



CLEAN ROOM DEVICES, LLC
"WHERE TUBING AND FITTINGS COME TOGETHER"

CRD400 Fitting Inserter

OPERATIONS MANUAL



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1.0 General Product & Safety Information

1.1 Product Information

- The Fitting Inserter is designed to hold and locate soft tubing and push it onto fittings.
- The minimum/maximum outside tube diameter is 3/32" to 1"

1.2 Safety Information

- This product uses air cylinders and palm buttons to pneumatically actuate the closing jaws. The unit is not intended for anything other than flexible tubing.
- The desired air supply should be free of moisture/contaminates, and a minimum 100 psi facility air supply is recommended. It is also recommended that a suitable filter/regulator be installed onto the supply line prior to the unit to preserve the life expectancy of the air components.

CRD400 FITTING INSERTER SAFETY NOTICE

PLEASE READ CAREFULLY BEFORE CONTINUING

Warning

The “Fitting Inserter” should only be operated by trained, qualified personnel, who have read and understand this manual.

The owner of this CRD400 Fitting Inserter is responsible for training all personnel to properly operate this machine. Failure to follow instructions may result in serious personal injury.

Never, under any circumstances operate the “Fitting Inserter” with any safety device disabled.

To service or repair this machine with the cover off the jaws must be installed or the machine will not operate.

At the time of this writing the content of this manual was up-to-date. However, due to continual improvements in machine design, it is possible some descriptions and procedures contained herein vary from the machine actually delivered to you

2.0 Installation

Ensure all five (5) rubber feet are completely stabilized on your work surface prior to applying air pressure to the unit.

2.1 Air Supply

- Connect a 1/4" air supply hose to the fitting found on the back of the Fitting Inserter. The air supply should be free of moisture and contaminants and supplies **100-140** psi. It is important to have the ability to shut off the air pressure or disconnect from the main air line. A quick-connect coupling or ball valve is recommended.

Safety Note: keep hands clear of moving parts when connecting or disconnecting the air supply. Jaw mounts may move suddenly. Failure to do so may result in serious injury

- Adjust Grip/Thrust pressure to 80-120 psi (shown in Figure 1)
- Set Open/Return pressure to 10-30 psi: **Caution: Do not set above 30 psi, high pressure can cause premature wear to machine.**



Figure 1: Regulator Assembly

2.3 *Electrical Supply*

- Plug the electrical connector into the back of the Fitting Inserter and plug the 24V power supply into an 110V AC outlet. **The smart relay inside the machine has an 8 second power up time before the Fitting Inserter becomes fully operational.**

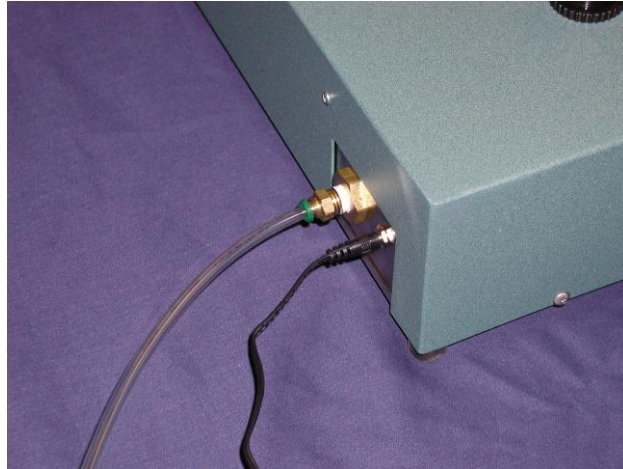


Figure 2: Air and Power supplies

2.4 *Jaw Installation*

- Ensure the machine is in **position 2** (jaw mounts forward and fully open)
- Select the jaw set that corresponds to the tube OD being used.
- Attach each jaw using 2 M5 x 35mm socket head cap screws

Critical Note: Failure to properly align jaws may result in damage to both the jaw set and the nest!

Critical Note: Machine WILL NOT operate properly without jaws installed.

- Fine tuning the semi-closed position: Inside the machine you will find two stop blocks that the jaws rest on in position 1. Fine tune the gap between the jaws, adjust the set screw on the left stop block. **Do not let the jaws rest on the sensor imbedded in the right stop block.** Always allow a gap of approximately 1mm between the gripper and the sensor.

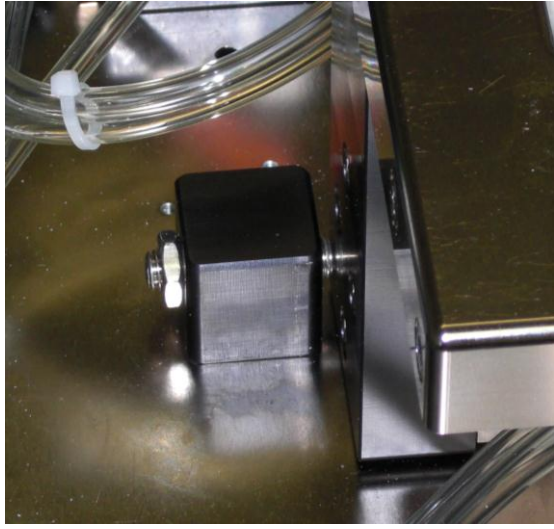


Figure 3: Left stop block, adjust set screw

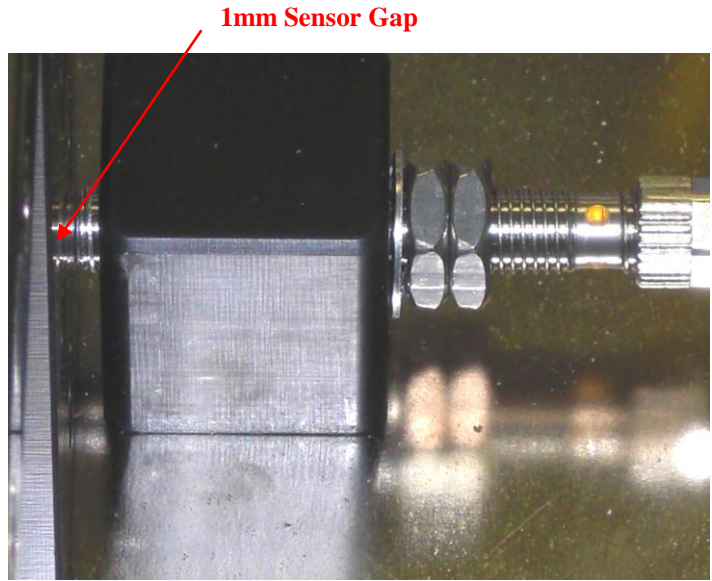


Figure 4: Right stop block, adjust to 1mm sensor gap

3.0 Operation

3.1 Loading Nest and Jaws

- Lock fitting into nest, ensuring the fitting is properly seated. (Figure 5)



Figure 5: Seating the fitting into the nest

- With Jaws in Position 1 (Figure 6), insert tubing into jaws and push tubing against stop gate as shown in figure 5 below.



Figure 6: Placing tubing against stop block

- Use the palm switches to start cycle: jaws close and stop gate retracts. Tubing comes forward onto barb. (Figure 7)

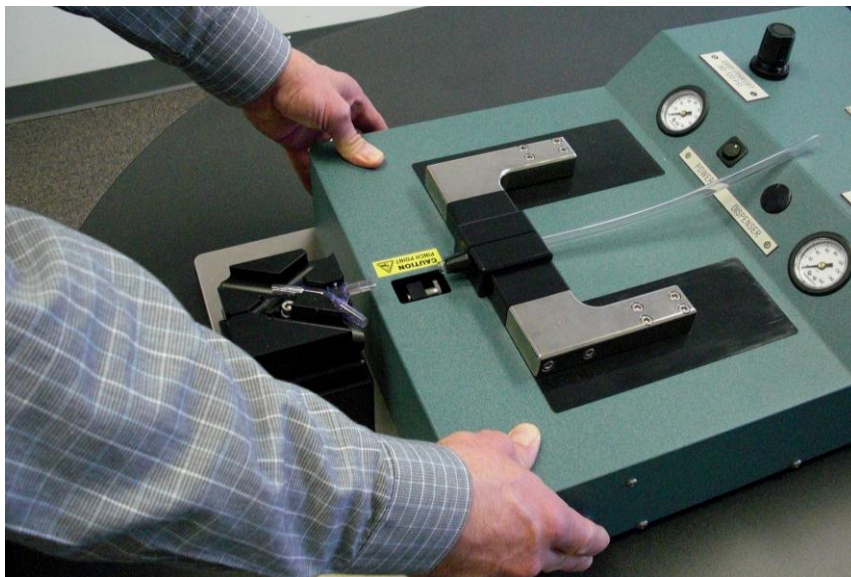


Figure 7: Machine cycle start

- Hold the palm switch and the machine will push the tubing onto the fitting and the jaws will fully open (position 2), allowing removal of the assembled components. (Note: If the palm switches are released during this operation, the machine will halt and release

all air pressure. Reset the machine to position 1 by holding down the palm switches again.) (Figure 8)



Figure 8: 'Position 2' Jaws fully open.

- After removing fitting and tubing, press palm switches again. Hold until jaws return to semi-open position, and stop gate comes up. (Figure 9)

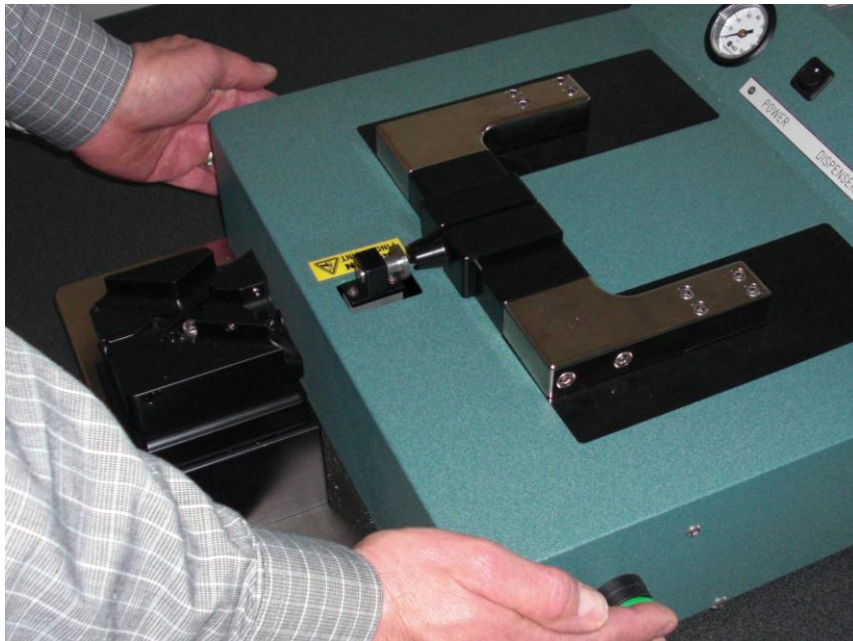


Figure 9: Semi-open position

4.0 Maintenance:

4.1 Removing Cover

- Remove 8x 5mm screws to remove jaw mounting blocks (Figure 10)

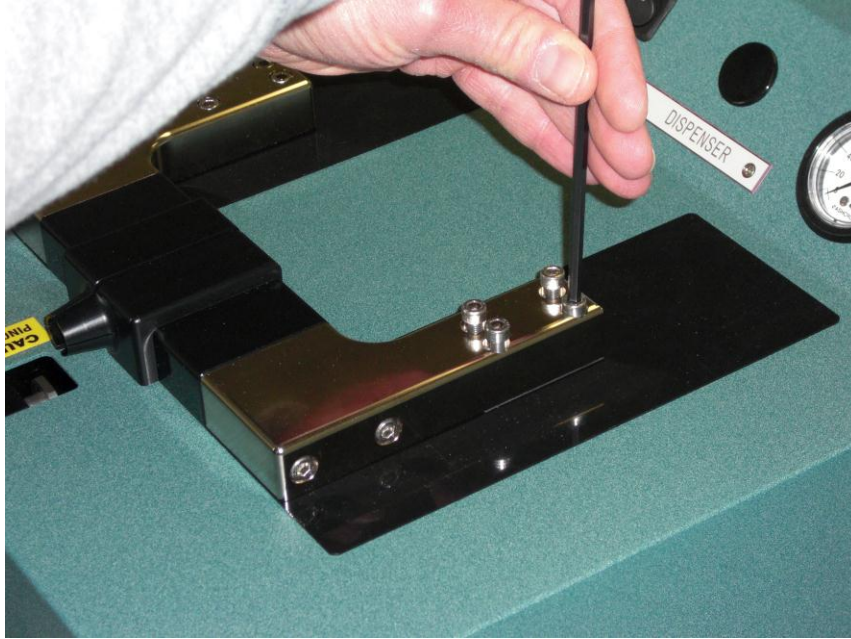


Figure 10: Removing Jaw Mounting Blocks

- Remove blocks and cover plates as shown below in Figure 11.



Figure 11: Semi-open position

- Loosen 6x 5mm button screws on either side of the cover.

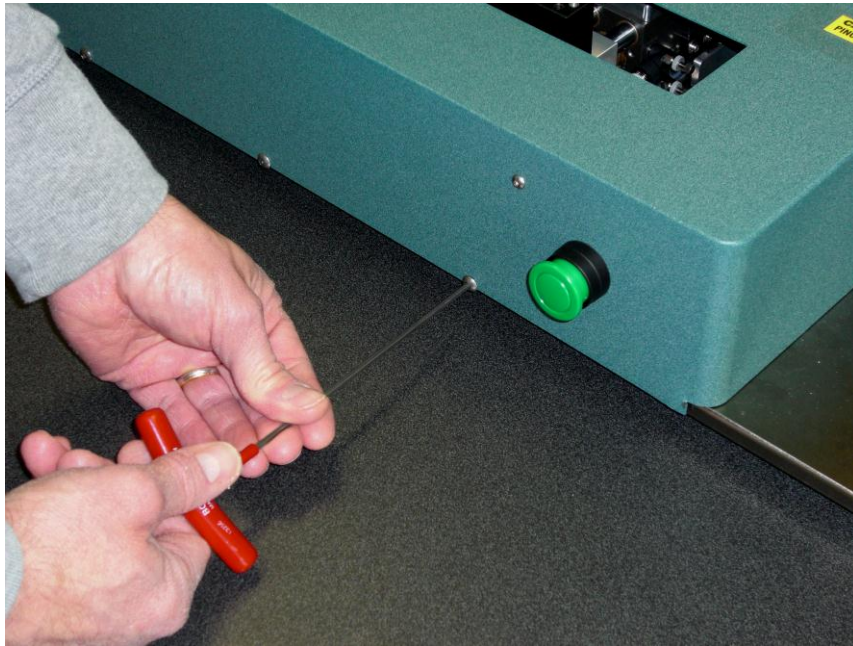


Figure 12: Removing cover screws

- Remove cover and place carefully next to unit – wires and tubing will still be attached



Figure 12: Removed Cover

4.2 Periodic Cleaning

- Wipe down outer surfaces with alcohol, septihol or mild detergents as required.
- Once every three months, the lid should be opened and the inside around the cylinders, jaws should be cleaned using compressed air. This will remove any dust that has collected.

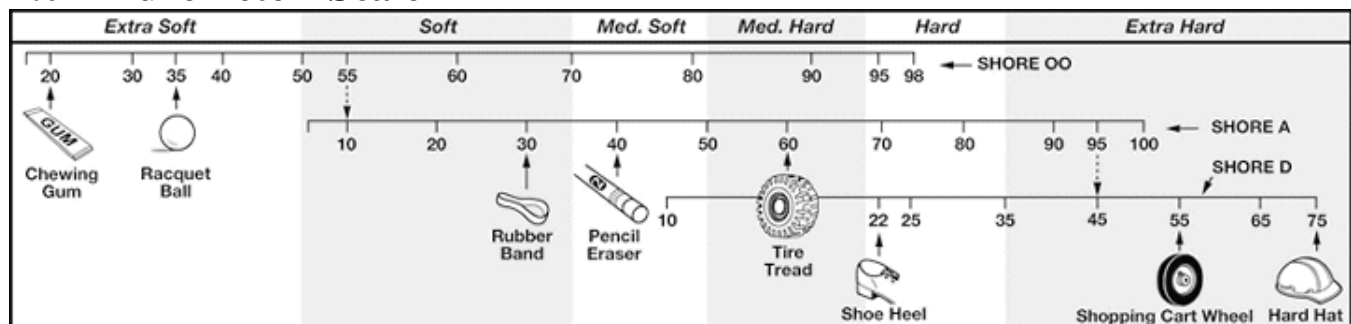
5.0 Product Specifications

Unit Weight	55 LBS / 25 KG
Overall Dimensions	27 in. (68.6cm) lg. x 17 in. (63.5cm) w. x 8.5 in. (21.6cm) ht.
Minimum/Maximum PSI	100 PSI /140 PSI

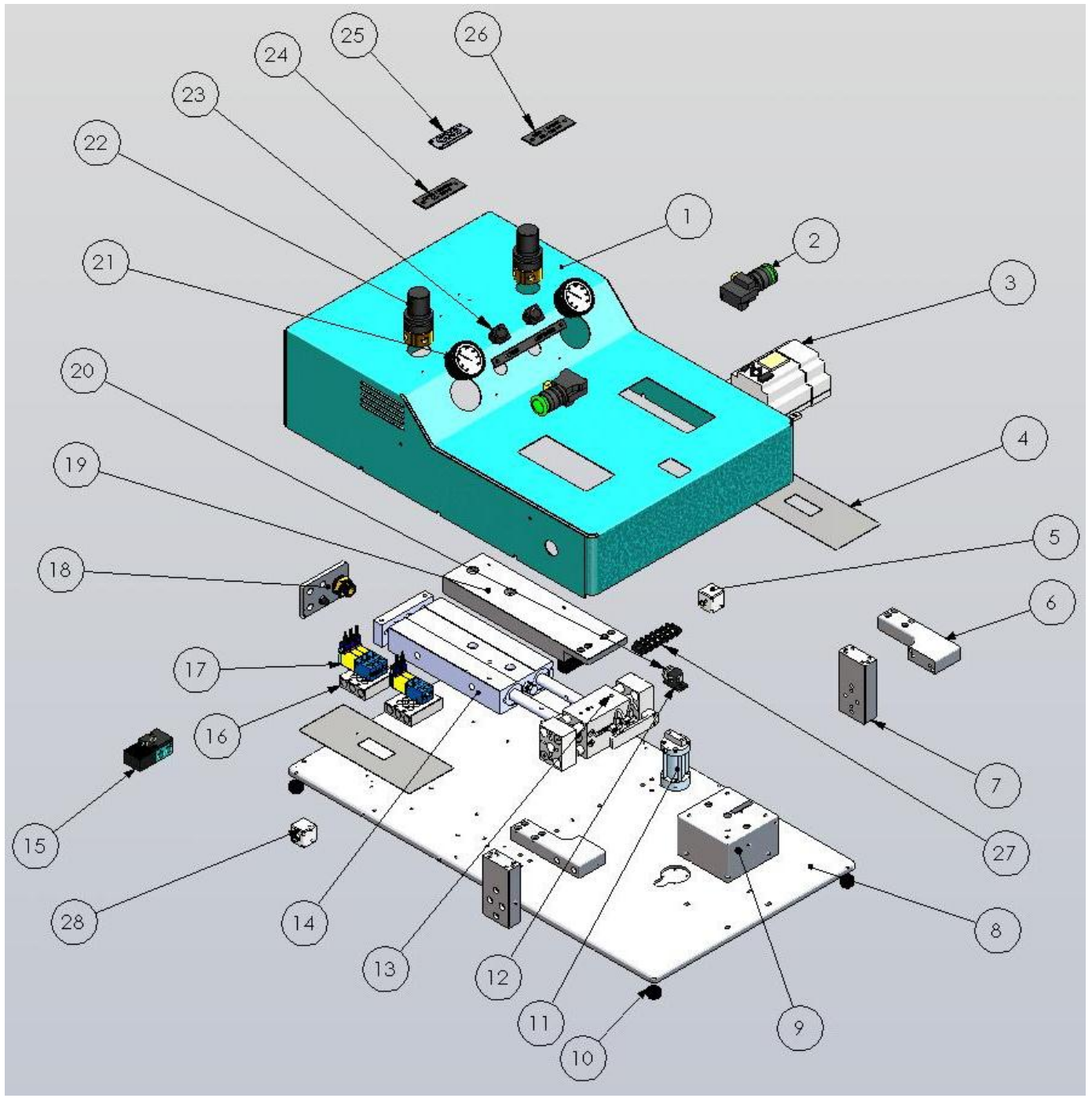
6.0 Trouble Shooting

Operating Error	Action
Unit does not operate.	<ol style="list-style-type: none"> 1. Check the facility air connection. 2. Check all air hose connections on the unit. 3. Check electrical power, 110VAC & 24 VDC 4. Check that the nest is all the way down.
Tubing does not go on the fitting / all the way on.	<ol style="list-style-type: none"> 1. Adjust Stop Gate position 2. Adjust Thruster air pressure, should be 80-120 psi.

7.0 Durometer Scale

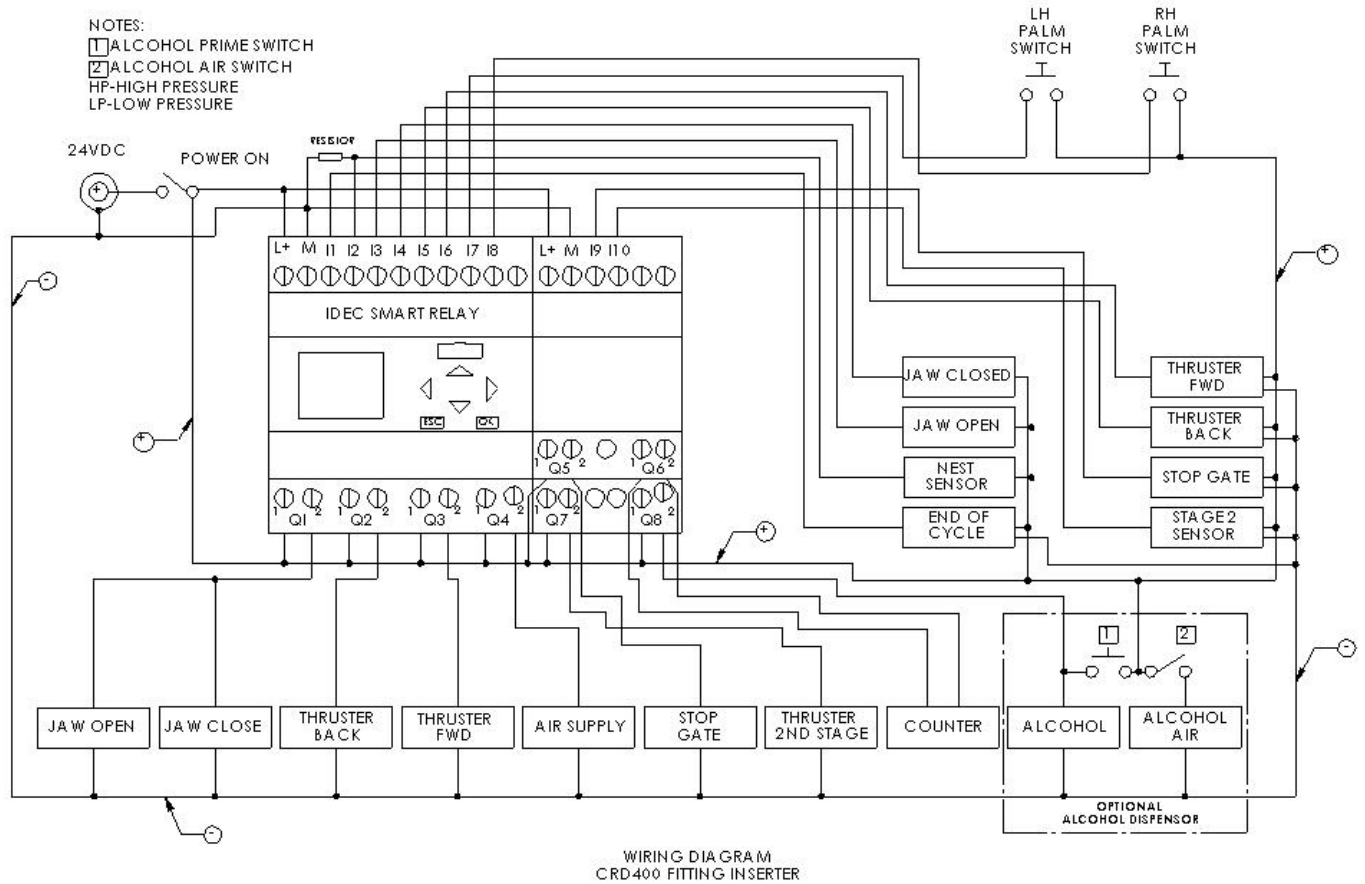


8.0 Parts List



ITEM NO.	QTY (EA.)	DESCRIPTION	CRD P/N
1	1	Cover, Sheet Metal	CD004-007
2	2	Idec Green Mushroom Switch	P00113
3	1	Smart Relay	P00107
4	2	Cover Plates	CD004-013
5	1	Stop Block, Right	CD004-046
6	2	Jaw Mount, Upper, Right/Left	CD004-002/3
7	2	Jaw Mount, Lower	CD004-039
8	1	Base Plate	CD004-014
9	1	Pedestal	CD004-008
10	5	Rubber Feet	P00026
11	1	Bimba Cylinder	P00194
12	1	T Bracket, Stop Block	CD004-048
13	1	PHD Grippers	P00105
14	1	Bimba Twin Bore Air Cylinder	P00103
15	2	Mac Valve, 4-way	P00108
16	2	Manifold, Mac Valves	P00091
17	5	Mac Solenoid Valves	P00093
18	1	Service Panel	CD004-041
19	1	Transition Plate	CD004-001
20	1	D Rod, Stop Block	CD004-047
21	2	Panel Mount Pressure Gauge	P00111
22	2	Regulator, Air	P00066
23	1	Round Rocker Switch	P00165
24	1	Name Plate, Insert Pressure	CD004-021
25	1	Name Plate, CRD	CD001-027
26	1	Name Plate, Grip Pressure	CD004-020
27	1	Terminal Strip, 6 Pole	P00025
28	1	Stop Block, Left	CD004-040

9.0 Electrical & Pneumatic Diagrams



10.0 Warranty

10.1 Warranty

The manufacturer warrants the product manufactured by it, when properly installed, operated, applied and maintained in accordance with the procedures and recommendations outlined in the manufacturer's operation manual, to be free from defects in material or workmanship for a period as specified below, provided such defect is discovered and brought to the manufacturer's attention within the aforesaid warranty period.

The manufacturer will repair or replace any product or part determined to be defective by the manufacturer within the warranty period, provided such defect occurred in the normal service and not as a result of misuse, abuse, neglect or accident. Normal maintenance items requiring routine replacement are not warranted. The warranty covers parts and labor for the warranty period unless otherwise specified. Repair or replacement shall be made at the factory or the installation site, at the sole discretion of the manufacturer. Any service performed on the product by anyone other than the manufacturer must first be authorized by the manufacturer.

Unauthorized service voids the warranty and any resulting charge or subsequent claim will not be paid. Products repaired or replaced under warranty shall be warranted for the unexpired portion of the warranty applying to the original product.

The foregoing is the exclusive remedy of any buyer of the manufacturer's product. The maximum damages liability of the manufacturer is the original purchase price of the product or part.

THE FORGOING WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, WHETHER WRITTEN, ORAL, OR STATUTORY, AND IS EXPRESSLY IN LIEU OF THE IMPLIED WARRANTY OF MERCHANTABILITY AND THE IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. THE MANUFACTURER SHALL NOT BE LIABLE FOR LOSS OR DAMAGE BY REASON OF STRICT LIABILITY IN TORT OR ITS NEGLIGENCE IN WHATEVER MANNER INCLUDING DESIGN, MANUFACTURE OR INSPECTION OR THE EQUIPMENT OR ITS FAILURE TO DISCOVER, REPORT, REPAIR, OR MODIFY LATENT DEFECTS INHERENT THEREIN.

THE MANUFACTURER, HIS REPRESENTATIVE OR DISTRIBUTOR SHALL NOT BE LIABLE FOR LOSS OF USE OF THE PRODUCT OR OTHER INCIDENTAL OR CONSEQUENTIAL COSTS, EXPENSES, OR DAMAGES INCURRED BY THE BUYER, WHETHER ARISING FROM BREACH OF WARRANTY, NEGLIGENCE OR STRICT LIABILITY IN TORT.

The manufacturer does not warrant any product, part, material, component, or accessory manufactured by others and sold or supplied in connection with the sale or manufacturer's products.

10.2 Warranty Period

Parts and labor for ninety (90) days from the date of shipment from the factory are covered. Freight to the factory on units that the manufacturer requests to be returned shall be paid by the purchaser, all return freight to be paid by the manufacturer; means of transportation to be specified by the manufacturer.

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