



THE BP-301 SERIES

Operating and Service Manual

Series includes all variants of BP-301 (LF 0.1Cv / MF 0.5Cv)

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1. Description

The BP-301 is a piston sensed back pressure regulator which incorporates a highly sensitive piston, capable of providing accurate inlet pressure control up to 150bar (Low Flow 0.1/0.02Cv) or 35bar (Medium Flow 0.5Cv) on both gas and liquid applications. Unlike relief valves, the set load from the spring is not directly applied to the seating area, and the piston sensor provides accurate control throughout the control range. As standard, the regulator housing is machined from stainless steel (316/316L) which ensures maximum protection against the media on which it will be used and from the environment in which it will be placed.

2. Installation

Before system start-up, it is recommended that all lines should be free from any form of contaminations, as those can affect regulator performance and functionality. All systems to be pressure tested, leak tested and purged with an inert gas such as nitrogen.

Back pressure regulators are normally supplied with valve in the open position and with adjusting mechanism turned fully anti-clockwise, allowing media to flow through.

Factory set or pre-set regulators will be supplied with valve in close position with adjusting mechanism set at customer specific value.

In both cases system pressure should be increase gradually allowing operator to make necessary adjustment.

Check the model number reference to ensure that the pressure range complies with the installation requirements.

Visually inspect the regulator for any signs of damage or contamination. If any foreign materials are present and cannot be removed from the regulator, or if the threads on the regulator appear to be damaged, please contact the office immediately to arrange for the regulator to be returned for service.

The Inlet and Outlet ports are clearly marked. Select the correct size and type of connection fittings for these ports which are indicated in the regulators part number. Both British Standard Pipe (BSPP) 'B' and National Pipe Thread (NPT) 'N' options are available on this regulator. Use the correct dowty or bonded seal for BSPP connections, self centering seals are recommended. For NPT threads, ensure that PTFE tape is applied correctly to the fittings, applying two overlapping layers in the direction of the thread, taking care that the tape does not come into contact with the first thread. Any gauge ports on the regulator will be 1/4" NPT unless otherwise stated. If any gauge port is not required, ensure that the port is plugged prior to installation.

For BP-301 regulators supplied with Flange Connections, ensure that the following actions are carried out, prior to *use*:

- a. Select the correct size flange, for the related regulator, which are indicated in the regulators part number. Gasket and Bolts to be selected in accordance with the relevant flange specification standards

- b. The flange and gasket mating faces are free from any damage, which may prevent the proper sealing of the gasket.
- c. The bolt holes are aligned, and that the gasket is sat in a central position before mating the two flanges together.
- d. Insert the bolts through the bolt holes and screw the nuts on finger tight, until all the bolt holes have been fitted.
- e. Tighten the bolts/nuts alternately and evenly so that the flange(s) face remains parallel. All bolts/nuts must be tightened to the flange bolts specific torqued value, In accordance with the relevant flange specification standards.

The media supplied to the regulator must be clean. Contamination can damage the seat which may cause the regulator to fail. Filtration suited to the application is recommended upstream of the regulator.

Should further assistance or information be required in relation to installation of any Pressure Tech regulator please *contact the office, giving reference to the regulators part number and/or serial number.

**Note: Please refer to 'section 8' for company contact details*

3. Operation

The regulator has been set at the factory to ensure that the maximum pressures stated on the regulator cannot be exceeded. Increasing the inlet pressure setting is achieved by turning the hand wheel clockwise which compresses the load spring and engages the main valve against the soft seat, creating a seal to the inlet pressure. As the inlet pressure increases, the force overcomes the load from the spring and the piston moves away from the seating area allowing the excess pressure to be relieved to the outlet port.

The hand wheel can be turned anti-clockwise to reduce the inlet pressure setting, however to ensure the most accurate set points final adjustments should be made whilst increasing the inlet pressure setting.

4. Special Conditions for Safe Use

The BP-301 is classed as a Pressure Accessory and not a Safety Accessory under the European Directive 2014/68/EC and as such, should be installed with a suitable relief valve to protect the system from over pressurisation.

The back-pressure regulator should not be used as a shut off valve.

5. Hazardous Location Usage

This equipment has not been manufactured specifically for use in potentially explosive atmospheres and as such an ignition hazard assessment has not been carried out on this product. If the user should wish to use this product in such an environment where there may be a potentially explosive atmosphere then it is the responsibility of the user to conduct an ignition hazard assessment against 99/92/EC.

6. Servicing and Maintenance

Servicing and maintenance work on the BP-301 regulators should only be performed after fully reading and understanding the Operating and Servicing Manual. Due to the compressibility of gases, the operator should not endanger themselves or others by working on this regulator without prior knowledge of the Health and Safety risks relating to handling of technical gases. Any uncertainty should be clarified with Pressure Tech before working on the regulator.

Pressure Tech Ltd recommends the use of the following Lubricants/Adhesives during servicing:

- **Krytox GPL 205 lubricant:** For the O-rings.
- **Molykote 1000 paste:** For the adjusting screw.
- **Loctite 243 Thread Locker:** For section 6.1.2 (Step: xv)

Prior to commencing service, please ensure that:

- The equipment has been de-pressurised
- The load spring has been de-compressed by turning the adjusting mechanism fully anti-clockwise
- Applications involving toxic, flammable or corrosive media have been fully purged

To ensure the best possible results from servicing, when re-assembling the regulator and any assemblies within it, ensure that all areas of the components and the regulator body are cleaned and free from contaminants which may result in failure of the regulator.

6.1. Servicing the BP-301 (Cv 0.1/0.02/0.5)

*Note: fig 1 & 2 should be used as a reference for the following set of instructions

6.1.1. Accessing the Main Valve/Sensor Assemblies (LF-Cv 0.1/MF-Cv 0.5)

To access the Main Valve Assembly (MVA):

- i. With the flats of the Regulator Body (1) secured in a vice*, loosen the Bonnet (15) using a 47mm wrench ensuring that the Hand Wheel (16) is fully wound anti clock wise (*Ref. 6.1.2*)
*NOTE: Soft vice jaws must be used, when securing the body within the vice against flats.
- ii. Remove the Load Spring (12), Upper Spring Rest (13) and Ball Bearing (14) from the assembly
- iii. The sensor assembly (3, 4, 6, 7, 8) can then be removed from the Regulator Body
 - a. To disassemble the sensor assembly, secure the Spring Rest (8) in a vice and remove the Sensor (6) using a 21mm open ended spanner (11mm for high pressure sensor) or adjustable
*it is advisable that after loosening the Sensor, to remove the sensor assembly from the vice and unscrew the Spring Rest with the Main Valve pointing downwards. This prevents the Main Valve (3) and Valve Spring (4) from dropping out of the Sensor (6) during disassembly
 - b. After removing the Main Valve (3) and Valve Spring (4) from the sensor assembly, visually inspect the Main Valve under a microscope for any damage and replace as required
 - c. Replace the O-rings (10, 11) in the Sensor Holder (7) and O-ring (9) around the Spring Rest (8)
 - d. Reassemble the sensor assembly by first placing the Sensor (6) into the Sensor Holder (7)
IMPORTANT: with reference to figure 1, ensure that the Sensor Holder (7) is of the correct orientation when installing the Sensor (6)
 - e. Place the Main Valve (3) and Valve Spring (4) into the Sensor (6), then screw the Spring Rest (8) into the Sensor (6)
 - f. Secure the assembly by gripping the Spring Rest (8) in a vice and tighten using 21mm open ended spanner (11mm for high pressure sensor) or adjustable
- iv. Using a large Flat headed screwdriver, remove and replace the Soft Seat (2) and O-ring (5) from within the Regulator Body (1).
- v. Position the sensor assembly (3, 4, 6, 7, 8) into the Regulator Body (1), ensuring that the Main Valve (3) locates correctly into the lower bore of the body
- vi. Place the Load Spring (12), Upper Spring Rest (13) and Ball Bearing (14) onto the Spring Rest (8) and then screw the Bonnet (15) back onto the regulator body
- vii. Secure the bonnet to 90Nm using a torque wrench with 47mm crow foot

It is recommended that all parts in the repair kits are used. Any defect parts removed during the service should be disposed of. Parts should be kept clean in line with media requirements. Following re-assembly of the regulator, pressure tests should be made to both the inlet and

outlet side of the regulator, to ensure there is no internal or external leakage across the regulator.

To ensure that the main valve assembly has been correctly and effectively installed it may be required to perform the appropriate seat leak test.

6.1.2. Adjusting the Set Point

It is not recommended (or necessary) to remove the Hand Wheel during service as this will affect the set point of the regulator. Should it be required to adjust the set point, a supply pressure from a test pressure regulator will be required to gradually increase the inlet pressure until the required set point is reached. Please follow the instructions below:

- i. Remove the Nameplate (19) and Cap (20) from the Hand Wheel (16) and loosen the Lock Nut (17) such that the Hand Wheel is able to spin freely on the Adjusting Screw (18)
- ii. Connect the test regulator to the inlet of the BP301 via connecting pipework. Ensure that any gauge ports are either plugged or that the correct gauge is fitted to the inlet gauge port to measure the supply pressure. If an inlet gauge is not fitted on the regulator, a pressure gauge is required to measure the supply pressure to the regulator.
- iii. Connect a compression fitting adaptor to the outlet of the regulator and a small piece of pipework which can be positioned in a container of water to check for leaks.
- iv. Turn the adjusting screw one full turn to prove initial shut off on the BP301 regulator. Increase the inlet pressure from the test regulator until there is leakage across the seat (detected when bubbles appear from the pipework on the outlet placed in the container of water). Monitor the pressure gauge on the inlet to determine the pressure at which the regulator starts to relieve.
- v. Using a slotted screwdriver, turn the Adjusting Screw (18) clockwise until the desired set point has been reached. This will require frequent adjustments between the test regulator to simulate the required relieving pressure and the Adjusting Screw on the BP301 regulator.
- vi. With the inlet pressure set, screw the first Lock Nut (17) to the base of the Adjusting Screw (18) against the Bonnet (15)
- vii. Position the Hand Wheel (16) onto the Lock Nut (17). Ensure that the Lock Nut and Hand Wheel become engaged
- viii. Fasten the second Lock Nut (17) against the Hand Wheel (16) and gently begin to tighten using a 13mm socket until it begins to secure itself
- ix. At this point, whilst holding the Hand Wheel (16) securely continue to tighten whilst simultaneously turning slightly anti-clockwise to prevent it from locking against the Bonnet (15)
- x. Ensure that the Lock Nut (17) is sufficiently tightened, taking care not to adjust the set point
- xi. Turning of the Hand Wheel (16) should now also turn the Adjusting Screw (18) which will control the pressure

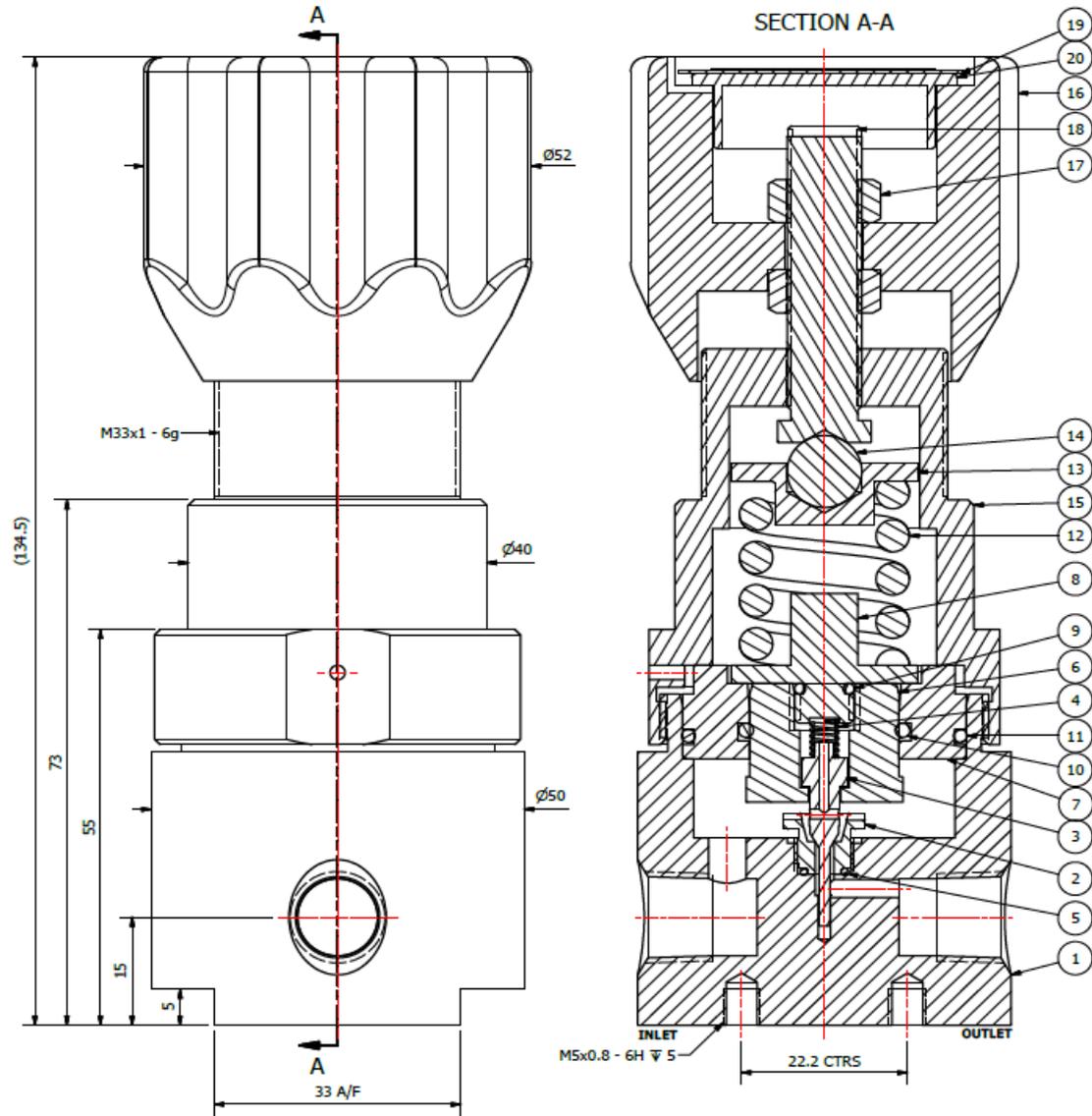
- xii. Turn the Hand Wheel clockwise until it reaches its set point and check to make sure that the desired outlet pressure is correct by increasing the pressure on the test regulator and reading the pressure on the inlet pressure gauge.
- xiii. If the set point is not correct, repeat steps v. to xiii.
- xiv. Reduce the pressure downstream by venting the pressure through ball/needle valve and then turning the Hand Wheel anti-clockwise until the regulator closes
- xv. Apply a small amount of Loctite 243 Thread Locker, all around the top diameter of the upper lock nut (20), so that the Loctite penetrates the thread, where the nut makes contact with the adjusting screw (19).
- xvi. The Cap (20) and Nameplate (19) can now be placed into the Hand Wheel (16). Ensure that the information stated on the Nameplate is in accordance with the set pressure of the regulator

Should any assistance be required during a service please do not hesitate to *contact the office.

***Note:** *Please refer to 'section 8' for company contact details*

6.1.3. Figure 1 – Sectional View of the BP-301 (LF-Cv 0.1/MF-Cv 0.5)

* ALL DIMENSIONS IN MILLIMETERS, UNLESS OTHERWISE STATED.



PARTS LIST		
ITEM	PART NUMBER	DESCRIPTION
1	PT-BP-301-LF-N-SS-02N-001	BODY – N PORTING
2	PT-BP-301-009	PCTFE SEAT NUT
3	PT-C-001-021	MAIN VALVE
4	PT-C-006-002	MAIN VALVE SPRING
5	OR-0045-10	O-RING STD
6	PT-BP-301-002-001	20MM SENSOR LF
7	PT-BP-301-001	20MM SENSOR HOLDER
8	PT-BP-301-006	SPRING REST
9	OR-0050-15	O-RING STD
10	OR-0190-20	O-RING STD
11	OR-BS028	O-RING STD
12	PT-C-011-003	LOAD SPRING
13	PT-C-017	UPPER SPRING REST
14	BALL-010-SS-316	BALL BEARING
15	PT-C-015	BONNET
16	PT-C-021	SMALL HAND WHEEL
17	PT-C-020	LOCK NUT
18	PT-C-019-003	ADJUSTING SCREW
19	PT-C-022	NAMEPLATE
20	FIT-CAP-4343092	NAMEPLATE CAP

6.1.4. Accessing the Main Valve/Sensor Assemblies (LF-Cv 0.02)

To access the Main Valve Assembly (MVA):

- i. With the flats of the Regulator Body (15) secured in a vice*, loosen the Bonnet (17) using a 47mm wrench ensuring that the Hand Wheel (21) is fully wound anti clock wise (*Ref. 6.1.2*)
*NOTE: Soft vice jaws must be used, when securing the body within the vice against flats.
- ii. Remove the Load Spring (16), Upper Spring Rest (18) and Ball Bearing (9) from the assembly
- iii. The sensor assembly (1, 4, 12, 13, 14) can then be removed from the Regulator Body.
 - a. To disassemble the sensor assembly, secure the Spring Rest (14) in a vice and remove the Sensor (13) using a 21mm open ended spanner (11mm for high pressure sensor) or adjustable.
*it is advisable that after loosening the Sensor, to remove the sensor assembly from the vice and unscrew the Spring Rest with the Main Valve pointing downwards. This prevents the Main Valve (1) and Valve Spring (4) from dropping out of the Sensor (13) during disassembly.
 - b. After removing the Main Valve (1) and Valve Spring (4) from the sensor assembly, visually inspect the Main Valve under a microscope for any damage and replace as required
 - c. Replace the O-rings (7, 8) in the Sensor Holder (12) and O-ring (6) around the Spring Rest (14)
 - d. Reassemble the sensor assembly by first placing the Sensor (13) into the Sensor Holder (12)
IMPORTANT: with reference to figure 1, ensure that the Sensor Holder (12) is of the correct orientation when installing the Sensor (13)
 - e. Place the Main Valve (1) and Valve Spring (4) into the Sensor (13), then screw the Spring Rest (14) into the Sensor (13)
 - f. Secure the assembly by gripping the Spring Rest (14) in a vice and tighten using 21mm open ended spanner (11mm for high pressure sensor) or adjustable.
- iv. Using a large Flat headed screwdriver, remove the Seat Retainer Nut (2A), from the Regulator Body (15).
- v. *Remove and replace the Restrictor Plate (3) and **Soft Seat Insert (2B) from within the Seat Retainer Nut (2A).
*Note: That some force may be required when removing and the original soft seat will not be useable after removal.
**NOTE: Ensure that the chamfered edge of the Soft Seat Insert, leads into the Seat Retainer Nut.
- vi. Remove and replace the O-ring (5) from within the Regulator Body (15).
- vii. Using a large Flat headed screwdriver, screw and tighten the Seat Retainer assembly (2A,2B,3), into the Regulator Body (15).

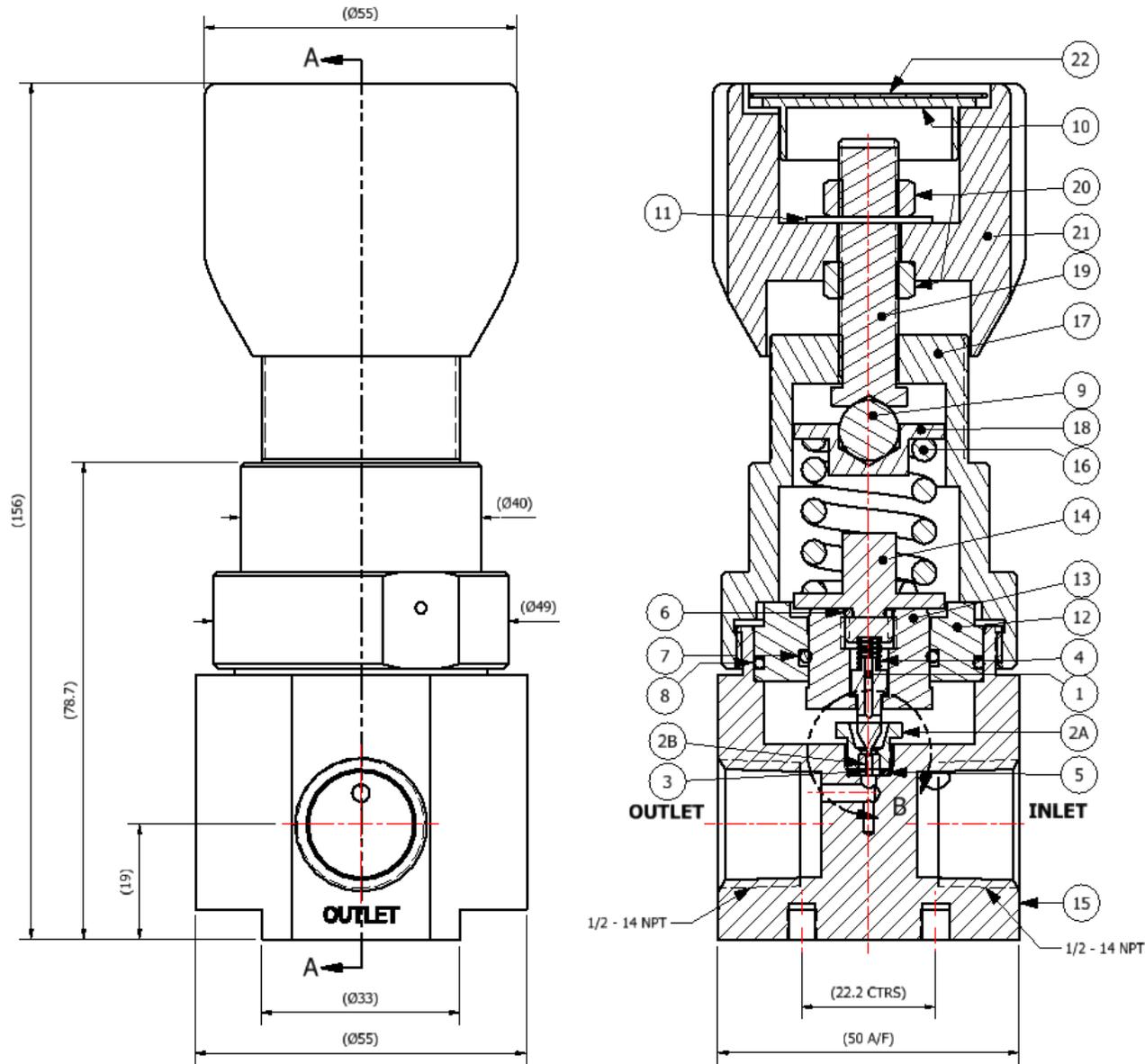
- viii. Position the sensor assembly (1, 4, 12, 13, 14) into the Regulator Body (15), ensuring that the Main Valve (1) locates correctly into the bore of the Seat Retainer Nut (2A).
- ix. Place the Load Spring (16), Upper Spring Rest (18) and Ball Bearing (9) onto the Spring Rest (14) and then screw the Bonnet (17) back onto the regulator body
- x. Secure the bonnet to 90Nm using a torque wrench with 47mm crow foot or open-ended wrench.

It is recommended that all parts in the repair kits are used. Any defect parts removed during the service should be disposed of. Parts should be kept clean in line with media requirements. Following re-assembly of the regulator, pressure tests should be made to both the inlet and outlet side of the regulator, to ensure there is no internal or external leakage across the regulator.

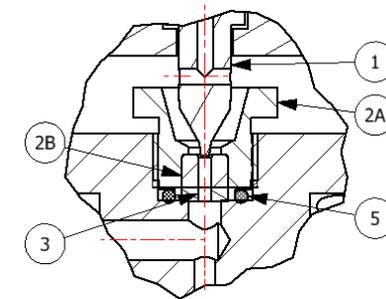
To ensure that the main valve assembly has been correctly and effectively installed it may be required to perform the appropriate seat leak test.

6.1.5. Figure 2 – Sectional View of the BP-301 (LF-Cv 0.02)

* ALL DIMENSIONS IN MILLIMETERS, UNLESS OTHERWISE STATED.



PARTS LIST		
ITEM	PART NUMBER	DESCRIPTION
1	PT-C-001-021-002	MAIN VALVE PIN
2A	PT-BP-301-009-002	SEAT RETAINER NUT
2B	PT-BP-301-012-002	SEAT INSERT
3	PT-BP-301-013-001	RESTRICTOR PLATE Cv 0.02
4	PT-C-006-002	MAIN VALVE SPRING
5	OR-0045-10	O' RING STD
6	OR-0050-15	O' RING STD
7	OR-0190-20	O' RING STD
8	OR-BS028	O' RING STD
9	BALL-010-SS-316	BALL BEARING
10	FIT-CAP-4343092	NAMEPLATE CAP
11	FIT-M10-A2-CRI-WASHER	CRINKLE WASHER
12	PT-BP-301-001	20MM SENSOR HOLDER
13	PT-BP-301-002-001	20MM SENSOR (LF)
14	PT-BP-301-006	SPRING REST
15	PT-BP-301-LF-N-SS-04N	BODY
16	PT-C-011-003	LOAD SPRING
17	PT-C-015	BONNET
18	PT-C-017	UPPER SPRING REST
19	PT-C-019-003	ADJUSTING SCREW
20	PT-C-020	LOCKNUT
21	PT-C-021	SMALL HANDWHEEL
22	PT-C-022	NAMEPLATE



DETAIL B
SCALE 3 : 1

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6.1.7 Servicing the BP-301 – with Sacrificial Plug Feature

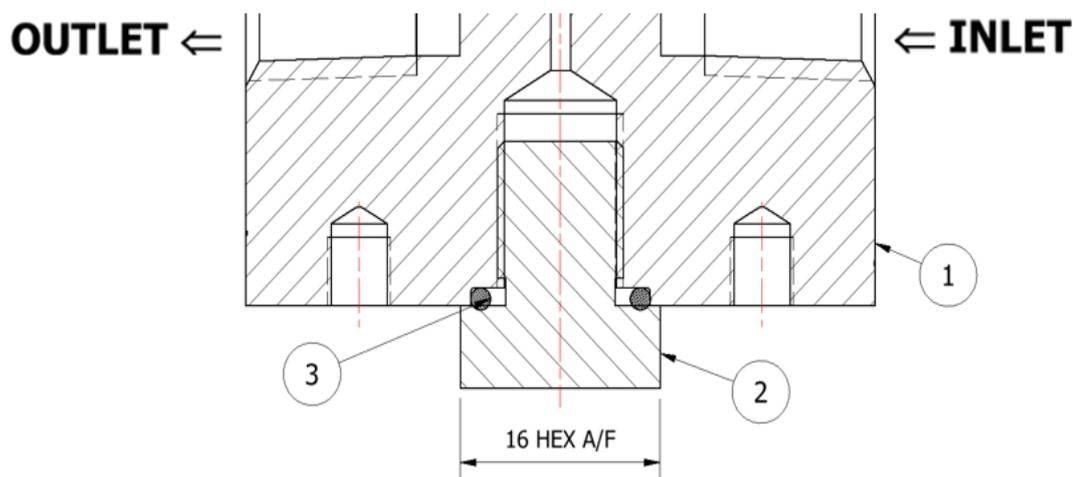
The BP-301 series can be supplied with a Sacrificial Plug feature as a modification and is usually located at the base of the regulator body.

This feature allows the plug to be 'sacrificed' and easy be replaced, to protect the regulator body from excessive erosion due to the combination of high pressure/media exposure.

The Sacrificial Plug is not supplied as standard, within the related regulator Standard Repair Kits (SRK's) and would need to be requested as an additional item, when placing an order for a replacement. The related O-ring is included as standard within the SRK's (*see image below*).

To service the BP-301 series, with Sacrificial plug:

- i. With the flats of the regulator body (1) secured in a vice*, Unscrew the sacrificial plug (2) from the Body (1), using
*NOTE: Soft vice jaws must be used, when securing the body within the vice against flats. Due to the position of the flats, it may be necessary to angle the body in the vice with the bottom nut upright for access.
- ii. Inspect the sacrificial plug (2) for any potential corrosion/damage and replace where necessary.
- iii. Remove and replace the 'O' ring (3) located on the sacrificial plug (2)
- iv. Screw the sacrificial plug (2) into the regulator body (1) and torque to 20Nm, using an open-ended adjustable wrench or 16mm socket.



ITEM	DESCRIPTION
1	BP-301 BODY
2	SACRIFICIAL PLUG
3	O' RING STD

6.2.1 Servicing the Bolted Flange BP-301 (Cv 0.1/0.5)

*Note: figure 3 should be used as a reference for the following set of instructions

6.2.2 Accessing the Main Valve/Sensor Assemblies

To access the Main Valve Assembly (MVA):

- i. With the flats of the Regulator Body (16) secured in a vice*, loosen/remove the 4x M8 cap screws (5) using a 6mm Allen key wrench ensuring that the Hand Wheel (24) is fully wound anti clock wise (*Ref. 6.2.4*) and remove the all Bonnet (20) & **NOTE: Soft vice jaws must be used, when securing the body within the vice against flats.*
- ii. Remove the Bonnet Assembly (6,4,20,22-25), Load Spring (19), Upper Spring Rest (21) and Ball Bearing (1) from the assembly.
- iii. The sensor assembly (8,9,10,12,13,14,17,18) can then be removed from the Regulator Body (16).
 - a. To disassemble the sensor assembly, secure the Spring Rest (14) in a vice and remove the Sensor (13) using a 21mm open ended spanner (11mm for high pressure sensor) or adjustable.

*It is advisable that after loosening the Sensor, to remove the sensor assembly from the vice and unscrew the Spring Rest with the Main Valve pointing downwards. This prevents the Main Valve (18) and Valve Spring (17) from dropping out of the Sensor (13) during disassembly.
 - b. After removing the Main Valve (18) and Valve Spring (17) from the sensor assembly, visually inspect the Main Valve under a microscope for any damage and replace as required.
 - c. Replace the O-rings (9,10) in the Sensor Holder (12) and O-ring (8) around the Spring Rest (14).
 - d. Reassemble the sensor assembly by first placing the Sensor (13) into the Sensor Holder (12).

IMPORTANT: with reference to figure 3, ensure that the Sensor Holder (12) is of the correct orientation when installing the Sensor (13).
 - e. Place the Main Valve (18) and Valve Spring (17) into the Sensor (13), then screw the Spring Rest (14) into the Sensor (13).
 - f. Secure the assembly by gripping the Spring Rest (14) in a vice and tighten using 21mm open ended spanner (11mm for high pressure sensor) or adjustable.
- iv. Using a large Flat headed screwdriver, remove the Seat (15), from the Regulator Body (16).
- v. Remove and replace the O-ring (7) from within the Regulator Body (16).
- vi. Using a large Flat headed screwdriver, screw and tighten the Seat Retainer assembly (15), into the Regulator Body (16).
- vii. Position the sensor assembly (8,9,10,12,13,14,17,18) into the Regulator Body (16), ensuring that the Main Valve (18) locates correctly into the bore of the Seat (15).
- viii. Then place the Bonnet Assembly (6,4,20,22-25) back onto the Regulator Body (16) and rotate until the PCD holes is correctly aligned with the Regulator body (23).

- ix. Locate the 4x M8 cap screws (5) through the PCD holes on Bonnet (20) into the regulator body (16) and screw until finger tight. Proceed to tighten the screws using 6mm Allen key and the correct pattern*
*Tighten one screw followed by the screw directly opposite. Then tighten the next screw over in either a clockwise or anti-clockwise direction, then followed by the screw directly opposite to it. Continue until all screws are tightened. It is advisable to perform this tightening procedure two times to ensure correct engagement. Use 32Nm when tightening.

It is recommended that all parts in the repair kits are used. Any defect parts removed during the service should be disposed of. Parts should be kept clean in line with media requirements. Following re-assembly of the regulator, pressure tests should be made to both the inlet and outlet side of the regulator, to ensure there is no internal or external leakage across the regulator.

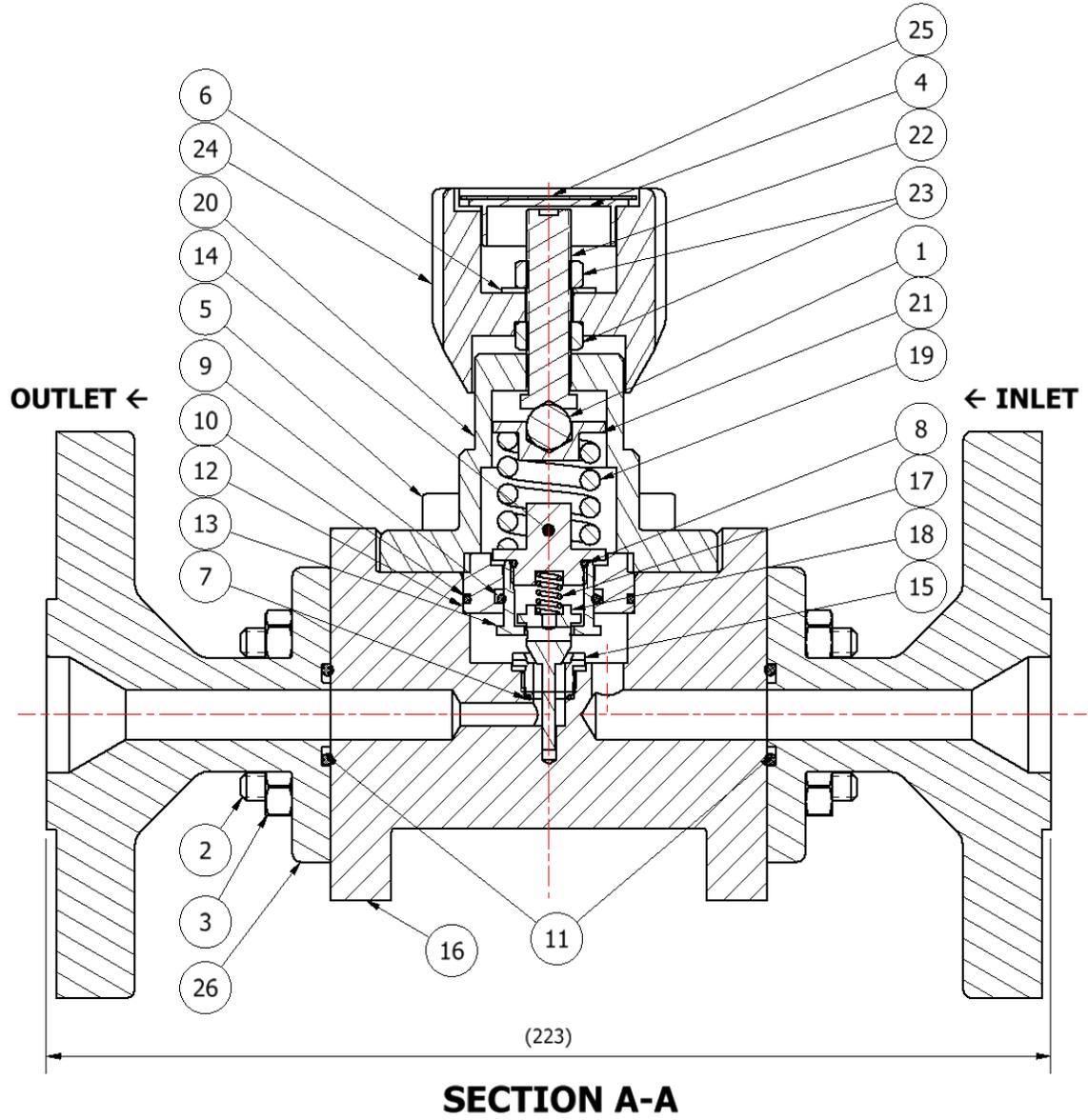
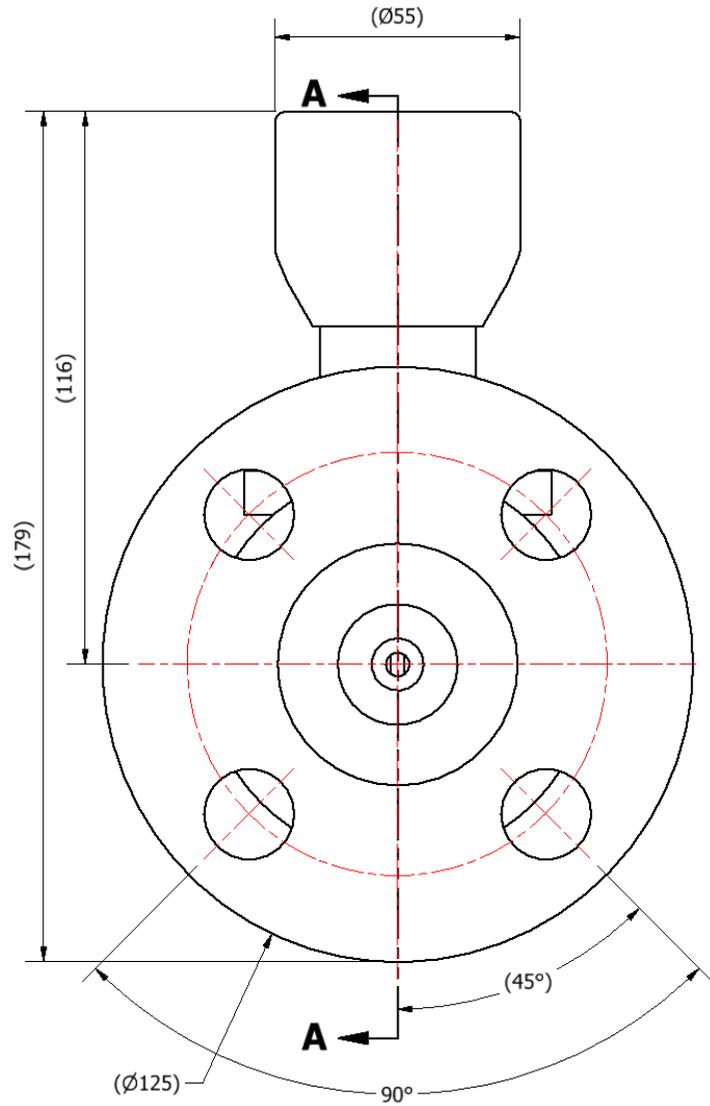
To ensure that the main valve assembly has been correctly and effectively installed it may be required to perform the appropriate seat leak test.

6.2.3 Accessing the Internal Flange O-rings

- i. With the flats of the Regulator Body (16) secured in a vice*, Using an ½” open ended wrench, remove the 4x Hex Nuts (3).
**NOTE: Soft vice jaws must be used, when securing the body within the vice against flats.*
- ii. Remove the flange (26) and replace the O-ring (11).
- iii. Locate the PCD of the flange (26) over the 4x stud bolts (2) and screw the 4x Hex Nuts (3) screw until finger tight against Regulator Body (16).
- iv. Proceed to tighten the 4x Hex Nut (3) using an ½” open ended wrench and the correct pattern*
*Tighten one Hex Nut followed by the Hex Nut directly opposite. Then tighten the next Hex Nut over in either a clockwise, then followed by the Hex Nut directly opposite to it. Continue until all Hex Nut are tightened. It is advisable to perform this tightening procedure two times to ensure correct engagement. Use 16Nm when tightening.

6.2.4. Figure 3 – Sectional View of the Bolted Flange BP-301 (Cv 0.1/0.5)

* ALL DIMENSIONS IN MILLIMETERS, UNLESS OTHERWISE STATED.



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6.2.5. Figure 3 – Sectional Bill of Materials

PARTS LIST			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	BALL-010-SS-316	BALL BEARING
2	8	FIT-1-4UNC-30-SS-A193-STUD	STUD BOLT - 1/4" UNC x 30mm
3	8	FIT-1-4UNC-SS-A194-HVY-NUT	HEAVY HEX NUT - 1/4" UNC
4	1	FIT-CAP-4343092	NAMEPLATE CAP
5	4	FIT-M8-25-SS-A193-SKT-CAP	SOCKET HEAD CAP SCREW - M8 x 25mm
6	1	FIT-M10-A2-CRI-WASHER	CRINKLE WASHER
7	1	OR-0080-10	O' RING STD
8	1	OR-0140-15	O' RING STD
9	1	OR-0190-20	O' RING STD
10	1	OR-BS028	O' RING STD
11	2	OR-BS115	O' RING STD
12	1	PT-BP-301-001	20mm SENSOR HOLDER
13	1	PT-BP-301-002	SENSOR
14	1	PT-BP-301-003	SPRING REST
15	1	PT-BP-301-010-004	SEAT - Cv 0.5
16	1	PT-BP-301-MF-N-S-BF-001	BP301 BODY - MF - 'N' PORTING - CLASS 150/300/600 BOLTED FLANGE
17	1	PT-BP-550-004	MAIN VALVE SPRING
18	1	PT-C-001-020	MAIN VALVE
19	1	PT-C-011-002	LOAD SPRING - 170 kg
20	1	PT-C-015-015	BONNET - BOLTED
21	1	PT-C-017	UPPER SPRING REST
22	1	PT-C-019-003	ADJUSTING SCREW
23	2	PT-C-020	LOCKNUT
24	1	PT-C-021	SMALL HANDWHEEL
25	1	PT-C-022	NAMEPLATE
26	2	PT-FLA-CL300-RF-08BF	BOLTED FLANGE - CLASS 300 - 1" - RAISED FACE

7. Technical Data

Fluid Media:	All gases and liquids compatible with materials of construction
Max Working Pressure:	Standard: 150 bar Bolted Flanged: 50 bar
Outlet Pressure Range:	0-150 bar (Cv 0.1/Cv 0.02) 0-35 bar (Cv 0.5)
Operating Temperature:	-20°C to +80°C
Materials:	Shell: 316 SS Seat: PCTFE or PEEK®
Flow Capacity (Cv):	0.1/0.02: Low Flow 0.5: Medium Flow
Leakage:	No Visible Leakage

8. Warranty Statement and Company Contact Details

Pressure Tech Ltd guarantee all products correspond with their specification at the time of delivery and, with exception to wear and tear, wilful damage, negligence, and abnormal working conditions, will be free from defects for a period of 12 months from date of delivery.

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