

Series 1807R
Back Pressure Regulating Valves
Pilot Type
for ANSI 150-600
DIN/BS 4504 PN10-PN100
JIS 10K-40K

Pilot Type Back Pressure Regulating Valves

General

The KOMOTO PR-1807R back pressure regulators precisely control upstream pressure to a predetermined set-pressure. Thanks to the innovative design, they provide quick response to sudden pressure changes. The PR-1807R series regulators offer maximum capacity, quick response, and accurate pressure control. Amplifying effect of the pilot provides superior pressure control performance.

Features

- Top-entry design for ease of maintenance
- Full port design for high capacity
- Stable guiding piston design
- Tight shut-off with soft seat at all pressure differentials
- Excellent pressure control rangeability
- Light weight and compact design

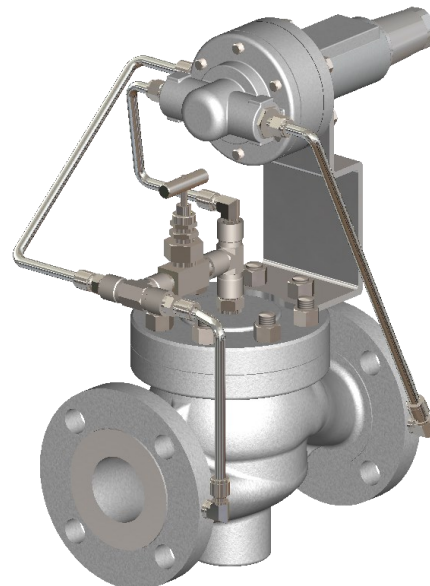


Figure 1. Series 1807R

Control range:

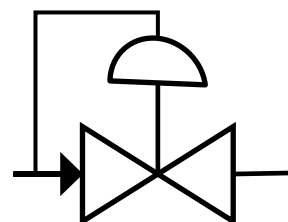
- 0.005 to 20 BarG

Temperature Range :

- -25 ~ 200 °c

Size :

- 1" ~ 12"



< Upstream Pressure Control >

Back Pressure Regulator

Backpressure Regulators maintain a constant upstream pressure throughout the flow range rather than control outlet pressure.




Pilot-Operated Regulators are designed for high flow rates and precision control. Pilot valves sense small changes of upstream pressure and amplify movement of main regulating valves.

Series 1807R Specifications

Valve Type	Back Pressure Regulating Valve (Pilot Type)										
Valve Model	Series 1807R										
Body Type	Globe										
Operating Type	Unloading(MP, HP, HT), Two-path(EP, LP, LT) with external air supply										
Valve Size (Inch)	1	1-1/2	2	2-1/2	3	4	5	6	8	10	12
(mm)	25	40	50	65	80	100	125	150	200	250	300
Valve Cv	11.4	20.6	36.3	50.4	81	126.6	176.4	262.8	414	649.2	1014
Minimum Differential Pressure (BarG)	2.22	1.69	1.45	1.3	1.12	1.05	1	0.95	0.9	0.84	0.78
Full Stroke Minimum Differential Pressure (BarG)	2.34	1.85	1.84	1.68	1.56	1.28	1.19	0.99	0.89	0.84	0.83
Pressure Rating	ANSI 150Lb ~ 600Lb, JIS 10K ~ 40K, PN10 ~ PN100										
End Connection	RF, FF, SW, BW, RTJ, etc										
Body Materials	A216 WCB, A351CF8/CF8M, A351CF3/CF3M, A105... and so on										
Trim Materials	Stainless steel, Monel [®] and Hastelloy [®] C										
Disk/Seat Material	Nitrile (NBR), Fluorocarbon (FKM) and PTFE										

* Other special materials are available upon request. Please consult with KOMOTO technical sales representatives.

Back Pressure Regulators Inlet Set Pressure Range

Pilot Type		Outlet Pressure Range (BarG)		Spring Type
	EP	0.004	~ 0.0072	Silver Type 1
		0.0048	~ 0.018	Silver Type 2
		0.012	~ 0.036	Silver Type 3
		0.024	~ 0.06	Silver Type 4
	LP & LT	0.04	~ 0.12	Silver Type 5
		0.08	~ 0.3	Silver Type 6
		0.2	~ 0.6	Silver Type 7
	MP & HT	0.4	~ 1.2	White Type 1
		0.8	~ 3	White Type 2
		2	~ 6	Yellow
		4	~ 10.8	Blue
		7.2	~ 15	Red
	HP & HT	10	~ 24	Green
		16	~ 36	Brown Type 1
		24	~ 48	Brown Type 2

Model Selection Guide

Model	Code	Type	Set Pressure Range (BarG)
PR-1807R	EP	Very Low Pressure	0.005 ~ 0.05
	LP	Low Pressure	0.05 ~ 0.5
	MP	Medium Pressure	0.5 ~ 10
	HP	High Pressure	10 ~ 20
	LT	Low Pressure & High Temperature	0.05 ~ 0.5
	HT	High Pressure & High Temperature	0.5 ~ 20

1. PR-1807REP — Very Low Pressure (External air supply is required)

PR-1807REP tank blanketing back pressure regulators are used for accurate pressure control on very low pressure of gas blanketing systems.

Tank blanketing back pressure regulators maintain positive pressure in a tank which is slightly higher than atmospheric pressure by relieving the pressure of gas. By maintaining the pressure, they reduce possibility of tank explosion while the liquid in the tank is being filled in.

Due to lack of actuating force, external instrument air supply is required.

Temperature Range

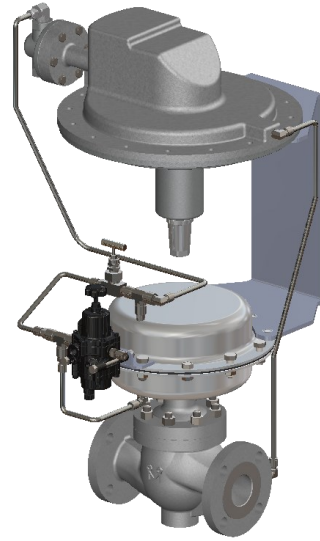
- -25 ~ 80 °C

Diaphragm Material

- Nitrile (NBR), Fluorocarbon (FKM)

Disk & Elastomer Seal Material

- Nitrile (NBR), Fluorocarbon (FKM)



PR-1807REP

Set Pressure Range (BarG) : 0.005 ~ 0.05

2. PR-1807RLP — Low Pressure, PR-1807RLT — Low Pressure & High Temp. (External air supply is required)

Introduction

PR-1807RLP/LT series pilot-operated, spring-loaded, back pressure regulators provide precise upstream pressure control at low set pressures. PR-1807RLT is designed for high temperature services. Due to lack of actuating force, external instrument air supply is required.

Temperature Range

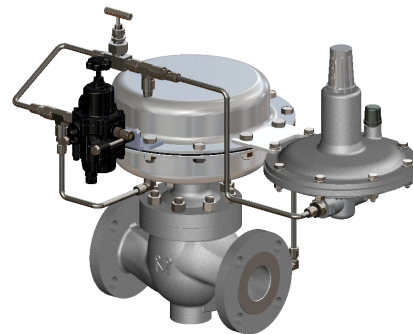
- -25 ~ 120 °C (PR-1807RLP)
- -25 ~ 200 °C (PR-1807RLT)

Diaphragm/Piston Elastomer Material

- Nitrile (NBR), Fluorocarbon (FKM)

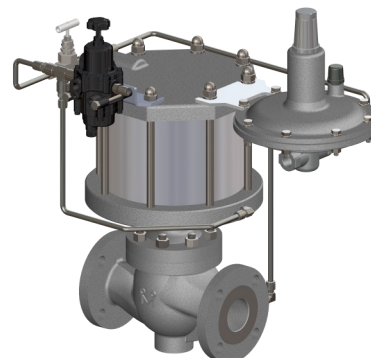
Disk & Elastomer Seal Material

- Nitrile (NBR), Fluorocarbon (FKM)



PR-1807RLP

Set Pressure Range (BarG) : 0.05 ~ 0.5



PR-1807RLT

Set Pressure Range (BarG) : 0.05 ~ 0.5

3. PR-1807RMP — Medium Pressure

PR-1807RHP — High Pressure

PR-1807RHT — High Pressure & High Temperature

Introduction

PR-1807RMP/HP/HT back pressure regulators are unloading type pilot operated pressure regulating valves.

PR-1807RP Series spring-loaded, diaphragm type pilot regulators provide precise upstream pressure control at medium range set pressures.

PR-1807RHP Series spring-loaded, piston type pilot regulators are designed for high set pressure control services.

PR-1807RHT Series pilot-operated, spring-loaded, piston type regulators are designed to provide upstream pressure control for high pressure & high temperature services.

Temperature Range

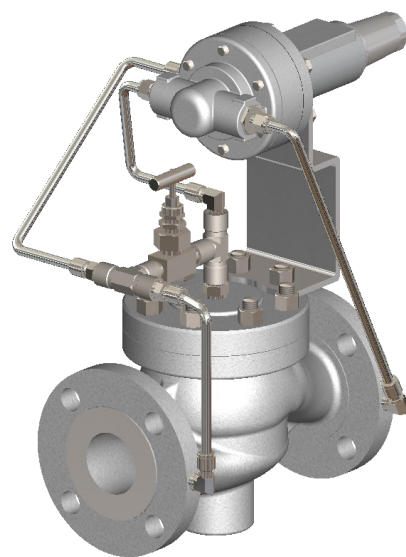
- -25 ~ 120 °C
- -25 ~ 200 °C (PR-1807RHT)

Piston Elastomer Seal Material

- Nitrile (NBR), Fluorocarbon (FKM)

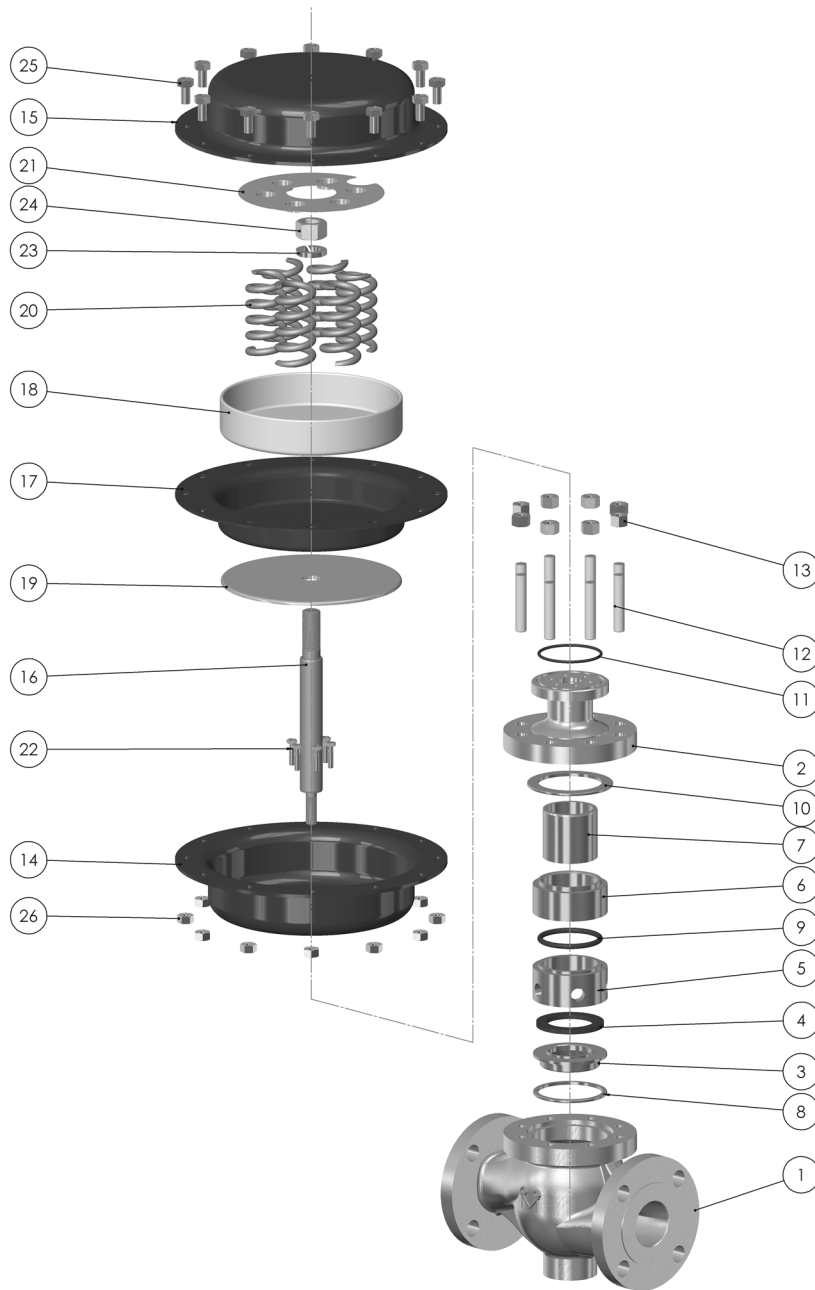
Disk & Elastomer Seal Material

- Nitrile (NBR), Fluorocarbon (FKM)



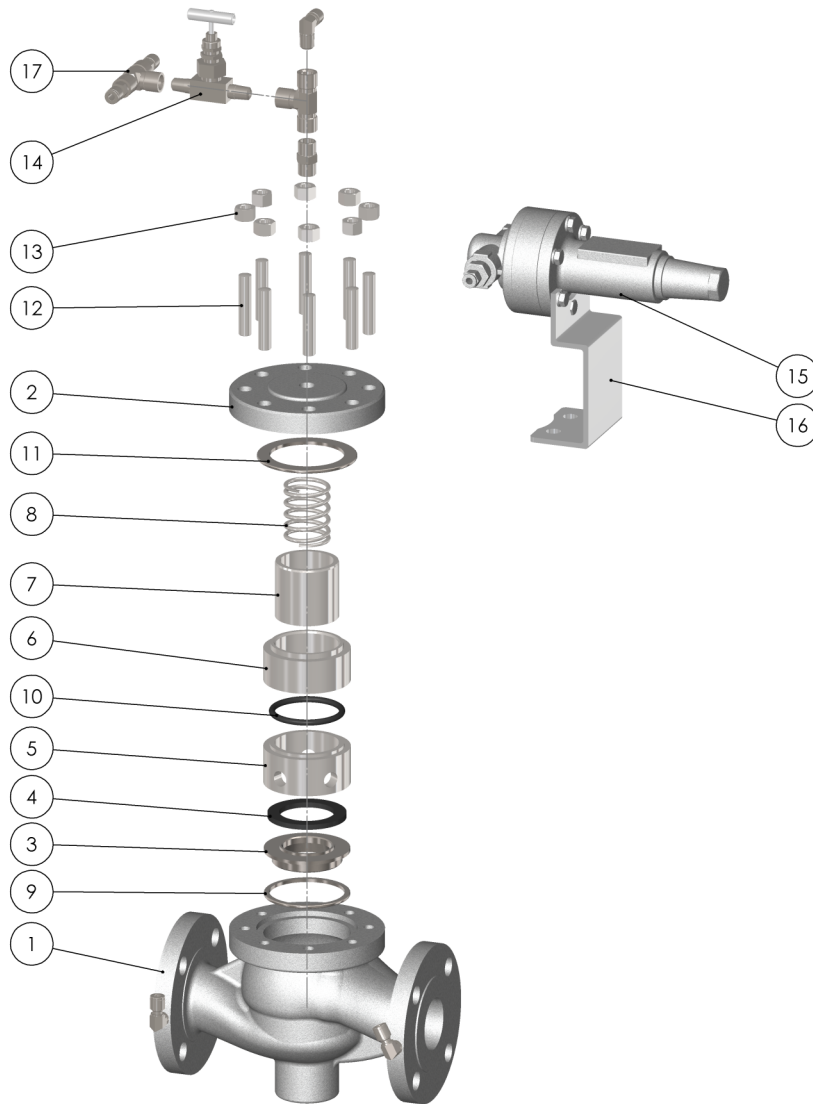
PR-1807RMP/HP/HT
Set Pressure Range (BarG) : Max. 20

General Parts List (PR-1807REP/LP/LT)



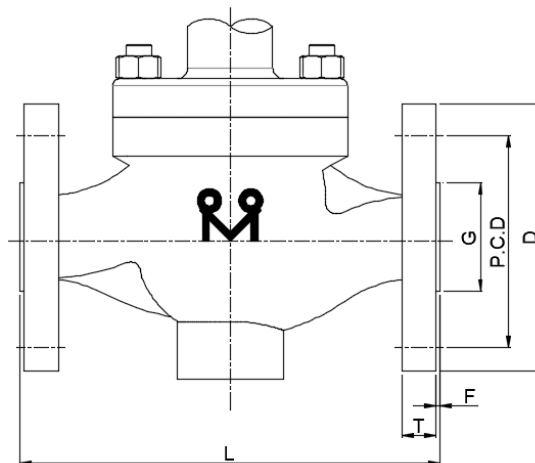
No	Parts
1	BODY
2	BONNET
3	SEAT RING
4	DISC
5	CAGE BALANCE
6	CAGE CYLINDER
7	PORT
8	SEAT GASKET
9	BALANCE SEAL
10	BONNET GASKET
11	O-RING
12	STUD BOLT
13	HEX. HEAVY NET
14	DIAPHRAGM CASE
15	SPRING CASE
16	STEM
17	DIAPHRAGM
18	DIAPHRAGM PLATE
19	BACK PLATE
20	SPRING
21	SPRING PLATE
22	BOLT
23	SPRING WAHER
24	LOCK NUT
25	BOLT
26	NUT

General Parts List (PR-1807RMP/HP/HT)



No	Parts
1	BODY
2	BONNET
3	SEAT RING
4	DISC
5	CAGE BALANCE
6	CAGE CYLINDER
7	PORT
8	SPRING
9	SEAT GASKET
10	BALANCE SEAL
11	BONNET GASKET
12	STUD BOLT
13	HEX. HEAVY NET
14	SPEED CONTROLLER
15	PILOT VALVE
16	BRACKET
17	FITTING PARTS

Dimension List



ANSI 150

Valve Size	L*	T	F	I.D.	G	P.C.D.	D	Diameter of Bolt	Number of Bolts	Diameter of Bolts, in
3/4	184	11.2	2	19.1	42.9	69.9	100	5/8	4	1/2
1	184	12.7	2	25.4	50.8	79.4	110	5/8	4	1/2
1 1/2	222	15.9	2	38.1	73	98.4	125	5/8	4	1/2
2	254	17.5	2	50.8	92.1	120.7	150	3/4	4	5/8
2 1/2	276	20.7	2	63.5	104.8	139.7	180	3/4	4	5/8
3	298	22.3	2	76.2	127	152.4	190	3/4	4	5/8
4	352	22.3	2	101.6	157.2	190.5	230	3/4	8	5/8
5	403	22.3	2	127	185.7	215.9	255	7/8	8	3/4
6	451	23.9	2	152.4	215.9	241.3	280	7/8	8	3/4
8	543	27	2	203.2	269.9	298.5	345	7/8	8	3/4
10	673	28.6	2	254	323.8	362	405	1	12	7/8
12	737	30.2	2	304.8	381	431.8	485	1	12	7/8

ANSI 300

Valve Size	L*	T	F	I.D.	G	P.C.D.	D	Diameter of Bolt	Number of Bolts	Diameter of Bolts,
3/4	194	14.3	2	19.1	42.9	82.6	115	3/4	4	5/8
1	197	15.9	2	25.4	50.8	88.9	125	3/4	4	5/8
1 1/2	235	19.1	2	38.1	73	114.3	155	7/8	4	3/4
2	267	20.7	2	50.8	92.1	127	165	3/4	8	5/8
2 1/2	292	23.9	2	63.5	104.8	149.2	190	7/8	8	3/4
3	318	27	2	76.2	127.0	168.3	210	7/8	8	3/4
4	368	30.2	2	101.6	157.2	200	255	7/8	8	3/4
5	425	33.4	2	127	185.7	235	280	7/8	8	3/4
6	473	35	2	152.4	215.9	269.9	320	7/8	12	3/4
8	568	39.7	2	203.2	269.9	330.2	380	1	12	7/8
10	708	46.1	2	254	323.8	387.4	445	1 1/8	16	1
12	775	49.3	2	304.8	381	450.8	520	1 1/4	16	1 1/8

ANSI 600

Valve Size	L*	T	F	I.D.	G	P.C.D.	D	Diameter of Bolt	Number of Bolts	Diameter of Bolts, in
3/4	206	15.9	7	19.1	42.9	82.6	115	3/4	4	5/8
1	210	17.5	7	25.4	50.8	88.9	125	3/4	4	5/8
1 1/2	251	22.3	7	38.1	73	114.3	155	7/8	4	3/4
2	286	25.4	7	50.8	92.1	127	165	3/4	8	5/8
2 1/2	311	28.6	7	63.5	104.8	149.2	190	7/8	8	3/4
3	337	31.8	7	76.2	127.0	168.3	210	7/8	8	3/4
4	394	38.1	7	101.6	157.2	215.9	275	1	8	7/8
5	457	44.5	7	127	185.7	266.7	330	1 1/8	8	1
6	508	47.7	7	152.4	215.9	292.1	355	1 1/8	12	1
8	610	55.6	7	199.9	269.9	349.2	420	1 1/4	12	1 1/8
10	752	63.5	7	247.7	323.8	431.8	510	1 3/8	16	1 1/4
12	819	66.7	7	298.5	381	489	560	1 3/8	20	1 1/4

* Face to Face dimension is based on RF flange.

Warranty / Remedy

Korea Motoyama Inc. warrants goods of its manufacture as being free of defective materials and faulty workmanship for 12 months from the date of shipment, unless otherwise specified. In this period, all of our products claimed by original defects may be returned to our factory after notice and authorization by us. If warranted goods are returned to Korea Motoyama Inc. during the period of coverage, it will be repaired or replaced without charge for those items it finds defective. Such defects shall be exclusive of the effects of corrosion, erosion, normal wear or improper handling and storage. In case our engineers have field service, the user shall detach and install valves by his cost. Determination of the suitability of the Products for the use contemplated by the buyer or buyer's customer(s) is the sole responsibility of the buyer in connection therewith. The foregoing is buyer's sole remedy and is in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose.

Specifications are subject to change without notices.

 **KOMOTO**
VALVES & CONTROLS

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