

APPLICATIONS:

As oil or water valve for emulsion treaters, water knockouts and gunbarrels. Can be used for pressure, atmospheric, or vacuum operation. Ideal for discharging salt water to disposal systems.

FEATURES:

- Single soft seat for tight shut off
- Balanced against upstream pressure
- Balanced against downstream pressure or vacuum
- Standard weight and lever holds approx. 4' liquid head
- Weights may be added to increase liquid head
- Can be manually opened and closed
- Sample tap on inlet connection
- Rotary stuffing box with leakless, low friction TEFLON packing
- All interior parts can be removed without taking valve out of line
- Prevents air from entering salt water disposal system piping

CERTIFICATIONS:

- Canadian Registration Number (CRN):
- 0C15735.24567890NTY (Ductile)
- 0C15811.24567890NTY (Steel)

TEMPERATURE:

Delrin Seats should only be used up to 180°F (82°C) max

OPERATION:

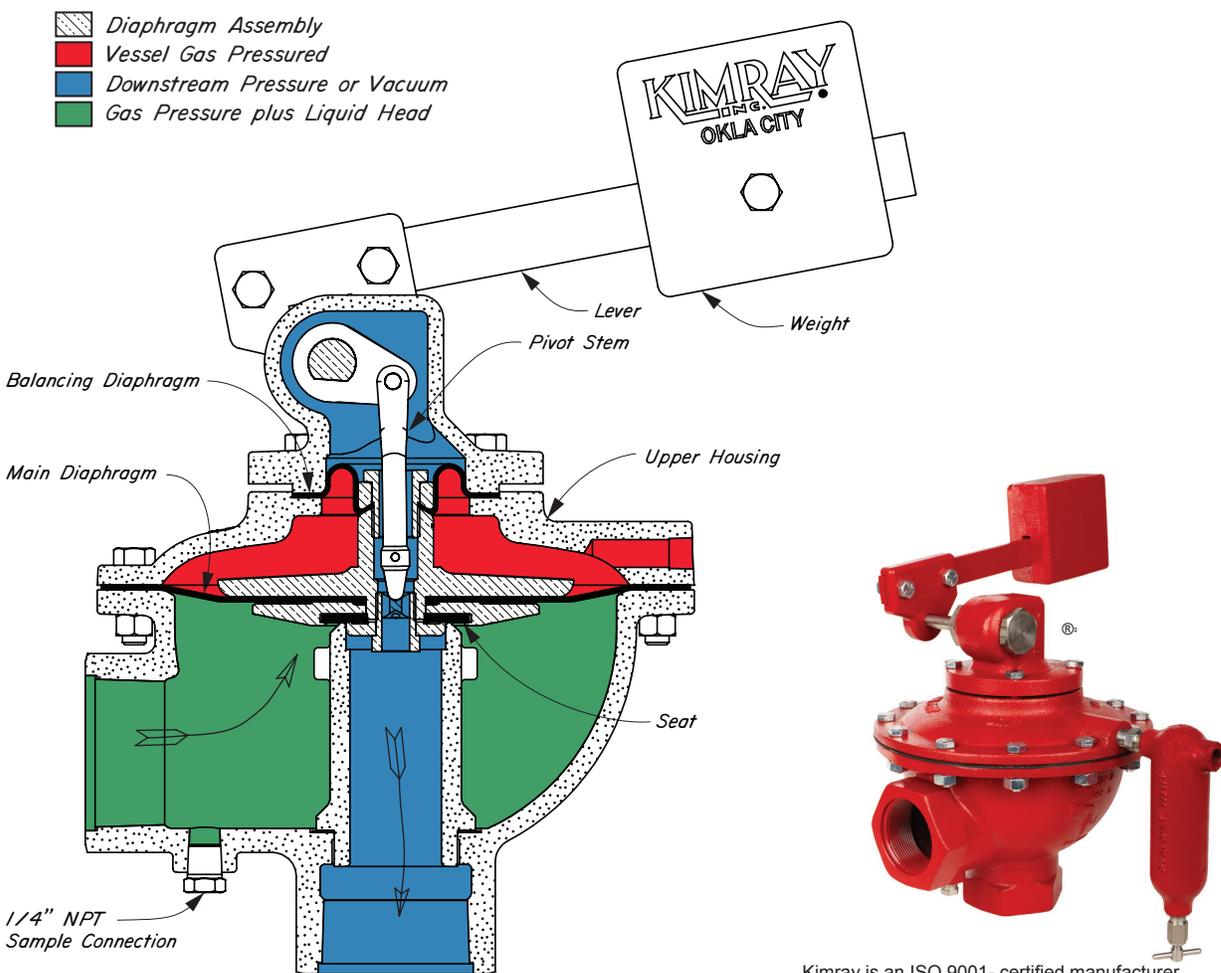
The inlet of the valve is connected to the water siphon leg or oil discharge line from an emulsion treater or water knockout. Vessel Gas Pressure (Red) is connected to the UPPER HOUSING to balance the Gas Pressure under the MAIN DIAPHRAGM.

The effective area of the BALANCING DIAPHRAGM is the same as the effective area of the SEAT. Pressure or vacuum acting on either side of the BALANCING DIAPHRAGM will cancel the pressure or vacuum acting on the SEAT. This balancing feature prevents the slamming open and closed prevalent in unbalanced single seat construction.

The Vessel Gas Pressure (Red) with the UPPER HOUSING acts upwardly on the BALANCING DIAPHRAGM to cancel the downward pressure on the single SEAT. Downstream Pressure Vacuum (Blue) acting on the SEAT is communicated to the top side of BALANCING DIAPHRAGM. This cancels any downstream pressure or vacuum effect on the valve operation.

The force to hold the SEAT closed is applied by a WEIGHT and LEVER through a rotary TEFLON packed stuffing box to a PIVOT STEM which pushes down on the Diaphragm Assembly.

Liquid level may be adjusted up to approximately four feet by moving the WEIGHT on the LEVER. Additional weights may be added if a higher level is desired.



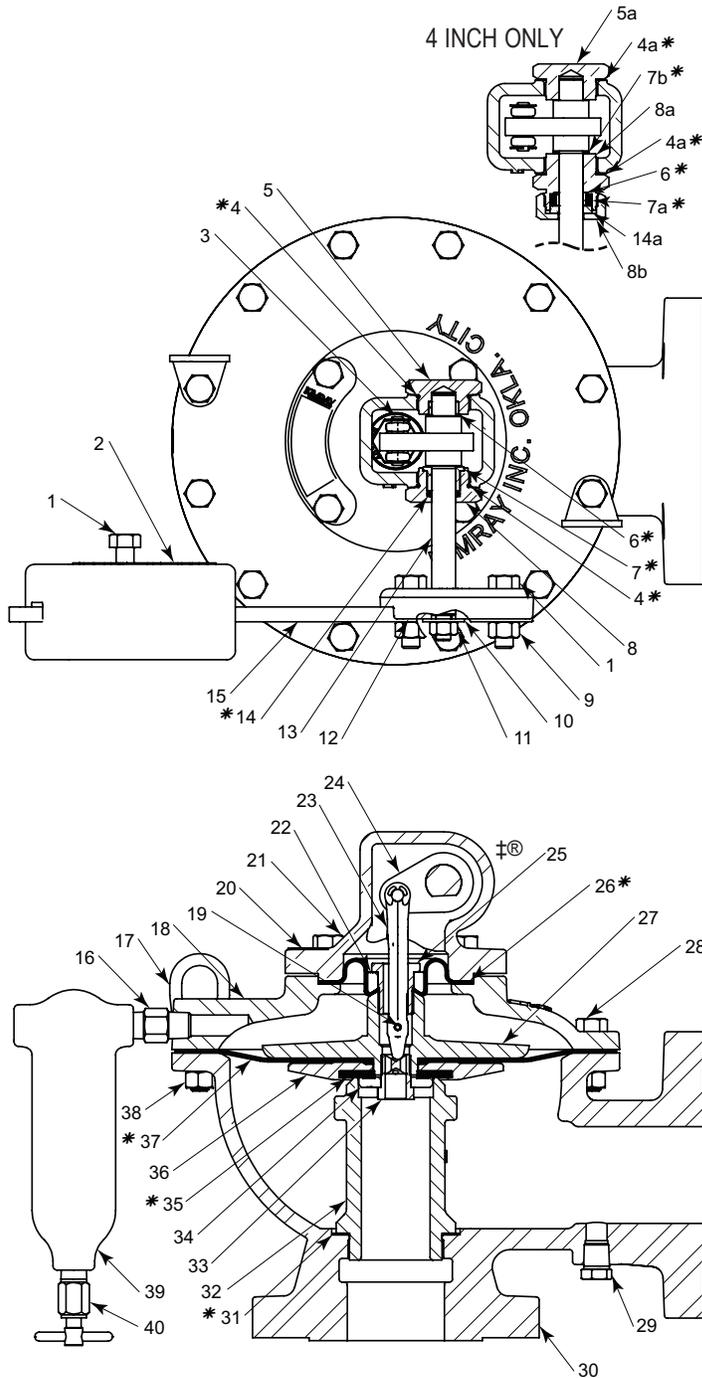
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OIL & WATER VALVES

**TREATER VALVE
STEEL**



ITEM	QTY.	DESCRIPTION	PART NO.		
			2 INCH	3 INCH	4 INCH
1	3	BOLT	247		
2	1	WEIGHT	424	425	426
3	2	LINK PIN w/ SNAP RINGS * (kit includes Snap Rings only)	316	317	
4	2	O RING *	2131HSN	5226HSN	----
4a	2	GASKET *	----	366	
5	1	TRUNNION PLUG	7522	7523	----
5a	1	TRUNNION PLUG	----	369	
6	1	PACKING *	354	355	356
7	1	BUSHING *	7518	7592	----
7a		PACKING RING *	----	353 x 2	
7b	1	THRUST WASHER *	----	362	
8	1	STUFFING BOX	7520	7593	----
8a	1	STUFFING BOX	----	359	
8b	1	STUFFING BOX NUT	----	347	
9	2	NUT	241		
10	1	NYLOCK NUT	7366	7411	7486
11	1	LEVER HUB	7600	7601	7602
	1	SET SCREW (NOT SHOWN)	7608		
12	1	WASHER	4492	7544	4491
13	1	SHAFT	7404	7408	7427
14		O RING *	154HSN	491HSNPS	
14a	1	FOLLOWER	----	350	
15	1	LEVER BAR	419	420	
16	1	NIPPLE	648		
17	2	LIFTING RING	7559		
18	1	HOUSING	4466	411S	1717
19	1	PIN	932	428	429SS6
20	1	BONNET	4031	4032	1716
21		BOLT	380 x 4	247 x 6	247 x 8
22	1	DIAPHRAGM RETAINER	401SS6	402SS6	403SS6
23	1	STEM	398	399	400
24	1	TRUNNION HUB	7403	7407	7454
25	1	DIAPHRAGM BOLT	407SS6	408SS6	409SS6
26	1	DIAPHRAGM *	416	417	418
27	1	DIAPHRAGM PLATE	404	405	406
28		BOLT	247 x 14	430 x 16	430 x 18
29	1	PLUG	699SS6		
30	1	BODY			
		FLANGED ANGLE	4465	382S	1715
31	1	GASKET *	387	388	389
32	1	REMOVABLE SEAT	384DEL	385DEL	386
33	1	PIVOT BOLT	396		
34	1	RATIO PLUG	413SS6	414SS6	415SS6
35	1	SEAT *	7502HSN	7503HSN	392
36	1	SEAT DISC	393KC	394KC	395
37	1	DIAPHRAGM *	421	422	423
38		NUT	241 x 14	241 x 16	241 x 18
39	1	DRIP POT BODY	431		
40	1	BLEED VALVE	YBF1		

VALVES AVAILABLE:

PART NO.	BODY CONNECTION	BODY TYPE	MODEL NO.	OPER. PRES.	MAX W.P.	REP. KIT
DAI	2" 150RF	ANGLE	27 FWA-S	0-125	125	REL
DAJ	3" 150RF	ANGLE	37 FWA-S	0-125	125	REM
DAF	4" 150RF	ANGLE	47 FWA-S	0-125	125	REN

NOTES:

*These parts are recommended spare parts and are stocked as repair kits.
For standard & optional Seals, Metals, Cv values, Material specifications & Dimensions see Technical Data on pages D:I - D:V
† Max W.P. valves based on -20°F to 100°F. See page D:V for temps above 100°F

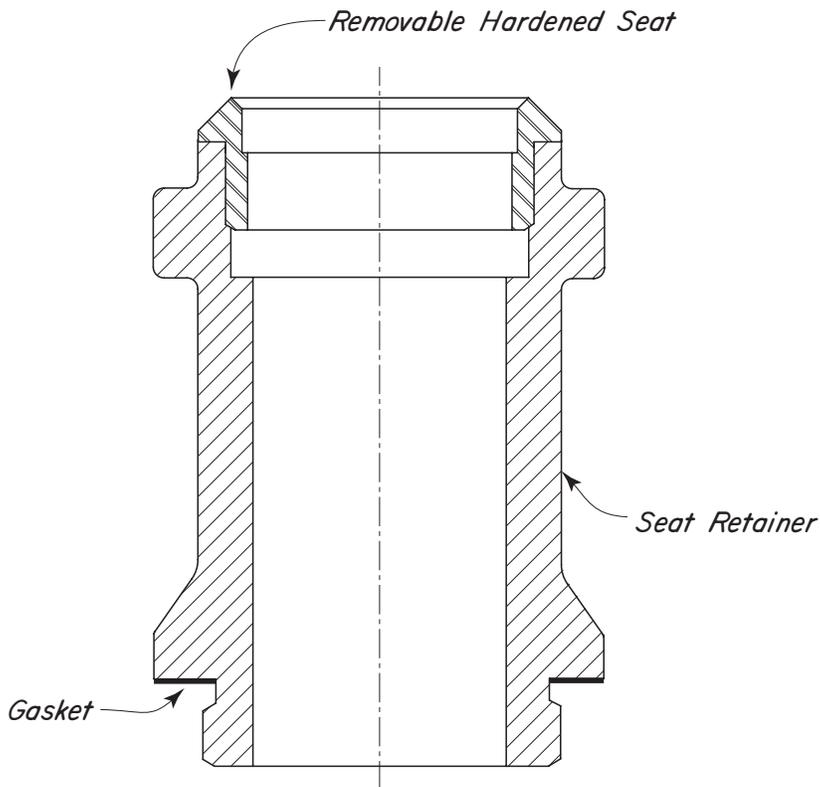
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OIL & WATER VALVES

REMOVABLE HARD SEAT ASSEMBLY
STEEL



SEATS AVAILABLE:

LINE SIZE	SEAT	RETAINER	GASKET
2"	384HA	384HB	387
3"	385PH	385HB	388
3"	385ASS6	385HB	388

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Table 1 - Flow Coefficients (Cv)					
2" Treater valve					
Trim Size in. (mm)	Cf	Valve Opening Percentage			
		25	50	75	100
2 in (50 mm)	0.75	2.5	13.5	26	36.5
3" Treater valve					
Trim Size in. (mm)	Cf	Valve Opening Percentage			
		25	50	75	100
3 in (76 mm)	0.75	16.5	37.9	66.2	93.3
4" Treater valve					
Trim Size in. (mm)	Cf	Valve Opening Percentage			
		25	50	75	100
4 in (100 mm)	0.75	28.4	77.1	131.4	173.5
6" Treater valve					
Trim Size in. (mm)	Cf	Valve Opening Percentage			
		25	50	75	100
6 in (152 mm)	0.75	49.3	147.6	270.2	371.9

Kimray flow equations conform to ANSI/ISA - 75.01.01-2002

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

* Use "2 inch Removable Full Port" values for regulators with operating pressure ranges of 10-250psig, 10-285psig & 10-300psig

OIL & WATER VALVES



TREATER VALVE
DIMENSIONS

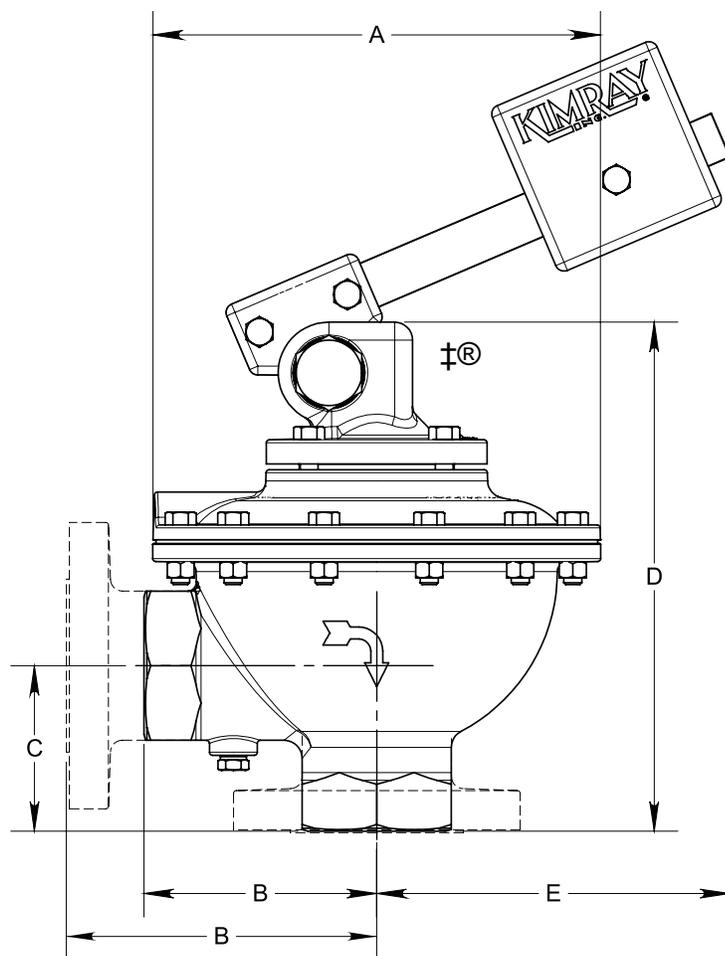


Table 2 - Treater Valves

	End Connection	A	B	C	D	E	Approx. Weight
2"	NPT	9 3/8 in. (238 mm)	4 7/8 in. (123 mm)	3 1/2 in. (88 mm)	10 5/8 in. (269 mm)	8 1/2 in. (215 mm)	46 lbs (20.8 kg)
	150FF	9 3/8 in. (238 mm)	6 1/2 in. (165 mm)	3 1/2 in. (88 mm)	10 5/8 in. (269 mm)	8 1/2 in. (215 mm)	
3"	125FF	11 3/4 in. (298 mm)	8.00 in. (203 mm)	4 1/4 in. (107 mm)	13 1/2 in. (342 mm)	13.00 in. (330 mm)	90 lbs (40.8 kg)
	150FF	11 3/4 in. (298 mm)	8.00 in. (203 mm)	4 1/4 in. (107 mm)	13 1/2 in. (342 mm)	13.00 in. (330 mm)	
4"	125FF	13.00 in. (330 mm)	9.00 in. (228 mm)	4 3/4 in. (120 mm)	14 5/8 in. (371 mm)	13.00 in. (330 mm)	132 lbs (59.8 kg)
	150FF	13.00 in. (330 mm)	9.00 in. (228 mm)	4 3/4 in. (120 mm)	14 5/8 in. (371 mm)	13.00 in. (330 mm)	
6"	125FF	18 5/8 in. (473 mm)	12 1/4 in. (311 mm)	6 3/4 in. (95 mm)	21 1/2 in. (317 mm)	12 1/2 in. (317 mm)	375 lbs (170 kg)
	150FF	18 5/8 in. (473 mm)	12 1/4 in. (311 mm)	6 3/4 in. (95 mm)	21 1/2 in. (317 mm)	12 1/2 in. (317 mm)	

Table 3 - Seal Options		
Part	Standard Material	Optional Material
Diaphragm	Nitrile	FKM, HSN
Soft Seat	HSN	FKM, HSN
Packing	PTFE	FKM, HSN
O Ring	HSN	FKM
Bushing	PTFE	N/A

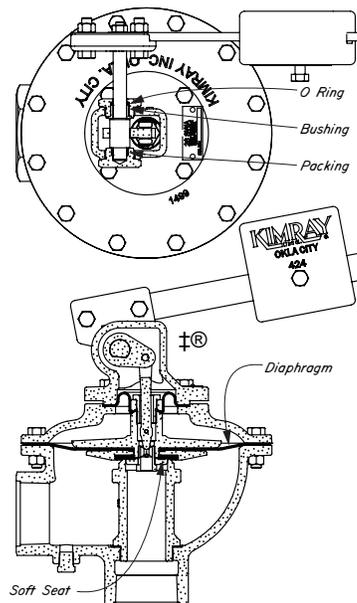


Table 4 - Seal Specifications				
		NITRILE	HIGHLY SATURATED NITRILE	FKM
Kimray Suffix		-	HSN	V
Resistance	Abrasion	G	G-E	G
	Acid	F	G-E	G-E
	Chemical	F	F	E
	Cold	G	G	P
	Flame	P	P	E
	Heat	G	E	E
	Oil	G-E	E	E
	Ozone	P	G	G-E
	Set	G	G	G-E
	Tear	F	F	F
	Water/Steam	F	E	P
	Weather	F	G	E
	CO2	F-G	G	G
	H2S	P	F	P
Properties	Dynamic	G	G	G
	Electrical	F	F	F
	Impermeability	G	G	G
	Tensile Strength	G	G-E	G
	Temp. Range (°F)	-20° to +225°F	-20° to +250°F	-15° to +400°F
	Temp. Range (°C)	-29° to +107°C	-29° to +121°C	-26° to +204°C
	Form	O,S,D	O,S,D	O,S,D
RATINGS: P-POOR, F-FAIR, G-GOOD, E-EXCELLENT				

Table 5 - Materials of Construction

Part Description	Standard Material	Optional Material(s)
Body	Ductile Iron, ASTM A-395	ASTM A-216 WCB
Removable Seat	Delrin	Ductile Iron, ASTM A-395, ASTM-A276, ASTM-A564
Packing Box	ASTM A-582 303SS	ASTM A-479 316SS
Soft Seat	HSN	FKM

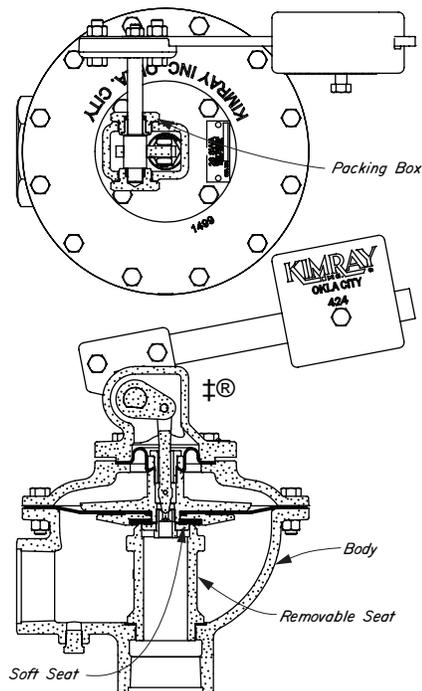
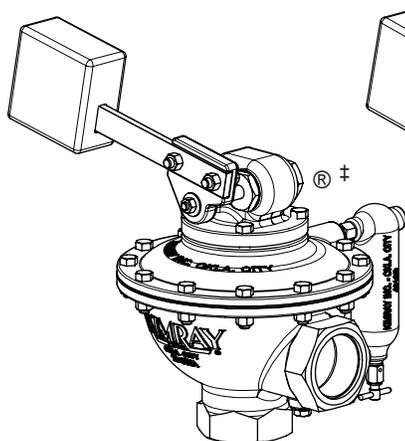
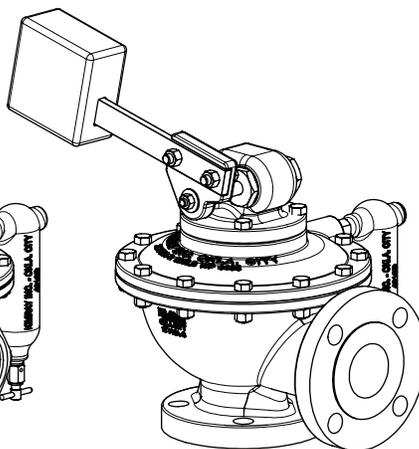


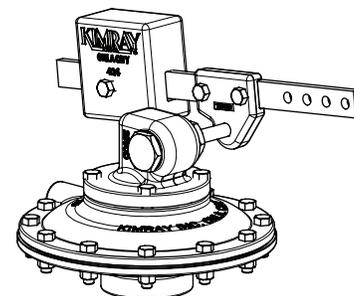
Table 6 - Temperature vs. Pressure Rating	
ASTM Class Temperature °F (°C)	Flange Class
	150 RF
	Static Test Pressure (psig)
	450 (31 bar)
Maximum Allowable Non-Shock Pressure (psig)	
CAST DUCTILE ASTM A-395	
	Flange Class
	150 RF
-20 to 100 (-28 to 37)	250 (17.2 bar)
200 (93)	235 (16.2 bar)
300 (148)	215 (14.8 bar)
400 (204)	200 (13.7 bar)
500 (260)	170 (11.7 bar)
600 (315)	140 (9.6 bar)
650 (343)	125 (8.6 bar)
700 (371)	
CAST STEEL ASTM A-216 - WCB	
	Flange Class
	150 RF
-20 to 100 (-28 to 37)	285 (20.0 bar)
200 (93)	260 (17.9 bar)
300 (148)	230 (15.9 bar)
400 (204)	200 (13.8 bar)
500 (260)	170 (11.7 bar)
600 (315)	140 (9.7 bar)
650 (343)	125 (8.6 bar)
700 (371)	110 (7.6 bar)



SCREWED (NPT)



FLANGED (150RF)



DIAPHRAGM
MOTOR VALVE

Kimray valves conform to ASME B16.34-2009 for working pressure vs working temperature & ASME B16.5-1996 for flanges and flanged fittings.