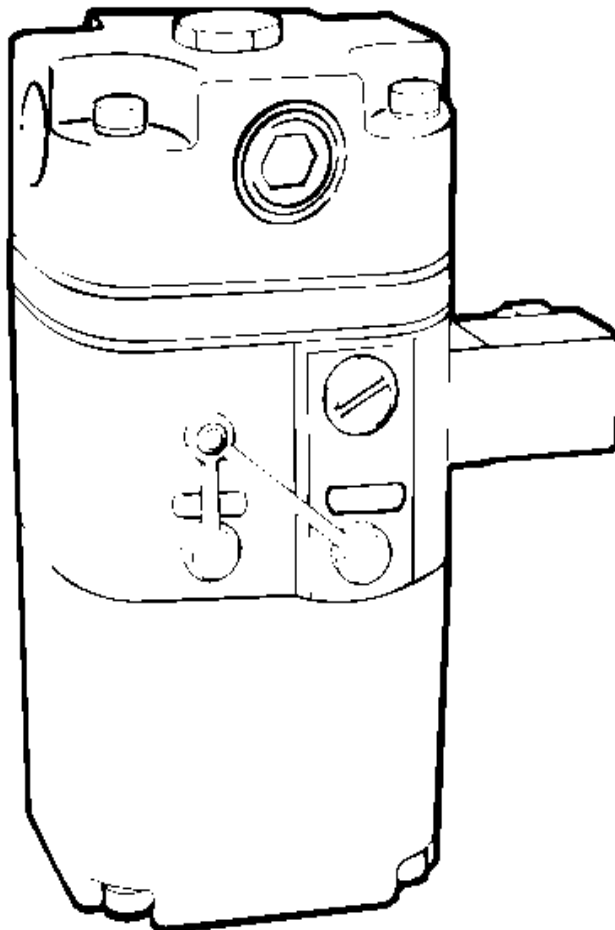




User's Guide



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**.2 YEAR
WARRANTY**

IP210 I/P Converter



WARRANTY/DISCLAIMER

OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of **13 months** from date of purchase. OMEGA's Warranty adds an additional one (1) month grace period to the normal **one (1) year product warranty** to cover handling and shipping time. This ensures that OMEGA's customers receive maximum coverage on each product.

If the unit malfunctions, it must be returned to the factory for evaluation. OMEGA's Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective, it will be repaired or replaced at no charge. OMEGA's WARRANTY does not apply to defects resulting from any action of the purchaser, including but not limited to mishandling, improper interfacing, operation outside of design limits, improper repair, or unauthorized modification. This WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of having been damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components which wear are not warranted, including but not limited to contact points, fuses, and triacs.

OMEGA is pleased to offer suggestions on the use of its various products. However, OMEGA neither assumes responsibility for any omissions or errors nor assumes liability for any damages that result from the use of its products in accordance with information provided by OMEGA, either verbal or written. OMEGA warrants only that the parts manufactured by it will be as specified and free of defects. OMEGA MAKES NO OTHER WARRANTIES OR REPRESENTATIONS OF ANY KIND WHATSOEVER, EXPRESS OR IMPLIED, EXCEPT THAT OF TITLE, AND ALL IMPLIED WARRANTIES INCLUDING ANY WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED. LIMITATION OF LIABILITY: The remedies of purchaser set forth herein are exclusive, and the total liability of OMEGA with respect to this order, whether based on contract, warranty, negligence, indemnification, strict liability or otherwise, shall not exceed the purchase price of the component upon which liability is based. In no event shall OMEGA be liable for consequential, incidental or special damages.

CONDITIONS: Equipment sold by OMEGA is not intended to be used, nor shall it be used: (1) as a "Basic Component" under 10 CFR 21 (NRC), used in or with any nuclear installation or activity; or (2) in medical applications or used on humans. Should any Product(s) be used in or with any nuclear installation or activity, medical application, used on humans, or misused in any way, OMEGA assumes no responsibility as set forth in our basic WARRANTY/DISCLAIMER language, and, additionally, purchaser will indemnify OMEGA and hold OMEGA harmless from any liability or damage whatsoever arising out of the use of the Product(s) in such a manner.

RETURN REQUESTS/INQUIRIES

Direct all warranty and repair requests/inquiries to the OMEGA Customer Service Department. BEFORE RETURNING ANY PRODUCT(S) TO OMEGA, PURCHASER MUST OBTAIN AN AUTHORIZED RETURN (AR) NUMBER FROM OMEGA'S CUSTOMER SERVICE DEPARTMENT (IN ORDER TO AVOID PROCESSING DELAYS). The assigned AR number should then be marked on the outside of the return package and on any correspondence.

The purchaser is responsible for shipping charges, freight, insurance and proper packaging to prevent breakage in transit.

FOR **WARRANTY** RETURNS, please have the following information available BEFORE contacting OMEGA:

1. Purchase Order number under which the product was PURCHASED,
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

FOR **NON-WARRANTY** REPAIRS, consult OMEGA for current repair charges. Have the following information available BEFORE contacting OMEGA:

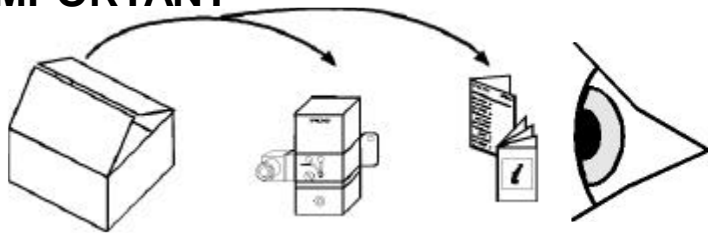
1. Purchase Order number to cover the COST of the repair,
2. Model and serial number of the product, and
3. Repair instructions and/or specific problems relative to the product.

OMEGA's policy is to make running changes, not model changes, whenever an improvement is possible. This affords our customers the latest in technology and engineering.

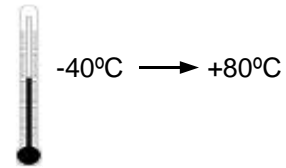
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IMPORTANT



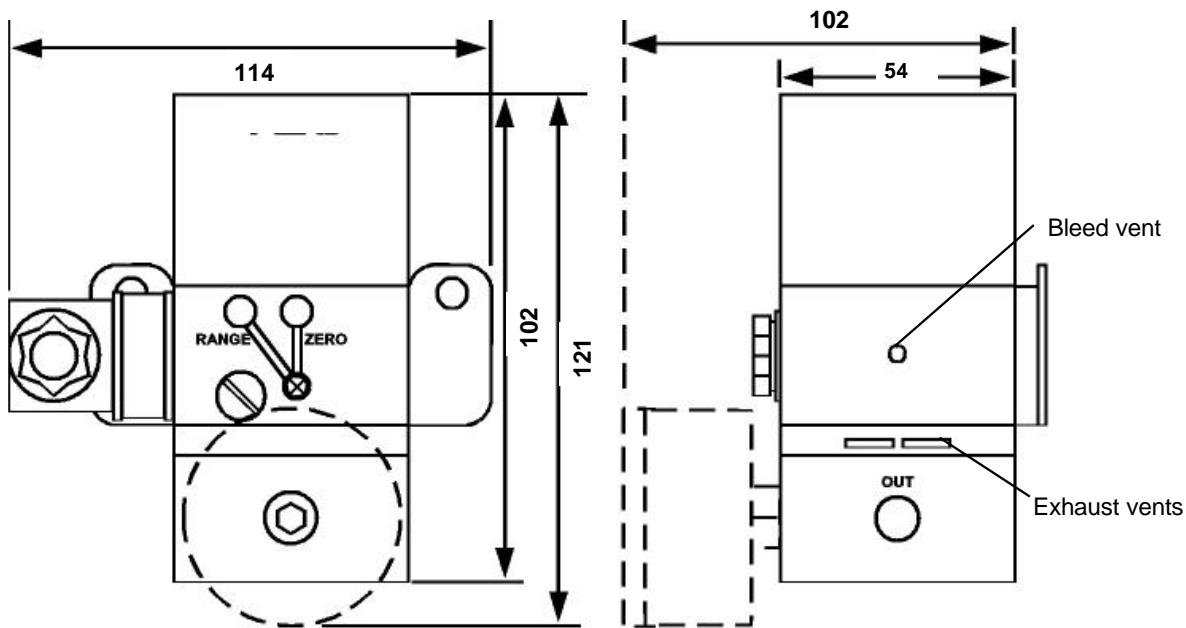
STORING



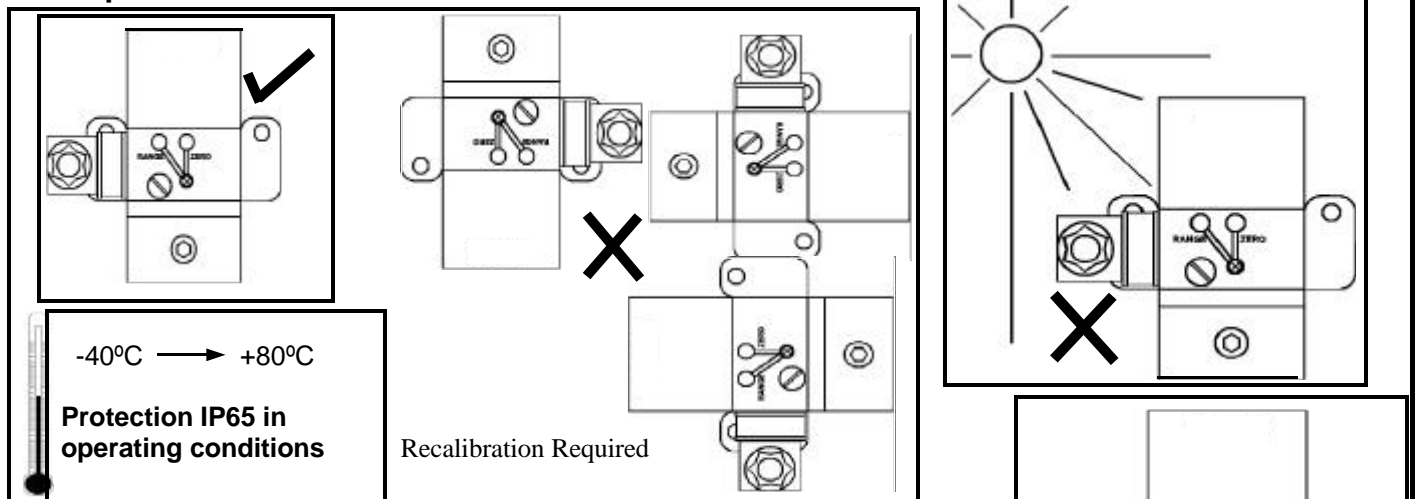
INSTALLATION

Note: Pictures shown as block diagrams: not to scale or diagrammatically

1. Dimensions in mm

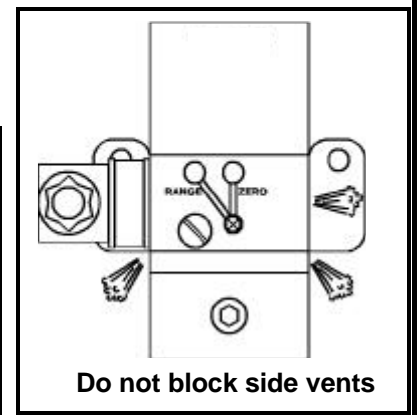


2. Requirements



To conform with the Health and Safety at Work Act 1974 our product should be installed, used and maintained in accordance with:

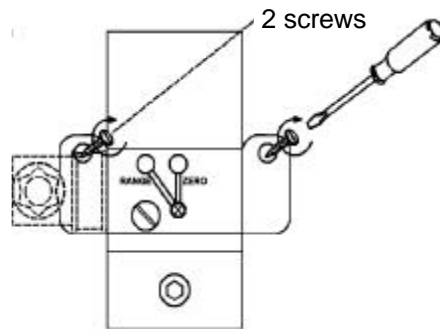
- 1 Normal Safety Procedures
- 2 The installation and operating instructions provide for each instrument.
- 3 BS 6379 for general applications or ANSI/ASA-57.3 1975
- 4 BS 5345 for hazardous area applications



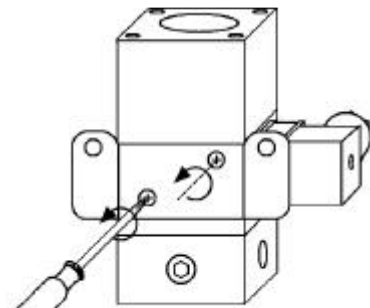
INSTALLATION (continued)

3. Fixing

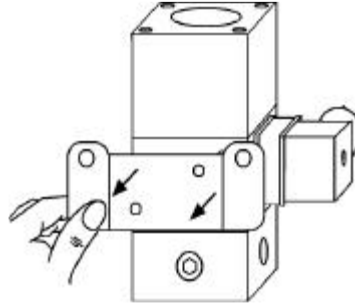
a Mounting Bracket



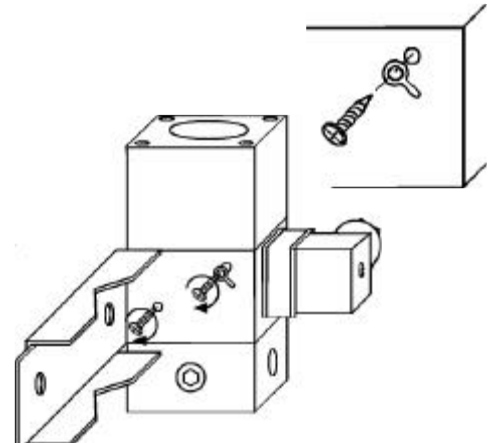
b Pipe Mounting Kit (option)



(i) Remove screws

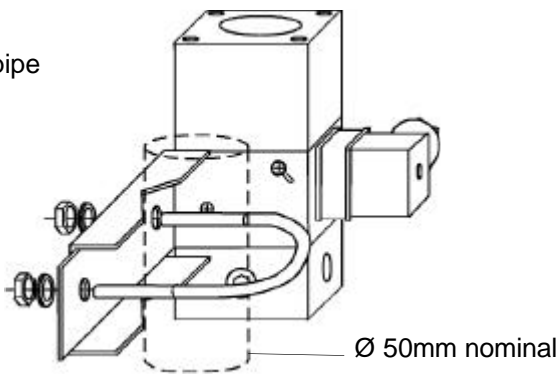


(ii) Remove bracket

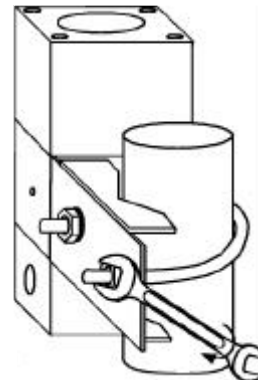


(iii) screw in new bracket

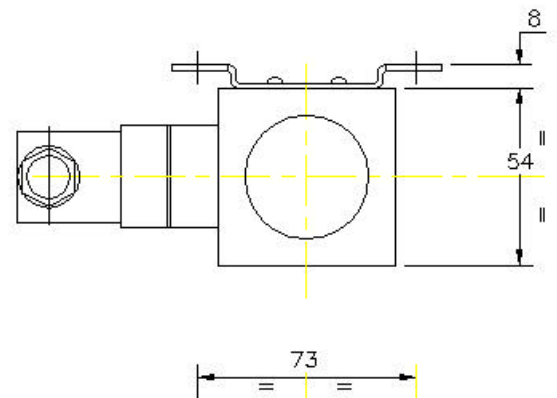
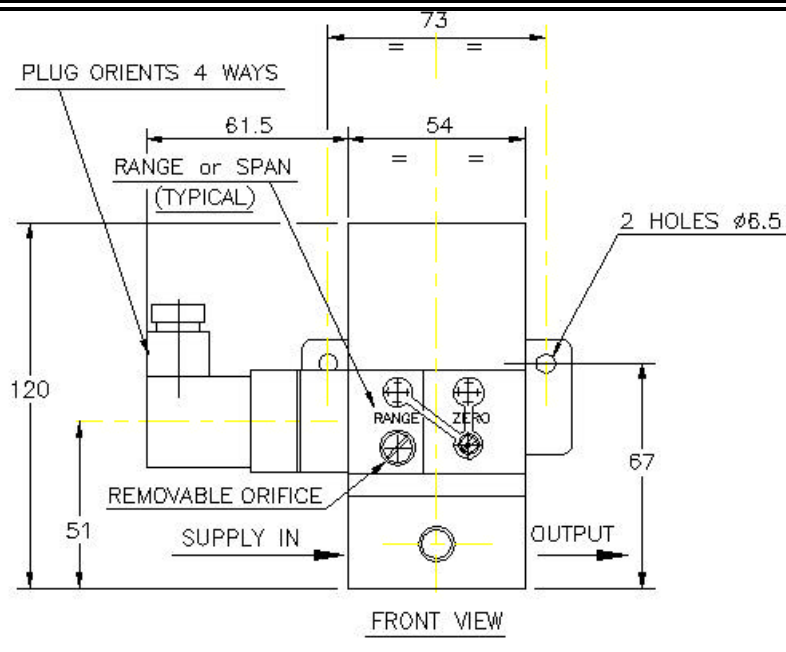
(iv) clamp to pipe



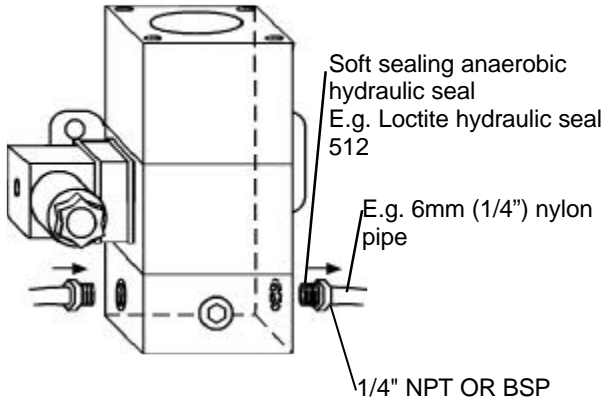
(v) Tighten nuts



4. Mounting Dimensions



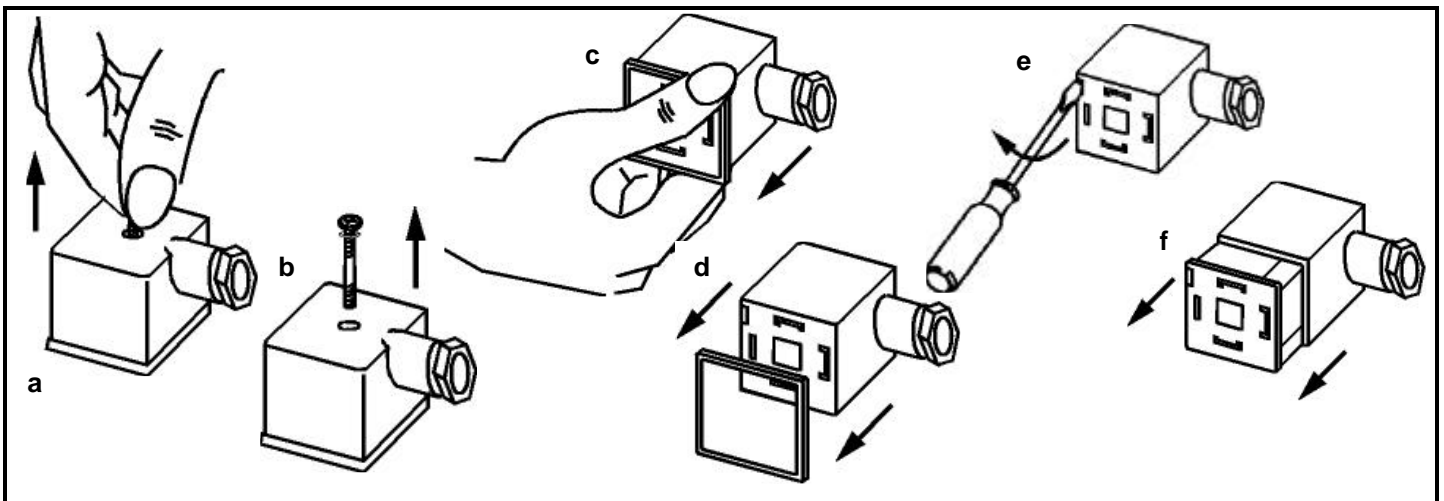
5. Make Pneumatic Connections



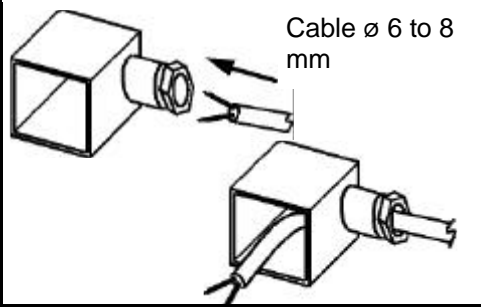
6. Remove Connector



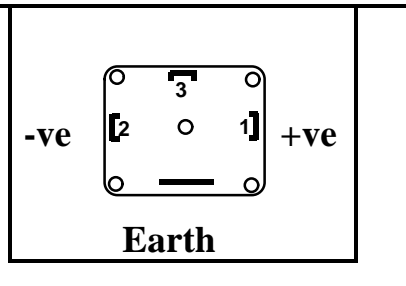
7. Expose Terminals



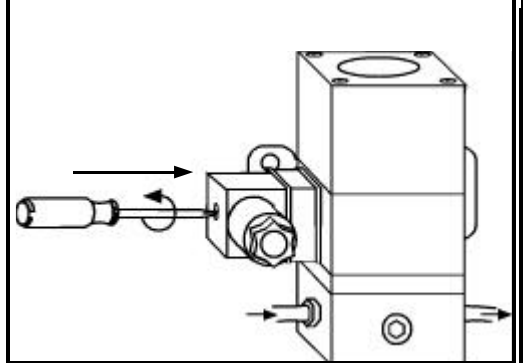
8. Insert Cable



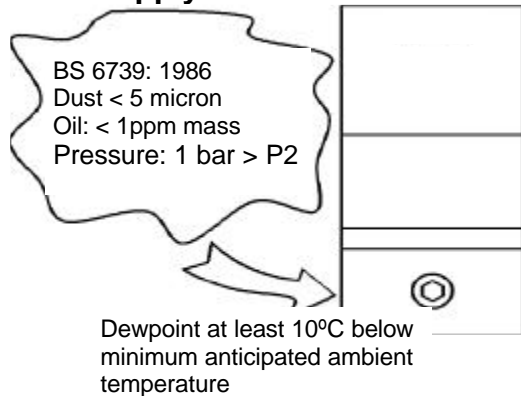
View Looking at Pins of Instrument



9. Assemble and Fit Connector



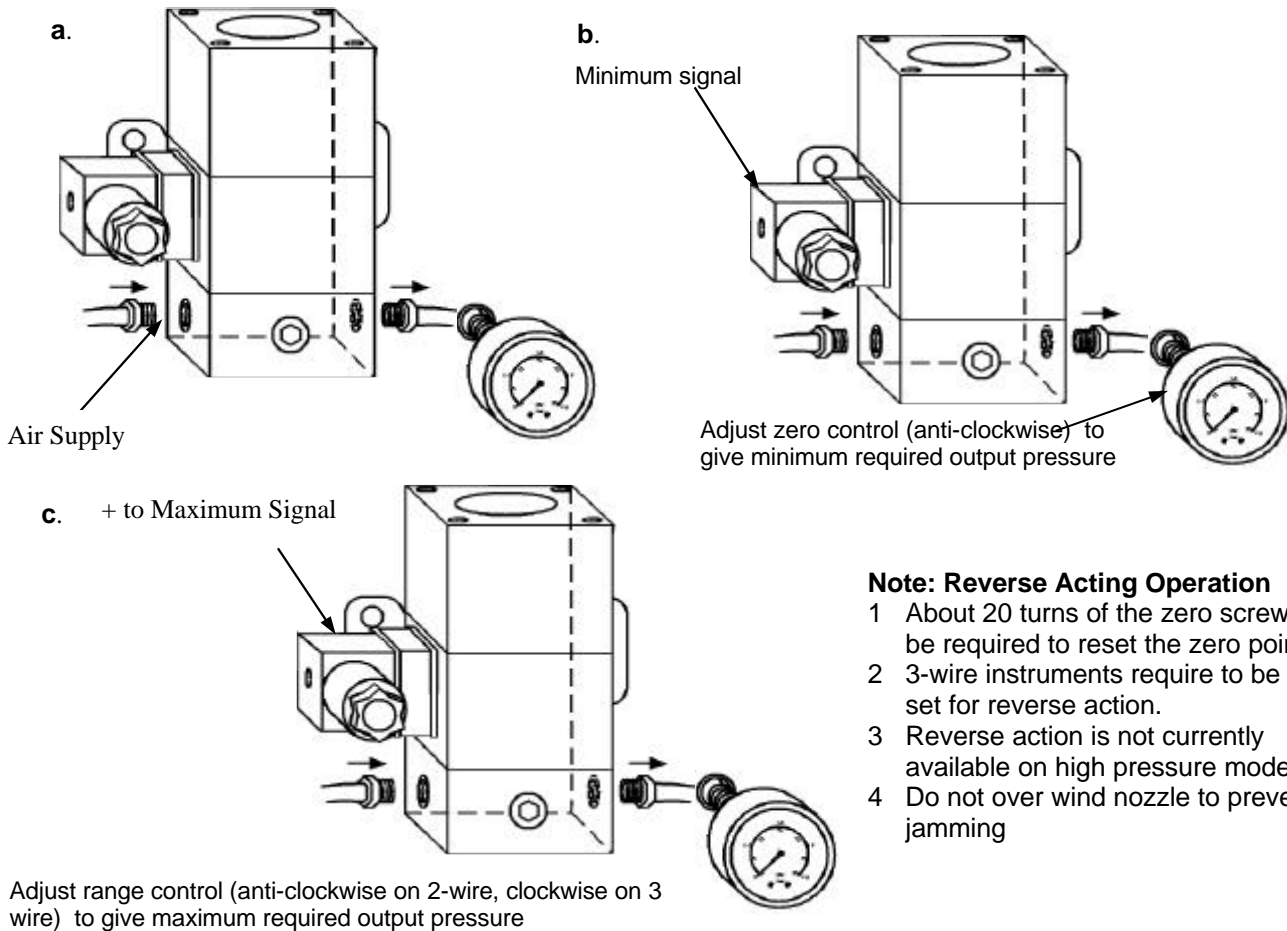
10. Air Supply



	Suitable I/P Converter	Up to 6 I/P Converters
Particle /Water Removal Filter	Type F72G with 5 micron Element	Type F74G with 5 micron Element
Oil/Particle/Water Removal Filter	Type F72C	F74C
Regulator	Type R72	Type R74
Combination Filter/Regulator	Type B72 with 5 micron Element (=F72+R72)	Type B74 with 5 micron Element

11. Calibration

When the instrument is first installed, or after a long period of downtime, a moderate zero shift is normal. This is due to the rubber diaphragms which are stretched by the internal springs. After a few operations, the instrument will settle into its normal operating condition. It is recommended that, under these circumstances, instruments should be exercised by alternately applying zero and full scale signals several times. Zero calibration should then be carried out.



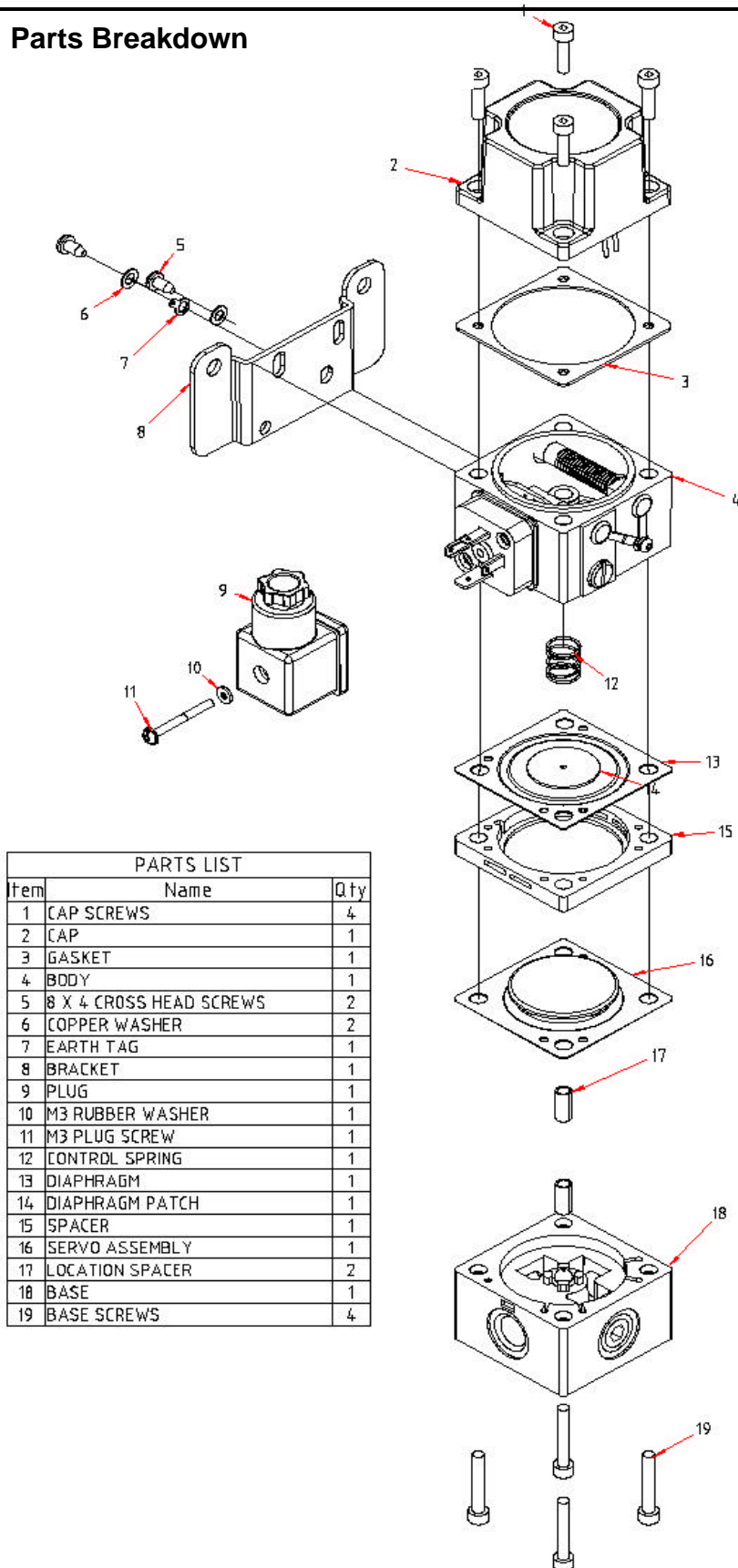
Note: Reverse Acting Operation

- 1 About 20 turns of the zero screw may be required to reset the zero point.
- 2 3-wire instruments require to be factory set for reverse action.
- 3 Reverse action is not currently available on high pressure models
- 4 Do not over wind nozzle to prevent jamming

12. Maintenance

Care must also be taken to re-align transfer passages correctly during reassembly of the instrument. Routine maintenance consists of replacing the restrictor screw if the internal orifice becomes blocked.

Parts Breakdown



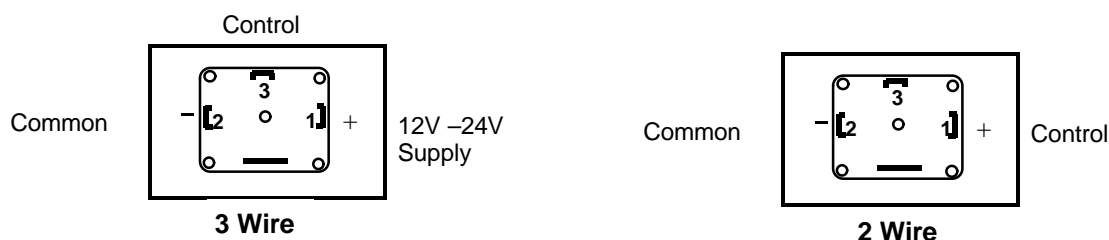
PARTS LIST		
Item	Name	Qty
1	CAP SCREWS	4
2	CAP	1
3	GASKET	1
4	BDDY	1
5	8 X 4 CROSS HEAD SCREWS	2
6	COPPER WASHER	2
7	EARTH TAG	1
8	BRACKET	1
9	PLUG	1
10	M3 RUBBER WASHER	1
11	M3 PLUG SCREW	1
12	CONTRDL SPRING	1
13	DIAPHRAGM	1
14	DIAPHRAGM PATCH	1
15	SPACER	1
16	SERVO ASSEMBLY	1
17	LOCATION SPACER	2
18	BASE	1
19	BASE SCREWS	4

13. Product Variations

3 Wire Versions

These are products designed for electrical control signals which differ from the normal 4-20. 0-60mA signals. An internal amplifier is fitted to translate the control signal into the required current through the coil. An external 12V-24V DC signal is required to power the amplifier, which should be capable of providing 25mA (low pressure) or 65mA. (high pressure)

It is essential that wiring be carried out correctly as incorrect wiring may destroy the amplifier completely.



E-P Versions (Voltage Controlled converters)

These are available in the 2 and 3 wire versions. The two wire versions are recalibrated I/P converters with a suitable buffer resistor in series with the coil to adjust the sensitivity

Captured Exhaust Versions: Designed for use with certain gases. This part must be connected to a suitable exhaust arrangement e.g. stack pipe. N.B. Check before installation.

Warning: Not for use where no escape of gas is permitted to escape to the environment due to the constant bleed of the unit

14. Troubleshooting Guide

Problem	Possible Causes	Suggested Action
No Output Pressure	Reversed Current polarity or faulty connections	Check wiring and signal continuity with milliammeter
	Broken internal wiring	Check instrument resistance with ohmmeter. Repair if faulty.
	No air supply	Correct
Maximum output not available	Insufficient supply pressure	Adjust
	Damaged coil or nozzle	Return to Factory for Repair
	Oil contamination	Replace instrument
	Clogged restrictor	Replace
Zero will not adjust	Worm disengaged with pinion (after excessive adjustment)	Re-engage components
Zero calibration error on initial turn-on	A small error is normal	Exercise instrument several times and retest

Materials of Construction:

Lid: Nylon 66; Magnet: Permanent Neodymium Iron Boron; Magnet Ironwork: Zinc plated mild steel
Flapper: Beryllium Copper; Nozzle: Brass



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WARNING: These products are not designed for use in, and should not be used for, patient-connected applications.

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