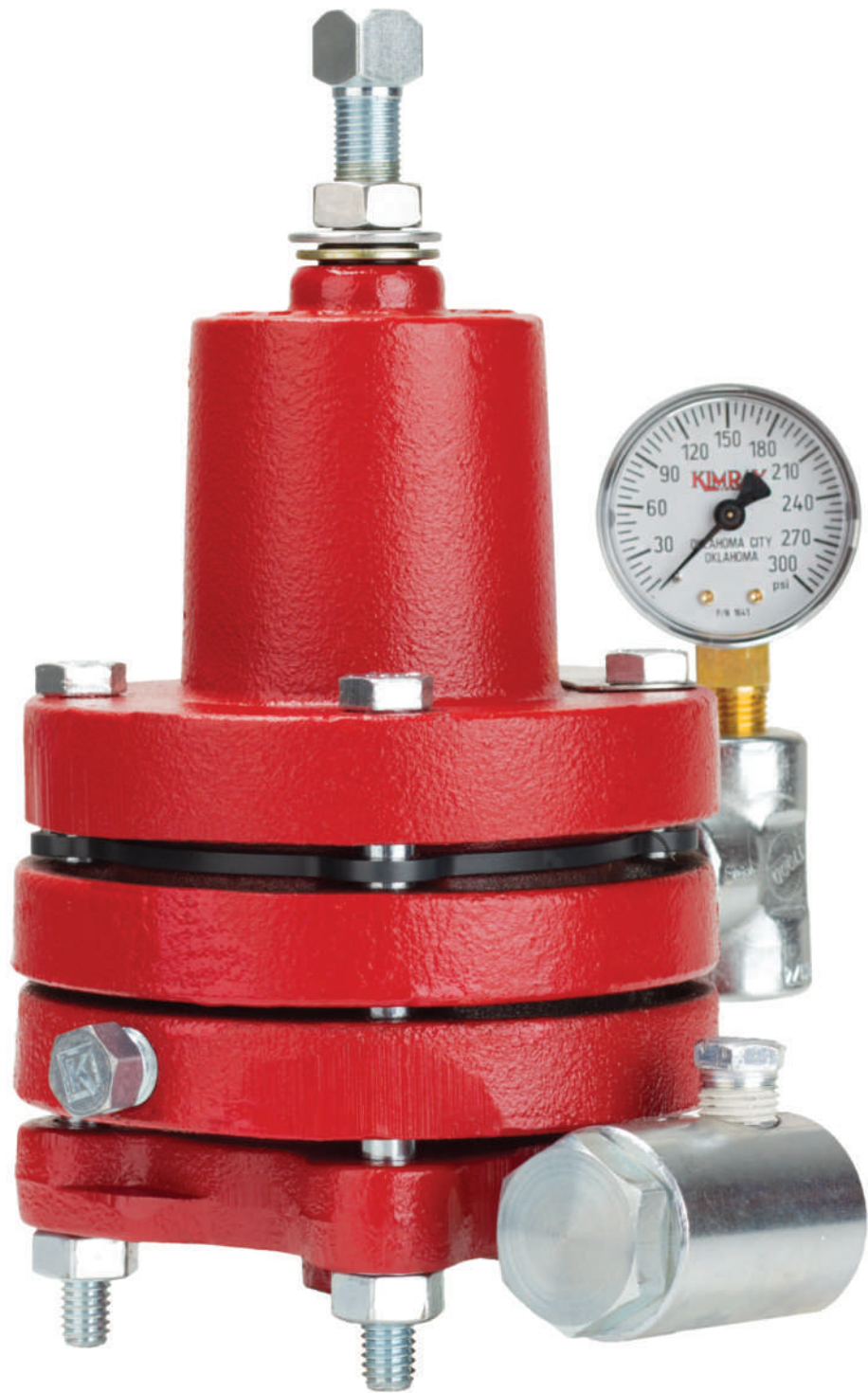


# PILOTS & RELAYS



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**DIAPHRAGM CONTROLLED HIGH PRESSURE / INDIRECT ACTING:** . . . . . **09:10.1 - 09:10.2**  
 APPLICATIONS: Used to produce a pneumatic output signal when the monitored pressure falls below the set pressure.  
 OPERATING PRESSURE RANGES: 5 psig to 300 psig

**DIAPHRAGM CONTROLLED HIGH PRESSURE / DIRECT ACTING:** . . . . . **09:10.3 - 09:10.4**  
 APPLICATIONS: Used to produce a pneumatic output signal when the monitored pressure rises above the set pressure.  
 OPERATING PRESSURE RANGES: 5 psig to 300 psig

**DIAPHRAGM CONTROLLED HIGH PRESSURE / DDIFFERENTIAL:** . . . . . **09:10.5 - 09:10.6**  
 APPLICATIONS: Used to produce a pneumatic signal when the differential pressure between two wet or dry pressures is less the the desired setting.  
 OPERATING PRESSURE RANGES: 5 psig to 300 psig

**BELLOWS CONTROLLED HIGH PRESSURE / INDIRECT ACTING:** . . . . . **09:20.1 - 09:20.2**  
 APPLICATIONS: Used to produce a pneumatic output signal when the monitored pressure falls below the set pressure.  
 OPERATING PRESSURE RANGES: 75 psig to 2500 psig

**BELLOWS CONTROLLED HIGH PRESSURE / DIRECT ACTING:** . . . . . **09:20.1, 09:20.3**  
 APPLICATIONS: Used to produce a pneumatic output signal when the monitored pressure rises above the set pressure.  
 OPERATING PRESSURE RANGES: 75 psig to 2500 psig

**DIAPHRAGM CONTROLLED LOW PRESSURE / INDIRECT ACTING:** . . . . . **09:30.1 - 09:30.2**  
 APPLICATIONS: Used to produce a pneumatic output signal when the monitored pressure falls below the set pressure.  
 OPERATING PRESSURE RANGES: .5 ounces to 20 psig

**DIAPHRAGM CONTROLLED LOW PRESSURE / DIRECT ACTING:** . . . . . **09:30.3 - 09:30.4**  
 APPLICATIONS: Used to produce a pneumatic output signal when the monitored pressure rises above the set pressure.  
 OPERATING PRESSURE RANGES: .5 ounces to 20 psig

**30 VOLUME BOOSTER:** . . . . . **09:40.1 - 09:40.2**  
 APPLICATIONS: Any system in which it is desired to multiply and volume boost a pneumatic signal to a large control valve or similar equipment  
 OPERATING PRESSURE RANGES: 5 psig to 30 psig.

**300 VOLUME BOOSTER:** . . . . . **09:50.1 - 09:50.2**  
 APPLICATIONS: Any system in which it is desired to multiply and volume boost a pneumatic signal to a large control valve or similar equipment  
 OPERATING PRESSURE RANGES: 5 psig to 300 psig.

**BISTABLE RELAY:** . . . . . **09:60.1 - 09:60.2**  
 APPLICATIONS: Any system where two temporary pressure signals are available  
 One signal to turn "ON" the pilot and one signal to turn "OFF" the pilot.  
 OPERATING PRESSURE RANGES: 20 psig to 30 psig

**PRESSURESTAT:** . . . . . **09:70.1 - 09:70.2**  
 APPLICATIONS: used to ressure control of larger steam generators by regulating flow of gas through a motor valve.  
 OPERATING PRESSURE RANGES: 5 psig to 30 psig

**ELECTRIC PILOT CONTROLLER:** . . . . . **09:80.1 - 09:70.2**  
 APPLICATIONS: Used in any application where a 4-20mA valve actuator can be controlled by reading a 4-20mA sensor.

**PRESSURE DIFFERENTIAL CONTROLLER:** . . . . . **09:90.1 - 09:90.2**  
 APPLICATIONS: Any applications where a constant pressure differential and flow rate is desired.  
 OPERATING PRESSURE RANGES: 0 psig to 2000 psig

**DIRECT ACTING PRESSURE SWITCH:** . . . . . **09:100.1 - 09:100.2**  
 APPLICATIONS: Sends a pneumatic signal when the monitored pressure rises above the desired pressure.  
 OPERATING PRESSURE RANGES: 10 psig to 300 psig

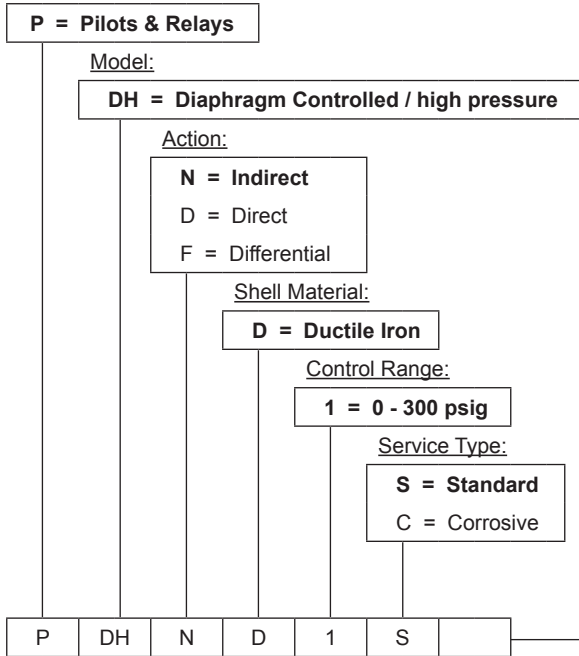
**TECHNICAL DATA:**

**DIMENSIONS** . . . . . **09:I**

**SEALS/ MATERIAL SPECIFICATIONS** . . . . . **09:II**

CODE BUILDER  
P SERIES (PILOTS)

Series:

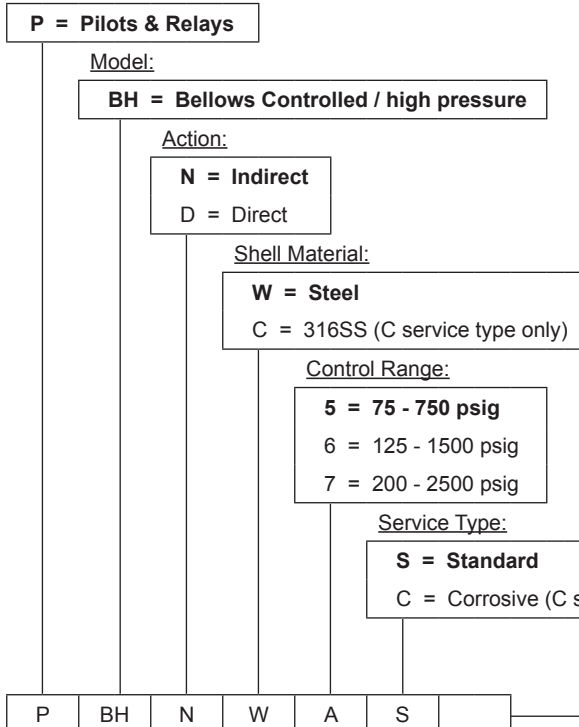


Not all selections available on all products listed.  
See product pages 01:10.1 - 01:10.6 for available options

Options: Additional cost and lead times will apply  
If multiple options required input in sequential order  
Leave blank if no options required

- 1 = NACE Certification (Corrosive Option Only)
- 2 = Hydrostatic Test Certification
- 3 = MTR (Shell Components)
- A = AFLAS Elastomer
- H = HSN Elastomer
- V = FKM Elastomer
- X = Export (Hydrostatic test, MTR & 3.1)

Series:

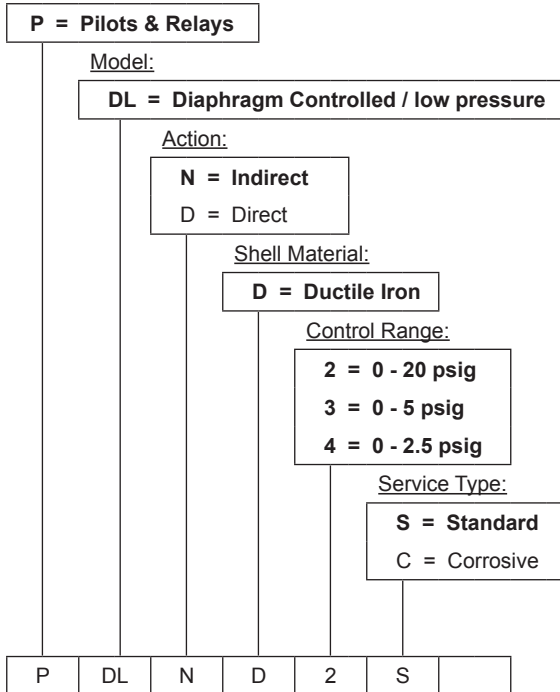


Not all selections available on all products listed.  
See product pages 01:20.1 - 01:20.3 for available options

Options: Additional cost and lead times will apply  
If multiple options required input in sequential order  
Leave blank if no options required

- 1 = NACE Certification (Corrosive Option Only)
- 2 = Hydrostatic Test Certification
- 3 = MTR (Shell Components)
- A = AFLAS Elastomer
- H = HSN Elastomer
- V = FKM Elastomer
- X = Export (Hydrostatic test, MTR & 3.1)

Series:



Options: Additional cost and lead times will apply  
If multiple options required input in sequential order  
Leave blank if no options required

- 1 = NACE Certification (Corrosive Option Only)
- 2 = Hydrostatic Test Certification
- 3 = MTR (Shell Components)
- A = AFLAS Elastomer
- H = HSN Elastomer
- V = FKM Elastomer
- X = Export (Hydrostatic test, MTR & 3.1)

Not all selections available on all products listed.  
See product pages 01:30.1 - 01:30.4 for available options

CODE BUILDER  
P SERIES (RELAYS)

Series:

P = Pilots & Relays

Model:

VL = 30 Volume Booster  
VH = 300 Volume Booster  
BR = Bistable Relay  
PT = Pressurestat

Action

0 = N/A (VH, BR, PT only)  
S = Snap (VL only)  
T = Throttle (VL only)  
M = Manual Reset (VL only)

Shell Material:

**D = Ductile Iron**  
C = 316SS (C service type only)

Control Range:

0 = N/A

Service Type:

**S = Standard**  
C = Corrosive (C shell material only)

P	VL	S	D	0	S	
---	----	---	---	---	---	--

Options: Additional cost and lead times will apply  
If multiple options required input in sequential order  
Leave blank if no options required

1 = NACE Certification (Corrosive Option Only)  
V = FKM Elastomer

Not all selections available on all products listed.  
See product pages 01:40.1 - 01:70.2 for available options

### DIAPHRAGM CONTROLLED HIGH PRESSURE / INDIRECT ACTING MODEL DH

#### APPLICATION:

Used to produce a pneumatic output signal when the monitored pressure falls below the set pressure. The pneumatic source is isolated from the monitored pressure by a vent chamber which allows the monitored pressure to vent away if it reaches a high enough pressure to cause diaphragm failure.

The control pilot may be remotely installed to operate a motor valve and function as a pressure reducing regulator.

The best application of this pilot is for instrument protection where the monitored pressure may surge above the rated pressure of the pilot.

#### FEATURES:

- Single Adjustment
- Filtered gas supply
- Accurate control
- Remote installation

#### CERTIFICATIONS:

Canadian Registration Number (CRN):  
0C15143.24567890NTY

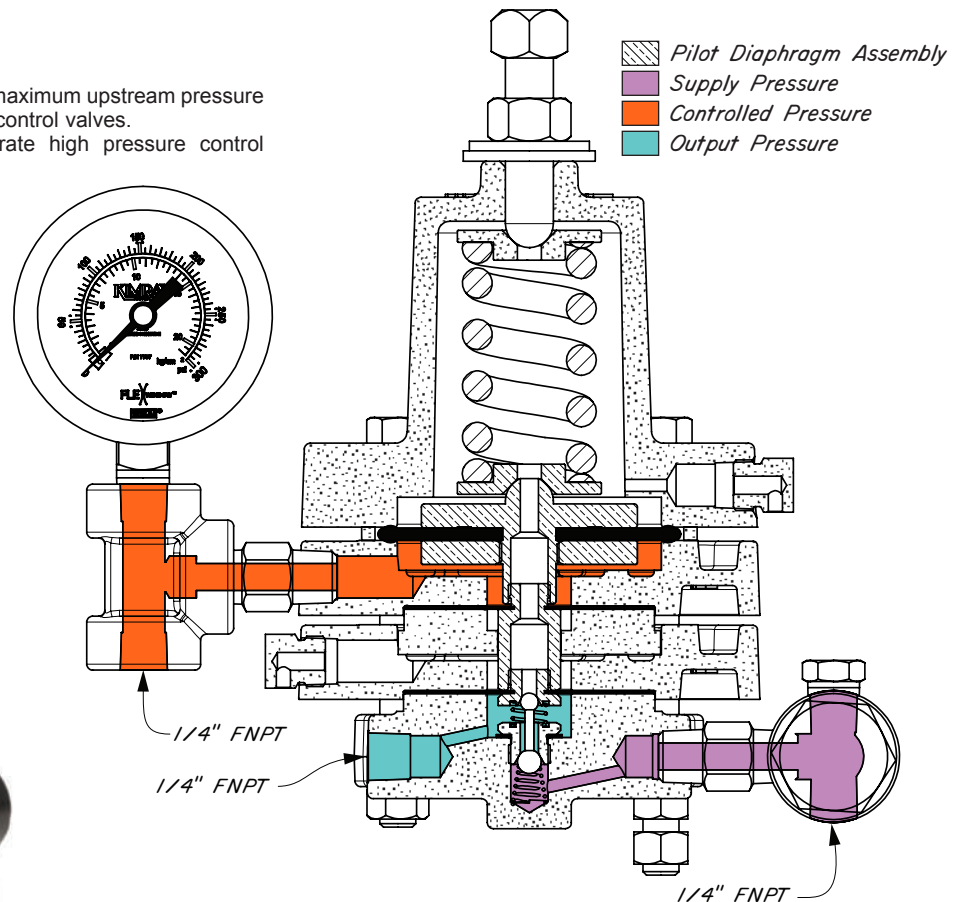
#### CLASSIFICATIONS:

Non-Bleed / Intermittent Vent

#### SUPPLY PRESSURE:

Equal to or not less than 60% of maximum upstream pressure when used to operate low pressure control valves.

20-30 psig when used to operate high pressure control valves.



Standard Configuration Code †	Order Code	Operating Pressure psig	Max. W.P. psig ††
PDHND1S	AHJ	5-300	300

#### NOTES:

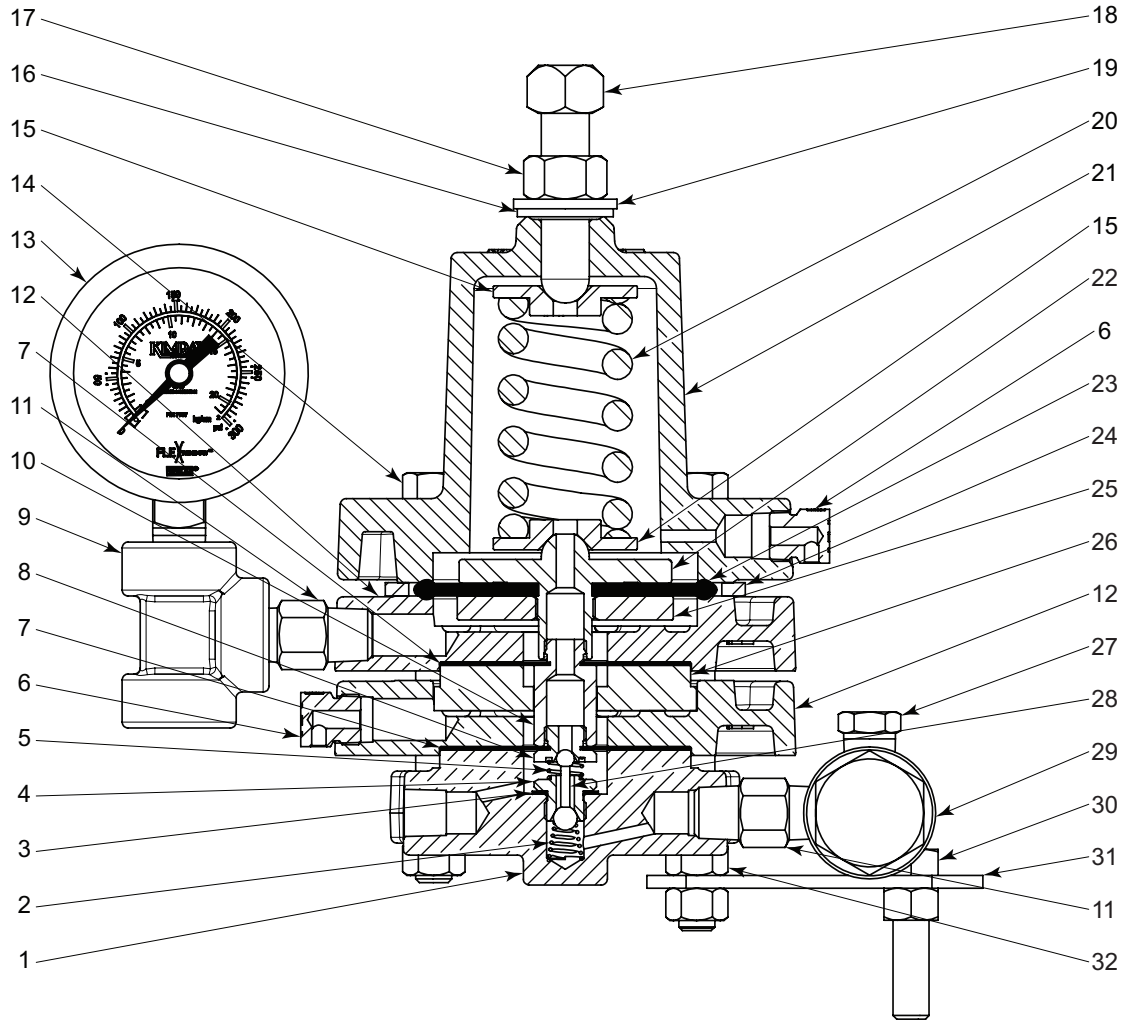
For standard & optional seals, metals, Cf Cv values, material specifications & dimensions see technical data on pages 09:I - 09:IV

† For Corrosive service remove last "S" & replace with "C"

† For code builder see page 09:00.2

†† Max W.P. values based on -20°F to 100°F.

DIAPHRAGM CONTROLLED HIGH PRESSURE / INDIRECT ACTING  
MODEL DH DRAWING & PARTS LIST



ITEM	QTY.	DESCRIPTION	PART NO		ITEM	QTY.	DESCRIPTION	PART NO	
			STANDARD	CORROSIVE				STANDARD	CORROSIVE
1	1	Base Plate	2607		17	1	Nut	2377	
2	1	Spring *	108	108HAC	18	1	Adjusting Screw	5163	
3	1	Gasket *	118		19	1	Washer *	4491	
4	1	Seat *	565	565SS6	20	1	Spring	2611	
5	1	Booster Spring *	566	566HAC	21	1	Bonnet	2610	
6	2	Breather Plug	147	147SS6	22	1	Diaphragm Plate	116	116SS6
7	2	Diaphragm *	110		23	1	Diaphragm *	5259P	
8	1	Seat *	113	113SS6	24	1	Ring *	7437	
9	1	Tee	2000	2000SS6	25	1	Nut	107	107SS6
10	1	Seat Extension	4297		26	1	Spacer Ring	2021	
11	2	Nipple	648	648SS6	27	1	Plug	699	699SS6
12	2	Housing	1701		28	1	Pilot Plug *	112	
13	1	Gauge	7707		29	1	Filter	YAS	YASSS6
14	4	Screw	4298		30	2	Screw	430	
15	2	Spring Plate	2612	2612SS6	31	1	Mounting Bracket	4428	
16	1	Packing Seal *	4488		32	8	Nut	241	
* These parts are recommended spare parts and are stocked as repair kits.							Repair Kit	RSR	RSRV



### DIAPHRAGM CONTROLLED HIGH PRESSURE / DIRECT ACTING MODEL DH

#### APPLICATION:

Used to produce a pneumatic output signal when the monitored pressure rises above the set pressure. The pneumatic source is isolated from the monitored pressure.

The control pilot may be remotely installed to operate a motor valve and function as a pressure reducing regulator.

#### FEATURES:

- Single Adjustment
- Filtered gas supply
- Accurate control
- Remote installation

#### CERTIFICATIONS:

Canadian Registration Number (CRN):  
0C15143.24567890NTY

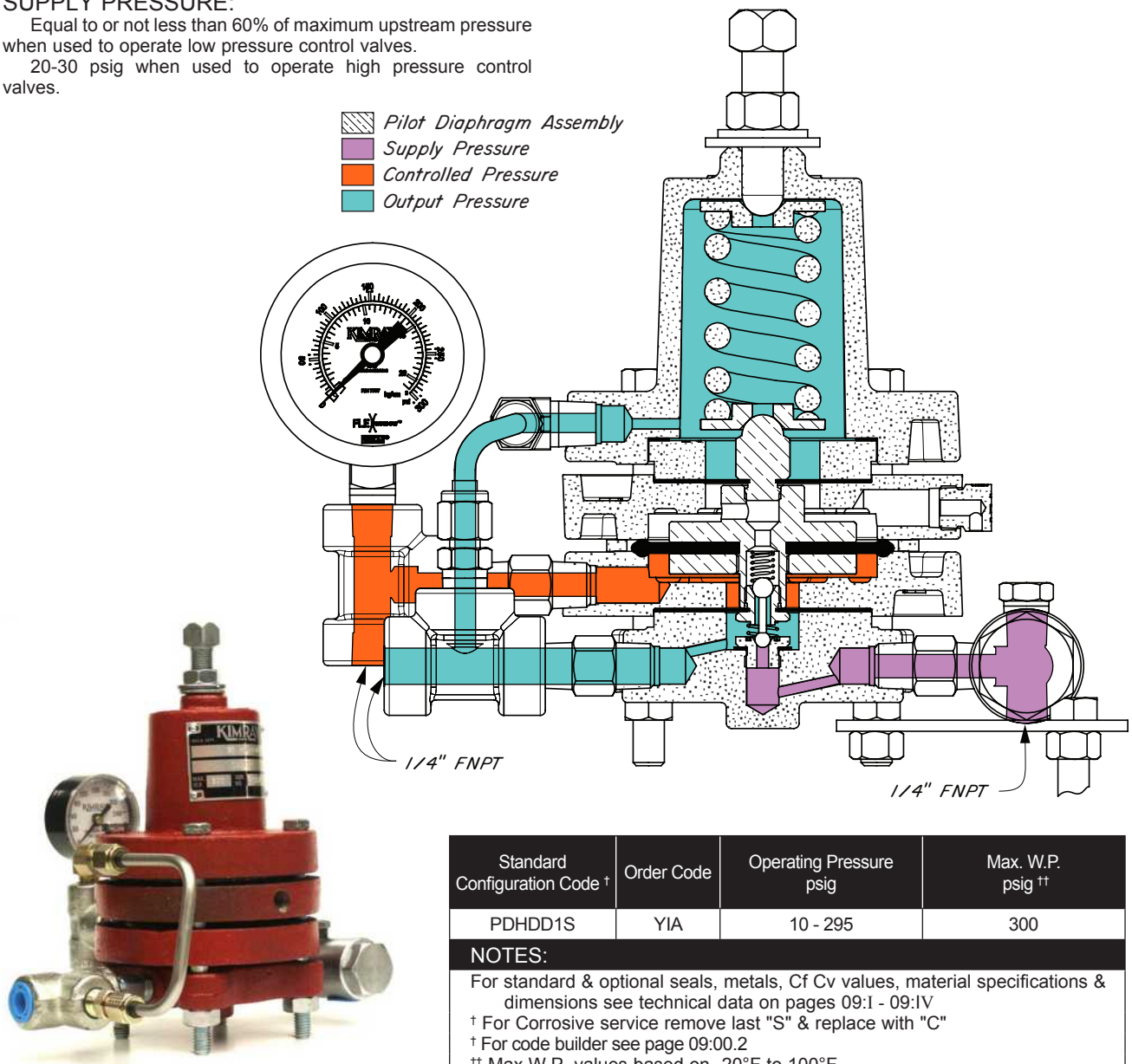
#### CLASSIFICATIONS:

Non-Bleed / Intermittent Vent

#### SUPPLY PRESSURE:

Equal to or not less than 60% of maximum upstream pressure when used to operate low pressure control valves.

20-30 psig when used to operate high pressure control valves.



Standard Configuration Code †	Order Code	Operating Pressure psig	Max. W.P. psig ††
PDHDD1S	Y1A	10 - 295	300

#### NOTES:

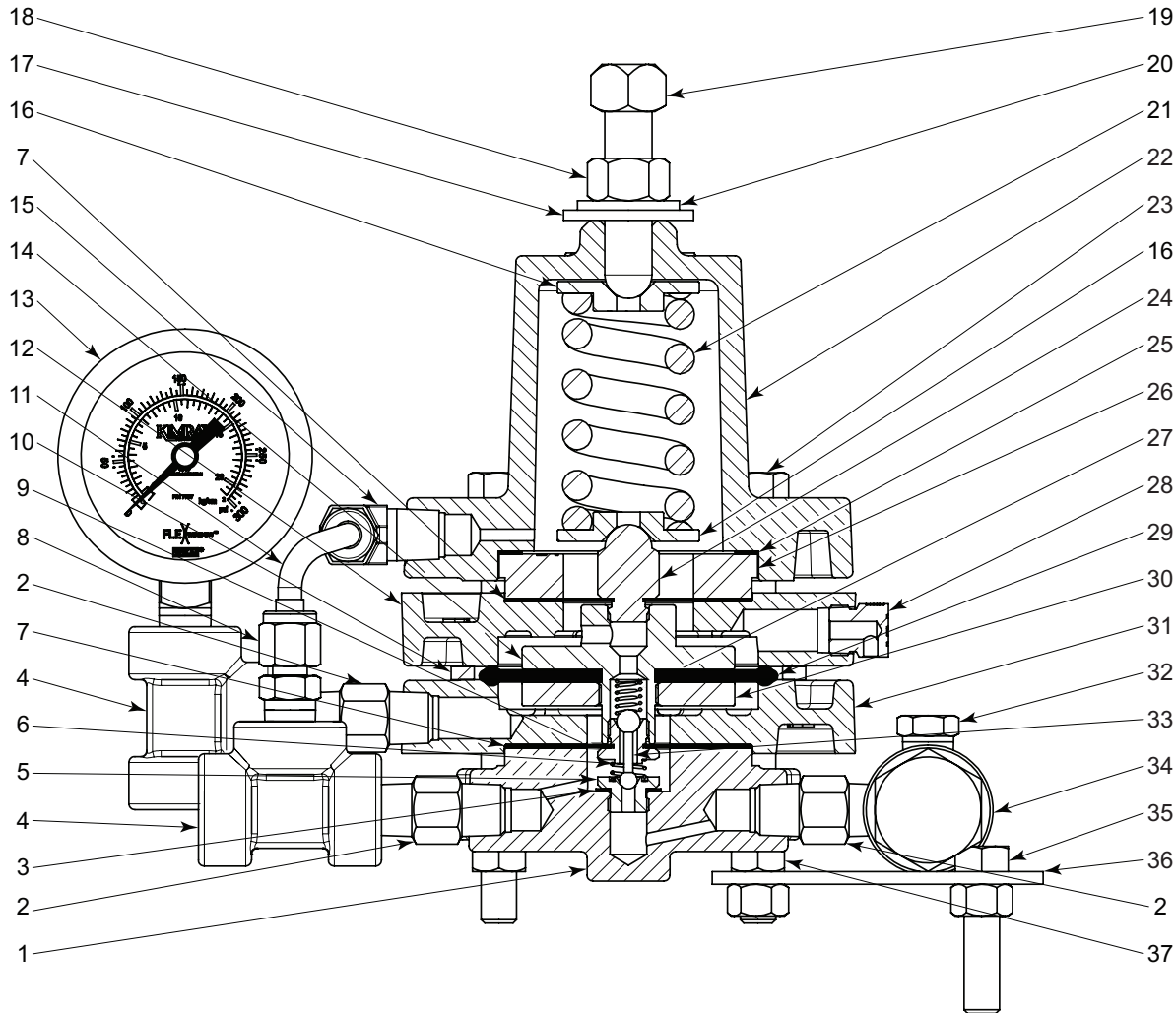
For standard & optional seals, metals, Cf Cv values, material specifications & dimensions see technical data on pages 09:1 - 09:1V

† For Corrosive service remove last "S" & replace with "C"

† For code builder see page 09:00.2

†† Max W.P. values based on -20°F to 100°F.

DIAPHRAGM CONTROLLED HIGH PRESSURE / DIRECT ACTING  
MODEL DH DRAWING & PARTS LIST



ITEM	QTY.	DESCRIPTION	PART NO		ITEM	QTY.	DESCRIPTION	PART NO	
			STANDARD	CORROSIVE				STANDARD	CORROSIVE
1	1	Base Plate	2607		20	1	Washer *	4491	
2	3	Nipple	648	648SS6	21	1	Spring	2611	
3	1	Gasket *	118		22	1	Bonnet	2610	
4	2	Tee	2000	2000SS6	23	4	Screw	4298	
5	1	Seat *	113	113SS6	24	1	Pivot Screw	2740	2740SS6
6	1	Booster Spring *	566	566HAC	25	1	Gasket *	276	
7	2	Diaphragm *	110	110V	26	1	Spacer	5097	5097SS6
8	1	Connector	874		27	1	Spring *	585	
9	1	Seat *	565	565SS6	28	1	Breather Plug	147	147SS6
10	1	Spacer Ring *	7437		29	1	Diaphragm *	5259P	
11	1	Tubing	2505SS6		30	1	Nut	107	107SS6
12	1	Housing	5098		31	1	Housing	1701	
13	1	Gauge	7707		32	1	Plug	699	699SS6
14	1	Plate	5096	5096SS6	33	1	Pilot Plug *	112	
15	1	Eil	875		34	1	Filter	YAS	YASSS6
16	2	Spring Plate	2612		35	2	Screw	430	
17	1	Packing Seal *	4488		36	1	Mounting Bracket	4428	
18	1	Nut	2377		37	8	Nut	241	
19	1	Adjusting Screw	5163						
* These parts are recommended spare parts and are stocked as repair kits.							Repair Kit	RST	RSTV

### DIAPHRAGM CONTROLLED HIGH PRESSURE / DIFFERENTIAL MODEL DH

#### APPLICATION:

Used to produce a pneumatic output signal when the differential pressure between two wet or dry pressures is less than the desired setting. The signal vents when the difference is higher than the setting.

#### FEATURES:

- Single Adjustment
- Filtered gas supply
- Accurate control
- Remote installation

#### CERTIFICATIONS:

Canadian Registration Number (CRN):  
0C15143.24567890NTY

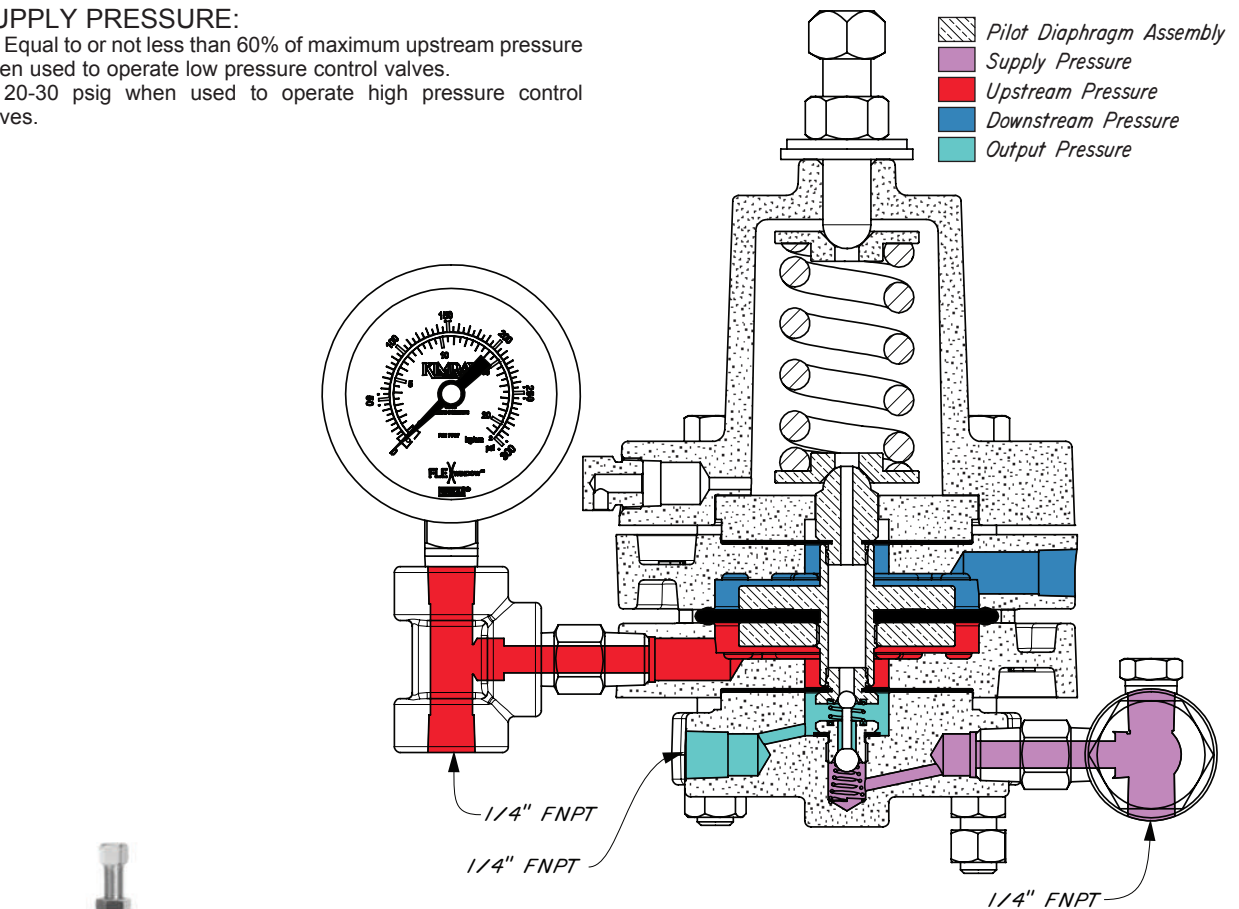
#### CLASSIFICATIONS:

Non-Bleed / Intermittent Vent

#### SUPPLY PRESSURE:

Equal to or not less than 60% of maximum upstream pressure when used to operate low pressure control valves.

20-30 psig when used to operate high pressure control valves.



Standard Configuration Code †	Order Code	Operating Pressure psig	Max. W.P. psig ††
PDHFD1S	AHP	5-300	300

#### NOTES:

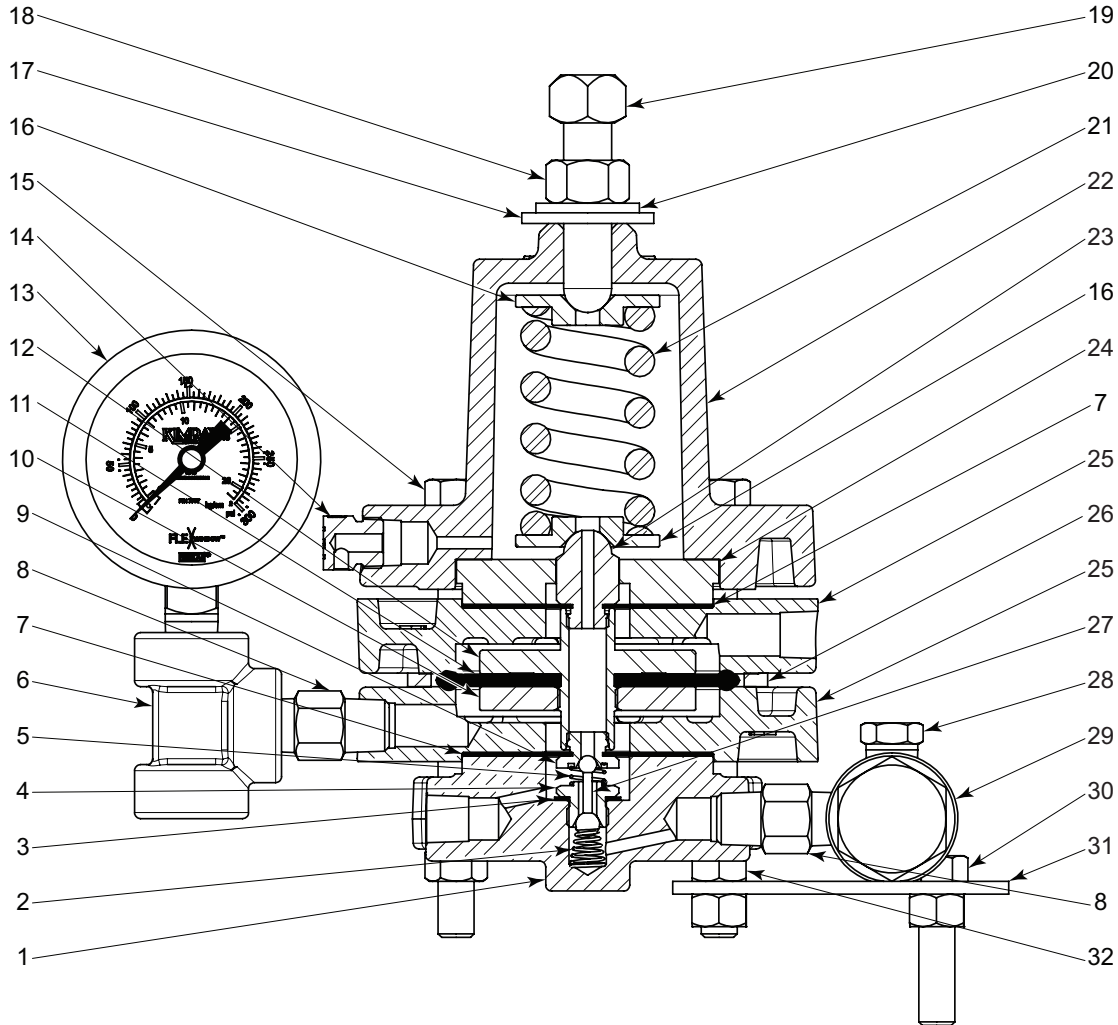
For standard & optional seals, metals, Cf Cv values, material specifications & dimensions see technical data on pages 09:I - 09:IV

† For Corrosive service remove last "S" & replace with "C"

† For code builder see page 09:00.2

†† Max W.P. values based on -20°F to 100°F.

DIAPHRAGM CONTROLLED HIGH PRESSURE / DIFFERENTIAL  
MODEL DH DRAWING & PARTS LIST



ITEM	QTY.	DESCRIPTION	PART NO		ITEM	QTY.	DESCRIPTION	PART NO	
			STANDARD	CORROSIVE				STANDARD	CORROSIVE
1	1	Base Plate	2607		17	1	Packing Seal *	4488	
2	1	Spring *	108	108HAC	18	1	Nut	2377	
3	1	Gasket *	118		19	1	Adjusting Screw	5163	
4	1	Seat *	565	565SS6	20	1	Washer *	4491	
5	1	Booster Spring *	566	566HAC	21	1	Spring	2611	
6	1	Tee	2000	2000SS6	22	1	Bonnet	2610	
7	2	Diaphragm *	110	110V	23	1	Pivot Screw	2020	
8	2	Nipple	648	648SS6	24	1	Spacer Ring	2021	
9	1	Seat *	113	113SS6	25	2	Housing	1701	
10	1	Nut	107	107SS6	26	1	Ring *	7437	
11	1	Diaphragm *	5259P	5259V	27	1	Pilot Plug *	112	
12	1	Diaphragm Plate	2022	2022SS6	28	1	Plug	699	699SS6
13	1	Gauge	7707		29	1	Filter	YAS	YASSS6
14	1	Breather Plug	147		30	2	Screw	430	
15	4	Screw	4298		31	1	Mounting Bracket	4428	
16	2	Spring Plate	2612		32	8	Nut	241	
* These parts are recommended spare parts and are stocked as repair kits.							Repair Kit	RSR	RSRV

### BELLOWS CONTROLLED HIGH PRESSURE MODEL BH

#### APPLICATION:

Pilot may be installed as Back Pressure Regulator with a Pressure Closing Motor Valve.

Pilot may be used as a Pressure Reducing Regulator with a Pressure Opening Motor Valve.

Pilot may be used as a pressure monitor that provides an output signal when the sense pressure falls below the set pressure, or when the signal goes above the set pressure.

#### FEATURES:





- Single Adjusting Screw
- Accurate control
- Proportional control
- Indirect or Direct Action
- Remote Installation

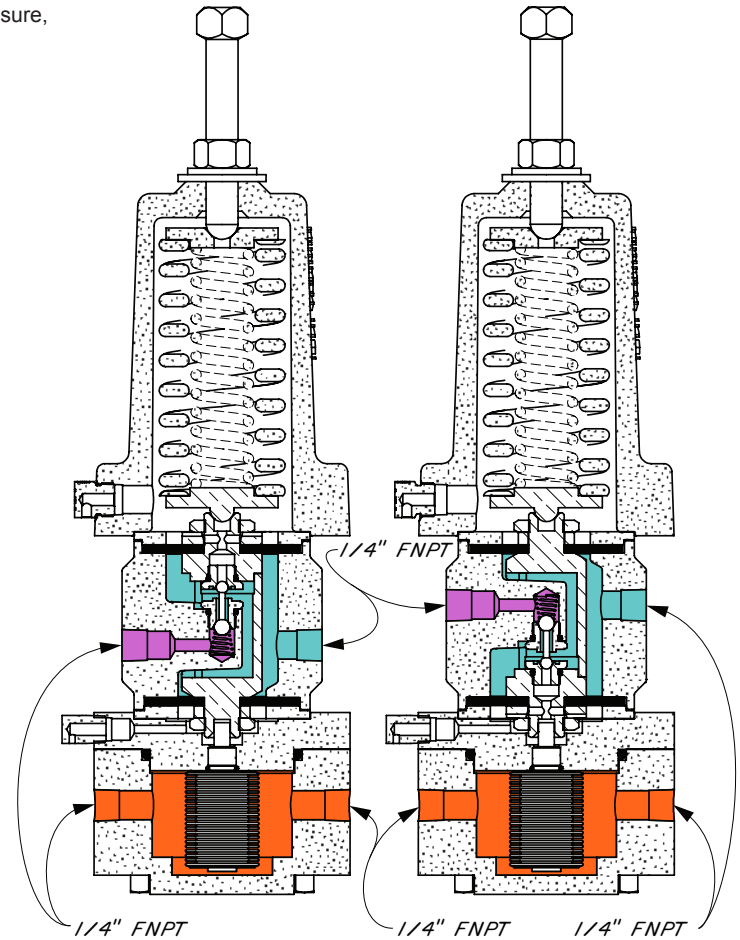
#### CLASSIFICATIONS:

- Non-Bleed / Intermittent Vent

#### CERTIFICATIONS:

- Canadian Registration Number (CRN):  
0C05370.24567890NTY

-  Pilot Diaphragm Assembly
-  Supply Pressure
-  Sense Pressure
-  Modulated Output Pressure



INDIRECT

DIRECT



Standard Configuration Code †	Order Code	Output Change per 1 psig Sense	Set Point Change per turn	Supply Press psig	Min. W.P. psig	Max. W.P. psig ††
PBHNW5S	AFZ2	1.6	20	5-30	75	750
PBHNW6S	AFZ	1	40	5-30	125	1500
PBHNW7S	AFZ7	0.75	60	5-30	200	2500
PBHDW5S	AFZ3	1.6	20	5-30	75	750
PBHDW6S	AFZ1	1	40	5-30	125	1500
PBHDW7S	AFZ6	0.75	60	5-30	200	2500

#### NOTES:

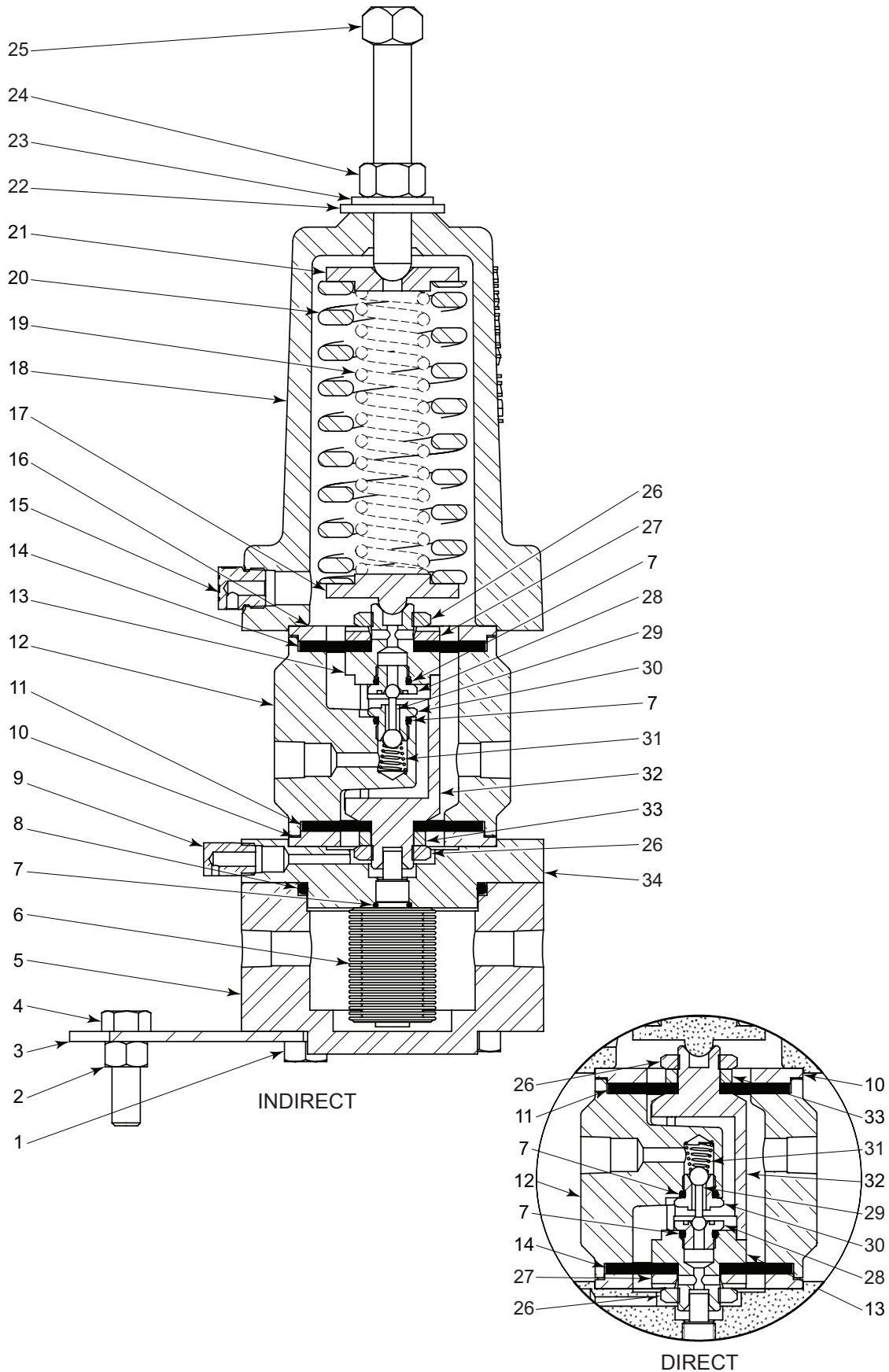
For standard & optional seals, metals, Cf Cv values, material specifications & dimensions see technical data on pages 09:I - 09:IV

† For Corrosive service remove last "S" & replace with "C"

† For code builder see page 09:00.2

†† Max W.P. values based on -20°F to 100°F.

BELLOWS CONTROLLED HIGH PRESSURE  
MODEL BH DRAWING



All Pictures shown are for illustration purpose only. Actual product may vary due to product enhancement.



ITEM	QTY.	DESCRIPTION	PART NO	
			STANDARD	CORROSIVE
1	4	Screw	4427	
2	2	Nut	241	
3	1	Mounting Bracket	4428	
4	2	Screw	430	
5	1	Main Body	4429	4429S6
6	1	Bellows Assembly	750 psig	5148
			1500 psig	4420
			2500 psig	6521
7	3	O-Ring *	265	265
8	1	O-Ring *	802	802
9	1	Breather Plug	1357	1357SS6
10	1	Diaphragm Plate	4434SS6	
11	1	Diaphragm *	4447	4447
12	1	Supply Body	4451	4451SS6
13	1	Seat Housing	4440	4440SS6
14	1	Diaphragm *	4436	4436
15	1	Breather Plug	147	147SS6
16	1	Diaphragm Plate	4441SS6	
17	1	Lower Spring Plate	4443SS6	
18	1	Bonnet	4450	
19	1	Spring (2500 psig Only)	6522	
20	1	Spring	4448	
21	1	Upper Spring Plate	4444	4444SS6
22	1	Packing Seal *	4488	
23	1	Washer *	4491	
24	1	Nut	2377	2377SS6
25	1	Adjusting Screw	4446	4446SS6
26	1	Diaphragm Nut	4433	4433SS6
27	1	Diaphragm Spacer	4442SS6	
28	1	Seat *	113	113SS6
29	1	Pilot Plug *	112	112
30	1	Seat *	565	565SS6
31	1	Spring *	108	108HAC
32	1	Stem	4435SS6	
33	1	Diaphragm Spacer	4432SS6	
34	1	Lower Housing	4431	4431SS6
Not Shown	Gauge	750 psig w.p.	7708	
		1500 psig w.p.	7709	
		2500 psig w.p.	7710	
Not Shown	Plug	699	699SS6	
	Repair Kit	RBQ	RBQV	

\* These parts are recommended spare parts and are stocked as repair kits.

**NOTES:**

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Kimray is an ISO 9001- certified manufacturer.



### DIAPHRAGM CONTROLLED LOW PRESSURE / INDIRECT ACTING MODEL DL

#### APPLICATION:

Pilot may be installed remotely from the control valve.  
The Pilot is used in the control of low pressure where the desired controlled pressure ranges from a few ounces to 20 psig on:

- Vessels
- Vent lines
- Distribution systems
- Inlet and recirculation on compressors, pressure

It may be used to produce a pneumatic output signal when the monitored pressure falls below the set pressure. The pneumatic signal source is isolated from the monitored pressure.

#### FEATURES:

- Single adjustment
- Filtered gas supply
- High accuracy
- Remote installation

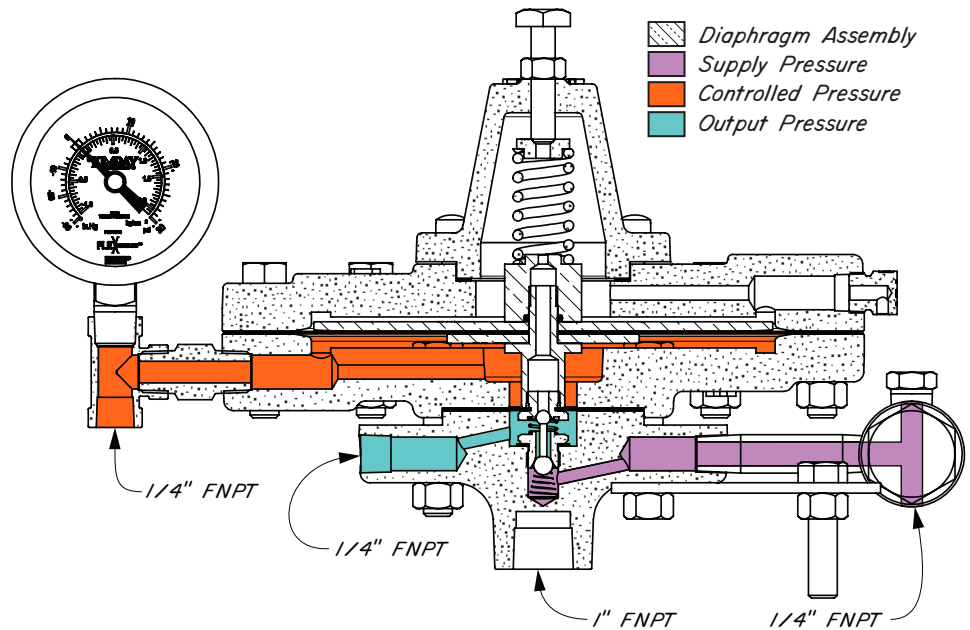
#### CLASSIFICATIONS:

- Non-Bleed / Intermittent Vent

#### SUPPLY PRESSURE:

Equal to or not less than 60% of maximum upstream pressure when used to operate low pressure control valves.

20-30 psig when used to operate high pressure control valves.



Standard Configuration Code †	Order Code	Operating Pressure	Max. W.P. psig ††
PDLND2S	AHK2.5	.5 oz - 2.5 psig	175
PDLND3S	AHK5	1 oz - 5 psig	
PDLND4S	AHK20	1 psig - 20 psig	

#### NOTES:

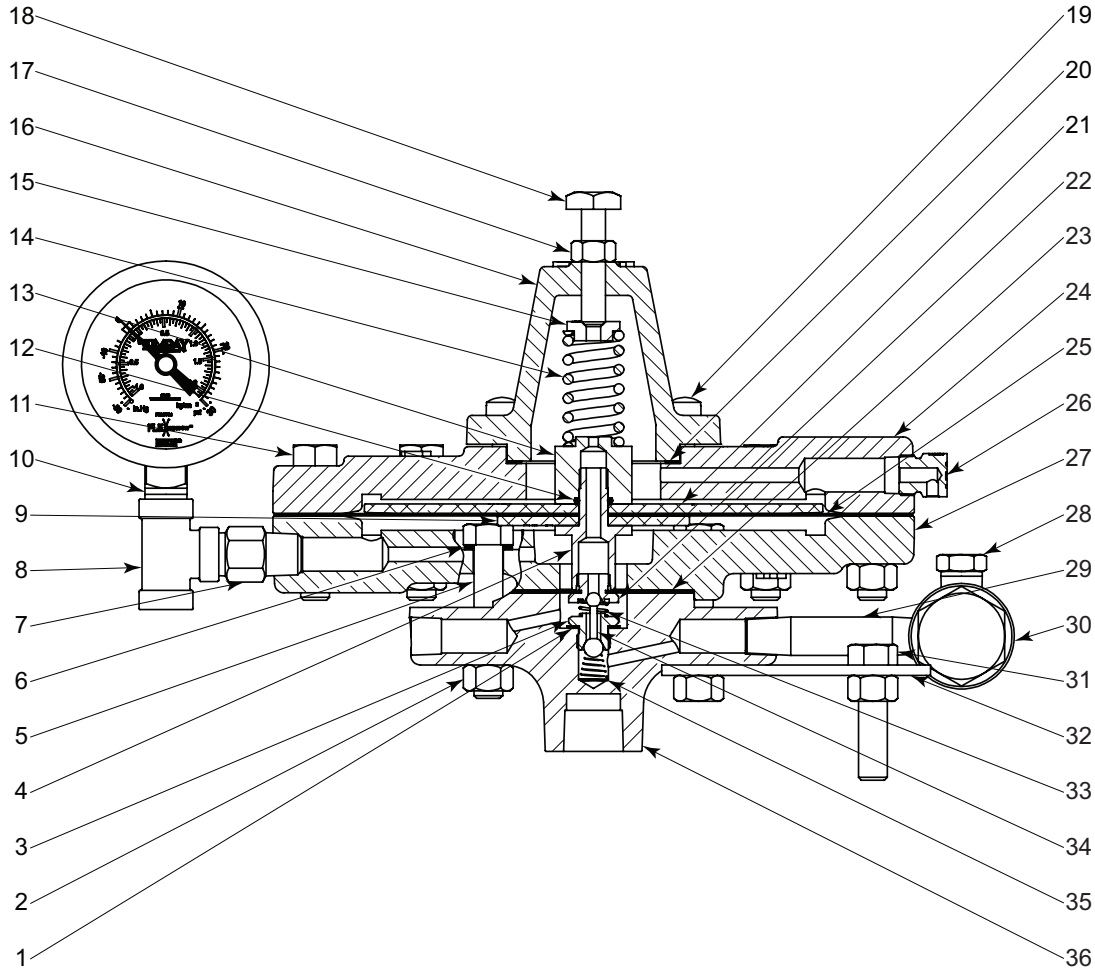
For standard & optional seals, metals, Cf Cv values, material specifications & dimensions see technical data on pages 09:I - 09:IV

† For Corrosive service remove last "S" & replace with "C"

† For code builder see page 09:00.3

†† Max W.P. values based on -20°F to 100°F.

DIAPHRAGM CONTROLLED LOW PRESSURE / INDIRECT ACTING  
MODEL DL DRAWING & PARTS LIST



ITEM	QTY.	DESCRIPTION	PART NO		ITEM	QTY.	DESCRIPTION	PART NO	
			STANDARD	CORROSIVE				STANDARD	CORROSIVE
1	1	Gasket *		118	17	1	Nut		922
2	16	Nut		241	18	1	Adjusting Screw		897
3	1	Seat *	565	565SS6	19	6	Screw		7531
4	1	Stem	2913	2913SS6	20	1	Gasket *		1216
5	4	Screw		191	21	1	Upper Diaphragm Plate	1208	1208SS6
6	4	Gasket *		242	22	1	Pilot Seat *	113	113SS6
7	1	Nipple	648	648SS6	23	1	Diaphragm *		110
8	1	Tee	219	219SS6	24	1	Upper Housing		1206
9	1	Lower Diaphragm plate	1340	1340SS6	25	1	Diaphragm *		1212
10	1	Gauge		7704	26	1	Vent Plug		147
11	10	Screw		236	27	1	Lower Housing		1356
12	1	O-Ring *		265	28	1	Plug	699	699SS6
13	1	Diaphragm Nut		2912	29	1	Nipple	75	75SS6
14	1	Spring	20 lbs. (standard)	4379	30	1	Filter	YAS	YASSS6
			5 lbs. (optional)	3061	31	2	Bolt		430
			2.5 lbs. (optional)	1527	32	1	Mount Bracket		4428
15	1	Spring Plate	20 lbs. (standard)	7148S6	33	1	Spring *	566	566HAC
			5 lbs. (optional)	636SS6	34	1	Pilot Plug *		112
			2.5 lbs. (optional)		35	1	Spring *	1360	1360SS6
16	1	Bonnet		1336	36	1	Base Plate		962S
* These parts are recommended spare parts and are stocked as repair kits.							Repair Kit	RWO	RWOV

All Pictures shown are for illustration purpose only. Actual product may vary due to product enhancement.

### DIAPHRAGM CONTROLLED LOW PRESSURE / DIRECT ACTING MODEL DL

#### APPLICATION:

Pilot may be installed remotely from the control valve.  
The Pilot is used in the control of low pressure where the desired controlled pressure ranges from a few ounces to 20 psig on:

- Vessels
- Vent lines
- Distribution systems
- Inlet and recirculation on compressors, pressure

Used to produce a proportional pneumatic output signal when the monitored pressure rises above the set pressure. The pneumatic signal source is isolated from the monitored pressure.

#### FEATURES:

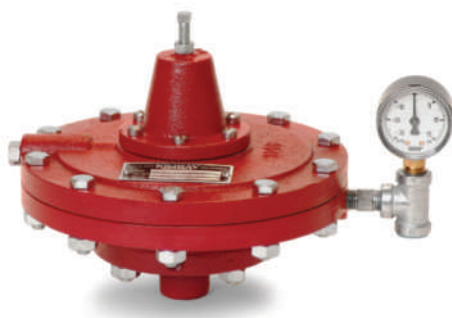
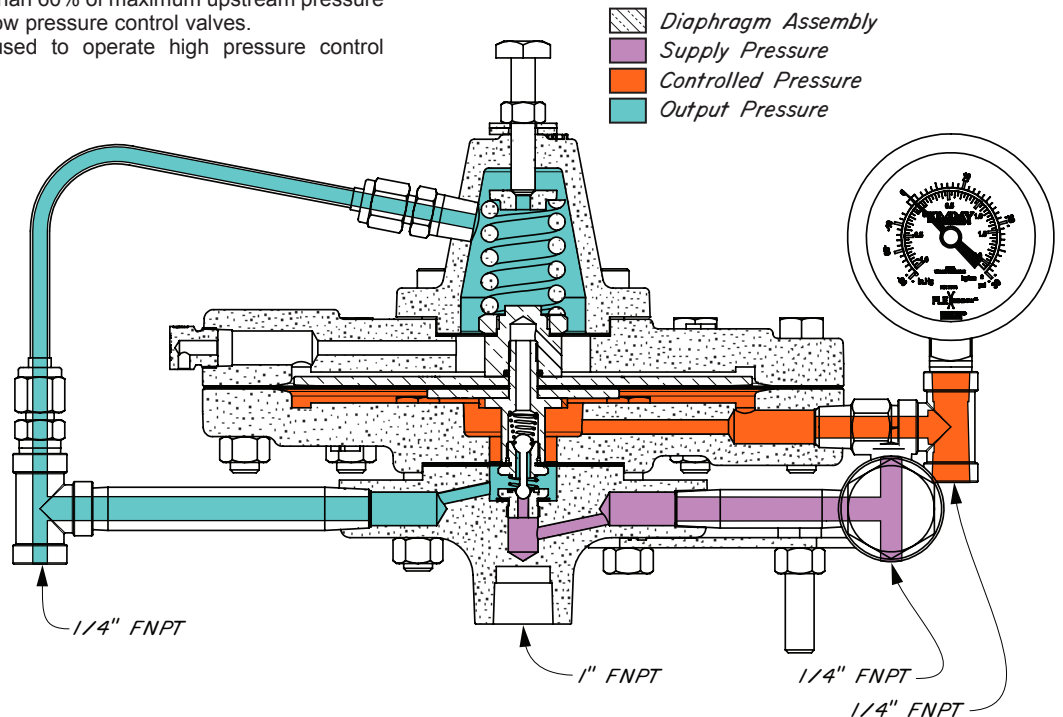
- Single adjustment
- Filtered gas supply
- High accuracy
- Remote installation

#### CLASSIFICATIONS:

- Non-Bleed / Intermittent Vent

#### SUPPLY PRESSURE:

Equal to or not less than 60% of maximum upstream pressure when used to operate low pressure control valves.  
20-30 psig when used to operate high pressure control valves.



Standard Configuration Code †	Order Code	Operating Pressure	Max. W.P. psig ††
PDLDD2S	YIB2.5	.5 oz - 2.5 psig	175
PDLDD3S	YIB5	1 oz - 5 psig	
PDLDD4S	YIB20	1 psig - 20 psig	

#### NOTES:

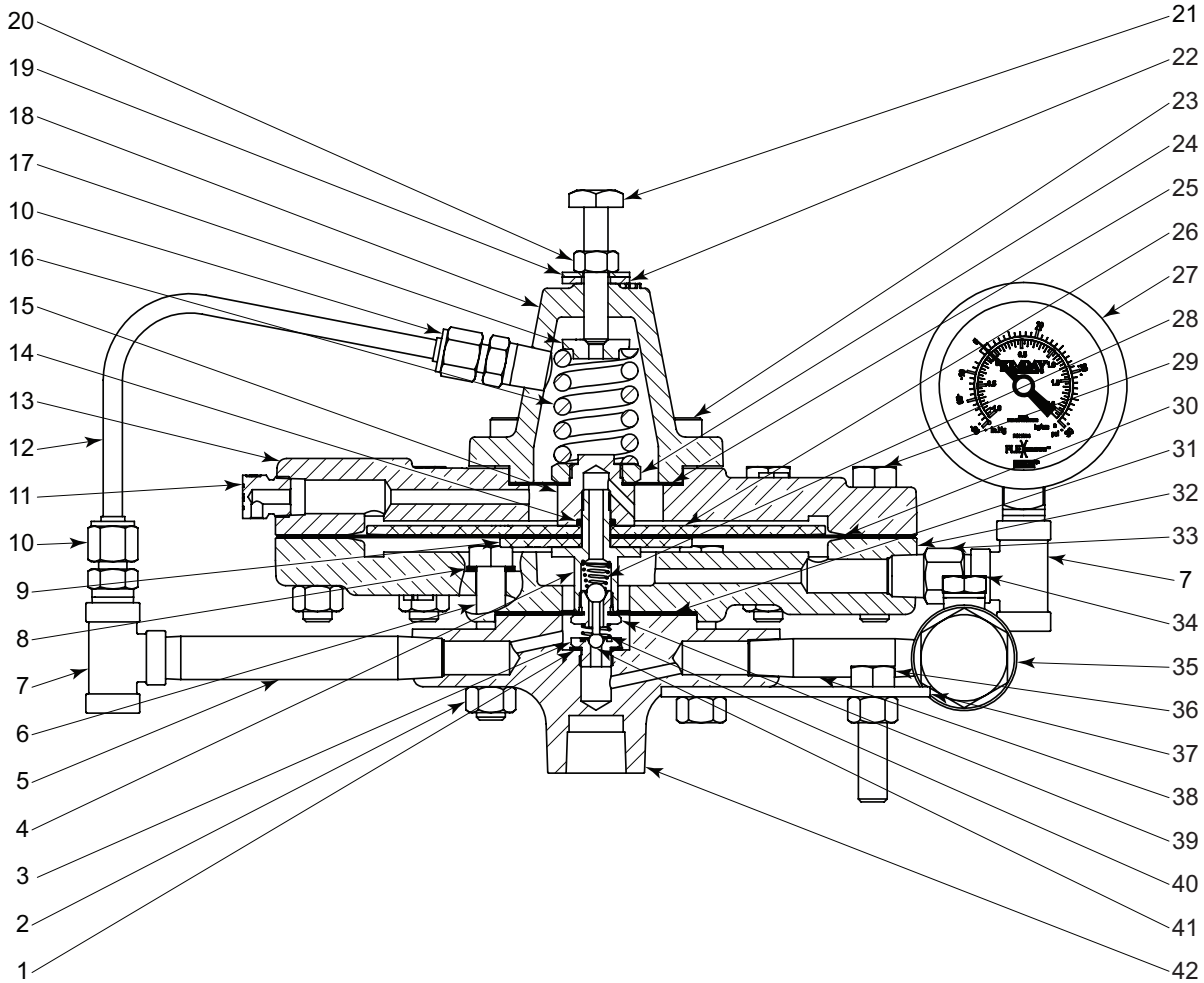
For standard & optional seals, metals, Cf Cv values, material specifications & dimensions see technical data on pages 09:I - 09:IV

† For Corrosive service remove last "S" & replace with "C"

† For code builder see page 09:00.3

†† Max W.P. values based on -20°F to 100°F.

DIAPHRAGM CONTROLLED LOW PRESSURE / DIRECT ACTING  
MODEL DL DRAWING & PARTS LIST



ITEM	QTY.	DESCRIPTION	PART NO		ITEM	QTY.	DESCRIPTION	PART NO	
			STANDARD	CORROSIVE				STANDARD	CORROSIVE
1	1	Gasket *		118	20	1	Nut		922
2	16	Nut		241	21	1	Adjusting Screw		5100
3	1	Seat *	113	113SS6	22	1	Packing Seal *		4490
4	1	Stem	2913	2913SS6	23	6	Screw		7531
5	1	Nipple	75	75SS6	24	1	Diaphragm Nut		5026
6	4	Screw		191	25	1	Diaphragm *		5027
7	2	Tee	219	219SS6	26	1	Upper Diaphragm Plate	1208	1208SS6
8	4	Gasket *		242	27	1	Gauge		7704
9	1	Lower Diaphragm plate	1340	1340SS6	28	1	Spring *	108	108HAC
10	2	Connector		874	29	10	Screw		236
11	1	Vent Plug	147	147SS6	30	1	Diaphragm *		1212
12	1	Tubing		214SS6	31	1	Diaphragm *		110
13	1	Upper Housing		1206	32	1	Lower Housing		1356
14	1	O-Ring *		265	33	1	Nipple	648	648SS6
15	1	Diaphragm Stem	5091	5091S6	34	1	Plug	699	699SS6
16	1	Spring	20 lbs. (standard)	4379	35	1	Filter	YAS	YASS6
			5 lbs. (optional)	3061	36	2	Bolt		430
			2.5 lbs. (optional)	1527	37	1	Mount Bracket		4428
17	1	Spring Plate	20 lbs. (standard)	7148S6	38	1	Nipple		2600
			5 lbs. (optional)	636SS6	39	1	Pilot Seat *	565	565SS6
			2.5 lbs. (optional)		40	1	Spring *	566	566HAC
18	1	Bonnet		5090	41	1	Pilot Plug *		112
19	1	Washer		4492	42	1	Base Plate		962S
* These parts are recommended spare parts and are stocked as repair kits.							Repair Kit	RWN	RWNV

All Pictures shown are for illustration purpose only. Actual product may vary due to product enhancement.

#### APPLICATION:





Any system in which it is desired to multiply and volume boost a pneumatic signal to a large control valve or similar equipment. Amplification of the input pneumatic signal is approximately 4:1. When manual reset is used, it can monitor a 3 way valve and vent system supply if a preset limit is exceeded

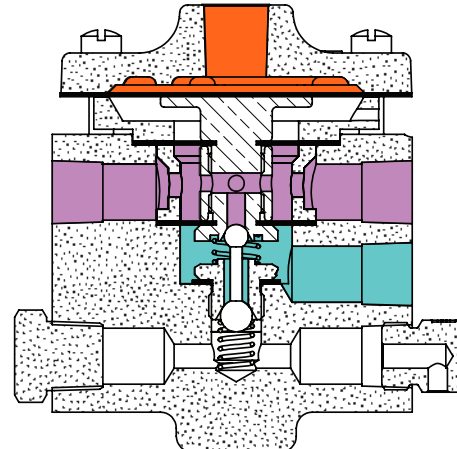
#### FEATURES:

- Field reversible for direct throttle or indirect snap action
- Optional manual reset lever when Direct Acting
- Provides "tattle-tell" signal when preset limit is exceeded
- Intermittent vent pilot 3 Way Valving
- Rapid venting action
- No dead center

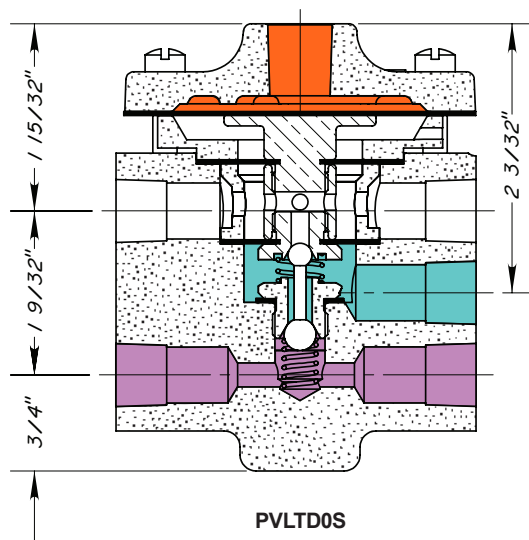
#### CLASSIFICATIONS:

Non-Bleed / Intermittent Vent

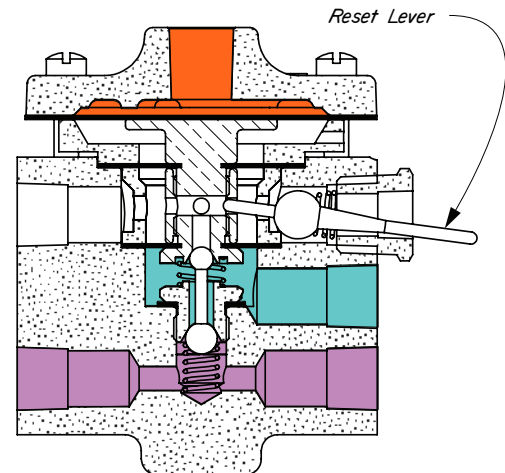
-  Diaphragm Assembly
-  Supply Pressure
-  Variable Pressure
-  Output Pressure



PVLSD0S



PVLTD0S



PVLMD0S

All Connection Are 1/4" FNPT



Standard Configuration Code †	Order Code	Action	Variable Press psig ††	Supply Press psig	Output Press psig	Max. W.P. psig †††
PVLMD0S	YAF	Manual Reset	0 - 30	5 - 30	0 or Supply	30
PVLTD0S	YAE	Throttle	0 - 30	5 - 30	0 or Supply	30
PVLSD0S	YAG	Snap	0 - 30	5 - 30	0 or Supply	30

#### NOTES:

For standard & optional seals, metals, Cf Cv values, material specifications & dimensions see technical data on pages 09:1 - 09:1V

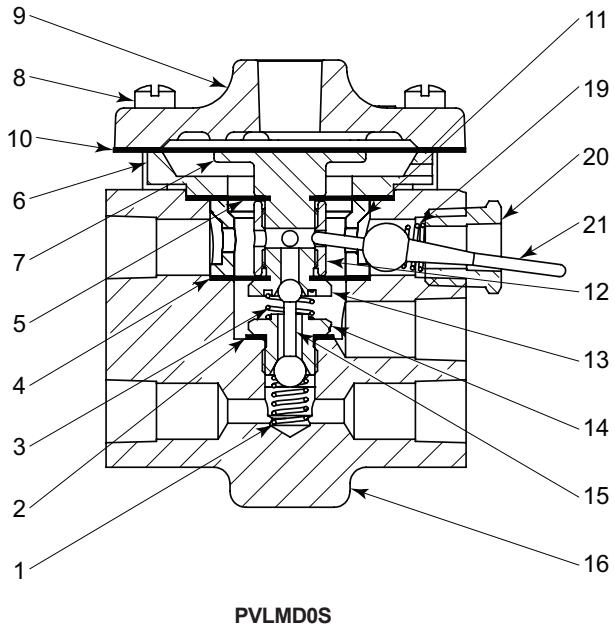
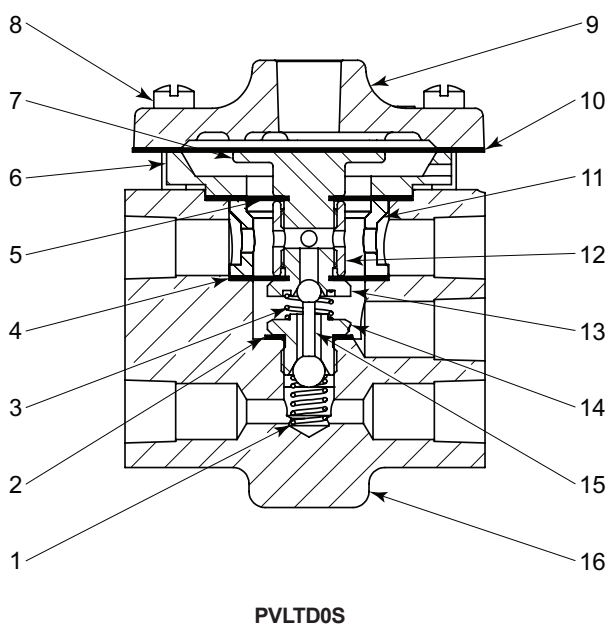
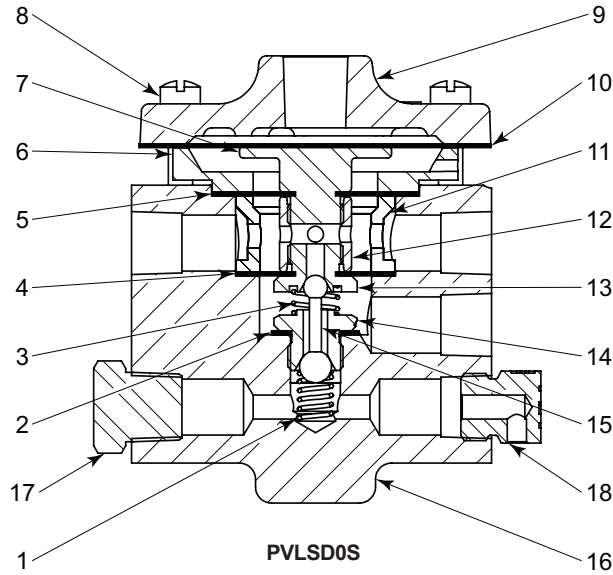
† For Corrosive service remove last "S" & replace with "C"

† For code builder see page 09:00.4

†† Variable pressure snapping range depending on supply Pressure approximately 2 - 7 psig at 30 psig

††† Max W.P. values based on -20°F to 100°F.

30 VOLUME BOOSTER  
MODEL VL DRAWING & PARTS LIST



ITEM	QTY.	DESCRIPTION	PART NO		ITEM	QTY.	DESCRIPTION	PART NO	
			STANDARD	CORROSIVE				STANDARD	CORROSIVE
1	1	Spring *	585		11	1	Spool	580	580SS6
2	1	Gasket *	118		12	1	Spacer	581	581SS6
3	1	Spring *	566	566HAC	13	1	Seat *	113	113SS6
4	1	Lower Diaphragm *	584HSN		14	1	Seat *	565	565SS6
5	1	Diaphragm *	582HSN		15	1	Pilot Plug *	112	
6	1	Housing	578	578SS6	16	1	Body	587	2408SS6
		Optional Vented Housing	5365		17	1	Plug	699	699SS6
7	1	Diaphragm Plate	579	579SS6	18	1	Breather Plug	147	147SS6
8	6	Screw	573		19	1	Spring *	108	108HAC
9	1	Cover	577	2414SS6	20	1	Bushing	539	539SS6
10	1	Upper Diaphragm *	583HSN		21	1	Reset Lever	1396	
* These parts are recommended spare parts and are stocked as repair kits.					Repair Kit		RXY		



**APPLICATION:**

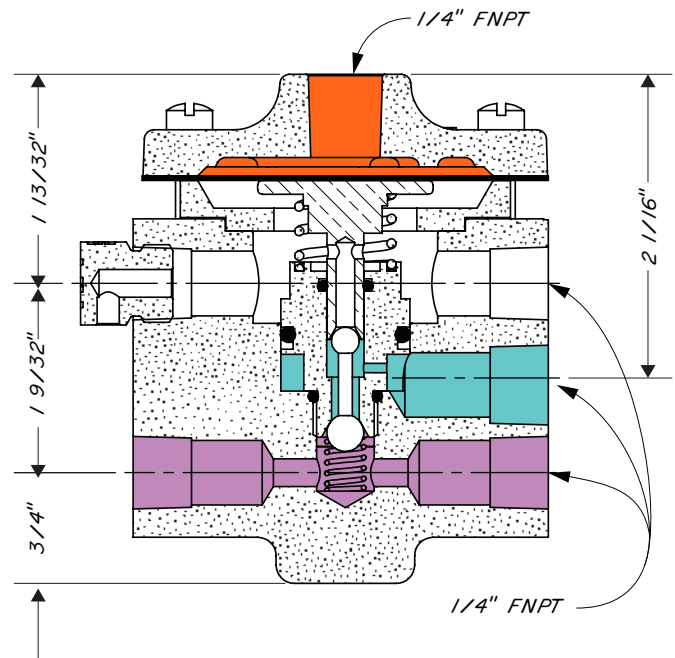
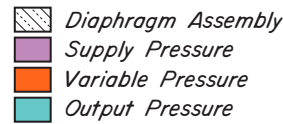
Any system where a 0 to 300 psig signal must be switched using a 20 to 30 psig signal.

**FEATURES:**

Intermittent vent pilot 3 Way Valving  
Direct acting

**CLASSIFICATIONS:**

Non-Bleed / Intermittent Vent



Standard Configuration Code †	Order Code	Variable Press psig ††	Supply Press psig	Output Press psig	Max. W.P. psig †††
PVH0D0S	YAI	20 - 30	0 - 300	0 or Supply	300

**NOTES:**

For standard & optional seals, metals, Cf Cv values, material specifications & dimensions see technical data on pages 09:I - 09:IV

† For Corrosive service remove last "S" & replace with "C"

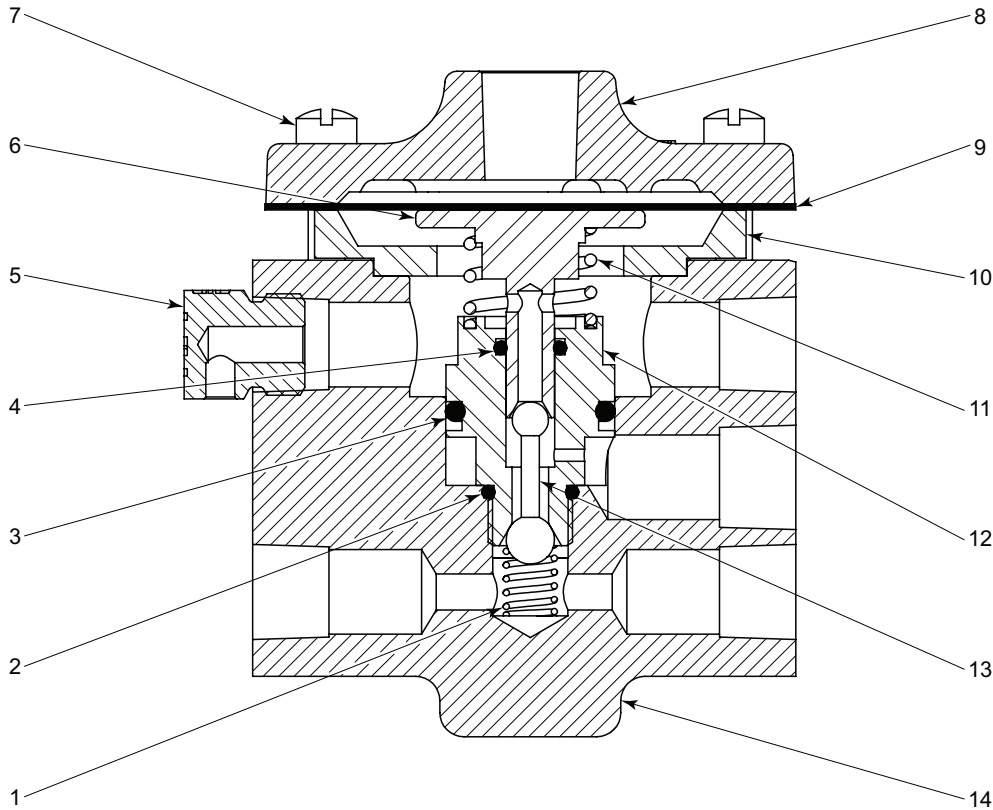
† For code builder see page 09:00.4

†† Variable pressure snapping range depending on supply Pressure approximately 2 - 7 psig at 30 psig

††† Max W.P. values based on -20°F to 100°F.

# PILOTS & RELAYS

300 VOLUME BOOSTER  
MODEL VH DRAWING & PARTS LIST



ITEM	QTY.	DESCRIPTION	PART NO		ITEM	QTY.	DESCRIPTION	PART NO	
			STANDARD	CORROSIVE				STANDARD	CORROSIVE
1	1	Spring *	585		8	1	Cover	577	2414SS6
2	1	O-Ring *	265HSN		9	1	Diaphragm *	582HSN	
3	1	O-Ring *	924HSN		10	1	Housing	5125	
4	1	O-Ring *	638HSN		11	1	Spring	1358	
5	1	Breather Plug	147	147SS6	12	1	Lower Seat	2338	2338S6
6	1	Upper Seat	2337	2337S6	13	1	Pilot Plug *	112	
7	6	Screw	573		14	1	Body	2335	2408SS6
* These parts are recommended spare parts and are stocked as repair kits.							Repair Kit	RXY	



### BISTABLE PILOT MODEL BR

#### APPLICATION:

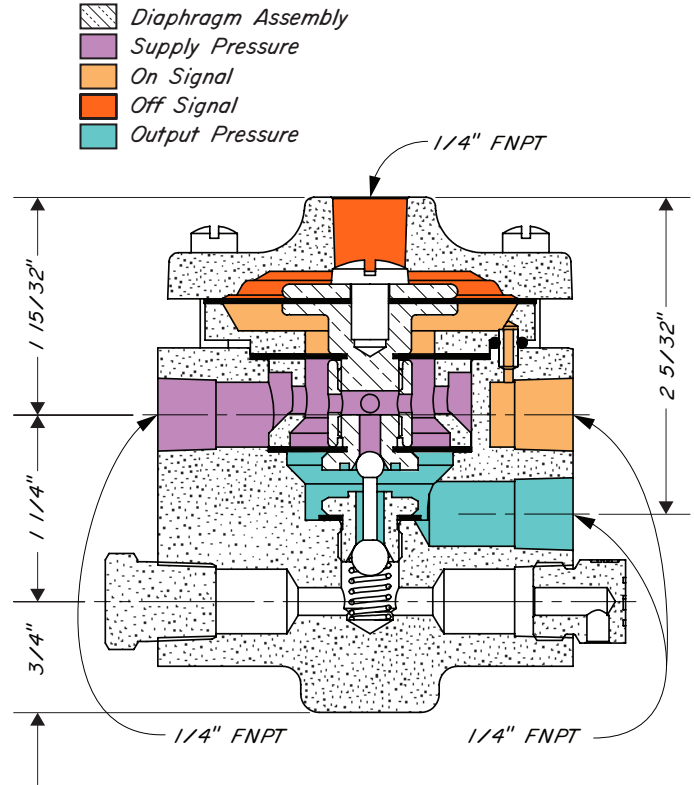
Any system where two temporary pressure signals are available. One signal to turn "ON" the pilot and one signal to turn "OFF" the pilot.

#### FEATURES:

- Bistable operation
- Temporary signal will turn "ON" or "OFF"
- Intermittent vent pilot
- Semi-snap action

#### CLASSIFICATIONS:

Non-Bleed / Intermittent Vent



Standard Configuration Code †	Order Code	On/Off Signal	Supply Press psig	Output Press psig	Max. W.P. psig ††
PBR0D0S	YAH1	20 - 30	20 - 30	0 or Supply	30

#### NOTES:

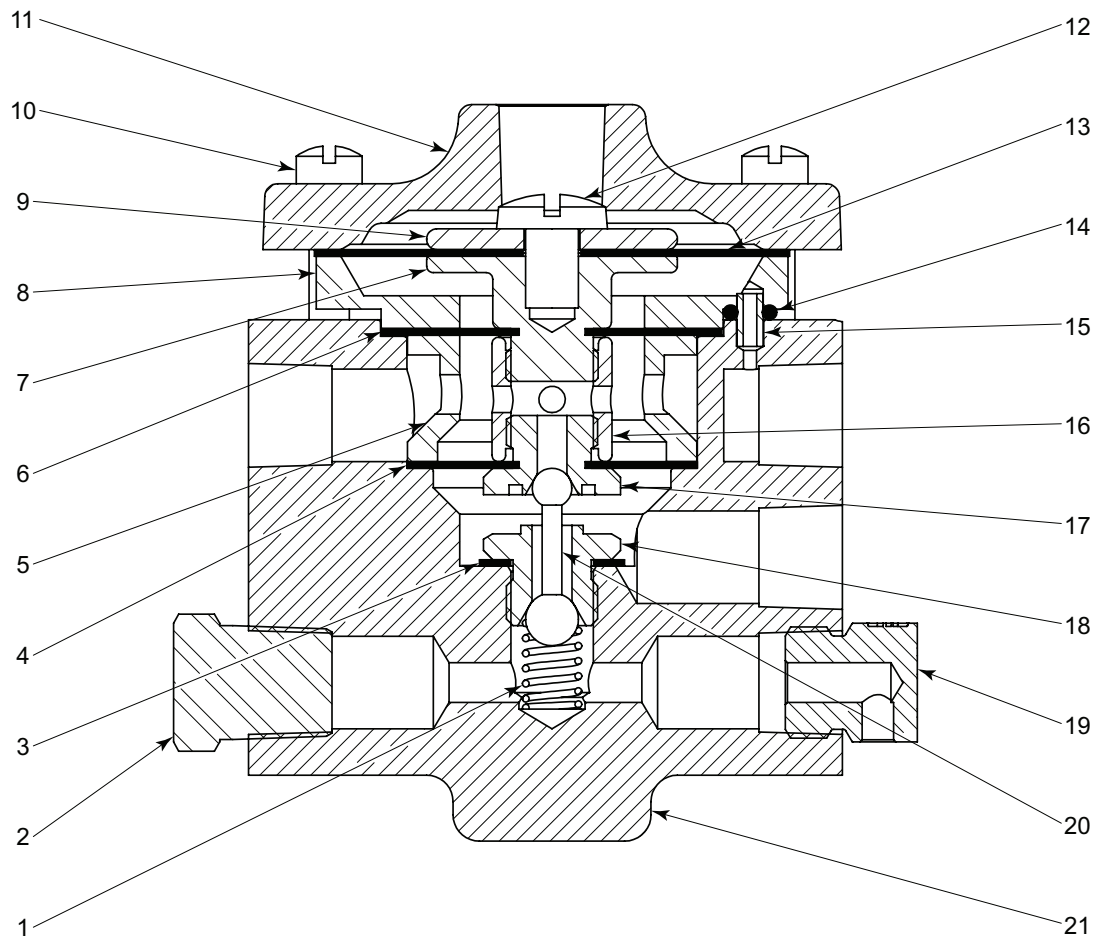
For standard & optional seals, metals, Cf Cv values, material specifications & dimensions see technical data on pages 09:I - 09:IV

† For Corrosive service remove last "S" & replace with "C"

† For code builder see page 09:00.4

†† Max W.P. values based on -20°F to 100°F.

**BISTABLE PILOT  
MODEL BR DRAWING & PARTS LIST**



ITEM	QTY.	DESCRIPTION	PART NO		ITEM	QTY.	DESCRIPTION	PART NO	
			STANDARD	CORROSIVE				STANDARD	CORROSIVE
1	1	Spring *	585		12	1	Screw	2670SS6	
2	1	Plug	699		13	1	Diaphragm *	896HSN	
3	1	Gasket *	118		14	1	O-Ring *	569HSN	
4	1	Diaphragm *	2619		15	1	Jumper Tube	895	895SS6
5	1	Spool	2616	2616SS6	16	1	Spacer	581	581SS6
6	1	Diaphragm *	583HSN		17	1	Seat *	113	113SS6
7	1	Lower Diaph. Plate	857	857SS6	18	1	Seat *	565	565SS6
8	1	Housing	2617	2617SS6	19	1	Breather Plug	147	
9	1	Upper Diaph. Plate	2618	2618SS6	20	1	Pilot Plug *	112	
10	6	Screw	573		21	1	Body	2615	2615SS6
11	1	Cover	2620	2620SS6			Repair Kit	RXY	

\* These parts are recommended spare parts and are stocked as repair kits.

#### APPLICATION:

Direct firing of small steam generators by controlling flow of gas through the pilot to the burner. Approximate capacity of pilot is 360 SCFH with 15 psig supply pressure.

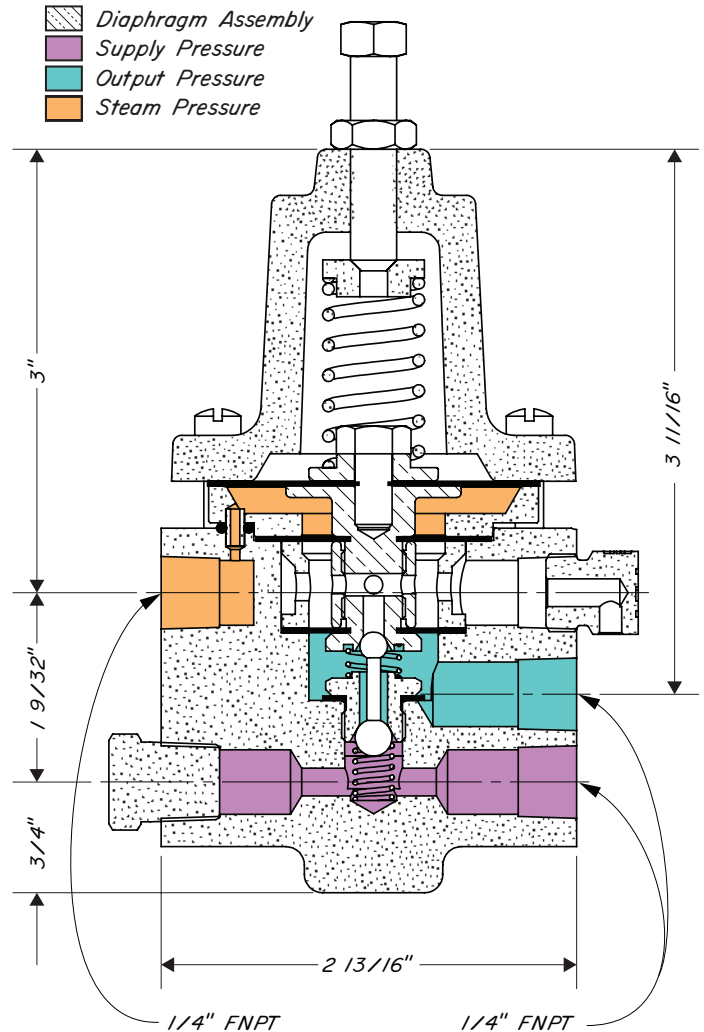
Pressure control of larger steam generators by regulating flow of gas through a control valve.

#### FEATURES:

- Intermittent vent pilot
- Reverse acting
- Throttle action
- Adjustable Steam Pressure

#### CLASSIFICATIONS:

- Non-Bleed / Intermittent Vent



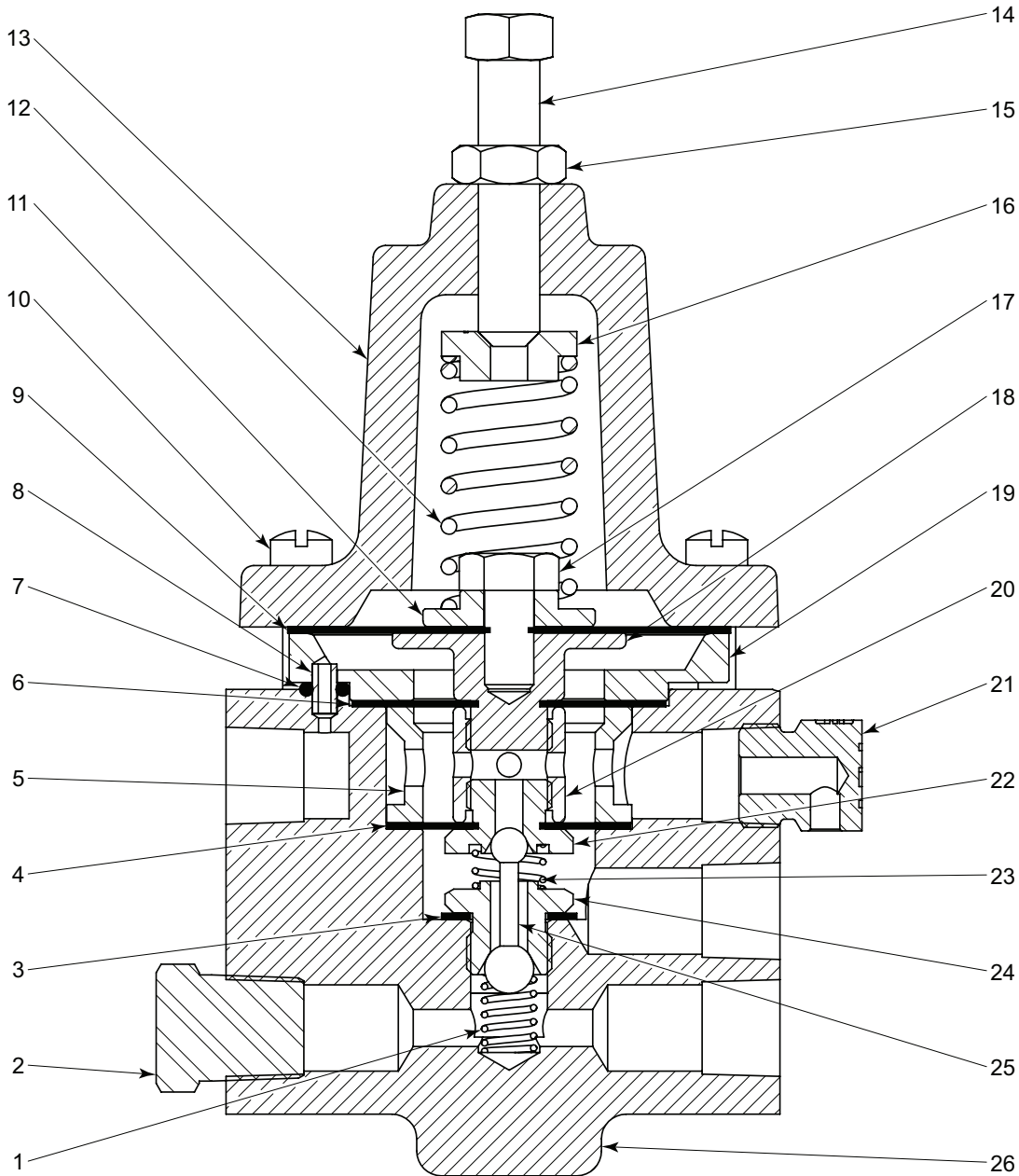
Standard Configuration Code †	Order Code	Max. Steam Press psig	Max. Steam Temp.	Supply Press psig	Output Press psig ††	Max. W.P. psig †††
PPT0D0S	YAA	15	250° F	5 - 30	0 - 20	30

#### NOTES:

- For standard & optional seals, metals, Cf Cv values, material specifications & dimensions see technical data on pages 09:I - 09:IV
- † For Corrosive service remove last "S" & replace with "C"
- † For code builder see page 09:00.4
- †† Adjustable Steam Pressure
- ††† Max W.P. values based on -20°F to 100°F.

All Pictures shown are for illustration purpose only. Actual product may vary due to product enhancement.

PRESSURESTAT  
MODEL PT DRAWING & PARTS LIST



ITEM	QTY.	DESCRIPTION	PART NO		ITEM	QTY.	DESCRIPTION	PART NO	
			STANDARD	CORROSIVE				STANDARD	CORROSIVE
1	1	Spring *		585	14	1	Adjustment Screw		897
2	1	Plug	699	699SS6	15	1	Jamb Nut		922
3	1	Gasket *		118	16	1	Spring Plate		636SS6
4	1	Lower Diaphragm *		584HSN	17	1	Screw		898
5	1	Spool	580	580SS6	18	1	Lower Diaphragm Plate	857	857SS6
6	1	Diaphragm *		583HSN	19	1	Housing		947
7	1	O-Ring *		569HSN	20	1	Spacer	581	581SS6
8	1	Jumper Tube	895	895SS6	21	1	Breather Plug	147	147SS6
9	1	Upper Diaphragm *		896HSN	22	1	Seat *	113	113SS6
10	6	Screw		573	23	1	Spring *	566	566HAC
11	1	Upper Diaphragm Plate		893	24	1	Seat *	565	565SS6
12	1	Standard Heavy Spring		692	25	1	Pilot Plug *		112
		Optional Light Spring		86	26	1	Body		894
13	1	Bonnet		856	Repair Kit				RXY

\* These parts are recommended spare parts and are stocked as repair kits.

All Pictures shown are for illustration purpose only. Actual product may vary due to product enhancement.

#### APPLICATION:

The Electronic Pilot Controller is used in any application where a 4-20mA valve actuator can be controlled by reading a 4-20mA sensor.

#### FEATURES

- Multiple control schemes
- \* PID Control (Pressure Reducing or Back Pressure)
- \* High Limit shutdown
- \* Low Limit shutdown
- \* GAP Control (example: plunger lift application)
- \* High Low shutdown
- Multiple applications
- \* Pressure control
- \* Flow control
- \* Temperature control
- \* Level control
- Powered from actuator supply
- Reverse Battery Protection
- Bright OLED display technology
- User-friendly menus for installation/operation
- PID Autotuning available for ease of installation

#### CONSTRUCTION:

Cast aluminum housing for hazardous location areas.

#### OPERATION:

The Electronic Pilot receives an analog (4-20mA) signal from a sensor which measures a process valve. The signal is conditioned and sent to an electronically controlled valve via 4-20mA output signal. A PID control loop is utilized along with auto-tune and manual tuning capabilities. The pilot can connect directly to an electric actuator and share a common input power source.

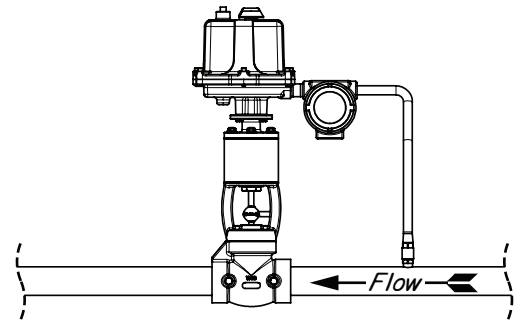
#### INSTALLATION AND COMMISSION:

- 1) Mount appropriate hardware
- 2) Specify sensor using the menu
- 3) Select control scheme
- 4) Perform auto-tuning or manual-tuning

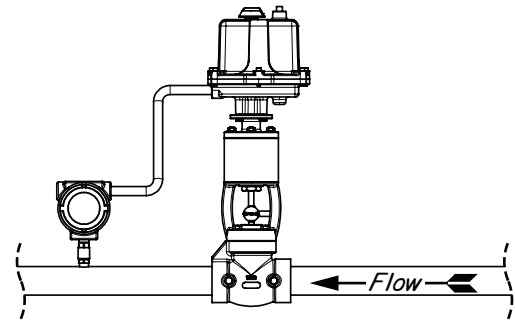
#### CERTIFICATIONS:

CSA HAZARDOUS LOCATION  
 Class I, Div 1, Groups B, C, D  
 Class II, Groups E, F, G  
 Class III, T6  
 Type 4X enclosure, IP66 rated

IECEx/ATEX (see label)  
 Ex db IIC T6 Gb  
 Ex tb IIIC T80°C Db  
 TA = -40°C to 60°C  
 IP66



**BACK PRESSURE INSTALLATION**



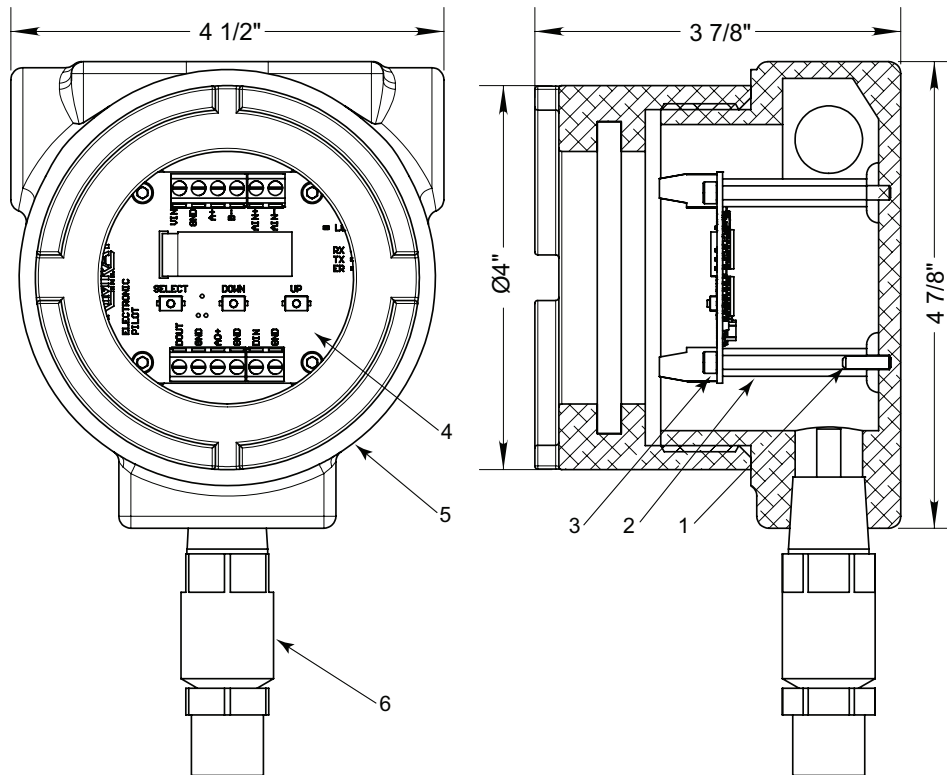
**PRESSURE REDUCING INSTALLATION**

ELECTRICAL RATINGS			
	Min	Max	Units
Input Voltage (VIN)	10	30	VDC
Input Current	0.05	0.10	ADC
Ambient Temperature	-40	60	°C
	-40	140	°F
Analog input From Sensor	4-20 mA (powered by VIN)		
Discrete input	Dry Contacts only		
Analog Output to Actuator	4-20 mA (powered by VIN)		
Communications	RS-485 (MODBUS RTU)		
Discrete Output	0 VDC or VIN, up to 1A		

Order Code	Description
YEP	ELECTRIC PILOT CONTROLLER

# PILOTS & RELAYS

## ELECTRIC PILOT CONTROLLER DRAWING & PARTS LIST



ITEM	QTY.	DESCRIPTION	PART NO
1	4	SET SCREW 6-32	7472A
2	4	PCB STANDOFF 6-32 x 3/8" HEX	7472B
3	4	6-32 x 1/4 SOCKET HEAD SCREW	7495
4	1	MAIN PCB	KA7509
5	1	ENCLOSURE	7483
6	1	PRESSURE TRANSDUCER	SEE BELOW

ACCESSORIES AVAILABLE		
PART NO	PRESSURE RANGE	DESCRIPTION
KSGS100PG	0-100 psig	PRESSURE TRANSDUCER
KSGS300PG	0-300 psig	PRESSURE TRANSDUCER
KSGS750PG	0-750 psig	PRESSURE TRANSDUCER
KSGS20CPS	0-2000 psig	PRESSURE TRANSDUCER
KSGS40CPS	0-4000 psig	PRESSURE TRANSDUCER
KSGS60CPS	0-6000 psig	PRESSURE TRANSDUCER
7513		1/2 NPT CONDUIT PLUG

All Pictures shown are for illustration purpose only. Actual product may vary due to product enhancement.

#### APPLICATIONS:

The 30 HPG Pressure Switch sends a pneumatic signal when the monitored pressure rises above the desired pressure. The signal vents when the monitored pressure drops below the desired set pressure. The output signal is an on/off signal and is not intended for use as a proportional signal for throttling a motor valve.

The pneumatic source is isolated from the monitored pressure by a vent chamber which allows the monitored pressure to vent away if it reaches a high enough pressure to cause diaphragm failure.

#### FEATURES:

- Single adjustment
- Filtered gas supply
- Accurate control
- Remote installation
- Direct, on/off action

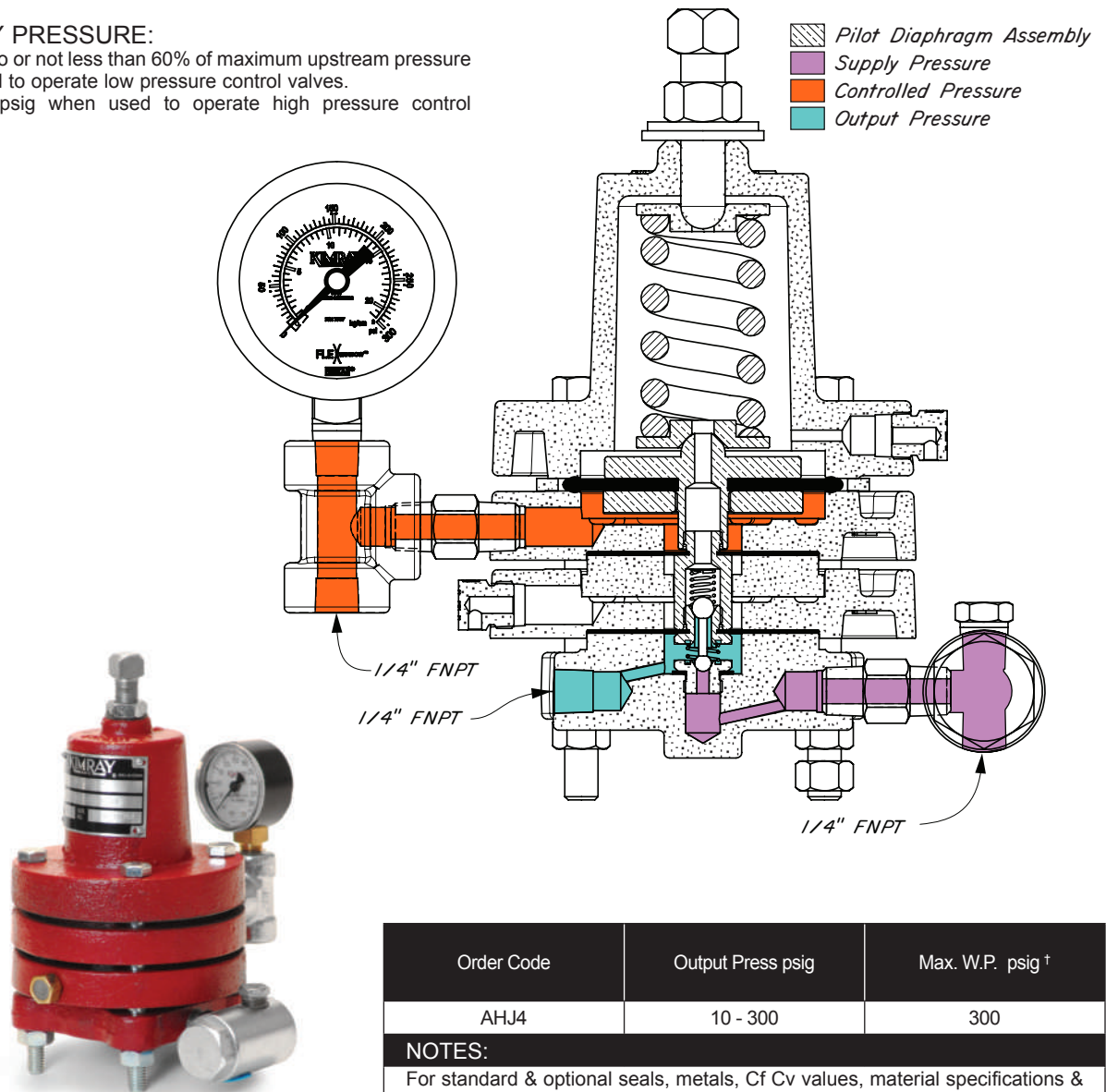
#### CLASSIFICATIONS:

Non-Bleed / Intermittent Vent

#### SUPPLY PRESSURE:

Equal to or not less than 60% of maximum upstream pressure when used to operate low pressure control valves.

20-30 psig when used to operate high pressure control valves.

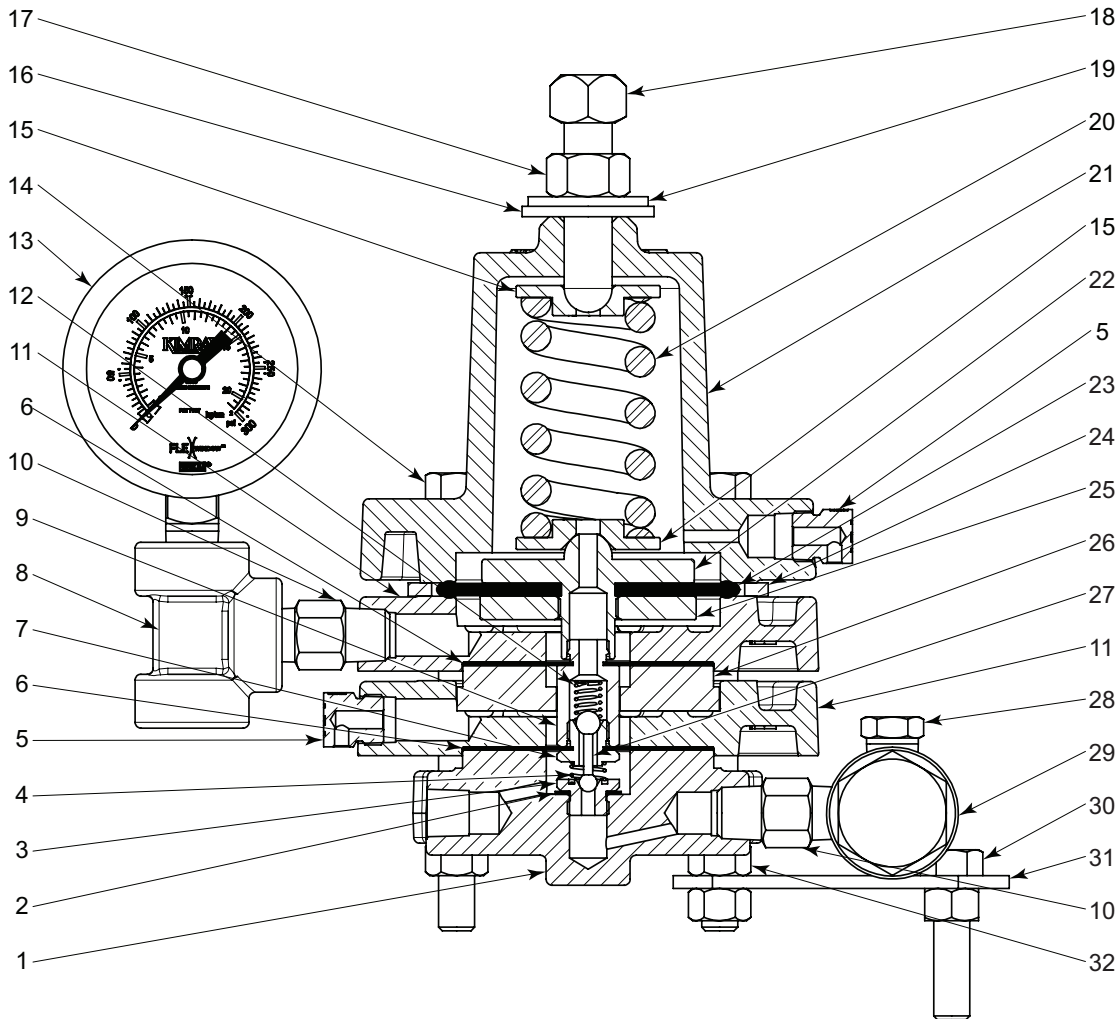


Order Code	Output Press psig	Max. W.P. psig †
AHJ4	10 - 300	300

**NOTES:**  
 For standard & optional seals, metals, Cf Cv values, material specifications & dimensions see technical data on pages 09:I - 09:IV  
 † Max W.P. values based on -20°F to 100°F.



*DIRECT ACTING PRESSURE SWITCH  
DRAWING & PARTS LIST*



ITEM	QTY.	DESCRIPTION	PART NO		ITEM	QTY.	DESCRIPTION	PART NO	
			STANDARD	CORROSIVE				STANDARD	CORROSIVE
1	1	Base Plate	2607		17	1	Nut	2377	
2	1	Gasket *	118		18	1	Adjusting Screw	5163	5163SS6
3	1	Seat *	113	113SS6	19	1	Washer *	4491	
4	1	Booster Spring *	566	566HAC	20	1	Spring	2611	
5	2	Breather Plug	147	147SS6	21	1	Bonnet	2610	
6	2	Diaphragm *	110		22	1	Diaphragm Plate	116	116SS6
7	1	Seat *	565	565SS6	23	1	Diaphragm *	5259P	
8	1	Tee	2000	2000SS6	24	1	Ring *	7437	
9	1	Seat Extension	4297		25	1	Nut	107	107SS6
10	2	Nipple	648	648SS6	26	1	Spacer Ring	2021	
11	2	Housing	1701		27	1	Pilot Plug *	112	
12	1	Spring *	585		28	1	Plug	699	699SS6
13	1	Gauge	7707		29	1	Filter	YAS	YASSS6
14	4	Screw	4298		30	2	Screw	430	
15	2	Spring Plate	2612	2612SS6	31	1	Mounting Bracket	4428	
16	1	Packing Seal *	4488		32	8	Nut	241	
* These parts are recommended spare parts and are stocked as repair kits.							Repair Kit	RSR	RSRV

All Pictures shown are for illustration purpose only. Actual product may vary due to product enhancement.



#### APPLICATION:

The "PDC" Series Pressure Differential Controller connects across the orifice plate of a meter run to maintain a constant stable pressure differential across the meter run. This relates to a constant flow rate when the upstream pressure is constant. This pilot adjusts the flow rate to maintain the pressure differential by positioning a pressure opening motor valve that has characterized equal percentage valve trim for precise flow control.

Precise gas flow rate for gas lift.

Pressure differential control across orifice plates for better charts and measurement of gas flow.

Stabilizes gas flow for better well production.

Pressure differential limiting for reducing "off chart" conditions.







Any applications where a constant pressure differential and flow rate is desired.

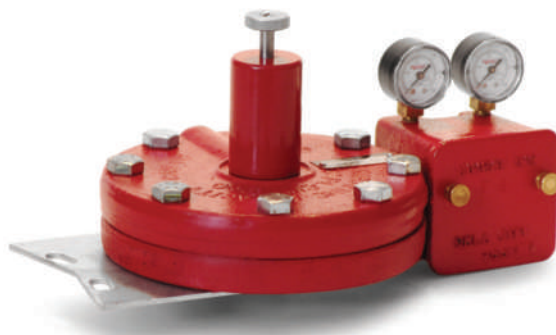
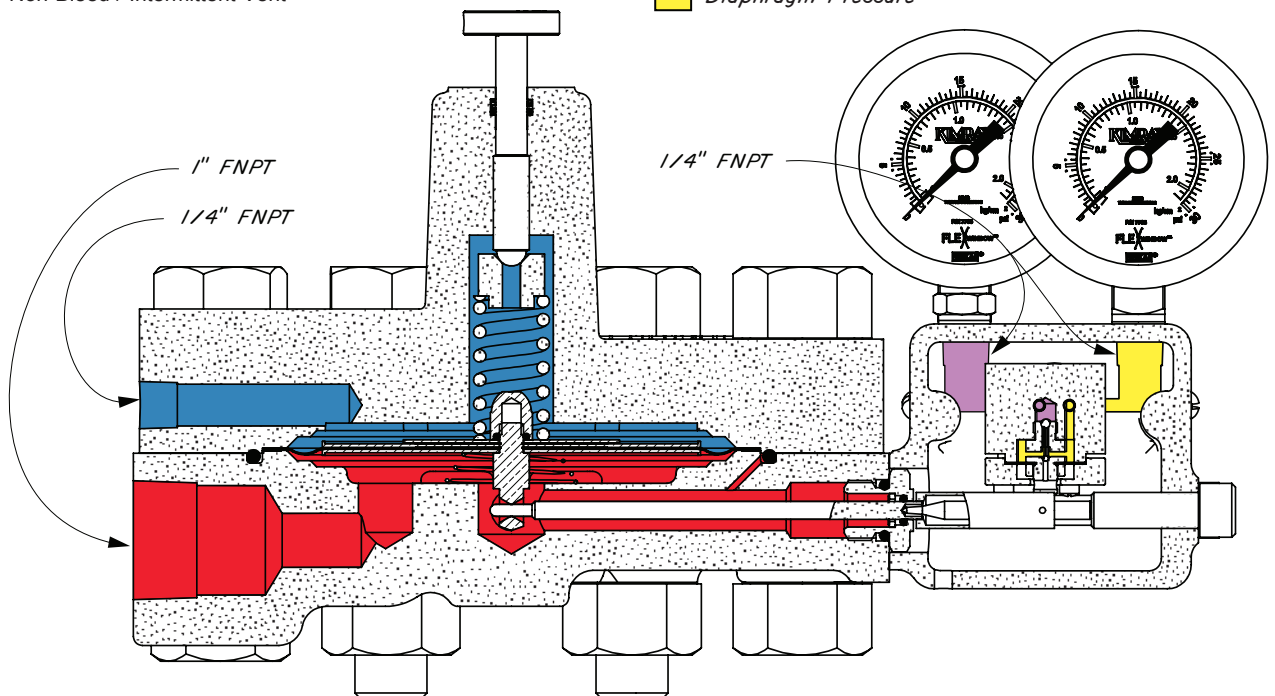
#### FEATURES:

- Throttle operation
- 1 to 260 inches of water differential pressure
- Heavier springs available, if specified
- May be used with any type of diaphragm motor valve

#### CLASSIFICATIONS:

Non-Bleed / Intermittent Vent

-  Main Diaphragm Assembly
-  3PTC Pilot Diaphragm Assembly
-  Upstream Pressure
-  Downstream Pressure
-  Supply Pressure
-  Diaphragm Pressure



Order Code	Connection size	Supply Press psig	Output Press psig	Max. W.P. psig †
FAA1	1/4"	5 - 30	Variable, 2 - 30	1000
FAA2	1"	5 - 30	Variable, 2 - 30	1000
FAB1	1/4"	5 - 30	Variable, 2 - 30	2000
FAB2	1"	5 - 30	Variable, 2 - 30	2000

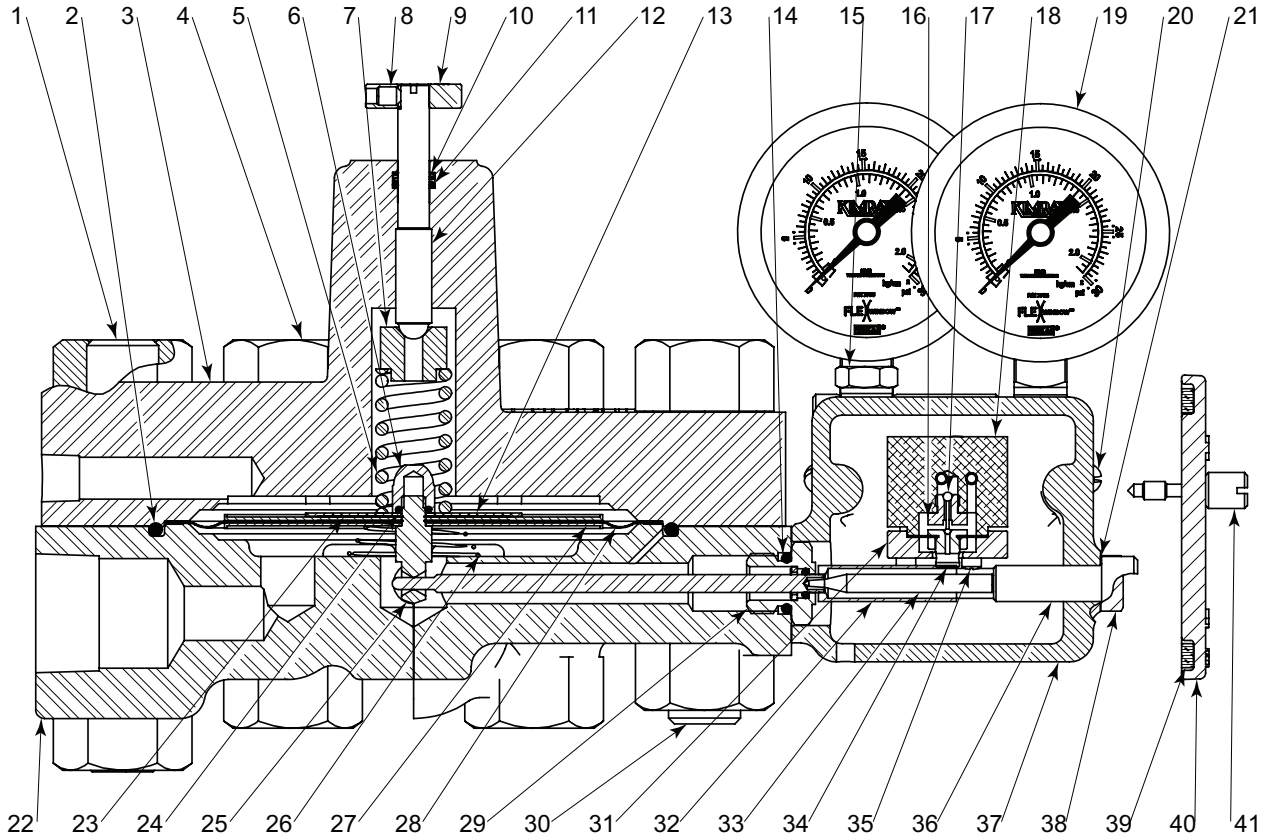
#### NOTES:

For standard & optional seals, metals, Cf Cv values, material specifications & dimensions see technical data on pages 09:I - 09:IV

† Max W.P. values based on -20°F to 100°F.

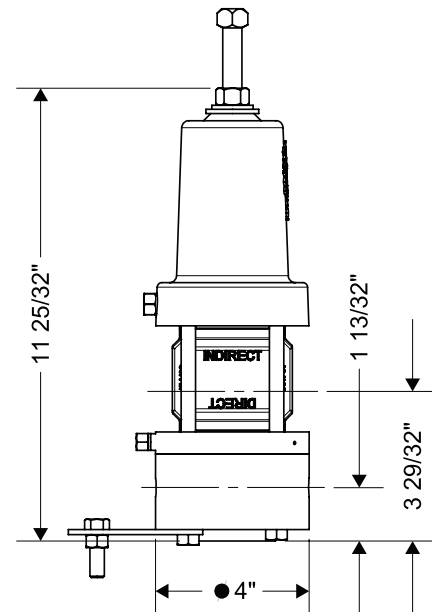
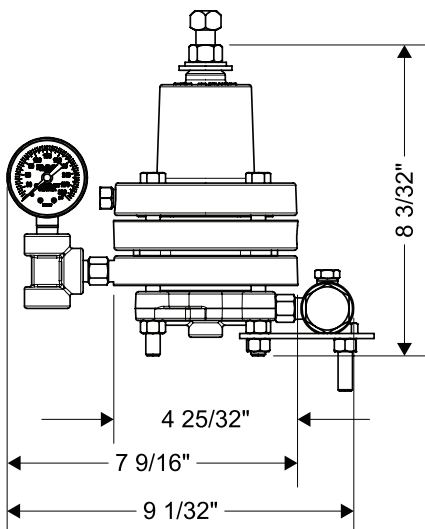
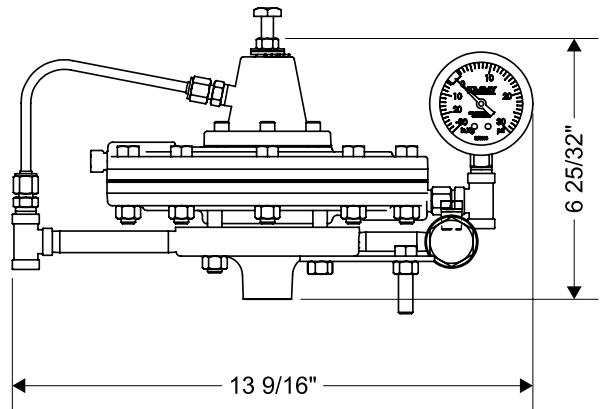
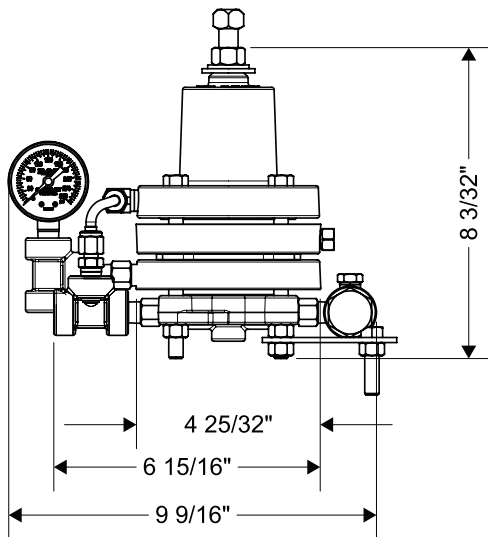
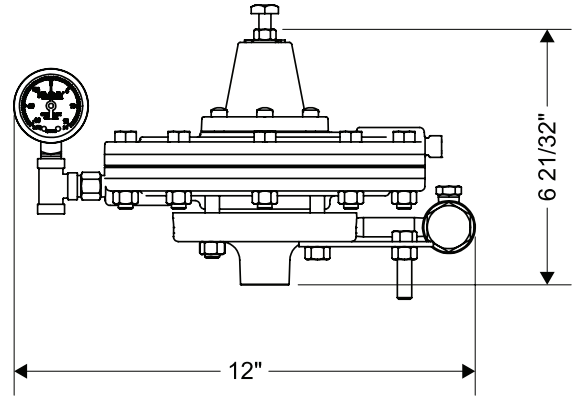
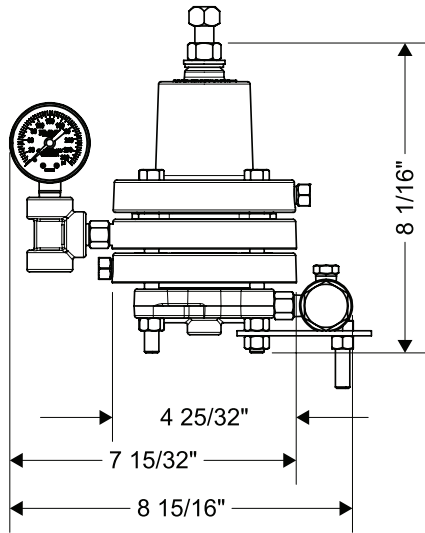
PRESSURE DIFFERENTIAL CONTROLLER

DRAWING & PARTS LIST



ITEM	QTY.	DESCRIPTION	PART NO	ITEM	QTY.	DESCRIPTION	PART NO	
1	2	Stud 3/4-10 x 4.5	1000 psig 834 2000 psig 83A	24	1	O-Ring *	638	
2	1	O-Ring	*	87	25	Diaphragm Bolt *	640	
3	1	Upper Flange	1000 psig 92 2000 psig 93	26	1	Spring	4078	
4	2	Nut	1000 psig * 2377 2000 psig 82B	27	2	Diaphragm Plate	89	
5	1		Spring	1527	28	1	Diaphragm *	641
6	1	Nut	*	637	29	Packing Gland Assembly *	646	
7	1	Spring Plate	1000 psig 1442SS6 2000 psig 4125	30	6	Stud 3/4-10 x 4.0	1000 psig 825 2000 psig 82A	
8	1	Screw	264	31	1	Pilot Cap	969	
9	1	Knob	635S6	32	1	Waggle Arm	1000 psig 943S6 2000 psig 944S6	
10	1	Back-up	*	148T	33	Pivot Bar	644	
11	1	O-Ring	*	153	34	Seat Assembly *	554	
12	1	Screw	634	35	4	Screw	968	
13	1	Spacer Plate	*	90	36	Screw	645	
14	1	O-Ring	*	530	37	Case	752	
15	1	Plug	699	38	1	Screw (Rear Case Mount)	78	
16	1	Seat	*	555	39	Gasket *	775	
17	1	Pilot Plug	*	563	40	Cover	755	
18	1	Pilot Housing	2401	41	2	Screw	966	
19	2	Gauge	7705	Item Listed Below Are Not Shown				
20	2	Screw	752A	1	Screw (Front Case Mount)	477		
21	Spacer (use to establish 1/16" at Ø)		674A	2	Screw (Pilot Mount)	967		
22	1	Lower Flange	1000 psig	1" NPT	96	2	O-Ring (Pilot Mount Seal)	569
				1/4" NPT	7129	1	Mounting Bracket	1000 psig 4428 2000 psig 6753
			2000 psig	1" NPT	97	1	Nipple	648
				1/4" NPT	7130	1	Filter	YAS
23	2	Diaphragm Seal Ring	673	3 PDC Pilot			YBM	
* These parts are recommended spare parts and are stocked as repair kits.							Repair Kit	RIJ

All Pictures shown are for illustration purpose only. Actual product may vary due to product enhancement.



All Pictures shown are for illustration purpose only. Actual product may vary due to product enhancement.

SEALS

Table 1 - Seal Options		
Part	Standard Material	Optional Material
Diaphragm	Nitrile	FKM
O-Ring	Nitrile	HSN, FKM

Table 2 - Seal Specifications				
		NITRILE	HIGHLY SATURATED NITRILE	FKM
Kimray Suffix		-	HSN	V
Resistance	Abrasion	G	G-E	G
	Acid	F	G-E	G-E
	Chemical	F	F	E
	Cold	G	G	P
	Flame	P	P	E
	Heat	G	E	E
	Oil	G-E	E	E
	Ozone	P	G	G-E
	Set	G	G	G-E
	Tear	F	F	F
	Water/Steam	F	E	P
	Weather	F	G	E
	CO2	F-G	G	G
	H2S	P	F	P
Methanol	F	E	P	
Properties	Dynamic	G	G	G
	Electrical	F	F	F
	Impermeability	G	G	G
	Tensile Strength	G	G-E	G
Temp. Range		-20° to +250°F	-20° to +300°F	-15° to +400°F
		-29° to +121°C	-29° to +149°C	-26° to +204°C
RATINGS: P-POOR, F-FAIR, G-GOOD, E-EXCELLENT				

MATERIAL SPECIFICATION

Table 3 - Materials Options models: DH, DL, VL, VH, BR & PT		
Part Description	Standard Material	Corrosive Material
Body	Ductile (ASTM A395)	
Bonnet	Ductile (ASTM A395)	
Housing	Ductile (ASTM A395)	

Table 4 - Materials Options Model: BH		
Part Description	Standard Material	Corrosive Material
Body	Carbon Steel (ASTM A105)	316SS (ASTM A479)
Bonnet	WCB (ASTM A216)	316SS (ASTM A479)
Housing	WCB (ASTM A216)	316SS (ASTM A479)