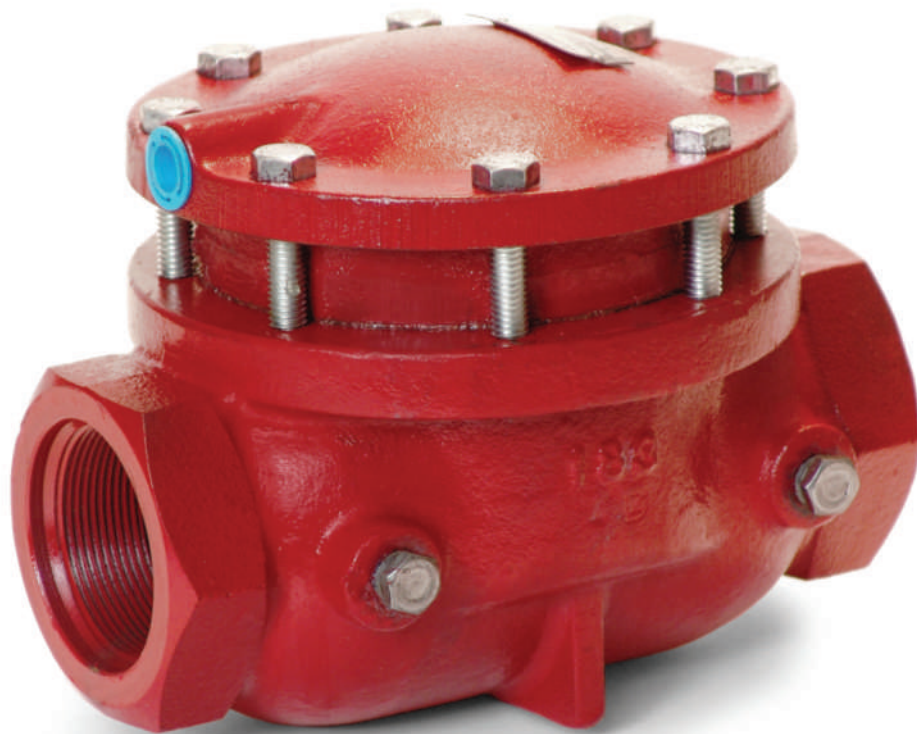


LOW PRESSURE CONTROL VALVES

B



NOTE: We reserve the right to modify or change, without prior notice, any statement or information contained herein.
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REVERSE ACTING CONTROL VALVE:	· · · · ·	· 02:10.1 - 02:10.2
APPLICATIONS: Pilot operated oil or water dump valve for separators, emulsion treaters and other similar liquid accumulators.		
OPERATING PRESSURE RANGES: 0 psig to 300 psig		
DIRECT ACTING CONTROL VALVE:	· · · · ·	· 02:20.1 - 02:20.2
APPLICATIONS: Liquid metering vessels where a 12 to 15 psig back pressure is desired.		
OPERATING PRESSURE RANGES: 5 psig to 35 psig		
ADJUSTABLE DIRECT ACTING CONTROL VALVE:	· · · · ·	· 02:30.1 - 02:30.3
APPLICATIONS: Liquid metering vessels where up to 250 psig adjustable back pressure is desired.		
OPERATING PRESSURE RANGES: 5 psig to 175 psig		
E-LO CONTROL VALVE:	· · · · ·	· 02:40.1 - 02:40.3
APPLICATIONS: Any system which requires a valve to be electrically controlled with operating pressures up to 45psi.		
OPERATING PRESSURE RANGES: 0 psig to 45 psig		
FLOW COEFFICIENT	· · · · ·	· 02:I
LIQUID CAPACITY CHART	· · · · ·	· 02:II
DIMENSIONS	· · · · ·	· 02:III
SEALS	· · · · ·	· 02:IV
MATERIAL SPECIFICATIONS	· · · · ·	· 02:V
ACTUATOR CRACK TO FULL OPEN	· · · · ·	· 02:VI

LOW PRESSURE CONTROL VALVES



CODE BUILDER B SERIES

Series:

B = Low Pressure Control Valve

Model:

RA = Reverse Acting

DA = Direct Acting

AA = Adjustable Direct Acting

Line Size:

1 = 1 NPS

2 = 2 NPS

3 = 3 NPS (RA & DA only)

4 = 4 NPS (RA & DA only)

6 = 6 NPS (RA & DA only)

End Connection:

SA = FNPT

AR = 150RF Flange

GV = Grooved (2 NPS only)

Shell Material:

D = Ductile Iron

E = Ductile Iron w/Coating

Inner Valve Size:

F = Full Port

R = Reduced Port

Service Type:

S = Standard

C = Corrosive

B	RA	2	SA	D	F	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)

2 = Hydrostatic Test Certification

3 = MTR (Shell Components)

A = AFLAS Elastomers

H = HSN Elastomers

V = FKM Elastomers

X = Export (Hydrostatic test, MTR & 3.1)

Not all selections available on all products listed.
See product pages 02:10.1 - 02:30.3 for available options

APPLICATIONS:

Any system requiring a valve to close when it receives a pneumatic signal.

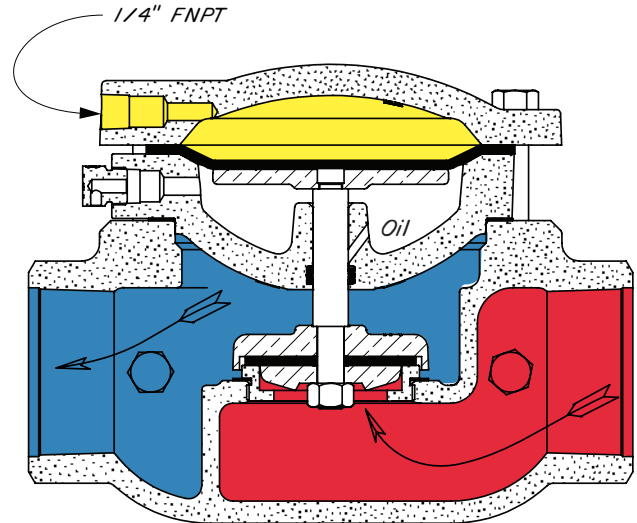
FEATURES:

- Tight shut-off
- Single soft seat
- Removable valve seat
- Minimum maintenance
- All internal parts can be removed with valve in-line
- Full line size opening:
 - Ratio of diaphragm to seat area is 2:1
- Reduced opening:
 - Ratio of diaphragm to seat area is:
 - 8:1 on 1" & 5:1 on 2", 3", 4", and 6"

CERTIFICATIONS:

Canadian Registration Number (CRN):
 0C15737.24567890NTY (Ductile)
 0C15620.24567890NTY (Steel)
 Kimray is an ISO 9001- certified manufacturer.

-  Stem Assembly
-  Diaphragm Pressure
-  Upstream Pressure
-  Downstream Pressure



Standard Configuration Code †	Order Code	Line Size	Connection Type	Inner Valve Size	Max. W.P. †† psig	Cv	Cf	
BRA1SADFS	EUA	1"	NPT	1"	300	13.2	0.74	
BRA1SADRS	EUA1			1/2"		5.0		0.75
BRA2SADFS	EUB	2"	NPT	2"	300	47.0	0.84	
BRA2ARDFS	EUC		150RF		250			
BRA2SADRS	EUB1		NPT	1 1/4"	300	21.0		0.75
BRA2ARDRS	EUC1		150RF		250			
BRA3SADFS	EUE	3"	NPT	3"	300	117	0.75	
BRA3ARDFS	EUF		150RF		250			
BRA3SADRS	EUE1		NPT	1 5/8"	300	34.0		0.82
BRA3ARDRS	EUF1		150RF		250			
BRA4SADFS	EUG	4"	NPT	4"	300	210	0.75	
BRA4ARDFS	EUH		150RF		250			
BRA4SADRS	EUG1		NPT	2"	300	55.0		0.80
BRA4ARDRS	EUH1		150RF		250			
BRA4ARDFS	EUI	6"	150RF	6"	250	480	0.75	
BRA4ARDRS	EUI1		150RF	3"	250	120	0.80	

NOTES:

For standard & optional seals, metals, Cf Cv values, material specifications & dimensions see technical data on pages 02:I - 02:VI

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

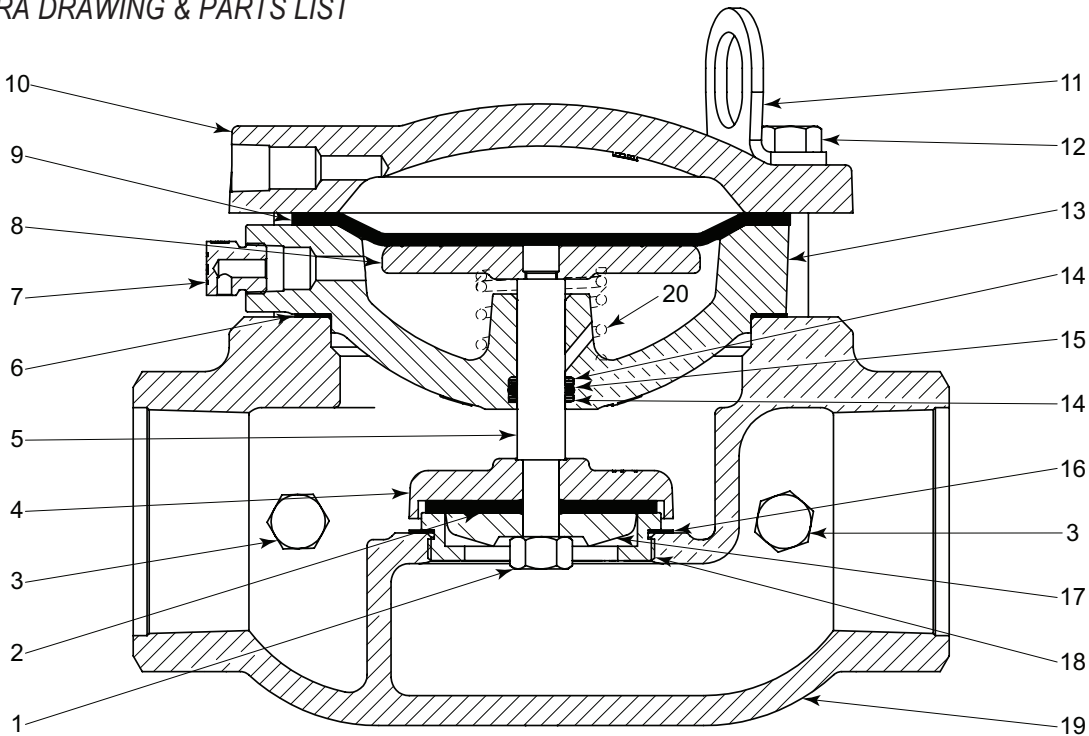
† For code builder see page 03:00.2

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

LOW PRESSURE CONTROL VALVES



REVERSE ACTING MODEL RA DRAWING & PARTS LIST



ITEM	QTY.	DESCRIPTION	PART NUMBER									
			STANDARD					CORROSIVE				
			1 INCH	2 INCH	3 INCH	4 INCH	6 INCH	1 INCH	2 INCH	3 INCH	4 INCH	6 INCH
1	1	Nut (Standard iv) *	172	173	906		175	172SS6	173SS6	174SS6		175SS6
		Nut (Reduced iv) *	----	173		906	----	173SS6		174SS6		
2	1	Standard Seat *	163HSN	164HSN	165HSN	166HSN	167HSN	163HSN	164HSN	165HSN	166HSN	167HSN
		Reduced Seat *	1347P	709P	1230P	164HSN	165HSN	1347HSN	709HSN	1230HSN	164HSN	165HSN
3	2	Plug	699					699SS6				
4	1	Standard Seat Disc	158	159	160	161	162	158SS6	2493SS6	2495SS6	2961SS6	2961SS6
		Reduced Seat Disc	1348SS6	707	1229	159	160	1348SS6	707SS6	1229SS6	2493SS6	160SS6
5	1	Standard Valve Stem	137	138	139	140	141	137SS6	138SS6	139SS6	140SS6	141SS6
		Reduced Valve Stem	1344	138	1222SS6	1223SS6	1224SS6	1344SS6	138SS6	1222SS6	1223SS6	1224SS6
6	1	Gasket *	195	196	197	198	199	195	196	197	198	199
7	1	Vent Plug	1357	147				1357SS6	147SS6			
8	1	Diaphragm Plate	132SS6	133	134	135	136	132SS6	133 ±	134 ±	135 ±	136 ±
9	1	Diaphragm *	127	1706	1640	2015	2140	127	1706	1640	2015	2140
10	1	Bonnet	280	281	282	283	284	280 ±	281 ±	282 ±	283 ±	284 ±
11	2	Lifting Ring	----		7559		----	----		7559		----
12	(QTY)	Bolt	2007 (6)	965 (8)	907(10)	907 (12)	2142 (16)	2007 (6)	965 (8)	907(10)	907 (12)	2142 (16)
13	1	Lower Housing	142	1704	1632	145	146	142 ±	1704 ±	1632 ±	145 ±	146 ±
14	2	Back Up *	148T	149T	150T	151T	152T	148T	149T	150T	151T	152T
15	1	O-Ring *	153	154	155	156	157	153	154	155	156	157
16	1	Standard Gasket *	----	276	277	196	279	----	276	277	196	279
		Reduced Gasket *	364	276	277	196	279	364	276	277	196	279
17	1	Standard Ratio Plug	176SS6	177SS6	178	179	180	176SS6	177SS6	3076SS6	3078SS6	3079SS6
		Reduced Ratio Plug	1346	708	1228SS6	177SS6	178	1346SS6	708SS6	1228SS6	177SS6	3076SS6
18	1	Std. Removable Seat	----	272K	273K	274K	275K	----	2496SS6K	2497SS6K	2498SS6K	3075SS6K
		Red. Removable Seat	1349	706D	1219D	1220D	1221	1349SS6	706SS6	1219SS6	1220SS	1221SS6
19	1	Body										
		NPT Thru	Std.	2033	1709	1634	2001	2033 ±	1709 ±	1634 ±	2001 ±	----
			Red.	2343	----	----	----	2343 ±	----	----	----	----
		150RF Thru	----	1913	1914	2002	2466	----	1913 ±	1914 ±	2002 ±	2466 ±
		Grooved Thru	----	2964	----	----	----	----	2964 ±	----	----	----
20		Optional Spring for Fail Open	1358	1388	7132	1529	1575	1358IL	1388	7132	1529	1575
* These parts are recommended spare parts and are stocked as repair kits.												
Repair Kits	Full Port		RCM	RDL	RDM	RDN	RDO	RCMHSN	RDLHSN	RDMHSN	RDNHSN	RDOHSN
	Reduced Port		RDB	RNI	RNJ	RNK	RNL	RDBHSN	RNIHSN	RNJHSN	RNKHSN	RNLHSN

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

APPLICATIONS:

Liquid metering vessels where a back pressure is desired.
Any system which requires a valve to receive a 30 psig maximum pilot signal on either or both sides of the main diaphragm operating at pressures up to 300 psig.

FEATURES:

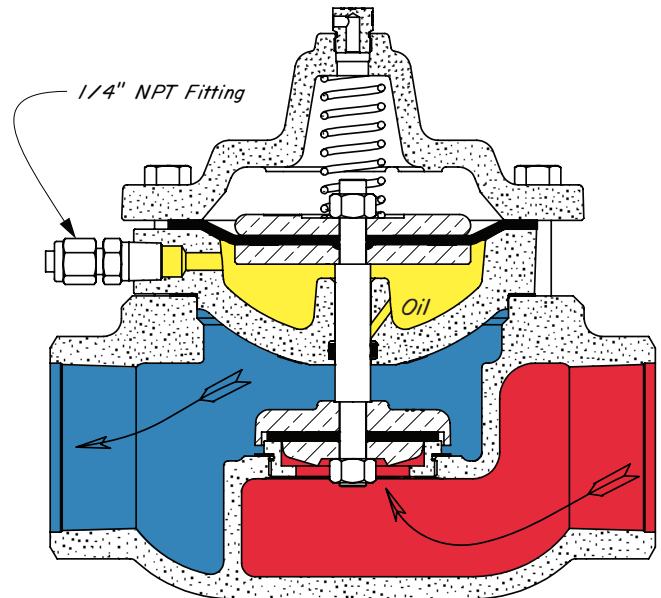
- Tight shut-off
- Single soft seat
- Removable valve seat
- All internal parts can be removed with valve in line
- Full line size opening:
 - Ratio of diaphragm to seat area is 2:1
- Reduced opening:
 - Ratio of diaphragm to seat area is:
 - 8:1 on 1" & 5:1 on 2", 3", 4", and 6"
- Operational Pressure Ranges for Standard Configurations:
 - Full line size opening:
 - Spring loaded to hold 5 to 6 psi back pressure
 - Reduced opening:
 - 2-6": Spring loaded to hold 12 to 15 psi back pressure
 - 1": Spring loaded to hold 30 to 35 psi back pressure

Configurations for additional operating pressure ranges are available. Refer to Table A1 for additional configurations.

CERTIFICATIONS:

Canadian Registration Number (CRN):
0C15737.24567890NTY (Ductile)
0C15620.24567890NTY (Steel)
Kimray is an ISO 9001- certified manufacturer.

 Stem Assembly
 Diaphragm Pressure
 Upstream Pressure
 Downstream Pressure



Standard Configuration Code †	Order Code	Line Size	Connection Type	Inner Valve Size	Operating Pressure psig	Max. W.P. †† psig	Cv	Cf
BDA1SADFS	EUA2	1"	NPT	1"	5-6	300	13.2	0.74
BDA1SADRS	EUA3			1/2"	30-35		5.00	0.75
BDA2SADFS	EUB2	2"	NPT	2"	5-6	300	47.0	0.84
BDA2ARDFS	EUC2		150RF			250		
BDA2SADRS	EUB3		NPT	1 1/4"	12-15	300	21.0	0.75
BDA2ARDRS	EUC3		150RF			250		
BDA3SADFS	EUE2	3"	NPT	3"	5-6	300	117	0.75
BDA3ARDFS	EUF2		150RF			250		
BDA3SADRS	EUE3		NPT	1 5/8"	12-15	300	34.0	0.82
BDA3ARDRS	EUF3		150RF			250		
BDA4SADFS	EUG2	4"	NPT	4"	5-6	300	210	0.75
BDA4ARDFS	EUH2		150RF			250		
BDA4SADRS	EUG3		NPT	2"	12-15	300	55.0	0.80
BDA4ARDRS	EUH3		150RF			250		
BDA4ARDFS	EUI2	6"	150RF	6"	5-6	250	480	0.75
BDA4ARDRS	EUI3		150RF	3"	12-15	250	120	0.80

NOTES:

For standard & optional seals, metals, Cf Cv values, material specifications & dimensions see technical data on pages 02:I - 02:VI

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

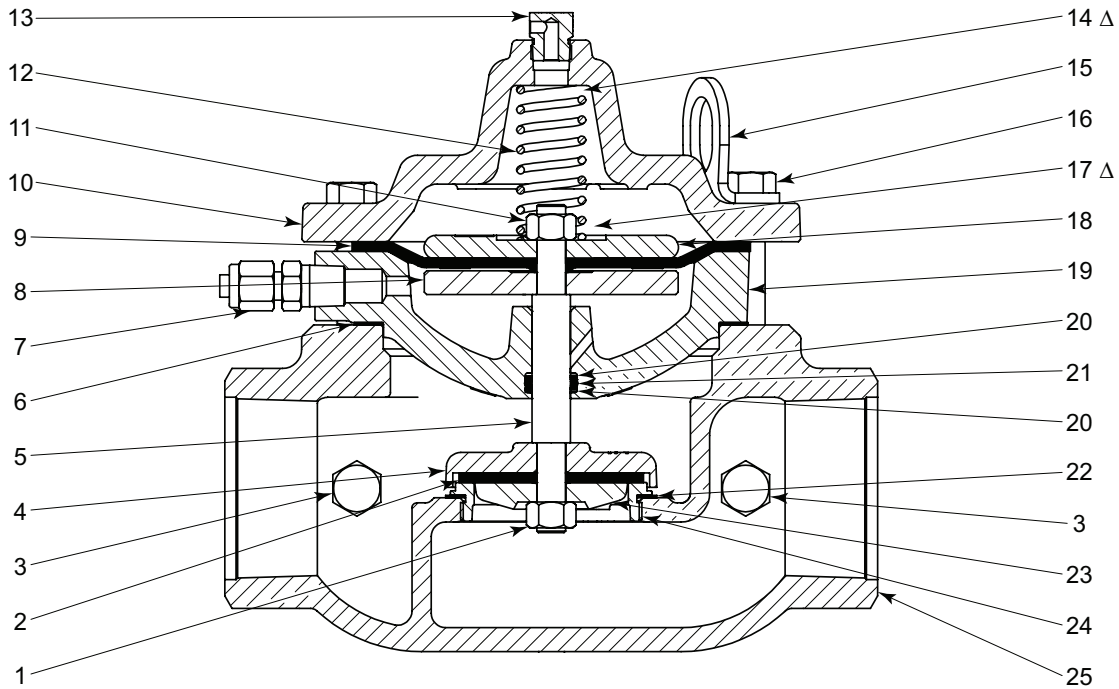
† For code builder see page 03:00.2

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

LOW PRESSURE CONTROL VALVES

DIRECT ACTING
MODEL DA DRAWING & PARTS LIST

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Δ Spring Guide & Plate Not Shown

ITEM	QTY.	DESCRIPTION	PART NUMBER											
			STANDARD						CORROSIVE					
			1 INCH	2 INCH	3 INCH	4 INCH	6 INCH		1 INCH	2 INCH	3 INCH	4 INCH	6 INCH	
1	1	Nut (Standard iv) *	172	173	906		175		172SS6	173SS6	174SS6		175SS6	
		Nut (Reduced iv) *	----		173		906		----		173SS6		174SS6	
2	1	Standard Seat *	163HSN	164HSN	165HSN	166HSN	167HSN		163HSN	164HSN	165HSN	166HSN	167HSN	
		Reduced Seat *	1347P	709P	1230P	164HSN	165HSN		1347HSN	709HSN	1230HSN	164HSN	165HSN	
3	2	Plug			699						699SS6			
4	1	Standard Seat Disc	158	159	160	161	162		158SS6	2493SS6	2494SS6	2495SS6	2961SS6	
		Reduced Seat Disc	1348SS6	707	1229	159	160		1348SS6	707SS6	1229SS6	2493SS6	160	
5	1	Standard Valve Stem	726	727	728	729	730		726SS6	727SS6	728SS6	729SS6	730SS6	
		Reduced Valve Stem	1345	727	1225SS6	1226SS6	1227SS6		1345SS6	727SS6	1225SS6	1226SS6	1227SS6	
6	1	Gasket *	195	196	197	198	199		195	196	197	198	199	
7	1	Connector	1604		874				1604SS6		874SS6			
8	1	Lower Diaph. Plate	736	737	738	739	740		736SS6	737	738	739	740	
9	1	Diaphragm *	741	1965	1966	2139	2138		741	1965	1966	2139	2138	
10	1	Bonnet	Refer to Table A1 Below						Refer to Table A1 Below					
11	1	Nut *	172		173		906		172SS6		173SS6		174SS6	
12	1	Spring	Refer to Table A1 Below						Refer to Table A1 Below					
13	1	Vent Plug	147						147SS6					
14	1	Spring Plate	Refer to Table A1 Below						Refer to Table A1 Below					
15	2	Lifting Ring	----		7559		----		----		7559		----	
16	(QTY)	Bolt	2007 (6)	965 (8)	907(10)	907 (12)	2142 (16)		2007 (6)	965 (8)	907(10)	907 (12)	2142 (16)	
17	1	Spring Guide	Refer to Table A1 Below						Refer to Table A1 Below					
18	1	Upper Diaph. Plate	731	732	733	734	735		731	732	733	734	735	
19	1	Lower Housing	142	1704	1632	145	146		142 ±	1704 ±	1632 ±	145 ±	146 ±	
20	2	Back Up *	148T	149T	150T	151T	152T		148T	149T	150T	151T	152T	
21	1	O-Ring *	153	154	155	156	157		153	154	155	156	157	
22	1	Standard Gasket *	----	276	277	196	279		----	276	277	196	279	
		Reduced Gasket *	364	276	277	196	279		364	276	277	196	279	
23	1	Standard Ratio Plug	176SS6	177SS6	178	179	180		176SS6	177SS6	3076SS6	3078SS6	3079SS6	
		Reduced Ratio Plug	1346SS6	708	1228SS6	177SS6	178		1346SS6	708SS6	1228SS6	177SS6	3076SS6	
24	1	Std. Removable Seat	----	272K	273K	274K	275K		----	2496SS6K	2497SS6K	2498SS6K	3075SS6K	
		Red. Removable Seat	1349	706D	1219D	1220D	1221		1349SS6	706SS6	1219SS6	1220SS	1221SS6	
25	1	Body												
		NPT Thru	Std.	2033	1709	1634	2001	----	2033 ±	1709 ±	1634 ±	2001 ±	----	
		Red.	2343	----	----	----	----	----	2343 ±	----	----	----	----	
		150RF Thru	----	1913	1914	2002	2466		----	1913 ±	1914 ±	2002 ±	2466 ±	
		Grooved Thru	----	2964	----	----	----		----	2964 ±	----	----	----	
* These parts are recommended spare parts and are stocked as repair kits.														
Repair Kits		Full Port	RNQ	RNU	RNW	RNX	RNY		RNQHSN	RNUHSN	RNWHSN	RNXHSN	RNYHSN	
		Reduced Port	RHE	ROI	ROJ	ROK	ROL		RHEHSN	ROIHSN	ROJHSN	ROKHSN	ROLHSN	

TABLE A1								
PRESSURE RANGE	INNER VALVE	ITEM	DESCRIPTION	1 INCH	2 INCH	3 INCH	4 INCH	6 INCH
5-6 psi Primary	Standard	10	Bonnet	716	717	718	719	720
10-12 psi Optional		12	Spring	86	722	723	724	725
		10	Bonnet	1657	1665	1655	1675	----
		12	Spring	722	723	724	725	----
		10	Bonnet	----	1665	----	1675	----
22-25 psi Optional		12	Spring	----	722,723	----	725, 5336	----
		14	Spring Plate (Not Shown)	----	2118	----	2120	----
		17	Spring Guide (Not Shown)	----	2119S6	----	2121	----
12-15 psi Primary	Reduced	10	Bonnet	----	717	718	719	720
24-30 psi Optional		12	Spring	----	722	723	724	725
		10	Bonnet	----	1665	1655	1675	----
30-35 psi Optional		12	Spring	----	723	724	725	----
		10	Bonnet	716	----	----	----	----
35-40 psi Optional		12	Spring	86	----	----	----	----
		10	Bonnet	1657	----	----	----	----
44-50 psi Optional		12	Spring	722	----	----	----	----
		10	Bonnet	----	1665	1655	1675	----
		12	Spring	----	722, 723	723, 724	724, 725	----
		14	Spring Plate (Not Shown)	----	2118	2122	2120	----
	17	Spring Guide (Not Shown)	----	2119S6	2123	2121	----	

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

NOTES:



Kimray is an ISO 9001- certified manufacturer.

ADJUSTABLE DIRECT ACTING MODEL AA

APPLICATIONS:

Liquid metering vessels where up to 250 psig adjustable back pressure is desired.

Burner valve for throttling or snap action service.

Any system that requires a double acting motor valve but also requires an adjustable maximum back pressure.

FEATURES:

Tight shut-off

Single soft seat

Removable valve seat

Minimum maintenance

All internal parts can be removed with valve in line

Spring adjustment:

1" Line Size Options

Full Port Inner Valve 5 to 40 psig

Reduced Port Inner Valve 5 to 300 psig

2" Line Size Options (NPT End Connection)

Full Port Inner Valve 5 to 175 psig

2" Line Size Options (150RF End Connection)

Full Port Inner Valve 5 to 175 psig

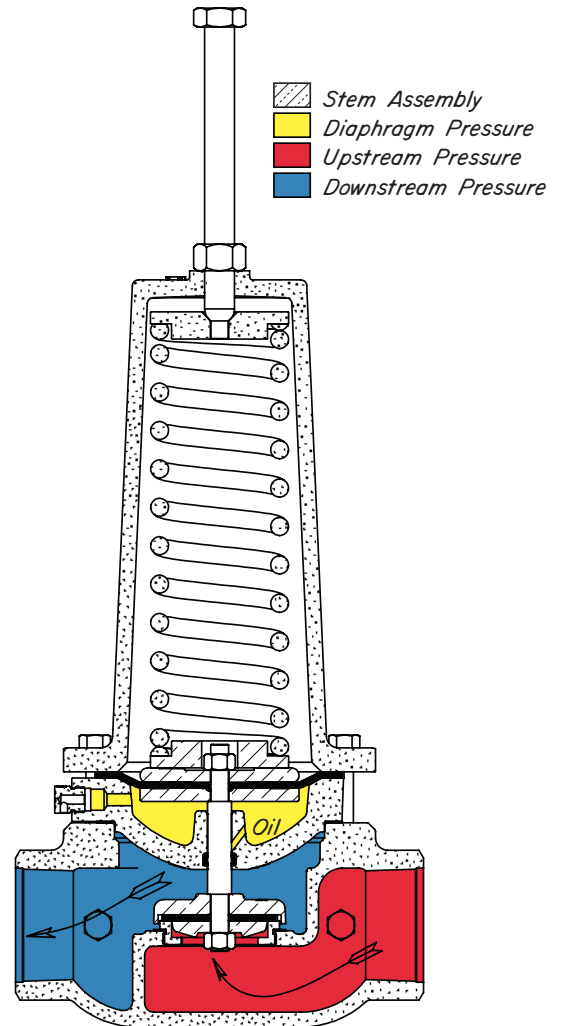
CERTIFICATIONS:

Canadian Registration Number (CRN):

0C15737.24567890NTY (Ductile)

0C15620.24567890NTY (Steel)

Kimray is an ISO 9001- certified manufacturer.



Standard Configuration Code †	Order Code	Line Size	Connection Type	Inner Valve Size	Max. W.P. psig ††	Max Δ P psig	Cv	Cf
BAA1SADFS	ABC3	1"	NPT	1"	300	40	13.2	0.74
BAA1SADRS	ABC2			1/2"		300	5.00	0.75
BAA2SADFS	ATC3	2"	NPT	2"	300	175	47.0	0.84
BAA2ARDFS	ATD3		150RF		250			

NOTES:

For standard & optional seals, metals, Cf Cv values, material specifications & dimensions see technical data on pages 02:I - 02:VI

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

†† For code builder see page 03:00.2

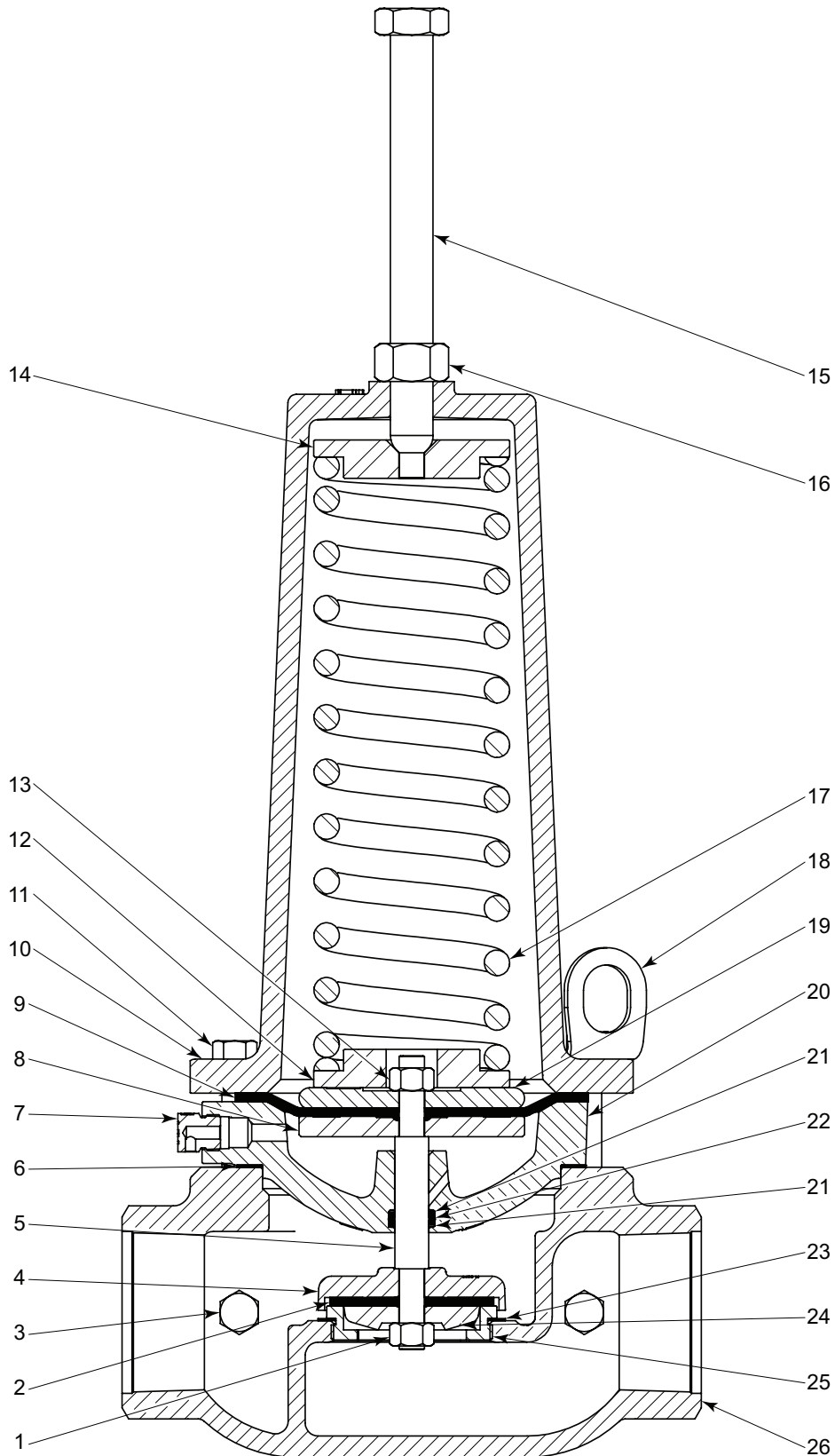
†† Max W.P. values based on -20°F to 100°F.

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

LOW PRESSURE CONTROL VALVES

ADJUSTABLE DIRECT ACTING MODEL AA PARTS LIST

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

ITEM	QTY.	DESCRIPTION		PART NUMBER			
				STANDARD		CORROSIVE	
				1 INCH	2 INCH	1 INCH	2 INCH
1	1	Nut (Standard iv) *	172	173	172SS6	173SS6	
		Nut (Reduced iv) *	----	173	----	173SS6	
2	1	Standard Seat *	163HSN	164HSN	163HSN	164HSN	
		Reduced Seat *	1347P	----	1347HSN	----	
3	2	Plug	699		699SS6		
4	1	Standard Seat Disc	158	159	158SS6	2493SS6	
		Reduced Seat Disc	1348SS6	----	1348SS6	----	
5	1	Standard Valve Stem	726	727	726SS6	727SS6	
		Reduced Valve Stem	1345	----	1345	----	
6	1	Gasket *	195	196	195	196	
7	1	Vent Plug	----	147	----	147SS6	
		Connector	1604	----	1604SS6	----	
8	1	Lower Diaphragm Plate	736	737	736SS6	737	
9	1	Diaphragm *	741	1965	741	1965	
10	1	Bonnet	2103	2031	2103 ‡	2031 ‡	
	1	Vent Plug (not shown)	147	----	147SS6	----	
11	(QTY)	Bolt	4318 (6)	965 (8)	4318 (6)	965 (8)	
12	1	Lower Spring Guide	----	2029	----	2029	
13	1	Nut	172	173	172SS6	173SS6	
14	1	Upper Spring Guide	2104	1888	2104	1888	
15	1	Adjusting Screw	100	6911	100	6911	
16	1	Nut	101	1897	101	1897	
17	1	Spring	6999	2013	6999	2013	
18	2	Lifting Ring	----	7559	----	7559	
19	1	Upper Diaphragm Plate	731	732	731 ‡	732 ‡	
20	1	Lower Housing *	142	1704	142 ‡	1704 ‡	
21	2	Back Up *	148T	149T	148T	149T	
22	1	O-Ring *	153	154	153	154	
23	1	Standard Gasket	----	276	----	276	
		Reduced Gasket	364	----	364	----	
24	1	Standard Ratio Plug	176SS6	177SS6	176SS6	177SS6	
		Reduced Ratio Plug	1346SS6	----	1346SS6	----	
25	1	Std. Removable Seat	----	272K	----	2496SS6K	
		Red. Removable Seat	1349	----	1349SS6	----	
26	1	Body					
		NPT Thru	Std.	2033	1709	2343 ‡	1709 ‡
			Red.	2343	----	2343	----
		150RF Thru		----	1913	----	1913 ‡
		Grooved Thru	----	2964	----	2964 ‡	
‡ Coated Parts available with "E" shell material							
Repair Kits	Full Port		RNQ	RNU	RNQHSN	RNUHSN	
	Reduced Port		RHE	ROI	RHEHSN	ROIHSN	
* These parts are recommended spare parts and are stocked as repair kits.							

NOTES:



Kimray is an ISO 9001- certified manufacturer.

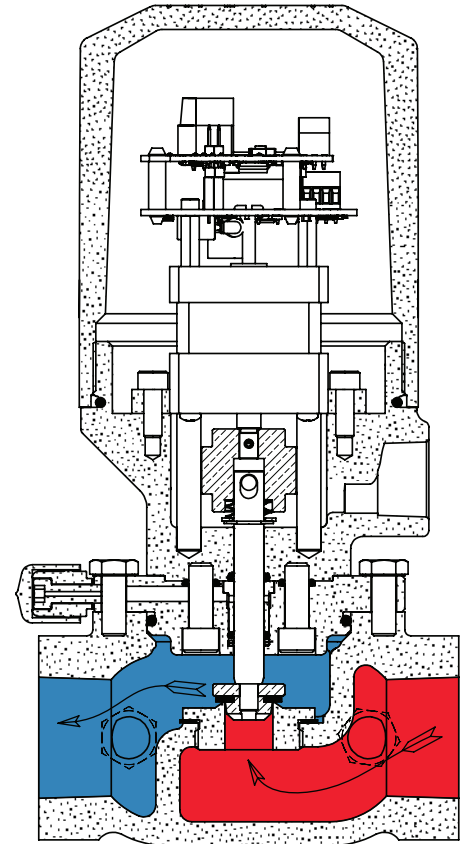
APPLICATION:

Gas burner supply lines where line pressures are less than 45 psi.
Any system which requires a valve to be electrically controlled with operating pressures up to 45 psi.

FEATURES

- Closed position indicator switch (NFPA 87)
- Single soft seat
- Mechanical overdrive to ensure full closure
- Removable valve seat
- Minimum maintenance
- All internal parts can be removed with valve in line
- Integrated double seal to isolate electronics from process gas/fluids
- Brushless Stepper motor design for precise control
- Modular Input Accessories
 - Analog 4-20mA module for proportional control
 - Discrete input module for on/off control
 - Optional RS485 module for MODBUS communication
- Dual Seal with Annunciation

-  Motor Valve Stem Assembly
-  Upstream Pressure
-  Downstream Pressure



CERTIFICATIONS:

- CSA HAZARDOUS LOCATION
- Class I, Div 1, Groups B, C, D
- Class II, Div 1, Groups E, F, G
- Class III, T6

Kimray is an ISO 9001- certified manufacturer.

ELECTRICAL RATINGS			
	Min	Max	Units
Input Voltage	10	28	VDC
Input Current	0.01	0.6	ADC
Ambient Temperature	-40	60	°C
	-40	140	°F
Analog input Module	4	20	mA
Discrete input Module	Dry Contacts only		
Communications Module	RS-485 (MODBUS RTU)		



Standard Order Code	Line Size	Connection Type	Inner Valve Size	Oper. Press psig	Max. W.P. ^{††} psig	Cv	Cf
MXC	1"	THRU FNPT	1/2"	0-45 psig	300	5.60	0.86
MXD			1/8"			1.50	0.87
MXE			3/8"			3.20	0.86
Corrosive Order Code	Line Size	Connection Type	Inner Valve Size	Oper. Press psig	Max. W.P. ^{††} psig	Cv	Cf
MXCS6	1"	THRU FNPT	1/2"	0-45 psig	300	5.60	0.86
MXDS6			1/8"			1.50	0.87
MXES6			3/8"			3.20	0.86

NOTES:

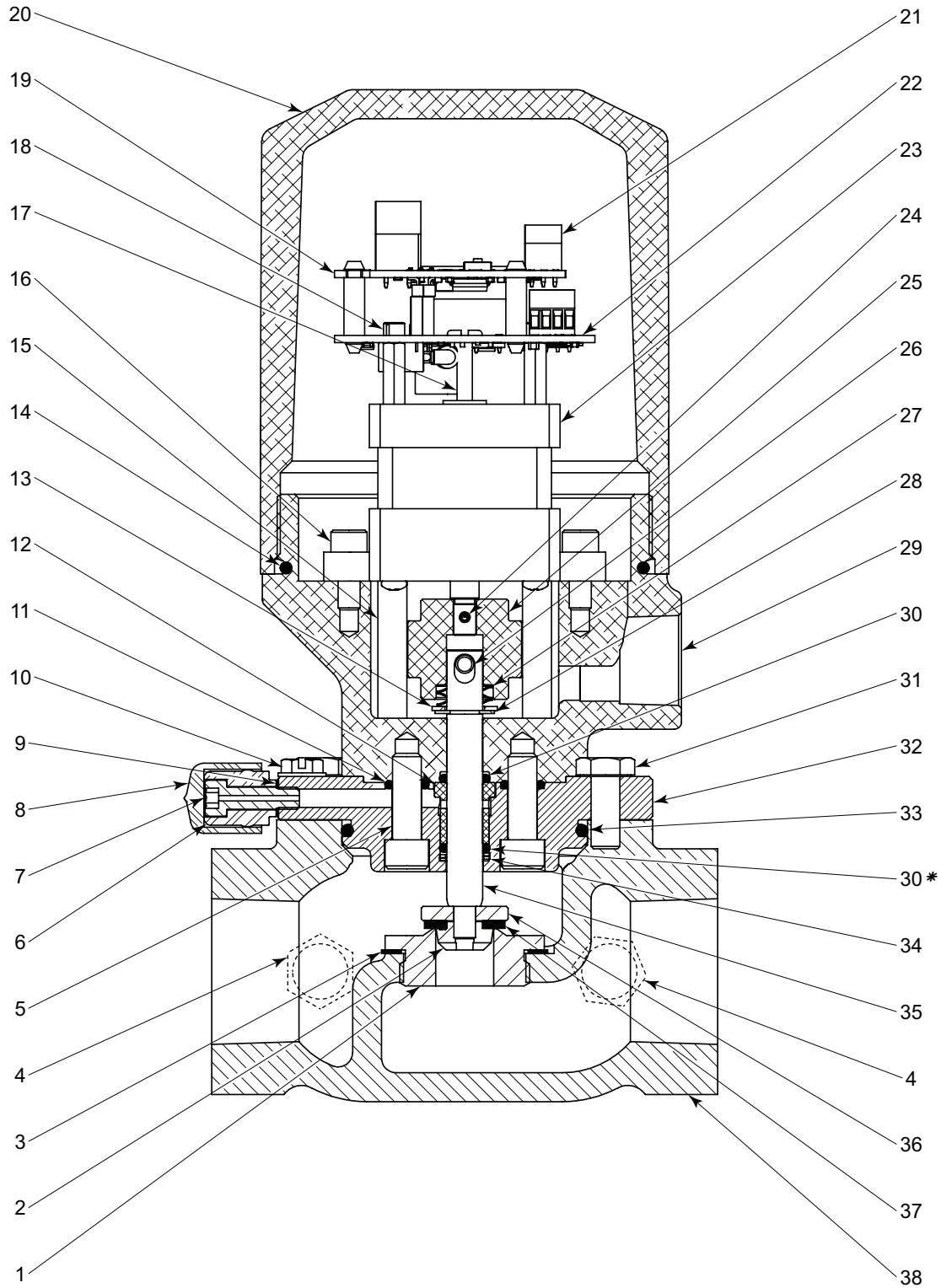
For standard & optional seals, metals, Cf Cv values, material specifications & dimensions see technical data on pages 02:1 - 02:VI

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

LOW PRESSURE CONTROL VALVES

E-LO CONTROL VALVE PARTS LIST

KIMRAY
INC.®



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

ITEM	QTY.	DESCRIPTION	PART NUMBER		
			STANDARD		CORROSIVE
1	1	Removable Seat	1349		1349SS6
2	1	1/2" IV Ratio Plug	1346SS6		1346SS6
		1/8" IV Ratio Plug	7273S6		7273S6
		3/8" IV Ratio Plug	7714S6		7714S6
3	1	Gasket *	364		364
4	2	Plug	699		699SS6
5	2	Screw	7531S6		7531S6
6	1	Annunciation Stem	7552		7552
7	1	Vent Screw	7551		7551
8	1	Cap *	7555		7555
9	1	Gasket	3018		3018
10	1	Ground Screw	7462		7462
11	2	O-Ring *	638HSN		638HSN
12	1	Stem Bushing *	7442XP		7442XP
13	1	Felt Retainer	486		486
14	1	O-Ring *	7425HSN		7425HSN
15	2	Guide Pin	7419		7419
16	2	Screw	7491		7491
17	1	POC Switch Actuator	7439		7439
18	4	Screw	7492		7492
19	1	Module (One Required)			
		Discrete	KA7505		KA7505
		Analog 4-20	KA7506		KA7506
		RTD	KA7508		KA7508
20	1	Cover	7436		7436
21		Modbus Module (Optional)	KA7507		KA7507
22	1	Main PCB	KA7504		KA7504
23	1	Stepper Motor	7460		7460
24	1	Roll Pin	7420		7420
25	1	Stem Carrier	7440		7440
26	1	Dowel Pin	7422		7422
27	1	Spring *	7421		7421
28	1	Retaining Ring	7457		7457
29	1	Housing	7435XP		7435XP
30	2	O-Ring *	153LTHSN		153LTHSN
31	6	Screw	7423		7423
32	1	Bonnet	7441XP		7441XP
33	1	O-Ring *	7434HSN		7434HSN
34	2	Back Up *	148T		148T
35	1	Valve Stem	7438		7438S6
36	1	Seat Disc	1348SS6		1348SS6
37	1	Seat *	1347LTNHSN		1347LTNHSN
38	1	Body			
		NPT Thru	2343CPC		2343CPC ‡
			‡ Coated Parts available with "E" shell material		
Repair Kits			RZJLTHSN		RZJLTHSN
* These parts are recommended spare parts and are stocked as repair kits.					

NOTES:

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Table 1 - Flow Coefficient(Cv) at % stem travel for Pilot Operated Regulators											
1" Pressure Regulator											
Trim Size in.(mm)	Cf	Valve Opening Percentage									
		10	20	30	40	50	60	70	80	90	100
1/2 in (12mm) Reduced	0.75	0.4	0.7	0.9	1.3	1.8	2.5	3.2	3.9	4.5	5
1 in (25mm) Full Port	0.74	1.1	1.8	2.4	3.4	4.8	6.6	8.5	10.2	11.9	13.2
2" Pressure Regulator											
Trim Size in. (mm)	Cf	Valve Opening Percentage									
		10	20	30	40	50	60	70	80	90	100
1 1/4 in (31 mm) Reduced	0.75	1.8	2.8	3.9	5.4	7.7	10.5	13.6	16.2	19.0	21.0
2 in Removable Full Port *	0.84	4.0	6.2	8.6	12.1	17.2	23.5	30.4	36.3	42.5	47.0
2 in (50 mm) Full Port *	0.75	4.4	6.9	9.5	13.4	19.1	26.0	33.6	40.2	47.0	52.0
3" Pressure Regulator											
Trim Size in. (mm)	Cf	Valve Opening Percentage									
		10	20	30	40	50	60	70	80	90	100
1 5/8 in (66 mm) Reduced	0.82	2.9	4.5	6.2	8.8	12.5	17.0	22.0	26.3	30.7	34.0
3 in (76 mm) Full Port	0.75	9.9	15.6	21.5	30.2	42.9	58.6	75.7	90.4	105.7	117.0
4" Pressure Regulator											
Trim Size in. (mm)	Cf	Valve Opening Percentage									
		10	20	30	40	50	60	70	80	90	100
2 in (50 mm) Reduced	0.80	4.7	7.3	10.1	14.2	20.2	27.5	35.6	42.5	49.7	55.0
4 in (100 mm) Full Port	0.75	17.8	27.9	38.6	54.2	77.0	105.2	135.9	162.2	189.8	210.0
6" Pressure Regulator											
Trim Size in. (mm)	Cf	Valve Opening Percentage									
		10	20	30	40	50	60	70	80	90	100
3 in (76 mm) Reduced	0.80	10.2	16.0	22.0	30.9	44.0	60.1	77.7	92.7	108.4	120.0
6 in (152 mm) Full Port	0.75	40.6	63.8	88.1	123.8	176.0	240.4	310.6	370.7	433.7	480.0

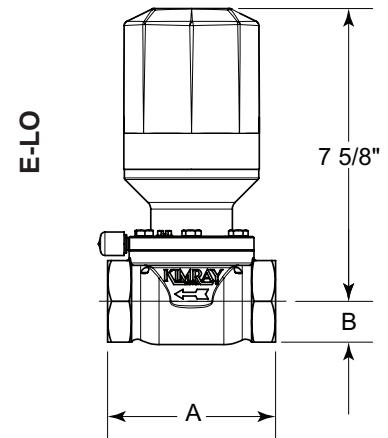
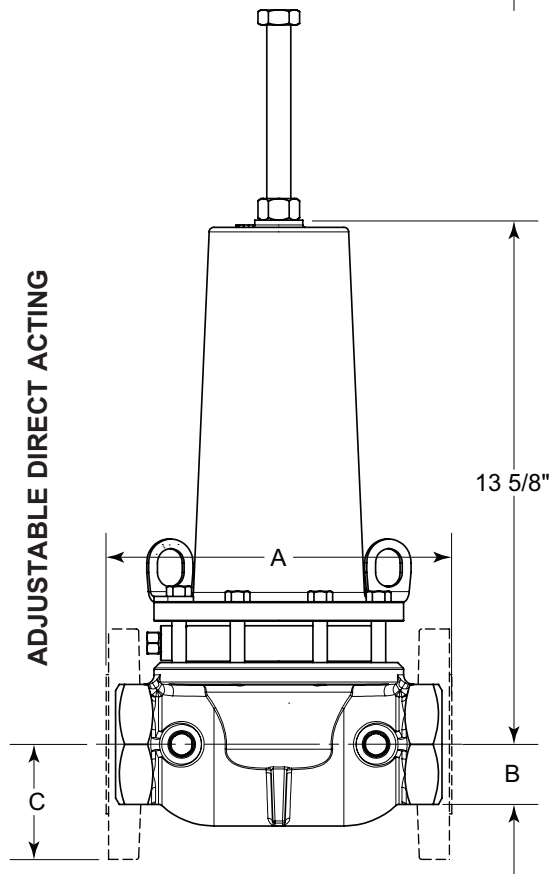
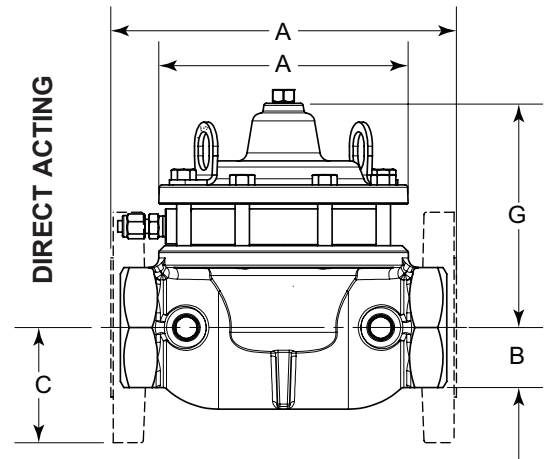
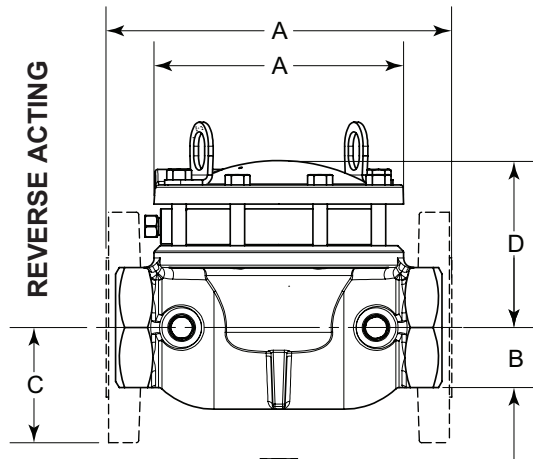
Kimray flow equations conform to ANSI/ISA - 75.01.01-2002
 Kimray inherent flow characteristics conform to ANSI/ISA 75.11.01 -1985

Table 2 - Reverse Acting Capacity - Blds. Water/Day, Steady Row											
Valve Size Inches:		Full Inner Valve					Reduced Inner Valve				
		1	2	3	4	6	1	2	3	4	6
Pressure Drop Across Valve psig	1	105	745	1,760	3,350	7,800	26	290	515	835	1,950
	2	150	1,060	2,500	4,900	11,000	37	410	735	1,225	2,750
	3	180	1,300	3,050	6,100	13,500	45	510	895	1,525	3,370
	4	210	1,500	3,500	7,000	15,600	52	590	1,025	1,750	3,900
	5	235	1,700	3,900	7,800	17,500	59	660	1,140	1,950	4,375
	10	330	2,300	5,600	11,000	24,700	82	900	1,640	2,750	6,175
	15	405	2,900	6,800	13,500	30,200	101	1,130	2,000	3,370	7,550
	20	465	3,300	7,900	15,600	34,900	116	1,290	2,320	3,900	8,725
	30	575	4,100	9,600	19,200	42,700	145	1,600	2,820	4,800	10,675
	40	660	4,700	11,100	22,100	49,300	165	1,840	3,260	5,500	12,300
	50	740	5,300	12,400	24,800	55,200	185	2,070	3,640	6,200	13,800
	60	810	5,800	13,600	27,100	60,500	200	2,260	4,000	6,750	15,100
	70	875	6,200	14,700	29,300	65,400	220	2,420	4,300	7,300	16,350
	80	935	6,700	15,700	31,300	69,800	230	2,620	4,600	7,800	17,450
100	1,045	7,500	17,600	33,500	78,200	260	2,940	5,150	8,350	19,500	
125	1,170	8,400	19,700	38,200	87,500	290	3,280	5,750	9,800	21,900	

Table 4 - Direct Acting Capacity - Blds. Water/Day, Steady Row											
Valve Size Inches:		Full Inner Valve					Reduced Inner Valve				
		1	2	3	4	6	1	2	3	4	6
Pressure Drop Across Valve psig	1	405	1,520	3,150	5,830	13,150	101	740	1,080	1,650	3,740
	2	573	2,150	4,460	8,250	18,600	143	1,040	1,525	2,340	5,330
	3	702	2,630	5,450	10,700	22,800	175	1,280	1,860	2,860	6,530
	4	810	3,040	6,300	11,700	26,300	200	1,475	2,150	3,300	7,550
	5	905	3,400	7,030	13,100	29,400	225	1,650	2,400	3,700	8,400
	10	1,280	4,800	9,980	18,500	41,700	320	2,330	3,400	5,250	11,950
	15	1,570	5,880	12,200	22,600	50,900	390	2,875	4,150	6,400	14,600
	20	1,810	6,800	14,100	26,100	58,800	450	3,300	4,800	7,400	16,850
	30	2,220	8,320	17,300	31,900	72,000	555	4,050	5,900	9,050	20,600
	40	2,560	9,600	19,900	36,900	83,100	640	4,650	6,800	10,500	23,800
	50	2,860	10,750	22,300	41,300	93,000	710	5,200	7,600	11,700	26,600
	60	3,130	11,780	24,400	45,200	102,000	780	5,700	8,350	12,800	29,200
	70	3,380	12,700	26,400	48,800	110,000	845	6,150	9,000	13,800	31,500
	80	3,620	13,600	28,200	52,100	117,500	905	6,600	9,650	14,800	33,600
100	4,050	15,200	31,500	58,300	131,500	1,010	7,375	10,800	16,500	37,400	
125	4,520	16,900	35,200	65,100	147,000	1,105	8,200	12,000	18,450	42,000	

Table 3 - Adjustable Direct Acting Capacity - Blds. Water/Day, Steady Row				
Valve Size Inches:	Full Inner Valve		Reduced Inner Valve	
	1	2	1	2
Pressure Drop Across Valve psig	1		101	
	2		143	
	3		175	
	4		200	
	5		225	
	10		320	
	15		390	
	20		450	
	30		555	
	40		640	
	50		710	
	60		780	
	70		845	
	80		905	
	100		1,010	
	125		1,105	

For gravity correction, multiply the above figures by $\sqrt{\frac{1}{G}}$
Where "G" is the specific gravity of the flowing liquid.



LINE SIZE	BODY TYPE	A	B	C	D	E	F	G	H
1"	FNPT	4 3/8"	1 1/8"	----	2 3/4	3 3/8	3 3/8	3 3/8	8
2"	FNPT	8 1/2"	2 1/8"	----	4 3/8	5 7/8	6 7/8	6 7/8	18 1/2
	Flanged	9"	----	3"	4 3/8	5 7/8	6 7/8	6 7/8	18 1/2
	Grooved	8 3/4"	2 1/8"	----	4 3/8	5 7/8	6 7/8	6 7/8	18 1/2
3"	FNPT	12 1/16"	3 1/16"	----	5 7/8	8	8	8	20
	Flanged	12 3/16"	----	3 3/4"	5 7/8	8	8	8	20
4"	FNPT	15" 1/16	4"	----	7 1/2	9 3/4	9 1/2	9 1/2	----
	Flanged	15 1/16"	----	4 1/2"	7 1/2	9 3/4	9 1/2	9 1/2	----
6"	Flanged	22"	----	5 1/2"	11	16	15 1/4	----	----

FLANGE DIMENSIONS ARE ANSI 125/150 STANDARD.

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

Table 5 - Seal Options

Part	Standard Material	Optional Material
Seat	HSN	FKM, AFLAS®
O-rings	HSN	FKM, AFLAS®
Diaphragm	HSN	FKM, AFLAS®

Table 6 - Seal Specifications

Table 6 - Seal Specifications				
		HIGHLY SATURATED NITRILE	FKM	AFLAS®
Resistance	Kimray Suffix	HSN	V	AF
	Abrasion	G-E	G	G
	Acid	G-E	G-E	E
	Chemical	F	E	E
	Cold	G	P	P
	Flame	P	E	E
	Heat	E	E	E
	Oil	E	E	E
	Ozone	G	G-E	E
	Set	G	G-E	P
	Tear	F	F	P
	Water/Steam	E	P	G
	Weather	G	E	E
	CO2	G	G	G
	H2S	F	P	E
	Methanol	E	P	P
	Properties	Dynamic	G	G
Electrical		F	F	G-E
Impermeability		G	G	G
Tensile Strength		G-E	G	F
Temp. Range		-20° to +300°F	-15° to +400°F	+15° to +450°F
	-29° to +149°C	-26° to +204°C	-9° to +232°C	
RATINGS: P-POOR, F-FAIR, G-GOOD, E-EXCELLENT				

Table 7 - Material Options				
Part Description	Valve Size	Standard Material	Erosive Material	Corrosive Material
Body	1" thru 6"	Ductile (ASTM A395)		Ductile (ASTM A395) with Kimcoat
Stem	1" thru 6"	303SS (ASTM A582)		316SS (ASTM A479)
Ratio Plug	1" & 2"	316 Powdered Metal SS-316NI-25		
	3"	Powdered Metal F-008		316SS (ASTM A479)
	4" & 6"	Ductile (ASTM A395)		316SS (ASTM A479)
Reduced Ratio Plug	1"	316 Powdered Metal SS-316NI-25		
	2"	Alloy Steel (ASTM A108)		316SS (ASTM A479)
	3"	316SS (ASTM A479)		
	4" & 6"	Ductile (ASTM A395)		316SS (ASTM A479)
Seat Disc	1"	Powdered Metal F-0008-30		316SS (ASTM A479)
	2", 3" & 4"	Ductile (ASTM A395)		316SS6 (ASTM A351 CF8M)
	6"	Ductile (ASTM A395)		316SS (ASTM A 240)
Removable Seat	1" thru 6"	Ductile (ASTM A395)		316SS6 (ASTM A351 CF8M)

NOTES:



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