



DCS302 DUAL CYLINDER SCALE

INSTALLATION & OPERATION MANUAL

DCS302 GENERAL INFORMATION

GENERAL

The DCS302 is a dual cylinder scale designed specifically for the water and wastewater industry. The scale base and weighing surfaces are made of Type 2 PVC plastic and are guaranteed for five years against environmental damage. All mechanical parts, wherever possible, are made of stainless steel or protected with a durable chemical-resistant powder finish.

The DCS302 can accommodate any cylinder that does not exceed 12" diameter and 150 lbs. net weight.

SPECIFICATIONS

Accuracy: +/- 0.25% FS
Resolution: 0.5 lb.
Scale Readability: 0.1 lb.
Scale capacity: 300 lbs.
Safe overload capacity: 400 lbs.

FEATURES

- Simultaneously weighs two cylinders independently and displays the net weight on separate digital indicators.
- Wall mounting bracket and safety chains are optionally available. These can adapt to different cylinder sizes.
- All scales are factory assembled, tested and calibrated.

ASSEMBLY

The DCS302 scale base is fully assembled at the factory. Installation and testing procedures later in this manual.

OPERATION

See Instruction Manual EI-2000 for scale setup and operation.

WARRANTY

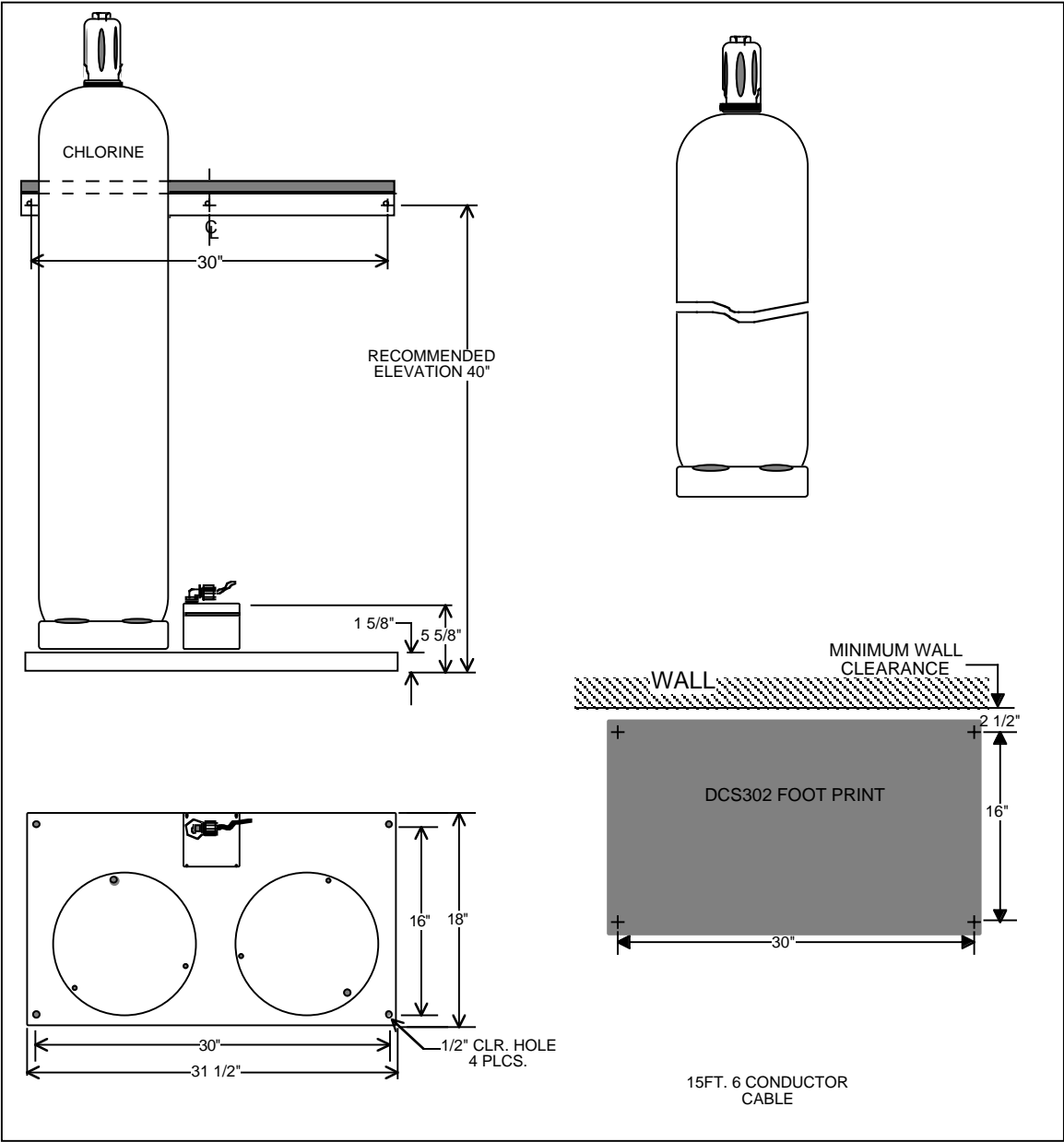
Eagle Microsystems warrants the DCS302 scale base to be free from all defects in material and workmanship. Any parts that fail because of defective Workmanship or material within five (5) years of date of shipment will be replaced. The warranty does not include miss use, negligence or modifications. Eagle Microsystems shall not be liable for transportation or installation charges, or any other expenses incurred by the customer.

INSTRUCTIONS

DCS302 DUAL CYLINDER LOAD CELL SCALE

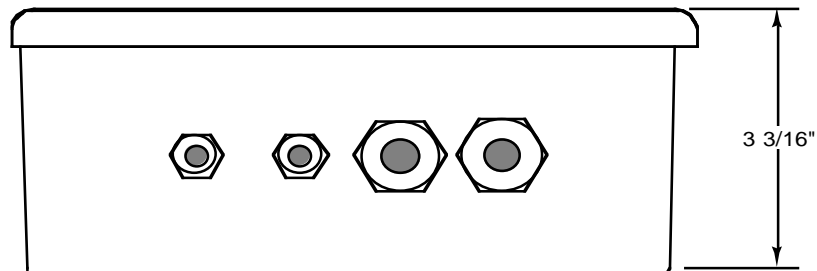
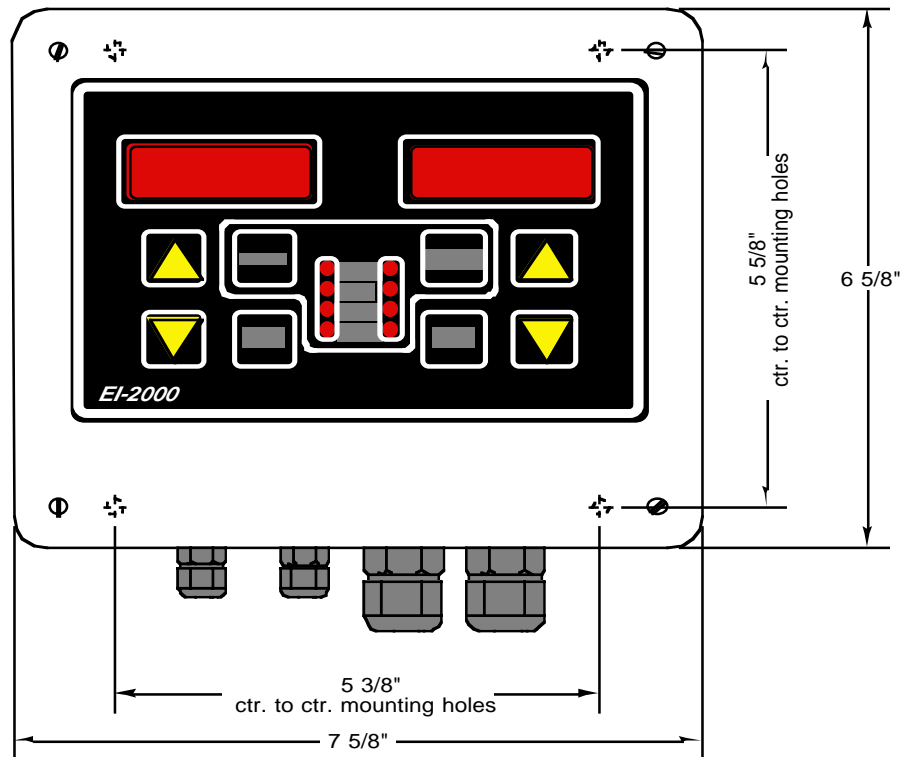
1. Before placing scale in operation remove the six (6) plastic stops and the aluminum shipping plate located on the underside of the scale.
2. Determine service location of scale and position base 2 1/2-inches or more from the wall.
3. Anchor scale base securely to smooth, level floor using 3/8-inch anchor bolts (not supplied) through the four (4) 1/2-inch diameter holes in the corners of the scale base. It is recommended that the floor be level to within 0.5 degree for optimal performance.
4. Mount NEMA 4X EI-2000 Dual Channel Digital Display Instrument to a suitable and convenient wall surface. Remove instrument cover and mount instrument to the wall with #10 screws or suitably sized masonry or hollow wall anchors, as applicable. The instrument case has four (4) through holes, as shown in the Operating Manual, located on 5 3/8-inch centers horizontally and 5 5/8-inch centers vertically.
5. Route the cable provided, and factory terminated at the scale, to the display instrument. Make wiring connections as shown on pages 13 and 14 of the "EI-2000 Dual Channel Weight & Level Display/Transmitter Operating Manual" for the "DCS302 Dual Cylinder Scale".
6. Follow instructions in the Operating Manual for startup and calibration of the EI-2000. The scale base is factory calibrated using known weights and is ready for use when received.

SCALE INSTALLATION



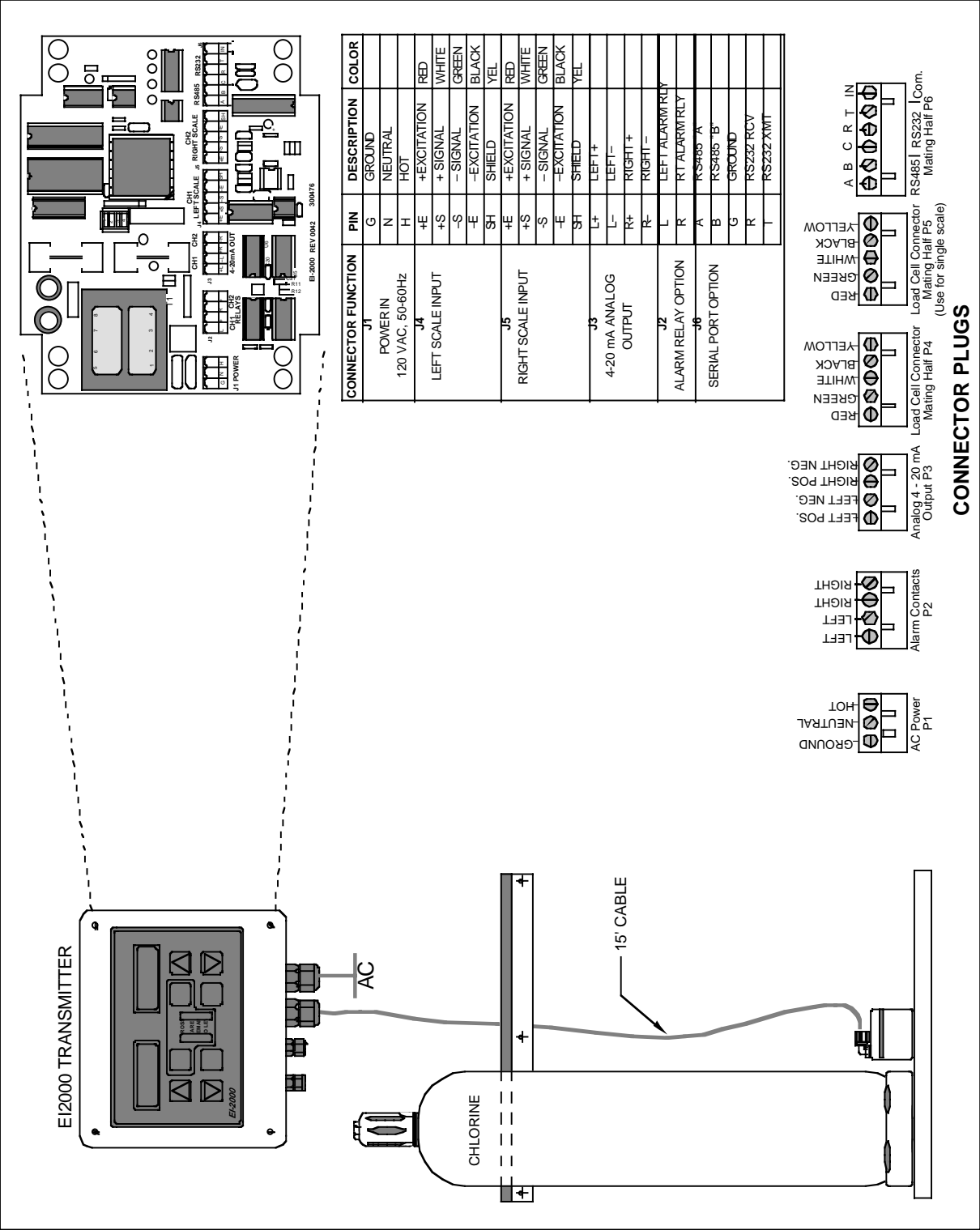
EI2000 INDICATOR

Wall Mounting Dimensions



Enclosure conforms to: NEMA 4X

PC BOARD CONNECTIONS



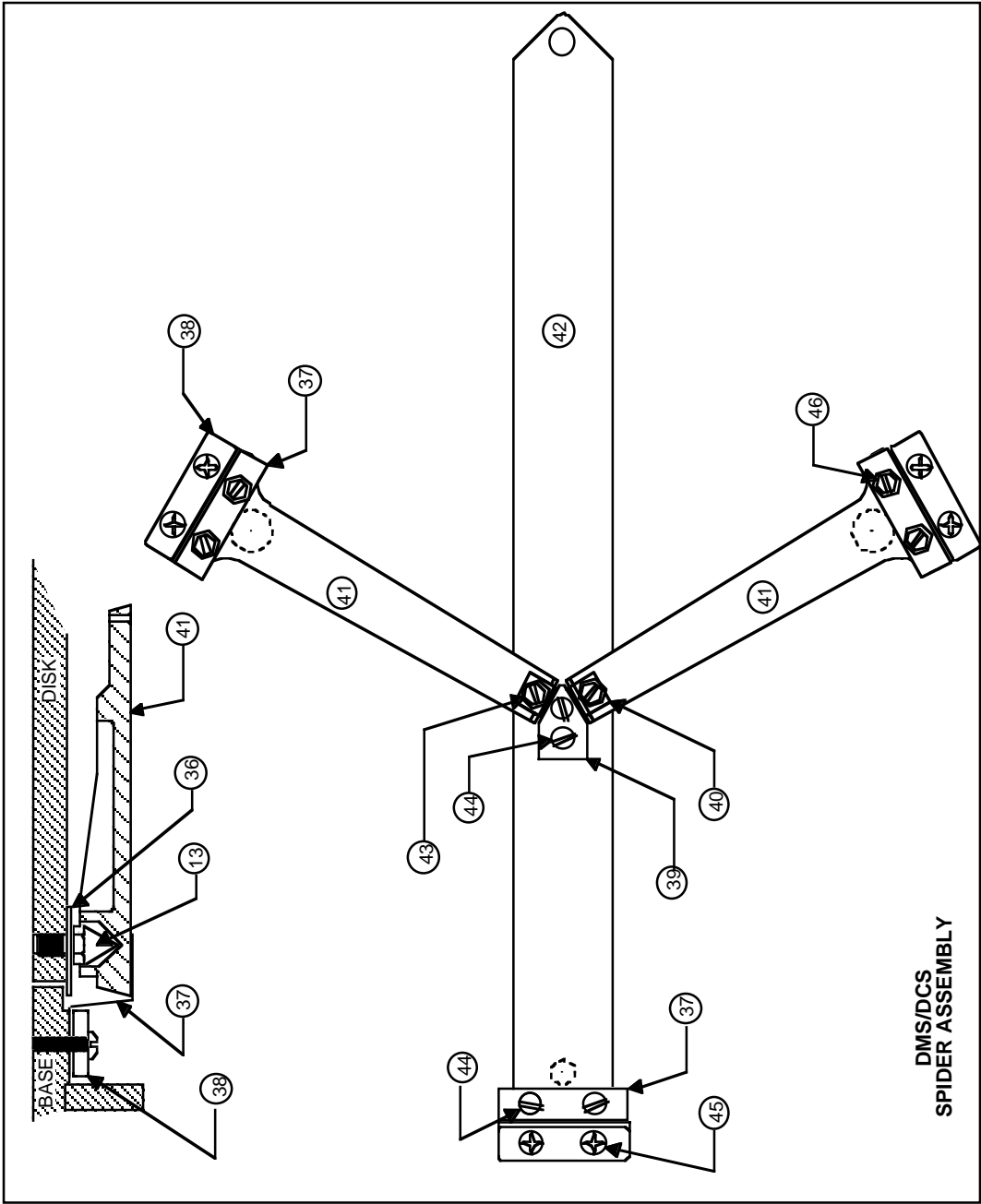
TEST PROCEDURES
DCS302 DUAL CYLINDER LOAD CELL SCALE

1. After assembly a known weight of 250 lbs. is alternately placed on each platform and removed two times in order to flex the components of the scale base.
2. Upon loading the scale for the third time, the display of the EI-2000 indicator allowed to stabilize. The display value is noted and, in Mode 3 - Automatic Operation, the display is adjusted to read the known weight using the Up/Down arrow keys. Once the Gross Weight display is set to the known 250 lbs. the SEL PB is pressed and the display will change to Weight Remaining and show 150 lbs. The weights are removed. Readout should return to zero.
3. The known weight is reapplied once more. The scale should now read Gross Weight of 250 lbs +/- 3 counts. (A count is the smallest displayed increment, i.e., if counting by 0.5 lb. increments a count represents 0.5 lb.). The weight is removed and the display should read zero. If so test is concluded and scale is ready for packing and shipment.
4. If readout weight is outside tolerance, platforms are adjusted and test is repeated.

This exploded view diagram illustrates the assembly of the HP LaserJet 1020 printer. The components are numbered 1 through 15, with 48 and 49 noted as 'Not Shown'.

- 1**: Toner cartridge assembly, shown being inserted into the printer's body.
- 2**: A small component, likely a spring or pin, located within the toner cartridge assembly.
- 3**: A small component, likely a spring or pin, located within the toner cartridge assembly.
- 4**: A small component, likely a spring or pin, located within the toner cartridge assembly.
- 5**: A small component, likely a spring or pin, located within the toner cartridge assembly.
- 6**: The drum unit, shown being inserted into the printer's body.
- 7**: A small component, likely a spring or pin, located within the drum unit assembly.
- 8**: A small component, likely a spring or pin, located within the drum unit assembly.
- 9**: A small component, likely a spring or pin, located within the drum unit assembly.
- 10**: A small component, likely a spring or pin, located within the drum unit assembly.
- 11**: A small component, likely a spring or pin, located within the drum unit assembly.
- 12**: The printer's body, showing the internal components and the location of the toner cartridge and drum unit.
- 13**: A small component, likely a spring or pin, located within the printer's body.
- 14**: A small component, likely a spring or pin, located within the printer's body.
- 15**: A small component, likely a spring or pin, located within the printer's body.
- 48** and **49**: (Not Shown) - Small components, likely screws or pins, located on the printer's body.

SPIDER DRAWING



DRAWING KEY

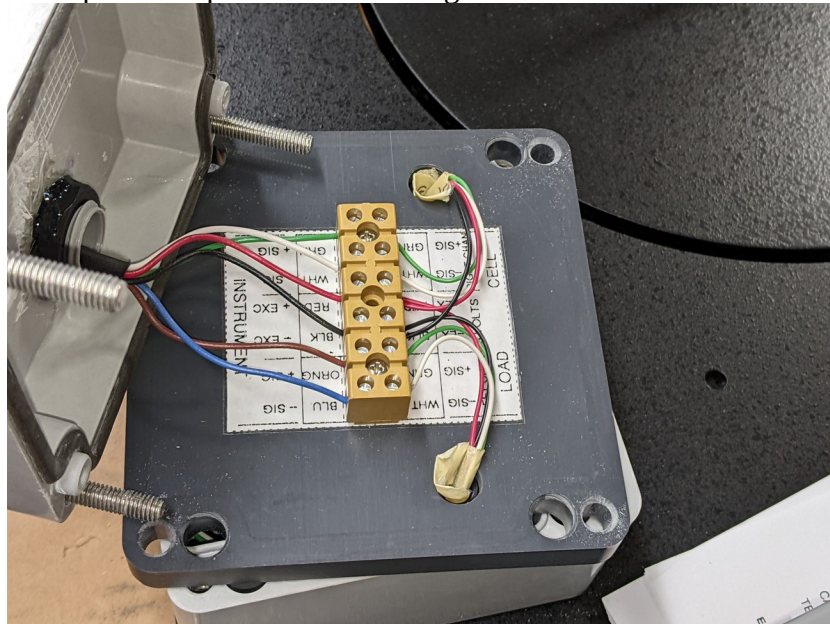
ITEM	DESCRIPTION	P/N
1	Locknut	612541
2	Adjusting bolt, ss	400177
3	Pin, spring (split), ss, type 420	640136
4	Chain, sash, ss, 1/0	100356
5	Chain clip	400182
6	Enclosure, FG 5x5x3	630604
7	Bracket, cell, PVC-1	400244
8	Load cell, 40#, 14", 350 ohm	500317
9	Term. block, 6 ckt, screw term.	532061
10	Lid, enclosure, FG	Part of Item 6 above
11	Not used	-----
12	Screw, 10B x 5/8 Self tap, ss	611060
13	Pivot screw	400229
14	Disc	400178
15	Deck	400178
16-35	Not used	-----
36	Disc washer	400154
37	Perimeter flexure	400143
38	Perimeter clamp	400144
39	Center clamp	400145
40	Center flexure	400142
41	Short lever	400160
42	Long lever	400141
43	Screw, 6A-3/8, self tap hex	610684
44	Screw, 10-24 x 3/8 Hex head	611061
45	Screw, 10B-5/8 Self tap Phillips	611060
46	Screw, 10A-3/8 Self tap hex	611028
47	Bolt, 10-32 x 3 1/4	611013

DCS-302 Load Cell Replacement

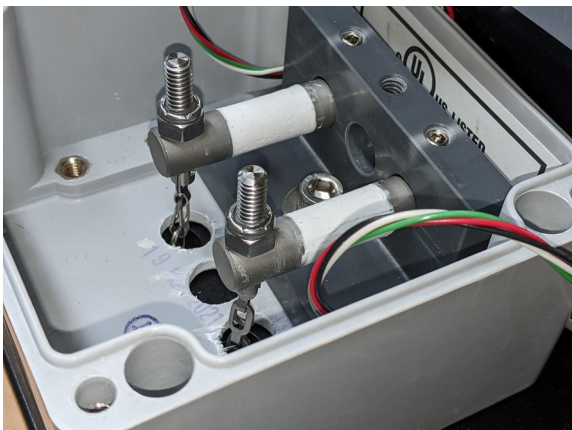
Remove four screws holding the lid.



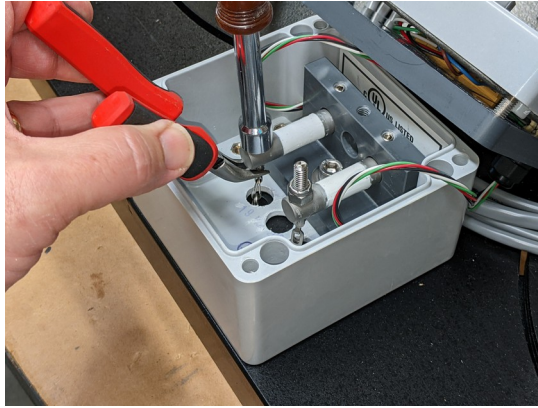
Disconnect the load cell that needs to be replaced from the terminal block. Loosen the strain relief on the bottom of the divider plate and pull the wire through.



Load cells and adjustment bolt pictured below for reference. Note how high the bolt is above the nut *on your scale*. When installing the new cell, adjust it so it's about the same height.



Use pliers to hold the bolt under the load cell and remove the nut. Don't let the bolt fall through the deck or you will need to unbolt the scale from the floor to retrieve it.



Loosen the setscrew holding the load cell. Remove the cell.



Check the new load cell. It should have “TOP” or a “T” written on it to show which side faces up when installed. If not, install it so the serial number on the side is right side up. Reverse these steps to install the new load cell.

After installing the nut, check to make sure the chain is not twisted. Straighten it if needed or the weight readings will not track properly as gas is drained from the cylinder.

Recalibrate the side with the new load cell. This can be done before the lid is installed.

Troubleshooting:

If the weight goes negative when the tank is placed on the scale the load cell is upside down. It is acceptable to reverse the positive and negative signal wires for that channel at the instrument or terminal block instead of mechanically flipping the cell over. After fixing the problem remove the tank and re-zero the instrument.

“AOL” or “-AOL” on the instrument means there is a wiring problem. Check the terminal block for loose or broken wires.