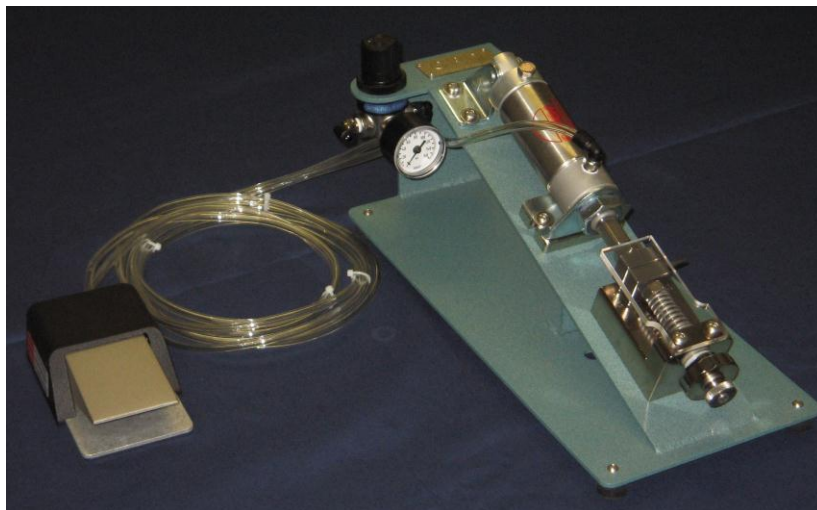




**CLEAN ROOM DEVICES, LLC**  
"WHERE TUBING AND FITTINGS COME TOGETHER"

# **CRD200 TUBE EXPANDER**

## **OPERATIONS MANUAL**



VERSION 2.1  
LAST EDITED 03.08.11  
DOCUMENT NUMBER 001  
*cleanroomdevices.com*

# Table of Contents

- Title Page.....1
- Table of Contents.....2
- 1.0 General Product & Safety Information.....3
  - 1.1 Product Information
  - 1.2 Safety Information
- 2.0 Installation.....3
  - 2.1 Air Supply
- 3.0 Operation.....4
  - 3.1 Tube Expanding
- 4.0 Troubleshooting.....5
- 5.0 Maintenance.....6
  - 5.1 Periodic Cleaning (annually)
- 6.0 Product Specifications.....6
- 7.0 Durometer Scale.....6
- 8.0 Parts List.....7
- 9.0 Warranty.....8
  - 9.1 Warranty
  - 9.2 Warranty period

## 1.0 General Product & Safety Information

### 1.1 Product Information

- The CRD200 Tube Expander is designed to expand flexible tubing up to a durometer of Shore A85 (Shore D35), including any non-metallic braided materials.
- The device only works with tubing that has an inside diameter of 1/16" to 1/2".
- The standard jaw sets is universal and is designed to be used with an inside diameter range of 1/8" to 1/2". Other jaw sets are available that are optimized for a specific size (see accessories page at [www.cleanroomdevices.com](http://www.cleanroomdevices.com)).
- The device features simple yet reliable tool-less jaw adjustment, which can be made by the operator. The jaw positions are identified by a numbered engraved scale for process control.
- The device features a calibrate-able pressure gage conveniently mounted for addition process control.

### 1.2 Safety Information

- The device has a foot pedal actuated air cylinder that actuates the expanding jaws. The unit is not intended to expand anything other than flexible tubing.

**WARNING**

**Avoid placing your fingers between the upper jaw block and the air cylinder mounting bracket while operating unit, sufficient pressure exists to cause personal injury.**

- The air supply should be free of moisture/contaminates, and set at 80-100psi. It is recommended that a suitable filter/regulator be installed onto the supply line prior to the unit to preserve the life expectancy of the air regulator and air cylinder.

## 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

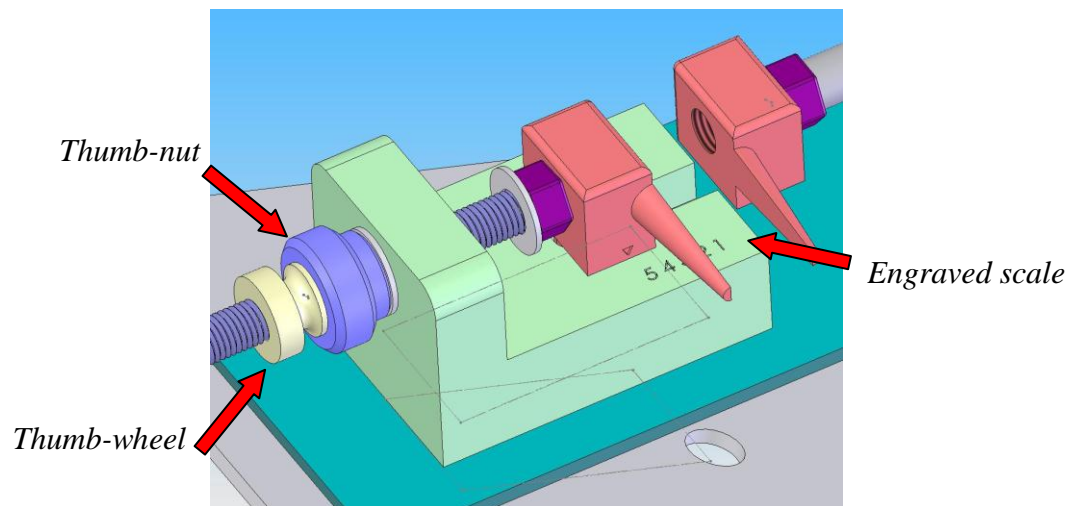
- Connect a 1/4" air supply hose to the fitting found on the foot pedal. The air supply should be free of moisture and contaminants. Standard facility compressed air within the range of 80-100 psi is recommended. Lower than 80 psi may affect the unit's ability to stretch properly with even pressure. Higher than 100 psi may reduce the life expectancy of working parts.

## 3.0 Operation

### 3.1 Tube Expander

- Start by loosening the knurled *Thumb-nut* to adjust the unit for the proper tubing size.
- Locate the lower expander jaw position for your tubing size using the larger *Thumb-wheel* and the *Engraved scale*.

(This adjustment may require fine tuning depending on your tubing I.D., O.D., durometer and/or material. It is recommended you note or log scale settings for process control)



- Next, tighten the *Thumb-wheel* against the lower mounting block and secure in place using the *Thumb-nut*.
- Place the tube over the ends of both expander jaws and hold firmly in place.
- Actuate the expanding motion by pressing the foot pedal.
- Once the tube is expanded, release the foot pedal and quickly insert the component or tube connector before the tubing regains its original size (a pass-thru method is required for rubber tubes and some fast-memory tube materials).

Note: Several expanding actions may be necessary to effectively expand the end of the tube.

## 4.0 Troubleshooting

Operating Error	Action
Unit does not operate.	<ol style="list-style-type: none"><li>1. Check the facility air.</li><li>2. Check all air hose connections on the unit.</li></ol>
Jaws do not expand.	<ol style="list-style-type: none"><li>1. Ensure there are no obstructions keeping the jaws from expanding.</li><li>2. Completely depress the foot pedal to actuate.</li><li>3. Verify that the tubing is within the recommended durometer and size range.</li></ol>
Flexible tubing is splitting/tearing.	<ol style="list-style-type: none"><li>1. Verify that the tubing is within the recommended durometer and size range</li><li>2. Ensure the lower jaw has been adjusted correctly for the tubing inside diameter (I.D.).</li><li>3. Verify facility air supply psi or unit pressure adjustment.</li></ol>

## 5.0 Maintenance

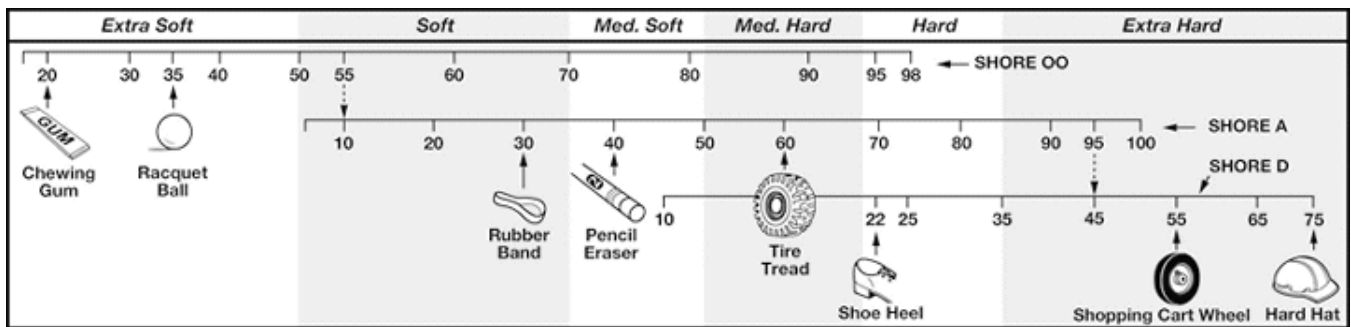
### 5.1 Periodic Cleaning (annually)

- Wipe down outer surfaces with alcohol, septihol or mild detergents as required.

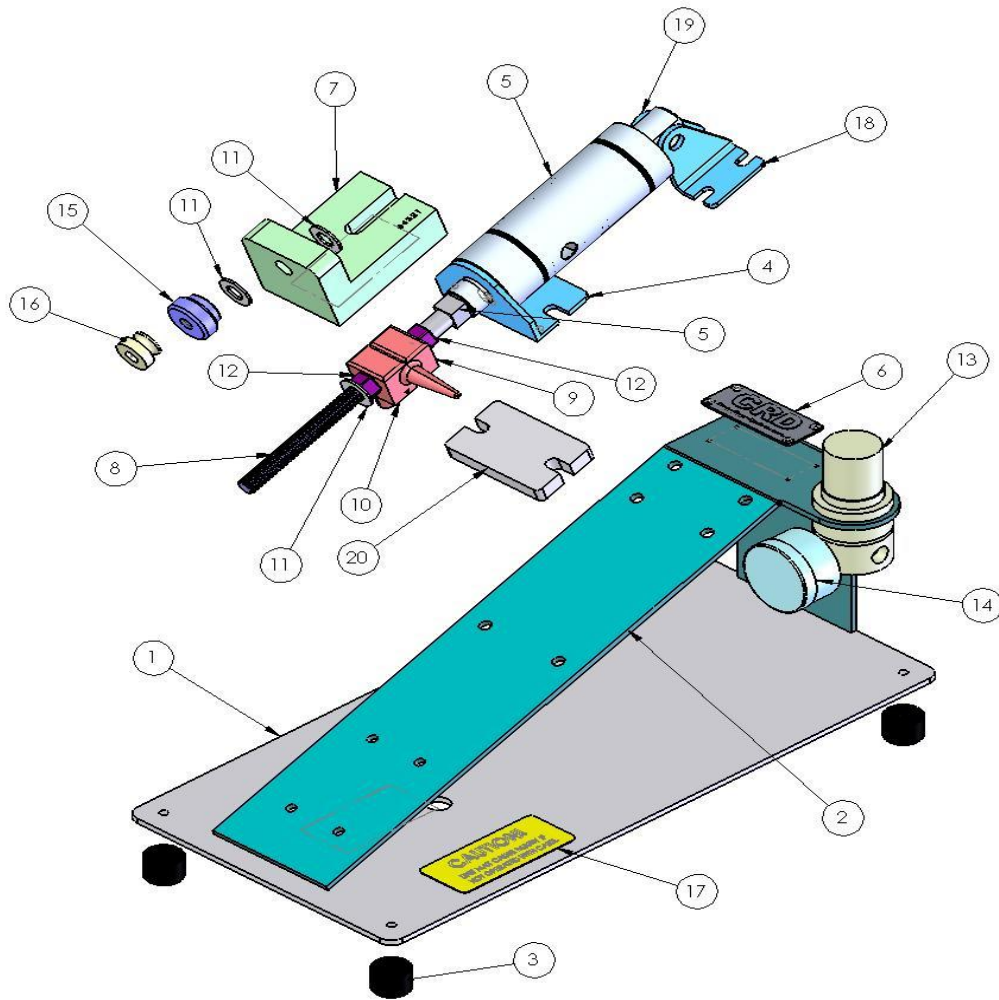
## 6.0 Product Specifications

Unit Weight	10.5 LBS / 4.7 KG
Overall Dimensions	14.5”l x 7.0”w x 7.0”h
Minimum/Maximum PSI	80 PSI / 100 PSI

## 7.0 Durometer Scale



## 8.0 Parts List



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	CD002-002	BASE PLATE, PC	1
3	P00026	FOOT, RUBBER, BLACK	5 ea.
4	P00028	BRACKET, MOUNTING, FRONT	1
5	P00054	AIR CYLINDER	1
6	CD001-027A	NAME PLATE	1
7	CD002-007A	BLOCK, MOUNTING, LOWER	1
8	P00057	ROD, THREADED	1
9	CD002-023	JAW, EXPANDER, UPPER	1
10	CD002-024	JAW, EXPANDER, LOWER	1
11	P00056	WASHER, FLAT	3
12	P00059	NUT, HEX	2
13	P00066	REGULATOR, AIR	1
14	P00068	GAUGE, AIR	1
15	CD002-010A	THUMB WHEEL	1
16	P00060	KNOB, TIGHTENING	1
17	P00080	LABEL, WARNING	1
18	P00027	BRACKET, MTG, REAR	1
20	CD002-018	PLATE, SPACER	1

## 9.0 Warranty

### 9.1 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.

### 9.2 Warranty Period

Parts and labor for ninety (90) days from the date of shipment from the factory. 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.

*For additional information contact: [www.cleanroomdevices.com](http://www.cleanroomdevices.com)  
Clean Room Devices, LLC  
10855 Dover Street, Suite 100  
Westminster, CO 80021  
303-438-0853*