



OIL & WATER VALVE

TREATER VALVES



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TREATER VALVE: D:10.1 - D:10.3

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.

OPERATING PRESSURE RANGES: 5 psig to 500 psig

REMOVABLE HARD SEAT ASSEMBLY: D:10.5

DIAPHRAGM MOTOR VALVE: D:20.1

APPLICATIONS: Regulation of inlet pressure to gas compressors. Control of supply or distribution
systems pressures.

OPERATING PRESSURE RANGES: 5 psig to 500 psig

FLOW COEFFICIENT	D:I
DIMENSIONS	D:II
SEALS	D:III
MATERIAL SPECIFICATIONS	D:IV
TEMPERATURE	D:V

CODE BUILDER

Creating a Kimray Part Number with Options

Treater Valve

Base Part Number from Catalog (Example:DAA) See following pages to select base code

Characteristics such as Flange connection size & type, thru & angled body are inherent in the Base Part Number.

Misc. Options:

LB = No Body (Upper Portion only)

Trim Material Options:

S6 = 316 Stainless steel Trim, Tubing and Fittings)

Seal Options: Nitrile is standard

HSN = Highly Saturated Nitrile on all seals (HNBR)

V = FKM on all seals

AF = Aflas® on all seals

P = Polyurethane on seat (all other elastomers standard)

Special Removable Seat

DEL = Delrin Seat

Coating

KC = Kimcoat (for wear and corrosion resistance)

Certifications

NC = NACE certificate

MTR = Material Test Report

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Leave blank where no options are desired. Consolidate by removing blanks

Example:

DAD	LB			KC		
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reduces to **DADLBKC**

* NOTE: Some options could drastically affect lead times. Contact your local Kimray representative to finalize your product code.

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)

OPERATION:

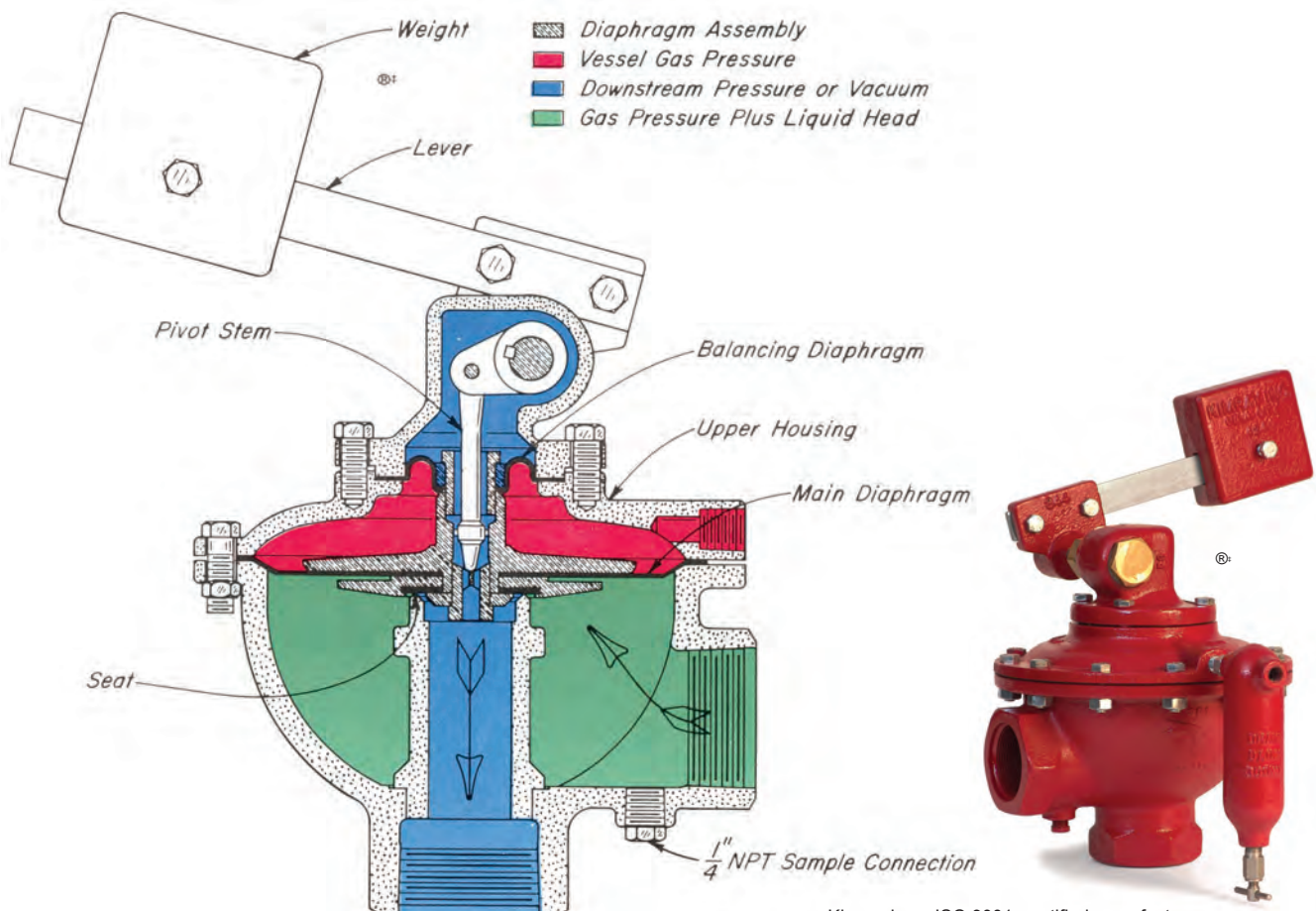
The inlet of the valve is connected to the water siphon leg or oil discharge line from an emulsion treater or water knockout. Vessel Gas Pressure (Red) is connected to the UPPER HOUSING to balance the Gas Pressure under the MAIN DIAPHRAGM.

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.

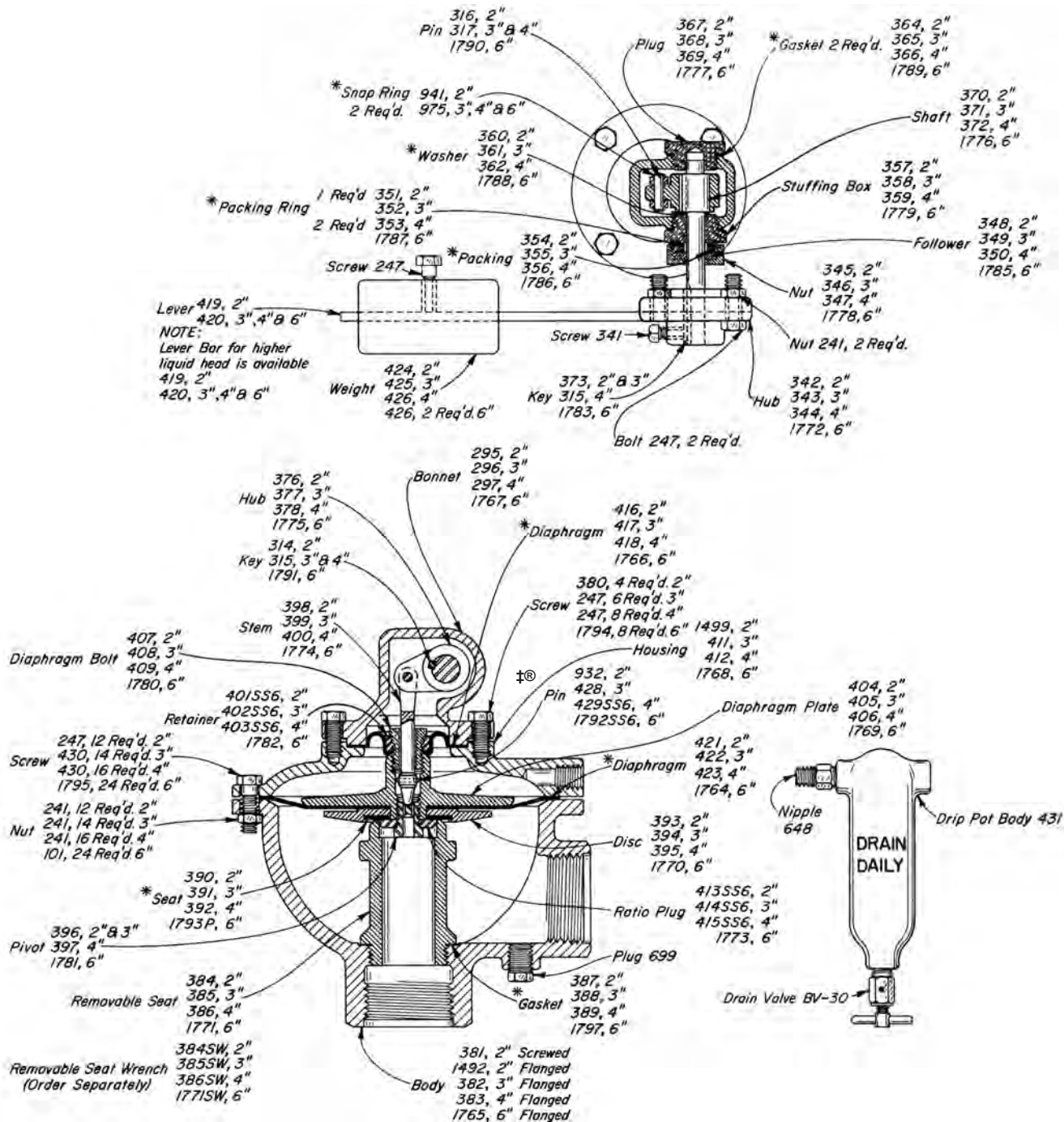
The force to hold the SEAT closed is applied by a WEIGHT and LEVER through a rotary TEFLON packed stuffing box to a PIVOT STEM which pushes down on the Diaphragm Assembly. When the liquid rises in the discharge piping of the vessel above the set level, it lifts the Diaphragm Assembly against the WEIGHT load to open the valve. As liquid is discharged to lower the level, the WEIGHT closes the valve.

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.



Kimray is an ISO 9001- certified manufacturer.

TREATER VALVE DUCTILE IRON



VALVES AVAILABLE:

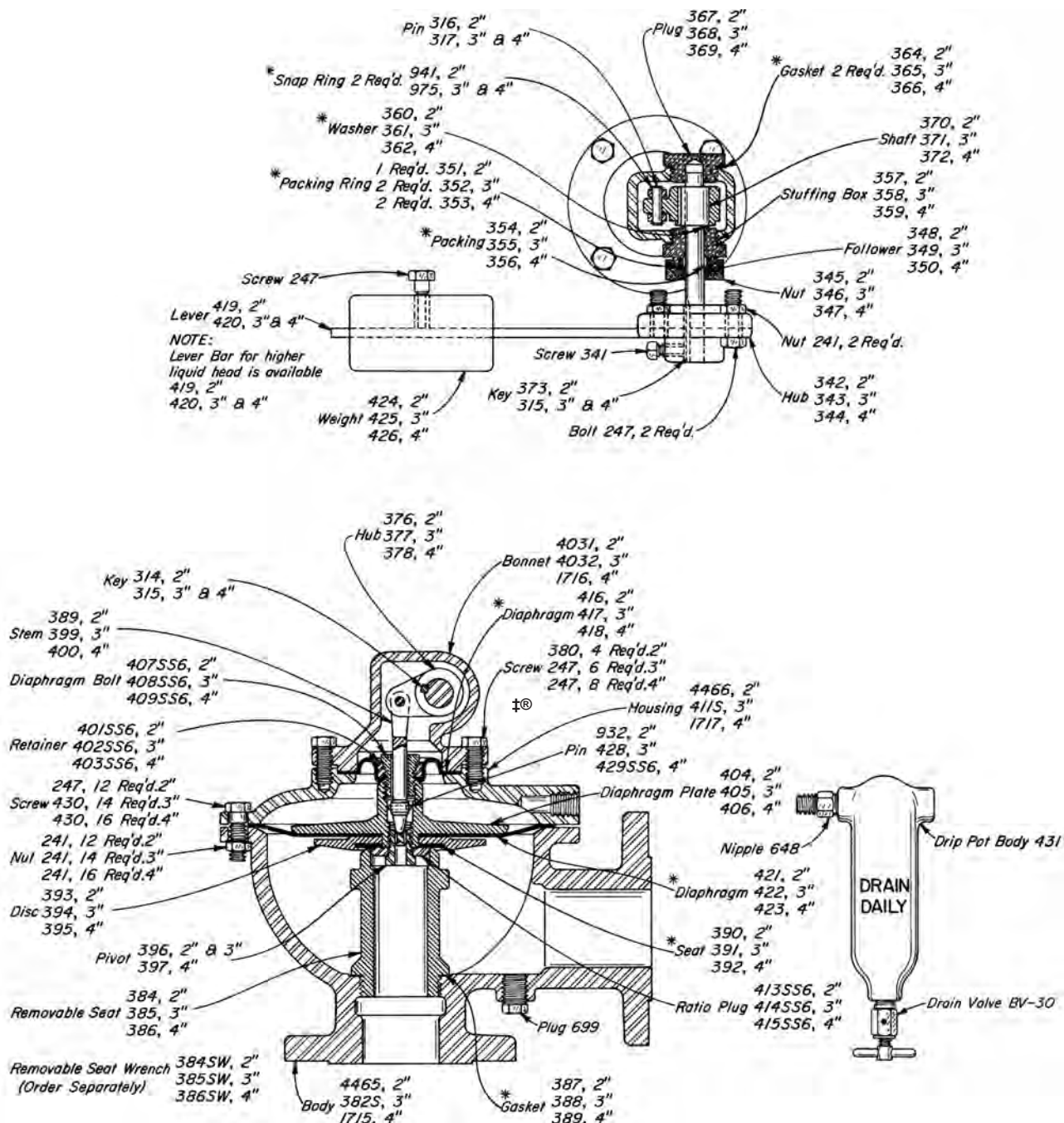
PART NO.	BODY CONNECTION	BODY TYPE	MODEL NO.	OPER. PRES.	MAX W.P.	REP. KIT
DAA	2" NPT	ANGLE	26 SWA	0-125	125	REL
DAB	2" 150RF	ANGLE	26 FWA	0-125	125	REL
DAC	3" 150RF	ANGLE	36 FWA	0-125	125	REM
DAD	4" 150RF	ANGLE	46 FWA	0-125	125	REN
DAE	6" 150RF	ANGLE	66 FWA	0-60	60	REP

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



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:

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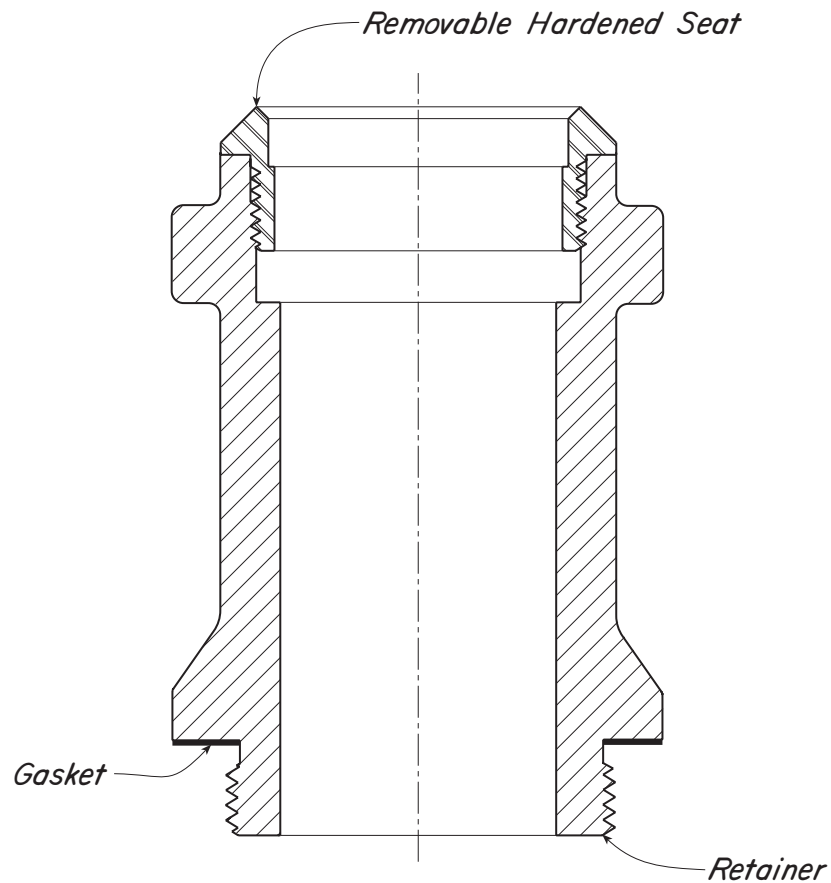
For standard & optional Seals, Metals, Cv values, Material specifications & Dimensions see Technical Data on pages D:I - D:V

† Max W.P. valves based on -20°F to 100°F. See page D:V for temps above 100°F

NOTES:

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SEATS AVAILABLE:

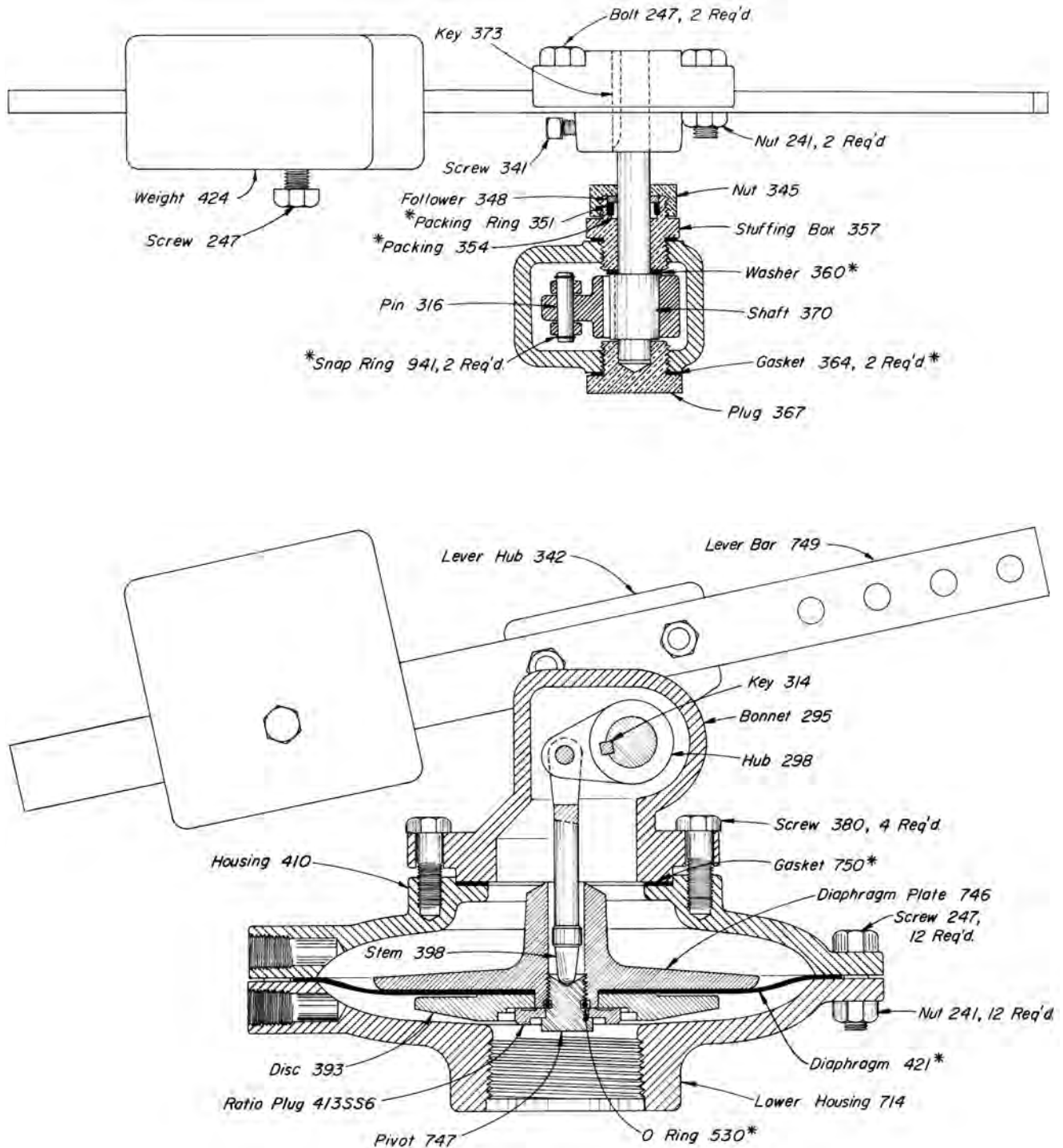
LINE SIZE	SEAT	RETAINER	GASKET
2"	384HA	384HB	387
3"	385PH	385HB	388
3"	385ASS6	385HB	388

NOTES:

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DIAPHRAGM MOTOR VALVE DUCTILE IRON



VALVES AVAILABLE:

PART NO.	BODY CONNECTION	MODEL NO.	OPER. PRES.	MAX [†] W.P.	REP. KIT
DMA	2" NPT	26 DM	0-125	125	REW

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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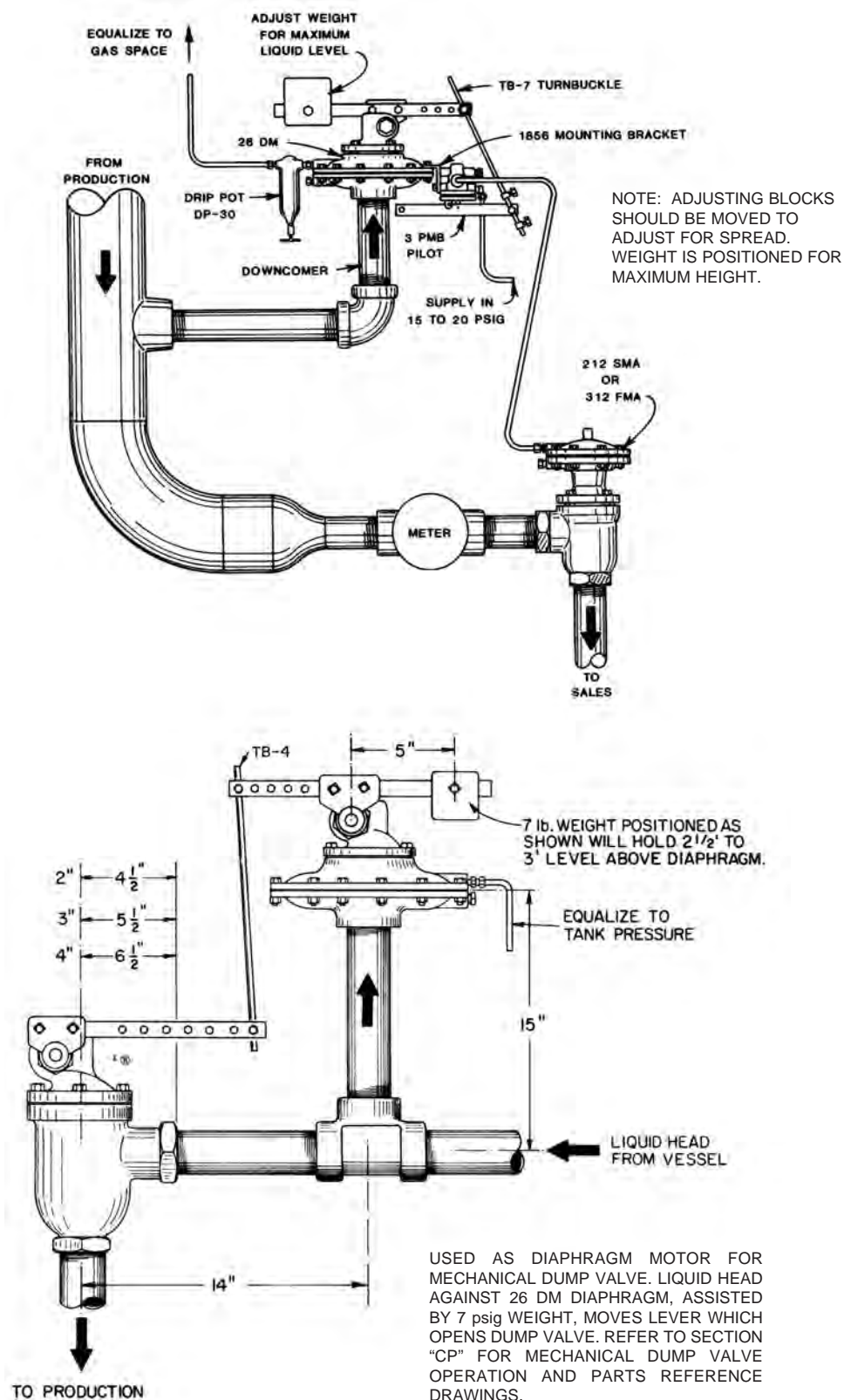


Table 1 - Flow Coefficient(Cv) for Treater Valves		
2" Treater valve		
Trim Size	Cf	Cv
2 in (50 mm)	0.75	36.5
3" Treater valve		
Trim Size	Cf	Cv
3 in (76 mm)	0.75	93.3
4" Treater valve		
Trim Size	Cf	Cv
4 in (100 mm)	0.75	173.5
6" Treater valve		
Trim Size	Cf	Cv
6 in (152 mm)	0.75	371.9

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

TREATER VALVE
DIMENSIONS

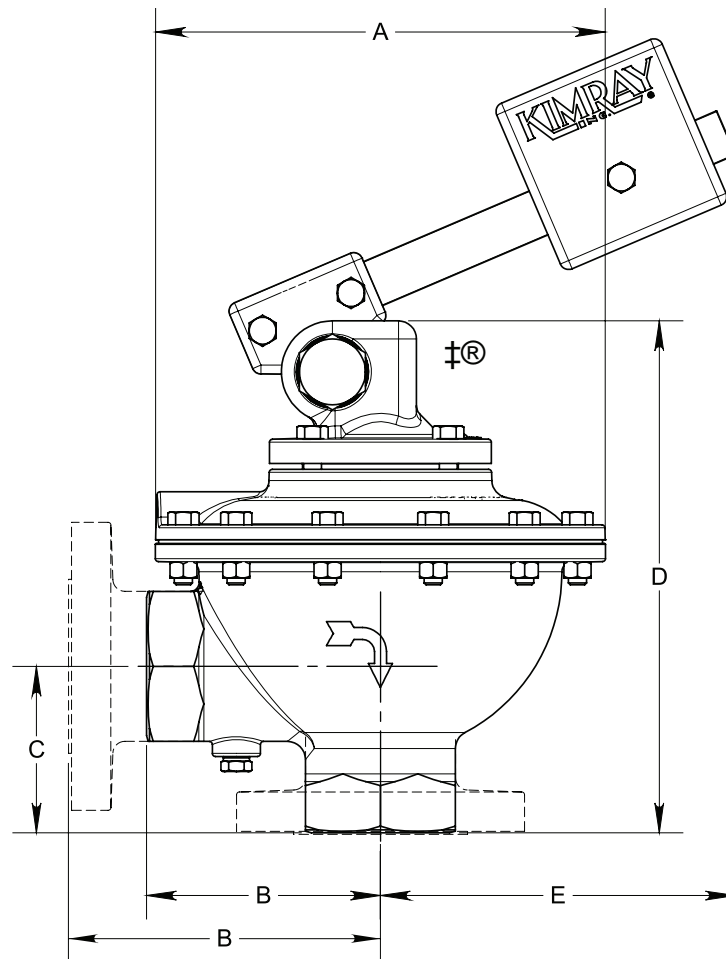


Table 2 - Treater Valves

	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, AFLAS [®] , Gylon [®] Ploy
Soft Seat	Nitrile	FKM, HSN, AFLAS [®] , Gylon [®] Ploy
Packing	PTFE	FKM, HSN, AFLAS [®] , Gylon [®] Ploy

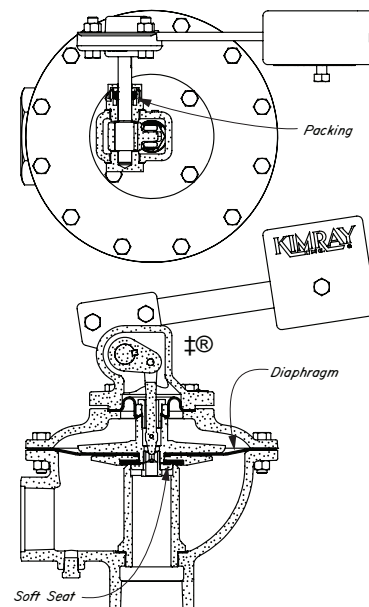


Table 4 - Seal Specifications							
		NITRILE	HIGHLY SATURATED NITRILE	FKM	AFLAS [®]	POLY-URETHANE	GYLON [®]
	Kimray Suffix	-	HSN	V	AF	P	GY
Resistance	Abrasion	G	G	G	GE	E	E
	Acid	F	E	E	E	P	E
	Chemical	FG	FG	E	E	FG	E
	Cold	G	G	PF	P	G	E
	Flame	P	P	E	E	P	P
	Heat	G	E	E	E	F	E
	Oil	E	E	E	E	G	E
	Ozone	P	G	E	E	E	E
	Set	GE	GE	E	PF	F	P
	Tear	FG	FG	F	PF	GE	E
	Water/Steam	FG	E	P	GE	P	E
	Weather	F	G	E	E	E	E
	CO2	FG	GE	PG	GE	G	E
	H2S	P	FG	P	E	G	E
	Methanol	G	E	PF	PF	P	E
Properties	Dynamic	GE	GE	GE	GE	E	P
	Electrical	F	F	F	E	FG	E
	Impermeability	G	G	G	G	G	E
	Tensile Strength	GE	E	GE	FG	E	E
	Temp. Range (°F)	-40 to +220°F	-15° to +300°F	-10° to +350°F	+25° to +450°F	-40° to +220°F	-350 to +500°F
	Temp. Range (°C)	-40 to +105°C	-26° to +149°C	-23° to +177°C	0° to +232°C	-40° to +104°C	-212 to +260°C
	Form	O,S,D	O,S,D	O,S,D	O,S,D	S,D	S,D
RATINGS: P-POOR, F-FAIR, G-GOOD, E-EXCELLENT							

Table 5 - Level Controller Materials of Construction

Part Description	Standard Material	Optional Material(s)
Body	Ductile Iron, ASTM A-395	ASTM A-216 WCB
Removable Seat	Ductile Iron, ASTM A-395	Delrin
Packing Box	Brass	ASTM A-316
Packing	Nitrile	HSN, AF, FKM
Soft Seat	Nitrile	HSN, AF, FKM

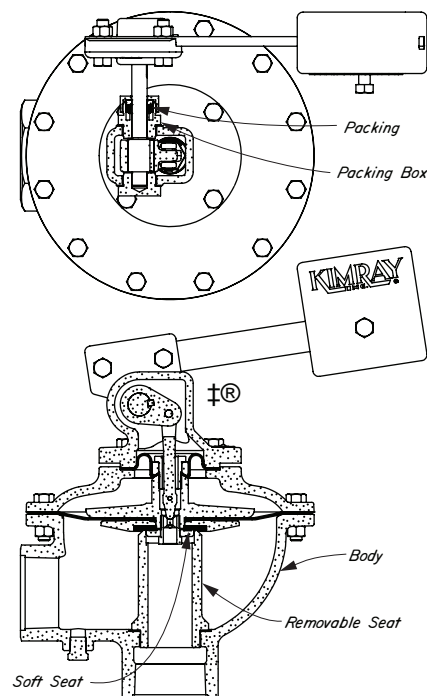
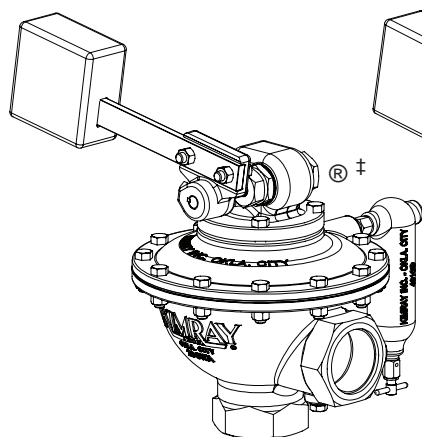


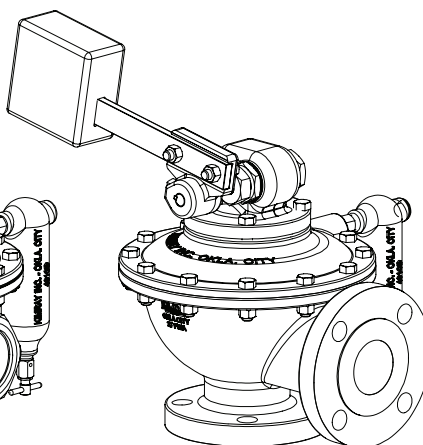
Table 6 - Material Specification

	Body			Inner Parts			
	CAST STEEL	CAST STEEL	CAST 316 STAINLESS STEEL	316 STAINLESS STEEL	17-4 PH STAINLESS STEEL	D-2 TOOL STEEL	440C STAINLESS STEEL
Kimray SUFFIX	CS	LCC	C6	S6	PH	D2	440C
ASTM GROUP	ASTM-A216	ASTM-A352	ASTM-A351	ASTM-A276	ASTM-A564	ASTM-A681	ASTM-A276
GRADE	WCB	LCC	CF8M	316	630	D-2	
UNS	J03002	J02505	J92900	S31600	S17400	T30402	S44004
NACE Compliant	Yes	Yes	Yes	Yes	Yes	No	No

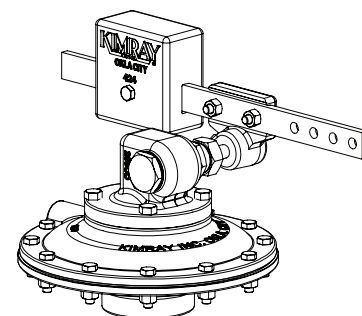
Table 7 - Temperature vs. Pressure Rating	
ASTM Class Temperature °F (°C)	Flange Class
	150 RF
	Static Test Pressure (psig)
	450 (31 bar)
Maximum Allowable Non-Shock Pressure (psig)	
CAST DUCTILE ASTM A-395	
	Flange Class
	150 RF
-20 to 100 (-28 to 37)	250 (17.2 bar)
200 (93)	235 (16.2 bar)
300 (148)	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.

NOTES:

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