Amflow®

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TECHNICAL DATA SHEET

AMFLOW® PR7B-HP
BACK PRESSURE REGULATOR

Part Number: 00000872-0501

(Reference Ordering Guide on page 6 for part number options)

Standards and Patents:

Material traceability certificates, post processes, and As-Built documents shall be maintained on file with ***Amflow®*** for a period of not less than TEN years.

ATEX DIRECTIVE 2014/34/EU
CE 0891 Ex **II 2G Ex h T6**
PED 2014/68 EU SEP CATEGORY II MODULES A, D1 & E1
US PATENTS 7343929 B2

Amflow® reserves the right to amend or change specifications without prior notice

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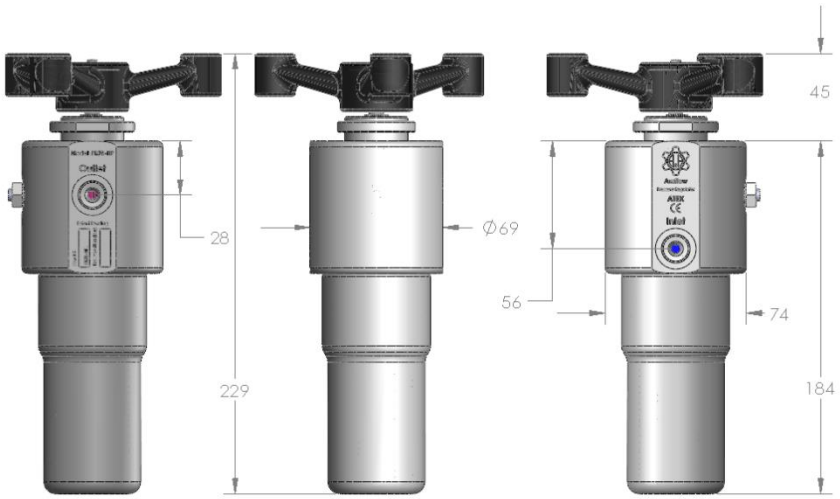
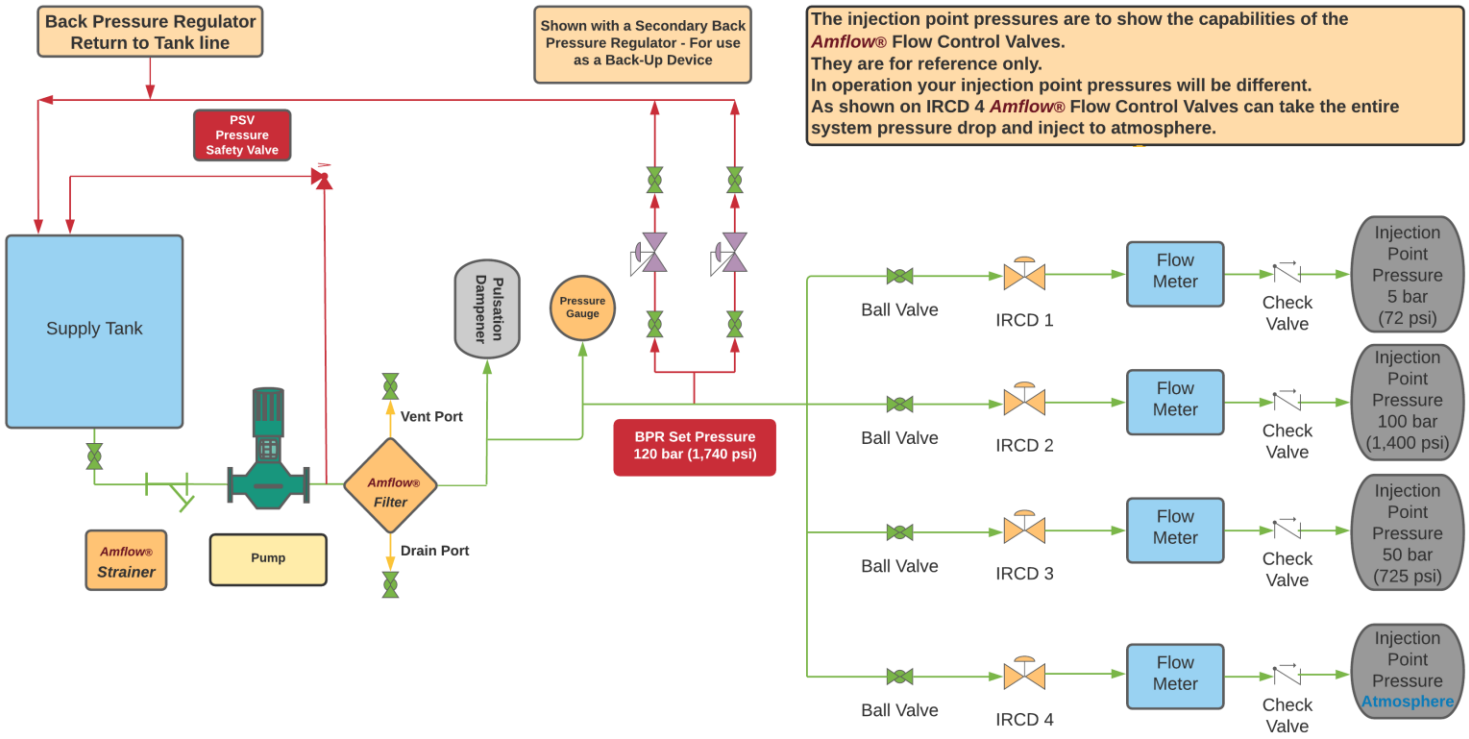
GA DRAWING & SAMPLE P&ID





The injection point pressures are to show the capabilities of the *Amflow®* Flow Control Valves.
They are for reference only.
In operation your injection point pressures will be different.
As shown on IRCD 4 *Amflow®* Flow Control Valves can take the entire system pressure drop and inject to atmosphere.

This P&ID is just a sample. It is a typical setup and what we recommend for a system. It is not meant to apply to any particular project.

Pump Requirement: Pressure & Flow to meet highest demand. Pump Stroke should be set to a minimum of 20% more than project requirements. The excess amount will be retuned to the tank.

Pulsation Dampener (Acccumulator): Charged to 75-80% of system operating pressure.

Back Pressure Regulator: Set to to a minimum of 20 bar above the highest injection point.

Amflow® 2021

Sample Chemical Injection Skid P&ID - 4 injection points Reference only.

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US Patent 7,343,929 B2

Design Features

PRODUCT DESCRIPTION:

The ***Amflow®*** PR7B-HP Back Pressure Regulator is adjustable for back pressure regulation from 3 bar (44 PSI) to 931 bar (13,500 PSI) and flow rates up to 1,000 LPH.

The PR7B-HP Back Pressure Regulator is designed to be mounted in a stainless-steel panel with a minimum thickness of 2 mm. The mounting hole should be from 34 mm to 38 mm in diameter.

The Inlet and Outlet Ports are 180-degrees from each other.

DESIGN FEATURES:

- The ***Amflow***® PR7B-HP Back Pressure Regulator maintains up stream pressure.
- Pressure Vessel Materials Standard: 316/316L Stainless Steel & Titanium
- Pressure Vessel Materials Optional: Duplex 2205, Super Duplex 2507 & Titanium
- Operating Pressure: 3 bar (44 PSI) to 931 bar (13,500 PSI)
- Ambient Operating Temperature Range Standard: -15˚C (5˚F) to 232˚C (450˚F)
- Ambient Operating Temperature Range Optional: -45˚C (-49˚F) to 250˚C (482˚F)
- Standard Inlet & Outlet Ports: SF375CX-20 Medium Pressure for 3/8” Tubing
- Weight: 4.8 kg (9.00 LBS)
- Ceramic pins & seats for high pressure control & reliability
- FFKM (perfluorolastomer) & PTFE seals for high chemical resistance.
- Low maintenance
- Variable spring rate with the configurable Belleville spring stack allows flexibility in set pressure range
- Easily adaptable to remote operation with ***Amflow***® ATEX/IECEx Certified 24 VDC Electronic Actuators

OPERATING TORQUE

Due to the design of the PR7B-HP Back Pressure Regulator, the operating torque requirements are very low throughout the operating range, thus making it suitable for automated applications.

The PR7B-HP Back Pressure Regulator can be configured with an ***Amflow***®A6 ATEX/IECEx certified, 24 VDC electronic valve actuator for local or remote operation.

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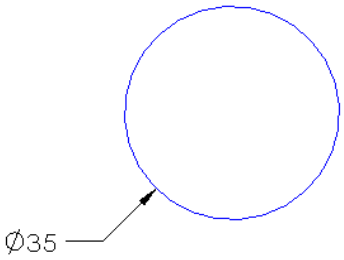
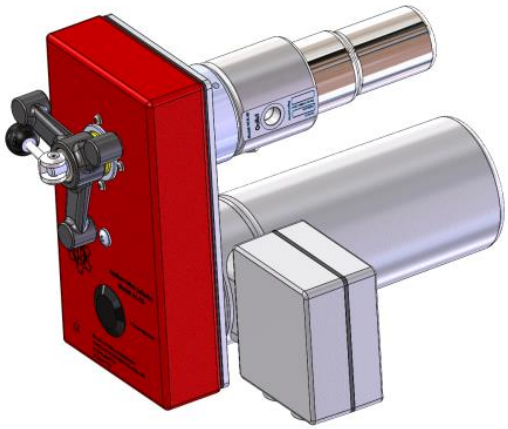
Panel Mount Dimensions



ATEX/IECEx Certified Actuator Options



PR7B-HP
Shown with
***Amflow*® A6 ATEX/IECEx certified 24 VDC Actuator**
Offering remote & local back pressure regulation.

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US PATENTS : 7,343,929 B2

TECHNICAL SPECIFICATIONS

1. FLOW RATES				
1.01 Flow rate range:	**MINIMUM:**	1.0 LPH	**MAXIMUM:**	1,000 LPH
1.02 Operating pressure - medium pressure **	**MINIMUM:**	35 bar (500 PSI)	**MAXIMUM:**	931 bar (13,500 PSI)
1.03 Operating pressure - ½" FNPT ***	**MINIMUM:**	3 bar (44 PSI)	**MAXIMUM:**	690 bar (10,000 PSI)
1.04 Hydrostatic pressure test - medium pressure **		1,396 bar (20,240 psi)**		
1.05 Hydrostatic pressure test - ½" FNPT ***		1,034 bar (15,000 psi)***		
1.06 Ambient temperature range standard	**MINIMUM:**	-15˚C (5˚F)	**MAXIMUM:**	232˚C (450˚F)
1.07 Ambient temperature range optional	**MINIMUM:**	-45˚C (-49˚F)	**MAXIMUM:**	250˚C (482˚F)

2. PORT CONFIGURATION	Standard	Special Order
2.01 Positioned as shown on picture	SF375CX-20 for 3/8" Tubing	½" FNPT

3. CONSTRUCTION MATERIALS	Standard Material	Special Order
3.01 Pressure Vessel & external parts	316/316L & Titanium (6AL-6V-2Sn)	Duplex 2205, Super Duplex 2507 & Titanium
3.02 Internal wetted parts	316/316L & Titanium (6AL-6V-2Sn)	Contact ***Amflow®***
3.03 Wetted seals	FFKM & PTFE	Contact ***Amflow®***
3.04 Non-wetted seals	Viton	Contact ***Amflow®***

4. PIN & SEAT	Standard Material
4.01 Pin & Seat	Ceramic – Zirconia – ZrO_2
4.02 Seat leakage class	IV

5. NOISE	Decibels
5.01	Less than 70 dB

6. DIMENSIONS	Metric	Imperial
6.01 Height (overall)	229 mm	9 in
6.02 Diameter	69 mm	2.72 in

7. WEIGHT	Metric	Imperial
7.01	4.8 kg	9 lbs.

8. PANEL MOUNT REQUIREMENTS	Metric	Imperial
8.01 Maximum Panel Thickness	7 mm	0.28 in
8.02 Mounting Hole Diameter	35 mm	1.38 in

NOTES:

** When used with SF375CX-20 Medium pressure ports

*** When Used with ½" FNPT Ports

SET PRESSURE:

Depending on the set pressure requirements of the PR7B-HP back pressure regulator, springs can be assembled in different configurations.

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ORDERING GUIDE

PRODUCT NO.	PRODUCT TYPE	CODE NO.	PRESSURE VESSEL MATERIAL	MATERIAL CODE NO.	WETTED SEALS	SEALS CODE NO.	FLOW RATE H2O	FLOW CODE NO.	SET PRESSURE RANGE	SET PRESSURE CODE NO.	PORT TYPE	PORT CODE NO.
00000872	BACK PRESSURE REGULATOR	-0501	316L	-001	STANDARD WETTED SEALS ARE FFKM & PTFE	-02	1-100 LPH	-000	3 - 30 BAR (44-435 PSI)	-00	SF375CX MEDIUM PRESSURE	-00
			TITANIUM	-002								
			DUPLEX 2205	-003			1-500 LPH	-001	35 - 690 BAR (500-10,000 PSI)	-01	½" FNPT	-01
			SUPER DUPLEX 2507	-004			1-1,000 LPH	-002	345 - 931 BAR (5,000-13,500 PSI) Medium Pressure Ports Only	-03		

00000872	-0501	-001	-02	-000	-03	-00

EXAMPLE

TO ORDER:

PR7B-HP Back Pressure Regulator in 316/316L with FFKM Seals, 0-100 LPH, 345 - 931 BAR (5,000 - 13,500 PSI) and SF375CX-20 Medium Pressure Ports

YOU WOULD ORDER #:

00000872 – 0501 – 001 – 02 – 000 – 03 - 00

ORDERING INFORMATION

As the ***Amflow***® PR7B-HP Back Pressure Regulator is custom built specifically to meet the end user's criteria, it is critical that ***Amflow***® receive certain information when ordering Back Pressure Regulators. That information should include, the minimum & maximum Flow rates, set pressures, temperatures & chemical MSDS.

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