

# AquaMatic® Products

Valves, Stagers and Controllers



Click on the desired page below to view the catalog drawing in a PDF format. You can return to this index by navigating with the back arrow.

## Valves

### Metal

Description	Series	Drawing Number
<b>AQUAMATIC PRODUCTS OVERVIEW</b>		
DIAPHRAGM VALVE CONFIGURATIONS	V420	1078117
3/4" & 1" DIAPHRAGM VALVES	V421	1084018
1-1/4" & 1-1/2" DIAPHRAGM VALVES	V424	1084019
2" DIAPHRAGM VALVES	V425	1084020
2" & 2-1/2" DIAPHRAGM VALVES	V426	1084021
3" DIAPHRAGM VALVES	V427	1084022
4" DIAPHRAGM VALVES	V428	1084023
6" DIAPHRAGM VALVES	V429	1084024
3/4" & 1" HIGH PRESSURE VALVES	V821	1084035
1-1/2" HIGH PRESSURE VALVES	V824	1084036
2" & 2-1/2" HIGH PRESSURE VALVES	V826	1084037
3" HIGH PRESSURE VALVE	V827	1084038
3/4" & 1" AIR VALVES	VAV1	1084039
1-1/4" & 1-1/2" AIR VALVES	VAV4	1084040
2" AIR VALVES	VAV5	1084041
2" & 2-1/2" AIR VALVES	VAV6	1084042
3" AIR VALVES	VAV7	1084043
4" AIR VALVES	VAV8	1084044
3/4" & 1" ISOLATED BONNET VALVES	V4421	1084025
1-1/4" & 1-1/2" ISOLATED BONNET VALVE	V4424	1084026
2" & 2-1/2" ISOLATED BONNET VALVES	V4426	1084028
3" ISOLATED BONNET VALVES	V4427	1084029
4" ISOLATED BONNET VALVES	V4428	1084030
SOLENOID OPERATED VALVES	V420	1078114
FLOAT OPERATED VALVES	V420	1078191
FLOAT OPERATED LEVEL CONTROL	348	1078194
1" STAINLESS STEEL VALVES	V461	1078634
1-1/2" STAINLESS STEEL VALVES	V464	TBD
2" STAINLESS STEEL VALVES	V465	1078668

## Valves

### Composite

Description	Series	Drawing Number
DIAPHRAGM VALVE CONFIGURATIONS	K52	1078147
END CONNECTOR PARTS	K520,K521,K524	1078140
END CONNECTOR PARTS	K524,K526	1078150
1/2" DIAPHRAGM VALVES	K520	1084001
1" DIAPHRAGM VALVES	K521	1084003
1-1/2" DIAPHRAGM VALVES	K524	1084004
2-1/2" DIAPHRAGM VALVES	K526	1084005
1/2" ISOLATED BONNET VALVES	K5520	1084013
1" ISOLATED BONNET VALVES	K5521	1084014
1-1/2" ISOLATED BONNET VALVES	K5524	1084015
SOLENOID OPERATED VALVES	K52	1078160
1" DIAPHRAGM VALVES	K531	1084007
1-1/2" DIAPHRAGM VALVES	K534	1084009
2" DIAPHRAGM VALVES	K535	1084010
3" DIAPHRAGM VALVES	K537	1084012
1" FAILSAFE CLOSED VALVES	K531	1084008
1-1/2" FAILSAFE CLOSED VALVES	K534	1084008
2" FAILSAFE CLOSED VALVES	K535	1084011
3" FAILSAFE CLOSED VALVES	K537	1084011
SOLENOID OPERATED VALVES	K530	1078170

## Stager Valves

STAGER MODEL NUMBER SELECTION	ALL	1078031
SERIES 48 STAGERS	48	1077882
SERIES 51 STAGERS	51	1077770
SERIES 58 & 59 STAGERS	58 & 59	1077898
SERIES 96 STAGERS	96	1078010

## Stager Controls

ELECTROMECHANICAL TIMERS	A100, A200
SERIES 962 STAGER CONTROLLER	E9

## Suggested Piping Arrangements

Description	Stager Program	Drawing Number
4 POSITION SOFTENER	48-00	1078271
3 POSITION FILTER	48-01	1078272
2 POSITION FILTER	48-04	1078273
4 POSITION SOFTENER (COUNTER CURRENT REGENERATION)	48-12	1078274
4 POSITION FILTER W/ AIR SCOUR	48-12	1078275
3 TANK SEQUENTIAL FILTER (BACKWASH ONLY)	48-83	1078276
4 TANK SEQUENTIAL FILTER (BACKWASH ONLY)	48-84	1078277
5 TANK SEQUENTIAL FILTER (BACKWASH ONLY)	48-85	1078278
6 POSITION SOFTENER W/ TIMED BRINE & REFILL	51-06	1078279
5 POSITION SOFTENER W/ TIMED BRINE DRAW	51-07	1078280
5 POSITION SOFTENER W/ TIMED BRINE REFILL	51-09	1078281
2 TANK SEQUENTIAL FILTER	51-10	1078282
2 TANK SEQUENTIAL FILTER, SEPARATE SOURCE BW & RINSE	51-10	1078283
2 TANK SEQUENTIAL FILTER W/ SEPARATE SOURCE BW	51-10	1078284
SINGLE TANK SOFTENER W/ BRINE RECLAIM	51-12	1078285
6 TANK SEQUENTIAL FILTER (BACKWASH ONLY)	51-86	1078286
7 TANK SEQUENTIAL FILTER (BACKWASH ONLY)	51-87	1078287
3 TANK SEQUENTIAL FILTER	58-03	1078288
4 TANK SEQUENTIAL FILTER	58-04	1078289
2 BED DEIONIZER SYSTEM	58-00	1078290
2 BED DEIONIZER W/ DEGASIFIER	58-02	1078291
MIXED BED DEIONIZER	58-10	1078292
2 UNIT ALTERNATING SOFTENER	58-TA	1078293
2 UNIT ALTERNATING SOFTENER W/ TIMED BRINE	58-TB	1078294



# AquaMatic® Products

Valves, Stagers and Controllers



OSMONICS

OVERVIEW



# Osmonics



## **Osmonics is a diversified manufacturer**

of high technology equipment, controls and components that purify water, concentrate wastes, and enable clean water to be recycled or discharged back into the environment.

## **Osmonics is an industry leader**

offering AquaMatic brand specialty valves and controllers for fluid handling. AquaMatic offers stagers and controllers to automate valve operation for a variety of commercial and industrial applications.

## **As with all members of the Osmonics family,**

AquaMatic brand products have a reputation for value, durability, ease of maintenance, full product support and low life-cycle costs.

## Versatility

### **AquaMatic valves have earned worldwide recognition**

for their high quality and value in the water treatment market. Value includes low initial purchase price and lower cost of operation during the life of the product when compared with our competitors. Our valves are simple to maintain, and easily serviced by your maintenance staff.

### **AquaMatic products have proven to be effective**

in a vast array of diverse applications. One of our largest markets is heatless regenerative air dryers where we are one of the preferred suppliers in this specialized industry. The AquaMatic valve controls air flow with one cycle every ten minutes. Other applications where AquaMatic valves can provide reliable service and low life-cycle costs include:

- Center Pivot Irrigation Systems
- Conveying Equipment
- Sand Blasting Equipment
- Desalination Systems
- Car Wash Systems
- Milling Machines and Lathes
- Cooling Tower Float Valves
- Plastic Molding Machinery
- Laundry Equipment
- Sludge Removal Systems
- Bulk Solids Transfer Equipment



### **AquaMatic valves are available in a wide range of sizes**

from three-quarters of an inch to six inches, and are offered in metal or composite materials. These valves share characteristics of excellent flow rates at low pressure drops. Discover the technical benefits of AquaMatic products on your application.



## Commitment to Technical Support



### **Our engineers are committed**

to providing technical support whenever needed. We draw on decades of experience to appropriately size AquaMatic valves and related components for both new installations and renovations.

### **Our deep-rooted commitment to customer satisfaction**

has resulted in numerous long-term relationships. We take pride in helping our customers succeed as their operations expand and diversify. We are continuously improving quality systems and procedures to ensure that AquaMatic valves and controllers are manufactured to the highest of quality standards.



## Completely Matched Systems



### **Behind every AquaMatic valve is a variety of complementary products**

such as stagers and controllers, which we will match to the precise requirements of your system. Stagers direct the opening and closing of each valve, whereas controllers set the stagers into action. These devices automatically control the valves in a process system. And because they're designed as an integrated system, they take the guesswork out of running your operation efficiently.

### **The bottom line is that AquaMatic is a brand you can trust**

from system startup right through to ongoing product support. It's all part of the Osmonics heritage of providing strong partnerships with our customers. Because we take the time to understand our customers, we are becoming the preferred single source for water purification, fluid handling, filtration and separation products. It's that simple – no matter how complex your operation is.



# Valves

## Composite



### K52 Series

The AquaMatic K52 Series valve provides the time proven advantages of the "Y" pattern design for pipe sizes from one-half inch to three inches. The body and cap are molded in strong, glass-filled Noryl\* and the diaphragm is made of durable Buna N or Viton\*\* materials. Various pipe end connections are available for your system design. Other AquaMatic valve options include spring-assist open, spring-assist close, flow control limit stop, poppet position indicator, Viton\*\* seals, butyl seals, normally closed, and fail-safe spring closed products.

Pipe Size Inches	Pipe Size Millimeter, DN	Valve Model	Cv (1)	Cv (2)
1/2	15	K520	4.0	3.5
1	25	K521	15.0	13.0
1-1/2 - 2	40-50	K524	38.0	32.8
2-1/2 - 3	65-80	K526	100.0	86.5



### K53 Series

The AquaMatic K53 Series valve is designed for controlling the flow of most fluids including deionized water, salt solutions, and corrosive fluids such as acids and caustics. The rugged construction employs strong corrosion-resistant glass-filled Noryl\* components. The "Y" pattern design permits high flow with low pressure drop. Separate flow and control chambers provide positive closing without springs. Dual "O" ring design on the shaft prevents leakage between the flow and control chambers and the cap is easily removed for maintenance purposes. True union end design with female socket weld connections provide easy installation and servicing.

Pipe Size Inches	Pipe Size Millimeter, DN	Valve Model	Cv (1)	Cv (2)
1	25	K531	18.0	15.6
1-1/2	40	K534	48.0	41.5
2	50	K535	84.0	73.5
3	80	K537	200.0	173.0



(1) Flowrate in gallons per minute of water at 60°F, 1 psi pressure drop.

(2) Flowrate in cubic meters per hour of water at 15.5°C, 1 bar pressure drop.

\*Noryl® is a registered trademark of General Electric Company.

\*\*Viton® is a registered trademark of E.I. du Pont de Nemours and Company.

**Note: For technical information, see the AquaMatic technical catalog.**

# Valves



## V42 Series

The AquaMatic V42 Series valves are constructed of cast iron and are designed for air and water applications.

A separate control chamber protects the diaphragm from line fluid and extends cycle life. Reinforced diaphragm of Buna N or Viton\*\* materials are pre-formed and stress relieved to maximize responsiveness and product life. The valve is highly serviceable even while in line. A variety of options are available such as spring-assist open, spring-assist closed, flow control limit stop, normally closed, poppet position indicator, and high temperature EP or Viton\*\* seals.



Pipe Size Inches	Pipe Size Millimeter	End Connectors (Female Thread)	Valve Model	Cv (1)	Cv (2)
3/4	20	NPT, BSP, JIS	V42B	11.5	10.0
1	25	NPT, BSP, JIS	V42C	13.0	11.2
1-1/4	32	NPT, BSP, JIS	V42D	26.5	22.9
1-1/2	40	NPT, BSP, JIS	V42E	32.5	28.1
2	50	NPT, BSP, JIS	V42F	56.0	48.4
2	50	NPT, BSP, JIS	V42G	68.0	58.8
2-1/2	65	NPT, BSP, JIS	V42H	84.0	72.7
3	80	NPT, BSP, JIS	V42J	135.0	117.0
3	80	Flanged	V42J	135.0	117.0
4	100	Flanged	V42K	275.0	238.0
6	150	Flanged	V42L	680.0	588.0



## V82 Series – High Pressure

The AquaMatic V82 Series valves are constructed of brass and are identical in operation to the V42 Series. Body and cap are brass, and components are designed to withstand up to 250 psi (17 Bar).



Pipe Size Inches	Pipe Size Millimeter	End Connectors (Female Thread)	Valve Model	Cv (1)	Cv (2)
3/4	20	NPT, BSP, JIS	V82B	11.5	10.0
1	25	NPT, BSP, JIS	V82C	13.0	11.2
1-1/4	32	NPT, BSP, JIS	V82D	26.5	22.9
1-1/2	40	NPT, BSP, JIS	V82E	32.5	28.1
2	50	NPT, BSP, JIS	V82G	68.0	58.8
2-1/2	65	NPT, BSP, JIS	V82H	84.0	72.7
3	80	NPT, BSP, JIS	V82J	135.0	117.0



# Stager Valves



## AquaMatic Stagers

AquaMatic Stagers are rotary pilot valves with multiple ports for directing fluid flows to operate various diaphragm valves installed in a process system. AquaMatic stager internal parts are constructed of durable, non-corroding, self-lubricating material for long, maintenance-free life.



Model Number	Body Material	Number of Ports	Typical Applications
48	Brass	6	Filters and softeners
51	Brass	8	More complex softener systems and sequential filter systems
58	PVC	16	Twin alternating systems and de-ionizers
59	Brass	16	and sequential filter systems
96	Brass	8	High pressure systems, up to 250 psi (17 BAR)

## Electronic Stager Controls

### AquaMatic 962 Stager Controls

AquaMatic 962 Stager Controls combine an AquaMatic stager with an Autotrol® 962 Series electronic control, mounted and prewired in a NEMA-rated enclosure.

The Series 962 electronic controls provide sophisticated, demand-based water conditioning by combining a microprocessor with a flow meter to electronically monitor the amount of water used. Time-based and/or external signal initiation is also available as a standard feature. This fully programmable series of controls provide the ability to fine-tune the operation to meet the application requirements.



### Applications

Controls	Model Number	Description
<b>Single Unit Controls</b>		
Typical Softeners and Filters	E948*	962 Control w/model 48, 6-port stager
More Complex Softeners and Filters	E951*	962 Control w/model 51, 8-port stager
<b>Multiple Unit Controls</b>		
Twin-Alternating Softeners and Filters (w/Timer Brine Switch Output)	E958-TB	962 Control w/model 58-TB, 16-port stager
Twin-Alternating Softeners	E958-TA	962 Control w/model 58-TA, 16-port stager
Sequential Filters (Backwash Only)	E948	962 Control w/model 48, 6-port stager
2 Unit Sequential Filters (Backwash & Rinse)	E951	962 control w/model 51, 8-port stager
3 or 4 Unit Sequential Filters	E958	962 Control w/model 58, 16-port stager

\* Two-tank and three-tank parallel systems can be controlled by individual controls provided with lockout feature. Lockout feature is void when using the added relay output option.

# Stager Controls



These controls combine an AquaMatic stager with a reliable Autotrol® timer, mounted and prewired in a NEMA-rated enclosure. Stagers are initiated by timeclock or impulse controls. The cycle times are programmable to accommodate a wide range of applications.

Base Model	Initiation	Filters/Softener Systems	Multi-Tank Systems	High Pressure Systems
A100	Time	A148, A151	A158	A196
A200	Impulse	A248, A251	A258	A296

# Fluid Handling

## Ejectors

### 540 Series

540 Series PVC ejectors are available in one-half-inch through two-inch sizes with female NPT threads or female socket ends for US pipe. Specific applications are brine draw, acid draw, or caustic draw. This economical ejector is engineered to draw two parts of regenerant fluid for each three parts of water.



Pipe Size Inches	Model Number
1/2	540
3/4	541
1	542
1-1/2	544
2	546



## Flow Cell Flowmeters

### AquaMatic Flow Cell Flowmeters

AquaMatic Flow Cell Flowmeters are direct-reading devices which take advantage of the dominant features of the orifice and area type flowmeters. These flow meters are accurate to  $\pm 2\%$  of full scale in a compact design requiring less than six inches of piping. The AquaMatic Flow Cell Flowmeter is available for 3/8-inch to 20-inch diameter pipes and can be installed to accommodate flow in any direction. Connections are available for NPT, BSP and flanged end connectors. The Flow Cell Flowmeter is constructed in ductile cast iron with nickel plated brass, 316 stainless steel, or PVC.







## Commitment to Product Improvement

Our sales force and distributors are constantly taking the pulse of our customers to make sure AquaMatic products keep pace with changing requirements. We're open to new ideas for fine-tuning existing products or developing brand new ones.

An example of our commitment to product improvement is our K53 Series valve which builds on the K52 Series platform. The K53 Series valve line provides higher flow rates and lower pressure drops. We have an improved poppet and diaphragm design with increased shaft travel. The K53 provides for easy serviceability with a screw on cap and built-in footstand.

## Commitment to Partnerships with Customers

No two customers are alike. That means "standard" or "off the shelf" does not apply to the needs of everyone. In these situations, our engineers work closely with our customers to develop customized solutions to their specific application. The result is a unique combination of valves and related components that will provide years of reliable, trouble-free service.

One example of our commitment to partnerships with our customers can be found in the irrigation market. Based on the cost-reduction needs of a long-time Osmonics customer, we created a valve especially for irrigation applications.



Call (815) 964-9421 for additional information, **(800) 245-9421** in the U.S., or visit [www.osmonics.com](http://www.osmonics.com)



# OSMONICS

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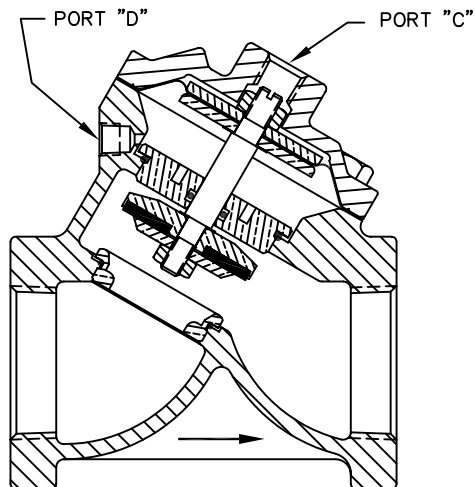
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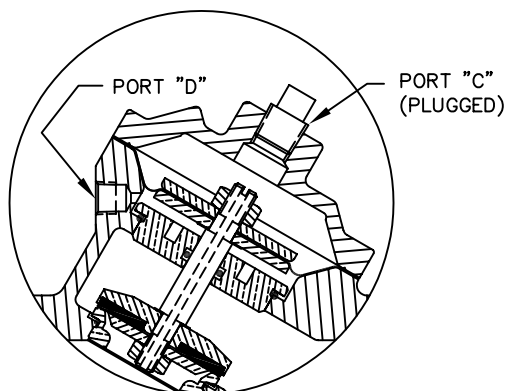
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## NORMALLY OPEN

LINE PRESSURE/FLOW AGAINST THE VALVE SEATING DISC WILL OPEN THE VALVE. CONTROL PRESSURE APPLIED TO THE TOP OF THE DIAPHRAGM (PORT "C") WILL CLOSE THE VALVE.

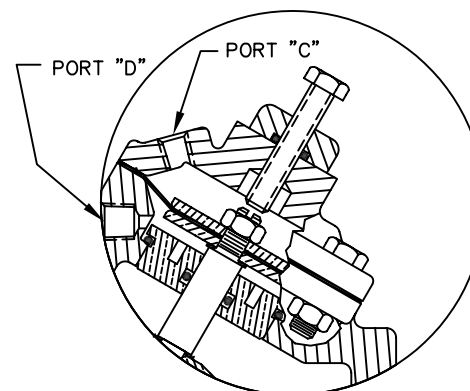


## NORMALLY CLOSED

LINE PRESSURE AGAINST THE DISC, TRANSFERRED THRU THE VALVE'S HOLLOW SHAFT TO THE TOP OF THE DIAPHRAGM, WILL CLOSE THE VALVE. CONTROL PRESSURE AT PORT "D" WILL OPEN THE VALVE. ADDITION OF "SPRING ASSIST CLOSED" FEATURE IS RECOMMENDED FOR THE FOLLOWING CONDITIONS:

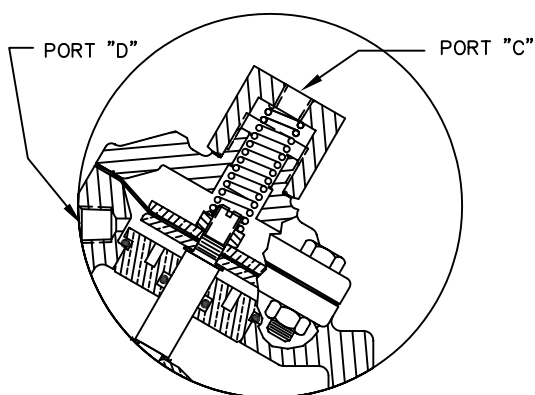
1. LOW PRESSURE AND/OR FLOW.
2. VALVE DISCHARGES TO ATMOSPHERE.

NORMALLY CLOSED FEATURE NOT RECOMMENDED FOR LINE MEDIA CONTAINING SOLIDS, HIGH TEMPERATURES OR OTHER MEDIA CONDITIONS WHICH MAY DAMAGE THE DIAPHRAGM.



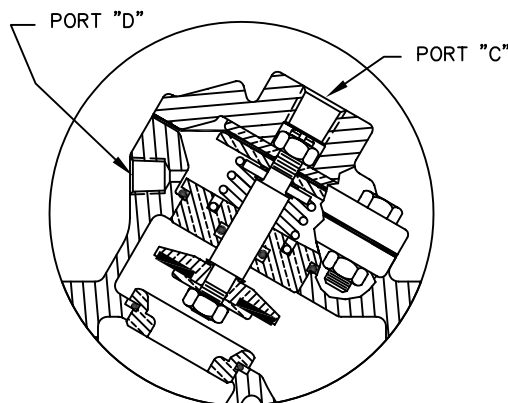
## LIMIT STOP

INCLUDES AN ADJUSTMENT SCREW WHICH LIMITS THE VALVE STROKE. MAY BE USED TO CONTROL FLOW RATE, HOWEVER, FLOW RATE WILL VARY WITH CHANGES IN PRESSURE.



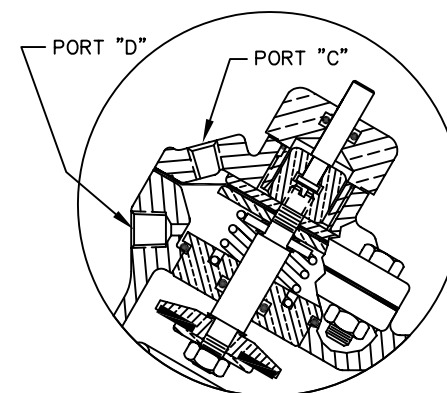
## SPRING ASSIST CLOSED

SPRING SERVES AS AN ASSIST TO ASSURE FULL VALVE CLOSURE IN THE ABSENCE OF LINE AND CONTROL PRESSURES.



## SPRING ASSIST OPEN

SPRING SERVES AS AN ASSIST TO ASSURE FULL VALVE OPENING IN THE ABSENCE OF LINE AND CONTROL PRESSURES.



## POSITION INDICATOR

INDICATOR ROD IS ATTACHED TO MAIN VALVE STEM TO SHOW POSITION OF VALVE. ONLY AVAILABLE WITH SPRING ASSIST OPEN OPTION.



**OSMONICS**

ROCKFORD OPERATIONS

2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-0421  
WWW.OSMONICS.COM

## **SERIES 420 DIAPHRAGM VALVES**

FORM NO. 1078116

B	INITIAL RELEASE	1429	JWB	21JUN01	VKP	SCALE	DRAWN	DATE	DWG. NO.
REV	DESCRIPTION	ECO	DWN	DATE	APVD	N/A	JWB	25APR01	1078117

## METAL DIAPHRAGM VALVES (421 THRU 429)

SERIES	PIPE SIZE	SEAT DIAMETER	SEAT AREA	DIAPHRAGM AREA	TOTAL STROKE	DIAPHRAGM CHAMBER (VOLUME)	* Cv	** Kv	FLOW RATE		PRESSURE DROP	
									@ 10 FT./SEC. (3 M./SEC.) NOTE 1	@ 20 FT./SEC. (6 M./SEC.) NOTE 2	@ 10 FT./SEC. (3 M./SEC.) NOTE 1	@ 20 FT./SEC. (6 M./SEC.) NOTE 2
		IN. CM.	SQ. IN. SQ. CM.	SQ. IN. SQ. CM.	IN. CM.	CUBIC IN. CUBIC CM.			GAL./MIN. CU.M/HR	GAL./MIN. CU.M/HR	P.S.I. bar	P.S.I. bar
V42B	3/4"	0.97 2.5	0.74 4.8	2.10 13.0	0.47 1.2	2.06 33.8	11.4	9.8	23 5	46 10	4.1 0.3	16.3 1.12
V42C	1"	0.97 2.5	0.74 4.8	2.10 13.0	0.47 1.2	2.06 33.8	12.8	11.0	23 5	46 10	3.2 0.22	13.0 0.9
V42D	1 1/4"	1.34 3.4	1.41 9.1	6.49 41.9	0.61 1.5	5.20 85.2	26.5	23	44 10	88 20	2.8 0.2	11.0 0.7
V42E	1 1/2"	1.34 3.4	1.41 9.1	6.49 41.9	0.61 1.5	5.20 85.2	32.5	28	44 10	88 20	1.8 0.12	7.3 0.5
V42F	2" (425)	2.02 5.1	3.20 20.6	11.04 71.2	0.70 1.8	10.50 172.1	56	48	100 23	200 46	3.2 0.22	12.7 0.87
V42G	2" (426)	2.31 5.9	4.19 27.0	15.03 97.0	0.99 2.5	16.34 267.8	68	59	130 29	260 58	3.7 0.25	14.7 1.01
V42H	2 1/2"	2.31 5.9	4.19 27.0	15.03 97.0	0.99 2.5	16.34 267.8	84	72	130 29	260 58	2.4 0.16	9.7 0.67
V42J	3"	2.96 7.5	6.88 44.4	22.69 146.4	1.05 2.7	32.80 537.6	134	116	214 49	428 98	2.6 0.18	10.2 0.7
V42K	4"	3.84 9.7	11.58 74.7	33.82 218.2	1.92 4.9	78.83 1292.0	275	238	360 83	720 166	1.7 0.12	6.9 0.47
V42L	6"	6.06 15.4	28.84 186.1	120.28 776.0	1.70 4.3	296.52 4860.0	680	588	899 204	1798 408	1.8 0.12	7.0 0.5

**TO DETERMINE FLOWRATE AT ANY GIVEN PRESSURE DROP, THE FOLLOWING FORMULAS CAN BE USED.**

FOR WATER AND LIQUIDS:

$$Q = \frac{C_v \sqrt{\Delta P}}{\sqrt{e}}$$

Q - FLOWRATE IN GAL./MIN.  
 $\Delta P$  - PRESSURE DROP (LB./SQ. IN.)  
 e - SPECIFIC GRAVITY (WATER = 1.00)

FOR AIR AND GAS:

$$\text{WHEN } P_2 < .5P_1 \quad C_v = \frac{CFM \sqrt{e}}{.5P_1} \quad \text{WHEN } P_2 > .5P_1 \quad C_v = \frac{CFM \sqrt{e}}{\sqrt{\Delta P P_2}}$$

CFM - CU. FT./MIN. FLOW  
 e - SPECIFIC GRAVITY (AIR = 1.00)  
 P1 - INLET PRESSURE (LB./SQ. IN.)  
 P2 - OUTLET PRESSURE (LB./SQ. IN.)

\* Cv - FLOWRATE (GAL./MIN.) OF WATER AT 60° F. AT 1 P.S.I. PRESSURE DROP

\*\* Kv - FLOWRATE (CU. M./HR) OF WATER AT 15.5° C. AT 1 BAR PRESSURE DROP

NOTE 1: MAXIMUM CONTINUOUS VELOCITY THROUGH THE VALVE.

NOTE 2: MAXIMUM CONTINUOUS VELOCITY. EXTENDED SERVICE AT THIS VELOCITY MAY CAUSE CAVITATION.

THE DATA PRESENTED HERE IS BELIEVED TO BE RELIABLE AND OFFERED AS SUGGESTION ONLY. ACTUAL RESULTS MAY VARY DEPENDING UPON APPLICATION.

FORM NO. 1078116

B	INITIAL RELEASE	1429	JWB	21JUN01	VKP	SCALE	DRAWN	DATE	DWG. NO.
REV	DESCRIPTION	ECO	DWN	DATE	APVD	N/A	JWB	25APR01	1078117

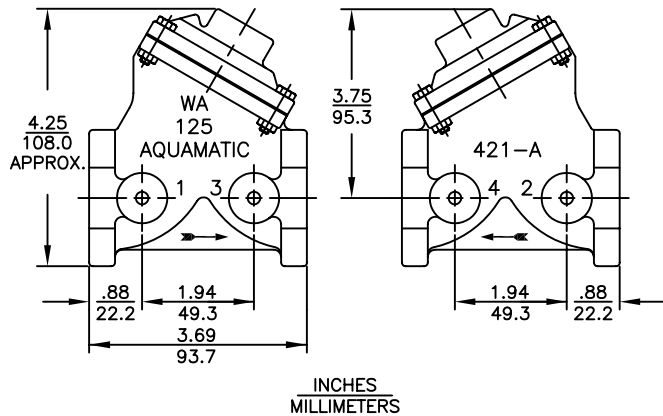


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ROCKFORD OPERATIONS

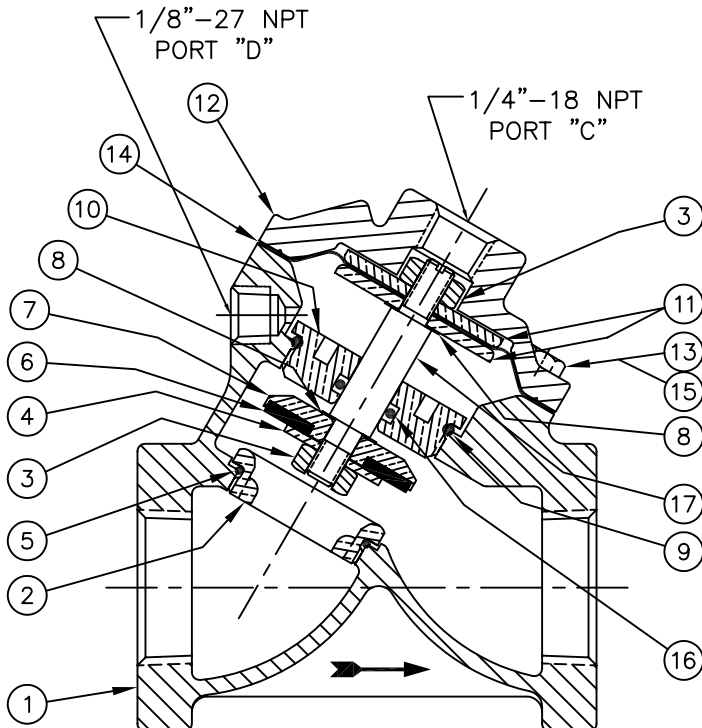
2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-0421  
 WWW.OSMONICS.COM

**SERIES 420 DIAPHRAGM VALVES**



REPAIR PARTS KITS			
DESCRIPTION	PART NO.		
DIAPHRAGM & SEALS KIT CONSISTS OF ITEM NO'S 3(2),5,6,8(2),9,14,16	1070068 (421-RA)	1070081 (421-RAE)	1070093 (421-RAV)
	BUNA N INCLUDES DIAPHRAGM	E.P.D.M. INCLUDES DIAPHRAGM	FKM INCLUDES DIAPHRAGM
	1074119 (421-FB)	1074119 (421-FB)	1074120 (421-FV)
INT. PARTS KIT (NORM. OPEN) CONSISTS OF STANDARD ITEM NO'S 4,7,10,11(2),17	1070118 (421-RF)		
SEAT (ITEM NO. 2)	1074158 (421-MO)		

ASSEMBLY TOOLS	
DESCRIPTION	PART NO.
FOR INSTALLATION & REMOVAL OF SEAT (ITEM #2) (TOOL NOT SHOWN)	1074161 (421-MT)
FOR INSTALLATION & REMOVAL OF SHAFT GUIDE (ITEM #10) (TOOL NOT SHOWN)	1074124 (421-GT)



1070001 (V42B-0000-00000) (3/4" NPT)  
1070011 (V42C-0000-00000) (1" NPT)

**NORMALLY OPEN (STANDARD)**


**NOTE:**

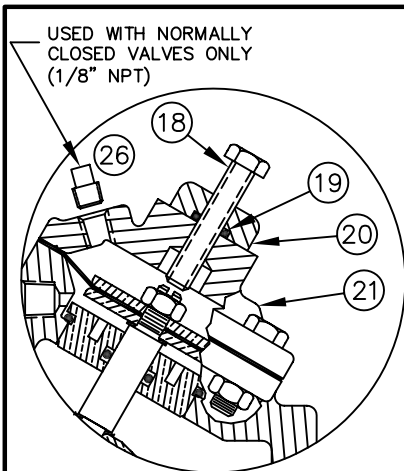
1. AMERICAN NATIONAL STANDARD TAPER PIPE THREADS (NPT) PER ANSI B2.1-1968
2. VALVES AVAILABLE WITH B.S.P. OR J.I.S. END CONNECTIONS.

NO.	DESCRIPTION		STD	PART NO.	QTY.
1	BODY	CAST IRON	3/4" NPT	* 1074085 (421-A3)	1
			1" NPT	* 1074088 (421-A4)	
	CAST BRASS	3/4" NPT		1074077 (421-AB3)	
2	SEAT (REQ'S ASSY TOOL)	BRASS	1" NPT	* 1074080 (421-AB4)	1
		STN. STL.		* 1074158 (421-MO)	
3	HEX LOCK NUT	(1/4"-28)		* 1071650 (NUS-0010)	2
4	DISC PLATE	BRASS		* 1074147 (421-K)	1
		STN. STL.		1074149 (421-KS)	
5	O-RING	BUNA N		* 1071676 (ORB-024)	1
		E.P.D.M.		1071721 (ORE-024)	
		FKM		1071791 (ORV-024)	
6	DISC	BUNA		* 1074140 (421-J)	1
		E.P.D.M.		1074143 (421-JE)	
		FKM		1074146 (421-JV)	
		HYCAR		1074144 (421-JH)	
7	DISC HOLDER	BRASS		* 1074126 (421-H)	1
		STN. STL.		1074128 (421-HS)	
8	GASKET	COPPER		* 1073948 (200-GG)	2
		LEAD		1073949 (200-GGL)	
9	O-RING	BUNA N		* 1071693 (ORB-125)	1
		E.P.D.M.		1071732 (ORE-125)	
		FKM		1071803 (ORV-125)	
10	SHAFT GUIDE (REQ'S ASSY TOOL)	BRASS		* 1074122 (421-GG0)	1
		STN. STL.		1074123 (421-GGS)	
11	DIAPHRAGM PLATE	BRASS		* 1074117 (421-D)	2
		STN. STL.		1074118 (421-DS)	
12	CAP	CAST IRON		* 1074093 (421-C)	1
		CAST BRASS		1074096 (421-CB)	
13	HEX SCREW	PLATED STEEL		* 1072398 (SCZ-0004)	4
		STN. STL.		1080720 (SCS-0142)	
14	DIAPHRAGM	BUNA N		* 1074119	1
		FKM		1074120	
15	HEX NUT	PLATED STEEL		* 1071656 (NUZ-0008)	4
		STN. STL.		1071649 (NUS-0007)	
16	O-RING	BUNA N		* 1071689 (ORB-110TC)	1
		E.P.D.M.		1071726 (ORE-110TC)	
		FKM		1071798 (ORV-110)	
17	SHAFT (NORMALLY OPEN)			* 1074150 (421-L)	1

SEE REVERSE SIDE FOR  
CONFIGURATION OPTIONS

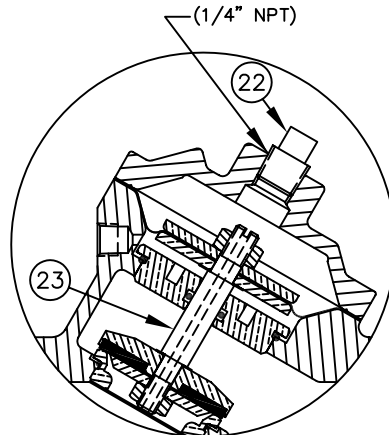
FORM NO. 1077613

D	NUMBER CONVERSION		1588	MSM	27NOV02	
REV	DESCRIPTION		ECO	DWN	DATE	APVD
<div> <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM</div>						
<div><b>SERIES 421 DIAPHRAGM VALVE</b> <b>3/4" &amp; 1" N.P.T.</b></div>						
SCALE	DRAWN	DATE	DWG. NO.			
N/A	JWB	25APR01	1084018			



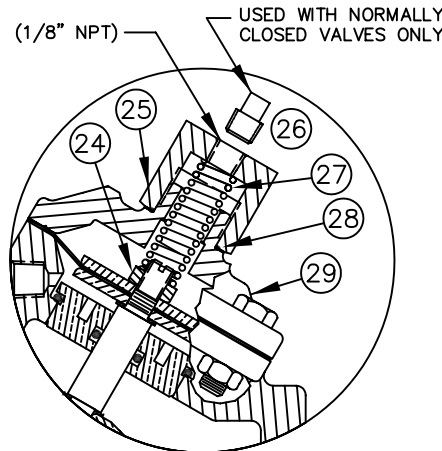
1072563 (V42B-0010-00000) (3/4" NPT)  
1070015 (V42C-0010-00000) (1" NPT)

**LIMIT STOP**



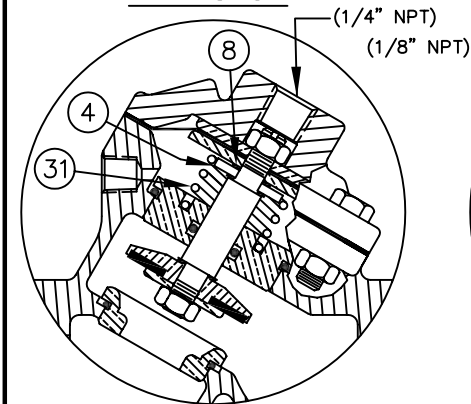
1070002 (V42B-0030-00000) (3/4" NPT)  
1070012 (V42C-0030-00000) (1" NPT)

**NORMALLY CLOSED**



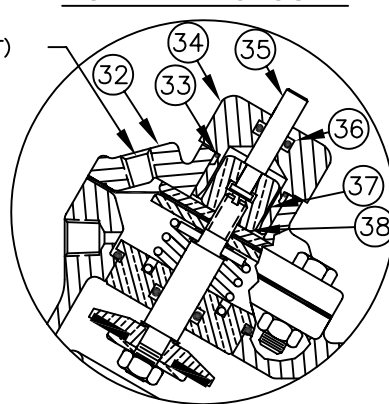
1070003 (V42B-0002-00000) (3/4" NPT)  
1070013 (V42C-0002-00000) (1" NPT)

**SPRING ASSIST CLOSED**



1070004 (V42B-0001-00000) (3/4" NPT)  
1070014 (V42C-0001-00000) (1" NPT)

**SPRING ASSIST OPEN**



1077144 (V42B-0021-00000) (3/4" NPT)  
1072648 (V42C-0021-00000) (1" NPT)

**POSITION INDICATOR**

**NOTE:**

1. SPRING ASSIST CLOSED MODEL CANNOT BE COMBINED WITH LIMIT STOP OR POSITION INDICATOR MODELS.
2. VALVES AVAILABLE WITH B.S.P. OR J.I.S. END CONNECTIONS.

NO.	DESCRIPTION	STD	PART NO.	QTY.
<b>LIMIT STOP MODEL</b>				
18	SCREW	*	1072361 (SCS-0030)	1
19	O-RING	*	1071668 (ORB-012)	1
20	HEX NUT	*	1077534 (400-H)	1
21	CAP	CAST IRON	* 1074101 (421-CCC)	1
		CAST BRASS	1074104 (421-CCCB)	

<b>NORMALLY CLOSED MODEL</b>				
22	PIPE PLUG (1/4" N.P.T.)	PLATED STEEL	* 1071918 (PLZ-0008)	1
		BRASS	1071904 (PLB-0009)	
		STN. STL.	1071915 (PLS-0001)	
23	SHAFT (NORMALLY CLOSED)	*	1074153 (421-LL)	1

<b>SPRING ASSIST CLOSED MODEL</b>				
24	CENTERING NUT	*	1074185 (421-X)	1
25	RETAINER NUT	BRASS	* 1074183 (421-TT)	1
		STN. STL.	1074184 (421-TTS)	
26	PIPE PLUG (1/8" N.P.T.)	PLATED STEEL	* 1071917 (PLZ-0005)	1
		BRASS	1071903 (PLB-0007)	
		STN. STL.	1071916 (PLS-0002)	
27	SPRING	*	1074180 (421-SS)	1
28	O-RING	*	1071674 (ORB-020)	1
29	CAP	CAST IRON	* 1074099 (421-CC)	1
		CAST BRASS	1074100 (421-CCB)	

<b>SPRING ASSIST OPEN MODEL</b>				
4	DISC PLATE	BRASS	* 1074147 (421-K)	1
		STN. STL.	1074149 (421-KS)	
8	GASKET	COPPER	* 1073948 (200-GG)	1
		LEAD	1073949 (200-GGL)	
31	SPRING	*	1074175 (421-SB)	1

<b>POSITION INDICATOR MODEL</b>				
32	CAP	CAST IRON	* 1074107 (421-CF)	1
		CAST BRASS	1074110 (421-CFB)	
33	O-RING	*	1071692 (ORB-116)	1
34	SHAFT GUIDE BUSHING	*	1074121 (421-GF)	1
35	INDICATOR SHAFT	*	1074164 (421-PM)	1
36	O-RING	*	1071688 (ORB-108TC)	1
37	TOP NUT	*	1074182 (421-TB)	1
38	LOCKWASHER	*	1073589 (WAS-0006)	1

SEE REVERSE SIDE FOR  
STANDARD NORMALLY OPEN MODEL

FORM NO. 1077613

D	NUMBER	CONVERSION	1588	MSM	27NOV02
REV	DESCRIPTION	ECO	DWN	DATE	APVD



**OSMONICS**

ROCKFORD OPERATIONS

2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421  
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**SERIES 421 DIAPHRAGM VALVE**

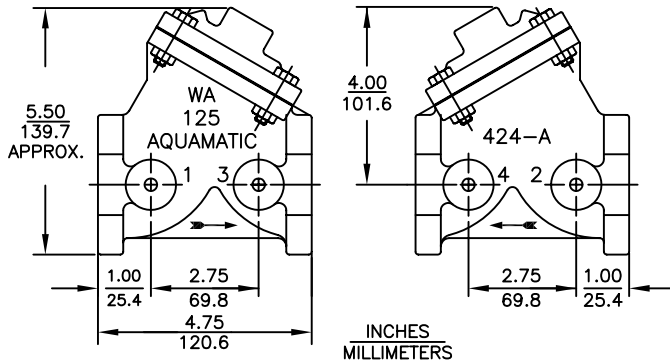
3/4" & 1" N.P.T.

SCALE	DRAWN	DATE	DWG. NO.
N/A	JWB	25APR01	1084018

<b>CONVERSION KITS</b>	
DESCRIPTION	PART NO.
CONVERSION KIT (LIMIT STOP) CONSISTS OF STANDARD ITEM NO'S 18 THRU 21	1074155 (421-LSC)
CONVERSION KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 24 THRU 29	1074177 (421-SCC)
CONVERSION KIT (SPRING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO'S 4,8,10,31	1074179 (421-SOC)
CONVERSION KIT (POSITION INDICATOR) CONSISTS OF STANDARD ITEM NO'S 32 THRU 38	1074163 (421-PIC)

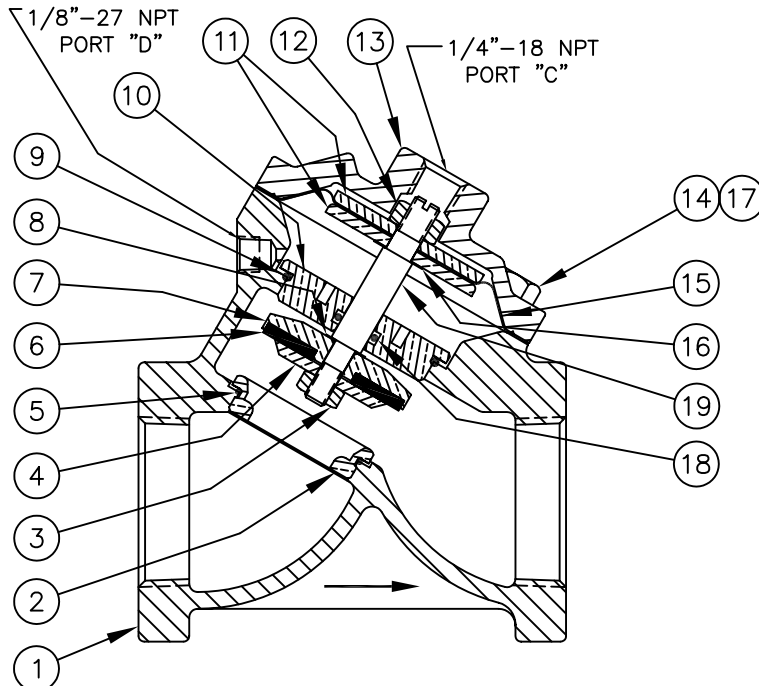
<b>REPAIR PARTS KITS</b>	
DESCRIPTION	PART NO.
INT. PARTS KIT (LIMIT STOP) CONSISTS OF STANDARD ITEM NO'S 18,19,20	1074154 (421-LS)
INT. PARTS KIT (NORM. CLOSED) CONSISTS OF STANDARD ITEM NO'S 4,7,10,11(2),23	1070129 (421-RG)
INT. PARTS KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 24,27,28	1074176 (421-SC)
INT. PARTS KIT (SPRING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO'S 4,8,31	1074178 (421-SO)
INT. PARTS KIT (POSITION INDICATOR) CONSISTS OF STD ITEM NO'S 33 THRU 38	1074162 (421-PI)

1-1/4" & 1-1/2" DIAPHRAGM VALVE - STANDARD MODEL



REPAIR PARTS KITS			
DESCRIPTION	PART NO.		
DIAPHRAGM & SEALS KIT CONSISTS OF ITEM NO'S 3,5,6,8,9,12,15,16,18	1070069 (424-RA)	1070082 (424-RAE)	1070094 (424-RAV)
	BUNA N INCLUDES DIAPHRAGM	E.P.D.M. INCLUDES DIAPHRAGM	FKM INCLUDES DIAPHRAGM
	1074222 (424-FB)	1074222 (424-FB)	1074224 (424-FV)
INT. PARTS KIT (NORM. OPEN) CONSISTS OF STANDARD ITEM NO'S 4,7,10,11(2),19	1070119 (424-RF)		
SEAT (ITEM NO. 2)	1074245 (424-MO)		

ASSEMBLY TOOLS	
DESCRIPTION	PART NO.
FOR INSTALLATION & REMOVAL OF SEAT (ITEM #2) (TOOL NOT SHOWN)	1074247 (424-MT)
FOR INSTALLATION & REMOVAL OF SHAFT GUIDE (ITEM #10) (TOOL NOT SHOWN)	1074227 (424-GT)



1070023 (V42D-0000-00000) (1-1/4" NPT)  
1070025 (V42E-0000-00000) (1-1/2" NPT)

**NORMALLY OPEN (STANDARD)**

NOTE:

1. AMERICAN NATIONAL STANDARD TAPER PIPE THREADS (NPT) PER ANSI B2.1-1968
2. VALVES AVAILABLE WITH B.S.P. OR J.I.S. END CONNECTIONS.

SEE REVERSE SIDE FOR  
CONFIGURATION OPTIONS

NO.	DESCRIPTION		STD	PART NO.	QTY.
1	BODY	CAST IRON	1-1/4" NPT	* 1074196 (424-A5)	1
			1-1/2" NPT	* 1074199 (424-A6)	
		CAST BRASS	1-1/4" NPT	* 1074190 (424-AB5)	
			1-1/2" NPT	* 1074193 (424-AB6)	
2	SEAT (REQ'S ASSY TOOL)	BRASS	* 1074245 (424-MO)	1	
		STN. STL.	* 1074248 (424-MV)		
3	HEX LOCK NUT (1/4-28)		* 1071650 (NUS-0010)	1	
4	DISC PLATE		BRASS	* 1074237 (424-K)	1
			STN. STL.	* 1074238 (424-KS)	
5	O-RING	BUNA N	* 1071678 (ORB-028)	1	
		E.P.D.M.	* 1071723 (ORE-028)		
		VITON	* 1071793 (ORV-028)		
6	DISC	BUNA	* 1074232 (424-J)	1	
		E.P.D.M.	* 1074233 (424-JE)		
		FKM	* 1074236 (424-JV)		
		HYCAR	* 1074234 (424-JH)		
7	DISC HOLDER	BRASS	* 1074229 (424-H)	1	
		STN. STL.	* 1074231 (424-HS)		
8	GASKET	COPPER	* 1073948 (200-GG)	1	
		LEAD	* 1073949 (200-GGL)		
9	O-RING	BUNA N	* 1071695 (ORB-132)	1	
		E.P.D.M.	* 1071734 (ORE-132)		
		FKM	* 1071806 (ORV-132)		
10	SHAFT GUIDE (REQ'S ASSY TOOL)	BRASS	* 1074225 (424-GG0)	1	
		STN. STL.	* 1074226 (424-GGS)		
11	DIAPHRAGM PLATE	BRASS	* 1074220 (424-D)	2	
		STN. STL.	* 1074221 (424-DS)		
12	HEX LOCK NUT (5/16-24)		* 1071651 (NUS-0013)	1	
13	CAP	CAST IRON	* 1074202 (424-C)	1	
		CAST BRASS	* 1074206 (424-CB)		
14	HEX SCREW	PLATED STEEL	* 1072399 (SCZ-0007)	4	
		STN. STL.	* 1072392 (SCS-0156)		
15	DIAPHRAGM	BUNA N	* 1074222 (424-FB)	1	
		FKM	* 1074224 (424-FV)		
16	GASKET	COPPER	* 1074252 (424-R)	1	
		LEAD	* 1074263 (424-RL)		
17	HEX NUT	PLATED STEEL	* 1071656 (NUZ-0008)	4	
		STN. STL.	* 1071649 (NUS-0007)		
18	O-RING	BUNA N	* 1071689 (ORB-110TC)	1	
		E.P.D.M.	* 1071726 (ORE-110TC)		
		FKM	* 1071798 (ORV-110)		
19	SHAFT (NORMALLY OPEN)		* 1074239 (424-L)	1	

FORM NO. 1077614

C	NUMBER	CONVERSION	1588	MSM	27NOV02	
REV	DESCRIPTION	ECO	DWN	DATE	APVD	



OSMONICS

ROCKFORD OPERATIONS

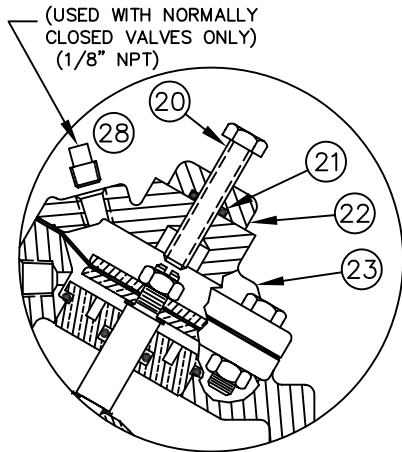
2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421  
WWW.OSMONICS.COM

**SERIES 424 DIAPHRAGM VALVE**

**1-1/4" & 1-1/2" N.P.T.**

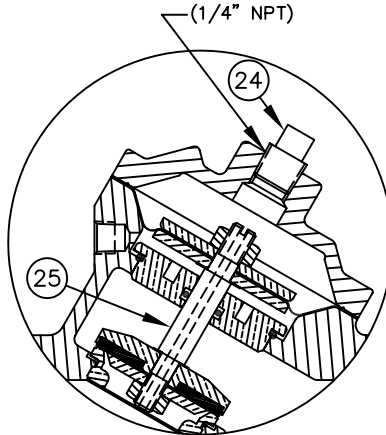
SCALE	DRAWN	DATE	DWG. NO.
N/A	JWB	30APR01	1084019





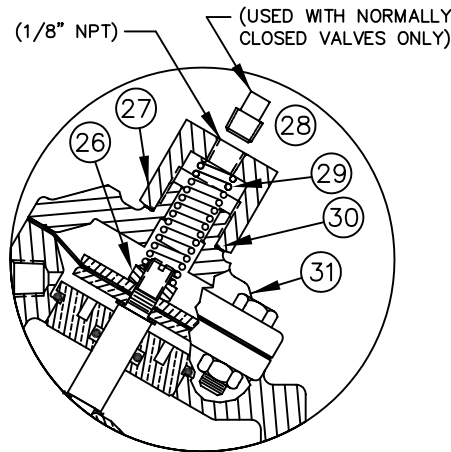
1072720 (V42D-0010-00000) (1-1/4" NPT)  
1070028 (V42E-0010-00000) (1-1/2" NPT)

**LIMIT STOP**



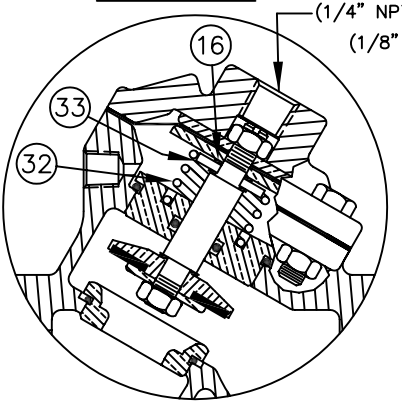
1072723 (V42D-0030-00000) (1-1/4" NPT)  
1070026 (V42E-0030-00000) (1-1/2" NPT)

**NORMALLY CLOSED**



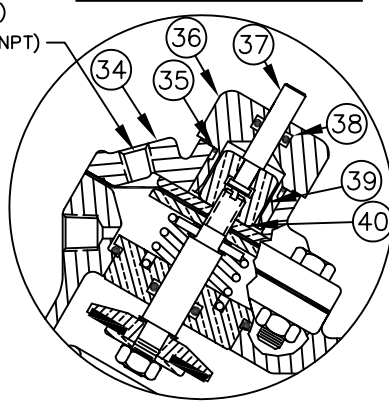
1072716 (V42D-0002-00000) (1-1/4" NPT)  
1072792 (V42E-0002-00000) (1-1/2" NPT)

**SPRING ASSIST CLOSED**



1072715 (V42D-0001-00000) (1-1/4" NPT)  
1070027 (V42E-0001-00000) (1-1/2" NPT)

**SPRING ASSIST OPEN**



1072722 (V42D-0021-00000) (1-1/4" NPT)  
1072804 (V42E-0021-00000) (1-1/2" NPT)

**POSITION INDICATOR**

CONVERSION KITS	
DESCRIPTION	PART NO.
CONVERSION KIT (LIMIT STOP) CONSISTS OF STANDARD ITEM NO'S 20,21,22,23	1074243 (424-LSC)
CONVERSION KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 26 THRU 31	1074266 (424-SCC)
CONVERSION KIT (SPRING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO'S 10,16,32,33	1074269 (424-SOC)
CONVERSION KIT (POSITION INDICATOR) CONSISTS OF STANDARD ITEM NO'S 34 THRU 40	1074250 (424-PIC)

REPAIR PARTS KITS	
DESCRIPTION	PART NO.
INT. PARTS KIT (LIMIT STOP) CONSISTS OF STANDARD ITEM NO'S 20,21,22	1074242 (424-LS)
INT. PARTS KIT (NORM. CLOSED) CONSISTS OF STANDARD ITEM NO'S 4,7,10,11(2),25	1070130 (424-RG)
INT. PARTS KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 26,29,30	1074265 (424-SC)
INT. PARTS KIT (SPRING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO'S 16,32,33	1074268 (424-SO)
INT. PARTS KIT (POSITION INDICATOR) CONSISTS OF STD ITEM NO'S 35 THRU 40	1074249 (424-PI)


NO.	DESCRIPTION		STD	PART NO.	QTY.
LIMIT STOP MODEL					
20	SCREW		*	1072362 (SCS-0031)	1
21	O-RING		*	1071668 (ORB-012)	1
22	NUT		*	1077534 (400-H)	1
23	CAP	CAST IRON	*	1074210 (424-CCC)	1
		CAST BRASS		1074213 (424-CCCB)	
NORMALLY CLOSED MODEL					
24	PIPE PLUG (1/4" N.P.T.)	PLATED STEEL	*	1071918 (PLZ-0008)	1
		BRASS		1071904 (PLB-0009)	
		STN. STL.		1071915 (PLS-0001)	
25	SHAFT (NORMALLY CLOSED)		*	1074241 (424-LL)	1
SPRING ASSIST CLOSED MODEL					
26	CENTERING NUT		*	1074276 (424-X)	1
27	RETAINER NUT	BRASS	*	1074274 (424-TT)	1
		STN. STL.		1074275 (424-TTS)	
28	PIPE PLUG (1/8" N.P.T.)	PLATED STEEL	*	1071917 (PLZ-0005)	1
		BRASS		1071903 (PLB-0007)	
		STN. STL.		1071916 (PLS-0002)	
29	SPRING		*	1074270 (424-SS)	1
30	O-RING		*	1071674 (ORB-020)	1
31	CAP	CAST IRON	*	1074208 (424-CC)	1
		CAST BRASS		1074209 (424-CCB)	
SPRING ASSIST OPEN MODEL					
16	GASKET	COPPER	*	1074252 (424-R)	1
		LEAD		1074263 (424-RL)	
32	SPRING		*	1074264 (424-S)	1
33	CENTERING WASHER	BRASS	*	1074382 (426-HA)	1
		STN. STL.		1074384 (426-HAS)	
POSITION INDICATOR MODEL					
34	CAP	CAST IRON	*	1074217 (424-CF)	1
		CAST BRASS		1074218 (424-CFB)	
35	O-RING		*	1071692 (ORB-116)	1
36	SHAFT GUIDE BUSHING		*	1074121 (421-GF)	1
37	INDICATOR SHAFT		*	1074251 (424-PM)	1
38	O-RING		*	1071688 (ORB-108TC)	1
39	TOP NUT		*	1074272 (424-TB)	1
40	LOCKWASHER		*	1073590 (WAS-0007)	1

**NOTE:**

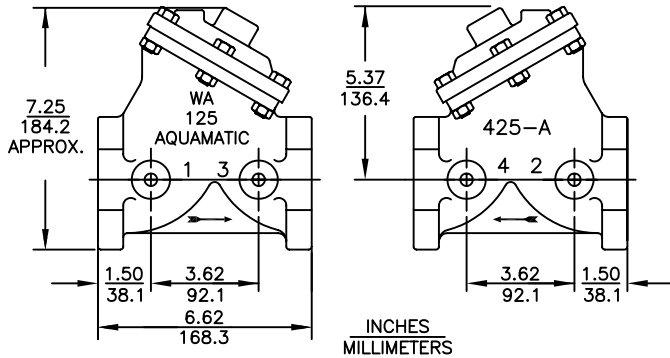
1. SPRING ASSIST CLOSED MODEL CANNOT BE COMBINED WITH LIMIT STOP MODEL.
2. VALVES AVAILABLE WITH B.S.P. OR J.I.S. END CONNECTIONS.

SEE REVERSE SIDE FOR  
STANDARD NORMALLY OPEN MODEL

FORM NO. 1077614

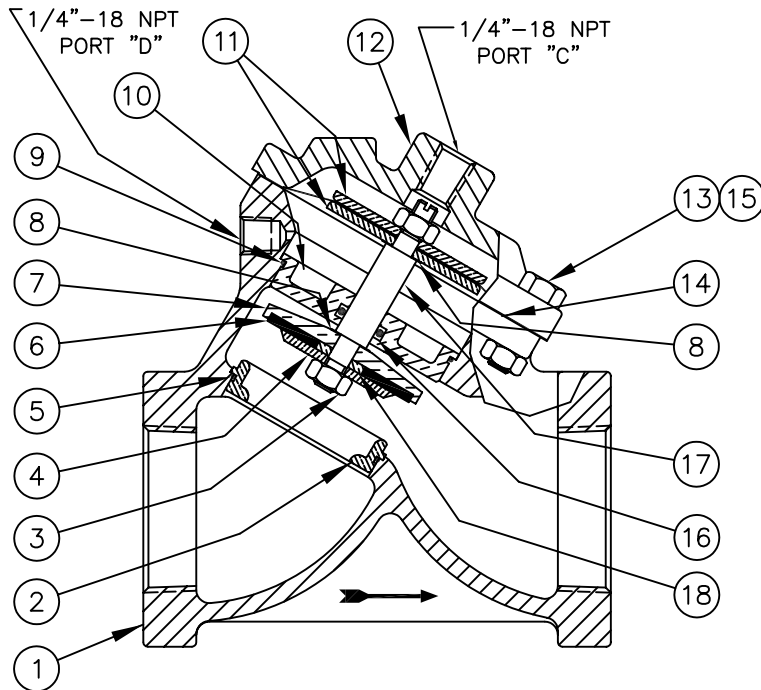
C	NUMBER	CONVERSION	1588	MSM	27NOV02	
REV	DESCRIPTION	ECO	DWN	DATE	APVD	
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, ILL. 61103-3991 (815) 964-9421 WWW.OSMONICS.COM						
<b>SERIES 424 DIAPHRAGM VALVE</b>						
<b>1-1/4" &amp; 1-1/2" N.P.T.</b>						
SCALE N/A	DRAWN JWB	DATE 30APR01	DWG. NO. 1084019			

2" DIAPHRAGM VALVE - STANDARD MODEL



REPAIR PARTS KITS			
DESCRIPTION	PART NO.		
DIAPHRAGM & SEALS KIT CONSISTS OF ITEM NO'S 3(2),5,6,8(2),9,14,16	1070070 (425-RA)	1070083 (425-RAE)	1070095 (425-RAV)
	BUNA N INCLUDES DIAPHRAGM	E.P.D.M. INCLUDES DIAPHRAGM	FKM INCLUDES DIAPHRAGM
	1074296 (425-FB)	1074296 (425-FB)	1074297 (425-FV)
INT. PARTS KIT (NORM. OPEN) CONSISTS OF STANDARD ITEM NO'S 4,7,10,11(2),17,18	1070120 (425-RF)		
SEAT (ITEM NO. 2)	1074321 (425-MO)		

ASSEMBLY TOOLS	
DESCRIPTION	PART NO.
FOR INSTALLATION & REMOVAL OF SEAT (ITEM #2) (TOOL NOT SHOWN)	1074411 (426-MT)
FOR INSTALLATION & REMOVAL OF SHAFT GUIDE (ITEM #10) (TOOL NOT SHOWN)	1" HEX SOCKET



1070035 (V42F-0000-00000) (2" NPT)

**NORMALLY OPEN (STANDARD)**

NOTE:

1. AMERICAN NATIONAL STANDARD TAPER PIPE  
THREADS (NPT) PER ANSI B2.1-1968
2. VALVES AVAILABLE WITH B.S.P. OR J.I.S.  
END CONNECTIONS.

NO.	DESCRIPTION		STD	PART NO.	QTY.
1	BODY	CAST IRON 2" NPT	*	1074277 (425-A)	1
2	SEAT (REQ'S ASSY TOOL)	BRASS	*	1074321 (425-MO)	1
3	HEX LOCK NUT	(5/16-24)	*	1071651 (NUS-0013)	2
4	DISC PLATE	BRASS	*	1074220 (424-D)	1
5	O-RING	BUNA N	*	1071682 (ORB-035)	1
		E.P.D.M.	*	1071724 (ORE-035)	
6	DISC	VITON	*	1071794 (ORV-035)	1
		BUNA	*	1074307 (425-J)	
		E.P.D.M.	*	1074309 (425-JE)	
		FKM	*	1074312 (425-JV)	
7	DISC HOLDER	HYCAR	*	1074310 (425-JH)	1
		BRASS	*	1074303 (425-H)	
8	GASKET	COPPER	*	1074252 (424-R)	2
		LEAD	*	1074263 (424-RL)	
9	O-RING	BUNA N	*	1071684 (ORB-038)	1
		E.P.D.M.	*	1071725 (ORE-038)	
		FKM	*	1071795 (ORV-038)	
10	SHAFT GUIDE (REQ'S ASSY TOOL)	BRASS	*	1074301 (425-GO)	1
11	DIAPHRAGM PLATE	BRASS	*	1074293 (425-D)	2
12	CAP	CAST IRON	*	1074281 (425-C)	1
13	HEX SCREW	PLATED STEEL	*	1072400 (SCZ-0013)	6
14	DIAPHRAGM	BUNA N	*	1074296 (425-FB)	1
		FKM	*	1074297 (425-FV)	
15	HEX NUT	PLATED STEEL	*	1071657 (NUZ-0011)	6
		BUNA N	*	1071699 (ORB-206TC)	
16	O-RING	E.P.D.M.	*	1071742 (ORE-206TC)	1
		FKM	*	1071813 (ORV-206)	
17	SHAFT (NORMALLY OPEN)	*	*	1074314 (425-L)	1
18	DISC SPACER	*	*	1074382 (426-HA)	1

SEE REVERSE SIDE  
CONFIGURATION OPTIONS

FORM NO. 1077615

C	NUMBER	CONVERSION	1588	MSM	27NOV02	
REV	DESCRIPTION	ECO	DWN	DATE	APVD	



OSMONICS

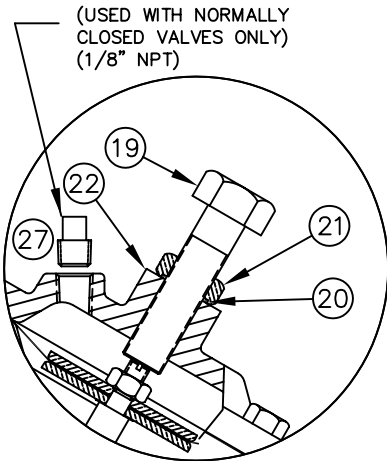
ROCKFORD OPERATIONS

2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421  
WWW.OSMONICS.COM

**SERIES 425 DIAPHRAGM VALVE**

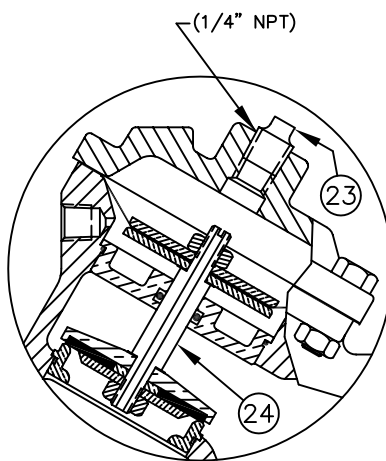
**2" N.P.T.**

SCALE	DRAWN	DATE	DWG. NO.
N/A	JWB	30APR01	1084020



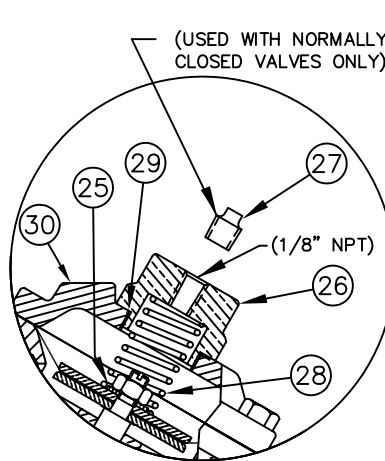
1070037 (V42F-0010-00000) (2" NPT)

## LIMIT STOP



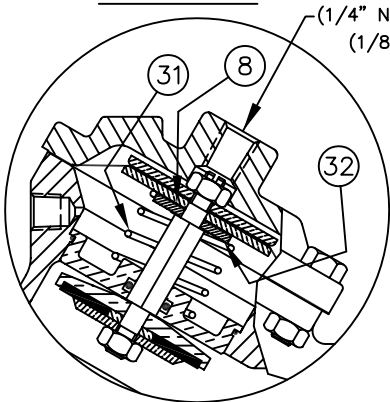
1072894 (V42F-0030-00000) (2" NPT)

## NORMALLY CLOSED



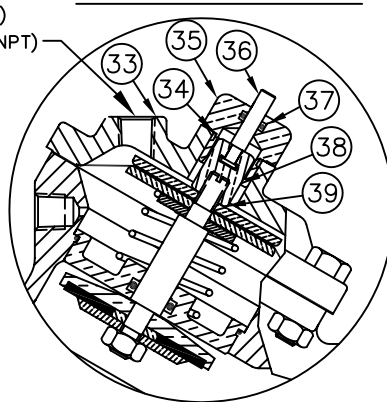
1072885 (V42F-0002-00000) (2" NPT)

## SPRING ASSIST CLOSED



1070036 (V42F-0001-00000) (2" NPT)

## SPRING ASSIST OPEN



1072893 (V42F-0021-00000) (2" NPT)

## POSITION INDICATOR

CONVERSION KITS	
DESCRIPTION	PART NO.
CONVERSION KIT (LIMIT STOP) CONSISTS OF STANDARD ITEM NO'S 19,20,21,22	1074320 (425-LSC)
CONVERSION KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 25 THRU 30	1074330 (425-SOC)
CONVERSION KIT (SPRING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO'S 8,31,32	1074331 (425-SO)
CONVERSION KIT (POSITION INDICATOR) CONSISTS OF STANDARD ITEM NO'S 33 THRU 39	1074324 (425-PIC)

REPAIR PARTS KITS	
DESCRIPTION	PART NO.
INT. PARTS KIT (LIMIT STOP) CONSISTS OF STANDARD ITEM NO'S 19,20,21	1074319 (425-LS)
INT. PARTS KIT (NORM. CLOSED) CONSISTS OF STANDARD ITEM NO'S 4,7,10,11(2),18,24	1070131 (425-RG)
INT. PARTS KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 25,28,29	1074329 (425-SC)
INT. PARTS KIT (SPRING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO'S 8,30,31	1074331 (425-SO)
INT. PARTS KIT (POSITION INDICATOR) CONSISTS OF STD ITEM NO'S 34 THRU 39	1074323 (425-PI)


NO.	DESCRIPTION		STD	PART NO.	QTY.
LIMIT STOP MODEL					
19	SCREW		*	1072364 (SCS-0042)	1
20	O-RING		*	1071690 (ORB-112)	1
21	NUT		*	1074434 (426-U)	1
22	CAP	CAST IRON	*	1074285 (425-CCC)	1
NORMALLY CLOSED MODEL					
23	PIPE PLUG (1/4" N.P.T.)	PLATED STEEL	*	1071918 (PLZ-0008)	1
		BRASS		1071904 (PLB-0009)	
		STN. STL.		1071915 (PLS-0001)	
24	SHAFT (NORMALLY CLOSED)		*	1074317 (425-LL)	1
SPRING ASSIST CLOSED MODEL					
25	CENTERING WASHER	BRASS	*	1074083 (421-AH)	1
		STN. STL.		1074084 (421-AHS)	
26	RETAINER NUT	BRASS	*	1074430 (426-TT)	1
27	PIPE PLUG (1/8" N.P.T.)	PLATED STEEL	*	1071917 (PLZ-0005)	1
		BRASS		1071903 (PLB-0007)	
		STN. STL.		1071916 (PLS-0002)	
28	SPRING		*	1074428 (426-SS)	1
29	O-RING		*	1071677 (ORB-025)	1
30	CAP	CAST IRON	*	1074284 (425-CA)	1
SPRING ASSIST OPEN MODEL					
8	GASKET	COPPER	*	1074252 (424-R)	1
		LEAD		1074263 (424-RL)	
31	SPRING		*	1074423 (426-S)	1
32	CENTERING WASHER	BRASS	*	1074436 (426-V)	1
		STN. STL.		1074437 (426-VS)	
POSITION INDICATOR MODEL					
33	CAP	CAST IRON	*	1074288 (425-CF)	1
34	O-RING		*	1071692 (ORB-116)	1
35	SHAFT GUIDE BUSHING		*	1074121 (421-GF)	1
36	INDICATOR SHAFT		*	1074325 (425-PM)	1
37	O-RING		*	1071688 (ORB-108TC)	1
38	TOP NUT		*	1074332 (425-TB)	1
39	LOCKWASHER		*	1073590 (WAS-0007)	1

### NOTE:

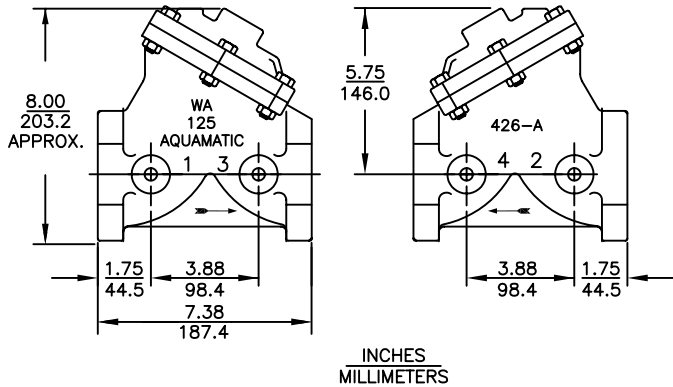
1. SPRING ASSIST CLOSED MODEL CANNOT BE COMBINED WITH LIMIT STOP MODEL.
2. VALVES AVAILABLE WITH B.S.P. OR J.I.S. END CONNECTIONS.

SEE REVERSE SIDE FOR  
STANDARD NORMALLY OPEN MODEL

FORM NO. 1077615

C	NUMBER	CONVERSION	1588	MSM	27NOV02	
REV	DESCRIPTION	ECO	DWN	DATE	APVD	
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM						
<b>SERIES 425 DIAPHRAGM VALVE</b>						
<b>2" N.P.T.</b>						
SCALE N/A	DRAWN JWB	DATE 30APR01	DWG. NO. 1084020			

2" & 2-1/2" DIAPHRAGM VALVE - STANDARD MODEL

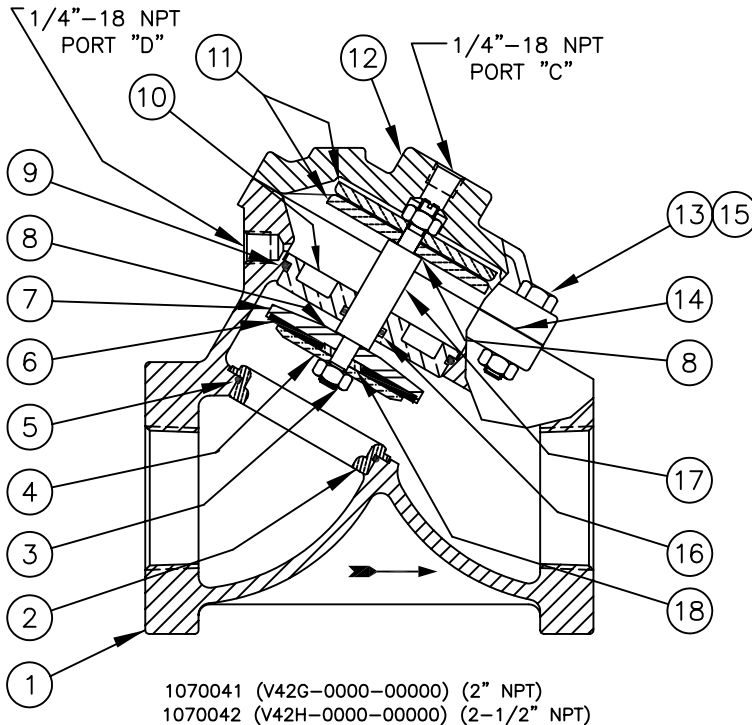


REPAIR PARTS KITS			
DESCRIPTION	PART NO.		
DIAPHRAGM & SEALS KIT CONSISTS OF ITEM NO'S 3(2),5,6,8(2),9,14,16	1070071 (426-RA)	1070084 (426-RAE)	1070096 (426-RAV)
	BUNA N INCLUDES DIAPHRAGM	E.P.D.M. INCLUDES DIAPHRAGM	FKM INCLUDES DIAPHRAGM
	1074374 (426-FB)	1074374 (426-FB)	1074376 (426-FV)
INT. PARTS KIT (NORM. OPEN) CONSISTS OF STANDARD ITEM NO'S 4,7,10,11(2),17,18	1070121 (426-RF)		
SEAT (ITEM NO. 2)	1074409 (426-MO)		

ASSEMBLY TOOLS	
DESCRIPTION	PART NO.
FOR INSTALLATION & REMOVAL OF SEAT (ITEM #2) (TOOL NOT SHOWN)	1074411 (426-MT)
FOR INSTALLATION & REMOVAL OF SHAFT GUIDE (ITEM #10) (TOOL NOT SHOWN)	1-3/16" HEX SOCKET

NOTE:

1. AMERICAN NATIONAL STANDARD TAPER PIPE  
THREADS (NPT) PER ANSI B2.1-1968
2. VALVES AVAILABLE WITH B.S.P. OR J.I.S.  
END CONNECTIONS.



1070041 (V42G-0000-00000) (2" NPT)  
1070042 (V42H-0000-00000) (2-1/2" NPT)

**NORMALLY OPEN (STANDARD)**

NO.	DESCRIPTION		STD	PART NO.	QTY.
1	BODY	CAST IRON	2" NPT	* 1074343 (426-AB)	1
			2-1/2" NPT	* 1081559 (426-A10)	
	CAST BRASS		2" NPT	1074338 (426-AB8)	
			2-1/2" NPT	1074335 (426-AB10)	
2	SEAT (REQ'S ASSY TOOL)	BRASS		* 1074409 (426-MO)	1
		STN. STL.		1074408 (426-MAVO)	
3	HEX LOCK NUT	(5/16-24)	*	1071651 (NUS-0013)	2
4	DISC PLATE	BRASS	*	1074395 (426-K)	1
		STN. STL.		1074398 (426-KS)	
		BUNA N	*	1071696 (ORB-144)	
5	O-RING	E.P.D.M.		1071737 (ORE-144)	1
		FKM		1071809 (ORV-144)	
		BUNA	*	1074389 (426-J)	
6	DISC	E.P.D.M.		1074391 (426-JE)	1
		FKM		1074394 (426-JV)	
		HYCAR		1074392 (426-JH)	
		BRASS	*	1074381 (426-H)	
7	DISC HOLDER	STN. STL.		1074386 (426-HS)	1
8	GASKET	COPPER	*	1074252 (424-R)	2
		LEAD		1074263 (424-RL)	
9	O-RING	BUNA N	*	1071706 (ORB-233)	1
		E.P.D.M.		1071754 (ORE-233)	
		FKM		1071826 (ORV-233)	
10	SHAFT GUIDE (REQ'S ASSY TOOL)	BRASS	*	1074379 (426-GO)	1
		STN. STL.		1074378 (426-GASO)	
11	DIAPHRAGM PLATE	BRASS	*	1074370 (426-D)	2
		STN. STL.		1074371 (426-DA)	
12	CAP	CAST IRON	*	1081560 (426-C)	1
		CAST BRASS		1074348 (426-CB)	
13	HEX SCREW	PLATED STEEL	*	1072401 (SCZ-0015)	6
		STN. STL.		1072358 (SCS-0016)	
14	DIAPHRAGM	BUNA N	*	1074374 (426-FB)	1
		FKM		1074376 (426-FV)	
15	HEX NUT	PLATED STEEL	*	1071657 (NUZ-0011)	6
		STN. STL.		1071655 (NUS-0035)	
16	O-RING	BUNA N	*	1071691 (ORB-114TC)	1
		E.P.D.M.		1071729 (ORE-114TC)	
		FKM		1071800 (ORV-114)	
17	SHAFT (NORMALLY OPEN)		*	1074400 (426-L)	1
18	DISC SPACER	BRASS	*	1074382 (426-HA)	1
		STN. STL.		1074384 (426-HAS)	

SEE REVERSE SIDE FOR  
CONFIGURATION OPTIONS

FORM NO. 1077616

C	NUMBER	CONVERSION	1588	MSM	27NOV02	
REV	DESCRIPTION		ECO	DWN	DATE	APVD



**OSMONICS**

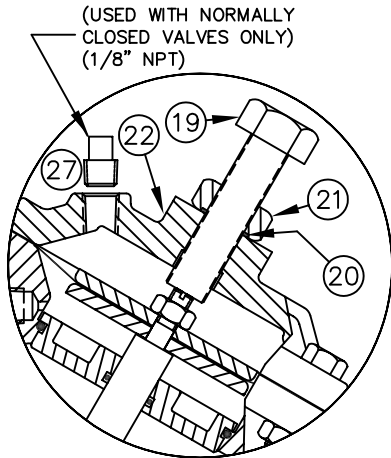
ROCKFORD OPERATIONS

2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421  
WWW.OSMONICS.COM

**SERIES 426 DIAPHRAGM VALVE**

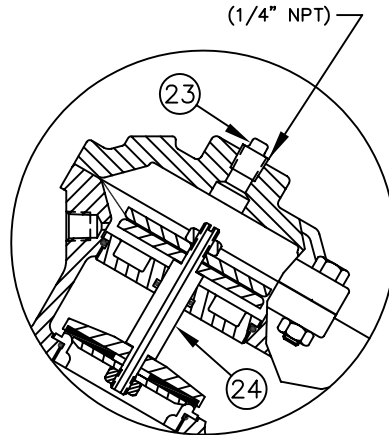
**2" & 2-1/2" N.P.T.**

SCALE	DRAWN	DATE	DWG. NO.
N/A	JWB	02MAY01	1084021



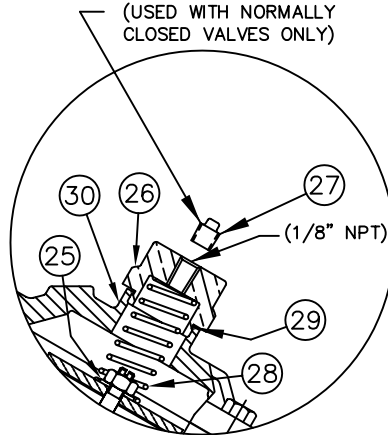
1072939 (V42G-0010-00000) (2" NPT)  
1072998 (V42H-0010-00000) (2-1/2" NPT)

**LIMIT STOP**



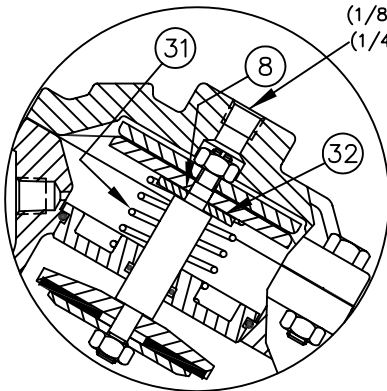
1072945 (V42G-0030-00000) (2" NPT)  
1073002 (V42H-0030-00000) (2-1/2" NPT)

**NORMALLY CLOSED**



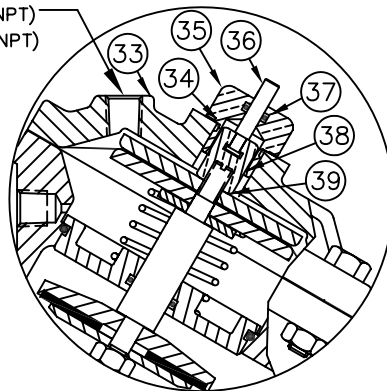
1072935 (V42G-0002-00000) (2" NPT)  
1072996 (V42H-0002-00000) (2-1/2" NPT)

**SPRING ASSIST CLOSED**



1072932 (V42G-0001-00000) (2" NPT)  
1072994 (V42H-0001-00000) (2-1/2" NPT)

**SPRING ASSIST OPEN**



1072943 (V42G-0021-00000) (2" NPT)  
1073001 (V42H-0021-00000) (2-1/2" NPT)

**POSITION INDICATOR**

**NOTE:**

1. SPRING ASSIST CLOSED MODEL CANNOT BE COMBINED WITH LIMIT STOP OR POSITION INDICATOR MODELS.
2. VALVES AVAILABLE WITH B.S.P. OR J.I.S. END CONNECTIONS.


CONVERSION KITS	
DESCRIPTION	PART NO.
CONVERSION KIT (LIMIT STOP) CONSISTS OF STANDARD ITEM NO'S 19,20,21,22	1074406 (426-LSC)
CONVERSION KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 25 THRU 30	1074426 (426-SCC)
CONVERSION KIT (SPRING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO'S 8,31,32	1074427 (426-SO)
CONVERSION KIT (POSITION INDICATOR) CONSISTS OF STANDARD ITEM NO'S 33 THRU 39	1074414 (426-PIC)

REPAIR PARTS KITS	
DESCRIPTION	PART NO.
INT. PARTS KIT (LIMIT STOP) CONSISTS OF STANDARD ITEM NO'S 19,20,21	1074405 (426-LS)
INT. PARTS KIT (NORM. CLOSED) CONSISTS OF STANDARD ITEM NO'S 4,7,10,11(2),18,24	1070132 (426-RG)
INT. PARTS KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 25,28,29	1074425 (426-SC)
INT. PARTS KIT (SPRING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO'S 8,31,32	1074427 (426-SO)
INT. PARTS KIT (POSITION INDICATOR) CONSISTS OF STD ITEM NO'S 34 THRU 39	1074413 (426-PI)

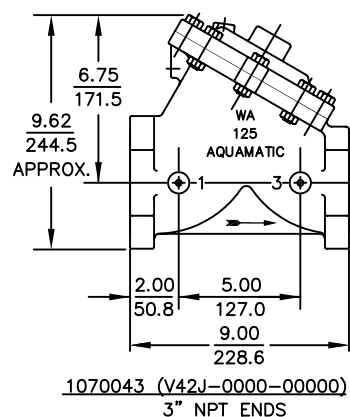
NO.	DESCRIPTION		STD	PART NO.	QTY.
LIMIT STOP MODEL					
19	SCREW		*	1072364 (SCS-0042)	1
20	O-RING		*	1071690 (ORB-112)	1
21	NUT		*	1074434 (426-U)	1
22	CAP	CAST IRON	*	1074354 (426-CCC)	1
		CAST BRASS		1074357 (426-CCCB)	
NORMALLY CLOSED MODEL					
23	PIPE PLUG (1/4" N.P.T.)	PLATED STEEL	*	1071918 (PLZ-0008)	1
		BRASS		1071904 (PLB-0009)	
		STN. STL.		1071915 (PLS-0001)	
24	SHAFT (NORMALLY CLOSED)		*	1074402 (426-LL)	1
SPRING ASSIST CLOSED MODEL					
25	CENTERING WASHER	BRASS	*	1074083 (421-AH)	1
		STN. STL.		1074084 (421-AHS)	
26	RETAINER NUT	BRASS	*	1074430 (426-TT)	1
		STN. STL.		1074433 (426-TTS)	
27	PIPE PLUG (1/8" N.P.T.)	PLATED STEEL	*	1071917 (PLZ-0005)	1
		BRASS		1071903 (PLB-0007)	
		STN. STL.		1071916 (PLS-0002)	
28	SPRING		*	1074428 (426-SS)	1
29	O-RING		*	1071677 (ORB-025)	1
30	CAP	CAST IRON	*	1074352 (426-CC)	1
		CAST BRASS		1074353 (426-CCB)	
SPRING ASSIST OPEN MODEL					
8	GASKET	COPPER	*	1074252 (424-R)	1
		LEAD		1074263 (424-RL)	
31	SPRING		*	1074423 (426-S)	1
32	CENTERING WASHER	BRASS	*	1074436 (426-V)	1
		STN. STL.		1074437 (426-VS)	
POSITION INDICATOR MODEL					
33	CAP	CAST IRON	*	1074360 (426-CF)	1
		CAST BRASS		1074364 (426-CFB)	
34	O-RING		*	1071692 (ORB-116)	1
35	SHAFT GUIDE BUSHING		*	1074121 (421-GF)	1
36	INDICATOR SHAFT		*	1074325 (425-PM)	1
37	O-RING		*	1071688 (ORB-108TC)	1
38	TOP NUT		*	1074332 (425-TB)	1
39	LOCKWASHER		*	1073590 (WAS-0007)	1

SEE REVERSE SIDE FOR  
STANDARD NORMALLY OPEN MODEL

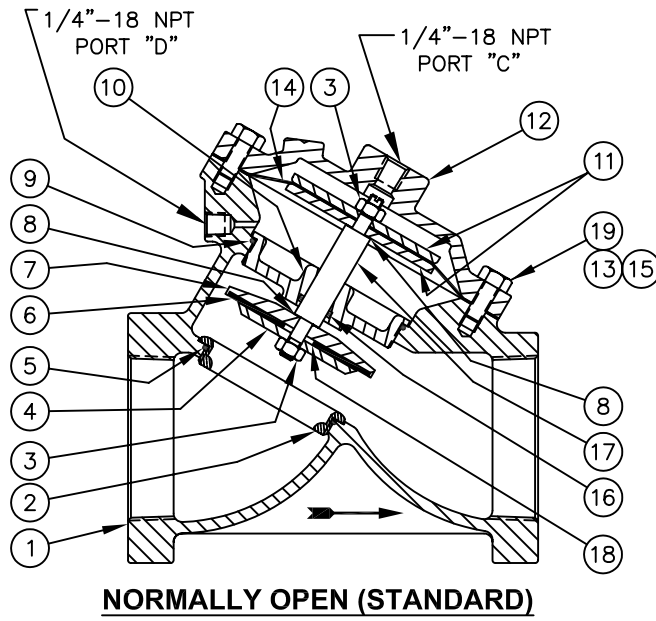
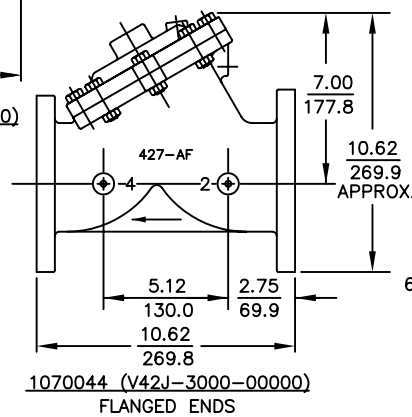
FORM NO. 1077616

C	NUMBER	CONVERSION	1588	MSM	27NOV02
REV	DESCRIPTION	ECO	DWN	DATE	APVD
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM					
<b>SERIES 426 DIAPHRAGM VALVE</b>					
<b>2" &amp; 2-1/2" N.P.T.</b>					
SCALE N/A	DRAWN JWB	DATE 02MAY01	DWG. NO. 1084021		

3" DIAPHRAGM VALVE - STANDARD MODEL

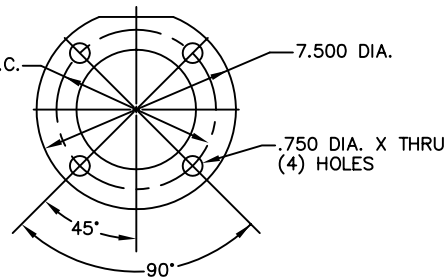


NOTE:  
1. AMERICAN NATIONAL STANDARD TAPER PIPE THREADS (NPT) PER ANSI B2.1-1968  
2. VALVES AVAILABLE WITH B.S.P. OR J.I.S. END CONNECTIONS.

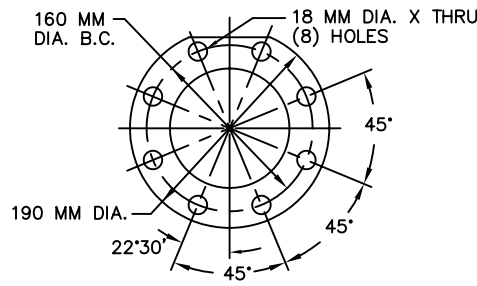


REPAIR PARTS KITS			
DESCRIPTION		PART NO.	
DIAPHRAGM & SEALS KIT CONSISTS OF ITEM NO'S 3(2),5,6,8(2),9,14,16		1070072 (427-RA)	1070085 (427-RAE) 1070097 (427-RAV)
		BUNA N INCLUDES DIAPHRAGM 1074475 (427-FB)	E.P.D.M. INCLUDES DIAPHRAGM 1074475 (427-FB) FKM INCLUDES DIAPHRAGM 1074477 (427-FV)
INT. PARTS KIT (NORM. OPEN) CONSISTS OF STANDARD ITEM NO'S 4,7,10,11(2),17,18		1070122 (427-RF)	
SEAT (ITEM NO. 2)		1074505 (427-MO)	

ASSEMBLY TOOLS	
DESCRIPTION	PART NO.
FOR INSTALLATION & REMOVAL OF SHAFT GUIDE (ITEM #10) (NOT SHOWN)	1-3/16" HEX SOCKET



AMERICAN FLANGE PER A.S.A. 16.1 CLASS 125



METRIC FLANGE PER BS4504, DIN 10 & ISO R 2084

NO.		DESCRIPTION	STD	PART NO.	QTY.
1	BODY	CAST IRON	THREADED	* 1074446 (427-AS)	1
		CAST BRASS	FLANGED	* 1074438 (427-AF)	
2	SEAT		THREADED	* 1074449 (427-ASB)	1
			BRASS	* 1074505 (427-MO)	
3	HEX LOCK NUT	(5/16-24)	STN. STL.	1071651 (NUS-0013)	2
4	DISC PLATE		BRASS	* 1074493 (427-K)	1
			STN. STL.	1074495 (427-KS)	
5	O-RING		BUNA N	* 1071706 (ORB-233)	1
			E.P.D.M.	1071754 (ORE-233)	
			FKM	1071826 (ORV-233)	
6	DISC		BUNA N	* 1074487 (427-J)	1
			E.P.D.M.	1074489 (427-JE)	
			FKM	1074492 (427-JV)	
			HYCAR	1074490 (427-JH)	
7	DISC HOLDER		BRASS	* 1074485 (427-JO)	1
			STN. STL.	1074486 (427-HSS)	
8	GASKET		COPPER	* 1074252 (424-R)	2
			LEAD	1074263 (424-RL)	
9	O-RING		BUNA N	* 1071708 (ORB-237)	1
			E.P.D.M.	1071755 (ORE-237)	
			FKM	1071828 (ORV-237)	
10	SHAFT GUIDE (REQ'S ASSY TOOL)		BRASS	* 1074481 (427-GO)	1
			STN. STL.	1074479 (427-GASO)	
11	DIAPHRAGM PLATE		BRASS	* 1074471 (427-D)	2
			STN. STL.	1074472 (427-DA)	
12	CAP		CAST IRON	* 1074454 (427-C)	1
			CAST BRASS	1074457 (427-CB)	
13	HEX SCREW		PLATED STEEL	* 1072405 (SCZ-0025)	6
			STN. STL.	1072390 (SCS-0152)	
14	DIAPHRAGM		BUNA N	* 1074475 (427-FB)	1
			FKM	1074477 (427-FV)	
15	HEX NUT		PLATED STEEL	* 1071658 (NUZ-0014)	6
			STN. STL.	1071652 (NUS-0014)	
16	O-RING		BUNA N	* 1071691 (ORB-114TC)	1
			E.P.D.M.	1071729 (ORE-114TC)	
			FKM	1071800 (ORV-114)	
17	SHAFT (NORMALLY OPEN)			* 1074496 (427-L)	1
18	DISC SPACER		BRASS	* 1074382 (426-HA)	1
19	HEX SCREW		STN. STL.	* 1072359 (SCS-0020)	2

SEE REVERSE SIDE FOR CONFIGURATION OPTIONS

FORM NO. 1077617

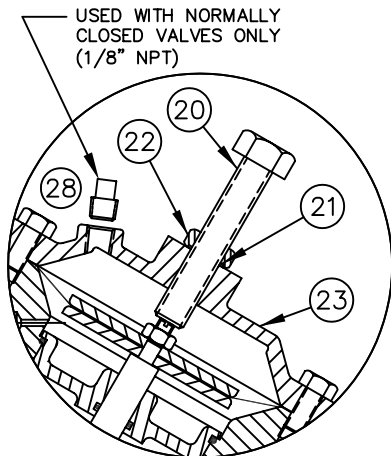
C	NUMBER	CONVERSION	1588	MSM	27NOV02	
REV		DESCRIPTION	ECO	DWN	DATE	APVD



**OSMONICS**  
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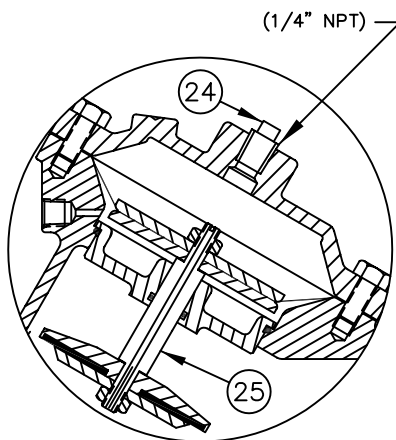
SERIES 427 DIAPHRAGM VALVE			
3" PIPE SIZE			
SCALE	DRAWN	DATE	DWG. NO.
N/A	JWB	02MAY01	1084022





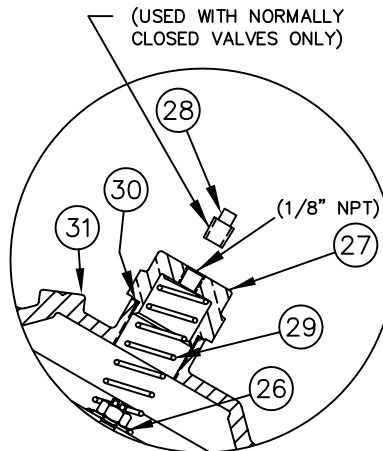
1073045 (V42J-0010-00000) (THREADED)  
1073103 (V42J-3010-00000) (FLANGED)

## LIMIT STOP



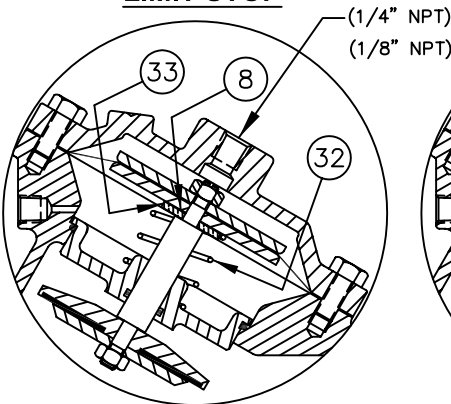
1073055 (V42J-0030-00000) (THREADED)  
1073113 (V42J-3030-00000) (FLANGED)

## NORMALLY CLOSED



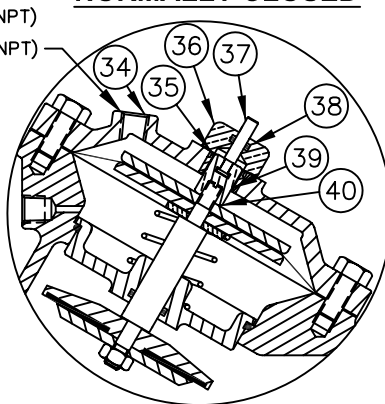
1073047 (V42J-0002-00000) (THREADED)  
1073100 (V42J-3002-00000) (FLANGED)

## SPRING ASSIST CLOSED



1073045 (V42J-0001-00000) (THREADED)  
1073097 (V42J-3001-00000) (FLANGED)

## SPRING ASSIST OPEN



1073054 (V42J-0021-00000) (THREADED)  
1077374 (V42J-3021-00000) (FLANGED)

## POSITION INDICATOR

### CONVERSION KITS

DESCRIPTION	PART NO.
CONVERSION KIT (LIMIT STOP) CONSISTS OF STANDARD ITEM NO'S 20,21,22,23	1074502 (427-LSC)
CONVERSION KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 26 THRU 31	1074519 (427-SCC)
CONVERSION KIT (SPRING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO'S 8,32,33	1074521 (427-SO)
CONVERSION KIT (POSITION INDICATOR) CONSISTS OF STANDARD ITEM NO'S 34 THRU 40	1074509 (427-PIC)

### REPAIR PARTS KITS

DESCRIPTION	PART NO.
INT. PARTS KIT (LIMIT STOP) CONSISTS OF STANDARD ITEM NO'S 20,21,22	1074501 (427-LS)
INT. PARTS KIT (NORM. CLOSED) CONSISTS OF STANDARD ITEM NO'S 4,7,10,11(2),18,25	1070133 (427-RG)
INT. PARTS KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 26,29,30	1081565 (427-SC)
INT. PARTS KIT (SPRING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO'S 8,32,33	1074521 (427-SO)
INT. PARTS KIT (POSITION INDICATOR) CONSISTS OF STD ITEM NO'S 35 THRU 40	1074508 (427-PI)


NO.	DESCRIPTION	STD	PART NO.	QTY.
<b>LIMIT STOP MODEL</b>				
20	SCREW	*	1072365 (SCS-0043)	1
21	O-RING	*	1071690 (ORB-112)	1
22	NUT	*	1074434 (426-U)	1
23	CAP	CAST IRON CAST BRASS	1074462 (427-CCC) 1074465 (427-CCCB)	1
<b>NORMALLY CLOSED MODEL</b>				
24	PIPE PLUG (1/4" N.P.T.)	PLATED STEEL BRASS STN. STL.	* 1071918 (PLZ-0008) 1071904 (PLB-0009) 1071915 (PLS-0001)	1
25	SHAFT (NORMALLY CLOSED)	*	1074499 (427-LL)	1
<b>SPRING ASSIST CLOSED MODEL</b>				
26	CENTERING WASHER	BRASS STN. STL.	* 1074083 (421-AH) 1074084 (421-AHS)	1
27	RETAINER NUT	BRASS STN. STL.	* 1074430 (426-TT) 1074433 (426-TTS)	1
28	PIPE PLUG (1/8" N.P.T.)	PLATED STEEL BRASS STN. STL.	* 1071917 (PLZ-0005) 1071903 (PLB-0007) 1071916 (PLS-0002)	1
29	SPRING	*	1074428 (426-SS)	1
30	O-RING	*	1071677 (ORB-025)	1
31	CAP	CAST IRON CAST BRASS	* 1074460 (427-CC) 1074461 (427-CCB)	1
<b>SPRING ASSIST OPEN MODEL</b>				
8	GASKET	COPPER LEAD	* 1074252 (424-R) 1074263 (424-RS)	1
32	SPRING	*	1074423 (426-SL)	1
33	CENTERING WASHER	BRASS STN. STL.	* 1074436 (426-V) 1074437 (426-VS)	1
<b>POSITION INDICATOR MODEL</b>				
34	CAP	CAST IRON CAST BRASS	* 1074468 (427-CF) 1074469 (427-CFB)	1
35	O-RING	*	1071692 (ORB-116)	1
36	SHAFT GUIDE BUSHING	*	1074121 (421-GF)	1
37	INDICATOR SHAFT	*	1074510 (427-PM)	1
38	O-RING	*	1071688 (ORB-108TC)	1
39	TOP NUT	*	1074332 (425-TB)	1
40	LOCKWASHER	*	1073590 (WAS-0007)	1

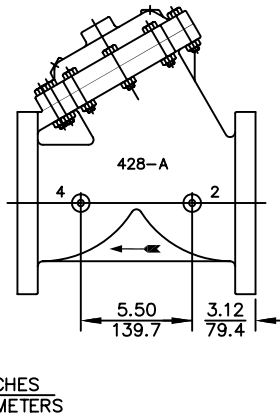
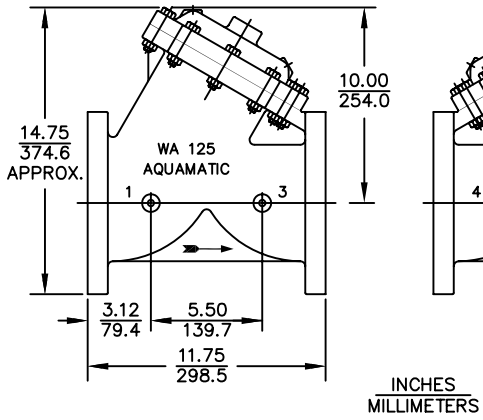
### NOTE:

1. SPRING ASSIST CLOSED MODEL CANNOT BE COMBINED WITH LIMIT STOP OR POSITION INDICATOR MODELS.
2. VALVES AVAILABLE WITH B.S.P. OR J.I.S. END CONNECTIONS.

SEE REVERSE SIDE FOR  
STANDARD NORMALLY OPEN MODEL

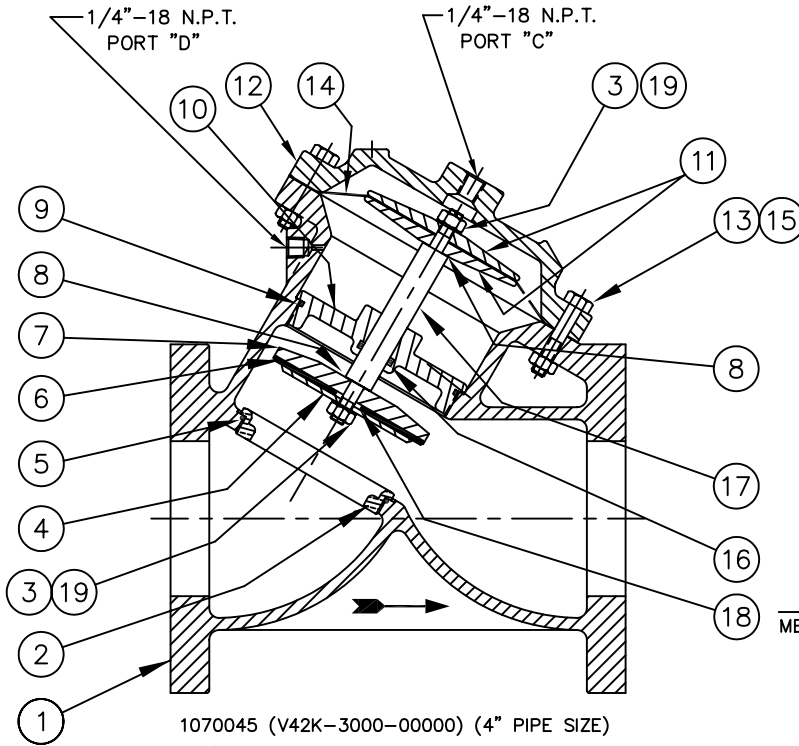
FORM NO. 1077617

C	NUMBER CONVERSION	1588	MSM	27NOV02	
REV	DESCRIPTION	ECO	DWN	DATE	APVD
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM					
<b>SERIES 427 DIAPHRAGM VALVE</b>					
<b>3" PIPE SIZE</b>					
SCALE N/A	DRAWN JWB	DATE 02MAY01	DWG. NO. 1084022		

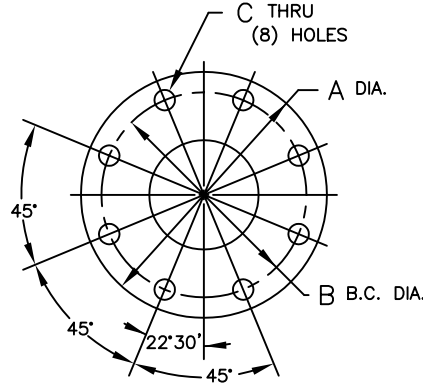


REPAIR PARTS KITS			
DESCRIPTION	PART NO.		
DIAPHRAGM & SEALS KIT CONSISTS OF ITEM NO'S 3(2),5,6,8(2),9,14,16	1070073 (428-RA)	1070086 (428-RAE)	1070098 (428-RAV)
	BUNA N INCLUDES DIAPHRAGM 1074557 (428-FB)	E.P.D.M. INCLUDES DIAPHRAGM 1074557 (428-FB)	FKM INCLUDES DIAPHRAGM 1074559 (428-FV)
	1070123 (428-RF)		
INT. PARTS KIT (NORM. OPEN) CONSISTS OF STANDARD ITEM NO'S 4,7,10,11(2),17,18,19	1070123 (428-RF)		
SEAT (ITEM NO. 2)	1074585 (428-MAO)		

NOTE:  
1. AMERICAN NATIONAL STANDARD TAPER PIPE  
THREADS (NPT) PER ANSI B2.1-1968  
2. VALVES AVAILABLE WITH B.S.P. END CONNECTIONS.



FLANGE STYLE	A	B	C
AMERICAN	9.000	7.500	.750
METRIC	229 MM	180 MM	18 MM



AMERICAN FLANGE PER A.S.A. 16.1 CLASS 125  
METRIC FLANGE PER BS 4504, DIN 10 & ISO R 2084

NO.	DESCRIPTION	STD	PART NO.	QTY.
1	BODY	CAST IRON	* 1074522 (428-A)	1
2	SEAT	BRASS	* 1074585 (428-MAO)	1
3	HEX LOCK NUT	(3/8-24) STN. STL.	* 1074586 (428-MAVO)	2
4	DISC PLATE	BRASS	* 1074574 (428-K)	1
5	O-RING	STN. STL.	* 1074576 (428-KAV)	1
6	DISC	BUNA N	* 1071697 (ORB-156)	1
7	DISC HOLDER	E.P.D.M.	* 1071739 (ORE-156)	1
8	GASKET	FKM	* 1071811 (ORV-156)	1
9	O-RING	BUNA N	* 1074568 (428-J)	1
10	SHAFT GUIDE	E.P.D.M.	* 1074570 (428-JE)	1
11	DIAPHRAGM PLATE	FKM	* 1074573 (428-JV)	1
12	CAP	HYCAR	* 1074571 (428-JH)	1
13	HEX SCREW	BRASS	* 1074587 (428-N)	1
14	DIAPHRAGM	STN. STL.	* 1074590 (428-NS)	1
15	HEX NUT	COPPER	* 1073950 (200-LL)	2
16	O-RING	LEAD	* 1073951 (200-LLL)	1
17	SHAFT (NORMALLY OPEN)	BUNA N	* 1071711 (ORB-245)	1
18	DISC SPACER	E.P.D.M.	* 1071759 (ORE-245)	1
19	LOCKWASHER	FKM	* 1071832 (ORV-245)	2

SEE REVERSE SIDE FOR  
CONFIGURATION OPTIONS

FORM NO. 1077618

C	NUMBER	CONVERSION	1588	MSM	27NOV02
REV	DESCRIPTION	ECO	DWN	DATE	APVD



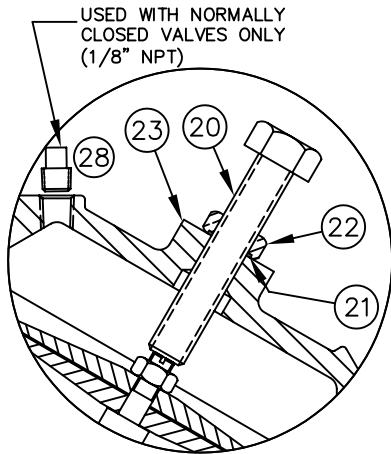
OSMONICS  
ROCKFORD OPERATIONS

2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421  
WWW.OSMONICS.COM

SERIES 428 DIAPHRAGM VALVE

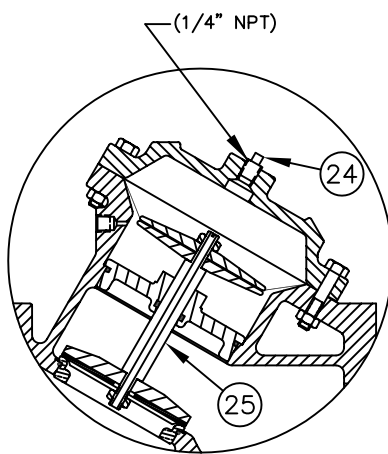
4" PIPE SIZE

SCALE	DRAWN	DATE	DWG. NO.
N/A	JWB	02MAY01	1084023



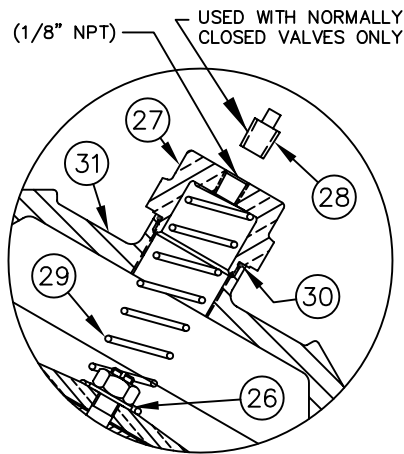
1073151 (V42K-3010-00000)

**LIMIT STOP**



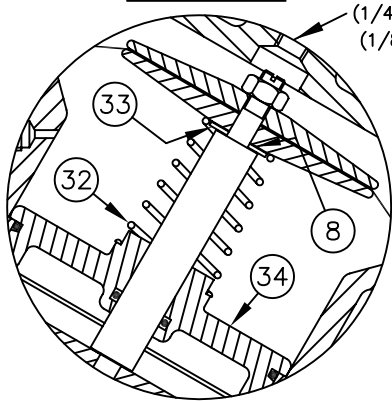
1073158 (V42K-3030-00000)

**NORMALLY CLOSED**



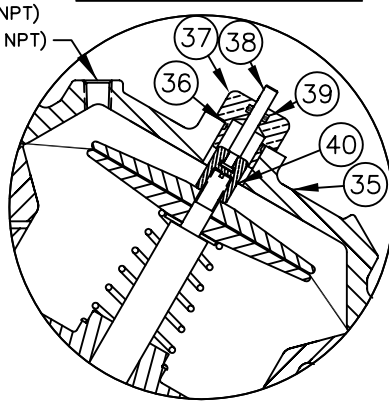
1073148 (V42K-3002-00000)

**SPRING ASSIST CLOSED**



1073146 (V42K-3001-00000)

**SPRING ASSIST OPEN**



1073156 (V42K-3021-00000)

**POSITION INDICATOR**

**NOTE:**

1. SPRING ASSIST CLOSED MODEL CANNOT BE COMBINED WITH LIMIT STOP OR POSITION INDICATOR MODELS.
2. VALVES AVAILABLE WITH B.S.P. END CONNECTIONS.


CONVERSION KITS	
DESCRIPTION	PART NO.
CONVERSION KIT (LIMIT STOP) CONSISTS OF STANDARD ITEM NO'S 20,21,22,23	1074584 (428-LSC)
CONVERSION KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 26 THRU 31	1074603 (428-SCC)
CONVERSION KIT (SPRING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO'S 8,32,33,34	1074606 (428-SOC)
CONVERSION KIT (POSITION INDICATOR) CONSISTS OF STANDARD ITEM NO'S 35 THRU 40	1074592 (428-PIC)

REPAIR PARTS KITS	
DESCRIPTION	PART NO.
INT. PARTS KIT (LIMIT STOP) CONSISTS OF STANDARD ITEM NO'S 20,21,22	1074583 (428-LS)
INT. PARTS KIT (NORM. CLOSED) CONSISTS OF STANDARD ITEM NO'S 4,7,10,11(2),18,25	1070134 (428-RG)
INT. PARTS KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 26,29,30	1074602 (428-SC)
INT. PARTS KIT (SPRING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO'S 8,32,33	1074604 (428-SO)
INT. PARTS KIT (POSITION INDICATOR) CONSISTS OF STD ITEM NO'S 36 THRU 40	1074591 (428-PI)

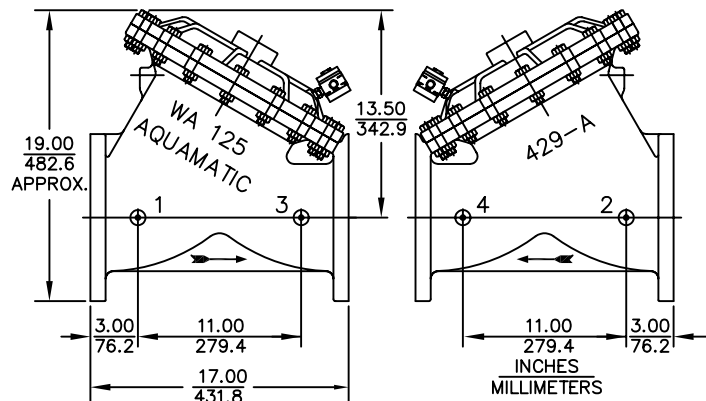
NO.	DESCRIPTION		STD	PART NO.	QTY.
LIMIT STOP MODEL					
20	SCREW		*	1072365 (SCS-0043)	1
21	O-RING		*	1071690 (ORB-112)	1
22	NUT		*	1074434 (426-U)	1
23	CAP	CAST IRON	*	1074542 (428-CCC)	1
NORMALLY CLOSED MODEL					
24	PIPE PLUG (1/4" N.P.T.)	PLATED STEEL	*	1071918 (PLZ-0008)	1
		BRASS		1071904 (PLB-0009)	
		STN. STL.		1071915 (PLS-0001)	
25	SHAFT (NORMALLY CLOSED)		*	1074581 (428-LL)	1
SPRING ASSIST CLOSED MODEL					
26	CENTERING WASHER	BRASS	*	1074530 (428-AH)	1
		STN. STL.			
27	RETAINER NUT	BRASS	*	1074430 (426-TT)	1
		STN. STL.		1074433 (426-TTS)	
28	PIPE PLUG (1/8" N.P.T.)	PLATED STEEL	*	1071917 (PLZ-0005)	1
		BRASS		1071903 (PLB-0007)	
		STN. STL.		1071916 (PLS-0002)	
29	SPRING		*	1074607 (428-SS)	1
30	O-RING		*	1071677 (ORB-025)	1
31	CAP	CAST IRON	*	1074540 (428-CC)	1
SPRING ASSIST OPEN MODEL					
8	GASKET	COPPER	*	1073950 (200-LL)	1
		LEAD		1073951 (200-LLL)	
32	SPRING		*	1074600 (428-S)	1
33	CENTERING WASHER	BRASS	*	1074610 (428-V)	1
		STN. STL.			
34	SHAFT GUIDE	BRASS	*	1074562 (428-GG0)	1
		STN. STL.			
POSITION INDICATOR MODEL					
35	CAP	CAST IRON	*	1074549 (428-CF)	1
36	O-RING		*	1071692 (ORB-116)	1
37	SHAFT GUIDE BUSHING		*	1074121 (421-GF)	1
38	INDICATOR SHAFT		*	1074593 (428-PM)	1
39	O-RING		*	1071688 (ORB-108TC)	1
40	TOP NUT		*	1074608 (428-TB)	1

SEE REVERSE SIDE FOR  
STANDARD NORMALLY OPEN MODEL

FORM NO. 1077618

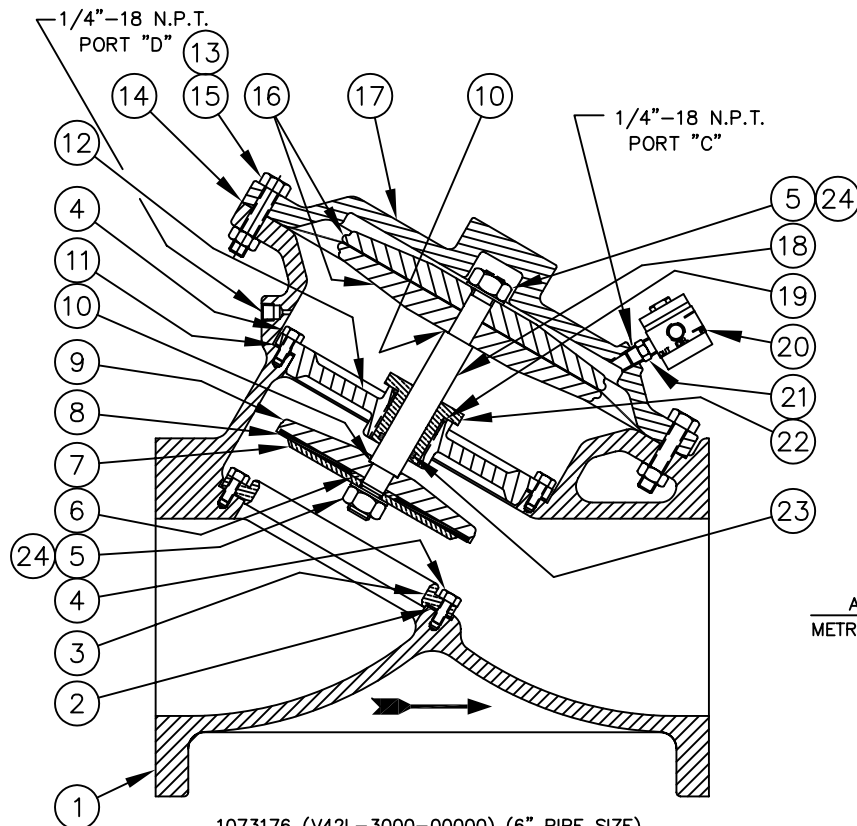
C	NUMBER	CONVERSION	1588	MSM	27NOV02	
REV	DESCRIPTION	ECO	DWN	DATE	APVD	
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM						
<b>SERIES 428 DIAPHRAGM VALVE</b>						
<b>4" PIPE SIZE</b>						
SCALE N/A	DRAWN JWB	DATE 02MAY01	DWG. NO. 1084023			

# 6" DIAPHRAGM VALVE - STANDARD MODEL

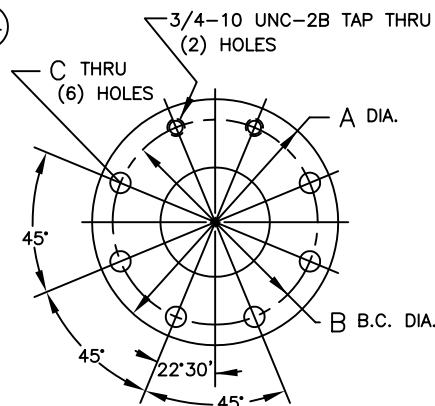


REPAIR PARTS KITS		
DESCRIPTION	PART NO.	
DIAPHRAGM & SEALS KIT CONSISTS OF ITEM NO'S 2,5(2),8,10(2),11,14,19,23,24(2)	1070074 (429-RA)	1070099 (429-RAV)
	BUNA N INCLUDES DIAPHRAGM 1074622 (429-FB)	FKM INCLUDES DIAPHRAGM 1074623 (429-FV)
	1074653 (429-RF)	
INT. PARTS KIT (NORM. OPEN) CONSISTS OF STANDARD ITEM NO'S 4,(12)6,7,9,12,16(2),18,22		
SEAT ITEM NO. 3,4(8)	1074640 (429-MO)	

NOTE:  
1. AMERICAN NATIONAL STANDARD TAPER PIPE  
THREADS (NPT) PER ANSI B2.1-1968



FLANGE STYLE	A	B	C
AMERICAN	11.000	9.500	.875
METRIC	279 MM	240 MM	22 MM



AMERICAN FLANGE PER A.S.A. 16.1 CLASS 125  
METRIC FLANGE PER BS 4504, DIN 10 & ISO R 2084

NO.	DESCRIPTION	STD	PART NO.	QTY.
1	BODY	CAST IRON	* 1074613 (429-A)	1
2	SEAT GASKET	BUNA N	* 1074642 (429-N)	1
		FKM	1074643 (429-NV)	
3	SEAT	BRASS	* 1074640 (429-K)	1
4	HEX SCREW (5/16-18X3/4)		* 1072355 (SCS-0011)	20
5	HEX LOCK NUT		* 1071654 (NUS-0025)	2
6	DISC SPACER	BRASS	* 1074628 (429-HA)	1
7	DISC PLATE	BRASS	* 1074634 (429-K)	1
8	DISC	BUNA N	* 1074631 (429-J)	1
		FKM	1074633 (429-JV)	
		HYCAR	1074632 (429-JH)	
9	DISC HOLDER	BRASS	* 1074627 (429-L)	1
10	GASKET	COPPER	* 1073952 (201-M)	2
		LEAD		
11	CENTERING PLATE	BUNA N	* 1074644 (429-O)	1
	GASKET	FKM	1074645 (429-OV)	
12	CENTERING PLATE	CAST IRON	* 1074625 (429-GO)	1
13	HEX NUT	PLATED STEEL	* 1071659 (NUZ-0021)	16
14	DIAPHRAGM	BUNA N	* 1074622 (429-FB)	1
		FKM	1074623 (429-FV)	
15	HEX SCREW	PLATED STEEL	* 1072410 (SCZ-0038)	16
16	DIAPHRAGM PLATE	BRASS	* 1074620 (429-D)	2
17	CAP	CAST IRON	* 1074615 (429-C)	1
18	SHAFT (NORMALLY OPEN)		* 1074636 (429-L)	1
19	O-RING	BUNA N	* 1076766 (ORB-214)	1
		E.P.D.M.	1071746 (ORE-214)	
		FKM	1071817 (ORV-214)	
20	AUXILIARY PILOT VALVE (SEE SHEET V429-1B)		* 1074661 (429-VP)	1
21	HEX NIPPLE		* 1081648 (510-CM)	1
22	SHAFT GUIDE	BRASS	* 1074646 (429-P)	1
23	O-RING	BUNA N	* 1071703 (ORB-223)	1
		FKM	1071820 (ORV-223)	
24	LOCKWASHER		* 1073592 (WAS-0011)	2

SEE REVERSE SIDE FOR  
CONFIGURATION OPTIONS

FORM NO. 1077619

D	NUMBER	CONVERSION	1588	MSM	27NOV02	
REV	DESCRIPTION	ECO	DWN	DATE	APVD	



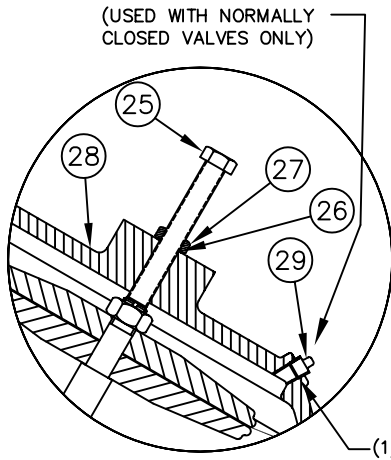
OSMONICS  
ROCKFORD OPERATIONS

2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421  
WWW.OSMONICS.COM

**SERIES 429 DIAPHRAGM VALVE**  
**6" PIPE SIZE**

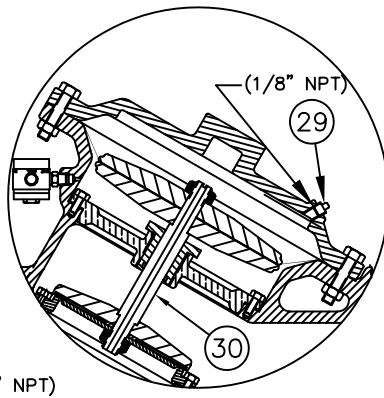
SCALE	DRAWN	DATE	DWG. NO.
N/A	JWB	08MAY01	1084024

1073176 (V42L-3000-00000) (6" PIPE SIZE)  
**NORMALLY OPEN (STANDARD)**



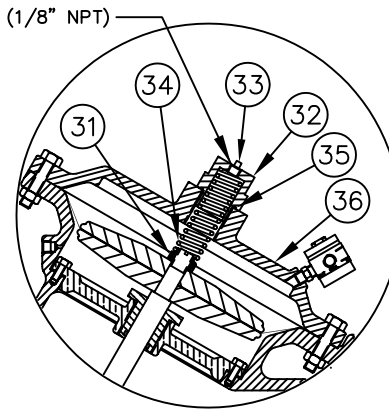
1073184 (V42L-3010-00000)

**LIMIT STOP**



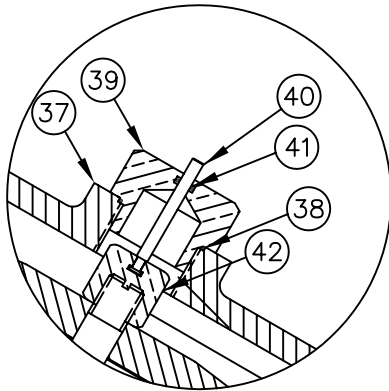
1073187 (V42L-3030-00000)

**NORMALLY CLOSED**



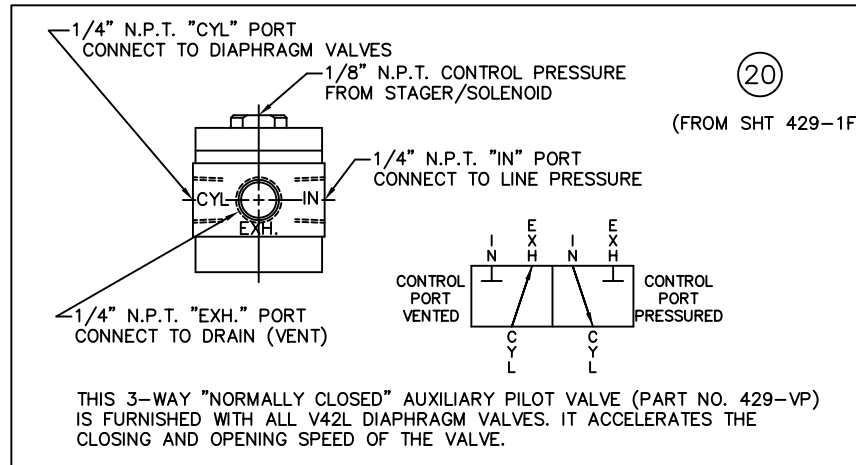
V42L-3002-00000

**SPRING ASSIST CLOSED**



V42L-3020-00000

**POSITION INDICATOR**



CONVERSION KITS	
DESCRIPTION	PART NO.
CONVERSION KIT (LIMIT STOP) CONSISTS OF STANDARD ITEM NO'S 25,26,27,29	1074639 (429-LSC)
CONVERSION KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 31 THRU 36	1074656 (429-SCC)
CONVERSION KIT (POSITION INDICATOR) CONSISTS OF STANDARD ITEM NO'S 37 THRU 42	1074648 (429-PIC)

REPAIR PARTS KITS	
DESCRIPTION	PART NO.
INT. PARTS KIT (LIMIT STOP) CONSISTS OF STANDARD ITEM NO'S 25,26,27	1074638 (429-LS)
INT. PARTS KIT (NORM. CLOSED) CONSISTS OF STANDARD ITEM NO'S 4,(12),6,7,9,12,16(2),22,30	1074654 (429-RG)
INT. PARTS KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 31,34,35	1074655 (429-SC)
INT. PARTS KIT (POSITION INDICATOR) CONSISTS OF STD ITEM NO'S 37 THRU 42	1074647 (429-PI)


NO.	DESCRIPTION	STD	PART NO.	QTY.
<b>LIMIT STOP MODEL</b>				
25	SCREW	*	1074660 (429-U)	1
26	O-RING	*	1071690 (ORB-112)	1
27	NUT	*	1074434 (426-U)	1
28	CAP	CAST IRON	* 1074617 (429-CCC)	1
<b>NORMALLY CLOSED MODEL</b>				
29	PIPE PLUG (1/4" N.P.T.)	PLATED STEEL	* 1071918 (PLZ-0008)	1
		BRASS	1071904 (PLB-0009)	
		STN. STL.	1071915 (PLS-0001)	
30	SHAFT (NORMALLY CLOSED)	*	1074637 (429-LL)	1
<b>SPRING ASSIST CLOSED MODEL</b>				
31	CENTERING NUT	STN. ST.	* 1074663 (429-X)	1
32	RETAINER NUT	BRASS	* 1074659 (429-TT)	1
33	PIPE PLUG (1/8" N.P.T.)	PLATED STEEL	* 1071917 (PLZ-0005)	1
		BRASS	1071903 (PLB-0007)	
		STN. STL.	1071916 (PLS-0002)	
34	SPRING	*	1074657 (429-SS)	1
35	O-RING	*	1079839 (ORB-222)	1
36	CAP	CAST IRON	* 1074616 (429-CC)	1
<b>POSITION INDICATOR MODEL</b>				
37	CAP	CAST IRON	* 1074618 (429-CF)	1
38	O-RING	*	1071694 (ORB-128)	1
39	SHAFT GUIDE BUSHING	*	1074624 (429-GF)	1
40	INDICATOR SHAFT	*	1074649 (429-PM)	1
41	O-RING	*	1071688 (ORB-108TC)	1
42	TOP NUT	*	1074658 (429-TB)	1

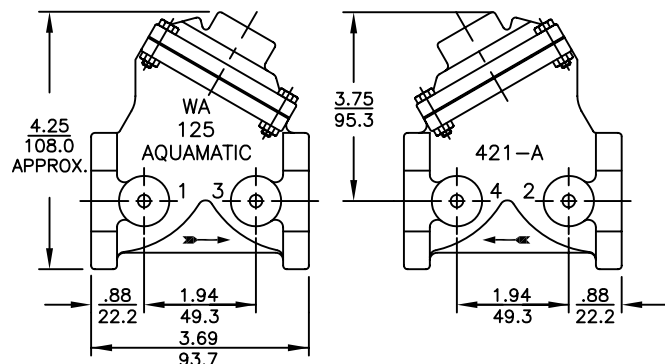
**NOTE:**

1. SPRING ASSIST CLOSED MODEL CANNOT BE COMBINED WITH LIMIT STOP OR POSITION INDICATOR MODELS.
2. SPRING ASSIST OPEN MODEL NOT AVAILABLE.

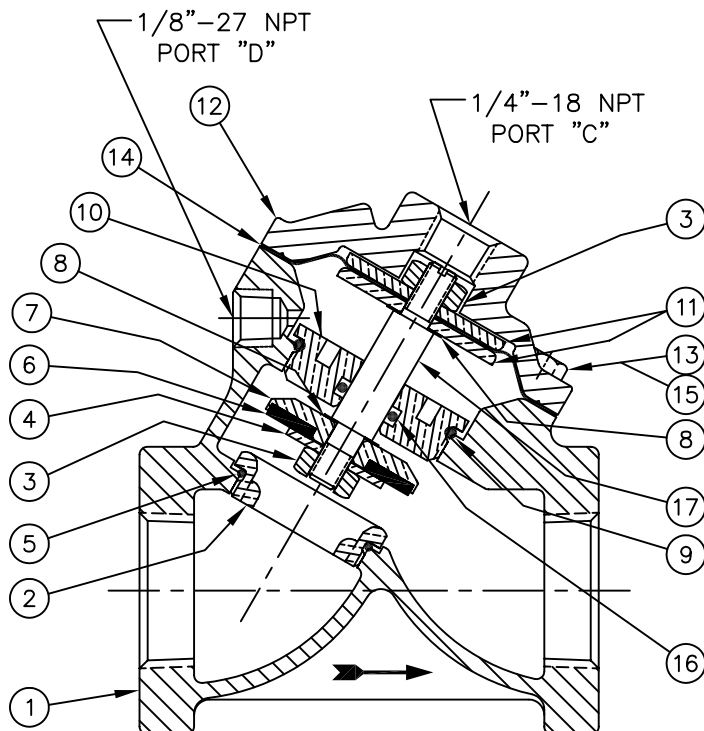
SEE REVERSE SIDE FOR  
STANDARD NORMALLY OPEN MODEL

FORM NO. 1077619

D	NUMBER	CONVERSION	1588	MSM	27NOV02	
REV	DESCRIPTION	ECO	DWN	DATE	APVD	
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM						
<b>SERIES 429 DIAPHRAGM VALVE</b>						
<b>6" PIPE SIZE</b>						
SCALE	DRAWN	DATE	DWG. NO.			
N/A	JWB	02MAY01	1084024			



INCHES  
MILLIMETERS



1073563 (V82B-0100-90000) (3/4" NPT)  
1073566 (V82C-0100-90000) (1" NPT)

**NORMALLY OPEN (STANDARD)**

### REPAIR PARTS KITS

DESCRIPTION	PART NO.
DIAPHRAGM & SEALS KIT CONSISTS OF ITEM NO'S 3(2),5,6,8(2),9,14,16	1070106 (AV1-RA)
INT. PARTS KIT (NORM. OPEN) CONSISTS OF ITEM NO'S 4,7,10,11(2),17	1075583 (821-RF)
SEAT (ITEM NO. 2)	1074158 (421-MO)

### ASSEMBLY TOOLS

DESCRIPTION	PART NO.
FOR INSTALLATION & REMOVAL OF SEAT (ITEM #2) (TOOL NOT SHOWN)	1074161 (421-MT)
FOR INSTALLATION & REMOVAL OF SHAFT GUIDE (ITEM #10) (TOOL NOT SHOWN)	1074124 (421-GT)


NO.	DESCRIPTION	PART NO.	QTY.
1	BODY CAST BRASS 3/4" NPT 1" NPT	1074077 (421-AB3) 1074080 (421-AB4)	1
2	SEAT (REQ'S ASSY TOOL) BRASS	1074158 (421-MO)	1
3	HEX LOCK NUT (1/4-28)	1071650 (NUS-0010)	2
4	DISC PLATE BRASS	1075590 (821006)	1
5	O-RING FKM	1071791 (ORV-024)	1
6	DISC HYCAR	1074144 (421-JH)	1
7	DISC HOLDER BRASS	1074126 (421-H)	1
8	GASKET COPPER	1073948 (200-GG)	2
9	O-RING FKM	1071803 (ORV-125)	1
10	SHAFT GUIDE (REQ'S ASSY TOOL) BRASS	1074122 (421-GG0)	1
11	DIAPHRAGM PLATE BRASS	1075589 (821005)	2
12	CAP CAST BRASS	1074096 (421-CB)	1
13	HEX SCREW 1/4-20	1080720 (SCS-0142)	4
14	DIAPHRAGM BUNA N	1074119	1
15	HEX NUT 1/4-20	1071649 (NUS-0007)	4
16	O-RING AFLAS	1071661 (ORA-110)	1
17	SHAFT (NORMALLY OPEN)	1075591 (821007)	1

#### NOTE:

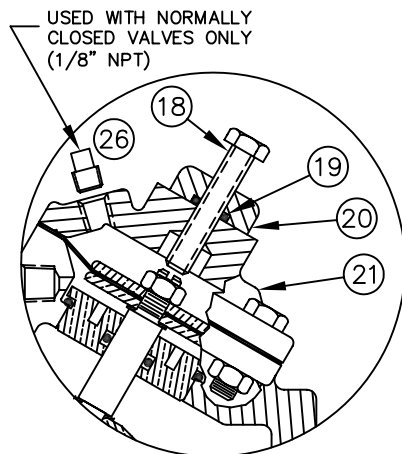
1. AMERICAN NATIONAL STANDARD TAPER PIPE THREADS (NPT) PER ANSI B2.1-1968
2. VALVES AVAILABLE WITH B.S.P. OR J.I.S. END CONNECTIONS.

SEE REVERSE SIDE FOR  
CONFIGURATION OPTIONS

FORM NO. 1077620

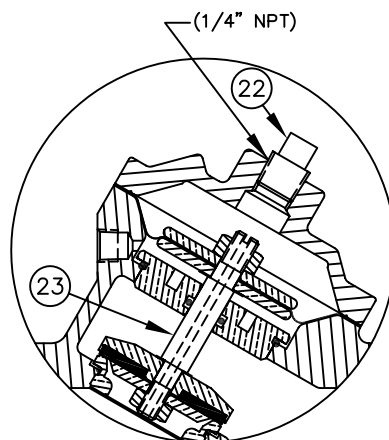
D	NUMBER	CONVERSION	1588	MSM	27NOV02	
REV	DESCRIPTION	ECO	DWN	DATE	APVD	
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM						
<b>SERIES 821 DIAPHRAGM VALVE</b> <b>3/4" &amp; 1" N.P.T.</b>						
SCALE	DRAWN	DATE	DWG. NO.			
N/A	JWB	17MAY01	1084035			





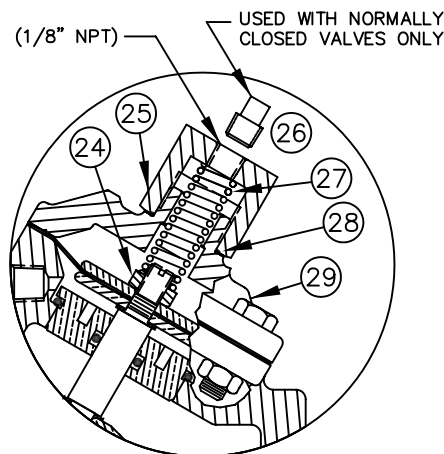
1077458 (V82B-0110-90000) (3/4" NPT)  
1073569 (V82C-0110-90000) (1" NPT)

### LIMIT STOP



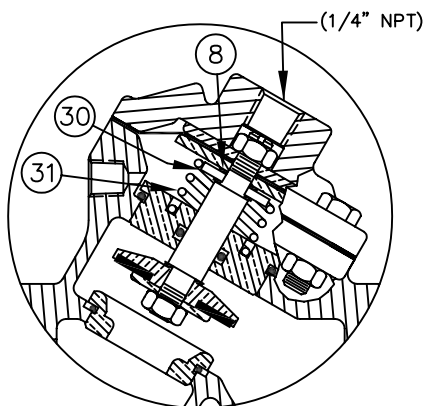
1073564 (V82B-0130-90000) (3/4" NPT)  
1073570 (V82C-0130-90000) (1" NPT)

### NORMALLY CLOSED



1077457 (V82B-0102-90000) (3/4" NPT)  
1073568 (V82C-0102-90000) (1" NPT)

### SPRING ASSIST CLOSED



1077456 (V82B-0101-90000) (3/4" NPT)  
1073567 (V82C-0101-90000) (1" NPT)

### SPRING ASSIST OPEN

REPAIR PARTS KITS	
DESCRIPTION	PART NO.
INT. PARTS KIT (LIMIT STOP) CONSISTS OF ITEM NO'S 18,19,20	1074154 (421-LS)
INT. PARTS KIT (NORM. CLOSED) CONSISTS OF ITEM NO'S 4,7,10,11(2),23	1075584 (821-RG)
INT. PARTS KIT (SPRING ASSIST CLOSED) CONSISTS OF ITEM NO'S 24,27,28	1074176 (421-SC)
INT. PARTS KIT (SPRING ASSIST OPEN) CONSISTS OF ITEM NO'S 8,30,31	1074178 (421-SO)

CONVERSION KITS	
DESCRIPTION	PART NO.
CONVERSION KIT (LIMIT STOP) CONSISTS OF ITEM NO'S 18 THRU 21	1075582 (821-LSC)
CONVERSION KIT (SPRING ASSIST CLOSED) CONSISTS OF ITEM NO'S 24 THRU 29	1075585 (821-SCC)
CONVERSION KIT (SPRING ASSIST OPEN) CONSISTS OF ITEM NO'S 8,30,31	1074178 (421-SO)


NO.	DESCRIPTION	PART NO.	QTY.
<b>LIMIT STOP MODEL</b>			
18	SCREW	1072361 (SCS-0030)	1
19	O-RING	1071668 (ORB-012)	1
20	HEX NUT	1077534 (400-H)	1
21	CAP	CAST BRASS 1074104 (421-CCCB)	1
<b>NORMALLY CLOSED MODEL</b>			
22	PIPE PLUG (1/4" N.P.T.)	BRASS 1071904 (PLB-0009)	1
23	SHAFT (NORMALLY CLOSED)	1075592 (821013)	1
<b>SPRING ASSIST CLOSED MODEL</b>			
24	CENTERING NUT	1074185 (421-X)	1
25	RETAINER NUT	BRASS 1074183 (421-TT)	1
26	PIPE PLUG (1/8" N.P.T.)	BRASS 1071903 (PLB-0007)	1
27	SPRING	1074180 (421-SS)	1
28	O-RING	1071674 (ORB-020)	1
29	CAP	CAST BRASS 1074100 (421-CCB)	1
<b>SPRING ASSIST OPEN MODEL</b>			
30	CENTERING WASHER	BRASS 1074147 (421-K)	1
8	GASKET	COPPER 1073948 (200-GG)	1
31	SPRING	1074175 (421-SB)	1

#### NOTE:

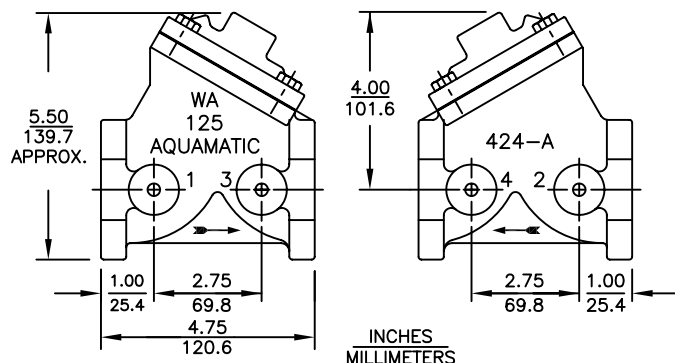
1. SPRING ASSIST CLOSED MODEL CANNOT BE COMBINED WITH LIMIT STOP MODEL.
2. VALVES AVAILABLE WITH B.S.P. OR J.I.S. END CONNECTIONS.

SEE REVERSE SIDE FOR  
STANDARD NORMALLY OPEN MODEL

FORM NO. 1077620

D	NUMBER	CONVERSION	1588	MSM	27NOV02	
REV	DESCRIPTION	ECO	DWN	DATE	APVD	
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM						
<b>SERIES 821 DIAPHRAGM VALVE</b>						
<b>3/4" &amp; 1" N.P.T.</b>						
SCALE N/A	DRAWN JWB	DATE 17MAY01	DWG. NO. 1084035			

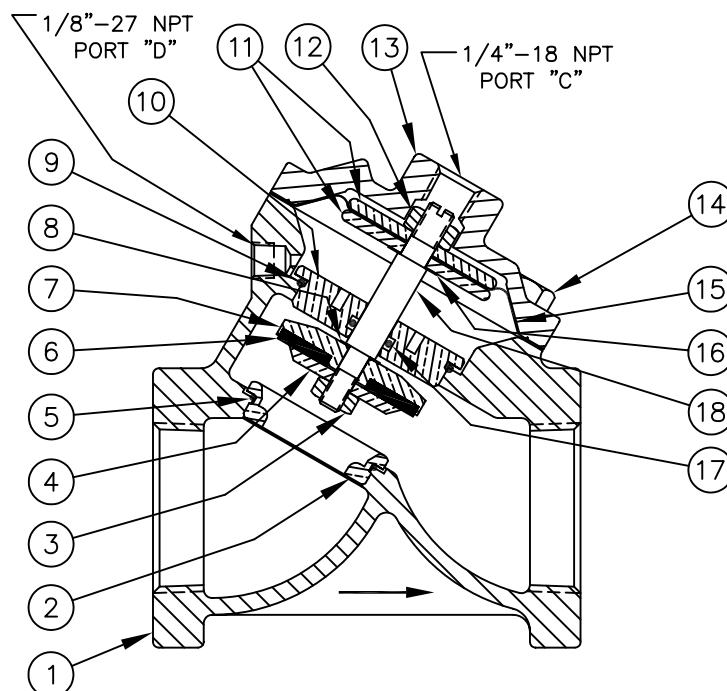
# 1-1/2" HIGH PRESSURE VALVE - STANDARD MODEL



REPAIR PARTS KITS	
DESCRIPTION	PART NO.
DIAPHRAGM & SEALS KIT CONSISTS OF ITEM NO'S 3,5,6,8,9,12,15,16,17	1075594 (824-RA)
INT. PARTS KIT (NORM. OPEN) CONSISTS OF ITEM NO'S 4,7,10,11(2),18	1075595 (824-RF)
SEAT (ITEM NO. 2)	1074245 (424-MO)

ASSEMBLY TOOLS	
DESCRIPTION	PART NO.
FOR INSTALLATION & REMOVAL OF SEAT (ITEM #2) (TOOL NOT SHOWN)	1074247 (424-MT)
FOR INSTALLATION & REMOVAL OF SHAFT GUIDE (ITEM #10) (TOOL NOT SHOWN)	1074227 (424-GT)

NO.	DESCRIPTION	PART NO.	QTY.
1	BODY CAST BRASS 1-1/2" NPT	1075601 (824006)	1
2	SEAT (REQ'S ASSY TOOL)	BRASS 1074245 (424-MO)	1
3	HEX LOCK NUT (1/4-28)	1071650 (NUS-0010)	1
4	DISC PLATE	BRASS 1075605 (824009)	1
5	O-RING	FKM 1071793 (ORV-028)	1
6	DISC	HYCAR 1074234 (424-JH)	1
7	DISC HOLDER	BRASS 1074229 (424-H)	1
8	GASKET	COPPER 1073948 (200-GG)	1
9	O-RING	FKM 1071806 (ORV-132)	1
10	SHAFT GUIDE (REQ'S ASSY TOOL)	BRASS 1074225 (424-GGO)	1
11	DIAPHRAGM PLATE	BRASS 1075604 (824008)	2
12	HEX LOCK NUT (5/16-24)	1071651 (NUS-0013)	1
13	CAP CAST BRASS	1075603 (824007)	1
14	HEX SCREW 5/16-18	1072356 (SCS-0012)	4
15	DIAPHRAGM BUNA N	1074222 (424-FB)	1
16	GASKET COPPER	1074252 (424-R)	1
17	O-RING AFLAS	1071661 (ORA-110)	1
18	SHAFT (NORMALLY OPEN)	1075606 (824010)	1




1073573 (V82E-0100-90000) (1-1/2" NPT)  
**NORMALLY OPEN (STANDARD)**

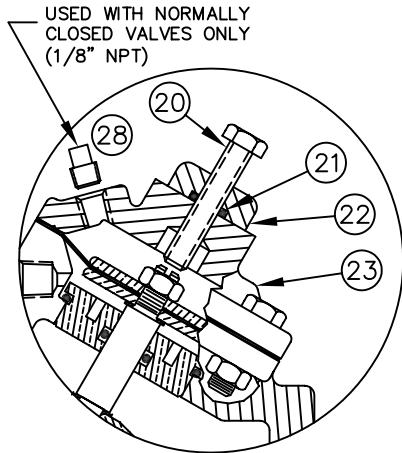
NOTE:

1. AMERICAN NATIONAL STANDARD TAPER PIPE  
THREADS (NPT) PER ANSI B2.1-1968

SEE REVERSE SIDE FOR  
CONFIGURATION OPTIONS

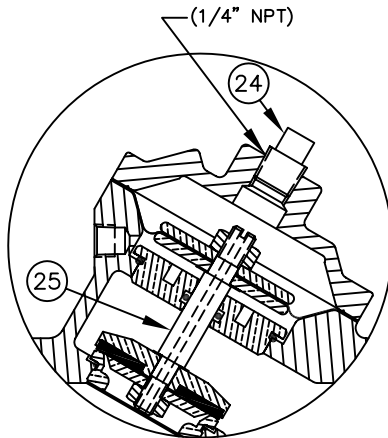
FORM NO. 1077621

C	NUMBER	CONVERSION	1588	MSM	27NOV02	
REV	DESCRIPTION	ECO	DWN	DATE	APVD	
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM						
<b>SERIES V824 DIAPHRAGM VALVE</b> <b>1-1/2" N.P.T.</b>						
SCALE	DRAWN	DATE	DWG. NO.			
N/A	JWB	17MAY01	1084036			



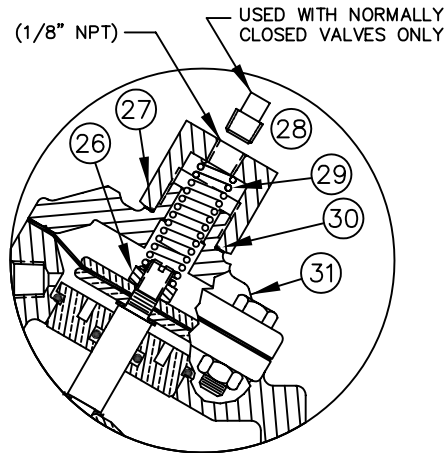
1077459 (V82E-0110-90000) (1-1/2" NPT)

**LIMIT STOP**



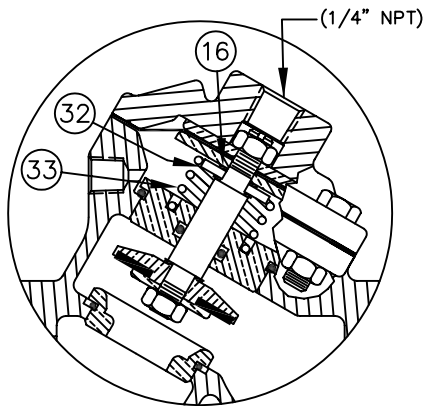
1073576 (V82E-0130-90000) (1-1/2" NPT)

**NORMALLY CLOSED**



1073575 (V82E-0102-90000) (1-1/2" NPT)

**SPRING ASSIST CLOSED**



1073574 (V82E-0101-90000) (1-1/2" NPT)

**SPRING ASSIST OPEN**

REPAIR PARTS KITS	
DESCRIPTION	PART NO.
INT. PARTS KIT (LIMIT STOP) CONSISTS OF ITEM NO'S 20,21,22	1074242 (424-LS)
INT. PARTS KIT (NORM. CLOSED) CONSISTS OF ITEM NO'S 4,7,10,11(2),25	1075596 (824-RG)
INT. PARTS KIT (SPRING ASSIST CLOSED) CONSISTS OF ITEM NO'S 26,29,30	1074265 (424-SC)
INT. PARTS KIT (SPRING ASSIST OPEN) CONSISTS OF ITEM NO'S 16,32,33	1074268 (424-SO)

CONVERSION KITS	
DESCRIPTION	PART NO.
CONVERSION KIT (LIMIT STOP) CONSISTS OF ITEM NO'S 20 THRU 23	1075593 (824-LSC)
CONVERSION KIT (SPRING ASSIST CLOSED) CONSISTS OF ITEM NO'S 26 THRU 31	1075597 (824-SCC)
CONVERSION KIT (SPRING ASSIST OPEN) CONSISTS OF ITEM NO'S 16,32,33	1074268 (424-SO)


NO.	DESCRIPTION	PART NO.	QTY.
<b>LIMIT STOP MODEL</b>			
20	SCREW	1072362 (SCS-0031)	1
21	O-RING	1071668 (ORB-012)	1
22	HEX NUT	1077534 (400-H)	1
23	CAP	CAST BRASS 1075608 (824012)	1
<b>NORMALLY CLOSED MODEL</b>			
24	PIPE PLUG (1/4" N.P.T.)	BRASS 1071904 (PLB-0009)	1
25	SHAFT (NORMALLY CLOSED)	1075610 (824015)	1
<b>SPRING ASSIST CLOSED MODEL</b>			
26	CENTERING NUT	1074276 (424-X)	1
27	RETAINER NUT	BRASS 1074274 (424-TT)	1
28	PIPE PLUG (1/8" N.P.T.)	BRASS 1071903 (PLB-0007)	1
29	SPRING	1074270 (424-SS)	1
30	O-RING	1071674 (ORB-020)	1
31	CAP	CAST BRASS 1075607 (824011)	1
<b>SPRING ASSIST OPEN MODEL</b>			
32	CENTERING WASHER	BRASS 1074083 (421-AH)	1
16	GASKET	COPPER 1074252 (424-R)	1
33	SPRING	1074264 (424-S)	1

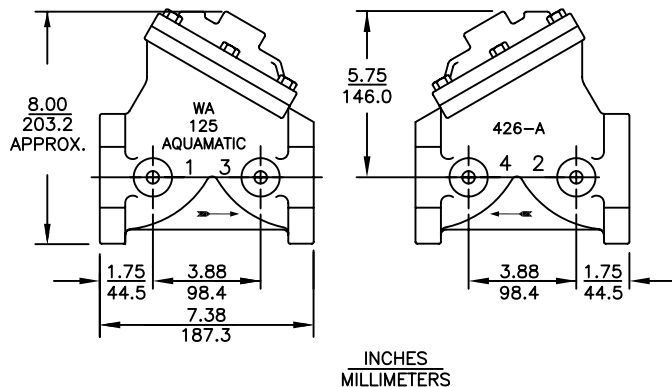
NOTE:

1. SPRING ASSIST CLOSED MODEL  
CANNOT BE COMBINED WITH LIMIT STOP  
MODEL.

SEE REVERSE SIDE FOR  
STANDARD NORMALLY OPEN MODEL

FORM NO. 1077621

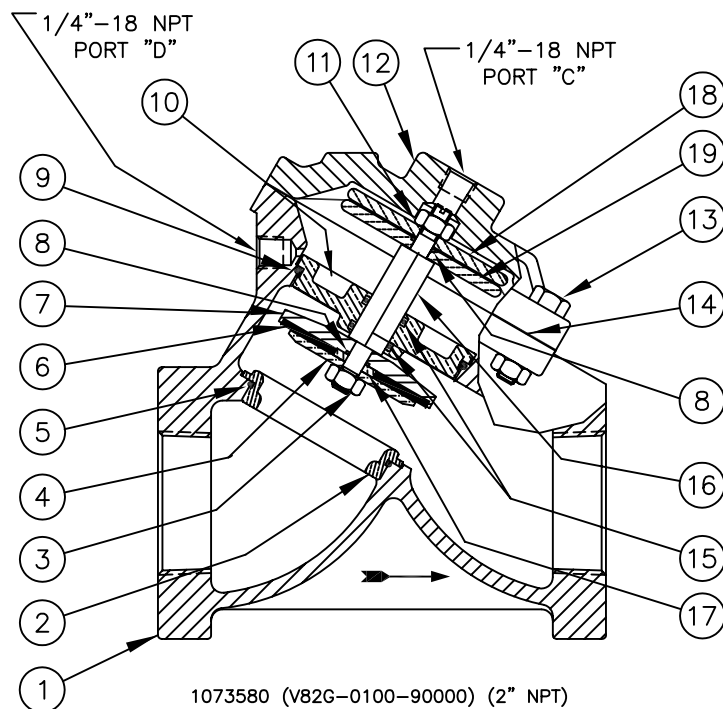
C	NUMBER	CONVERSION	1588	MSM	27NOV02	
REV	DESCRIPTION	ECO	DWN	DATE	APVD	
 <b>OSMONICS</b> <small>ROCKFORD OPERATIONS</small> <small>2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421</small> <small>WWW.OSMONICS.COM</small>						
<b>SERIES 824 DIAPHRAGM VALVE</b>						
<b>1-1/2" N.P.T.</b>						
SCALE	DRAWN	DATE	DWG. NO.			
N/A	JWB	17MAY01	1084036			



REPAIR PARTS KITS	
DESCRIPTION	PART NO.
DIAPHRAGM & SEALS KIT CONSISTS OF ITEM NO'S 3(2),5,6,8(2),9,11,14,15(2)	1075612 (826-RA)
INT. PARTS KIT (NORM. OPEN) CONSISTS OF ITEM NO'S 4,7,10,16,17,18,19	1075613 (826-RF)
SEAT (ITEM NO. 2)	1074407 (426-MAO)

ASSEMBLY TOOLS	
DESCRIPTION	PART NO.
FOR INSTALLATION & REMOVAL OF SEAT (ITEM #2) (TOOL NOT SHOWN)	1074411 (426-MT)
FOR INSTALLATION & REMOVAL OF SHAFT GUIDE (ITEM #10) (TOOL NOT SHOWN)	1-3/16" HEX SOCKET

NO.	DESCRIPTION		PART NO.	QTY.	
1	BODY	CAST BRASS	2" NPT	1075617 (826008)	1
			2-1/2" NPT	1075618 (826010)	
			2" BSP	1075623 (826023)	
			2-1/2" BSP	1075624 (826024)	
2	SEAT (REQ'S ASSY TOOL)		BRASS	1074407 (426-MAO)	1
3	HEX LOCK NUT (5/16-24)			1071651 (NUS-0013)	2
4	DISC PLATE		BRASS	1074396 (426-KA)	1
5	O-RING		FKM	1071795 (ORV-038)	1
6	DISC		HYCAR	1074392 (426-JH)	1
7	DISC HOLDER		BRASS	1074383 (426-HAA)	1
8	O-RING		FKM	1071786 (ORV-011)	2
9	O-RING		FKM	1071826 (ORV-233)	1
10	SHAFT GUIDE (REQ'S ASSY TOOL)		BRASS	1074377 (426-GAO)	1
11	LOCKWASHER			1073594 (WAS-0020)	2
12	CAP	CAST BRASS		1075619 (826011)	1
13	HEX SCREW 3/8-16			1072360 (SCS-0024)	6
14	DIAPHRAGM		BUNA N	1074375 (426-FP)	1
15	O-RING		AFLAS	1071662 (ORA-114)	2
16	SHAFT (NORMALLY OPEN)			1074401 (426-LAA)	1
17	DISC SPACER		BRASS	1074382 (426-HA)	1
18	UPPER DIAPHRAGM PLATE			1074371 (426-DA)	1
19	LOWER DIAPHRAGM PLATE			1074372 (426-DAA)	1



1073580 (V82G-0100-90000) (2" NPT)  
1073583 (V82H-0100-90000) (2-1/2" NPT)


**NORMALLY OPEN (STANDARD)**

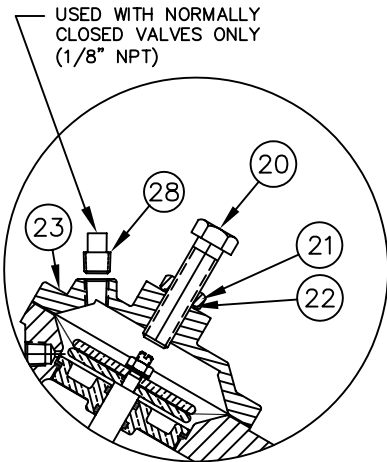
NOTE:

1. AMERICAN NATIONAL STANDARD TAPER PIPE  
THREADS (NPT) PER ANSI B2.1-1968

SEE REVERSE SIDE FOR  
CONFIGURATION OPTIONS

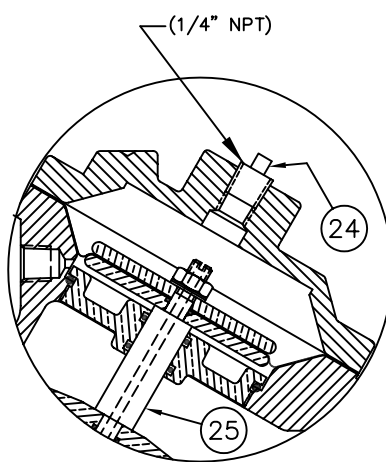
FORM NO. 1077622

D	NUMBER	CONVERSION	1588	MSM	27NOV02	
REV	DESCRIPTION		ECO	DWN	DATE	APVD
<div> <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 <a href="http://WWW.OSMONICS.COM">WWW.OSMONICS.COM</a></div>						
<div><b>SERIES V826 DIAPHRAGM VALVE</b> <b>2" &amp; 2-1/2" N.P.T.</b></div>						
SCALE	DRAWN	DATE	DWG. NO.			
N/A	JWB	18MAY01	1084037			



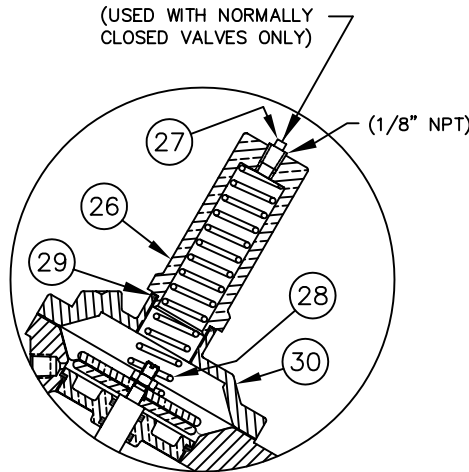
1077461 (V82G-0110-90000) (2" NPT)  
1081149 (V82H-0110-90000) (2-1/2" NPT)

**LIMIT STOP**



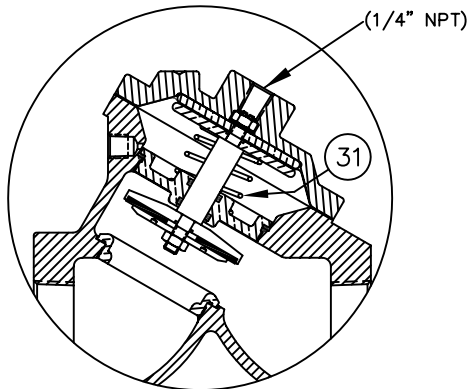
1077462 (V82G-0130-90000) (2" NPT)  
1081150 (V82H-0130-90000) (2-1/2" NPT)

**NORMALLY CLOSED**



V82G-0102-90000 (2" NPT)  
V82H-0102-90000 (2-1/2" NPT)

**SPRING ASSIST CLOSED**



1073581 (V82G-0101-90000) (2" NPT)  
V82H-0101-90000 (2-1/2" NPT)

**SPRING ASSIST OPEN**

REPAIR PARTS KITS	
DESCRIPTION	PART NO.
INT. PARTS KIT (LIMIT STOP) CONSISTS OF ITEM NO'S 20,21,22	1074406 (426-LS)
INT. PARTS KIT (NORM. CLOSED) CONSISTS OF ITEM NO'S 4,7,10,16,17,18,19,25	1075614 (826-RG)
INT. PARTS KIT (SPRING ASSIST CLOSED) CONSISTS OF ITEM NO'S 26,28,29	1070513 (AV6-SC)
INT. PARTS KIT (SPRING ASSIST OPEN) CONSISTS OF ITEM NO. 31	1075616 (826-SO)

CONVERSION KITS	
DESCRIPTION	PART NO.
CONVERSION KIT (LIMIT STOP) CONSISTS OF ITEM NO'S 20 THRU 23	1075611 (826-LSC)
CONVERSION KIT (SPRING ASSIST CLOSED) CONSISTS OF ITEM NO'S 26 THRU 30	1075615 (826-SCC)
CONVERSION KIT (SPRING ASSIST OPEN) CONSISTS OF ITEM NO. 31	1075616 (826-SO)


NO.	DESCRIPTION	PART NO.	QTY.
<b>LIMIT STOP MODEL</b>			
20	SCREW	1072364 (SCS-0042)	1
21	O-RING	1071690 (ORB-112)	1
22	HEX NUT	1074434 (426-U)	1
23	CAP	CAST BRASS 1075622 (826018)	1
<b>NORMALLY CLOSED MODEL</b>			
24	PIPE PLUG (1/4" N.P.T.)	BRASS 1071904 (PLB-0009)	1
25	SHAFT (NORMALLY CLOSED)	1074403 (426-LLA)	1
<b>SPRING ASSIST CLOSED MODEL</b>			
26	RETAINER NUT	BRASS 1074431 (426-TTA)	1
27	PIPE PLUG (1/8" N.P.T.)	BRASS 1071903 (PLB-0007)	1
28	SPRING	1074429 (426-SSB)	1
29	O-RING	1071677 (ORB-025)	1
30	CAP	CAST BRASS 1075621 (826017)	1
<b>SPRING ASSIST OPEN MODEL</b>			
31	SPRING	1074423 (426-S)	1

NOTE:

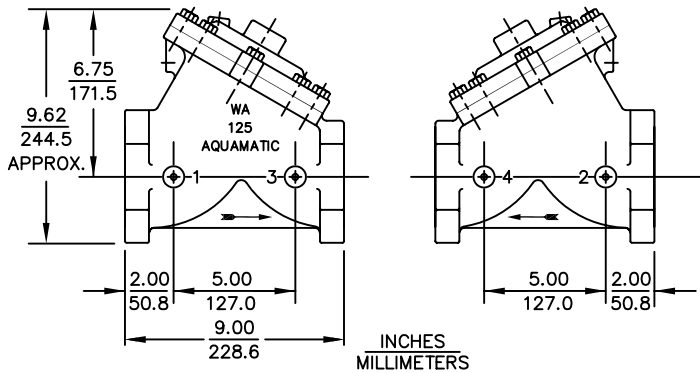
1. SPRING ASSIST CLOSED MODEL  
CANNOT BE COMBINED WITH LIMIT STOP  
MODEL.

SEE REVERSE SIDE FOR  
STANDARD NORMALLY OPEN MODEL

FORM NO. 1077622

D	NUMBER	CONVERSION	1588	MSM	27NOV02	
REV	DESCRIPTION	ECO	DWN	DATE	APVD	
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM						
<b>SERIES 826 DIAPHRAGM VALVE</b>						
<b>2" &amp; 2-1/2" N.P.T.</b>						
SCALE N/A	DRAWN JWB	DATE 18MAY01	DWG. NO. 1084037			

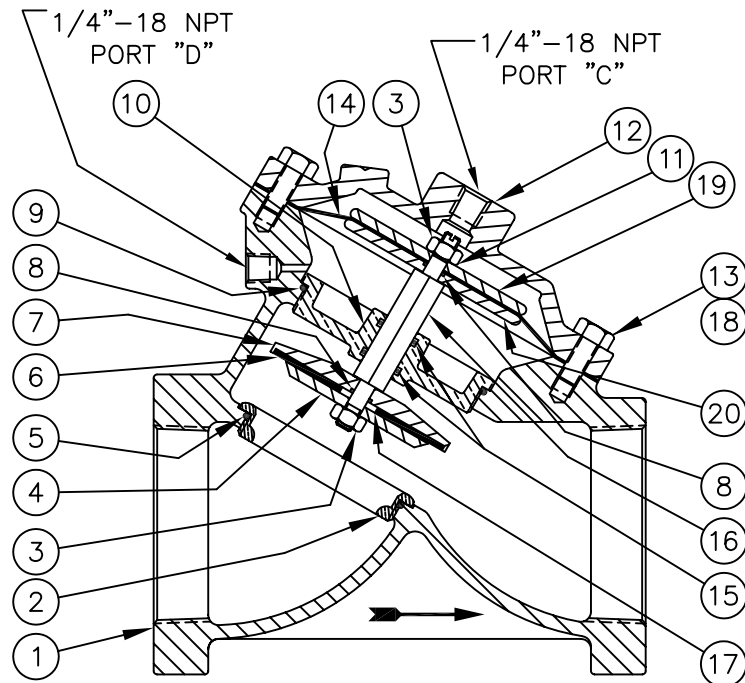
3" HIGH PRESSURE VALVE - STANDARD MODEL



REPAIR PARTS KITS	
DESCRIPTION	PART NO.
DIAPHRAGM & SEALS KIT CONSISTS OF ITEM NO'S 3(2),5,6,8(2),9,11,14,15(2)	1075626 (827-RA)
INT. PARTS KIT (NORM. OPEN) CONSISTS OF ITEM NO'S 4,7,10,16,17,19,20	1075627 (827-RF)
SEAT (ITEM NO. 2)	1074503 (427-MAO)

ASSEMBLY TOOLS	
DESCRIPTION	PART NO.
FOR INSTALLATION & REMOVAL OF SHAFT GUIDE (ITEM #10) (TOOL NOT SHOWN)	1-3/16" HEX SOCKET


NO.	DESCRIPTION	PART NO.	QTY.
1	BODY CAST BRASS 3" NPT	1075630 (827012)	1
2	SEAT BRASS	1074503 (427-MAO)	1
3	HEX LOCK NUT (5/16-24)	1071651 (NUS-0013)	2
4	DISC PLATE BRASS	1074494 (427-KA)	1
5	O-RING FKM	1071797 (ORV-042)	1
6	DISC HYCAR	1074490 (427-JH)	1
7	DISC HOLDER BRASS	1074483 (427-HA)	1
8	O-RING FKM	1071786 (ORV-011)	2
9	O-RING FKM	1071828 (ORV-237)	1
10	SHAFT GUIDE (REQ'S ASSY TOOL) BRASS	1074478 (427-GAO)	1
11	LOCKWASHER	1073594 (WAS-0020)	2
12	CAP CAST BRASS	1075631 (827013)	1
13	HEX SCREW 7/16-14	1072363 (SCS-0032)	6
14	DIAPHRAGM BUNA N	1074476 (427-FP)	1
15	O-RING AFLAS	1071662 (ORA-114)	2
16	SHAFT (NORMALLY OPEN)	1074497 (427-LAA)	1
17	DISC SPACER BRASS	1074382 (426-HA)	1
18	HEX SCREW 3/8-16	1072359 (SCS-0020)	2
19	UPPER DIAPHRAGM PLATE	1074472 (427-DA)	1
20	LOWER DIAPHRAGM PLATE	1074473 (427-DAA)	1

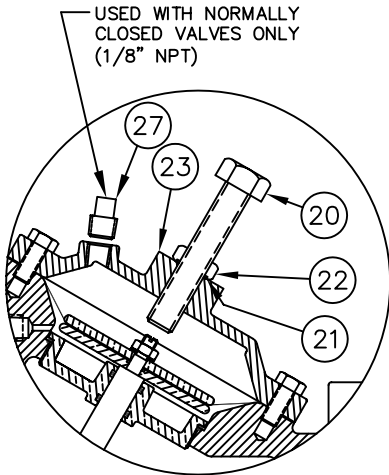


1073584 (V82J-0100-90000) (3" NPT)  
**NORMALLY OPEN (STANDARD)**

SEE REVERSE SIDE FOR  
CONFIGURATION OPTIONS

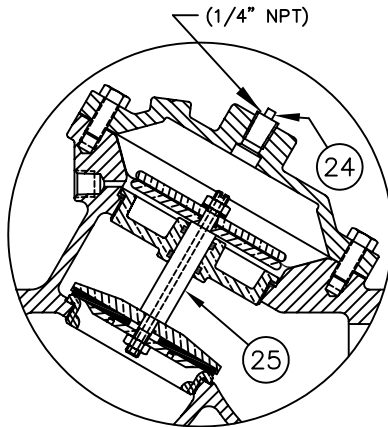
FORM NO. 1077623

E	NUMBER	CONVERSION	1588	MSM	27NOV02	
REV	DESCRIPTION	ECO	DWN	DATE	APVD	
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM						
<b>SERIES V827 DIAPHRAGM VALVE</b>						
<b>3" PIPE SIZE</b>						
SCALE	DRAWN	DATE	DWG. NO.			
N/A	JWB	18MAY01	1084038			



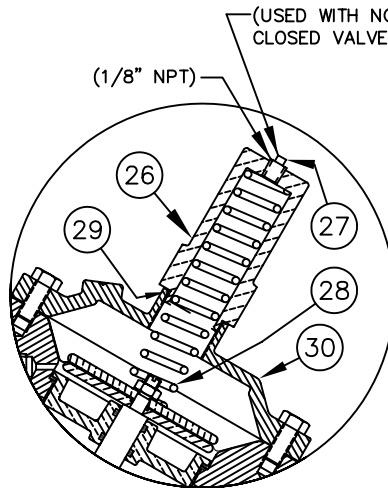
1081151 (V82J-0110-90000) (3" NPT)

**LIMIT STOP**



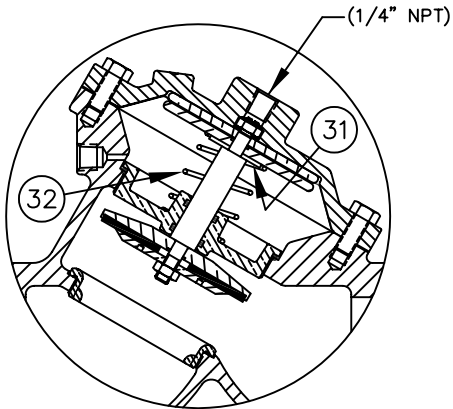
1081152 (V82J-0130-90000) (3" NPT)

**NORMALLY CLOSED**



V82J-0102-90000 (3" NPT)

**SPRING ASSIST CLOSED**



1077463 (V82J-0101-90000) (3" NPT)

**SPRING ASSIST OPEN**

NO.	DESCRIPTION	PART NO.	QTY.
<b>LIMIT STOP MODEL</b>			
20	SCREW	1072365 (SCS-0043)	1
21	O-RING	1071690 (ORB-112)	1
22	HEX NUT	1074434 (426-U)	1
23	CAP	CAST BRASS 1075633 (827019)	1
<b>NORMALLY CLOSED MODEL</b>			
24	PIPE PLUG (1/4" N.P.T.)	BRASS 1071904 (PLB-0009)	1
25	SHAFT (NORMALLY CLOSED)	1074500 (427-LLA)	1
<b>SPRING ASSIST CLOSED MODEL</b>			
26	RETAINER NUT	BRASS 1074431 (426-TTA)	1
27	PIPE PLUG (1/8" N.P.T.)	BRASS 1071903 (PLB-0007)	1
28	SPRING	1074429 (426-SSB)	1
29	O-RING	1071677 (ORB-025)	1
30	CAP	CAST BRASS 1075632 (827018)	1
<b>SPRING ASSIST OPEN MODEL</b>			
31	CENTERING WASHER	BRASS 1074436 (426-V)	1
32	SPRING	1074423 (426-S)	1

NOTE:


1. SPRING ASSIST CLOSED MODEL CANNOT BE COMBINED WITH LIMIT STOP MODEL.

SEE REVERSE SIDE FOR STANDARD NORMALLY OPEN MODEL

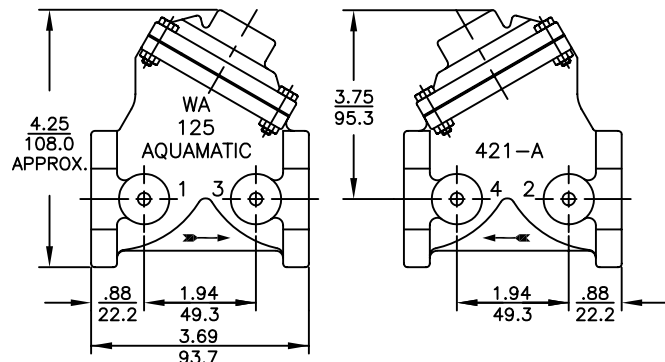
FORM NO. 1077623

<b>REPAIR PARTS KITS</b>	
DESCRIPTION	PART NO.
INT. PARTS KIT (LIMIT STOP) CONSISTS OF ITEM NO'S 20,21,22	1074501 (427-LS)
INT. PARTS KIT (NORM. CLOSED) CONSISTS OF ITEM NO'S 4,7,10,17,19,20,25	1075628 (827-RG)
INT. PARTS KIT (SPRING ASSIST CLOSED) CONSISTS OF ITEM NO'S 28,29	AV7-SC
INT. PARTS KIT (SPRING ASSIST OPEN) CONSISTS OF ITEM NO'S 31,32	1070520 (AV7-SO)

<b>CONVERSION KITS</b>	
DESCRIPTION	PART NO.
CONVERSION KIT (LIMIT STOP) CONSISTS OF ITEM NO'S 20 THRU 23	1075625 (827-LSC)
CONVERSION KIT (SPRING ASSIST CLOSED) CONSISTS OF ITEM NO'S 26 THRU 30	1075629 (827-SCC)
CONVERSION KIT (SPRING ASSIST OPEN) CONSISTS OF ITEM NO'S 31,32	1070520 (AV7-SO)

E	NUMBER	CONVERSION	1588	MSM	27NOV02	
REV	DESCRIPTION	ECO	DWN	DATE	APVD	
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM						
<b>SERIES 827 DIAPHRAGM VALVE</b>						
<b>3" N.P.T.</b>						
SCALE N/A	DRAWN JWB	DATE 18MAY01	DWG. NO. 1084038			



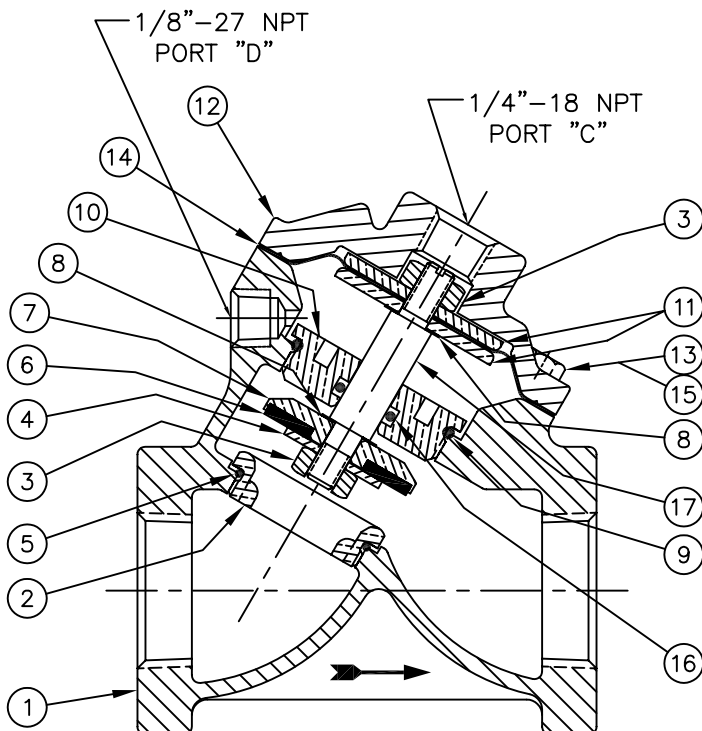


INCHES  
MILLIMETERS

REPAIR PARTS KITS		
DESCRIPTION	PART NO.	
DIAPHRAGM & SEALS KIT CONSISTS OF ITEM NO'S 3(2),5,6,8(2),9,14,16	1070106 (AV1-RA) INCLUDES DISC 1074144 (421-JH), DIAPHRAGM 1074119	1070498 (AV1-RAHT) INCLUDES DISC 1074145 (421-JT), DIAPHRAGM 1074120
INT. PARTS KIT (NORM. OPEN) CONSISTS OF STANDARD ITEM NO'S 4,7,10,11(2),17	1070118 (421-RF)	
SEAT (ITEM NO. 2)	1074158 (421-MO)	

ASSEMBLY TOOLS	
DESCRIPTION	PART NO.
FOR INSTALLATION & REMOVAL OF SEAT (ITEM #2) (TOOL NOT SHOWN)	1074161 (421-MT)
FOR INSTALLATION & REMOVAL OF SHAFT GUIDE (ITEM #10) (TOOL NOT SHOWN)	1074124 (421-GT)

NO.	DESCRIPTION		STD	PART NO.	QTY.
1	BODY	CAST IRON	3/4" NPT 1" NPT	* 1074085 (421-A3) * 1074088 (421-A4)	1
2	SEAT (REQ'S ASSY TOOL)	BRASS	*	1074158 (421-MO)	1
3	HEX LOCK NUT	(1/4"-28)	*	1071650 (NUS-0010)	2
4	DISC PLATE	BRASS	*	1074147 (421-K)	1
5	O-RING	FKM	*	1071791 (ORV-024)	1
6	DISC	HYCAR	*	1074144 (421-JH)	1
		AFLAS	*	1074141 (421-JA)	1
		GLASS FILLED TEFLON	*	1074145 (421-JT)	1
7	DISC HOLDER	BRASS	*	1074126 (421-H)	1
8	GASKET	COPPER	*	1073948 (200-GG)	2
9	O-RING	FKM	*	1071803 (ORV-125)	1
10	SHAFT GUIDE (REQ'S ASSY TOOL)	BRASS	*	1074122 (421-GG0)	1
11	DIAPHRAGM PLATE	BRASS	*	1074117 (421-D)	2
12	CAP	CAST IRON	*	1074093 (421-C)	1
13	HEX SCREW 1/4"-20	PLATED STEEL	*	1072398 (SCZ-0004)	4
14	DIAPHRAGM	BUNA N FKM	*	1074119 1074120	1
15	HEX NUT 1/4"-20	PLATED STEEL	*	1071656 (NUZ-0008)	4
16	O-RING	AFLAS	*	1071661 (ORA-110)	1
17	SHAFT (NORMALLY OPEN)		*	1074150 (421-L)	1



1072459 (VAVB-0000-90000) (3/4" NPT)  
1072464 (VAVC-0000-90000) (1" NPT)


**NORMALLY OPEN (STANDARD)**

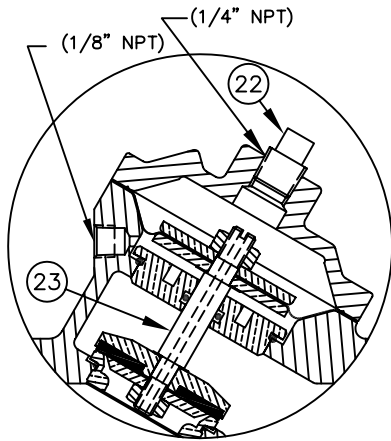
**NOTE:**

1. AMERICAN NATIONAL STANDARD TAPER PIPE THREADS (NPT) PER ANSI B2.1-1968
2. VALVES AVAILABLE WITH B.S.P. OR J.I.S. END CONNECTIONS.

SEE REVERSE SIDE FOR  
CONFIGURATION OPTIONS

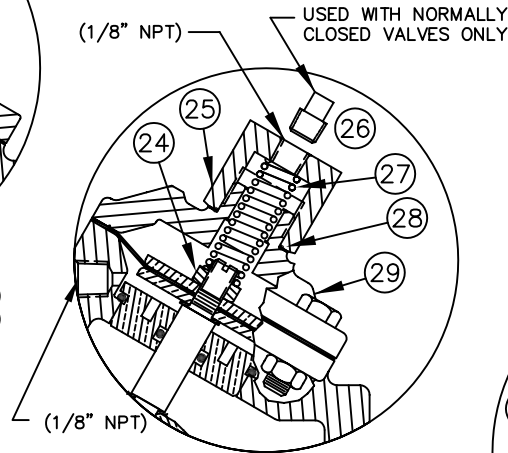
FORM NO. 1077635

D	NUMBER	CONVERSION	1588	MSM	27NOV02	
REV	DESCRIPTION		ECO	DWN	DATE	APVD
<div> <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM</div>						
<b>SERIES VAV1 DIAPHRAGM VALVE</b> <b>3/4" &amp; 1" N.P.T.</b>						
SCALE	DRAWN	DATE	DWG. NO.			
N/A	JWB	14MAY01	1084039			



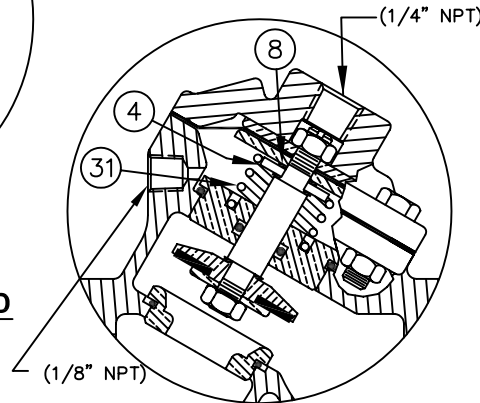
1072462 (VAVB-0030-90000) (3/4" NPT)  
1072469 (VAVC-0030-90000) (1" NPT)

## NORMALLY CLOSED



1072461 (VAVB-0002-90000) (3/4" NPT)  
1072467 (VAVC-0002-90000) (1" NPT)

## SPRING ASSIST CLOSED



1070056 (VAVB-0001-90000) (3/4" NPT)  
1070060 (VAVC-0001-90000) (1" NPT)

## SPRING ASSIST OPEN


NO.	DESCRIPTION	STD	PART NO.	QTY.
<b>NORMALLY CLOSED MODEL</b>				
22	PIPE PLUG (1/4" N.P.T.)	PLATED STEEL *	1071918 (PLZ-0008)	1
23	SHAFT (NORMALLY CLOSED)	*	1074153 (421-LL)	1
<b>SPRING ASSIST CLOSED MODEL</b>				
24	CENTERING NUT	*	1074185 (421-X)	1
25	RETAINER NUT	BRASS *	1074183 (421-TT)	1
26	PIPE PLUG (1/8" N.P.T.)	BRASS *	1071903 (PLB-0007)	1
27	SPRING	*	1074180 (421-SS)	1
28	O-RING	*	1071674 (ORB-020)	1
29	CAP	CAST IRON *	1074099 (421-CC)	1
<b>SPRING ASSIST OPEN MODEL</b>				
4	DISC PLATE	BRASS *	1074147 (421-K)	1
8	GASKET	COPPER *		1
31	SPRING	*	1074175 (421-SB)	1

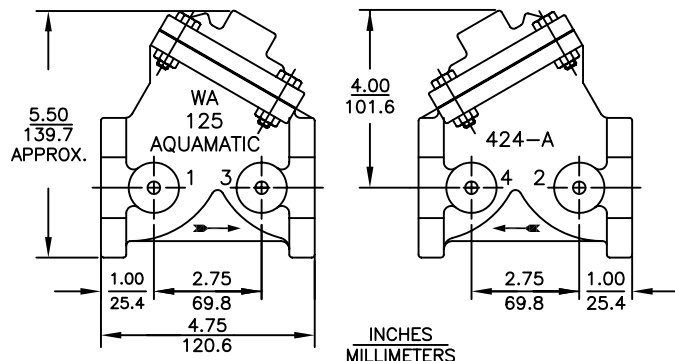
SEE REVERSE SIDE FOR  
STANDARD NORMALLY OPEN MODEL

FORM NO. 1077635

<b>CONVERSION KITS</b>	
DESCRIPTION	PART NO.
CONVERSION KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 24 THRU 29	1074177 (421-SCC)
CONVERSION KIT (SPRING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO'S 4,8,10,31	1074179 (421-SOC)

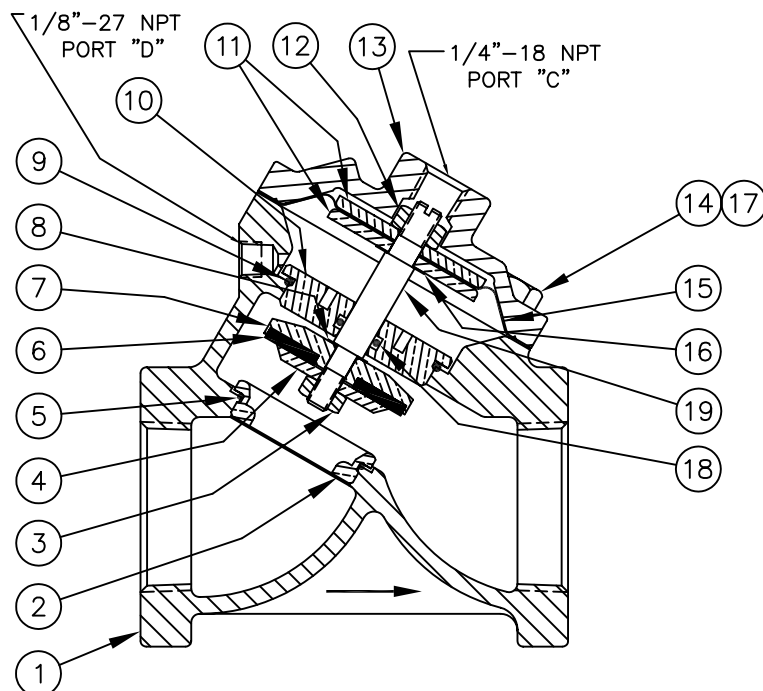
<b>REPAIR PARTS KITS</b>	
DESCRIPTION	PART NO.
INT. PARTS KIT (NORM. CLOSED) CONSISTS OF STANDARD ITEM NO'S 4,7,10,11(2),23	1070129 (421-RG)
INT. PARTS KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 24,27,28	1074176 (421-SC)
INT. PARTS KIT (SPRING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO'S 4,8,31	1074178 (421-SO)

D	NUMBER	CONVERSION	1588	MSM	27NOV02	
REV	DESCRIPTION	ECO	DWN	DATE	APVD	
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM						
<b>SERIES VAV1 DIAPHRAGM VALVE</b>						
<b>3/4" &amp; 1" N.P.T.</b>						
SCALE N/A	DRAWN JWB	DATE 14MAY01	DWG. NO. 1084039			



REPAIR PARTS KITS		
DESCRIPTION	PART NO.	
DIAPHRAGM & SEALS KIT CONSISTS OF ITEM NO'S 3,5,6,8,9,12,15,16,18	1070107 (AV4-RA)	1070502 (AV4-RAHT)
	INCLUDES DISC 1074234 (424-JH), DIAPHRAGM	INCLUDES DISC 1074235 (424-JT), DIAPHRAGM
	1074222 (424-FB)	1074224 (424-FV)
INT. PARTS KIT (NORM. OPEN) CONSISTS OF STANDARD ITEM NO'S 4,7,10,11(2),19	1070119 (424-RF)	
SEAT (ITEM NO. 2)	1074245 (424-MO)	

ASSEMBLY TOOLS	
DESCRIPTION	PART NO.
FOR INSTALLATION & REMOVAL OF SEAT (ITEM #2) (TOOL NOT SHOWN)	1074247 (424-MT)
FOR INSTALLATION & REMOVAL OF SHAFT GUIDE (ITEM #10) (TOOL NOT SHOWN)	1074227 (424-GT)



NOTE:

1. AMERICAN NATIONAL STANDARD TAPER PIPE THREADS (NPT) PER ANSI B2.1-1968
2. VALVES AVAILABLE WITH B.S.P. OR J.I.S. END CONNECTIONS.


VAVD-0000-90000 (1-1/4" NPT)  
1072475 (VAVE-0000-90000) (1-1/2" NPT)

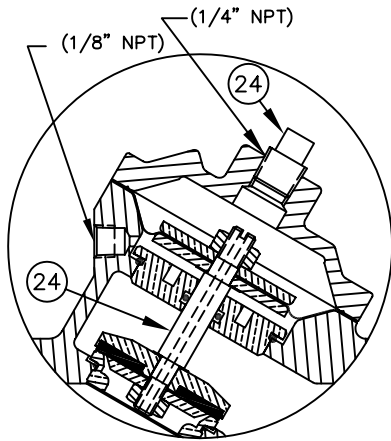
**NORMALLY OPEN (STANDARD)**

NO.	DESCRIPTION		STD	PART NO.	QTY.
1	BODY	CAST IRON	1-1/4" NPT 1-1/2" NPT	* 1074196 (424-A5) * 1074199 (424-A6)	1
2	SEAT (REQ'S ASSY TOOL)	BRASS	*	1074245 (424-MO)	1
3	HEX LOCK NUT	(1/4-28)	*	1071650 (NUS-0010)	1
4	DISC PLATE	BRASS	*	1074237 (424-K)	1
5	O-RING	FKM	*	1071793 (ORV-028)	1
6	DISC	HYCAR AFLAS GLASS FILLED TEFLON	*	1074234 (424-JH) 1074235 (424-JT)	1
7	DISC HOLDER	BRASS	*	1074229 (424-H)	1
8	GASKET	COPPER	*	1073948 (200-GG)	1
9	O-RING	FKM	*	1071806 (ORV-132)	1
10	SHAFT GUIDE (REQ'S ASSY TOOL)	BRASS	*	1074225 (424-GG0)	1
11	DIAPHRAGM PLATE	BRASS	*	1074220 (424-D)	2
12	HEX LOCK NUT	(5/16-24)	*	1071651 (NUS-0013)	1
13	CAP	CAST IRON	*	1074202 (424-C)	1
14	HEX SCREW 1/4"-20	PLATED STEEL	*	1072399 (SCZ-0007)	4
15	DIAPHRAGM	BUNA N FKM	*	1074222 (424-FB) 1074224 (424-FV)	1
16	GASKET	COPPER	*	1074252 (424-R)	1
17	HEX NUT 1/4"-20	PLATED STEEL	*	1071656 (NUZ-0008)	4
18	O-RING	AFLAS	*	1071661 (ORA-110)	1
19	SHAFT (NORMALLY OPEN)		*	1074239 (424-L)	1

SEE REVERSE SIDE FOR  
CONFIGURATION OPTIONS

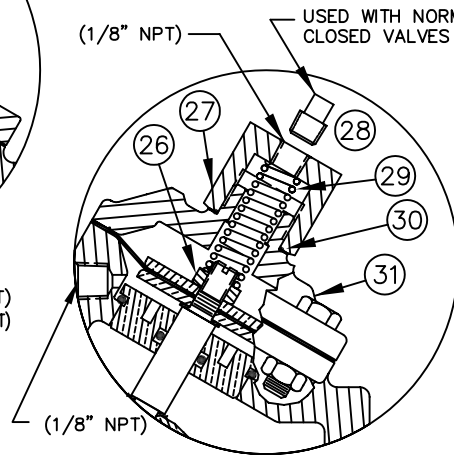
FORM NO. 1077636

C	NUMBER	CONVERSION	1588	MSM	27NOV02	
REV	DESCRIPTION		ECO	DWN	DATE	APVD
<div> <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 <a href="http://WWW.OSMONICS.COM">WWW.OSMONICS.COM</a></div>						
<div><b>SERIES VAV4 DIAPHRAGM VALVE</b> <b>1-1/4" &amp; 1-1/2" N.P.T.</b></div>						
SCALE	DRAWN	DATE	DWG. NO.			
N/A	JWB	14MAY01	1084040			



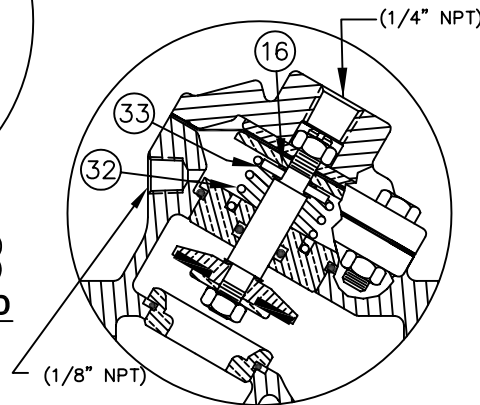
VAVD-0030-90000 (1-1/4" NPT)  
1072479 (VAVE-0030-90000) (1-1/2" NPT)

**NORMALLY CLOSED**



1072472 (VAVD-0002-90000) (1-1/4" NPT)  
1072477 (VAVE-0002-90000) (1-1/2" NPT)

**SPRING ASSIST CLOSED**



1072471 (VAVD-0001-90000) (1-1/4" NPT)  
1070064 (VAVE-0001-90000) (1-1/2" NPT)

**SPRING ASSIST OPEN**


NO.	DESCRIPTION	STD	PART NO.	QTY.
<b>NORMALLY CLOSED MODEL</b>				
24	PIPE PLUG (1/4" N.P.T.)	PLATED STEEL *	1071918 (PLZ-0008)	1
25	SHAFT (NORMALLY CLOSED)	*	1074241 (424-LL)	1
<b>SPRING ASSIST CLOSED MODEL</b>				
26	CENTERING NUT	*	1074276 (424-X)	1
27	RETAINER NUT	BRASS *	1074274 (424-TT)	1
28	PIPE PLUG (1/8" N.P.T.)	BRASS *	1071903 (PLB-0007)	1
29	SPRING	*	1074270 (424-SS)	1
30	O-RING	*	1071674 (ORB-020)	1
31	CAP	CAST IRON *	1074208 (424-CC)	1
<b>SPRING ASSIST OPEN MODEL</b>				
16	GASKET	COPPER *	1074252 (424-R)	1
32	SPRING	*	1074264 (424-S)	1
33	CENTERING WASHER	BRASS *	1074382 (426-HA)	1

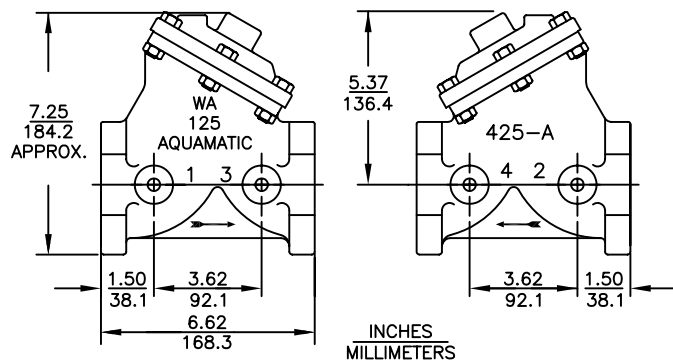
SEE REVERSE SIDE FOR  
STANDARD NORMALLY OPEN MODEL

FORM NO. 1077636

<b>CONVERSION KITS</b>	
DESCRIPTION	PART NO.
CONVERSION KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 26 THRU 31	1074266 (424-SCC)
CONVERSION KIT (SPRING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO'S 10,16,32,33	1074269 (424-SOC)

<b>REPAIR PARTS KITS</b>	
DESCRIPTION	PART NO.
INT. PARTS KIT (NORM. CLOSED) CONSISTS OF STANDARD ITEM NO'S 4,7,10,11(2),25	1070130 (424-RG)
INT. PARTS KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 26,29,30	1074265 (424-SC)
INT. PARTS KIT (SPRING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO'S 16,32,33	1074268 (424-SO)

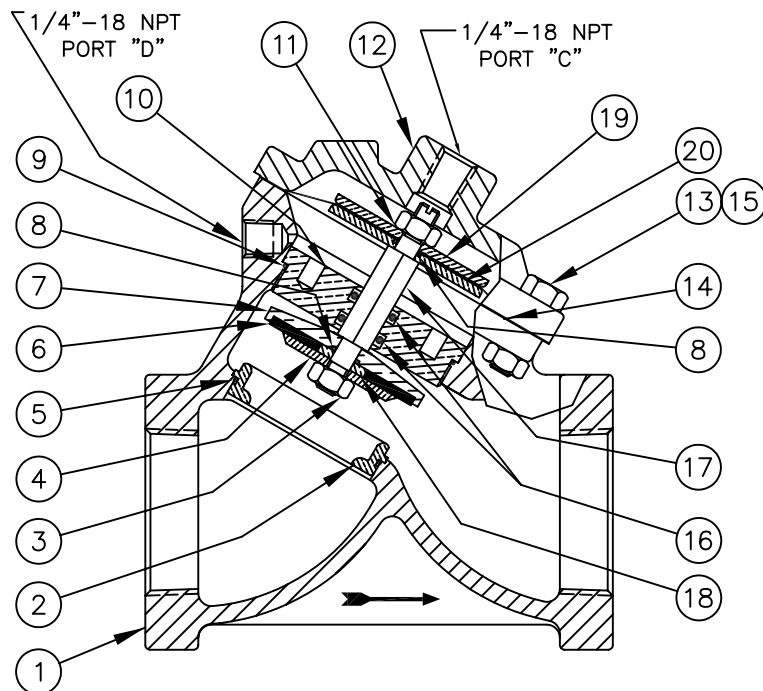
C	NUMBER	CONVERSION	1588	MSM	27NOV02	
REV	DESCRIPTION	ECO	DWN	DATE	APVD	
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM						
<b>SERIES VAV4 DIAPHRAGM VALVE</b>						
<b>1-1/4" &amp; 1-1/2" N.P.T.</b>						
SCALE N/A	DRAWN JWB	DATE 14MAY01	DWG. NO. 1084040			



REPAIR PARTS KITS		
DESCRIPTION	PART NO.	
DIAPHRAGM & SEALS KIT CONSISTS OF ITEM NO'S 3(2),5,6,8(2),9,14,16(2)	1070108 (AV5-RA)	1070503 (AV5-RAHT)
	INCLUDES DISC 1074310 (425-JH), DIAPHRAGM 1074296 (425-FB)	INCLUDES DISC 1074311 (425-JT), DIAPHRAGM 1074297 (425-FV)
INT. PARTS KIT (NORM. OPEN) CONSISTS OF STANDARD ITEM NO'S 4,7,10,11,17,18,19,20	1070120 (425-RF)	
SEAT (ITEM NO. 2)	1074321 (425-MO)	

ASSEMBLY TOOLS	
DESCRIPTION	PART NO.
FOR INSTALLATION & REMOVAL OF SEAT (ITEM #2) (TOOL NOT SHOWN)	1074411 (426-MT)
FOR INSTALLATION & REMOVAL OF SHAFT GUIDE (ITEM #10) (TOOL NOT SHOWN)	1074299 (425-GAT)

NO.	DESCRIPTION	STD	PART NO.	QTY.
1	BODY CAST IRON 2" NPT	*	1074277 (425-A)	1
2	SEAT (REQ'S ASSY TOOL) BRASS	*	1074321 (425-MO)	1
3	HEX LOCK NUT (5/16-24)	*	1071651 (NUS-0013)	2
4	DISC PLATE BRASS	*	1074313 (425-KA)	1
5	O-RING FKM	*	1071794 (ORV-035)	1
6	DISC			
	HYCAR	*	1074310 (425-JH)	
	AFLAS			
	GLASS FILLED TEFLON	*	1074311 (425-JT)	
7	DISC HOLDER BRASS	*	1074304 (425-HA)	1
8	O-RING VITON	*	1071786 (ORV-011)	2
9	O-RING VITON	*	1071795 (ORV-038)	1
10	SHAFT GUIDE (REQ'S ASSY TOOL) BRASS	*	1074298 (425-GAO)	1
11	LOCKWASHER	*	1073594 (WAS-0020)	2
12	CAP CAST IRON	*	1074281 (425-C)	1
13	HEX SCREW 5/16"-18 PLATED STEEL	*	1072400 (SCZ-0013)	6
14	DIAPHRAGM BUNA N	*	1074296 (425-FB)	
	FKM	*	1074297 (425-FV)	
15	HEX NUT 5/16"-18 PLATED STEEL	*	1071657 (NUZ-0011)	6
16	O-RING AFLAS	*	1071664 (ORA-206)	2
17	SHAFT (NORMALLY OPEN)	*	1074315 (425-LAA)	1
18	DISC SPACER BRASS	*	1074382 (426-HA)	1
19	UPPER DIAPHRAGM PLATE	*	1074294 (425-DA)	1
20	LOWER DIAPHRAGM PLATE	*	1074295 (425-DAA)	1




1072482 (VAVF-0000-90000) (2" NPT)  
**NORMALLY OPEN (STANDARD)**

NOTE:

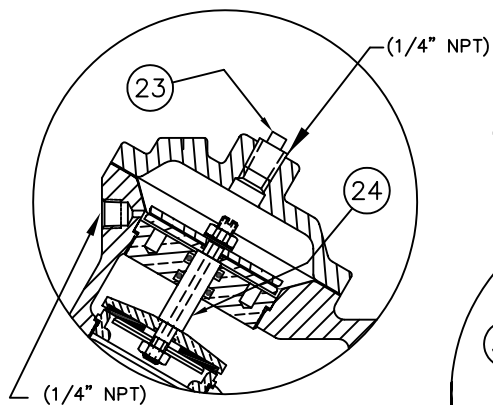
1. AMERICAN NATIONAL STANDARD TAPER PIPE THREADS (NPT) PER ANSI B2.1-1968
2. VALVES AVAILABLE WITH B.S.P. OR J.I.S. END CONNECTIONS.

SEE REVERSE SIDE FOR  
CONFIGURATION OPTIONS

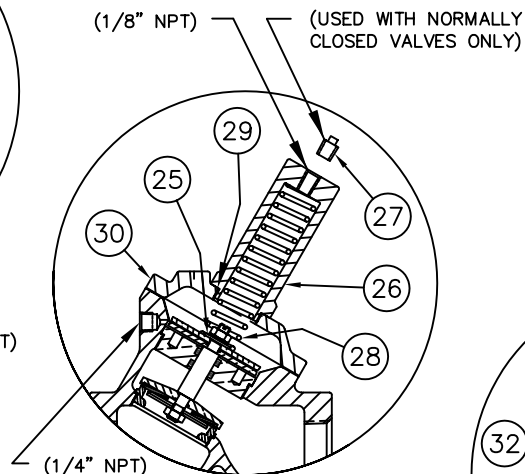
FORM NO. 1077637

D	NUMBER	CONVERSION	1588	MSM	27NOV02	
REV	DESCRIPTION	ECO	DWN	DATE	APVD	
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM						
<b>SERIES VAV5 DIAPHRAGM VALVE</b>						
<b>2" N.P.T.</b>						
SCALE	DRAWN	DATE	DWG. NO.			
N/A	JWB	14MAY01	1084041			

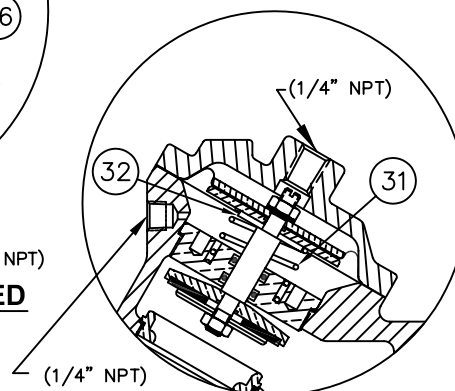
# 2" AIR VALVE - OPTIONAL MODELS



1072486 (VAVF-0030-90000) (2" NPT)  
**NORMALLY CLOSED**



1072485 (VAVF-0002-90000) (2" NPT)  
**SPRING ASSIST CLOSED**



1072484 (VAVF-0001-90000) (2" NPT)  
**SPRING ASSIST OPEN**


NO.	DESCRIPTION	STD	PART NO.	QTY.
<b>NORMALLY CLOSED MODEL</b>				
23	PIPE PLUG (1/4" N.P.T.)	PLATED STEEL *	1071918 (PLZ-0008)	1
24	SHAFT (NORMALLY CLOSED)	*	1074318 (425-LLA)	1
<b>SPRING ASSIST CLOSED MODEL</b>				
25	CENTERING WASHER	*	1074083 (421-AH)	1
26	RETAINER NUT	BRASS *	1074431 (426-TTA)	1
27	PIPE PLUG (1/8" N.P.T.)	BRASS *	1071903 (PLB-0007)	1
28	SPRING	*	1074429 (426-SSB)	1
29	O-RING	*	1071677 (ORB-025)	1
30	CAP	CAST IRON *	1074284 (425-CA)	1
<b>SPRING ASSIST OPEN MODEL</b>				
31	SPRING	*	1074423 (426-S)	1
32	CENTERING WASHER	BRASS *	1074436 (426-V)	1

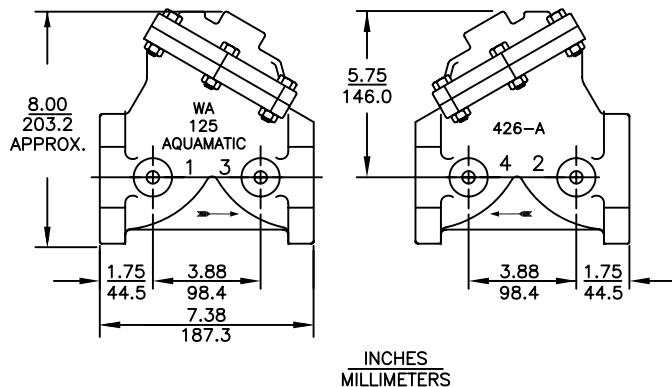
SEE REVERSE SIDE FOR  
STANDARD NORMALLY OPEN MODEL

FORM NO. 1077637

<b>CONVERSION KITS</b>	
DESCRIPTION	PART NO.
CONVERSION KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 25 THRU 30	1070507 (AV5-SCC)
CONVERSION KIT (SPRING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO'S 31,32	1070508 (AV5-SO)

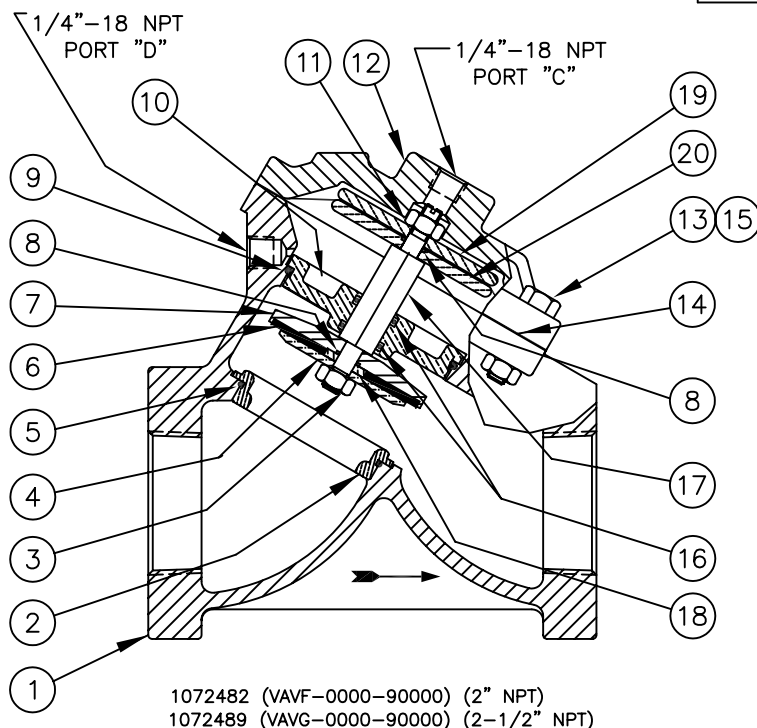
<b>REPAIR PARTS KITS</b>	
DESCRIPTION	PART NO.
INT. PARTS KIT (NORM. CLOSED) CONSISTS OF STANDARD ITEM NO'S 4,7,10,11,18,19,20,24	1070505 (AV5-RG)
INT. PARTS KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 25,28,29	1070506 (AV5-SC)
INT. PARTS KIT (SPRING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO'S 31,32	1070508 (AV5-SO)

D	NUMBER	CONVERSION	1588	MSM	27NOV02	
REV	DESCRIPTION	ECO	DWN	DATE	APVD	
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM						
<b>SERIES VAV5 DIAPHRAGM VALVE</b>						
<b>2" N.P.T.</b>						
SCALE N/A	DRAWN JWB	DATE 14MAY01	DWG. NO. 1084041			



REPAIR PARTS KITS		
DESCRIPTION	PART NO.	
DIAPHRAGM & SEALS KIT CONSISTS OF ITEM NO'S 3(2),5,6,8(2),9,14,16(2)	1070109 (AV6-RA)	1070510 (AV6-RAHT)
	INCLUDES DISC 1074392 (426-JH), DIAPHRAGM	INCLUDES DISC 1074393 (426-JT), DIAPHRAGM
	1074374 (426-FB)	1074376 (426-FV)
INT. PARTS KIT (NORM. OPEN) CONSISTS OF STANDARD ITEM NO'S 4,7,10,11,17,18,19,20	1070511 (AV6-RF)	
SEAT (ITEM NO. 2)	1074407 (426-MAO)	

ASSEMBLY TOOLS	
DESCRIPTION	PART NO.
FOR INSTALLATION & REMOVAL OF SEAT (ITEM #2) (TOOL NOT SHOWN)	1074411 (426-MT)
FOR INSTALLATION & REMOVAL OF SHAFT GUIDE (ITEM #10) (TOOL NOT SHOWN)	1-3/16" HEX SOCKET



**NORMALLY OPEN (STANDARD)**


**NOTE:**

1. AMERICAN NATIONAL STANDARD TAPER PIPE  
THREADS (NPT) PER ANSI B2.1-1968
2. VALVES AVAILABLE WITH B.S.P. OR J.I.S.  
END CONNECTIONS.

NO.	DESCRIPTION		STD	PART NO.	QTY.
1	BODY	CAST IRON	2" NPT 2-1/2" NPT	* 1074343 (426-A8) * 1081559 (426-A10)	1
2	SEAT (REQ'S ASSY TOOL)	BRASS		* 1074407 (426-MAO)	1
3	HEX LOCK NUT (5/16"-24)			* 1071651 (NUS-0013)	2
4	DISC PLATE	BRASS		* 1074396 (426-KA)	1
5	O-RING	FKM		* 1071795 (ORV-038)	1
6	DISC	HYCAR AFLAS GLASS FILLED TEFLON		* 1074392 (426-JH) 1074393 (426-JT)	1
7	DISC HOLDER	BRASS		* 1074383 (426-HAA)	1
8	O-RING	FKM		* 1071786 (ORV-011)	2
9	O-RING	FKM		* 1071826 (ORV-233)	1
10	SHAFT GUIDE (REQ'S ASSY TOOL)	BRASS		* 1074377 (426-GAO)	1
11	LOCKWASHER			* 1073594 (WAS-0020)	2
12	CAP	CAST IRON		* 1081560 (426-C)	1
13	HEX SCREW 5/16"-18	PLATED STEEL		* 1072401 (SCZ-0015)	6
14	DIAPHRAGM	BUNA N FKM		* 1074374 (426-FB) 1074376 (426-FV)	1
15	HEX NUT 5/16"-18	PLATED STEEL		* 1071657 (NUZ-0011)	6
16	O-RING	AFLAS		* 1071662 (ORA-114)	2
17	SHAFT (NORMALLY OPEN)			* 1074401 (426-LAA)	1
18	DISC SPACER	BRASS		* 1074382 (426-HA)	1
19	UPPER DIAPHRAGM PLATE			* 1074371 (426-DA)	1
20	LOWER DIAPHRAGM PLATE			* 1074372 (426-DAA)	1

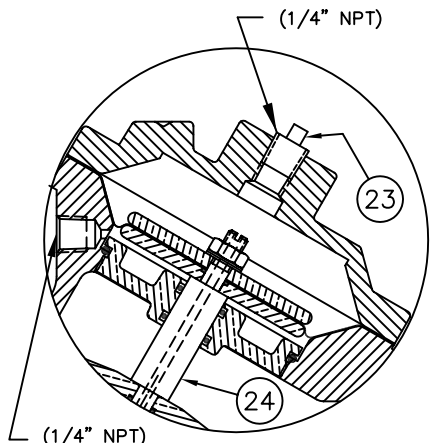
SEE REVERSE SIDE FOR  
CONFIGURATION OPTIONS

FORM NO. 1077638

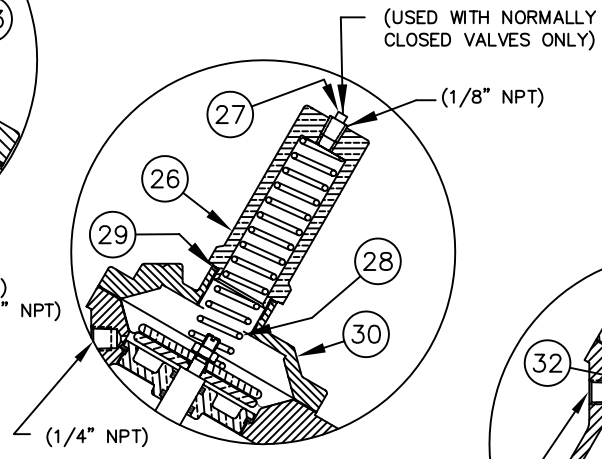
D	NUMBER CONVERSION	1588	MSM	27NOV02	
REV	DESCRIPTION	ECO	DWN	DATE	APVD
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM					
<b>SERIES VAV6 DIAPHRAGM VALVE</b> <b>2" &amp; 2-1/2" N.P.T.</b>					
SCALE N/A	DRAWN JWB	DATE 15MAY01	DWG. NO. 1084042		



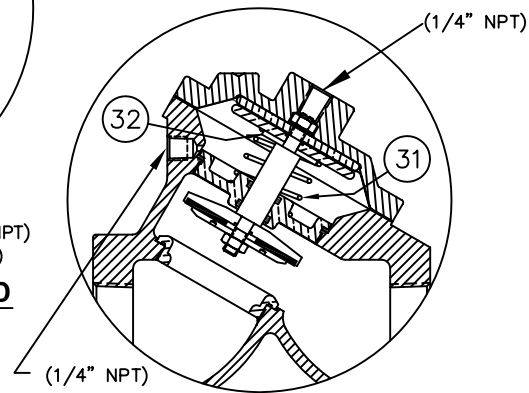
# 2" & 2-1/2" AIR VALVE - OPTIONAL MODELS



VAVG-0030-90000 (2" NPT)  
 1080794 (VAVH-0030-90000) (2-1/2" NPT)  
**NORMALLY CLOSED**



1077120 (VAVG-0002-90000) (2" NPT)  
 VAVH-0002-90000 (2-1/2" NPT)  
**SPRING ASSIST CLOSED**



1072491 (VAVG-0001-90000) (2" NPT)  
 1072497 (VAVH-0001-90000) (2-1/2" NPT)  
**SPRING ASSIST OPEN**


NO.	DESCRIPTION	STD	PART NO.	QTY.
<b>NORMALLY CLOSED MODEL</b>				
23	PIPE PLUG (1/4" N.P.T.)	PLATED STEEL *	1071918 (PLZ-0008)	1
24	SHAFT (NORMALLY CLOSED)	*	1074403 (426-LLA)	1
<b>SPRING ASSIST CLOSED MODEL</b>				
26	RETAINER NUT	BRASS *	1074431 (426-TTA)	1
27	PIPE PLUG (1/8" N.P.T.)	BRASS *	1071903 (PLB-0007)	1
28	SPRING	*	1074429 (426-SSB)	1
29	O-RING	*	1071677 (ORB-025)	1
30	CAP	CAST IRON *	1074352 (426-CC)	1
<b>SPRING ASSIST OPEN MODEL</b>				
31	SPRING	*	1074423 (426-S)	1
32	CENTERING WASHER	BRASS *	1074436 (426-V)	1

SEE REVERSE SIDE FOR  
 STANDARD NORMALLY OPEN MODEL  
 FORM NO. 1077638

CONVERSION KITS	
DESCRIPTION	PART NO.
CONVERSION KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 26 THRU 30	1070514 (AV6-SCC)
CONVERSION KIT (SPRING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO'S 31,32	1070515 (AV6-SO)

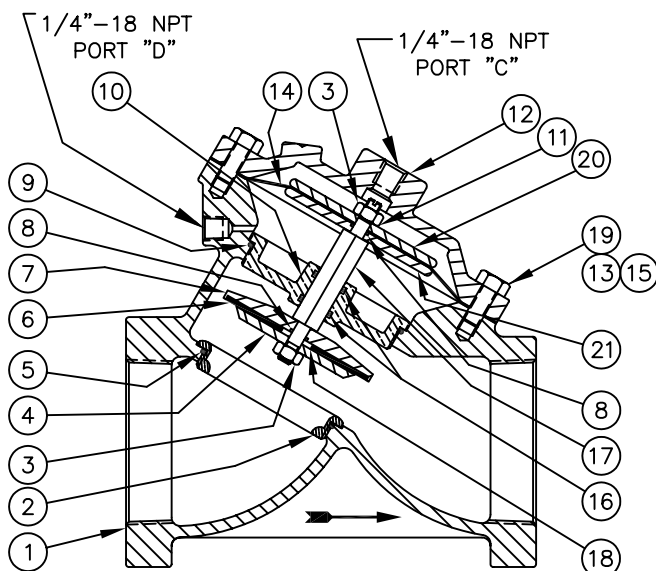
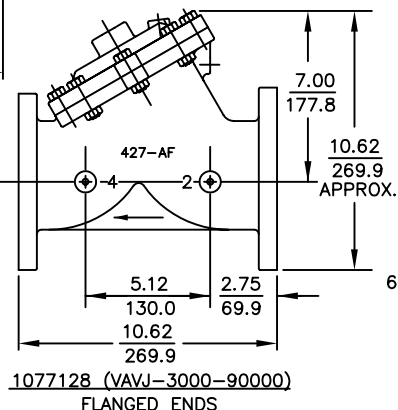
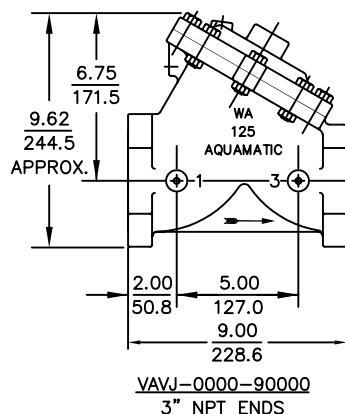
REPAIR PARTS KITS	
DESCRIPTION	PART NO.
INT. PARTS KIT (NORM. CLOSED) CONSISTS OF STANDARD ITEM NO'S 4,7,10,18,19,20,24	1070512 (AV6-RG)
INT. PARTS KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 28,29	1070513 (AV6-SC)
INT. PARTS KIT (SPRING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO'S 31,32	1070515 (AV6-SO)

D	NUMBER CONVERSION	1588	MSM	27NOV02	
REV	DESCRIPTION	ECO	DWN	DATE	APVD


**OSMONICS**  
 ROCKFORD OPERATIONS  
 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421  
 WWW.OSMONICS.COM

**SERIES VAV6 DIAPHRAGM VALVE**  
**2" & 2-1/2" N.P.T.**

SCALE N/A	DRAWN JWB	DATE 15MAY01	DWG. NO. 1084042
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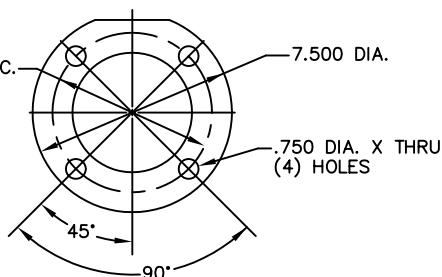
**NORMALLY OPEN (STANDARD)**

## REPAIR PARTS KITS

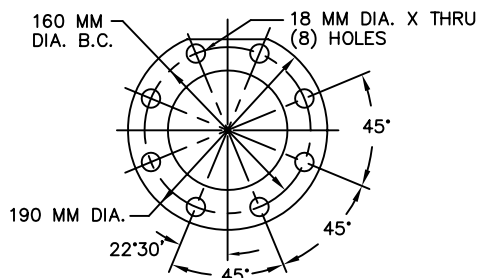
DESCRIPTION	PART NO.	
DIAPHRAGM & SEALS KIT CONSISTS OF ITEM NO'S 3(2),5,6,8(2),9,14,16(2)	1070110 (AV7-RA) INCLUDES DISC 1074490 (427-JH), DIAPHRAGM 1074475 (427-FB)	1070516 (AV7-RAHT) INCLUDES DISC 1074491 (427-JT), DIAPHRAGM 1074477 (427-FV)
INT. PARTS KIT (NORM. OPEN) CONSISTS OF STANDARD ITEM NO'S 4,7,10,11,17,18,20,21	1070517 (AV7-RF)	
SEAT (ITEM NO. 2)	1074503 (427-MAO)	

## ASSEMBLY TOOLS

DESCRIPTION	PART NO.
FOR INSTALLATION & REMOVAL OF SHAFT GUIDE (ITEM #10) (NOT SHOWN)	1-3/16" HEX SOCKET



AMERICAN FLANGE PER  
A.S.A. 16.1 CLASS 125



METRIC FLANGE PER  
BS4504, DIN 10 & ISO R 2084

NO.	DESCRIPTION			STD	PART NO.	QTY.
1	BODY	CAST IRON	THREADED FLANGED	*	1074446 (427-AS) 1074438 (427-AF)	1
2	SEAT		BRASS	*	1074503 (427-MAO)	1
3	HEX LOCK NUT	(5/16-24)		*	1071651 (NUS-0013)	2
4	DISC PLATE		BRASS	*	1074494 (427-KA)	1
5	O-RING		FKM	*	1071797 (ORV-042)	1
6	DISC		HYCAR AFLAS GLASS FILLED TEFLON	*	1074490 (427-JH) 1074491 (427-JT)	1
7	DISC HOLDER		BRASS	*	1074483 (427-HA)	1
8	O-RING		FKM	*	1071786 (ORV-011)	2
9	O-RING		FKM	*	1071828 (ORV-237)	1
10	SHAFT GUIDE (REQ'S ASSY TOOL)		BRASS	*	1074478 (427-GAO)	1
11	LOCKWASHER			*	1073594 (WAS-0020)	2
12	CAP		CAST IRON	*	1074454 (427-C)	1
13	HEX SCREW 3/8"-16		PLATED STEEL	*	1072405 (SCZ-0025)	6
14	DIAPHRAGM		BUNA N FKM	*	1074475 (427-FB) 1074477 (427-FV)	1
15	HEX NUT 3/8"-16		PLATED STEEL	*	1071658 (NUZ-0014)	6
16	O-RING		AFLAS	*	1071662 (ORA-114)	2
17	SHAFT (NORMALLY OPEN)			*	1074497 (427-LAA)	1
18	DISC SPACER		BRASS	*	1074382 (426-HA)	1
19	HEX SCREW 3/8"-16		STN. STL.	*	1072359 (SCS-0020)	2
20	UPPER DIAPHRAGM PLATE			*	1074472 (427-DA)	1
21	LOWER DIAPHRAGM PLATE			*	1074473 (427-DAA)	1

SEE REVERSE SIDE FOR  
CONFIGURATION OPTIONS

FORM NO. 1077639

D	NUMBER CONVERSION	1588	MSM	27NOV02	
REV	DESCRIPTION	ECO	DWN	DATE	APVD



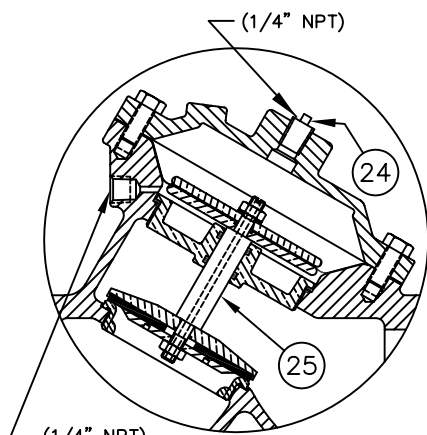
**OSMONICS**  
ROCKFORD OPERATIONS

2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421  
WWW.OSMONICS.COM

**SERIES VAV7 DIAPHRAGM VALVE**  
**3" PIPE SIZE**

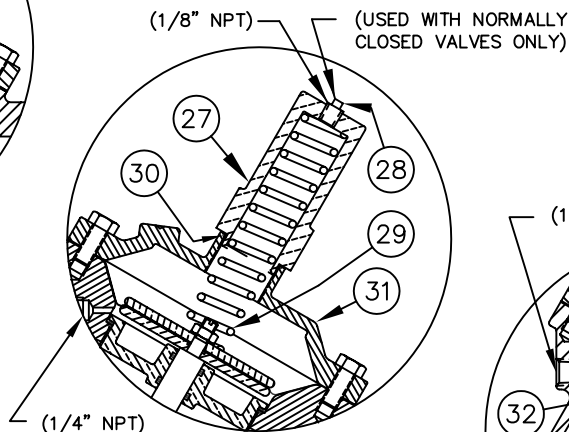
SCALE N/A	DRAWN JWB	DATE 15MAY01	DWG. NO. 1084043
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# 3" AIR VALVE - OPTIONAL MODELS



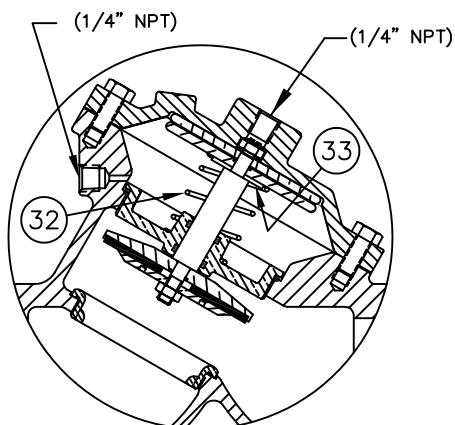
VAVJ-0030-90000 (THREADED)  
VAVJ-3030-90000 (FLANGED)

## NORMALLY CLOSED



VAVJ-0002-90000 (THREADED)  
1080797 (VAVJ-3002-90000) (FLANGED)

## SPRING ASSIST CLOSED



VAVJ-0001-90000 (THREADED)  
1072509 (VAVJ-3001-90000) (FLANGED)

## SPRING ASSIST OPEN

NO.	DESCRIPTION	STD	PART NO.	QTY.
<b>NORMALLY CLOSED MODEL</b>				
24	PIPE PLUG (1/4" N.P.T.)	PLATED STEEL	* 1071918 (PLZ-0008)	1
25	SHAFT (NORMALLY CLOSED)	*	1074500 (427-LLA)	1
<b>SPRING ASSIST CLOSED MODEL</b>				
27	RETAINER NUT	BRASS	* 1074431 (426-TTA)	1
28	PIPE PLUG (1/8" N.P.T.)	BRASS	* 1071903 (PLB-0007)	1
29	SPRING	*	1074429 (426-SSB)	1
30	O-RING	*	1071677 (ORB-025)	1
31	CAP	CAST IRON	* 1074460 (427-CC)	1
<b>SPRING ASSIST OPEN MODEL</b>				
32	SPRING	*	1074423 (426-S)	1
33	CENTERING WASHER	BRASS	* 1074436 (426-V)	1

SEE REVERSE SIDE FOR  
STANDARD NORMALLY OPEN MODEL


FORM NO. 1077639

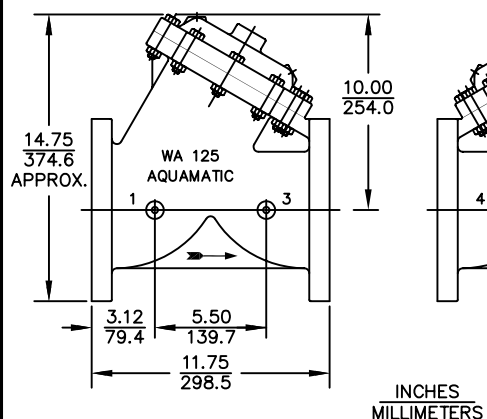
## CONVERSION KITS

DESCRIPTION	PART NO.
CONVERSION KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 27 THRU 31	1070519 (AV7-SCC)
CONVERSION KIT (SPRING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO'S 32,33	1070520 (AV7-SO)

## REPAIR PARTS KITS

DESCRIPTION	PART NO.
INT. PARTS KIT (NORM. CLOSED) CONSISTS OF STANDARD ITEM NO'S 4,7,10,11,18,20,21,25	1070518 (AV7-RG)
INT. PARTS KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 29,30	
INT. PARTS KIT (SPRING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO'S 32,33	1070520 (AV7-SO)

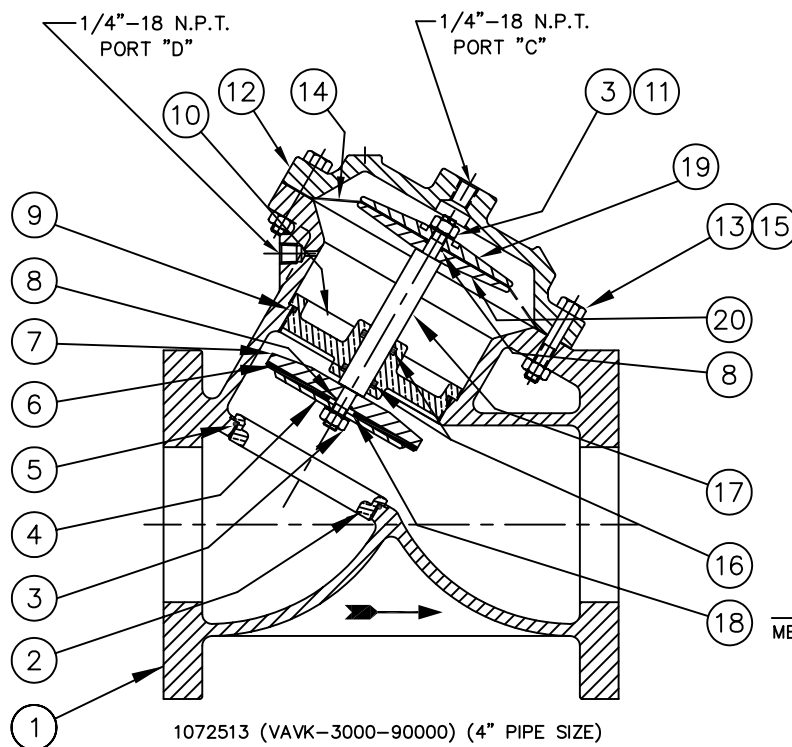
D	NUMBER	CONVERSION	1588	MSM	27NOV02	
REV	DESCRIPTION	ECO	DWN	DATE	APVD	
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM						
<b>SERIES VAV7 DIAPHRAGM VALVE</b>						
<b>3" N.P.T.</b>						
SCALE N/A	DRAWN JWB	DATE 15MAY01	DWG. NO. 1084043			



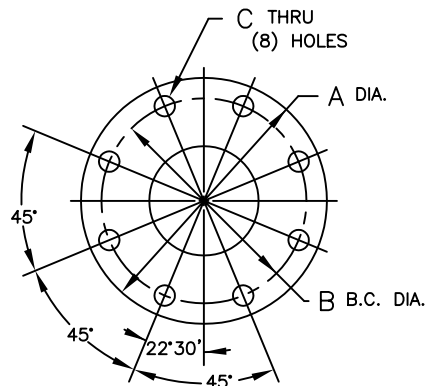
REPAIR PARTS KITS		
DESCRIPTION	PART NO.	
DIAPHRAGM & SEALS KIT CONSISTS OF ITEM NO'S 3(2),5,6,8(2),9,14,16(2)	1070111 (AV8-RA)	1070521 (AV8-RAHT)
	INCLUDES DISC 1074571 (428-JH), DIAPHRAGM 1074557 (428-FB)	INCLUDES DISC 1074572 (428-JT), DIAPHRAGM 1074559 (428-FV)
	1070123 (428-RF)	
INT. PARTS KIT (NORM. OPEN) CONSISTS OF STANDARD ITEM NO'S 4,7,10,11,17,18,19,20	1070123 (428-RF)	
SEAT (ITEM NO. 2)	1074585 (428-MAO)	

NOTE:  
1. AMERICAN NATIONAL STANDARD TAPER PIPE  
THREADS (NPT) PER ANSI B2.1-1968  
2. VALVES AVAILABLE WITH B.S.P. END CONNECTIONS.  
ADD "-BSP" OR TO END OF PART NUMBERS FOR  
ITEM NUMBERS 1,12.

NO.	DESCRIPTION	STD	PART NO.	QTY.
1	BODY	CAST IRON	* 1074522 (428-A)	1
2	SEAT	BRASS	* 1074585 (428-MAO)	1
3	HEX LOCK NUT (3/8"-24)	*	1071653 (NUS-0017)	2
4	DISC PLATE	BRASS	* 1074575 (428-KA)	1
5	O-RING	FKM	* 1071811 (ORV-156)	1
6	DISC	HYCAR	* 1074571 (428-JH)	1
		AFLAS		
		GLASS FILLED TEFLON	1074572 (428-JT)	
7	DISC HOLDER	BRASS	* 1074588 (428-NA)	1
8	O-RING	FKM	* 1071787 (ORV-012)	2
9	O-RING	FKM	* 1071832 (ORV-245)	1
10	SHAFT GUIDE	BRASS	* 1074560 (428-GAO)	1
11	LOCKWASHER	*	1073595 (WAS-0021)	2
12	CAP	CAST IRON	* 1074532 (428-C)	1
13	HEX SCREW 3/8"-16	PLATED STEEL	* 1072406 (SCZ-0027)	11
14	DIAPHRAGM	BUNA N	* 1074557 (428-FB)	1
		FKM	1074559 (428-FV)	
15	HEX NUT 3/8"-16	PLATED STEEL	* 1071658 (NUZ-0014)	11
16	O-RING	AFLAS	* 1071665 (ORA-210)	2
17	SHAFT (NORMALLY OPEN)	*	1074579 (428-LAA)	1
18	DISC SPACER	BRASS	* 1074565 (428-HA)	1
19	UPPER DIAPHRAGM PLATE	*	1074554 (428-DA)	1
20	LOWER DIAPHRAGM PLATE	*	1074555 (428-DAA)	1




FLANGE STYLE	A	B	C
AMERICAN	9.000	7.500	.750
METRIC	229 MM	180 MM	18 MM



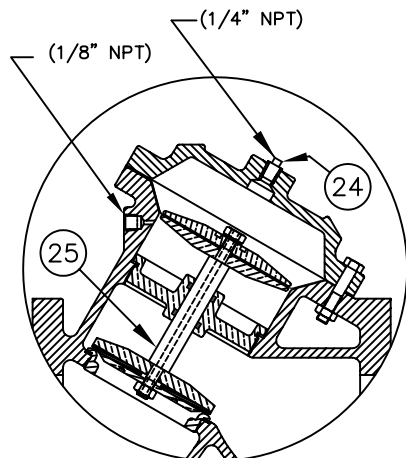
AMERICAN FLANGE PER A.S.A. 16.1 CLASS 125  
METRIC FLANGE PER BS 4504, DIN 10 & ISO R 2084

SEE REVERSE SIDE FOR  
CONFIGURATION OPTIONS

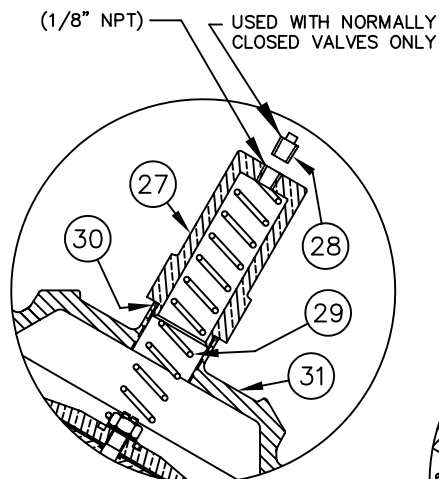
FORM NO. 1077640

D	NUMBER	CONVERSION	1588	MSM	27NOV02	
REV	DESCRIPTION		ECO	DWN	DATE	APVD
<div><div>OSMONICS</div><div>ROCKFORD OPERATIONS</div><div>2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421</div><div>WWW.OSMONICS.COM</div></div>						
SERIES VAV8 DIAPHRAGM VALVE						
4" PIPE SIZE						
SCALE	DRAWN	DATE	DWG. NO.			
N/A	JWB	14MAY01			1084044	

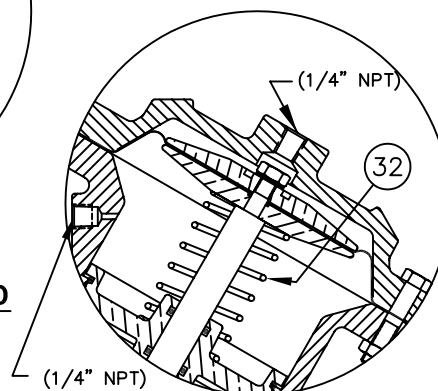
# 4" AIR VALVE - OPTIONAL MODELS



VAVK-3030-90000  
**NORMALLY CLOSED**



1072516 (VAVK-3002-90000)  
**SPRING ASSIST CLOSED**



1072514 (VAVK-3001-90000)  
**SPRING ASSIST OPEN**


NO.	DESCRIPTION	STD	PART NO.	QTY.
<b>NORMALLY CLOSED MODEL</b>				
24	PIPE PLUG (1/4" N.P.T.)	PLATED STEEL	* 1071918 (PLZ-0008)	1
25	SHAFT (NORMALLY CLOSED)	*	1074582 (428-LLA)	1
<b>SPRING ASSIST CLOSED MODEL</b>				
27	RETAINER NUT	BRASS	* 1074609 (428-TT)	1
28	PIPE PLUG (1/8" N.P.T.)	BRASS	* 1071903 (PLB-0007)	1
29	SPRING	*	1074601 (428-SB)	1
30	O-RING	*	1071677 (ORB-025)	1
31	CAP	CAST IRON	* 1074540 (428-CC)	1
<b>SPRING ASSIST OPEN MODEL</b>				
32	SPRING	*	1074605 (428-SOA)	1

SEE REVERSE SIDE FOR  
STANDARD NORMALLY OPEN MODEL

FORM NO. 1077640

<b>CONVERSION KITS</b>	
DESCRIPTION	PART NO.
CONVERSION KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 27 THRU 31	1070525 (AV8-SCC)
CONVERSION KIT (SPRING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO. 32	1070526 (AV8-SO)

<b>REPAIR PARTS KITS</b>	
DESCRIPTION	PART NO.
INT. PARTS KIT (NORM. CLOSED) CONSISTS OF STANDARD ITEM NO'S 4,7,10,11,18,19,20,25	1070523 (AV8-RG)
INT. PARTS KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 29,30	1070524 (AV8-SC)
INT. PARTS KIT (SPRING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO. 32	1070526 (AV8-SO)

D	NUMBER	CONVERSION	1588	MSM	27NOV02	
REV	DESCRIPTION	ECO	DWN	DATE	APVD	
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM						
<b>SERIES VAV8 DIAPHRAGM VALVE</b>						
<b>4" N.P.T.</b>						
SCALE N/A	DRAWN JWB	DATE 15MAY01	DWG. NO. 1084044			

# 3/4" & 1" DIAPHRAGM VALVE - ISOLATED BONNET MODEL

## ASSEMBLY TOOLS

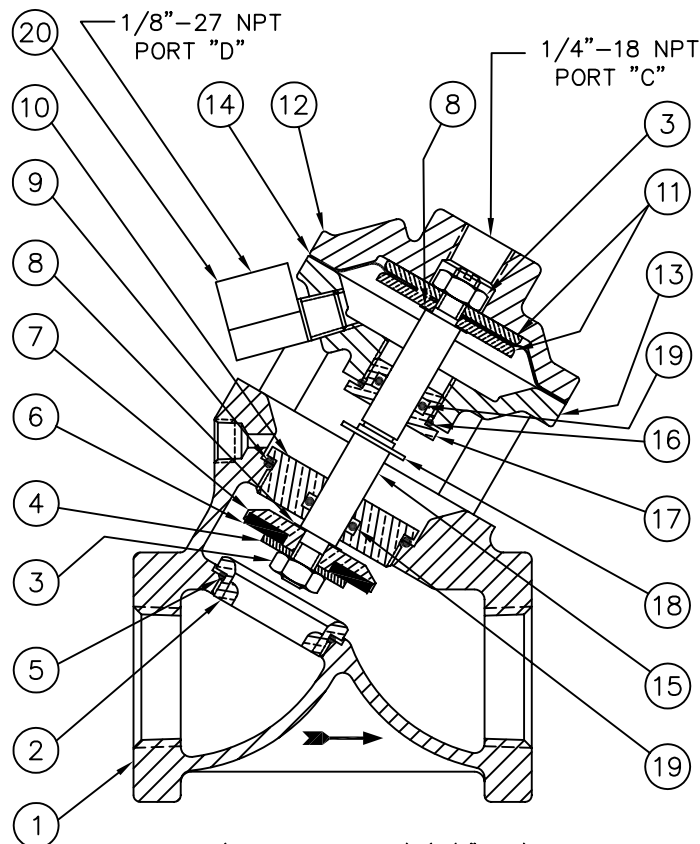
DESCRIPTION	PART NO.
FOR INSTALLATION & REMOVAL OF SEAT (ITEM #2) (TOOL NOT SHOWN)	1074161 (421-MT)
FOR INSTALLATION & REMOVAL OF SHAFT GUIDE (ITEM #10) (TOOL NOT SHOWN)	1074124 (421-GT)

## REPAIR PARTS KITS

DESCRIPTION	PART NO.		
DIAPHRAGM & SEALS KIT CONSISTS OF ITEM NO'S 3(2),5,6,8(2),9,14,16,19	1074679 (4421-RAE)	1074681 (4421-RAVF)	1074680 (4421-RAV)
	E.P.D.M. INCLUDES DIAPHRAGM 1074119 (421-FB)	FKM INCLUDES DIAPHRAGM 1074120 (421-FV)	FKM INCLUDES DIAPHRAGM 1074119 (421-FB)
	1074683 (4421-RF)		
INTERNAL PARTS KIT CONSISTS OF ITEM NO'S 4,7,10,11(2),15,17,18			
SEAT (ITEM NO. 2)	1074158 (421-MO)		

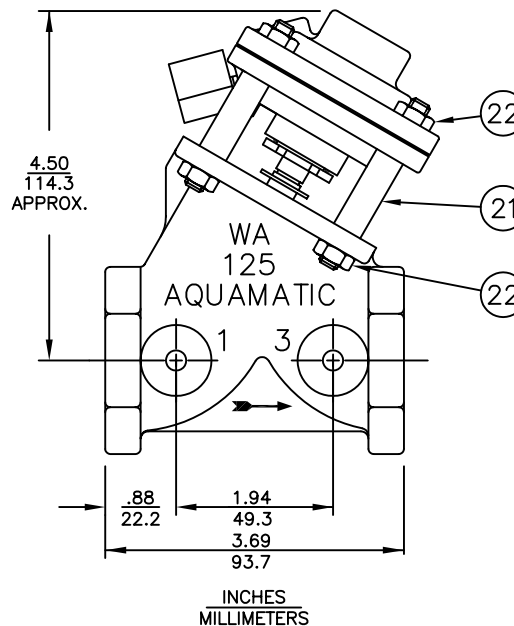
NOTE:

1. AMERICAN NATIONAL STANDARD TAPER PIPE  
THREADS (NPT) PER ANSI B2.1-1968



1073195 (V44B-0000-10000) (3/4" NPT)  
1073203 (V44C-0000-10000) (1" NPT)


**NORMALLY OPEN (STANDARD)**

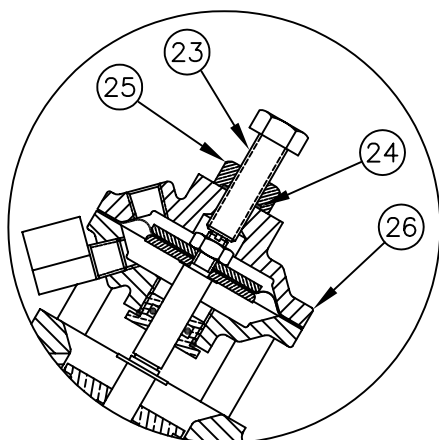


SEE REVERSE SIDE FOR  
CONFIGURATION OPTIONS

NO.	DESCRIPTION		STD	PART NO.	QTY.
1	BODY	CAST IRON	3/4" NPT 1" NPT	* 1074085 (421-A3) * 1074088 (421-A4)	1
2	SEAT (REQ'S ASSY TOOL)	BRASS	*	1074158 (421-MO)	1
3	HEX LOCK NUT	(1/4-28)	*	1071650 (NUS-0010)	2
4	DISC PLATE	BRASS	*	1074147 (421-K)	1
5	O-RING	E.P.D.M.	*	1071721 (ORE-024)	1
6	DISC	E.P.D.M. FKM	*	1074143 (421-JE) 1074146 (421-JV)	1
7	DISC HOLDER	BRASS	*	1074126 (421-H)	1
8	GASKET	COPPER	*	1073948 (200-GG)	2
9	O-RING	E.P.D.M. FKM	*	1071732 (ORE-125) 1071803 (ORV-125)	1
10	SHAFT GUIDE (REQ'S ASSY TOOL)	BRASS	*	1074122 (421-GGO)	1
11	DIAPHRAGM PLATE	BRASS	*	1074117 (421-D)	2
12	TOP CAP	CAST IRON	*	1074671 (4421-CD)	1
13	BOTTOM CAP	CAST IRON	*	1074667 (4421-C)	1
14	DIAPHRAGM	BUNA N FKM	*	1074119 1074120	1
15	SHAFT		*	1074676 (4421-L)	1
16	O-RING	BUNA N	*	1071671 (ORB-016)	1
17	GUIDE BUSHING		*	1074666 (4421-BD)	1
18	RETAINING RING		*	1074678 (4421-N)	1
19	O-RING	E.P.D.M. FKM	*	1071726 (ORE-110TC) 1071798 (ORV-110)	2
20	TUBE FITTING		*	1074040 (348-Z)	1
21	STANDOFF		*	1074675 (4421-E)	4
22	HEX NUT	PLATED STEEL	*	1071656 (NUZ-0008)	8

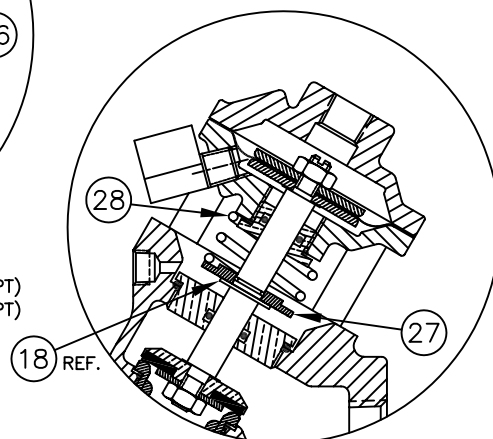
FORM NO. 1078217

D	NUMBER CONVERSION	1588	MSM	27NOV02	
REV	DESCRIPTION	ECO	DWN	DATE	APVD
<div> <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM</div>					
<div><b>SERIES 4421 DIAPHRAGM VALVE</b> <b>3/4" &amp; 1" N.P.T.</b></div>					
SCALE	DRAWN	DATE	DWG. NO.		
N/A	JWB	06AUG01	1084025		



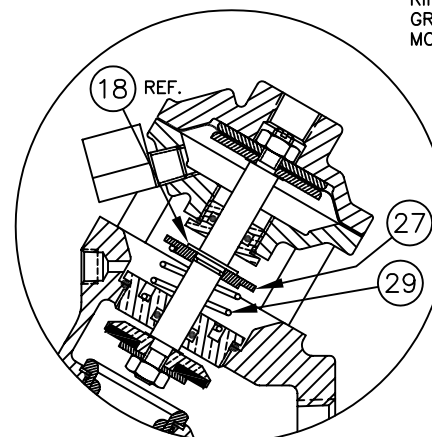
1077429 (V44B-0010-10000) (3/4" NPT)  
1081108 (V44C-0010-10000) (1" NPT)

### LIMIT STOP



V44B-0002-10000 (3/4" NPT)  
1073207 (V44C-0002-10000) (1" NPT)

### SPRING ASSIST CLOSED



1077427 (V44B-0001-10000) (3/4" NPT)  
1073206 (V44C-0001-10000) (1" NPT)

### SPRING ASSIST OPEN

NO.	DESCRIPTION	STD	PART NO.	QTY.
<b>LIMIT STOP MODEL</b>				
23	SCREW	*	1072361 (SCS-0030)	1
24	O-RING	*	1071668 (ORB-012)	1
25	HEX NUT	*	1077534 (400-H)	1
26	TOP CAP	CAST IRON	1074673 (4421-CE)	1
<b>SPRING ASSIST CLOSED MODEL</b>				
27	CENTERING PLATE	*	1074664 (4421-BA)	1
28	SPRING	*	1075122 (524-S)	1
<b>SPRING ASSIST OPEN MODEL</b>				
27	CENTERING PLATE	*	1074664 (4421-BA)	1
29	SPRING	*	1074175 (421-SB)	1

#### NOTE:


1. FOR SPRING ASSIST OPEN VALVES, RETAINING RING (ITEM 18) SHOULD BE LOCATED IN UPPER GROOVE ON SHAFT. FOR ALL OTHER VALVE MODELS, IT SHOULD BE IN LOWER GROOVE.

SEE REVERSE SIDE FOR  
STANDARD NORMALLY OPEN MODEL

FORM NO. 1078217

CONVERSION KITS	
DESCRIPTION	PART NO.
CONVERSION KIT (LIMIT STOP) CONSISTS OF STANDARD ITEM NO'S 23 THRU 26	1074677 (4421-LSC)
CONVERSION KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 27,28	1074684 (4421-SC)
CONVERSION KIT (SPRING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO'S 10,29,31	1074685 (4421-SO)

REPAIR PARTS KITS	
DESCRIPTION	PART NO.
INT. PARTS KIT (LIMIT STOP) CONSISTS OF STANDARD ITEM NO'S 23,24,25	1074154 (421-LS)
INT. PARTS KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 27,28	1074684 (4421-SC)
INT. PARTS KIT (SPRING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO'S 10,29,31	1074685 (4421-SO)

D	NUMBER	CONVERSION	1588	MSM	27NOV02	
REV	DESCRIPTION	ECO	DWN	DATE	APVD	
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM						
<b>SERIES 4421 DIAPHRAGM VALVE</b>						
<b>3/4" &amp; 1" N.P.T.</b>						
SCALE	DRAWN	DATE	DWG. NO.			
N/A	JWB	06AUG01	1084025			



# 1-1/4" & 1-1/2" DIAPHRAGM VALVE - ISOLATED BONNET MODEL

## ASSEMBLY TOOLS

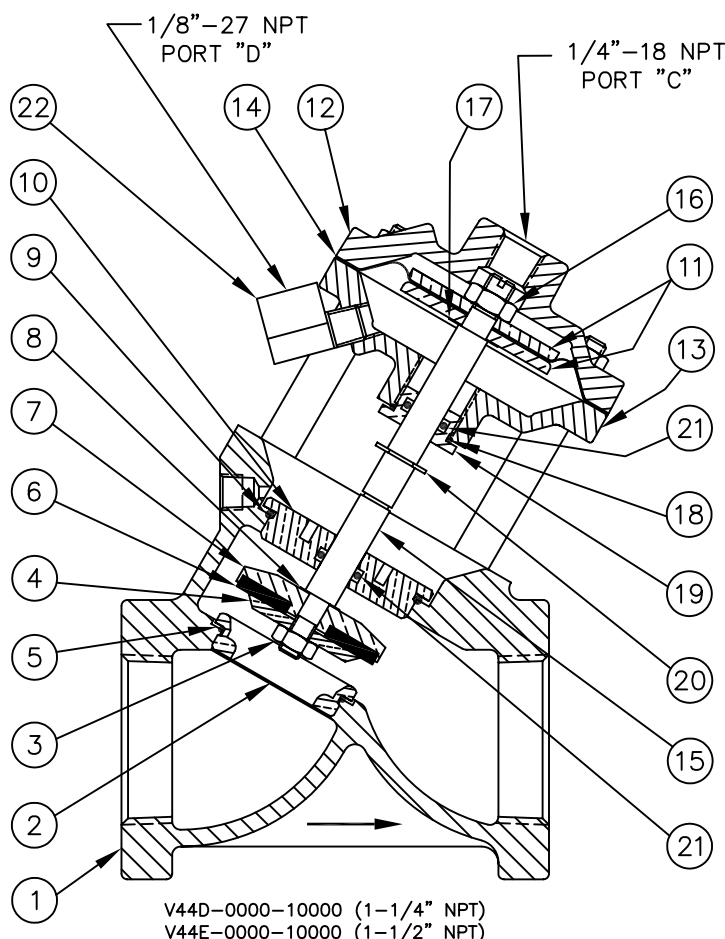
DESCRIPTION	PART NO.
FOR INSTALLATION & REMOVAL OF SEAT (ITEM #2) (TOOL NOT SHOWN)	1074247 (424-MT)
FOR INSTALLATION & REMOVAL OF SHAFT GUIDE (ITEM #10) (TOOL NOT SHOWN)	1074227 (424-GT)

## REPAIR PARTS KITS

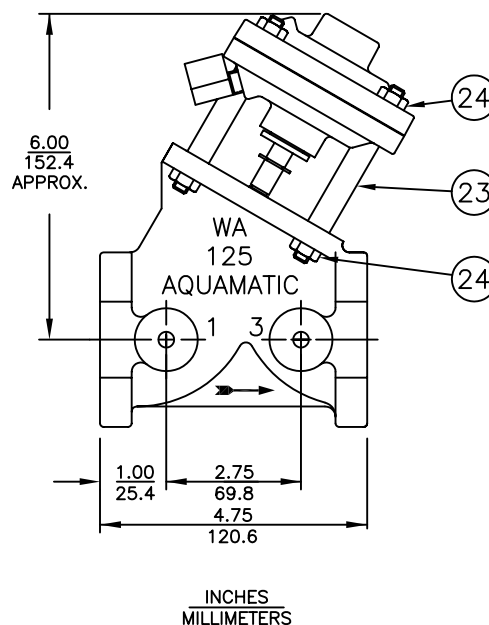
DESCRIPTION	PART NO.
DIAPHRAGM & SEALS KIT CONSISTS OF ITEM NO'S 3,5,6,8,9,14,16,17,18,21	1074701 (4424-RAE) E.P.D.M. INCLUDES DIAPHRAGM 1074222 (424-FB) FKM INCLUDES DIAPHRAGM 1074224 (424-FV) FKM INCLUDES DIAPHRAGM 1074222 (424-FB)
INTERNAL PARTS KIT CONSISTS OF ITEM NO'S 4,7,10,11(2),15,19,20	1074704 (4424-RF)
SEAT (ITEM NO. 2)	1074245 (424-MO)

NOTE:

1. AMERICAN NATIONAL STANDARD TAPER PIPE THREADS (NPT) PER ANSI B2.1-1968




**NORMALLY OPEN (STANDARD)**

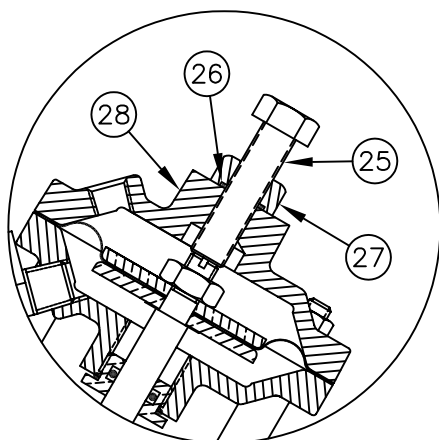


SEE REVERSE SIDE FOR  
CONFIGURATION OPTIONS

NO.	DESCRIPTION	STD	PART NO.	QTY.
1	BODY CAST IRON 1-1/4" NPT 1-1/2" NPT	*	1074196 (424-A5) 1074199 (424-A6)	1
2	SEAT (REQ'S ASSY TOOL) BRASS	*	1074245 (424-MO)	1
3	HEX LOCK NUT (1/4-28)	*	1071650 (NUS-0010)	1
4	DISC PLATE BRASS	*	1074237 (424-K)	1
5	O-RING E.P.D.M.	*	1071723 (ORE-028)	1
6	DISC E.P.D.M. FKM	*	1071793 (ORV-028) 1074233 (424-JE) 1074236 (424-JV)	1
7	DISC HOLDER BRASS	*	1074229 (424-H)	1
8	GASKET COPPER	*	1073948 (200-GG)	1
9	O-RING E.P.D.M. FKM	*	1071734 (ORE-132) 1071806 (ORV-132)	1
10	SHAFT GUIDE (REQ'S ASSY TOOL) BRASS	*	1074225 (424-GG0)	1
11	DIAPHRAGM PLATE BRASS	*	1074220 (424-D)	2
12	TOP CAP CAST IRON	*	1074690 (4424-CD)	1
13	BOTTOM CAP CAST IRON	*	1074688 (4424-C)	1
14	DIAPHRAGM BUNA N FKM	*	1074222 (424-FB) 1074224 (424-FV)	1
15	SHAFT	*	1074696 (4424-L)	1
16	HEX LOCK NUT (5/16-24)	*	1071651 (NUS-0013)	1
17	GASKET COPPER	*	1074252 (424-R)	1
18	O-RING BUNA N	*	1071671 (ORB-016)	1
19	GUIDE BUSHING	*	1074666 (4421-BD)	1
20	RETAINING RING	*	1074678 (4421-N)	1
21	O-RING E.P.D.M. FKM	*	1071726 (ORE-110TC) 1071798 (ORV-110)	2
22	TUBE FITTING	*	1074040 (348-Z)	1
23	STANDOFF	*	1074694 (4424-E)	4
24	HEX NUT PLATED STEEL	*	1071656 (NUZ-0008)	8

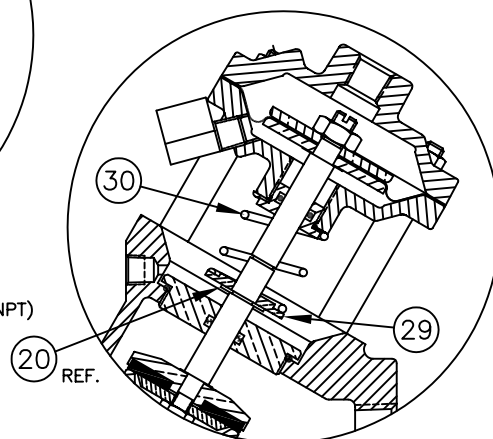
FORM NO. 1078218

C	NUMBER	CONVERSION	1588	MSM	27NOV02	
REV	DESCRIPTION	ECO	DWN	DATE	APVD	
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM						
<b>SERIES 4424 DIAPHRAGM VALVE</b> <b>1-1/4" &amp; 1-1/2" N.P.T.</b>						
SCALE	DRAWN	DATE	DWG. NO.			
N/A	JWB	06AUG01	1084026			



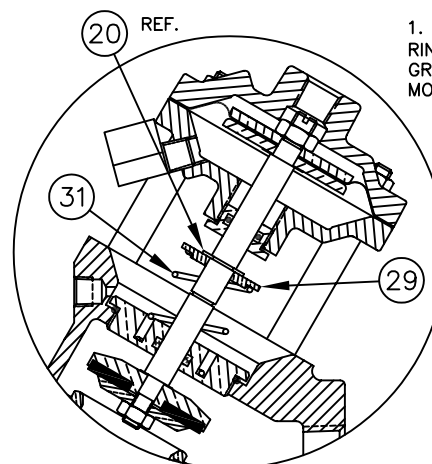
V44D-0010-10000 (1-1/4" NPT)  
1073225 (V44E-0010-10000) (1-1/2" NPT)

**LIMIT STOP**



V44D-0002-10000 (1-1/4" NPT)  
V44E-0002-10000 (1-1/2" NPT)

**SPRING ASSIST CLOSED**



V44D-0001-10000 (1-1/4" NPT)  
1077442 (V44E-0001-10000) (1-1/2" NPT)

**SPRING ASSIST OPEN**

NO.	DESCRIPTION	STD	PART NO.	QTY.
<b>LIMIT STOP MODEL</b>				
25	SCREW	*	1072362 (SCS-0031)	1
26	O-RING	*	1071668 (ORB-012)	1
27	HEX NUT	*	1077534 (400-H)	1
28	TOP CAP	CAST IRON	1074692 (4424-CE)	1
<b>SPRING ASSIST CLOSED MODEL</b>				
29	CENTERING PLATE	*	1074674 (4421-BA)	1
30	SPRING	*	1075122 (524-S)	1
<b>SPRING ASSIST OPEN MODEL</b>				
29	CENTERING PLATE	*	1074664 (4421-BA)	1
31	SPRING	*	1074264 (424-S)	1

**NOTE:**


1. FOR SPRING ASSIST OPEN VALVES, RETAINING RING (ITEM 20) SHOULD BE LOCATED IN UPPER GROOVE ON SHAFT. FOR ALL OTHER VALVE MODELS, IT SHOULD BE IN LOWER GROOVE.

SEE REVERSE SIDE FOR  
STANDARD NORMALLY OPEN MODEL

FORM NO. 1078218

<b>CONVERSION KITS</b>	
DESCRIPTION	PART NO.
CONVERSION KIT (LIMIT STOP) CONSISTS OF STANDARD ITEM NO'S 25 THRU 28	1074699 (4424-LSC)
CONVERSION KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 29,30	1074706 (4424-SC)
CONVERSION KIT (SPRING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO'S 10,31,32	1074707 (4424-SO)

<b>REPAIR PARTS KITS</b>	
DESCRIPTION	PART NO.
INT. PARTS KIT (LIMIT STOP) CONSISTS OF STANDARD ITEM NO'S 25,26,27	1074242 (424-LS)
INT. PARTS KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 29,30	1074706 (4424-SC)
INT. PARTS KIT (SPRING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO'S 10,31,32	1074707 (4424-SO)

C	NUMBNER CONVERSION	1588	MSM	27NOV02	
REV	DESCRIPTION	ECO	DWN	DATE	APVD
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM					
<b>SERIES 4424 DIAPHRAGM VALVE</b>					
<b>1-1/4" &amp; 1-1/2" N.P.T.</b>					
SCALE N/A	DRAWN JWB	DATE 06AUG01	DWG. NO. 1084026		

# 2" & 2-1/2" DIAPHRAGM VALVE - ISOLATED BONNET MODEL

## ASSEMBLY TOOLS

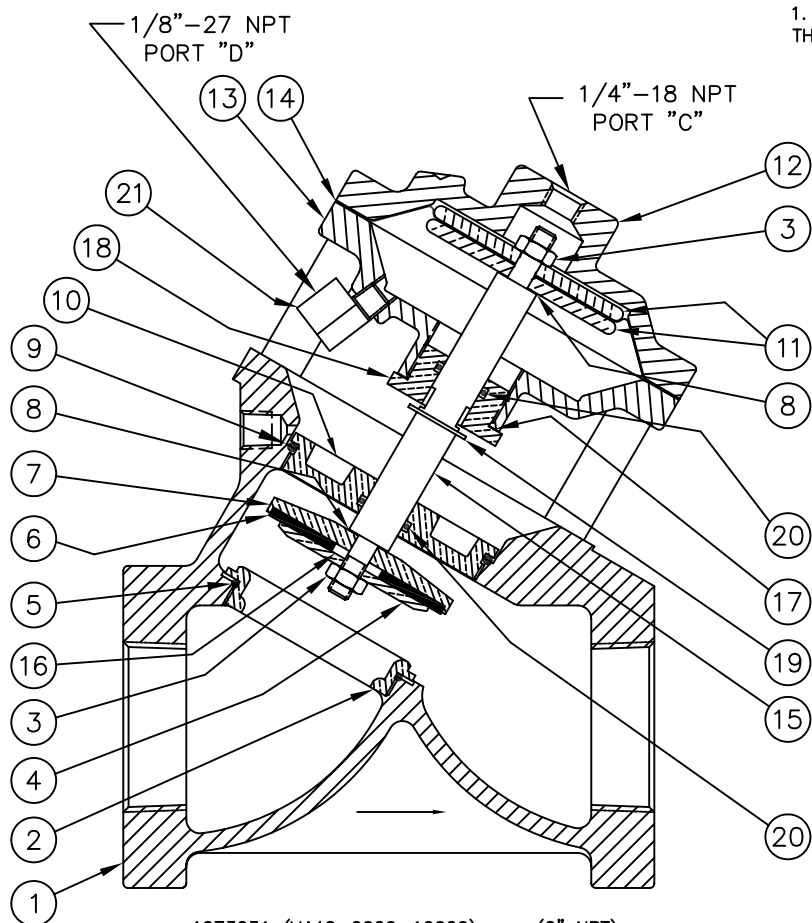
DESCRIPTION	PART NO.
FOR INSTALLATION & REMOVAL OF SEAT (ITEM #2) (TOOL NOT SHOWN)	1074411 (426-MT)
FOR INSTALLATION & REMOVAL OF SHAFT GUIDE (ITEM #10) (TOOL NOT SHOWN)	1-3/16" HEX SOCKET

## REPAIR PARTS KITS

DESCRIPTION	PART NO.		
DIAPHRAGM & SEALS KIT CONSISTS OF ITEM NO'S 3,5,6,8,9,14,17,20	1074729 (4426-RAE)	1074731 (4426-RAVF)	1074730 (4426-RAV)
	E.P.D.M. INCLUDES DIAPHRAGM 1074374 (426-FB)	FKM INCLUDES DIAPHRAGM 1074376 (426-FV)	FKM INCLUDES DIAPHRAGM 1074374 (426-FB)
	1074734 (4426-RF)		
INTERNAL PARTS KIT CONSISTS OF ITEM NO'S 4,7,10,11,15,16,18,19			
SEAT (ITEM NO. 2)	1074409 (426-MO)		

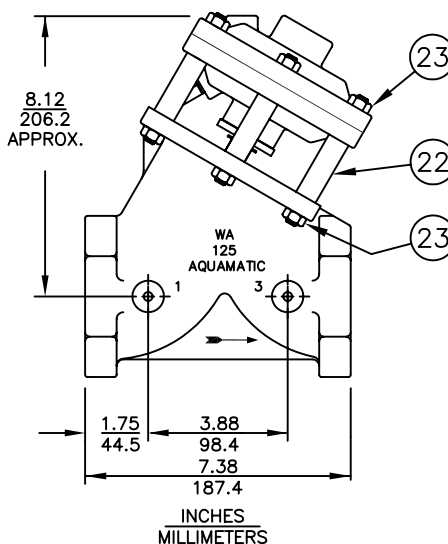
NOTE:

1. AMERICAN NATIONAL STANDARD TAPER PIPE  
THREADS (NPT) PER ANSI B2.1-1968



1073231 (V44G-0000-10000) (2" NPT)  
1073236 (V44H-0000-10000) (2-1/2" NPT)


**NORMALLY OPEN (STANDARD)**

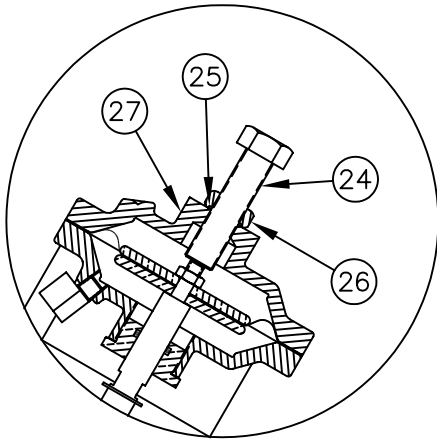


SEE REVERSE SIDE FOR  
CONFIGURATION OPTIONS

NO.	DESCRIPTION		STD	PART NO.	QTY.
1	BODY	CAST IRON	2" NPT 2-1/2" NPT	* 1074343 (426-A8) * 1071559 (426-A10)	1
2	SEAT (REQ'S ASSY TOOL)	BRASS		* 1074409 (426-MO)	1
3	HEX LOCK NUT	(5/16-24)		* 1071651 (NUS-0013)	2
4	DISC PLATE	BRASS		* 1074395 (426-K)	1
5	O-RING	E.P.D.M.		* 1071737 (ORE-144) * 1071809 (ORV-144)	1
6	DISC	E.P.D.M. FKM		* 1074391 (426-JE) * 1074394 (426-JV)	1
7	DISC HOLDER	BRASS		* 1074381 (426-H)	1
8	GASKET	COPPER		* 1074252 (424-R)	2
9	O-RING	E.P.D.M. FKM		* 1071754 (ORE-233) * 1071826 (ORV-233)	1
10	SHAFT GUIDE (REQ'S ASSY TOOL)	BRASS		* 1074379 (426-GO)	1
11	DIAPHRAGM PLATE	BRASS		* 1074370 (426-D)	2
12	TOP CAP	CAST IRON		* 1074719 (4426-CD)	1
13	BOTTOM CAP	CAST IRON		* 1074717 (4426-C)	1
14	DIAPHRAGM	BUNA N FKM		* 1074374 (426-FB) * 1074376 (426-FV)	1
15	SHAFT			* 1074726 (4426-L)	1
16	DISC SPACER	BRASS		* 1074382 (426-HA)	1
17	O-RING	BUNA N		* 1071677 (ORB-025)	1
18	GUIDE BUSHING			* 1074725 (4426-G)	1
19	RETAINING RING			* 1074728 (4426-N)	1
20	O-RING	E.P.D.M. FKM		* 1071729 (ORE-114C) * 1071800 (ORV-114)	2
21	TUBE FITTING			* 1074040 (348-Z)	1
22	STANDOFF			* 1074724 (4426-E)	6
23	HEX NUT	PLATED STEEL		* 1071657 (NUZ-0011)	12

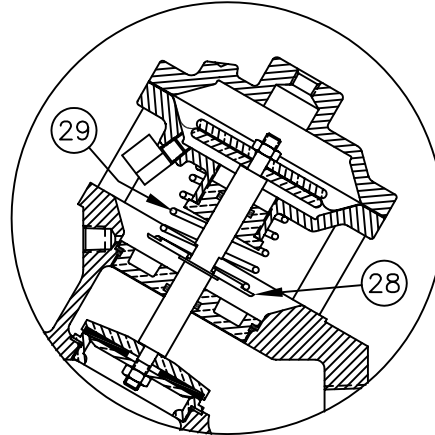
FORM NO. 1078219

C	NUMBER	CONVERSION	1588	MSM	27NOV02	
REV	DESCRIPTION	ECO	DWN	DATE	APVD	
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM						
<b>SERIES 4426 DIAPHRAGM VALVE</b> <b>2" &amp; 2-1/2" N.P.T.</b>						
SCALE	DRAWN	DATE	DWG. NO.			
N/A	JWB	06AUG01	1084028			



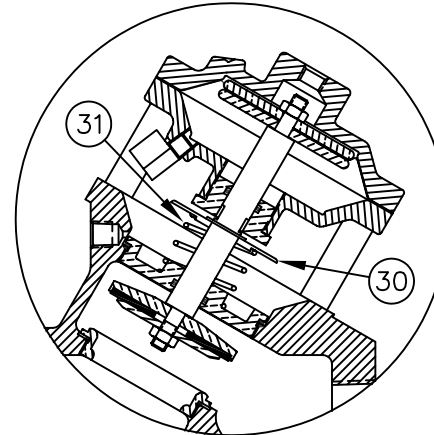
1077448 (V44G-0010-10000) (2" NPT)  
V44H-0010-10000 (2-1/2" NPT)

**LIMIT STOP**



1073235 (V44G-0002-10000) (2" NPT)  
V44H-0002-10000 (2-1/2" NPT)

**SPRING ASSIST CLOSED**



1077447 (V44G-0001-10000) (2" NPT)  
V44H-0001-10000 (2-1/2" NPT)

**SPRING ASSIST OPEN**


NO.	DESCRIPTION	STD	PART NO.	QTY.
<b>LIMIT STOP MODEL</b>				
24	SCREW	*	1072364 (SCS-0042)	1
25	O-RING	*	1071690 (ORB-112)	1
26	HEX NUT	*	1074434 (426-U)	1
27	TOP CAP	CAST IRON	1074721 (4426-CE)	1
<b>SPRING ASSIST CLOSED MODEL</b>				
28	CENTERING PLATE	*	1074737 (4426-V)	1
29	SPRING	*	1075198 (526-S)	1
<b>SPRING ASSIST OPEN MODEL</b>				
30	CENTERING PLATE	*	1074738 (4426-VA)	1
31	SPRING	*	1074423 (426-S)	1

SEE REVERSE SIDE FOR  
STANDARD NORMALLY OPEN MODEL

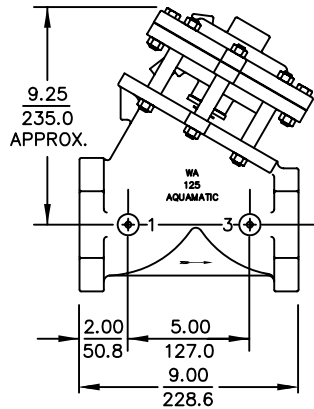
FORM NO. 1078219

<b>CONVERSION KITS</b>	
DESCRIPTION	PART NO.
CONVERSION KIT (LIMIT STOP) CONSISTS OF STANDARD ITEM NO'S 24 THRU 27	1074727 (4426-LSC)
CONVERSION KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 28,29	1074735 (4426-SC)
CONVERSION KIT (SPRING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO'S 30,31	1074736 (4426-SO)

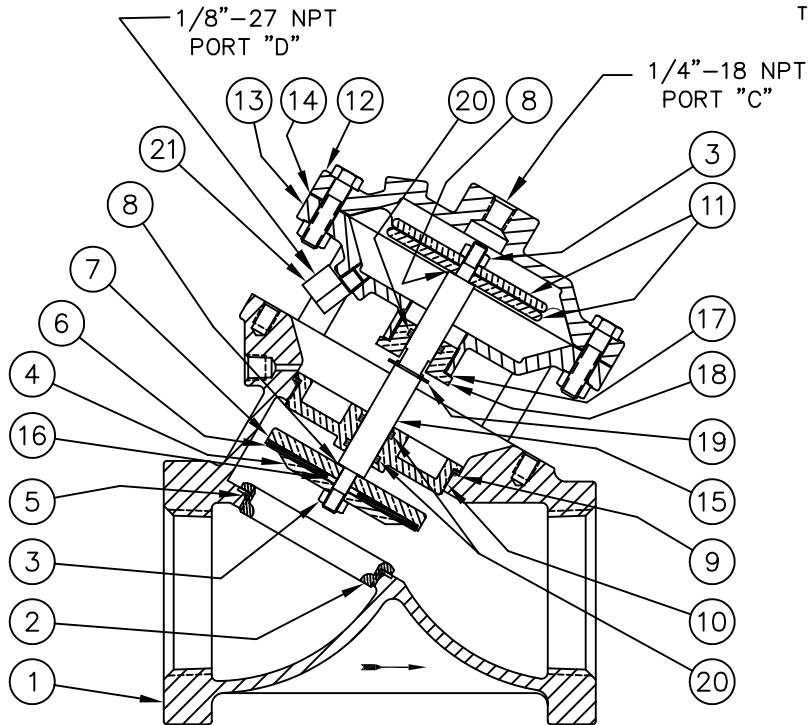
<b>REPAIR PARTS KITS</b>	
DESCRIPTION	PART NO.
INT. PARTS KIT (LIMIT STOP) CONSISTS OF STANDARD ITEM NO'S 24,25,26	1074405 (426-LS)
INT. PARTS KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 28,29	1074735 (4426-SC)
INT. PARTS KIT (SPRING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO'S 30,31	1074736 (4426-SO)

C	NUMBER	CONVERSION	1588	MSM	27NOV02	
REV	DESCRIPTION	ECO	DWN	DATE	APVD	
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM						
<b>SERIES 4426 DIAPHRAGM VALVE</b>						
<b>2" &amp; 2-1/2" N.P.T.</b>						
SCALE N/A	DRAWN JWB	DATE 06AUG01	DWG. NO. 1084028			

# 3" DIAPHRAGM VALVE - ISOLATED BONNET MODEL



1073241 (V44J-0000-10000)  
3" NPT ENDS



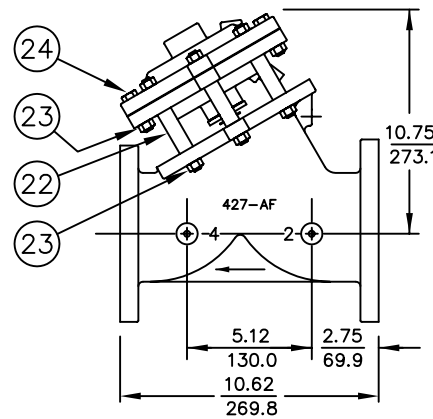
**NORMALLY OPEN (STANDARD)**

REPAIR PARTS KITS			
DESCRIPTION	PART NO.		
DIAPHRAGM & SEALS KIT CONSISTS OF ITEM NO'S 3,5,6,8,9,14,17,20	1074747 (4427-RAE)	1074749 (4427-RAVF)	1074748 (4427-RAV)
	E.P.D.M. INCLUDES DIAPHRAGM	FKM INCLUDES DIAPHRAGM	FKM INCLUDES DIAPHRAGM
	1074475 (427-FB)	1074477 (427-FV)	1074475 (427-FB)
INTERNAL PARTS KIT CONSISTS OF ITEM NO'S 4,7,10,11,15,16,18,19	1074752 (4427-RF)		
SEAT (ITEM NO. 2)	1074505 (427-MO)		

ASSEMBLY TOOLS	
DESCRIPTION	PART NO.
FOR INSTALLATION & REMOVAL OF SHAFT GUIDE (ITEM #10) (TOOL NOT SHOWN)	1-3/16" HEX SOCKET

## NOTE:

1. AMERICAN NATIONAL STANDARD TAPER PIPE  
THREADS (NPT) PER ANSI B2.1-1968

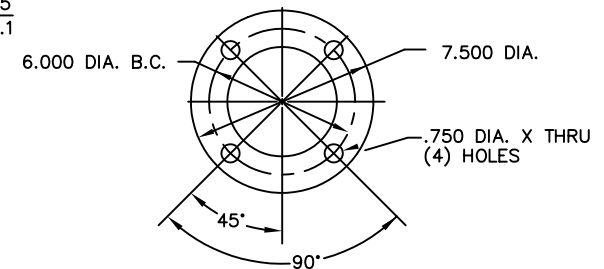


1073244 (V44J-3000-10000)  
FLANGED ENDS


INCHES  
MILLIMETERS

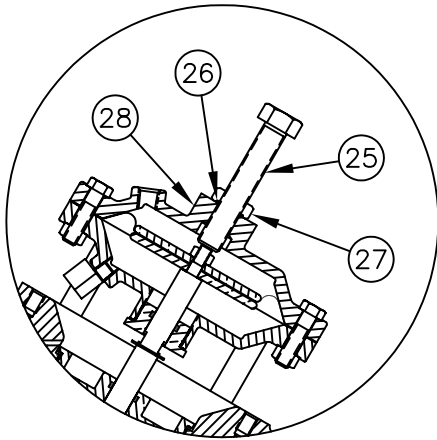
SEE REVERSE SIDE FOR  
CONFIGURATION OPTIONS

NO.	DESCRIPTION		STD	PART NO.	QTY.
1	BODY	CAST IRON	THREADED FLANGED	* 1074446 (427-AS) * 1074438 (427-AF)	1
2	SEAT		BRASS	* 1074505 (427-MO)	1
3	HEX LOCK NUT	(5/16-24)		* 1071651 (NUS-0013)	2
4	DISC PLATE		BRASS	* 1074493 (427-K)	1
5	O-RING		E.P.D.M.	* 1071754 (ORE-233)	1
			FKM	* 1071826 (ORV-233)	
6	DISC		E.P.D.M.	* 1074489 (427-JE)	1
			FKM	* 1074492 (427-JV)	
7	DISC HOLDER		BRASS	* 1074485 (427-HO)	1
8	GASKET		COPPER	* 1074252 (424-R)	2
9	O-RING		E.P.D.M.	* 1071755 (ORE-237)	1
			FKM	* 1071828 (ORV-237)	
10	SHAFT GUIDE (REQ'S ASSY TOOL)		BRASS	* 1074478 (427-GAO)	1
11	DIAPHRAGM PLATE		BRASS	* 1074471 (427-D)	2
12	TOP CAP	CAST IRON		* 1074740 (4427-CD)	1
13	BOTTOM CAP	CAST IRON		* 1074739 (4427-C)	1
14	DIAPHRAGM		BUNA N	* 1074475 (427-FB)	1
			FKM	* 1074477 (427-FV)	
15	SHAFT			* 1074744 (4427-L)	1
16	DISC SPACER		BRASS	* 1074382 (426-HA)	1
17	O-RING		BUNA N	* 1071677 (ORB-025)	1
18	GUIDE BUSHING			* 1074725 (4426-G)	1
19	RETAINING RING			* 1074728 (4426-N)	1
20	O-RING		E.P.D.M.	* 1071729 (ORE-114TC)	3
			FKM	* 1071800 (ORV-114)	
21	TUBE FITTING			* 1074040 (348-Z)	1
22	STANDOFF			* 1074743 (4427-E)	6
23	HEX NUT	PLATED STEEL		* 1071658 (NUZ-0014)	14
24	HEX SCREW			* 1072405 (SCZ-0025)	2

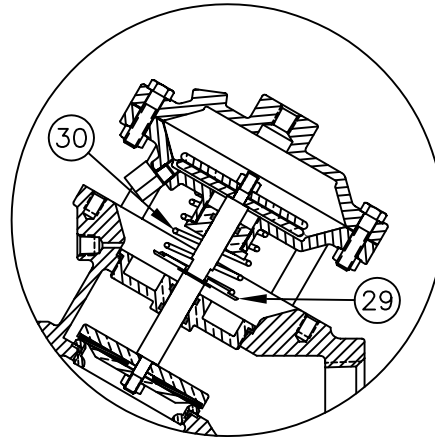


A.S.T.M. FLANGE PER  
A.S.A. 16.1 CLASS 125

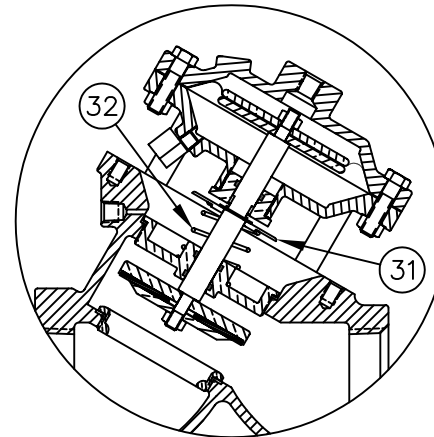
C	NUMBER	CONVERSION	1588	MSM	27NOV02	
REV	DESCRIPTION		ECO	DWN	DATE	APVD
<div> <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 <a href="http://WWW.OSMONICS.COM">WWW.OSMONICS.COM</a></div>						
<b>SERIES 4427 DIAPHRAGM VALVE</b>						
<b>3" PIPE SIZE</b>						
SCALE	DRAWN	DATE	DWG. NO.			
N/A	JWB	06AUG01	1084029			



V44J-0010-10000 (3" NPT)  
**LIMIT STOP**



V44J-0002-10000 (3" NPT)  
**SPRING ASSIST CLOSED**



1077450 (V44J-0001-10000) (3" NPT)  
**SPRING ASSIST OPEN**


NO.	DESCRIPTION	STD	PART NO.	QTY.
<b>LIMIT STOP MODEL</b>				
25	SCREW	*	1072365 (SCS-0043)	1
26	O-RING	*	1071690 (ORB-112)	1
27	HEX NUT	*	1074434 (426-U)	1
28	TOP CAP	CAST IRON	1074741 (4427-CE)	1
<b>SPRING ASSIST CLOSED MODEL</b>				
29	CENTERING PLATE	*	1074737 (4426-V)	1
30	SPRING	*	1075198 (526-S)	1
<b>SPRING ASSIST OPEN MODEL</b>				
31	CENTERING PLATE	*	1074738 (4426-VA)	1
32	SPRING	*	1074423 (426-S)	1

SEE REVERSE SIDE FOR  
STANDARD NORMALLY OPEN MODEL

FORM NO. 1078220

<b>CONVERSION KITS</b>	
DESCRIPTION	PART NO.
CONVERSION KIT (LIMIT STOP) CONSISTS OF STANDARD ITEM NO'S 25 THRU 28	1074745 (4427-LSC)
CONVERSION KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 29,30	1074753 (4427-SC)
CONVERSION KIT (SPRING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO'S 31,32	1074754 (4427-SO)

<b>REPAIR PARTS KITS</b>	
DESCRIPTION	PART NO.
INT. PARTS KIT (LIMIT STOP) CONSISTS OF STANDARD ITEM NO'S 25,26,27	1074501 (427-LS)
INT. PARTS KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 29,30	1074753 (4427-SC)
INT. PARTS KIT (SPRING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO'S 31,32	1074754 (4427-SO)

C	NUMBER	CONVERSION	1588	MSM	27NOV02	
REV	DESCRIPTION	ECO	DWN	DATE	APVD	
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM						
<b>SERIES 4427 DIAPHRAGM VALVE</b>						
<b>3" N.P.T.</b>						
SCALE	DRAWN	DATE	DWG. NO.			
N/A	JWB	06AUG01	1084029			

# 4" DIAPHRAGM VALVE - ISOLATED BONNET MODEL

## ASSEMBLY TOOLS

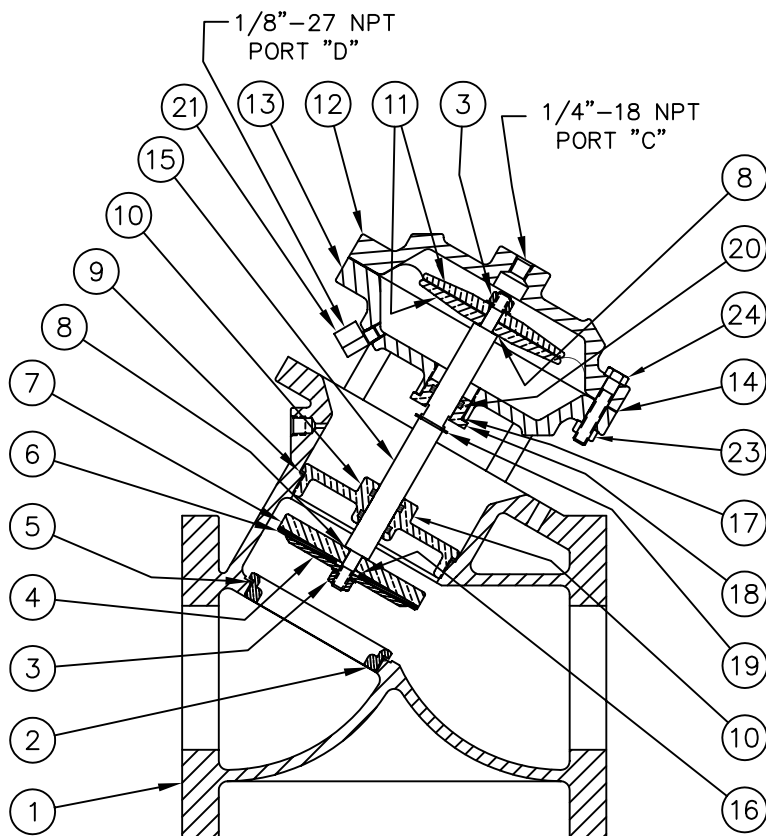
DESCRIPTION	PART NO.
FOR INSTALLATION & REMOVAL OF SHAFT GUIDE (ITEM #10) (TOOL NOT SHOWN)	1-1/2" HEX SOCKET

## REPAIR PARTS KITS

DESCRIPTION	PART NO.
DIAPHRAGM & SEALS KIT CONSISTS OF ITEM NO'S 3,5,6,8,9,14,17,20	1074766 (4428-RAE) 1074768 (4428-RAVF) 1074767 (4428-RAV) E.P.D.M. INCLUDES FKM FKM DIAPHRAGM DIAPHRAGM DIAPHRAGM 1074557 (428-FB) 1074559 (428-FV) 1074557 (428-FB)
INTERNAL PARTS KIT CONSISTS OF ITEM NO'S 4,7,10,11,15,16,18,19	1074772 (4428-RF)
SEAT (ITEM NO. 2)	1074585 (428-MAO)

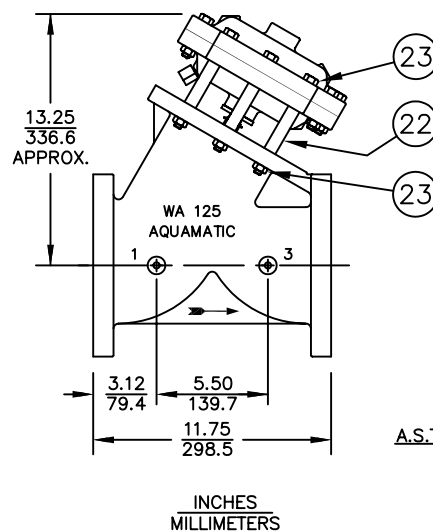
NOTE:

1. AMERICAN NATIONAL STANDARD TAPER PIPE  
THREADS (NPT) PER ANSI B2.1-1968



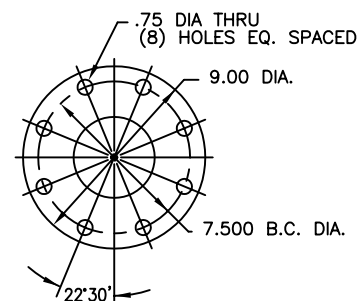
1077452 (V44K-3000-10000) (4" PIPE SIZE)

**NORMALLY OPEN (STANDARD)**




SEE REVERSE SIDE FOR  
CONFIGURATION OPTIONS

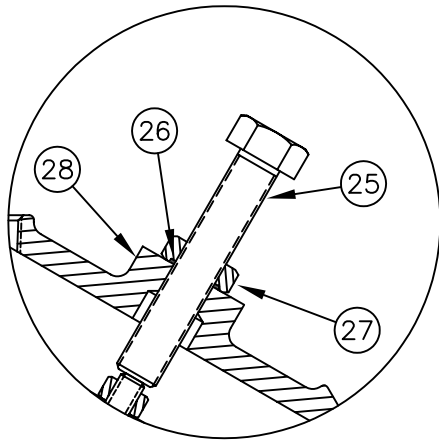
NO.	DESCRIPTION	STD	PART NO.	QTY.
1	BODY	CAST IRON	* 1074522 (428-A)	1
2	SEAT	BRASS	* 1074585 (428-MAO)	1
3	HEX LOCK NUT	(3/8-24)	* 1071653 (NUS-0017)	2
4	DISC PLATE	BRASS	* 1074574 (428-K)	1
5	O-RING	E.P.D.M.	* 1071739 (ORE-156)	1
		FKM	1071811 (ORV-156)	
6	DISC	E.P.D.M.	* 1074570 (428-JE)	1
		FKM	1074573 (428-JV)	
7	DISC HOLDER	BRASS	* 1074587 (428-N)	1
8	GASKET	COPPER	* 1073950 (200-LL)	2
9	O-RING	E.P.D.M.	* 1071759 (ORE-245)	1
		FKM	1071832 (ORV-245)	
10	SHAFT GUIDE (REQ'S ASSY TOOL)	BRASS	* 1074762 (4428-CWO)	1
11	DIAPHRAGM PLATE	BRASS	* 1074553 (428-D)	2
12	TOP CAP	CAST IRON	* 1074757 (4428-CD)	1
13	BOTTOM CAP	CAST IRON	* 1074755 (4428-C)	1
14	DIAPHRAGM	BUNA N	* 1074557 (428-FB)	1
		FKM	1074559 (428-FV)	
15	SHAFT		* 1074763 (4428-L)	1
16	DISC SPACER	BRASS	* 1074565 (428-HA)	1
17	O-RING	BUNA N	* 1071677 (ORB-025)	1
18	GUIDE BUSHING		* 1074761 (4428-G)	1
19	RETAINING RING		* 1074765 (4428-N)	1
20	O-RING	E.P.D.M.	* 1071744 (ORE-210)	3
		FKM	1071815 (ORV-210)	
21	TUBE FITTING		* 1074040 (348-Z)	1
22	STANDOFF		* 1074760 (4428-E)	6
23	HEX NUT	PLATED STEEL	* 1071658 (NUZ-0014)	17
24	HEX SCREW		* 1072406 (SCZ-0027)	5



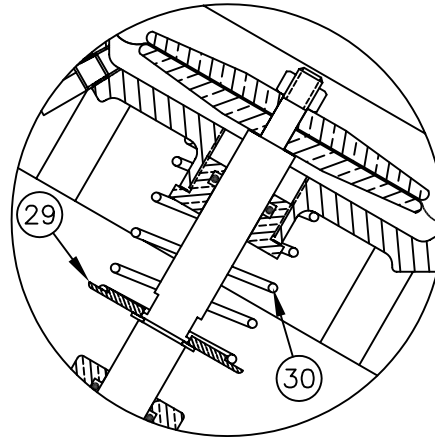
A.S.T.M. FLANGE PER A.S.A. 16.1 CLASS 125

C	NUMBER	CONVERSION	1588	MSM	27NOV02	
REV	DESCRIPTION	ECO	DWN	DATE	APVD	
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM						
<b>SERIES 4428 DIAPHRAGM VALVE</b>						
<b>4" PIPE SIZE</b>						
SCALE	DRAWN	DATE	DWG. NO.			
N/A	JWB	06AUG01	1084030			

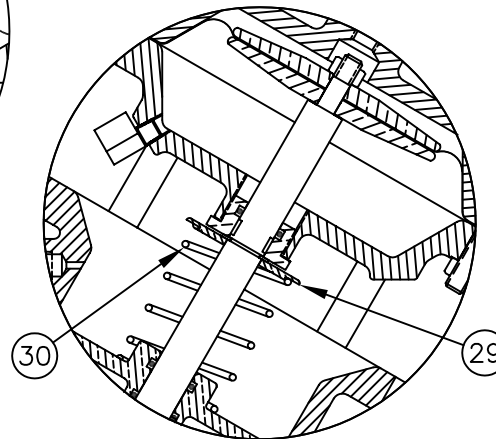




1073250 (V44K-3010-10000) (3" NPT)  
**LIMIT STOP**



V44K-3002-10000 (3" NPT)  
**SPRING ASSIST CLOSED**



1073249 (V44K-3001-10000) (3" NPT)  
**SPRING ASSIST OPEN**


NO.	DESCRIPTION	STD	PART NO.	QTY.
<b>LIMIT STOP MODEL</b>				
25	SCREW	*	1072365 (SCS-0043)	1
26	O-RING	*	1071690 (ORB-112)	1
27	HEX NUT	*	1074434 (426-U)	1
28	TOP CAP	CAST IRON	1074758 (4428-CE)	1
<b>SPRING ASSIST OPEN OR CLOSED MODEL</b>				
29	CENTERING PLATE	*	1074774 (4428-V)	1
30	SPRING	*	1075198 (526-S)	1

SEE REVERSE SIDE FOR  
STANDARD NORMALLY OPEN MODEL

FORM NO. 1078221

<b>CONVERSION KITS</b>	
DESCRIPTION	PART NO.
CONVERSION KIT (LIMIT STOP) CONSISTS OF STANDARD ITEM NO'S 25 THRU 28	1074764 (4428-LSC)
CONVERSION KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 29,30	1074773 (4428-SO)
CONVERSION KIT (SPRING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO'S 29,30	1074773 (4428-SO)

<b>REPAIR PARTS KITS</b>	
DESCRIPTION	PART NO.
INT. PARTS KIT (LIMIT STOP) CONSISTS OF STANDARD ITEM NO'S 25,26,27	1074583 (428-LS)
INT. PARTS KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 29,30	1074773 (4428-SO)
INT. PARTS KIT (SPRING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO'S 29,30	1074773 (4428-SO)

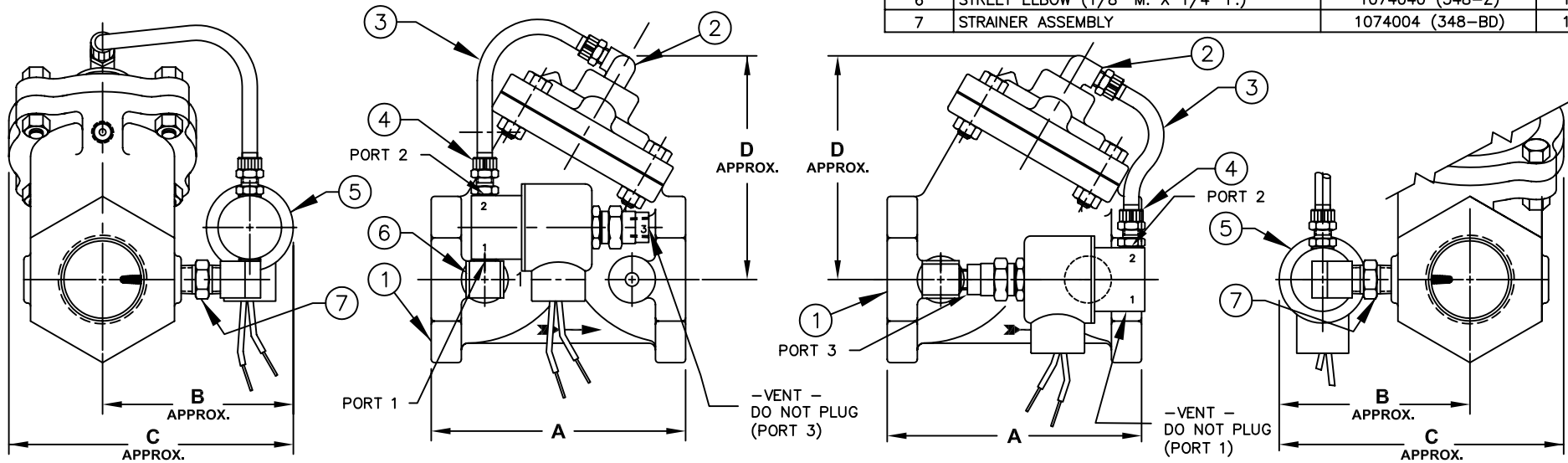
C	NUMBER	CONVERSION	1588	MSM	27NOV02
REV	DESCRIPTION	ECO	DWN	DATE	APVD
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM					
<b>SERIES 4428 DIAPHRAGM VALVE</b>					
<b>4" N.P.T.</b>					
SCALE	DRAWN	DATE	DWG. NO.		
N/A	JWB	06AUG01	1084030		

# SOLENOID OPERATED DIAPHRAGM VALVES

## NOTE:

1. LENGTH OF TUBING VARIES WITH EACH SIZE OF DIAPHRAGM VALVE.
2. B.S.P.T. AVAILABLE UPON REQUEST.
3. DIAPHRAGM VALVE IS NORMALLY OPEN, PRESSURE TO CLOSE
4. BOSS NO. 1 ON VALVE TAPPED 1/4" N.P.T.
5. DRY DRAIN OPTION - VENT PORT OF SOLENOID IS CONNECTED TO DOWNSTREAM SIDE OF VALVE.

ITEM	DESCRIPTION	PART NO.	QTY.
1	DIAPHRAGM VALVE - NORMALLY OPEN		1
2	ELBOW (1/4" M. X 1/4" TUBING)	1081627 (510-BFX)	1
3	TUBING - 1/4" O.D. (SEE NOTE)	1071936 (PTP-0005)	1
4	TUBING COUPLING (1/8" M. X 1/4" TUBING)	1074003 (348-BC)	1
5	SOLENOID (NEMA 1 ENCLOSURE)	110 V. 60 HZ. 1070652 (C4H470)	1
		220 V. 50 HZ. 1070648 (C4BM1150V)	
		24 V. 60 HZ. 1070649 (C4BM1150VW)	
		12 VDC 1070650 (C4BM115012V)	
		24 VDC 1070651 (C4BM115024DC)	
6	STREET ELBOW (1/8" M. X 1/4" F.)	1074040 (348-Z)	1
7	STRAINER ASSEMBLY	1074004 (348-BD)	1



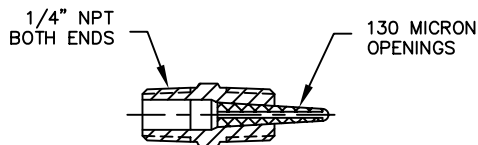
## ENERGIZED TO CLOSE

### SOLENOID ENERGIZED.

UPSTREAM PRESSURE, FROM SOLENOID PORT 1 TO PORT 2, IS APPLIED TO UPPER DIAPHRAGM CHAMBER TO CLOSE THE DIAPHRAGM VALVE.

### SOLENOID DE-ENERGIZED.

PRESSURE FROM UPPER DIAPHRAGM CHAMBER IS VENTED, THROUGH SOLENOID PORT 2 TO PORT 3 TO DRAIN. UPSTREAM PRESSURE OPENS THE DIAPHRAGM VALVE.



STRAINER ASSEMBLY

VALVE SERIES	PIPE SIZE	A	B	C	D
V42B	3/4"	3.69	3.25	4.63	3.81
		93.7	82.5	117.5	96.8
V42C	1"	3.69	3.25	4.63	3.81
		93.7	82.5	117.5	96.8
V42D	1-1/4"	4.75	3.56	5.31	4.56
		120.6	90.5	134.9	115.9
V42E	1-1/2"	4.75	3.56	5.31	4.56
		120.6	90.5	134.9	115.9
V42F	2"	6.62	3.94	6.63	5.94
		168.3	100.0	168.3	150.8
V42G	2"	7.38	4.19	7.25	6.25
		187.3	106.4	184.2	158.8
V42H	2-1/2"	7.38	4.19	7.25	6.25
		187.3	106.4	184.2	158.8
V42J	3" THREADED	9.00	4.63	8.25	7.00
		228.6	117.6	209.5	177.8
V42J	3" FLANGED	10.62	4.63	8.25	7.00
		269.9	117.6	209.5	177.8
V42K	4"	11.75	5.13	9.50	8.75
		298.5	130.3	241.3	222.3

IN.  
MM

## ENERGIZED TO OPEN


### SOLENOID DE-ENERGIZED.

UPSTREAM PRESSURE, FROM SOLENOID PORT 3 TO PORT 2, IS APPLIED TO UPPER DIAPHRAGM CHAMBER TO CLOSE THE DIAPHRAGM VALVE.

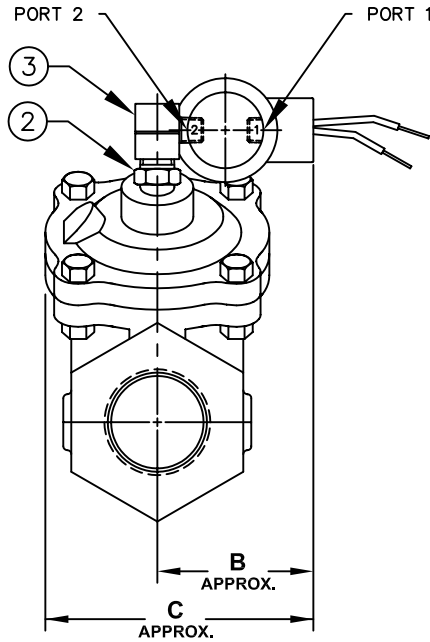
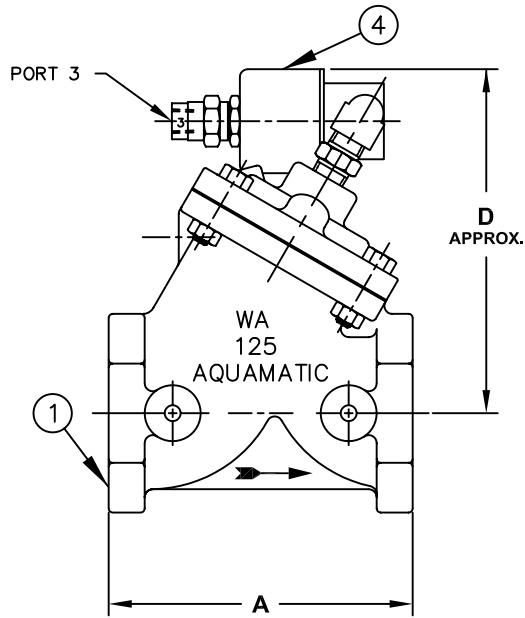
### SOLENOID ENERGIZED.

PRESSURE FROM UPPER DIAPHRAGM CHAMBER IS VENTED, THROUGH SOLENOID PORT 2 TO PORT 1 TO DRAIN. UPSTREAM PRESSURE OPENS THE DIAPHRAGM VALVE.

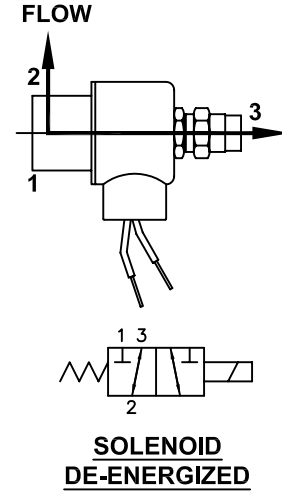
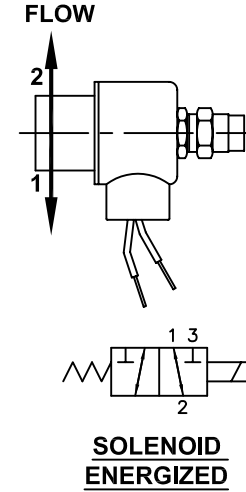
FORM NO. 1078113

B	NUMBER	CONVERSION	1588	MSM	20DEC02	
REV	DESCRIPTION	ECO	DWN	DATE	APVD	
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM						
<b>SERIES 420 DIAPHRAGM VALVES</b> <b>SOLENOID OPERATED VALVES</b>						
SCALE N/A	DRAWN JWB	DATE 31MAY01	DWG. NO. 1078114			

- NOTE:
1. B.S.P.T. AVAILABLE UPON REQUEST.
  2. DIAPHRAGM VALVE IS NORMALLY OPEN.



ITEM	DESCRIPTION	PART NO.	QTY.
1	DIAPHRAGM VALVE — NORMALLY OPEN		1
2	NIPPLE (1/4" HEX)	1081648 (510—CM)	1
3	STREET ELBOW (1/4" F. X 1/8" M.)	1074040 (348—Z)	1
4	SOLENOID (NEMA 1 ENCLOSURE)	110 V. 60 HZ.	1
		220 V. 50 HZ.	
		24 V. 60 HZ.	
		12 VDC	
		24 VDC	
		1070652 (C4H470)	
		1070648 (C4BM1150V)	
		1070649 (C4BM1150VV)	
		1070650 (C4BM115012V)	
		1070651 (C4BM115024DC)	



### INDEPENDENT CONTROL PRESSURE

#### ENERGIZE TO OPEN

APPLY CONTROL PRESSURE AT SOLENOID PORT NO. 3  
(PORT NO. 1 VENTED)

#### ENERGIZE TO CLOSE


APPLY CONTROL PRESSURE AT SOLENOID PORT NO. 1  
(PORT NO. 3 VENTED)

CONTROL PRESSURE MUST BE EQUAL TO OR GREATER  
THAN LINE PRESSURE.

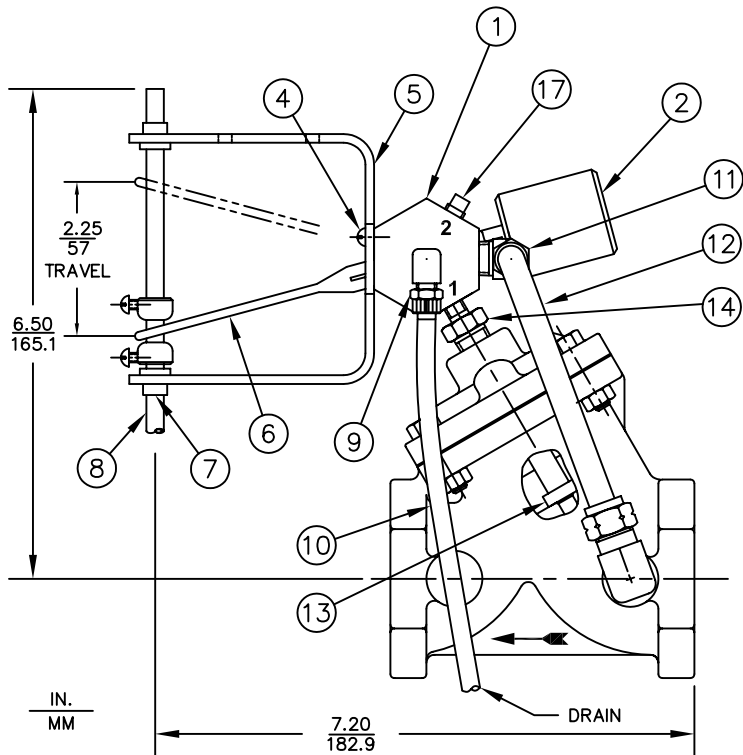
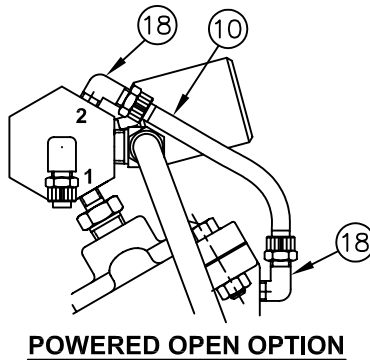
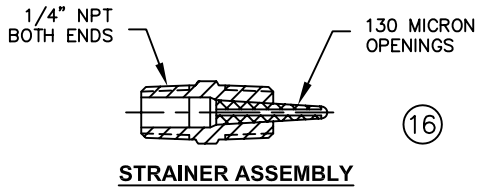
VALVE SERIES	PIPE SIZE	A	B	C	D
V42B	3/4"	3.69	2.44	3.81	4.63
		93.7	91.9	96.8	117.5
V42C	1"	3.69	2.44	3.81	4.63
		93.7	91.9	96.8	96.8
V42D	1-1/4"	4.75	2.44	4.19	5.38
		120.6	91.9	106.4	136.5
V42E	1-1/2"	4.75	2.44	4.19	5.38
		120.6	91.9	106.4	136.5
V42F	2"	6.63	2.69	5.38	6.75
		168.3	68.3	136.5	171.5
V42G	2"	7.38	3.06	6.13	7.06
		187.3	77.7	155.6	179.4
V42H	2-1/2"	7.38	3.06	6.13	7.06
		187.3	77.7	155.6	179.4
V42J	3" THREADED	9.00	3.63	7.25	7.81
		228.6	92.1	184.1	198.4
V42J	3" FLANGED	10.63	3.63	7.25	7.81
		269.9	92.1	184.1	198.4
V42K	4"	11.75	4.44	8.75	9.56
		298.5	111.1	222.3	242.9

CURRENT DRAIN (AMPERES)		
VOLTAGE	INRUSH	HOLDING
24V 60Hz	1.1	0.65
120V 60Hz	0.2	0.1
220V 50Hz	0.1	0.07
12 VDC	—	0.6
24 VDC	—	0.3

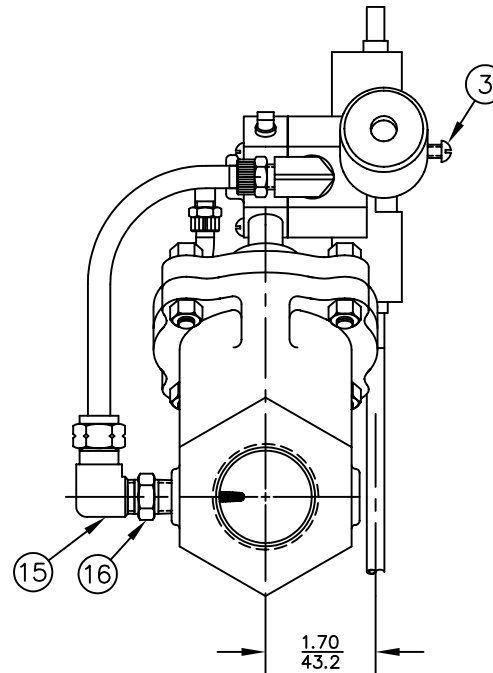
FORM NO. 1078113

B	NUMBER	CONVERSION	1588	MSM	20DEC02	
REV	DESCRIPTION	ECO	DWN	DATE	APVD	
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM						
<b>SERIES 420 DIAPHRAGM VALVES</b>						
<b>SOLENOID OPERATED VALVES</b>						
SCALE N/A	DRAWN JWB	DATE 31MAY01	DWG. NO.	1078114		

# V421 FLOAT OPERATED DIAPHRAGM VALVES



**SERIES 421 WITH FLOAT**



NO.	DESCRIPTION	PART NO.	QTY.
<b>PILOT CONTROL ASSEMBLY</b>			
1	PILOT CONTROL ASSEMBLY	1073992 (348-AE)	1
<b>LEVEL CONTROL ASSEMBLY</b>			
2	COUNTERWEIGHT	SEE DWG. NO. 1078195	1
3	RD. HD. MACH. SCREW (8-32 X 1/2)	1072375 (SCS-0083)	1
4	RD. HD. MACH. SCREW (6-32 X 3/8)	1072371 (SCS-0070)	4
5	GUIDE BRACKET	1074012 (348-D)	1
6	LEVER	1074034 (348-S)	1
7	BUSHING	1074016 (348-G)	2
8	FLOAT ROD ASS'Y. (SEE DWG. NO. 1078195 FOR PARTS LIST)	BRASS (36")	1074020 (348-K)
		BRASS (54")	1074026 (348-KK)
		P.V.C. (36")	1074029 (348-KP)
		STN. STL. (36")	1074030 (348-KS)
		STN. STL. (54")	1074027 (348-KKS)
		BRASS(36"-BR WELL)	1074028 (348-KL)
		BRASS(54"-BR WELL)	348-KKL

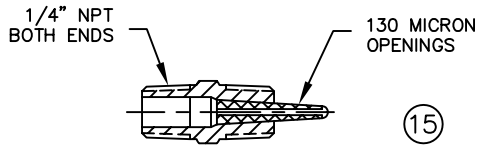
9	ELBOW (1/8" M X 1/4" TUBE)	1081656 (510-CX)	1
10	NYLON TUBING (1/4" O.D.)	1071936 (PTP-0005)	
11	ELBOW (1/4" M X 3/8" TUBE)	1074037 (348-U)	1
12	NYLON TUBING (3/8" O.D.)	1071940 (PTP-0018)	
13	SPACER	1074127 (421-HB)	1
14	HEX REDUCING NIPPLE (1/4"MX 1/8"M)	1074038 (348-X)	1
15	ELBOW (1/4" F X 3/8" TUBE)	1074007 (348-BH)	1
16	STRAINER ASSEMBLY	1074004 (348-BD)	1

<b>POWERED CLOSED ONLY</b>			
17	SQ. HD. PIPE PLUG 1/8" BRASS	1071903 (PLB-0007)	1
<b>POWERED OPEN OPTION</b>			
18	ELBOW (1/8" M X 1/4" TUBE)	1081656 (510-CX)	2

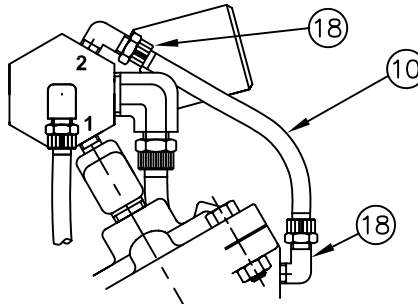
FORM NO. 1078190

B	NUMBER	CONVERSION	1588	MSM	19DEC02	
REV	DESCRIPTION	ECO	DWN	DATE	APVD	
<p><b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM</p>						
<b>SERIES 421 DIAPHRAGM VALVE</b>						
<b>FLOAT OPERATED VALVE</b>						
SCALE	DRAWN	DATE	DWG. NO.			
N/A	JWB	17JUL01	1078191			

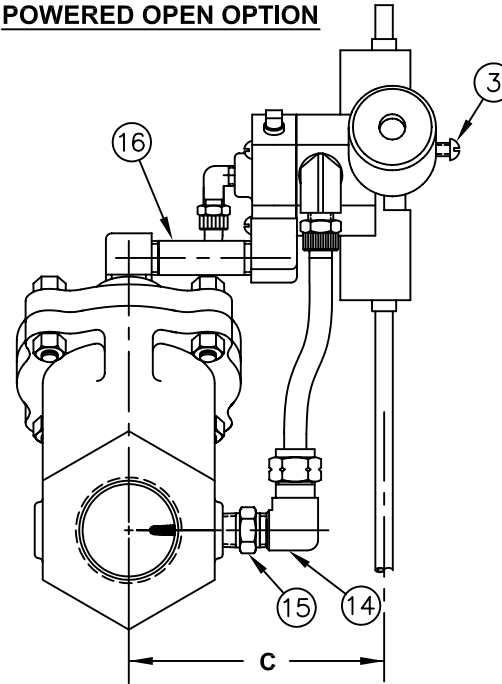
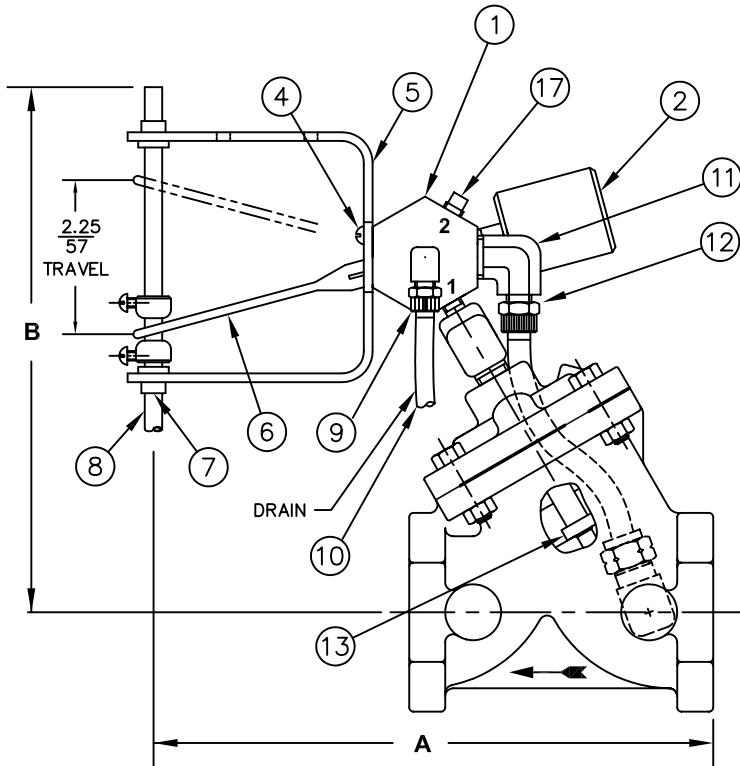
# V424-V428 FLOAT OPERATED DIAPHRAGM VALVES



**STRAINER ASSEMBLY**



**POWERED OPEN OPTION**




**SERIES 424 THRU 428 WITH FLOAT**

NO.	DESCRIPTION	PART NO.	QTY.
<b>PILOT CONTROL ASSEMBLY</b>			
1	PILOT CONTROL ASSEMBLY	1073992 (348-AE)	1
<b>LEVEL CONTROL ASSEMBLY</b>			
2	COUNTERWEIGHT	SEE DWG NO. 1078195	1
3	RD. HD. MACH. SCREW (8-32 X 1/2)	1072375 (SCS-0083)	1
4	RD. HD. MACH. SCREW (6-32 X 3/8)	1072371 (SCS-0070)	4
5	GUIDE BRACKET	1074012 (348-D)	1
6	LEVER	1074034 (348-S)	1
7	BUSHING	1074016 (348-G)	2
8	FLOAT ROD ASS'Y. (SEE DWG NO. 1078195 FOR PARTS LIST)	BRASS (36")	1074020 (348-K)
		BRASS (54")	1074026 (348-KK)
		P.V.C. (36")	1074029 (348-KP)
		STN. STL. (36")	1074030 (348-KS)
		STN. STL. (54")	1074027 (348-KKS)
		BRASS(36"-BR WELL)	1074028 (348-KL)
		BRASS(54"-BR WELL)	348-KKL
9	ELBOW (1/8" M X 1/4" TUBE)	1081656 (510-CX)	1
10	NYLON TUBING (1/4" O.D.)	1071936 (PTP-0005)	
11	ELBOW (1/4" M X 3/8" TUBE)	1074037 (348-U)	1
12	NYLON TUBING (3/8" O.D.)	1071940 (PTP-0018)	
13	SPACER	424	1074230 (424-HB)
		425	1074305 (425-HB)
		426	1074385 (426-HB)
		427	1074484 (427-HB)
		428	1074567 (428-HB)
14	ELBOW (1/4" F X 3/8" TUBE)	1074007 (348-BH)	1
15	STRAINER ASSEMBLY	1074004 (348-BD)	1
16	NIPPLE	1/4" M X 2"	424
		1/4" M X 3"	425, 426
		1/4" M X 4"	427, 428
			1071905 (PLB-0028)
			1071906 (PLB-0029)
			1071907 (PLB-0030)
<b>POWERED CLOSED ONLY</b>			
17	SQ. HD. PIPE PLUG 1/8" BRASS	1071903 (PLB-0007)	1
<b>POWERED OPEN OPTION</b>			
18	ELBOW (1/8" M X 1/4" TUBE)	1081656 (510-CX)	2

IN.  
MM

VALVE SERIES	424	425	426	427	428
PIPE SIZE	1-1/4", 1-1/2"	2"	2"	3"	4"
<b>A</b>	8.29	9.29	9.87	10.80	12.80
	210.6	132.1	236.0	274.3	325.1
<b>B</b>	7.81	8.37	9.56	10.56	13.81
	198.4	212.6	242.8	268.2	350.8
<b>C</b>	4.20	5.20	5.20	6.20	6.20
	106.7	132.1	132.1	157.5	157.5

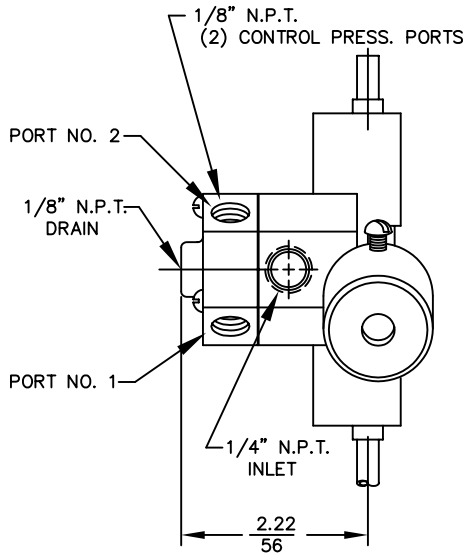
FORM NO. 1078190

B	NUMBER CONVERSION	1588	MSM	19DEC02	
REV	DESCRIPTION	ECO	DWN	DATE	APVD
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM					
<b>SERIES 424 thru 428 DIAPHRAGM VALVES</b>					
<b>FLOAT OPERATED VALVE</b>					
SCALE	DRAWN	DATE	DWG. NO.		
N/A	JWB	17JUL01	1078191		

# FLOAT OPERATED LEVEL CONTROL

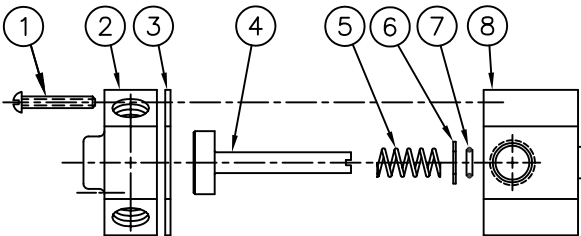
REPAIR PARTS KITS	
DESCRIPTION	PART NO.
PILOT CONTROL REPAIR PARTS INCLUDES ITEM NO. 3 THRU 7	1074019 (348-IAB)

	PORT 1	PORT 2
FLOAT UP	PRESSURED	VENTED
FLOAT DOWN	VENTED	PRESSURED

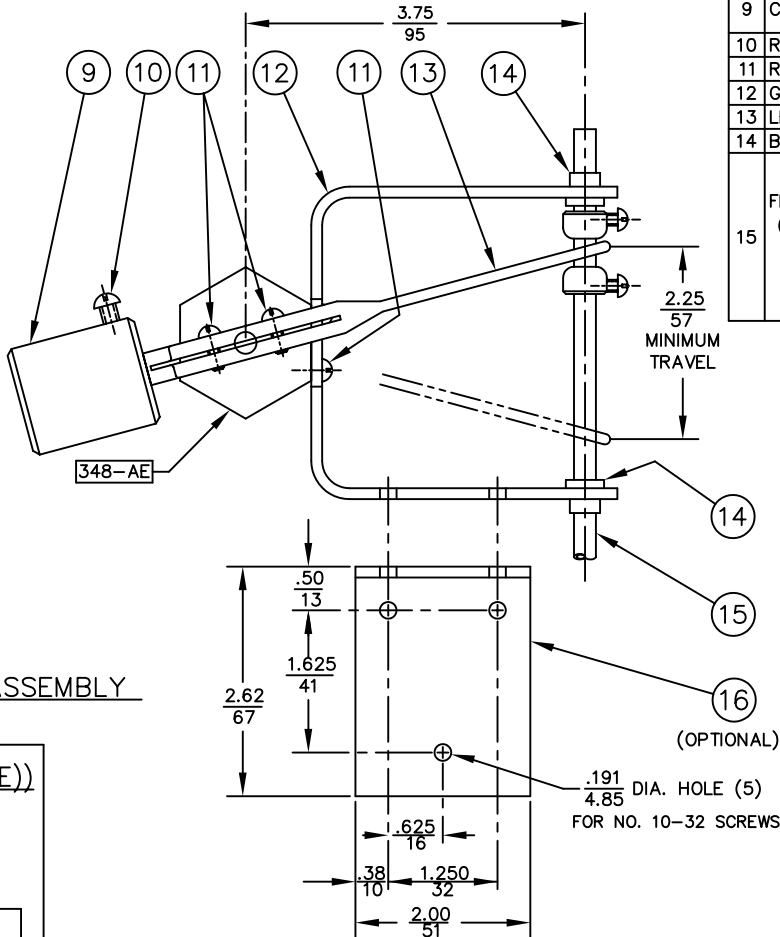


LEVEL CONTROL ASSEMBLY

PILOT CONTROL ASSEMBLY (1073992 (348-AE))



LEVEL CONTROL ASSEMBLY	FLOAT ROD ASSEMBLY
1074042 (348LC)	1074020 (348-K) (BRASS - 36")
1074044 (348LCK)	1074026 (348-KK) (BRASS - 54")
1074045 (348LCP)	1074029 (348-KP) (P.V.C. - 36")
1074046 (348LCS)	1074030 (348-KS) (STN. ST. - 36")
1074043 (348LCB)	1074028 (348-KL) (BR WELL - 36")
1074047 (348LCX)	NO FLOAT OR ROD INCL.




NO.	DESCRIPTION	PART NO.	QTY.
PILOT CONTROL ASSEMBLY (348-AE)			
1	RD. HD. MACH. SCREW (6-32 X 7/8)	1075759 (SCS-0075)	3
2	BACKPLATE	1073991 (348-A)	1
3	BACKPLATE GASKET	1074842 (48006)	1
4	STEMPLATE ASSEMBLY	1074011 (348-CBA)	1
5	SPRING	1074822 (48-M)	1
6	RETAINER WASHER	1074074 (41-F)	1
7	O-RING	1071667 (ORB-010)	1
8	BONNET ASSEMBLY	1074008 (348-BJ)	1

LEVEL CONTROL ASSEMBLY			
9	COUNTERWEIGHT	SEE DWG NO. 1078195	1
10	RD. HD. MACH. SCREW (8-32 X 1/2)	1072375 (SCS-0083)	1
11	RD. HD. MACH. SCREW (6-32 X 3/8)	1072371 (SCS-0070)	4
12	GUIDE BRACKET	1074012 (348-D)	1
13	LEVER	1074034 (348-S)	1
14	BUSHING	1074016 (348-G)	2
15	FLOAT ROD ASS'Y. (SEE DWG NO. 1078195 FOR PARTS LIST)	BRASS (36") 1074020 (348-K) BRASS (54") 1074026 (348-KK) P.V.C. (36") 1074029 (348-KP) STN. STL. (36") 1074030 (348-KS) STN. STL. (54") 1074027 (348-KKS) BRASS(36"-BR WELL) 1074028 (348-KL) BRASS(54"-BR WELL) 348-KKL	1

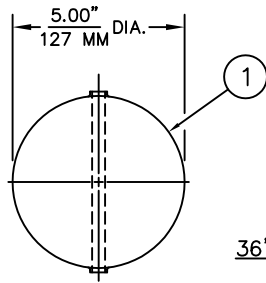
FOR FLOAT ROD ASSEMBLY OPTIONS,  
 SEE DRAWING NO. 1078195

FORM NO. 1078193

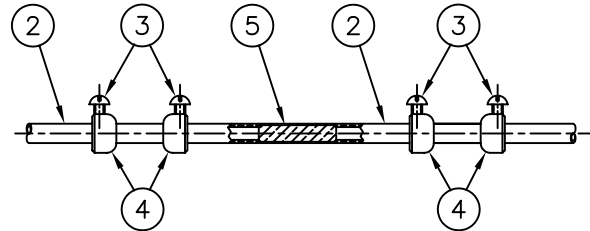
B	NUMBER CONVERSION		1588	MSM	20DEC02	
REV	DESCRIPTION		ECO	DWN	DATE	APVD
<div><div><div>OSMONICS</div><div>ROCKFORD OPERATIONS</div><div>2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421</div><div>WWW.OSMONICS.COM</div></div></div>						
SERIES 348 LEVEL CONTROL FLOAT OPERATED VALVES						
SCALE	DRAWN	DATE	DWG. NO.			
N/A	JWB	17JUL01	1078194			

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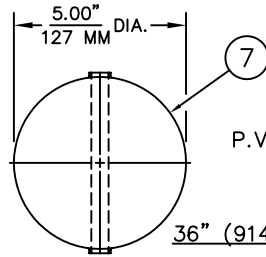
# V420 FLOAT ROD ASSEMBLIES



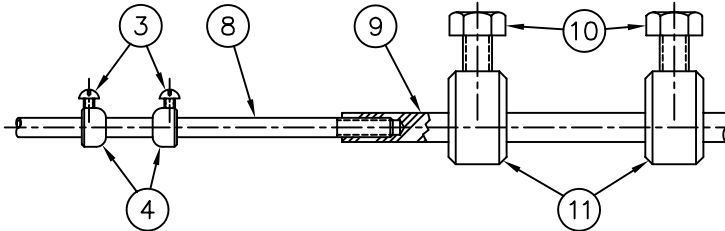
STANDARD  
POLYSTYRENE  
FLOAT ROD  
ASSEMBLY



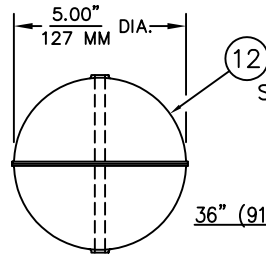
36" (914 MM) FLOAT ROD ASSEMBLY - STANDARD LENGTH [1074020 (348-K)]



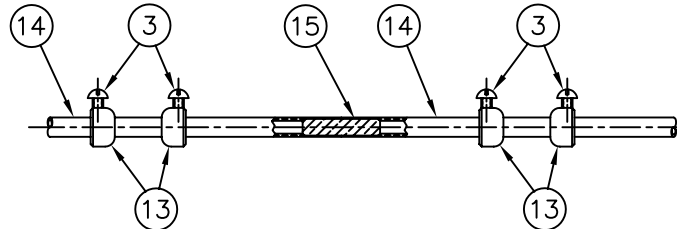
OPTIONAL  
P.V.C. FLOAT ROD  
ASSEMBLY



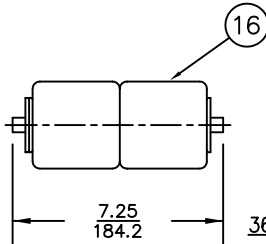
36" (914 MM) PVC FLOAT ROD ASSEMBLY - STANDARD LENGTH [1074029 (348-KP)]



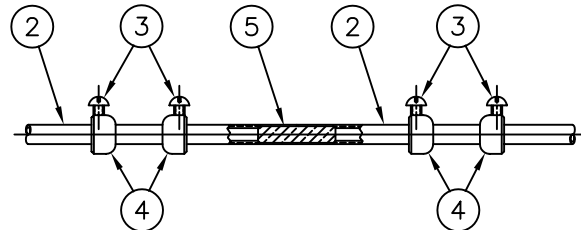
OPTIONAL  
STAINLESS STEEL  
FLOAT ROD  
ASSEMBLY



36" (914 MM) STAINLESS STEEL FLOAT ROD ASSEMBLY - STANDARD LENGTH [1074030 (348-KS)]



OPTIONAL  
BRINE WELL  
FLOAT ROD  
ASSEMBLY



36" (914 MM) BRINE WELL FLOAT ROD ASSEMBLY - STANDARD LENGTH [1074028 (348-KL)]

OPTIONAL 36" BRINE WELL FLOAT ROD ASSEMBLY (1074028 (348-KL))


16	SPONGE FLOAT ASSEMBLY	1074031 (348-L)	1
2	FLOAT ROD (BRASS)	1074023 (348-KC)	2
3	RD. HD. MACH. SCREW (6-32 X 1/4)	1072370 (SCS-0069)	4
4	STOP (BRASS)	1074017 (348-H)	4
5	STUD (BRASS)	1074022 (348-KB)	1
N.S.	COUNTERWEIGHT	1074015 (348-FF)	1

OPTIONAL 54" BRINE WELL FLOAT ROD ASSEMBLY (348-KKL)

16	SPONGE FLOAT ASSEMBLY	1074031 (348-L)	1
2	FLOAT ROD (BRASS)	1074023 (348-KC)	3
3	RD. HD. MACH. SCREW (6-32 X 1/4)	1072370 (SCS-0069)	4
4	STOP (BRASS)	1074017 (348-H)	4
5	STUD (BRASS)	1074022 (348-KB)	2
N.S.	COUNTERWEIGHT	1074015 (348-FF)	1

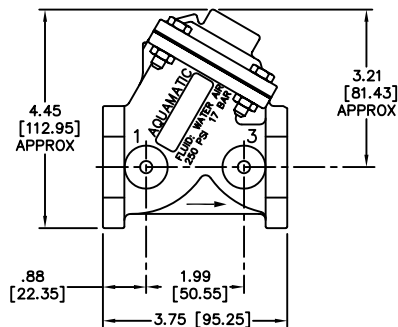
NO.	DESCRIPTION	PART NO.	QTY.
STANDARD 36" FLOAT ROD ASSEMBLY (1074020 (348-K))			
1	FLOAT (POLYSTYRENE)	1073996 (348-AQ)	1
2	FLOAT ROD (BRASS)	1074023 (348-KC)	2
3	RD. HD. MACH. SCREW (6-32 X 1/4)	1072370 (SCS-0069)	4
4	STOP (BRASS)	1074017 (348-H)	4
5	STUD (BRASS)	1074022 (348-KB)	1
N.S.	COUNTERWEIGHT	1074014 (348-F)	1
OPTIONAL 54" FLOAT ROD ASSEMBLY (1074026 (348-KK))			
1	FLOAT (POLYSTYRENE)	1073996 (348-AQ)	1
2	FLOAT ROD (BRASS)	1074023 (348-KC)	3
3	RD. HD. MACH. SCREW (6-32 X 1/4)	1072370 (SCS-0069)	4
4	STOP (BRASS)	1074017 (348-H)	4
5	STUD (BRASS)	1074022 (348-KB)	2
N.S.	COUNTERWEIGHT	1074015 (348-FF)	1
OPTIONAL 36" PVC FLOAT ROD ASSEMBLY (1074029 (348-KP))			
3	RD. HD. MACH. SCREW (6-32 X 1/4)	1072370 (SCS-0069)	2
4	STOP (PVC)	1074017 (348-H)	2
7	FLOAT (PVC)	1073997 (348-AR)	1
8	UPPER FLOAT ROD (PVC)	1073999 (348-AV)	1
9	LOWER FLOAT ROD (PVC)	1073995 (348-AP)	1
10	HEX HD. CAP SCREW (3/8-16 X 1")	1072352 (SCP-0021)	2
11	COLLAR	1073993 (348-AH)	2
N.S.	COUNTERWEIGHT	1074014 (348-F)	1
OPTIONAL 36" STN. STL. FLOAT ROD ASSEMBLY (1074030 (348-KS))			
3	RD. HD. MACH. SCREW (6-32 X 1/4)	1072370 (SCS-0069)	4
12	FLOAT (STN. STL.)	1073998 (348-AS)	1
13	STOP	1074018 (348-HC)	4
14	FLOAT ROD (STN. STL.)	1074024 (348-KD)	2
15	STUD (STN. STL.)	1074025 (348-KE)	1
N.S.	COUNTERWEIGHT	1074014 (348-F)	1
OPTIONAL 54" STN. STL. FLOAT ROD ASSEMBLY (348-KSK)			
3	RD. HD. MACH. SCREW (6-32 X 1/4)	1072370 (SCS-0069)	4
12	FLOAT (STN. STL.)	1073998 (348-AS)	1
13	STOP	1074018 (348-HC)	4
14	FLOAT ROD (STN. STL.)	1074024 (348-KD)	3
15	STUD (STN. STL.)	1074025 (348-KE)	2
N.S.	COUNTERWEIGHT	1074014 (348-F)	1

FORM NO. 1078193

B	NUMBER	CONVERSION	1588	MSM	20DEC02
REV	DESCRIPTION	ECO	DWN	DATE	APVD
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM					
SERIES 420 DIAPHRAGM VALVES FLOAT ROD ASSEMBLIES					
SCALE	DRAWN	DATE	DWG. NO.		
N/A	JWB	17JUL01	1078194		

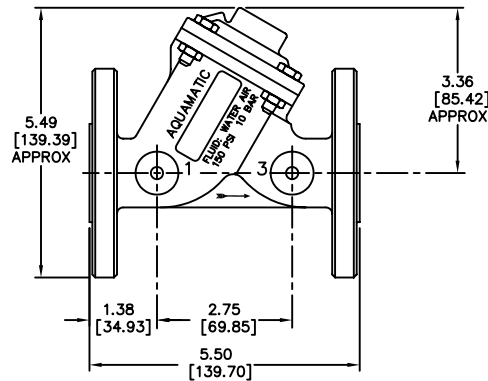
# 1" DIAPHRAGM VALVE - STAINLESS STEEL

## THREADED



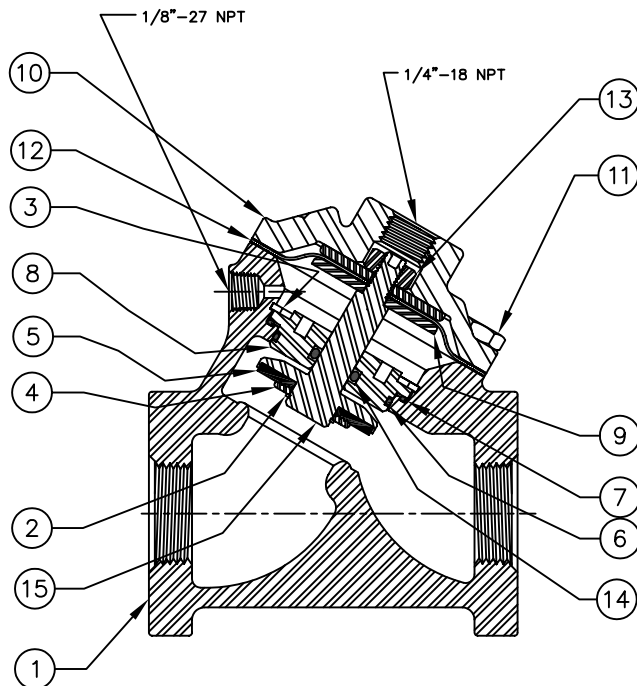
MODEL: V46C-0200-03000 (THREADED)

## FLANGED



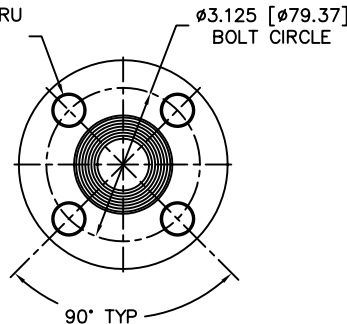
MODEL: V46C-3200-03000 (FLANGED)

INCHES [MILLIMETERS]



**NORMALLY OPEN (STANDARD)**

Ø.625 [Ø15.88] THRU  
TYP (4)  
BOTH FLANGES



FLANGES PER ASTM B16.5  
CLASS 150 AND ISO 7005-1 PN20

NO.	DESCRIPTION	STD	PART NO.	QTY.
1	BODY, 1" NPT	*	1079053	1
	THREADED BSPP		1079055	
	JIS		1079057	
	BODY, 1" NPT		1078568	
	FLANGED BSPP		1078961	
2	RETAINING RING	316 SS	1078562	1
3	RETAINING RING	316 SS	1075695	1
4	DISC PLATE	316 SS	1075690	1
5	DISC	BUNA	1074140	1
		E.P.D.M.	1074143	
		FKM	1074146	
6	O-RING	BUNA N	1079834	1
		E.P.D.M.	1081944	
		FKM	1081946	
7	O-RING	BUNA N	1079835	1
		E.P.D.M.	1081945	
		FKM	1081947	
8	SHAFT GUIDE	316 SS	1078579	1
9	DIAPHRAGM PLATE	316 SS	1075684	2
10	CAP	NPT	1078572	1
		BSPP	1078962	
		JIS	1078964	
11	HEX SCREW	316 SS	1075692	4
12	DIAPHRAGM	BUNA N	1074119	1
		FKM	1074120	
13	HEX NUT	316 SS	1075693	5
14	O-RING	BUNA N	1071689	1
		E.P.D.M.	1071726	
15	SHAFT	FKM	1071798	1
		CAST CF8M	1078584	


### NOTES:

1. AMERICAN NATIONAL STANDARD TAPER PIPE THREADS (NPT) PER ANSI B1.20.1.
2. VALVES AVAILABLE IN BSP OR JIS CONFIGURATIONS. (SEE ITEMS 1 & 10)

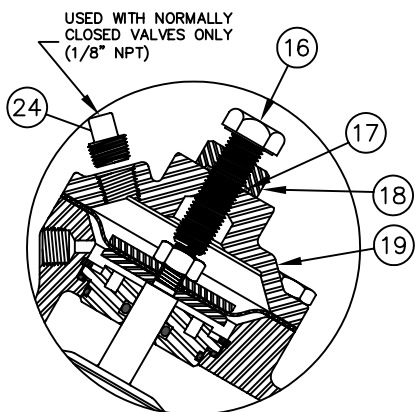
SEE SHEET 2 FOR  
CONFIGURATION OPTIONS

FORM NO. 1078633

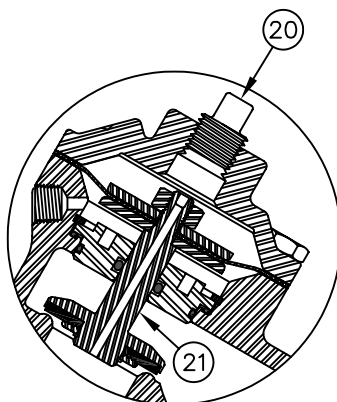
REPAIR PARTS KITS			
DESCRIPTION	PART NO.		
DIAPHRAGM & SEALS KIT CONSISTS OF ITEM NO'S 2, 3, 5, 6, 7, 12, 13, 14 & SILICONE PACK PART NO. 1071485	1078620	1078621	1078622
	BUNA N	E.P.D.M.	FKM
	INCLUDES	INCLUDES	INCLUDES
	DIAPHRAGM 1074119	DIAPHRAGM 1074119	DIAPHRAGM 1074120
INT. PARTS KIT (NORM. OPEN) CONSISTS OF STANDARD ITEM NO'S 4, 8, 9(2), 15	1078623		

A	INITIAL RELEASE	1561	GES	28FEB03	ACE
REV	DESCRIPTION	ECO	DWN	DATE	APVD
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM					
<b>SERIES 461 DIAPHRAGM VALVE</b> <b>316 STAINLESS STEEL, 1" PIPE SIZE</b>					
SCALE 1/2	DRAWN GES	DATE 03APR02	DWG. NO. 1078634	SHT 1 OF 2	

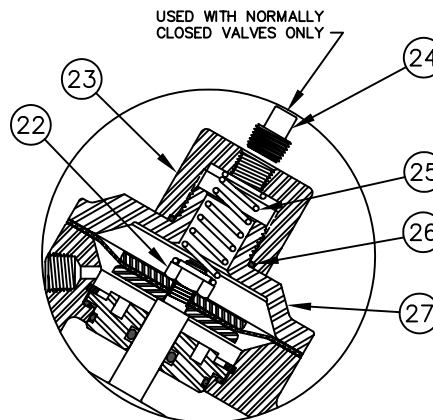


**LIMIT STOP**

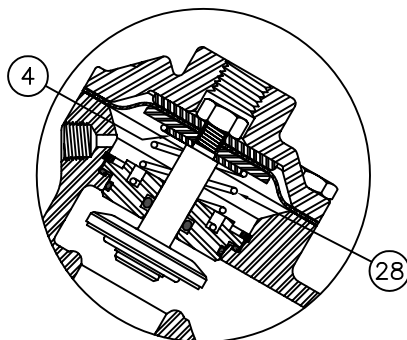
MODEL: V46C-3210-03000 (FLANGED)  
MODEL: V46C-0210-03000 (THREADED)

**NORMALLY CLOSED**

MODEL: V46C-3230-03000 (FLANGED)  
MODEL: V46C-0230-03000 (THREADED)

**SPRING ASSIST CLOSED**

MODEL: V46C-3202-03000 (FLANGED)  
MODEL: V46C-0202-03000 (THREADED)

**SPRING ASSIST OPEN**

MODEL: V46C-3201-03000 (FLANGED)  
MODEL: V46C-0201-03000 (THREADED)


NO.	DESCRIPTION		STD	PART NO.	QTY.	
<b><u>LIMIT STOP MODEL</u></b>						
16	SCREW		316 SS	*	1078586	1
17	O-RING		BUNA	*	1071668	1
18	STOP NUT		316 SS	*	1078588	1
19	CAP	NPT	CAST CF8M (316 SS)	*	1078590	1
		BSPP			1078983	
		JIS			1078984	
<b><u>NORMALLY CLOSED MODEL</u></b>						
20	PIPE PLUG, 1/4" NPT		316 SS	*	1078592	1
21	SHAFT (NORMALLY CLOSED)		316 SS	*	1078594	1
<b><u>SPRING ASSIST CLOSED MODEL</u></b>						
22	CENTERING NUT		316 SS	*	1078596	1
23	RETAINER NUT		316 SS	*	1078598	1
24	PIPE PLUG (1/8" NPT)		316 SS	*	1078600	1
25	SPRING		316 SS	*	1078602	1
26	O-RING		BUNA	*	1071674	1
27	CAP		316 SS	*	1078604	1
<b><u>SPRING ASSIST OPEN MODEL</u></b>						
4	DISC PLATE		316 SS	*	1075690	1
28	SPRING		316 SS	*	1078608	1

**NOTE:**

1. SPRING ASSIST CLOSED MODEL CANNOT BE COMBINED WITH LIMIT STOP MODEL.

SEE SHEET 1 FOR STANDARD  
NORMALLY OPEN MODEL

FORM NO. 1078633

A	INITIAL RELEASE	1561	GES	28FEB03	ACE
REV	DESCRIPTION	ECO	DWN	DATE	APVD
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM					
<b>SERIES 461 DIAPHRAGM VALVE</b> <b>316 STAINLESS STEEL, 1" PIPE SIZE</b>					
SCALE 1/2	DRAWN GES	DATE 03APR02	DWG. NO. 1078634	SHT 2 OF 2	

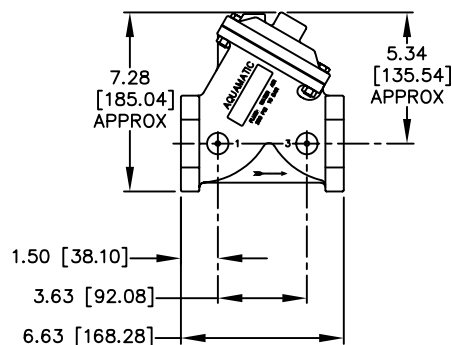
**CONVERSION KITS**

DESCRIPTION	PART NO.
CONVERSION KIT (LIMIT STOP) CONSISTS OF STANDARD ITEM NO'S 16,17,18,19	1078629
CONVERSION KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 22,23,24,25,26,27	1078630
CONVERSION KIT (SPRING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO'S 4,8,28	1078631

**REPAIR PARTS KITS**

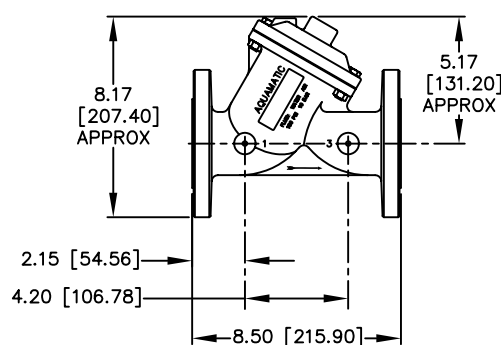
DESCRIPTION	PART NO.
INT. PARTS KIT (LIMIT STOP) CONSISTS OF STANDARD ITEM NO'S 16,17,18	1078624
INT. PARTS KIT (NORMALLY CLOSED) CONSISTS OF STANDARD ITEM NO'S 4,8,9(2),21	1078625
INT. PARTS KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 22,25,26	1078626
INT. PARTS KIT (SPRING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO'S 4,28	1078627

## THREADED



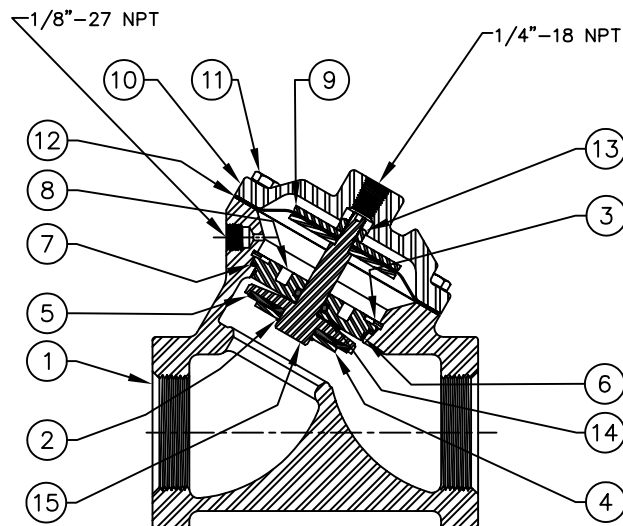
MODEL: V46F-0200-03000 (THREADED)

## FLANGED



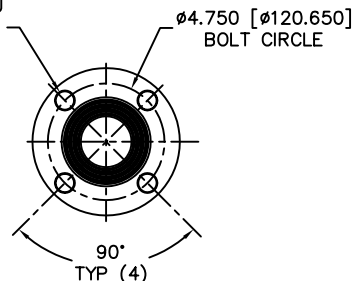
MODEL: V46F-3200-03000 (FLANGED)

INCHES [MILLIMETERS]



**NORMALLY OPEN (STANDARD)**

Ø.750 [Ø19.050] THRU  
TYP (4)  
BOTH FLANGES



FLANGES PER ASTM B16.5  
CLASS 150 AND ISO 7005-1 PN20

NO.	DESCRIPTION	STD	PART NO.	QTY.
1	BODY, 2" THREADED	NPT	1079059	1
		BSPP	1079060	
		JIS	1079061	
	BODY, 2" FLANGED	NPT	1078656	
		BSPP	1078965	
2	RETAINING RING	316 SS	1078566	1
3	RETAINING RING	316 SS	1078648	1
4	DISC PLATE	316 SS	1078654	1
5	DISC	BUNA	1074307	1
		E.P.D.M.	1074309	
		FKM	1074312	
6	O-RING	BUNA N	1079836	1
		E.P.D.M.	1081948	
		FKM	1081950	
7	O-RING	BUNA N	1071685	1
		E.P.D.M.	1081949	
		FKM	1071796	
8	SHAFT GUIDE	316 SS	1078666	1
9	DIAPHRAGM PLATE	316 SS	1078664	2
10	CAP	NPT	1078660	1
		BSPP	1078966	
		JIS	1078968	
11	HEX SCREW	316 SS	1078652	6
12	DIAPHRAGM	BUNA N	1074296	1
		FKM	1074297	
13	HEX NUT	316 SS	1078650	7
14	O-RING	BUNA N	1071699	1
		E.P.D.M.	1071742	
		FKM	1071813	
15	SHAFT	CAST CF8M	1078670	1


### NOTES:

1. AMERICAN NATIONAL STANDARD TAPER PIPE THREADS (NPT) PER ANSI B1.20.1.
2. VALVES AVAILABLE IN BSP OR JIS CONFIGURATIONS. (SEE ITEMS 1 & 10)

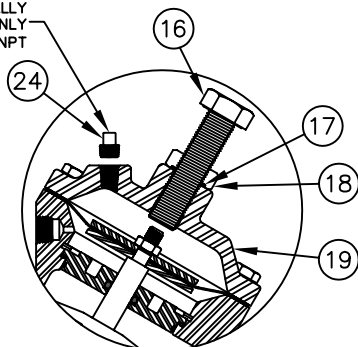
SEE SHEET 2 FOR  
CONFIGURATION OPTIONS

FORM NO. 1078717

REPAIR PARTS KITS			
DESCRIPTION	PART NO.		
DIAPHRAGM & SEALS KIT CONSISTS OF ITEM NO'S 2, 3, 5, 6, 7, 12, 13, 14, 17, 26 & SILICONE PACK PART NO. 1071485	1078704	1078705	1078706
	BUNA N INCLUDES DIAPHRAGM 1074296	E.P.D.M. INCLUDES DIAPHRAGM 1074296	FKM INCLUDES DIAPHRAGM 1074297
	1078707		
INT. PARTS KIT (NORM. OPEN) CONSISTS OF STANDARD ITEM NO'S 4, 8, 9(2), 15			

A	INITIAL RELEASE	1561	GES	28FEB03	ACE
REV	DESCRIPTION	ECO	DWN	DATE	APVD
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM					
<b>SERIES 465 DIAPHRAGM VALVE</b> <b>316 STAINLESS STEEL, 2" PIPE SIZE</b>					
SCALE 1/2	DRAWN GES	DATE 03APR02	DWG. NO. 1078668	SHT 1 OF 2	

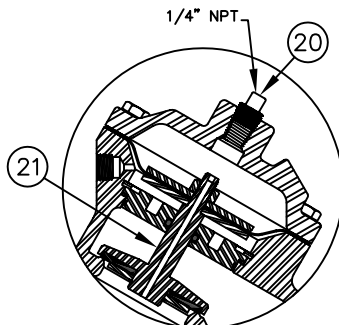
USED WITH NORMALLY  
CLOSED VALVES ONLY  
1/8" NPT



## LIMIT STOP

MODEL: V46F-3210-03000 (FLANGED)  
MODEL: V46F-0210-03000 (THREADED)

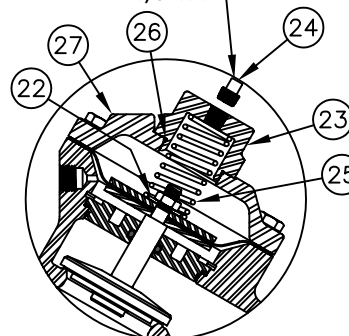
1/4" NPT



## NORMALLY CLOSED

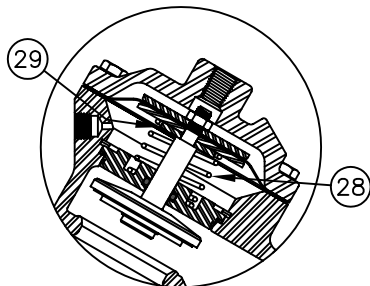
MODEL: V46F-3230-03000 (FLANGED)  
MODEL: V46F-0230-03000 (THREADED)

USED WITH NORMALLY  
CLOSED VALVES ONLY  
1/8" NPT



## SPRING ASSIST CLOSED

MODEL: V46F-3202-03000 (FLANGED)  
MODEL: V46F-0202-03000 (THREADED)



## SPRING ASSIST OPEN

MODEL: V46F-3201-03000 (FLANGED)  
MODEL: V46F-0201-03000 (THREADED)

NO.	DESCRIPTION	STD	PART NO.	QTY	
<b>LIMIT STOP MODEL</b>					
16	SCREW	316 SS	*	1078676	1
17	O-RING	BUNA	*	1071690	1
18	STOP NUT	316 SS	*	1078678	1
19	CAP. NPT	CAST (CF8M)	*	1078680	1

NORMALLY CLOSED MODEL					
20	PIPE PLUG, 1/4" NPT	316 SS	*	1078592	1
21	SHAFT (NORMALLY CLOSED)	316 SS	*	1078682	1

<b><u>SPRING ASSIST CLOSED MODEL</u></b>					
22	CENTERING WASHER	316 SS	*	1078684	1
23	RETAINER NUT	316 SS	*	1078686	1
24	PIPE PLUG (1/8" NPT)	316 SS	*	1078600	1
25	SPRING	316 SS	*	1078688	1
26	O-RING	BUNA	*	1071677	1
27	CAP	CAST (CF8M)	*	1078690	1

SPRING ASSIST OPEN MODEL					
28	SPRING	316 SS	*	1078692	1
29	CENTERING WASHER	316 SS	*	1078694	1

NOTE:

1. SPRING ASSIST CLOSED MODEL CANNOT BE COMBINED WITH LIMIT STOP MODEL.

SEE SHEET 1 FOR STANDARD  
NORMALLY OPEN MODEL

FORM NO. 1078717

A	INITIAL RELEASE	1561	GES	28FEB03	ACE
REV	DESCRIPTION	ECO	DWN	DATE	APVD



**OSMONICS**

ROCKFORD OPERATIONS

2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421  
WWW.OSMONICS.COM

**SERIES 465 DIAPHRAGM VALVE**  
**316 STAINLESS STEEL, 2" PIPE SIZE**

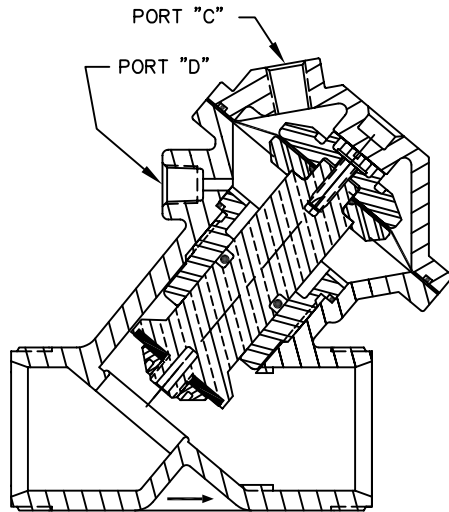
SCALE	DRAWN	DATE	DWG. NO.	SHT 2
1/2	GES	03APR02	1078668	OF 2

## CONVERSION KITS

DESCRIPTION	PART NO.
CONVERSION KIT (LIMIT STOP)	1078713
CONSISTS OF STANDARD ITEM NO'S 16,17,18,19	
CONVERSION KIT (SPRING ASSIST CLOSED)	1078714
CONSISTS OF STANDARD ITEM NO'S 22,23,24,25,26,27	
CONVERSION KIT (SPRING ASSIST OPEN)	1078711
CONSISTS OF STANDARD ITEM NO'S 28,29	

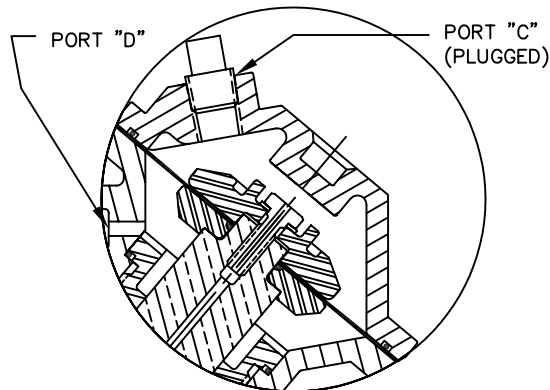
## REPAIR PARTS KITS

DESCRIPTION	PART NO.
INT. PARTS KIT (LIMIT STOP)	1078708
CONSISTS OF STANDARD ITEM NO'S 16,17,18	
INT. PARTS KIT (NORMALLY CLOSED)	1078709
CONSISTS OF STANDARD ITEM NO'S 4,8,9(2),21	
INT. PARTS KIT (SPRING ASSIST CLOSED)	1078710
CONSISTS OF STANDARD ITEM NO'S 22,25,26	
INT. PARTS KIT (SPRING ASSIST OPEN)	1078711
CONSISTS OF STANDARD ITEM NO'S 28, 29	



## **NORMALLY OPEN**

LINE PRESSURE/FLOW AGAINST THE VALVE SEATING DISC WILL OPEN THE VALVE. CONTROL PRESSURE APPLIED TO THE TOP OF THE DIAPHRAGM (PORT "C") WILL CLOSE THE VALVE.

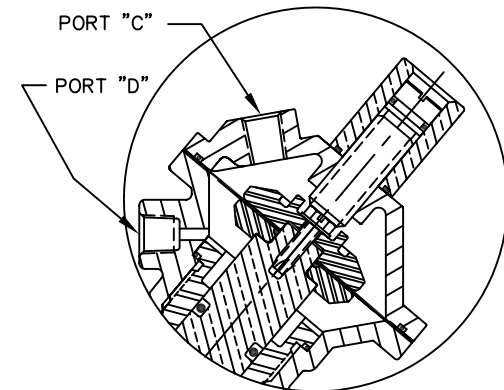


## **NORMALLY CLOSED**

LINE PRESSURE AGAINST THE DISC, TRANSFERRED THRU THE VALVE'S HOLLOW SHAFT TO THE TOP OF THE DIAPHRAGM, WILL CLOSE THE VALVE. CONTROL PRESSURE AT PORT "D" WILL OPEN THE VALVE. ADDITION OF "SPRING ASSIST CLOSED" FEATURE IS RECOMMENDED FOR THE FOLLOWING CONDITIONS:

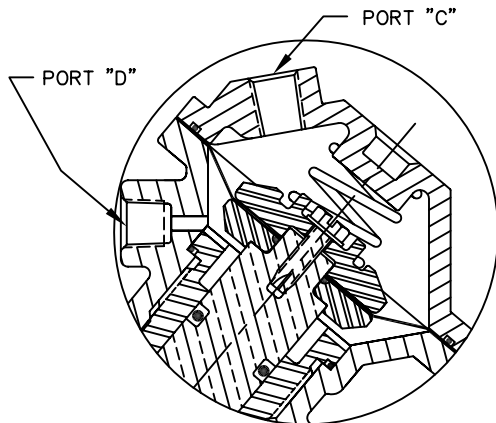
1. LOW PRESSURE AND/OR FLOW.
2. VALVE DISCHARGES TO ATMOSPHERE.

NORMALLY CLOSED FEATURE NOT RECOMMENDED FOR LINE MEDIA CONTAINING SOLIDS, HIGH TEMPERATURES OR OTHER MEDIA CONDITIONS WHICH MAY DAMAGE THE DIAPHRAGM.



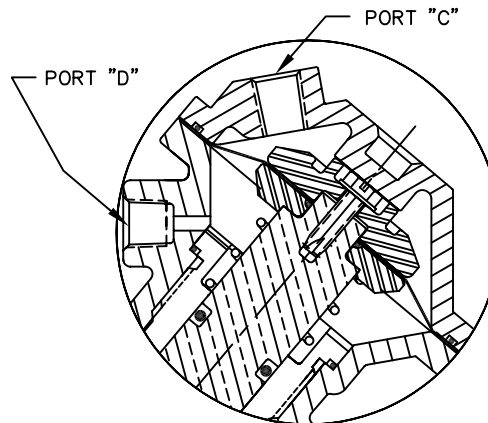
## **LIMIT STOP**

INCLUDES AN ADJUSTMENT SCREW WHICH LIMITS THE VALVE STROKE. MAY BE USED TO CONTROL FLOW RATE, HOWEVER, FLOW RATE WILL VARY WITH CHANGES IN PRESSURE.



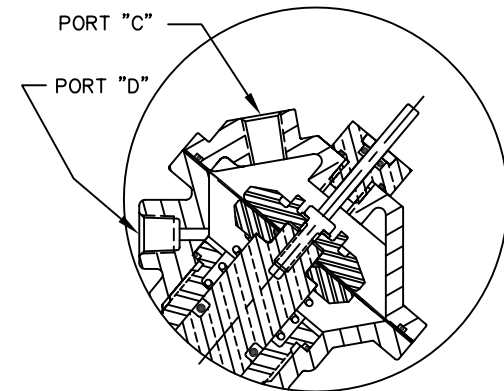
## **SPRING ASSIST CLOSED**

SPRING SERVES AS AN ASSIST TO ASSURE FULL VALVE CLOSURE IN THE ABSENCE OF LINE AND CONTROL PRESSURES.



## **SPRING ASSIST OPEN**

SPRING SERVES AS AN ASSIST TO ASSURE FULL VALVE OPENING IN THE ABSENCE OF LINE AND CONTROL PRESSURES.  
(STANDARD ON SERIES 520 VALVES.)



## **POSITION INDICATOR**

INDICATOR ROD IS ATTACHED TO MAIN VALVE STEM TO SHOW POSITION OF VALVE. ONLY AVAILABLE WITH SPRING ASSIST OPEN OPTION.



**OSMONICS**

ROCKFORD OPERATIONS

2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421  
WWW.OSMONICS.COM

SERIES 520 DIAPHRAGM VALVES

FORM NO. 1081310

A	RELEASE NEW DESIGN	1416	JWB	25JUL01	VP	SCALE	DRAWN	DATE	DWG. NO.
REV	DESCRIPTION	ECO	DWN	DATE	APVD	N/A	JWB	25JUL01	1078147

## PLASTIC DIAPHRAGM VALVES (520 THRU 526)

SERIES	PIPE SIZE	SEAT DIAMETER	SEAT AREA	DIAPHRAGM AREA	TOTAL STROKE	DIAPHRAGM CHAMBER (VOLUME)	* Cv	** Kv	FLOW RATE		PRESSURE DROP	
		IN.	SQ. IN.	SQ. IN.	IN.	CUBIC IN.			@ 10 FT./SEC. (3 M./SEC.) NOTE 1	@ 20 FT./SEC. (6 M./SEC.) NOTE 2	@ 10 FT./SEC. (3 M./SEC.) NOTE 1	@ 20 FT./SEC. (6 M./SEC.) NOTE 2
		CM.	SQ. CM.	SQ. CM.	CM.	CUBIC CM.			GAL./MIN. CU.M/HR	GAL./MIN. CU.M/HR	P.S.I. bar	P.S.I. bar
520	1/2"	.507 1.28	.20 1.30	.52 3.35	.28 .71	.55 9.00	4.0	3.4	6.2 1.4	12.4 2.8	2.4 0.16	9.6 0.66
521	1"	.996 2.52	.77 4.96	2.07 13.35	.56 1.42	3.05 49.90	15.0	13.0	24 5.4	48 10.8	2.5 0.17	10.2 0.7
524	1 1/2"	1.62 4.11	2.06 13.28	3.86 24.89	1.00 2.54	7.32 119	38.0	32.7	64 14.4	128 28.8	2.8 0.19	11.3 0.78
526	2 1/2"	2.37 6.01	4.40 28.38	8.32 53.66	1.62 4.11	12.20 200	100.0	86.0	136 31.0	272 62.0	1.8 0.12	7.4 0.51

- \* Cv - FLOWRATE (GAL./MIN.) OF WATER AT 60° F. AT 1 P.S.I. PRESSURE DROP  
 \*\* Kv - FLOWRATE (CU. M./HR) OF WATER AT 15.5° C. AT 1 BAR PRESSURE DROP

- NOTE 1: MAXIMUM CONTINUOUS VELOCITY THROUGH THE VALVE.  
 NOTE 2: MAXIMUM CONTINUOUS VELOCITY. EXTENDED SERVICE AT THIS VELOCITY MAY CAUSE CAVITATION.

TO DETERMINE FLOWRATE AT ANY GIVEN PRESSURE DROP,  
 THE FOLLOWING FORMULAS CAN BE USED.

FOR WATER AND LIQUIDS:

$$Q = \frac{C_v \sqrt{\Delta P}}{\sqrt{e}}$$

Q - FLOWRATE IN GAL./MIN.  
 $\Delta P$  - PRESSURE DROP (LB./SQ. IN.)  
 e - SPECIFIC GRAVITY (WATER = 1.00)

FOR AIR AND GAS:

WHEN  $P_2 < .5P_1$

$$C_v = \frac{CFM \sqrt{e}}{.5P_1}$$

WHEN  $P_2 > .5P_1$

$$C_v = \frac{CFM \sqrt{e}}{\sqrt{\Delta P P_2}}$$

CFM - CU. FT./MIN. FLOW  
 e - SPECIFIC GRAVITY (AIR = 1.00)  
 P1 - INLET PRESSURE (LB./SQ. IN.)  
 P2 - OUTLET PRESSURE (LB./SQ. IN.)

THE DATA PRESENTED HERE IS  
 BELIEVED TO BE RELIABLE AND  
 OFFERED AS SUGGESTION ONLY.  
 ACTUAL RESULTS MAY VARY  
 DEPENDING UPON APPLICATION.

FORM NO. 1081310

PRINTED IN U.S.A.

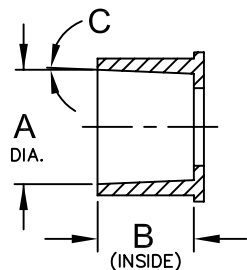
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REV	DESCRIPTION	ECO	DWN	DATE	APVD	N/A	JWB	25JUL01	1078147



**OSMONICS**  
 ROCKFORD OPERATIONS

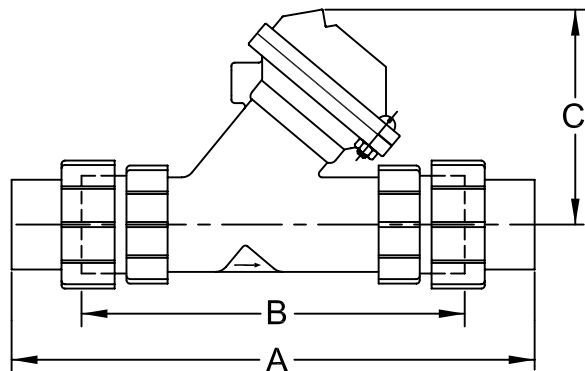
2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421  
 WWW.OSMONICS.COM

SERIES 520 DIAPHRAGM VALVES

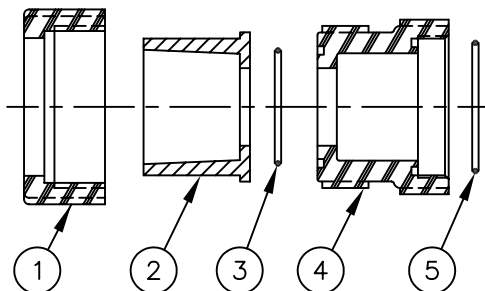


**FEMALE SOCKET WELD END CONNECTOR**

VALVE SERIES	STANDARD	DIAMETER A	DEPTH B	TAPER C
520	A.S.T.M. 1/2"	.848/.856"	.875"	0°, 24'
	I.S.O. NW-15	20.1/20.3 MM	22.2 MM	0°, 15'
	J.I.S. 16	21.9/22.3 MM	22.2 MM	0°, 19'
521	A.S.T.M. 1"	1.325/1.335"	1.125"	0°, 23'
	I.S.O. NW-25	32.1/32.3 MM	28.6 MM	0°, 15'
	J.I.S. 25	31.9/32.4 MM	28.6 MM	0°, 16'
524	A.S.T.M. 1-1/2"	1.912/1.924"	1.375"	0°, 23'
	I.S.O. NW-40	50.1/50.3 MM	34.9 MM	0°, 15'
	J.I.S. 40	47.9/48.5 MM	34.9 MM	0°, 16'



VALVE SERIES	UNITS	LENGTH A	LENGTH B	HEIGHT C
520	INCHES	7.00	4.87	2.62
	MM	177.8	123.7	66.5
521	INCHES	9.00	6.31	4.06
	MM	228.6	160.3	103.1
524	INCHES	12.50	9.31	5.06
	MM	317.5	23.5	128.5



**UNION END ADAPTOR**

**SERIES 520 UNION END ADAPTOR KITS**

A.S.T.M. 1/2" INCLUDES ITEMS 1,2,3,4,5	E.P.D.M. O-RING	1070184	K520100
	BUTYL O-RING	1070185	K520101
	FKM O-RING	1070186	K520102
I.S.O. NW-15 INCLUDES ITEMS 1,2,3,4,5	E.P.D.M. O-RING	1070190	K520103
	BUTYL O-RING	1070191	K520104
	FKM O-RING	1070192	K520105
J.I.S. - 16 INCLUDES ITEMS 1,2,3,4,5	E.P.D.M. O-RING	1070193	K520106
	BUTYL O-RING	1070194	K520107
	FKM O-RING	1070195	K520108

**SERIES 521 UNION END ADAPTOR KITS**

A.S.T.M. 1" INCLUDES ITEMS 1,2,3,4,5	E.P.D.M. O-RING	1070202	K521100
	BUTYL O-RING	1070153	K521101
	FKM O-RING	1070154	K521102
I.S.O. NW-25 INCLUDES ITEMS 1,2,3,4,5	E.P.D.M. O-RING	1070204	K521103
	BUTYL O-RING	1071155	K521104
	FKM O-RING	1071156	K521105
J.I.S. - 25 INCLUDES ITEMS 1,2,3,4,5	E.P.D.M. O-RING	1070205	K521106
	BUTYL O-RING	1071157	K521107
	FKM O-RING	1071158	K521108

**SERIES 524 UNION END ADAPTOR KITS**

A.S.T.M. 1-1/2" INCLUDES ITEMS 1,2,3,4,5	E.P.D.M. O-RING	1070208	K524100
	BUTYL O-RING	1071220	K524101
	FKM O-RING	1070209	K524102
I.S.O. NW-40 INCLUDES ITEMS 1,2,3,4,5	E.P.D.M. O-RING	1070212	K524103
	BUTYL O-RING	1071221	K524104
	FKM O-RING	1070213	K524105
J.I.S. - 40 INCLUDES ITEMS 1,2,3,4,5	E.P.D.M. O-RING	1070214	K524106
	BUTYL O-RING	1071222	K524107
	FKM O-RING	1070215	K524108

NOTE: ALL ADAPTOR KITS CONTAIN (2) ADAPTORS, (ONE KIT REQ'D PER VALVE)

NO.	DESCRIPTION	PART NO.
<b>SERIES 520 UNION END ADAPTOR</b>		
1	TAILPIECE NUT	1074995 -520010K
2	FEMALE SOCKET WELD END CONNECTOR	A.S.T.M. 1/2" 1074991 -520007
		I.S.O. NW-15 1074992 -520008
		J.I.S. 16 1074993 -520009
3	O-RING	E.P.D.M. 1071730 -0RE-117
		BUTYL 1071766 -0RJ-117
		FKM 1071801 -0RV-117
4	TAILPIECE	1074996 -520011K
5	O-RING	E.P.D.M. 1071731 -0RE-120
		BUTYL 1071767 -0RJ-120
		FKM 1071802 -0RV-120

**SERIES 521 UNION END ADAPTOR**

1	TAILPIECE NUT	1075067 -521010K
2	FEMALE SOCKET WELD END CONNECTOR	A.S.T.M. 1" 1075061 -521007
		I.S.O. NW-25 1075063 -521008
		J.I.S. 25 1075065 -521009
3	O-RING	E.P.D.M. 1071732 -0RE-125
		BUTYL 1071768 -0RJ-125
		FKM 1071803 -0RV-125
4	TAILPIECE	1075068 -521011K
5	O-RING	E.P.D.M. 1071733 -0RE-128
		BUTYL 1071769 -0RJ-128
		FKM 1071804 -0RV-128

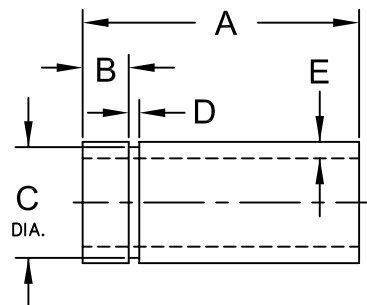
**SERIES 524 UNION END ADAPTOR**

1	TAILPIECE NUT	1075150 -524010K
2	FEMALE SOCKET WELD END CONNECTOR	A.S.T.M. 1 1/2" 1075144 -524007
		I.S.O. NW-40 1075146 -524008
		J.I.S. 40 1075148 -524009
3	O-RING	E.P.D.M. 1071735 -0RE-137
		BUTYL 1071771 -0RJ-137
		FKM 1071807 -0RV-137
4	TAILPIECE	1075151 -524011K
5	O-RING	E.P.D.M. 1071736 -0RE-138
		BUTYL 1071772 -0RJ-138
		FKM 1071808 -0RV-138

SEE FORM 1078152 FOR  
SOCKET WELD & FLANGED  
ADAPTORS

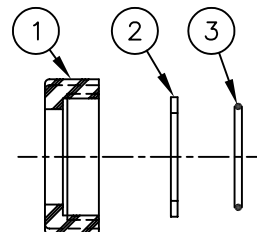
FORM NO. 1081309

A	RELEASE NEW DESIGN	1416	JWB	25JUL01	VP
REV	DESCRIPTION	ECO	DWN	DATE	APVD
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM					
<b>SERIES 520,521 &amp; 524 DIAPHRAGM VALVE END CONNECTOR PARTS &amp; KITS</b>					
SCALE N/A	DRAWN JWB	DATE 25JUL01	DWG. NO. 1078140		



**RING GROOVE DIMENSIONS**

VALVE SERIES	UNITS	LENGTH A	LOCATION B	DIA. C	WIDTH D	WALL THK E
<b>520</b>	INCHES	2.25	0.500	0.730	0.115	0.147
	MM	57.2	12.7	18.5	2.9	3.7
<b>521</b>	INCHES	3.00	0.500	1.200	0.115	0.179
	MM	76.2	12.7	30.5	2.9	4.55
<b>524</b>	INCHES	4.00	0.875	1.800	0.115	0.200
	MM	57.2	22.2	45.7	2.9	5.1



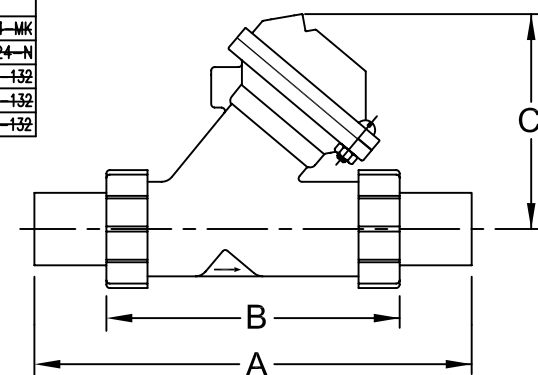
**RETAINER NUT/SPLIT RING CONNECTOR**

VALVE SERIES	520	521	524
1 RETAINER NUT	1074974 -520-MK	1075041 -521-MK	1075112 -524-MK
2 SPLIT RING	1074975 -520-N	1075042 -521-N	1075113 -524-N
3 O-RING	E.P.D.M. 1071730 -OR-117	1071732 -OR-125	1071734 -OR-132
	BUTYL 1071766 -OR-117	1071768 -OR-125	1071770 -OR-132
	FKM 1071801 -OR-117	1071803 -OR-125	1071806 -OR-132

**RETAINER NUT/SPLIT RING CONNECTOR KITS**

SERIES 520 INCLUDES ITEMS 1,2,3	E.P.D.M. O-RING	1070238	K520+109
	BUTYL O-RING	1070239	K520+110
	FKM O-RING	1070240	K520+111
SERIES 521 INCLUDES ITEMS 1,2,3	E.P.D.M. O-RING	1070244	K521+109
	BUTYL O-RING	1071159	K521+110
	FKM O-RING	1071160	K521+111
SERIES 524 INCLUDES ITEMS 1,2,3	E.P.D.M. O-RING	1070246	K524+109
	BUTYL O-RING	1071223	K524+110
	FKM O-RING	1070247	K524+111

NOTE: ALL CONNECTOR KITS CONTAIN (2) CONNECTORS, (ONE KIT REQ'D PER VALVE)

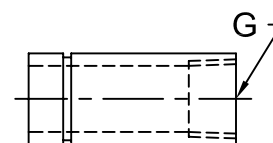


**GROOVED ADAPTOR KITS**



**MALE PIPE THREAD**

VALVE SERIES	520	521	524
PART NO.	1070221 K520-P	1070227 K521-P	1070233 K524-P
DIM. F	1/2" NPT	1" NPT	1-1/2" NPT



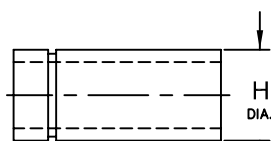
**FEMALE PIPE THREAD**

VALVE SERIES	520	521	524
PART NO.	1070222 K520-PA	1070228 K521-PA	1070234 K524-PA
DIM. G	3/8" NPT	3/4" NPT	1-1/4" NPT

VALVE SERIES	UNITS	LENGTH A	LENGTH B	HEIGHT C
<b>520</b>	INCHES	7.00	3.93	2.62
	MM	177.8	99.8	66.5
<b>521</b>	INCHES	9.00	4.50	4.06
	MM	228.6	114.3	103.1
<b>524</b>	INCHES	13.25	7.75	5.06
	MM	336.5	196.9	128.5

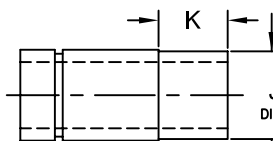
SEE FORM 1078152 FOR SOCKET WELD & FLANGED ADAPTORS

FORM NO. 1081309



**MALE SOCKET WELD**

VALVE SERIES	520	521	524
PART NO.	1070220 K520-PG	1070226 K521-PG	1070232 K524-PG
DIM. H	0.840 IN. 21.3 MM	1.315 IN. 33.4 MM	1.900 IN. 48.3 MM

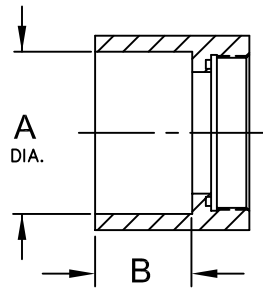


**MALE SOCKET WELD (METRIC)**

VALVE SERIES	520	521	524
PART NO.	1071057 K520-PE	1071091 K521-PE	1071162 K524-PE
DIM. J	20.2 MM	32.2 MM	50.2 MM
DIM. K	15.9 MM	25.4 MM	30.0 MM

NOTE: ALL ADAPTOR KITS CONTAIN (2) ADAPTORS, (ONE KIT REQ'D PER VALVE)

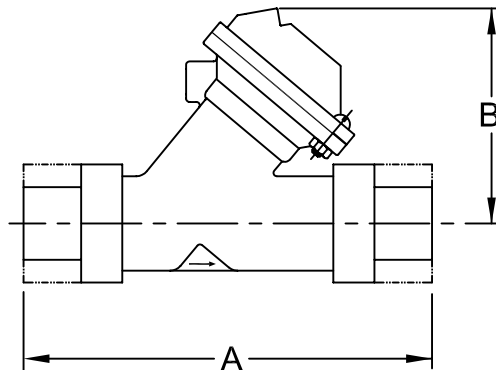
A	RELEASE NEW DESIGN	1416	JB	25JUL01	VP
REV	DESCRIPTION	ECO	DWN	DATE	APVD
<p>OSMONICS ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM</p>					
<p><b>SERIES 520, 521 &amp; 524 DIAPHRAGM VALVE END CONNECTOR PARTS &amp; KITS</b></p>					
SCALE	DRAWN	DATE	DWG. NO.		
N/A	JWB	25JUL01	1078140		



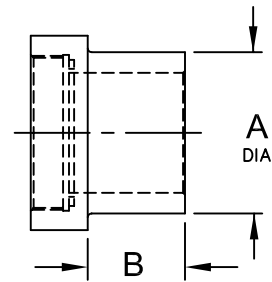
**FEMALE SOCKET WELD END CONNECTOR KITS**

VALVE SERIES	STANDARD	PART NO. *	DIAMETER A	DEPTH B
<b>524</b>	A.S.T.M. 2"	K524-UF08U_P	2.376/2.384"	1.50"
	I.S.O. NW-50	K524-UF50M_P	2.484/2.492"	1.50"
	J.I.S. 50	K524-UF50J_P	2.359/2.383"	1.50"
<b>526</b>	A.S.T.M. 2-1/2"	K526-UF10U_P	2.875"	1.81"
	I.S.O. NW-65	K526-UF65M_P	2.956/2.964"	1.81"
	J.I.S. 65	K526-UF65J_P	3.008"	1.81"

NOTE: ALL CONNECTOR KITS CONTAIN (2) CONNECTORS AND (2) O-RINGS\* (ONE KIT REQ'D. PER VALVE)



VALVE SERIES	PIPE SIZE	UNITS	LENGTH A	HEIGHT B
<b>524</b>	<b>2"</b>	INCHES	10.50	5.06
		MM	266.7	128.5
<b>526</b>	<b>2-1/2"</b>	INCHES	15.00	7.31
		MM	381.0	185.7



**MALE SOCKET WELD END CONNECTOR KITS**

VALVE SERIES	STANDARD	PART NO. *	DIAMETER A	LENGTH B
<b>524</b>	A.S.T.M. 2"	K524-UM08U_P	2.375/2.370"	1.50"
	I.S.O. NW-50	K524-UM50M_P	2.490/2.486"	1.50"
	J.I.S. 50	K524-UM50J_P	2.384/2.364"	1.00"
<b>526</b>	A.S.T.M. 2-1/2"	K526-UM10U_P	2.882/2.868"	1.69"
	I.S.O. NW-65	K526-UM65M_P	2.965/2.953"	1.69"
	J.I.S. 65	K526-UM65J_P	3.017/2.997"	1.38"


**O-RING FOR SOCKET WELD END CONNECTORS**

VALVE SERIES	MATERIAL	PART NO.	O-RING IDENTIFIER
<b>524</b>	E.P.D.M.	1071750 <del>O-R-226</del>	E
	BUTYL	1079844 <del>O-RJ-226</del>	J
	FKM	1071821 <del>O-RV-226</del>	V
<b>526</b>	E.P.D.M.	1071753 <del>O-R-232</del>	E
	BUTYL	1071783 <del>O-RJ-232</del>	J
	FKM	1071825 <del>O-RV-232</del>	V

\*WHEN ORDERING KITS, INSERT O-RING IDENTIFIER INTO PART NUMBER AS SHOWN BELOW  
EXAMPLE: K524-UF08UEP (2" FEMALE SOCKET WELD WITH E.P.D.M. O-RING)

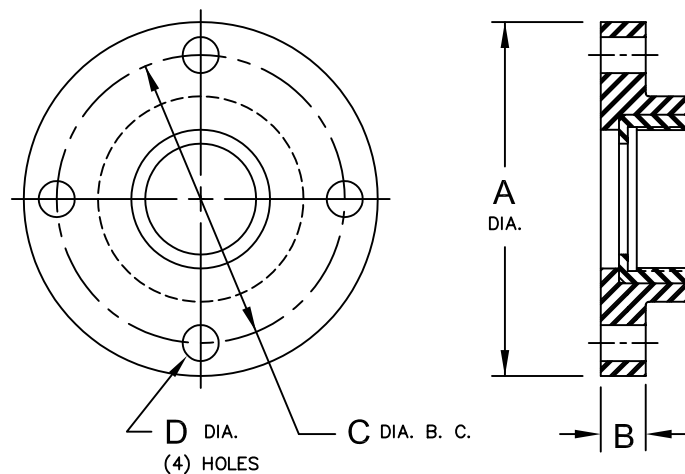
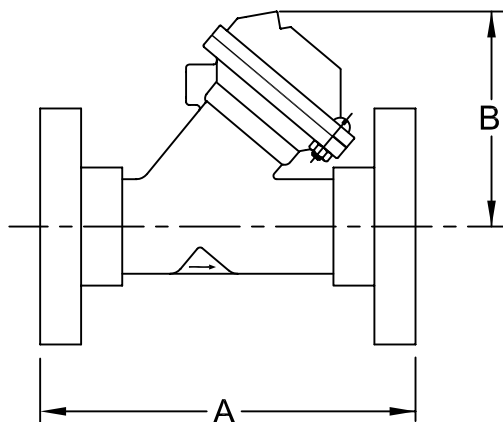
O-RING IDENTIFIER

FORM NO. 1081311

A	RELEASE NEW DESIGN	1416	JWB	25JUL01	VP
REV	DESCRIPTION	ECO	DWN	DATE	APVD
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM					
<b>SERIES 524, &amp; 526 DIAPHRAGM VALVE END CONNECTOR PARTS &amp; KITS</b>					
SCALE N/A	DRAWN JWB	DATE 25JUL01	DWG. NO. 1078150		

SEE FORM 1078142 FOR  
SOCKET WELD & PIPE ADAPTORS





#### FLANGED END CONNECTOR KITS

VALVE SERIES	PIPE SIZE	UNITS	LENGTH A	HEIGHT B
524	2"	INCHES	9.00	5.06
		MM	228.6	128.5
526	2-1/2"	INCHES	11.37	7.31
		MM	288.8	185.7
526	3"	INCHES	12.37	7.31
		MM	314.2	185.7

VALVE SERIES	STANDARD	PART NO.	DIAMETER A	THICKNESS B	DIAMETER C	DIAMETER D
524	A.S.T.M. 2"	1070250 <del>K524-V</del>	6.00"	.75"	4.750"	.688"
526	A.S.T.M. 2-1/2"	1070251 <del>K526-T</del>	6.94"	.94"	5.500"	.688"
	A.S.T.M. 3"	1070252 <del>K526-T</del>	7.38	1.81"	6.000"	.750"


NOTE: ALL CONNECTOR KITS CONTAIN (2) CONNECTORS,  
(ONE KIT REQ'D PER VALVE)

#### O-RING FOR SOCKET WELD END CONNECTORS

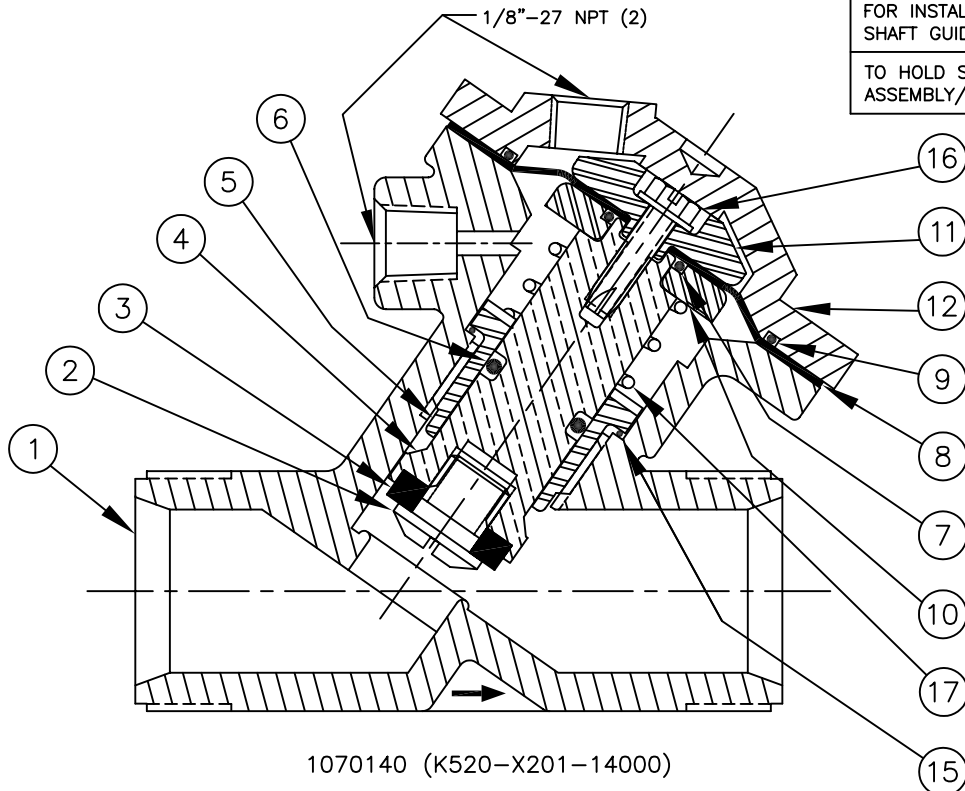
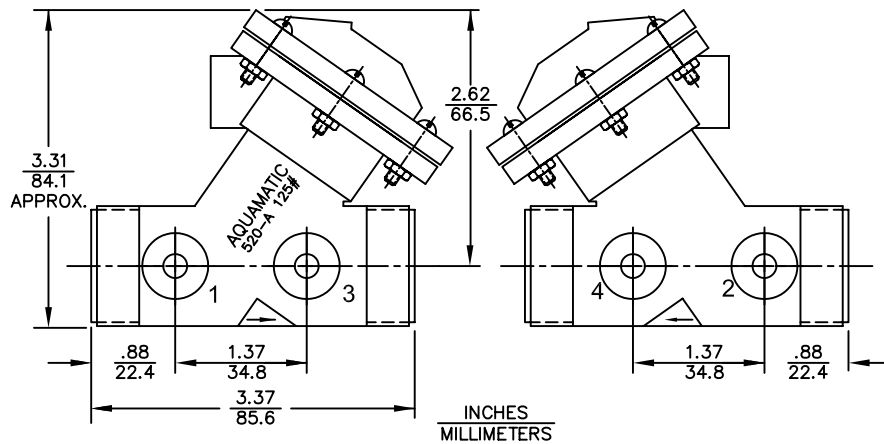
VALVE SERIES	MATERIAL	PART NO.
524	E.P.D.M.	1071750 <del>ORE-226</del>
	BUTYL	1079844 <del>ORJ-226</del>
	FKM	1071821 <del>ORV-226</del>
526	E.P.D.M.	1071753 <del>ORE-232</del>
	BUTYL	1071783 <del>ORJ-232</del>
	FKM	1071825 <del>ORV-232</del>

SEE FORM 1078142 FOR  
SOCKET WELD & PIPE ADAPTORS

FORM NO. 1081311

A	RELEASE NEW DESIGN	1416	JWB	25JUL01	VP
REV	DESCRIPTION	ECO	DWN	DATE	APVD
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM					
<b>SERIES 524, &amp; 526 DIAPHRAGM VALVE END CONNECTOR PARTS &amp; KITS</b>					
SCALE N/A	DRAWN JWB	DATE 25JUL01	DWG. NO. 1078150		

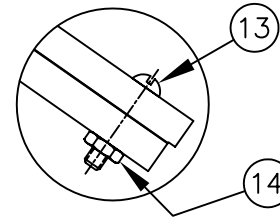
# K520 DIAPHRAGM VALVE - STANDARD MODEL



REPAIR PARTS KITS			
DESCRIPTION	PART NO.		
DIAPHRAGM & SEALS KIT CONSISTS OF ITEM NO'S 3,6,7,8,9,15	1081784 (520-RAN)	1081783 (520-RAJN)	
	E.P.D.M. INCLUDES DIAPHRAGM 1078035	BUTYL INCLUDES DIAPHRAGM 1078035	
	1081787 (520-RAVN)	1081786 (520-RAVFN)	
	FKM INCLUDES DIAPHRAGM 1078035	FKM INCLUDES DIAPHRAGM 1078047	
INT. PARTS KIT (NORM. OPEN) CONSISTS OF ITEM NO'S 2,4,5,10,11,16	1079600 (K520-RFN)		

ASSEMBLY TOOLS	
DESCRIPTION	PART NO.
FOR INSTALLATION & REMOVAL OF SHAFT GUIDE (ITEM #5)	1074989 (520-Z)
TO HOLD SHAFT (ITEM #4) DURING ASSEMBLY/DISASSEMBLY	1077834


NO.	DESCRIPTION	PART NO.	QTY.
1	BODY	1074943 (520-AK)	1
2	DISC SCREW	1077903	1
3	DISC	E.P.D.M. 1074966 (520-J) BUTYL 1074967 (520-JJ) FKM 1074968 (520-JV)	1
4	SHAFT (NORYL)	1077854	1
5	SHAFT GUIDE	1074965 (520-GP)	1
6	O-RING	E.P.D.M. 1071727 (ORE-111) BUTYL 1071764 (ORJ-111) FKM 1071799 (ORV-111)	1
7	O-RING	E.P.D.M. 1071717 (ORE-012)	1
8	DIAPHRAGM	BUNA N 1078035 FKM 1078047	1
9	O-RING	BUNA N 1071679 (ORB-030)	1
10	LWR DIAPH. PLATE	1077858	1
11	UPR DIAPH. PLATE	1077856	1
12	CAP	1074948 (520-BOK)	1
13	RD. HD. MACH. SCR.	1072379 (SCS-0094)	6
14	HEX NUT	1071647 (NUS-0005)	6
15	O-RING	E.P.D.M. 1071720 (ORE-018) BUTYL 1071762 (ORJ-018) FKM 1071790 (ORV-018)	1
16	SCREW	1077781	1
17	SPRING	1074985 (520-SS)	1

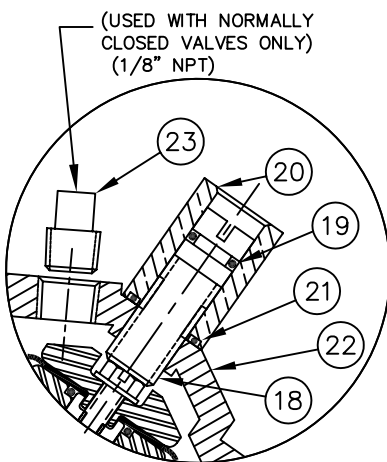


SEE SHEET 1078140 FOR UNION END CONNECTORS,  
SEE SHEET 1078141 FOR GROOVED ADAPTORS,

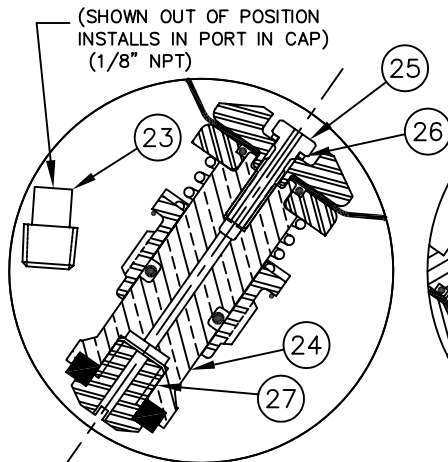
SEE REVERSE SIDE FOR CONFIGURATION OPTIONS

FORM NO. 1078139

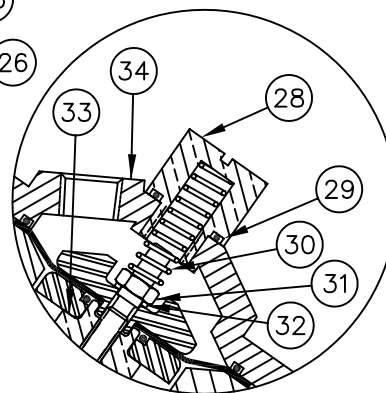
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REV	DESCRIPTION	ECO	DWN	DATE	APVD	
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM						
<b>SERIES 520 DIAPHRAGM VALVE</b> <b>STANDARD MODEL</b>						
SCALE	DRAWN	DATE	DWG. NO.			
N/A	JWB	25JUL01	1084001			



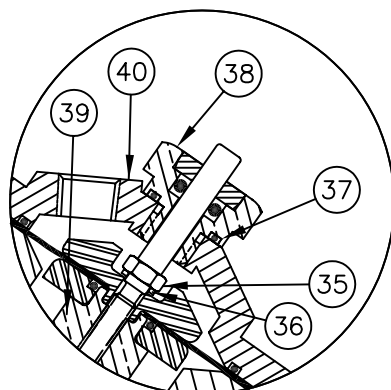
1070141 (K520-X211-14000)  
**LIMIT STOP**



1071084 (K520-X231-14000)  
**NORMALLY CLOSED**



1070143 (K520-X202-14000)  
**SPRING ASSIST CLOSED**



1071079 (K520-X221-14000)  
**POSITION INDICATOR**

**NOTE:**

1. NORMALLY CLOSED CANNOT BE COMBINED WITH SPRING ASSIST CLOSED.
2. LIMIT STOP MODEL CANNOT BE COMBINED WITH SPRING ASSIST CLOSED OPTION.
3. POSITION INDICATOR MODEL FURNISHED WITH NORMALLY OPEN, SPRING ASSIST OPEN OPTION ONLY.

NO.	DESCRIPTION	PART NO.	QTY.
<b>LIMIT STOP MODEL</b>			
18	ADJUSTING SCREW	1074988 (520-Y)	1
19	O-RING (BUNA)	1071667 (ORB-010)	1
20	LIMIT STOP HOUSING	1074987 (520-X)	1
21	O-RING (BUNA)	1071669 (ORB-013)	1
22	CAP	1074946 (520-BBOK)	1
<b>NORMALLY CLOSED MODEL</b>			
23	PIPE PLUG (1/8" NPT)	1071912 (PLP-0006)	1
24	SHAFT (N.C.)	1077905	1
25	SCREW	1077818	1
26	WASHER	1078037	1
27	DISC SCREW	1078324	1
<b>SPRING ASSIST CLOSED MODEL</b>			
28	SPRING RETAINER	1074986 (520-T)	1
29	O-RING (BUNA)	1071669 (ORB-013)	1
30	SPRING (ASSIST CLOSED)	1074981 (520-S)	1
31	SCREW	1077828	1
32	WASHER	1078037	1
33	SHAFT	1077907	1
34	CAP	1074946 (520-BBOK)	1
<b>POSITION INDICATOR MODEL</b>			
35	SCREW	1077826	1
36	WASHER	1078037	1
37	O-RING (BUNA)	1071669 (ORB-013)	1
38	GUIDE HOUSING ASSY	1075037 (521-KA)	1
39	SHAFT	1077907	1
40	CAP	1074946 (520-BBOK)	1


SEE SHEET 1078140 FOR UNION END CONNECTORS,  
SEE SHEET 1078141 FOR GROOVED ADAPTORS,

SEE REVERSE SIDE FOR  
STANDARD NORMALLY OPEN MODEL

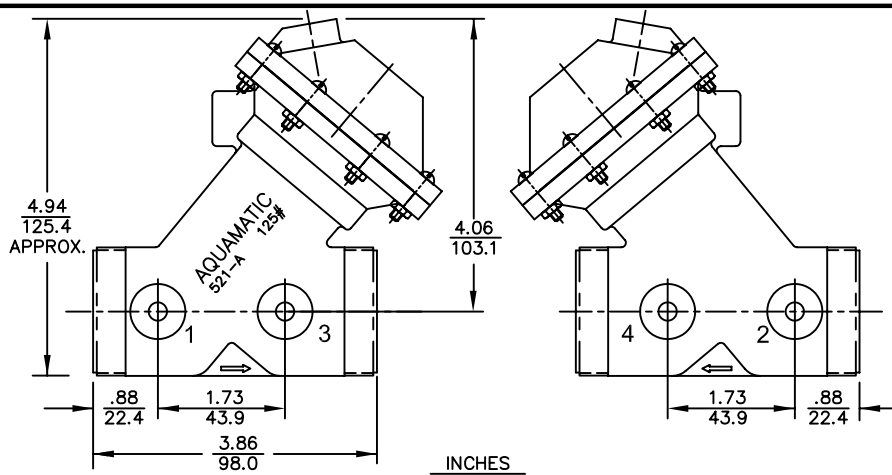
FORM NO. 1078139

<b>CONVERSION KITS</b>	
DESCRIPTION	PART NO.
CONVERSION KIT (LIMIT STOP) CONSISTS OF ITEM NO'S 18 THRU 22	1071056 (K520-LSC)
CONVERSION KIT (SPRING ASSIST CLOSED) CONSISTS OF ITEM NO'S 28 THRU 34	1079602 (K520-SCCN)
CONVERSION KIT (POSITION INDICATOR) CONSISTS OF ITEM NO'S 35 THRU 40	1079599 (K520-PICN)

<b>REPAIR PARTS KITS</b>	
DESCRIPTION	PART NO.
INT. PARTS KIT (LIMIT STOP) CONSISTS OF ITEM NO'S 18 THRU 21	1074973 (520-LS)
INT. PARTS KIT (NORM. CLOSED) CONSISTS OF ITEM NO'S 5,10,11,24,25,26,27	1079601 (K520-RGN)
INT. PARTS KIT (SPRING ASSIST CLOSED) CONSISTS OF ITEM NO'S 29 THRU 33	1081789 (520-SCN)
INT. PARTS KIT (POSITION INDICATOR) CONSISTS OF ITEM NO'S 35 THRU 39	1081782 (520-PIN)

D	NUMBER	CONVERSION	1588	MSM	12DEC02	
REV	DESCRIPTION	ECO	DWN	DATE	APVD	
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM						
<b>SERIES 520 DIAPHRAGM VALVE OPTIONAL MODELS</b>						
SCALE N/A	DRAWN JWB	DATE 24MAY01	DWG. NO. 1084001			

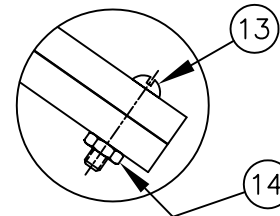
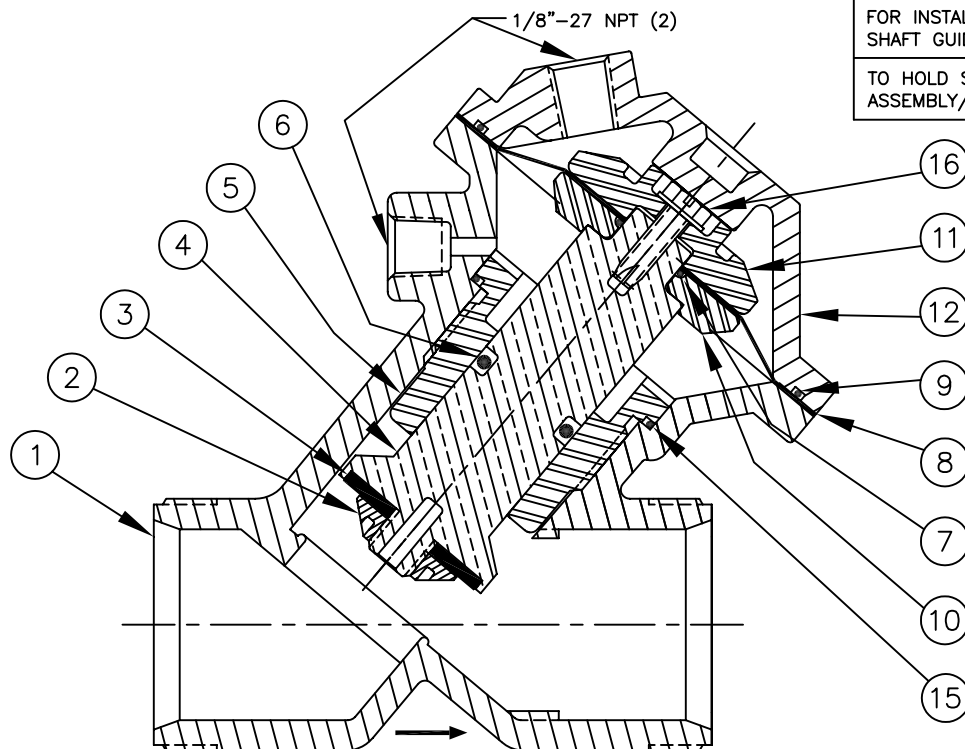
# K521 DIAPHRAGM VALVE - STANDARD MODEL



REPAIR PARTS KITS		
DESCRIPTION	PART NO.	
DIAPHRAGM & SEALS KIT CONSISTS OF ITEM NO'S 3,6,7,8,9,15	1081792 (521-RAIN)	1081791 (521-RAIN)
	E.P.D.M.	BUTYL
	INCLUDES DIAPHRAGM	INCLUDES DIAPHRAGM
	1075028 (521-FB)	1075028 (521-FB)
INT. PARTS KIT (NORM. OPEN) CONSISTS OF ITEM NO'S 2,4,5,10,11,16	1081796 (521-RAIN)	1081795 (521-RAIN)
	FKM	FKM
	INCLUDES DIAPHRAGM	INCLUDES DIAPHRAGM
	1075028 (521-FB)	1075029 (521-FV)
1079621 (K521-RFN)		

ASSEMBLY TOOLS	
DESCRIPTION	PART NO.
FOR INSTALLATION & REMOVAL OF SHAFT GUIDE (ITEM #5)	1075059 (521-Z)
TO HOLD SHAFT (ITEM #4) DURING ASSEMBLY/DISASSEMBLY	1077837


NO.	DESCRIPTION	PART NO.	QTY.
1	BODY	1075007 (521-AK)	1
2	DISC PLATE NUT	1075845	1
3	DISC	E.P.D.M.	1
		BUTYL	
		FKM	
4	SHAFT	1075842	1
5	SHAFT GUIDE	1075031 (521-GPO)	1
6	O-RING	E.P.D.M.	1
		BUTYL	
		FKM	
7	O-RING	1071718 (ORE-014)	1
8	DIAPH.	BUNA N	1
		FKM	
9	O-RING	1075029 (521-FV)	1
10	LWR DIAPH. PLATE	1071715 (ORB-805)	1
11	UPR DIAPH. PLATE	1075844	1
12	CAP	1075843	1
13	RD. HD. MACH. SCR.	1075012 (521-BOK)	1
14	HEX NUT	1072380 (SCS-0095)	8
15	QUAD-RING	1071648 (NUS-0006)	8
		ETH. PROP.	
		BUTYL	
16	SCREW	1071943 (QRJ-029)	1
		1071944 (QRV-029)	1



SEE FORM 1078142 FOR UNION END CONNECTORS  
AND GROOVED ADAPTORS

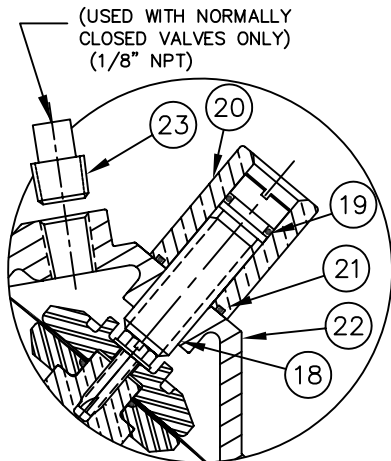
SEE REVERSE SIDE FOR CONFIGURATION OPTIONS

FORM NO. 1077654

C	NUMBER	CONVERSION	1588	MSM	27NOV02	
REV	DESCRIPTION	ECO	DWN	DATE	APVD	
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM						
<b>SERIES 521 DIAPHRAGM VALVE</b> <b>STANDARD MODEL</b>						
SCALE	DRAWN	DATE	DWG. NO.			
N/A	JWB	07Nov01	1084003			

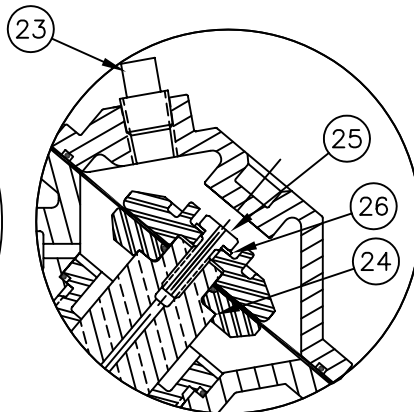
1070154 (K521-X200-14000)

**NORMALLY OPEN (STANDARD)**



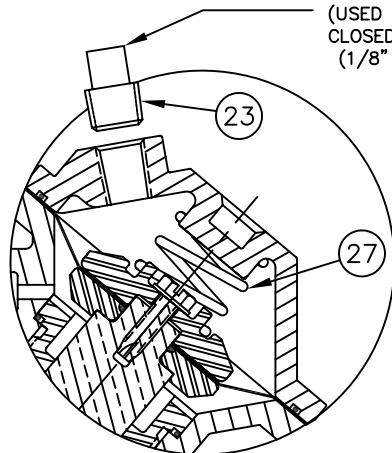
1070155 (K521-X210-14000)

## LIMIT STOP



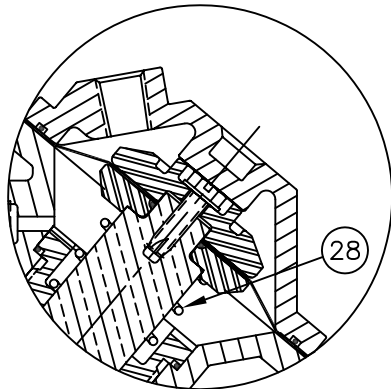
1070159 (K521-X230-14000)

## NORMALLY CLOSED



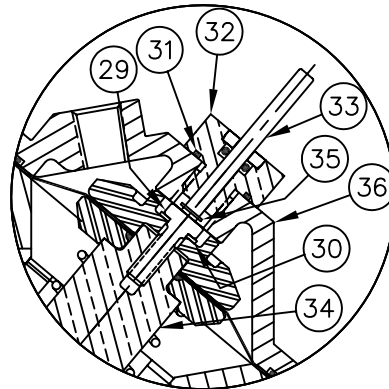
1070157 (K521-X202-14000)

## SPRING ASSIST CLOSED



1070158 (K521-X201-14000)

## SPRING ASSIST OPEN



1071143 (K521-X221-14000)

## POSITION INDICATOR

### NOTE:

1. POSITION INDICATOR MODEL CANNOT BE COMBINED WITH NORMALLY CLOSED OR LIMIT STOP OPTIONS.

2. POSITION INDICATOR MODEL FURNISHED WITH SPRING ASSIST OPEN OPTION.

SEE FORM 1078142 FOR UNION END CONNECTORS AND GROOVED ADAPTORS


SEE SHEET K521-1F FOR STANDARD NORMALLY OPEN MODEL

FORM NO. 1077654

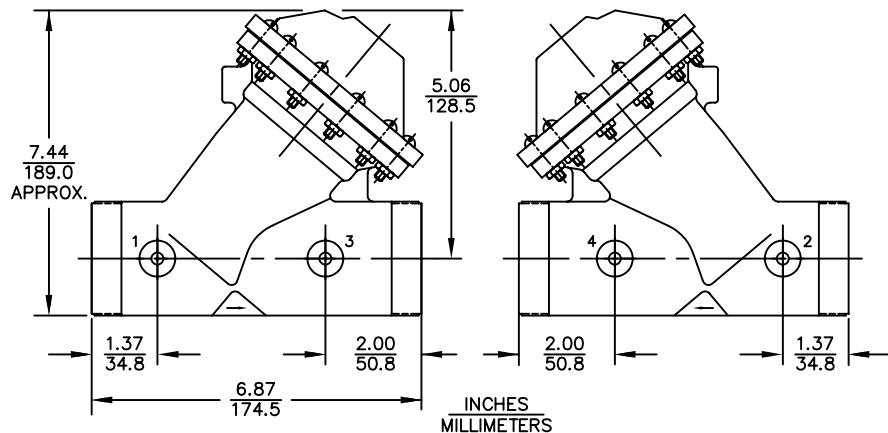
CONVERSION KITS	
DESCRIPTION	PART NO.
CONVERSION KIT (LIMIT STOP) CONSISTS OF ITEM NO'S 18 THRU 22	1071090 (K521-LSC)
CONVERSION KIT (SPRING ASSIST CLOSED) CONSISTS OF ITEM NO. 27	1075054 (521-SC)
CONVERSION KIT (SPRING ASSIST OPEN) CONSISTS OF ITEM NO. 28	1075055 (521-SO)
CONVERSION KIT (POSITION INDICATOR) CONSISTS OF ITEM NO'S 29 THRU 36	1079620 (K521-PICN)

REPAIR PARTS KITS	
DESCRIPTION	PART NO.
INT. PARTS KIT (LIMIT STOP) CONSISTS OF ITEM NO'S 18 THRU 21	1075040 (521-LS)
INT. PARTS KIT (NORM. CLOSED) CONSISTS OF ITEM NO'S 2,5,10,11,24,25,26	1079622 (K521-RGN)
INT. PARTS KIT (SPRING ASSIST CLOSED) CONSISTS OF ITEM NO. 27	1075054 (521-SC)
INT. PARTS KIT (SPRING ASSIST OPEN) CONSISTS OF ITEM NO. 28	1075055 (521-SO)
INT. PARTS KIT (POSITION INDICATOR) CONSISTS OF ITEM NO'S 29 THRU 35	1081790 (521-PIN)

NO.	DESCRIPTION	PART NO.	QTY.
<b>LIMIT STOP MODEL</b>			
18	ADJUSTING SCREW	1075058 (521-Y)	1
19	O-RING BUNA N	1071668 (ORB-012)	1
20	LIMIT STOP HOUSING	1075057 (521-X)	1
21	O-RING BUNA N	1071671 (ORB-016)	1
22	CAP	1075010 (521-BBOK)	1
<b>NORMALLY CLOSED MODEL</b>			
23	PIPE PLUG (1/8" NPT)	1071912 (PLP-0006)	1
24	SHAFT (N.C.)	1077909	1
25	SCREW	1077830	1
26	WASHER	1078066	1
<b>SPRING ASSIST CLOSED MODEL</b>			
27	SPRING (ASSIST CLOSED)	1075051 (521-S)	1
<b>SPRING ASSIST OPEN MODEL</b>			
28	SPRING (ASSIST OPEN)	1074264 (424-S)	1
<b>POSITION INDICATOR MODEL</b>			
29	SCREW	1077832	1
30	WASHER	1078066	1
31	O-RING BUNA N	1071671 (ORB-016)	1
32	GUIDE HOUSING ASSY	1075037 (521-KA)	1
33	INDICATOR SHAFT	1078062	1
34	SHAFT	1077911	1
35	RETAINING RING	1076200	1
36	CAP	1075010 (521-BBOK)	1

C	NUMBER	CONVERSION	1588	MSM	27NOV02	
REV	DESCRIPTION	ECO	DWN	DATE	APVD	
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM						
<b>SERIES 521 DIAPHRAGM VALVE</b>						
<b>OPTIONAL MODELS</b>						
SCALE	N/A	DRAWN	JWB	DATE	07Nov01	DWG. NO. 1084003

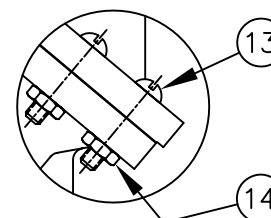
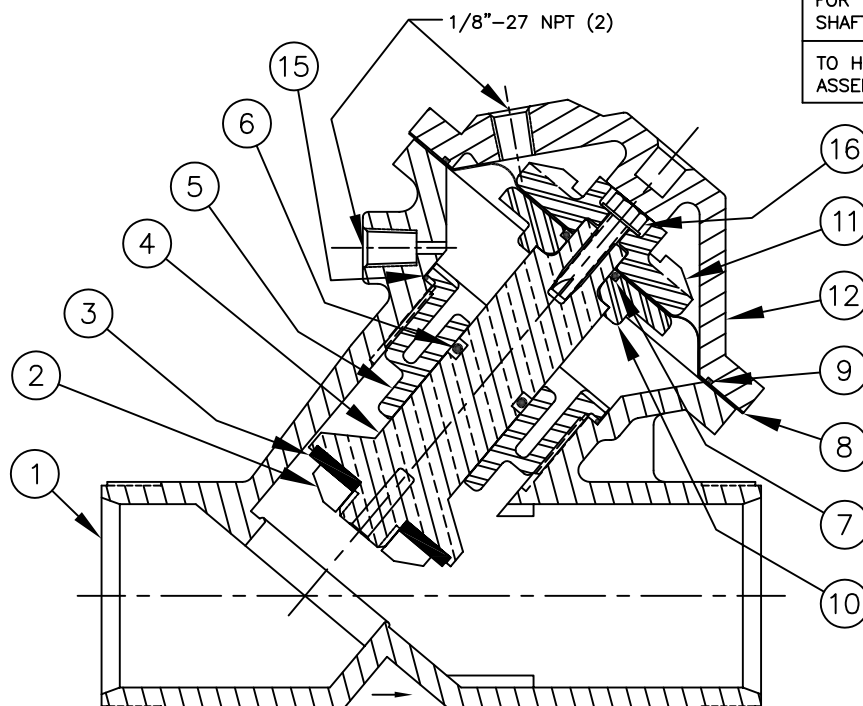
# K524 DIAPHRAGM VALVE - STANDARD MODEL



REPAIR PARTS KITS		
DESCRIPTION	PART NO.	
DIAPHRAGM & SEALS KIT CONSISTS OF ITEM NO'S 3,6,7,8,9,15	1070274 (524-RAN)	1077592 (524-RAN)
	E.P.D.M. INCLUDES DIAPHRAGM	BUTYL INCLUDES DIAPHRAGM
	1075104 (524-FB)	1075104 (524-FB)
	1070290 (524-RAN)	1077593 (524-RAN)
INT. PARTS KIT (NORM. OPEN) CONSISTS OF ITEM NO'S 2,4,5,10,11,16	VITON INCLUDES DIAPHRAGM	VITON INCLUDES DIAPHRAGM
	1075104 (524-FB)	1075105 (524-FV)
	1070298 (K524-RFN)	

ASSEMBLY TOOLS	
DESCRIPTION	PART NO.
FOR INSTALLATION & REMOVAL OF SHAFT GUIDE (ITEM #5)	1075143 (524-Z)
TO HOLD SHAFT (ITEM #4) DURING ASSEMBLY/DISASSEMBLY	1077837

NO.	DESCRIPTION	PART NO.	QTY.
1	BODY	1075079 (524-AK)	1
2	DISC PLATE	1076198	1
3	DISC	E.P.D.M.	1075107 (524-J)
		BUTYL	1075108 (524-JJ)
		VITON	1075109 (524-JV)
4	SHAFT	1076205	1
5	SHAFT GUIDE	1075106 (524-GK)	1
6	O-RING	E.P.D.M.	1071744 (ORE-210)
		BUTYL	1071776 (ORJ-210)
		VITON	1071815 (ORV-210)
7	O-RING	E.P.D.M.	1071728 (ORE-113)
8	DIAPH.	BUNA N	1075104 (524-FB)
		VITON	1075105 (524-FV)
9	O-RING	BUNA N	1071686 (ORB-043)
10	LWR DIAPH. PLATE	1076197	1
11	UPR DIAPH. PLATE	1076196	1
12	CAP	1075086 (524-BOK)	1
13	RD. HD. MACH. SCR.	1072381 (SCS-0097)	12
14	HEX NUT	1071648 (NUS-0006)	12
15	O-RING	ETH. PROP.	1071735 (ORE-137)
		BUTYL	1071771 (ORJ-137)
		VITON	1071807 (ORV-137)
16	SCREW	1077101 (SCS-0168)	1



SEE FORM 1078142 FOR UNION END CONNECTORS  
AND GROOVED ADAPTORS

SEE FORM 1078152 FOR SOCKET WELD ENDS AND  
FLANGED ADAPTORS

SEE REVERSE SIDE FOR CONFIGURATION OPTIONS

FORM NO. 1077655

C	NUMBER	CONVERSION	1588	MSM	27NOV02
REV	DESCRIPTION	ECO	DWN	DATE	APVD



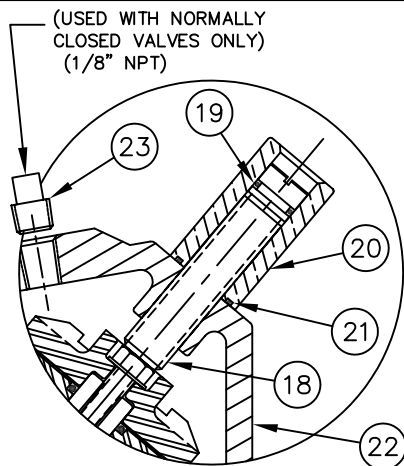
**OSMONICS**  
ROCKFORD OPERATIONS

2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421  
WWW.OSMONICS.COM

**SERIES 524 DIAPHRAGM VALVE  
STANDARD MODEL**

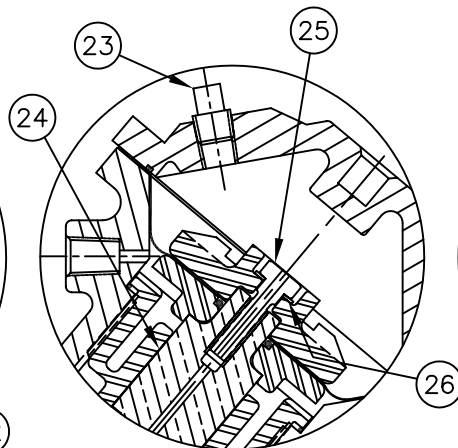
SCALE	DRAWN	DATE	DWG. NO.
N/A	JWB	24MAY01	1084004

1070168 (K524-X200-14000)  
**NORMALLY OPEN (STANDARD)**



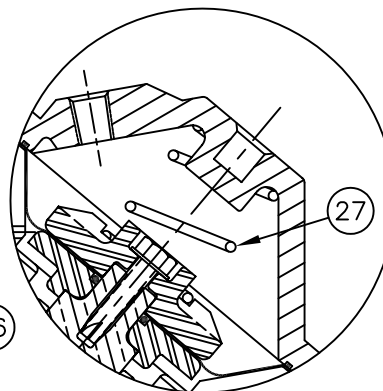
1070170 (K524-X210-14000)

## LIMIT STOP



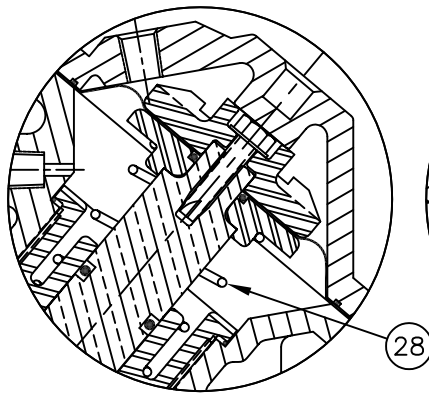
1070172 (K524-X230-14000)

## NORMALLY CLOSED



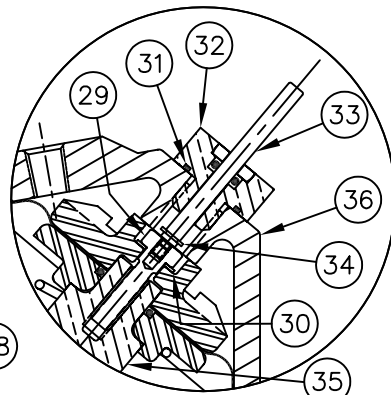
1070171 (K524-X202-14000)

## SPRING ASSIST CLOSED



1070169 (K524-X201-14000)

## SPRING ASSIST OPEN



1071209 (K524-X221-14000)

## POSITION INDICATOR

### NOTE:

1. POSITION INDICATOR MODEL CANNOT BE COMBINED WITH NORMALLY CLOSED OR LIMIT STOP OPTIONS.

2. POSITION INDICATOR MODEL FURNISHED WITH SPRING ASSIST OPEN OPTION.

SEE FORM 1078142 FOR UNION END CONNECTORS AND GROOVED ADAPTORS

SEE FORM 1078152 FOR SOCKET WELD ENDS AND FLANGED ADAPTORS

SEE REVERSE SIDE FOR STANDARD NORMALLY OPEN MODEL

FORM NO. 1077655

C	NUMBER	CONVERSION	1588	MSM	27NOV02
REV	DESCRIPTION	ECO	DWN	DATE	APVD



**OSMONICS**

ROCKFORD OPERATIONS

2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421  
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## SERIES 524 DIAPHRAGM VALVE OPTIONAL MODELS

SCALE	DRAWN	DATE	DWG. NO.
N/A	JWB	24MAY01	1084004

NO.	DESCRIPTION	PART NO.	QTY.
<b>LIMIT STOP MODEL</b>			
18	ADJUSTING SCREW	1075142 (524-Y)	1
19	O-RING	BUNA N 1071668 (ORB-012)	1
20	LIMIT STOP HOUSING	1075141 (524-X)	1
21	O-RING	BUNA N 1071671 (ORB-016)	1
22	CAP	1075083 (524-BBOK)	1
<b>NORMALLY CLOSED MODEL</b>			
23	PIPE PLUG (1/8" NPT)	1071912 (PLP-0006)	1
24	SHAFT (N.C.)	1076238	1
25	SCREW	1076204	1
26	WASHER	1076201	1
<b>SPRING ASSIST CLOSED MODEL</b>			
27	SPRING (ASSIST CLOSED)	1075122 (524-S)	1
<b>SPRING ASSIST OPEN MODEL</b>			
28	SPRING (ASSIST OPEN)	1074423 (426-S)	1
<b>POSITION INDICATOR MODEL</b>			
29	SCREW	1076203	1
30	WASHER	1076201	1
31	O-RING	BUNA N 1071671 (ORB-016)	1
32	GUIDE HOUSING ASSY	1075037 (521-KA)	1
33	INDICATOR SHAFT	1076199	1
34	RETAINING RING	1076200	1
35	SHAFT	1076239	1
36	CAP	1075083 (524-BBOK)	1

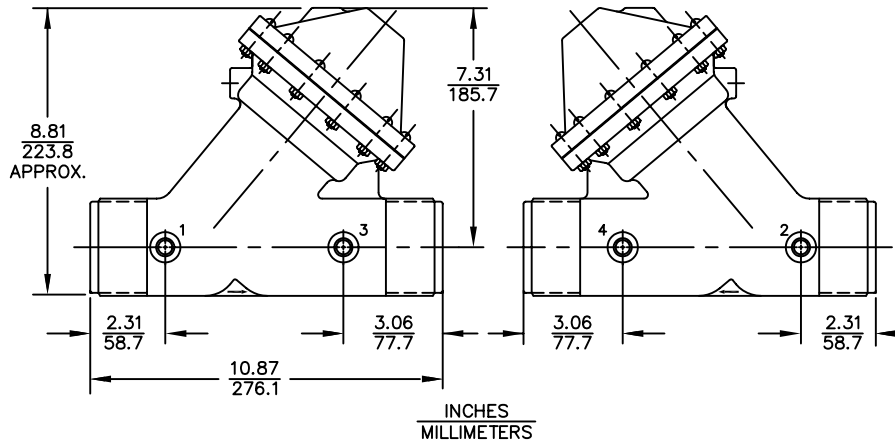
## CONVERSION KITS

DESCRIPTION	PART NO.
CONVERSION KIT (LIMIT STOP) CONSISTS OF ITEM NO'S 18 THRU 22	1071161 (K524-LSC)
CONVERSION KIT (SPRING ASSIST CLOSED) CONSISTS OF ITEM NO. 27	1075124 (524-SC)
CONVERSION KIT (SPRING ASSIST OPEN) CONSISTS OF ITEM NO. 28	1075125 (524-SO)
CONVERSION KIT (POSITION INDICATOR) CONSISTS OF ITEM NO'S 29 THRU 36	1079643 (K524-PICN)

## REPAIR PARTS KITS

DESCRIPTION	PART NO.
INT. PARTS KIT (LIMIT STOP) CONSISTS OF ITEM NO'S 18 THRU 21	1075111 (524-LS)
INT. PARTS KIT (NORM. CLOSED) CONSISTS OF ITEM NO'S 2,5,10,11,24,25,26	1076307 (K524-RGN)
INT. PARTS KIT (SPRING ASSIST CLOSED) CONSISTS OF ITEM NO. 27	1075124 (524-SC)
INT. PARTS KIT (SPRING ASSIST OPEN) CONSISTS OF ITEM NO. 28	1075125 (524-SO)
INT. PARTS KIT (POSITION INDICATOR) CONSISTS OF ITEM NO'S 29 THRU 35	1077591 (524-PIN)

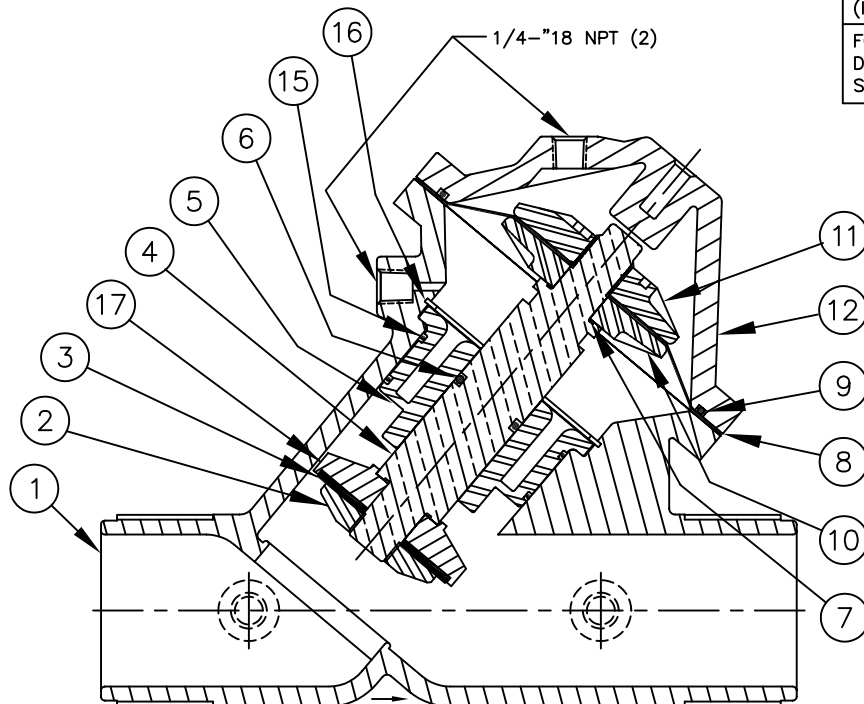
K526 DIAPHRAGM VALVE - STANDARD MODEL



REPAIR PARTS KITS		
DESCRIPTION	PART NO.	
DIAPHRAGM & SEALS KIT CONSISTS OF ITEM NO'S 3,6,7(2),8,9,15(2)	1070275 (526-RA)	1070283 (526-RAJ)
	E.P.D.M. INCLUDES DIAPHRAGM	BUTYL INCLUDES DIAPHRAGM
	1075177 (526-FB)	1075177 (526-FB)
	1070291 (526-RAV)	
INT. PARTS KIT (NORM. OPEN) CONSISTS OF ITEM NO'S 2,4,5,10,11,17	VITON INCLUDES DIAPHRAGM 1075177 (526-FB)	
	1070299 (K526-RF)	

ASSEMBLY TOOLS	
DESCRIPTION	PART NO.
FOR INSTALLATION & REMOVAL OF SHAFT (ITEM #4) (TOOL NOT SHOWN)	1075060 (521-ZA)
FOR INSTALLATION & REMOVAL OF UPPER DIAPHRAGM PLATE (ITEM #11) (TOOL NOT SHOWN)	1075224 (526-Z)


NO.	DESCRIPTION	PART NO.	QTY.
1	BODY	1075162 (526-AK)	1
2	DISC PLATE	1075176 (526-EK)	1
3	DISC	E.P.D.M. 1075181 (526-J)	1
		BUTYL 1075182 (526-JJ)	
		VITON 1075183 (526-JV)	
4	SHAFT	PVC 1075169 (526-C)	1
5	SHAFT GUIDE	NORYL 1075172 (526-CN)	1
		1075178 (526-GK)	
6	O-RING	E.P.D.M. 1071746 (ORE-214)	1
		BUTYL 1071778 (ORJ-214)	
		VITON 1071817 (ORV-214)	
7	O-RING	BUNA N 1071673 (ORB-018)	2
		VITON 1071790 (ORV-018)	
8	DIAPHRAGM	BUNA N 1075177 (526-FB)	1
9	O-RING	BUNA N 1071713 (ORB-251)	1
10	LWR DIA. PLATE	1075174 (526-DK)	1
11	UPR DIA. PLATE	1075173 (526-DDK)	1
12	CAP	1075167 (526-BOK)	1
13	RD. HD. MACH. SCR.	1072382 (SCS-0098)	12
14	HEX NUT	1071648 (NUS-0006)	12
15	O-RING	ETH. PROP. 1071738 (ORE-148)	2
		BUTYL 1071773 (ORJ-148)	
		VITON 1071810 (ORV-148)	
16	RETAINING RING	1075180 (526-HA)	1
17	DISC HOLDER	PVC 1075197 (526-RP)	1
		NORYL 1075196 (526-RN)	



SEE FORM 1078152 FOR SOCKET WELD ENDS AND  
FLANGED ADAPTORS

SEE REVERSE SIDE FOR CONFIGURATION OPTIONS

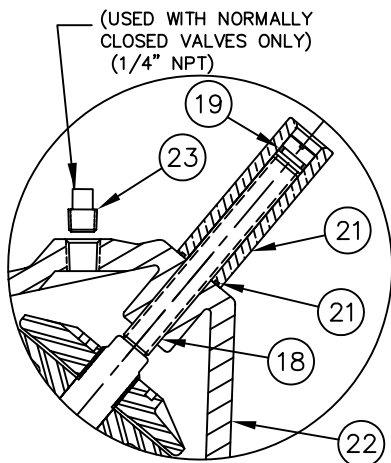
FORM NO. 1077656

D	NUMBER CONVERSION		1588	MSM	27NOV02	
REV	DESCRIPTION		ECO	DWN	DATE	APVD
<div> <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM</div>						
<b>SERIES 526 DIAPHRAGM VALVE</b>						
<b>STANDARD MODEL</b>						
SCALE	DRAWN	DATE	DWG. NO.			
N/A	JWB	24MAY01	1084005			

1070180 (K526-X200-14000)

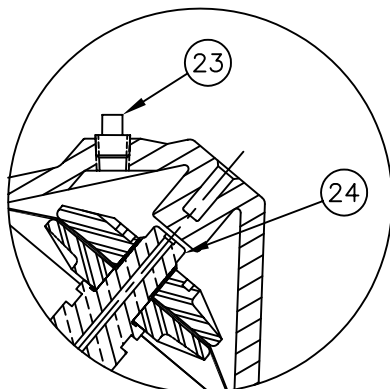
**NORMALLY OPEN (STANDARD)**





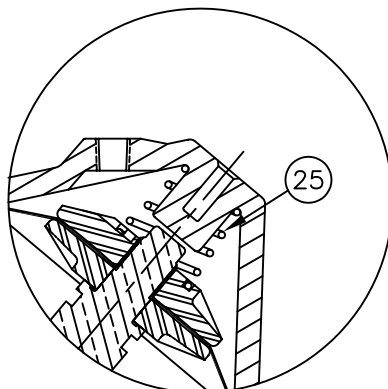
1070181 (K526-X210-14000)

## LIMIT STOP



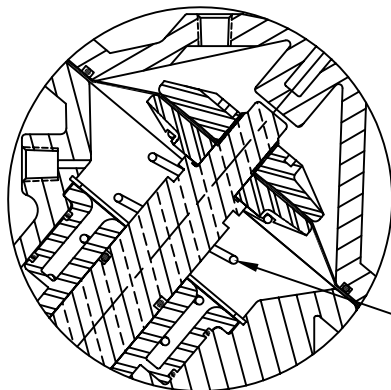
1071256 (K526-X230-14000)

## NORMALLY CLOSED



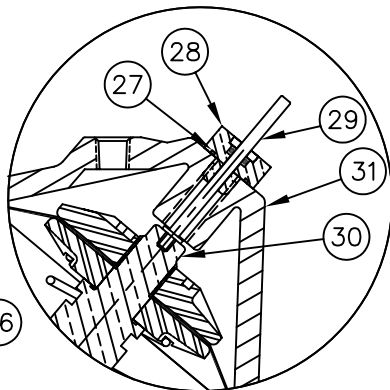
1071246 (K526-X202-14000)

## SPRING ASSIST CLOSED



1071242 (K526-X201-14000)

## SPRING ASSIST OPEN



1071255 (K526-X221-14000)

## POSITION INDICATOR

### NOTE:

1. POSITION INDICATOR MODEL CANNOT BE COMBINED WITH NORMALLY CLOSED OR LIMIT STOP OPTIONS.
2. POSITION INDICATOR MODEL FURNISHED WITH SPRING ASSIST OPEN OPTION.

SEE FORM 1078152 FOR SOCKET WELD ENDS AND FLANGED ADAPTORS


NO.	DESCRIPTION	PART NO.	QTY.
<b>LIMIT STOP MODEL</b>			
18	ADJUSTING SCREW	1075223 (526-Y)	1
19	O-RING BUNA N	1071668 (ORB-012)	1
20	LIMIT STOP HOUSING	1075222 (526-X)	1
21	O-RING BUNA N	1071671 (ORB-016)	1
22	CAP	1075165 (526-BBOK)	1
<b>NORMALLY CLOSED MODEL</b>			
23	PIPE PLUG (1/4\" NPT)	1071913 (PLP-0010)	1
24	SHAFT (N.C.)	1075170 (526-CC)	1
<b>SPRING ASSIST CLOSED MODEL</b>			
25	SPRING (ASSIST CLOSED)	1075202 (526-SS)	1
<b>SPRING ASSIST OPEN MODEL</b>			
26	SPRING (ASSIST OPEN)	1075198 (526-S)	1
<b>POSITION INDICATOR MODEL</b>			
27	O-RING BUNA N	1071671 (ORB-016)	1
28	GUIDE HOUSING ASSY	1075038 (521-KB)	1
29	INDICATOR SHAFT	1075184 (526-KD)	1
30	SHAFT	1075171 (526-CD)	1
31	CAP	1075165 (526-BBOK)	1

<b>CONVERSION KITS</b>	
DESCRIPTION	PART NO.
CONVERSION KIT (LIMIT STOP) CONSISTS OF ITEM NO'S 18 THRU 22	1071225 (K526-LSC)
CONVERSION KIT (SPRING ASSIST CLOSED) CONSISTS OF ITEM NO. 27	1075200 (526-SC)
CONVERSION KIT (SPRING ASSIST OPEN) CONSISTS OF ITEM NO. 28	1071227 (K526-SO)
CONVERSION KIT (POSITION INDICATOR) CONSISTS OF ITEM NO'S 27 THRU 31	1079674 (K526-PIC)

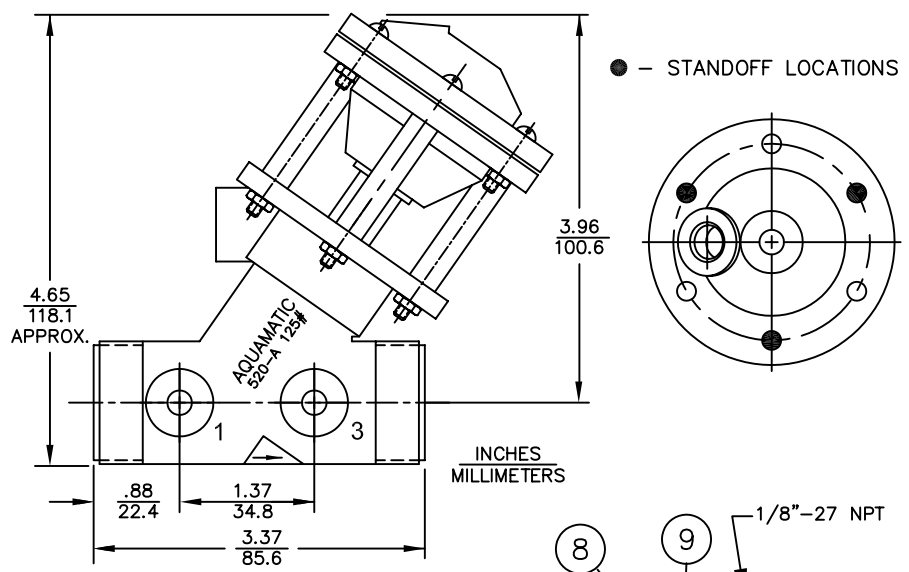
<b>REPAIR PARTS KITS</b>	
DESCRIPTION	PART NO.
INT. PARTS KIT (LIMIT STOP) CONSISTS OF ITEM NO'S 18 THRU 21	1075191 (526-LS)
INT. PARTS KIT (NORM. CLOSED) CONSISTS OF ITEM NO'S 2,5,10,11,24	1071226 (K526-RG)
INT. PARTS KIT (SPRING ASSIST CLOSED) CONSISTS OF ITEM NO. 25	1075200 (526-SC)
INT. PARTS KIT (SPRING ASSIST OPEN) CONSISTS OF ITEM NO. 26	1071227 (K526-SO)
INT. PARTS KIT (POSITION INDICATOR) CONSISTS OF ITEM NO'S 27 THRU 30	1081804 (526-PI)

SEE REVERSE SIDE FOR  
STANDARD NORMALLY OPEN MODEL

FORM NO. 1077656

D	NUMBER	CONVERSION	1588	MSM	27NOV02
REV	DESCRIPTION	ECO	DWN	DATE	APVD
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM					
<b>SERIES 526 DIAPHRAGM VALVE</b>					
<b>OPTIONAL MODELS</b>					
SCALE N/A	DRAWN JWB	DATE 24MAY01	DWG. NO. 1084005		

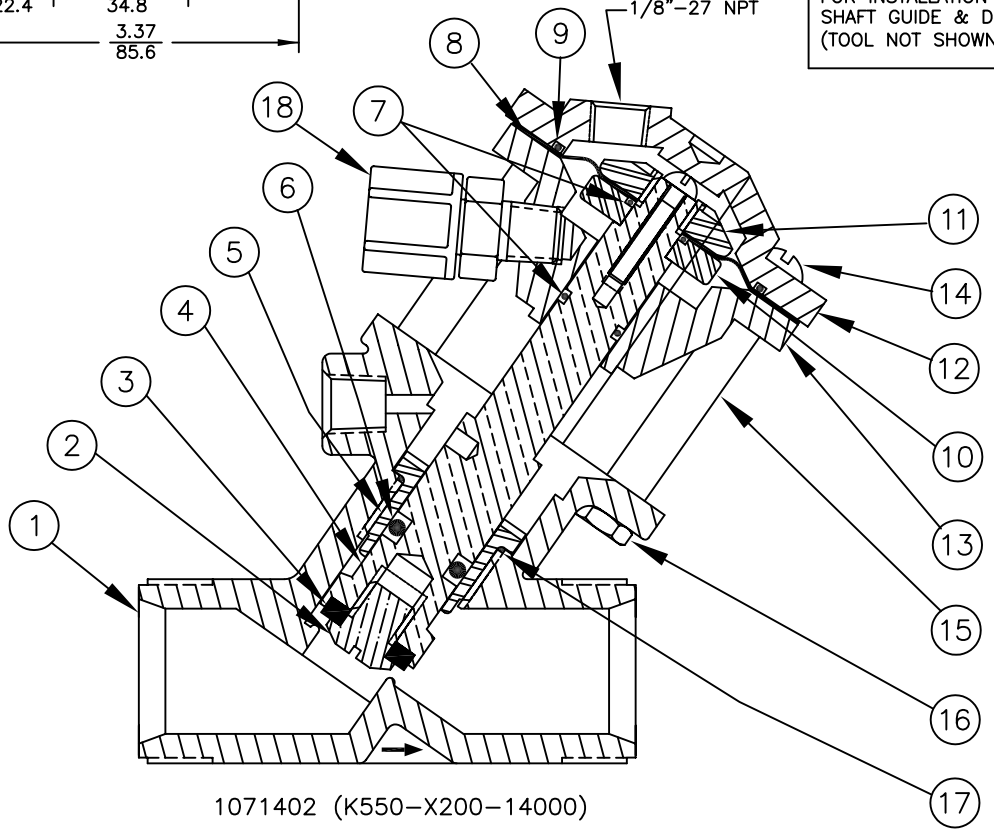
# K5520 DIAPHRAGM VALVE - STANDARD MODEL



REPAIR PARTS KITS		
DESCRIPTION	PART NO.	
DIAPHRAGM & SEALS KIT CONSISTS OF ITEM NO'S 3,6,7,8,9,17	1075341 (5520-RAE)	1075342 (5520-RAJ)
	E.P.D.M. INCLUDES DIAPHRAGM	BUTYL INCLUDES DIAPHRAGM
	1074962 (520-FB)	1074962 (520-FB)
	1075343 (5520-RAV)	
INT. PARTS KIT (NORM. OPEN) CONSISTS OF ITEM NO'S 2,4,5,10,11,18	FKM INCLUDES DIAPHRAGM 1074962 (520-FB)	
	1071432 (K5520-RF)	

ASSEMBLY TOOLS	
DESCRIPTION	PART NO.
FOR INSTALLATION & REMOVAL OF SHAFT GUIDE & DIAPHRAGM PLATE (TOOL NOT SHOWN)	1074989 (520-Z)

NO.	DESCRIPTION	PART NO.	QTY.
1	BODY	1074943 (520-AK)	1
2	DISC SCREW	1074961 (520-EK)	1
3	DISC	E.P.D.M. 1074966 (520-J)	1
		BUTYL 1074967 (520-JJ)	
		FKM 1074968 (520-JV)	
4	SHAFT	1075335 (5520-CD)	1
5	SHAFT GUIDE	PVC 1074965 (520-GP)	1
		NORYL 1074964 (520-GN)	
6	O-RING	E.P.D.M. 1071740 (ORE-204)	1
		BUTYL 1071774 (ORJ-204)	
		FKM 1071812 (ORV-204)	
7	O-RING	BUNA 1071668 (ORB-012)	2
8	DIAPHRAGM	BUNA 1074962 (520-FB)	1
		FKM 1074963 (520-FV)	
9	O-RING	BUNA 1071679 (ORB-030)	1
10	LOWER DIA. PLATE	1075339 (5520-F)	1
11	UPPER DIA. PLATE	1074958 (520-DDK)	1
12	CAP	1074948 (520-BOK)	1
13	BOTTOM CAP	1075334 (5520-B)	1
14	RD. HD. MACH. SCR	1072379 (SCS-0094)	6
15	STANDOFF	1075338 (5520-E)	3
16	HEX NUT	1071647 (NUS-0005)	6
17	O-RING	E.P.D.M. 1071720 (ORE-018)	1
		BUTYL 1071762 (ORJ-018)	
		FKM 1071790 (ORV-018)	
18	1/8"NPTX1/4" TUBE FITING	1071935 (PTP-0001)	1



**NORMALLY OPEN**

SEE SHEET 1078140 FOR UNION END CONNECTORS,  
SEE SHEET 1078141 FOR GROOVED ADAPTORS,

SEE REVERSE SIDE FOR CONFIGURATION OPTIONS

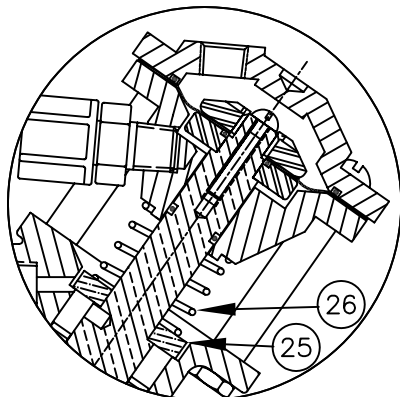
FORM NO. 1077692

D	NUMBER	CONVERSION	1588	MSM	27NOV02	
REV	DESCRIPTION		ECO	DWN	DATE	APVD

**OSMONICS**  
ROCKFORD OPERATIONS  
2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421  
WWW.OSMONICS.COM

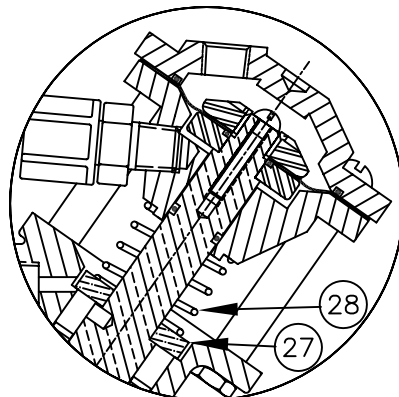
**SERIES 5520 DIAPHRAGM VALVE  
STANDARD MODEL**

SCALE N/A	DRAWN JWB	DATE 20JUL01	DWG. NO. 1084013
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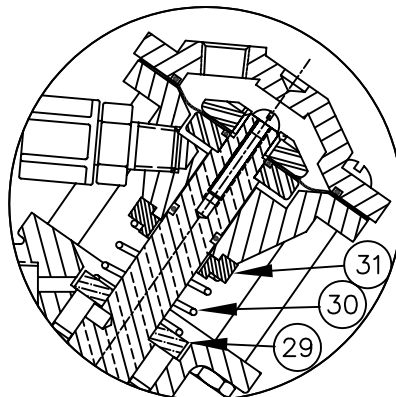
1071406 (K550-X203-14000)

**FAILSAFE**  
**SPRING CLOSED 30 PSI**



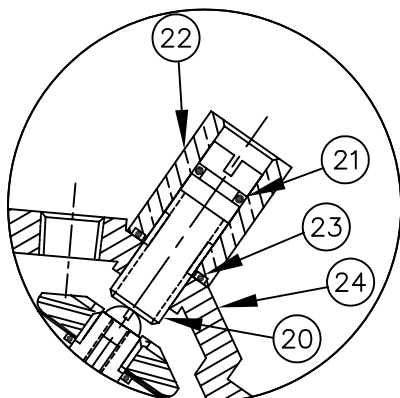
1071409 (K550-X204-14000)

**FAILSAFE**  
**SPRING CLOSED 60 PSI**



10714125 (K550-X205-14000)

**FAILSAFE**  
**SPRING CLOSED 100 PSI**



1071414 (K550-X214-14000)

**LIMIT STOP**

REPAIR PARTS KITS	
DESCRIPTION	PART NO.
INT. PARTS KIT (LIMIT STOP) CONSISTS OF ITEM NO'S 20 THRU 23	1074973 (520-LS)

CONVERSION KITS	
DESCRIPTION	PART NO.
CONVERSION PARTS KIT (LIMIT STOP) CONSISTS OF ITEM NO'S 20 THRU 24	1071056 (K520-LSC)

NO.	DESCRIPTION	PART NO.	QTY.
<b>LIMIT STOP MODEL</b>			
20	ADJUSTING SCREW	1074988 (520-Y)	1
21	O-RING BUNA N	1071667 (ORB-010)	1
22	LIMIT STOP HOUSING	1074987 (520-X)	1
23	O-RING BUNA N	1071669 (ORB-013)	1
24	CAP	1074946 (520-BBOK)	1
<b>FAILSAFE SPRING CLOSED - 30 PSI</b>			
25	LOWER SPRING RETAINER	1075344 (5520-RK)	1
26	SPRING	1075345 (5520-SA)	1
<b>FAILSAFE SPRING CLOSED - 60 PSI</b>			
27	LOWER SPRING RETAINER	1075344 (5520-RK)	1
28	SPRING	1075053 (521-SB)	1
<b>FAILSAFE SPRING CLOSED - 100 PSI</b>			
29	LOWER SPRING RETAINER	1075344 (5520-RK)	1
30	SPRING	1075053 (521-SB)	1
31	UPPER SPRING RETAINER	1075337 (5520-D)	1

NOTE:


1. LIMIT STOP OPTION ONLY OFFERED ON FAIL SAFE SPRING CLOSED MODELS.

2. FAILSAFE OPTION NOT OFFERED IN CONVERSION KIT FORM DUE TO SPECIAL ASSEMBLY REQUIREMENTS.

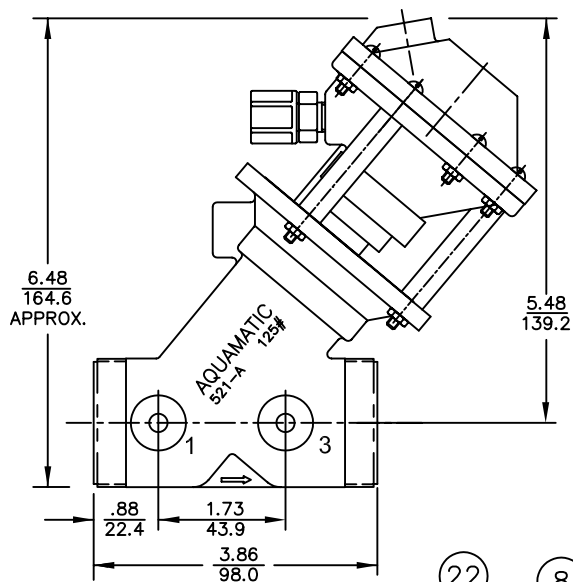
SEE SHEET 1078140 FOR UNION END CONNECTORS,  
SEE SHEET 1078141 FOR GROOVED ADAPTORS,

SEE REVERSE SIDE FOR  
STANDARD NORMALLY OPEN MODEL

FORM NO. 1077692

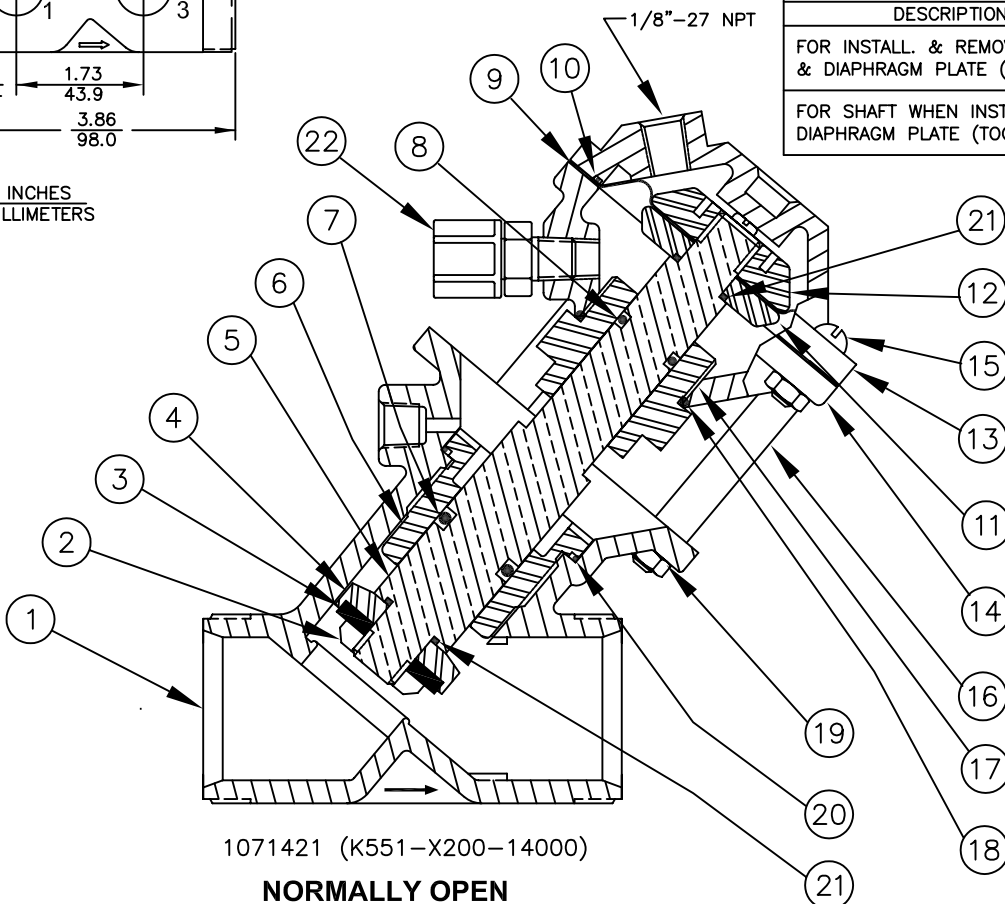
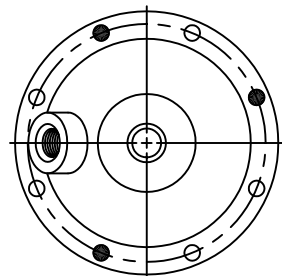
D	NUMBER	CONVERSION	1588	MSM	27NOV02	
REV	DESCRIPTION	ECO	DWN	DATE	APVD	
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM						
<b>SERIES 5520 DIAPHRAGM VALVE</b>						
<b>OPTIONAL MODELS</b>						
SCALE	DRAWN	DATE	DWG. NO.			
N/A	JWB	20JUL01	1084013			

# K5521 DIAPHRAGM VALVE - STANDARD MODEL



INCHES  
MILLIMETERS

● - STANDOFF LOCATIONS



1071421 (K551-X200-14000)

**NORMALLY OPEN**

## REPAIR PARTS KITS

DESCRIPTION	PART NO.	
DIAPHRAGM & SEALS KIT CONSISTS OF ITEM NO'S 3,7,8,9,10,18,20,21	1075361 (5521-RAE)	1075362 (5521-RAJ)
	E.P.D.M. INCLUDES DIAPHRAGM	BUTYL INCLUDES DIAPHRAGM
	1075028 (521-FB)	1075028 (521-FB)
	1075363 (5521-RAV)	
INT. PARTS KIT (NORM. OPEN) CONSISTS OF ITEM NO'S 2,4,5,6,11,12,17	FKM INCLUDES DIAPHRAGM	
	1075028 (521-FB)	
	1071433 (K5521-RF)	

## ASSEMBLY TOOLS


DESCRIPTION	PART NO.
FOR INSTALL. & REMOVAL OF SHAFT GUIDE & DIAPHRAGM PLATE (TOOL NOT SHOWN)	1075059 (521-Z)
FOR SHAFT WHEN INSTALL. OR REMOVING DIAPHRAGM PLATE (TOOL NOT SHOWN)	1075060 (521-ZA)

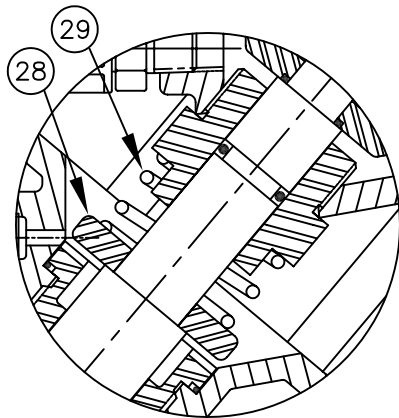
NO.	DESCRIPTION	PART NO.	QTY.
1	BODY	1075007 (521-AK)	1
2	DISC SCREW	1075358 (5521-P)	1
3	DISC	E.P.D.M. 1075033 (521-J) BUTYL 1075034 (521-JJ) FKM 1075036 (521-JV)	1
4	DISC HOLDER	1075360 (5521-R)	1
5	SHAFT	1075349 (5521-CB)	1
6	SHAFT GUIDE	PVC 1075031 (521-GP0) NORYL 1075030 (521-GN0)	1
7	O-RING	E.P.D.M. 1071743 (ORE-208) BUTYL 1071775 (ORJ-208) FKM 1071814 (ORV-208)	1
8	O-RING	BUNA 1071690 (ORB-112)	1
9	DIAPHRAGM	BUNA 1075028 (521-FB) FKM 1075029 (521-FV)	1
10	O-RING	BUNA 1071715 (ORB-805)	1
11	LOWER DIA. PLATE	1075355 (5521-FK)	1
12	UPPER DIA. PLATE	1075022 (521-DDK)	1
13	CAP	1075012 (521-BOK)	1
14	BOTTOM CAP	1075348 (5521-BK)	1
15	RD. HD. MACH. SCR.	1072380 (SCS-0095)	8
16	STANDOFF	1075354 (5521-E)	3
17	GUIDE BUSHING	1075357 (5521-GG)	1
18	O-RING	1071677 (ORB-025)	1
19	HEX NUT	1071648 (NUS-0006)	8
20	O-RING	E.P.D.M. 1071942 (QRE-029) BUTYL 1071943 (QRJ-029) FKM 1071944 (QRV-029)	1
21	O-RING	E.P.D.M. 1071718 (ORE-014) BUTYL 1071760 (ORJ-014) FKM 1071788 (ORV-014)	2
22	1/8"NPTX1/4" TUBE FITNG	1071935 (PTP-0001)	1

SEE SHEET 1078142 FOR UNION END CONNECTORS,  
SEE SHEET 1078142 FOR GROOVED ADAPTORS,

SEE REVERSE SIDE FOR CONFIGURATION OPTIONS

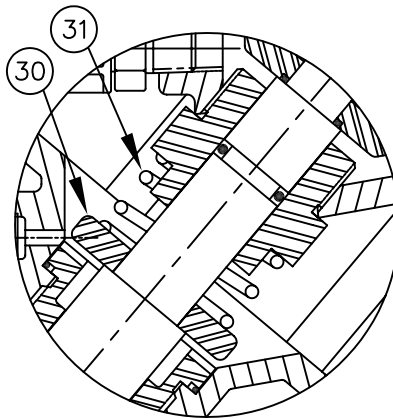
FORM NO. 1077693

D	NUMBER	CONVERSION	1588	MSM	27NOV02	
REV	DESCRIPTION	ECO	DWN	DATE	APVD	
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM						
<b>SERIES 5521 DIAPHRAGM VALVE</b> <b>STANDARD MODEL</b>						
SCALE	DRAWN	DATE	DWG. NO.			
N/A	JWB	02JUL01	1084014			



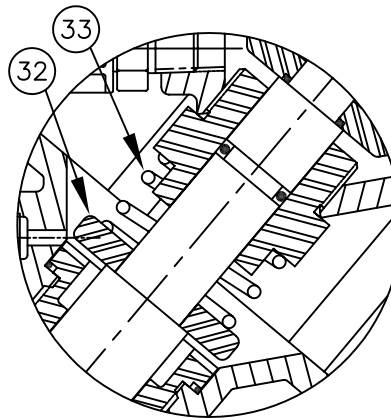
1071423 (K551-X203-14000)

**FAILSAFE**  
**SPRING CLOSED 30 PSI**



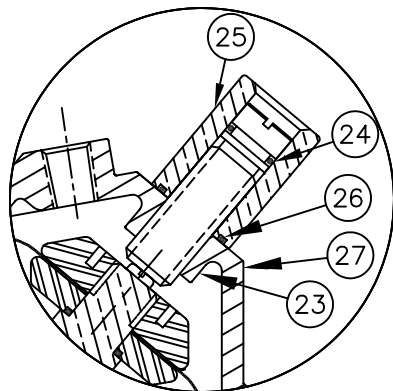
1071424 (K551-X204-14000)

**FAILSAFE**  
**SPRING CLOSED 60 PSI**



1071427 (K551-X205-14000)

**FAILSAFE**  
**SPRING CLOSED 100 PSI**



1076708 (K551-X214-14000)

**LIMIT STOP**

REPAIR PARTS KITS	
DESCRIPTION	PART NO.
INT. PARTS KIT (LIMIT STOP) CONSISTS OF ITEM NO'S 23 THRU 26	1075040 (521-LS)

CONVERSION KITS	
DESCRIPTION	PART NO.
CONVERSION PARTS KIT (LIMIT STOP) CONSISTS OF ITEM NO'S 23 THRU 27	1071090 (K521-LSC)

NO.	DESCRIPTION	PART NO.	QTY.
<b>LIMIT STOP MODEL</b>			
23	ADJUSTING SCREW	1075058 (521-Y)	1
24	O-RING BUNA N	1071668 (ORB-012)	1
25	LIMIT STOP HOUSING	1075057 (521-X)	1
26	O-RING BUNA N	1071671 (ORB-016)	1
27	CAP	1075010 (521-BBOK)	1
<b>FAILSAFE SPRING CLOSED - 30 PSI</b>			
28	LWR SPRING RETAINER	1075351 (5521-D)	1
29	SPRING	1075366 (5521-SA)	1
<b>FAILSAFE SPRING CLOSED - 60 PSI</b>			
30	LWR SPRING RETAINER	1075351 (5521-D)	1
31	SPRING	1075370 (5521-SC60)	1
<b>FAILSAFE SPRING CLOSED - 100 PSI</b>			
32	LWR SPRING RETAINER	1075351 (5521-D)	1
33	SPRING	1075365 (5521-S)	1


NOTE:

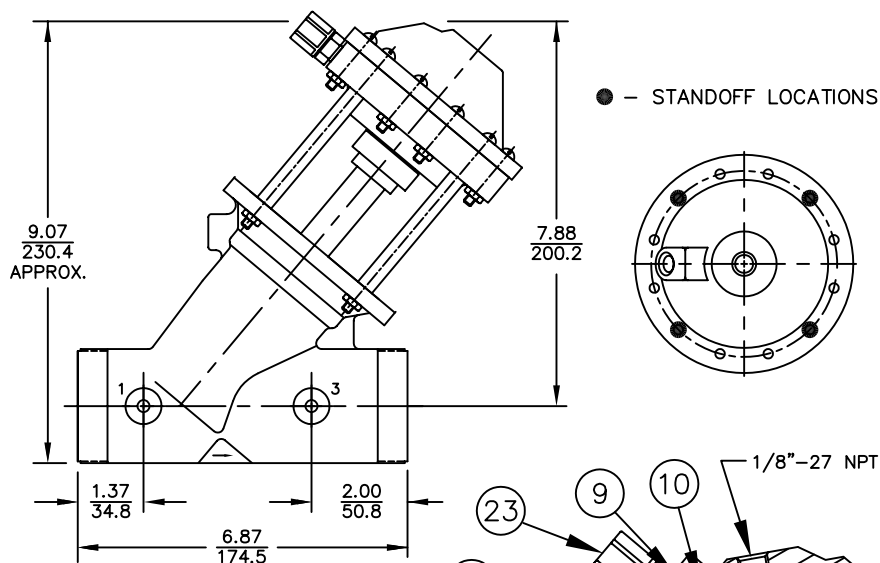
1. LIMIT STOP OPTION ONLY OFFERED ON FAIL SAFE SPRING CLOSED MODELS.
2. FAILSAFE OPTION NOT OFFERED IN CONVERSION KIT FORM DUE TO SPECIAL ASSEMBLY REQUIREMENTS.

SEE SHEET 1078142 FOR UNION END CONNECTORS,  
SEE SHEET 1078142 FOR GROOVED ADAPTORS,

SEE REVERSE SIDE FOR  
STANDARD NORMALLY OPEN MODEL

FORM NO. 1077693

D	NUMBER	CONVERSION	1588	MSM	27NOV02	
REV	DESCRIPTION	ECO	DWN	DATE	APVD	
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM						
<b>SERIES 5521 DIAPHRAGM VALVE</b>						
<b>OPTIONAL MODELS</b>						
SCALE N/A	DRAWN JWB	DATE 20NOV01	DWG. NO. 1084014			



REPAIR PARTS KITS		
DESCRIPTION	PART NO.	
DIAPHRAGM & SEALS KIT CONSISTS OF ITEM NO'S 3,7,8,9,10,18,20,21,22	1075377 (5524-RAE)	1075378 (5524-RAJ)
	E.P.D.M. INCLUDES DIAPHRAGM	BUTYL INCLUDES DIAPHRAGM
	1075377 (524-FB)	1075104 (524-FB)
	1075379 (5524-RAV) FKM INCLUDES DIAPHRAGM 1075104 (524-FB)	
INT. PARTS KIT (NORM. OPEN) CONSISTS OF ITEM NO'S 2,4,5,6,11,12,17	1071434 (K5524-RF)	


ASSEMBLY TOOLS	
DESCRIPTION	PART NO.
FOR INSTALL. & REMOVAL OF SHAFT GUIDE & DIAPHRAGM PLATE (TOOL NOT SHOWN)	1075143 (524-Z)
FOR SHAFT WHEN INSTALL. OR REMOVING DIAPHRAGM PLATE (TOOL NOT SHOWN)	1075060 (521-ZA)

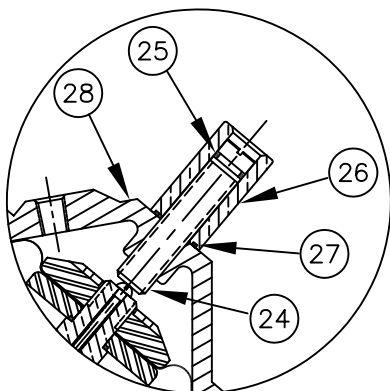
NO.	DESCRIPTION	PART NO.	QTY.
1	BODY	1075079 (524-AK)	1
2	DISC PLATE NUT	1075103 (524-EK)	1
3	DISC	E.P.D.M. 1075107 (524-J) BUTYL 1075108 (524-JJ) FKM 1075109 (524-JV)	1
4	DISC HOLDER	1075121 (524-RK)	1
5	SHAFT	1075372 (5524-CA)	1
6	SHAFT GUIDE	ENORYL 1075106 (524-GK)	1
7	O-RING	E.P.D.M. 1071744 (ORE-210) BUTYL 1071776 (ORJ-210) FKM 1071815 (ORV-210)	1
8	O-RING	E.P.D.M. 1071728 (ORE-113)	1
9	DIAPHRAGM	BUNA N 1075104 (524-FB) FKM 1075105 (524-FV)	1
10	O-RING	BUNA N 1071686 (ORB-043)	1
11	LOWER DIA. PLATE	1075375 (5524-FK)	1
12	UPPER DIA. PLATE	1075101 (524-DDK)	1
13	CAP	1075086 (524-BOK)	1
14	BOTTOM CAP	1075371 (5524-BB)	1
15	RD. HD. MACH. SCR.	1072382 (SCS-0098)	12
16	STANDOFF	1075374 (5524-E)	4
17	GUIDE BUSHING	1075376 (5524-G)	1
18	O-RING	1071677 (ORB-025)	1
19	HEX NUT	1071648 (NUS-0006)	12
20	O-RING	E.P.D.M. 1071735 (ORE-137) BUTYL 1071771 (ORJ-137) FKM 1071807 (ORV-137)	1
21	O-RING	E.P.D.M. 1071719 (ORE-016) BUTYL 1071761 (ORJ-016) FKM 1071789 (ORV-016)	1
22	O-RING	BUNA N 1071670 (ORB-015)	1
23	1/8"NPT X 1/4" TUBE FITING	1071935 (PTP-0001)	1

SEE SHEET 1078142 FOR UNION END CONNECTORS,  
SEE SHEET 1078142 FOR GROOVED ADAPTORS,

SEE REVERSE SIDE FOR CONFIGURATION OPTIONS

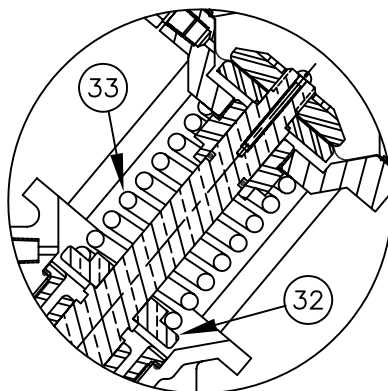
FORM NO. 1077694

D	NUMBER CONVERSION	1588	MSM	27NOV02	
REV	DESCRIPTION	ECO	DWN	DATE	APVD
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM					
<b>SERIES 5524 DIAPHRAGM VALVE</b> <b>STANDARD MODEL</b>					
SCALE N/A	DRAWN JWB	DATE 02JUL01	DWG. NO. 1084015		



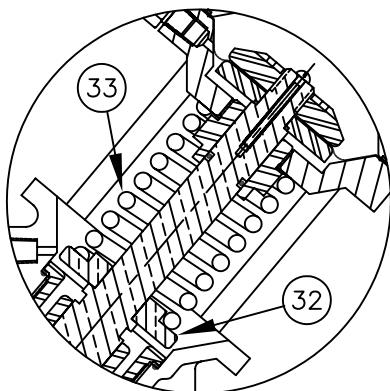
1079768 (K554-X210-14000)

## LIMIT STOP



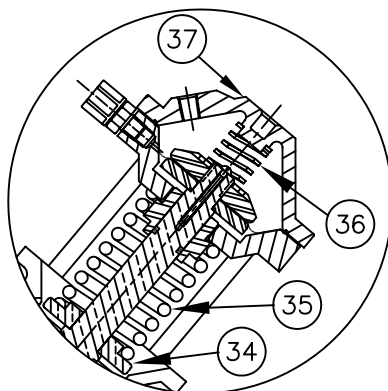
1071438 (K554-X203-14000)

## FAILSAFE SPRING CLOSED 30 PSI



1071439 (K554-X204-14000)

## FAILSAFE SPRING CLOSED 60 PSI



1071442 (K554-X205-14000)

## FAILSAFE SPRING CLOSED 100 PSI

NO.	DESCRIPTION	PART NO.	QTY.
<b>LIMIT STOP MODEL</b>			
24	ADJUSTING SCREW	1075142 (524-Y)	1
25	O-RING (BUNA N)	1071668 (ORB-012)	1
26	LIMIT STOP HOUSING	1075141 (524-X)	1
27	O-RING (BUNA N)	1071671 (ORB-016)	1
28	CAP (LIMIT STOP)	1075083 (524-BBOK)	1

## FAILSAFE SPRING CLOSED - 30 PSI

31	SPRING	1077981	1
32	LOWER SPRING RETAINER	1075373 (5524-DD)	1

## FAILSAFE SPRING CLOSED - 60 PSI

32	LOWER SPRING RETAINER	1075373 (5524-DD)	1
33	SPRING	1074705 (4424-S)	1

## FAILSAFE SPRING CLOSED - 100 PSI

34	LOWER SPRING RETAINER	1075373 (5524-DD)	1
35	SPRING	1077983	1

## NOTE:

1. LIMIT STOP OPTION ONLY OFFERED ON FAIL SAFE SPRING CLOSED MODELS.
2. FAILSAFE OPTION NOT OFFERED IN CONVERSION KIT FORM DUE TO SPECIAL ASSEMBLY REQUIREMENTS.
3. LIMIT STOP CONVERSION KITS NOT OFFERED DUE TO FAILSAFE OPTION ASSEMBLY REQUIREMENTS.

SEE SHEET 1078142 FOR UNION END CONNECTORS,  
SEE SHEET 1078142 FOR GROOVED ADAPTORS,

SEE REVERSE SIDE FOR  
STANDARD NORMALLY OPEN MODEL

FORM NO. 1077694

D	NUMBER	CONVERSION	1588	MSM	27NOV02	
REV		DESCRIPTION	ECO	DWN	DATE	APVD



**OSMONICS**

ROCKFORD OPERATIONS

2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421  
WWW.OSMONICS.COM

## SERIES 5524 DIAPHRAGM VALVE

## OPTIONAL MODELS

SCALE	DRAWN	DATE	DWG. NO.
N/A	JWB	02JUL01	1084015

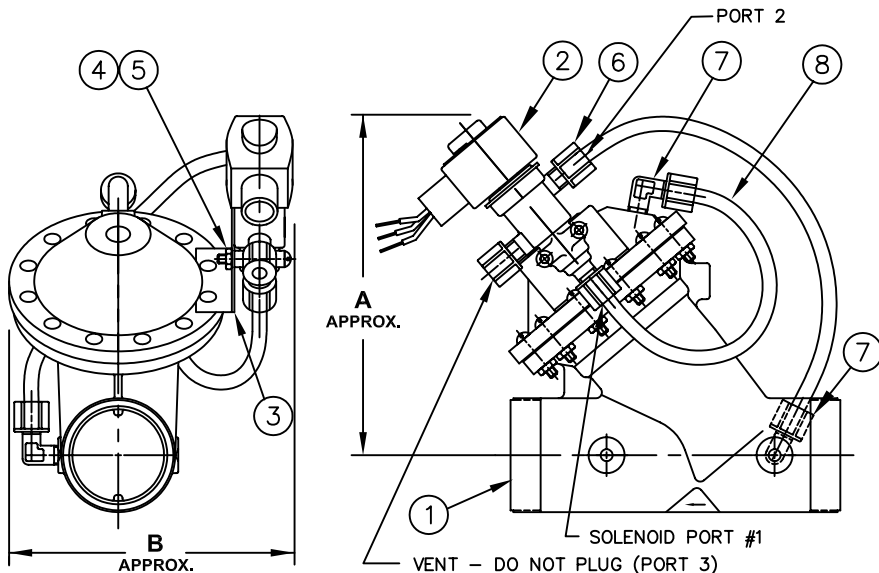
## REPAIR PARTS KITS

DESCRIPTION	PART NO.
INT. PARTS KIT (LIMIT STOP) CONSISTS OF ITEM NO'S 24 THRU 27	1075111 (524-LS)

NOTE:

1. LENGTH OF TUBING VARIES WITH EACH SIZE OF DIAPHRAGM VALVE.
2. DIAPHRAGM VALVE IS NORMALLY OPEN, PRESSURE TO CLOSE
3. BOSS NO. 1 ON VALVE TAPPED 1/8" N.P.T. (520,521,524) 1/4" N.P.T. (526)
4. DRY DRAIN OPTION - VENT PORT OF SOLENOID IS CONNECTED TO DOWNSTREAM SIDE OF VALVE.

NO.	DESCRIPTION	PART NO.	QTY.
1	DIAPHRAGM VALVE -- NORMALLY OPEN		1
2	3 WAY SOLENOID VALVE (NEMA 4 ONLY)	110 V. 60 HZ. 1075637 <del>8360A71</del>	1
		220 V. 50 HZ. 1075638 <del>8360A71V</del>	
		24 V. 60 HZ. 1075639 <del>8360A71VV</del>	
3	SOLENOID MOUNTING BRACKET	1074783 <del>4500-A</del>	1
4	RD. HD. MACH. SCREW (8-32 X 1 1/4")	1072377 <del>SCS-0086</del>	2
5	HEX NUT (8-32)	1079811 <del>NUB-0084</del>	2
6	NUT AND SLEEVE ASSEMBLY (1/4" TUBE)	1071939 <del>PTP-0009</del>	3
7	90° ELBOW	1/8" M. X 1/4" TUBE 520 - 524 1071937 <del>PTP-0006</del>	2
		1/4" M. X 1/4" TUBE 526 1071938 <del>PTP-0008</del>	
8	NYLON TUBING - BLACK (1/4" O.D.) (NOTE 1)	1071936 <del>PTP-0005</del>	N/A



**ENERGIZED TO CLOSE**

**SOLENOID ENERGIZED.**

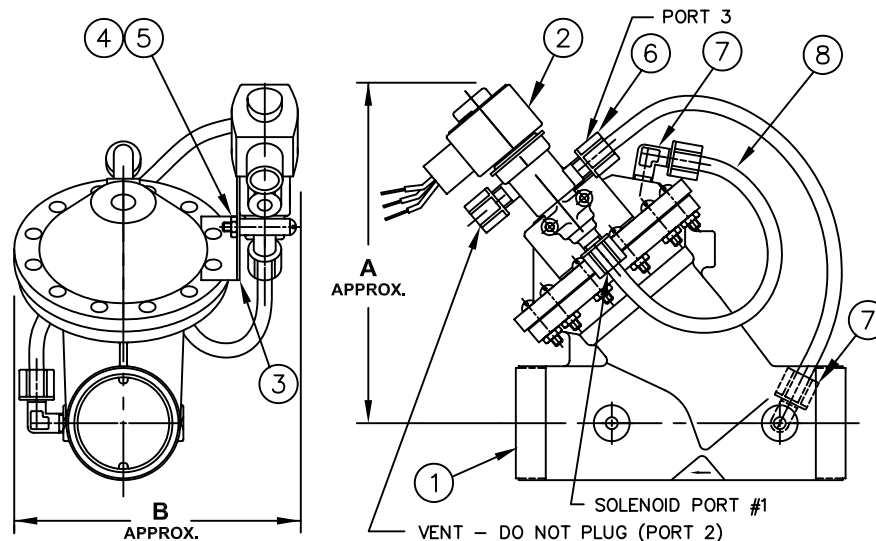
UPSTREAM PRESSURE, FROM SOLENOID PORT 2 TO PORT 1, IS APPLIED TO UPPER DIAPHRAGM CHAMBER TO CLOSE THE DIAPHRAGM VALVE.

**SOLENOID DE-ENERGIZED.**

PRESSURE FROM UPPER DIAPHRAGM CHAMBER IS VENTED, THROUGH SOLENOID PORT 1 TO PORT 3 TO DRAIN. UPSTREAM PRESSURE OPENS THE DIAPHRAGM VALVE.

VALVE SERIES	PIPE SIZE	A	B
520	3/8", 1/2"	5.87	4.12
		149.1	104.6
521	3/4", 1"	6.52	5.12
		165.6	130.0
524	1-1/2", 2"	7.62	6.25
		193.5	158.75
526	2-1/2", 3"	9.62	7.87
		244.3	200.0

INCHES  
MILLIMETERS




**ENERGIZED TO OPEN**

**SOLENOID DE-ENERGIZED.**

UPSTREAM PRESSURE, FROM SOLENOID PORT 3 TO PORT 1, IS APPLIED TO UPPER DIAPHRAGM CHAMBER TO CLOSE THE DIAPHRAGM VALVE.

**SOLENOID ENERGIZED.**

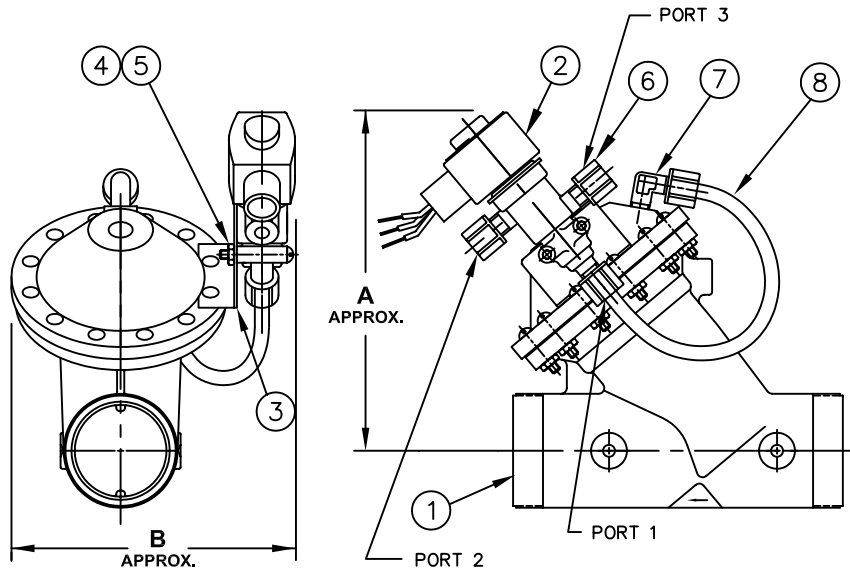
PRESSURE FROM UPPER DIAPHRAGM CHAMBER IS VENTED, THROUGH SOLENOID PORT 1 TO PORT 2 TO DRAIN. UPSTREAM PRESSURE OPENS THE DIAPHRAGM VALVE.

A	INITIAL RELEASE	1434	JWB	25JUL01	VP
REV	DESCRIPTION	ECO	DWN	DATE	APVD
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM					
<b>SERIES 520 DIAPHRAGM VALVES</b> <b>SOLENOID OPERATED VALVES</b>					
SCALE	DRAWN	DATE	DWG. NO.		
N/A	JWB	25JUL01	1078160		

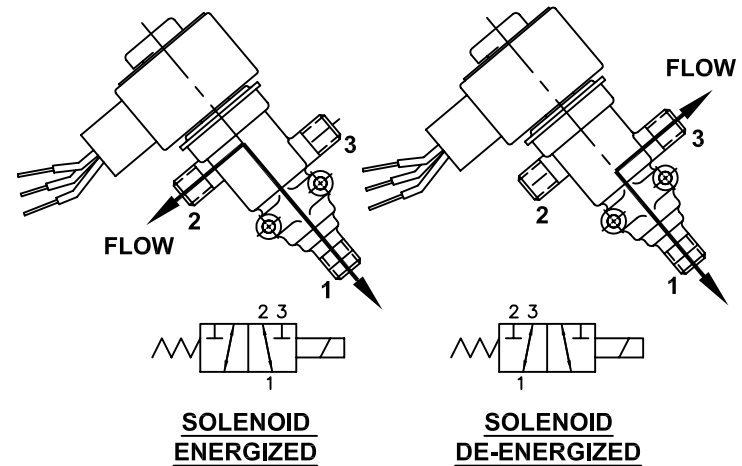


NOTE:

1. LENGTH OF TUBING VARIES WITH EACH SIZE OF DIAPHRAGM VALVE.
2. DIAPHRAGM VALVE IS NORMALLY OPEN



NO.	DESCRIPTION	PART NO.	QTY.
1	DIAPHRAGM VALVE – NORMALLY OPEN		1
2	3 WAY SOLENOID VALVE (NEMA 4 ONLY)	110 V. 60 HZ. 1075637 <del>8360A71</del>	1
		220 V. 50 HZ. 1075638 <del>8360A71V</del>	
		24 V. 60 HZ. 1075639 <del>8360A71VV</del>	
3	SOLENOID MOUNTING BRACKET	1074783 <del>4500-A</del>	1
4	RD. HD. MACH. SCREW (8-32 X 1 1/4")	1072377 <del>SCS-0006</del>	2
5	HEX NUT (8-32)	1079811 <del>NUB-0004</del>	2
6	NUT AND SLEEVE ASSEMBLY (1/4" TUBE)	1071939 <del>PTP-0009</del>	3
7	90° ELBOW	1/8" M. X 1/4" TUBE 520 – 524 1071937 <del>PTP-0006</del>	1
		1/4" M. X 1/4" TUBE 526 1071938 <del>PTP-0008</del>	
8	NYLON TUBING – BLACK (1/4" O.D.) (NOTE 1)	1071936 <del>PTP-0005</del>	N/A



**INDEPENDENT CONTROL PRESSURE**

**ENERGIZE TO OPEN**

APPLY CONTROL PRESSURE AT SOLENOID PORT NO. 3  
(PORT NO. 2 VENTED)

**ENERGIZE TO CLOSE**

APPLY CONTROL PRESSURE AT SOLENOID PORT NO. 2  
(PORT NO. 3 VENTED)


CONTROL PRESSURE MUST BE EQUAL TO OR GREATER  
THAN LINE PRESSURE.

VALVE SERIES	PIPE SIZE	A	B
520	3/8", 1/2"	5.87	4.12
		149.1	104.6
521	3/4", 1 "	6.52	5.12
		165.6	130.0
524	1-1/2", 2"	7.62	6.25
		193.5	158.75
526	2-1/2", 3"	9.62	7.87
		244.3	200.0

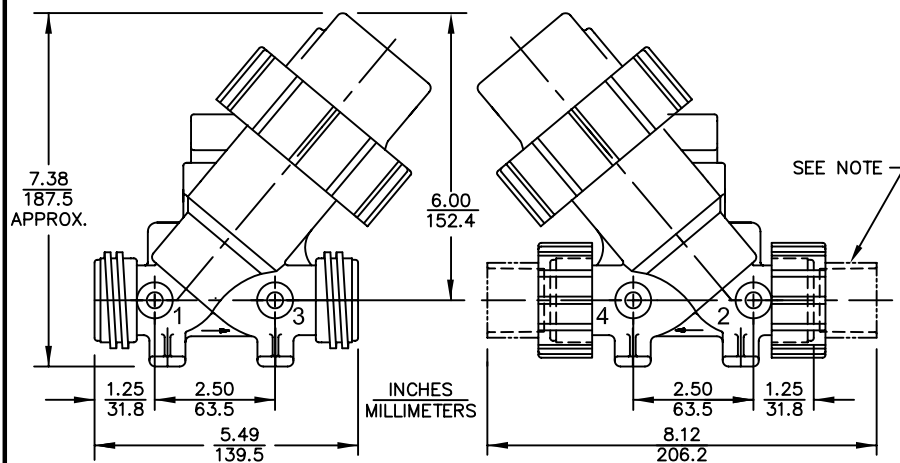
INCHES  
MILLIMETERS

CURRENT DRAIN (AMPERES)		
VOLTAGE	INRUSH	HOLDING
24V 60Hz	1.66	1.04
120V 60Hz	0.33	0.21
220V 50Hz	0.18	0.11

FORM NO. 1081312

A	INITIAL RELEASE	1434	JWB	25JUL01	VP
REV	DESCRIPTION	ECO	DWN	DATE	APVD
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM					
<b>SERIES 520 DIAPHRAGM VALVES</b> <b>SOLENOID OPERATED VALVES</b>					
SCALE N/A	DRAWN JWB	DATE 25JUL01	DWG. NO. 1078160		

# K531 DIAPHRAGM VALVE - STANDARD MODEL



REPAIR PARTS KITS		
DESCRIPTION	PART NO.	
DIAPHRAGM & SEALS KIT CONSISTS OF ITEM NO'S 3,4(2),9,10,12,15(2)	1070318 (531-RAE)	1070326 (531-RAE)
	E.P.D.M. INCLUDES DIAPHRAGM	BUTYL INCLUDES DIAPHRAGM
	1073277 (V531-100)	1073277 (V531-100)
	1070334 (531-RAV)	
	FKM INCLUDES DIAPHRAGM 1073278 (V531-101)	
INT. PARTS KIT CONSISTS OF ITEM NO'S 2,5,6,7,8,14	1070342 (K531-RF)	


ASSEMBLY TOOLS	
DESCRIPTION	PART NO.
LIMIT STOP TOOL (TOOL NOT SHOWN)	1073556 (V560-579)
STRAP WRENCH (TOOL NOT SHOWN)	1073557 (V560-581)

NO.	DESCRIPTION	PART NO.	QTY.
1	BODY	1073287 (V531-410K)	1
2	DISC PLATE	1073274 (V531-093K)	1
3	DISC	E.P. 1073279 (V531-110)	1
		BUTYL 1073280 (V531-111)	
		FKM 1073281 (V531-112)	
4	O-RING	E.P. 1071749 (ORF-223)	2
		BUTYL 1071780 (ORJ-223)	
		FKM 1071820 (ORV-223)	
5	RETAINING RING	1073312 (V531-593)	1
6	SHAFT GUIDE	PVC 1073292 (V531-491)	1
		NORYL 1073291 (V531-490)	
7	SHAFT	1073294 (V531-530)	1
8	LWR DIA. PLATE	1073265 (V531-045K)	1
9	O-RING	BUNA N 1071700 (ORB-208)	1
		FKM 1071814 (ORV-208)	
10	DIAPHRAGM	BUNA N 1073277 (V531-100)	1
		FKM 1073278 (V531-101)	
11	CAP RETAINER NUT	1073395 (V535-080K)	1
12	O-RING	BUNA N 1071685 (ORB-039)	1
		FKM 1071796 (ORV-039)	
13	CAP	1073263 (V531-021K)	1
14	UPR DIA. PLATE	1073264 (V531-040K)	1
15	O-RING	E.P. 1071744 (ORF-210)	2
		BUTYL 1071776 (ORJ-210)	
		FKM 1071815 (ORV-210)	
16	SOCKET RTNG NUT	1073273 (V531-080K)	2
17	O-RING	E.P. 1071748 (ORF-218)	2
		BUTYL 1071779 (ORJ-218)	
		FKM 1071819 (ORV-218)	

NOTE:  
CONNECTORS NOT FURNISHED WITH VALVE.  
SEE DWG. NO. 1078165 FOR FEMALE SOCKET  
WELD CONNECTORS.

SEE REVERSE SIDE FOR CONFIGURATION OPTIONS

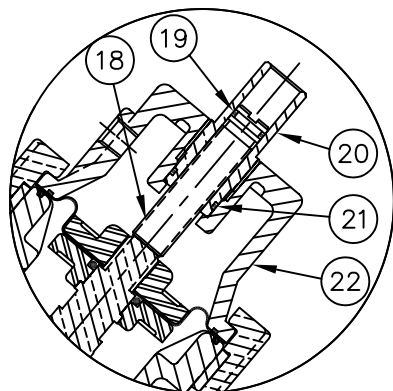
FORM NO. 1077688

C	NUMBER	CONVERSION	1588	MSM	27NOV02	
REV	DESCRIPTION	ECO	DWN	DATE	APVD	
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM						
<b>SERIES 531 DIAPHRAGM VALVE</b> <b>STANDARD MODEL</b>						
SCALE	DRAWN	DATE	DWG. NO.			
N/A	JWB	11JUN01	1084007			

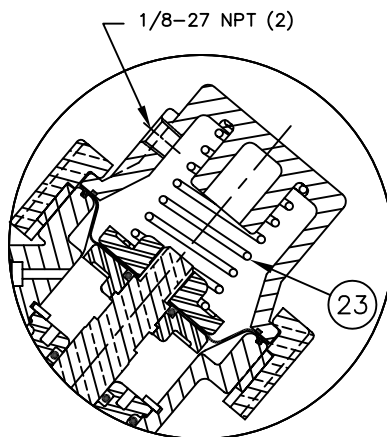
1070304 (K531-X200-14000)

**NORMALLY OPEN (STANDARD)**

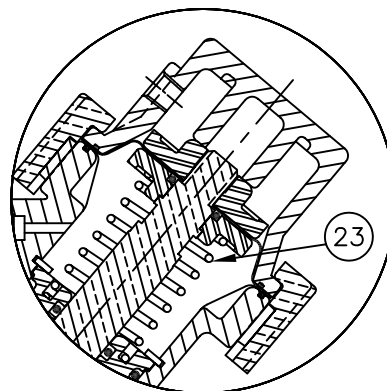
PRINTED IN U.S.A.



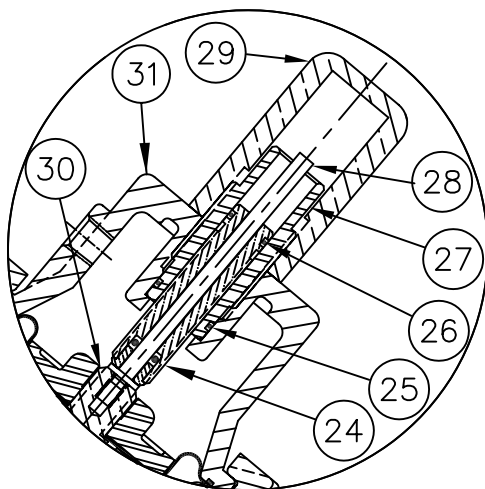
1070305 (K531-X210-14000)  
**LIMIT STOP**



1071286 (K531-X202-14000)  
**SPRING ASSIST CLOSED**



1071282 (K531-X201-14000)  
**SPRING ASSIST OPEN**



K531-X221-14000  
**LIMIT STOP/  
POSITION INDICATOR**


REPAIR PARTS KITS	
DESCRIPTION	PART NO.
INT. PARTS KIT (LIMIT STOP) CONSISTS OF ITEM NO'S 18 THRU 21	1075226 (531-LS)
INT. PARTS KIT (SPRING ASSIST CLOSED) CONSISTS OF ITEM NO. 23	1075229 (531-S)
INT. PARTS KIT (SPRING ASSIST OPEN) CONSISTS OF ITEM NO. 23	1075229 (531-S)
INT. PARTS KIT (LIMIT STOP/POS INDICATOR) CONSISTS OF ITEM NO'S 24 THRU 30	1075227 (531-PI)

CONVERSION KITS	
DESCRIPTION	PART NO.
CONVERSION KIT (LIMIT STOP) CONSISTS OF ITEM NO'S 18 THRU 22	1071265 (K531-LSC)
CONVERSION KIT (SPRING ASSIST CLOSED) CONSISTS OF ITEM NO. 23	1075229 (531-S)
CONVERSION KIT (SPRING ASSIST OPEN) CONSISTS OF ITEM NO. 23	1075229 (531-S)
CONVERSION KIT (LIMIT STOP/POS. INDICATOR) CONSISTS OF ITEM NO'S 24 THRU 31	1071266 (K531-PI)

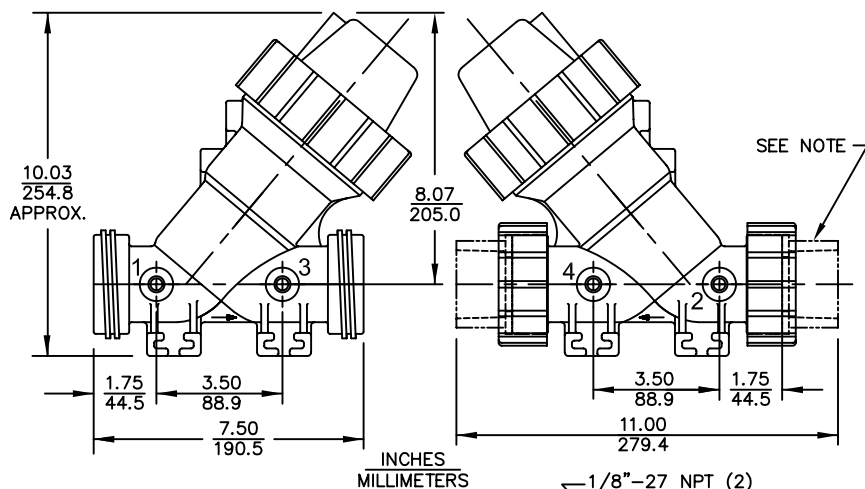
NO.	DESCRIPTION	PART NO.	QTY.
<b>LIMIT STOP MODEL</b>			
18	ADJUSTING SCREW	1073308 (V531-576)	1
19	O-RING	BUNA N 1071668 (ORB-012)	1
	FKM	1071787 (ORV-012)	
20	LS GUIDE	PVC 1073304 (V531-571)	1
	CPVC	1073306 (V531-573)	
21	O-RING	BUNA N 1071671 (ORB-016)	1
	FKM	1071789 (ORV-016)	
22	CAP	1073288 (V531-421K)	1
<b>SPRING ASSIST CLOSED MODEL &amp; SPRING ASSIST OPEN MODEL</b>			
23	SPRING	1073283 (V531-170)	1
<b>LIMIT STOP/ POSITION INDICATOR MODEL</b>			
24	SCREW ASSY	1073315 (V531-700)	1
25	O-RING	BUNA N 1071671 (ORB-016)	1
	FKM	1071789 (ORV-016)	
26	O-RING	BUNA N 1071668 (ORB-012)	1
	FKM	1071787 (ORV-012)	
27	LS/PI GUIDE	PVC 1073303 (V531-570)	1
	CPVC	1073305 (V531-572)	
28	INDICATOR SHAFT	1073298 (V531-555)	1
29	PI CLEAR CAP	1073297 (V531-550)	1
30	SHAFT	1073295 (V531-531)	1
31	CAP	1073288 (V531-421K)	1

SEE REVERSE SIDE FOR  
STANDARD NORMALLY OPEN MODEL

FORM NO. 1077688

C	NUMBER	CONVERSION	1588	MSM	27NOV02	
REV	DESCRIPTION	ECO	DWN	DATE	APVD	
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM						
<b>SERIES 531 DIAPHRAGM VALVE</b>						
<b>OPTIONAL MODELS</b>						
SCALE	DRAWN	DATE	DWG. NO.			
N/A	JWB	11JUN01	1084007			

# K534 DIAPHRAGM VALVE - STANDARD MODEL



REPAIR PARTS KITS		
DESCRIPTION	PART NO.	
DIAPHRAGM & SEALS KIT CONSISTS OF ITEM NO'S 3,5,6,10,11,13,17	1070319 (534-RAE)	1070327 (534-RAJ)
	E.P.D.M. INCLUDES DIAPHRAGM	BUTYL INCLUDES DIAPHRAGM
	1073333 (V534-100)	1073333 (V534-100)
INT. PARTS KIT CONSISTS OF ITEM NO'S 2,4,7,8,9,14,16,18	1070335 (534-RAV)	
	FKM INCLUDES DIAPHRAGM	
	1073334 (V534-101)	
	1070343 (K534-RF)	


ASSEMBLY TOOLS	
DESCRIPTION	PART NO.
LIMIT STOP TOOL (TOOL NOT SHOWN)	1073556 (V560-579)
STRAP WRENCH (TOOL NOT SHOWN)	1073557 (V560-581)

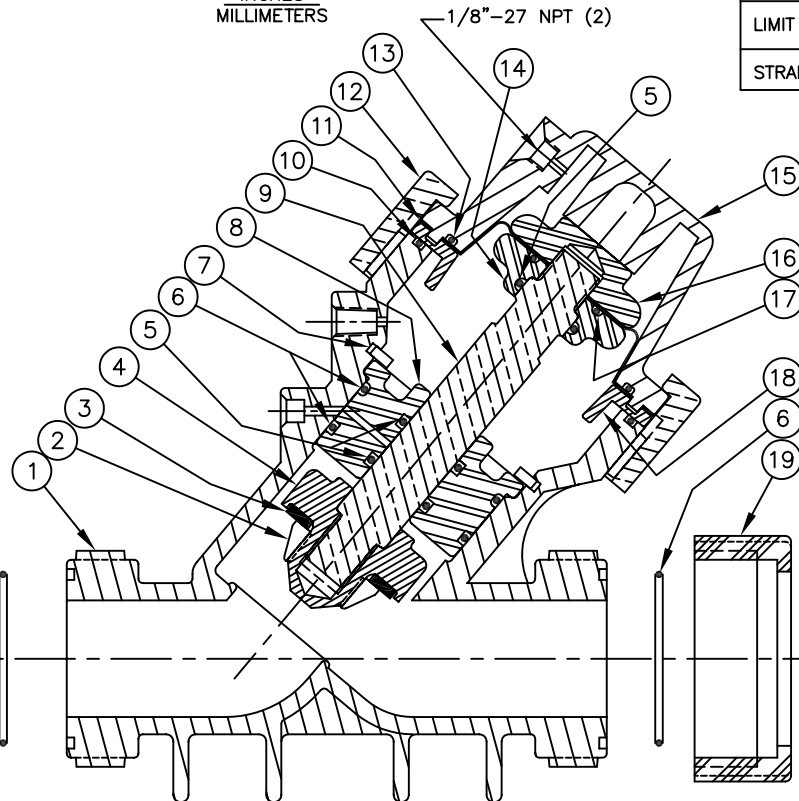
NO.	DESCRIPTION	PART NO.	QTY.
1	BODY	1073344 (V534-410K)	1
2	DISC PLATE	PVC 1073330 (V534-093)	1
		NORYL 1073331 (V534-094)	
3	DISC	E.P. 1073337 (V534-110)	1
		BUTYL 1073338 (V534-111)	
		FKM 1073339 (V534-112)	
4	DISC HOLDER	PVC 1073353 (V534-500)	1
		NORYL 1073354 (V534-501)	
5	O-RING	E.P. 1071745 (ORE-212)	3
		BUTYL 1071777 (ORJ-212)	
		FKM 1071816 (ORV-212)	
6	O-RING	E.P. 1071751 (ORE-228)	4
		BUTYL 1071781 (ORJ-228)	
		FKM 1071822 (ORV-228)	
7	RETAINING RING	1073375 (V534-593)	1
8	SHAFT GUIDE	PVC 1073350 (V534-491)	1
		NORYL 1073351 (V534-492)	
9	SHAFT	PVC 1073360 (V534-533)	1
		NORYL 1073361 (V534-534)	
10	O-RING	BUNA N 1071709 (ORB-240)	1
		FKM 1071830 (ORV-240)	
11	DIAPHRAGM	BUNA N 1073333 (V534-100)	1
		FKM 1073334 (V534-101)	
12	CAP RETAINER NUT	1073458 (V537-080K)	1
13	O-RING	BUNA N 1071707 (ORB-235)	1
		FKM 1071827 (ORV-235)	
14	LOWER DIA. PLATE	PVC 1073320 (V534-045)	1
		NORYL 1073321 (V534-046)	
15	CAP	1073317 (V534-020K)	1
16	UPPER DIA. PLATE	PVC 1073318 (V534-040)	1
		NORYL 1073319 (V534-041)	
17	O-RING	BUTYL 1076766 (ORB-214)	1
		FKM 1071817 (ORV-214)	
18	DIAPH. SUPPORT	1073366 (V534-551K)	1
19	SOCKET RTNG NUT	1073329 (V534-080K)	2

NOTE:  
CONNECTORS NOT FURNISHED WITH VALVE.  
SEE DWG. NO. 1078165 FOR FEMALE SOCKET  
WELD CONNECTORS.

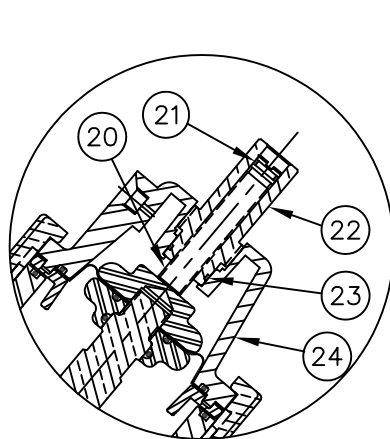
SEE REVERSE SIDE FOR CONFIGURATION OPTIONS

FORM NO. 1077689

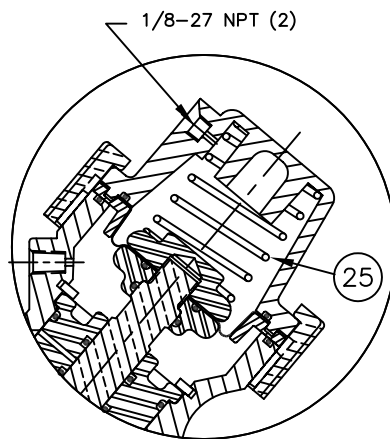
C	NUMBER	CONVERSION	1588	MSM	27NOV02
REV	DESCRIPTION	ECO	DWN	DATE	APVD
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM					
<b>SERIES 534 DIAPHRAGM VALVE</b> <b>STANDARD MODEL</b>					
SCALE	DRAWN	DATE	DWG. NO.		
N/A	JWB	11JUN01	1084009		



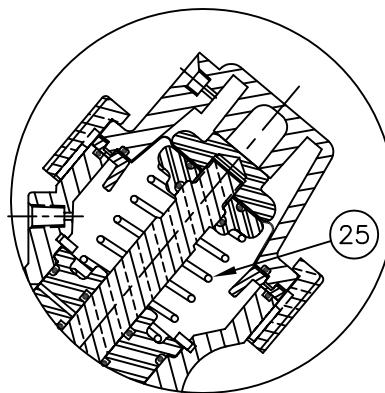
1070308 (K534-X200-14000)  
**NORMALLY OPEN (STANDARD)**



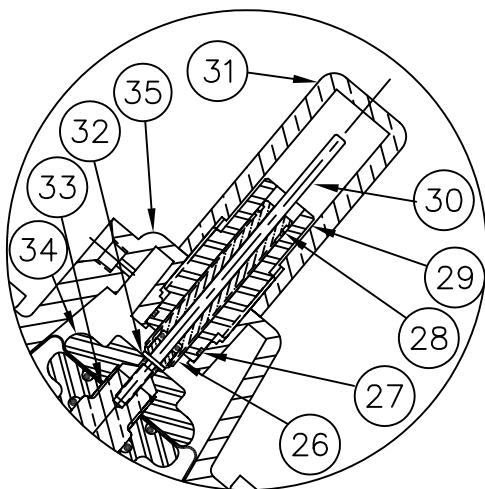
1070309 (K534-X210-14000)  
**LIMIT STOP**



1071332 (K534-X202-14000)  
**SPRING ASSIST CLOSED**



1071329 (K534-X201-14000)  
**SPRING ASSIST OPEN**



K534-X221-14000  
**LIMIT STOP/  
POSITION INDICATOR**


REPAIR PARTS KITS	
DESCRIPTION	PART NO.
INT. PARTS KIT (LIMIT STOP) CONSISTS OF ITEM NO'S 20 THRU 23	1075230 (534-LS)
INT. PARTS KIT (SPRING ASSIST CLOSED) CONSISTS OF ITEM NO. 25	1075233 (534-S)
INT. PARTS KIT (SPRING ASSIST OPEN) CONSISTS OF ITEM NO. 25	1075233 (534-S)
INT. PARTS KIT (LIMIT STOP/POS INDICATOR) CONSISTS OF ITEM NO'S 26 THRU 34	1075231 (534-PI)

CONVERSION KITS	
DESCRIPTION	PART NO.
CONVERSION KIT (LIMIT STOP) CONSISTS OF ITEM NO'S 20 THRU 24	1071308 (K534-LSC)
CONVERSION KIT (SPRING ASSIST CLOSED) CONSISTS OF ITEM NO. 25	1075233 (534-S)
CONVERSION KIT (SPRING ASSIST OPEN) CONSISTS OF ITEM NO. 25	1075233 (534-S)
CONVERSION KIT (POSITION INDICATOR) CONSISTS OF ITEM NO'S 26 THRU 35	1071309 (K534-PIC)

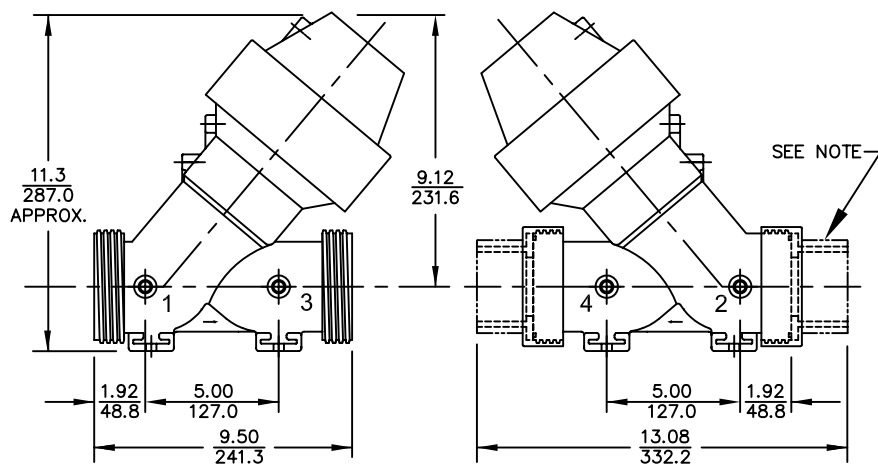
NO.	DESCRIPTION	PART NO.	QTY.
<b>LIMIT STOP MODEL</b>			
20	ADJUSTING SCREW	1073373 (V534-576)	1
21	O-RING	BUNA N 1071668 (ORB-012)	1
	FKM	1071787 (ORV-012)	
22	LS GUIDE	PVC 1073369 (V534-571)	1
	CPVC	1073371 (V534-573)	
23	O-RING	BUNA N 1071673 (ORB-018)	1
	FKM	1071790 (ORV-018)	
24	CAP	1073345 (V534-420K)	1
<b>SPRING ASSIST CLOSED MODEL &amp; SPRING ASSIST OPEN MODEL</b>			
25	SPRING	1073340 (V534-170)	1
<b>LIMIT STOP/ POSITION INDICATOR MODEL</b>			
26	SCREW ASSY	1081128 (V534-700)	1
27	O-RING	BUNA N 1071673 (ORB-018)	1
	FKM	1071790 (ORV-018)	
28	O-RING	BUNA N 1071668 (ORB-012)	1
	FKM	1071787 (ORV-012)	
29	LS/PI GUIDE	PVC 1073368 (V534-570)	1
	CPVC	1073370 (V534-572)	
30	INDICATOR SHAFT	1073367 (V534-555)	1
31	PI CLEAR CAP	1073365 (V534-550)	1
32	O-RING	1071666 (ORB-006)	1
33	SHAFT	PVC 1073362 (V534-535)	1
	NORYL	1073363 (V534-536)	
34	UPPER DIA. PLATE	PVC 1073346 (V534-442)	1
	NORYL	1073347 (V534-443)	
35	CAP	1073345 (V534-420K)	1

SEE REVERSE SIDE FOR  
STANDARD NORMALLY OPEN MODEL

FORM NO. 1077689

C	NUMBER	CONVERSION	1588	MSM	27NOV02	
REV	DESCRIPTION	ECO	DWN	DATE	APVD	
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM						
<b>SERIES 534 DIAPHRAGM VALVE</b>						
<b>OPTIONAL MODELS</b>						
SCALE	DRAWN	DATE	DWG. NO.			
N/A	JWB	11JUN01	1084009			

# K535 DIAPHRAGM VALVE - STANDARD MODEL



REPAIR PARTS KITS		
DESCRIPTION	PART NO.	
DIAPHRAGM & SEALS KIT CONSISTS OF ITEM NO'S 3,5,6,10,11,16,18	1070320 (535-RAE)	1070328 (535-RAJ)
	E.P.D.M. INCLUDES DIAPHRAGM	BUTYL INCLUDES DIAPHRAGM
	1073399 (V535-100)	1073399 (V535-100)
	1070337 (535-RAVEB)	
INT. PARTS KIT CONSISTS OF ITEM NO'S 2,4,7,8,9,13,15,17	FKM INCLUDES DIAPHRAGM	
	1073399 (V535-100)	
	1070344 (K535-RF)	


ASSEMBLY TOOLS	
DESCRIPTION	PART NO.
LIMIT STOP TOOL (TOOL NOT SHOWN)	1073556 (V560-579)
STRAP WRENCH (TOOL NOT SHOWN)	1073557 (V560-581)

NO.	DESCRIPTION	PART NO.	QTY.
1	BODY	1073407 (V535-410K)	1
2	DISC PLATE	PVC 1073396 (V535-093)	1
		NORYL 1073397 (V535-094)	
3	DISC	E.P.D.M. 1073401 (V535-110)	1
		BUTYL 1073402 (V535-111)	
		FKM 1073403 (V535-112)	
4	DISC HOLDER	PVC 1073416 (V535-500)	1
		NORYL 1073417 (V535-501)	
5	O-RING	E.P.D.M. 1071745 (ORE-212)	4
		BUTYL 1071777 (ORJ-212)	
		FKM 1071816 (ORV-212)	
6	O-RING	E.P.D.M. 1071753 (ORE-232)	2
		BUTYL 1071783 (ORJ-232)	
		FKM 1071825 (ORV-232)	
7	RETAINING RING	1073434 (V535-593)	1
8	SHAFT GUIDE	PVC 1073413 (V535-491)	1
		NORYL 1073414 (V535-492)	
9	SHAFT	PVC 1073439 (V535-702)	1
		NORYL 1073440 (V535-704)	
10	O-RING	BUNA 1071712 (ORB-248)	2
		FKM 1071833 (ORV-248)	
11	DIAPHRAGM	BUNA 1073399 (V535-100)	1
		FKM 1073400 (V535-101)	
12	CAP RETAINER NUT	1073383 (V535-030K)	1
13	LOWER DIA. PLATE	PVC 1073386 (V535-045)	1
		NORYL 1073387 (V535-046)	
14	CAP	1073382 (V535-020K)	1
15	UPPER DIA. PLATE	PVC 1073384 (V535-040)	1
		NORYL 1073385 (V535-041)	
16	O-RING	BUTYL 1076766 (ORB-214)	1
		FKM 1071817 (ORV-214)	
17	DIAPHRAGM SUPPORT	1073425 (V535-551K)	2
18	O-RING	E.P.D.M. 1071752 (ORE-231)	2
		BUTYL 1071782 (ORJ-231)	
		FKM 1071824 (ORV-231)	
19	SOCKET RETAINING NUT	1073395 (V535-080K)	2

NOTE:  
CONNECTORS NOT FURNISHED WITH VALVE.  
SEE DWG. NO. 1078165 FOR FEMALE SOCKET  
WELD CONNECTORS.

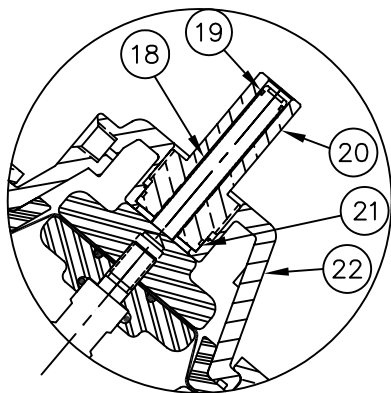
SEE REVERSE SIDE FOR CONFIGURATION OPTIONS

FORM NO. 1077690

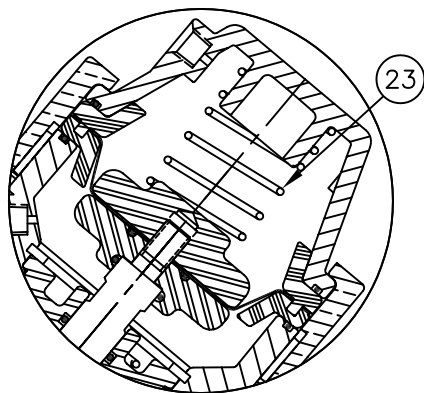
C	NUMBER	CONVERSION	1588	MSM	27NOV02
REV	DESCRIPTION	ECO	DWN	DATE	APVD
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM					
<b>SERIES 535 DIAPHRAGM VALVE</b> <b>STANDARD MODEL</b>					
SCALE	DRAWN	DATE	DWG. NO.		
N/A	JWB	21JUN01	1084010		

1070312 (K535-X200-14000)  
**NORMALLY OPEN (STANDARD)**

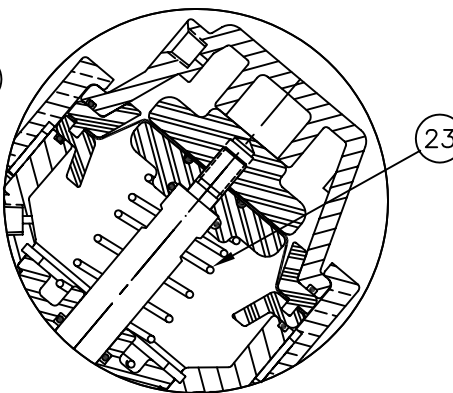
PRINTED IN U.S.A.



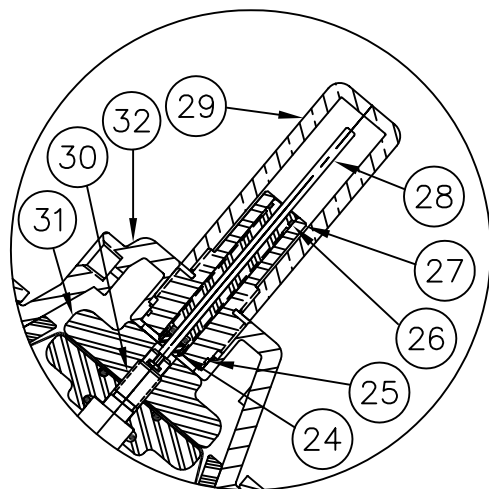
1070313 (K535-X210-14000)  
**LIMIT STOP**



1071367 (K535-X202-14000)  
**SPRING ASSIST CLOSED**



1071365 (K535-X201-14000)  
**SPRING ASSIST OPEN**



K535-X221-14000  
**LIMIT STOP/  
POSITION INDICATOR**


REPAIR PARTS KITS	
DESCRIPTION	PART NO.
INT. PARTS KIT (LIMIT STOP) CONSISTS OF ITEM NO'S 18 THRU 21	1075234 (535-LS)
INT. PARTS KIT (SPRING ASSIST CLOSED) CONSISTS OF ITEM NO. 23	1075233 (535-S)
INT. PARTS KIT (SPRING ASSIST OPEN) CONSISTS OF ITEM NO. 23	1075233 (535-S)
INT. PARTS KIT (LIMIT STOP/POS INDICATOR) CONSISTS OF ITEM NO'S 24 THRU 31	1075235 (535-PI)

CONVERSION KITS	
DESCRIPTION	PART NO.
CONVERSION KIT (LIMIT STOP) CONSISTS OF ITEM NO'S 18 THRU 22	1071343 (K535-LSC)
CONVERSION KIT (SPRING ASSIST CLOSED) CONSISTS OF ITEM NO. 23	1075233 (535-S)
CONVERSION KIT (SPRING ASSIST OPEN) CONSISTS OF ITEM NO. 23	1075233 (535-S)
CONVERSION KIT (POSITION INDICATOR) CONSISTS OF ITEM NO'S 24 THRU 32	1071344 (K535-PIC)

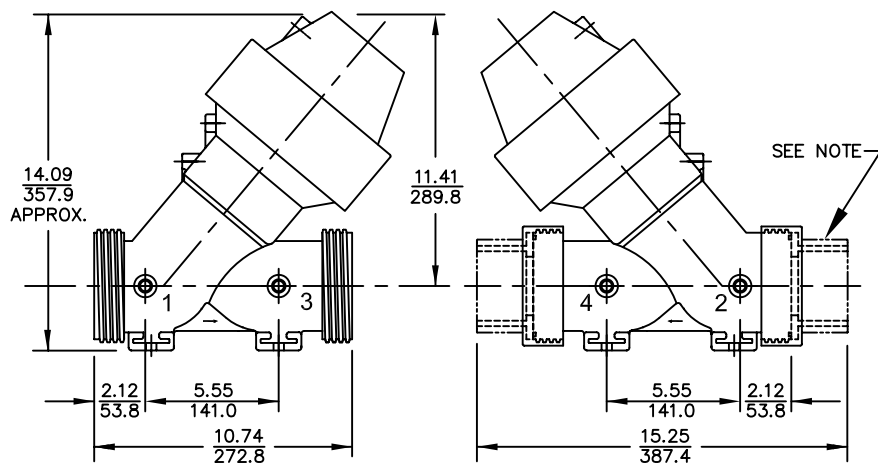
NO.	DESCRIPTION	PART NO.	QTY.
<b>LIMIT STOP MODEL</b>			
18	ADJUSTING SCREW	1073432 (V535-576)	1
19	O-RING	BUNA N 1071668 (ORB-012)	1
		FKM 1071787 (ORV-012)	
20	LS GUIDE	PVC 1073428 (V535-571)	1
		CPVC 1073430 (V535-573)	
21	O-RING	BUNA N 1071676 (ORB-024)	1
		FKM 1071791 (ORV-024)	
22	CAP	1073408 (V535-420K)	1
<b>SPRING ASSIST CLOSED MODEL &amp; SPRING ASSIST OPEN MODEL</b>			
23	SPRING	1073404 (V535-170)	1
<b>LIMIT STOP/ POSITION INDICATOR MODEL</b>			
24	SCREW ASSY	1073437 (V535-700)	1
25	O-RING	BUNA N 1071676 (ORB-024)	1
		FKM 1071791 (ORV-024)	
26	O-RING	BUNA N 1071668 (ORB-012)	1
		FKM 1071787 (ORV-012)	
27	LS/PI GUIDE	PVC 1073427 (V535-570)	1
		CPVC 1073429 (V535-572)	
28	INDICATOR SHAFT	1073426 (V535-555)	1
29	PI CLEAR CAP	1073424 (V535-550)	1
30	SHAFT	PVC 1073438 (V535-701)	1
		NORYL 1073441 (V535-706)	
31	UPPER DIA. PLATE	PVC 1073409 (V535-442)	1
		NORYL 1073410 (V535-443)	
32	CAP	1073408 (V535-420K)	1

SEE REVERSE SIDE FOR  
STANDARD NORMALLY OPEN MODEL

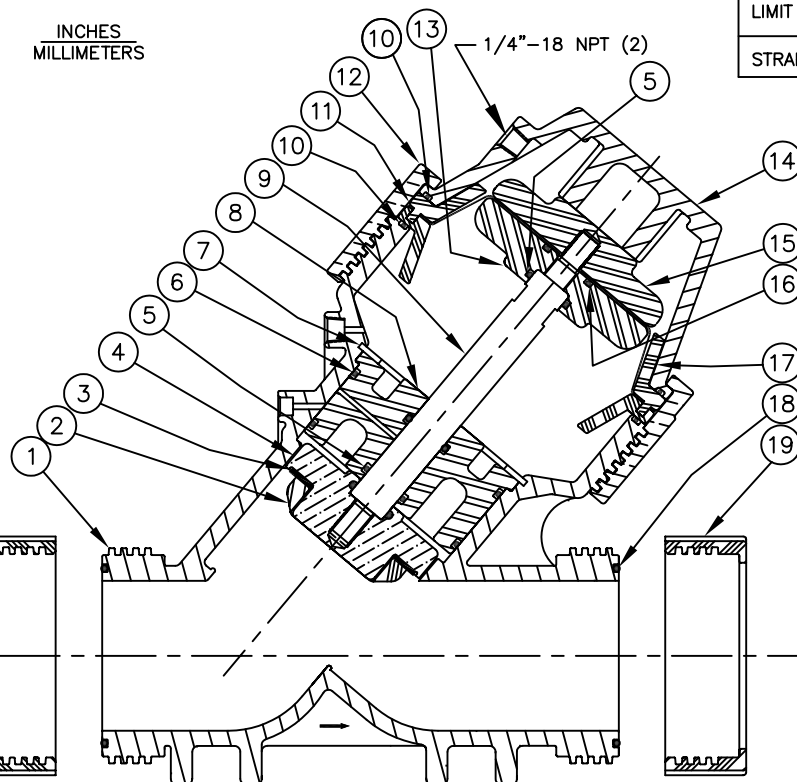
FORM NO. 1077690

C	NUMBER	CONVERSION	1588	MSM	27NOV02	
REV	DESCRIPTION	ECO	DWN	DATE	APVD	
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM						
<b>SERIES 535 DIAPHRAGM VALVE</b>						
<b>OPTIONAL MODELS</b>						
SCALE	DRAWN	DATE	DWG. NO.			
N/A	JWB	21JUN01	1084010			

# K537 DIAPHRAGM VALVE - STANDARD MODEL



INCHES  
MILLIMETERS



1070316 (K537-X200-14000)

**NORMALLY OPEN (STANDARD)**

## REPAIR PARTS KITS

DESCRIPTION	PART NO.	
DIAPHRAGM & SEALS KIT CONSISTS OF ITEM NO'S 3,5,6,10,11,16,18	1070321 (537-RAE)	1070329 (537-RAJ)
	E.P.D.M. INCLUDES DIAPHRAGM	BUTYL INCLUDES DIAPHRAGM
	1073462 (V537-100)	1073462 (V537-100)
	1070337 (537-RAVEB)	
INT. PARTS KIT CONSISTS OF ITEM NO'S 2,4,7,8,9,13,15,17	FKM INCLUDES DIAPHRAGM	
	1073462 (V537-100)	
	1070345 (K537-RF)	

## ASSEMBLY TOOLS


DESCRIPTION	PART NO.
LIMIT STOP TOOL (TOOL NOT SHOWN)	1013556 (V560-579)
STRAP WRENCH (TOOL NOT SHOWN)	1073557 (V560-581)

NO.	DESCRIPTION	PART NO.	QTY.
1	BODY	1073472 (V537-410K)	1
2	DISC PLATE	PVC 1073459 (V537-093)	1
		NORYL 1073460 (V537-094)	
3	DISC	E.P.D.M. 1073463 (V537-110)	1
		BUTYL 1073464 (V537-111)	
		FKM 1073465 (V537-112)	
4	DISC HOLDER	NORYL 1073482 (V537-502)	1
5	O-RING	E.P.D.M. 1071745 (ORE-212)	4
		BUTYL 1071777 (ORJ-212)	
		FKM 1071816 (ORV-212)	
6	O-RING	E.P.D.M. 1071757 (ORE-240)	2
		BUTYL 1071785 (ORJ-240)	
		FKM 1071830 (ORV-240)	
7	RETAINING RING	1073505 (V537-598)	1
8	SHAFT GUIDE	PVC 1073478 (V537-491)	1
		NORYL 1073479 (V537-492)	
9	SHAFT	PVC 1073508 (V537-702)	1
		NORYL 1073509 (V537-704)	
10	O-RING	BUNA 1071714 (ORB-259)	2
		FKM 1071834 (ORV-259)	
11	DIAPHRAGM	BUNA 1073462 (V537-100)	1
12	CAP RETAINER NUT	1073446 (V537-030K)	1
13	LWR DIA. PLATE	NORYL 1073450 (V537-046)	1
14	CAP	1073445 (V537-020K)	1
15	UPR DIA. PLATE	NORYL 1073448 (V537-041)	1
16	O-RING	BUTYL 1071676 (ORB-024)	1
		FKM 1071791 (ORV-024)	
17	DIAPHRAGM SUPPORT	1073491 (V537-551K)	2
18	O-RING	E.P.D.M. 1071756 (ORE-239)	2
		BUTYL 1071784 (ORJ-239)	
		FKM 1071829 (ORV-239)	
19	SOCKET RETAINING NUT	1073458 (V537-080K)	2

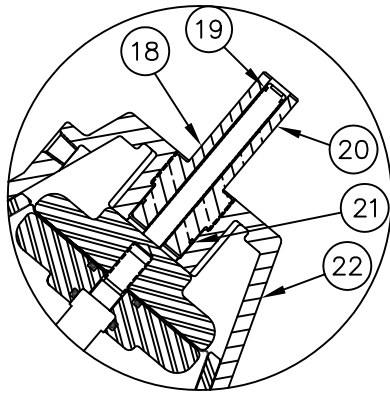
NOTE:  
CONNECTORS NOT FURNISHED WITH VALVE.  
SEE DWG. NO. 1078165 FOR FEMALE SOCKET  
WELD CONNECTORS.

SEE REVERSE SIDE FOR CONFIGURATION OPTIONS

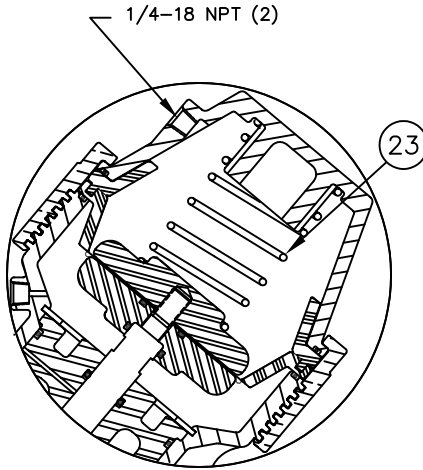
FORM NO. 1077691

D	NUMBER	CONVERSION	1588	MSM	27NOV02
REV	DESCRIPTION	ECO	DWN	DATE	APVD
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM					
<b>SERIES 537 DIAPHRAGM VALVE</b> <b>STANDARD MODEL</b>					
SCALE	DRAWN	DATE	DWG. NO.		
N/A	JWB	21JUN01	1084012		

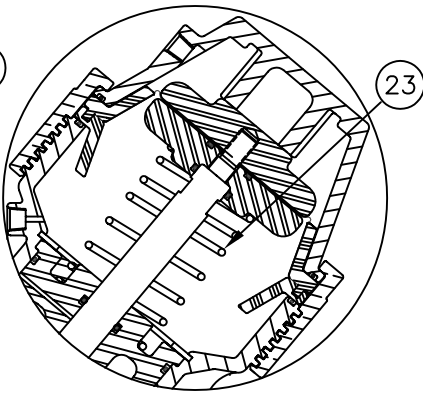




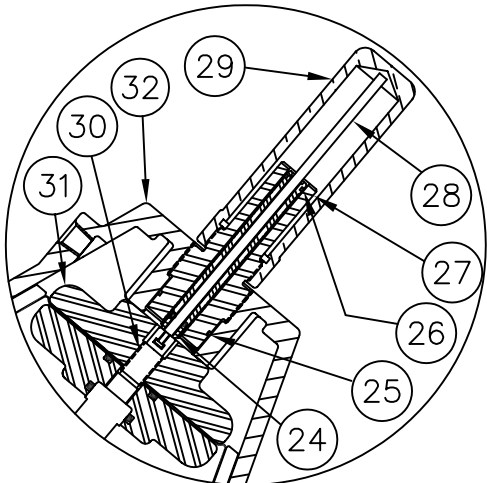
1070317 (K537-X210-14000)  
**LIMIT STOP**



1071391 (K537-X202-14000)  
**SPRING ASSIST CLOSED**



1071390 (K537-X201-14000)  
**SPRING ASSIST OPEN**



K537-X221-14000  
**LIMIT STOP/  
POSITION INDICATOR**


REPAIR PARTS KITS	
DESCRIPTION	PART NO.
INT. PARTS KIT (LIMIT STOP) CONSISTS OF ITEM NO'S 18 THRU 21	1075237 (537-LS)
INT. PARTS KIT (SPRING ASSIST CLOSED) CONSISTS OF ITEM NO. 23	1075239 (537-S)
INT. PARTS KIT (SPRING ASSIST OPEN) CONSISTS OF ITEM NO. 23	1075239 (537-S)
INT. PARTS KIT (LIMIT STOP/POS INDICATOR) CONSISTS OF ITEM NO'S 24 THRU 31	1081805 (537-PI)

CONVERSION KITS	
DESCRIPTION	PART NO.
CONVERSION KIT (LIMIT STOP) CONSISTS OF ITEM NO'S 18 THRU 22	1071377 (K537-LSC)
CONVERSION KIT (SPRING ASSIST CLOSED) CONSISTS OF ITEM NO. 23	1075239 (537-S)
CONVERSION KIT (SPRING ASSIST OPEN) CONSISTS OF ITEM NO. 23	1075239 (537-S)
CONVERSION KIT (POSITION INDICATOR) CONSISTS OF ITEM NO'S 24 THRU 32	1071378 (K537-PIC)

NO.	DESCRIPTION	PART NO.	QTY.
<b>LIMIT STOP MODEL</b>			
18	ADJUSTING SCREW	1073498 (V537-576)	1
19	O-RING	BUNA N 1071668 (ORB-012)	1
	FKM	1071787 (ORV-012)	
20	LS GUIDE	PVC 1073494 (V537-571)	1
	CPVC	1073496 (V537-573)	
21	O-RING	BUNA N 1071676 (ORB-024)	1
	FKM	1071791 (ORV-024)	
22	CAP	1073473 (V537-420K)	1
<b>SPRING ASSIST CLOSED MODEL &amp; SPRING ASSIST OPEN MODEL</b>			
23	SPRING	1073467 (V537-170)	1
<b>LIMIT STOP/ POSITION INDICATOR MODEL</b>			
24	SCREW ASSY	1073506 (V537-700)	1
25	O-RING	BUNA N 1071676 (ORB-024)	1
	FKM	1071791 (ORV-024)	
26	O-RING	BUNA N 1071668 (ORB-012)	1
	FKM	1071787 (ORV-012)	
27	LS/PI GUIDE	PVC 1073493 (V537-570)	1
	CPVC	1073495 (V537-572)	
28	INDICATOR SHAFT	1073492 (V537-555)	1
29	PI CLEAR CAP	1073489 (V537-550)	1
30	SHAFT	PVC 1073507 (V537-701)	1
	NORYL	1077454 (V537-706)	
31	UPR DIA. PLATE	NORYL 1073475 (V537-443)	1
32	CAP	1073473 (V537-420K)	1

SEE REVERSE SIDE FOR  
STANDARD NORMALLY OPEN MODEL

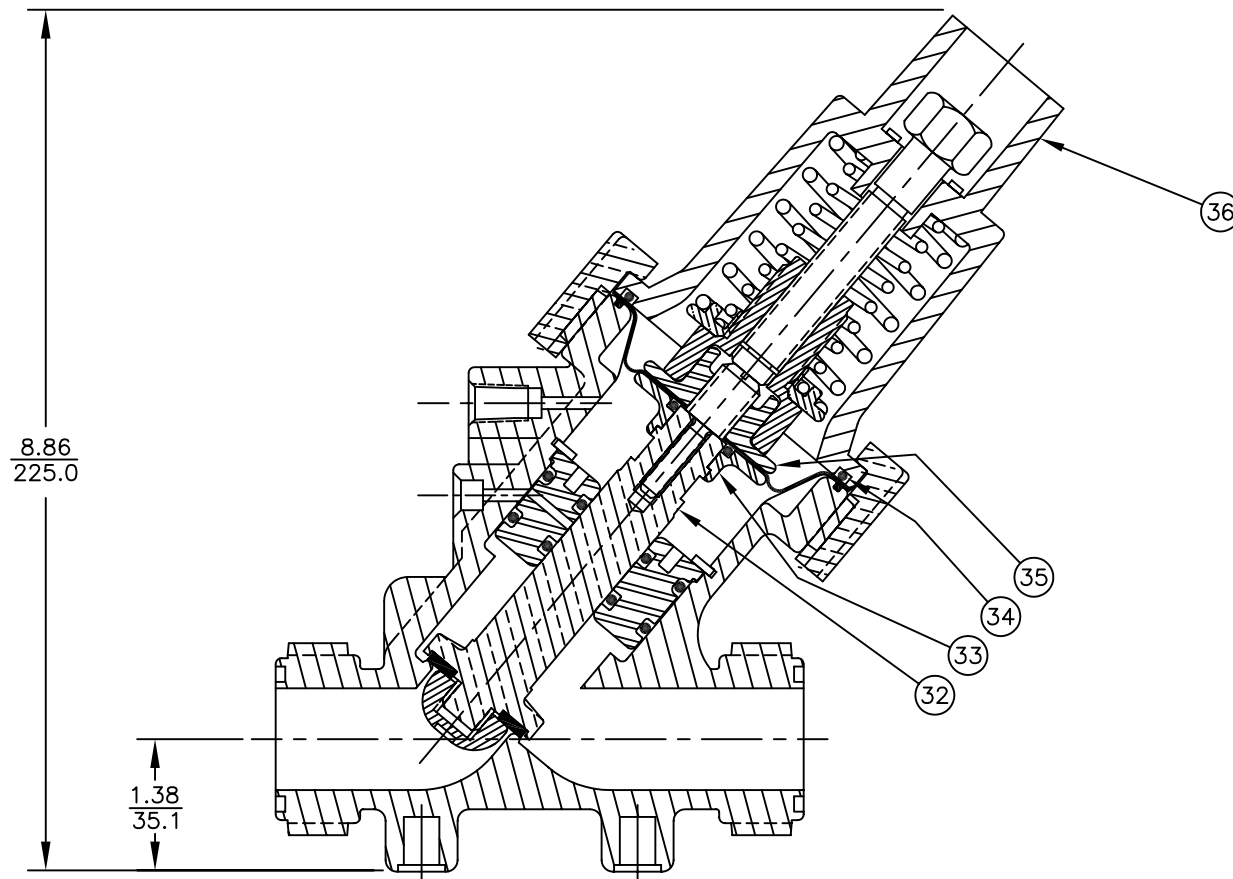
FORM NO. 1077691

D	NUMBER	CONVERSION	1588	MSM	27NOV02	
REV	DESCRIPTION	ECO	DWN	DATE	APVD	
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM						
<b>SERIES 537 DIAPHRAGM VALVE</b>						
<b>OPTIONAL MODELS</b>						
SCALE	DRAWN	DATE	DWG. NO.			
N/A	JWB	21JUN01	1084012			

# K531 DIAPHRAGM VALVE - FAILSAFE MODEL

NO.	DESCRIPTION	PART NO.	QTY.
32	SHAFT	1073296 (V531-532)	1
33	LOWER DIAPHRAGM PLATE	1073290 (V531-446)	1
34	O-RING	BUNA N 1071700 (ORB-208)	1
		FKM 1071814 (ORV-208)	
35	UPPER DIAPHRAGM PLATE	1073289 (V531-441)	1
36	CAP ASSEMBLY - 30#	1071263 (K531-FS3)	1
	CAP ASSEMBLY - 60#	1071264 (K531-FS6)	
	CAP ASSEMBLY - 100#	1071262 (K531-FS1)	

NOTE:  
DUE TO SPRING ASSEMBLY REQUIREMENTS,  
CAP ASSEMBLY SOLD AS ASSEMBLY ONLY.



1079700 (K531-X203-14000) (30 PSI - 2 BAR)  
1071291 (K531-X204-14000) (60 PSI - 4 BAR)  
1071294 (K531-X205-14000) (100 PSI - 7 BAR)


**FAILSAFE CLOSED**

INCHES  
MILLIMETERS

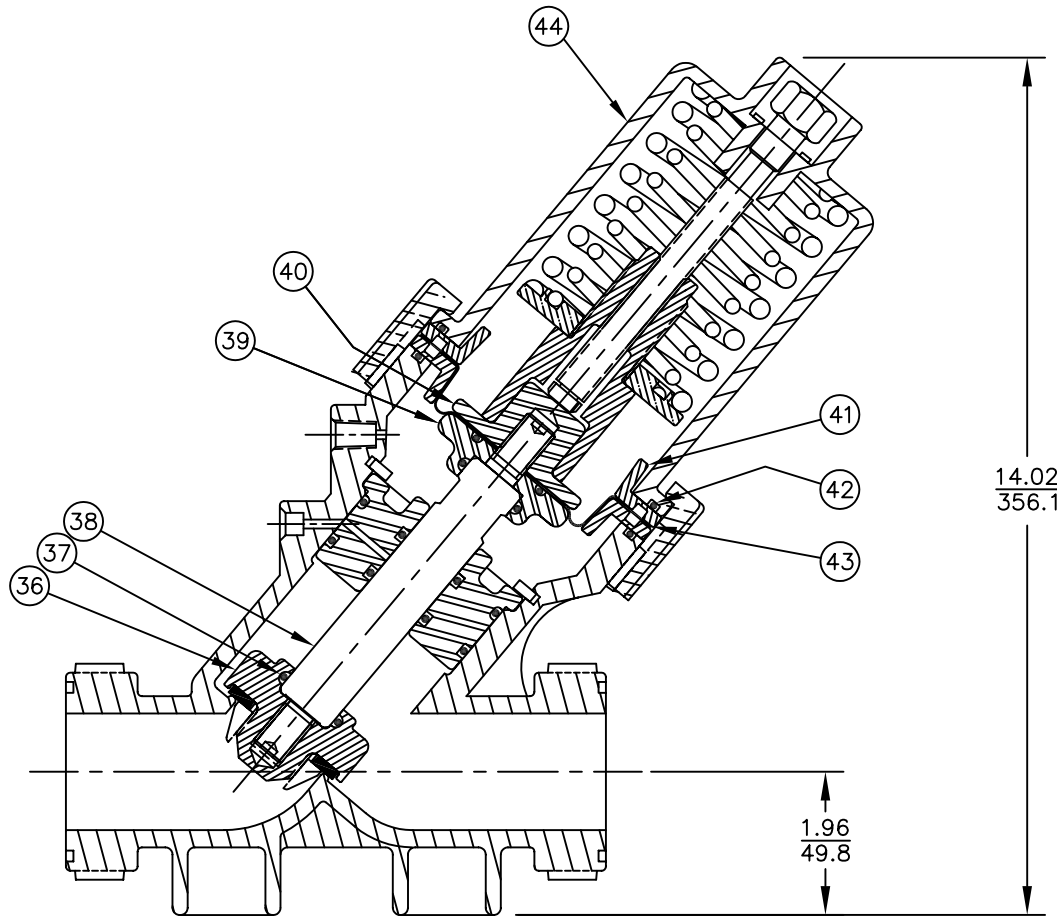
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SEE DWG. NO. 1084007 FOR STANDARD MODEL

FORM NO. 1078167

B	NUMBER	CONVERSION	1588	MSM	27NOV02	
REV	DESCRIPTION	ECO	DWN	DATE	APVD	
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM						
<b>SERIES 531 DIAPHRAGM VALVE</b> <b>FAILSAFE MODEL</b>						
SCALE	DRAWN	DATE	DWG. NO.			
N/A	JWB	26JUN01	1084008			

K534 DIAPHRAGM VALVE - FAILSAFE MODEL



1079718 (K534-X203-14000) (30 PSI - 2 BAR)  
1071334 (K534-X204-14000) (60 PSI - 4 BAR)  
1071335 (K534-X205-14000) (100 PSI - 7 BAR)

**FAILSAFE CLOSED**


INCHES  
MILLIMETERS

NO.	DESCRIPTION	PART NO.	QTY.
36	DISC HOLDER	PVC 1073355 (V534-502)	1
		NORYL 1073356 (V534-503)	
37	O-RING	E.P.D.M. 1071745 (ORE-212)	1
		FKM 1071816 (ORV-212)	
		BUTYL 1071777 (ORJ-212)	
38	SHAFT	PVC 1073378 (V534-701)	1
		NORYL 1073379 (V534-702)	
39	LOWER DIAPHRAGM PLATE	1073349 (V534-448)	1
40	UPPER DIAPHRAGM PLATE	1073348 (V534-444)	1
41	DIAPHRAGM SUPPORT	1073366 (V534-551K)	1
42	DIAPHRAGM	BUNA 1073335 (V534-102)	1
		FKM 1073336 (V534-103)	
43	O-RING	BUNA 1071709 (ORB-240)	1
		FKM 1071830 (ORV-240)	
44	CAP ASSEMBLY - 30#	1071306 (K534-FS3)	1
	CAP ASSEMBLY - 60#	1071307 (K534-FS6)	
	CAP ASSEMBLY - 100#	1071305 (K534-FS1)	

NOTE:  
DUE TO SPRING ASSEMBLY REQUIREMENTS,  
CAP ASSEMBLY SOLD AS ASSEMBLY ONLY.

SEE DWG. NO. 1084009 FOR STANDARD MODEL

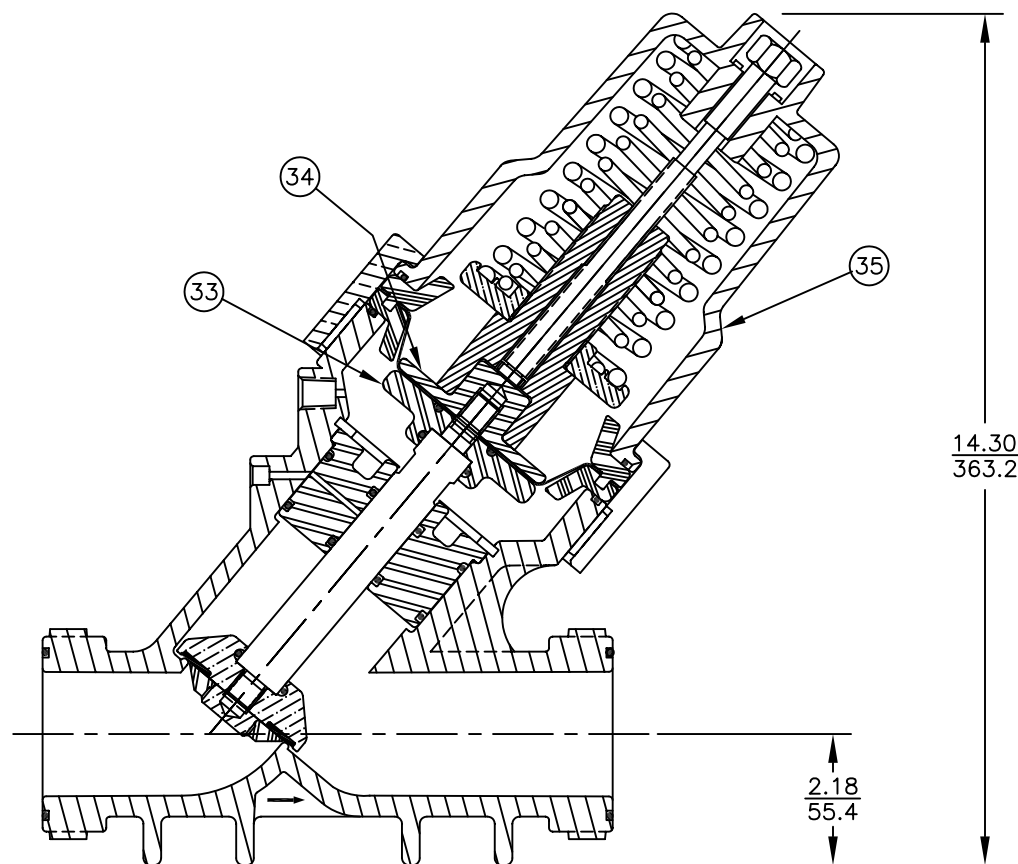
FORM NO. 1078167

B	NUMBER	CONVERSION	1588	MSM	27NOV02	
REV	DESCRIPTION	ECO	DWN	DATE	APVD	
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM						
<b>SERIES 534 DIAPHRAGM VALVE</b>						
<b>FAILSAFE MODEL</b>						
SCALE	DRAWN	DATE	DWG. NO.			
N/A	JWB	26JUN01	1084008			

# K535 DIAPHRAGM VALVE - FAILSAFE MODEL

NO.	DESCRIPTION	PART NO.	QTY.
33	LOWER DIAPHRAGM PLATE	1073412 (V535-448)	1
34	UPPER DIAPHRAGM PLATE	1073411 (V535-444)	1
44	CAP ASSEMBLY - 30#	1071341 (K535-FS3)	1
	CAP ASSEMBLY - 60#	1071342 (K535-FS6)	
	CAP ASSEMBLY - 100#	1071340 (K535-FS1)	

NOTE:  
DUE TO SPRING ASSEMBLY REQUIREMENTS,  
CAP ASSEMBLY SOLD AS ASSEMBLY ONLY.



1076665 (K535-X203-14000) (30 PSI - 2 BAR)  
1071368 (K535-X204-14000) (60 PSI - 4 BAR)  
1071371 (K535-X205-14000) (100 PSI - 7 BAR)

**FAILSAFE CLOSED**

INCHES  
MILLIMETERS

SEE DWG. NO. 1084010 FOR STANDARD MODEL

FORM NO. 1078168

B	NUMBER	CONVERSION	1588	MSM	27NOV02	
REV	DESCRIPTION	ECO	DWN	DATE	APVD	



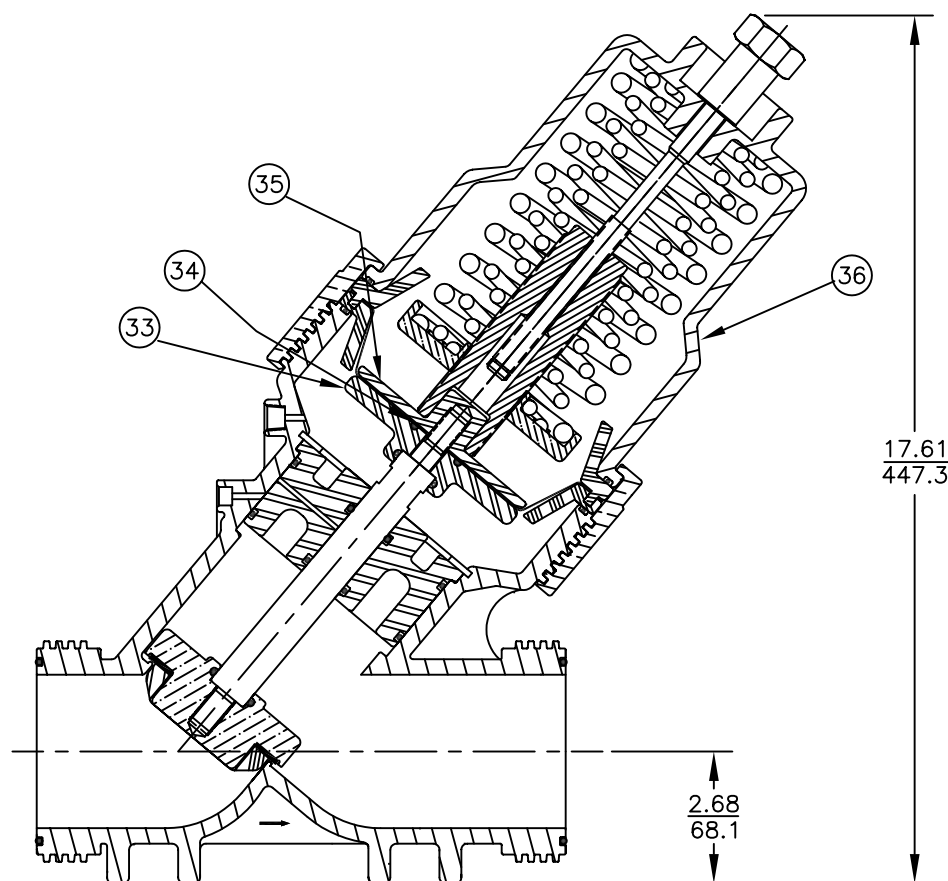
**OSMONICS**  
ROCKFORD OPERATIONS

2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421  
WWW.OSMONICS.COM

**SERIES 535 DIAPHRAGM VALVE  
FAILSAFE MODEL**

SCALE	DRAWN	DATE	DWG. NO.
N/A	JWB	26JUN01	1084011

# K537 DIAPHRAGM VALVE - FAILSAFE MODEL



1071392 (K537-X203-14000) (30 PSI - 2 BAR)  
 1071393 (K537-X204-14000) (60 PSI - 4 BAR)  
 1071396 (K537-X205-14000) (100 PSI - 7 BAR)

**FAILSAFE CLOSED**


INCHES  
MILLIMETERS

NO.	DESCRIPTION	PART NO.	QTY.
33	LOWER DIAPHRAGM PLATE	1073477 (V537-447)	1
34	O-RING	BUNA 1076766 (ORB-214)	1
		FKM 1071817 (ORV-214)	
35	UPPER DIAPHRAGM PLATE	1073476 (V537-444)	1
36	CAP ASSEMBLY - 30#	1071375 (K537-FS3)	1
	CAP ASSEMBLY - 60#	1071376 (K535-FS6)	
	CAP ASSEMBLY - 100#	1071374 (K535-FS1)	

NOTE:  
 DUE TO SPRING ASSEMBLY REQUIREMENTS,  
 CAP ASSEMBLY SOLD AS ASSEMBLY ONLY.

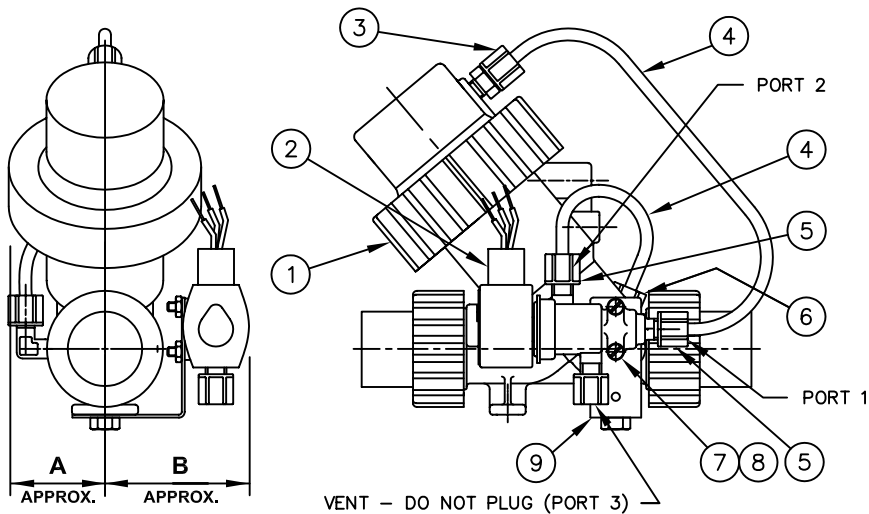
SEE DWG. NO. 1084012 FOR STANDARD MODEL

FORM NO. 1078168

B	NUMBER	CONVERSION	1588	MSM	27NOV02	
REV	DESCRIPTION	ECO	DWN	DATE	APVD	
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM						
<b>SERIES 537 DIAPHRAGM VALVE</b> <b>FAILSAFE MODEL</b>						
SCALE	DRAWN	DATE	DWG. NO.			
N/A	JWB	26JUN01	1084011			

NOTE:

1. LENGTH OF TUBING VARIES WITH EACH SIZE OF DIAPHRAGM VALVE.
2. DIAPHRAGM VALVE IS NORMALLY OPEN, PRESSURE TO CLOSE
3. BOSS NO. 1 ON VALVE TAPPED 1/8" N.P.T. (531,534) 1/4" N.P.T. (535,537)
4. DRY DRAIN OPTION – VENT PORT OF SOLENOID IS CONNECTED TO DOWNSTREAM SIDE OF VALVE.



**ENERGIZED TO CLOSE**

**SOLENOID ENERGIZED.**

UPSTREAM PRESSURE, FROM SOLENOID PORT 2 TO PORT 1, IS APPLIED TO UPPER DIAPHRAGM CHAMBER TO CLOSE THE DIAPHRAGM VALVE.

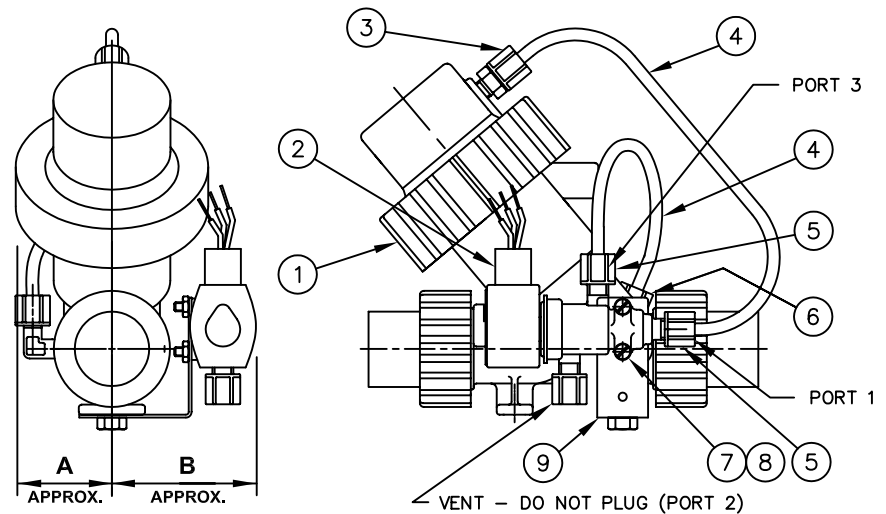
**SOLENOID DE-ENERGIZED.**

PRESSURE FROM UPPER DIAPHRAGM CHAMBER IS VENTED, THROUGH SOLENOID PORT 1 TO PORT 3 TO DRAIN. UPSTREAM PRESSURE OPENS THE DIAPHRAGM VALVE.

VALVE SERIES	PIPE SIZE	A	B
531	3/4", 1"	2.04	3.00
		51.8	76.2
534	1-1/2"	2.62	4.00
		66.5	101.6
535	2"	3.18	4.12
		80.8	104.6
537	3"	3.79	4.12
		96.3	104.6

INCHES  
MILLIMETERS

NO.	DESCRIPTION	PART NO.	QTY.
1	DIAPHRAGM VALVE – NORMALLY OPEN		1
2	3 WAY SOLENOID VALVE (NEMA 4 ONLY)	110 V. 60 HZ. 1075637 (8360A71)	1
		220 V. 50 HZ. 1075638 (8360A71V)	
		24 V. 60 HZ. 1075639 (8360A71VV)	
3	COUPLING	1/8" M. X 1/4" TUBE 531,534 1071935 (PTP-0001)	1
		1/4" M. X 1/4" TUBE 535,537 1071941 (PTP-0019)	
4	NYLON TUBING – BLACK (1/4" O.D.) (NOTE 1)	1071936 (PTP-0005)	N/A
5	NUT AND SLEEVE ASSEMBLY (1/4" TUBE)	1071939 (PTP-0009)	3
6	90° ELBOW	1/8" M. X 1/4" TUBE 531,534 1071937 (PTP-0006)	1
		1/4" M. X 1/4" TUBE 535,537 1071938 (PTP-0008)	
7	RD. HD. MACH. SCREW (8-32 X 1 1/4")	1072377 (SCS-0086)	2
8	HEX NUT (8-32)	1071646 (NUS-0004)	2
9	SOLENOID MOUNTING BRACKET	1073272 (V531-070)	1




**ENERGIZED TO OPEN**

**SOLENOID DE-ENERGIZED.**

UPSTREAM PRESSURE, FROM SOLENOID PORT 3 TO PORT 1, IS APPLIED TO UPPER DIAPHRAGM CHAMBER TO CLOSE THE DIAPHRAGM VALVE.

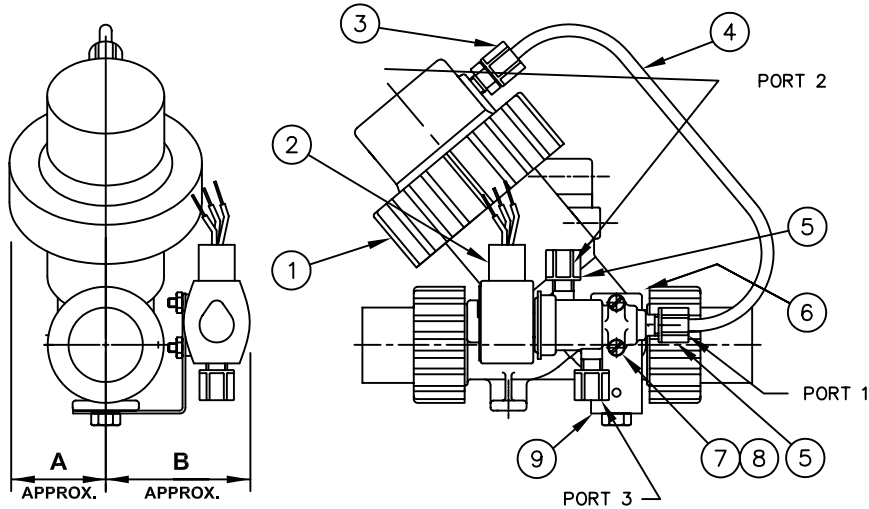
**SOLENOID ENERGIZED.**

PRESSURE FROM UPPER DIAPHRAGM CHAMBER IS VENTED, THROUGH SOLENOID PORT 1 TO PORT 2 TO DRAIN. UPSTREAM PRESSURE OPENS THE DIAPHRAGM VALVE.

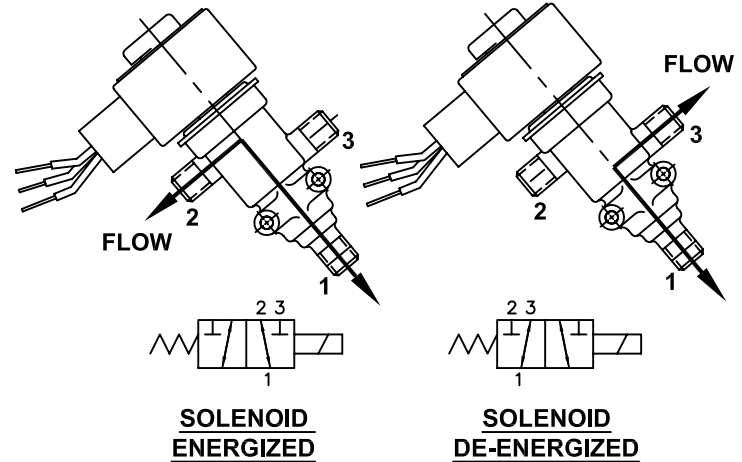
B	NUMBER	CONVERSION	1588	MSM	19DEC02	
REV	DESCRIPTION	ECO	DWN	DATE	APVD	
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM						
<b>SERIES 530 DIAPHRAGM VALVES</b> <b>SOLENOID OPERATED VALVES</b>						
SCALE	DRAWN	DATE	DWG. NO.			
N/A	JWB	29JUN01	1078170			

NOTE:

1. LENGTH OF TUBING VARIES WITH EACH SIZE OF DIAPHRAGM VALVE.
2. DIAPHRAGM VALVE IS NORMALLY OPEN



NO.	DESCRIPTION	PART NO.	QTY.
1	DIAPHRAGM VALVE – NORMALLY OPEN		1
2	3 WAY SOLENOID VALVE (NEMA 4 ONLY)	110 V. 60 HZ. 1075637 (8360A71)	1
		220 V. 50 HZ. 1075638 (8360A71V)	
		24 V. 60 HZ. 1075639 (8360A71VV)	
3	COUPLING 1/8" M. X 1/4" TUBE	531,534 1071935 (PTP-0001)	1
	1/4" M. X 1/4" TUBE	535,537 1071941 (PTP-0019)	
4	NYLON TUBING – BLACK (1/4" O.D.) (NOTE 1)	1071936 (PTP-0005)	N/A
5	NUT AND SLEEVE ASSEMBLY (1/4" TUBE)	1071939 (PTP-0009)	3
6	90° ELBOW 1/8" M. X 1/4" TUBE	531,534 1071937 (PTP-0006)	1
		1/4" M. X 1/4" TUBE 535,537 1071938 (PTP-0008)	
7	RD. HD. MACH. SCREW (8-32 X 1 1/4")	1072377 (SCS-0086)	2
8	HEX NUT (8-32)	1071646 (NUS-0004)	2
9	SOLENOID MOUNTING BRACKET	1073272 (V531-070)	1



**INDEPENDENT CONTROL PRESSURE**

**ENERGIZE TO OPEN**

APPLY CONTROL PRESSURE AT SOLENOID PORT NO. 3  
(PORT NO. 2 VENTED)

**ENERGIZE TO CLOSE**

APPLY CONTROL PRESSURE AT SOLENOID PORT NO. 2  
(PORT NO. 3 VENTED)


CONTROL PRESSURE MUST BE EQUAL TO OR GREATER  
THAN LINE PRESSURE.

VALVE SERIES	PIPE SIZE	A	B
531	3/4", 1"	2.04	3.00
		51.8	76.2
534	1-1/2"	2.62	4.00
		66.5	101.6
535	2"	3.18	4.12
		80.8	104.6
537	3"	3.79	4.12
		96.3	104.6

INCHES  
MILLIMETERS

CURRENT DRAIN (AMPERES)		
VOLTAGE	INRUSH	HOLDING
24V 60Hz	1.66	1.04
120V 60Hz	0.33	0.21
220V 50Hz	0.18	0.11

FORM NO. 1078172

B	NUMBER	CONVERSION	1588	MSM	19DEC02	
REV	DESCRIPTION	ECO	DWN	DATE	APVD	
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM						
<b>SERIES 530 DIAPHRAGM VALVES</b> <b>SOLENOID OPERATED VALVES</b>						
SCALE N/A	DRAWN JWB	DATE 29JUN01	DWG. NO. 1078170			

# STAGER MODEL NUMBER SELECTION

**PROGRAM (SEE STAGER PROGRAM CHARTS)**

\*00 - 99 = STANDARD

\*\*SS = SPECIAL Program per Drawing Indicated

TA = Twin Alternating Softener (Model 48, 58 and 59 Only)

^TB = Twin Alternating Softener (w/ Timed Brine Pos. & switch output, **962 only**)

\* Two character designation for standard stager program.

\*\* Special Drawing number placed in last 5 digits of model number.

(Special Drawing number also used for Aux. Sw. notched in more than 1 position)

^ For models 58 and 59 stagers used in 962 Stager Controller ONLY

**ELECTRICAL** Power Required to Operate Device

1 = 115 Volts / **60 Hertz** for 48 & 51 Stagers

115 Volts **50 or 60 Hertz** for 58, 59 & 96 Stagers

2 = 220 Volts / **50 or 60 Hertz** for ALL STAGERS

5 = 24 Volts / 50 or 60 Hertz for ALL STAGERS

\* 9 = 12 Volts / 50 or 60 Hertz for ALL STAGERS

**\* (Option 9 is ONLY valid if used with a 962 stager controller)**

**2nd AUX. (SEE STAGER PROGRAM CHARTS)**

**SWITCH** Second Extra Switch to be provided on Stager (Unless Special Drawing Number is Assigned)

0 = NONE

\*\*A to R=CAM POSITION Switch is to be active (I & O not used)

S = SERVICE Return (Homing)

T = TIMED BRINE OUTPUT (58-TB & 59-TB Only, signal in Pos. 2 & 7)

Z = BLANK CAM (no notches)

\* Use a Letter to indicate Cam position Not a Number.

^ Use SPECIAL DRAWING number if active in more than 1 position.

**STAGER** Rotary Pilot Stager Series to be Provided

48 = 6 Port (Brass)

51 = 8 Port (Brass)

58 = 16 Port (PVC)

59 = 16 Port (Brass)

96 = 8 Port High Pressure (Brass) (250 PSI)

**ENCLOSURE** N.E.M.A. Rating of Enclosure to be Provided

1 = NEMA 1 Std. Enclosure

4 = NEMA 4 Std. Enclosure

7 = NONE (NEMA 4 Mounting Plate w/Gasket Provided)

F = NEMA 4X Fiberglass Panel & Enclosure

**1st AUX. (SEE STAGER PROGRAM CHARTS)**

**SWITCH** First Extra Switch to be provided on Stager (Unless Special Drawing Number is Assigned)

0 = NONE (Not valid for use with 962 controller)

\*\*A to R = CAM POSITION Switch is to be active (I & O not used)

S = SERVICE Return (**Homing**) (For 962 Controller, MUST be "S")

W = Status Lights Cam (48, 58 & 59 Stagers w/TA Program only)

Z = BLANK CAM (no notches)

\* Use a Letter to indicate Cam position Not a Number.

^ Use SPECIAL DRAWING number if active in more than 1 position.

**REVISION** Stager Revision Level (Unless Special Drawing Number is Assigned)

B = 48 and 51 Stagers

C = 58, 59, and 96 Series Stagers

0 (Unless Special Drawing Number is Assigned)

**PRESSURE** Program of Stager (Unless Special Drawing Number is Assigned)

0 = STANDARD (Vent to open)

1 = INVERTED (Pressure to open)

## SERIES 48 STANDARD STAGER PROGRAMS

STAGER PROGRAM	# POS.		PORTS VENTED IN POSITION						REF. DWG NO.	FUNCTION
			0	1	2	3	4	5		
00	4	POSITION	SVC	----	BW	----	BSR	FR	4800PRGM	4 POS. SOFTENER
		PORTS VENTED	1, 2	----	3, 4	----	5, 6	1, 6		
01	3	POSITION	SVC	----	BW	----	----	FR	4801PRGM	3 POS. FILTER
		PORTS VENTED	1, 2	----	3, 4	----	----	1, 6		
03	4	POSITION	SVC	----	BW	----	BSR	FR	4803PRGM	4 POS. SOFTENER (BUTTERFLY CAM)
		PORTS VENTED	1, 2	----	3, 4	----	5, 6	1, 6		
04	2	POSITION	SVC	----	BW	----	----	----	4804PRGM	2 POS. FILTER
		PORTS VENTED	1, 2	----	3, 4	----	----	----		
12	4	POSITION	SVC	----	BW -or- ASC	BSR -or- BW	----	FR	4812PRGM	4 POS. FILTER W/ AIR SCOUR -OR- 4 POS. UPFLOW SOFTENER
		PORTS VENTED	1, 2	----	3, 4	4, 5	----	1, 6		
83	4	POSITION	BW2	BW3	----	----	SVC	BW1	4883PRGM	3 TANK SEQUENTIAL FILTER
		PORTS VENTED	2	3	----	----	6	1		
84	5	POSITION	BW2	BW3	BW4	----	SVC	BW1	4884PRGM	4 TANK SEQUENTIAL FILTER
		PORTS VENTED	2	3	4	----	6	1		
85	6	POSITION	BW2	BW3	BW4	BW5	SVC	BW1	4885PRGM	5 TANK SEQUENTIAL FILTER
		PORTS VENTED	2	3	4	5	6	1		
TA	2	POSITION	SVCA	----	SVCB	----	----	----	48TAPRGM	2 TANK ALTERNATOR
		PORTS VENTED	1	----	2	----	----	----		
TB	2	POSITION	SVCA	SVCB	SVCA	SVCB	SVCA	SVCB	48TAPRGM	2 TANK ALTERNATOR
		PORTS VENTED	1	2	1	2	1	2		

ASC = AIR SCOUR

BSR = BRINE / SLOW RINSE

BW = BACKWASH


FR = FAST RINSE

SVC = SERVICE

SVCA = SERVICE UNIT A

SVCB = SERVICE UNIT B

SHEET 1 OF 2  
FORM NO. 1078030, REV. A



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**SERIES 48, 51, 58, 59 & 96 STAGERS**  
**MODEL SELECTION & PROGRAMS**

SCALE N/A	DRAWN JWB	DATE 10MAY01	DWG. NO. 1078031
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## SERIES 58 & 59 STANDARD STAGER PROGRAMS

STAGER PROGRAM	# POS.		PORTS VENTED IN POSITION																REF. DWG NO.	FUNCTION
			0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15		
00	9	POSITION	SVC	---	---	CBW	---	---	INJ	CSR	CFR	ABW	---	---	ADR	ASR	AFR	---	5800PRGM	2 BED DI UNIT
		PORTS VENTED	1,15,16	---	---	2,3	---	---	5,6,7	6,7	1,7	1,10	---	---	1,11,12,13	1,12,13	1,13,15	---		
01	5	POSITION	SVC	---	---	---	---	---	---	---	---	---	DRD	ASC	---	BW	---	FR	5801PRGM	5 POSITION FILTER, DOUBLE ACTING VALVES
		PORTS VENTED	3,4,5,6,7,8,9,10	---	---	---	---	---	---	---	---	---	7,8,9,10,11,12,13,14	5,8,9,10,11,12,14,15	---	1,5,6,7,10,11,12,16	---	2,3,5,6,7,8,9,12		
02	9	POSITION	SVC	---	---	CBW	---	---	CDR	CSR	CFR	ABW	---	---	ADR	ASR	AFR	---	5802PRGM	2 BED DI UNIT, OUTLET VALVE ON CATION UNIT
		PORTS VENTED	1,2,3,16	---	---	4	---	---	6,7,8	7,8	1,8	1,3,11	---	---	1,3,12,13,14	1,3,13,14	1,3,14,16	---		
03	7	POSITION	SVC	---	BW1	FR1	---	---	BW2	FR2	---	---	BW3	FR3	---	---	---	---	5803PRGM	3 TANK SEQUENTIAL FILTER BW & FAST RINSE
		PORTS VENTED	2,4,6,7, 9,11	---	1,6,7,9,11	2,6,7,9,11,12	---	---	2,4,5,9,11	2,4,6,9,11,16	---	---	2,3,4,6,7	2,4,6,7,9,10	---	---	---	---		
04	9	POSITION	SVC	---	BW1	FR1	---	---	BW2	FR2	---	---	BW3	FR3	---	---	BW4	FR4	5804PRGM	4 TANK SEQUENTIAL FILTER BW & FAST RINSE
		PORTS VENTED	2,4,6,7,9,11,14,15	---	1,6,7,9,11,14,15	2,6,7,9,11,12,14,15	---	---	2,4,5,9,11,14,15	2,4,6,9,11,14,15,16	---	---	2,3,4,6,7,14,15	2,4,6,7,9,10,14,15	---	---	2,4,6,7,9,11,13	2,4,6,7,8,9,11,14		
07	10	POSITION	SVC	---	BW	---	INJ	DISP	FR	DRN	---	AM	AMD	---	REF	---	---	FNR	5807PRGM	MIXED BED DI, SIMULTANEOUS REGENERATION
		PORTS VENTED	11,12	---	1,13	---	1,3,15,16	1,3,16	1,3,11	3,7	---	5,7	3,5,7	---	7,11	---	---	10,11		
10	11	POSITION	SVC	---	BW	SET	---	CDR	CSR	---	ADR	ASR	AFR	---	DRD	AM	---	FNR	5810PRGM	MIXED BED DI UNIT
		PORTS VENTED	15,16	---	1	(NONE)	---	4,5,9	5,9	---	7,8,9	8,9	9,10	---	9,12	12,13	---	14,15		
TA	8	POSITION	SVCA	---	---	BWA	BSRA	---	---	FRA	SBA	---	---	---	BWB	BSRB	FRB	---	58TAPRGM	TWO UNIT ALTERNATING SOFTENER
		PORTS VENTED	1,2,8,16	---	---	6,8,11	5,7,8,11	---	---	7,8,11,16	8,11,16	---	---	---	---	2,13,16	1,2,15,16	2,8,15,16		
TB *	10	POSITION	SVCA	---	---	BWA	---	BRD	SR	FRA	SBA	---	---	BWB	---	BRD	SR	FRA	58TBPRGM	TWO TANK ALTERNATOR W/ TIMED BRINE
		PORTS VENTED	6,14,16	---	---	1,2,6,8	---	4,5,6,8	4,5,6,8	5,6,8,14	6,8,14	---	---	9,10,14,16	---	12,13,14,16	12,13,14,16	6,13,14,16		

\* TB PROGRAM FOR USE WITH SERIES 962 CONTROLLER ONLY.

## SERIES 51 & 96 STANDARD STAGER PROGRAMS

			PORTS VENTED IN POSITION									
			0	1	2	3	4	5	6	7		
STAGER PROGRAM	# POS.		A	B	C	D	E	F	G	H	REF. DWG NO.	FUNCTION
06	6	POSITION	SVC	---	BW	---	BRD	SR	FR	REF	5106PRGM -or- 9606PRGM	6 POSITION SOFTENER (TIMED DRAW & REFILL)
		PORTS VENTED	1, 2	---	4	---	5, 6, 7	6, 7	1, 7	1, 2, 8		
07	5	POSITION	SVC	---	BW	---	BRD	SR	FR	---	5107PRGM -or- 9607PRGM	5 POSITION SOFTENER (TIMED DRAW)
		PORTS VENTED	1, 2	---	4	---	5, 6, 7	6, 7	1, 7	---		
09	5	POSITION	SVC	---	---	BW	BSR	---	FR	REF	5109PRGM -or- 9609PRGM	5 POSITION SOFTENER (TIMED REFILL)
		PORTS VENTED	1, 3	---	---	4	5, 7	---	1, 7	1, 8		
10	5	POSITION	SVC	---	BW	FRA	---	---	BW2	FRB	5110PRGM -or- 9610PRGM	2 TANK SEQUENTIAL FILTER (BW & FR)
		PORTS VENTED	1, 2, 5, 6	---	5, 6, 7	1, 5, 6, 8	---	---	1, 2, 3	1, 2, 4, 5		
11	7	POSITION	SVC	---	DRD	---	ASC	BW	---	FR	5111PRGM -or- 9611PRGM	FILTER WITH AIR SCOUR
		PORTS VENTED	2,3	--	1,4	---	4,6,7	4,7,8	---	1,2		
12	6	POSITION	SVC	BW	---	BRD	DISP	RECL	FR	---	5112PRGM -or- 9612PRGM	BRINE RECYCLE SOFTENER
		PORTS VENTED	1,8	2	---	4,5	4,5	5,6	4,8	---		
86	7	POSITION	SVC	BW1	BW2	BW3	BW4	BW5	BW6	---	5186PRGM -or- 9686PRGM	6 TANK SEQUENTIAL FILTER
		PORTS VENTED	8	1	2	3	4	5	6	---		
87	8	POSITION	BW1	BW2	BW3	BW4	BW5	BW6	BW7	SVC	5187PRGM -or- 9687PRGM	7 TANK SEQUENTIAL FILTER
		PORTS VENTED	1	2	3	4	5	6	7	8		

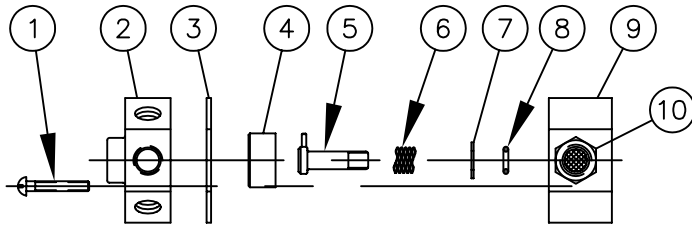
ABW = ANION BACKWASH  
ADR = ANION DRAW  
AM = AIR MIX  
AMD = AIR MIX & DRAIN DOWN  
ASC = AIR SCOUR  
ASR = ANION SLOW RINSE  
AFR = ANION FAST RINSE  
BW = BACKWASH  
BWA = BACKWASH UNIT A  
BWB = BACKWASH UNIT B  
BRD = BRINE DRAW  
BSR = BRINE / SLOW RINSE  
BSRA = BRINE / SLOW RINSE UNIT A  
BSRB = BRINE / SLOW RINSE UNIT B  
CBW = CATION BACKWASH  
CDR = CATION DRAW  
CFR = CATION FAST RINSE  
CSR = CATION SLOW RINSE  
DRD = DRAIN DOWN  
DISP = DISPLACE

FR = FAST RINSE  
FRA = FAST RINSE UNIT A  
FRB = FAST RINSE UNIT B  
FNR = FINAL RINSE  
INJ = INJECT  
RECL = RECLAIM  
REF = REFILL  
SBA = STANDBY UNIT A  
SBB = STANDBY UNIT B  
SET = SETTLE  
SR = SLOW RINSE  
SVC = SERVICE  
SVCA = SERVICE UNIT A  
SVCB = SERVICE UNIT B

SHEET 2 OF 2  
FORM NO. 1078030, REV. A

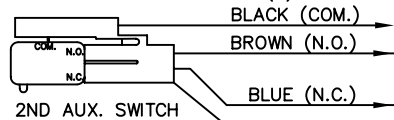
 <b>OSMONICS</b> <small>ROCKFORD OPERATIONS</small> 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM			
<b>SERIES 48, 51, 58, 59 &amp; 96 STAGERS MODEL SELECTION &amp; PROGRAMS</b>			
SCALE N/A	DRAWN JWB	DATE 10MAY01	DWG. NO. 1078031

## PILOT CONTROL ASSEMBLY

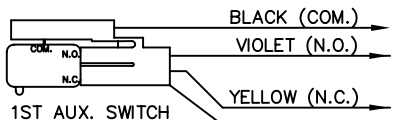


### OPTIONAL AUX. SWITCHES

MAXIMUM OF TWO (2)



2ND AUX. SWITCH

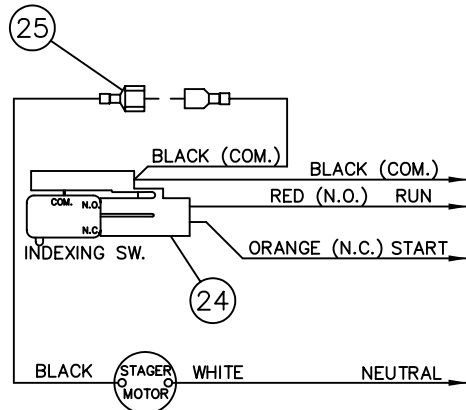


1ST AUX. SWITCH

### SWITCH RATINGS

11A 1/3HP  
125, 250, 277 VAC  
1/2A 125 VDC  
1/4A 250 VDC  
4A 125 VAC L

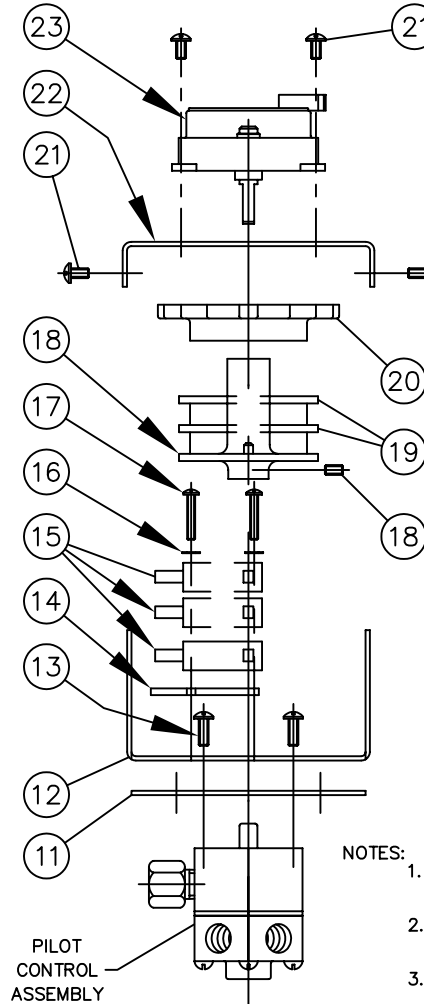
### STANDARD WIRING



### INTERNAL PARTS KITS

STAGER PROGRAM	INTERNAL PARTS KITS STD. PROGRAMS	INTERNAL PARTS KITS INVERTED PROGRAMS
48-00	1074817 (48-IAB)	1081595 (48-IABI)
48-01		
48-03		
48-04		
48-11		
48-12	1081593 (48-IA-83)	1081594 (48-IA-83I)
48-TA		
48-83		
48-84	1077584 (48-IA-TB)	
48-85		
48-TB		
48-SP	1084816 (48-IA-SP)	SPECIFY DWG. NO. WHEN ORDERING THESE PARTS

\* INTERNAL PARTS KITS INCLUDE ITEM NOS. 3, 4, 6, 7 & 8  
ALONG WITH A SMALL PACKET OF SILICON COMPOUND



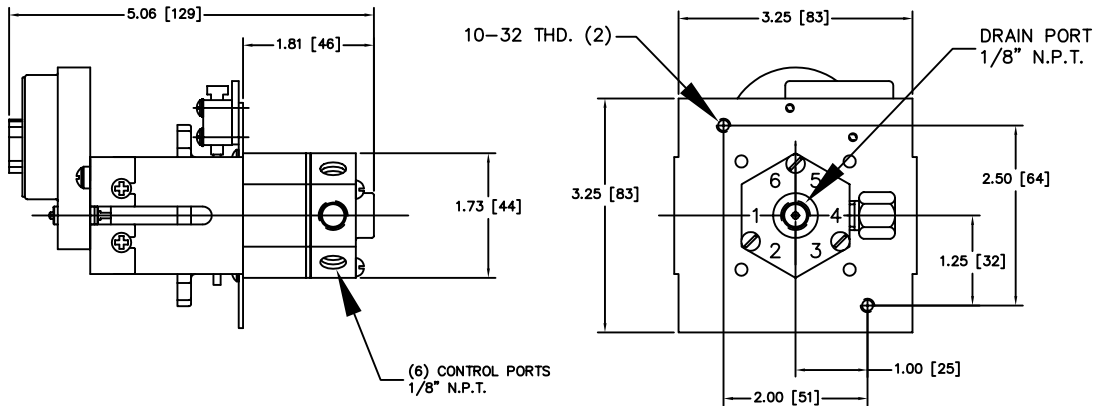
#### NOTES:

1. STAGER PROGRAM MUST BE SPECIFIED WHEN ORDERING THIS PART.
2. MUST SPECIFY IN WHICH POSITION(S) SWITCH OUTPUT(S) ARE REQUIRED.
3. SUPPLIED AS A KIT ONLY.

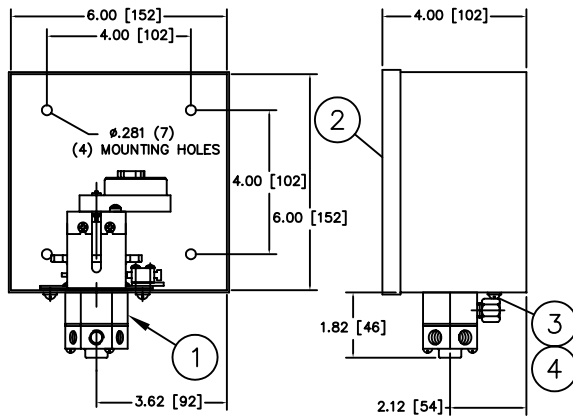
NO.	DESCRIPTION	PART NO.	QTY.
1	RD HD. MACH. SCR. (6-32 X 7/8")	1075759 (SCS-0075)	3
2	BACKPLATE	PER PROGRAM	1
3	GASKET (SEE NOTE 3)	1074842 (48006)	1
4	STEMPLATE (SEE NOTE 3)	PER PROGRAM	1
5	STEMSHAFT	1070448	1
6	SPRING (SEE NOTE 3)	1076234	1
7	WASHER (SEE NOTE 3)	1074074 (41-F)	1
8	O-RING (SEE NOTE 3)	1071667 (ORB-010)	1
9	BONNET	1074793 (48-B)	1
10	FILTERED INLET (1/8" N.P.T.)	1074825 (48-Q)	1
11	MOUNTING PLATE GASKET	1075737	1
12	BOTTOM MOUNTING BRACKET	1070437	1
13	PAN HD. MACH. SCR. (6-32 X 3/8")	1072371 (SCS-0070)	4
14	INSULATOR	1075455 (58B019)	1
15	SWITCH	1075499 (58013)	1-3
16	LOCKWASHER (NO. 4)	1073593 (WAS-0015)	2
17	PAN HD. MACH. SCREW (4-40 THREAD)	1 SWITCH 1072369 (SCS-0064) 2 SWITCHES 1075757 (SCS-0065) 3 SWITCHES 1072389 (SCS-0151)	2
18	48-00 INDEXING CAM 48-01 INDEXING CAM 48-03 INDEXING CAM 48-TA INDEXING CAM ALL OTHERS (SEE NOTE 1) *CAMs INCLUDE 6-32 SET SCREW	1076245 1076244 1076246 1077932 1076243	1
19	AUXILIARY CAM (SEE NOTE 2)	1075451 (58B017)	0-2
20	THUMB WHEEL	1075454 (58B018)	1
21	TAPTITE SCREW (6-32 X 1/4")	1075746	6
22	MOTOR MOUNTING BRACKET	1070436	1
23	MOTOR (4 WATTS MAX.)	115VAC 60HZ 1075748 230VAC 50/60HZ 1075749 24VAC 50/60HZ 1075750 12VAC 50/60HZ 1075753	1
24	WIRE HARNESS (STANDARD)	1075464 (58B030)	1
25	MALE CONNECTOR	1075498 (58012)	1
26	WIRE HARNESS (1ST AUX. SWITCH)	1075501 (58015)	1
27	WIRE HARNESS (2ND AUX. SWITCH)	1075502 (58016)	1

C	NUMBER	CONVERSION	1588	13DEC02	
REV.	DESCRIPTION	ECO	DATE	APVD	
<p>OSMONICS ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM</p>					
<p>SERIES 48 STAGER ASSEMBLY ASSEMBLY DRAWING</p>					
SCALE	DRAWN	DATE	DWG. NO.		
3/8	MSM	11APR01	1077882		

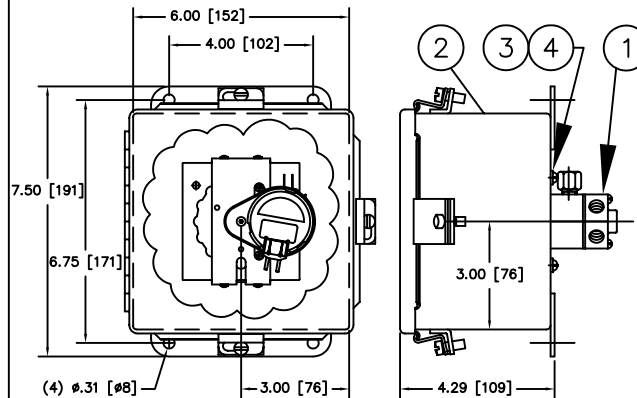
Form No. 1077881



NEMA 1 ENCLOSURE



NEMA 4 ENCLOSURE




NO.	DESCRIPTION	PART NO.	QTY.
1	STAGER ASSEMBLY	R048-____-__B	1
2	ENCLOSURE	NEMA 1	1
		NEMA 4	
		NEMA 4XFG	
3	PAN HEAD MACHINE SCREW 10-32 x 1/2" LONG	1075758 (510-BU)	2
4	LOCKWASHER (NO. 10)	1073588 (WAS-0005)	2

NOTE:

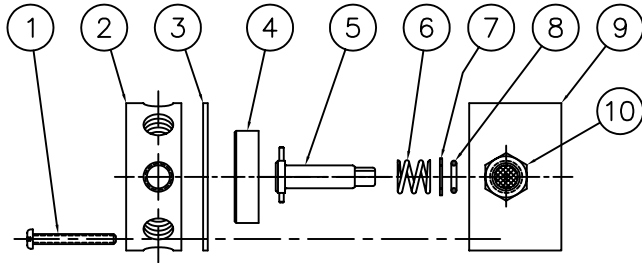
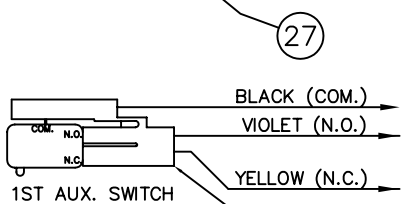
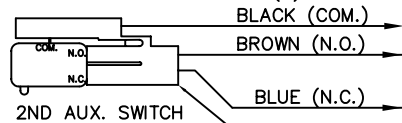
1. STAGERS CAN BE MANUALLY ADVANCED BY ROTATING THE CAM CLOCKWISE.
2. PIPING SCHEMATICS AVAILABLE UPON REQUEST.
3. ALL STAGERS EXCEPT 48-03 & 48-TA SUPPLIED WITH NOTCHED CAM FOR PULSE OUTPUT TYPE TIMERS. 48-03 & 48-TA SUPPLIED WITH BUTTERFLY CAM FOR "UP/DOWN" OUTPUT TYPE TIMERS.

INCHES [MILLIMETERS]

SERIES NO.	PORTS VENTED IN POSITION						DESCRIPTION
	A	B	C	D	E	F	
48-00	1,2 (SVC)	-	3,4 (BW)	-	5,6 (BR)	1,6 (FR)	4 POS. SOFTENER
48-01	1,2 (SVC)	-	3,4 (BW)	-	-	1,6 (FR)	3 POS. FILTER
48-03	1,2 (SVC)	-	3,4 (BW)	-	5,6 (BR)	1,6 (FR)	4 POS. SOFTENER (SEE NOTE 3)
48-04	1,2 (SVC)	-	3,4 (BW)	-	-	-	2 POS. FILTER
48-12	1,2 (SVC)	-	3,4 (BW)	4,5 (BR)	-	1,6 (FR)	4 POS. SOFTENER W/UPFLOW BRINE
48-83	2 (BW)	3 (BW)	-	-	6 (SVC)	1 (BW)	3 TANK SEQUENTIAL FILTER
48-84	2 (BW)	3 (BW)	4 (BW)	-	6 (SVC)	1 (BW)	4 TANK SEQUENTIAL FILTER
48-85	2 (BW)	3 (BW)	4 (BW)	5 (BW)	6 (SVC)	1 (BW)	5 TANK SEQUENTIAL FILTER
48-TA	1	-	2	-	-	-	2 TANK ALTERNATOR (SEE NOTE 3)
48-TB	1	2	1	2	1	2	2 TANK ALTERNATOR

C	NUMBER CONVERSION	1588	13DEC02	
REV.	DESCRIPTION	ECO	DATE	APVD
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM				
SERIES 48 STAGER PROGRAMS AND MOUNTING DRAWING				
SCALE N/A	DRAWN MSM	DATE 11Apr01	DWG. NO. 1077882	

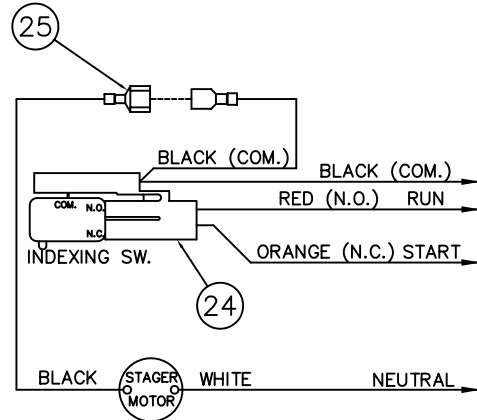
## PILOT CONTROL ASSEMBLY

OPTIONAL AUX. SWITCHES  
MAXIMUM OF TWO (2)

## SWITCH RATINGS

11A 1/3HP  
125, 250, 277 VAC  
1/2A 125 VDC  
1/4A 250 VDC  
4A 125 VAC L

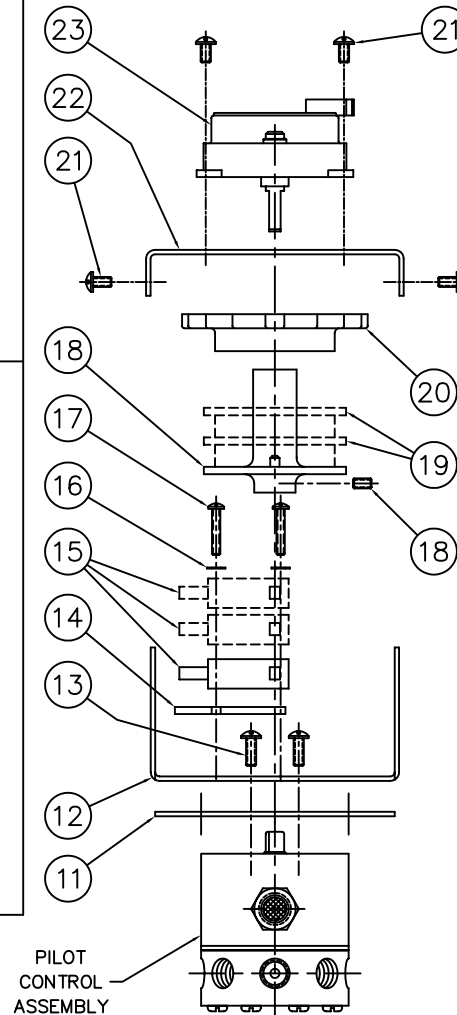
## STANDARD WIRING



## INTERNAL PARTS KITS

STAGER PROGRAM	INTERNAL PARTS KITS STD. PROGRAMS	INTERNAL PARTS KITS INVERTED PROGRAMS
51-06		
51-07	1074888 (51-IA-00)	
51-09		
51-10	1074890 (51-IA-10)	
51-11	1074891 (51-IA-11)	
51-12	1074892 (51-IA-12)	
51-86		
51-87	1074893 (51-IA-86)	1077587 (51-IA-86I)
51-SP	1074887 (51-IA-SP)	SPECIFY DWG. NO. WHEN ORDERING THESE PARTS


\* INTERNAL PARTS KITS INCLUDE ITEM NOS. 3, 4, 6, 7 & 8  
ALONG WITH A SMALL PACKET OF SILICON COMPOUND

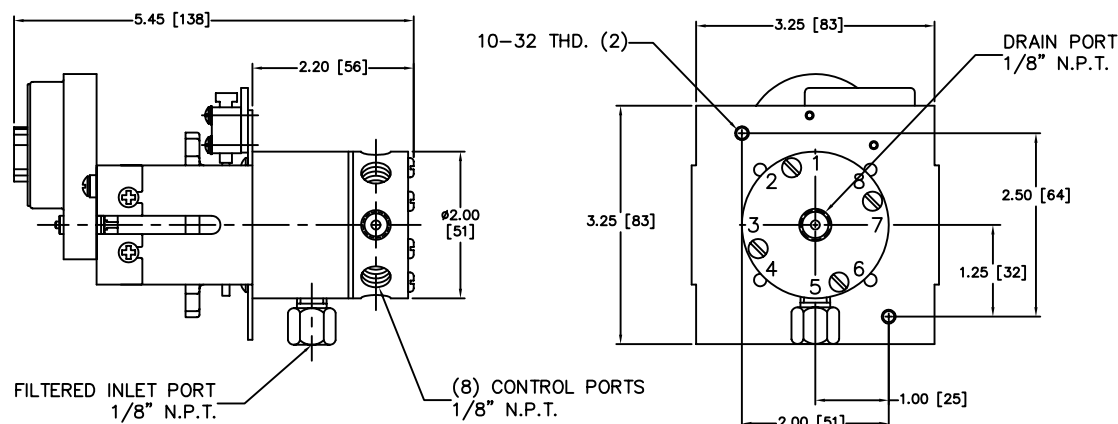


NO.	DESCRIPTION	PART NO.	QTY.
1	PAN HD. MACH. SCR. (6-32 X 1 1/8")	1075760 (SCS-0076)	4
2	BACKPLATE	PER PROGRAM	1
3	GASKET (SEE NOTE 3)	1075675 (96034)	1
4	STEMPLATE (SEE NOTE 3)	PER PROGRAM	1
5	STEMSHAFT	1070438	1
6	SPRING (SEE NOTE 3)	1075242 (54-S)	1
7	WASHER (SEE NOTE 3)	1075241 (54-R)	1
8	O-RING (SEE NOTE 3)	1071716 (ORE-011)	1
9	BONNET	1074883 (51-B)	1
10	FILTERED INLET (1/8" N.P.T.)	1074825 (48-Q)	1
11	MOUNTING PLATE GASKET	1075674 (96B050)	1
12	BOTTOM MOUNTING BRACKET	1077824	1
13	PAN HD. MACH. SCR. (6-32 X 3/8")	1072371 (SCS-0070)	2
14	INSULATOR	1075455 (58B019)	1
15	SWITCH	1075499 (58013)	1-3
16	LOCK WASHER (NO. 4)	1073593 (WAS-0015)	2
17	PAN HD. MACH. SCREW (4-40 THREAD)	1 SWITCH 1072369 (SCS-0064) 2 SWITCHES 1075757 (SCS-0065) 3 SWITCHES 1072389 (SCS-0151)	2
18	INDEXING CAM (SEE NOTE 1)	1076243	1
19	AUXILIARY CAM (SEE NOTE 2)	1075451 (58B017)	0-2
20	THUMB WHEEL	1075454 (58B018)	1
21	TAPTITE SCREW (6-32 X 1/4")	1075746	6
22	MOTOR MOUNTING BRACKET	1070436	1
23	MOTOR (4 WATTS MAX.)	115VAC 60HZ 1075748 230VAC 50/60HZ 1075749 24VAC 50/60HZ 1075750 12VAC 50/60HZ 1075753	1
24	WIRE HARNESS (STANDARD)	1075464 (58B030)	1
25	MALE CONNECTOR	1075498 (58012)	1
26	WIRE HARNESS (1ST AUX. SWITCH)	1075501 (58015)	1
27	WIRE HARNESS (2ND AUX. SWITCH)	1075502 (58016)	1

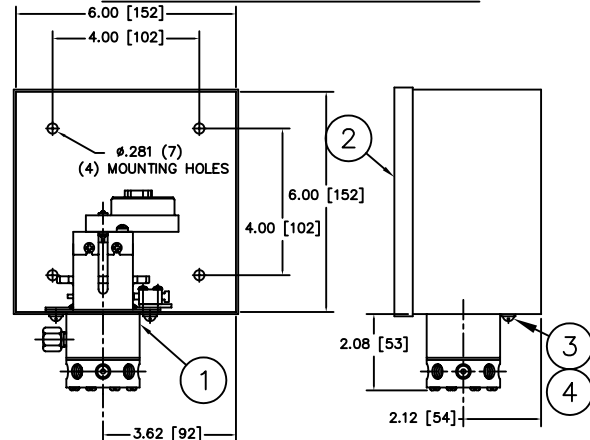
## NOTES:

1. STAGER PROGRAM MUST BE SPECIFIED WHEN ORDERING THIS PART.
2. MUST SPECIFY IN WHICH POSITION(S) SWITCH OUTPUT(S) ARE REQUIRED.
3. SUPPLIED AS A KIT ONLY.

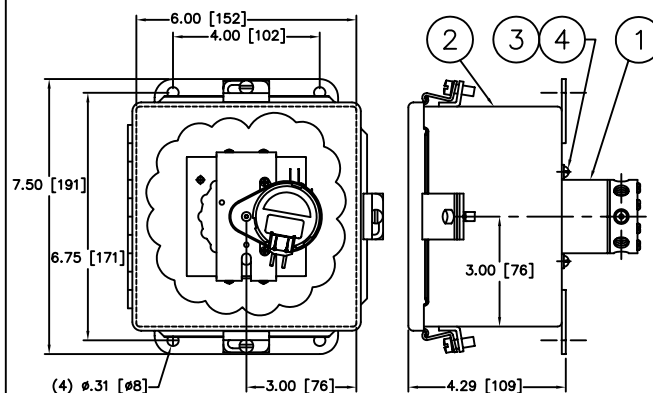
C	NUMBER	CONVERSION	1588	13DECO2	
REV.	DESCRIPTION	ECO	DATE	APVD	
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM					
SERIES 51 STAGER ASSEMBLY ASSEMBLY DRAWING					
SCALE	DRAWN	DATE	DWG. NO.		
3/8	MSM	19Feb01	1077770		



NEMA 1 ENCLOSURE



NEMA 4 ENCLOSURE




NO.	DESCRIPTION	PART NO.	QTY.
1	STAGER ASSEMBLY	R051-____-__B	1
2	ENCLOSURE	NEMA 1	1075751
		NEMA 4	1077967
		NEMA 4XFG	1077970
3	PAN HEAD MACHINE SCREW 10-32 x 1/2" LONG	1075758 (510-BU)	2
4	LOCKWASHER (NO. 10)	1073588 (WAS-0005)	2

NOTE:

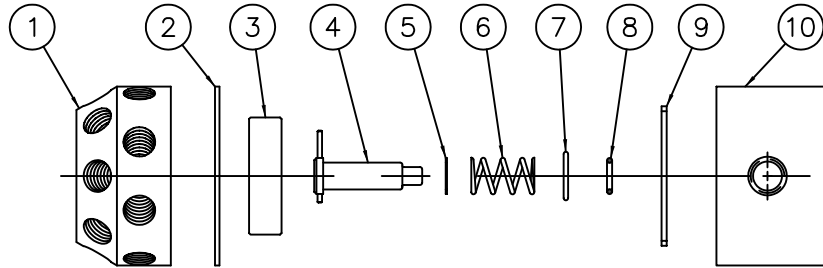
1. STAGERS CAN BE MANUALLY ADVANCED BY ROTATING THE CAM CLOCKWISE.
2. PIPING SCHEMATICS AVAILABLE UPON REQUEST.

INCHES [MILLIMETERS]

SERIES NO.	PORTS VENTED IN POSITION								DESCRIPTION
	A	B	C	D	E	F	G	H	
51-06	1,2(SVC)	—	4(BW)	—	5,6,7(BR)	6,7(SR)	1,7(FR)	1,2,8(BR REF)	TIMED BR. & REFILL SOFT.
51-07	1,2(SVC)	—	4(BW)	—	5,6,7(BR)	6,7(SR)	1,7(FR)	—	TIMED BRINE SOFTENER
51-09	1,3(SVC)	—	—	4(BW)	5,7(BR/SR)	—	1,7(FR)	1,8(REF)	TIMED REFILL SOFTENER
51-10	1,2,5,6(SVC)	—	5,6,7(BW1)	1,5,6,8(FR1)	—	—	1,2,3(BW2)	1,2,4,5(FR2)	2 TANK SEQ. FILTER
51-11	2,3(SVC)	—	1,4(DR)	—	4,6,7(AS)	4,7,8(BW)	—	1,2(FR)	FILTER WITH AIR SCOUR
51-12	1,8(SVC)	2(BW)	—	4,5(BR)	4,5(DSP)	5,6(REC)	4,8(FR)	—	BRINE RECYCLE SOFT.
51-86	1(BW)	2(BW)	3(BW)	4(BW)	5(BW)	6(BW)	7(SVC)	—	6 TANK SEQ. FILTER
51-87	1(BW)	2(BW)	3(BW)	4(BW)	5(BW)	6(BW)	7(BW)	8(SVC)	7 TANK SEQ. FILTER

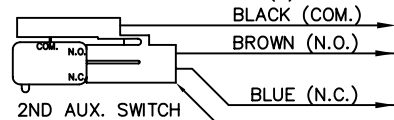
C	NUMBER CONVERSION	1588	13DEC02	
REV.	DESCRIPTION	ECO	DATE	APVD
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM				
SERIES 51 STAGER PROGRAMS AND MOUNTING DRAWING				
SCALE N/A	DRAWN MSM	DATE 19Feb01	DWG. NO. 1077770	

## PILOT CONTROL ASSEMBLY

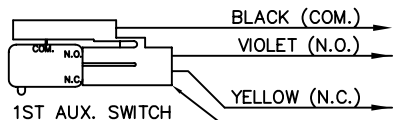


## OPTIONAL AUX. SWITCHES

MAXIMUM OF TWO (2)



2ND AUX. SWITCH

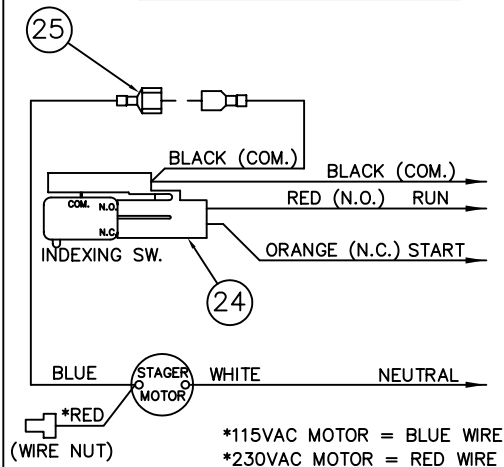


1ST AUX. SWITCH

## SWITCH RATINGS

11A 1/3HP  
125, 250, 277 VAC  
1/2A 125 VDC  
1/4A 250 VDC  
4A 125 VAC L

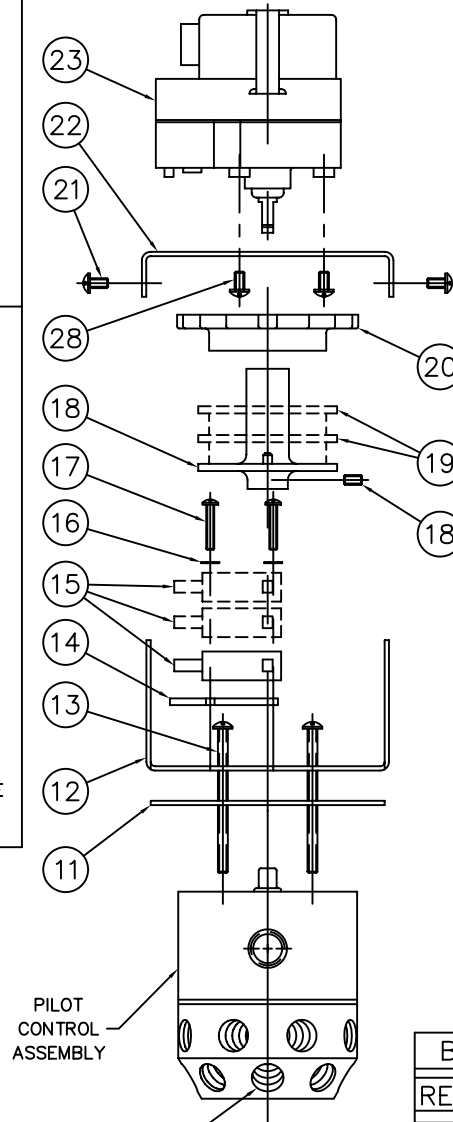
## STANDARD WIRING



## INTERNAL PARTS KITS

STAGER PROGRAM	INTERNAL PARTS KITS STD. PROGRAMS	INTERNAL PARTS KITS INVERTED PROGRAMS
58-00	1075411 (58-IA-00)	
58-01	1075412 (58-IA-01)	
58-02	1075413 (58-IA-02)	
58-03	1075414 (58-IA-03)	
58-07	1075415 (58-IA-07)	
58-10	1075416 (58-IA-10)	
58-TA	1075409 (58-IA-TA)	1075410 (58-IA-TAI)
58-TB	1081806 (58-IA-TB)	
58-SP	1075408 (58-IA-SP)	SPECIFY DWG. NO. WHEN ORDERING THESE PARTS

\* INTERNAL PARTS KITS INCLUDE ITEM NOS. 2, 3, 5, 6, 7, 8 & 9  
ALONG WITH A SMALL PACKET OF SILICON COMPOUND




PILOT  
CONTROL  
ASSEMBLY

PORT NO. 13  
(IN-LINE WITH INLET PORT)

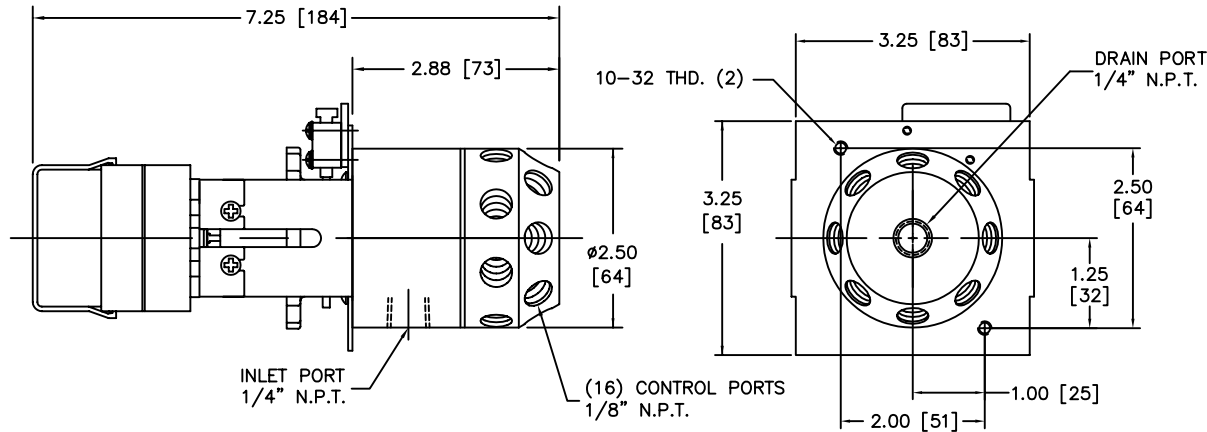
NO.	DESCRIPTION	PART NO.	QTY.
1	BACKPLATE	PER PROGRAM	1
2	BACKPLATE GASKET (SEE NOTE 3)	1084170 (58-KZ)	1
3	STEMPLATE (SEE NOTE 3)	PER PROGRAM	1
4	STEMSHAFT	1070439	1
5	WASHER (SEE NOTE 3)	1075395 (58-AH)	1
6	SPRING (SEE NOTE 3)	1075424 (58-S)	1
7	INSERT (SEE NOTE 3)	1075406 (58-DA)	1
8	O-RING (SEE NOTE 3)	1071668 (ORB-012)	1
9	O-RING (SEE NOTE 3)	1075425 (58-T)	1
10	BONNET	1075404 (58-B)	1
11	MOUNTING PLATE GASKET	1075407 (58-DC)	1
12	BOTTOM MOUNTING BRACKET	1070437	1
13	PAN HD. MACH. SCR. (8-32 X 2")	1072378 (SCS-0087)	4
14	INSULATOR	1075455 (58B019)	1
15	SWITCH	1075499 (58013)	1-3
16	LOCKWASHER (NO. 4)	1073593 (WAS-0015)	2
17	PAN HD. MACH. SCREW (4-40 THREAD)	1 SWITCH 1072369 (SCS-0064) 2 SWITCHES 1075757 (SCS-0065) 3 SWITCHES 1072389 (SCS-0151)	2
18	INDEXING CAM (SEE NOTE 1) (CAM INCLUDES 6-32 SET SCREW)	1076243	1
19	AUXILIARY CAM (SEE NOTE 2)	1075451 (58B017)	0-2
20	THUMB WHEEL	1075454 (58B018)	1
21	TAPTITE SCREW (6-32 X 1/4")	1075746	4
22	MOTOR MOUNTING BRACKET	1070436	1
23	MOTOR	115VAC 60HZ 1075434 (58B000) 230VAC 50/60HZ 24VAC 50/60HZ 1075438 (58B004) 12VAC 50/60HZ 1075779	1
24	WIRE HARNESS (STANDARD)	1075464 (58B030)	1
25	MALE CONNECTOR	1075498 (58012)	1
26	WIRE HARNESS (1ST AUX. SWITCH)	1075501 (58015)	1
27	WIRE HARNESS (2ND AUX. SWITCH)	1075502 (58016)	1
28	SCREW (M3 X 0.5 X 6)	1072396 (SCS-0167)	3

## NOTES:

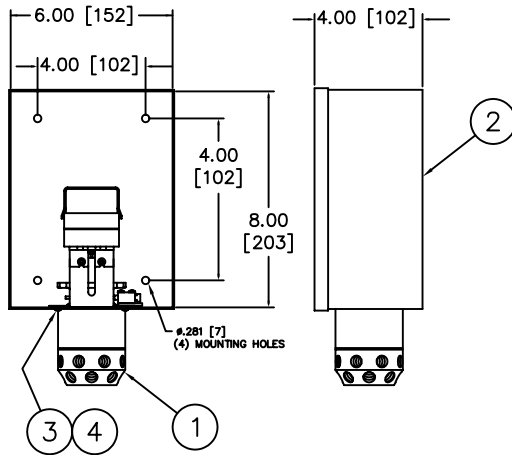
1. STAGER PROGRAM MUST BE SPECIFIED WHEN ORDERING THIS PART.
2. MUST SPECIFY IN WHICH POSITION(S) SWITCH OUTPUT(S) ARE REQUIRED.
3. SUPPLIED AS A KIT ONLY.

B	NUMBER CONVERSION	1588	20DEC02	
REV.	DESCRIPTION	ECO	DATE	APVD
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM				
SERIES 58 STAGER ASSEMBLY ASSEMBLY DRAWING				
SCALE	DRAWN	DATE	DWG. NO.	
3/8	MSM	03May01	1077898	

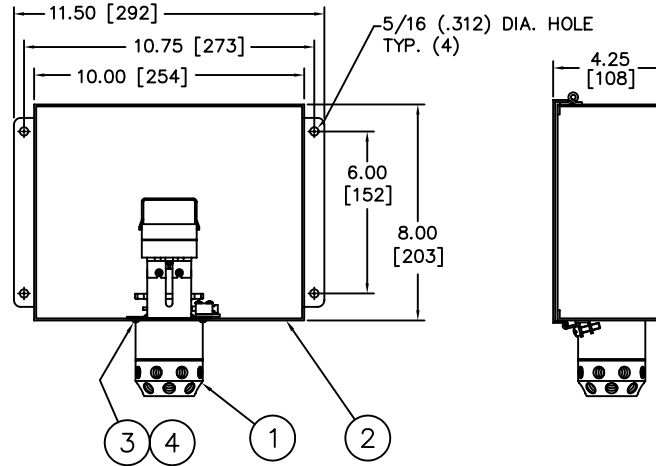
Form No. 1077897



### NEMA 1 ENCLOSURE



### NEMA 4 ENCLOSURE



NO.	DESCRIPTION	PART NO.	QTY.
1	STAGER ASSEMBLY	R058-___-___C	1
2	ENCLOSURE	NEMA 1 1075422 (58-R)	1
		NEMA 4 1075423 (58-RA)	
		NEMA 4XFG 1073665 (ZENC0409)	
3	PAN HEAD MACHINE SCREW 10-32 x 1/2" LONG	1075758 (510-BU)	2
4	LOCKWASHER (NO. 10)	1073588 (WAS-0005)	2


#### NOTE:

1. STAGERS CAN BE MANUALLY ADVANCED BY ROTATING THE CAM CLOCKWISE.
2. PIPING SCHEMATICS AVAILABLE UPON REQUEST.

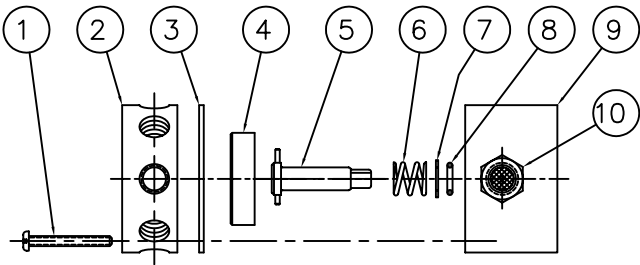
INCHES [MILLIMETERS]

SERIES NO.	DESCRIPTION
58-00	2 COLUMN DEIONIZER
58-01	FILTER (DOUBLE ACTING VALVES)
58-02	2 COLUMN DEIONIZER (CATION OUTLET VALVE)
58-03	3 TANK SEQUENTIAL FILTER
58-04	4 TANK SEQUENTIAL FILTER
58-07	MIXED BED DEIONIZER (SIMULTANEOUS REGEN.)
58-10	MIXED BED DEIONIZER
58-TA	2 TANK ALTERNATOR
58-TB	2 TANK ALTERNATOR WITH TIMED BRINE
58-SP	CUSTOM PROGRAM

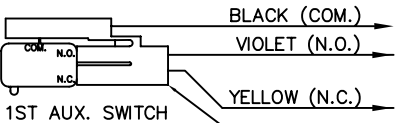
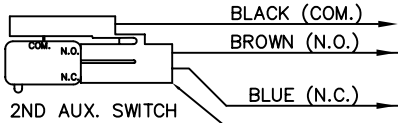
Form No. 1077897

B	NUMBER CONVERSION	1588	20DEC02	
REV.	DESCRIPTION	ECO	DATE	APVD
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM				
SERIES 58 STAGER PROGRAMS AND MOUNTING DRAWING				
SCALE N/A	DRAWN MSM	DATE 04May01	DWG. NO. 1077898	

PILOT CONTROL ASSEMBLY



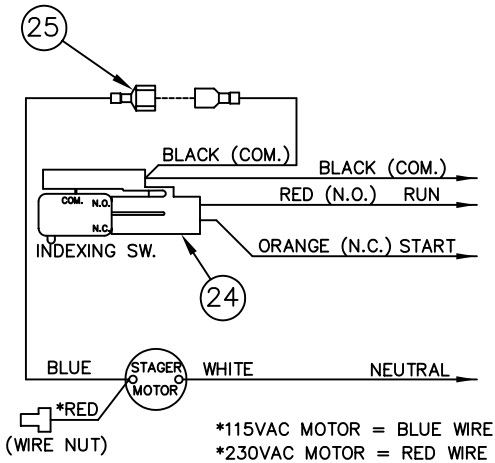
OPTIONAL AUX. SWITCHES  
MAXIMUM OF TWO (2)



SWITCH RATINGS

11A 1/3HP  
125, 250, 277 VAC  
1/2A 125 VDC  
1/4A 250 VDC  
4A 125 VAC L

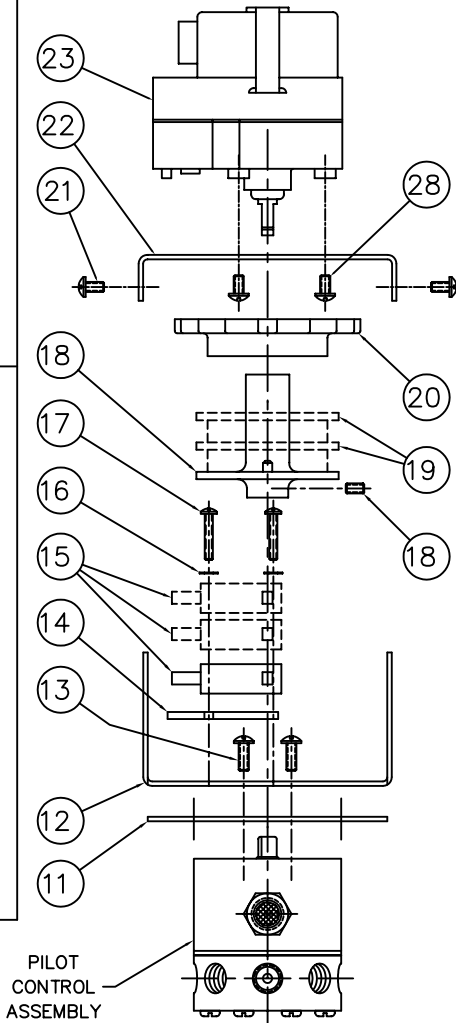
STANDARD WIRING



INTERNAL PARTS KITS

STAGER PROGRAM	INTERNAL PARTS KITS STD. PROGRAMS	INTERNAL PARTS KITS INVERTED PROGRAMS
96-06		
96-07	1074888 (51-IA-00)	
96-09		
96-10	1074890 (51-IA-10)	
96-11	1074891 (51-IA-11)	
96-12	1074892 (51-IA-12)	
96-86	1074893 (51-IA-86)	1077587 (51-IA-86I)
96-87		
96-SP	1074887 (51-IA-SP)	SPECIFY DWG. NO. WHEN ORDERING THESE PARTS


\* INTERNAL PARTS KITS INCLUDE ITEM NOS. 3, 4, 6, 7 & 8  
ALONG WITH A SMALL PACKET OF SILICON COMPOUND



NO.	DESCRIPTION	PART NO.	QTY.
1	PAN HD. MACH. SCR. (6-32 X 1 1/8")	1075760 (SCS-0076)	4
2	BACKPLATE	PER PROGRAM	1
3	GASKET (SEE NOTE 3)	1075675 (96034)	1
4	STEMPLATE (SEE NOTE 3)	PER PROGRAM	1
5	STEMSHAFT	1070438	1
6	SPRING (SEE NOTE 3)	1075242 (54-S)	1
7	WASHER (SEE NOTE 3)	1075241 (54-R)	1
8	O-RING (SEE NOTE 3)	1071716 (ORE-011)	1
9	BONNET	1074883 (51-B)	1
10	FILTERED INLET (1/8" N.P.T.)	1074825 (48-Q)	1
11	MOUNTING PLATE GASKET	1075674 (96B050)	1
12	BOTTOM MOUNTING BRACKET	1077824	1
13	PAN HD. MACH. SCR. (6-32 X 3/8")	1072371 (SCS-0070)	2
14	INSULATOR	1075455 (58B019)	1
15	SWITCH	1075499 (58013)	1-3
16	LOCK WASHER (NO. 4)	1073593 (WAS-0015)	2
17	PAN HD. MACH. SCREW (4-40 THREAD)	1 SWITCH 1072369 (SCS-0064) 2 SWITCHES 1075757 (SCS-0065) 3 SWITCHES 1072389 (SCS-0151)	2
18	INDEXING CAM (SEE NOTE 1) SET SCREW (6-32)	1076243	1 1
19	AUXILIARY CAM (SEE NOTE 2)	1075451 (58B017)	0-2
20	THUMB WHEEL	1075454 (58B018)	1
21	TAPTITE SCREW (6-32 X 1/4")	1075746	4
22	MOTOR MOUNTING BRACKET	1070436	1
23	MOTOR	115VAC 60HZ 1075434 (58B000) 230VAC 50/60HZ 24VAC 50/60HZ 1075438 (58B004) 12VAC 50/60HZ 1075779	1
24	WIRE HARNESS (STANDARD)	1075464 (58B030)	1
25	MALE CONNECTOR	1075498 (58012)	1
26	WIRE HARNESS (1ST AUX. SWITCH)	1075501 (58015)	1
27	WIRE HARNESS (2ND AUX. SWITCH)	1075502 (58016)	1
28	SCREW (M3 X 0.5 X 8)	1072396 (SCS-0167)	3

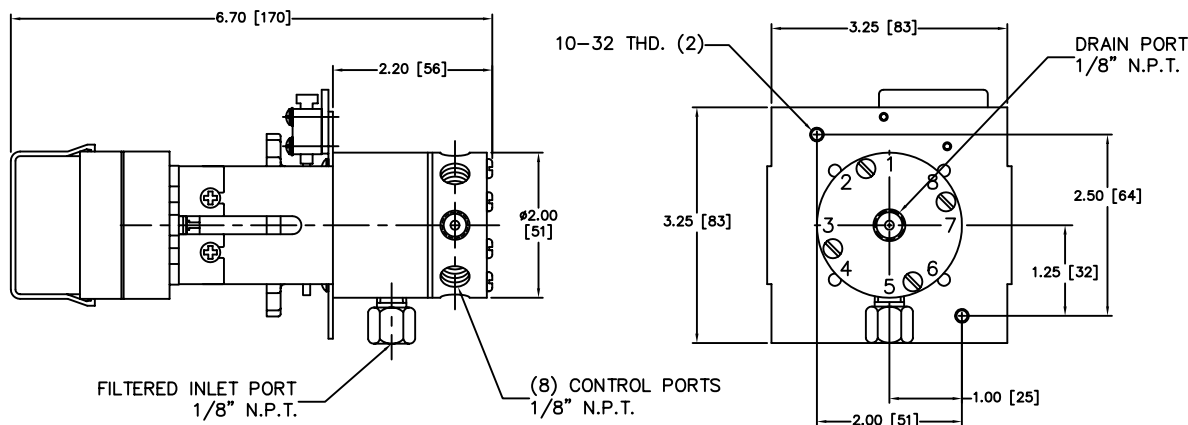
NOTES:

1. STAGER PROGRAM MUST BE SPECIFIED WHEN ORDERING THIS PART.
2. MUST SPECIFY IN WHICH POSITION(S) SWITCH OUTPUT(S) ARE REQUIRED.
3. SUPPLIED AS A KIT ONLY.

B	NUMBER	CONVERSION	1588	20DEC02	
REV.	DESCRIPTION	ECO	DATE	APVD	
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM					
SERIES 96 STAGER ASSEMBLY ASSEMBLY DRAWING					
SCALE	DRAWN	DATE	DWG. NO.		
3/8	MSM	09May01	1078010		

SERIES 96 STAGER ASSEMBLY



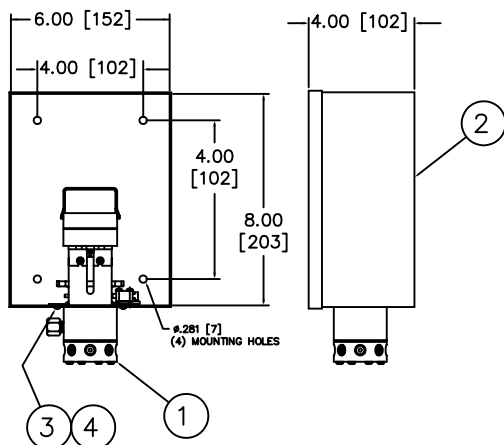


NO.	DESCRIPTION	PART NO.	QTY.
1	STAGER ASSEMBLY	R096-___-___C	1
2	ENCLOSURE	NEMA 1	1075422 (58-R)
		NEMA 4	1075423 (58-RA)
		NEMA 4XFG	1073665 (ZENC0409)
3	PAN HEAD MACHINE SCREW 10-32 x 1/2" LONG	1075758 (510-BU)	2
4	LOCKWASHER (NO. 10)	1073588 (WAS-0005)	2

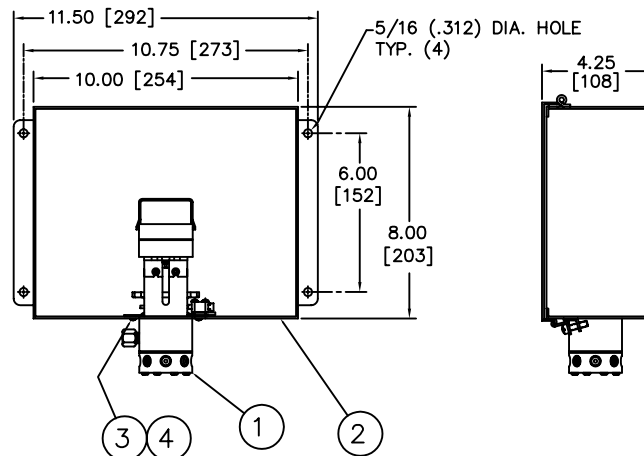
NOTE:

1. STAGERS CAN BE MANUALLY ADVANCED BY ROTATING THE CAM CLOCKWISE.
2. PIPING SCHEMATICS AVAILABLE UPON REQUEST.

NEMA 1 ENCLOSURE




NEMA 4 ENCLOSURE



INCHES [MILLIMETERS]

SERIES NO.	PORTS VENTED IN POSITION								DESCRIPTION
	A	B	C	D	E	F	G	H	
96-06	1,2(SVC)	-	4(BW)	-	5,6,7(BR)	6,7(SR)	1,7(FR)	1,2,8(BR REF)	TIMED BR. & REFILL SOFT.
96-07	1,2(SVC)	-	4(BW)	-	5,6,7(BR)	6,7(SR)	1,7(FR)	-	TIMED BRINE SOFTENER
96-09	1,3(SVC)	-	-	4(BW)	5,7(BR/SR)	-	1,7(FR)	1,8(REF)	TIMED REFILL SOFTENER
96-10	1,2,5,6(SVC)	-	5,6,7(BW1)	1,5,6,8(FR1)	-	-	1,2,3(BW2)	1,2,4,5(FR2)	2 TANK SEQ. FILTER
96-11	2,3(SVC)	-	1,4(DR)	-	4,6,7(AS)	4,7,8(BW)	-	1,2(FR)	FILTER WITH AIR SCOUR
96-12	1,8(SVC)	2(BW)	-	4,5(BR)	4,5(DSP)	5,6(REC)	4,8(FR)	-	BRINE RECYCLE SOFT.
96-86	1(BW)	2(BW)	3(BW)	4(BW)	5(BW)	6(BW)	7(SVC)	-	6 TANK SEQ. FILTER
96-87	1(BW)	2(BW)	3(BW)	4(BW)	5(BW)	6(BW)	7(BW)	8(SVC)	7 TANK SEQ. FILTER

B	NUMBER CONVERSION	1588	20DEC02	
REV.	DESCRIPTION	ECO	DATE	APVD
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM				
SERIES 96 STAGER PROGRAMS AND MOUNTING DRAWING				
SCALE N/A	DRAWN MSM	DATE 09MAY01	DWG. NO. 1078010	

Form No. 1078009

# AquaMatic® A100 and A200 Stager Controls

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## Product Information



The AquaMatic A100 and A200 stager controls combine an AquaMatic stager with a reliable OSMONICS Autotrol timer, mounted and prewired in a NEMA enclosure. The AquaMatic stager is a rotary pilot valve with multiple ports for directing fluid flows to operate various diaphragm valves installed in a process system. AquaMatic stager internal parts are constructed of durable, non-corroding, self-lubricating material for long, maintenance-free life. The A100 controls have an integral time lock, which is programmed to begin the regeneration process. The A200 control is initiated when an electrical signal is provided. Cycle times are programmable to accommodate a wide range of filter and softener applications.

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## Standard Features

- Homing operation – Stager returns to service whenever timer is in service position
- NEMA 1 enclosure – NEMA 4 and NEMA 4XFG also available
- 120 VAC/60 HZ 220 VAC/50 HZ, 220 VAC/60 HZ, and 24 VAC/50 HZ also available
- Choice of six-day or seven-day timer for A100
- Maximum of 10 cycles programmable in three minute increments
- 102 minute available

---

## Optional Features

- External push-button for manual start (A200 Only)
  - Status Lights
  - Contact closure (dry or powered) can be provided during a cycle or cycles on all models
-

## Applications

Single Unit Controls	Model Number
<b>Typical Softeners and Filters</b>	
Time Initiated	A148
Signal Initiated	A248
<b>More Complex Softeners and Filters</b>	
Time Initiated	A151
Signal Initiated	A251
<b>High Pressure (250psi/17 bar) Stagers for Typical and Complex Softeners and Filters</b>	
Time Initiated	A196
Signal Initiated	A296

Multiple Unit Controls	Model Number
<b>Twin Alternating Softeners and Filters</b>	
Time Initiated	A158TA
Signal Initiated	A258TA
<b>Sequential Filters (Backwash only)</b>	
Time Initiated	A148
Signal Initiated	A248
<b>2 Unit Sequential Filters (Backwash and Rinse)</b>	
Time Initiated	A151
Signal Initiated	A251
<b>3 or 4 Unit Sequential Filters (Backwash and Rinse)</b>	
Time Initiated	A158
Signal Initiated	A258

## Specifications

<b>Power Requirements:</b>	120VAC/60 HZ/3 WATTS 220 VAC/50 HZ/3 WATTS 220 VAC/60 HZ/3 WATTS 24 VAC/50 HZ/3 WATTS
<b>Initiation Signal (A200 only):</b>	Line Voltage (minimum of three-minute signal duration)
<b>Stager Port Sizes:</b>	All inlet, control, and drain ports 1/8 inch NPT threads (except Series 58 and 59 inlet and drain ports are 1/4 inch NPT)
<b>Control Fluid:</b>	Air or water (100 micron strainer recommended)
<b>Control Pressure:</b>	125 psi (8.6 bar)
<b>Control Temperature:</b>	140°F (60°C)
<b>Enclosure Options:</b>	NEMA 1 (metal) NEMA 4 (metal) NEMA 4XGF (fiberglass)

# AquaMatic® 962 Series Stager Controls

Electronic Controls for Filters and Softeners



The AquaMatic 962 stager controls combine an AquaMatic stager with an Autotrol® 962 series electronic control, mounted and prewired in a NEMA-rated enclosure. The AquaMatic stager is a rotary pilot valve with multiple ports for directing fluid flows to operate various diaphragm valves installed in a water treatment system. AquaMatic stager internal parts are constructed of durable, non-corroding, self-lubricating materials for long, maintenance-free life.

The series 962 electronic controls provide sophisticated, demand-based water conditioning by combining a microprocessor with a flow meter to electronically monitor the amount of water used. Time-based and/or external signal initiation is also available as a standard feature.

This fully programmable series of controls provide the ability to fine-tune the operation to meet the application requirements.

## ■ Standard Features

- z Accepts an input from a variety of flow sensors to electronically monitor the amount of water used
- z Homing operation – The control and stager automatically synchronize to the service position
- z NEMA 4XFG fiberglass enclosure
- z 115VAC 50/60Hz and 230VAC 50/60Hz
- z Up to 15 programmable timed regeneration cycles are available, programmable from 0 to 255 minutes

## ■ Optional Features

- z Battery backup (rechargeable) for monitoring time-of-day and water usage for up to eight hours during a power outage
- z A dry or powered contact closure can be provided during a cycle or cycles of operation on all models
- z A SPDT relay can be added to provide an additional signal during Service/Regeneration (Single Tank & Twin-Alternating units only)

## Applications

SINGLE UNIT CONTROLS	MODEL NUMBER	DESCRIPTION
Typical Softeners and Filters	E948*	962 Control w/model 48, 6-port stager
More Complex Softeners and Filters	E951*	962 Control w/model 51, 8-port stager

MULTIPLE UNIT CONTROLS	MODEL NUMBER	DESCRIPTION
Twin-Alternating Softeners & Filters (w/Timed Brine switch output)	E958-TB	962 Control w/model 58-TB, 16-port stager
Twin-Alternating Softeners	E958-TA	962 Control w/model 58-TA, 16-port stager
Sequential Filters (Backwash Only)	E948	962 Control w/model 48, 6-port stager
2 Unit Sequential Filters (Backwash & Rinse)	E951	962 Control w/model 51, 8-port stager
3 or 4 Unit Sequential Filters	E958	962 Control w/model 58, 16-port stager

\* Two-tank and three-tank parallel systems can be controlled by individual controls provided with lockout feature (Lockout feature is void when using the added relay output option).

## Special Features

- z **Memory Retention** – During a power outage, critical operating information is stored in memory with no reprogramming required
- z **Capacity Setting Lockout** – The control can be programmed to lock the capacity value so it cannot be altered after installation
- z **Operating Histories** – Important operating data is stored in memory and is retrievable upon demand. The historical data includes peak flow data as well as average daily usage for each day of the week
- z **U.S. or Metric Units of Measure**
- z **Multiple Initiation Options**
  - **Manual regeneration** – A separate REGEN button is provided for manual regenerations
  - **Remote regeneration** – A set of terminals (w/programmable delay) is provided to allow for a regeneration to be initiated from a remote location
  - **Calendar override** – If the volume of water has not caused a regeneration, the 962 can be set to regenerate every one to thirty days
  - **Day of the week** – Regeneration on a specific day or days of the week with regeneration occurring at a specific time of day (programmable)
  - **Volume of water used** – With regeneration occurring either immediately or delayed to a specific time of day (programmable)
- z **Selectable Reserve Options**
  - **Fixed reserve** – The reserve is fixed at a programmable percentage (30% factory preset) of the total capacity
  - **Variable reserve** – The controller monitors the daily water usage and at the programmed time of regeneration, calculates the average water used for each day of the week. The reserve capacity is set to 120% of the average water usage for the next day.

For More Information:

Call Osmonics Process Water Group at (815) 964-9421 or (800) 245-9421, or visit [www.osmonics.com](http://www.osmonics.com)



# OSMONICS

### North American Sales

2412 Grant Avenue  
Rockford, IL  
61103-3991  
USA  
(815) 964-9412 Phone  
(815) 964-4449 Fax

### Latin American Sales

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Centro Empresarial Jactoba  
Curitiba - PR, CP 80250-080  
BRAZIL  
+55 41 312 1691 Phone  
+55 41 312 1699 Fax

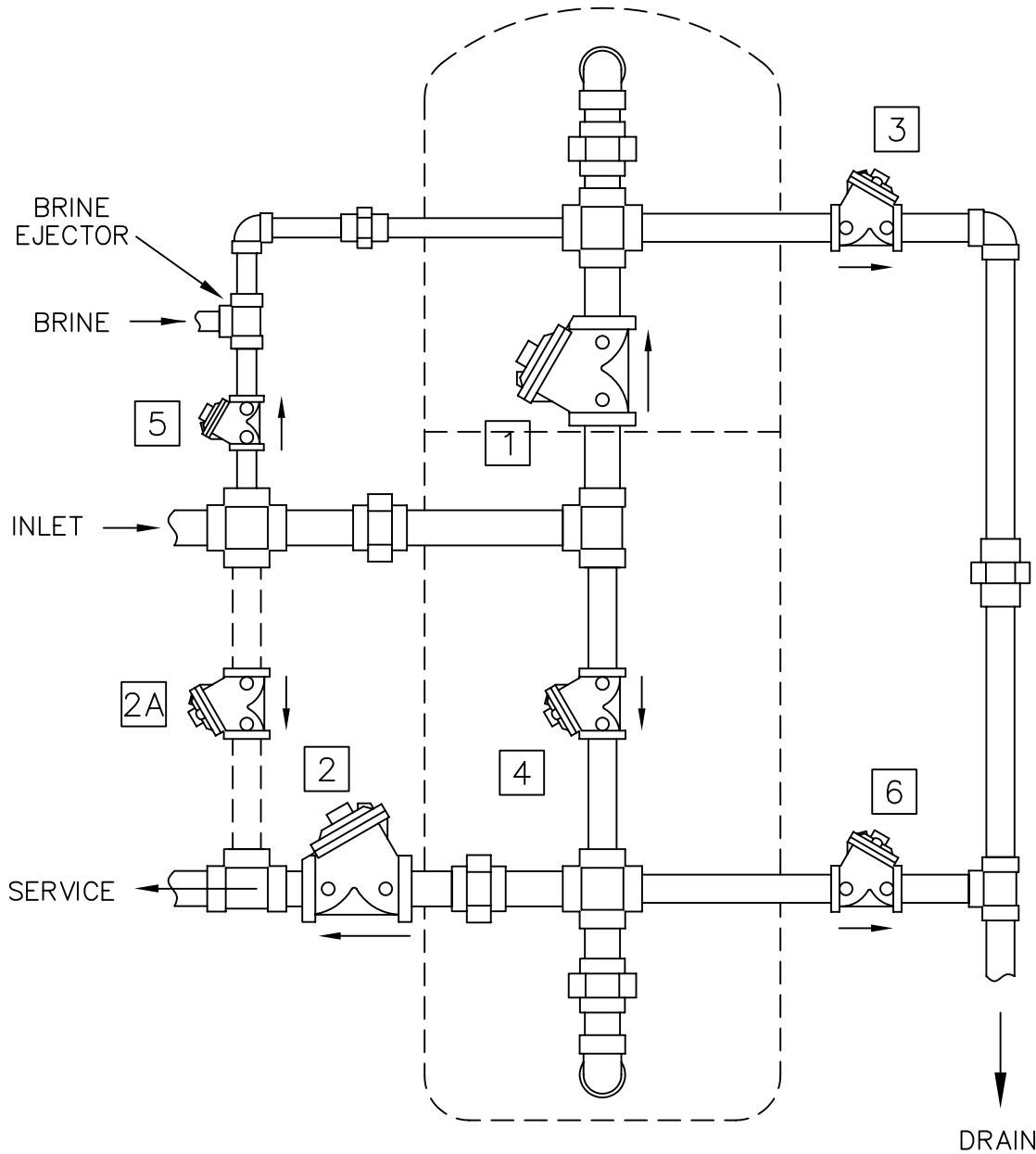
### Euro/Africa Sales

230 rue Robert Schuman  
ZA des Uselles  
77350 Le Mée sur Seine  
FRANCE  
+33 1 64 10 2000 Phone  
+33 1 64 10 3747 Fax

### Asia/Pacific Sales

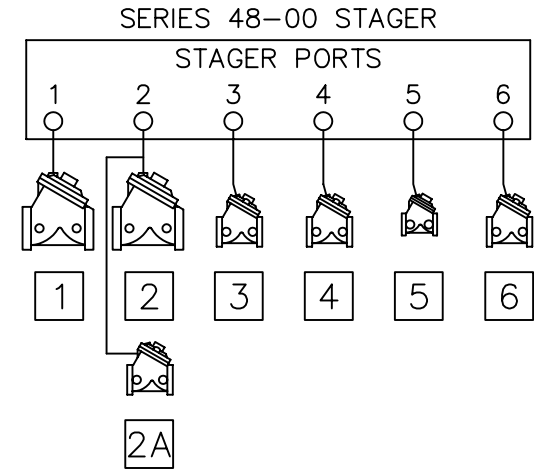
1044/8 SOI 44/2  
Sukhumvit Road Prakanong  
Bangkok 10110  
THAILAND  
+66 2 38 14213 Phone  
+66 2 39 18183 Fax

# 4 POSITION SOFTENER (48-00 STAGER)



**4 POSITION SOFTENER**

NOTCH	POS.	FUNCTION	PORTS VENTED (NOTE 1)	VALVES OPEN
A	4	SERVICE	1,2	1,2
B				
C	1	BACKWASH	3,4	3,4,2A
D				
E	2	BRINE	5,6	5,6,2A
F	3	RINSE	1,6	1,6,2A



**NOTE:**

1. ALL OTHER PORTS PRESSURIZED.
2. ALL VALVES (EXCEPT NO. 2A) NORMALLY OPEN, PRESSURE TO CLOSE. VALVE 2A NORMALLY CLOSED.
3. VALVE 2A REQUIRED FOR RAW WATER BYPASS DURING REGENERATION.
4. BRINE VALVE AND DRAIN LINE FLOW CONTROLLER NOT SHOWN.

B	CHANGED PIPING TO VALVE 2A TO BE DOTTED	NONE	MSM	15APR03	
A	INITIAL RELEASE	NONE	JWB	31JUL01	MSM
REV	DESCRIPTION	ECO	DWN	DATE	APVD



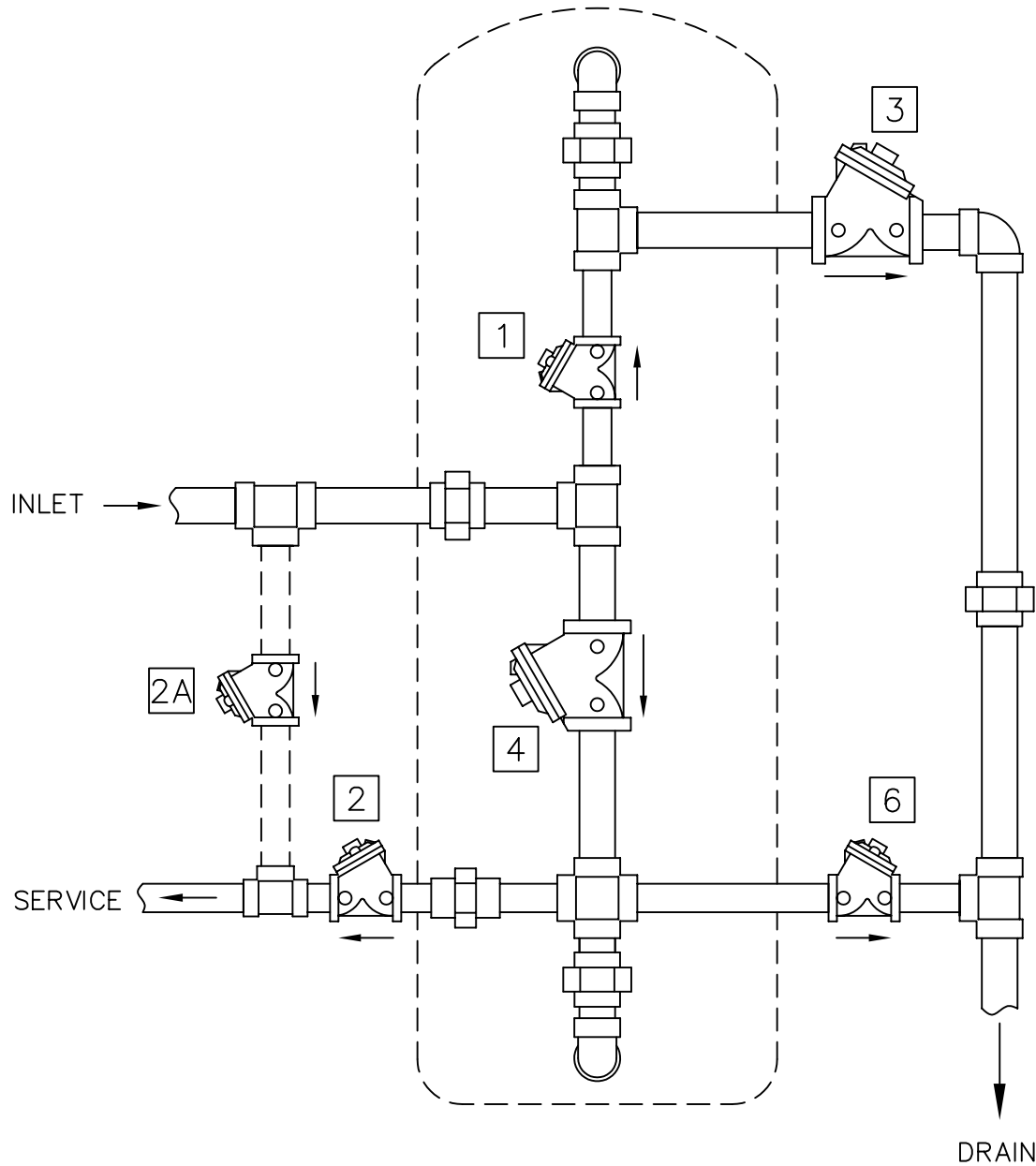
**OSMONICS**  
ROCKFORD OPERATIONS

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WWW.OSMONICS.COM

**4 POSITION SOFTENER**

SCALE N/A	DRAWN JWB	DATE 31JUL01	DWG. NO. 1078271
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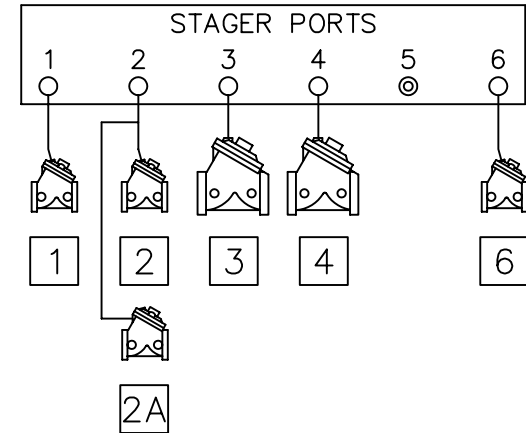
# 3 POSITION FILTER (48-01 STAGER)



**3 POSITION FILTER**

NOTCH	POS.	FUNCTION	PORTS VENTED (NOTE 1)	VALVES OPEN
A	3	SERVICE	1,2	1,2
B				
C	1	BACKWASH	3,4	3,4,2A
D				
E				
F	2	RINSE	1,6	1,6,2A

**SERIES 48-01 STAGER**



**NOTE:**

1. ALL OTHER PORTS PRESSURIZED.
2. ALL VALVES (EXCEPT NO. 2A) NORMALLY OPEN, PRESSURE TO CLOSE. VALVE 2A NORMALLY CLOSED.
3. VALVE 2A REQUIRED FOR RAW WATER BYPASS DURING REGENERATION.
4. DRAIN LINE FLOW CONTROLLER NOT SHOWN.

B	CHANGED PIPING TO VALVE 2A TO BE DOTTED	NONE	MSM	15APR03	
A	INITIAL RELEASE	NONE	JWB	31JUL01	MSM
REV	DESCRIPTION	ECO	DWN	DATE	APVD



**OSMONICS**

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WWW.OSMONICS.COM

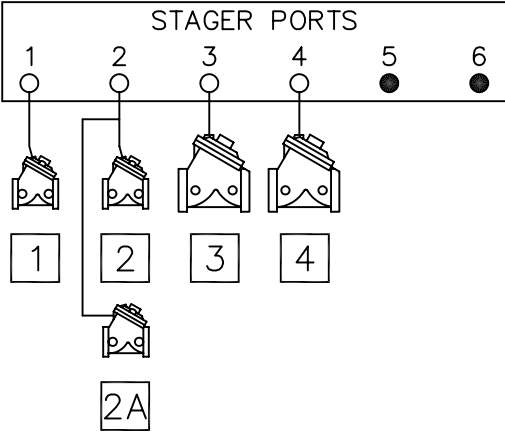
**3 POSITION FILTER**

SCALE N/A	DRAWN JWB	DATE 31JUL01	DWG. NO. 1078272
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2 POSITION FILTER (48-04 STAGER)

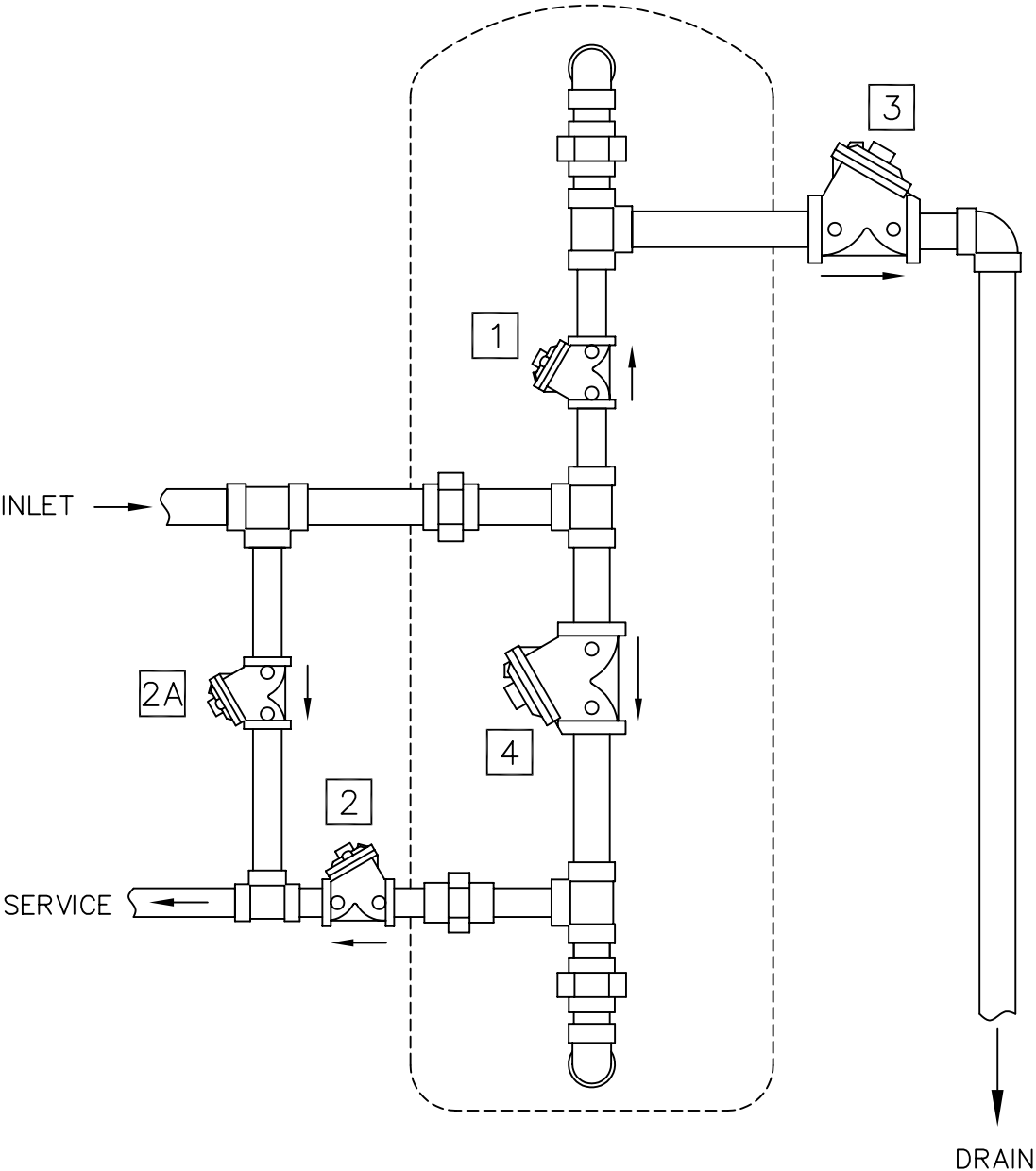
NOTCH	POS.	FUNCTION	PORTS VENTED (NOTE 1)	VALVES OPEN
A	2	SERVICE	1,2	1,2
B				
C	1	BACKWASH	3,4	3,4,2A
D				
E				
F				

SERIES 48-04 STAGER



- NOTE:
- 1. ALL OTHER PORTS PRESSURIZED.
  - 2. ALL VALVES (EXCEPT NO. 2A) NORMALLY OPEN, PRESSURE TO CLOSE. VALVE 2A NORMALLY CLOSED.
  - 3. VALVE 2A REQUIRED FOR RAW WATER BYPASS DURING REGENERATION.
  - 4. DRAIN LINE FLOW CONTROLLER NOT SHOWN.

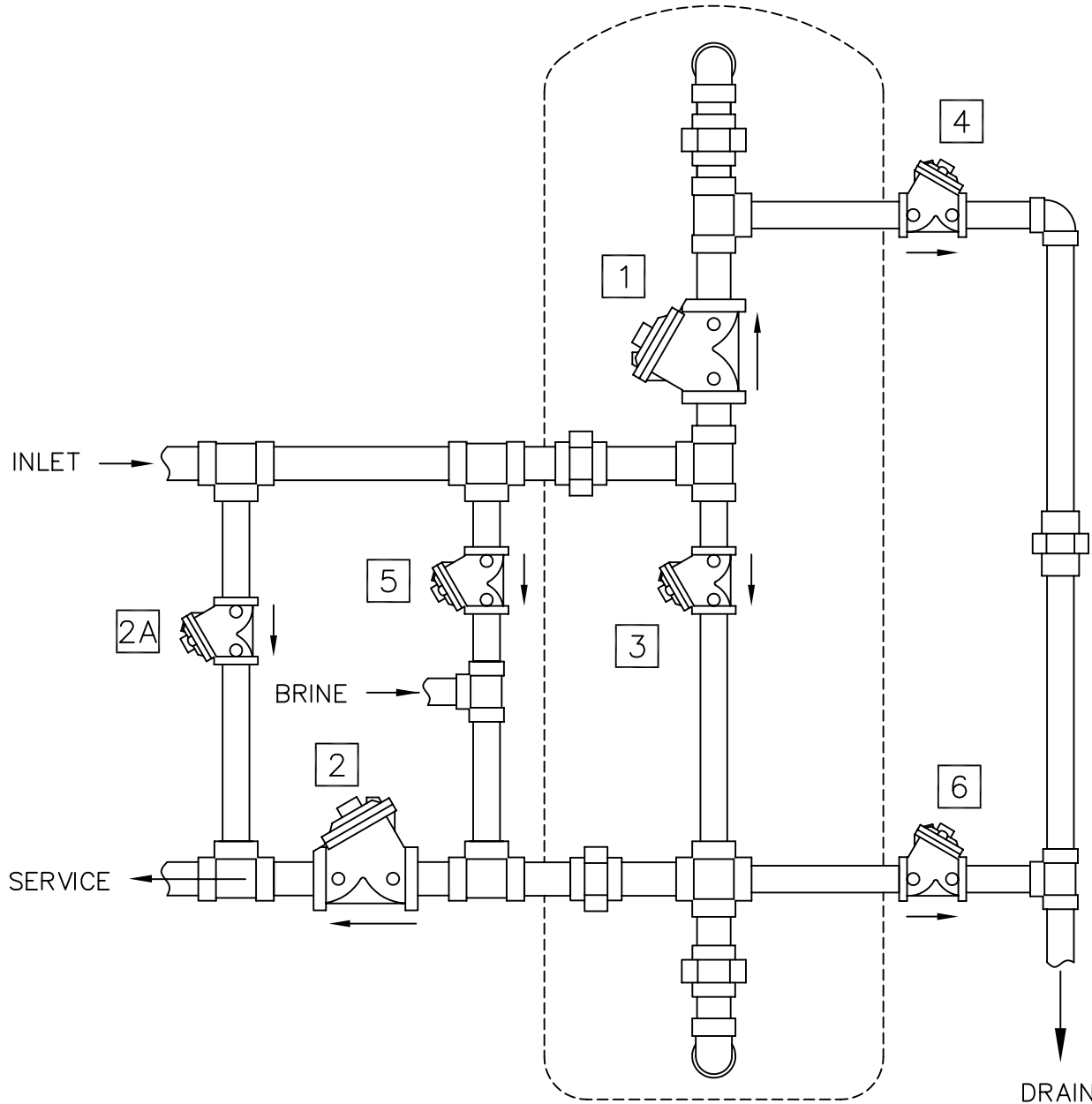
A	INITIAL RELEASE	NONE	JWB	31JUL01	
REV	DESCRIPTION	ECO	DWN	DATE	APVD
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM					
<b>2 POSITION FILTER</b>					
SCALE N/A	DRAWN JWB	DATE 31JUL01	DWG. NO. 1078273		



**2 POSITION FILTER**

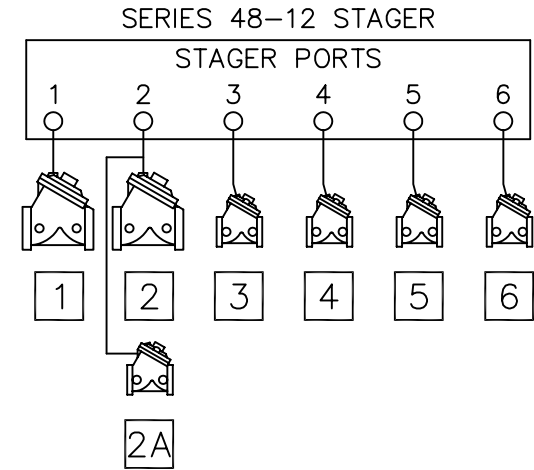


# 4 POS. SOFTENER COUNTER CURRENT REGEN. (48-12 STAGER)




**4 POSITION SOFTENER COUNTER CURRENT REGENERATION**

NOTCH	POS.	FUNCTION	PORTS VENTED (NOTE 1)	VALVES OPEN
A	4	SERVICE	1,2	1,2
B				
C	1	BACKWASH	3,4	3,4,2A
D	2	BRINE	4,5	4,5,2A
E				
F	3	RINSE	1,6	1,6,2A

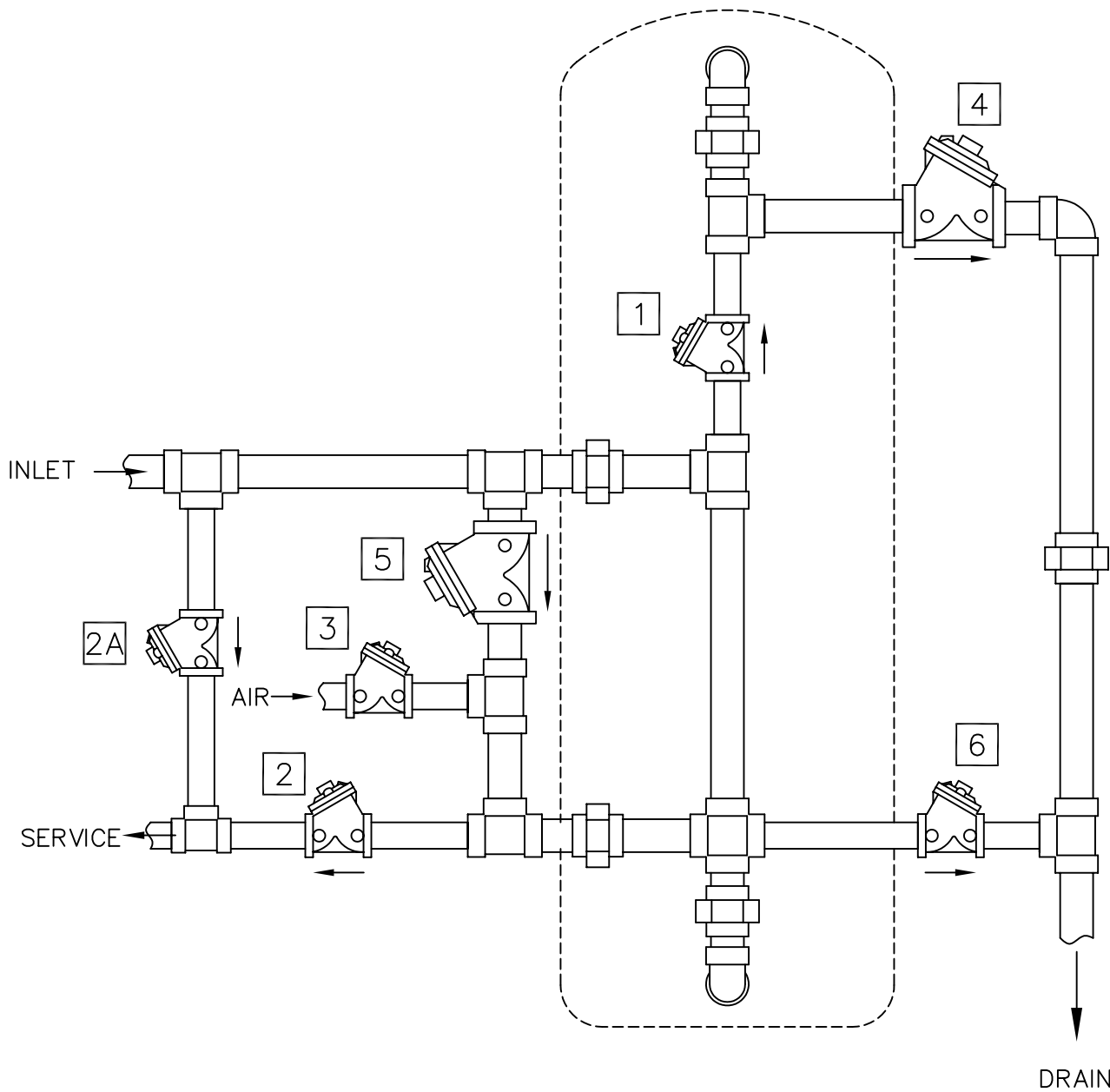


NOTE:

1. ALL OTHER PORTS PRESSURIZED.
2. ALL VALVES (EXCEPT NO. 2A) NORMALLY OPEN, PRESSURE TO CLOSE. VALVE 2A NORMALLY CLOSED.
3. VALVE 2A REQUIRED FOR RAW WATER BYPASS DURING REGENERATION.
4. BRINE VALVE AND DRAIN LINE FLOW CONTROLLER NOT SHOWN.

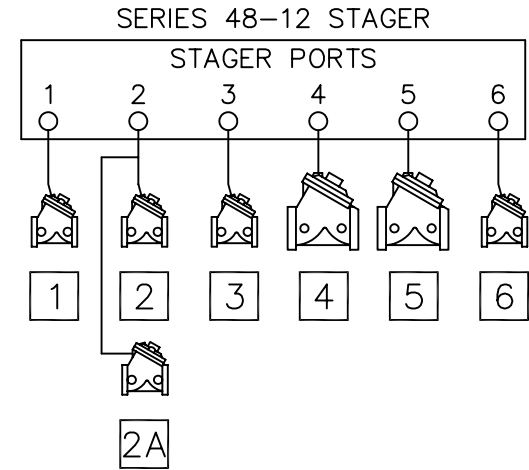
A	INITIAL RELEASE	NONE	JWB	31JUL01
REV	DESCRIPTION	ECO	DWN	DATE APVD
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM				
<b>4 POSITION SOFTENER COUNTER CURRENT REGENERATION</b>				
SCALE N/A	DRAWN JWB	DATE 31JUL01	DWG. NO. 1078274	

# 4 POSITION FILTER W/ AIR SCOUR (48-12 STAGER)




**4 POSITION FILTER W/ AIR SCOUR**

NOTCH	POS.	FUNCTION	PORTS VENTED (NOTE 1)	VALVES OPEN
A	4	SERVICE	1,2	1,2
B				
C	1	AIR SCOUR	3,4	3,4,2A
D	2	BACKWASH	4,5	4,5,2A
E				
F	3	RINSE	1,6	1,6,2A



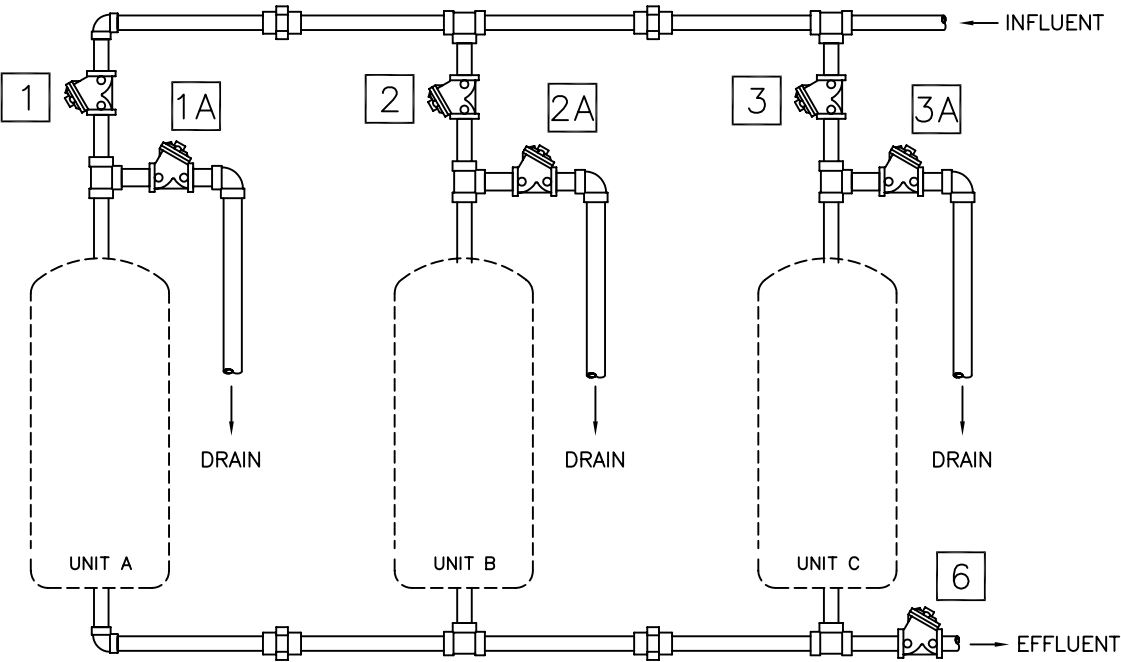
**NOTE:**

1. ALL OTHER PORTS PRESSURIZED.
2. ALL VALVES (EXCEPT NO. 2A) NORMALLY OPEN, PRESSURE TO CLOSE. VALVE 2A NORMALLY CLOSED.
3. VALVE 2A REQUIRED FOR RAW WATER BYPASS DURING REGENERATION.
4. DRAIN LINE FLOW CONTROLLER NOT SHOWN.

A	INITIAL RELEASE	NONE	JWB	31JUL01
REV	DESCRIPTION	ECO	DWN	DATE APVD
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM				
<b>4 POSITION FILTER W/ AIR SCOUR</b>				
SCALE N/A	DRAWN JWB	DATE 31JUL01	DWG. NO. 1078275	

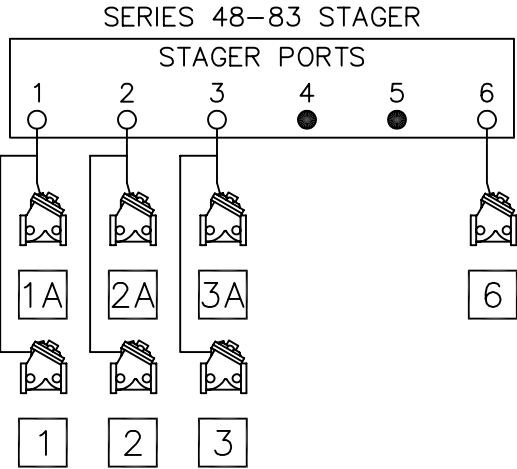
3 TANK SEQUENTIAL FILTER (48-83 STAGER)

3 TANK SEQUENTIAL FILTER BACKWASH ONLY



- NOTE:
- 1. ALL OTHER PORTS PRESSURIZED.
  - 2. VALVES 1A,2A,3A,6 ARE NORMALLY OPEN PRESSURE TO CLOSE.
  - 3. VALVES 1,2,3 ARE NORMALLY CLOSED, PRESSURE TO OPEN.

NOTCH	POS.	FUNCTION	PORTS VENTED (NOTE 1)	VALVES OPEN
A	2	BACKWASH UNIT B	2	1,2A,3
B	3	BACKWASH UNIT C	3	1,2,3A
C				
D				
E	4	SERVICE	6	1,2,3,6
F	1	BACKWASH UNIT A	1	1A,2,3

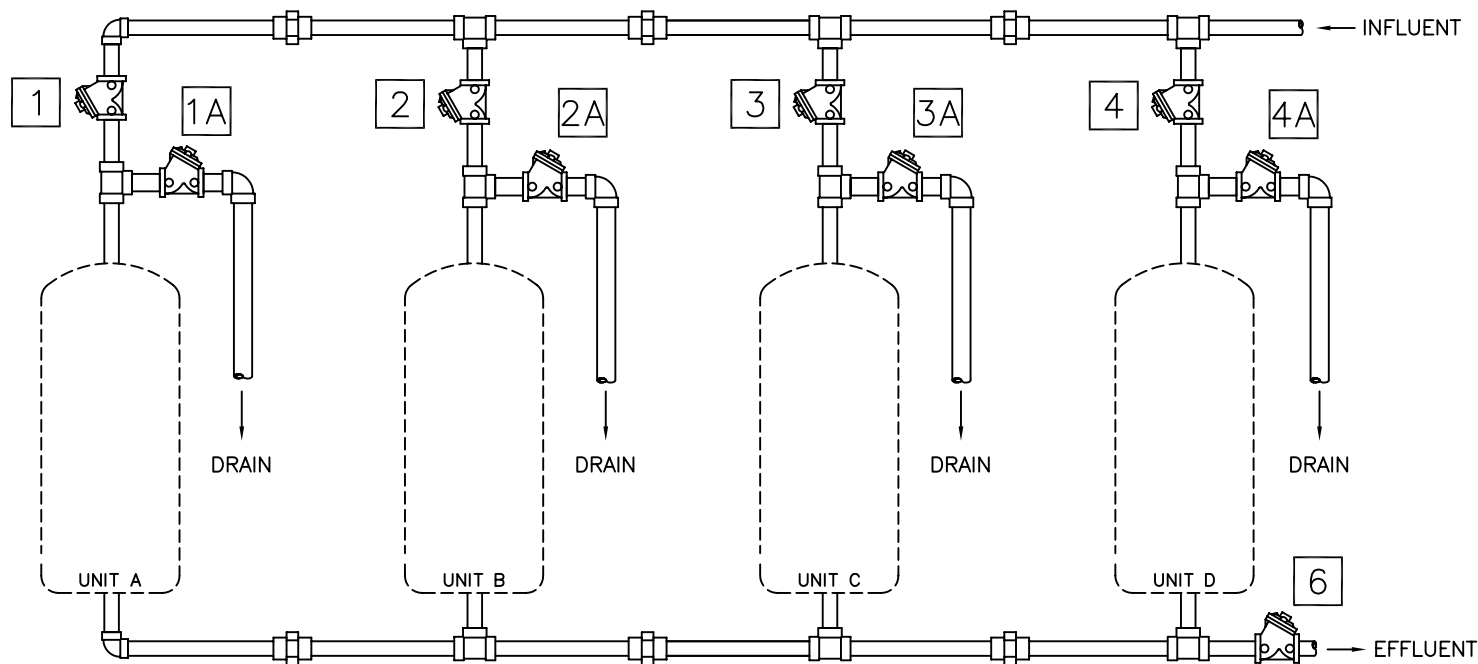


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A	INITIAL RELEASE	NONE	MSM	31JUL01	
REV	DESCRIPTION	ECO	DWN	DATE	APVD
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM					
<b>3 TANK SEQUENTIAL FILTER BACKWASH ONLY</b>					
SCALE N/A	DRAWN JWB	DATE 31JUL01	DWG. NO. 1078276		

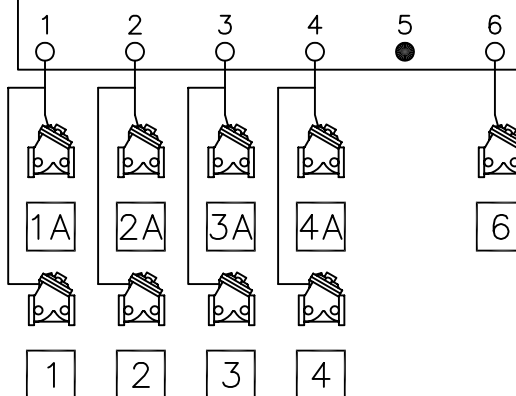
# 4 TANK SEQUENTIAL FILTER (48-84 STAGER)

## 4 TANK SEQUENTIAL FILTER BACKWASH ONLY



### SERIES 48-84 STAGER

#### STAGER PORTS



#### NOTE:

1. ALL OTHER PORTS PRESSURIZED.
2. VALVES 1A,2A,3A,4A,6 ARE NORMALLY OPEN PRESSURE TO CLOSE.
3. VALVES 1,2,3,4 ARE NORMALLY CLOSED, PRESSURE TO OPEN.

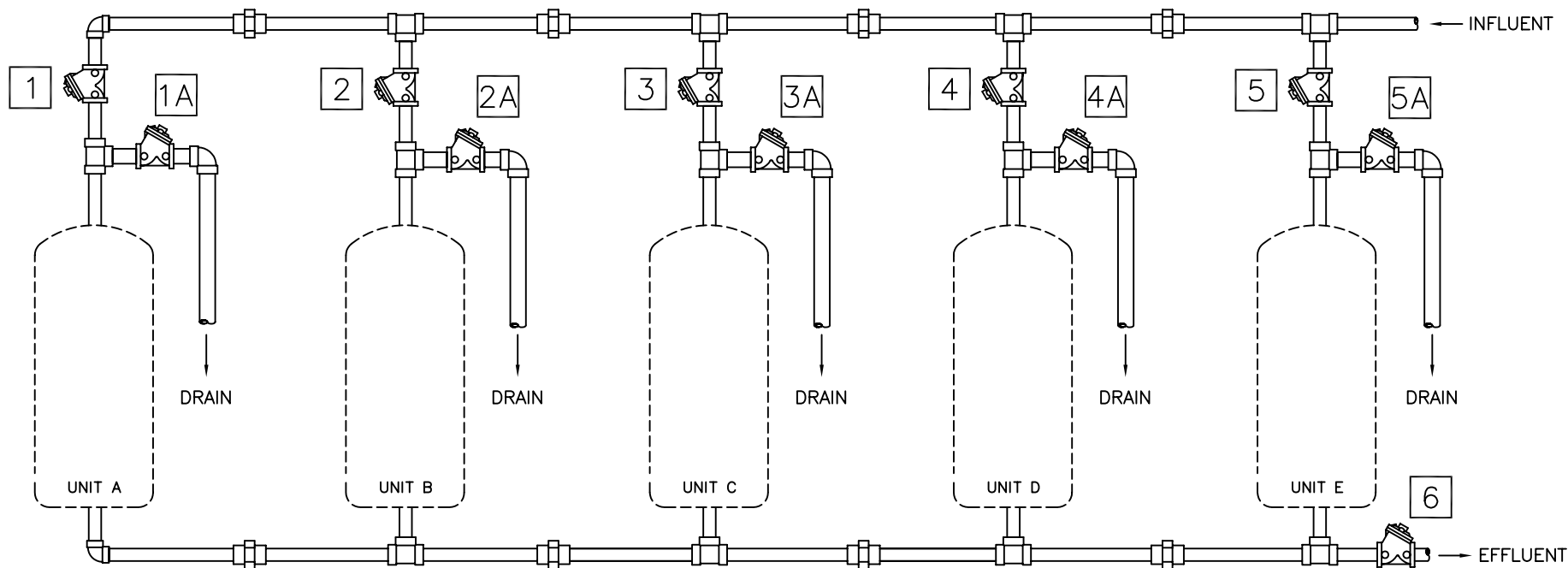
NOTCH	POS.	FUNCTION	PORTS VENTED (NOTE 1)	VALVES OPEN
A	2	BACKWASH UNIT B	2	1,2A,3,4
B	3	BACKWASH UNIT C	3	1,2,3A,4
C	4	BACKWASH UNIT D	4	1,2,3,4A
D				
E	5	SERVICE	6	1,2,3,4,6
F	1	BACKWASH UNIT A	1	1A,2,3,4

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A	INITIAL RELEASE	NONE	MSM	31JUL01
REV	DESCRIPTION	ECO	DWN	DATE APVD
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM				
<b>4 TANK SEQUENTIAL FILTER BACKWASH ONLY</b>				
SCALE N/A	DRAWN JWB	DATE 31JUL01	DWG. NO. 1078277	

# 5 TANK SEQUENTIAL FILTER (48-85 STAGER)

## 5 TANK SEQUENTIAL FILTER BACKWASH ONLY

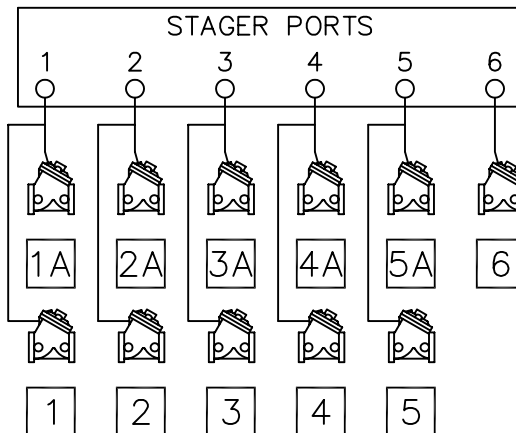


### NOTE:


1. ALL OTHER PORTS PRESSURIZED.
2. VALVES 1A,2A,3A,4A,5A,6 ARE NORMALLY OPEN  
PRESSURE TO CLOSE.
3. VALVES 1,2,3,4,5 ARE NORMALLY CLOSED, PRESSURE  
TO OPEN.

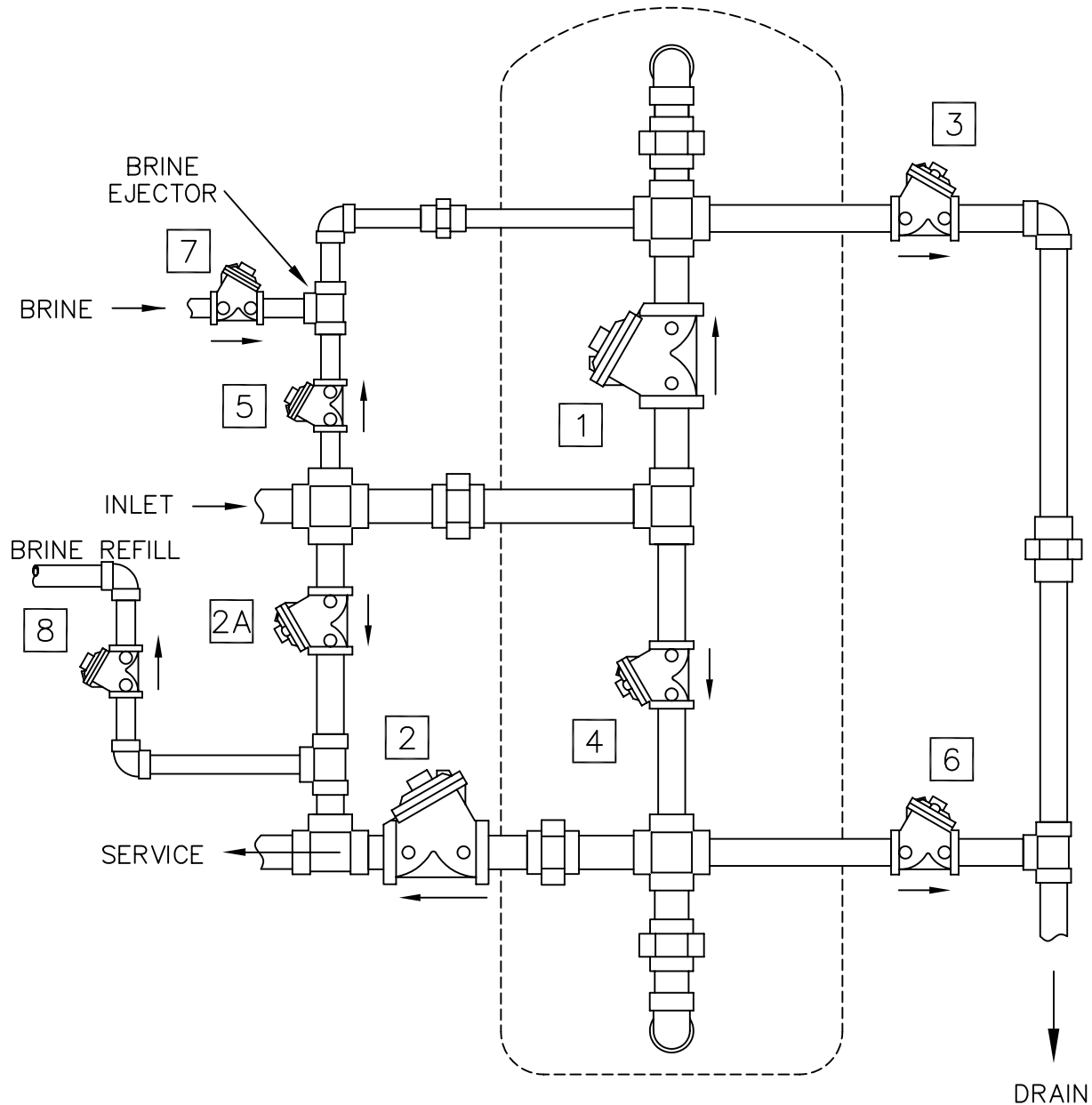
NOTCH	POS.	FUNCTION	PORTS VENTED (NOTE 1)	VALVES OPEN
A	2	BACKWASH UNIT B	2	1,2A,3,4,5
B	3	BACKWASH UNIT C	3	1,2,3A,4,5
C	4	BACKWASH UNIT D	4	1,2,3,4A,5
D	5	BACKWASH UNIT E	5	1,2,3,4,5A
E	6	SERVICE	6	1,2,3,4,5,6
F	1	BACKWASH UNIT A	1	1A,2,3,4,5

### SERIES 48-85 STAGER



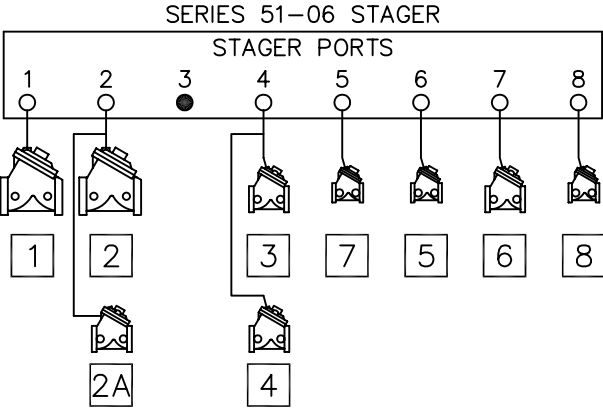
PRINTED IN U.S.A.

A	INITIAL RELEASE	NONE	JWB	31JUL01
REV	DESCRIPTION	ECO	DWN	DATE APVD
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM				
<b>5 TANK SEQUENTIAL FILTER BACKWASH ONLY</b>				
SCALE N/A	DRAWN JWB	DATE 31JUL01	DWG. NO. 1078278	




6 POSITION SOFTENER W/ TIMED BRINE & REFILL

NOTCH	POS.	FUNCTION	PORTS VENTED (NOTE 1)	VALVES OPEN
A	0	SERVICE	1,2	1,2
B				
C	1	BACKWASH	4	3,4,2A
D				
E	2	BRINE	5,6,7	5,6,7,2A
F	3	SLOW RINSE	6,7	5,6,2A
G	4	FAST RINSE	1,7	1,6,2A
H	5	BRINE REFILL	1,2,8	1,2,8




- NOTE:
1. ALL OTHER PORTS PRESSURIZED.
  2. ALL VALVES (EXCEPT NO. 2A) NORMALLY OPEN, PRESSURE TO CLOSE. VALVE 2A NORMALLY CLOSED.
  3. VALVE 2A REQUIRED FOR RAW WATER BYPASS DURING REGENERATION.
  4. DRAIN LINE FLOW CONTROLLER NOT SHOWN.

A	INITIAL RELEASE	NONE	JWB	31JUL01
REV	DESCRIPTION	ECO	DWN	DATE APVD
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM				
<b>6 POSITION SOFTENER W/ TIMED BRINE &amp; REFILL</b>				
SCALE N/A	DRAWN JWB	DATE 31JUL01	DWG. NO. 1078279	

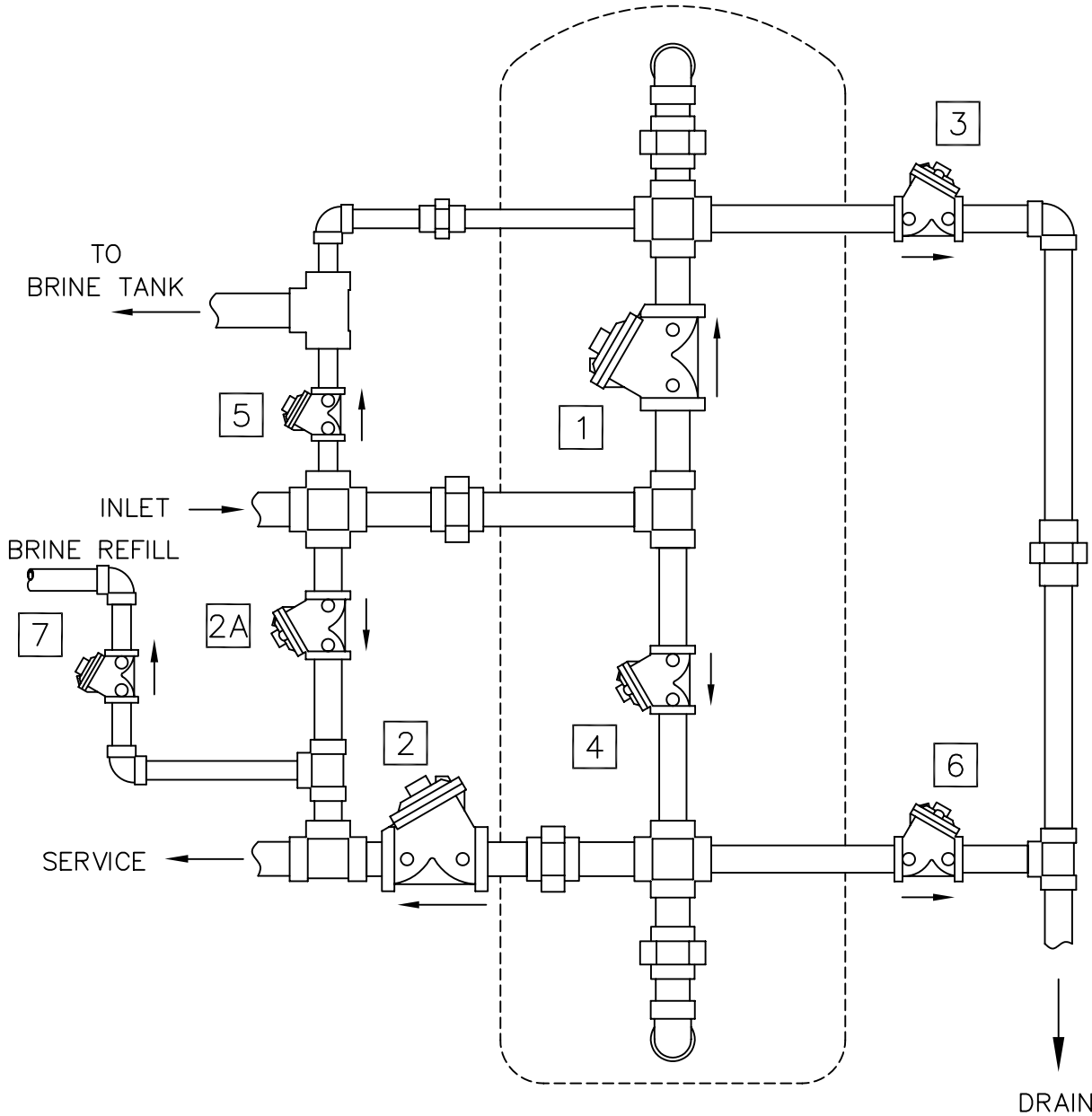
## 5 POSITION SOFTENER W/ TIMED BRINE DRAW



4. DRAIN LINE FLOW CONTROLLER NOT SHOWN.

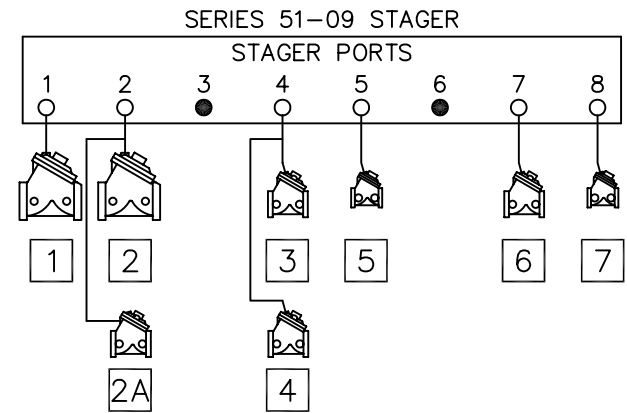
A	INITIAL RELEASE	NONE	MSM	31JUL01
REV	DESCRIPTION	ECO	DWN	DATE
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 <a href="http://WWW.OSMONICS.COM">WWW.OSMONICS.COM</a>				
<b>5 POSITION SOFTENER</b> <b>W/ TIMED BRINE DRAW</b>				
SCALE N/A	DRAWN JWB	DATE 31JUL01	DWG. NO.	1078280

# 5 POS. SOFTENER W/ TIMED BRINE REFILL (51-09 STAGER)




**5 POSITION SOFTENER W/ TIMED BRINE REFILL**

NOTCH	POS.	FUNCTION	PORTS VENTED (NOTE 1)	VALVES OPEN
A	0	SERVICE	1,2	1,2
B				
C				
D	1	BACKWASH	4	3,4,2A
E	2	BRINE/SLOW RINSE	5,7	5,6,2A
F				
G	3	FAST RINSE	1,7	1,6,2A
H	4	BRINE REFILL	1,2,8	1,2,7



**NOTE:**

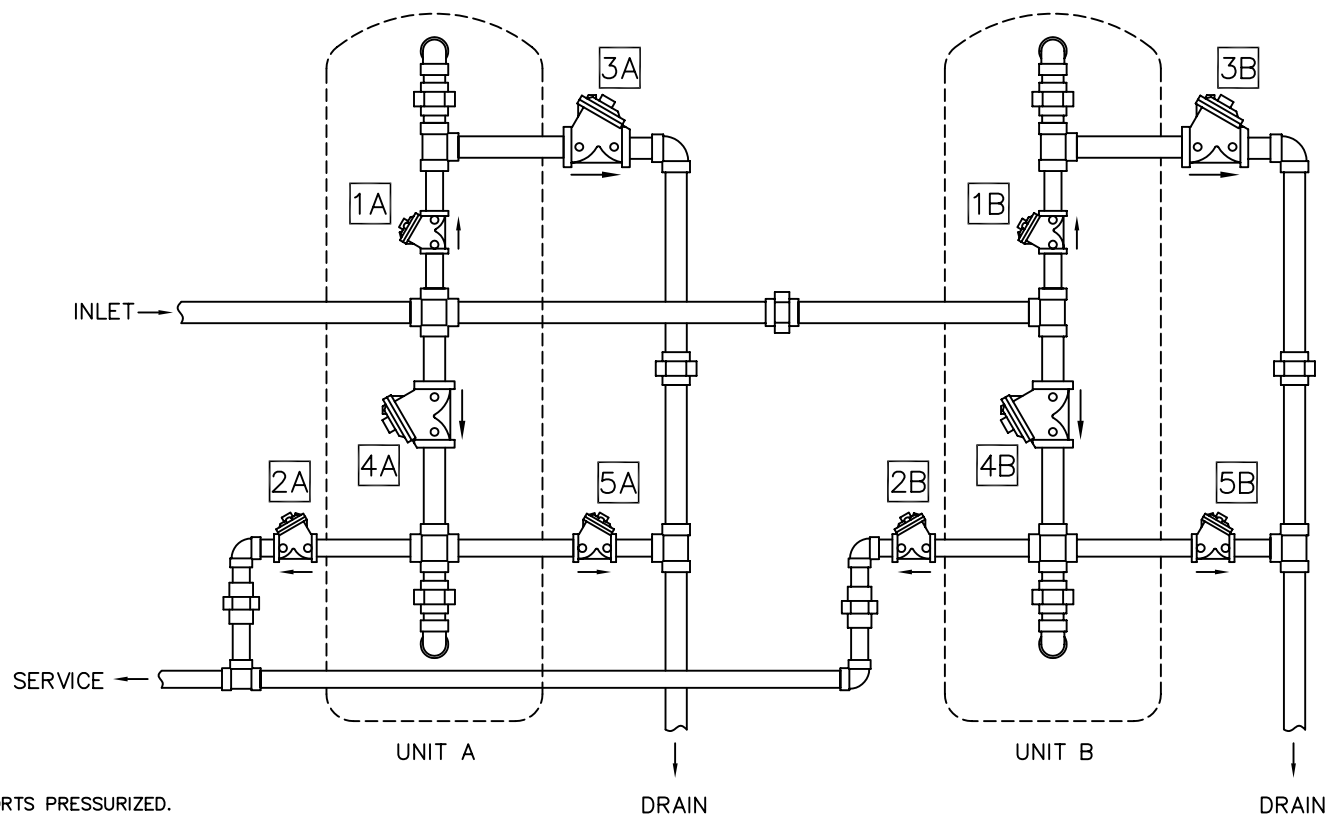
1. ALL OTHER PORTS PRESSURIZED.
2. ALL VALVES (EXCEPT NO. 2A) NORMALLY OPEN, PRESSURE TO CLOSE. VALVE 2A NORMALLY CLOSED.
3. VALVE 2A REQUIRED FOR RAW WATER BYPASS DURING REGENERATION.
4. BRINE VALVE AND DRAIN LINE FLOW CONTROLLER NOT SHOWN.

B	CORRECTED STAGER	NONE	MSM	17JAN03	
REV	DESCRIPTION	ECO	DWN	DATE	APVD
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM					
<b>5 POSITION SOFTENER W/ TIMED BRINE REFILL</b>					
SCALE N/A	DRAWN JWB	DATE 06JAN03	DWG. NO. 1078281		



# 2 TANK SEQUENTIAL FILTER (51-10 STAGER)

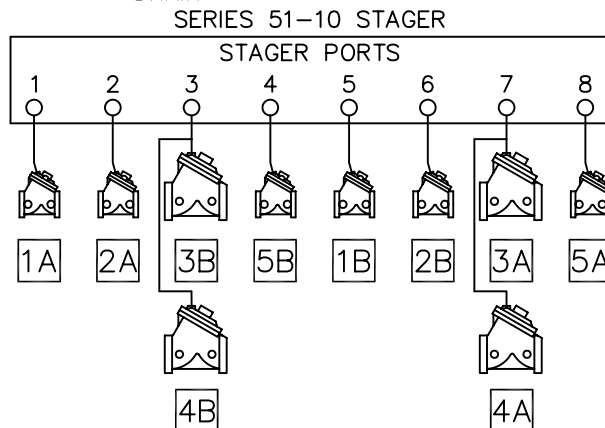
## 2 TANK SEQUENTIAL FILTER




### NOTE:

1. ALL OTHER PORTS PRESSURIZED.
2. ALL VALVES NORMALLY OPEN, PRESSURE TO CLOSE.
3. DRAIN LINE FLOW CONTROLLER NOT SHOWN.

NOTCH	POS.	FUNCTION	PORTS VENTED (NOTE 1)	VALVES OPEN
A	0	SERVICE	1,2,5,6	1A,2A,1B,2B
B				
C	1	BACKWASH UNIT A	5,6,7	1B,2B,3A,4A
D	2	RINSE UNIT A	1,5,6,8	1A,1B,2B,5A
E				
F				
G	3	BACKWASH UNIT B	1,2,3	1A,2A,3B,4B
H	4	RINSE UNIT B	1,2,4,5	1A,2A,5B,1B

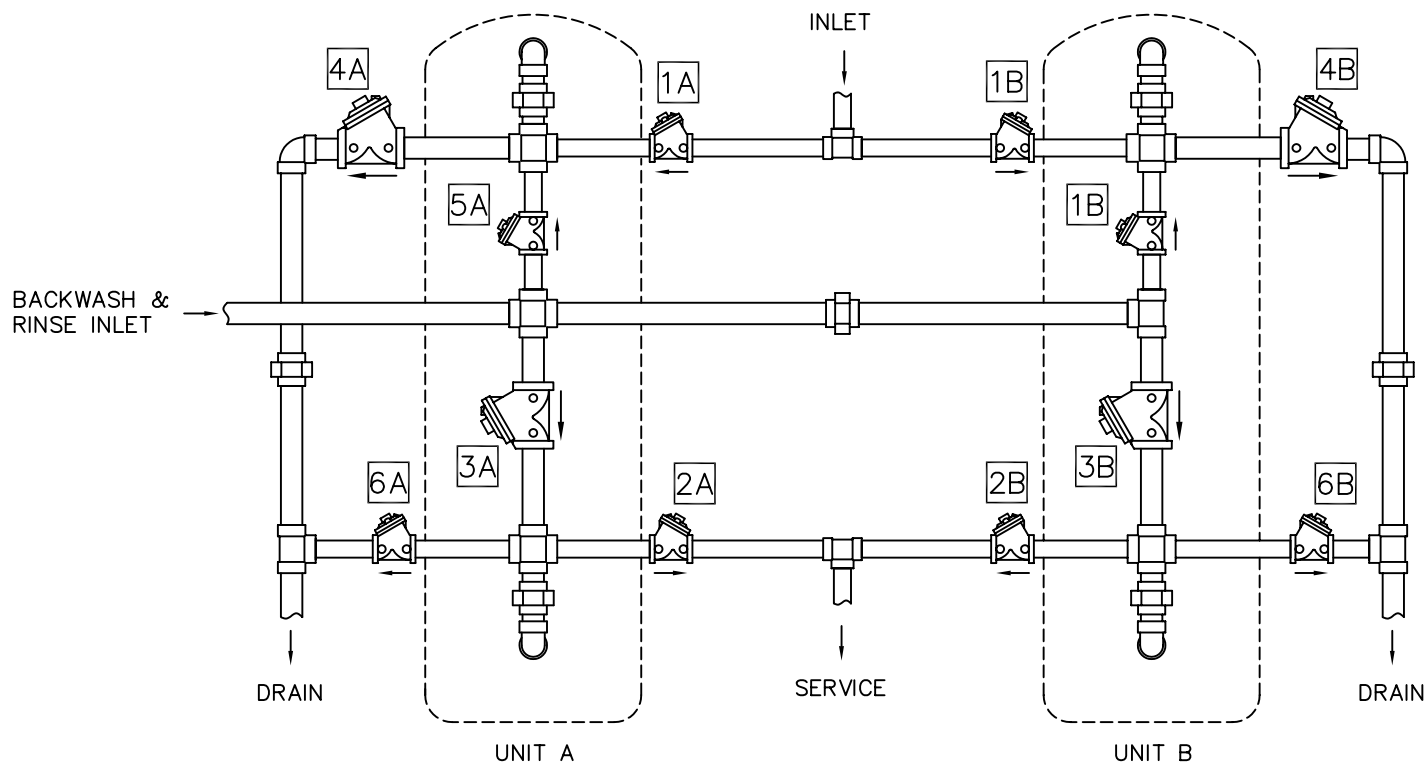


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A	INITIAL RELEASE	NONE	JWB	31JUL01
REV	DESCRIPTION	ECO	DWN	DATE APVD
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM				
<b>2 TANK SEQUENTIAL FILTER</b>				
SCALE N/A	DRAWN JWB	DATE 31JUL01	DWG. NO. 1078282	

# 2 TANK SEQUENTIAL FILTER W/ SEPARATE SOURCE FOR BACKWASH & RINSE (51-10 STAGER)

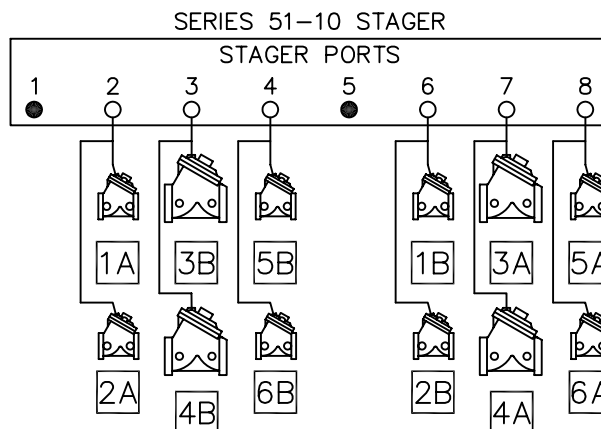
## 2 TANK SEQUENTIAL FILTER SEPARATE SOURCE FOR BACKWASH & RINSE SUPPLY




### NOTE:

1. ALL OTHER PORTS PRESSURIZED.
2. ALL VALVES NORMALLY OPEN, PRESSURE TO CLOSE.
3. DRAIN LINE FLOW CONTROLLER NOT SHOWN.

NOTCH	POS.	FUNCTION	PORTS VENTED (NOTE 1)	VALVES OPEN
A	0	SERVICE	2,6	1A,2A,1B,2B
B				
C	1	BACKWASH UNIT A	6,7	1B,2B,3A,4A
D	2	RINSE UNIT A	6,8	1B,2B,5A,6A
E				
F				
G	3	BACKWASH UNIT B	2,3	1A,2A,3B,4B
H	4	RINSE UNIT B	2,4	1A,2A,5B,6B



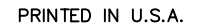
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A	INITIAL RELEASE	NONE	JWB	31JUL01	
REV	DESCRIPTION	ECO	DWN	DATE	APVD
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM					
<b>2 TANK SEQUENTIAL FILTER WITH SEPARATE SOURCE FOR BACKWASH &amp; RINSE</b>					
SCALE N/A	DRAWN JWB	DATE 31JUL01	DWG. NO. 1078283		

2 TANK SEQ. FILTER W/SEP. BACKWASH SOURCE (51-10 STAGER)

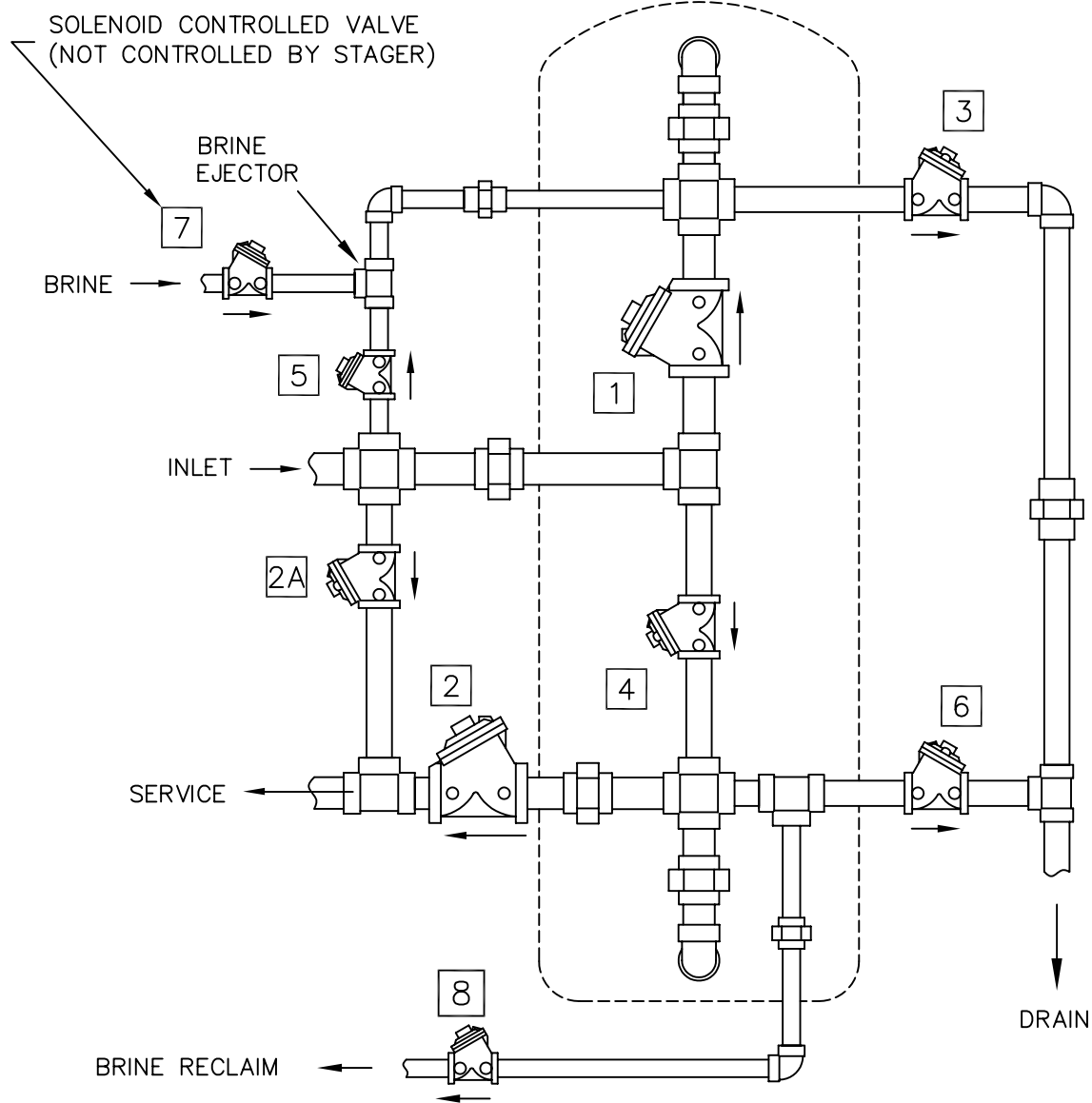


- | NOTCH | POS. | FUNCTION        | PORTS<br>VENTED<br>(NOTE 1) | VALVES<br>OPEN |
|-------|------|-----------------|-----------------------------|----------------|
| A     | 0    | SERVICE         | 1,2,5,6                     | 1A,2A,1B,2B    |
| B     |      |                 |                             |                |
| C     | 1    | BACKWASH UNIT A | 5,6,7                       | 1B,2B,3A,4A    |
| D     | 2    | RINSE UNIT A    | 1,5,6,8                     | 1A,1B,2B,5A    |
| E     |      |                 |                             |                |
| F     |      |                 |                             |                |
| G     | 3    | BACKWASH UNIT B | 1,2,3                       | 1A,2A,3B,4B    |
| H     | 4    | RINSE UNIT B    | 1,2,4,5                     | 1A,2A,5B,1B    |



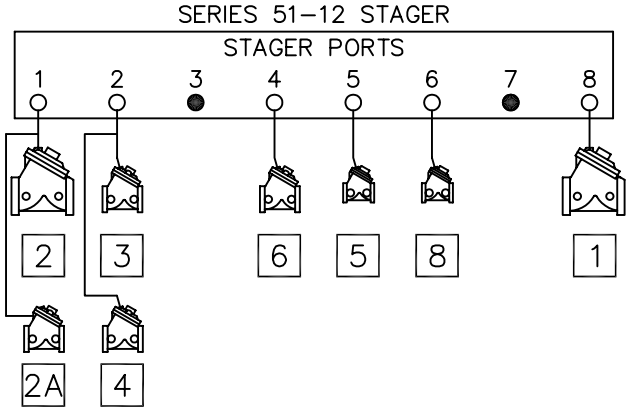
A	INITIAL RELEASE	NONE	JWB	31JUL01	
REV	DESCRIPTION	ECO	DWN	DATE	APVD
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 <a href="http://WWW.OSMONICS.COM">WWW.OSMONICS.COM</a>					
<b>2 TANK SEQUENTIAL FILTER W/ SEPARATE BACKWASH SOURCE</b>					
SCALE N/A	DRAWN JWB	DATE 31JUL01	DWG. NO. 1078284		

SOFTENER W/ BRINE RECLAIM (51-12 STAGER)




SOFTENER W/ BRINE RECLAIM

NOTCH	POS.	FUNCTION	PORTS VENTED (NOTE 1)	VALVES OPEN
A	0	SERVICE	1,8	1,2
B	1	BACKWASH	2	3,4,2A
C				
D	2	BRINE	4,5	5,6,2A,(7)
E	3	DISPLACE	4,5	5,6,2A
F	4	RECLAIM BRINE	5,6	5,8,2A
G	5	FAST RINSE	4,8	1,6,2A
H				

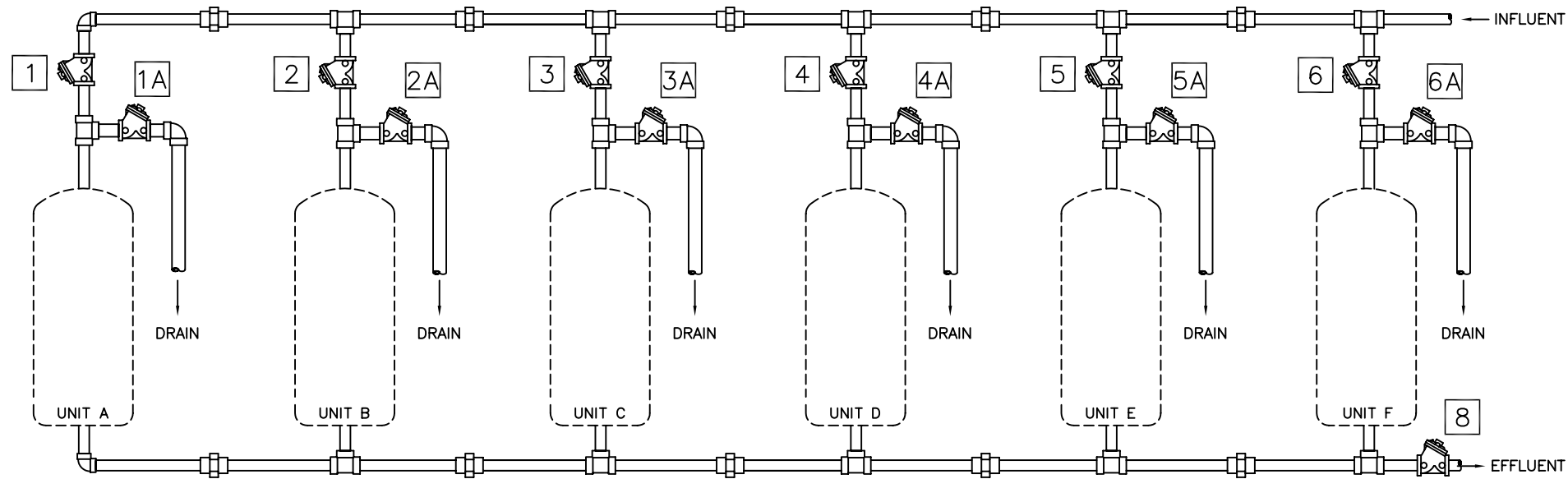


- NOTE:
- 1. ALL OTHER PORTS PRESSURIZED.
  - 2. ALL VALVES (EXCEPT NO. 2A) NORMALLY OPEN, PRESSURE TO CLOSE. VALVE 2A NORMALLY CLOSED.
  - 3. VALVE 2A REQUIRED FOR RAW WATER BYPASS DURING REGENERATION.
  - 4. DRAIN LINE FLOW CONTROLLER NOT SHOWN.
  - 5. VALVE NO. 7 SOLENOID CONTROLLED (NOT CONTROLLED BY STAGER).

A	INITIAL RELEASE	NONE	JWB	31JUL01	
REV	DESCRIPTION	ECO	DWN	DATE	APVD
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM					
<b>SOFTENER W/ BRINE RECLAIM</b>					
SCALE N/A	DRAWN JWB	DATE 31JUL01	DWG. NO. 1078285		

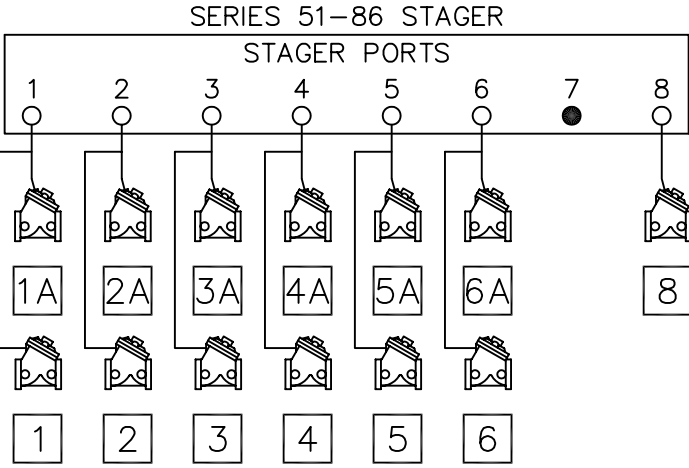
6 TANK SEQUENTIAL FILTER (51-86 STAGER)

6 TANK SEQUENTIAL FILTER BACKWASH ONLY



- NOTE:
- 1. ALL OTHER PORTS PRESSURIZED.
  - 2. VALVES 1A,2A,3A,4A,5A,6A,8 ARE NORMALLY OPEN PRESSURE TO CLOSE.
  - 3. VALVES 1,2,3,4,5,6 ARE NORMALLY CLOSED, PRESSURE TO OPEN.

NOTCH	POS.	FUNCTION	PORTS VENTED (NOTE 1)	VALVES OPEN
A	8	SERVICE	8	1,2,3,4,5,6,8
B	1	BACKWASH UNIT A	1	1A,2,3,4,5,6
C	2	BACKWASH UNIT B	2	1,2A,3,4,5,6
D	3	BACKWASH UNIT C	3	1,2,3A,4,5,6
E	4	BACKWASH UNIT D	4	1,2,3,4A,5,6
F	5	BACKWASH UNIT E	5	1,2,3,4,5A,6
G	6	BACKWASH UNIT F	6	1,2,3,4,5,6A
H				

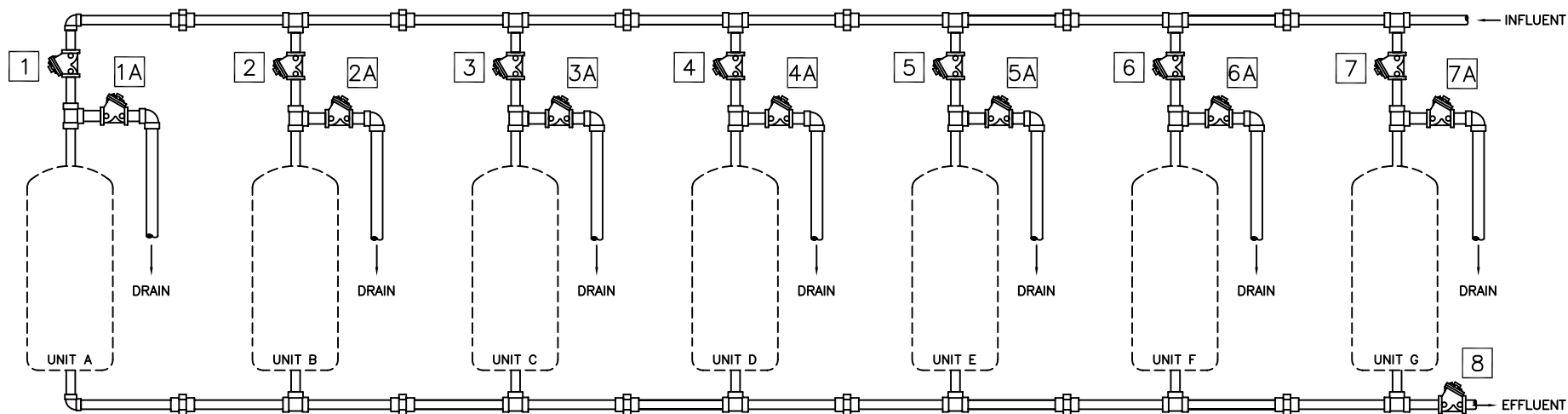


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A	INITIAL RELEASE	NONE	JWB	31JUL01
REV	DESCRIPTION	ECO	DWN	DATE APVD
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM				
<b>6 TANK SEQUENTIAL FILTER BACKWASH ONLY</b>				
SCALE N/A	DRAWN JWB	DATE 31JUL01	DWG. NO. 1078286	

# 7 TANK SEQUENTIAL FILTER (51-87 STAGER)

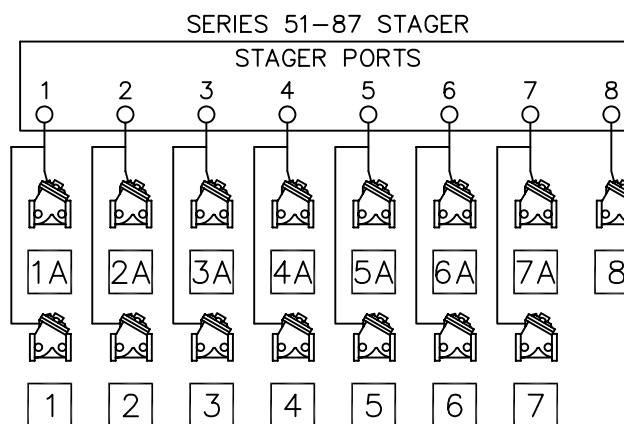
## 7 TANK SEQUENTIAL FILTER BACKWASH ONLY



### NOTE:

1. ALL OTHER PORTS PRESSURIZED.
2. VALVES 1A,2A,3A,4A,5A,6A,7A,8 ARE NORMALLY OPEN PRESSURE TO CLOSE.
3. VALVES 1,2,3,4,5,6,7 ARE NORMALLY CLOSED, PRESSURE TO OPEN.

NOTCH	POS.	FUNCTION	PORTS VENTED (NOTE 1)	VALVES OPEN
A	1	BACKWASH UNIT A	1	1A,2,3,4,5,6,7
B	2	BACKWASH UNIT B	2	1,2A,3,4,5,6,7
C	3	BACKWASH UNIT C	3	1,2,3A,4,5,6,7
D	4	BACKWASH UNIT D	4	1,2,3,4A,5,6,7
E	5	BACKWASH UNIT E	5	1,2,3,4,5A,6,7
F	6	BACKWASH UNIT F	6	1,2,3,4,5,6A,7
G	7	BACKWASH UNIT G	7	1,2,3,4,5,6,7A
H	8	SERVICE	8	1,2,3,4,5,6,7,8

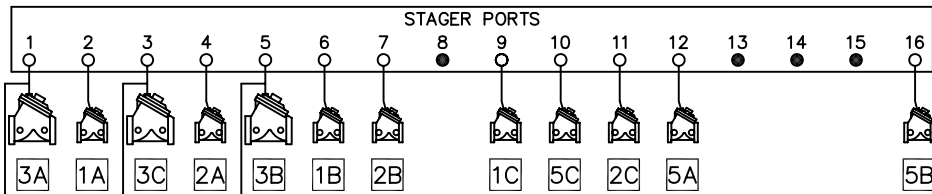


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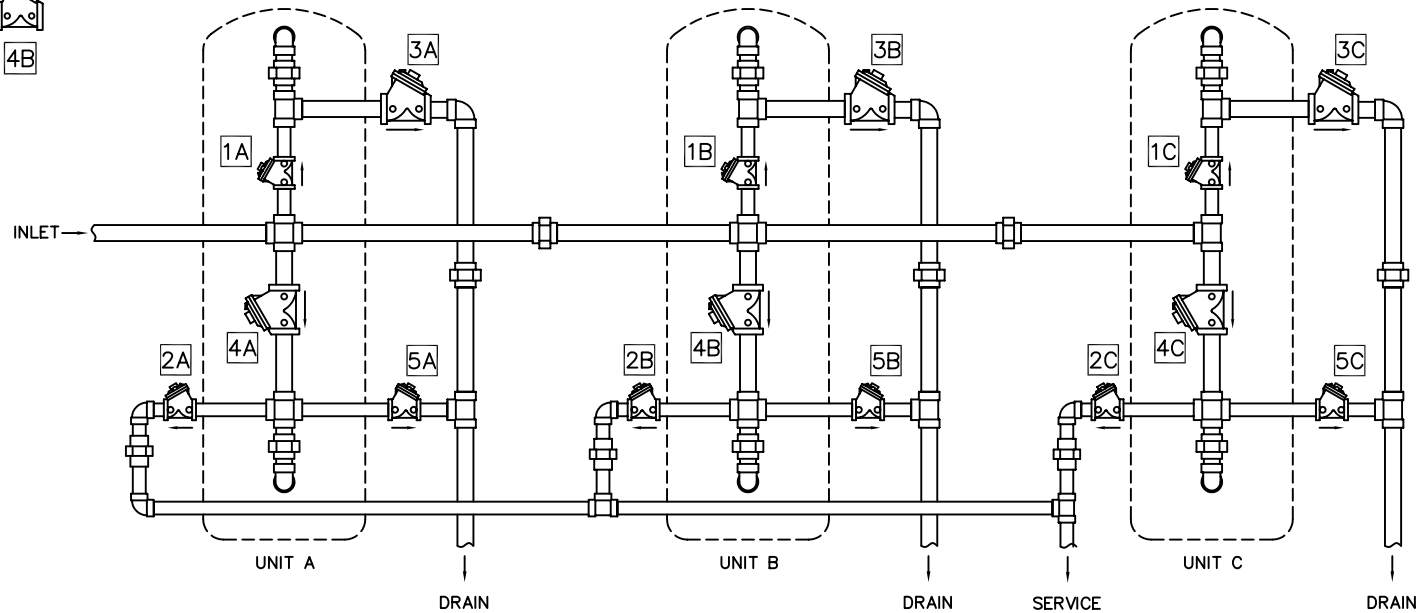
A	INITIAL RELEASE	NONE	JWB	31JUL01
REV	DESCRIPTION	ECO	DWN	DATE APVD
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM				
<b>7 TANK SEQUENTIAL FILTER BACKWASH ONLY</b>				
SCALE N/A	DRAWN JWB	DATE 31JUL01	DWG. NO. 1078287	

# 3 TANK SEQUENTIAL FILTER (58-03)

SERIES 58-03 STAGER



## 3 TANK SEQUENTIAL FILTER




NOTE:

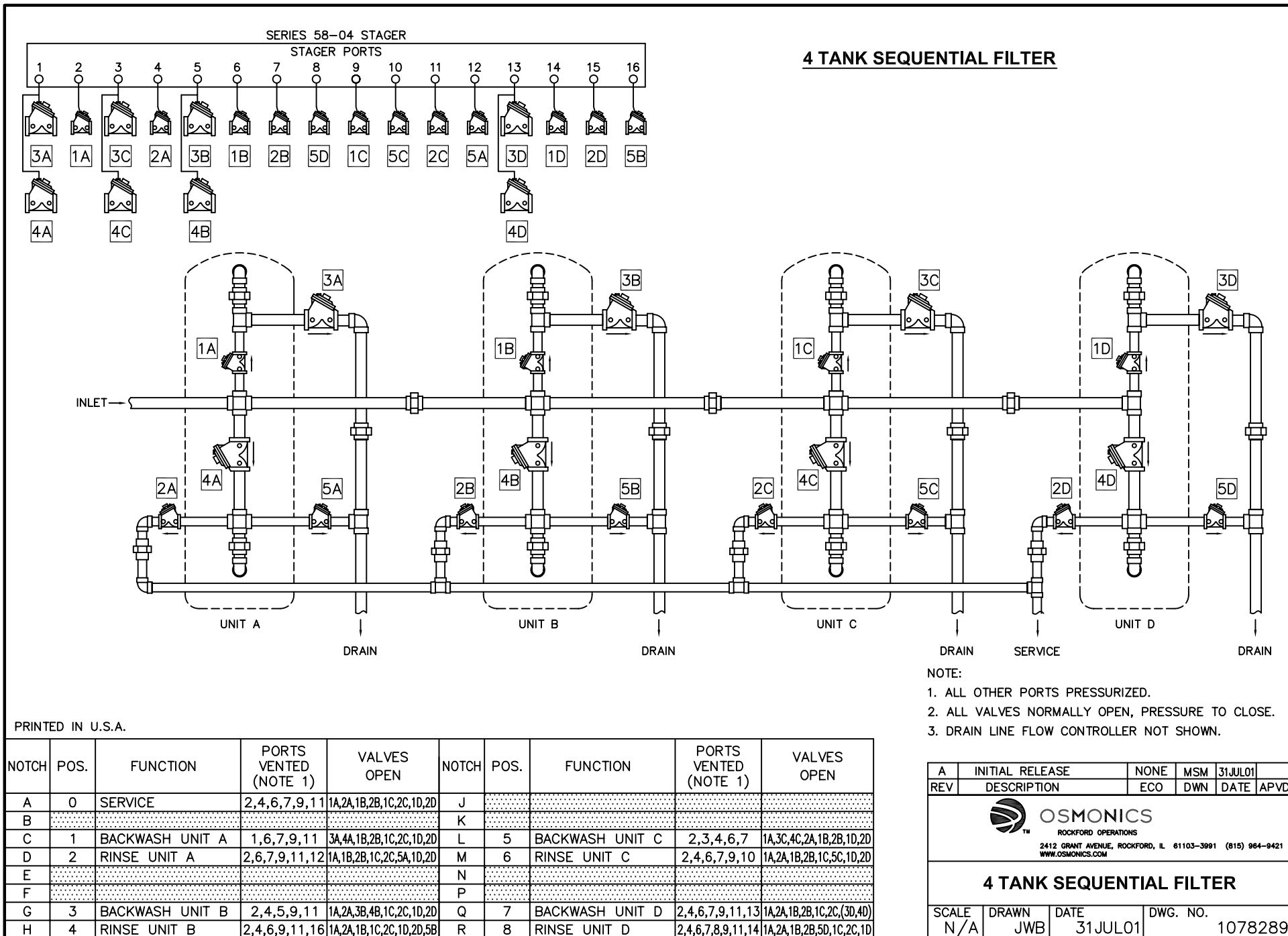
1. ALL OTHER PORTS PRESSURIZED.
2. ALL VALVES NORMALLY OPEN, PRESSURE TO CLOSE.
3. DRAIN LINE FLOW CONTROLLER NOT SHOWN.

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NOTCH	POS.	FUNCTION	PORTS VENTED (NOTE 1)	VALVES OPEN	NOTCH	POS.	FUNCTION	PORTS VENTED (NOTE 1)	VALVES OPEN
A	0	SERVICE	2,4,6,7,9,11	1A,2A,1B,2B,1C,2C	J				
B					K				
C	1	BACKWASH UNIT A	1,6,7,9,11	3A,4A,1B,2B,1C,2C	L	5	BACKWASH UNIT C	2,3,4,6,7	1A,2A,1B,2B,3C,4C
D	2	RINSE UNIT A	2,6,7,9,11,12	1A,5A,1B,2B,1C,2C	M	6	RINSE UNIT C	2,4,6,7,9,10	1A,2A,1B,2B,1C,5C
E					N				
F					P				
G	3	BACKWASH UNIT B	2,4,5,9,11	1A,2A,3B,4B,1C,2C	Q				
H	4	RINSE UNIT B	2,4,6,9,11,16	1A,2A,1B,5B,1C,2C	R				

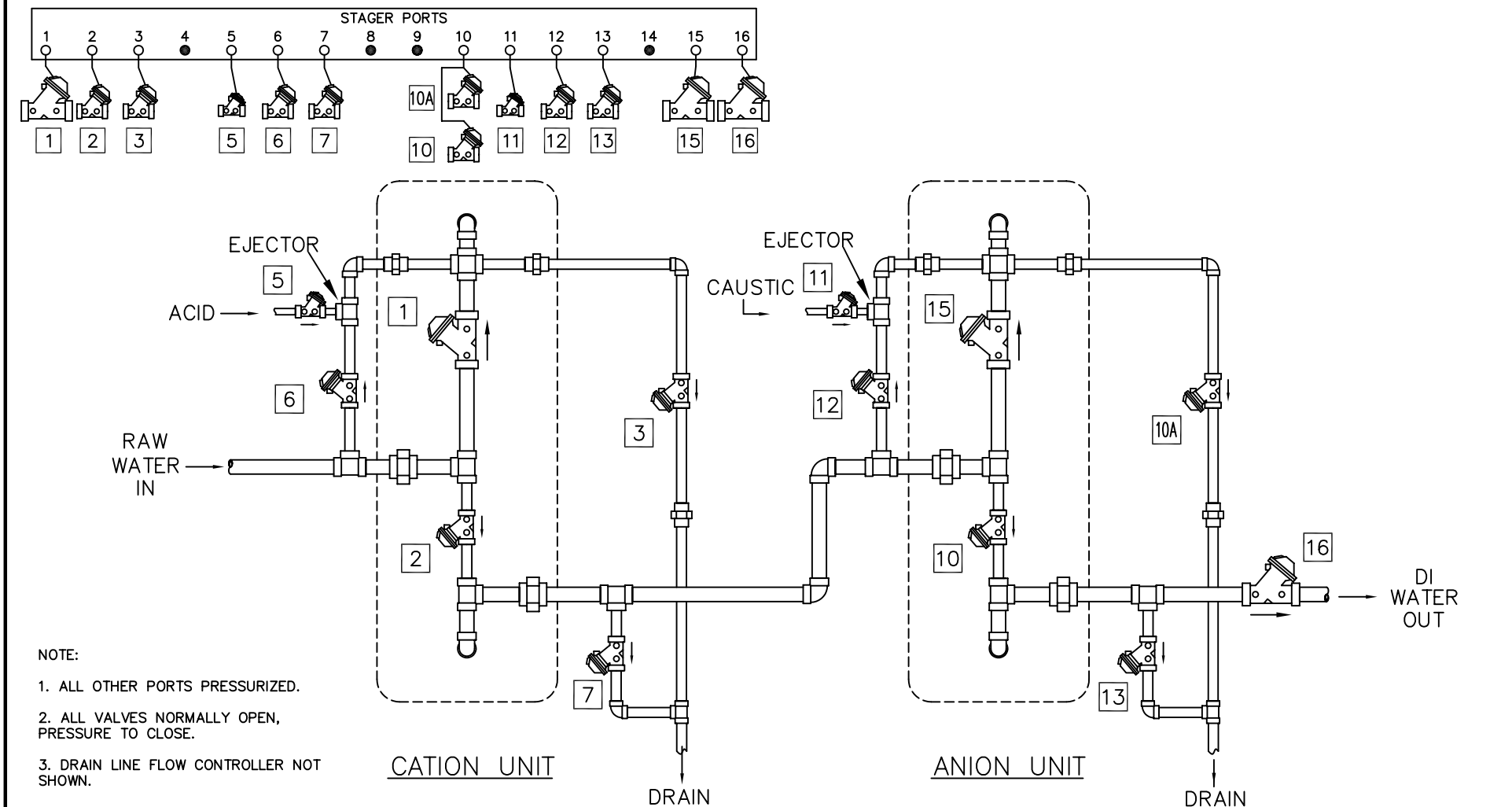
B	MOVED SVC OUTLET	NONE	MSM	17JAN03	
REV	DESCRIPTION	ECO	DWN	DATE	APVD
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM					
<b>3 TANK SEQUENTIAL FILTER</b>					
SCALE	DRAWN	DATE	DWG. NO.		
N/A	JWB	31JUL01	1078288		

# 4 TANK SEQUENTIAL FILTER (58-04 STAGER)






# TWO BED DE-IONIZER SYSTEM (58-00 STAGER)



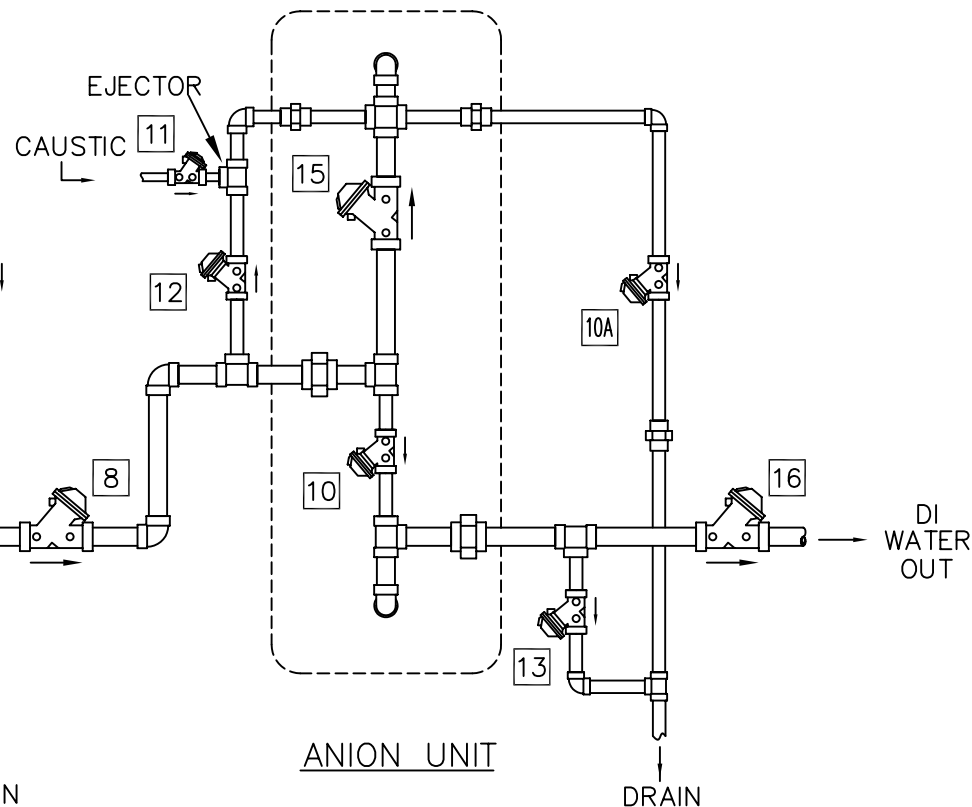
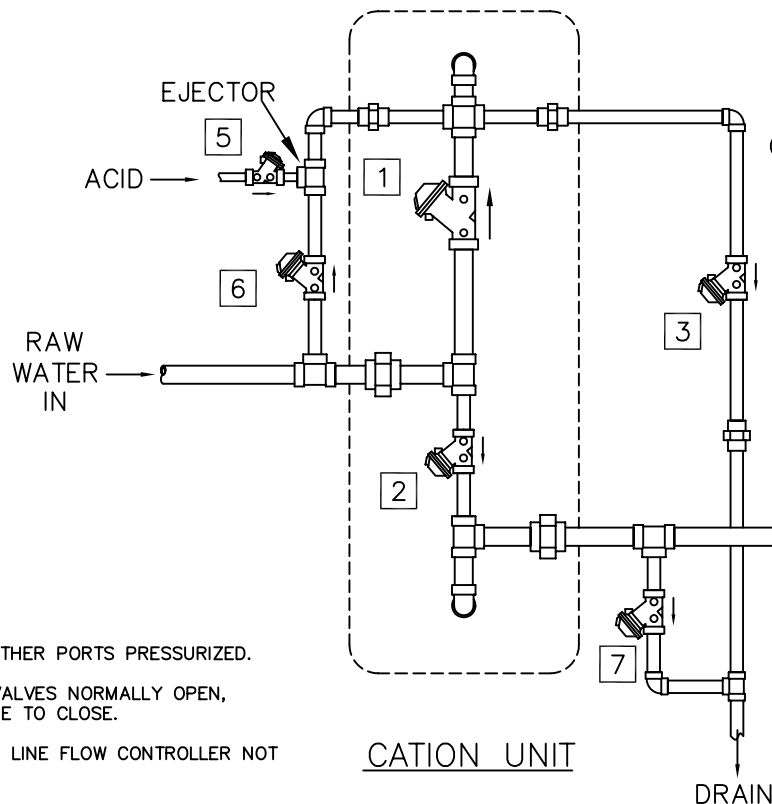
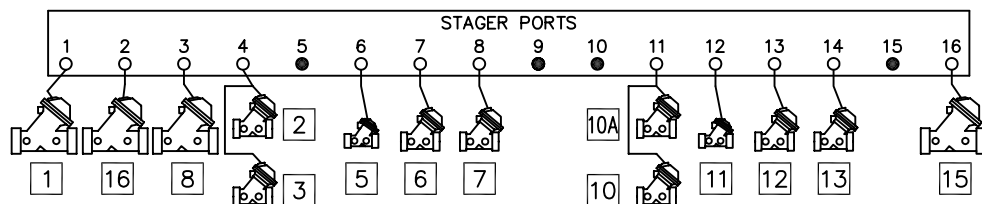
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SERIES 58B-00 STAGER PROGRAM

NOTCH	POS.	FUNCTION	PORTS VENTED (NOTE 1)	VALVES OPEN	NOTCH	POS.	FUNCTION	PORTS VENTED (NOTE 1)	VALVES OPEN
A	0	SERVICE	1,15,16	1,15,16	J	4	FAST RINSE	1,7	1,7
B					K	5	ANION BACKWASH	1,10	1,10,10A
C					L				
D	1	CATION BACKWASH	2,3	2,3	M				
E					N	6	CAUSTIC INJECT	1,11,12,13	1,11,12,13
F					P	7	SLOW RINSE	1,12,13	1,12,13
G	2	ACID INJECT	5,6,7	5,6,7	Q	8	FAST RINSE	1,13,15	1,13,15
H	3	SLOW RINSE	6,7	6,7	R				

A	INITIAL RELEASE	NONE	MSM	31JUL01	
REV	DESCRIPTION	ECO	DWN	DATE	APVD
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM					
<b>TWO BED DE-IONIZER SYSTEM</b>					
SCALE	DRAWN	DATE	DWG. NO.		
N/A	JWB	31JUL01	1078290		

# TWO BED DE-IONIZER W/ DE-GASIFIER (58-02 STAGER)




NOTE:

1. ALL OTHER PORTS PRESSURIZED.
2. ALL VALVES NORMALLY OPEN, PRESSURE TO CLOSE.
3. DRAIN LINE FLOW CONTROLLER NOT SHOWN.

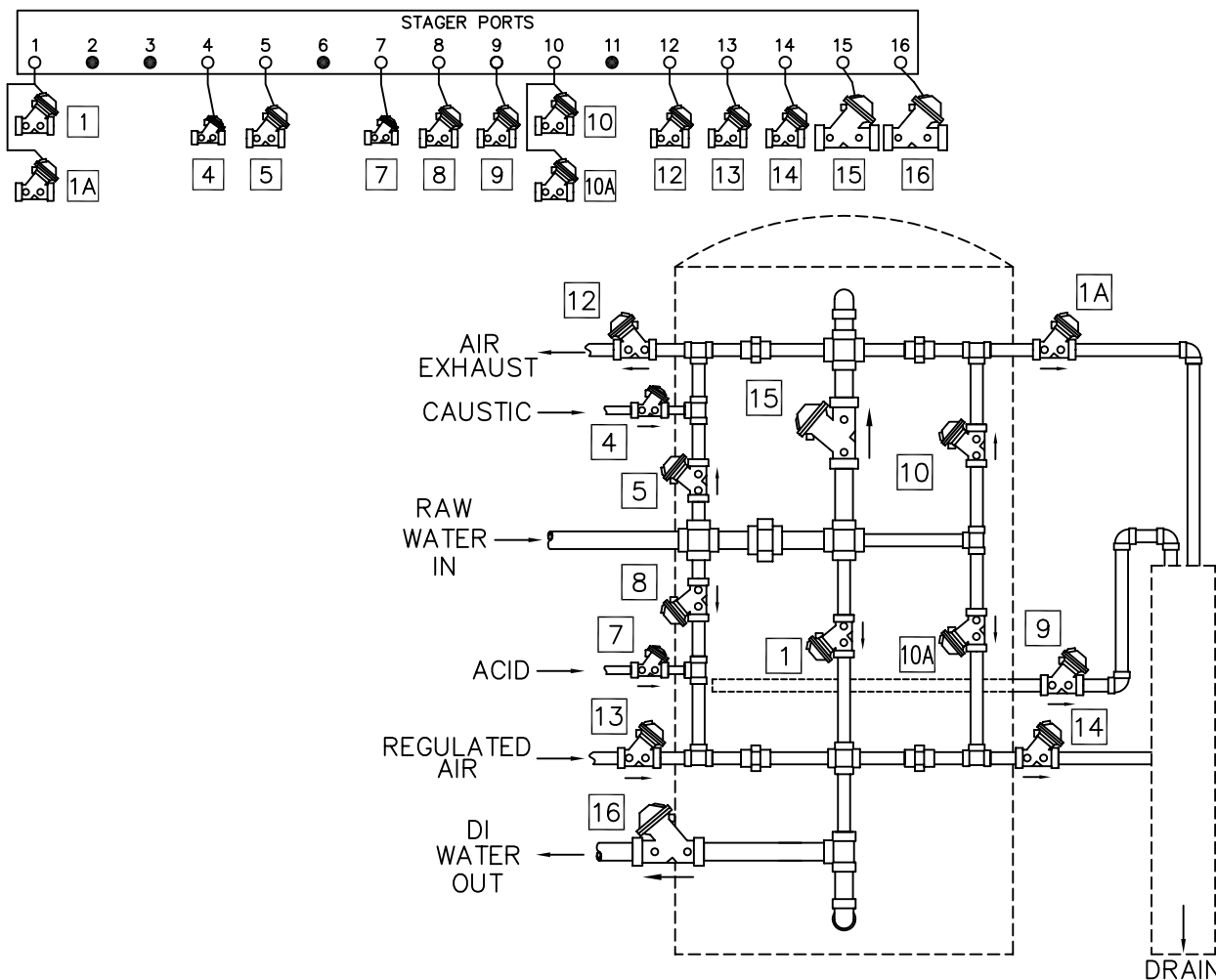
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SERIES 58-02 STAGER PROGRAM

NOTCH	POS.	FUNCTION	PORTS VENTED (NOTE 1)	VALVES OPEN	NOTCH	POS.	FUNCTION	PORTS VENTED (NOTE 1)	VALVES OPEN
A	0	SERVICE	1,2,3,16	1,8,15,16	J	4	FAST RINSE	1,8	1,7
B					K	5	ANION BACKWASH	1,3,11	1,8,10,10A
C					L				
D	1	CATION BACKWASH	4	2,3	M				
E					N	6	CAUSTIC INJECT	1,3,12,13,14	1,8,11,12,13
F					P	7	SLOW RINSE	1,3,13,14	1,8,12,13
G	2	ACID INJECT	6,7,8	5,6,7	Q	8	FAST RINSE	1,3,14,16	1,8,13,15
H	3	SLOW RINSE	7,8	6,7	R				

A	INITIAL RELEASE	NONE	MSM	31JUL01
REV	DESCRIPTION	ECO	DWN	DATE APVD
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM				
<b>TWO BED DE-IONIZER W/ DE-GASIFIER</b>				
SCALE N/A	DRAWN JWB	DATE 31JUL01	DWG. NO. 1078291	

# MIXED BED DE-IONIZER (58-10 STAGER)



NOTE:


1. ALL OTHER PORTS PRESSURIZED.

2. ALL VALVES NORMALLY OPEN, PRESSURE TO CLOSE.

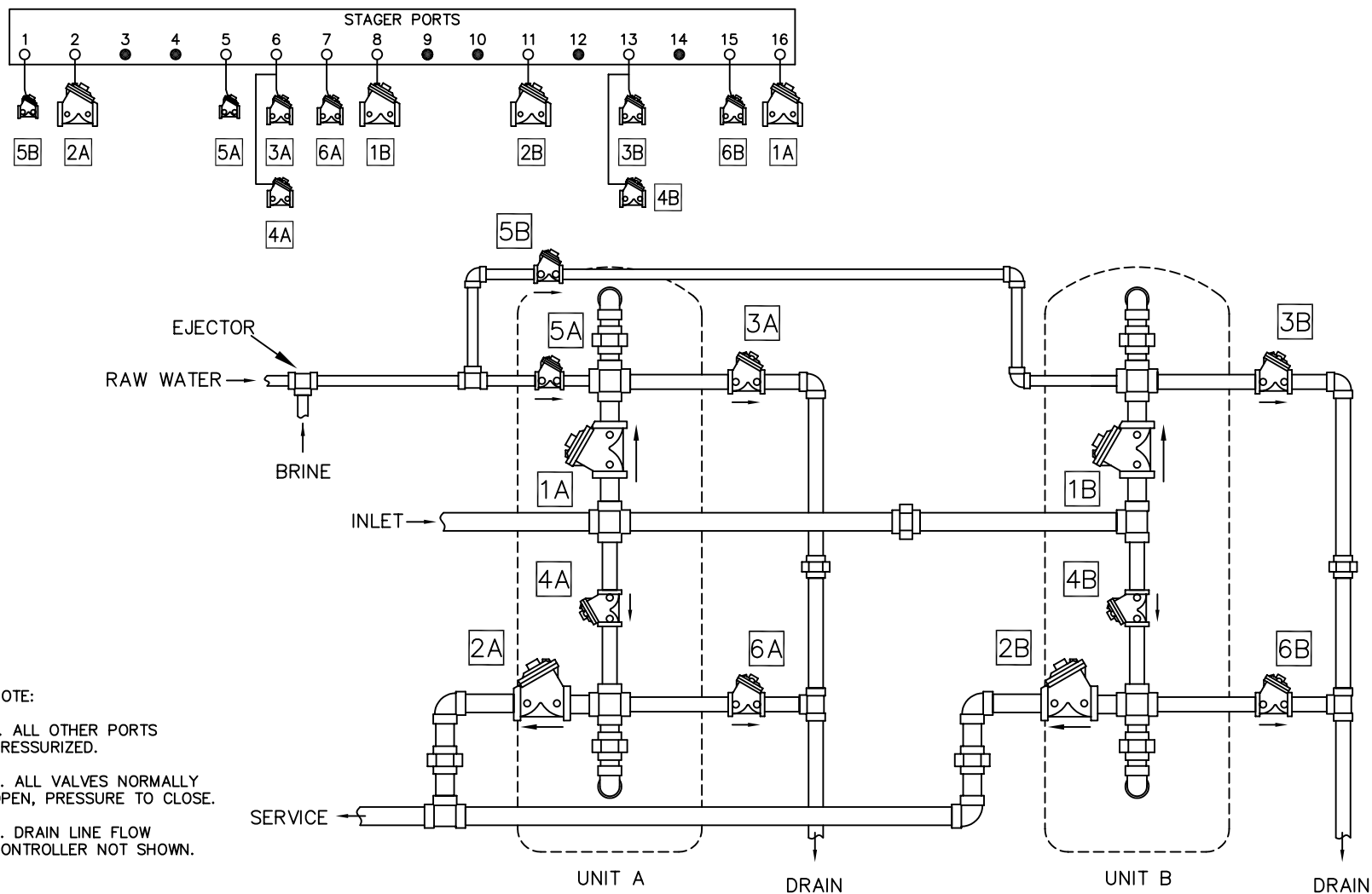
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## SERIES 58B-10 STAGER PROGRAM

NOTCH	POS.	FUNCTION	PORTS VENTED (NOTE 1)	VALVES OPEN	NOTCH	POS.	FUNCTION	PORTS VENTED (NOTE 1)	VALVES OPEN
A	0	SERVICE	15,16	15,16	J	5	ACID INJECT	7,8,9	7,8,9
B					K	6	SLOW RINSE	8,9	8,9
C	1	BACKWASH	1	1,1A	L	7	RINSE	9,10	9,10,10A
D	2	SETTLE	NONE	NONE	M				
E					N	8	DRAIN DOWN	9,12	9,12
F	3	CAUSTIC INJECT	4,5,9	4,5,9	P	9	AIR INJECT	12,13	12,13
G	4	SLOW RINSE	5,9	5,9	Q				
H					R	10	FINAL RINSE	14,15	14,15

A	INITIAL RELEASE	NONE	MSM	31JUL01	
REV	DESCRIPTION	ECO	DWN	DATE	APVD
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM					
<b>MIXED BED DE-IONIZER</b>					
SCALE	DRAWN	DATE	DWG. NO.		
N/A	JWB	31JUL01	1078292		

# TWO TANK ALTERNATING SOFTENER (58-TA STAGER)




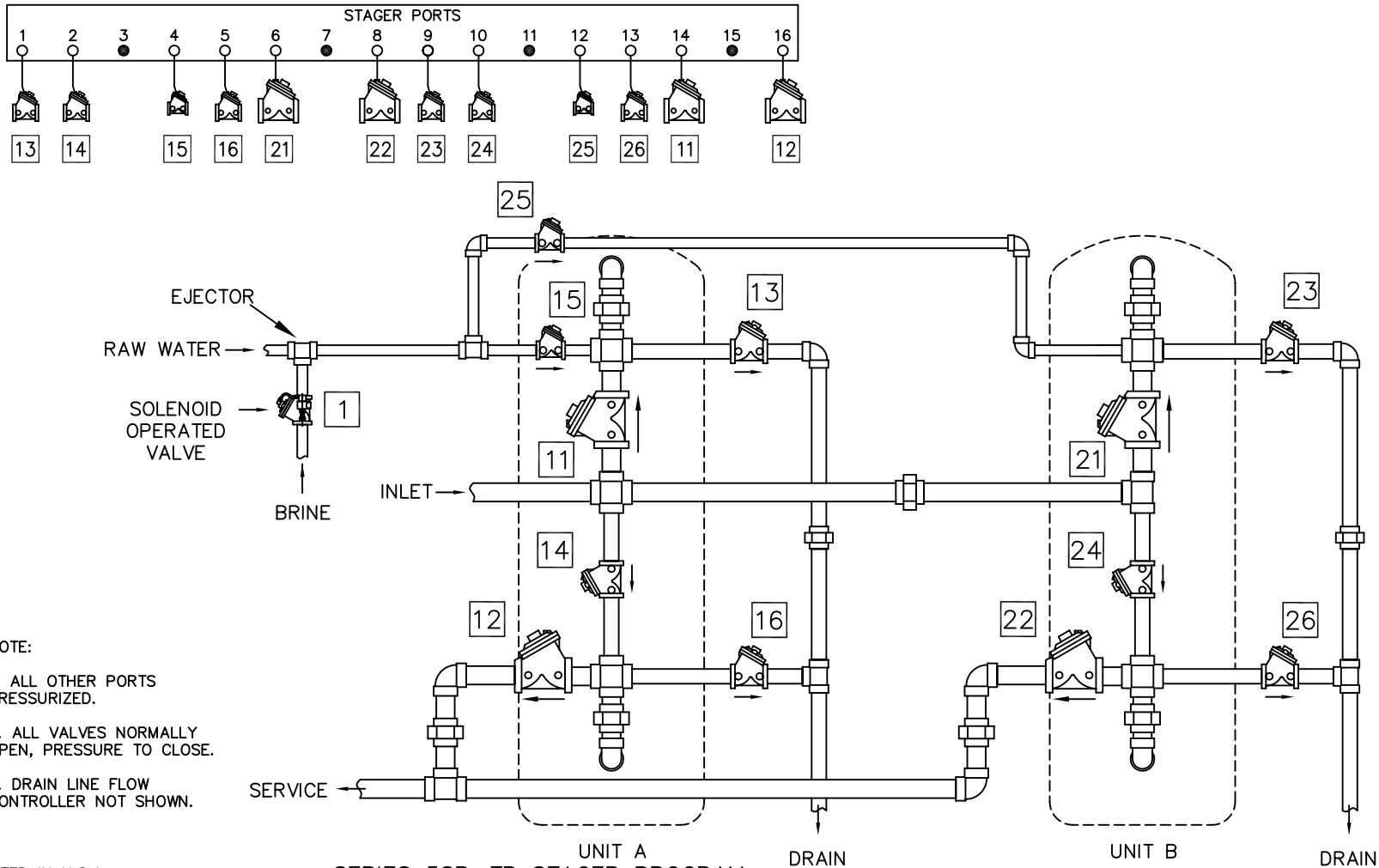
- NOTE:
1. ALL OTHER PORTS PRESSURIZED.
  2. ALL VALVES NORMALLY OPEN, PRESSURE TO CLOSE.
  3. DRAIN LINE FLOW CONTROLLER NOT SHOWN.

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SERIES 58B-TA STAGER PROGRAM

NOTCH	POS.	FUNCTION		PORTS VENTED (NOTE 1)	VALVES OPEN	NOTCH	POS.	FUNCTION		PORTS VENTED (NOTE 1)	VALVES OPEN
		UNIT A	UNIT B					UNIT A	UNIT B		
A	0	SERVICE	STANDBY	1,2,8,16	5B,2A,1B,1A	J	4	STANDBY	SERVICE	8,11,16	1B,2B,1A
B						K					
C						L					
D	1	BACKWASH	SERVICE	6,8,11	3A,4A,2B,1B	M					
E	2	BRINE/SLOW RINSE	SERVICE	5,7,8,11	5A,6A,2B,1B	N					
F						P	5	SERVICE	BACKWASH	2,13,16	2A,3B,4B,1A
G						Q	6	SERVICE	BRINE/SLOW RINSE	1,2,15,16	5B,2A,6B,1A
H	3	FAST RINSE	SERVICE	7,8,11,16	6A,1B,2B,1A	R	7	SERVICE	FAST RINSE	2,8,15,16	2A,1B,6B,1A

B	CORRECTED ERROR IN STAGER POS. NOS.	NONE	MSM	21MAR03	
REV	DESCRIPTION	ECO	DWN	DATE	APVD
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM					
<b>TWO UNIT ALTERNATING SOFTENER</b>					
SCALE	N/A	DRAWN	JWB	DATE	31JUL01
				DWG. NO.	1078293



- NOTE:
1. ALL OTHER PORTS PRESSURIZED.
  2. ALL VALVES NORMALLY OPEN, PRESSURE TO CLOSE.
  3. DRAIN LINE FLOW CONTROLLER NOT SHOWN.


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SERIES 58B-TB STAGER PROGRAM

NOTCH	POS.	FUNCTION		PORTS VENTED (NOTE 1)	VALVES OPEN	NOTCH	POS.	FUNCTION		PORTS VENTED (NOTE 1)	VALVES OPEN
		UNIT A	UNIT B					UNIT A	UNIT B		
A	0*	SERVICE	STANDBY	6,14,16	21,11,12	J	5*	STANDBY	SERVICE	6,8,14	21,22,11
B						K					
C						L					
D	1	BACKWASH	SERVICE	1,2,6,8	13,14,21,22	M	6	SERVICE	BACKWASH	9,10,14,16	23,24,11,12
E						N					
F	2**	BRINE DRAW	SERVICE	4,5,6,8	15,16,21,22	P	7**	SERVICE	BRINE DRAW	12,13,14,16	25,26,11,12
G	3	SLOW RINSE	SERVICE	4,5,6,8	15,16,21,22	Q	8	SERVICE	SLOW RINSE	12,13,14,16	25,26,11,12
H	4	FAST RINSE	SERVICE	5,6,8,14	16,21,22,11	R	9	SERVICE	FAST RINSE	6,13,14,16	21,26,11,12

\* - NOTCH LOCATION FOR 1ST AUX. CAM/SWITCH

\*\* - NOTCH LOCATION FOR 2ND AUX. CAM/SWITCH

A	INITIAL RELEASE	NONE	JWB	31JUL01
REV	DESCRIPTION	ECO	DWN	DATE APVD
 <b>OSMONICS</b> ROCKFORD OPERATIONS 2412 GRANT AVENUE, ROCKFORD, IL 61103-3991 (815) 964-9421 WWW.OSMONICS.COM				
<b>TWO UNIT ALTERNATING SOFTENER W/ TIMED BRINE</b>				
SCALE N/A	DRAWN JWB	DATE 31JUL01	DWG. NO. 1078294	