnect type only): Polyvinyl chloride (PVC), Screw (Case connection): Steel, zinc-nickel plated, Packing (Case connection): Nitrile-butadiene rubber (NBR) Connector (pigtail quick disconnect type only): Brass-nickel plated, Polybutyleneterephtalate (PBT), Polyvinyl chloride (PVC)										
	Lens cover		Polyarylate (PAR)						Acrylic plastic (PMMA)	Polyarylate (PAR)			
Tightening torque			Rectangular type (side screw part): 0.5 N·m max. Nut type (front M18 part): 1.0 N·m max., (side slot part): 0.5 N·m max.										
Accessory*2			Instruction manual, M18 nut x 2 (nut thrubeam type), M18 nut x 1 (other nut types)										
Weight			Rectangular cable type: Approx. 60 g (Approx. 50 g for thrubeam transmitter), Rectangular M8 connector type: Approx 10 g, rectangular M12 pigtail quick disconnect type: Approx. 30 g Nut type cable type: Approx. 65 g (Approx. 55 g for thrubeam transmitter), Nut type M12 connector type: Approx 15 g										

*1 The detection distance is measured with the maximum sensitivity.
*2 The cable for the connector type / pigtail quick disconnect type is sold separately. The reflector for the retro-reflective type is sold separately.

WARRANTY

KEYENCE products are strictly factory-inspected. However, in the event of a failure, contact your nearest KEYENCE office with details of the failure.

1. WARRANTY PERIOD

The warranty period shall be for one year from the date that the product has been delivered to the location specified by the purchaser.

2. WARRANTY SCOPE

(1) If a failure attributable to KEYENCE occurs within the abovementioned warranty period, we will repair the product, free of charge. However, the following cases shall be excluded from the warranty scope.
- Any failure resulting from improper conditions, improper environments, improper handling, or improper usage other than described in the instruction manual, the user's manual, or the specifications specifically arranged between the purchaser and KEYENCE.
- Any failure resulting from factors other than a defect of our product, such as the purchaser's equipment or the design of the purchaser's software.
- Any failure resulting from modifications or repairs carried out by any person other than KEYENCE staff.
- Any failure that can certainly be prevented when the expendable part(s) is maintained or replaced correctly as described in the instruction manual, the user's manual, etc.
- Any failure caused by a factor that cannot be foreseen at a scientific/technical level at the time when the product has been shipped from KEYENCE.
- Any disaster such as fire, earthquake, and flood, or any other external factor, such as abnormal voltage, for which we are not liable.

(2) The warranty scope is limited to the extent set forth in item (1), and KEYENCE assumes no liability for any purchaser's secondary damage (damage of equipment, loss of opportunities, loss of profits, etc.) or any other damage resulting from a failure of our product.

3. PRODUCT APPLICABILITY

KEYENCE products are designed and manufactured as general-purpose products for general industries.

Therefore, our products are not intended for the applications below and are not applicable to them. If, however, the purchaser consults with us in advance regarding the employment of our product, understands the specifications, ratings, and performance of the product on their own responsibility, and takes necessary safety measures, the product may be applied. In this case, the warranty scope shall be the same as above.
- Facilities where the product may greatly affect human life or property, such as nuclear power plants, aviation, railroads, ships, motor vehicles, or medical equipment
- Public utilities such as electricity, gas, or water services
- Usage outdoors, under similar conditions or in similar environments

E 1040-1

KEYENCE CORPORATION

1-3-14, Higashi-Nakajima, Higashi-Yodogawa-ku,
Osaka, 533-8555, Japan
PHONE: +81-6-6379-2211 www.keyence.com

Specifications are subject to change without notice. A7WW1-MAN-0069

Copyright (c) 2010 KEYENCE CORPORATION. All rights reserved.

11227E 1070-1 96M11227
Printed in Japan

7.9 CHAIN ALIGNER ASSEMBLY

7.9.1 GENERAL INFORMATION

The chain aligner assembly is an optional module that is generally placed at the entrance of the conveyor directly before the top trap assembly. Chain aligners are primarily for oval front/back applications. This assembly centers the product on the conveyor and straightens the product to ensure label accuracy. Chain aligners are controlled with AC motors and a single AC drive located in the electrical enclosure.

7.9.2 ADJUSTMENTS

The chain aligner assembly is adjusted in and out or up and down by rotating the knobs clockwise or counter clockwise. Lock the assembly in place with the ratchet handles on the front and side of the assembly.



⚠ **CAUTION**

Do not make any adjustments when assembly or conveyor are running. Read and understand manual before making any adjustments.





ASSEMBLY TITLE: **CHAIN ALIGNERS**

GENERAL FUNCTION:

-Provides product alignment before label application.

SET-UP AND ADJUSTMENTS:

-VERTICAL ADJUSTMENT: Loosen clamp lever and turn adjusting rod with ratchet handle. Tighten clamp lever when desired position is obtained.

-HORIZONTAL ADJUSTMET: loosen clamp lever and turn adjusting rod with ratchet handle. Tighten clamp lever when desired position is obtained.

MAINTENANCE:

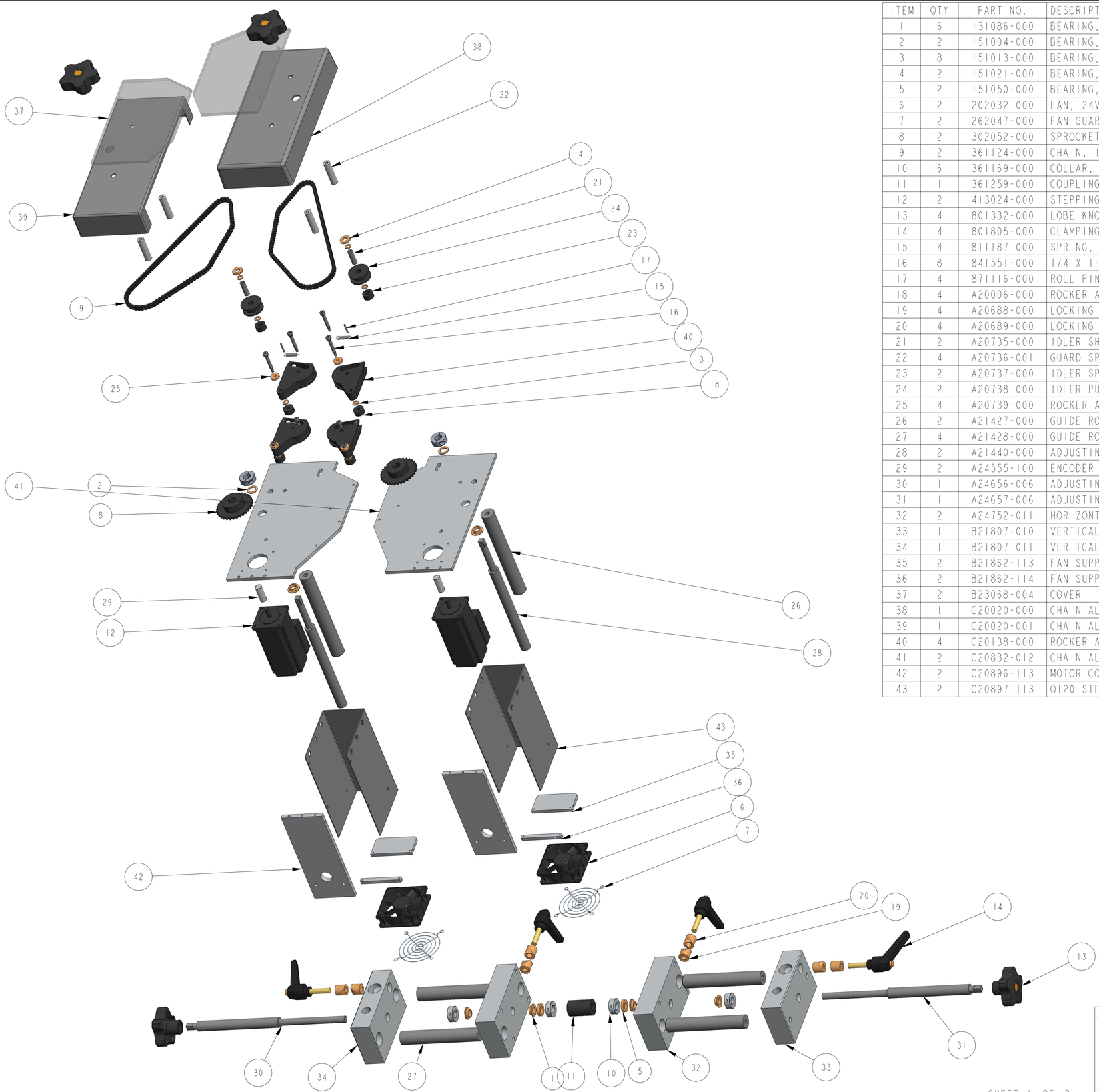
-Clean chain aligners frequently. Grease all fittings after every forty hours of operation. Use lithium grease only.

TROUBLESHOOTING:

PROBLEM	WHAT TO DO
-Products do not align	-Adjust horizontally to increase pressure on the product.
-Products will not travel through aligners.	-Adjust horizontally to apply less pressure to the product.







ITEM	QTY	PART NO.	DESCRIPTION	PARENT ITEM
1	6	131086-000	BEARING, FLANGE	20811-606
2	2	151004-000	BEARING, THRUST WASHER	20811-606
3	8	151013-000	BEARING, THRUST WASHER	20811-606
4	2	151021-000	BEARING, THRUST WASHER	20811-606
5	2	151050-000	BEARING, THRUST WASHER	20811-606
6	2	202032-000	FAN, 24V DC	20811-606
7	2	262047-000	FAN GUARD	20811-606
8	2	302052-000	SPROCKET - 25BS32HT-1/2"B-K&S	20811-606
9	2	361124-000	CHAIN, 1/4 PITCH	20811-606
10	6	361169-000	COLLAR, 1/2 IN. ID ONE-PIECE CLAMP	20811-606
11	1	361259-000	COUPLING, ONE PIECE CLAMP-ON	20811-606
12	2	413024-000	STEPPING MOTOR	20811-606
13	4	801332-000	LOBE KNOB W/ ORANGE CENTER	20811-606
14	4	801805-000	CLAMPING LEVER	20811-606
15	4	811187-000	SPRING, EXTENSION	20811-606
16	8	841551-000	1/4 X 1-1/4 LG. SHOULDER BOLT	20811-606
17	4	871116-000	ROLL PIN	20811-606
18	4	A20006-000	ROCKER ARM MOUNTING SPACER	20811-606
19	4	A20688-000	LOCKING CLAMP	20811-606
20	4	A20689-000	LOCKING CLAMP	20811-606
21	2	A20735-000	IDLER SHAFT	20811-606
22	4	A20736-001	GUARD SPACER	20811-606
23	2	A20737-000	IDLER SPACER	20811-606
24	2	A20738-000	IDLER PULLEY	20811-606
25	4	A20739-000	ROCKER ARM SPACER	20811-606
26	2	A21427-000	GUIDE ROD	20811-606
27	4	A21428-000	GUIDE ROD	20811-606
28	2	A21440-000	ADJUSTING SCREW	20811-606
29	2	A24555-100	ENCODER ADAPTER SHAFT	20811-606
30	1	A24656-006	ADJUSTING SCREW	20811-606
31	1	A24657-006	ADJUSTING SCREW	20811-606
32	2	A24752-011	HORIZONTAL MTG. BLOCK, CHAIN ALIGNER	20811-606
33	1	B21807-010	VERTICAL ADJUSTMENT BLOCK	20811-606
34	1	B21807-011	VERTICAL ADJUSTMENT BLOCK	20811-606
35	2	B21862-113	FAN SUPPORT	20811-606
36	2	B21862-114	FAN SUPPORT	20811-606
37	2	B23068-004	COVER	20811-606
38	1	C20020-000	CHAIN ALIGNER GUARD	20811-606
39	1	C20020-001	CHAIN ALIGNER COVER	20811-606
40	4	C20138-000	ROCKER ARM	20811-606
41	2	C20832-012	CHAIN ALIGNER MOUNTING PLATE	20811-606
42	2	C20896-113	MOTOR COVER SIDE PLATE	20811-606
43	2	C20897-113	Q120 STEPPING MOTOR COVER	20811-606

REV	DATE	DESCRIPTION	BY
B	Jan-04-24	ADDED GUARD	TAZ
A	Aug-05-22	NEW DRAWING	TJS

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE
.X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030

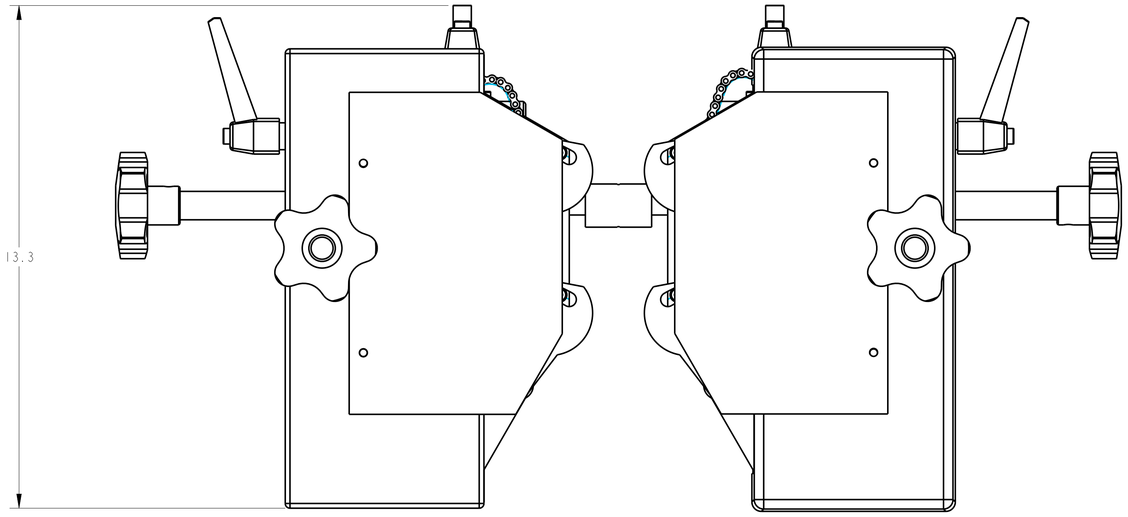
QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

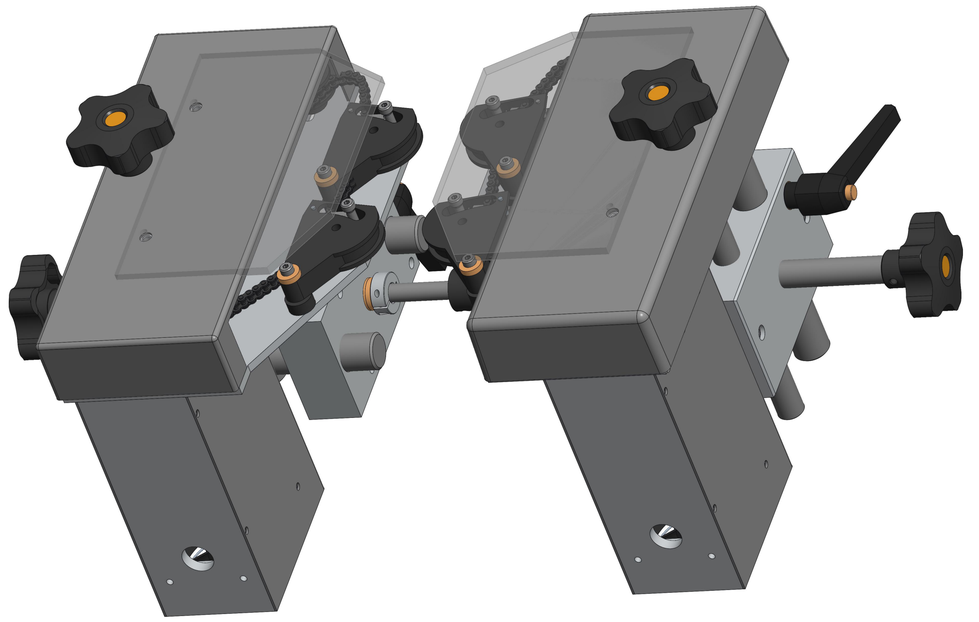
SCALE 9/32
DATE Aug-05-22
DRAWN BY TJS

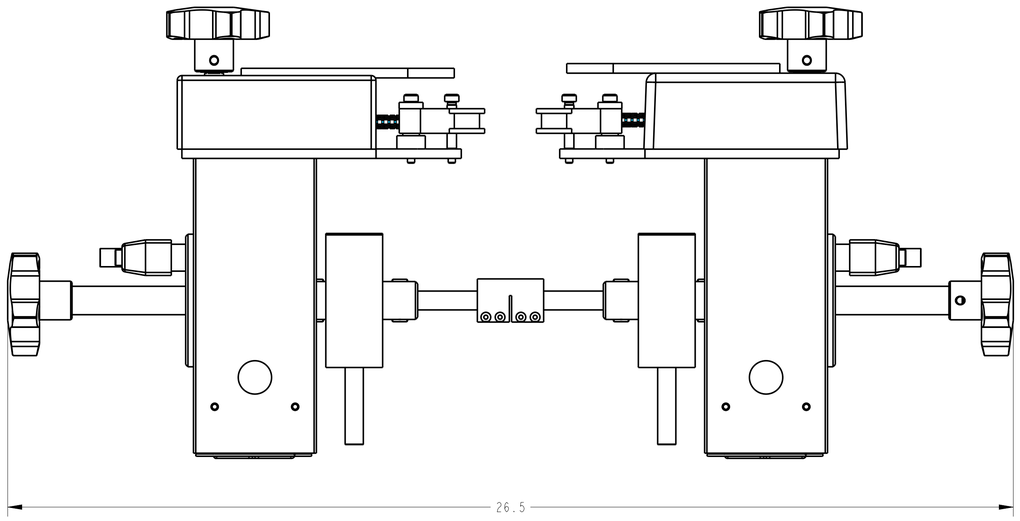
CHAIN ALIGNER ASSEMBLY STEPPER MOTORS 6" MATVEYOR

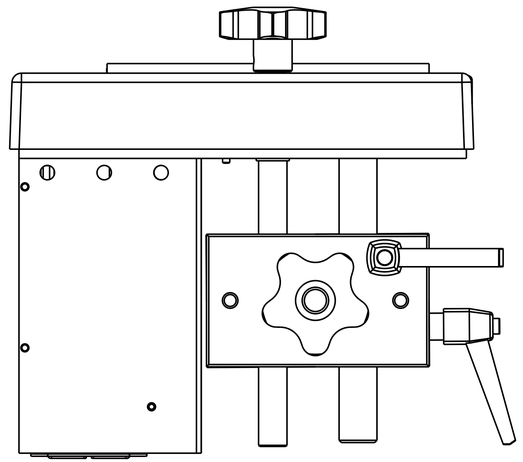
MAT'L 20811-606

20811-606









REV	DATE	DESCRIPTION	BY
A	Aug-05-22	NEW DRAWING	TJS

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE
.X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030

QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

SCALE	1/2
DATE	Aug-05-22
DRAWN BY	TJS

CHAIN ALIGNER ASSEMBLY STEPPER MOTORS 6" MATVEYOR

MAT'L	20811-606	20811-606

ASSEMBLY TITLE: **ROTARY ACTUATOR SQUEEGEE ASSEMBLY**

DRAWING NO.: **D20654-002**

GENERAL FUNCTION:

-The squeegee assembly holds the label from the liner and applies it to the product at the same time it impress it on the product
-The shock absorber controls the pressure on the product.

SET UP AND ADJUSTMENTS:

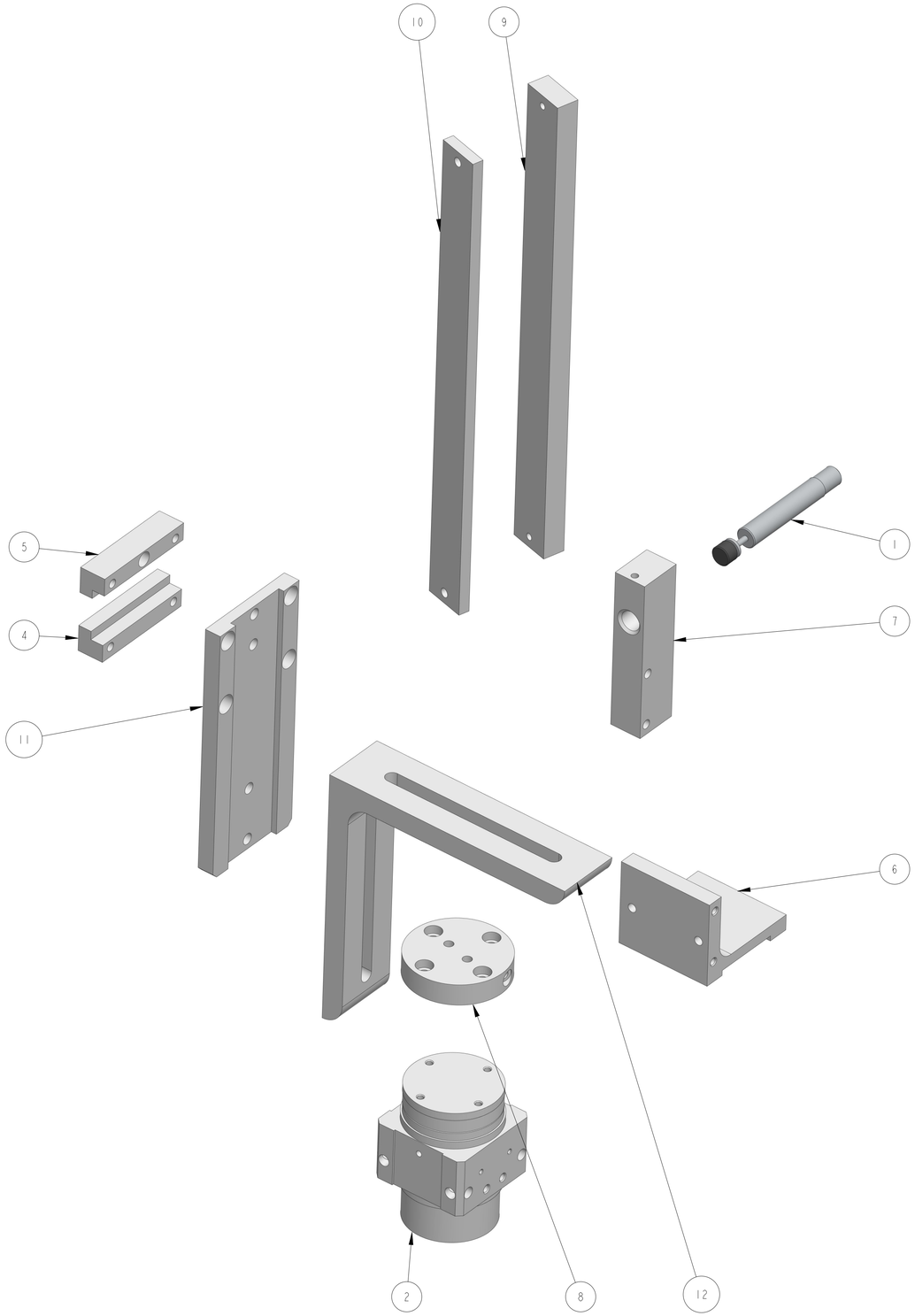
-The squeegee may be adjusted to apply the amount of pressure required to impress the label.
-To advance label flag on peel plate, move the slot sensor toward the peel plate. or increase label delay parameter.
-To decrease the label flag, move the slot sensor away from the peel plate. or decrease label delay parameter.
-Position guide collars on idler roll, one slightly above and the other slightly below the web.

MAINTENANCE:

-Clean all the parts that may acquire labels or glue residue.
- Air supply should be clean and dry.

TROUBLESHOOTING:

PROBLEM	WHAT TO DO
-Too much label flag at peel	Move slot sensor away from peel plate edge.
-Too little label flag at peel	Move slot sensor towards peel plate edge.
-Web moving up and down peel plate.	Make sure guide collars are properly Positioned on idler roll.



ITEM	QTY	PART NO.	DESCRIPTION	PARENT ITEM
1	1	391643-000	SHOCK ABSORBER	21448-002
2	1	393583-000	ROTARY ACTUATOR	21448-002
3	1	841510-000	5/16 X 3/4 LG. SHOULDER BOLT	21448-002
4	1	A20844-000	GUIDE RAIL CLAMP BAR	21448-002
5	1	A20845-000	GUIDE RAIL CLAMP BAR	21448-002
6	1	A23179-000	ROTARY ACTUATOR MOUNTING ANGLE	21448-002
7	1	A23180-000	STOP MOUNTING BLOCK	21448-002
8	1	A23181-000	ADAPTER PLATE	21448-002
9	1	A23182-002	SQUEEGEE MOUNTING BAR, 10"	21448-002
10	1	A23183-002	CLAMP BAR, 10"	21448-002
11	1	B20266-001	CONVEYOR MOUNTING PLATE	21448-002
12	1	C20175-000	MOUNTING ANGLE	21448-002

NOT SHOWN:

A24354-83825_01 SQUEEGEE, 1 GALLON

REV	DATE	DESCRIPTION	BY
A	11/05/25	NEW DRAWING	SEM

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
.X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'
SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030
ALL ANGLES ARE 90°

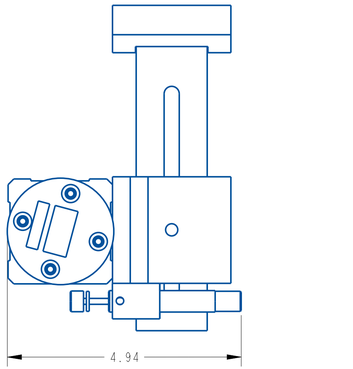
QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

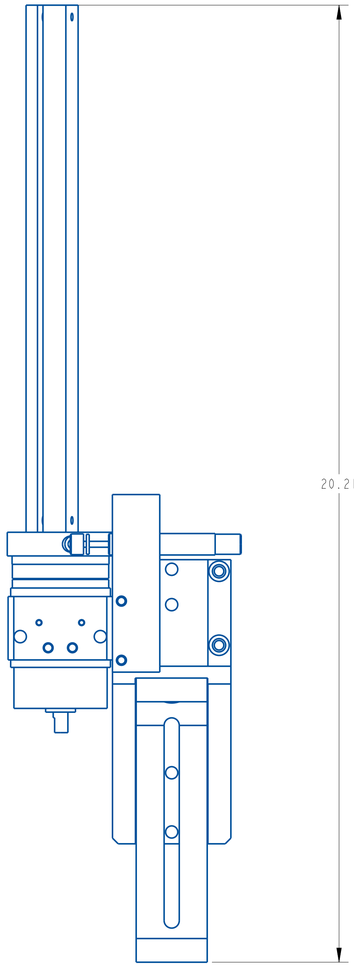
SCALE: 3/4
DATE: 11/05/25
DRW BY: SEM
CHK BY: 11/05/2025-SEM
APPR BY:

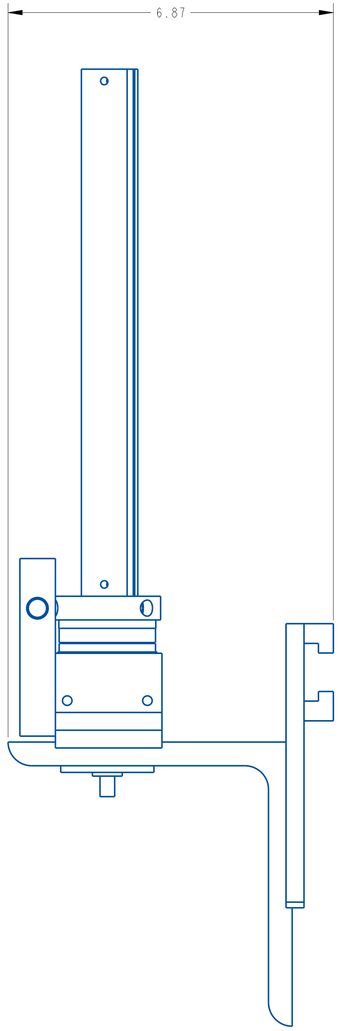
SQUEEGEE W/ ROTARY ACTUATOR (10")

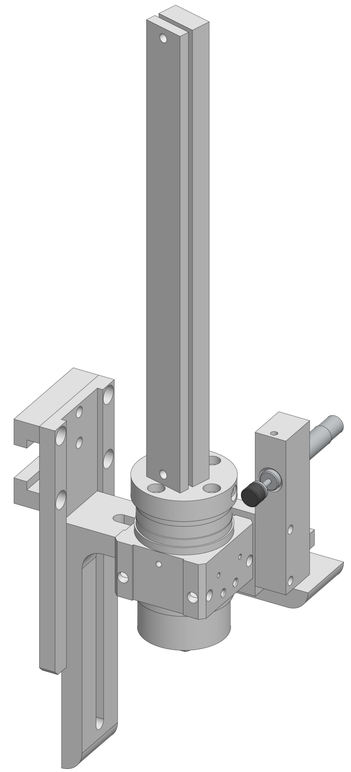
MAT'L

21448-002









REV	DATE	DESCRIPTION	BYE
A	11/05/25	NEW DRAWING	SEM

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
X ± .1
XX ± .01
XXX ± .005
ANGLES ± 30'
SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030
ALL ANGLES ARE 90°

QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

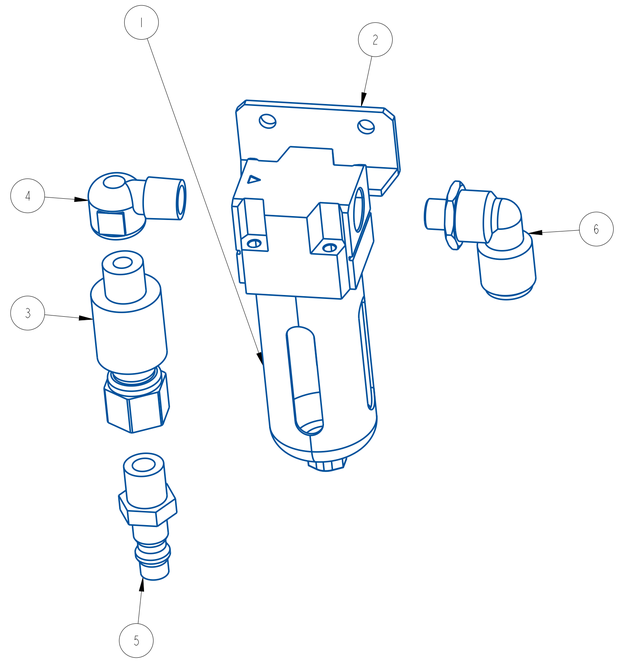
SCALE: 5/8
DATE: 11/05/25
DRW BY: SEM
CHK BY: 11/05/2025-SEM
APPR BY:

SQUEEGEE W/ ROTARY ACTUATOR (10")

MAT'L

21448-002

ITEM	QTY	PART NO.	DESCRIPTION	PARENT ITEM
1	1	391201-000	FILTER, AIR	22677-000
2	1	391201-MTG	FILTER / REGULATOR W/GUAGE & BRK	22677-000
3	1	391811-000	DISCONNECT, SLEEVE	22677-000
4	1	391906-000	90 ELBOW	22677-000
5	1	391954-000	FITTING, 1/4 NPT QUICK DISCONNECT	22677-000
6	1	392111-000	3/8" TUBE TO 1/8" THREAD MALE ELBOW	22677-000



REV	DATE	DESCRIPTION	BY
A	8-17-22	NEW DRAWING	ATT

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE
.X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030

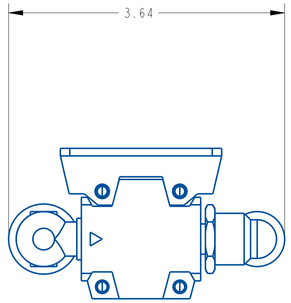
QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

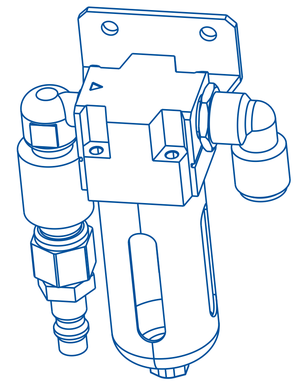
SCALE: 1/1
DATE: 8-17-22
DRW BY: ATT
CHK BY: 03/05/2024-SEM
APPR BY:

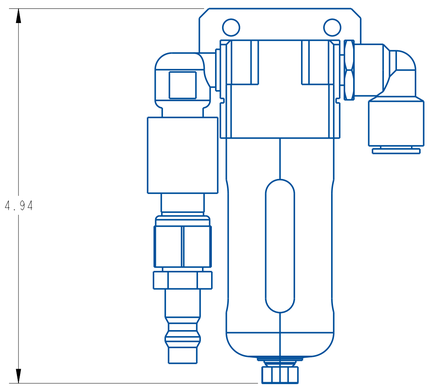
PNEUMATIC INLET

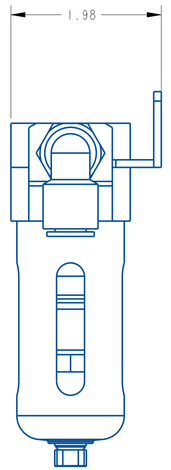
MAT'L

22677-000









REV	DATE	DESCRIPTION	BY
A	8-17-22	NEW DRAWING	ATT

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE
X ± .1
XX ± .01
XXX ± .005
ANGLES ± 30'
SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030
ALL ANGLES ARE 90°

QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

SCALE: 1/1
DATE: 8-17-22
DRW BY: ATT
CHK BY:03/05/2024-SEM
APPR BY:

PNEUMATIC INLET

MAT'L

22677-000

ASSEMBLY TITLE: **ROTARY NECK WIPE ASSEMBLY**

DRAWING NO.: **D22986-000**

Squeegee: **A24354-**

GENERAL FUNCTION:

-The neck wipe assembly holds the label from the liner and applies it to the product at the same time it impress it on the product
-The shock absorber controls the pressure on the product.

SET UP AND ADJUSTMENTS:

-The squeegee may be adjusted to apply the amount of pressure required to impress the label.
-To advance label flag on peel plate, move the slot sensor toward the peel plate. or increase label delay parameter.
-To decrease the label flag, move the slot sensor away from the peel plate. or decrease label delay parameter.
-Position guide collars on idler roll, one slightly above and the other slightly below the web.

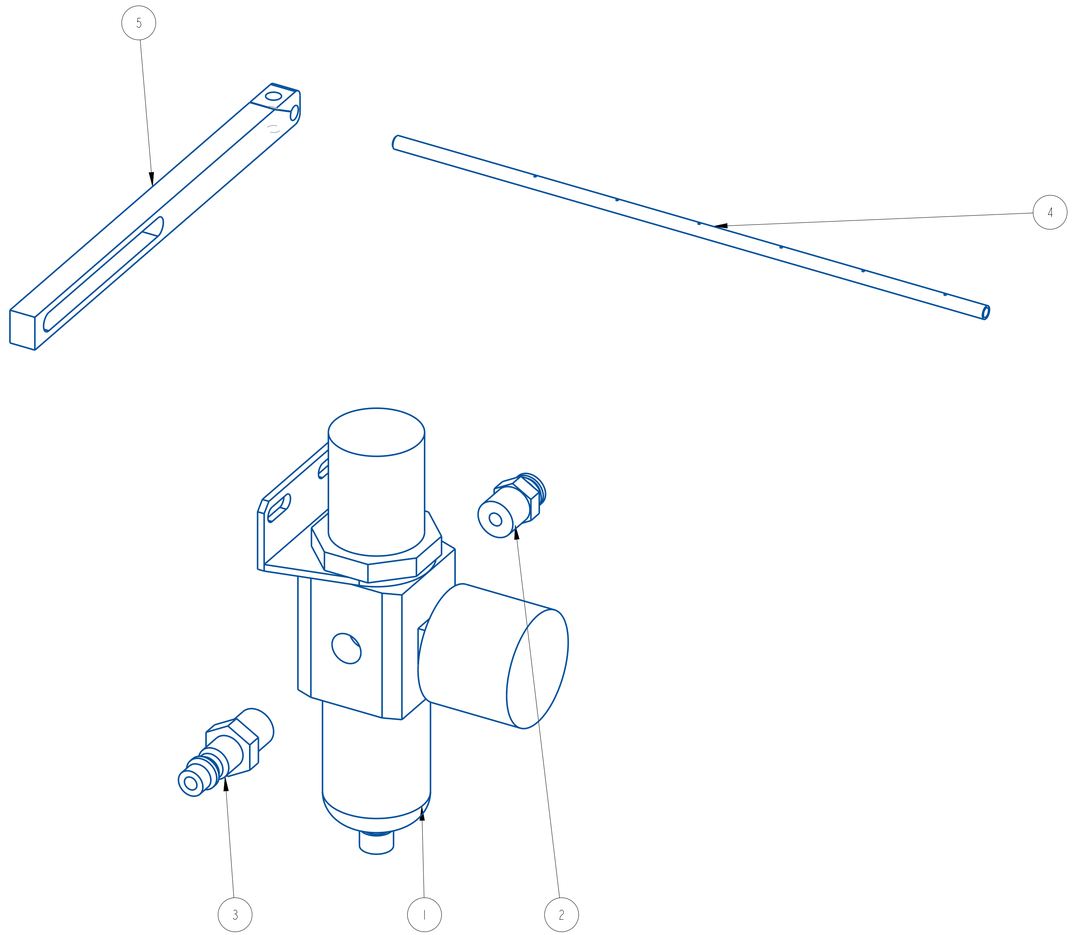
MAINTENANCE:

-Clean all the parts that may acquire labels or glue residue.
- Air supply should be clean and dry.

TROUBLESHOOTING:

PROBLEM	WHAT TO DO
-Too much label flag at peel	Move slot sensor away from peel plate edge.
-Too little label flag at peel	Move slot sensor towards peel plate edge.
-Web moving up and down peel plate.	Make sure guide collars are properly Positioned on idler roll.

ITEM	QTY	PART NO.	DESCRIPTION	PARENT ITEM
1	1	391240-000	FILTER / REGULATOR W/GUAGE & BRK	22327-000
2	1	391806-000	CONNECTOR, 1/4 NPT X 1/4 NPT HEX	22327-000
3	1	391954-000	FITTING, 1/4 NPT QUICK DISCONNECT	22327-000
4	1	A23372-034P	AIR ASSIST TUBE	22327-000
5	1	A24065-002	AIR ASSIST BRACKET	22327-000



REV	DATE	DESCRIPTION	BY
A	09/21/2009	NEW DRAWING	SEM

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE
X ± .1
XX ± .01
XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030

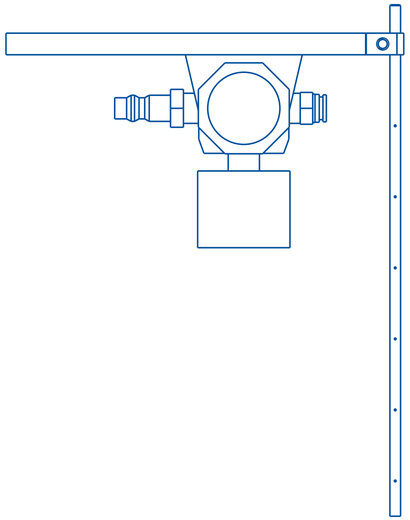
QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

SCALE: 1/1
DATE: 09/21/2009
DRW BY: SEM
CHK BY: 06/10/2024-SEM
APPR BY:

SQUEEGIE AIR ASSIST ASSEMBLY

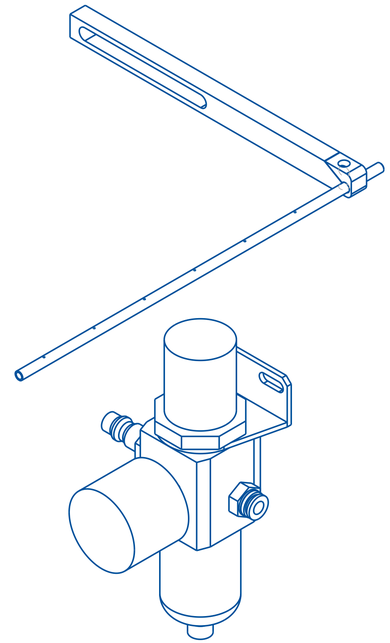
MAT'L

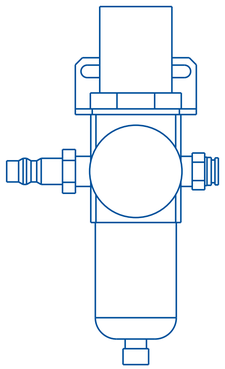
D22986-000

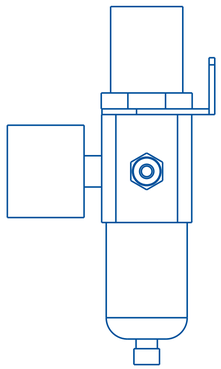












SHEET 2 OF 2

REV	DATE	DESCRIPTION	BY
A	09/21/2009	NEW DRAWING	SEM

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
.X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'
SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030
ALL ANGLES ARE 90°

QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

SCALE: 3/4
DATE: 09/21/2009
DRW BY: SEM
CHK BY:06/10/2024-SEM
APPR BY:

SQUEEGIE AIR ASSIST ASSEMBLY

MAT'L

D22986-000

ASSEMBLY TITLE: **STOP GATE**

DRAWING NO.: **D20218-000**

GENERAL FUNCTION:

- The stop gate assembly is usually used to create a bank of products into a feed or pacing screw. In some instances it is used to inhibit the flow of products if the labeler should go into a fatal fault condition, or if a sensor is used on the out feed end of the conveyor to sense a back up of products.

SET UP AND ADJUSTMENTS:

- The Stop gate assembly is generally mounted to versaline rail and can be slid back and forth by loosening the clamping blocks on the mounting plate. If used in conjunction with pacing or feed screws the stop gate should be placed as close as possible without inhibiting the operation or change over of the screws. To adjust the in and out of the stop gate loosen the 3/8-16 H.H.C.S. or ratchet handle located under the air cylinder and move to the desired location and retighten.

MAINTENANCE:

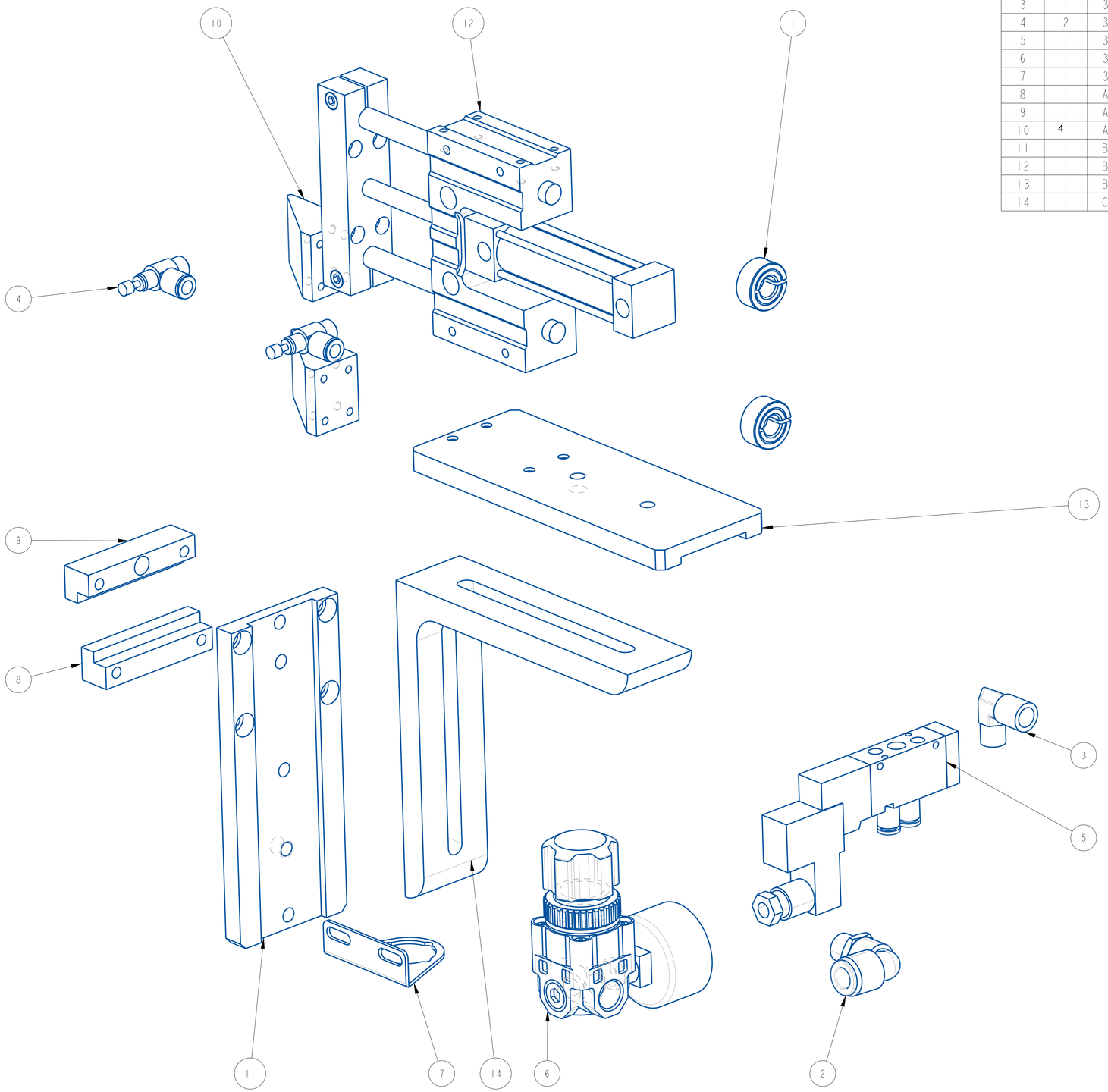
- Keep the stop gate free of discarded labels and debris. This will allow for free product movement.

CAUTION:

- **Before performing any maintenance or cleaning make sure the system is powered down.**



ITEM	QTY	PART NO.	DESCRIPTION	PARENT ITEM
1	2	362186-000	COLLAR, 3/8 IN. ID ONE-PIECE CLAMP	21081-000
2	1	391809-000	FITTING, ELBOW 3/8" X 1/4"	21081-000
3	1	391969-000	ELBOW, 1/8NPT MALE X 1/4NPT MALE, 90°	21081-000
4	2	392029-000	FLOW CONTROL FITTING	21081-000
5	1	392268-000	VALVE,	21081-000
6	1	392270-000	REGULATOR W/GAUGE (INCL.NUT)	21081-000
7	1	392809-000	REGULATOR, MOUNTIN BRACKET	21081-000
8	1	A20844-000	GUIDE RAIL CLAMP BAR	21081-000
9	1	A20845-000	GUIDE RAIL CLAMP BAR	21081-000
10	4	A20859-008	PRODUCT STOP	21081-000
11	1	B20266-000	CONVEYOR MOUNTING PLATE	21081-000
12	1	B20277-000	PNEUMATIC SLIDE	21081-000
13	1	B20278-000	CYLINDER MOUNTING PLATE	21081-000
14	1	C20175-000	MOUNTING ANGLE	21081-000



REV	DATE	DESCRIPTION	BY
B	06/07/2005	UPDATE BILL OF MATERIAL	SEM
A	10-18-02	NEW DRAWING	JMC

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
.X ± .1
.XX ± .01
.XXX ± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030

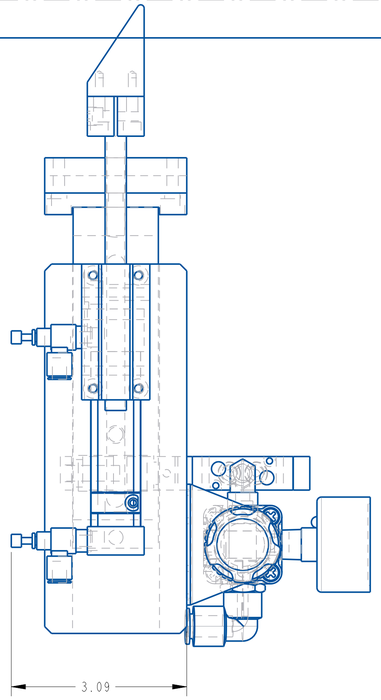
QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

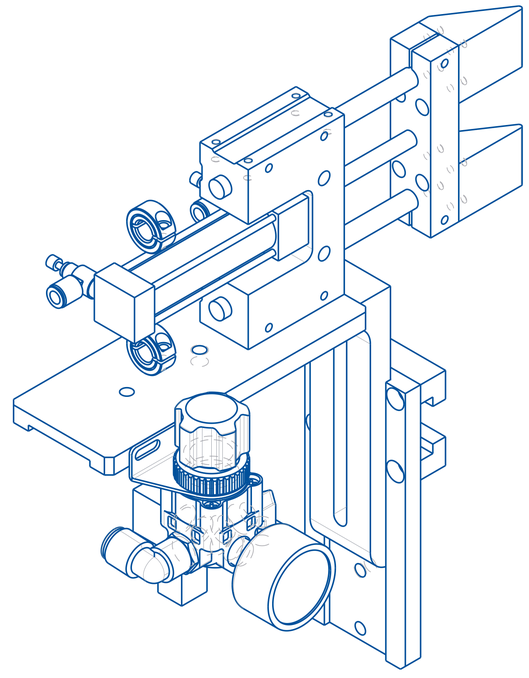
SCALE: 1/1
DATE: 10-18-02
DRW BY: JMC
CHK BY: 04/11/2024-SEM
APPR BY: MAW

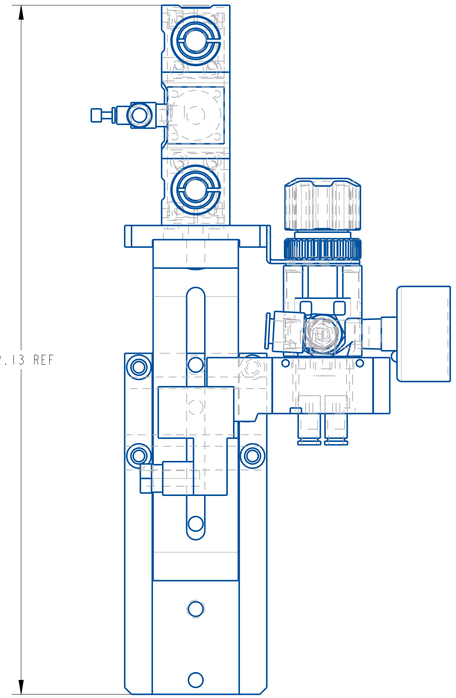
PRODUCT STOP GATE ASSEMBLY

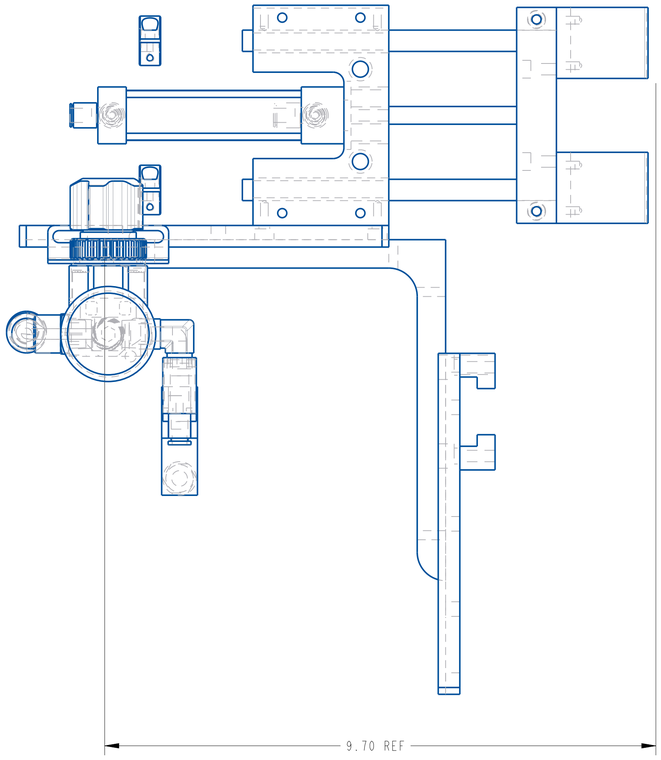
MAT'L

21081-000









REV	DATE	DESCRIPTION	BY
B	06/07/2005	UPDATE BILL OF MATERIAL	SEM
A	10-18-02	NEW DRAWING	JMC

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
X ± .1
XX ± .01
XXX ± .005
ANGLES ± 30°

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030

QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(216) 975-0006

SCALE: 3/4
DATE: 10-18-02
DRW BY: JMC
CHK BY:04/11/2024-SEM
APPR BY: MAW

PRODUCT STOP GATE ASSEMBLY

MAT'L

21081-000

INDENTED BILL OF MATERIAL

Items: 21859SN-000 Thru 21859SN-000 Location: 01 QUADREL WHSE
Activity Codes: Active Items Only
1 Levels With No Blow Through
No Selection On Basis Of Effectivity Date No Selection On Basis Of Obsolete Date

Level	Seq	Component-Item	Component-Description	Loc	Opr LLC	UOM Draw	Scrap REV	Act P/M	Stk Ctl	B/I B/F	Qty On-Hand Qty-Allocated	Qty-Per-Parent Qty-On-Order
Parent Item: 21859SN-000			SENSOR KIT, HALL EFFECT PHD COMPS, PNP	01	1							
1	10	271305-001 "PHD" 92100	HALL EFFECT SENSOR BRACKET	01	8	0 EA	.0	A P	Y Y	N N		1.000000
1	15	252019-000 "LUMBERG" RSC4/7	CONNECTOR, M12, 4P, MALE	01	10	0 EA	.0	A P	Y Y	N N		1.000000
1	20	271316-002 "PHD" JC1HDP-K	SENSOR, HALL EFFECT, PNP M8 QD	01	6	0 EA	.0	A P	Y Y	N N		1.000000
1	25	202624-000 LUMBERG# RKMV3-224-2M ***	CABLE, M8, 3 PIN, 2m	01	7	0 EA	.0	A P	Y Y	N N		1.000000

ASSEMBLY TITLE: **INFEED / OUTFEED BANK SENSOR**

DRAWING NO.:

GENERAL FUNCTION:

- The Infeed & Outfeed bank sensors are usually used to create a bank of products into a feed or pacing screw. In some instances it is used to inhibit the flow of products if the labeler should go into a fatal fault condition, or if a sensor is used on the out feed end of the conveyor to sense a back up of products.

SET UP AND ADJUSTMENTS:

- The Infeed / Outfeed bank sensors are generally mounted to versaline rail or guide rail and can be slid back and forth by loosening the clamping blocks on the mounting plate or rail clamp. If used in conjunction with pacing or feed screws the sensors should be placed as close as possible without inhibiting the operation or change over of the screws.

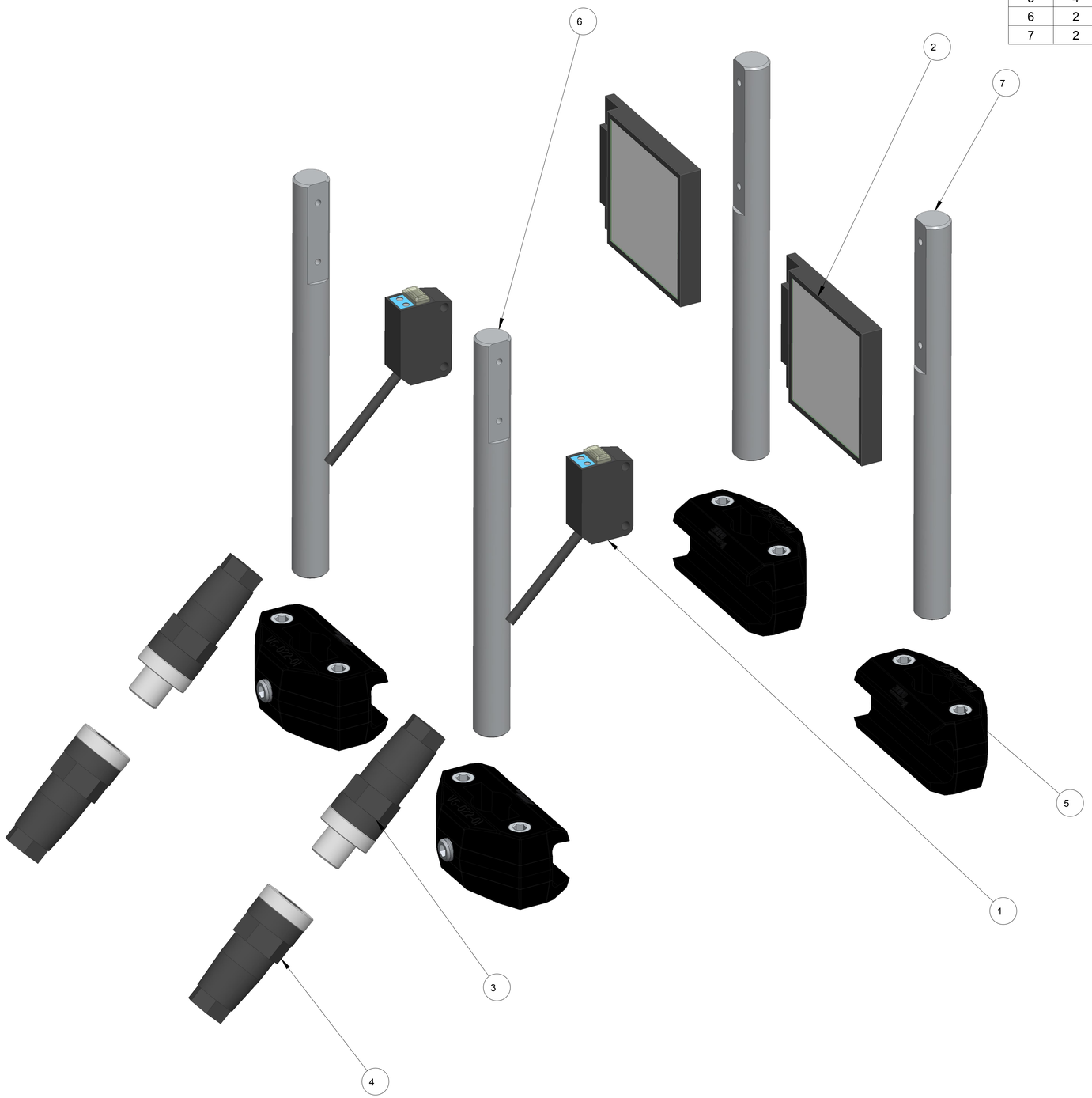
MAINTENANCE:

- Keep the sensor and reflectors clean of debris and dirt.
- Clean at regular intervals

CAUTION:

- **Before performing any maintenance or cleaning make sure the system is powered down.**

ITEM	QTY	PART NO.	DESCRIPTION	PARENT ITEM
1	2	202192-002	CLEAR PRODUCT SENSOR, PNP	22546-001
2	2	203160-000	REFLECTOR	22546-001
3	2	252019-000	4 PIN MALE CONNECTOR	22546-001
4	2	252019-001	4 PIN MALE CONNECTOR	22546-001
5	4	791460-000	GUIDE RAIL CLAMP, SENSOR MOUNT	22546-001
6	2	A24278-001	SENSOR MTG. SHAFT	22546-001
7	2	A24279-000	REFLECTOR MTG. SHAFT	22546-001



REV	DATE	DESCRIPTION	BY
A	Mar-12-20	NEW DRAWING	TJS

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE

X± .1
.XX± .01
.XXX± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030

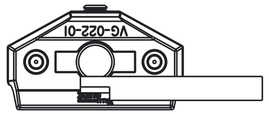
QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

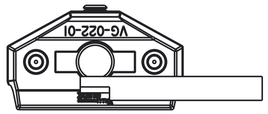
SCALE	5/4
DATE	Mar-12-20
DRAWN BY	TJS

INFEED & OUTFEED BANK SENSOR ASSEMBLY

MAT'L 22546-003

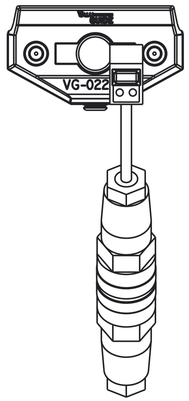
22546-003

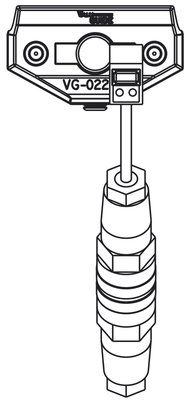


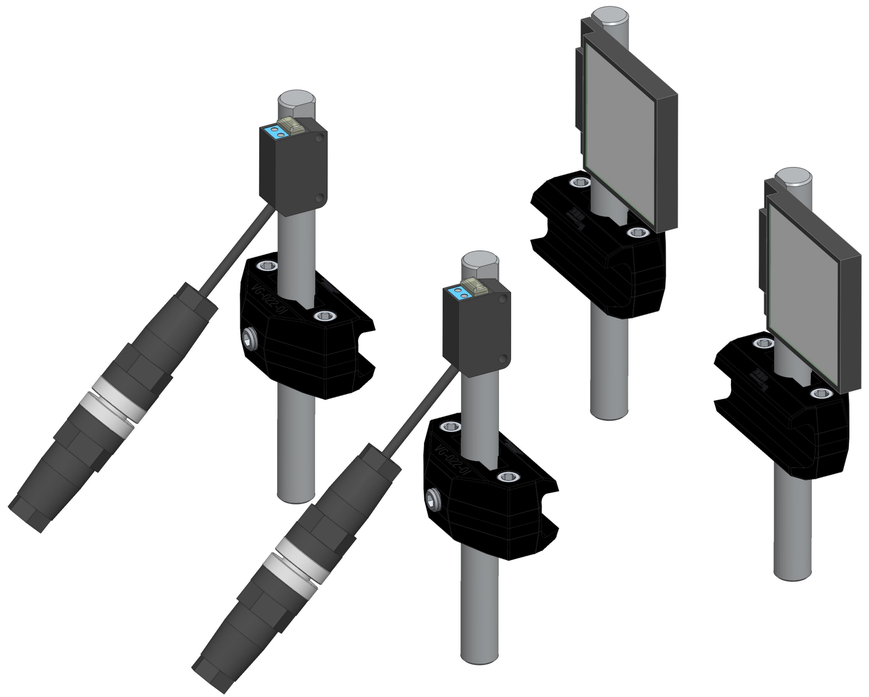


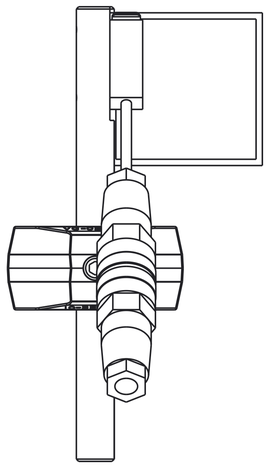
INFEED

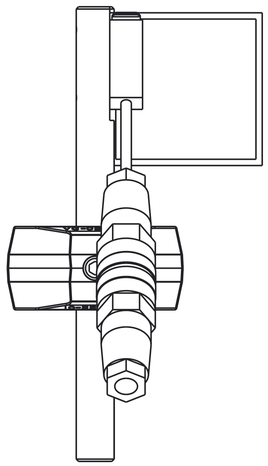
OUTFEED

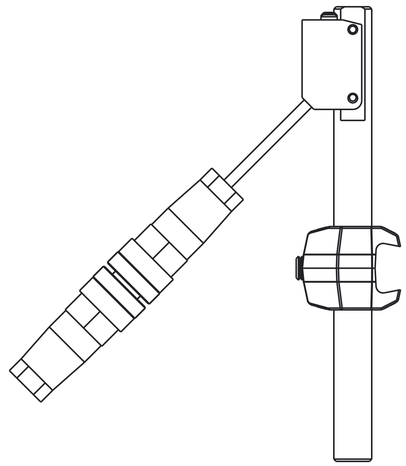


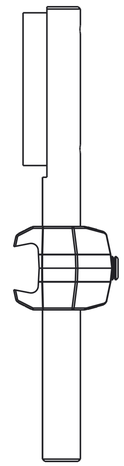












REV	DATE	DESCRIPTION	BY
A	Mar-12-20	NEW DRAWING	TJS

THIS IS A PRO-ENGINEER DOCUMENT AND MAY NOT BE MODIFIED MANUALLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE

X± .1
.XX± .01
.XXX± .005
ANGLES ± 30'

SURFACE FINISH 125
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030

QUADREL LABELING SYSTEMS
7670 JENTHER DRIVE
MENTOR, OHIO 44060
(440) 602-4700

SCALE	1/1
DATE	Mar-12-20
DRAWN BY	TJS

INFEED & OUTFEED BANK SENSOR ASSEMBLY

MAT'L 22546-003

22546-003

KEYENCE

96M11227

Self-contained
Photoelectric Sensor

PZ-G Series
Instruction Manual

Read this manual thoroughly before using the product.
Keep this manual readily available for future reference.



■ Safety precautions

- Avoid running the PZ-G cable along with power and high voltage lines, as this may cause interference and/or permanent damage.
- When using a commercially available switching regulator, ground its chassis grounding and earth grounding terminals.
- Do not use in locations where direct ambient light or external light directly shines on the light receiving surface.
- With retro-reflective type sensors, when detecting highly reflective materials (such as mirrored surfaces), stabilization may be difficult. To correct this, change the angle of the sensor head, or adjust the sensitivity.
- Avoid using power which exceeds the specifications for ripple (10% max)
- Avoid using excess force when rotating the operation mode selector switch (Light-on, Dark-on) and the sensitivity adjustment trimmer.
- This product is just intended to detect the object(s). Do not use this product for the purpose to protect a human body or a part of human body.
- This product is not intended for use as explosion-proof product. Do not use this product in a hazardous location and/or potentially explosive atmosphere.

Precautions on Regulations and Standards

■ UL Certificate

This product is an UL/C-UL Listed product.

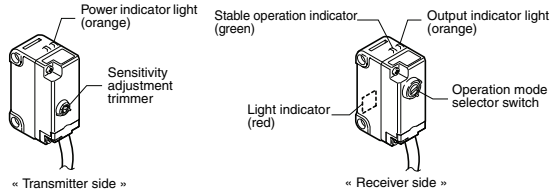
- UL File No. E301717
- Category NRKH,NRKH7
- Enclosure Type 1 (Based on UL50)

Be sure to consider the following specifications when using this product as an UL/C-UL Listed Product.

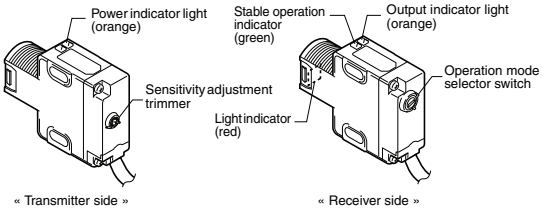
- Use the power supply with Class 2 output defined in NFPA70 (NEC: National Electrical Code).
- Power supply/ Control input/ Control output circuits shall be connected to a single Class 2 source only.
- Use with the over current protection device which is rated 30V or more and not more than 1A.

Part Names

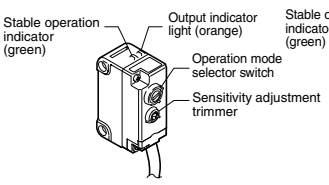
● **PZ-G5xN/G5xP**



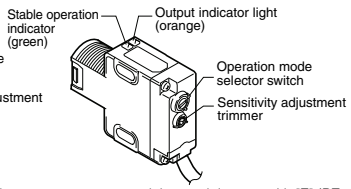
● **PZ-G5xB**



● **PZ-G4xN/G4xP/G10xN/ G10xP/G6xN/G6xP**



● **PZ-G4xB/G10xB/G6xB**

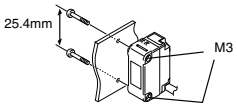


* The model name with "C" (PZ-GxxCx) is the connector type, and the model name with "E" (PZ-GxxEx) is the pigtail quick disconnect type.

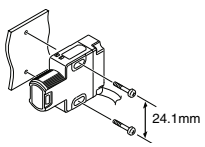
Mounting Method

■ Side Mounting (Prepare M3 screws)

Tightening torque: 0.5 N·m or less

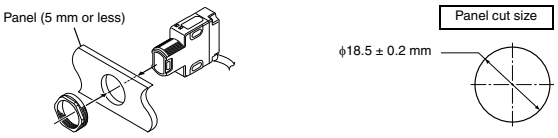


Tightening torque: 0.5 N·m or less



■ Mounting with the M18 nut (includes nut type)

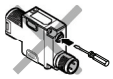
The M18 nut is also available separately as OP-84225 (2 pcs. supplied).
Tightening torque:1.0 N·m or less



Note

- Mount the M18 nut (supplied) straight in. If mounted at an angle it cannot be tightened properly.
- When tightening the M18 nut (supplied), firmly hold the main body down. The case of the main body may be damaged if held in place with a tool such as pliers.
- When tightening the M18 nut (supplied), if excess force is applied to the nut with a tool such as pliers, it may bend it out of shape. Therefore, do not apply excess force.

Sensitivity Adjustment Method

Caution ⚠	Avoid using excess force when rotating the sensitivity adjustment trimmer and operation mode selector switch as it may cause damage.	

■ Operation mode selector switch

With the operation mode selector switch, you can select either the LIGHT-ON mode (L) or the DARK-ON (D) mode.



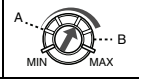
LIGHT-ON setting



DARK-ON setting

■ Reflective type (PZ-G41/G42/G101/G102/G10R/G10G/G10B Series)

The following assumes LIGHT-ON (L) is set.

Sequence	Adjustment method	Sensitivity adjustment trimmer
①	Position target in place. Slowly rotate the sensitivity trimmer from the MIN position towards the MAX position until the (orange) output indicator turns on (Position "A"). If the output indicator does not turn off, even at MIN, then MIN is considered Position "A".	
②	Remove the target. Adjust the sensitivity trimmer from MIN towards MAX until the (orange) output indicator turns on (Position "B"). If the output indicator does not light up, the MAX position is considered Position "B".	
③	Adjust the sensitivity trimmer to the midpoint between "A" and "B". Verify that the (green) stable operation light turns on with and without a target in place.	

Reference To use the sensor in DARK-ON mode, adjust the mode selector switch to "D".

■ Thrubeam type (PZ-G51/G52 Series) / Retro-reflective type (PZ-G61/G62 Series)

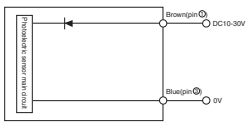
The following assumes DARK-ON (D) is set.

Sequence	Adjustment method	Sensitivity adjustment trimmer
①	Remove the target. Adjust the sensitivity trimmer to MAX. Mount the sensor heads in place so the (orange) output indicator turns off (on thrubeam models, the red light on the receiver face will turn on)	
②	Position target in place. Verify that the orange output indicator turns on (on thrubeam models, the red light on the receiver face will turn off). Adjust sensitivity lower if the output indicator does not turn on (or if the red light on the receiver face does not turn off on thrubeam models)	

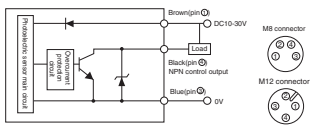
Reference To use the sensor in LIGHT-ON mode, adjust the mode selector switch to "L".

I/O Circuit Diagram

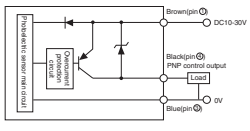
● **PZ-G5xN/G5xP/G5xB (Transmitter side)**



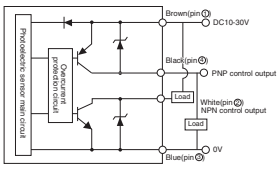
● **PZ-G5xN (Receiver side)/ G4xN/G10xN/G6xN**



● **PZ-G5xP (Receiver side)/ G4xP/G10xP/G6xP**



● **PZ-G5xB (Receiver side)/ G4xB/G10xB/G6xB**



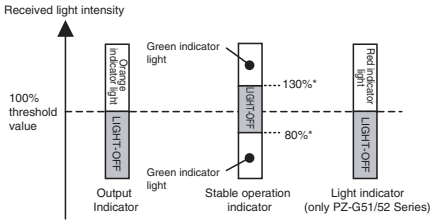
* The pin numbers represent those of the connector type / pigtail quick disconnect type. The model name with "C" (PZ-GxxCx) is the connector type, and the model name with "E" (PZ-GxxEx) is the pigtail quick disconnect type.

PZ-GxxCN/GxxCP..... M8 connector
PZ-GxxCB/GxxEN/GxxEP..... M12 connector

■ Indicators

The following describes each ON/OFF condition of indicator when LIGHT-ON (L) is set.

Reference When the DARK-ON (D) is set, the output indicator ON/OFF will reverse.



* For PZ-G62, the upper limit is 107% and the lower limit is 93%.

If the stable operation indicator turns off during operation, readjust or fine-adjust the sensitivity.

■ Mutual interference

- For reflective type / retro-reflective type sensors, mutual interference protection can be set for up to 2 units. However, when the sensors are mounted facing each other, change the angle of the sensor head to prevent light being emitted into each unit.(The mark detection type does not include the mutual interference function.)
- Mutual interference prevention can be set when mounting a polarizing filter attachment (optional with thrubeam type sensors) (If operation is unstable even after mounting the polarizing filter, slightly lower the sensitivity.)
- For more detailed information about mutual interference or attachment, see the PZ-G Series catalog or contact your nearest KEYENCE office.

Specifications

Type			Thrubeam		Reflective				Retro-reflective		Mark detection		
Configuration	Cable shape	Output mode	Normal	High-power	Diffuse-reflective Long-detecting distance	Diffuse-reflective Short-detecting distance	Narrow-view reflective	Definite reflective	Long detecting distance (with P.R.O. function)	Transparent target detection (without P.R.O. function)	Red	Green	Blue
Rectangular	Cable	NPN	PZ-G51N	PZ-G52N	PZ-G41N	PZ-G42N	PZ-G101N	PZ-G102N	PZ-G61N	PZ-G62N	-		
		PNP	PZ-G51P	PZ-G52P	PZ-G41P	PZ-G42P	PZ-G101P	PZ-G102P	PZ-G61P	PZ-G62P			
	M8 connector	NPN	PZ-G51CN	PZ-G52CN	PZ-G41CN	PZ-G42CN	PZ-G101CN	PZ-G102CN	PZ-G61CN	PZ-G62CN	PZ-G10RCN	PZ-G10GCN	PZ-G10BCN
		PNP	PZ-G51CP	PZ-G52CP	PZ-G41CP	PZ-G42CP	PZ-G101CP	PZ-G102CP	PZ-G61CP	PZ-G62CP	PZ-G10RCP	PZ-G10GCP	PZ-G10BCP
	M12 pigtail quick disconnect	NPN	PZ-G51EN	PZ-G52EN	PZ-G41EN	PZ-G42EN	PZ-G101EN	PZ-G102EN	PZ-G61EN	PZ-G62EN	-		
		PNP	PZ-G51EP	PZ-G52EP	PZ-G41EP	PZ-G42EP	PZ-G101EP	PZ-G102EP	PZ-G61EP	PZ-G62EP			
Nut	Cable	Bipolar (NPN+PNP)	PZ-G51B	PZ-G52B	PZ-G41B	PZ-G42B	PZ-G101B	PZ-G102B	PZ-G61B	PZ-G62B			
	M12 connector		PZ-G51CB	PZ-G52CB	PZ-G41CB	PZ-G42CB	PZ-G101CB	PZ-G102CB	PZ-G61CB	PZ-G62CB			
Detecting distance*1			20 m	40 m	1 m (30 × 30 cm white mat paper)	300 mm (10 × 10 cm white mat paper)	200 mm	5 to 45 mm	0.1 to 4.2 m (when R-2L reflector is used)	0.1 to 1 m (when R-2L reflector is used)	8 to 15 mm		
Spot diameter			-	-	-	-	Approx. ϕ 5 mm (when the detecting distance is 100 mm)	Approx. ϕ 2 mm (when the detecting distance is 40 mm)	-	-	Approx. 1.5 × 4 mm (when the detecting distance is 10 mm)		
Light source (LED)			Red LED	Infrared LED × 2	Red LED					Infrared LED	Red LED	Green LED	Blue LED
Sensitivity adjustment			1-turn trimmer (230 degrees)										
Response time			500 µs								50 µs		
Operation mode			LIGHT-ON/DARK-ON, trimmer-selectable										
Indicator (LED)			Transmitter: power (orange) Receiver: output (orange), stable operation (green), light (red)		Output (orange), stable operation (green)								
Control output			Open-collector 100 mA max. (30 V max.), Residual voltage 1 V max.										
Protection circuit			Reverse-polarity protection, over-current protection, output surge absorber										
Ratings	Power voltage		10 to 30 VDC, Ripple (P-P): ±10% max, Class 2.										
	Current consumption		Transmitter: 20 mA max. Receiver: 28 mA max.	Transmitter: 25 mA max. Receiver: 28 mA max.	34 mA max.								
Environmental resistance	Enclosure rating		IEC,JEM: IP67 / NEMA: 4X,6,12 / DIN: IP69K										
	Ambient light		Incandescent lamp: 5,000 (lx) max, Sunlight: 20,000 (lx) max.										
	Ambient temperature		-20 °C to +55°C (No freezing)										
	Relative humidity		35 to 85 % RH (No condensation)										
	Vibration resistance		10 to 55 Hz, 1.5 mm double amplitude in X, Y, Z directions, 2 hours each										
	Shock resistance		1000 m/s^2 in X, Y, Z directions, 6 times each										
Interference prevention			2 units (when polarizing filter attachment is used)		2 units (with the automatic different cycle function)						-		
Material			Case, M18 nut (nut type only): reinforced glass polybutylene terephthalate (PBT), Trimmer: reinforced glass polyamide (PA) Cable (Cable type / pigtail quick disconnect type only): Polyvinyl chloride (PVC), Screw (Case connection): Steel, zinc-nickel plated, Packing (Case connection): Nitrile-butadiene rubber (NBR) Connector (pigtail quick disconnect type only): Brass-nickel plated, Polybutyleneterephtalate (PBT), Polyvinyl chloride (PVC)										
	Lens cover		Polyarylate (PAR)						Acrylic plastic (PMMA)	Polyarylate (PAR)			
Tightening torque			Rectangular type (side screw part): 0.5 N·m max. Nut type (front M18 part): 1.0 N·m max., (side slot part): 0.5 N·m max.										
Accessory*2			Instruction manual, M18 nut x 2 (nut thrubeam type), M18 nut x 1 (other nut types)										
Weight			Rectangular cable type: Approx. 60 g (Approx. 50 g for thrubeam transmitter), Rectangular M8 connector type: Approx 10 g, rectangular M12 pigtail quick disconnect type: Approx. 30 g Nut type cable type: Approx. 65 g (Approx. 55 g for thrubeam transmitter), Nut type M12 connector type: Approx 15 g										

*1 The detection distance is measured with the maximum sensitivity.
*2 The cable for the connector type / pigtail quick disconnect type is sold separately. The reflector for the retro-reflective type is sold separately.

WARRANTY

KEYENCE products are strictly factory-inspected. However, in the event of a failure, contact your nearest KEYENCE office with details of the failure.

1. WARRANTY PERIOD

The warranty period shall be for one year from the date that the product has been delivered to the location specified by the purchaser.

2. WARRANTY SCOPE

(1) If a failure attributable to KEYENCE occurs within the abovementioned warranty period, we will repair the product, free of charge. However, the following cases shall be excluded from the warranty scope.
- Any failure resulting from improper conditions, improper environments, improper handling, or improper usage other than described in the instruction manual, the user's manual, or the specifications specifically arranged between the purchaser and KEYENCE.
- Any failure resulting from factors other than a defect of our product, such as the purchaser's equipment or the design of the purchaser's software.
- Any failure resulting from modifications or repairs carried out by any person other than KEYENCE staff.
- Any failure that can certainly be prevented when the expendable part(s) is maintained or replaced correctly as described in the instruction manual, the user's manual, etc.
- Any failure caused by a factor that cannot be foreseen at a scientific/technical level at the time when the product has been shipped from KEYENCE.
- Any disaster such as fire, earthquake, and flood, or any other external factor, such as abnormal voltage, for which we are not liable.

(2) The warranty scope is limited to the extent set forth in item (1), and KEYENCE assumes no liability for any purchaser's secondary damage (damage of equipment, loss of opportunities, loss of profits, etc.) or any other damage resulting from a failure of our product.

3. PRODUCT APPLICABILITY

KEYENCE products are designed and manufactured as general-purpose products for general industries.

Therefore, our products are not intended for the applications below and are not applicable to them. If, however, the purchaser consults with us in advance regarding the employment of our product, understands the specifications, ratings, and performance of the product on their own responsibility, and takes necessary safety measures, the product may be applied. In this case, the warranty scope shall be the same as above.
- Facilities where the product may greatly affect human life or property, such as nuclear power plants, aviation, railroads, ships, motor vehicles, or medical equipment
- Public utilities such as electricity, gas, or water services
- Usage outdoors, under similar conditions or in similar environments

E 1040-1

KEYENCE CORPORATION

1-3-14, Higashi-Nakajima, Higashi-Yodogawa-ku,
Osaka, 533-8555, Japan
PHONE: +81-6-6379-2211 www.keyence.com

Specifications are subject to change without notice. A7WW1-MAN-0069

Copyright (c) 2010 KEYENCE CORPORATION. All rights reserved.

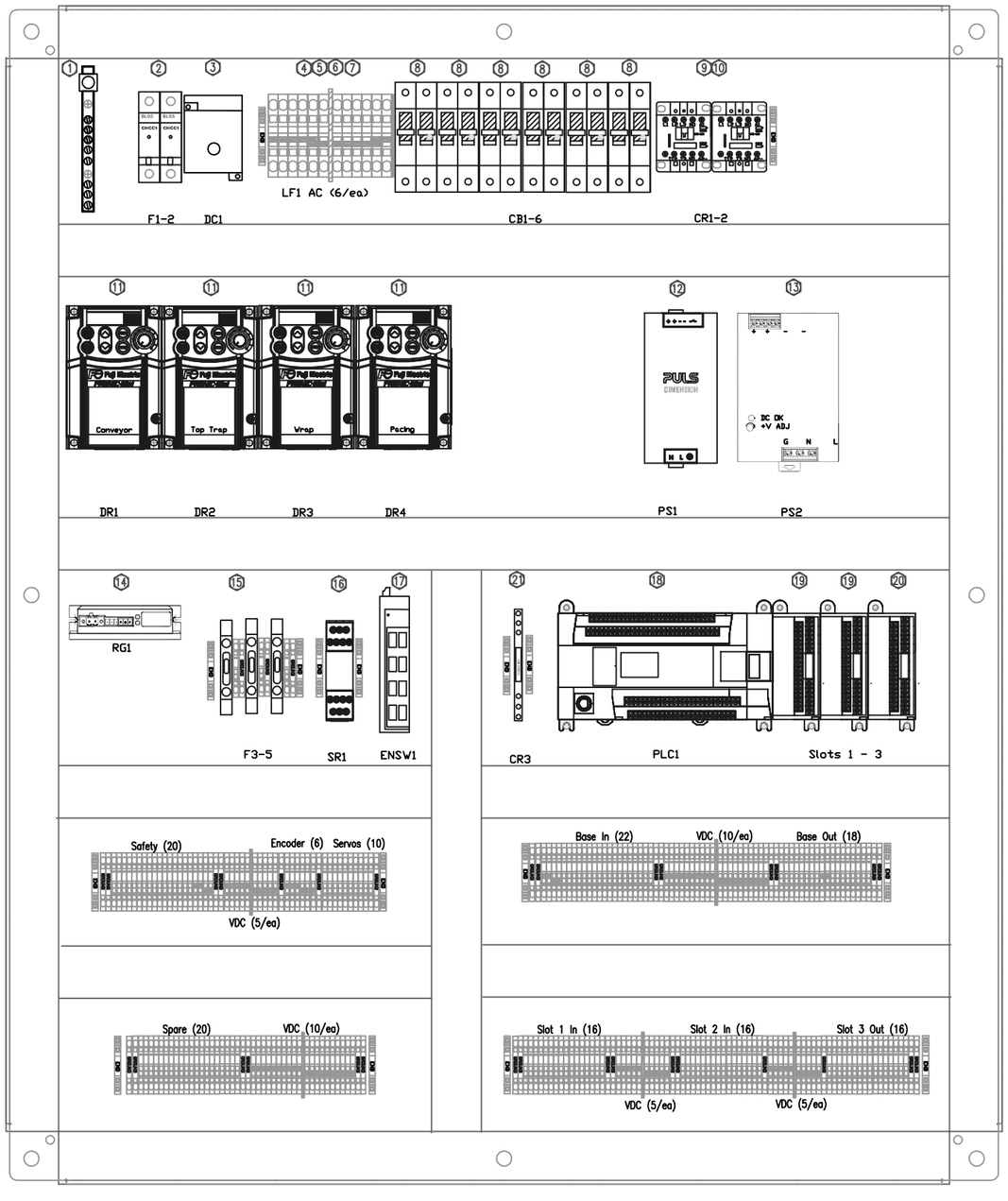
11227E 1070-1 96M11227
Printed in Japan


Electronics

1.5" Wireway Unless Noted

Component Hardware: 8-32 SHCS

Wireway/Din Rail Hardware: 8-32 BHCS



--	222266-001	1	Enclosure, 42EL3612
--	222268-001	1	Panel, SCE42P36
--	241085-001	3	Fuse, 10A, 1.25 x .25
--	241146-000	2	Fuse, 20A, CC
--	262822-006	1	Ethernet Cable, 2 ft
--	251799-000	5	End Cover
--	251798-000	5	Partition Plate
--	251859-000	4	10-Pole Jumper
--	251858-000	6	5-Pole Jumper
--	251855-000	6	2-Pole Jumper
--	251795-000	20	Phoenix Contact End Terminal
--	251854-000	34	Phoenix Contact Ground Terminal, ST1.5
--	251853-000	230	Phoenix Contact Terminal Block, ST1.5
21	202628-000	1	Relay, 24V, SPDT
20	221600-000	1	Output Expansion, 1762-OB16
19	221599-000	2	Input Expansion, 1762-IB16
18	221627-000	1	PLC, Allen Bradley Micrologix 1400
17	221683-000	1	Ethernet Switch, 8 Port
16	221650-005	1	Phoenix 1301402 Safety Relay
15	251788-001	3	Fuse Holder, 300V AC, Indicating
14	221678-000	1	Regeneration Clamp
13	211548-003	1	Power Supply, 48V, 10A
12	211540-003	1	Power Supply, 24V, 10A
11	411458-000	4	AC Drive, Fuji Mini, 220V, 1/2 HP, 2.5A
10	202607-000	2	Contactor Surge Suppressor
9	202604-000	2	Contactor, 24V, 12A
8	241319-001	6	Circuit Breaker, 2 Pole, 6A
7b	251843-000	2	2 Pole Jumper, ST6
7a	251847-000	2	5 Pole Jumper, ST6
6	251841-000	1	Phoenix Contact End Plate, ST6
5	251840-000	1	Phoenix Contact Partition Plate, ST6
4	251842-000	12	Phoenix Contact Terminal Block, ST6
3	241285-000	2	Fuse Holder, CC
2	272117-003	1	Panel Mounted Disconnect, 25A
1	251830-002	1	Ground Bar
NO.	PART NO.	QTY	DESCRIPTION

UNLESS OTHERWISE SPECIFIED
DIMENSIONAL TOLERANCE
.X ± .08
.XX ± .01
.XXX ± .005
ANGLES ± 30'
SURFACE FINISH 125√
BREAK ALL EDGES .005/.015
CORNER RADIUS .010/.030

QUADREL LABELING SYSTEMS
7670 Jenther Drive
Mentor, Ohio 44060
(440) 602-4700

SCALE: NONE
DATE: 03NOV2025
DRAWN BY: CAV
REVISED:

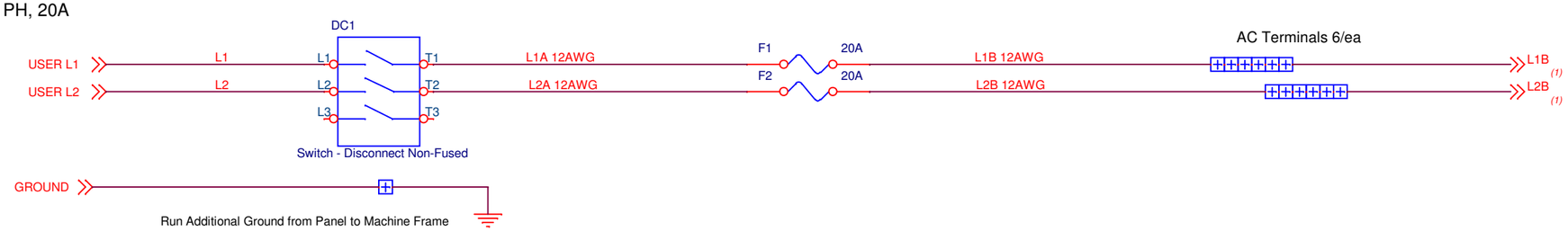
Panel Layout
#84239

MAT'L 84239E-000

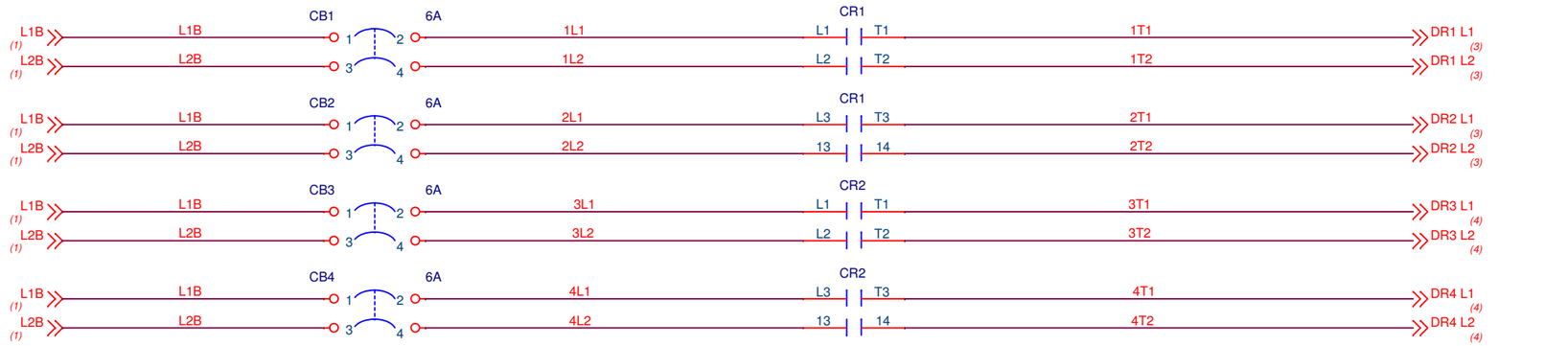
B84239-000P

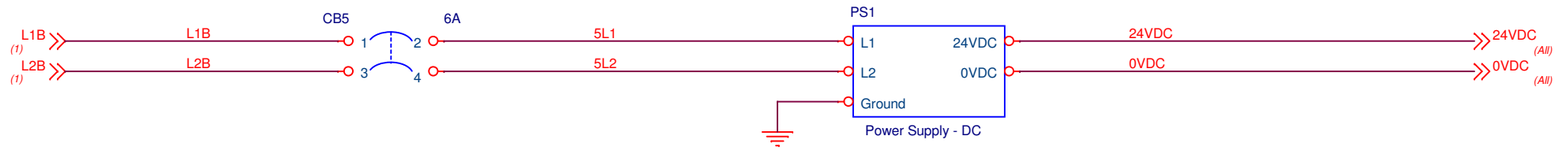
Main Power
Page 1

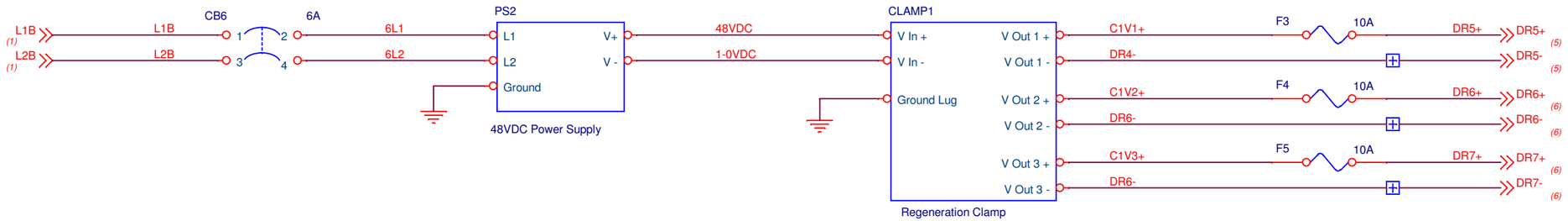
220V, 1PH, 20A



FED FROM AC TERMINAL BLOCKS







COLOR	TECHNICIAN	DATE

For Quadrel Assembly Use

WIRING (UNLESS NOTED):
AC WIRING: 14AWG BLACK
+VDC/SIGNALS: 18AWG BLUE
0VDC: 18AWG WHITE/BLUE
GROUND: 14AWG GREEN/YELLOW

QUADREL
LABELING SYSTEMS
7670 JENTHER DR.
MENTOR, OH
44060

Drawn By: CAV

REV	DESCRIPTION	BY	DATE
-	Release	CAV	24NOV2025

Title: TECHLINE

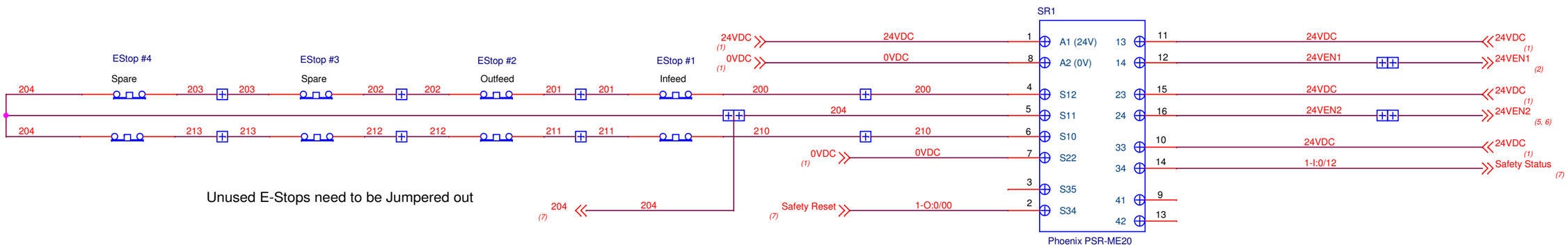
Schematic #: SB84239-000

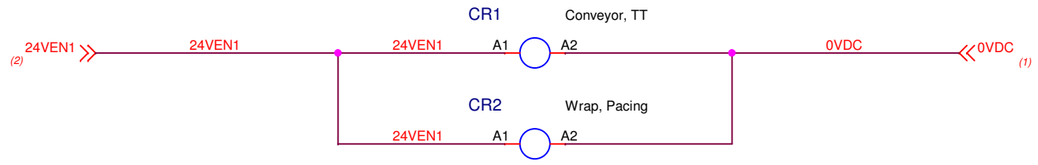
Rev: -

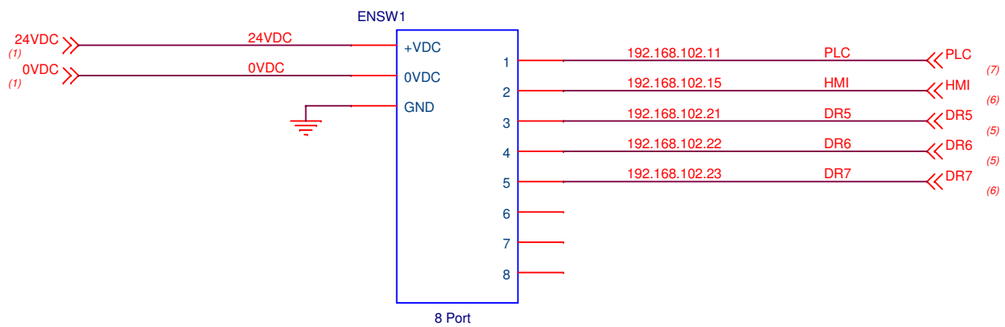
Date: Monday, November 24, 2025

Sheet 01 of 10

Safety Relay, Network Page 2







COLOR	TECHNICIAN	DATE

For Quadrel Assembly Use

QUADREL LABELING SYSTEMS
7670 JENTHER DR.
MENTOR, OH
44060

Drawn By: CAV

REV	DESCRIPTION	BY	DATE
-	Release	CAV	24NOV2025

Title: SAFETY, NETWORK

Schematic # SB84239-000

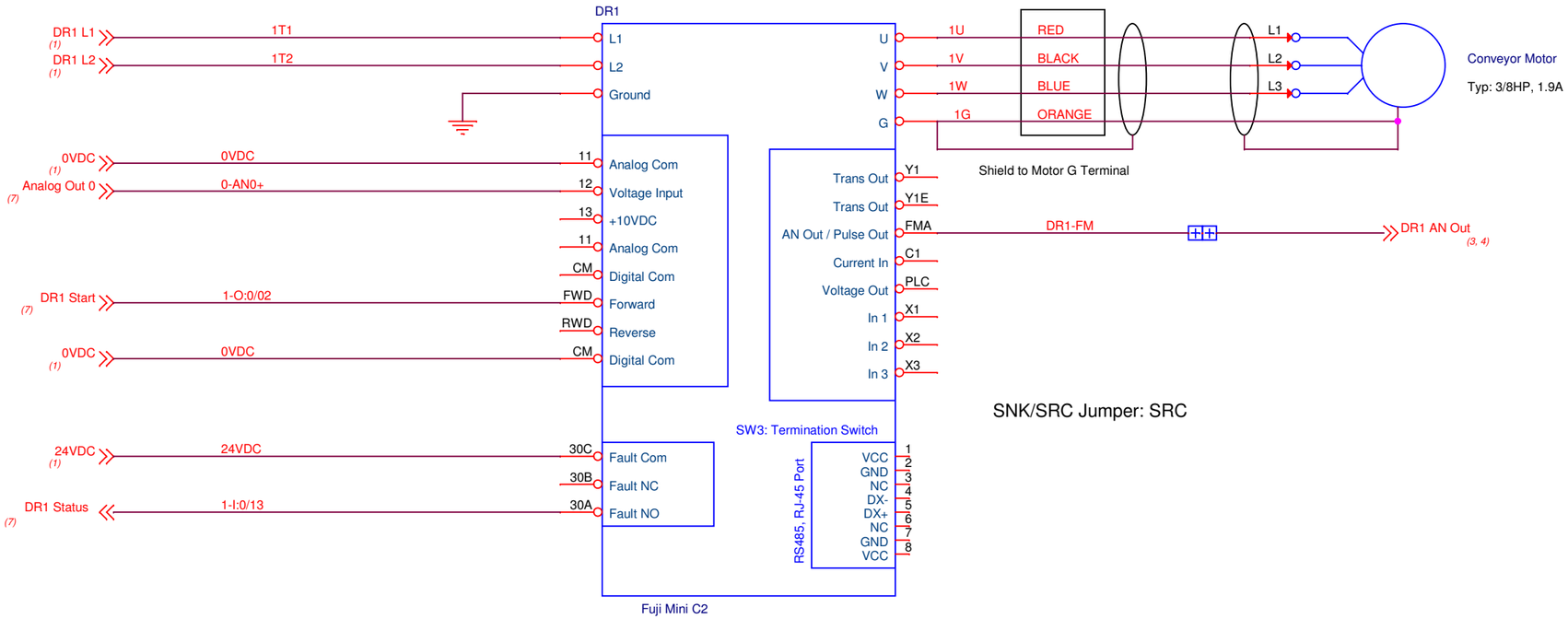
Rev: -

Date: Monday, November 24, 2025

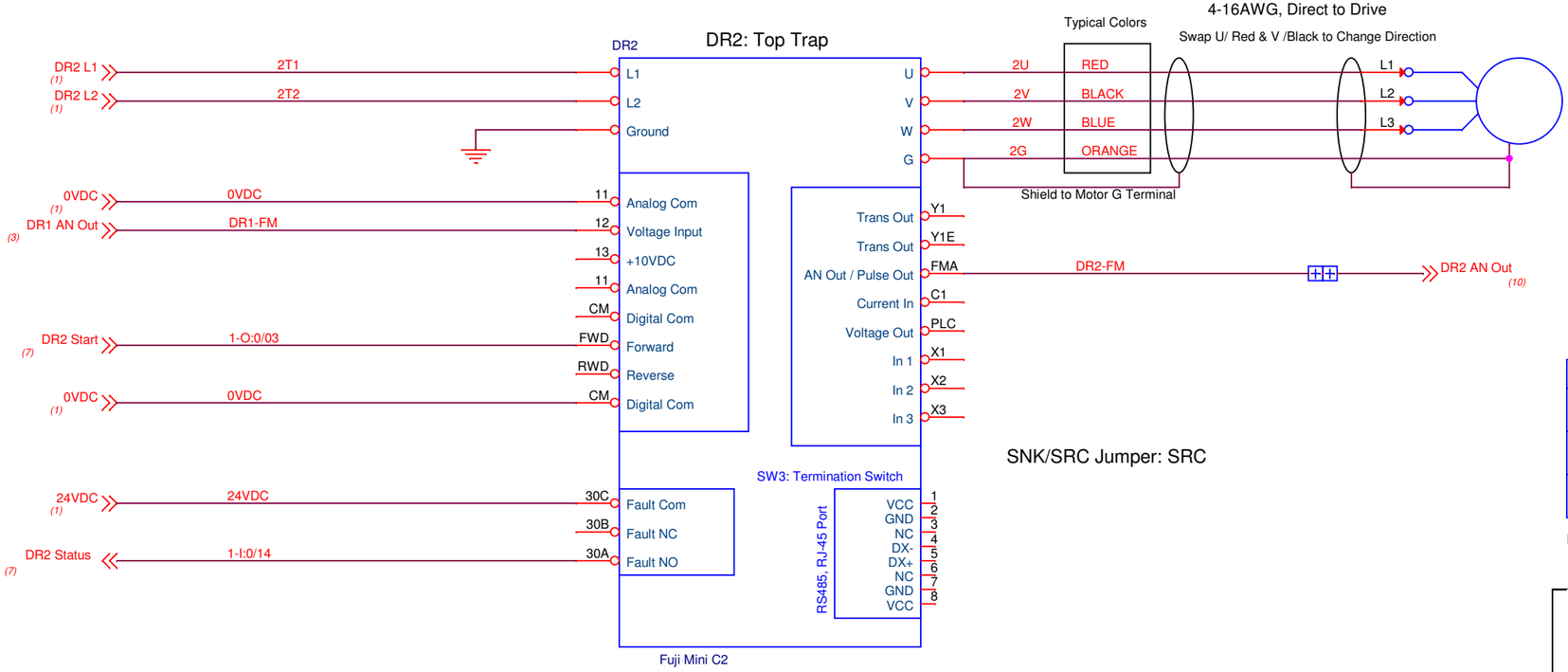
Sheet 02 of 10

Drives: Conveyor Top Trap Page 3

DR1: Conveyor



DR2: Top Trap



COLOR	TECHNICIAN	DATE

For Quadrel Assembly Use

QUADREL
LABELING SYSTEMS
7670 Jenther Dr.
Mentor, OH
44060

Drawn By: CAV

REV	DESCRIPTION	BY	DATE
-	Release	CAV	24NOV2025

Title: CONVEYOR AND TOP TRAP

Schematic # SB84239-000

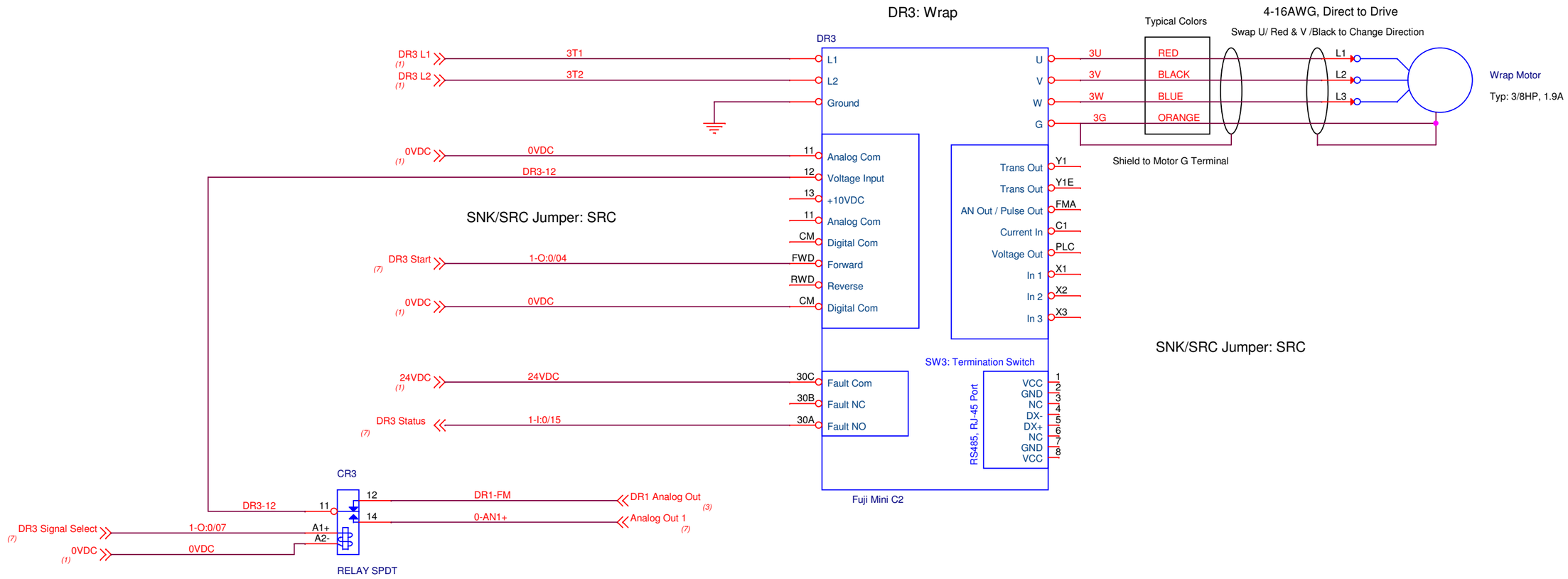
Rev -

Date: Monday, January 26, 2026

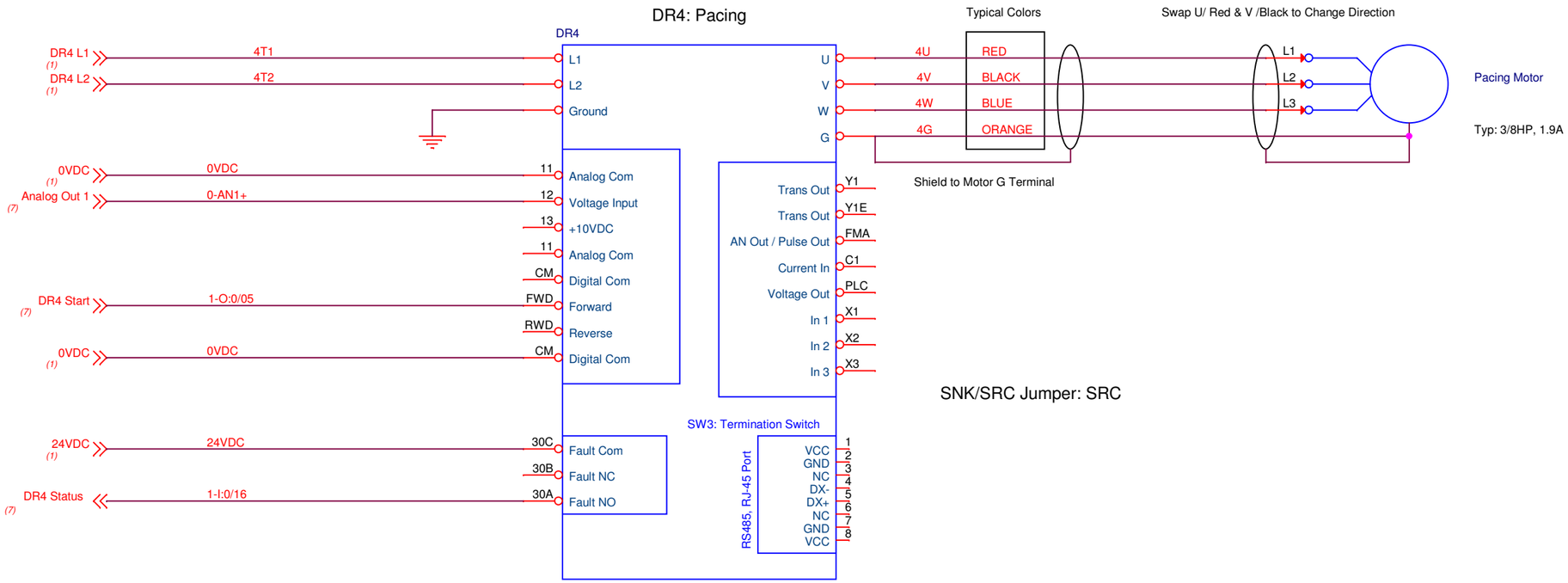
Sheet 03 of 10

Drives: Wrap Pacing Page 4

DR3: Wrap



DR4: Pacing



COLOR	TECHNICIAN	DATE

For Quadrel Assembly Use

QUADREL LABELING SYSTEMS
7670 Jenther Dr.
Mentor, OH
44060

Drawn By: CAV

REV	DESCRIPTION	BY	DATE
-	Release	CAV	24NOV2025

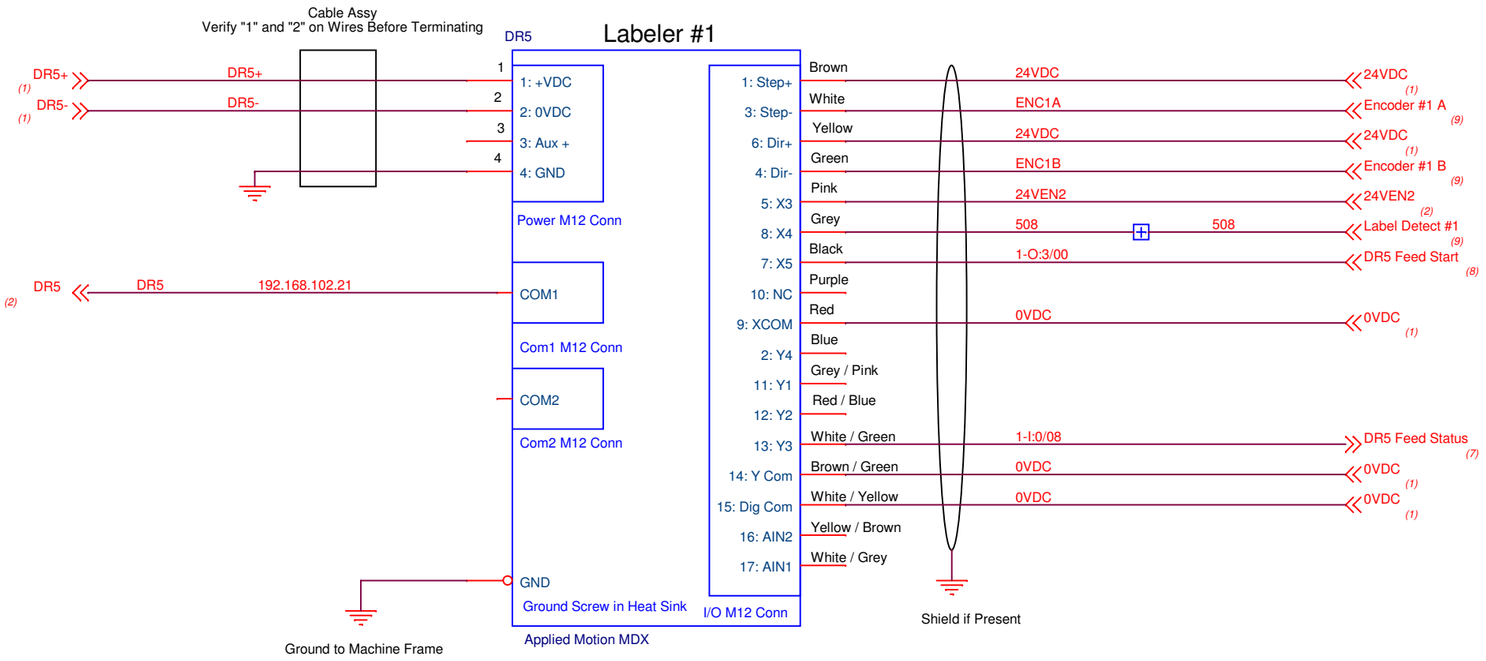
Title: WRAP, PACING

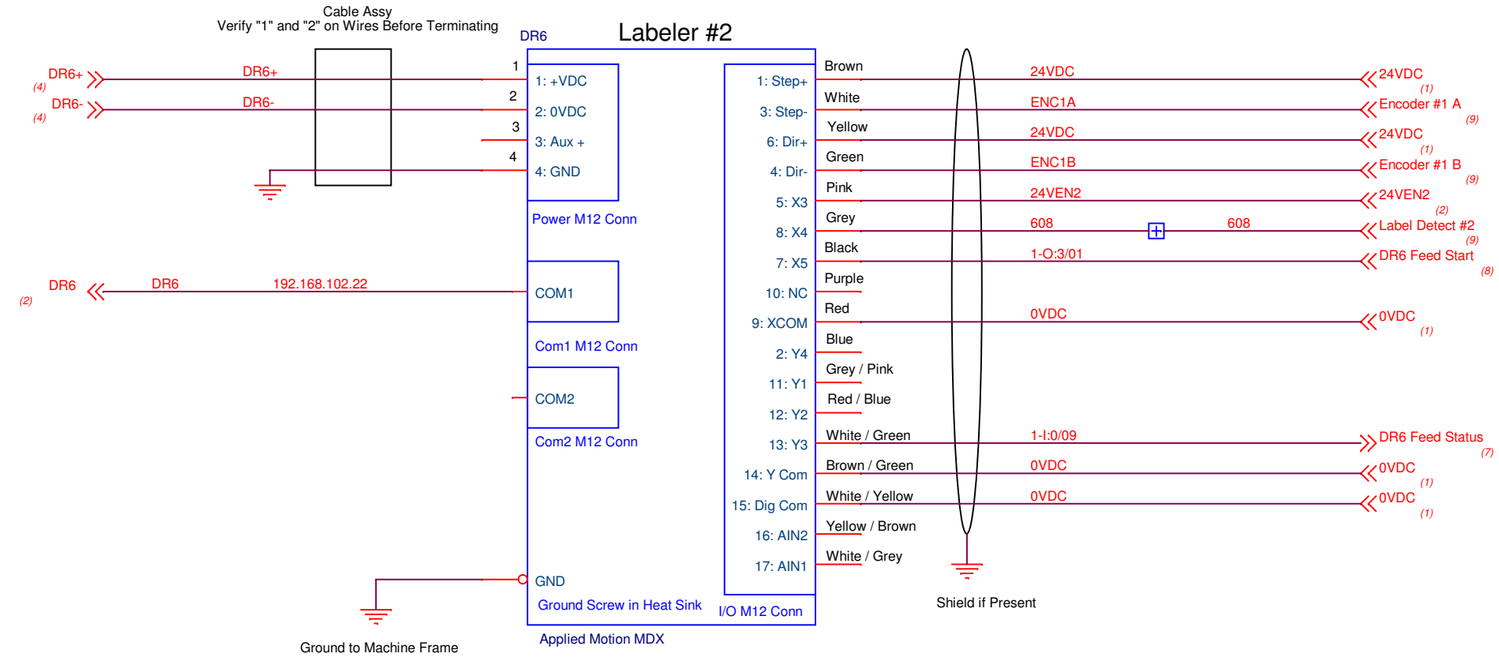
Schematic # SB84239-000

Rev -

Date: Monday, January 26, 2026

Sheet 04 of 10





COLOR	TECHNICIAN	DATE

For Quadrel Assembly Use

QUADREL
LABELING SYSTEMS
7670 Jenther Dr.
Mentor, OH
44060

Drawn By: CAV

REV	DESCRIPTION	BY	DATE
-	Release	CAV	24NOV2025

Title: LABELERS #1 AND #2

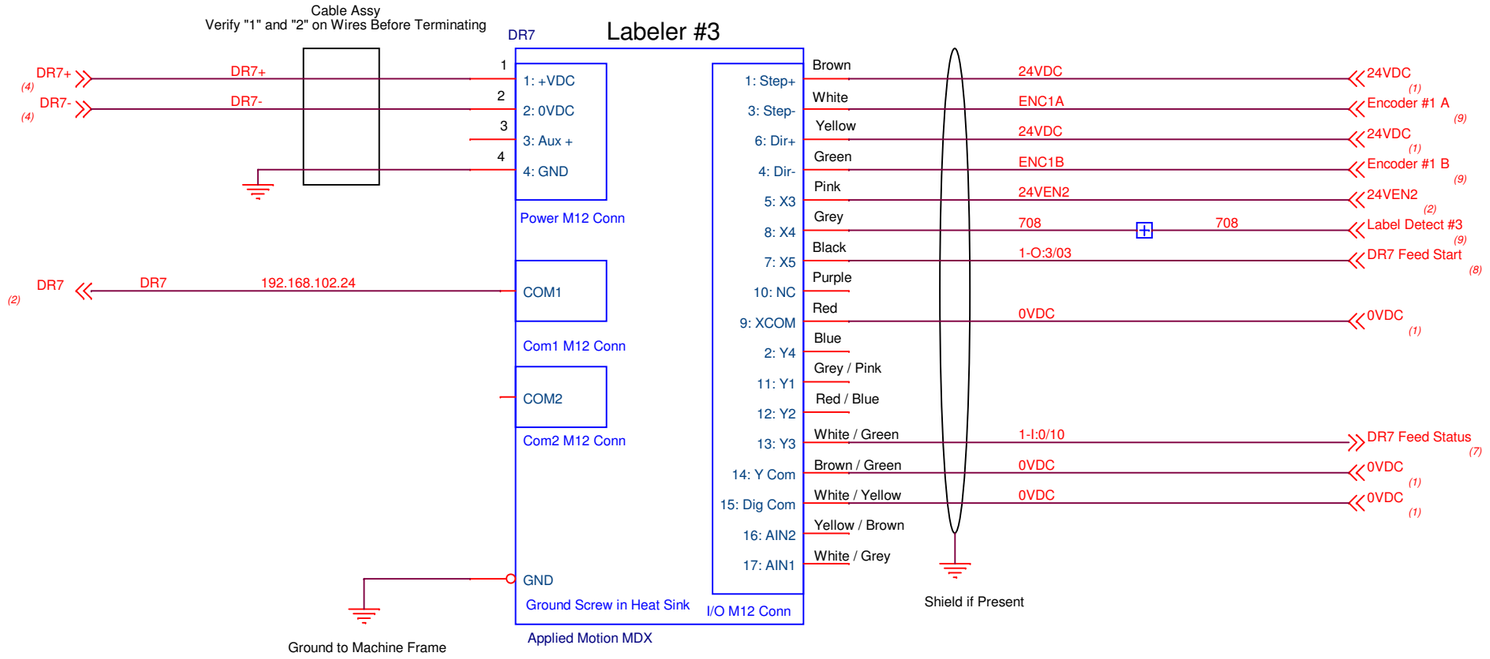
Schematic # SB84239-000

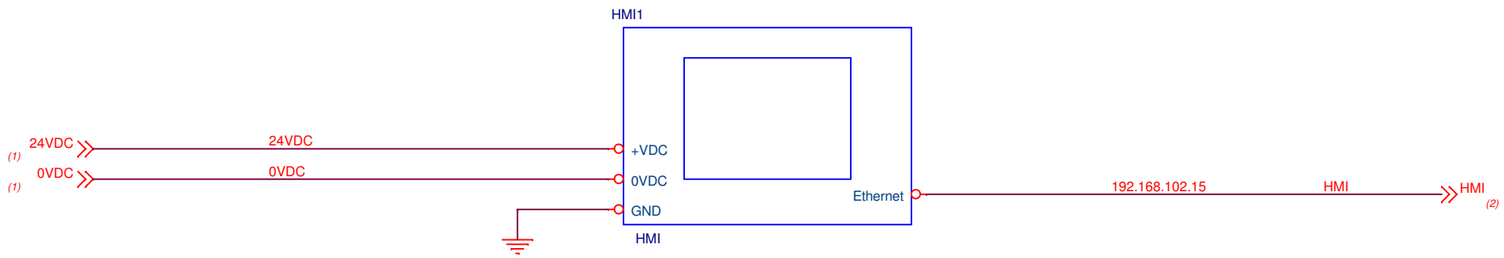
Rev -

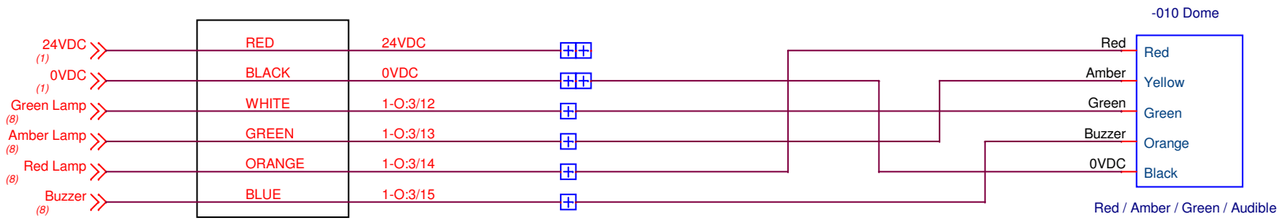
Date: Monday, December 15, 2025

Sheet 05 of 10

Labeler #3,
Operator
Enclosure
Page 6







COLOR	TECHNICIAN	DATE

For Quadrel Assembly Use

QUADREL
LABELING SYSTEMS
7670 JENTHER DR.
MENTOR, OH
44060

Drawn By: CAV

REV	DESCRIPTION	BY	DATE
-	Release	CAV	24NOV2025

Title
LABELER #3, OP ENCL.

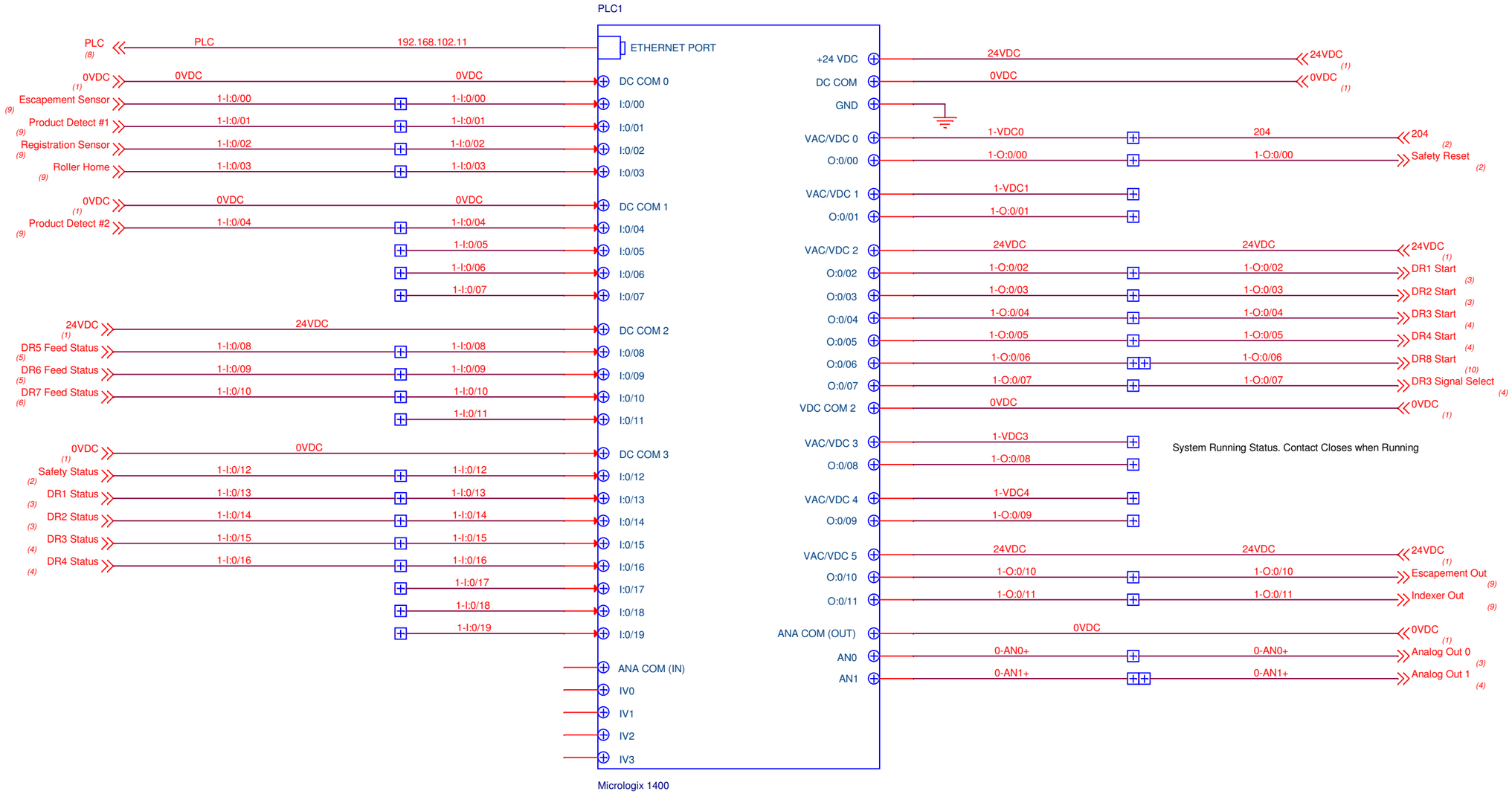
Schematic #
SB84239-000

Rev
-

Date: Monday, December 15, 2025

Sheet 06 of 10

PLC Base
Page 7



COLOR	TECHNICIAN	DATE

For Quadrel Assembly Use

QUADREL
LABELING SYSTEMS
7670 Jenther Dr.
Mentor, OH
44060

Drawn By: CAV

REV	DESCRIPTION	BY	DATE
-	Release	CAV	24NOV2025

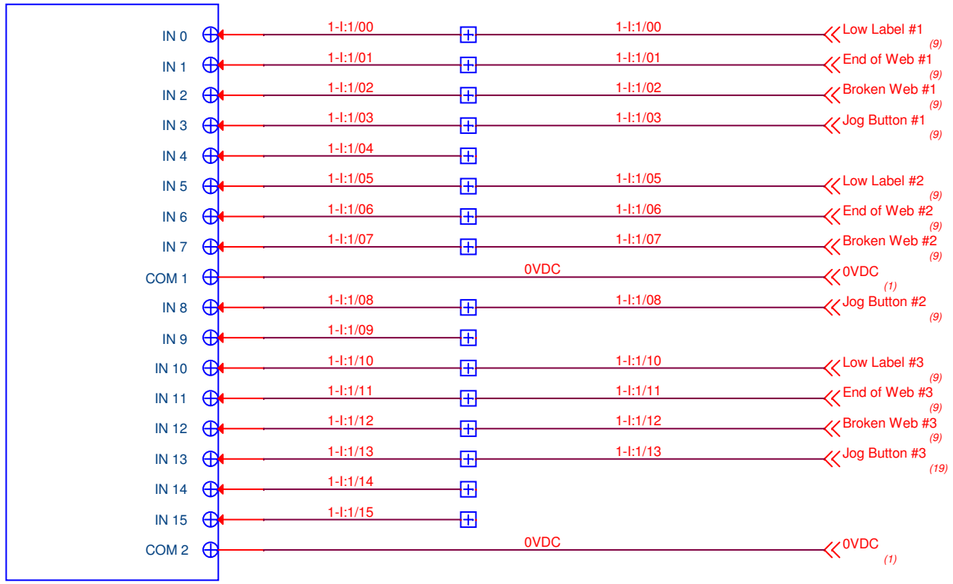
Title: PLC BASE

Schematic # SB84239-000 Rev -

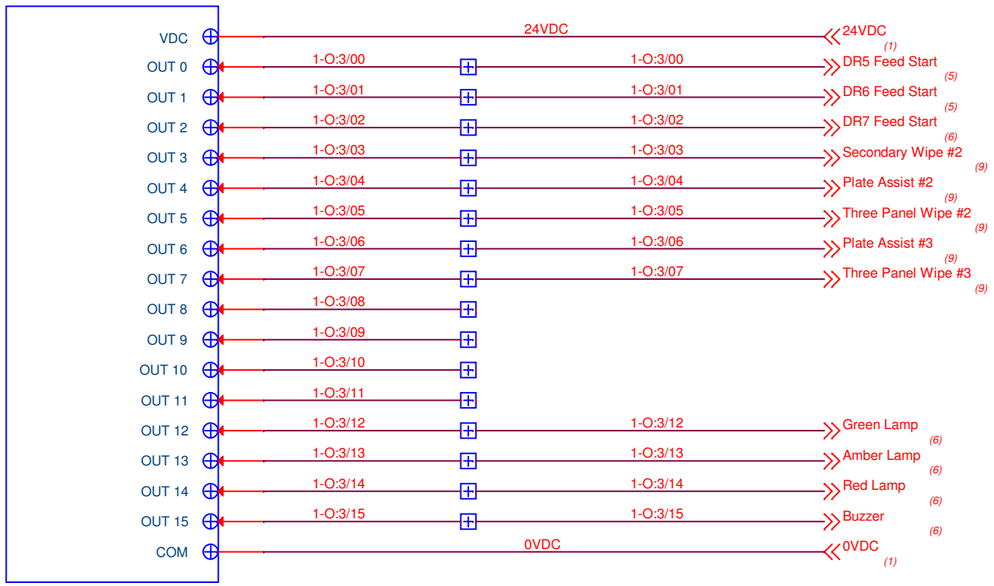
Date: Monday, January 26, 2026 Sheet 07 of 10

PLC Slots #2 and #3 Page 8

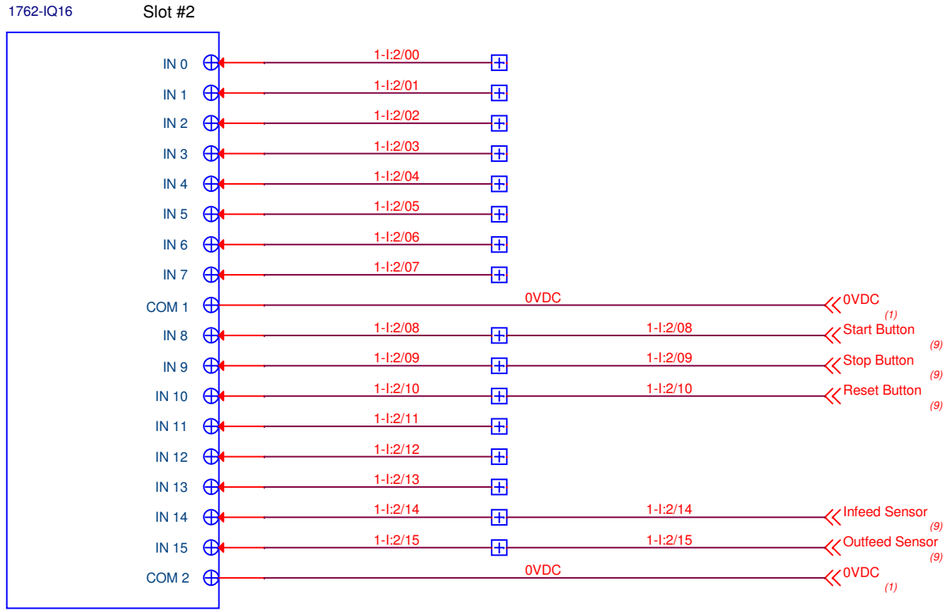
1762-IQ16 Slot #1



1762-OB16



1762-IQ16 Slot #2



Optional Buttons

COLOR	TECHNICIAN	DATE

For Quadrel Assembly Use

QUADREL LABELING SYSTEMS
7670 Jenther Dr.
Mentor, OH
44060

Drawn By: CAV

REV	DESCRIPTION	BY	DATE
-	Release	CAV	24NOV2025

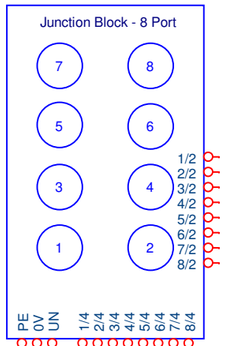
Title: PLC SLOTS 2-3

Schematic # SB84239-000

Rev -

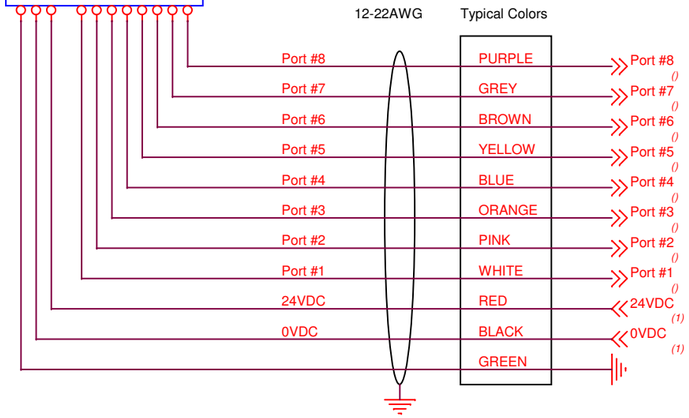
Date: Monday, November 24, 2025

Sheet 08 of 10



All Signals: PNP

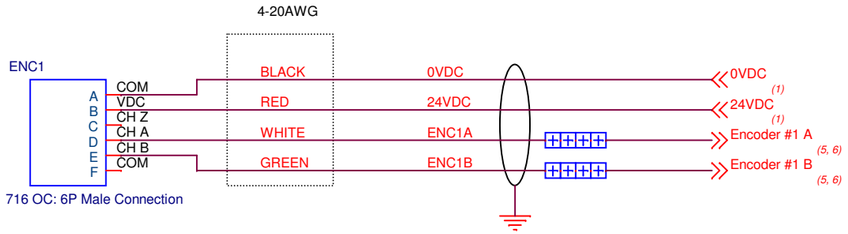
Port #	Infeed	Address	Outfeed	Address	Labeler #1	Address	Labeler #2	Address	Labeler #3	Address
#1	Infeed Sensor	1-I:2/14	Outfeed Sensor	1-I:2/15	Label Detect #1	508	Label Detect #2	608	Label Detect #3	708
#2	Escapement Sensor	1-I:0/00	Spare		Low Label #1	1-I:1/00	Low Label #2	1-I:1/05	Low Label #3	1-I:1/10
#3	Product Detect #1	1-I:0/01	Product Detect #2	1-I:0/04	End of Web #1	1-I:1/01	End of Web #2	1-I:1/06	End of Web #3	1-I:1/11
#4	Registration	1-I:0/02	Plate Assist #2	1-O:3/04	Broken Web #1	1-I:1/02	Broken Web #2	1-I:1/07	Broken Web #3	1-I:1/12
#5	Indexer Home	1-I:0/03	Three Panel #2	1-O:3/05	Jog Button #1	1-I:1/03	Jog Button #2	1-I:1/08	Jog Button #3	1-I:1/13
#6	Spare		Plate Assist #3	1-O:3/06	Spare		Spare		Spare	
#7	Escapement Out	1-O:0/10	Three Panel #3	1-O:3/07	Spare		Spare		Spare	
#8	Indexer Out	1-O:0/11	Secondary Wipe #2	1-O:3/03	Spare		Spare		Spare	





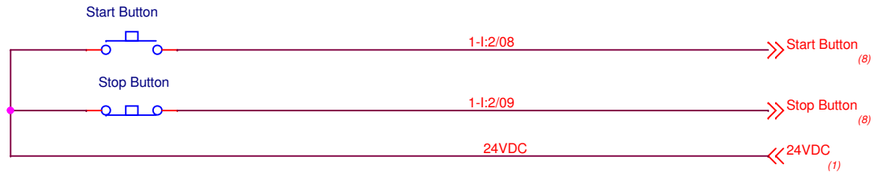






COLOR	TECHNICIAN	DATE

For Quadrel Assembly Use



QUADREL
LABELING SYSTEMS
7670 JENTHER DR.
MENTOR, OH
44060

Drawn By: CAV

REV	DESCRIPTION	BY	DATE
-	Release	CAV	24NOV2025

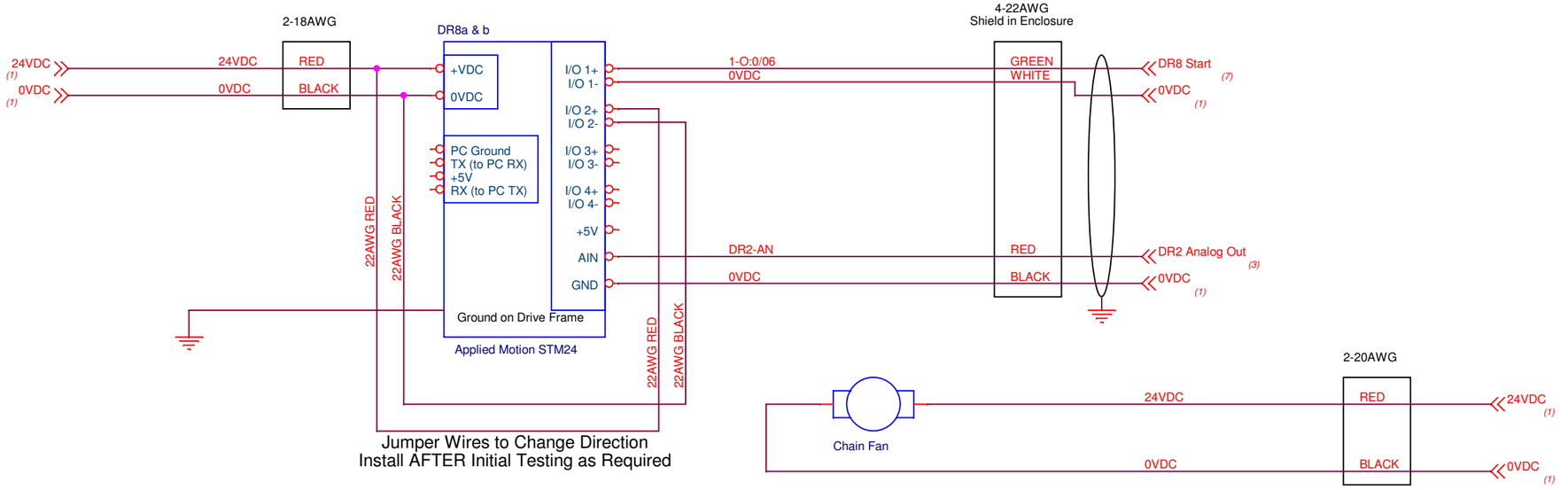
Title
SENSORS

Schematic #
SB84239-000

Rev
-

Date: Monday, December 15, 2025

Sheet 09 of 10



COLOR	TECHNICIAN	DATE

For Quadrel Assembly Use

QUADREL
LABELING SYSTEMS
7670 Jenther Dr.
Mentor, OH
44060

Drawn By: CAV

REV	DESCRIPTION	BY	DATE
-	Release	CAV	24NOV2025

Title
CHAIN ALIGNERS

Schematic # SB84239-000

Rev -

Date: Monday, November 24, 2025

Sheet 10 of 10

INDENTED BILL OF MATERIAL

Items: 20886-005 Thru 20886-005 Location: 01 QUADREL WHSE
Activity Codes: Active Items Only
1 Levels With No Blow Through
No Selection On Basis Of Effectivity Date No Selection On Basis Of Obsolete Date

Level	Seq	Component-Item	Component-Description	Loc	Opr LLC	UOM Draw	Scrap REV	Act P/M	Stk Ctl	B/I B/F	Qty On-Hand Qty-Allocated	Qty-Per-Parent Qty-On-Order
Parent Item: 20886-005			REMOTE BUTTONS, START/STOP BACO COMPS	01	4							
1	5	221152-003	ENCLOSURE, 22mm HOLE, WHITE	01	0 9	EA	.0	A P	Y Y	N N		1.000000
		"BACO" LBX0100										
1	10	A25719-000	ESTOP / JOG MOUNTING ANGLE	01	0 9	EA	.0	A M	Y Y	N N		1.000000
		HOLES FOR BACO ENCLOSURE										
1	15	272297-003	SWITCH, COMPLETE, START/STOP	01	0 7	EA	.0	A P	Y Y	N N		1.000000
		"BACO" L61QA21B-3E11										
1	20	241803-000	STRAIN RELIEF, M16, W/NUT	01	0 9	EA	.0	A P	Y Y	N N		1.000000
		"HEYCO" M4334										

9 MAINTENANCE

9.1 GENERAL INFORMATION

This labeler has been designed with the minimal maintenance requirement possible. There are however some things to take into consideration.

The system is built to perform in humid conditions, but must not be pressure washed. In case of wash down conditions, it is recommended to cover each labeling head with a plastic tarp.

For the overall cleaning, it is recommended to use compressed air and clean, damp wipes.

Always turn off the system before proceeding with cleaning and maintenance.

The following section explains the preventive maintenance for each section

After every 100 hours of operation, a visual inspection of the system should be done and where it is necessary, lubricate and cleaning should be performed.

⚠ CAUTION WEAR PROTECTIVE EYEWEAR when performing any maintenance on this equipment.

⚠ CAUTION To reduce risk of fire, electrocution or other personal Injury when operating or maintaning the labeling head, follow basic safety precaution, including the following:

DO NOT perform any servicing or maintenance with the power ON.

Always disconnect the electrical plug from the wall socket

Make sure that the power is OFF or that the available E-stop buttons have been activated.

LABELING SYSTEM

This labeling system is reliable, versatile and durable. It will operate for years with very light maintenance if it is performed regularly. Most of the maintenance takes only a few minutes and substantially increases the operational life of the system and maintains label placement accuracy.
Not all sections may apply to your equipment.

Daily:	**D**
Weekly:	**W**
Monthly	**M**
Quarterly	**Q**
Semi-Annually	**S**

ASSEMBLY TITLE: LABELING HEAD ASSEMBLY

D- Remove glue residue and labels from all rollers and idler. DO NOT use a knife or other tool to scrape the rollers. Adhesive Remover such as Goo-Gone or 3M Adhesive Remover is recommended. DO NOT use an adhesive remover that reacts with plastics or sensor lenses will be damaged.

M- Check for loose idlers and components and tighten as needed.

S – Lubricate all idler rollers shafts using 80w-90w gear lube on the white bearings where they contact the axle.

ASSEMBLY TITLE: UNWIND ASSEMBLY

S- Check and adjust dancer spring. If final spring tension is too soft then replace.

S- Check and inspect band brake. Replace if torn

ASSEMBLY TITLE: REWIND ASSEMBLY

S- Check and inspect friction disc (if applicable), Replace when worn out.

S- Check Kinetrol (if applicable) for leaks, Replace if necessary.

ASSEMBLY TITLE: BRAKE BRUSH ASSEMBLY

S- Reverse brake brush direction

S- Inspect Brake brush when brush body contour no longer viable or bristles are worn down. Replace

ASSEMBLY TITLE: SLOT SENSOR ASSEMBLY

D- Keep the sensor optical area clean from label and glue residue

ASSEMBLY TITLE: SIDE PLATE ASSEMBLY

S- Lubricate all idler rollers shafts using 80w-90w gear lube on the white bearings where they contact the axle.

ASSEMBLY TITLE: **PEEL PLATE ASSEMBLY**

D- Clean all the parts that may acquire labels or glue residue. DO NOT use a knife or other tool to scrape the rollers. Adhesive removers are recommended.

W- Inspect Teflon tape on peel plate tip. Replace if the steel is exposed.

S – Lubricate all idler rollers shafts 80w-90w gear lube

ASSEMBLY TITLE: **DRIVE AND PINCH ROLL ASSEMBLY**

D- Remove glue residue and labels from drive roller. DO NOT use a knife or other tool to scrape the rollers. Isopropyl alcohol and adhesive removers are recommended.

W- Clean the knurled roll with a soft brass brush and adhesive remover.

M- Check and inspect drive roll. No play should be present when powered up. If there is a groove the width of the label liner, replace the worn roller.

M – Lubricate knurled roll shafts using 80w-90w gear lube.

S- Inspect and Lubricate, springs and slugs.

ASSEMBLY TITLE: **ROLLER/BRUSH IMPRESSER**

D- Check the rollers/brushes. They should be free of label flash, glue and debris. This will prevent jamming and web tears.

W- Check the foam rollers. If foam wear is noticeable, replace as necessary.

NOTE: Exercise caution when removing bad labels from foam. Careless removal can result in torn foam which may leave the labeler inoperable until the roller is replaced!

ASSEMBLY TITLE: **OPERATOR PANEL**

-No maintenance is required for the operator panel

-Occasionally, the keypad may be cleaned with any non-solvent based cleaning solution. Glass cleaner on a clean towel then wipe the membrane.

ASSEMBLY TITLE: **ELECTRICAL**

W- Check the foam filter for the fan. Clean or replace.

ASSEMBLY TITLE: **CONVEYOR**

D – Inspect conveyor chain for broken flights of table top chain

W – Inspect conveyor for labels / adhesive and remove as needed

S – Check gearbox oil levels and add as needed.
American Lubricants SHC-90W oil.

ASSEMBLY TITLE: **FEEDSCREW**

W – Remove glue residue and labels from feed screws

W – Lubricate internal feedscrew drive assembly, with muti-purpose grease.

S – Lubricate grease fittings / chains / bearings with quality muti-purpose grease – as needed

ASSEMBLY TITLE: **VERTICAL ROLLER**

W – Remove labels from rollers with adhesive remover / cleaner

W – Lubricate chains with food grade grease.

ASSEMBLY TITLE: **EJECT STATION**

D – Clean all parts that have acquired label or glue residue

ASSEMBLY TITLE: **INFEED / OUTFEED BANK SENSOR**

W – Clean and glue residue or labels off sensor and/or reflectors

ASSEMBLY TITLE: **SLEEVER**

M – Drive rollers – Inspect for wear and clean with a citrus based adhesive removal

M – Inspect tension belts for cutter blade and cutter assembly for wear. Replace as needed.

M – Inspect cutter blades and bearings for wear. Replace as needed

M – Inspect perforation blades / bearings for wear and free of debris. Replace as needed.

S- Check, inspect, and grease all lead screws (threaded rods)

S – Inspect mandrel and bearings for wear. Ensure they spin freely Replace as needed.

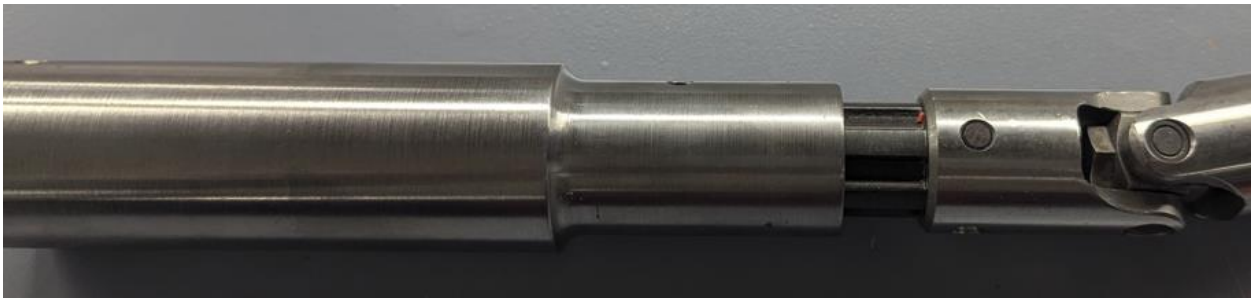
NOTES:

GENERAL PURPOSE FEEDSCREW LUBRICATION GUIDE

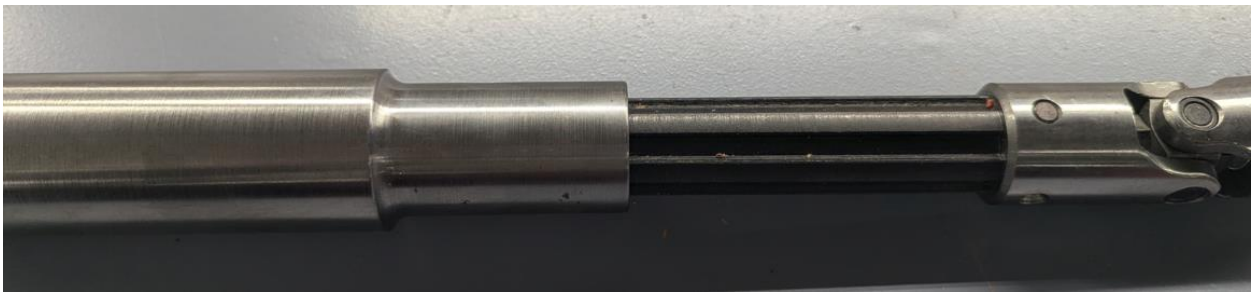
During your weekly maintenance of your Quadrel Labeling Systems equipment follow the steps below to ensure proper lubrication of the internal drive system for your feedscrew assembly.



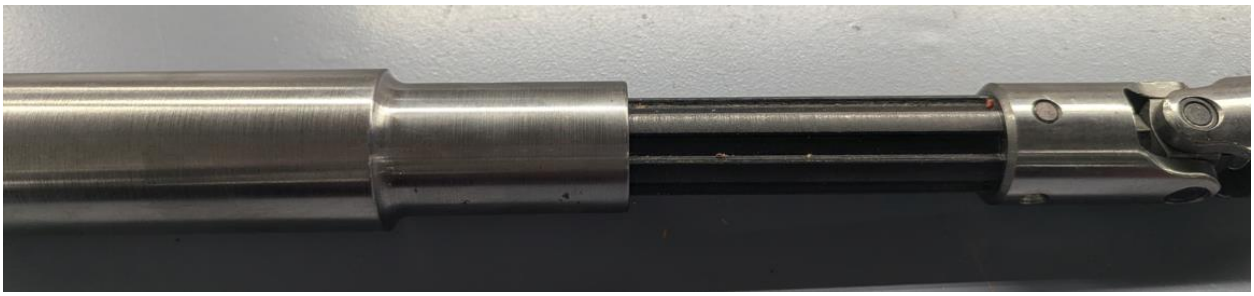
Step 1 – Your dual feedscrews are connected inside the conveyor with a spline shaft assembly. First remove the chain so you have easy access to the this.



Step 2 – Open your feedscrews to your largest product. This will expose the spline assembly shaft that you will be applying the muti-purpose grease to.



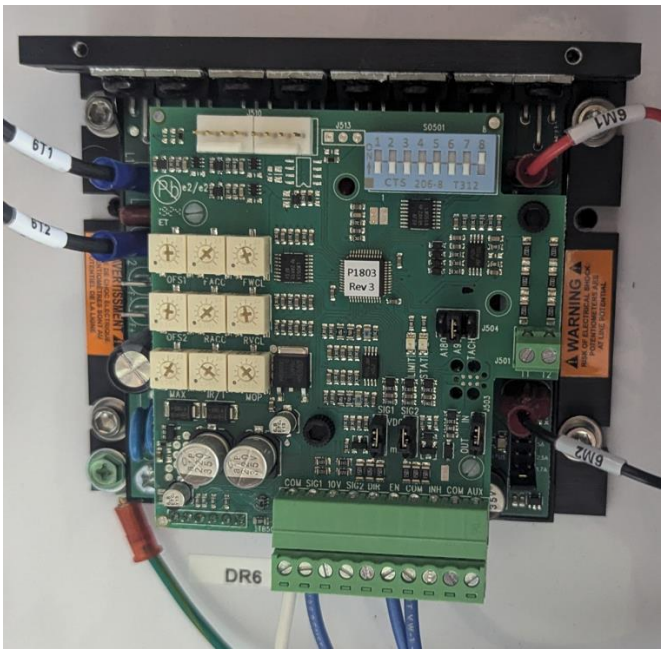
Step 3 – Apply muti-purpose grease to the now exposed spline shaft assembly. Ensure to apply multi-purpose grease all the way around the spline shaft– Top, bottom and sides



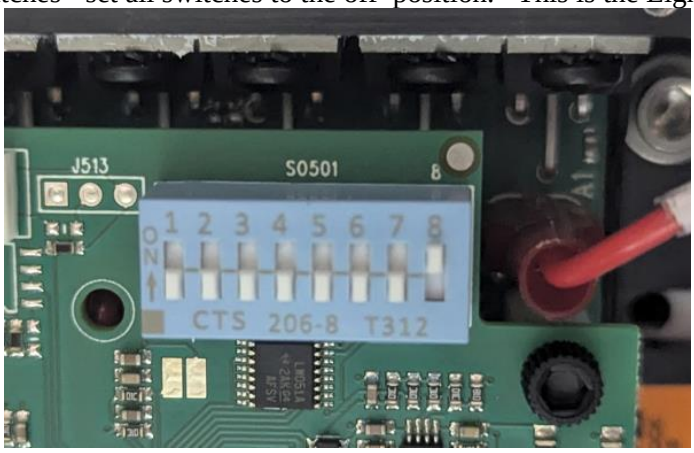
Step 4 – Slowly move the feedscrews in and out to so the grease can spread evenly over the length of entire spline shaft assembly.

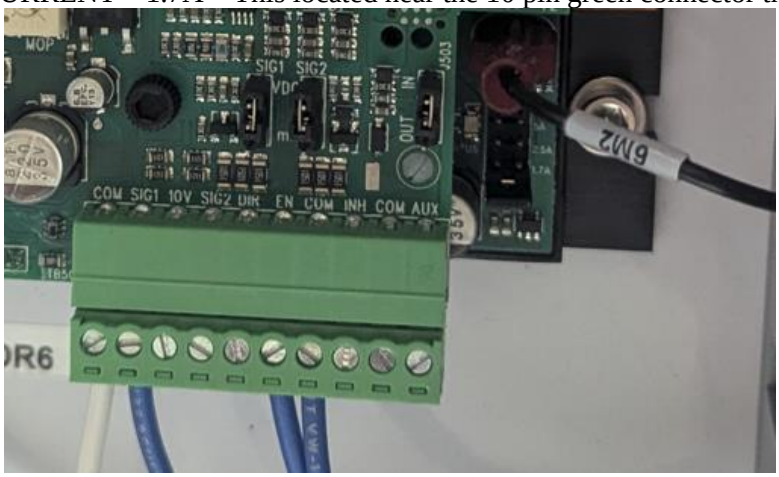
Step 5 – Reconnect conveyor chain

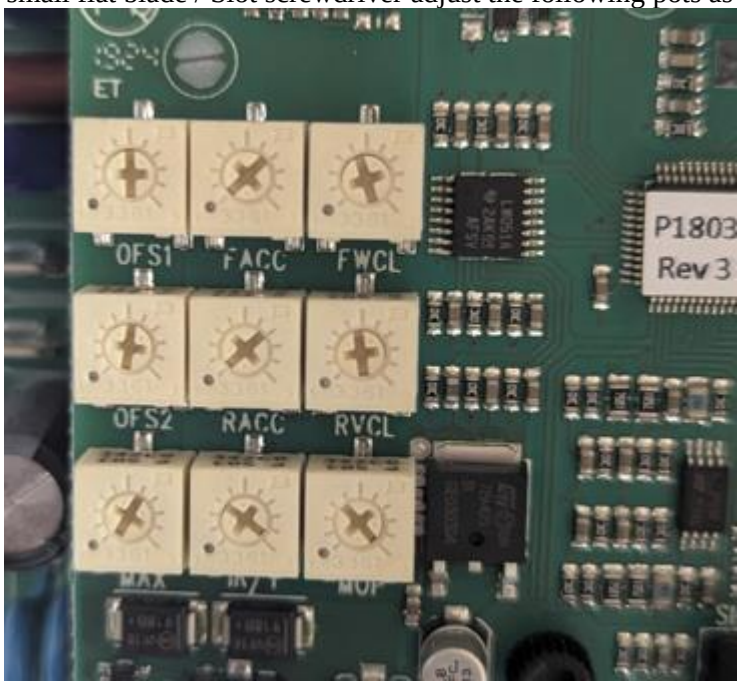
Setup procedure for Powered rewind using MGC403-11-00MD drive



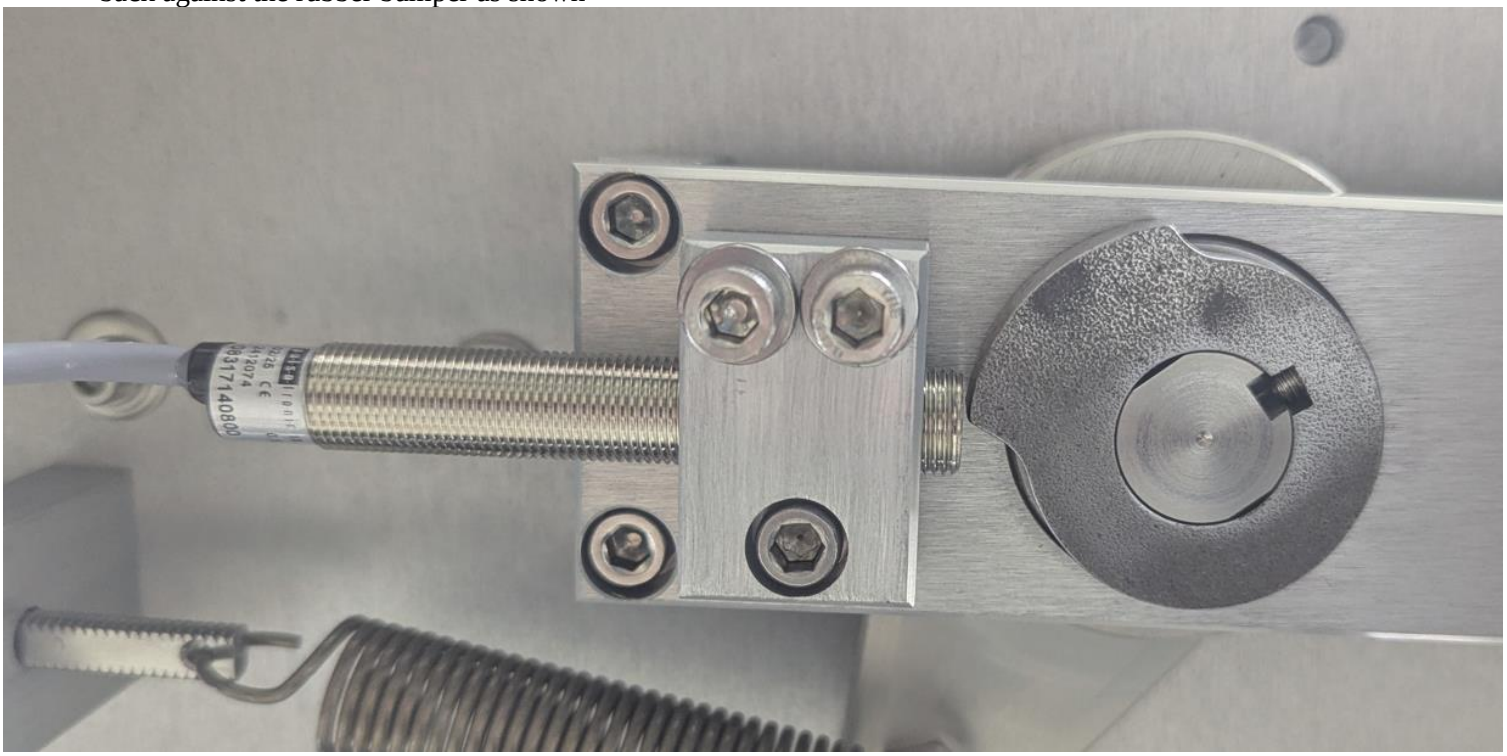
Upon receiving drive set the following BEFORE installing in the machine.

1. Dip switches - set all switches to the off position. This is the Light blue row of switches shown in the image below
   a. 

2. Set Jumpers on drive based on electrical schematic for your machine
   a. SIG1 – VDC
   b. SIG2 – VDC
   c. J504 – A90
   d. AMP CURRENT – 1.7A – This located near the 10 pin green connector that
      i. 

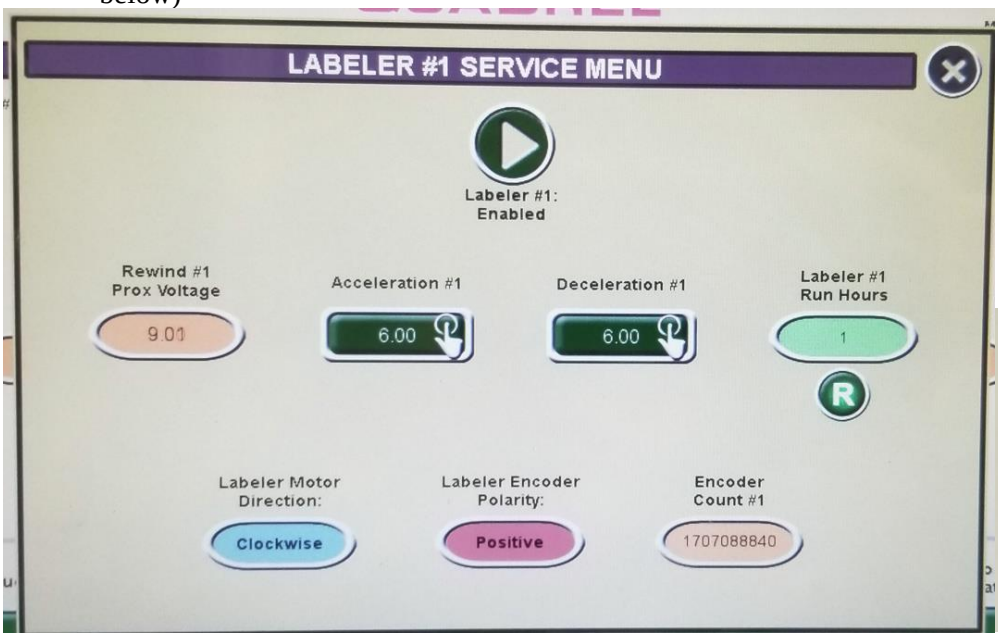
3. Using a small flat blade / Slot screwdriver adjust the following pots as indicated in the image below:
   a. 

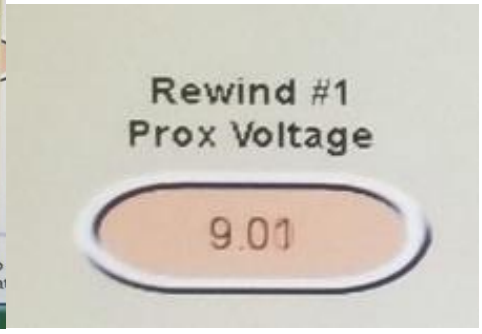
      i. Top row **OFS1** – WILL BE ADJUSTED AT LATER STEP
      ii. Top row – **FACC -** turn counter clockwise until it stops.
      iii. Top row **FWCL** – set to half way point – midpoint
      iv. Middle row **- OFS2** – turn counter clockwise until it stops. This turns the pot OFF
      v. Middle row – **RACC -** turn counter clockwise until it stops
      vi. Middle row – **RVCL** – set to half way point – midpoint
      vii. Bottom row – **MAX** – Set to 3/4 point
      viii. Bottom row **– Leave other 2 pots at factory setting – DO NOT ADJUST**
4. **Install drive in machine then proceed to next steps**
5. Set the Cam on the rewind dancer per image below when the dancer arm is at rest. Rest is when the arm is all the way back against the rubber bumper as shown



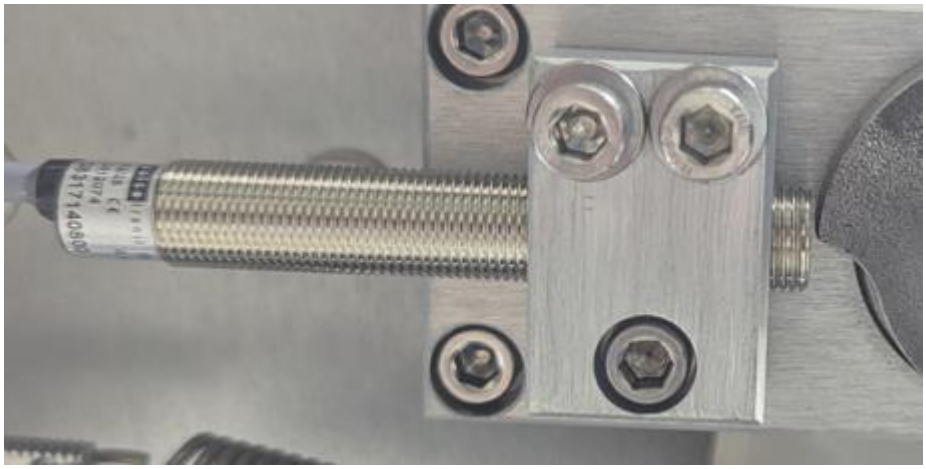


6. On the HMI go to into labeling head service menu. You will be looking at the REWIND PROX VOLTAGE (example below)

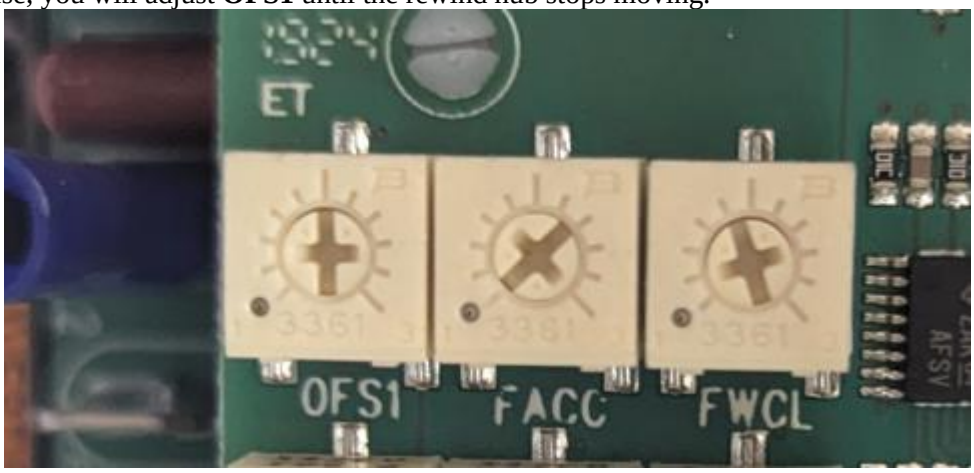




7. Adjust the sensor gap at the cam by loosening the bolt using an allen key so that the sensor can be moved forward or backward. The bolt does NOT touch the sensor. Loosening it opens the clamp so you can adjust.
8. Set the gap so the REWIND PROX VOLTAGE on the HMI reads .**90 it must be under 1 volt.**
    a. **Retighten screw so the clamp sensor no longer moves**

b. 

9. Test by moving the rewind dancer arm forward. When doing this you should see the rewind prox voltage on the HMI increase up to 9 volts

    a. **If you do not see the voltage increase steadily, recheck cam sensor gap in step 7**
10. Turn on rewind switch on the back of the labeler. This will engage / turn on the motor.
11. Move the rewind dancer arm forward the rewind hub should start to turn clockwise. It will slow then stop as you move forward. Rewind hub should ALWAYS be turning clockwise. If it moves counter clockwise move to **step 11a**
    a. While holding the arm in the position where it started to run counter clockwise, it MUST be running counter clockwise, you will adjust **OFS1** until the rewind hub stops moving.
    i. 

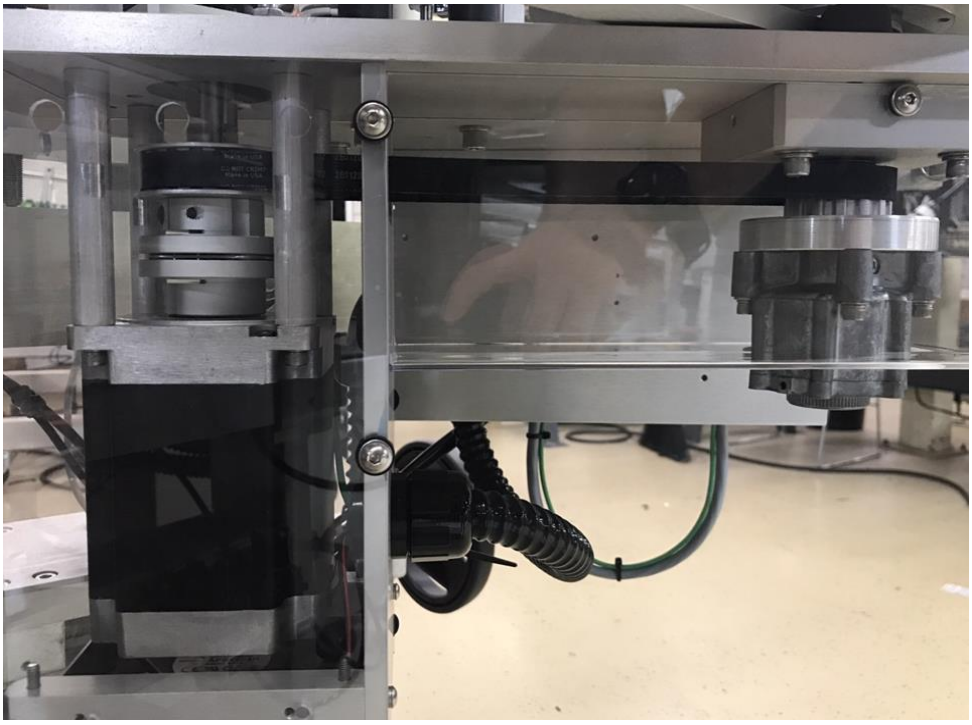
    b. This adjustment may need to be done multiple times until it no longer moves counter clockwise when rewind arm is all the forward and at rest.

9.2 BELTS

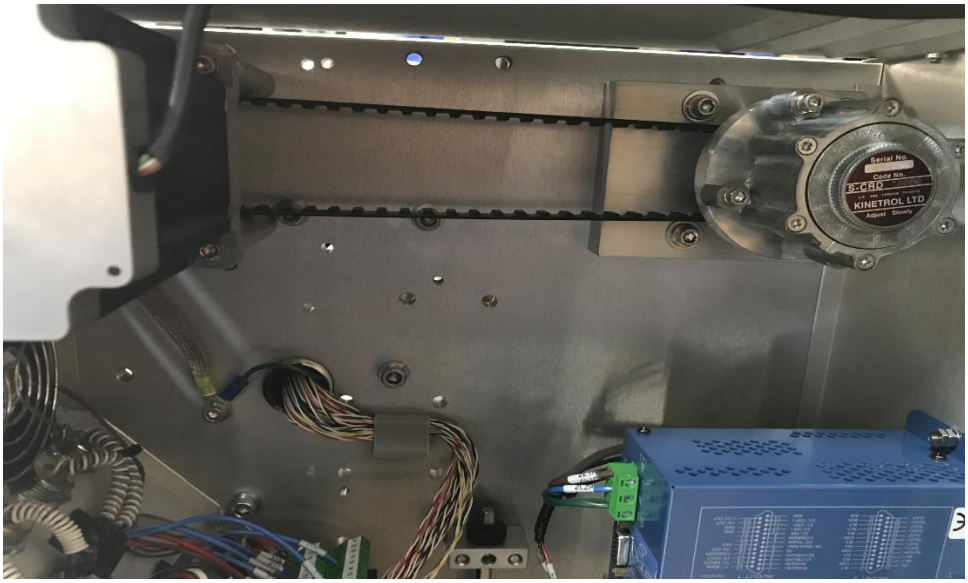
Monthly, a visual inspection of the rewind belt and timing belt, to do this depending on the labeling head you may need to remove the bottom cover on the head.

Refer to photos below.

Servo labeling head.

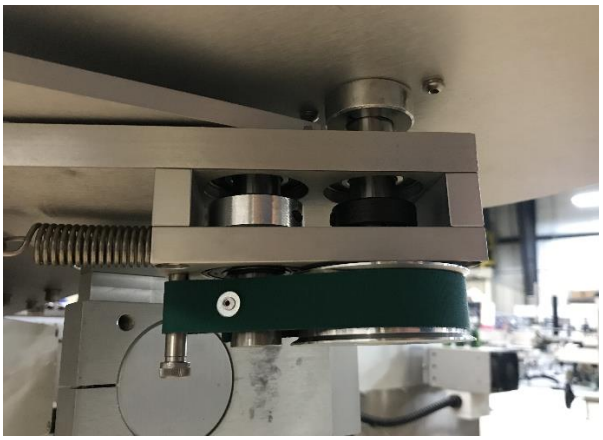


Stepping labeling head.



⚠ CAUTION DO NOT ATTEMPT doing this with the equipment under tension (with power on).

The visual inspection should consist of looking for cracks or defects in the belts. If this is the case, change the belts that are defective. Refer to the parts listing in the labeling head section of this manual.
The brake band mechanism requires a monthly visual inspection as well. Also once every 12 months you should consider replacing the belt (it is possible that you may need to change it later or earlier than 12 months depending the usage of the labeling head).
The brake band belt assembly is located at the base of the unwind assembly. See images below for reference.



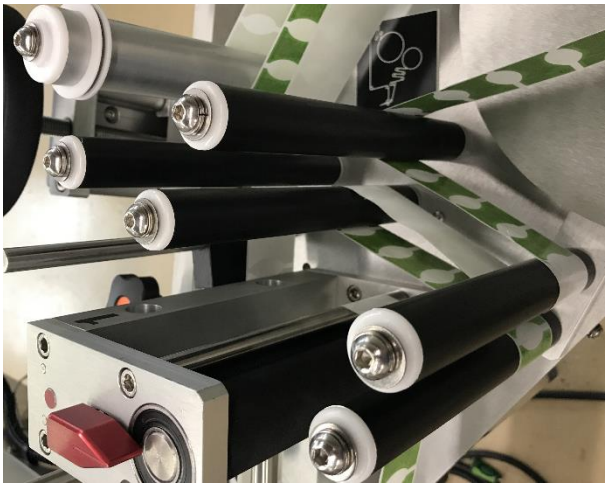


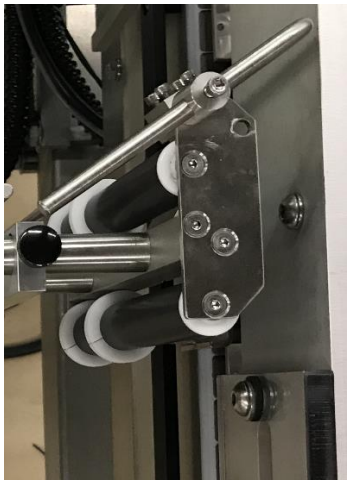
For replacement parts see the unwind assembly drawing for your labeling head in this manual.

9.3 ROLLERS

It is important that your labeler is as clean as possible in its environment in order for it to perform property. Daily, it is suggested to clean all the rollers including the drive roller (the rubber roller), the pressure shoe and peel plate using a damp cloth with alcohol. Make sure those parts have no glue or labels on it.

Weekly, spray a silicone base lubricant on each end of the plastic bearing.





9.4 SENSORS

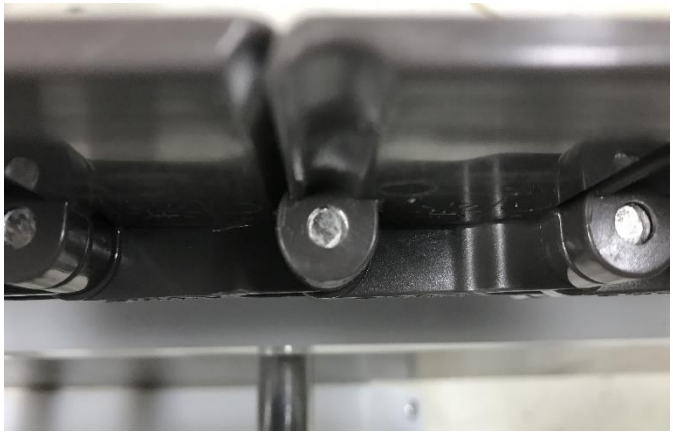
The sensors all have an electronic eye called a photocell; these must be free of lint or dirt. Since the photocells are generally made with glass or plastic lenses. They naturally attract substances which could easily trigger the sensor, use a cotton swap to gently clean the eye of the sensor as you would any lens, in a circular motion.

9.5 CONVEYOR

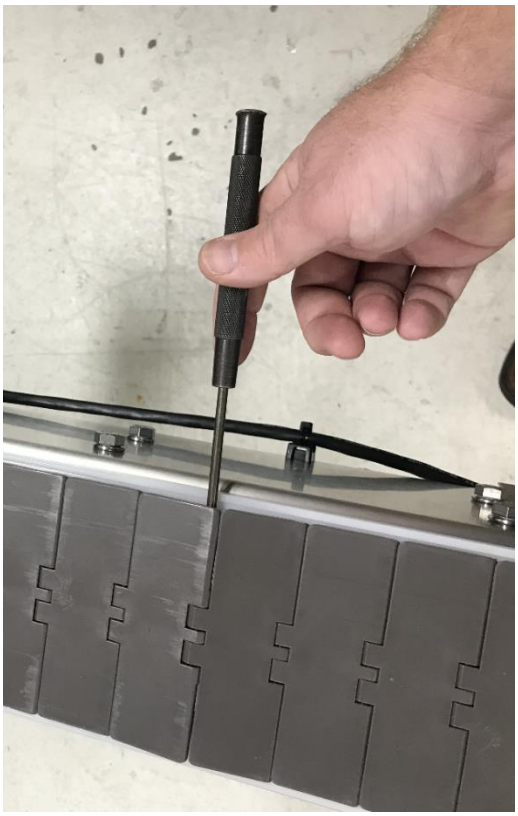
Always keep the belt or (chain) clean. To clean it simply use compressed air with an osha approved nozzle and/or damp wipes. If necessary, a soft cleaning agent can be used.

9.5.1 CLEANING

To clean the under carriage portion of the conveyor, simply remove the belt using an punch or similar tool and hammer to tap out the retaining belt link pin. (see images below, the chain has an oriention to the pins, you must tap it out from the narrow diameter) Clean the desired portion with a damp cloth and replace the pin to the belt. The pin will be tapped in the opposite side you tapped it out. *You can also lift the chain and wipe under it.







10 CLEARING A JAM

In the event a jam occurs on your Quadrel Labeler reference the following steps to clear.

1. Press the conveyor stop button or the emergency stop if you are unable to reach the stop button.
2. Clear the jam manually in the affected are of the equipment where jam is located
3. Once jam is cleared reenergize the estop, if pressed, and press the reset button (where applicable) to clear faults.
4. Put equipment back into “run” and press start to turn the system back online to continue labeling

11 WARRANTY

The standard warranty period for Quadrel equipment is 12 months following invoicing. The warranty covers all parts with consideration taken towards reasonable use and normal wear and tear. Not covered by warranty are parts that have a limited wear factor, any required labor by Quadrel. Prior to return to Quadrel, parts must be verified defective.

Return of defective parts

To return a defective part, you will need to get an RMA number from Quadrel. All RMA’s are issued though our parts department. Please specify the serial number of the equiptment, the client’s name, address, phone number, contact name and the nature of the problem. To get a replacment part, a purchase order is required. You will be billed for the new part and credited for the defective part after return and evaluation. If the part is determined to be defective due to improper use, no credit will be issued.

Appropriate Use of Equipment

The equipment supplied to the end user by Quadrel are to be used for the sole purpose for which they were intended and must follow Quadrel’s specifications on usage as well as appropriate functions. Quadrel will not assume any responsibility for any inappropriate use or modifications to the said equipment other than for the use it was initially built for. The warranty will cease to apply forthwith, in Quadrel’s opinion, the equipment has been used abnormally or in an abusive manner, if it has not been properly maintained, if it has not been carried on a truck equipped with an air-ride suspension when required by Quadrel or if it has been used, or maintained contrary to the owners manual provided by Quadrel.

Responsibility Limits

The solution put forth has been prepared with the information that has been provided to Quadrel by the end user. Subsequently, Quadrel cannot assume any responsibility for the exactitude, precision, and the validity of the information which was supplied. Moreover, Quadrel cannot be responsible for (a) any damages, direct or indirect, secondary, or

accessory, including without limitations, the loss of profit, workflow interruption, loss of production, loss of profits and other; (b) any and all damages claimed against the end user by a third party; (c) any or all damages caused to the property of end user or any other third party; (d) any or all resulting in an act from the end user or third party, major force, or act of god, unforeseen cause, or event.

With all reservation, in the eventuality where the responsibility is that of Quadrel relative to any defect of quality of said equipment or proposed solution Quadrel would be able to accept the responsibility, to its entire discretion, with the replacement of part of the said equipment or solution. By a compatible or identical equipment or solution or by a reimbursement of value agreed upon. In no case can Quadrel's responsibility exceed the total monetary sums received for the said defective equipment or solution.