aQ Matic



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AQ Matic

Finding Solutions
Building Partnerships

AquaMatic Control Valves have worldwide recognition for high-quality and value in the water treatment and air movement markets. A low initial purchase price and lower cost of operation during the life of the product increases the real value of the product.

The AquaMatic products are industry-proven and AQ Matic is committed to supplying the same genuine product provided by its predecessors. The AquaMatic product line has the reputation for durability and low life-cycle costs. AQ Matic's dedicated team of professionals provide after-market service and support, which is unparalleled in the industry. Additionally, our valves are simple to maintain, and easily serviced by your maintenance staff.

AquaMatic products are effective in a diverse array of applications. For instance, AQ Matic manufactures the valves, stagers, and controls that comprise water softener equipment, which is used to protect industrial boilers from scale build-up. Similarly, AQ Matic valves are used in Heatless Regenerative Air Driers to protect manufacturing facilities around the world from corrosion in pneumatic equipment.



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.

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AQ MATIC CAST IRON VALVES

V42 & VAV Series



AQ Matic V42 Series valves are constructed of cast iron or brass and designed for water applications. VAV Series valves are constructed of cast iron and designed for air 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 ethylene propylene or Viton* seals.

Operating Specifications

Pipe Size Inches	Pipe Size Millimeter	End Connectors (Female Thread)	Water Valve Model	Air Valve Model	Cv[1]	Kv[2]
3/4	20	NPT, BSPT	V42B	VAVB	11.4	9.8
1	25	NPT, BSPT	V42C	VAVC	12.8	11.1
1-1/4	32	NPT, BSPT	V42D	VAVD	26.5	22.9
1-1/2	40	NPT, BSPT	V42E	VAVE	32.5	28.1
2	50	NPT, BSPT	V42F	VAVF	56.0	48.4
2	50	NPT, BSPT	V42G	VAVG	68.0	58.8
2-1/2	65	NPT, BSPT	V42H	VAVH	84.0	72.7
3	80	NPT, BSPT	V42J	VAVJ	134	116
3	80	Flanged	V42J	VAVJ	134	116
4	100	Flanged	V42K	VAVK	275	238
6	150	Flanged	V42L	N/A	680	588

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AQ MATIC STAINLESS STEEL VALVES

V46 Series



AQ Matic V46 Valves have the same operational characteristics and are constructed of 316 Stainless Steel material. These valves are available from 1 to 2-inch sizes, with either threaded or flanged ends. Flanged valves are rated for 150 psi (10 bar) and threaded valves are rated for 250 psi (17 bar). With all stainless steel internals and no internal threads, this series is ideal for corrosion resistant applications.

Operating Specifications

Pipe Size Inches	Pipe Size Millimeter, DN	Valve Model	Cv[1]	Kv[2]
1	25	V46C	14	12.1
1-1/2	40	V42E	33	28.5
2	50	V46F	54	47

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

Cv[1] - Flowrate (Gal./Min.) of water at 60^0 F. at 1 P.S.I. pressure drop
Kv[2] - Flowrate (CU. $M.^3$/HR) of water at 15.5^0 C. at 1 BAR pressure drop

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AQ MATIC STAGERS & EJECTORS

AQ Matic Stager Valves

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





Operating Specifications

Model Number	Body Material	Number of Ports	Typical Applications
48	Brass	6	Filters and Softners
51	Brass	8	Complex softner systems and sequential filter systems
58	PVC	16	Twin alternating systems and de-ionizers

AQ Matic Fluid Handling Products

AQ Matic 540 Series PVC Ejectors are available in 1/2 through 2-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



Operating Specifications

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

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K53 Series

AQ Matic K53 Series Valves are 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 thermoplastic 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 and the cap is easily removed for maintenance purposes. True union end design with female socket weld connections provides easy installation and servicing.

Operating Specifications

Pipe Size Inches	Pipe Size Millimeter, DN	Valve Model	Cv[1]	Kv[2]
1	25	K531	18.0	15.6
1-1/2	40	K534	46.0	39.8
2	50	K535	84.0	72.6
3	80	K537	200.0	173.0

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AQ MATIC COMPOSITE VALVES

K52 & K55 Series

AQ Matic K52 and K55 Series Valves provide the time proven advantages of the Y-pattern design for pipe sizes from 1/2 through 3-inches. The body and cap are molded in strong, glass-filled thermoplastic and the diaphragm is made of durable Buna N or Viton* materials. Various pipe end connections are available for your system design. Other AQ Matic Composite valve options include spring-assist open, spring-assist close, flow control limit stop, poppet position indicator, Viton* seals, butyl seals, and normally closed. K55 Series include an isolated bonnet feature which physically seperates the flow and control chambers. The K55 Series Valves also offer a fail-safe spring closed option.

Operating Specifications

Pipe Size Inches	Pipe Size Millimeter, DN	K52 Valve Model	K55 Valve Model	Cv[1]	Kv[2]
1/2	15	K520	K550	4.0	3.5
1	25	K521	K551	15.0	13.0
1-1/2 – 2	40 – 50	K524	K554	38.0	32.8
2-1/2 – 3	65 – 80	K526	N/A	100.0	86.5

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962 Stager Controls



AQ Matic 962 Stager Controls combine an AQ Matic stager with an electronic control, mounted and pre-wired in a NEMA-rated enclosure

962 Series Controls provide sophisticated, demand-based water conditioning. 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 operations to meet the application requirements.

Operating Specifications

Controls	Model Number	Description
Single Unit Controls Typical Softners and Filters	E948	962 Control w/model 48, 6-port stager
More Complex Softners and Filters	E951	962 Control w/model 51, 8-port stager
Multiple Unit Controls Twin-Alternating Softners and Filters (w/Timed Brine Switch Output)	E958-TB	962 Control w/model 58-TB, 16-port stager
Twin-Alternating Softners	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

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AQ MATIC STAGER CONTROLS

NXT Stager Controls



AQ Matic NXT Stager Controls feature full function programming with the capability to link multiple stagers. Options include 3-way universal solenoid valve pre-installed and auxiliary micro switch cam with signal in service or backwash.

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Operating Specifications

System #	System Description	Stagers	Type
4	Single Unit	1	Time Clock: No Meter, Immediate: One Meter, Delayed: One Meter, Remote: No Meter
5	Interlocked	2,3,4	Immediate: All Meters, Remote: No Meter
6	Series	2,3,4	Immediate: One Meter, Delayed: One Meter, Remote: No Meter,
7	Alternating	2	Immediate: One Meter, Remote: No Meter
9	Alternating	2,3,4	Immediate: All Meters, Remote: No Meter
14	Demand Flow	2,3,4	Immediate: All Meters

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Easy Nest Kits

The AQ Matic Easy Nest Kit outperforms large multiport valves in many ways: greater application flexibility, improved flow rate performance, and significant cost savings. AQ Matic makes it easy to specify, quote, and build a superior system. Our Easy Nest Kits simplify a valve nest down to only two part numbers (valving and stager controller). Now all you need to do is determine the tank size, flowrate, and piping size. At the heart of the system is the industry-proven AquaMatic Diaphragm Valve, first introduced over 45 years ago.

Open the door to a whole new spectrum of tank sizes you may have never tried before. AQ Matic Valves and Easy Nest Kits give you opportunity to seek new business that will result in a new level of success.



Performance Range (Single Tank Systems)

Service Flow Rates	80 to 1300 gpm (18 to 295 m^3/h) per tank
Backwash Flow Rates (Softners)	35 to 392 gpm (8 to 89 m^3/h)
Backwash Flow Rates Filters	35 to 1200 gpm (18 to 272 m^3/h)
Sytem Sizes	36" to 120" Diameter Tanks

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AQ MATIC Easy Nest Kits

Configurations

Systems

Single Tank Softners	4 Position
Multi-Tank Softners	2, 3, and 4 Tank, Parallel; 2 Tank Alternating Softners
SIngle Tank Filters	3 Positions
Multi-Tank Filters	2, 3, and 4 Tank, Sequential

Controls

Electronic	Demand and TIme Clock (Battery Back-up)
Programmable Regeneration Range	0 - 255 Minutes Regeneration (Each Cycle)
Stager Valves	6, 8, and 16 ports

Piping

Valve Body (Cast Iron)	3/4"- 3" Female Thread NPT, BSP, JIS; 3"- 6" Flanged
Valve Body (Noryl - Plastic)	1"-3" Union, Female Solvent Weld; 2"-3" Female Solvent Weld or Flange
Injectors	1/2"-2" Female NPT Thread, Solvent Weld
Stager Tubing	1/4" Poly Tubing

Operating Specifications

Valve Body	Cast Iron or Glass-filled Noryl
Diaphragm	Buna N/Polyamide
Injector	PVC
Control Enclosures (Electronic)	NEMA 4X Fiberglass
Operating Pressure	20 to 120 psi (1.38 to 8.27 bar)
Operating Temperature	35^0 to 120^0F (2^0 to 38^0C)
Operating Voltages	115v, 50/60 Hz 220v 50/60 Hz

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AQUAMATIC®

METAL DIAPHRAGM VALVES

VERSATILE DESIGN FOR A WIDE VARIETY OF APPLICATIONS

MADE IN THE USA OF FOREIGN & DOMESTIC PARTS



FEATURES/BENEFITS

The unique Y-pattern design with large seat opening and high lift disc permits higher flow rates at lower pressure loss than other comparable valves

Larger diaphragm area compared to seat area permits drip-tight closing without any springs

All components can be serviced while the valve is in-line

Separate flow and control chambers permit positive closing without springs

Adaptable to a wide variety of control devices

Pre-formed, stress-relieved diaphragm minimizes fatigue, maximizes valve responsiveness and diaphragm lifetime

Cast iron, brass, stainless steel and nitrile elastomer components, for an unparalleled service

Diaphragm acts as an actuator, eliminating the need for electric or pneumatic actuators, which minimizes initial investment and maintenance costs

3/4"- 3" threaded [NPT or BSP]

3"- 4" flange drilled in accordance with ASA16.1 class 125, or BSP4504

Handles liquid and gases

OPTIONS

Spring-assist closed

Spring-assist open

Flow Control Limit Stop

Position indicator

Seal and diaphragm materials for special applications†

TYPICAL APPLICATIONS

Agricultural Irrigation

Air Control Systems

Air Dryers

Car Wash Systems

Centrifugal Separators

Cooling Towers

Dust Suppression

Fuel Handling

Laundry Equipment

Level Control Systems

Hydraulic Machinery

Nitrogen Handling

Plastic Molding

Process Water Systems

Pump Controls

Sand Blasting

Street Cleaning Vehicles

Vacuum Control Systems

IAPMO R&T

Certified by IAPMO R&T to NSF/ANSI 61 and NSF/ANSI 372 for lead free compliance.

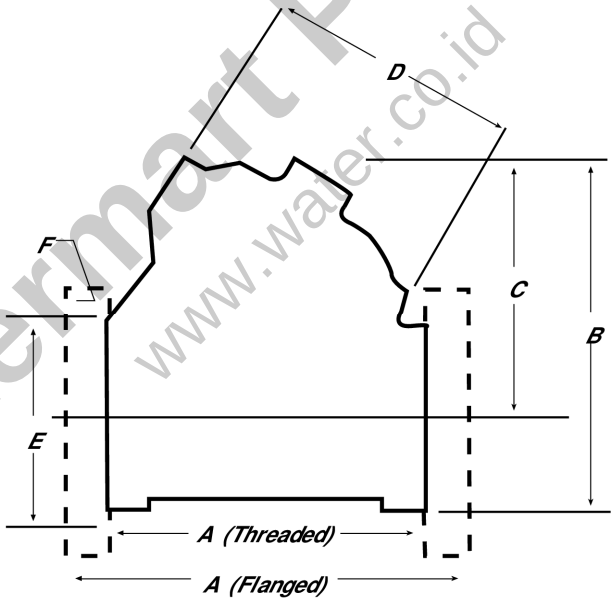
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DIMENSIONS

MODEL #		ENDS	PIPE SIZE	Cv*	DIMENSIONS (APPROXIMATE)					
420 SERIES	VAV SERIES				A	B	C	D	E[1]	F[2]
V42B	VAVB	Threaded	3/4"	11.4	3.69" (94 mm)	4.25" (108 mm)	3.75" (95 mm)	2.75" (70 mm)	–	–
V42C	VAVC	Threaded	1"	12.8	3.69" (94 mm)	4.25" (108 mm)	3.75" (95 mm)	2.75" (70 mm)	–	–
V42D	N/A	Threaded	1-1/4"	26.5	4.75" (121 mm)	5.37" (137 mm)	4.00" (102 mm)	3.50" (89 mm)	–	–
V42E	VAVE	Threaded	1-1/2"	32.5	4.75" (121 mm)	5.37" (137 mm)	4.00" (102 mm)	3.50" (89 mm)	–	–
V42F	VAVF	Threaded	2"	56	6.62" (168 mm)	7.25" (184 mm)	5.37" (137 mm)	4.87" (124 mm)	–	–
V42G	VAVG	Threaded	2"	68	7.37" (187 mm)	8.00" (203 mm)	5.75" (146 mm)	5.50" (140 mm)	–	–
V42H	VAVH	Threaded	2-1/2"	84	7.37" (187 mm)	8.00" (203 mm)	5.75" (146 mm)	5.50" (140 mm)	–	–
V42J	VAVJ	Threaded	3"	134	9.00" (229 mm)	9.75" (248 mm)	6.75" (171 mm)	7.25" (184 mm)	–	–
V42J	VAVJ	Flanged	3"	134	10.62" (270 mm)	10.75" (273 mm)	7.00" (178 mm)	7.25" (184 mm)	6.00" (152 mm)	0.75" (19 mm)
V42K	VAVK	Flanged	4"	275	11.75" (298 mm)	14.75" (375 mm)	10.00" (254 mm)	8.75" (222 mm)	7.50" (191 mm)	0.75" (19 mm)
V42L	N/A	Flanged	6"	680	17.00" (432 mm)	19.00" (483 mm)	13.50" (343 mm)	15.75" (402 mm)	9.50" (241 mm)	0.87" (22 mm)

*Cv = Flow rate in gpm of water at 60°F @ 1psi pressure drop
(1) Bolt circle diameter for ASTM flange [ISO/Metric flanges also available]
(2) Bolt hole diameter for ASTM flange [ISO/Metric flanges also available]

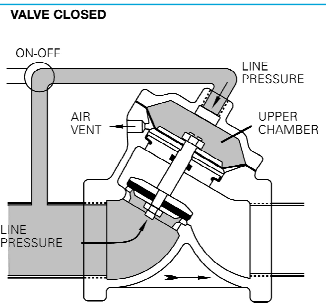


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PRINCIPLES OF OPERATION

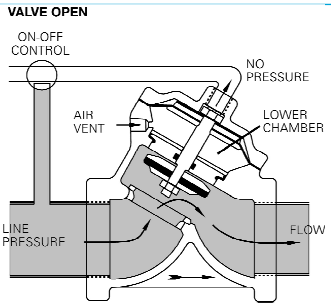
DRIP-TIGHT CLOSING

Closure is obtained by directing line pressure or equivalent independent pressure into the upper chamber. This pressure on the large diaphragm area causes thevalvedisctoseal against theseat.



FULL OPEN OPERATION

When the closing pressure in the upper chamberisrelieved by ventingthepilotline,the valve opens positively, by linepressure onthedisc.



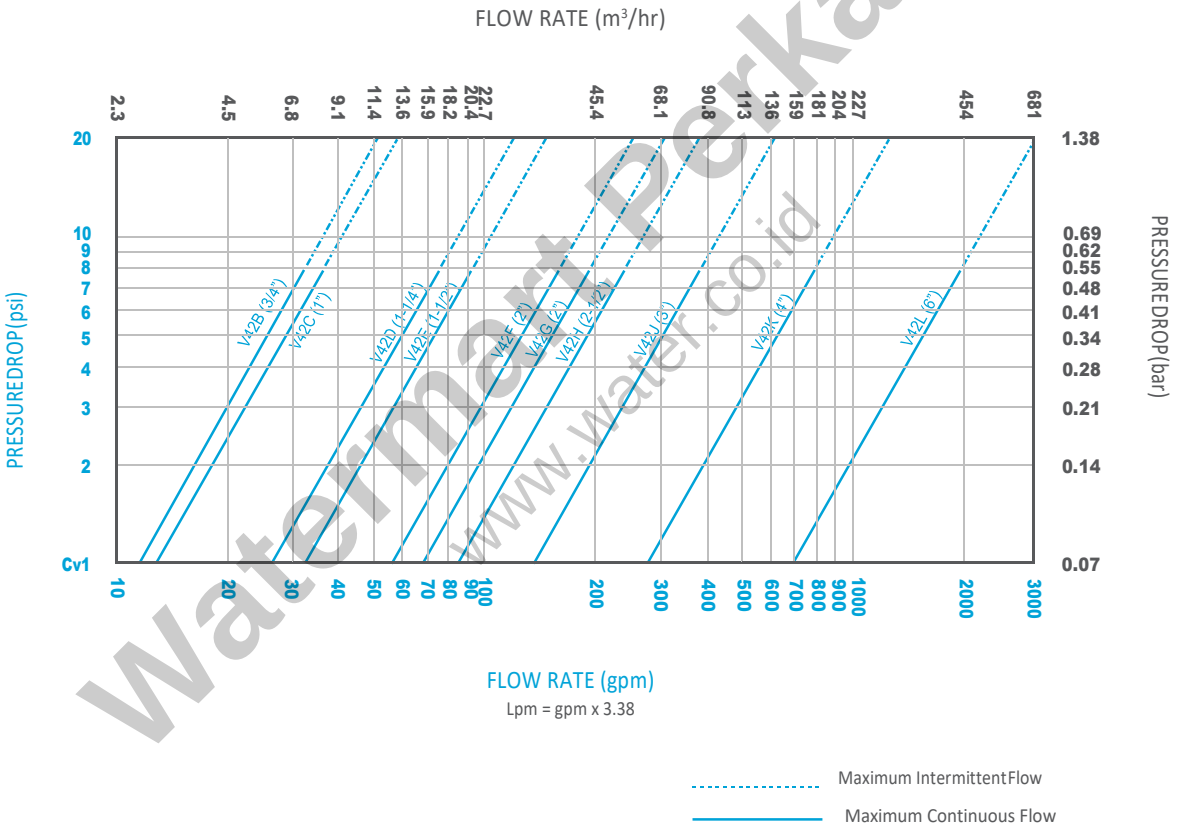
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OPERATING SPECIFICATIONS

MaxPressure	125 psi (8.6 bar)
MaxTemperature†	140°F (60°C)
	250°F (120°C) (optional)

†IAPMO R&T NSF/ANSI 61 and NSF/ANSI 372 certifications are limited to restrictions below.
Other options were not tested for certification:
Cold water applications below 73°F (23°C).
Normally Open valves.
Buna-N seal material (seal option #0).

PERFORMANCE DATA



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V42 SERIES METAL DIAPHRAGM VALVE MASTER CHART

*** FILL IN PROPER DESIGNATIONS TO DETERMINE PRODUCT NUMBER:** V 4 2 - - -

PIPE SIZE (B thru L std)

B = 3/4" (20mm)	G = 2" (50mm - V426)
C = 1" (25mm)	H = 2-1/2" (63mm)
D = 1-1/4" (32mm)	J = 3" (75 or 80mm)
E = 1-1/2" (40mm)	K = 4" (100mm)
F = 2" (50mm - V425)	L = 6" (150mm)

BODY SIZE (ref only)

1 = 1"	7 = 3"
4 = 1-1/2"	8 = 4"
5 = 2"	9 = 6"
6 = 2-1/2"	

END CONNECTIONS (0 std for V421, V424, V425, V426 & V427; 3 std for V428 & V429)
(BSP threads not available on Brass valves)

0 = Female N.P.T.	3 = Flanged, A.S.T.M.	5 = Grooved Per ANSI/AWWA C606 (see note 4)
1 = Female B.S.P.T. (Tapered)	4 = Flanged, I.S.O. (Not valid on V429 valves)	

BODY & CAP MATERIAL (0 std [opt 1 not available with flanged bodies])

0 = Cast Iron - RED primer	D = Cast Iron - painted BLUE
1 = Cast Brass	

VALVE OPTIONS (00 std [SAO not available on V429]; [NC not valid with solenoid or float configurations])

00 = NO	11 = NO, LS, SAO	30 = NC
01 = NO, SAO	21 = NO, PI, SAO	32 = NC, SAC
02 = NO, SAC		40 = NC, LS
10 = NO, LS		SX = Special Valve **

SEAL MATERIALS (0 std) (Option 5 not valid for NC valves or solenoid EO or EC valves)

OPT.	OPERATING DIAPHRAGM	SEALING DISK	DYNAMIC SEALS	STATIC SEALS	KIT SERIES	Max Temp
0	Buna-N	Buna-N	Buna-N	Buna-N	RA	150° (65°C)
1	Buna-N	EP	EP	EP	RAE	200° (93°C)
2	Fluoroelast.	Fluoroelast.	Fluoroelast.	Fluoroelast.	RAV	250° (121°C)
4	Fluoroelast.	EP	EP	EP	RAEFV	200° (93°C)
5	Buna-N	Fluoroelast.	Fluoroelast.	Fluoroelast.	RAVFB	200° (93°C)
7	Buna-N	Hycar	Buna-N	Buna-N	RAJH	150° (65°C)

INTERNAL PARTS

0 = Brass and Stainless Steel

DRILL & TAP BOSSES (0 std [1/4" NPT std for all sizes]) (See notes 1 & 2)

0 = None	4 = Boss #4	8 = Bosses #2,4
1 = Boss #1	5 = Bosses #1,2,3,4	A = Bosses #2,3
2 = Boss #2	6 = Bosses #1,2	
3 = Boss #3	7 = Bosses #1,3	

SOLENOID or FLOAT OPTIONS (0 std) (Options 1 thru 5 and A thru X are not valid with NC valves)

0 = None — See valve options # -3

Solenoid Options
1 = Energize to Open (EO)
2 = Energize to Close (EC)
3 = Independent Pressure (IP)
4 = EO w/ Dry Drain
5 = EC w/ Dry Drain

Float Options	Closed If	Close By	Open By
A = 3000 Float	High	Pilot Press.	Vent
B = 3010 Float	High	Pilot Press.	Pilot Press.
C = 3011 Float	Low	Pilot Press.	Vent
D = 3012 Float	Low	Pilot Press.	Pilot Press.
E = 3010B Brine Float	High	Pilot Press.	Pilot Press.
X = Replacement Valve Only (Includes Shaft Spacer)			

SOLENOID or FLOAT FEATURES (0 std)

0 = None

Solenoid Option Features
1 = 115V/60 HZ, NEMA 1
2 = 220V/50 HZ, NEMA 1
3 = 24V/60 HZ, NEMA 1
A = 24VDC

Float Option Features
0 = 36" Brass Float Rod
N = 54" Brass Float Rod
X = Less Float & Rod

*** To create a valve number replace each "_" with the proper number or letter for the feature you desire. For example, a 3/4" NPT Cast Iron Valve Model V421 with Normally Closed and Spring Assist Closed Options is designated as a V42B-0032-00000.**

**** A special valve will have a custom drawing number (_ _ _ _ _ _ _)**
and the item number format is (V42?-??SX-_ _ _ _ _)
where the last 5 numbers (Far Right) are the last five digits of the drawing number.

Valve Option Notes:

1. **Bosses #1, 2, 3, & 4, are always drilled and tapped on V429 and does not need to be specified in part no.**
2. **Bosses needing to be drilled and tapped for solenoid or floats do not need to be specified in part no.**
3. **Float Options not available for Valve size 425 thru 429.**
4. **Grooved End option only available on 2" 425 Cast Iron valves.**

REV.	ECO. NO.	DESCRIPTION	BY/DATE
M	1144	Updated solenoid options per Aug 5, 2014 communication	JJJ
N	1405	REMOVED ASH PAINT OPTION "C"	JJJ
P	1501	Corrected Solenoid Options	JJJ
Q	1778	ADDDED OPTION 5 (END CONNECTORS	MM 11/4/

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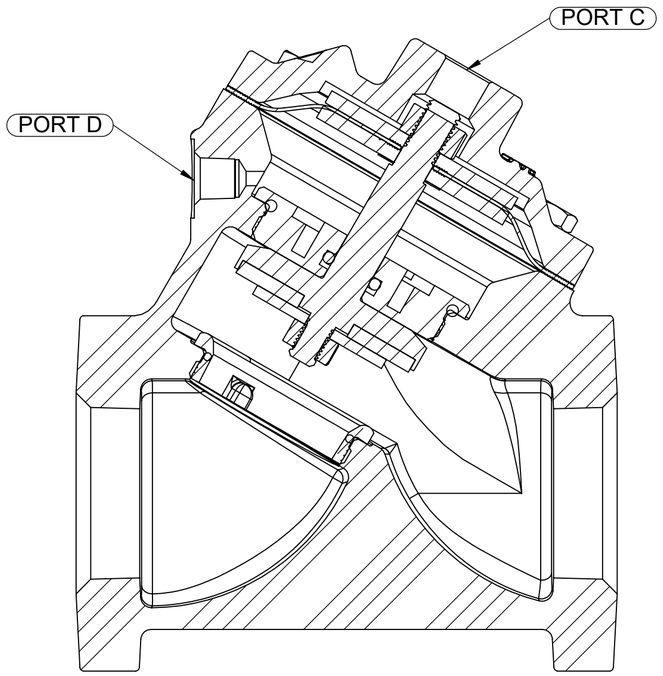
Watermart Perkasa
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16605 West Victor Rd. New Berlin, WI 53151
P: 262-326-0100 | www.aq-matic.com | techsupport@aq-matic.com
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42987 REV Q 2020

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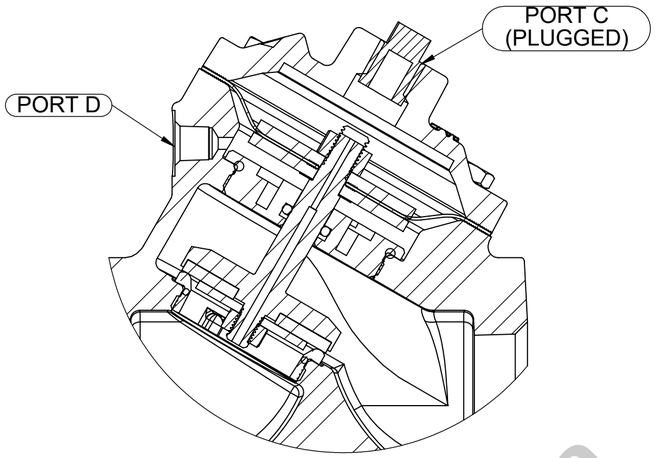
DIAPHRAGM VALVE INFORMATION - STANDARD MODEL

REVISIONS				
ECN	REV.	DESCRIPTION	DATE	APP'D
1429	C	INITIAL RELEASE	09/21/01	VKP
1815	D	TRANSFER TO AQ TEMPLATE	01/06/21	KJB



NORMALLY OPEN

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

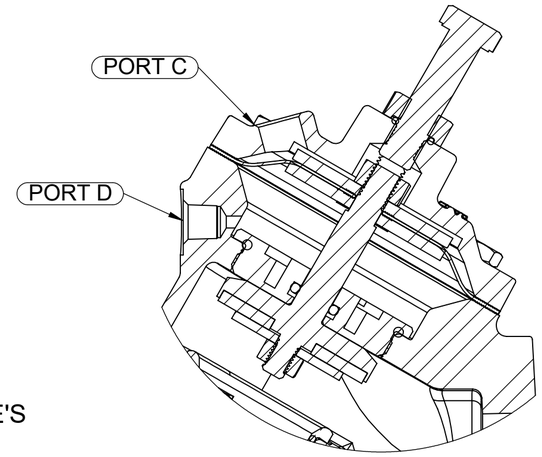


NORMALLY CLOSED

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:

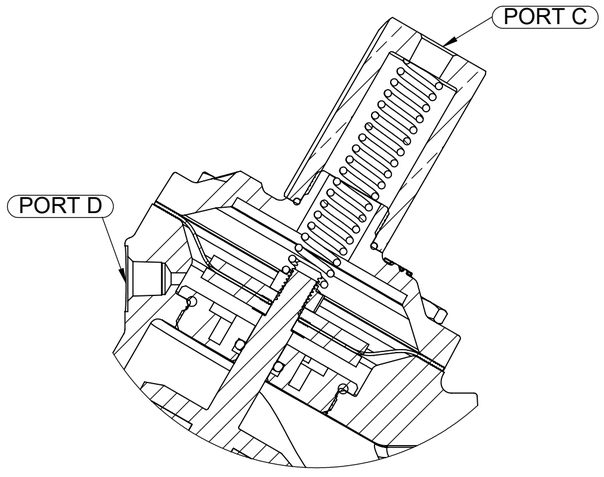
1. LOW PRESSURE AND/OR FLOW.
2. VALVE DISCHARGES TO ATMOSPHERE

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



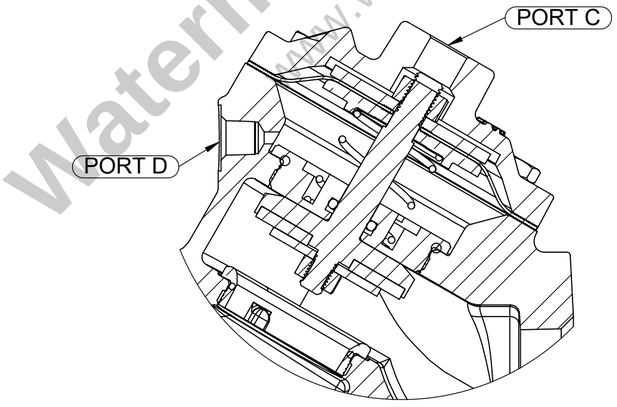
LIMIT STOP

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.



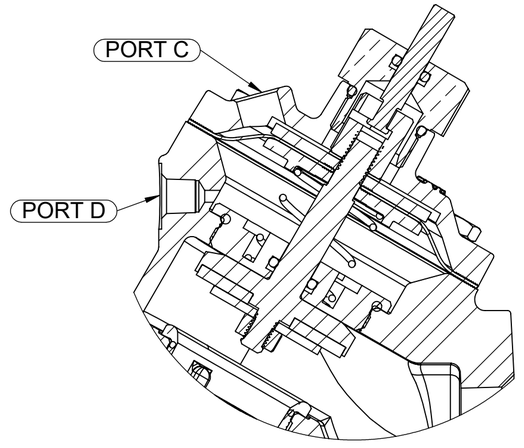
SPRING ASSIST CLOSED

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.

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DIMENSIONS ARE IN INCHES [mm]
CORNER FILLETS R.005-.020 [.127-.508]
TOLERANCES:
ANGLES : ± 1°
1 PLACE .X: ± .100 [2.54]
2 PLACE .XX: ± .010 [0.25]
3 PLACE .XXX: ± .005 [0.13]

THIRD ANGLE PROJECTION

APPROVALS	DATE
DRAWN VKP	09/21/01
CHECKED BY	
APPROVED	

AQ-MATIC
VALVES AND CONTROLS

DESCRIPTION
V42 SERIES CONFIGURATIONS & BASIC INFORMATION

SIZE C | DWG NO. 1078117 | REV. D

SCALE | SOLIDW

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Website: www.water.co.id

DIAPHRAGM VALVE INFORMATION - STANDARD MODEL

REVISIONS				
ECN	REV.	DESCRIPTION	DATE	APP'D
		SEE SHEET 1 FOR A LIST OF ALL CHANGES.		

SERIES	PIPE SIZE	SEAT DIAMETER IN. / CM.	SEAT AREA SQ. IN. / SQ. CM.	DIAPHRAGM AREA SQ. IN. / SQ. CM.	TOTAL STROKE IN. / CM.	DIAPHRAGM CHAMBER (VOLUME) CU. IN. / CU. CM.	Cv*	Kv**	FLOW RATE @ 10 FT./SEC. (3 M./SEC.) NOTE 1 GAL/MIN / CU M/HR	FLOW RATE @ 20 FT./SEC. (6 M./SEC.) NOTE 2 GAL/MIN / CU M/HR	PRESSURE DROP @ 10 FT./SEC. (3 M./SEC.) NOTE 1 P.S.I. / bar	PRESSURE DROP @ 20 FT./SEC. (6 M./SEC.) NOTE 2 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

* 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:

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

FOR AIR AND GAS:

WHEN P2<.5P1

$$Q = \frac{CFM\sqrt{e}}{.5P1}$$

WHEN P2>.5P1

$$Q = \frac{CFM\sqrt{e}}{\sqrt{\Delta P\ P2}}$$

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

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

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TOLERANCES:
ANGLES : ± 1°
1 PLACE .X: ± .100 [2.54]
2 PLACE .XX: ± .010 [0.25]
3 PLACE .XXX: ± .005 [0.13]

THIRD ANGLE PROJECTION

APPROVALS	DATE
DRAWN VKP	09/21/01
CHECKED BY	
APPROVED	

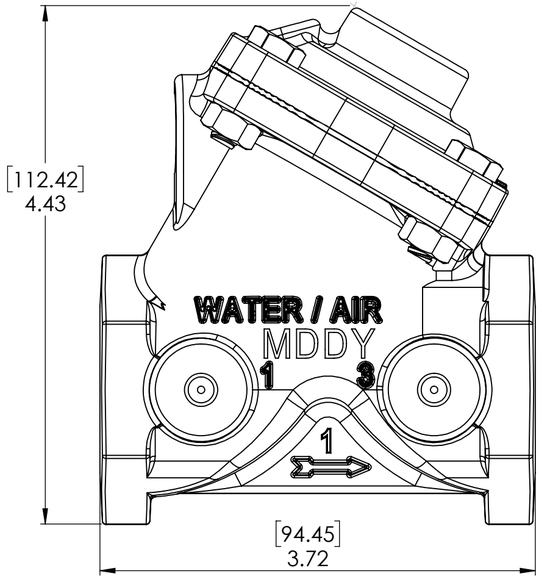
AQ-MATIC
VALVES AND CONTROLS

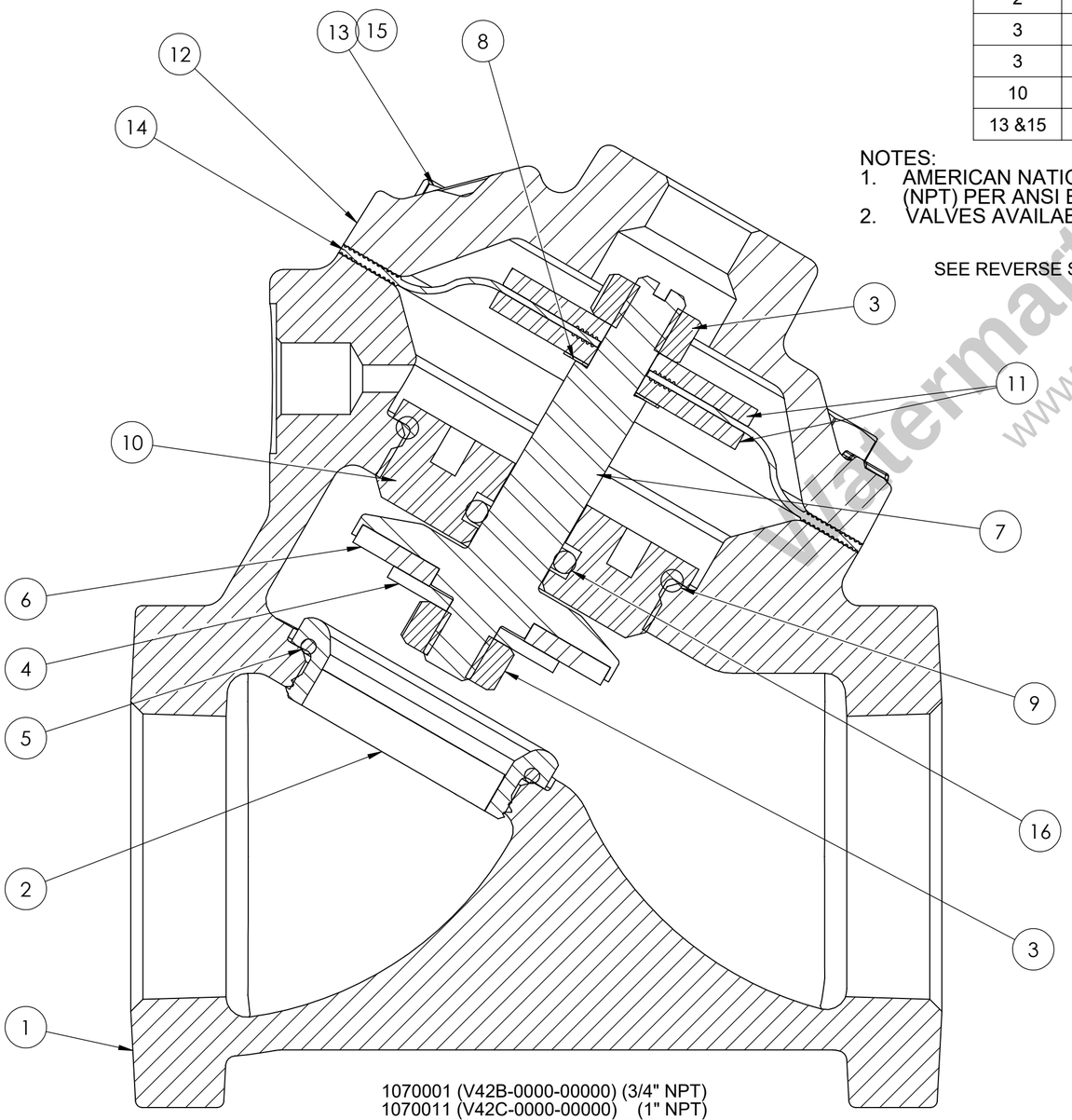
DESCRIPTION
V42 SERIES CONFIGURATIONS & BASIC INFORMATION

SIZE C | DWG NO. 1078117 | REV. D

SCALE | SOLIDW

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Website: www.water.co.id





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

REPAIR PARTS KITS

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

ASSEMBLY TOOLS

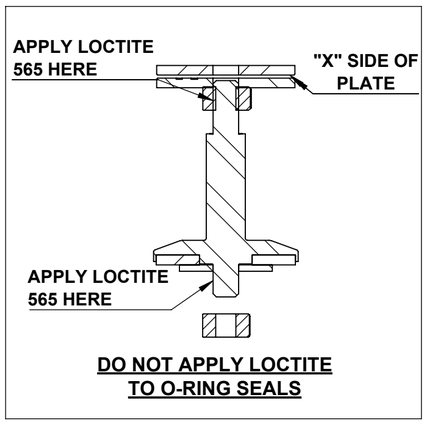
DESCRIPTION	PART NO.
FOR INSTALLATION AND REMOVAL OF SEAT (ITEM #2) (TOOL NOT SHOWN)	1074161 (421-MT)
FOR INSTALLATION AND REMOVAL OF SHAFT GUIDE (ITEM #10) (TOOL NOT SHOWN)	1074124 (421-GT)

TORQUE TABLE

ITEM #	DESCRIPTION	TORQUED TO (+/- 10%)
2	SEAT	120 IN/LBS
3	UPPER NUT	90 IN/LBS
3	LOWER NUT	90 IN/LBS
10	GUIDE, SHAFT	120 IN/LBS
13 &15	NUT, & CAP SCREW	140 IN/LBS

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

SEE REVERSE SIDE FOR CONFIGURATION OPTIONS



DO NOT APPLY LOCTITE TO O-RING SEALS

REVISIONS

ECN	REV.	DESCRIPTION	DATE	APP'D
1791	U	CATALOG SHEET UPDATE, COMPONENT CHANGES	10/15/20	TRK

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)	
			1" NPT		1074080 (421-AB4)	
		CAST IRON	3/4" BSP		1074086	
			1" BSP		1074089	
		CAST BRASS	1" BSP		1074081	
2	SEAT - BRASS (REQ'S ASSY TOOL)			*	1074158 (421-M0)	1
3	HEX NUT (1/4-28)			*	1263852 (NUS-0100)	2
4	DISC PLATE - SS			*	1074149	1
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	421 COMBINATION SHAFT			*	4510231	1
8	GASKET - COPPER			*	1073948 (200-GG)	1
9	O-RING		BUNA N	*	1071693 (ORB-125)	1
			E.P.D.M.		1071732 (ORE-125)	
			FKM		1071803 (ORV-125)	
10	SHAFT GUIDE - SS (REQ'S ASSY TOOL)			*	1074123	1
11	DIAPHRAGM PLATE - SS			*	43942 (424-H)	2
12	CAP		CAST IRON	*	1074093 (421-C)	1
			CAST BRASS		1074096 (421-CB)	
13	HEX SCREW		PLATED STEEL	*	1072398 (SCZ-0004)	4
			SS(BRASS VALVE ONLY)		1080720 (SCS-0142)	
14	DIAPHRAGM		BUNA N	*	1074119 (421-FB)	1
			FKM		1074120 (421-FV)	
15	HEX NUT		PLATED STEEL	*	1071656 (NUZ-0008)	4
			SS(BRASS VALVE ONLY)		1071649 (NUS-007)	
16	O-RING		BUNA N	*	1071689 (ORB-110TC)	1
			E.P.D.M.		1071726 (ORE-110TC)	
			FKM		1239021 (ORV-110)	

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TOLERANCES:
ANGLES : ± 1°
1 PLACE .X: ± .015 [0.38]
2 PLACE .XX: ± .01 [0.3]
3 PLACE .XXX: ± .005 [0.13]

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THIRD ANGLE PROJECTION

APPROVALS	DATE
DRAWN TRK	10/15/20
CHECKED BY	
APPROVED	

AQ-Matic

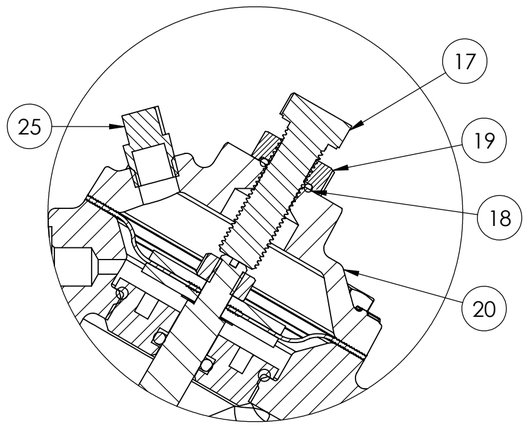
CATALOG SHEET, 421
DIAPHRAGM VALVE STANDARD MODEL

DWG NO. | REV. C

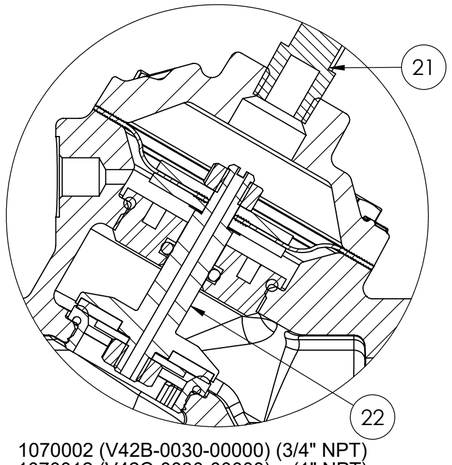
SCALE

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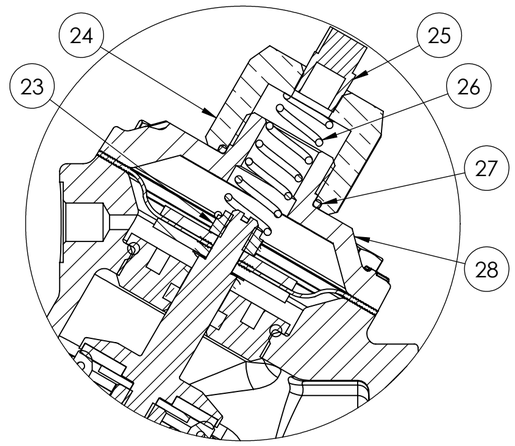
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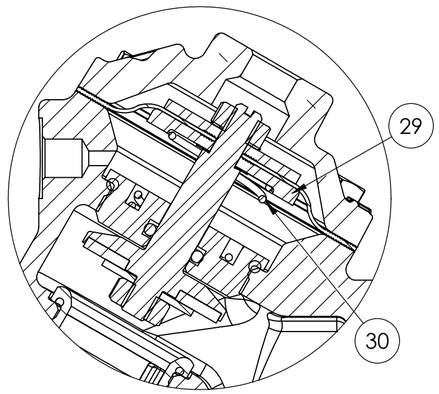
1072563 (V42B-0010-00000) (3/4" NPT)
1070015 (V42C-0010-00000) (1" NPT)
LIMIT STOP



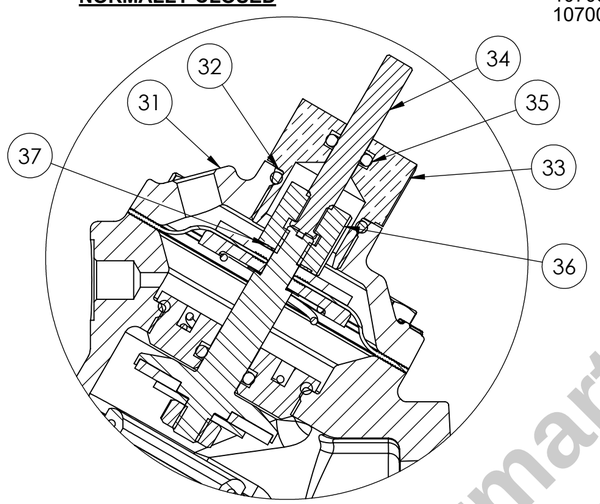
1070002 (V42B-0030-00000) (3/4" NPT)
1070012 (V42C-0030-00000) (1" NPT)
NORMALLY CLOSED



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

REVISIONS				
ECN	REV.	DESCRIPTION	DATE	APP'D
		SEE PAGE 1 FOR REV. CHANGES		

NO	DESCRIPTION		STD	PART NO.	QTY.
	LIMIT STOP MODEL				
17	SCREW		*	1072361 (SCS-0030)	1
18	O-RING	BUNA N	*	1071668 (ORB-012)	1
19	HEX NUT		*	4510459 (400-H)	1
20	CAP	CAST IRON	*	1074101 (421-CCC)	1
		CAST BRASS		1074104 (421-CCCB)	
	NORMALLY CLOSED MODEL				
21	PIPE PLUG (1/4" NPT)	PLATED STEEL	*	1071918 (PLZ-0008)	1
		BRASS		1071904 (PLB-0009)	
22	421 COMBINATION SHAFT		*	4510232	1
	SPRING ASSIST CLOSED MODEL				
23	CENTERING NUT		*	1074185 (421-X)	1
24	RETAINER NUT - BRASS		*	1074183 (421-TT)	1
25	PIPE PLUG (1/8" NPT)	PLATED STEEL	*	1071917 (PLZ-0005)	1
		BRASS		1071903 (PLB-0007)	
26	SPRING		*	1078602 (421-SS)	1
27	O-RING		*	1071674 (ORB-020)	1
28	CAP	CAST IRON	*	1074099 (421-CC)	1
		CAST BRASS		1074100 (421-CCB)	
	SPRING ASSIST OPEN MODEL				
29	DIAPHRAGM PLATE, 421, SAO		*	43727	1
30	SPRING		*	1078608	1
	POSITION INDICATOR MODEL				
31	CAP	CAST IRON	*	1074107 (421-CF)	1
		CAST BRASS	*	1074110 (421-CFB)	1
32	O-RING		*	1071692 (ORB-116)	1
33	SHAFT GUIDE BUSHING		*	1074121 (421-GF)	1
34	INDICATOR SHAFT		*	1074164 (421-PM)	1
35	O-RING		*	1071688 (ORB-108TC)	1
36	TOP NUT		*	1074182 (421-TB)	1
37	LOCKWASHER		*	1073589 (WAS-0006)	1

CONVERSION KITS

DESCRIPTION	PART NO.
CONVERSION KIT (LIMIT STOP) CONSISTS OF STANDARD ITEM NO'S 17 THRU 20	1074155 (421-LSC)
CONVERSION KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 23 THRU 28	1074177 (421-SCC)
CONVERSION KIT (SPRING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO'S 4, 8, 10, 30	1074179 (421-SOC)
CONVERSION KIT (POSITION INDICATOR) CONSISTS OF STANDARD ITEM NO'S 31 THRU 37	1074163 (421-PIC)

REPAIR PARTS KITS

DESCRIPTION	PART NO.
INT. PARTS KIT (LIMIT STOP) CONSISTS OF STANDARD ITEM NO'S 17, 18, 19	1074154 (421-LS)
INT. PARTS KIT (NORM. CLOSED) CONSISTS OF STANDARD ITEM NO'S 4, 11(2), 22	1070129 (421-RG)
INT. PARTS KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 23, 26, 27	1074176 (421-SC)
INT. PARTS KIT (SPRING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO'S 8, 29, 30	1074178 (421-SO)
INT. PARTS KIT (POSITION INDICATOR) CONSISTS OF STANDARD ITEM NO'S 32 THRU 37	1074162 (421-PI)

TORQUE TABLE

ITEM #	DESCRIPTION	TORQUED TO (+/- 10%)
20	NUT, LIMIT STOP	90 IN/LBS
24	CENTERING NUT	90 IN/LBS
25	NUT, SPRG RETAINER	120 IN/LBS
34	PI ROD GUIDE	120 IN/LBS
37	NUT, TOP, 428, PI	90 IN/LBS

NOTES:
1. SPRING ASSIST CLOSED MODEL CANNOT BE COMBINED WITH LIMIT STOP MODEL.
2. VALVES AVAILABLE WITH B.S.P.T END CONNECTIONS.

SEE REVERSE SIDE FOR STANDARD NORMALLY OPEN MODEL

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DO NOT SCALE DRAWING. DIMS. ARE IN INCHES [mm]
INTERPRET DIMS AND TOLERANCES PER ASME Y14.5M -1994
UNLESS OTHERWISE SPECIFIED:
CORNER FILLETS R.005-.020 [.127-.508]
TOLERANCES:
ANGLES : ± 1°
1 PLACE .X: ± .015 [0.38]
2 PLACE .XX: ± .01 [0.3]
3 PLACE .XXX: ± .005 [0.13]

THIRD ANGLE PROJECTION

APPROVALS	DATE
DRAWN TRK	10/15/20
CHECKED BY	
APPROVED	

AQ Matic

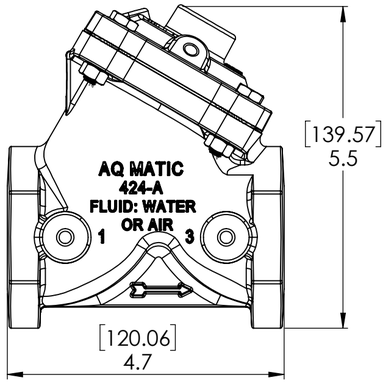
CATALOG SHEET, 421
DIAPHRAGM VALVE STANDARD MODEL

SCALE | DWG NO. C 1077613 | REV. 11

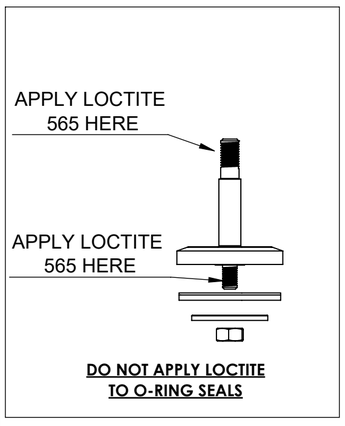
PT Watermart Perkasa
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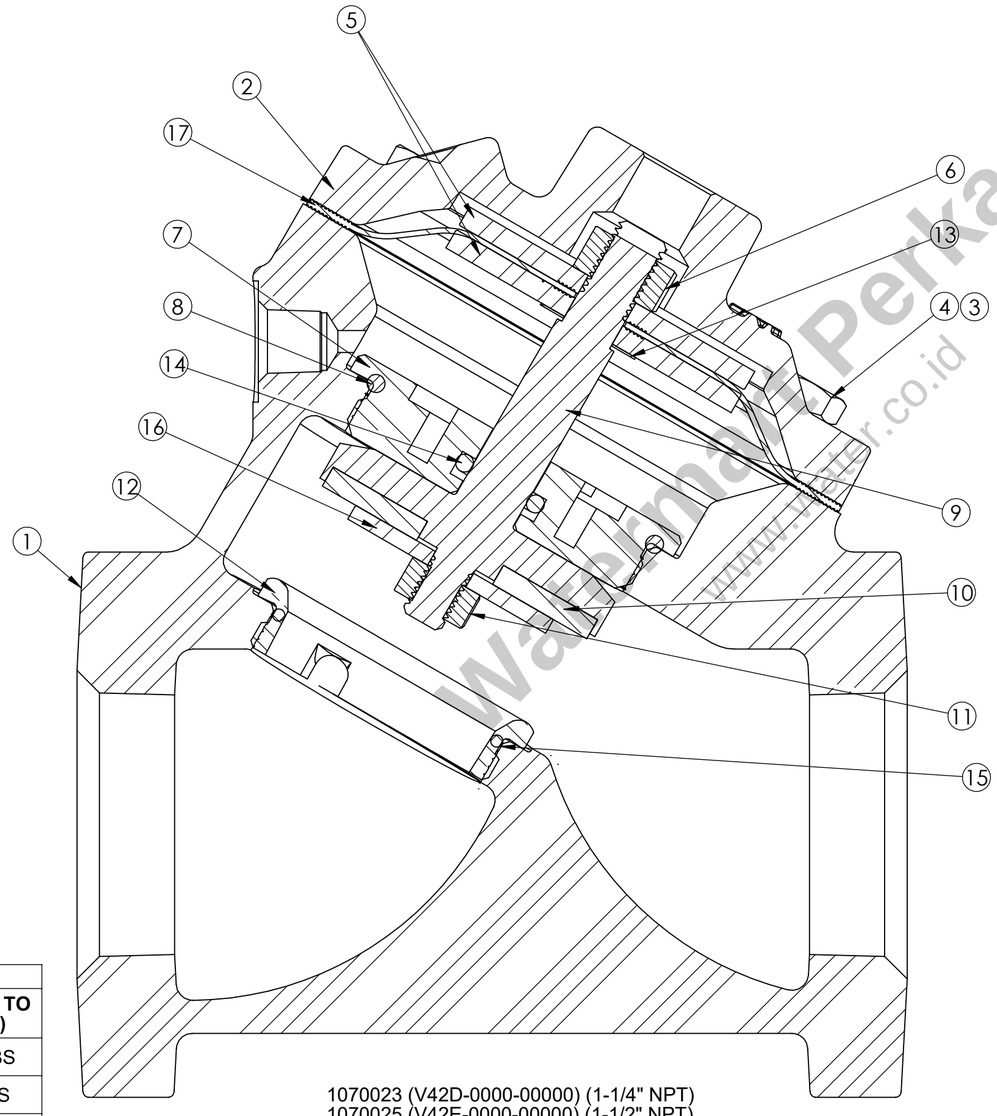
REPAIR PARTS KITS			
DESCRIPTION	**PART NO.**		
DIAPHRAGM & SEALS KIT CONSISTS OF ITEM NO'S 6,8,10,11,13,14,15,17	1070069 (424-RA)	1070082 (424-RAE)	1070094 (424-RAV)
	BUNA N INCLUDES DIAPHGRAM 1074222 (424-FB)	E.P.D.M. INCLUDES DIAPHGRAM 1074222 (424-FB)	FKM INCLUDES DIAPHGRAM 1074224 (424-FV)
INT. PARTS KIT (NORM. OPEN) CONSISTS OF STANDARD ITEM NO'S 5(2) ,7, 9, 16	1070119 (424-RF)		
SEAT (ITEM NO. 12)	1074245 (424-MO)		

REVISIONS				
ECN	REV.	DESCRIPTION	DATE	APP'D
1752	X	NEW VALVE AND COVER CASTINGS	8/7/20	
1814	Y	WAS 1/4"-18, CORRECTION 1/4"-20	1/5/21	



ASSEMBLY TOOLS	
DESCRIPTION	**PART NO.**
FOR INSTALLATION AND REMOVAL OF SEAT (ITEM #12) (TOOL NOT SHOWN)	1074247 (424-MT)
FOR INSTALLATION AND REMOVAL OF SHAFT GUIDE (ITEM #7) (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)

ITEM NO.	DESCRIPTION			STD.	PART NUMBER	QTY.
1	BODY	CAST IRON	1- 1/4" NPT	*	1074196 (424-A5)	1
			1- 1/2" NPT	*	1074199 (424-A6)	
		BRASS	1- 1/4" NPT		1074190 (424-AB5)	
			1- 1/2" NPT		1074193 (424-AB6)	
		CAST IRON	1- 1/4" BSP		1074197 (424-A5-BSP)	
			1- 1/2" BSP		1074200 (424-A6-BSP)	
2	CAP		CAST IRON	*	1074202 (424-C)	1
			CAST BRASS		1074206 (424-CB)	
3	HEX NUT 1/4" - 20		PLATED STEEL	*	1071656 (NUZ-0008)	4
			SS		1071649	
4	HEX SCREW 1/4" - 20		PLATED STEEL	*	1072399 (SCZ-0007)	4
			SS		1072392	
5	DIAPHRAGM DISC PLATE		SS	*	43943	2
6	HEX NUT 5/16" - 24		SS	*	1263853	1
7	SHAFT GUIDE		SS	*	1074226	1
8	O-RING -132		BUNA N	*	1071806 (ORVR-132)	1
			E.P.D.M		1071734	
			FKM		1071806	
9	NORMALLY OPEN COMBO SHAFT		SS	*	44013	1
10	DISC		BUNA N	*	1074234 (424-JH)	1
			E.P.D.M.		1074233 (424-JE)	
			FKM		1074236 (424-JV)	
			HYCAR		1074234 (424-JH)	
11	1/4"- 28 HEX NUT		SS	*	1263852	1
12	SEAT - (REQ'S ASSY TOOL)		BRASS	*	1074245 (424-MO)	1
13	WASHER,5/16" X .60 OD		COPPER	*	1074252 (424-R)	1
14	O-RING 2-110		BUNA N	*	1071661 (ORA-110)	1
			E.P.D.M		1071726	
			FKM		1239021	
15	O - RING 028		BUNA N	*	1071793	1
			E.P.D.M.		15243	
			FKM		1071793	
16	DISC PLATE		SS	*	43942	1
17	DIAPHRAGM		BUNA N	*	1074222	1
			FKM		1074224 (424-FV)	

TORQUE TABLE		
ITEM #	**DESCRIPTION**	**TORQUED TO (+/- 10%)**
12	SEAT	120 IN/LBS
11	LOWER NUT	90 IN/LBS
7	SHAFT GUIDE	120 IN/LBS
6	UPPER NUT	90 IN/LBS
3 & 4	NUT & CAP SCREW	90 IN/LBS

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INTERPRET DIMENSIONS AND TOLERANCES PER ASME Y14.5M -1994

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CORNER FILLETS R.005-.020 [.127-.508]
TOLERANCES:
ANGLES : ± 1°
1 PLACE .X: ± .100 [2.54]
2 PLACE .XX: ± .010 [0.25]
3 PLACE .XXX: ± .005 [0.13]

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THIRD ANGLE PROJECTION

APPROVALS	DATE
DRAWN TRK	4-3-20
CHECKED BY	
APPROVED	

AQ-MATIC VALVES AND CONTROLS

DESCRIPTION
CATALOG SHEET, 424
DIAPHRAGM VALVE STANDARD MODEL

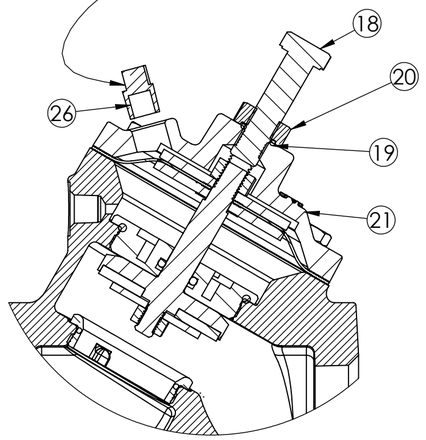
SIZE C | DWG NO. 1077614 | REV. V

SCALE 1:5

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Whatsapp (text only): +62815-8609-3500
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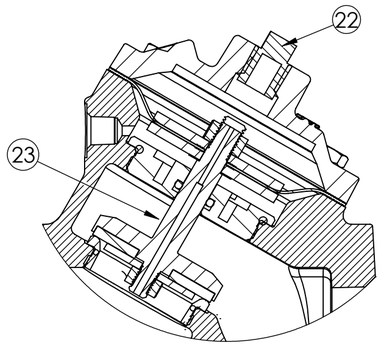
Watermart Perkasa
www.water.co.id

(USED WITH NORMALLY CLOSED VALVES ONLY)
(1/8" NPT)



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

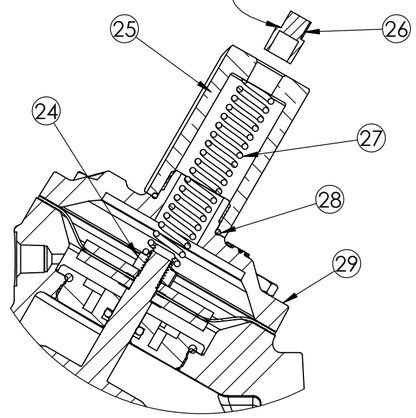
LIMIT STOP



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

NORMALLY CLOSED

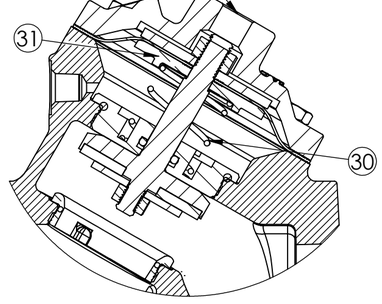
(USED WITH NORMALLY CLOSED VALVES ONLY)



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

SPRING ASSIST CLOSED

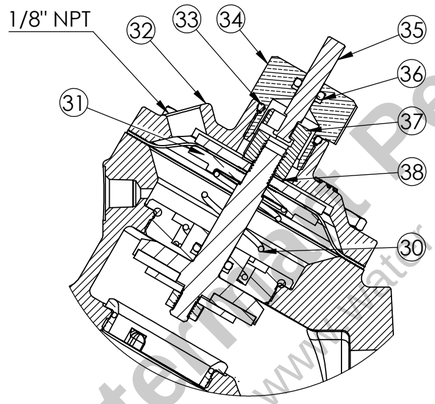
1/4" NPT



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

SPRING ASSIST OPEN

1/8" NPT



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

POSITION INDICATOR

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REVISIONS				
ECN	REV.	DESCRIPTION	DATE	APP'D
		SEE PAGE 1 FOR CHANGES		

NO	DESCRIPTION		STD	PART NO.	QTY.
LIMIT STOP MODEL					
18	SCREW 3/8"-24	SS	*	1072362 (SCS-0031)	1
19	O-RING	BUNA-N	*	1071668 (ORB-012)	1
20	NUT,STOP,3/8"-24	PLATED STEEL	*	4510459 (400-H)	1
21	CAP	CAST IRON	*	1074210 (424-CCC)	1
		CAST BRASS		1074213 (424-CCCB)	
NORMALLY CLOSED MODEL					
22	PIPE PLUG (1/4" NPT)	PLATED STEEL	*	1071918 (PLZ-0008)	1
		BRASS		1071904 (PLB-0009)	
23	COMBINATION SHAFT (NORMALLY CLOSED)	SS	*	44013-02 (424-LL)	1
SPRING ASSIST CLOSED MODEL					
24	CENTER NUT 5/16"-24	SS	*	1074276 (424-X)	1
25	RETAINER NUT	BRASS	*	1074274 (424-TT)	1
26	PIPE PLUG (1/8" NPT)	PLATED STEEL	*	1071917 (PLZ-0005)	1
		BRASS		1071903 (PLB-0007)	
27	SPRING	SS	*	1074270 (424-SS)	1
28	O-RING	BUNA-N	*	1071674 (ORB-020)	1
29	CAP	CAST IRON	*	1074208 (424-CC)	1
		CAST BRASS		1074209 (424-CCB)	
SPRING ASSIST OPEN MODEL					
30	SPRING	SS	*	1236766	1
31	DIAPH. PLATE, 424	SS	*	43728	1
POSITION INDICATOR MODEL					
32	CAP	CAST IRON	*	1074217 (424-CF)	1
		CAST BRASS	*	1074218 (424-CFB)	1
33	O-RING	BUNA-N	*	1071692 (ORB-116)	1
34	SHAFT GUIDE BUSHING	BRASS	*	1074121 (421-GF)	1
35	INDICATOR SHAFT	SS	*	1074251 (424-PM)	1
36	O-RING	BUNA-N	*	1071688 (ORB-108TC)	1
37	TOP NUT	BRASS	*	1074272 (424-TB)	1
38	LOCKWASHER	SS	*	1073590 (WAS-0007)	1

CONVERSION KITS	
DESCRIPTION	**PART NO.**
CONVERSION KIT (LIMIT STOP) CONSISTS OF STANDARD ITEM NO'S ***18, 19, 20, 21***	1074243 (424-LSC)
CONVERSION KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S ***24 THRU 29***	1074266 (424-SCC)
CONVERSION KIT (SPRING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO'S ***13, 30, 31***	1074269 (424-SOC)
CONVERSION KIT (POSITION INDICATOR) CONSISTS OF STANDARD ITEM NO'S ***32 THRU 38***	1074250 (424-PIC)

REPAIR PARTS KITS	
DESCRIPTION	**PART NO.**
INT. PARTS KIT (LIMIT STOP) CONSISTS OF STANDARD ITEM NO'S ***18, 19, 20***	1074242 (424-LS)
INT. PARTS KIT (NORM. CLOSED) CONSISTS OF STANDARD ITEM NO'S ***5 (2x), 7, 16, 23***	1070130 (424-RG)
INT. PARTS KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S ***24, 27, 28***	1074265 (424-SC)
INT. PARTS KIT (SPRING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO'S ***13, 30, 31***	1074268 (424-SO)
INT. PARTS KIT (POSITION INDICATOR) CONSISTS OF STANDARD ITEM NO'S ***33 THRU 38***	1074249 (424-PI)

TORQUE TABLE		
ITEM #	**DESCRIPTION**	**TORQUED TO (+/- 10%)**
20	NUT, STOP	90 IN/LBS
24	CENTERING NUT	90 IN/LBS
25	RETAINER NUT	120 IN/LBS
34	SHAFT GUIDE BUSHING	120 IN/LBS
37	TOP NUT	90 IN/LBS

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CORNER FILLETS R.005-.020 [.127-.508]
TOLERANCES:
ANGLES : ± 1°
1 PLACE .X: ± .100 [2.54]
2 PLACE .XX: ± .010 [0.25]
3 PLACE .XXX: ± .005 [0.13]

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THIRD ANGLE PROJECTION

APPROVALS	DATE
DRAWN TRK	4-3-20
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APPROVED	

AQ-MATIC
VALVES AND CONTROLS

DESCRIPTION
CATALOG SHEET, 424
DIAPHRAGM VALVE STANDARD MODEL

SIZE C | DWG NO. 1077614 | REV. V
SCALE 1:5

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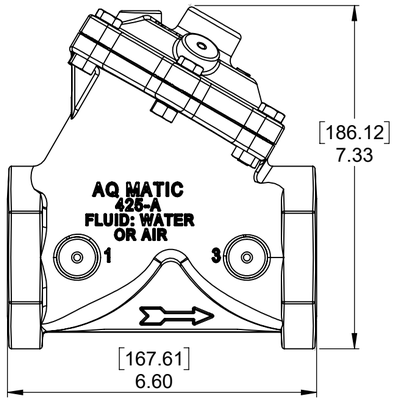
REPAIR PARTS KITS			
DESCRIPTION	**PART NO.**		
DIAPHRAGM & SEALS KIT CONSISTS OF ITEM NO'S 5(2), 7, 8, 9, 10(2), 15	1070070 (425-RA)	1070083 (425-RAE)	1070095 (425-RAV)
	BUNA N INCLUDES DIAPHRAGM 1074296 (425-FB)	E.P.D.M. INCLUDES DIAPHRAGM 1074296 (425-FB)	FKM INCLUDES DIAPHRAGM 1074297 (425-FV)
INT. PARTS KIT (NORM. OPEN) CONSISTS OF STANDARD ITEM NO'S 2, 3, 6, 13, 14(2)	1070120 (425-RF)		
SEAT (ITEM NO.14)	1074321 (425-MO)		

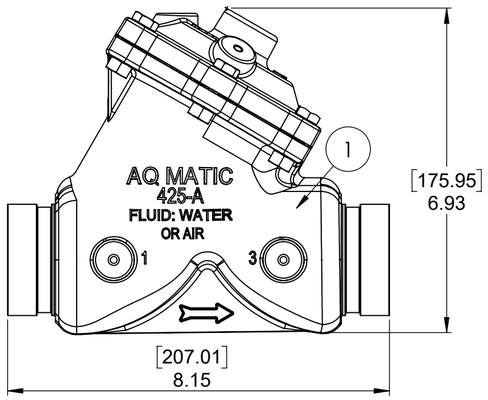
ASSEMBLY TOOLS	
DESCRIPTION	**PART NO.**
FOR INSTALLATION & REMOVAL OF SEAT (ITEM #14) (TOOL NOT SHOWN)	1074411 (426-MT)
FOR INSTALLATION & REMOVAL OF SHAFT GUIDE (ITEM #3) (1.125 SOCKET DRIVER)	1074299 (425-GAT)

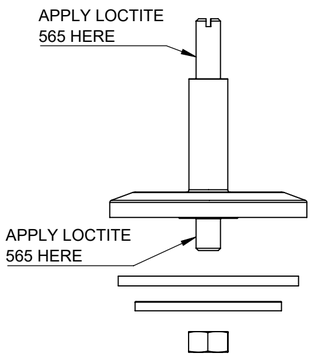
*1074299 - SPANNER WRENCH TOOL USED ON SHAFT GUIDES MADE BETWEEN 2014 THRU 2018. ALL OTHERS ARE SOCKET STYLE

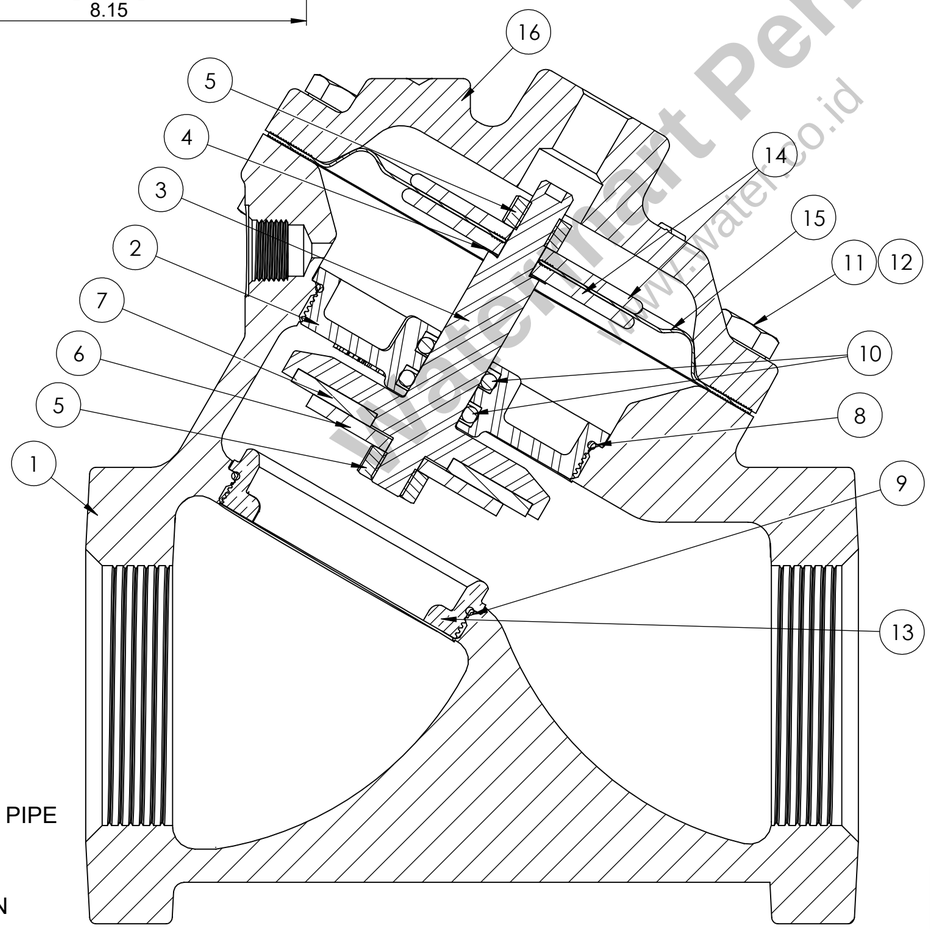
TORQUE TABLE		
ITEM #	**DESCRIPTION**	**TORQUED TO(+/- 10%)**
14	SEAT	120 IN/LBS
6	UPPER NUT	140 IN/LBS
6	LOWER NUT	140 IN/LBS
3	SHAFT GUIDE	120 IN/LBS
12 & 13	NUT, HEX SCREW	140 IN/LBS

REVISIONS				
ECN	REV.	DESCRIPTION	DATE	APP'D
1752	W	COMPONENT UPDATE	8/7/20	









1070035 (V42F-0000-00000) (2" NPT)
NORMALLY OPEN (STANDARD)

ITEM NO.	DESCRIPTION		STD	PART NUMBER	QTY
1	MACHINE VALVE BODY, 425	2" NPT CAST IRON	*	1074277 (425-A)	1
	CAST IRON MACHINE BODY	2" BSP CAST IRON		1074278 (425-A-BSP)	
	CAST IRON CLAMP DESIGN MACHINED BODY	2" PIPE CAST IRON		4510482	
2	SHAFT GUIDE (ASSY TOOL REQUIRED)	SS	*	43848	1
3	COMBO SHAFT, NORMALLY OPEN	SS	*	44017 (425-L)	1
4	COPPER GASKET		*	1074252 (424-R)	1
5	HEX NUT (5/16"-24)	SS	*	1263853 (RMET)	2
6	DISC PLATE	SS		43943	1
7	DISC	BUNA	*	1074307 (425-JH)	1
		E.P.D.M.		1074309 (425-JE)	
		FKM		1074312 (425-JV)	
		HYCAR		1074310 (425-JH)	
8	O-RING 2-038	BUNA	*	1071684 (ORB-038)	1
		E.P.D.M.		1071725 (ORE-038)	
		FKM		1071795 (ORV-038)	
9	O-RING 2-035	BUNA	*	1071682 (ORB-035)	1
		E.P.D.M.		1071724 (ORE-035)	
		VITON		1071794 (ORV-035)	
10	O-RING 2-206	BUNA	*	1071699 (ORB-206TC)	2
		E.P.D.M.		1239009 (ORE-206)	
		FKM		1239008 (ORV-206)	
11	HEX SCREW 5/16"-18	PLATED STEEL	*	1072400 (SCZ-0013)	6
12	HEX NUT 5/16"-18	PLATED STEEL	*	1071657 (NUZ-0011)	6
13	SEAT (ASSY TOOL REQUIRED)	BRASS	*	1074321 (425-MO)	1
14	DIAPHRAGM / DISC PLATE	SS		4510417	2
15	DIAPHRAGM	BUNA	*	1074296 (425-FB)	1
		FKM		1074297 (425-FV)	
16	CAP, 425, NPT	CAST IRON		1074281 (425-C)	1

SEE REVERSE SIDE FOR CONFIGURATION OPTIONS

NOTE:

1. AMERICAN NATIONAL STANDARD TAPER PIPE THREADS (NPT) PER ANSI B2.1-1968.
2. CLAMP VALVE DESIGN STANDARD AWWA C606-15 IPS CUT GROOVE DESIGN
3. VALVES AVAILABLE WITH B.S.P.T. END CONNECTIONS.

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INTERPRET DIMENSIONS AND TOLERANCES PER ASME Y14.5M -1994

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CORNER FILLETS R.005-.020 [.127-.508]
TOLERANCES:
ANGLES : ± 1°
1 PLACE .X: ± .100 [2.54]
2 PLACE .XX: ± .010 [0.25]
3 PLACE .XXX: ± .005 [0.13]

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THIRD ANGLE PROJECTION

APPROVALS	DATE
DRAWN TRK	4/21/20
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AQ-MATIC
VALVES AND CONTROLS

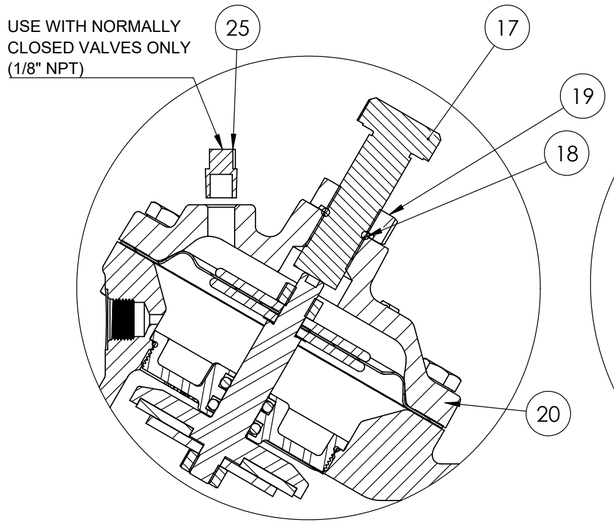
DESCRIPTION
CATALOG SHEET, 425
DIAPHRAGM VALVE

SIZE C | DWG NO. 1077615 | REV. W

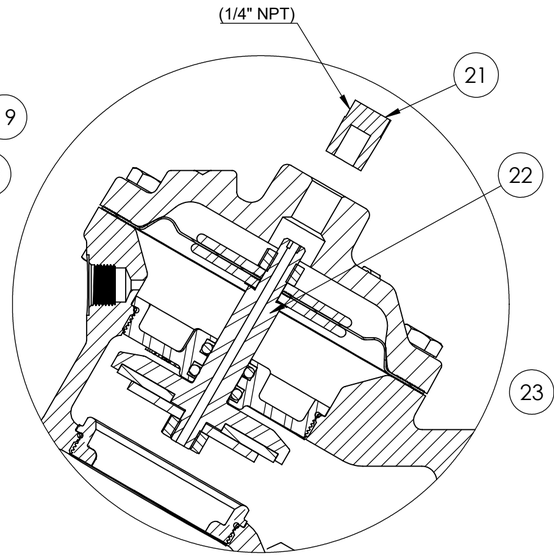
SCALE 1:5

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Whatsapp (text only): +62815-8609-3500
Website: www.water.co.id

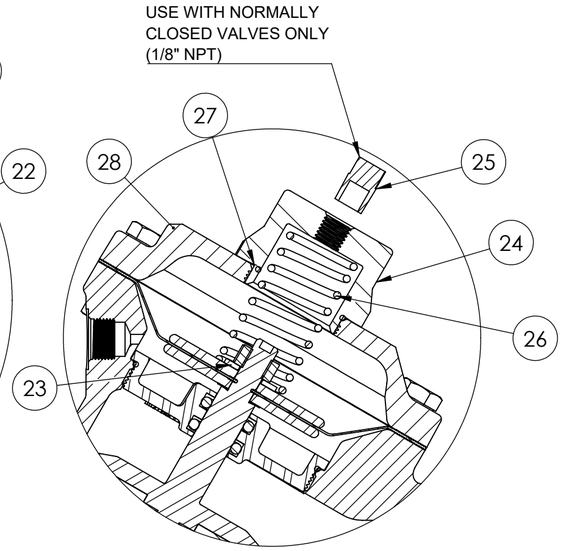
Watermart Perkasa
www.water.co.id



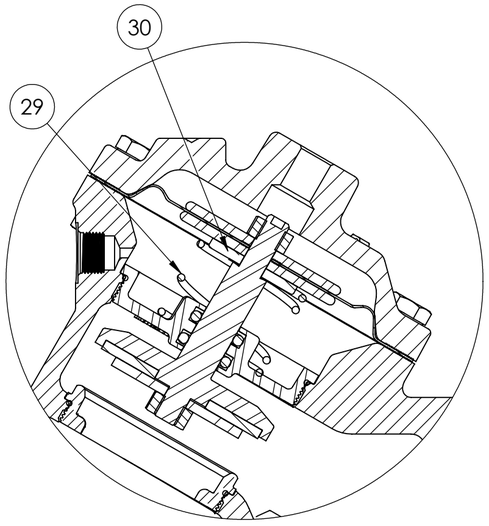
1070037 (V42F-0010-00000) (2" NPT)
LIMIT STOP



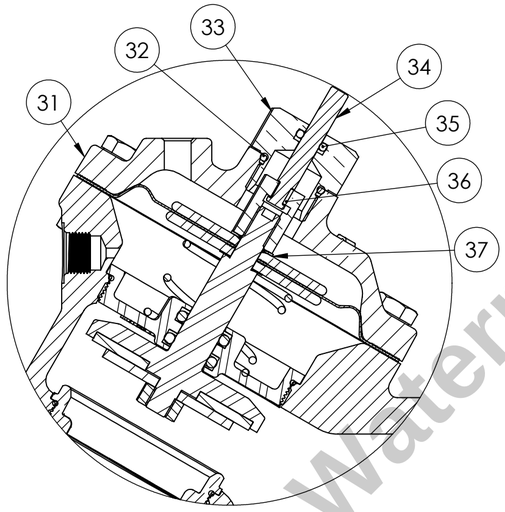
1072894 (V42F-0030-00000) (2" NPT)
NORMALLY CLOSED



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

TORQUE TABLE		
ITEM #	DESCRIPTION	TORQUED TO (+/- 10%)
19	NUT, LIMIT STOP	120 IN/LBS
24	NUT, SPRING RETAINER	120 IN/LBS
33	SHAFT GUIDE BUSHING	120 IN/LBS
36	TOP NUT	120 IN/LBS

NOTE:

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

REVISIONS				
ECN	REV.	DESCRIPTION	DATE	APP'D
		SEE PAGE 1 FOR REVISION CHANGES		

NO.	DESCRIPTION		STD	PART NO.	QTY.
LIMIT STOP MODEL					
17	SCREW		●	1078676 (SCS-0042)	1
18	O-RING		●	1071690 (ORB-112)	1
19	NUT, LIMIT STOP		●	1074434 (426-U)	1
20	CAP, 425, NPT, LS		●	1074285 (425-CCC)	1
NORMALLY CLOSED MODEL					
21	PIPE PLUG (1/4" N.P.T.)	PLATED STEEL	●	1071918 (PLZ0008)	1
		BRASS		1071904 (PLB-0009)	
22	COMBINATION SHAFT (NORM. CLOSED)		●	44017-01 (425-LL)	1
SPRING ASSIST CLOSED MODEL					
23	CENTERING WASHER	BRASS	●	1074083 (421-AH)	1
24	NUT, SPRG RETAINER	SS	●	1074433 (426-TTF)	1
25	PIPE PLUG (1/8" N.P.T.)	PLATED STEEL	●	1071917 (PLZ-0005)	1
		BRASS		1071903 (PLB-0007)	
26	SPRING		●	1078688 (426-SS)	1
27	O-RING		●	1071677 (ORB-025)	1
28	CAP	CAST IRON	●	1074284 (425-CA)	1
SPRING ASSIST OPEN MODEL					
29	SPRING		●	1078692 (426-S)	1
30	WASHER, CENTERING	BRASS		1074436 (426-V)	1
POSITION INDICATOR MODEL					
31	CAP	CAST IRON	●	1074288 (425-CF)	1
32	O-RING		●	1071692 (ORB-116)	1
33	SHAFT GUIDE BRUSHING		●	1074121 (421-GF)	1
34	INDICATOR SHAFT		●	1074325 (425-PM)	1
35	O-RING		●	1071688 (ORB-108-TC)	1
36	TOP NUT		●	1074332 (425-TB)	1
37	LOCKWASHER		●	1073590 (WAS-0007)	1

CONVERSION KITS	
DESCRIPTION	**PART NO.**
CONVERSION KIT (LIMIT STOP) CONSISTS OF STANDARD ITEM NO'S 17, 18, 19, 20	1074320 (425-LSC)
CONVERSION KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 23 THRU 28	1074330 (425-SCC)
CONVERSION KIT (SPRING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO'S 5, 29, 15	1074331 (425-SO)
CONVERSION KIT (POSITION INDICATOR) CONSISTS OF STANDARD ITEM NO'S 31 THRU 37	1074324 (425-PIC)

REPAIR PARTS KITS	
DESCRIPTION	**PART NO.**
INT. PARTS KIT (LIMIT STOP) CONSISTS OF STANDARD ITEM NO'S 17, 18, 19	1074319 (425-LS)
INT. PARTS KIT (NORM CLOSED) CONSISTS OF STANDARD ITEM NO'S 3, 7, 15(2), 22	1070131 (425-RG)
INT. PARTS KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 23, 26, 27	1074329 (425-SC)
INT PARTS KIT (SPRING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO'S 5, 29, 15	1074331 (425-SO)
INT PARTS KIT (POSITION INDICATOR) CONSISTS OF STD ITEM NO'S 32 THRU 37	1074323 (425-PI)

SEE REVERSE SIDE FOR STANDARD NORMALLY OPEN MODEL.

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INTERPRET DIMENSIONS AND TOLERANCES PER ASME Y14.5M -1994

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES [mm]
CORNER FILLETS R.005-.020 [.127-.508]
TOLERANCES:
ANGLES : ± 1°
1 PLACE .X: ± .100 [2.54]
2 PLACE .XX: ± .010 [0.25]
3 PLACE .XXX: ± .005 [0.13]

THE COMPONENT OR PRODUCT DESCRIBED IN THIS DOCUMENT MUST COMPLY WITH RoHS 3 EU (EUROPEAN UNION) DIRECTIVE 2015/863

THIRD ANGLE PROJECTION

APPROVALS	DATE
DRAWN TRK	4/21/20
CHECKED BY	
APPROVED	

AQ-MATIC
VALVES AND CONTROLS

DESCRIPTION: CATALOG SHEET, 425 DIAPHRAGM VALVE

SIZE C | DWG NO. 1077615 | REV. W

SCALE 1:5

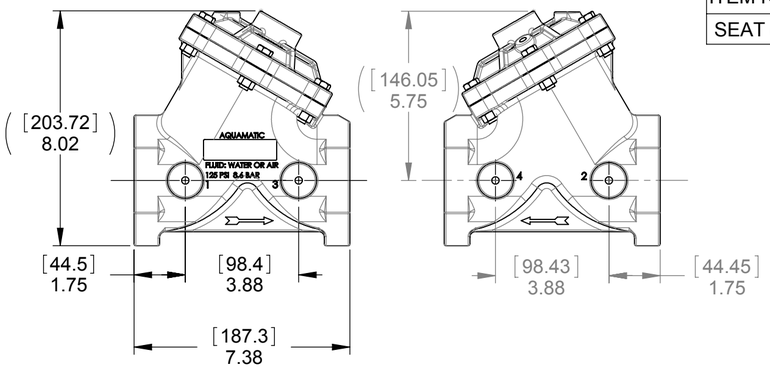
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ASSEMBLY TOOLS

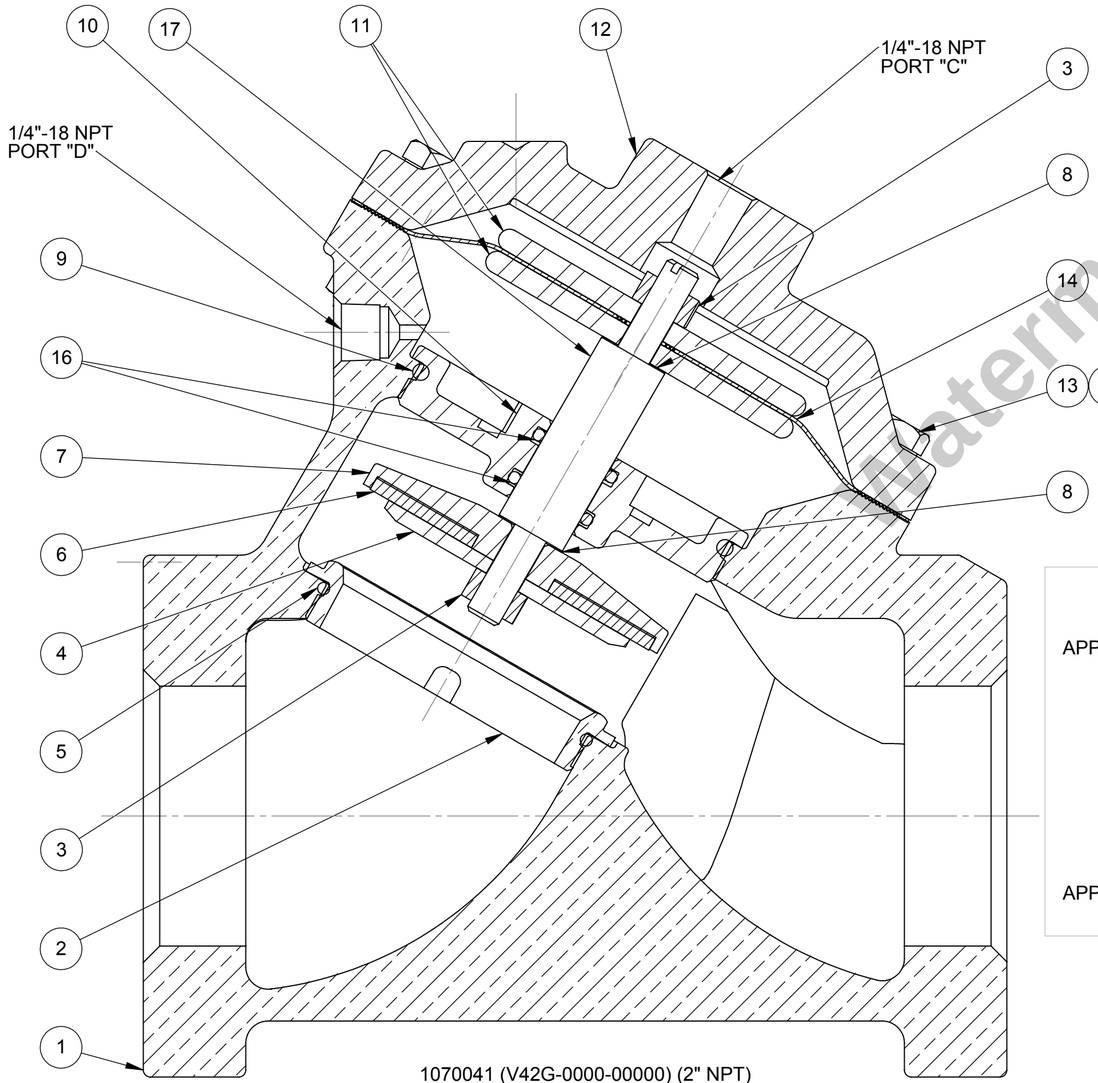
DESCRIPTION	PART NO.
FOR INSTALLATION & REMOVAL OF SEAT (ITEM #2) (TOOL NOT SHOWN)	1074411 (426-MT)
FOR INSTALLATION & REMOVAL OF SHAFT GUIDE (ITEM #10) (TOOL NOT SHOWN)	1-1/4" HEX SOCKET

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) BUNA N INCLUDES DIAPHRAGM 1074374 (426-FB)	1070084 (426-RAE) EPDM INCLUDES DIAPHRAM 1074374 (426-FB)	1070096 (426-RAV) FKM INCLUDES DIAPHRAM 1074376 (426-FV)
INT. PARTS KIT (NORM. OPEN) CONSISTS OF STANDARD ITEM NO'S 4,7,10,11(2),17	1070121(426-RF)		
SEAT (ITEM NO. 2)	1074409 (426-MO)		

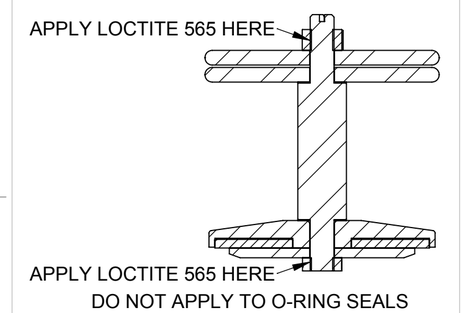


TORQUE TABLE		
ITEM #	DESCRIPTION	TORQUED T0 (+/- 10%)
2	SEAT	200 IN/LBS
3	UPPER NUT	140 IN/LBS
3	LOWER NUT	140 IN/LBS
10	SHAFT GUIDE	200 IN/LBS
13 & 15	NUT, HEX SCREW	140 IN/LBS



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

NORMALLY OPEN (STANDARD)



DO NOT APPLY TO O-RING SEALS

REVISIONS

ZONE	ECN	REV.	DESCRIPTION	DATE	APP'D
	32173	N	CORRECTED ROTATION OF CAPS	17FEB11	MHM
	32879	P	1-WAS: 1074411 (426-MT); 2-ADD'D: 1074127; 3-ADD'D: 42998;	06-06-11	TMS
	102034	R	ITEM #10-WAS 1074379, ITEM# 16-ADDED O-RING 1071691	5-31-13	NBE
	103562	T	ITEM# 4-WAS:1074395, ITEM# 7-WAS:1074381, ITEM# 10-WAS:43244, ITEM# 11-WAS:1074370, ITEM# 26-WAS:1074430, ITEM# 32-WAS: 43047	26JUN14	TJM
	104754	U	1-ADD'D: TORQUE CHARTS (PG-1 & 2)	23JUN15	TJM

NO.	DESCRIPTION		STD	PART NO.	QTY
1	BODY	CAST IRON 2" NPT	*	1074343 (426-A8)	1
		CAST IRON 2 1/2" NPT	*	1081559 (426-A10)	
		CAST BRASS 2" NPT		1074338 (426-AB8)	
		CAST BRASS 2 1/2" NPT		1074335 (426-AB10)	
2	SEAT; BRASS (REQ'S ASSY TOOL)		*	1074409 (426-M0)	1
3	HEX NUT (5/16-24)		*	1263853	2
4	DISC PLATE, SS			1074398	1
5	O-RING	BUNA N	*	1071696 (ORB-144)	1
		EPDM		1071737 (ORE-144)	
		FKM		1071809 (ORV-144)	
6	DISC	BUNA	*	1074389 (426-J)	1
		EPDM		1074391 (426-JE)	
		FKM		1074394 (426-JV)	
		HYCAR		1074392 (426-JH)	
7	DISC HOLDER, SS		*	1074386	1
8	GASKET, COPPER		*	1074252 (424-R)	2
9	O-RING	BUNA N	*	1071706 (ORB-233)	1
		EPDM		1071754 (ORE-233)	
		FKM		1071826 (ORV-233)	
10	SHAFT GUIDE (REQ'S ASSY TOOL)		*	1074378	1
11	DIAPHRAGM PLATE; SS		*	1074371	2
12	CAP	CAST IRON	*	1081560 (426-C)	1
		CAST BRASS		1074348 (426-CB)	
13	HEX SCREW	PLATED STEEL	*	1072401 (SCZ-0015)	6
14	DIAPHRAGM	BUNA N	*	1074374 (426-FB)	1
		FKM		1074376 (426-FV)	
15	HEX NUT	PLATED STEEL	*	1071657 (NUZ-0011)	6
16	O-RING	BUNA N	*	1071691 (ORB-114TC)	2
		EPDM		1071729 (ORE-114TC)	
		FKM		1242391 (ORV-114TC)	
17	SHAFT (NORMALLY OPEN)		*	1074401 (426-L)	1
18	TAG		*	1074129	1
19	RING,TAG ATTACHING		*	42998	1

NOTE:

1. AMERICAN NATIONAL STANDARD TAPER PIPE THREADS (NPT) PER ANSI B2.1-1968.
2. VALVES AVAILABLE WITH BSPT END CONNECTIONS.

SEE REVERSE SIDE FOR CONFIGURATION OPTIONS

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INTERPRET DIMS AND TOLERANCES PER ASME Y14.5M -2009
UNLESS OTHERWISE SPECIFIED:
ALL FINISHED MACHINED SURFACES 125 ✓ OR BETTER.
TOLERANCES:
ANGLES : ± 1°
1 PLACE .X: ± .015 [0.38]
2 PLACE .XX: ± .01 [0.3]
3 PLACE .XXX: ± .005 [0.13]

THIRD ANGLE PROJECTION

APPROVALS	DATE
DRAWN	
APPROVED	
CHECKED	

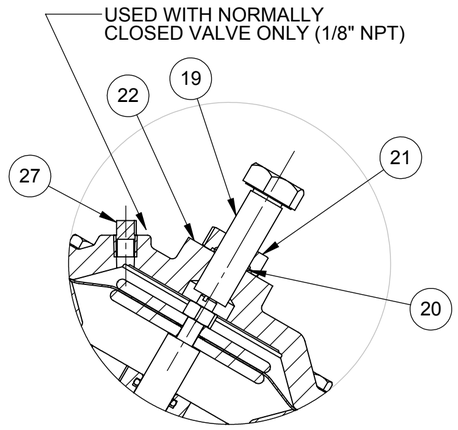
AQ Matic
Valve & Controls Company Inc.

TITLE
CATALOG SHEET, 426
DIAPHRAGM VALVE STANDARD MODEL

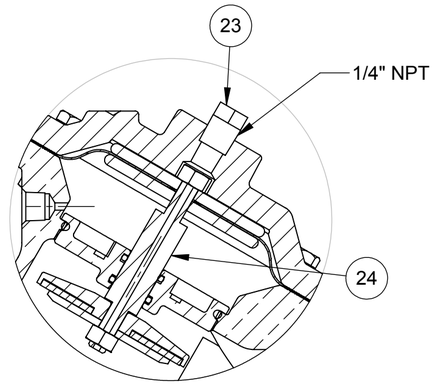
SIZE B | DWG NO | REV
SCALE 1:2

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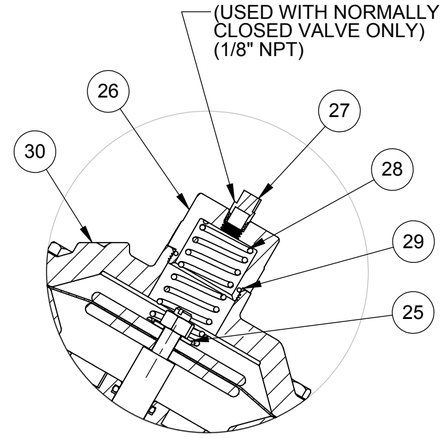
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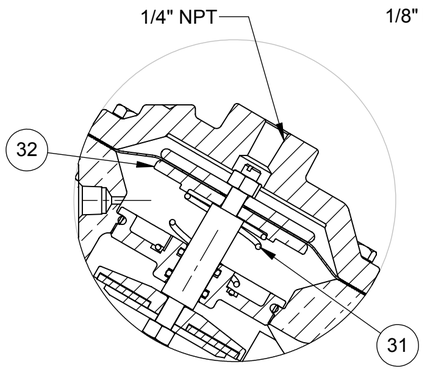
1072939 (V42G-0010-00000) (2"NPT)
1072998 (V42H-0010-00000) (2 1/2" NPT)
LIMIT STOP



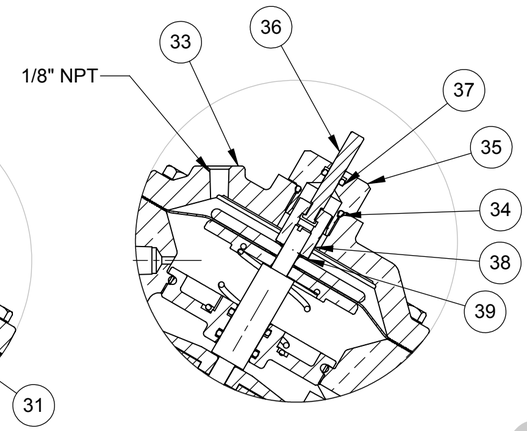
1072945 (V42G-0030-00000) (2"NPT)
1073002 (V42H-0030-00000) (2 1/2" NPT)
NORMALLY CLOSED



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

TORQUE TABLE		
ITEM#	DESCRIPTION	TORQUED TO (+/- 10%)
21	NUT	120 IN/LBS
26	RETAINER NUT	140 IN/LBS
35	SHAFT GUIDE BUSHING	140 IN/LBS
38	TOP NUT	120 IN/LBS

REVISIONS					
ZONE	ECN	REV.	DESCRIPTION	DATE	APP'D
	1001	V	AQ Matic update & verified part numbers	17JAN17	MGS

NO.	DESCRIPTION		STD	PART NO.	QTY
LIMIT STOP MODEL					
19	SCREW		*	1078676	1
20	O-RING		*	1071690 (ORB-112)	1
21	NUT		*	1074434 (426-U)	1
22	CAP	CAST IRON	*	1074354 (426-CCC)	1
		BRASS		1074357 (426-CCCB)	
NORMALLY CLOSED MODEL					
23	PIPE PLUG (1/4" NPT)	PLATED STEEL	*	1071918 (PLZ-0008)	1
		BRASS		1071904 (PLB-0009)	
24	SHAFT (NORMALLY CLOSED)		*	43169 (426-LL)	1
SPRING ASSIST CLOSED MODEL					
25	CENTERING WASHER	BRASS	*	1074083 (421-AH)	1
26	RETAINER NUT	SS	*	1074433	1
27	PIPE PLUG (1/8" NPT)	PLATED STEEL	*	1071917 (PLZ-0005)	1
		BRASS		1071903 (PLB-0007)	
28	SPRING		*	1078688	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					
31	SPRING			1078692	1
32	PLATE, DIAPHRAGM,426 SAO			43732	1
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

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),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)

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)

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

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TOLERANCES:
ANGLES : ± 1°
1 PLACE .X: ± .015 [0.38]
2 PLACE .XX: ± .01 [0.3]
3 PLACE .XXX: ± .005 [0.13]

THIRD ANGLE PROJECTION

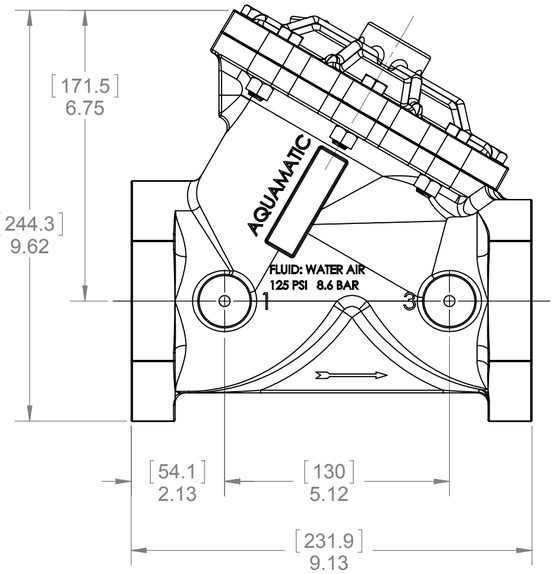
APPROVALS	DATE
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AQ Matic
Valve & Controls Company Inc.

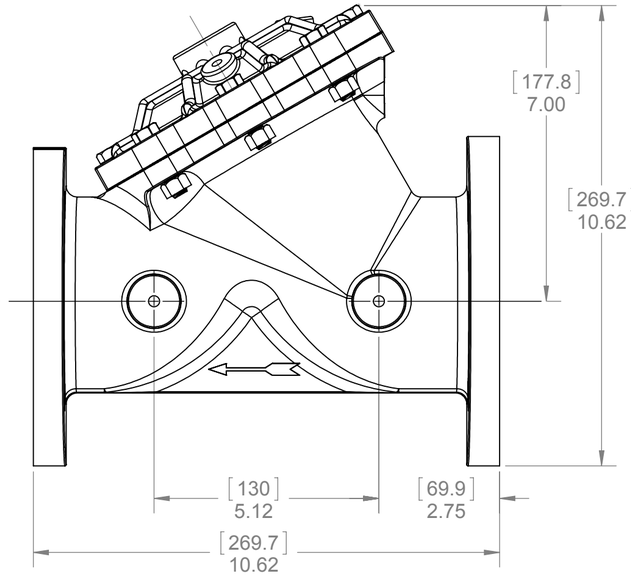
TITLE
CATALOG SHEET, 426
DIAPHRAGM VALVE STANDARD MODEL

SIZE B | DWG NO | REV
SCALE 1:2

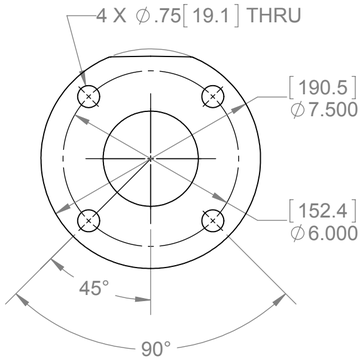
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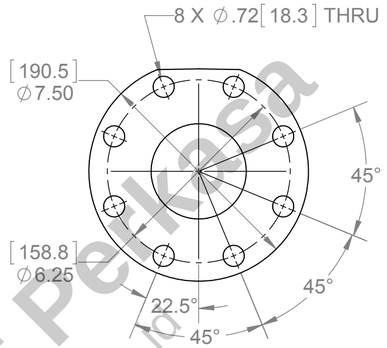
1070043 (V42J-0000-00000)
3" NPT ENDS



1070044 (V42J-3000-00000)
FLANGED ENDS

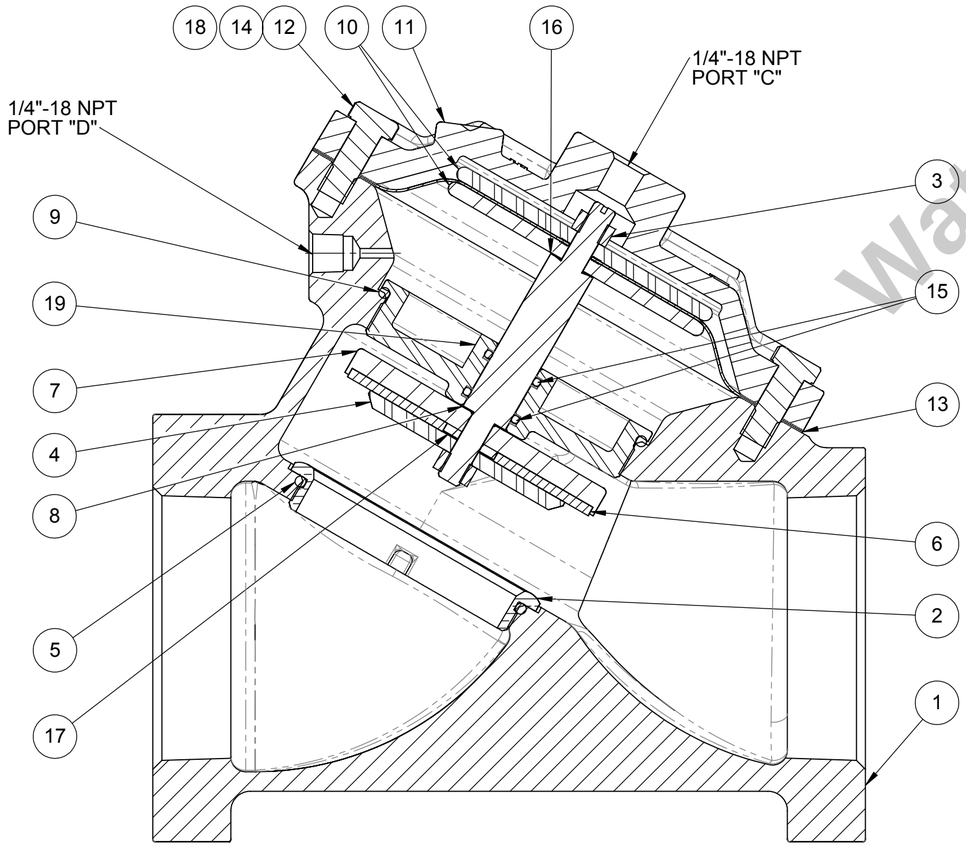


AMERICAN FLANGE PER
A.S.A. 16.1 CLASS 125



METRIC FLANGE PER
BS4504. DIN 10 & ISO R 2084

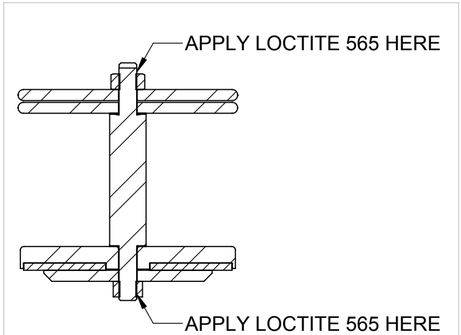
NOTE:
1. AMERICAN NATIONAL STANDARD TAPER PIPE THREADS (NPT) PER ANSI B2.1-1968
2. VALVES AVAILABLE WITH B.S.P. OR J.I.S. END CONNECTIONS



NORMALLY OPEN (STANDARD)

SEE REVERSE SIDE FOR
CONFIGURATION OPTIONS

TORQUE CHART		
ITEM #	DESCRIPTION	TORQUED TO (+/- 10%)
2	SEAT	500 IN/LBS (41.6 FT/LBS)
3	UPPER NUT	140 IN/LBS
3	LOWER NUT	140 IN/LBS
12,14,&18	NUT, HEX SCREW	140 IN/LBS
19	SHAFT GUIDE	500 IN/LBS (41.6 FT/LBS)



DO NOT APPLY TO O-RING SEALS

REVISIONS

ZONE	ECN	REV.	DESCRIPTION	DATE	APP'D
	1101517	L	REDRAWN IN SOLIDWORKS	1-21-13	NE
	102041	M	1-WAS 1074481, 2-ADDED O-RING	6-3-13	NBE
	103682	N	1-ITEM#10-WAS:1074471, 2-ITEM#19-WAS:43245, 3-ITEM#33-WAS:43048, 4-ITEM#4- WAS:1074493	20AUG14	TJM
	104231	P	1- ITEM# 28-1071917, 1071903, 1071916, 2- CHG'D: 1/8 NPT ON LS & PI VERSIONS	04FEB15	TJM
	104754	R	1- ADD'D: TORQUE CHARTS (PG-1 & 2)	25JUN15	TJM

NO.	DESCRIPTION			STD	PART NO.	QTY
1	BODY	THREADED	3" NPT	*	1074446	1
			3" BRASS	*	1074449	
		FLANGED	3" ASTM		1074438	
2	SEAT; BRASS (REQ'S ASSY TOOL)			*	1074505	1
3	HEX NUT (5/16-24)		SS	*	1263853	2
4	DISC PLATE		SS		1074495	1
5	O-RING		BUNA N	*	1071706 (ORB-233)	1
			EPDM		1071754 (ORE-233)	
			FKM		1071826 (ORV-233)	
6	DISC		BUNA	*	1074487 (427-J)	1
			EPDM		1074489 (427-JE)	
			FKM		1074492 (427-JV)	
			HYCAR		1074490 (427-JH)	
7	DISC HOLDER		BRASS	*	1074485	1
8	GASKET, COPPER			*	1074252 (424-R)	2
9	O-RING		BUNA N	*	1071708 (ORB-237)	1
			EPDM		1071755 (ORE-237)	
			FKM		1071828 (ORV-237)	
10	PLATE, UPPER DIAPHRAGM		SS	*	1074472	2
11	CAP		CAST IRON	*	1074454 (427)	1
			CAST BRASS		1074457 (427)	
12	HEX SCREW		PLATED STEEL	*	1072405 (3/8 - 16)	6
13	DIAPHRAGM		BUNA N	*	1074374 (426-FB)	1
			FKM		1074376 (426-FV)	
14	HEX NUT		PLATED STEEL	*	1071657 (NUZ-0011)	6
15	O-RING		BUNA N	*	1071691 (ORB-114TC)	2
			EPDM		1071729 (ORE-114TC)	
			FKM		1242391 (ORV-114TC)	
16	SHAFT (NORMALLY OPEN)		SS	*	1074496 (427)	1
17	SPACER		BRASS	*	1074382	1
18	HEX SCREW 3/8 - 16		SS	*	19768	2
19	SHAFT GUIDE		SS	*	1074479	1

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) BUNA N INCLUDES DIAPHRAGM 1074475 (427-FB)	1070085 (427-RAE) E.P.D.M. INCLUDES DIAPHRAGM 1074475 (427-FB)	1070097 (427-RAV) FKM INCLUDES DIAPHAGM 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)	1-1/8" HEX SOCKET

COMPONENTS / ASSEMBLIES TO BE COMPLIANT AND COMPATIBLE WITH EUROPEAN UNION DIRECTIVE 2011/65/EEC (RoHS2) & REGULATION (EC)1907/2008 (REACH) REQUIREMENTS

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DO NOT SCALE DRAWING. DIMS. ARE IN INCHES [mm]
INTERPRET DIMS AND TOLERANCES PER ASME Y14.5M -2009
UNLESS OTHERWISE SPECIFIED:
ALL FINISHED MACHINED SURFACES 125 ✓ OR BETTER.
TOLERANCES:
ANGLES : ± 1°
1 PLACE .X: ± .015 [0.38]
2 PLACE .XX: ± .01 [0.3]
3 PLACE .XXX: ± .005 [0.13]

THIRD ANGLE PROJECTION

APPROVALS	DATE
DRAWN SM	05/10/11
APPROVED	
CHECKED	

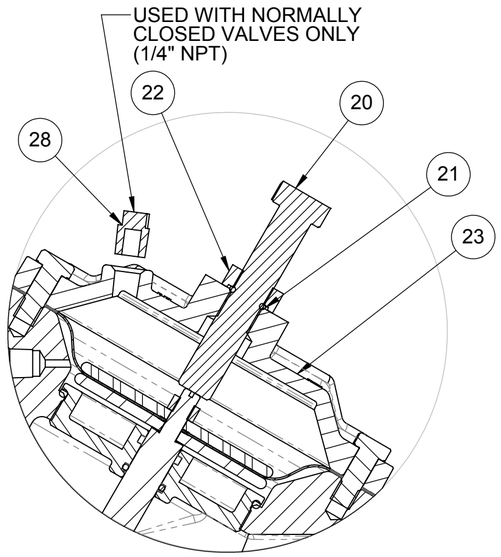
AQ Matic
Valve & Controls Company Inc.

TITLE
CATALOG SHEET, 427
DIAPHRAGM VALVE STANDARD MODEL

SIZE B | SCALE 1:2

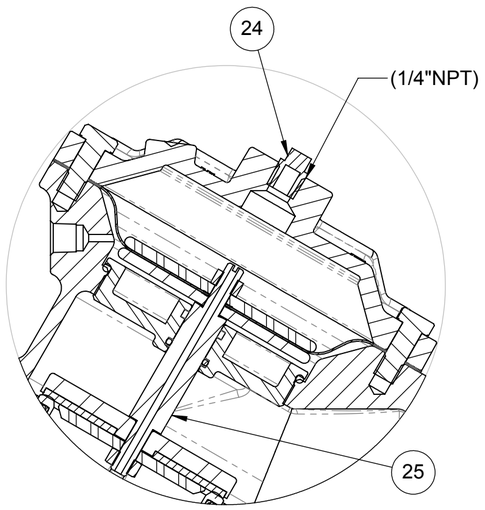
PT Watermart Perkasa
Email: sales@water.co.id Phone: +62-21-316-1671
Whatsapp (text only): +62815-8609-3500
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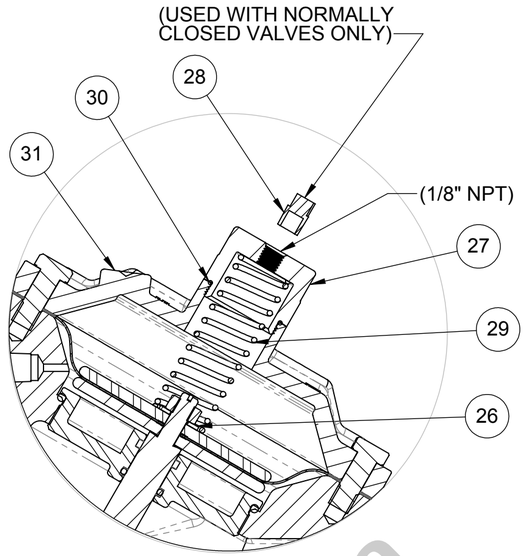
1073045 (V42J-0010-00000) (THREADED)
1073103 (V42J-3010-00000) (FLANGED)

LIMIT STOP



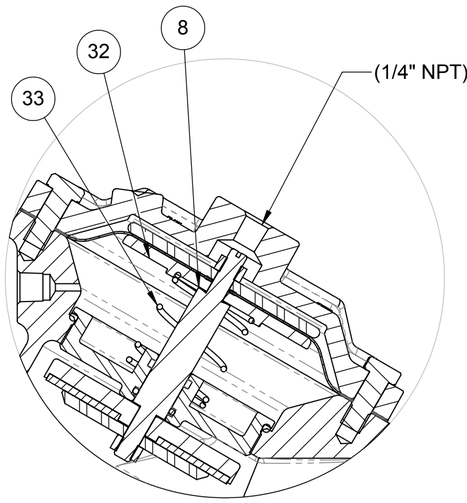
1073055 (V42J-0030-00000) (THREADED)
1073113 (V42J-3030-00000) (FLANGED)

NORMALLY CLOSED



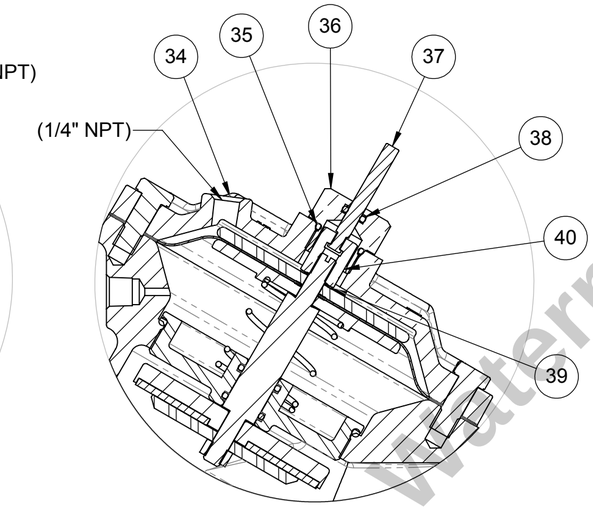
1073047 (V42J-0002-00000) (THREADED)
1073100 (V42J-3002-00000) (FLANGED)

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

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.

TORQUE TABLE		
ITEM #	DESCRIPTION	TORQUED TO (+/-10%)
22	NUT, LIMIT STOP	120 IN/LBS
27	NUT, RETAINER	140 IN/LBS
36	SHAFT GUIDE	140 IN/LBS
40	TOP NUT	120 IN /LBS

REVISIONS

ZONE	ECN	REV.	DESCRIPTION	DATE	APP'D
	1001	S	AQ Matic update & verified part numbers	17JAN17	MGS

ITEM NO.	DESCRIPTION	STD		PART NUMBER	QTY.
	LIMIT STOP MODEL				
20	SCREW, 5/8-18X3.50 HEX HD,	SS	*	1072365	1
21	O-RING,2-112	BUNA	*	1071690	1
22	NUT, LIMIT STOP	PLTD STL	*	1074434	1
23	CAP, 427, LS	CI		1074462	1
	NORMALLY CLOSED MODEL				
24	MALE PIPE PLUGS	PLTD STL	*	1071918	1
		BRASS		1071904	
		SS		1071915	
25	SHAFT, 427, NC	SS	*	1074499	1
	SPRING ASSIST CLOSED MODEL				
26	WASHER	BRASS	*	1074083	1
27	NUT, SPRG RTNR,425 & 465	SS		1074433	1
28	MALE PIPE PLUGS	PLTD STL	*	1071918	1
		BRASS		1071904	
		SS		1071915	
29	SPRING,COMPRESSION	SS	*	1078688	1
30	O-RING,2-025	BUNA	*	1071677	1
31	CAP, 427, SPRING ASSIST	CI	*	1074460	1
	SPRING ASSIST OPEN MODEL				
32	PLATE, DIAPHRAGM,427,SAO	SS		43733	1
33	SPRING, COMPRESSION	SS		1078692	1
	POSITION INDICATOR MODEL				
34	CAP, 427,CI,NPT,PI	CI	*	1074468	1
	CAP, 427, NPT, PI	BRASS		1074469	
35	O-RING,2-116	BUNA	*	1071692	1
36	PI ROD GDE, V42	BRASS	*	1074121	1
37	SHAFT,427,MACH	SS	*	1074510	1
38	O-RING,2-106,TFLN CTD	BUNA	*	1071688	1
39	LOCKWASHER,5/16",INTRNL TOOTH	SS	*	1073590	1
40	TOP NUT	BRASS	*	1074332	1

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

SEE REVERSE SIDE FOR STANDARD NORMALLY OPEN MODEL

COMPONENTS / ASSEMBLIES TO BE COMPLIANT AND COMPATIBLE WITH EUROPEAN UNION DIRECTIVE 2011/65/EEC (RoHS2) & REGULATION (EC)1907/2006 (REACH) REQUIREMENTS

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INTERPRET DIMS AND TOLERANCES PER ASME Y14.5M -2009
UNLESS OTHERWISE SPECIFIED:
ALL FINISHED MACHINED SURFACES 125 ✓ OR BETTER.
TOLERANCES:
ANGLES : ± 1°
1 PLACE .X: ± .015 [0.38]
2 PLACE .XX: ± .01 [0.3]
3 PLACE .XXX: ± .005 [0.13]

THIRD ANGLE PROJECTION

APPROVALS	DATE
DRAWN SM	05/10/11
APPROVED	
CHECKED	

AQ Matic
Valve & Controls Company Inc.

TITLE
CATALOG SHEET, 427
DIAPHRAGM VALVE STANDARD MODEL

SIZE B | SCALE 1:2

PT Watermart Perkasa
Email: sales@water.co.id Phone: +62-21-316-1671
Whatsapp (text only): +62815-8609-3500
Website: www.water.co.id

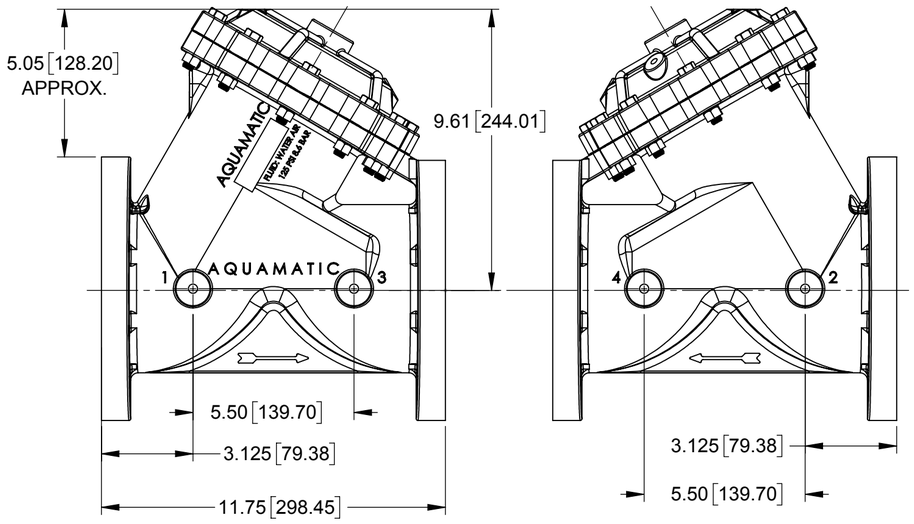
Watermart Perkasa
www.water.co.id

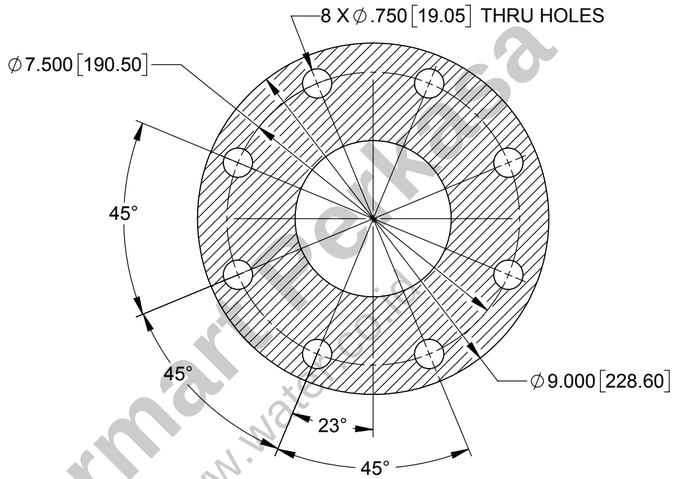
NOTE:
1. AMERICAN NATIONAL STANDARD TAPER PIPE THREADS (NPT) PER ANSI B2.1-1968
2. VALVES AVAILABLE WITH B.S.P. END CONNECTIONS.

ASSEBLY TOOLS	
DESCRIPTION	PART NO.
FOR INSTALLATION & REMOVAL OF SHAFT GUIDE (ITEM #10) (NOT SHOWN)	1-1/4" HEX SOCKET

TORQUE TABLE		
ITEM #	DESCRIPTION	TORQUED TO (+/- 10%)
2	SEAT	400 IN/LBS (33 FT/LBS)
3	UPPER NUT	140 IN/LBS
3	LOWER NUT	215 IN/LBS
10	GUIDE, SHAFT	500 IN/LBS (41.6 FT/LBS)
13 &15	NUT, & CAP SCREW	140 IN/LBS

REVISIONS					
ZONE	ECN	REV.	DESCRIPTION	DATE	APP'D
	101085	L	1-ITEM #17 WAS: 1074578, 2-ITEM #25 WAS: 1074581	27AUG14	TJM
	104610	M	1-ADD'D: ITEM#18-1073591, 2-#27 WAS: 1074430, 3-ADD'D: TORQUE TABLES	11MAY15	TJM
	105687	N	1-ITEM#17 WAS: QTY 1	25FEB16	TJM
	1001	O	AQ Matic update & verified part numbers	17JAN17	MGS
	1284	P	DRAWING 1074587 REPLACED WITH 1074587, DROP BR FROM DRAWING # 1077618	8/9/18	TRK
	1300	Q	CORRECT ERROR ON LOCKWASHER (18) PART#	8/29/18	KJB

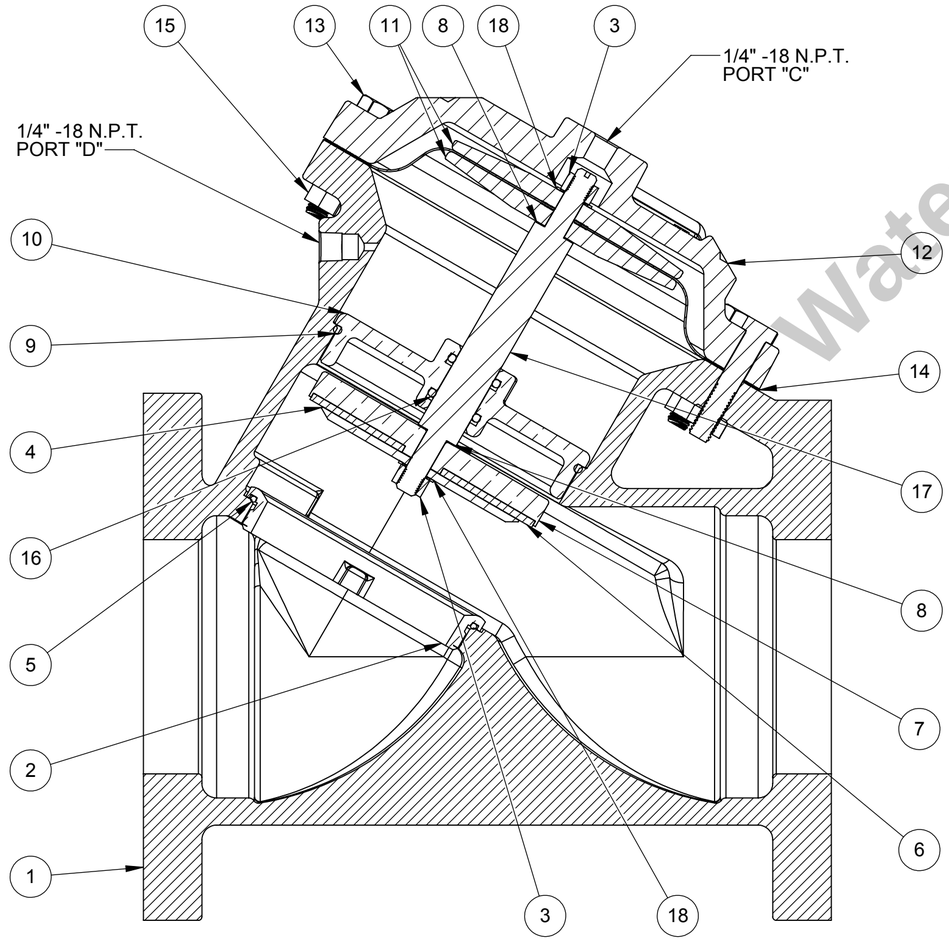




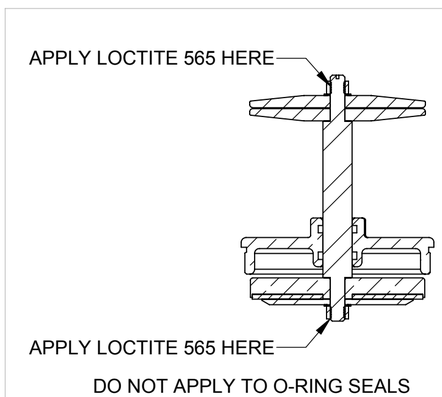
AMERICAN FLANGE PER A.S.A. 16.1 CLASS 125
METRIC FLANGE PER BS 4504, DIN 10 & ISO R 2054

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

NO.	DESCRIPTION		STD	PART NO.	QTY
1	BODY CAST IRON	2" NPT	*	1074522 (428)	1
2	SEAT(REQ'S ASSY TOOL)	BRASS	*	1074585 (428)	1
3	HEX NUT (5/16-24)	SS	*	3001990	2
4	DISC PLATE	SS	*	43734 (428)	1
5	O-RING	BUNA N	*	1071697 (ORB-156)	1
		EPDM		1071739 (ORE-156)	
		FKM		1071811 (ORV-156)	
6	DISC	BUNA	*	1074568	1
		EPDM		1074570	
		FKM		1074573	
		HYCAR		1074571	
7	DISC HOLDER, SS		*	1074590 Ⓟ	1
8	GASKET, COPPER		*	1073950 (110)	2
9	O-RING	BUNA N	*	1071711 (ORB-245)	1
		EPDM		1071759 (ORE-245)	
		FKM		1071832 (ORV-245)	
10	SHAFT GUIDE(REQ'S ASSY TOOL)	BRASS	*	1074563 (428)	1
11	DIAPHRAGM PLATE; SS		*	43759 (428)	2
12	CAP- NPT	CAST IRON	*	104532 (428)	1
13	HEX SCREW	PLATED STEEL	*	1072406	11
14	DIAPHRAGM	BUNA N	*	1074557	1
		FKM		1074559	
15	HEX NUT	PLATED STEEL	*	1071657 (NUZ-0011)	11
16	O-RING	BUNA N	*	1071702 (ORB-210TC)	2
		EPDM		1242718 (ORE-210TC)	
		FKM		1242394 (ORV-210TC)	
17	SHAFT		*	1074579 (428)	1
18	LOCKWASHER, 3/8", INTERNAL		*	1073591	2



1070045 (V42K-3000-00000) (4" PIPE SIZE)
NORMALLY OPEN (STANDARD)



DO NOT APPLY TO O-RING SEALS

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) BUNA N INCLUDES DIAPHRAGM 1074557 (428-FB)	1070086 (428-RAE) E.P.D.M. INCLUDES DIAPHRAGM 1074557 (428-FB)	1070098 (428-RAV) FKM INCLUDES DIAPHRAGM 1074559 (428-FV)
INT. PARTS KIT (NORM. OPEN) CONSISTS OF STANDARD ITEM NO'S 4, 7, 10, 11(2), 17, 18	1070123 (428-RF)		
SEAT (ITEM NO. 2)	1074585 (428-MAO)		

SEE REVERSE SIDE FOR CONFIGURATION OPTIONS

COMPONENTS / ASSEMBLIES TO BE COMPLIANT AND COMPATIBLE WITH EUROPEAN UNION DIRECTIVE 2011/65/EEC (RoHS2) & REGULATION (EC)1907/2006 (REACH) REQUIREMENTS

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INTERPRET DIMS AND TOLERANCES PER ASME Y14.5M -2009
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TOLERANCES:
ANGLES : ± 1°
1 PLACE .X: ± .015 [0.38]
2 PLACE .XX: ± .01 [0.3]
3 PLACE .XXX: ± .005 [0.13]

THIRD ANGLE PROJECTION

APPROVALS	DATE
DRAWN SM	05/11
APPROVED	
CHECKED	

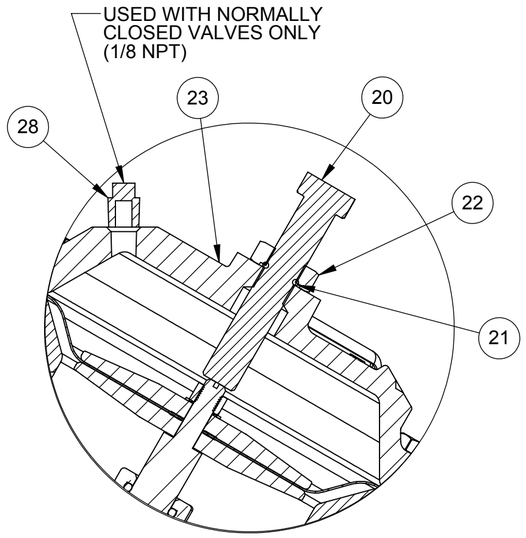
AQ Matic
Valve & Controls Company Inc.

TITLE
CATALOG SHEET, 428
DIAPHRAGM VALVE STANDARD MODEL

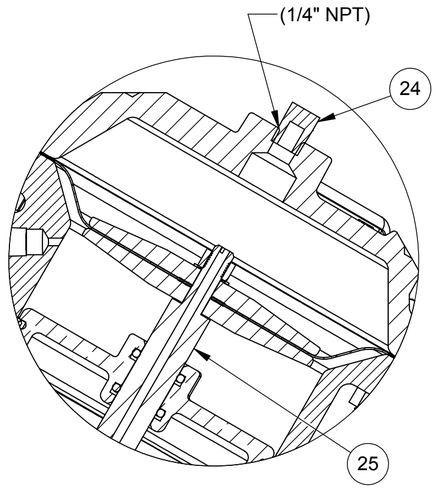
SIZE B | DWG NO | REV
SCALE 1:4

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Whatsapp (text only): +62815-8609-3500
Website: www.water.co.id

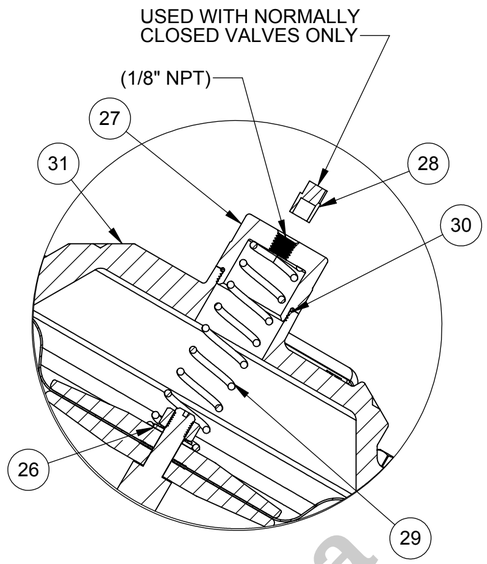
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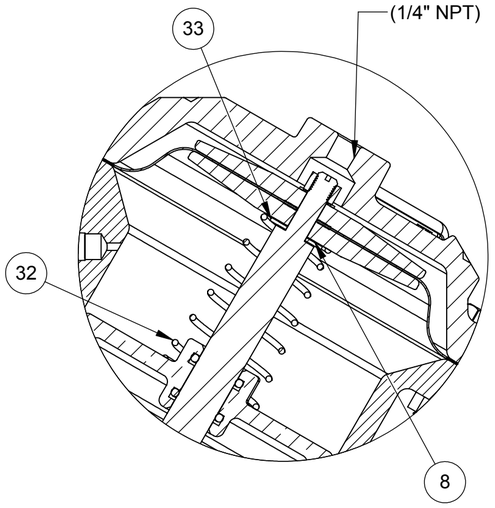
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LIMIT STOP



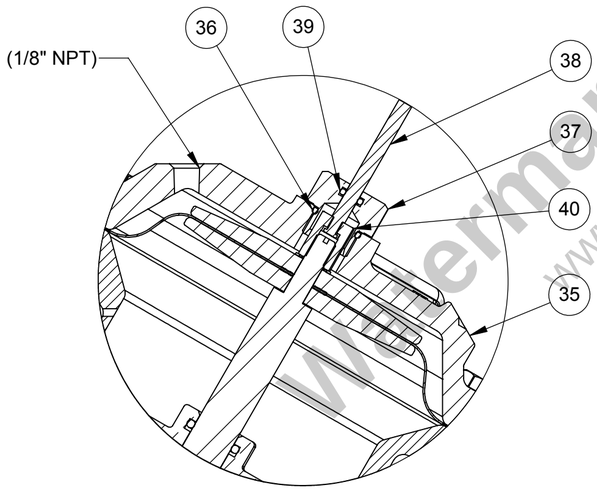
1073158 (V42K-3030-00000)
NORMALLY CLOSED



1073148 (V42K-3002-00000)
SPRING ASSIST CLOSED



1073146 (V42K-3001-00000)
SPRING ASSIST OPEN



1073156 (V42K-3021-00000)
POSITION INDICATOR

REVISIONS					
ZONE	ECN	REV.	DESCRIPTION	DATE	APP'D
			SEE SHEET 1 FOR NOTES		

ITEM NO.	DESCRIPTION	STD	PART NUMBER	QTY.
LIMIT STOP MODEL				
20	SCREW, 5/8-18X3.50 HEX HD,	*	1072365	1
21	O-RING,2-112, BUNA N	*	1071690	1
22	NUT, LIMIT STOP	*	1074434	1
23	CAP, 428,LS, NPT, CI	*	1074542	1
NORMALLY CLOSED MODEL				
24	MALE PIPE PLUGS, PLATED STEEL	*	1071918	1
	MALE PIPE PLUGS, BRASS		1071904	1
25	SHAFT, 428 NORMALLY CLOSED	*	1074582	1
SPRING ASSIST CLOSED MODEL				
26	WASHER, CENTERING, BRASS		1074530	1
27	NUT, SPRG RTNR,426 & 465,SS	*	1074433	1
28	MALE PIPE PLUGS, PLATED STEEL	*	1071917	1
	MALE PIPE PLUGS, BRASS		1071903	1
29	SPRING, COMPRESSION	*	1074607	1
30	O-RING,2-025, BUNA N	*	1071677	1
31	CAP, 428, NPT, CI		1074540	1
SPRING ASSIST OPEN				
8	GASKET, CDA 110 COPPER	*	1073950	1
32	SPRING, COMPRESSION, 428,SAO	*	1074600	1
33	WASHER, BRASS		1074610	1
POSITION INDICATOR MODEL				
35	CAP, 428,CI,NPT,PI		1074549	1
36	O-RING,2-116, BUNA N		1071692	1
37	PI ROD GDE, V42, BRASS		1074121	1
38	SHAFT,428,SS,MACH		1074593	1
39	O-RING,2-108, BUNA N,TFLN CTD		1071688	1
40	NUT,TOP,428,PI		1074608	1

TORQUE TABLE		
ITEM #	DESCRIPTION	TORQUED TO (+/- 10%)
22	NUT, LIMIT STOP	140 IN/LBS
27	NUT, SPRG RETAINER	140 IN/LBS
37	PI ROD GUIDE	140 IN/LBS
40	NUT, TOP, 428, PI	140 IN/LBS

NOTE:
1. SPRING ASSIST CLOSED MODEL CANNOT BE COMBINED WITH LIMITED STOP OR POSITION INDICATOR MODELS.

2. VALVES AVAILABLE WITH B.S.P. END CONNECTIONS.

REPAIR PARTS KITS	
DESCRIPTION	PART NO.
INT. PARTS KIT (LIMITED 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 28, 29, 30	1074602 (428-SC)
INT. PARTS KIT (SPING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO'S 8, 32, 33	1074604 (428-SO)
INT. PARTS KIT (POSTION INDICATOR) CONSISTS OF STANDARD ITEM NO'S 35 THRU39	1074591 (428-PI)

CONVERSION KITS	
DESCRIPTION	PART NO.
CONVERSION KIT (LIMITED 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	1074606 (428-SOC)
CONVERSION KIT (POSITION INDICATOR) CONSISTS OF STANDARD ITEM NO'S 34 THRU 39	1074592 (428-PIC)

SEE REVERSE SIDE FOR
STANDARD NORMALLY OPEN MODEL

COMPONENTS / ASSEMBLIES TO BE COMPLIANT AND COMPATIBLE WITH EUROPEAN UNION DIRECTIVE 2011/65/EEC (RoHS2) & REGULATION (EC)1907/2006 (REACH) REQUIREMENTS

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1 PLACE .X: ± .015 [0.38]
2 PLACE .XX: ± .01 [0.3]
3 PLACE .XXX: ± .005 [0.13]

THIRD ANGLE PROJECTION

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APPROVED	
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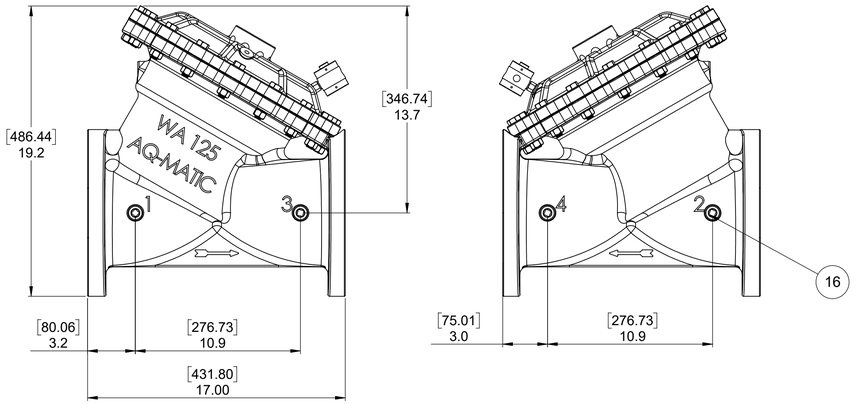
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Valve & Controls Company Inc.

TITLE
CATALOG SHEET, 428
DIAPHRAGM VALVE STANDARD MODEL

SIZE B | DWG NO | REV
SCALE 1:4

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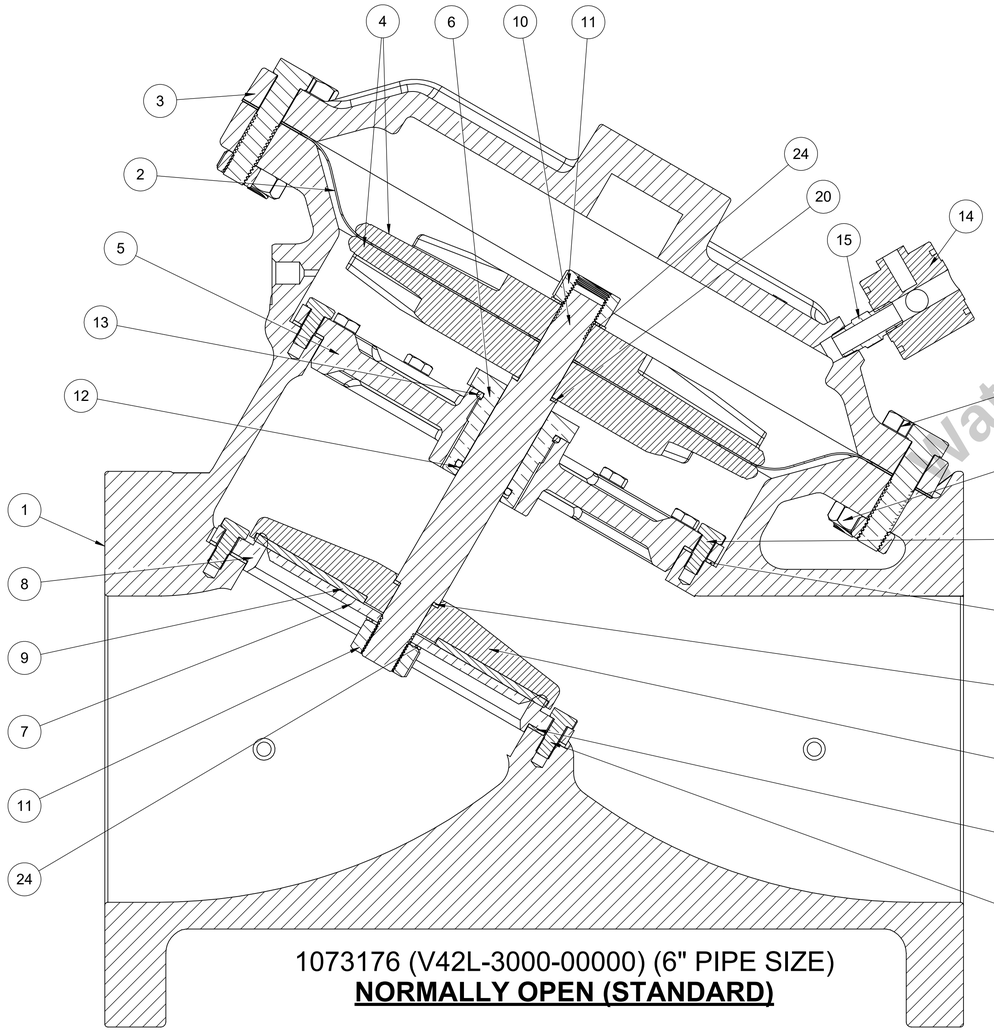


REPAIR PARTS KITS		
DESCRIPTION	**PART NO.**	
DIAPHRAGM & SEALS KIT CONSISTS OF ITEM NO'S 2, 9, 11(2), 12, 13, 17, 18,19, 20(2), 24(2)	1070074 (429-RA)	1070099 (429-RAV)
	BUNA N INCLUDES DIAPHRAGM 1074622 (429-FB)	FKM INCLUDES DIAPHRAGM 1074623 (429-FV)
INT. PARTS KIT (NORM. OPEN) CONSISTS OF STANDARD ITEM NO'S 4(2), 5, 6, 7, 10, 19, 20(2), 21(12), 24(2)	1074653 (429-RF)	
SEAT - ITEM NO. 8	1074640 (429-MO)	

NOTE:

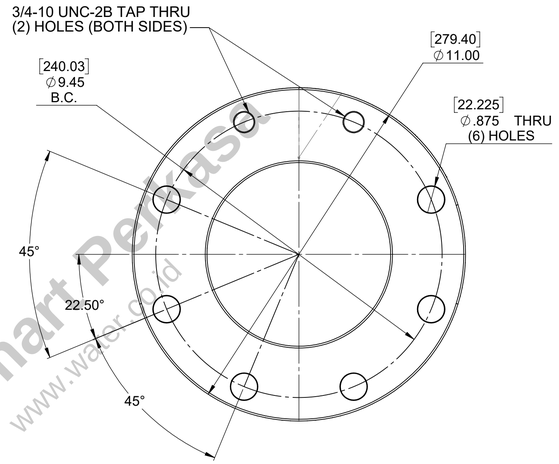
1. **AMERICAN NATIONAL STANDARD TAPER PIPE THREADS (NPT) PER ANSI B2.1 - 1968**

REVISIONS				
ECN	REV.	DESCRIPTION	DATE	APP'D
1832	R	CATALOG SHEET UPDATE, ON AQ TEMPLATE	1/22/21	

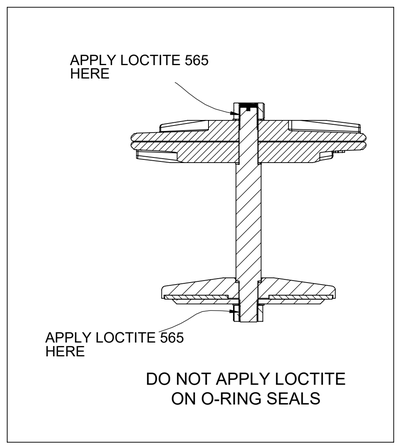


1073176 (V42L-3000-00000) (6" PIPE SIZE)

NORMALLY OPEN (STANDARD)



AMERICAN FLANGE PER A.S.A 16.1 CLASS 125



NORMALLY OPEN (STANDARD CONFIGURATION)					
ITEM NO.	DESCRIPTION		STD	PART NUMBER	QTY.
1	VALVE BODY	CAST IRON	*	1074613 (429-A)	1
2	DIAPHRAGM	BUNA-N	*	1074622 (429-FB)	1
		FKM		1074623 (429-FV)	
3	CAP, 429	CAST IRON	*	1074615 (429-C)	1
4	PLATE, DIAPHRAGM	BRASS	*	1074620 (429-D)	2
5	SHAFT GUIDE	CAST IRON	*	1074625 (429-G0)	1
6	GUIDE, SHAFT	BRASS	*	1074646 (429-P)	1
7	PLATE, DISC	BRASS	*	1074634 (429-K)	1
8	LOWER, SEAT	BRASS	*	1074640 (429-MO)	1
9	DISC	HYCAR	*	1074632 (429-JH)	1
		FKM		1074633 (429-JV)	
10	SHAFT NO	STAINLESS STEEL	*	1074636 (429--L)	1
11	NUT, 3/4-16	STAINLESS STEEL	*	3001991	2
12	O-RING, 2-214, FKM	FKM	*	1242721	1
13	O-RING , 2-223	NITRILE	*	1071703 (ORB-223)	1
		FKM		1071820 (ORV-223)	
14	HUMPHREY VALVE N.C.	BRASS	*	1074661 (429-VP)	1
15	FITTING, NIPPLE 1/4MNPTX1.38	BRASS	*	1081648	1
16	MALE PIPE PLUG, 1/4 NPT	PLATED STEEL	*	1071918 (PLZ-0008)	4
17	GASKET, 429, SEAT	BUNA-N	*	1074642 (429-N)	1
18	GASKET, CENTERING PLATE,	BUNA-N	*	1074644 (429-O)	1
19	RETAINER DISC, SS	STAINLESS STEEL	*	4510460 (429-HS)	1
20	GASKET, WASHER	COPPER	*	1073952	2
21	SCREW, HEX HD, CAP, 5/16-18 SS	PLATED STEEL	*	1072355 (SCS-0011)	20
22	SCREW 1/2-13, HEX HD, CAP	PLATED STEEL	*	1072410 (SCZ-0038)	16
23	NUT, 1/2-13	PLATED STEEL	*	16568-02	16
24	LOCK WASHER	STAINLESS STEEL	*	1073592 (WAS-0011)	2

SEE REVERSE SIDE FOR CONFIGURATION OPTIONS

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1 PLACE .X: ± .015 [0.38]
2 PLACE .XX: ± .01 [0.3]
3 PLACE .XXX: ± .005 [0.13]

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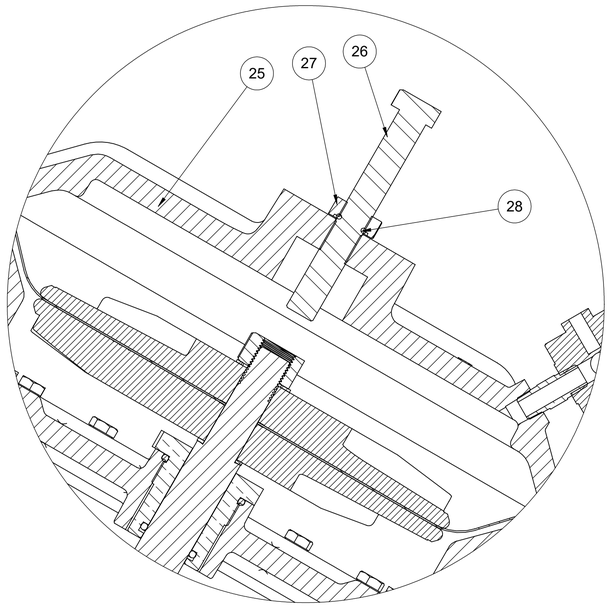
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CATALOG SHEET, 429
DIAPHRAGM VALVE STANDARD MODEL

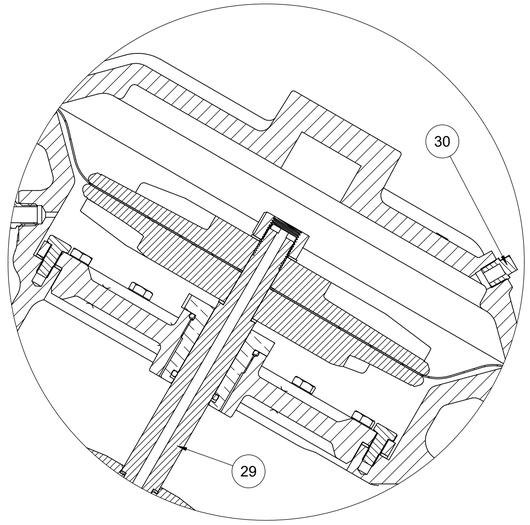
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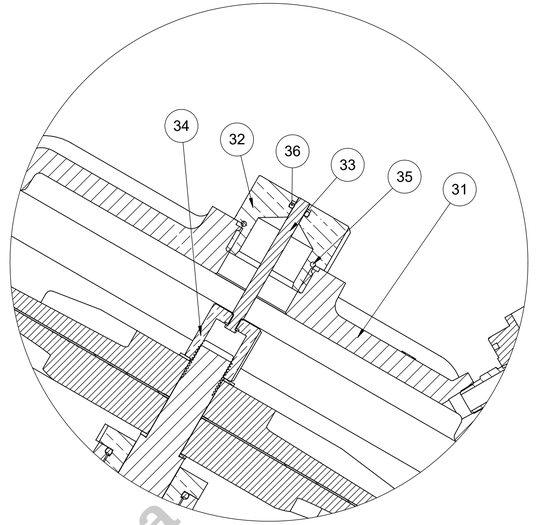
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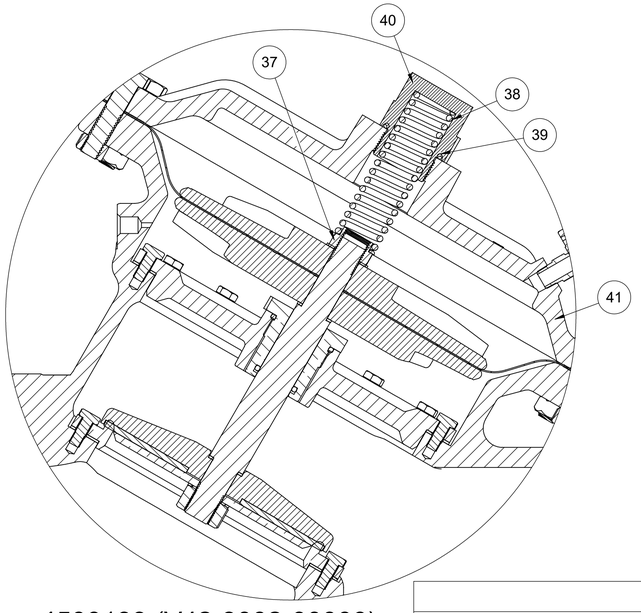
1073184 (V42-3010-00000)
LIMIT STOP



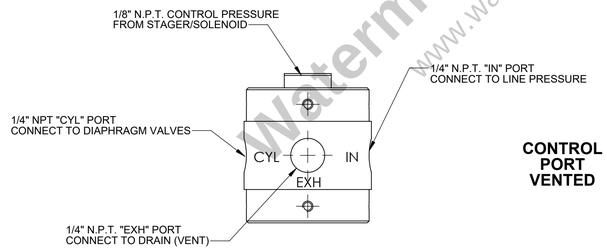
1073187 (V42-3030-00000)
NORMALLY CLOSED

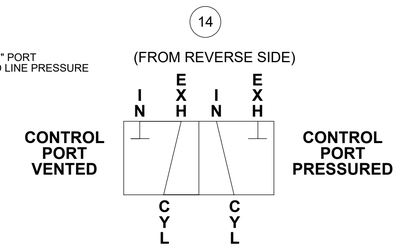


1082048 (V42-3020-00000)
POSITION INDICATOR



4500139 (V42-3002-00000)
SPRING ASSIST CLOSED





THIS 3-WAY "NORMALLY CLOSED" AUXILIARY PILOT VALVE (PART NO. 429-VP) IS FURNISHED WITH ALL V42L DIAPHRAGM VALVES. IT ACCELERATES THE CLOSING AND OPENING SPEED OF THE VALVE.

LIMIT STOP MODEL					
ITEM NO.	DESCRIPTION		STD.	PART NUMBER	QTY.
25	CAP, 429, LIMIT STOP	CAST IRON	*	1074617 (429-CCC)	1
26	SCREW, HEX HD CAP, 5/8-18 X 4.5"	SS	*	1074660 (429-U)	1
27	NUT, LIMIT STOP	SS	*	1074434 (426-U)	1
28	O-RING, 2-112	BUNA-N	*	1071690 (ORB-112)	1

NORMALLY CLOSED MODEL					
ITEM NO.	DESCRIPTION		STD.	PART NUMBER	QTY.
29	SHAFT, 429, NORMALLY CLOSED	SS	*	1074637 (429-LL)	1
30	MALE PIPE PLUG, 1/4 NPT	PLATED STEEL	*	1071918 (PL2-0008)	1

POSITION INDICATOR MODEL					
ITEM NO.	DESCRIPTION		STD.	PART NUMBER	QTY.
31	CAP, 429, POSITION INDICATOR	CAST IRON	*	1074618 (429-CF)	1
32	GUIDE, SHAFT, 429, BRASS		*	1074624 (429-GF)	1
33	SHAFT, 429, SS, MACH		*	1074649 (429-PM)	1
34	NUT, 429, BRASS		*	1074658 (429-TB)	1
35	O-RING, 2-128, NITRILE		*	1071694 (ORB-128)	1
36	O-RING, 2-106, NITRILE, TFLN CTD		*	1071688 (ORB-108TC	1

SPRING ASSIST CLOSED					
ITEM NO.	DESCRIPTION		STD.	PART NUMBER	QTY.
37	NUT, SPRING RETAINER	SS	*	1074663 (429-X)	1
38	SPRING, COMPRESSION	SS	*	1074657 (429-SS)	1
39	O-RING, 2-222, NITRILE		*	1079839 (ORB-222)	1
40	NUT, SPRING RETAINER, 429, BRASS		*	1074659 (429-TT)	1
41	CAP, 429, SPRING ASSIST CLOSED	CAST IRON	*	1074616 (429-CC)	1

REPAIR PARTS KITS	
DESCRIPTION	**PARTS NO.**
INT. PARTS KIT (LIMIT STOP)CONSISTS OF STANDARD ITEM NO'S 26, 27, 28	1074638 (429-LS)
INT. PARTS KIT (NORM. CLOSED) CONSISTS OF STANDARD ITEM NO'S 4(2), 5, 6, 7, 19, 22(12), 29	1074654 (429-RG)
INT. PARTS KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 37, 38, 39	1074655 (429-SC)
INT. PARTS KIT (POSITION INDICATOR) CONSISTS OF STANDARD ITEM NO'S 20(2), 32 THRU 36	1074647 (429-PI)

CONVERSION KITS	
DESCRIPTION	**PART NO.**
CONVERSION KIT (LIMIT STOP) CONSISTS OF STANDARD ITEM NO'S 16 (1), 25 THRU 28	1074639 (429-LSC)
CONVERSION KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 11(2), 16, 37 THRU 41	1074656 (429-SCC)
CONVERSION KIT (POSITION INDICATOR) CONSISTS OF STANDARD ITEM NO'S 20(2), 31 THRU 36	1074648 (429-PIC)

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

SEE REVERSE SIDE FOR STANDARD MODEL NORMALLY OPEN MODEL

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CATALOG SHEET, 429
DIAPHRAGM VALVE STANDARD MODEL

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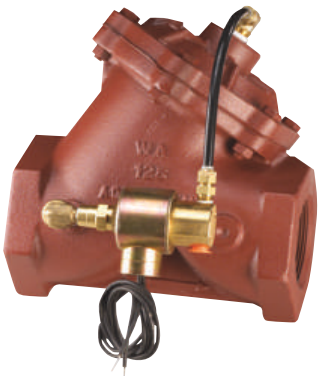
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DIAPHRAGM VALVES

GREAT FIT FOR WATER TREATMENT AUTOMATED PROCESS SYSTEMS

MADE IN THE USA
OF FOREIGN & DOMESTIC PARTS



FEATURES/BENEFITS

Unique Y-pattern design with large seat opening and high lift disc permits higher flow rates at lower pressure loss than other comparable valves

All components can be serviced while the valve is in-line

Pre-formed, stress-relieved diaphragm minimizes fatigue, maximizes valve responsiveness and diaphragm lifetime

Cast iron, brass, stainless steel, and nitrile elastomer components for unparalleled service

3/4"-3" threaded [NPT or BSP]

3"-4" flange drilled in accordance with ASA16.1 class 125, or BSP4504

Adaptable to a wide variety of control devices

OPTIONS

Spring-assist closed

Spring-assist open

Limit stop for flow control

Seal and diaphragm materials for special applications

TYPICAL APPLICATIONS

Agricultural Irrigation
Air Control Systems
Car Wash Systems
Concrete Additive
Control Systems
Conveyor Systems
Cooling Towers
Dust Suppression
Fuel Handling
Laundry Equipment
Process Water Systems
Pump Controls
Turf Irrigation

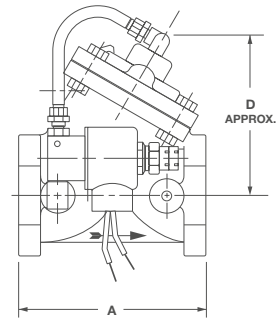
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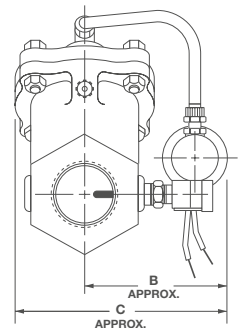
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DIMENSIONS

MODEL #	PIPE SIZE	Cv*	DIMENSIONS (APPROXIMATE)			
			A	B	C	D
V42B	3/4"	11.4	3.69" (94 mm)	3.25" (82.5 mm)	4.63" (117.5 mm)	3.81" (96.8 mm)
V42C	1"	12.8	3.69" (94 mm)	3.25" (82.5 mm)	4.63" (117.5 mm)	3.81" (96.8 mm)
V42D	1-1/4"	26.5	4.75" (121 mm)	3.56" (90.5 mm)	5.31" (134.9 mm)	4.56" (115.9 mm)
V42E	1-1/2"	32.5	4.75" (121 mm)	3.56" (90.5 mm)	5.31" (134.9 mm)	4.56" (115.9 mm)
V42F	2"	56	6.62" (168 mm)	3.94" (100.0 mm)	6.63" (168.3 mm)	5.94" (150.8 mm)
V42G	2"	68	7.37" (187 mm)	4.19" (106.4 mm)	7.25" (184.2 mm)	6.25" (158.8 mm)
V42H	2-1/2"	84	7.37" (187 mm)	4.19" (106.4 mm)	7.25" (184.2 mm)	6.25" (158.8 mm)
V42J	3" (threaded)	134	9.00" (229 mm)	4.63" (117.6 mm)	8.25" (209.5 mm)	7.00" (117.8 mm)
V42J	3" (flanged)	134	10.62" (298 mm)	4.63" (117.6 mm)	8.25 (209.5 mm)	7.00" (117.8 mm)
V42K	4"	275	11.75" (432 mm)	5.13" (130.3 mm)	9.50" (241.3 mm)	8.75" (222.3 mm)

*Cv = Flowrate (gal/minute) of water at 60°F (15.5°C) at a 1 psi pressure drop.Liters/minute = gal/minute x 3.78





CURRENT DRAIN (AMPERES)

Voltage	Inrush	Holding
24V 60 Hz	1.1	0.65
120V 60 Hz	0.2	0.1
220V 50 Hz	0.1	0.07
12 VDC	–	0.6
24 VDC	–	0.3

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OPERATING SPECIFICATIONS

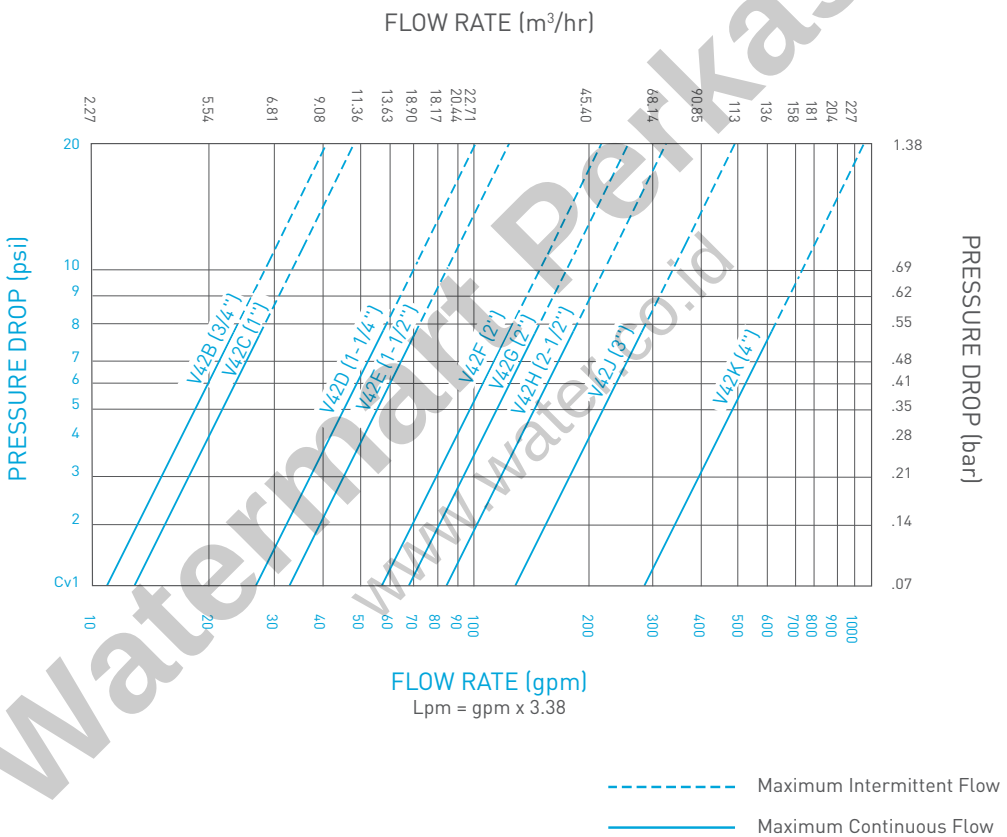
Working Pressure	125 psi (8.6 bar)
Max Temperature	150°F (65°C)

Energized to open:
Line pressure is directed through the solenoid to the upper diaphragm chamber, closing the valve. Activating the solenoid vents the upper diaphragm chamber, allowing the valve to open.

Energized to close:
The upper diaphragm chamber is vented, allowing the valve to open. Activating the solenoid pressurizes the upper diaphragm chamber, closing the valve.

Independent control pressure:
An independent source of pressure is used through the solenoid to control the diaphragm valve.

PERFORMANCE DATA



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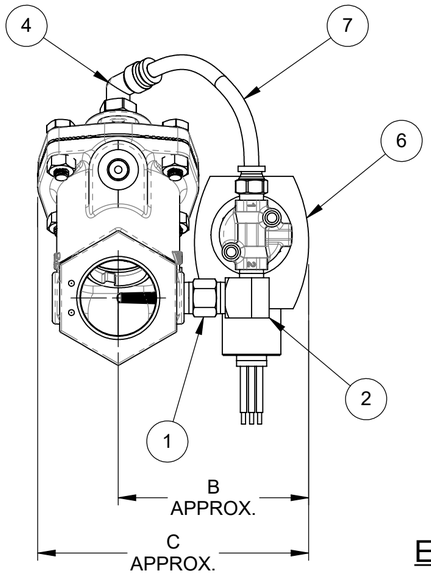
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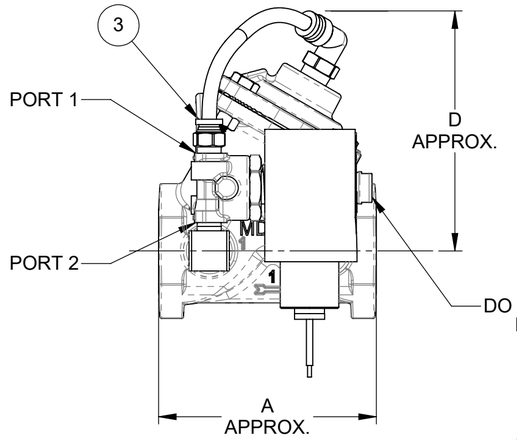
1229847 REV L MA2016

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Whatsapp (text only): +62815-8609-3500
Website: www.water.co.id

BILL OF MATERIALS																		
ITEM NO	PART NO	DESCRIPTION	421 EC QTY	424 EC QTY	425 EC QTY	426 EC QTY	427 EC QTY	427F EC QTY	428 EC QTY	429 EC QTY	421 EO QTY	424 EO QTY	425 EO QTY	426 EO QTY	427 EO QTY	427F EO QTY	428 EO QTY	429 EO QTY	UNITS
1	1074004	STRAINER ASSEMBLY	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	EACH
2	1074040	ELBOW, REDUCER 1/4"FNPT X 1/8" MNPT	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	EACH
3	1078763	FITTING, 1/8MNPT X 1/4, PUSH FIT	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	EACH
4	1078766	FITTING, ELBOW, 1/4" MNPT X 1/4" TUBE	1	1	1	1	1	1	1	-	1	1	1	1	1	1	1	-	EACH
5	1078765	FITTING, ELBOW, 1/8" MNPT X 1/4" TUBE	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1	EACH
6	4510496-01	SOLENOID, 3 WAY, 120/60 VAC	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	EACH
	4510496-02	SOLENOID, 3-WAY, 220/60																	
	4510496-03	SOLENOID, 3-WAY, 24/60 VAC																	
	4510496-04	SOLENOID, 3-WAY, 24 VDC																	
7	1071936	TUBING, POLY 1/4" O.D. X .035	5	6	8	8	9	10	13	16	4	5	7	8	9	9	12	19	INCHES
8	43947	FITTING, ADAPTER, 1/4MNPT X 1/4FMNPT	-	-	-	-	-	1	1	1	-	-	-	-	-	1	1	1	EACH

REVISIONS				
REV	ECN	DESCRIPTION	DATE	APP'D
G		1-ADD'D; NOTE-6 PG-1, 2-ADD'D: NOTE-5 PG-2	3/13/2015	TJM
H	1001	AQ-MATIC UPDATES AND VERIFIED PART NUMBERS	1/20/2017	MGS
I	1144	SERVICE PARTS ONLY 1075634 AND 1070651, REMOVED FROM CATALOG	10/19/2017	TRK/JJ
J	1257	FIX BOM/BALLOON ISSUES ON SHEETS ONE AND TWO	6/28/2018	KB
K	1365	FIX ISSUES WITH DRAWING VIEWS, CORRECT OTHER SMALL ERRORS	11/20/2018	KB
L	1386	REMOVE 1070650 SOLENOID	1/7/2019	TRK
M	1506	ADDED 24 VDC SOLENOID (1070651) OPTION	6/26/2019	KJB
N	1678	REDRAWN PER NEW MODEL, REPLACE SOLENOIDS WITH 4510496 SERIES	3/30/2020	PMJ

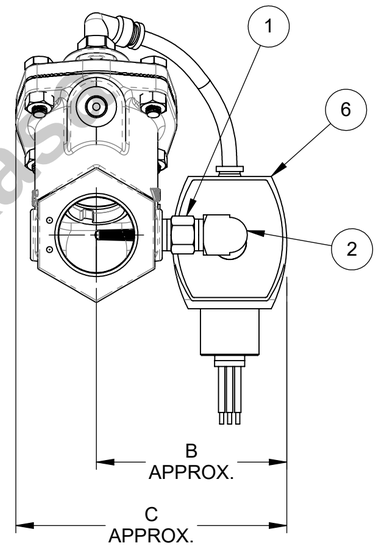


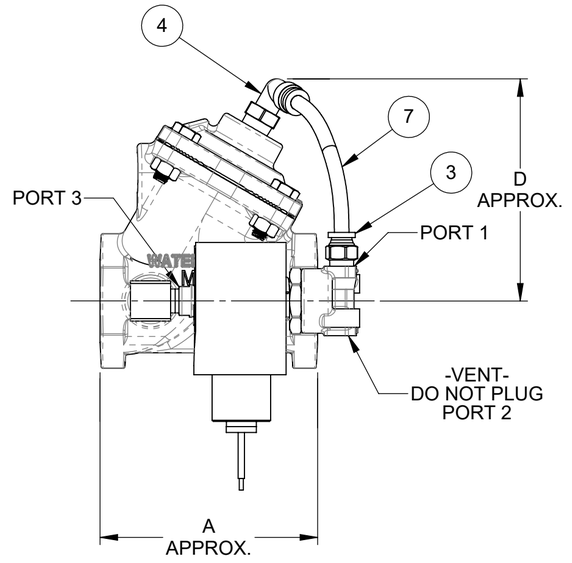


ENERGIZED TO CLOSE

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. UPSTREAM PRESSURE OPENS THE DIAPHRAGM VALVE.

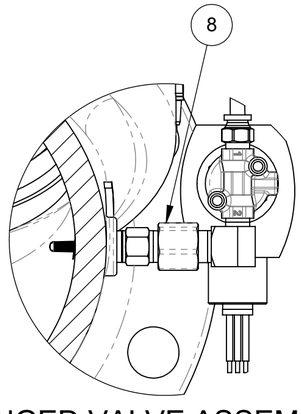




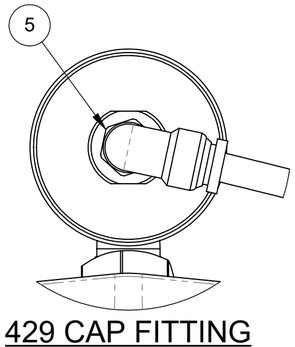
ENERGIZED TO OPEN

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

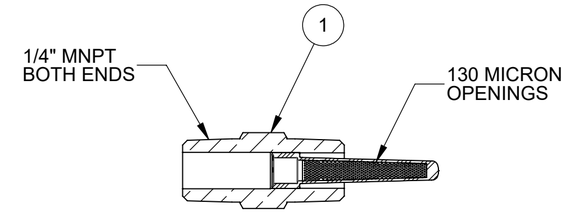
SOLENOID ENERGIZED:
PRESSURE FROM UPPER DIAPHRAGM CHAMBER IS VENTED. UPSTREAM PRESSURE OPENS THE DIAPHRAGM VALVE



FLANGED VALVE ASSEMBLY



429 CAP FITTING



STRAINER ASSEMBLY

VALVE SERIES	PIPE SIZE	A	B	C	D
V42B	3/4"	[94] 3.72	[83] 3.25	[118] 4.63	[104] 4.09
V42C	1"				
V42D	1-1/4"	[120] 4.73	[91] 3.58	[135] 5.33	[123] 4.86
V42E	1-1/2"				
V42F	2"	[168] 6.60	[100] 3.94	[168] 6.63	[158] 6.21
V42G	2"	[187] 7.35	[111] 4.38	[190] 7.47	[166] 6.55
V42H	2-1/2"				
V42J	3" THREADED	[232] 9.13	[122] 4.82	[214] 8.44	[181] 7.11
	3" FLANGED	[270] 10.62	[145] 5.73	[241] 9.48	[181] 7.11
V42K	4"	[298] 11.75	[154] 6.05	[268] 10.55	[253] 9.97
V42L	6"	[432] 17.00	[172] 6.78	[372] 14.65	[392] 15.41

NOTES:

1. LENGTH OF TUBING VARIES WITH EACH SIZE OF DIAPHRAGM VALVE AND CONFIGURATION.
2. B.S.P.T. THREADED VALVES 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. SEE PAGE 2 FOR DRY DRAIN OPTION & PAGE 3 FOR INDEPENDANT PRESSURE.
6. "EC" REFERS TO ENERGIZED CLOSED. "EO" REFERS TO ENERGIZED OPEN. "427F" REFERS TO THE 427 FLANGED OPTION.

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INTERPRET DIMENSIONS AND TOLERANCES PER ASME Y14.5M -1994

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES [mm]
CORNER FILLETS R.005-.020 [.127-.508]
TOLERANCES:
ANGLES : ± 1°
1 PLACE .X: ± .100 [2.54]
2 PLACE .XX: ± .010 [0.25]
3 PLACE .XXX: ± .005 [0.13]

THE COMPONENT OR PRODUCT DESCRIBED IN THIS DOCUMENT MUST COMPLY WITH RoHS 3 EU (EUROPEAN UNION) DIRECTIVE 2015/863

THIRD ANGLE PROJECTION

APPROVALS	DATE
DRAWN PMJ	3/13/2020
CHECKED BY	
APPROVED	

AQ-MATIC VALVES AND CONTROLS

DESCRIPTION: CATALOG SHEET, V420, SOLENOIDS

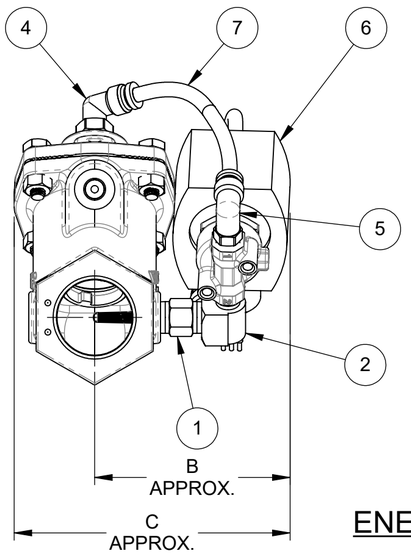
SIZE C | DWG NO. 1078113 | REV. N

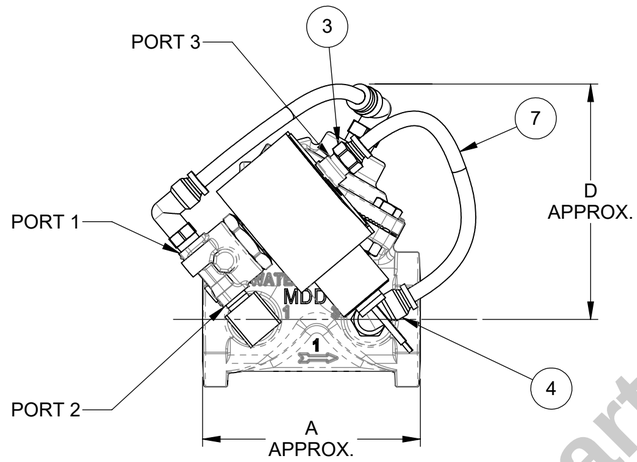
SCALE 1:2

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Whatsapp (text only): +62815-8609-3500
Website: www.water.co.id

BILL OF MATERIALS																		
ITEM NO	PART NO	DESCRIPTION	421 ECDD QTY	424 ECDD QTY	425 ECDD QTY	426 ECDD QTY	427 ECDD QTY	427F ECDD QTY	428 ECDD QTY	429 ECDD QTY	421 EODD QTY	424 EODD QTY	425 EODD QTY	426 EODD QTY	427 EODD QTY	427F EODD QTY	428 EODD QTY	429 EODD QTY	UNITS
1	1074004	STRAINER ASSEMBLY	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	EACH
2	1074040	ELBOW, REDUCER 1/4"FNPT X 1/8" MNPT	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	EACH
3	1078763	FITTING, 1/8MNPT X 1/4, PUSH FIT	1	1	1	1	2	2	2	2	1	1	1	1	1	1	1	1	EACH
4	1078766	FITTING, ELBOW, 1/4" MNPT X 1/4" TUBE	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	1	EACH
5	1078765	FITTING, ELBOW, 1/8" MNPT X 1/4" TUBE	1	1	1	1	-	-	-	1	1	1	1	1	1	1	1	2	EACH
6	4510496-01	SOLENOID, 3 WAY, 120/60 VAC	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	EACH
	4510496-02	SOLENOID, 3-WAY, 220/60	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	4510496-03	SOLENOID, 3-WAY, 24/60 VAC	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	4510496-04	SOLENOID, 3-WAY, 24 VDC	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
7	1071936	TUBING, POLY 1/4" O.D. X .035	5	6	7	8	9	9	12	16	5	4	5	6	7	7	10	14	INCHES
			6	4	4	3	2	3	3	8	4	3	3	3	4	4	4	10	
8	43947	FITTING, ADAPTER, 1/4MNPT X 1/4FMNPT	-	-	-	-	-	1	1	1	-	-	-	-	-	1	1	1	EACH

REVISIONS				
REV	ECN	DESCRIPTION	DATE	APP'D
		SEE PAGE ONE FOR LIST OF CHANGES		

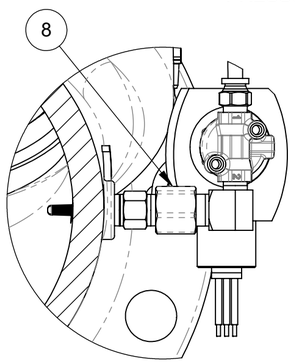




ENERGIZED TO CLOSE, DRY DRAIN OPTION

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. UPSTREAM PRESSURE OPENS THE DIAPHRAGM VALVE.



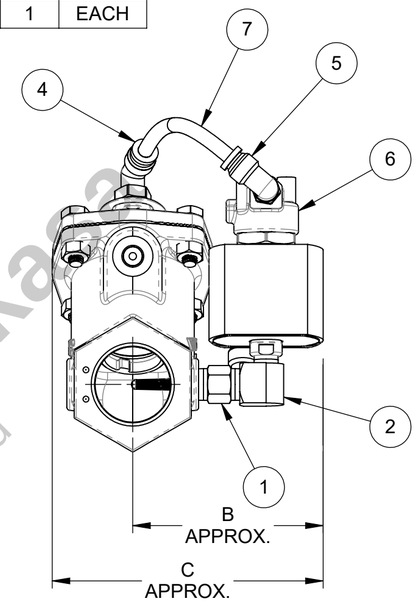
FLANGED VALVE ASSEMBLY

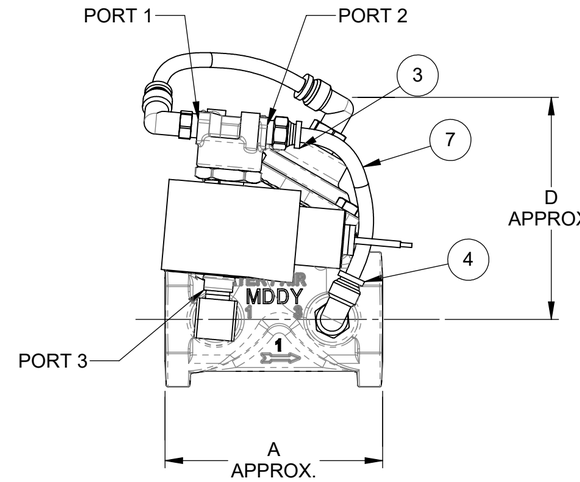
NOTES:

1. LENGTH OF TUBING VARIES WITH EACH SIZE OF DIAPHRAGM VALVE AND CONFIGURATION.
2. B.S.P.T. THREADED VALVES 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. SEE PAGE 2 FOR DRY DRAIN OPTION & PAGE 3 FOR INDEPENDANT PRESSURE.
6. "ECDD" REFERS TO ENERGIZED TO CLOSE, DRY DRAIN.
   "EODD" REFERS TO ENERGIZED TO OPEN, DRAY DRAIN.
   "427F" REFERS TO FLANGED OPTION FOR 427 VALVES.

7 427 - 429 ECDD VALVES USE (X2) 1078763 FITTINGS ON THE SOLENOID.

VALVE SERIES	PIPE SIZE	A	B	C	D
V42B	3/4"	[94] 3.72	[85] 3.34	[120] 4.71	[102] 4.02
V42C	1"				
V42D	1-1/4"	[126] 4.95	[93] 3.66	[138] 5.41	[119] 4.67
V42E	1-1/2"				
V42F	2"	[168] 6.60	[100] 3.94	[168] 6.63	[153] 6.02
V42G	2"	[187] 7.35	[109] 4.27	[186] 7.34	[159] 6.26
V42H	2-1/2"				
V42J	3" THREADED	[232] 9.13	[120] 4.73	[212] 8.35	[178] 7.02
	3" FLANGED	[270] 10.62	[136] 5.34	[231] 9.09	[175] 6.89
V42K	4"	[298] 11.75	[144] 5.67	[258] 10.16	[249] 9.81
V42L	6"	[432] 17.00	[170] 6.69	[370] 14.57	[392] 15.41

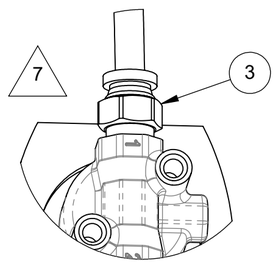




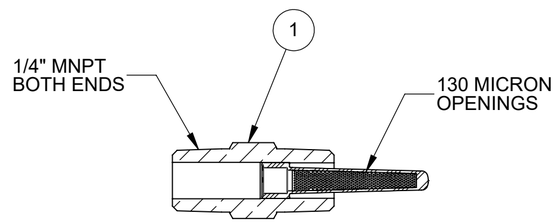
ENERGIZED TO OPEN, DRY DRAIN OPTION

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. UPSTREAM PRESSURE OPENS THE DIAPHRAGM VALVE



427 - 429 ENERGIZED TO CLOSE DRY DRAIN



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DIMENSIONS ARE IN INCHES [mm]
CORNER FILLETS R.005-.020 [.127-.508]
TOLERANCES:
ANGLES : ± 1°
1 PLACE .X: ± .100 [2.54]
2 PLACE .XX: ± .010 [0.25]
3 PLACE .XXX: ± .005 [0.13]

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THIRD ANGLE PROJECTION

AQ-MATIC VALVES AND CONTROLS

APPROVALS	DATE
DRAWN PMJ	3/13/2020
CHECKED BY	
APPROVED	

DESCRIPTION: CATALOG SHEET, V420, SOLENOIDS

SIZE C | DWG NO. 1078113 | REV. N

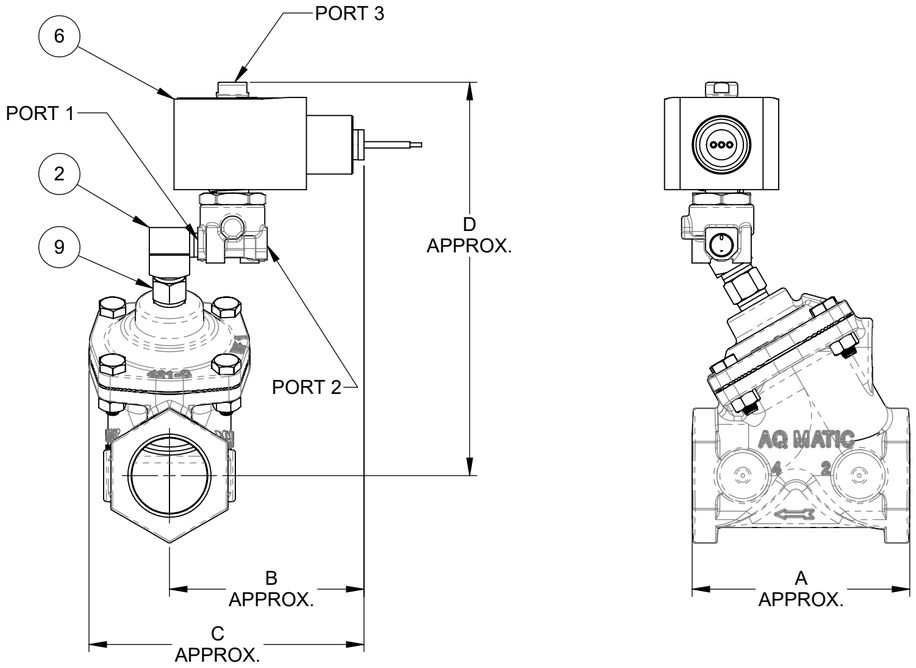
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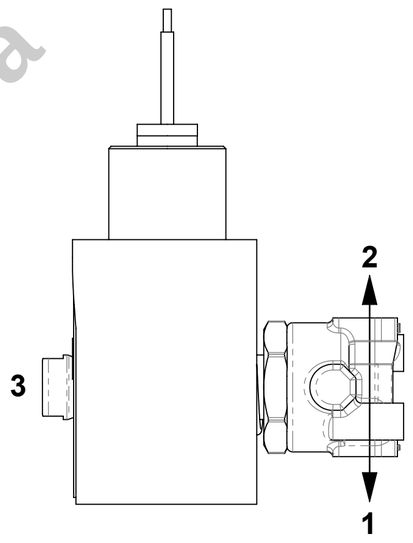
BILL OF MATERIALS											
ITEM NO	PART NO	DESCRIPTION	421 IP QTY	424 IP QTY	425 IP QTY	426 IP QTY	427 IP QTY	428 IP QTY	429 IP QTY	429 IP/QTY.	UNITS
2	1074040	ELBOW, REDUCER 1/4"FNPT X 1/8" MNPT	1	1	1	1	1	1	1	1	EACH
6	4510496-01	SOLENOID, 3 WAY, 120/60 VAC	1	1	1	1	1	1	1	1	EACH
	4510496-02	SOLENOID, 3-WAY, 220/60									
	4510496-03	SOLENOID, 3-WAY, 24/60 VAC									
	4510496-04	SOLENOID, 3-WAY, 24 VDC									
9	1081648	FITTING, NIPPLE 1/4MNPTX1.38	1	1	1	1	1	1	1	-	EACH
10	1074038	FITTING, NIPPLE, 1/4 X 1/8 REDUCER, BRASS	-	-	-	-	-	-	-	1	EACH

REVISIONS				
REV	ECN	DESCRIPTION	DATE	APP'D
		SEE SHEET ONE FOR LIST OF CHANGES		

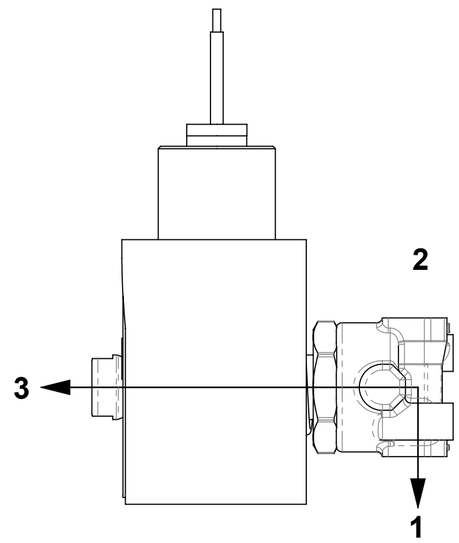


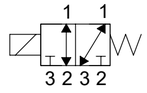
SOLENOID INFORMATION

SOLENOID ENERGIZED



SOLENOID DE-ENERGIZED





FLOW STATES - PRESSURE AT ANY PORT			
	PORT 1	PORT 2	PORT 3
ENERGIZED	OPEN	OPEN	CLOSED
DE-ENERGIZED	OPEN	CLOSED	OPEN

INDEPENDANT CONTROL PRESSURE

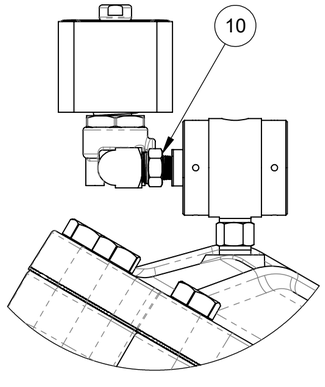
CONTROL PRESSURE MUST BE EQUAL TO OR GREATER THAN LINE PRESSURE.

ENERGIZE TO OPEN:
APPLY CONTROL PRESSURE TO SOLENOID PORT 3. (PORT 2 VENTED)

ENERGIZE TO CLOSE:
APPLY CONTROL PRESSURE TO SOLENOID PORT 2. (PORT 3 VENTED)

VALVE SERIES	PIPE SIZE	A	B	C	D
V42B	3/4"	[106] 4.19	[84] 3.32	[119] 4.70	[171] 6.72
V42C	1"				
V42D	1-1/4"	[127] 4.98	[84] 3.32	[129] 5.07	[190] 7.49
V42E	1-1/2"				
V42F	2"	[168] 6.60	[84] 3.32	[153] 6.01	[225] 8.84
V42G	2"	[187] 7.35	[84] 3.32	[162] 6.39	[233] 9.18
V42H	2-1/2"				
V42J	3" THREADED	[232] 9.13	[92] 3.63	[184] 7.25	[247] 9.74
	3" FLANGED	[270] 10.62	[95] 3.75	[191] 7.50	[247] 9.73
V42K	4"	[298] 11.75	[114] 4.50	[228] 8.99	[320] 12.60
V42L	6"	[432] 17.00	[200] 7.88	[400] 15.75	[441] 17.35

429 ATTACHMENT



NOTES:

1. LENGTH OF TUBING VARIES WITH EACH SIZE OF DIAPHRAGM VALVE AND CONFIGURATION.
2. B.S.P.T. THREADED VALVES 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. SEE PAGE 2 FOR DRY DRAIN OPTION & PAGE 3 FOR INDEPENDANT PRESSURE.
6. "EC" REFERS TO ENERGIZED CLOSED. "EO" REFERS TO ENERGIZED OPEN.
   "427F" REFERS TO THE 427 FLANGED OPTION.

CURRENT DRAIN		
VOLTAGE	HOLDING	INRUSH
24 VAC	25 VA	50 VA
120 VAC	25 VA	50 VA
220 VAC	25 VA	50 VA
24 VDC	10.1 W	

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INTERPRET DIMENSIONS AND TOLERANCES PER ASME Y14.5M -1994

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES [mm]
CORNER FILLETS R.005-.020 [.127-.508]
TOLERANCES:
ANGLES : ± 1°
1 PLACE .X: ± .100 [2.54]
2 PLACE .XX: ± .010 [0.25]
3 PLACE .XXX: ± .005 [0.13]

THIRD ANGLE PROJECTION

APPROVALS	DATE
DRAWN PMJ	3/13/2020
CHECKED BY	
APPROVED	

AQ-MATIC
VALVES AND CONTROLS

DESCRIPTION
CATALOG SHEET, V420, SOLENOIDS

SIZE C | DWG NO. 1078113 | REV. N1

SCALE 1:2

PT Watermart Perkasa
Email: sales@water.co.id Phone: +62-21-316-1671
Whatsapp (text only): +62815-8609-3500
Website: www.water.co.id

REVISIONS				
REV	ECN	DESCRIPTION	DATE	APP'D
		SEE SHEET ONE FOR CHANGES		

OPTIONAL VARIATIONS OF INDEPENDENT PRESSURE CONTROL

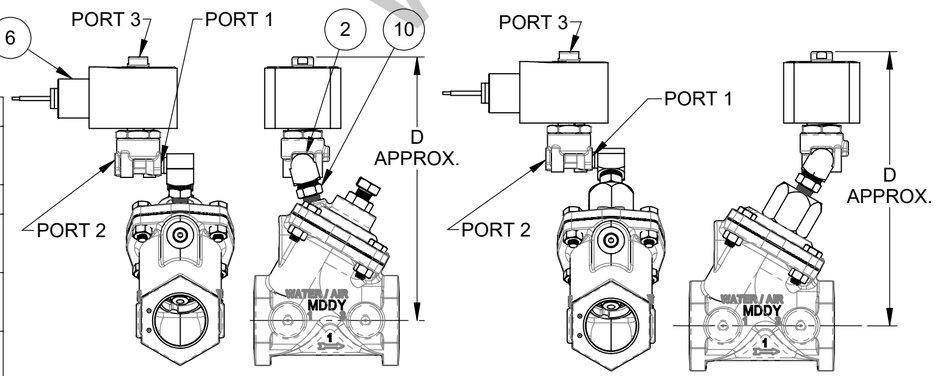
ITEM NO	PART NO	DESCRIPTION	421 IP LS	424 IP LS	425 IP LS	426 IP LS	427 LS IP	427F LS IP	428 LS IP	429 LS IP	421 SAC IP	424 SAC IP	425 SAC IP	426 SAC IP	427 SAC IP	427F SAC IP	428 SAC IP	429 SAC IP
2	1074040	ELBOW, REDUCER 1/4"FNPT X 1/8" MNPT	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6	4510496-01	SOLENOID, 3 WAY, 120/60 VAC	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	4510496-02	SOLENOID, 3-WAY, 220/60																
	4510496-03	SOLENOID, 3-WAY, 24/60 VAC																
	4510496-04	SOLENOID, 3-WAY, 24 VDC																
9	1081648	FITTING, NIPPLE 1/4MNPTX1.38	-	-	-	-	1	1	1	-	-	-	-	-	-	-	-	-
10	1074038	FITTING, NIPPLE, 1/4 X 1/8 REDUCER, BRASS	1	1	1	1	-	-	-	1	1	1	1	1	1	1	1	1

OPTIONAL VARIATIONS OF ENERGIZED OPEN AND ENERGIZED CLOSED

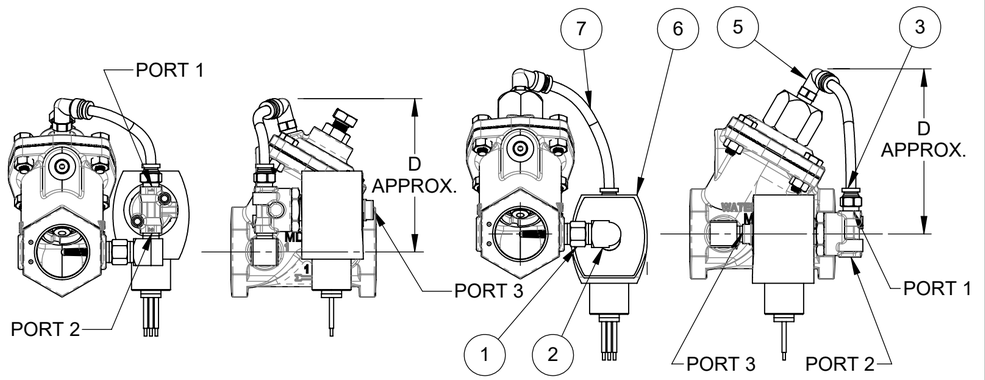
ITEM NO	PART NO	DESCRIPTION	421 EC LS	424 EC LS	425 EC LS	426 EC LS	427 EC LS	427F EC LS	428 EC LS	429 EC LS	421 EC SAC	424 EC SAC	425 EC SAC	426 EC SAC	427 EC SAC	427F EC SAC	428 EC SAC	429 EC SAC	421 EO LS	424 EO LS	425 EO LS	426 EO LS	427 EO LS	427F EO LS	428 EO LS	429 EO LS	421 EO SAC	424 EO SAC	425 EO SAC	426 EO SAC	427 EO SAC	427F EO SAC	428 EO SAC	429 EO SAC	UNITS
1	1074004	STRAINER ASSEMBLY	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	EACH
2	1074040	ELBOW, REDUCER 1/4"FNPT X 1/8" MNPT	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	EACH
3	1078763	FITTING, 1/8MNPT X 1/4, PUSH FIT	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	EACH
4	1078766	FITTING, ELBOW, 1/4" MNPT X 1/4" TUBE	-	-	-	-	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	-	-	-	-	-	-	-	-	-	-	EACH
5	1078765	FITTING, ELBOW, 1/8" MNPT X 1/4" TUBE	1	1	1	1	-	-	-	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	1	1	1	1	1	1	1	1	1	1	EACH
6	4510496-01	SOLENOID, 3 WAY, 120/60 VAC	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	EACH
	4510496-02	SOLENOID, 3-WAY, 220/60																																	
	4510496-03	SOLENOID, 3-WAY, 24/60 VAC																																	
	4510496-04	SOLENOID, 3-WAY, 24 VDC																																	
7	1071936	TUBING, POLY 1/4" O.D. X .035	4	4	6	7	8	9	12	16	5	8	8	9	10	11	14	16	6	6	8	8	9	9	13	19	5	7	7	8	10	10	13	19	INCHES
8	43947	FITTING, ADAPTER, 1/4MNPT X 1/4FMNPT	-	-	-	-	-	1	1	1	-	-	-	-	-	1	1	1	-	-	-	-	-	1	1	1	-	-	-	-	-	1	1	1	EACH

ITEM NO	PART NO	DESCRIPTION	421 ECDD LS	424 ECDD LS	425 ECDD LS	426 ECDD LS	427 ECDD LS	427F ECDD LS	428 ECDD LS	429 ECDD LS	421 ECDD SAC	424 ECDD SAC	425 ECDD SAC	426 ECDD SAC	427 ECDD SAC	427F ECDD SAC	428 ECDD SAC	429 ECDD SAC	421 EODD LS	424 EODD LS	425 EODD LS	426 EODD LS	427 EODD LS	427F EODD LS	428 EODD LS	429 EODD LS	421 EODD SAC	424 EODD SAC	425 EODD SAC	426 EODD SAC	427 EODD SAC	427F EODD SAC	428 EODD SAC	429 EODD SAC	UNITS
1	1074004	STRAINER ASSEMBLY	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	EACH
2	1074040	ELBOW, REDUCER 1/4"FNPT X 1/8" MNPT	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	EACH
3	1078763	FITTING, 1/8MNPT X 1/4, PUSH FIT	1	1	1	1	2	2	2	2	1	1	1	1	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	EACH
4	1078766	FITTING, ELBOW, 1/4" MNPT X 1/4" TUBE	1	1	1	1	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	1	1	1	1	1	1	1	1	1	EACH
5	1078765	FITTING, ELBOW, 1/8" MNPT X 1/4" TUBE	2	2	2	2	-	-	-	1	2	2	2	2	1	1	1	1	2	2	2	2	1	1	1	2	2	2	2	2	2	2	2	2	EACH
6	4510496-01	SOLENOID, 3 WAY, 120/60 VAC	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	EACH
	4510496-02	SOLENOID, 3-WAY, 220/60																																	
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7	1071936	TUBING, POLY 1/4" O.D. X .035	4	4	6	7	8	9	13	16	5	8	8	9	10	10	13	16	3	3	4	5	6	7	10	14	5	5	5	7	8	8	11	14	INCHES
			6	5	4	4	2	3	3	8	6	5	3	3	2	3	3	8	5	3	3	3	4	4	4	10	4	3	3	3	4	4	4	10	
8	43947	FITTING, ADAPTER, 1/4MNPT X 1/4FMNPT	-	-	-	-	-	1	1	1	-	-	-	-	-	1	1	1	-	-	-	-	-	1	1	1	-	-	-	-	-	1	1	1	EACH

INDEPENDENT PRESSURE CONTROL VARIATIONS



ENERGIZED OPEN/CLOSE VARIATIONS



"D" DIMENSION FOR OPTIONAL VALVE CAPS					
VALVE SERIES	PIPE SIZE	ENERGIZE OPEN OR CLOSE		INDEPENDANT CONTROL PRESSURE	
		LS	SAC	LS	SAC
V42B	3/4"	[100] 3.93	[114] 4.48	[171] 6.73	[178] 7.00
V42C	1"				
V42D	1-1/4"	[127] 5.02	[156] 6.13	[192] 7.54	[224] 8.82
V42E	1-1/2"				
V42F	2"	[169] 6.64	[156] 6.16	[229] 9.00	[227] 8.93
V42G	2"	[179] 7.05	[179] 7.06	[241] 9.47	[250] 9.85
V42H	2-1/2"				
V42J	3" THREADED	[203] 7.99	[196] 7.72	[262] 10.31	[265] 10.44
	3" FLANGED	[203] 7.99	[196] 7.71	[262] 10.32	[264] 10.41
V42K	4"	[267] 10.53	[267] 10.52	[342] 13.45	[337] 13.28
V42L	6"	[392] 15.41	[392] 15.41	[392] 15.41	[392] 15.41

NOTES:

1. LENGTH OF TUBING VARIES WITH EACH SIZE OF DIAPHRAGM VALVE AND CONFIGURATION.
2. B.S.P.T. THREADED VALVES AVAILABLE UPON REQUEST FOR 421-427
3. DIAPHRAGM VALVE IS NORMALLY OPEN, PRESSURE TO CLOSE.
4. SEE PAGE 1 FOR ENERGIZED OPEN OR CLOSED, PAGE 2 FOR DRY DRAIN OPTION, & PAGE 3 FOR INDEPENDANT PRESSURE.
5. "EC" REFERS TO ENERGIZED CLOSED. "EO" REFERS TO ENERGIZED OPEN.
   "ECDD" REFERS TO ENERGIZED CLOSED, DRY DRAIN.
   "EODD" REFERS TO ENERGIZED OPEN, DRY DRAIN.
   "427F" REFERS TO THE 427 FLANGED OPTION.
   "LS" REFERS TO VALVES WITH LIMIT STOP OR POSITION INDICATOR OPTION.
   "SAC" REFERS TO VALVES WITH SPRING ASSIST CLOSE OPTION.
6. FOR 427 - 429 ECDD, SOLENOID USES (X2) 1078763, LESS (X1) 1078765.

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THIRD ANGLE PROJECTION

APPROVALS	DATE
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AQ-MATIC
VALVES AND CONTROLS

DESCRIPTION: CATALOG SHEET, V420, SOLENOIDS

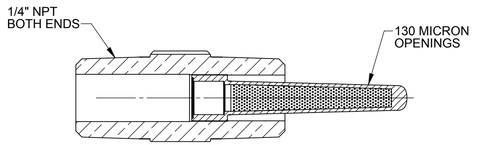
SIZE C | DWG NO. 1078113 | REV. N

SCALE 1:3

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Whatsapp (text only): +62815-8609-3500
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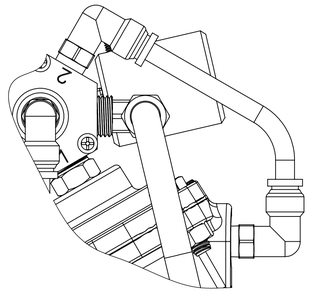
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REVISIONS					
ZONE	ECN	REV.	DESCRIPTION	DATE	APP'D
	104648	F	1-UPDATED TITLE BLOCKS, 2-ADD'D: PG-3 & 6 FOR STD FLOAT VERSIONS, 3-ADD'D: 421 SAC VIEW ON PG'S 3 & 4.	22MAY15	TJM
1&2-PG2, 2&3-PG3, 4-PG4, 5&6-PG5, 7&8-PG6	104648	G	1-IT#14-WAS:1074001, 2-ROTATED IT#22 180°, 3-IT#14-WAS:1074001,4-ADDED SIDE VIEWS, 5-IT#15-WAS:1074001,6-IT#18-REMD:1074002,7-IT#15-WAS:1074001,8-IT#18-REMD:1074002	19AUG15	TJM
1-PG2,3,5&6 2-PG 3,5&6 3-PG-7	105334	H	1-WAS:3029346 NOW:16586-8, 2-IT# 18 WAS IT# 26, 3-ADD'D: PG-7 (CLOSED IF- LOW)	25NOV15	TJM
	1001	J	AQ Matic update & verified part numbers	20JAN17	MGS
	1372	K	1-UPDATE VALVE BODIES/CAPS, 2-CORRECT ASSEMBLY ISSUES	12/06/18	KJB

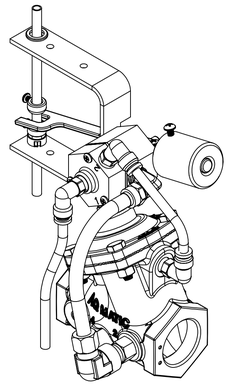


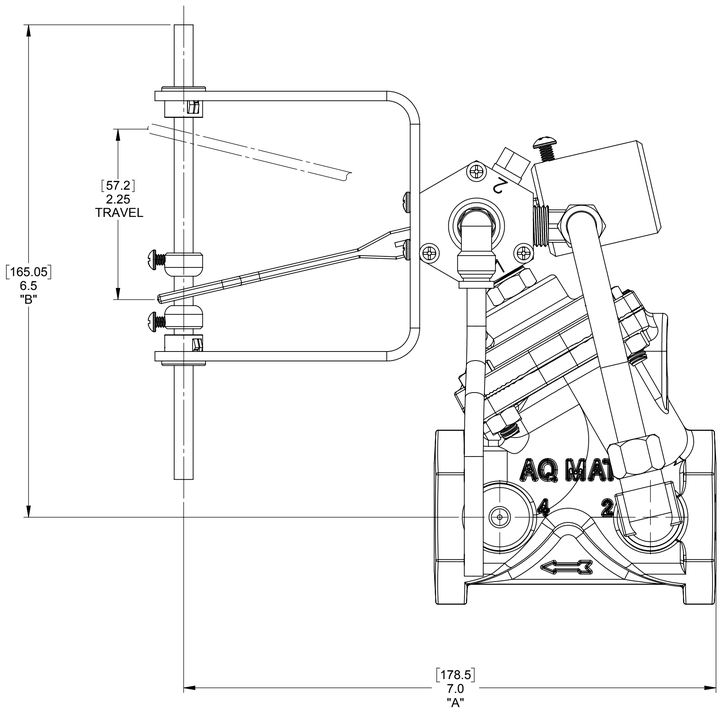
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SCALE 2 : 1

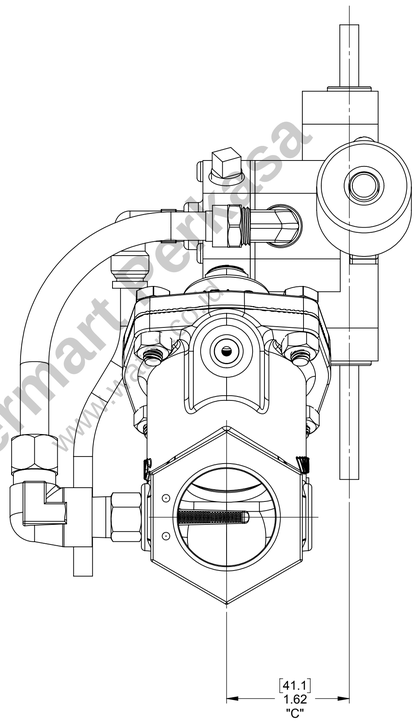
STRAINER ASSEMBLY

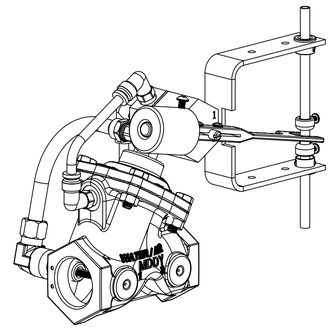


POWERED OPEN OPTION
FOR DETAILED ASSEMBLY SEE PG'S - 2 & 5









VALVE SERIES	421	424	425	426	427	428
PIPE SIZE	1"	1-1/4", 1-1/2"	2"	2"	3"	4"
A	7.20 182.9	8.29 210.6	9.29 132.1	9.87 236.0	10.80 274.3	12.80 325.1
B	6.50 165.1	7.81 198.4	8.37 212.6	9.56 242.8	10.56 268.2	13.81 350.8
C	1.70 43.2	4.20 106.7	5.20 132.1	5.20 132.1	6.20 157.5	6.20 157.5

421-428 FLOAT VALVES ON THIS PAGE

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DO NOT SCALE DRAWING. DIMS. ARE IN INCHES [mm]
INTERPRET DIMS AND TOLERANCES PER ASME Y14.5M -2009
UNLESS OTHERWISE SPECIFIED.
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TOLERANCES:
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1 PLACE .X: ± .015 [0.38]
2 PLACE .XX: ± .01 [0.3]
3 PLACE .XXX: ± .005 [0.13]

THIRD ANGLE PROJECTION

APPROVALS	DATE
DRAWN SM	04/18/11
APPROVED	
CHECKED	

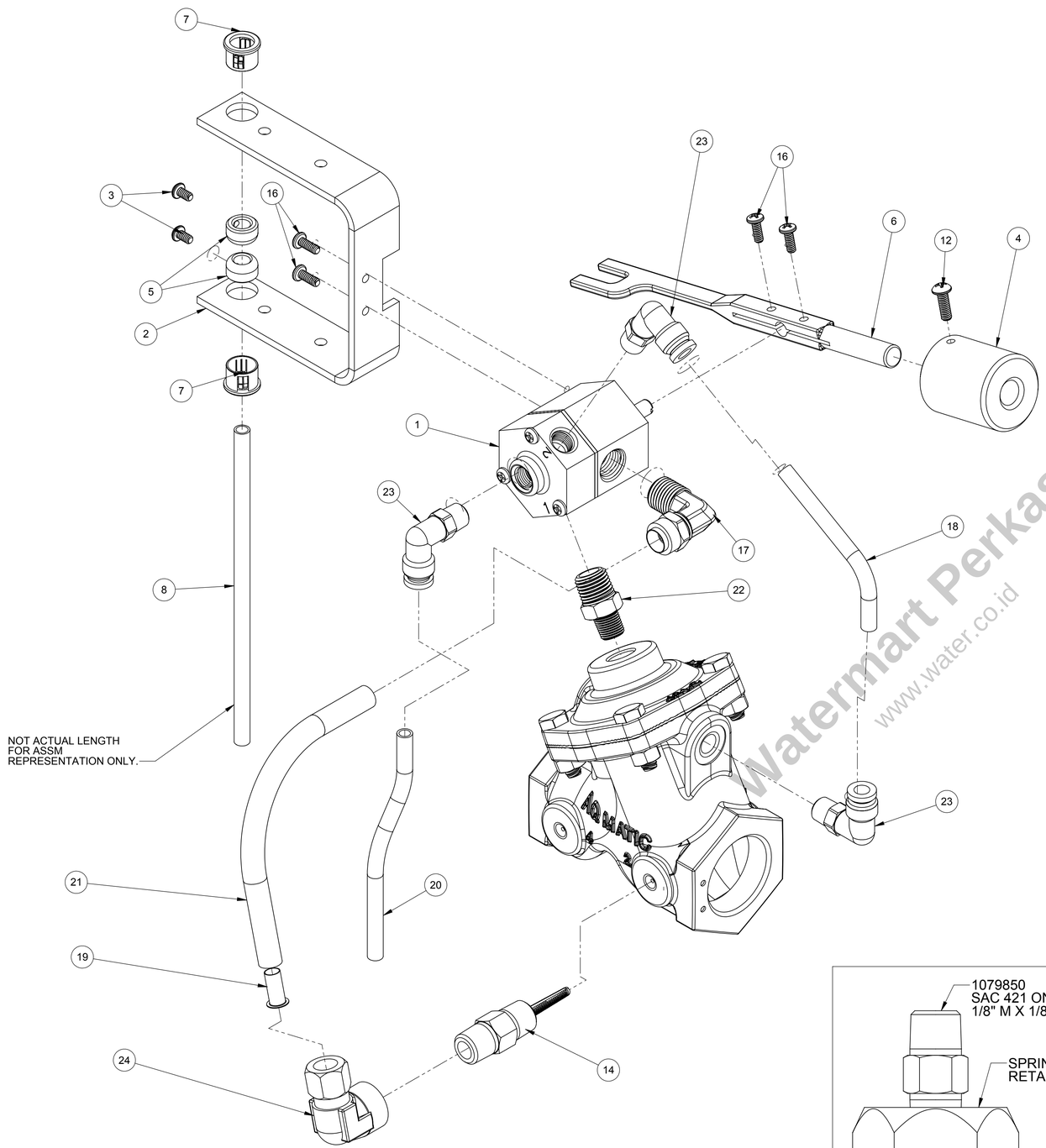
AQ Matic
Valve & Controls Company Inc.

TITLE
CATALOG SHEET, 420 DAIPHRAGM FLOAT OPERATED VALVES

SIZE B | DWG NO. 1078100 | REV

SCALE 1:1

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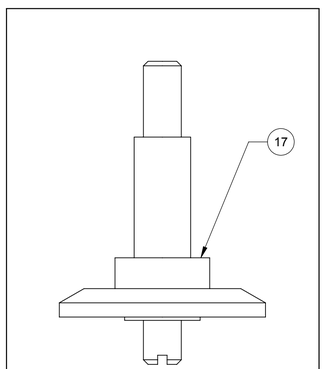
REVISIONS					
ZONE	ECN	REV.	DESCRIPTION	DATE	APP'D
			SEE SHEET ONE FOR NOTES		

ITEM NO.	DESCRIPTION	PART NUMBER	QTY. (421)
1	PILOT CNTL ASSY, 348, -AE	1073992	1
2	BRACKET, 348,	1074012	1
3	RD. HD. MACH. SCREW, (6-32 X 1/4)	1072370	2
4	COUNTERWEIGHT, STD	1074014	1
5	CENTERING COLLAR, BRASS	1074017	2
6	LEVER, 348	1074034	1
7	BUSHING,	1074016	2
8	FLOAT ROD,	1074023	1
9	STUD, THRD, #12-24 UNC-2A, BRASS	1074025	1
10	GREASE, LUBRIPLATE, FGL-2	16856-8	1
11	FLOAT,SAND,5"	1073996	1
12	RD. HD. MACH SCREW, (8-32 X 1/2)	1072375	1
13	STRAINER,	1074002	1
14	STRAINER ASSY	1074004	1
15	SPACER, BRASS	1074127	1
16	SCREW, PHLP, PN HD	1072371	4
17	FITTING, ELBOW, BRASS	1074037	1
18	TUBING, POLY 1/4" O.D. X .035	1071936	1
19	FITTING,INSERT,3/8	10332	1
20	TUBING, POLY 1/4" O.D. X .035	1071936	1
21	FITTING,TUBE,.37 OD	1071940	1
22	FITTING, NIPPLE,1/4X1/8 REDUCR	1074038	1
23	FITTING, ELBOW,TUBE,1/8MNPT X	1078765	3
24	FITTING, ELBOW,TUBE 1/4FNPTX3/	1074007	1

SEE NOTE 2

PAINT OPTIONS	
PART #	COLOR
42805	RED
43198	BLUE
42807	BLACK
42808	ASH

421 SAC VERSION ONLY



SPACER ASSEMBLY VIEW

NOTES:

1. DRILL AND TAP PORT #2 WITH 1/4" NPT. [421 VALVE]
2. SEE DRAWING 1078193 FOR ROD LENGTH/MATERIAL OPTIONS.
3. 421 MODEL IS SHOWN ON THIS DRAWING SHEET. SEE SHEET 4, 5, & 6 FOR 424-428 MODELS.
4. STANDARD 421 MODEL SHOWN.

POWERED OPEN VERSION

421 FLOAT VALVES ONLY ON THIS PAGE

COMPONENTS / ASSEMBLIES TO BE COMPLIANT AND COMPATIBLE WITH EUROPEAN UNION DIRECTIVE 2011/65/EEC (ROHS2) & REGULATION (EC)1907/2006 (REACH) REQUIREMENTS

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Valve & Controls Company Inc.

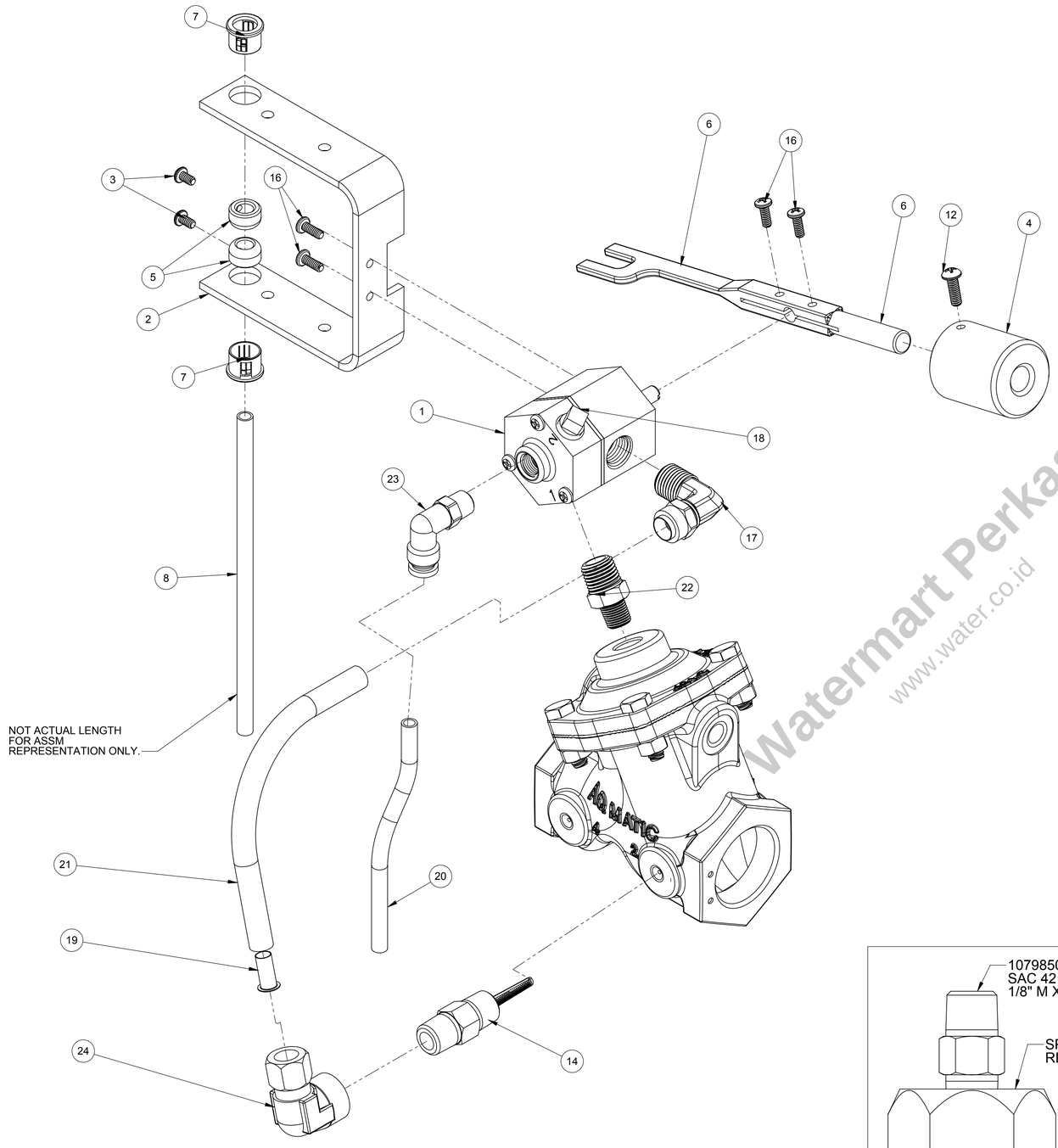
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SIZE B | DWG NO. 1078190 | REV

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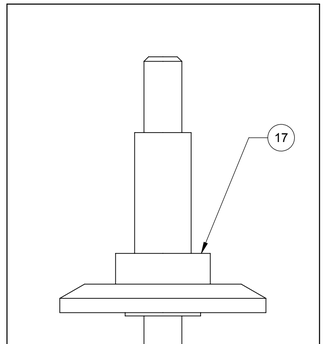
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ITEM NO.	DESCRIPTION	PART NUMBER	QTY. (421)
1	PILOT CNTL ASSY, 348, -AE	1073992	1
2	BRACKET, 348	1074012	1
3	RD. HD. MACH. SCREW, (6-32 X 1/4)	1072370	2
4	COUNTERWEIGHT, STD	1074014	1
5	CENTERING COLLAR, BRASS	1074017	2
6	LEVER, 348	1074034	1
7	BUSHING	1074016	2
SEE NOTE-2 → 8	FLOAT ROD	1074023	1
9	STUD, THRD, #12-24 UNC-2A, BRASS	1074025	1
10	GREASE, LUBRIPLATE, FGL-2	16856-8	1
11	FLOAT,SAND,5"	1073996	1
12	RD. HD. MACH SCREW, (8-32 X 1/2)	1072375	1
13	STRAINER	1074002	1
14	STRAINER ASSY	1074004	1
15	SPACER, BRASS	1074127	1
16	SCREW, PHLP, PN HD	1072371	4
17	FITTING, ELBOW, BRASS	1074037	1
18	PLUG, PIPE	1071903	1
19	FITTING,INSERT,3/8	10332	1
20	TUBING, POLY 1/4" O.D. X .035	1071936	1
21	FITTING,TUBE,.37 OD	1071940	1
22	FITTING, NIPPLE,1/4X1/8 REDUCR	1074038	1
23	FITTING, ELBOW,TUBE,1/8MNPT X	1078765	1
24	FITTING, ELBOW,TUBE 1/4FNPTX3/	1074007	1

PAINT OPTIONS	
PART #	COLOR
42805	RED
43198	BLUE
42807	BLACK
42808	ASH

421 SAC VERSION ONLY



SPACER ASSEMBLY VIEW

NOTES:

1. DRILL AND TAP PORT #2 WITH 1/4" NPT. [421 VALVE]
2. SEE DRAWING 1078193 FOR ROD LENGTH/MATERIAL OPTIONS.
3. 421 MODEL IS SHOWN ON THIS DRAWING SHEET. SEE SHEET 4, 5, & 6 FOR 424-428 MODELS.
4. STANDARD 421 MODEL SHOWN.

STANDARD VERSION
421 FLOAT VALVES
ONLY ON THIS PAGE

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TOLERANCES:
ANGLES : ± 1°
1 PLACE .X: ± .015 [0.38]
2 PLACE .XX: ± .01 [0.3]
3 PLACE .XXX: ± .005 [0.13]

THIRD ANGLE PROJECTION

APPROVALS	DATE
DRAWN SM	04/18/11
APPROVED	
CHECKED	

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TITLE
CATALOG SHEET, 420 DAIPHRAGM FLOAT OPERATED VALVES

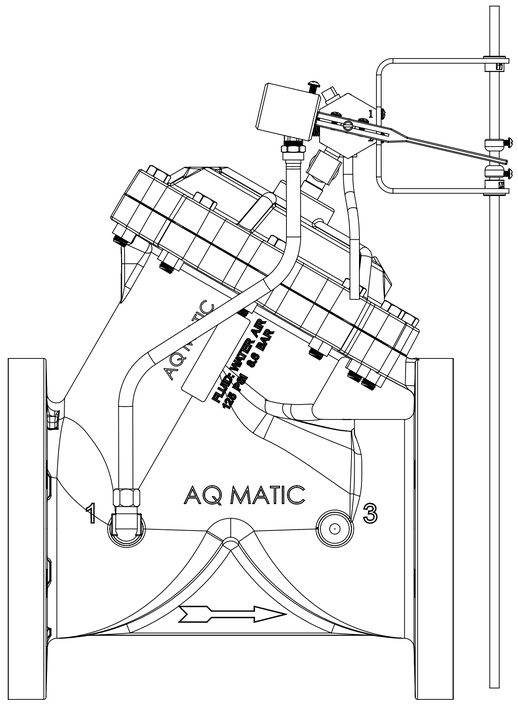
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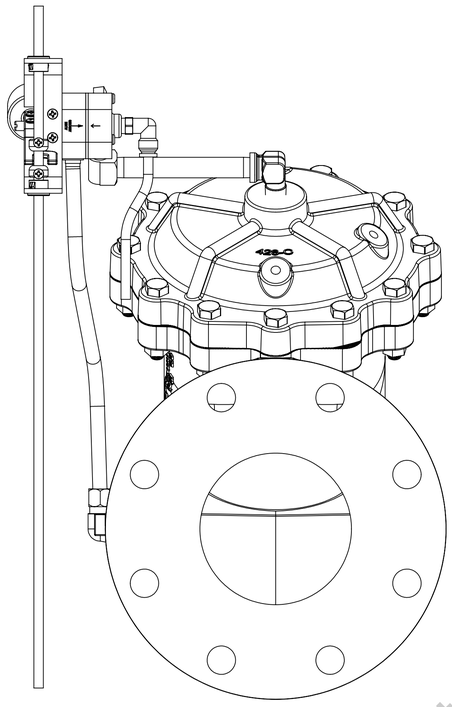
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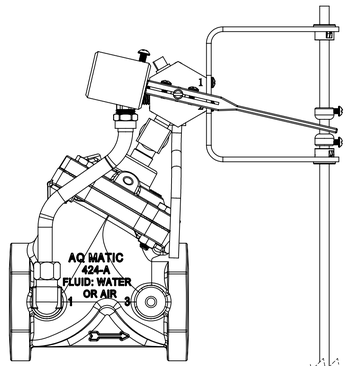
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REVISIONS					
ZONE	ECN	REV.	DESCRIPTION	DATE	APP'D
			SEE SHEET ONE FOR NOTES		

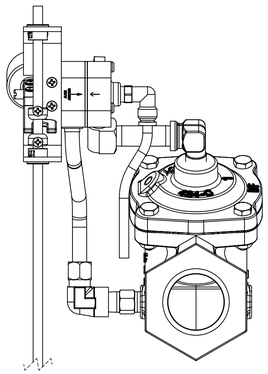


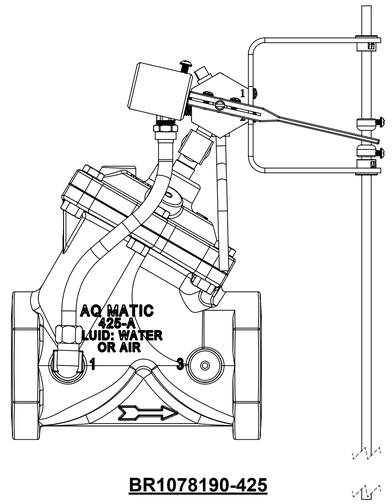
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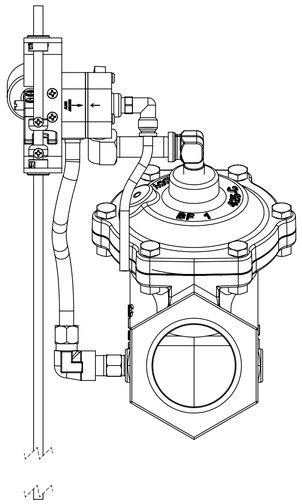


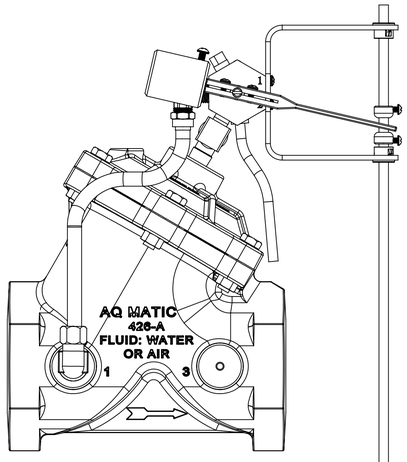
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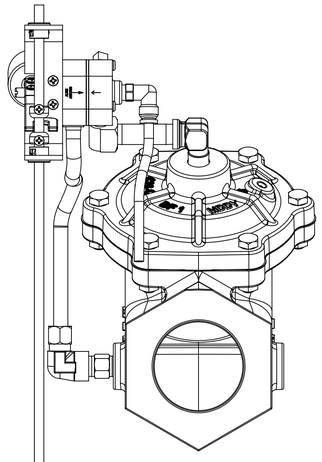




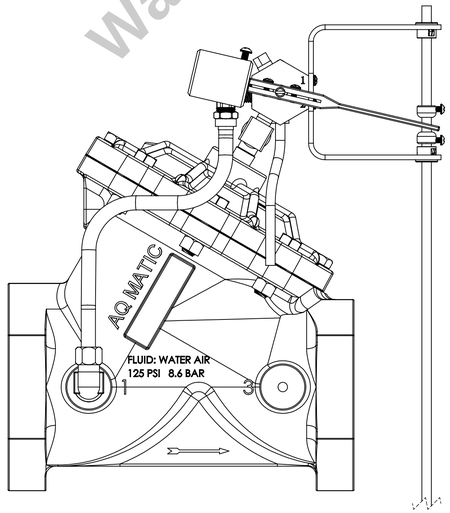
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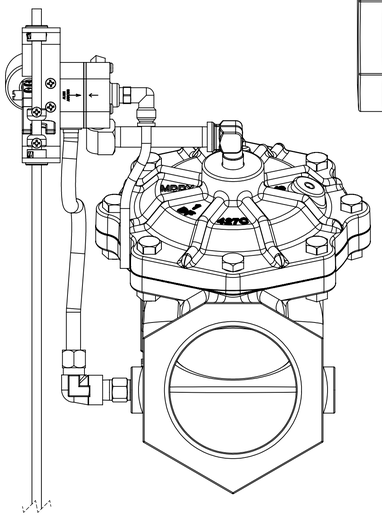






BR1078190-426





BR1078190-427

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424 - 428 SRANDARD VERSIONS SHOWN

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TOLERANCES:
ANGLES : ±1°
1 PLACE .X ± .015 [0.38]
2 PLACE .XX: ± .01 [0.3]
3 PLACE .XXX: ± .005 [0.13]

THIRD ANGLE PROJECTION	
APPROVALS	DATE
DRAWN SM	04/18/11
APPROVED	
CHECKED	

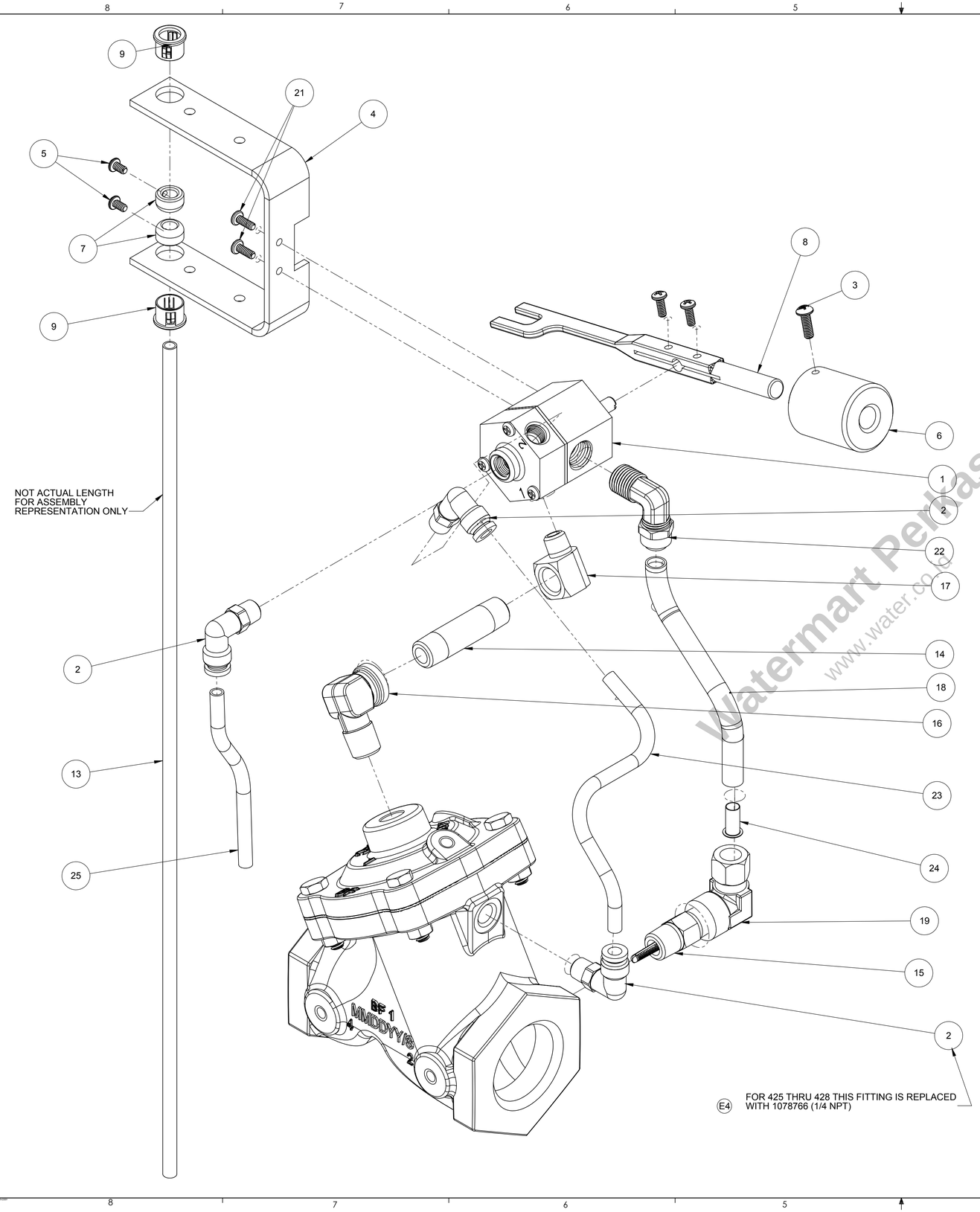
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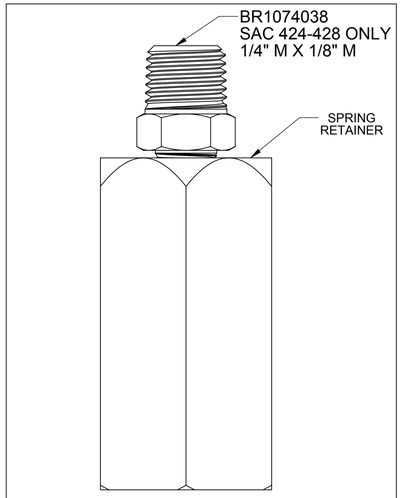
TITLE
CATALOG SHEET, 420 DAIPHRAGM FLOAT OPERATED VALVES

SIZE	DWG NO.	REV
B	1078190	

SCALE 1:1

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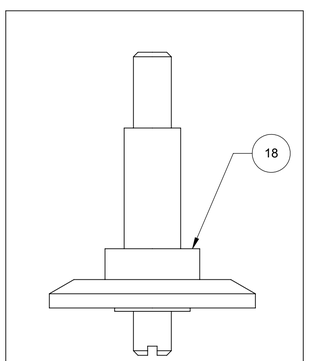
SAC ASSEMBLY VIEW

REVISIONS					
ZONE	ECN	REV.	DESCRIPTION	DATE	APP'D
			SEE SHEET ONE FOR NOTES		

ITEM NO.	DESCRIPTION		PART NUMBER	QTY. (424-428) POWERED OPEN
1	PILOT CNTL ASSY, 348, -AE		1073992	1
2	FITTING, ELBOW,TUBE,1/8MNPT X		1078765	3
3	RD. HD. MACH SCREW, (8-32 X 1/2)		1072375	1
4	BRACKET, 348,		1074012	1
	CENTERING COLLAR, BRASS		1074017	2
5	RD. HD. MACH. SCREW, (6-32 X 1/4)		1072370	2
6	COUNTERWEIGHT, STD		1074014	1
8	LEVER, 348		1074034	1
9	BUSHING,		1074016	2
10	STUD, THRD, #12-24 UNC-2A, BRASS		1074025	1
11	GREASE, LUBRIPLATE, FGL-2		16856-8	1
12	FLOAT,SAND,5"		1073996	1
13	FLOAT ROD,		1074023	1
14	FITTING, NIPPLE 1/4NPTX2,BRASS	424	1071905	1
	PIPE NIPPLE 1/4" X 3"	425,426	1071906	
	PIPE NIPPLE 1/4" X 4"	427,428	1071907	
15	STRAINER ASSY		1074004	1
16	FITTING, ELBOW,1/4 MNPT X 1/4F		1074041	1
17	FITTING, ELBOW,REDUCER,BRS		1074040	1
18	STRAINER,		BR1074002	1
19	FITTING, ELBOW,TUBE 1/4FNPTX3/		1074007	1
20	SPACER, BRASS	424	1074230	1
		425	1074305	
		426	1074385	
		427	1074484	
		428	1074565	
21	SCREW, PHLP, PN HD		1072371	4
22	FITTING, ELBOW, BRASS		1074037	1
23	TUBING, POLY 1/4" O.D. X .035		1071936	1
24	FITTING,INSERT,3/8		10332	1
25	TUBING, POLY 1/4" O.D. X .035		1071936	1

SEE NOTE-2

PAINT OPTIONS	
PART #	COLOR
42805	RED
43198	BLUE
42807	BLACK
42808	ASH



SPACER ASSEMBLY VIEW

NOTES:

1. DRILL AND TAP PORT #1 WITH 1/4" NPT. [424-428 VALVES]
2. SEE DRAWING 1078193 FOR ROD LENGTH / MATERIAL OPTIONS.
3. POWERED OPEN 424 MODEL SHOWN.

POWERED OPEN VERSION
FOR 424 THRU 428
VALVES W/FLOAT

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TOLERANCES:
ANGLES ± 1°
1 PLACE .X ± .015 [0.38]
2 PLACE .XX ± .01 [0.3]
3 PLACE .XXX ± .005 [0.13]

THIRD ANGLE PROJECTION

APPROVALS	DATE
DRAWN SM	04/18/11
APPROVED	
CHECKED	

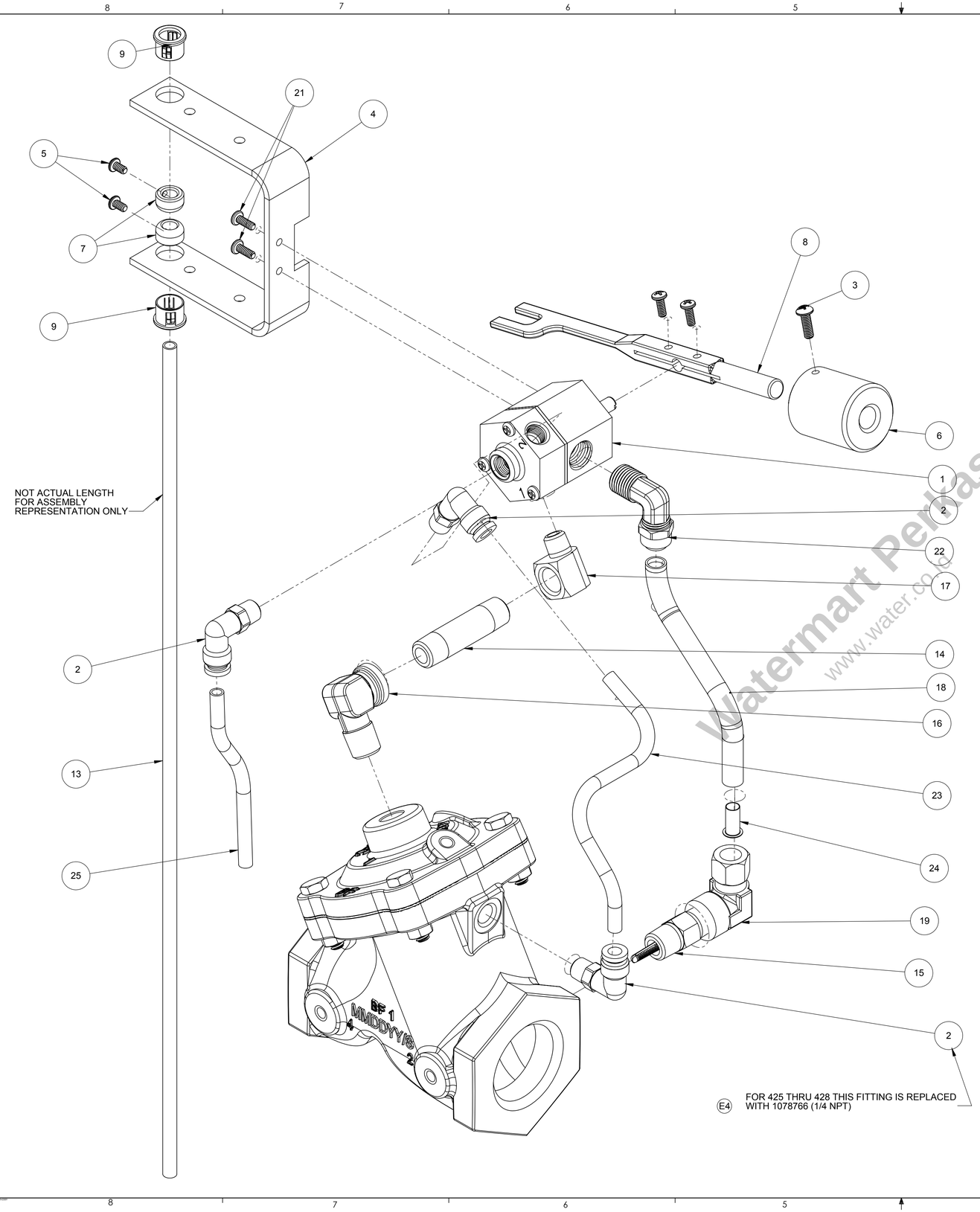
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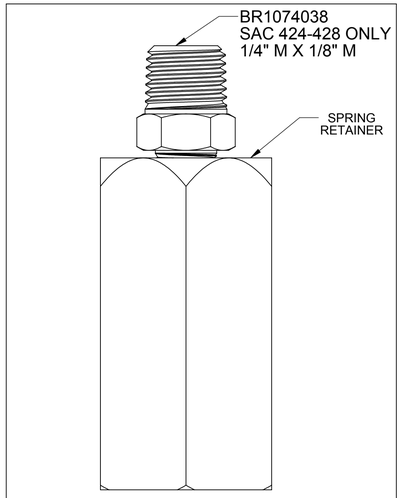
TITLE
CATALOG SHEET, 420 DAIPHRAGM
FLOAT OPERATED VALVES

SIZE B | DWG NO. 1078100 | REV
SCALE 1:1

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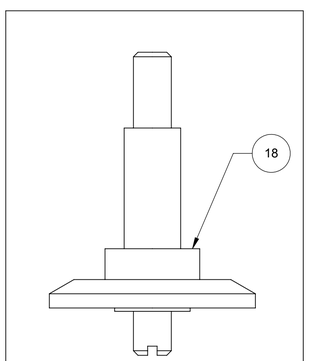
SAC ASSEMBLY VIEW

REVISIONS					
ZONE	ECN	REV.	DESCRIPTION	DATE	APP'D
			SEE SHEET ONE FOR NOTES		

ITEM NO.	DESCRIPTION		PART NUMBER	QTY. (424-428) POWERED OPEN
1	PILOT CNTL ASSY, 348, -AE		1073992	1
2	FITTING, ELBOW,TUBE,1/8MNPT X		1078765	3
3	RD. HD. MACH SCREW, (8-32 X 1/2)		1072375	1
4	BRACKET, 348,		1074012	1
	CENTERING COLLAR, BRASS		1074017	2
5	RD. HD. MACH. SCREW, (6-32 X 1/4)		1072370	2
6	COUNTERWEIGHT, STD		1074014	1
8	LEVER, 348		1074034	1
9	BUSHING,		1074016	2
10	STUD, THRD, #12-24 UNC-2A, BRASS		1074025	1
11	GREASE, LUBRIPLATE, FGL-2		16856-8	1
12	FLOAT,SAND,5"		1073996	1
13	FLOAT ROD,		1074023	1
14	FITTING, NIPPLE 1/4NPTX2,BRASS	424	1071905	1
	PIPE NIPPLE 1/4" X 3"	425,426	1071906	
	PIPE NIPPLE 1/4" X 4"	427,428	1071907	
15	STRAINER ASSY		1074004	1
16	FITTING, ELBOW,1/4 MNPT X 1/4F		1074041	1
17	FITTING, ELBOW,REDUCER,BRS		1074040	1
18	STRAINER,		BR1074002	1
19	FITTING, ELBOW,TUBE 1/4FNPTX3/		1074007	1
20	SPACER, BRASS	424	1074230	1
		425	1074305	
		426	1074385	
		427	1074484	
		428	1074565	
21	SCREW, PHLP, PN HD		1072371	4
22	FITTING, ELBOW, BRASS		1074037	1
23	TUBING, POLY 1/4" O.D. X .035		1071936	1
24	FITTING,INSERT,3/8		10332	1
25	TUBING, POLY 1/4" O.D. X .035		1071936	1

SEE NOTE-2

PAINT OPTIONS	
PART #	COLOR
42805	RED
43198	BLUE
42807	BLACK
42808	ASH



SPACER ASSEMBLY VIEW

NOTES:

1. DRILL AND TAP PORT #1 WITH 1/4" NPT. [424-428 VALVES]
2. SEE DRAWING 1078193 FOR ROD LENGTH / MATERIAL OPTIONS.
3. POWERED OPEN 424 MODEL SHOWN.

POWERED OPEN VERSION
FOR 424 THRU 428
VALVES W/FLOAT

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TOLERANCES:
ANGLES ± 1°
1 PLACE .X ± .015 [0.38]
2 PLACE .XX ± .01 [0.3]
3 PLACE .XXX ± .005 [0.13]

THIRD ANGLE PROJECTION

APPROVALS	DATE
DRAWN SM	04/18/11
APPROVED	
CHECKED	

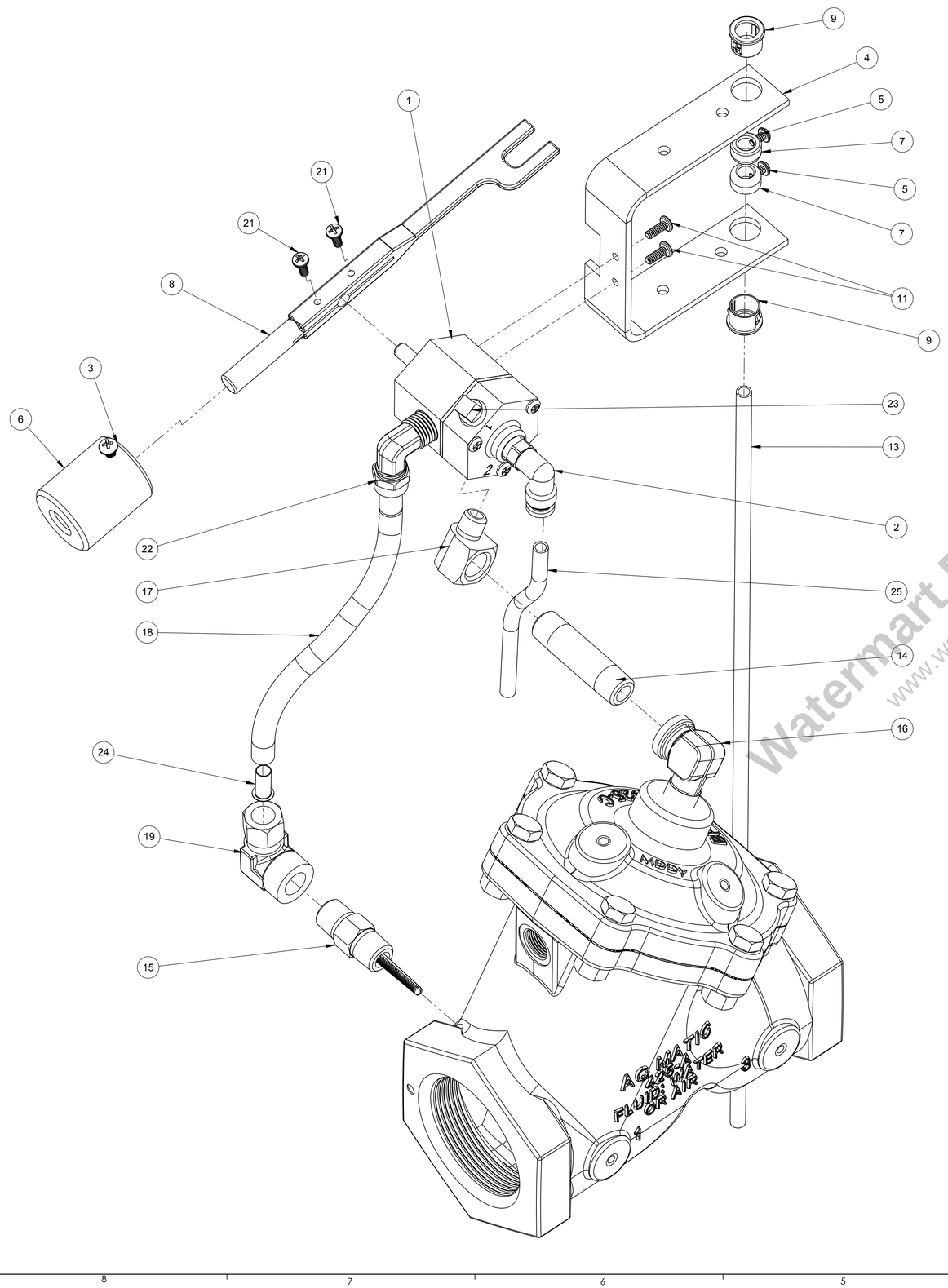
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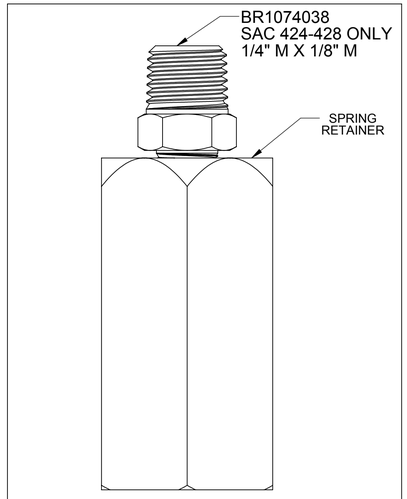
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CATALOG SHEET, 420 DAIPHRAGM
FLOAT OPERATED VALVES

SIZE B | DWG NO. 1078100 | REV
SCALE 1:1

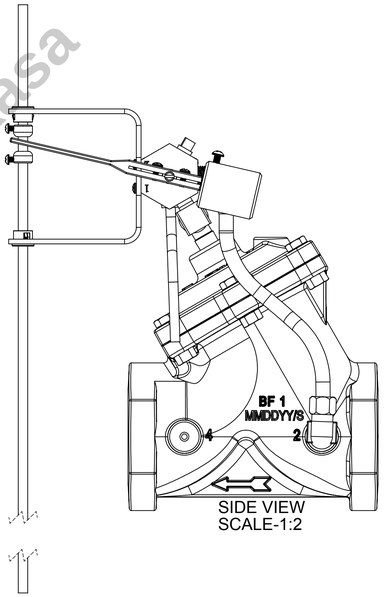
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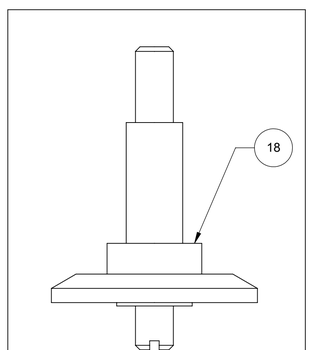




SAC ASSEMBLY VIEW



SIDE VIEW
SCALE-1:2



SPACER ASSEMBLY VIEW

REVISIONS

ZONE	ECN	REV.	DESCRIPTION	DATE	APP'D
			SEE SHEET ONE FOR NOTES		

ITEM NO.	DESCRIPTION		PART NUMBER	QTY. (424-428) CLOSED IF LOW
1	PILOT CNTL ASSY, 348, -AE		1073992	1
2	FITTING, ELBOW,TUBE,1/8MNPT X		1078765	1
3	RD. HD. MACH SCREW, (8-32 X 1/2)		1072375	1
4	BRACKET, 348		1074012	1
5	RD. HD. MACH. SCREW, (6-32 X 1/4)		1072370	2
6	COUNTERWEIGHT, STD		1074014	1
7	CENTERING COLLAR, BRASS		1074017	2
8	LEVER, 348		1074034	1
9	BUSHING		1074016	2
10	STUD, THRD, #12-24 UNC-2A, BRASS		1074025	1
11	GREASE, LUBRIPLATE, FGL-2		16856-8	1
12	FLOAT,SAND,5"		1073996	1
13	FLOAT ROD		1074023	1
14	FITTING, NIPPLE, 1/4NPTX2,BRASS	424	1071905	1
	PIPE NIPPLE 1/4" X 3"	425,426	1071906	
	PIPE NIPPLE 1/4" X 4"	427,428	1071907	
15	STRAINER ASSY		1074004	1
16	FITTING, ELBOW,1/4 MNPT X 1/4F		1074041	1
17	FITTING, ELBOW,REDUCER,BRS		1074040	1
18	FITTING,TUBE,.37 OD		1071940	1
19	FITTING, ELBOW,TUBE 1/4FNPTX3/		1074007	1
20	SPACER, BRASS	424	1074230	1
		425	1074305	
		426	1074385	
		427	1074484	
		428	1074565	
21	SCREW, PHLP, PN HD		1072371	4
22	FITTING, ELBOW, BRASS		1074037	1
23	PLUG,PIPE,1/8" MNPT,BRS,SQ HD		1071903	1
24	FITTING,INSERT,3/8		10332	1
25	TUBING, POLY 1/4" O.D. X .035		1071936	1

SEE NOTE-2

NOTES:

1. DRILL AND TAP PORT #2 WITH 1/4" NPT. [424-428 VALVES]
2. SEE DRAWING 1078193 FOR ROD LENGTH/MATERIAL OPTIONS.
3. STANDARD VERSION 425 MODEL SHOWN.

PAINT OPTIONS	
PART #	COLOR
42805	RED
43198	BLUE
42807	BLACK
42808	ASH

STANDARD VERSION
CLOSED IF- LOW,
CLOSED BY-PILOT PRESSURE,
OPEN BY- VENT

FOR 424 THRU 428
VALVES W/FLOAT

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1 PLACE .X: ± .015 [0.38]
2 PLACE .XX: ± .01 [0.3]
3 PLACE .XXX: ± .005 [0.13]

THIRD ANGLE PROJECTION		
APPROVALS	DATE	
DRAWN	SM	04/18/11
APPROVED		
CHECKED		

AQ Matic
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TITLE
CATALOG SHEET, 420 DAIPHRAGM
FLOAT OPERATED VALVES

SIZE B | DWG NO. 1078190 | REV
SCALE 1:1

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REPAIR PARTS KITS	
DESCRIPTION	PART NO.
PILOT CONTROL REPAIR PARTS INCLUDES ITEM NO. 3 THRU 9	1074019 (348-IAB)

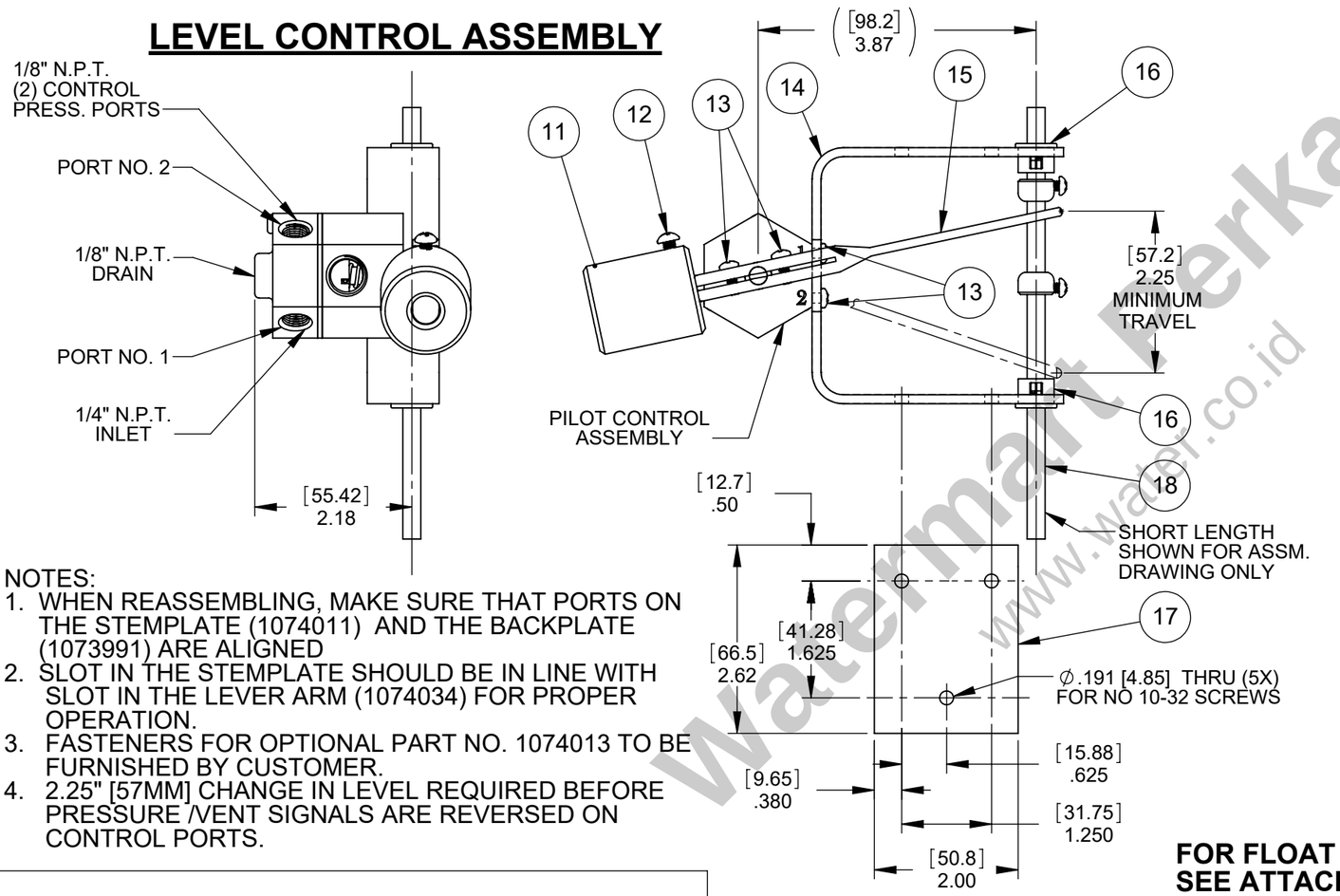
	PORT 1	PORT 2
FLOAT UP	PRESSURED	VENTED
FLOAT DOWN	VENTED	PRESSURED

F1 / G1 LEVEL CONTROL ASSEMBLY	FLOAT ROD ASSEMBLY
1074042 (348LC)	1074020 (348-K) (BRASS - 36")
1074044 (348LCK)	1074026 (348-KK) (BRASS - 54")
1074043 (348LCB)	1074028 (348-KL) (BR WELL - 36")
1074047 (348LCX)	NO FLOAT OR ROD INCL.

REVISIONS

ZONE	ECN	REV.	DESCRIPTION	DATE	APP'D
	103972	F	1-REM'D: 1074046, 2-REM'D: ITEM# 18-1074030, 3-REM'D: ITEM# 18-1074027, 4-REM'D: PG-3,(OPTIONAL) 36" & 54" SS FLOAT ROD ASSY, 5-UPDATED TITLE BLOCK	7-3-12	TJM
	104611	G	1-REM'D: 1074045, 2-REM'D: ITEM# 18-BR1074029, 3-REM'D: PG-3 (OPTIONAL) 36" PVC FLOAT ROD ASS'Y	12MAY15	TJM
	1001	H	AQ Matic Update & Part Number Verification	12MAY17	MGS
	1801	J	P/N 1074022 CHANGED TO1074025, MINOR FORMAT CHANGES	11/9/2020	PMJ

LEVEL CONTROL ASSEMBLY



NOTES:
1. WHEN REASSEMBLING, MAKE SURE THAT PORTS ON THE STEMPLATE (1074011) AND THE BACKPLATE (1073991) ARE ALIGNED
2. SLOT IN THE STEMPLATE SHOULD BE IN LINE WITH SLOT IN THE LEVER ARM (1074034) FOR PROPER OPERATION.
3. FASTENERS FOR OPTIONAL PART NO. 1074013 TO BE FURNISHED BY CUSTOMER.
4. 2.25" [57MM] CHANGE IN LEVEL REQUIRED BEFORE PRESSURE /VENT SIGNALS ARE REVERSED ON CONTROL PORTS.

PILOT CONTROL ASSEMBLY

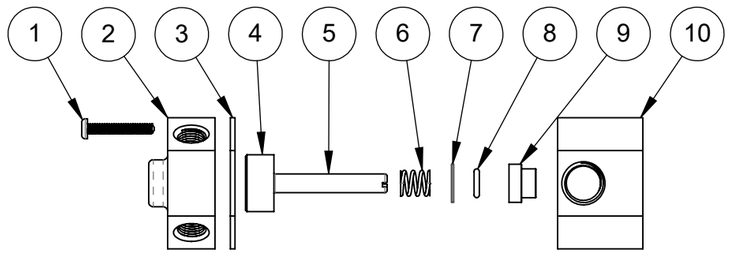
ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	1075759	SCREW, 6-32 X 7/8, PAN HEAD	3
2	1073991	BACKPLATE, 348, BRASS	1
3	1084171	GASKET, BACKPLATE, 48 STAGER	1
4	1074845	STEMPLATE, 48,ALPHA	1
5	1074010	STEMSHAFT ASSY, SERIES 348	1
6	1074822	SPRING, COMPRESSION, 348	1
7	1074074	WASHER, 302,SS	1
8	1071667	O-RING, 2-010	1
9	1073994	BUSHING, SHAFT, 348	1
10	1074009	BONNET, 348, BRASS	1

LEVEL CONTROL ASSEMBLY

ITEM NO.	PART NO.	DESCRIPTION		QTY.
11	SEE SHEET 2	COUNTERWEIGHT		1
12	1072375	RD. HD. MACH SCREW, (8-32 X 1/2)		1
13	1072371	SCREW, PHLP, PN HD, 6-32 X 3/8", SS		4
14	1074012	BRACKET, 348		1
15	1074034	LEVER, 348		1
16	1074016	BUSHING		2
17	1074013	MOUNTING BRACKET (OPTIONAL)		1
18	1074020	FLOAT ROD ASS'Y (SEE PAGES 2 - 3 FOR PARTS LIST	BRASS (36")	1
19	1074026		BRASS (54")	1
20	1074028		BRASS (36" - BR WELL)	1
21	1239443		BRASS (54" - BR WELL)	1

FOR FLOAT ROD ASSEMBLY OPTIONS, SEE ATTACHED SHEETS

PILOT CONTROL ASSEMBLY - (1073992)



SEIRES 348 LEVEL CONTROL FLOAT OPERATED VALVE

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TOLERANCES:
ANGLES : ± 1°
1 PLACE .X: ± .015 [0.38]
2 PLACE .XX: ± .01 [0.3]
3 PLACE .XXX: ± .005 [0.13]

THIRD ANGLE PROJECTION

APPROVALS	DATE
DRAWN NE	07-02-12
APPROVED	
CHECKED	

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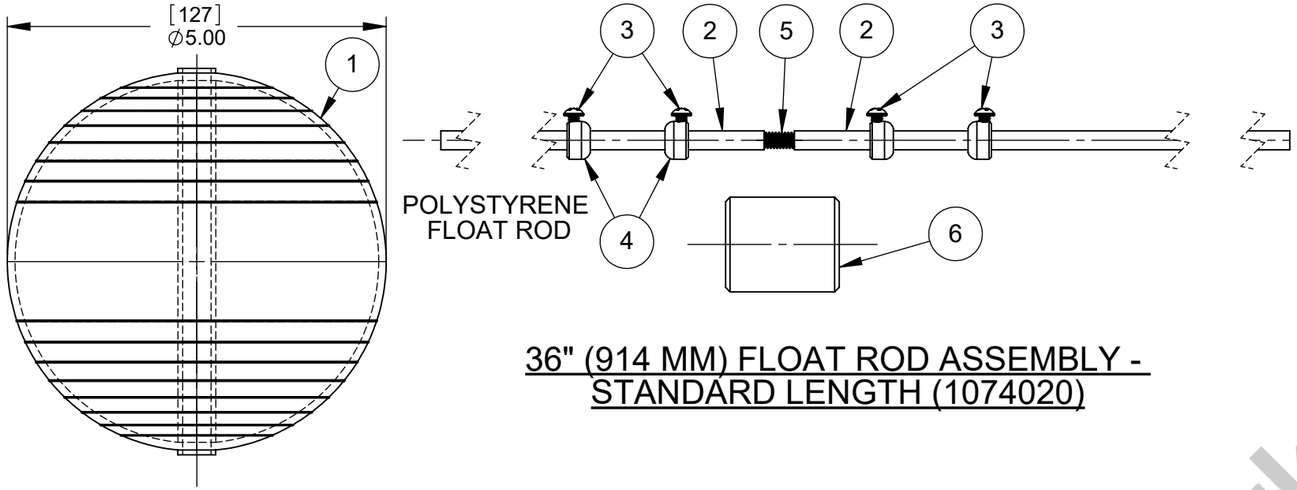
TITLE
FLOAT OPERATED LEVEL CONTROL, V420 FLOAT ROD ASSEMBLIES

SIZE B | DWG NO. | REV
SCALE 1:2

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REVISIONS					
ZONE	ECN	REV.	DESCRIPTION	DATE	APP'D
			SEE SHEET 1 FOR LIST OF CHANGES.		



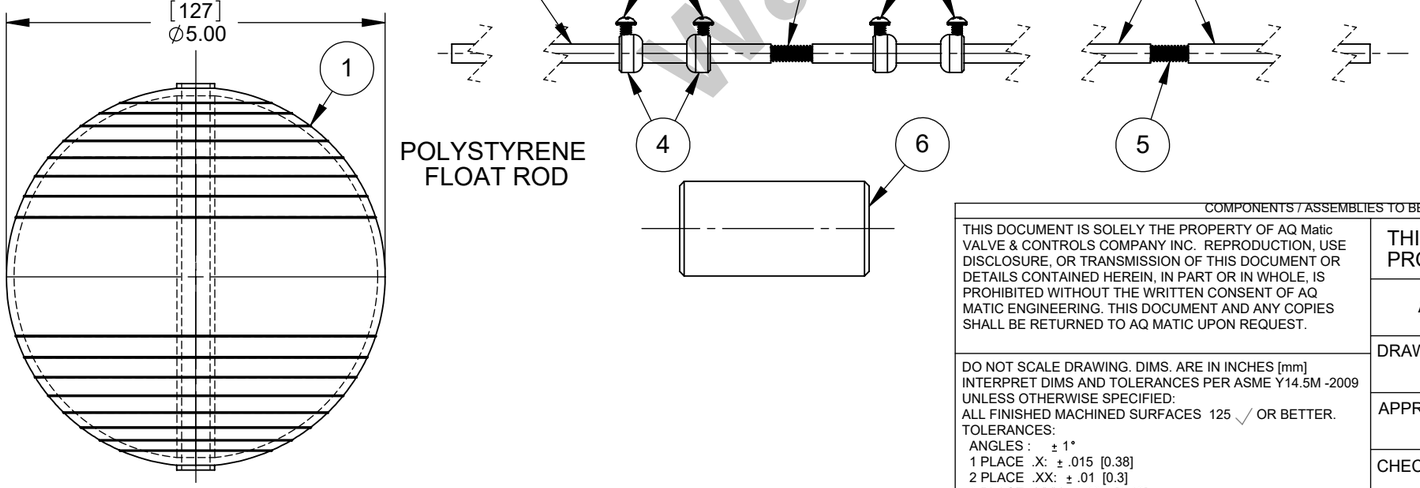
36" (914 MM) FLOAT ROD ASSEMBLY - STANDARD LENGTH (1074020)

STANDARD 36" FLOAT ROD ASSEMBLY 1074020

ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	1073996	FLOAT, SAND, 5"	1
2	1074023	TUBE, FLOAT ROD, BRASS 18" LG	2
3	1072370	RD. HD. MACH. SCREW, (6-32 X 1/4)	4
4	1074017	CENTERING COLLAR, BRASS	4
5	1074025	STUD, THRD, #12-24 UNC-2A, SS	1
6	1074014	COUNTERWEIGHT, STD	1

SERIES 420 DIAPHRAGM VALVES FLOAT ROD ASSEMBLIES

G3



54" (1372 MM) FLOAT ROD ASSEMBLY - STANDARD LENGTH (1074020)

OPTIONAL 54" FLOAT ROD ASSEMBLY 1074026

ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	1073996	FLOAT, SAND, 5"	1
2	1074023	TUBE, FLOAT ROD, BRASS 18" LG	3
3	1072370	RD. HD. MACH. SCREW, (6-32 X 1/4)	4
4	1074017	CENTERING COLLAR, BRASS	4
5	1074025	STUD, THRD, #12-24 UNC-2A, SS	2
6	1074015	COUNTERWEIGHT, SPECIAL	1

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3 PLACE .XXX: ± .005 [0.13]

THIRD ANGLE PROJECTION

APPROVALS	DATE
DRAWN NE	07-02-12
APPROVED	
CHECKED	

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TITLE
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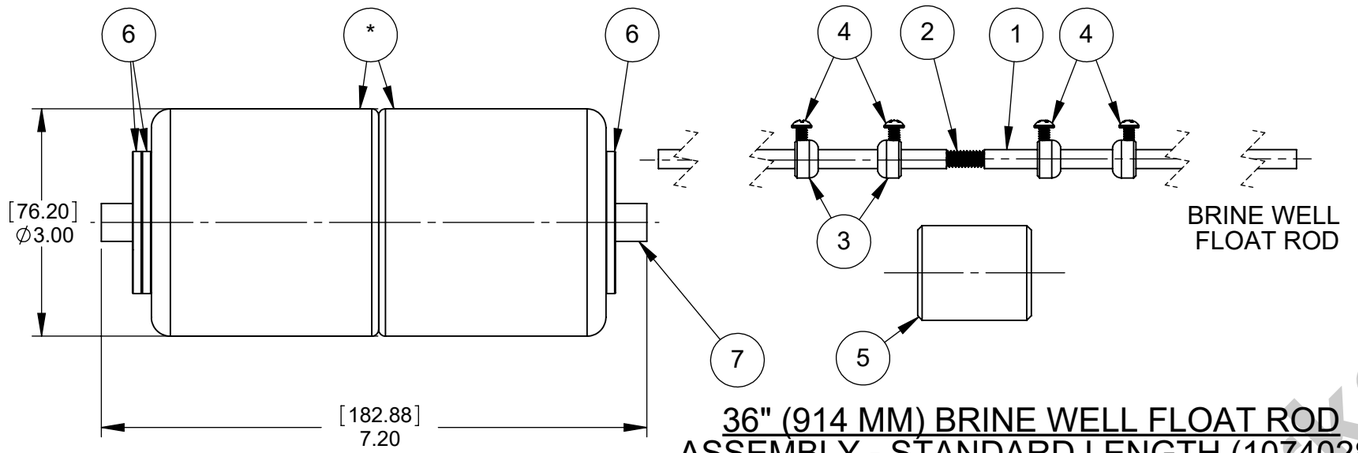
SIZE B | DWG NO | REV

SCALE 1:2

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BR42887

REVISIONS					
ZONE	ECN	REV.	DESCRIPTION	DATE	APP'D
			SEE SHEET 1 FOR LIST OF CHANGES.		

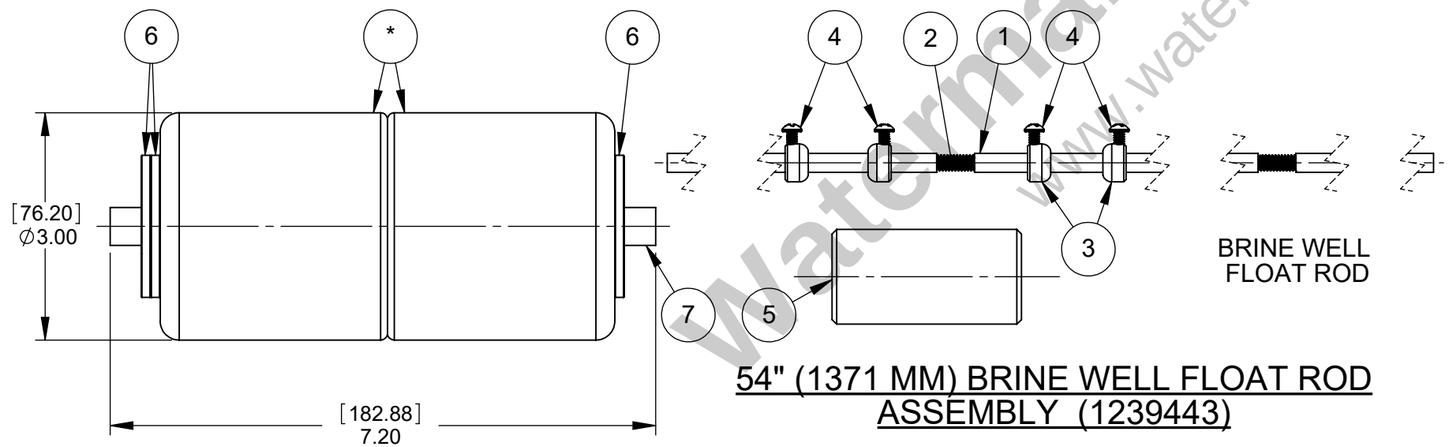


36" (914 MM) BRINE WELL FLOAT ROD ASSEMBLY - STANDARD LENGTH (1074028)

SERIES 420 DIAPHRAGM VALVES FLOAT ROD ASSEMBLIES

OPTIONAL 36" BRINE WELL FLOAT ROD ASSEMBLY 1074028

ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	1074023	TUBE, FLOAT ROD, BRASS 18" LG	2
2	1074025	STUD, THRD, #12-24 UNC-2A, SS	1
3	1074017	CENTERING COLLAR, BRASS	4
4	1072370	RD. HD. MACH. SCREW, (6-32 X 1/4)	4
5	1074014	COUNTERWEIGHT, STD	1
6	1074032	WEIGHT, FLOAT, BRASS	3
7	1074036	TUBE, .50, BRASS	1



54" (1371 MM) BRINE WELL FLOAT ROD ASSEMBLY (1239443)

OPTIONAL 54" BRINE WELL FLOAT ROD ASSEMBLY 1239443

ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	1074023	TUBE, FLOAT ROD, BRASS 18" LG	3
2	1074025	STUD, THRD, #12-24 UNC-2A, SS	2
3	1074017	CENTERING COLLAR, BRASS	4
4	1072370	RD. HD. MACH. SCREW, (6-32 X 1/4)	4
5	1074015	COUNTERWEIGHT, SPECIAL	1
6	1074032	WEIGHT, FLOAT, BRASS	3
7	1074036	TUBE, .50, BRASS	1

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THIRD ANGLE PROJECTION

APPROVALS	DATE
DRAWN NE	07-02-12
APPROVED	
CHECKED	

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TITLE
FLOAT OPERATED LEVEL CONTROL, V420 FLOAT ROD ASSEMBLIES

SIZE B | DWG NO | REV

SCALE 1:2

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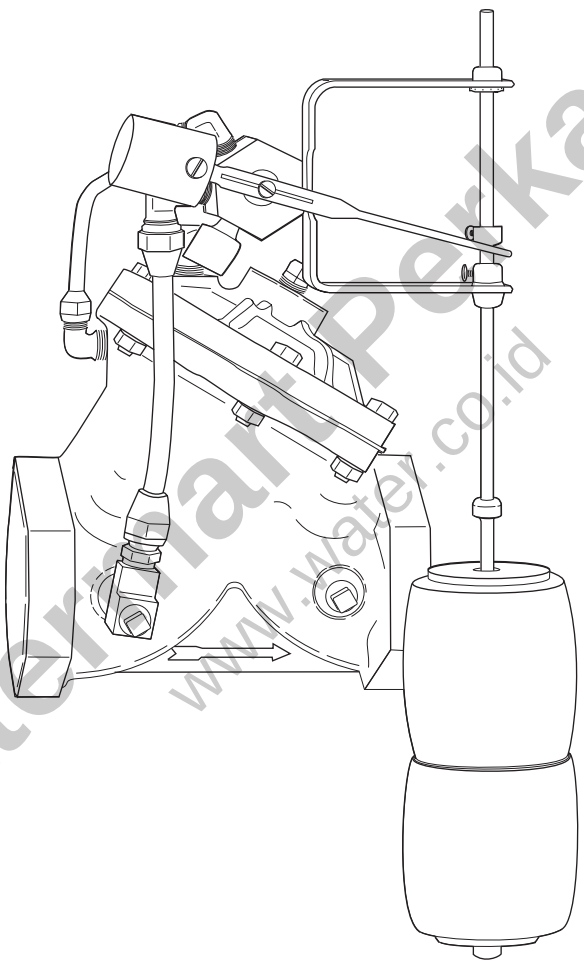
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AQUAMATIC FLOAT OPERATED BRINE VALVE

INSTALLATION INSTRUCTIONS



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DESCRIPTION

The AquaMatic Brine Control Valve is a pilot-controlled, hydraulically-operated Y-pattern diaphragm valve. It is controlled by pressure and vacuum which determines the upper and lower brine levels in the tank.

The valve will allow a predetermined amount of brine to be withdrawn and automatically refill with fresh water through a common line. Refilling is achieved while the softener is in fast rinse and service.

FEATURES

- Positive opening and closing of valve by combining vacuum and pressure.
- Pilot uses fresh water and vacuum for control pressures.
- Air and drip-tight closure after brining and also refilling.
- Completely automatic in the opening and closing operation of the brine and refill cycles.

OPERATION

With the softener in service position and brine tank at the predetermined upper level, line pressure is directed to the upper chamber of the diaphragm valve. This closes the valve. The lower chamber of the valve is vented to atmosphere through the pilot control.

With the softener in brine position, the vacuum created by the action of the ejector is transferred through the pilot control to the upper chamber of the diaphragm valve. The valve opens to allow brine to be withdrawn from the brine tank.

When the predetermined amount of brine has been withdrawn, the float contacts the lower float stop. The weight of the float will cause the lever arm to rotate to the down position. The vacuum is transferred to the lower chamber. This closes the valve and stops the flow of brine. The valve remains closed until the fast rinse cycle occurs.

With the softener in the fast rinse position, line pressure replaces the vacuum in the lower chamber. This will force the valve to the open position and allow the fresh water to refill the brine tank. At the predetermined upper level the float contacts the upper float stop. The lever arm rotates to the up position and pressure is directed to the upper chamber of the diaphragm valve. This will close the valve (drip-tight) until the next brine cycle.

SPECIFICATIONS

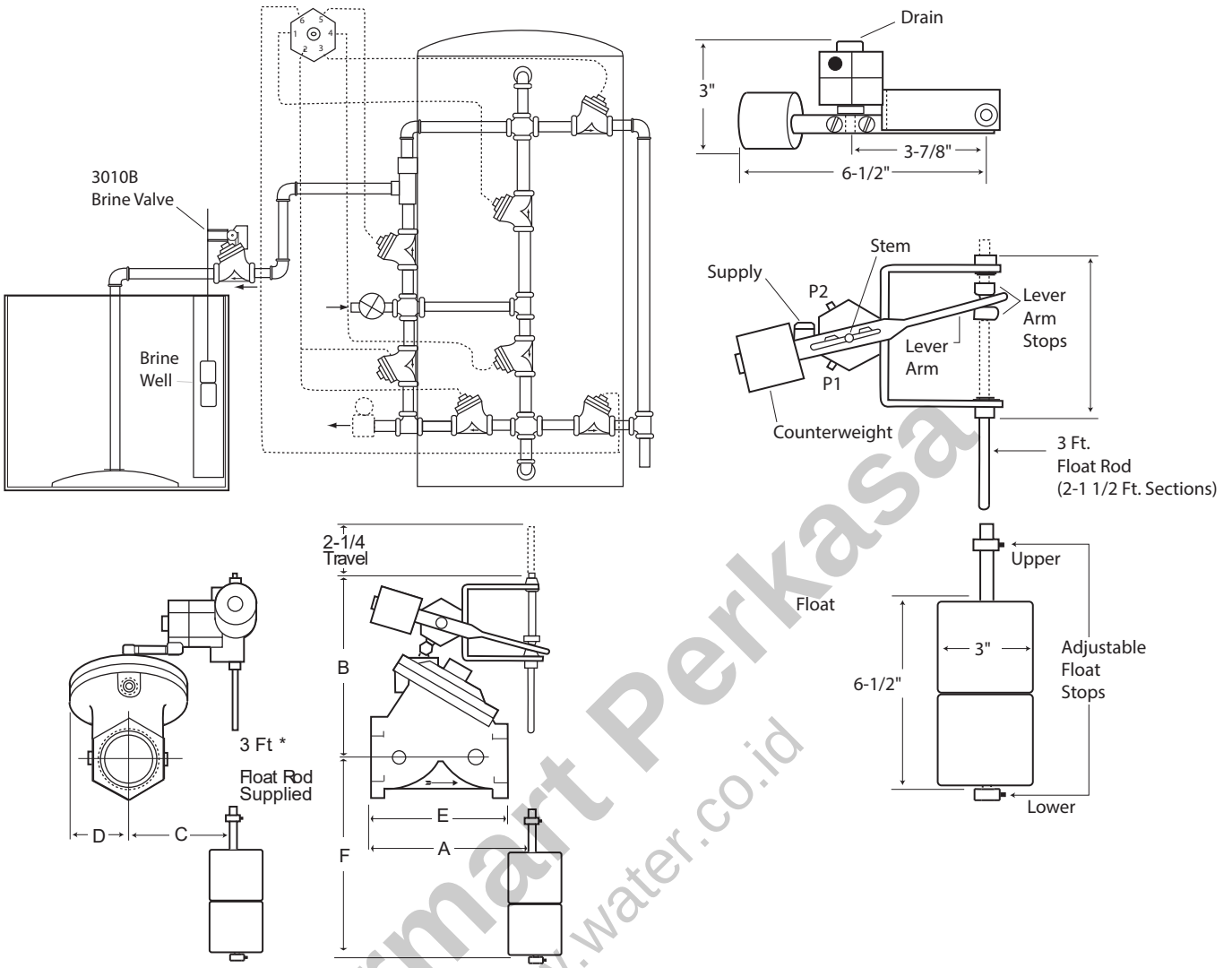
Size:	3/4" through 1.5" NPT or BSP
Pressure:	125 psi maximum recommended
Vacuum:	2 - 28 inHg
Temperature:	32 to 140°F (0 to 60°C)
Fluid:	Water and salt brine
Materials:	
	Body and cover - cast iron
	Valve trim - brass and stainless steel
	Seals - Buna-N
Diaphragm:	Buna-N on nylon
Pilot Control:	Brass
	Stainless steel
	Neoprene gasket
	Buna-N O-ring
	PTFE template
Float Rod:	Brass
Float:	Close-celled Spongex

CALIFORNIA PROPOSITION 65 WARNING

⚠ WARNING: This product contains chemicals known to the State of California to cause cancer or birth defects or other reproductive harm.

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Size	Dim.	A	B	C	D	E	F*
3/4" to 1"	in	7.31	6.50	1.50	2.12	3.68	29
	mm	186	165	38	54	93	735
1-1/4" to 1-1/2"	in	6.31	7.81	3.31	1.75	4.75	28
	mm	160	198	84	44	120	711

INSTALLATION

1. Before installation, the pipe lines should be flushed thoroughly to remove all chips, scale, and other foreign matter
2. Valve should be installed with refill flow in the direction as shown by the arrow on the body of the valve.
3. The float rod should be installed as shown above.
4. The counterweight should be adjusted to balance the weight of the float rod.
5. Float is now installed on the float rod. The spacing between the float stops determines the travel or range of the float. This travel controls the amount of brine to be transferred to the softener tank.
6. Calculate the amount of brine required for a regeneration cycle. Convert gallons of brine to number of inches of draw down in the brine tank. Adjust distance between "Adjustable float stops" on float rod to achieve proper brine draw down.
7. Once the correct draw down has been established, the upper liquid level in the brine tank can be controlled by adjusting "lever arm stops". This action does not affect the brine draw down controlled by the float.

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1204627 REV D AU2016

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VAV SERIES HIGH CYCLE VALVE MASTER CHART

*** FILL IN PROPER DESIGNATIONS TO DETERMINE PRODUCT NUMBER:** V A V _ - 0 _ _ - 0 _ 0 0

PIPE SIZE (B thru K std)

B = 3/4" (20mm)	G = 2" (50mm - VAV6)
C = 1" (25mm)	H = 2-1/2" (63mm)
D = 1-1/4" (32mm)	J = 3" (75 or 80mm)
E = 1-1/2" (40mm)	K = 4" (100mm)
F = 2" (50mm - V425)	

BODY SIZE (ref only)

1 = 1"	7 = 3"
4 = 1-1/2"	8 = 4"
5 = 2"	
6 = 2-1/2"	

END CONNECTIONS (0 std [Connections also apply to body & cap bosses that are drilled & tapped])

0 = Female N.P.T.	3 = Flanged, A.S.T.M.	5 = Grooved Per Ansi/Awwa C606 (see note 1)
1 = Female B.S.P.T. (Tapered)	4 = Flanged, B.S.P.T.	

BODY & CAP MATERIAL (0 std)

0 = Cast Iron

VALVE OPTIONS (00 std)

00 = NO	02 = NO, SAC	32 = NC, SAC
01 = NO, SAO	30 = NC	SX = Special Valve **

SEAL MATERIALS (9 std)

OPT.	OPERATING DIAPHRAGM	SEALING DISK	DYNAMIC SEALS	STATIC SEALS	KIT SERIES	MAX TEMP
9	Buna-N	Hycar	Aflas	Fluoroelast.	RA	150° F
C	Fluoroelast	Hycar	Aflas	Fluoroelast.	RAHT	250° F

INTERNAL PARTS (0 std)

0 = Brass and Stainless Steel

DRILL & TAP BOSSES (0 std [1/4" NPT std for all sizes])

0 = None	3 = Boss #3	6 = Bosses #1,2
1 = Boss #1	4 = Boss #4	7 = Bosses #1,3
2 = Boss #2	5 = Bosses #1,2,3,4	8 = Bosses #2,4

00 (unless Special Drawing number is assigned)

* To create a valve number replace each "_" with the proper number or letter for the feature you desire. For example, a 3/4" NPT Cast Iron Valve Model VAV1 with Normally Closed and Spring Assist Closed Options is designated as a VAVB-0032-90000.

** A special valve will have a custom drawing number (_ _ _ _ _ _ _)
and the item number format is (VAV?-??SX-_ _ _ _ _)
where the last 5 numbers (Far Right) are the last five digits of the drawing number.

1 Grooved End option only available on 2" VAV5 valves.

REV.	ECO. NO.	DESCRIPTION	BY/DATE
G	32935	**Added seal option "C" Removed seal option "8"**	TMS 15-Jun-11
H	1778	**Added grooved (end connections)**	MM 1-Oct-20

42989

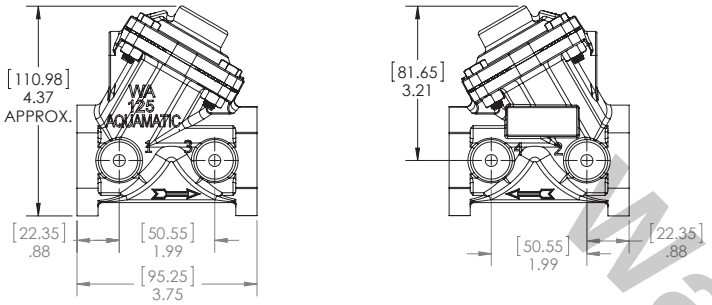
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42989 REV H OCT 20

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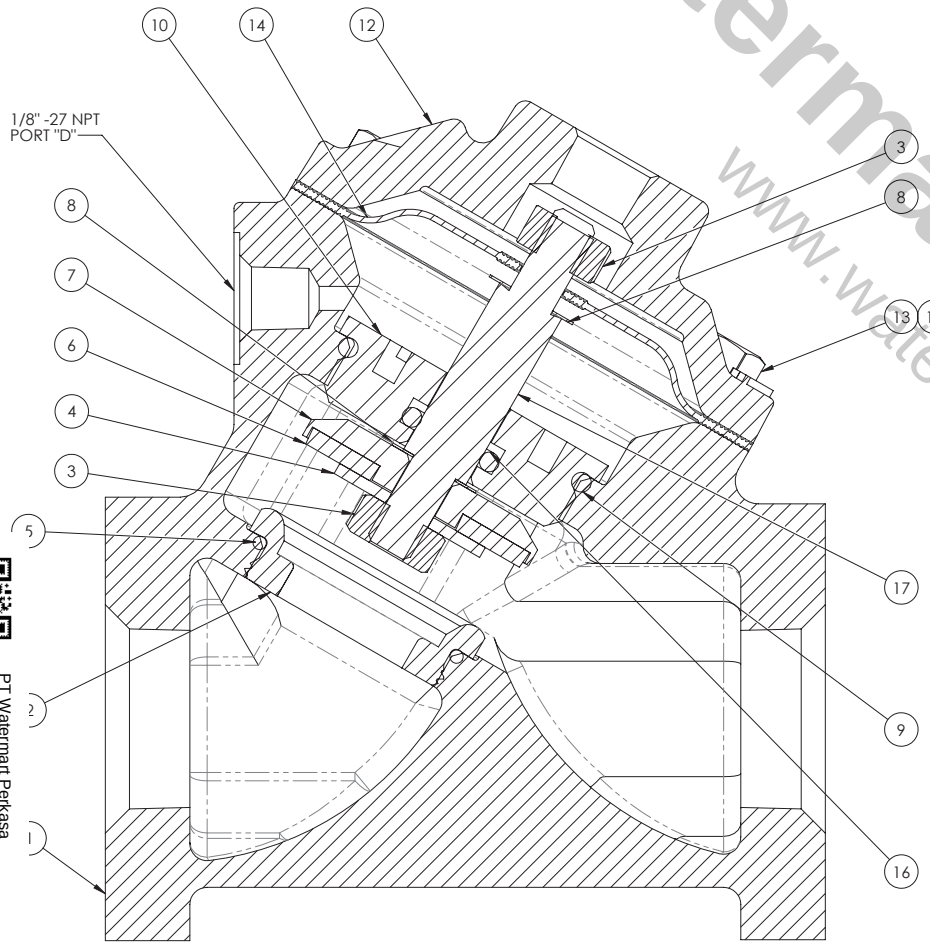


REPAIR PARTS KITS		
DESCRIPTION	PART NO.	
DIAPHRAGM & SEALS KIT CONSISTS OF ITEM NO'S 3(2), 5, 6, 8(2), 9, 14, 16	1070106 (AV1-RA)	1070498 (AV-RAHT)
	INCLUDES DISC 1074144 (421-JH) DIAPHRAGM 1074119	INCLUDES DISC 1074145 (421-JT) DIAPHRAGM 1074120
INT. PARTS KIT (NORM. OPEN) CONSISTS OF STANDARD ITEM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

REVISIONS					
ZONE	ECN	REV.	DESCRIPTION	DATE	APP'D
	104236	K	REDRAWN IN SOLIDWORKS	2/6/15	ANH
	1001	M	AQ Matic update & verifed part numbers	20JAN17	MGS
	1665	N	Update Diaphram Plated Assembly View	3/3/20	TRK

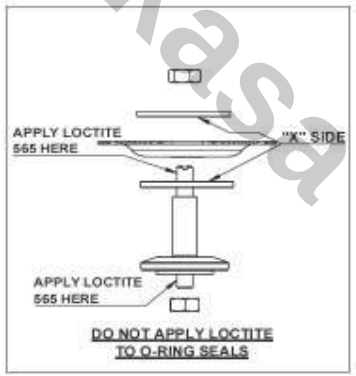
NO.	DESCRIPTION			STD	PART NO.	QTY.
1	VALVE BODY	CAST IRON	3/4" NPT	*	1074085 (421-A3)	1
			1" NPT	*	1074088 (421-A4)	
2	SEAT (REQ'S ASSY TOOL)		BRASS	*	1074158 (421-M0)	1
3	HEX NUT (1/4-28)		SS	*	1263852	2
4	DISC PLATE		SS	*	1074149	1
5	O-RING		FKM	*	1071791 (ORV-024)	1
6	DISC		HYCAR	*	1074144 (421-JH)	1
7	DISC HOLDER		SS	*	1074128	1
8	GASKET		COPPER	*	1073948 (200-GG)	2
9	O-RING		FKM	*	1071803 (ORV-125)	1
10	SHAFT GUIDE (REQ'S ASSY TOOL)		SS	*	1074123	1
11	DIAPHRAGM PLATE		SS	*	43942	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	*	1074119	1
			FKM		1074120	
15	HEX NUT 1/4"-20		PLATED STEEL	*	1071656 (NUZ-0008)	4
16	O-RING		AFLAS	*	1071661 (ORA-110)	1
17	SHAFT (NORMALLY OPEN)		SS	*	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.T. END CONNECTIONS



SEE REVERSE SIDE FOR CONFIGURATION OPTIONS

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TOLERANCES:
ANGLES : ± 1°
1 PLACE .X ± .015 [0.38]
2 PLACE .XX ± .01 [0.3]
3 PLACE .XXX ± .005 [0.13]

THIRD ANGLE PROJECTION

APPROVALS	DATE
DRAWN ANH	2/5/15
APPROVED	
CHECKED	

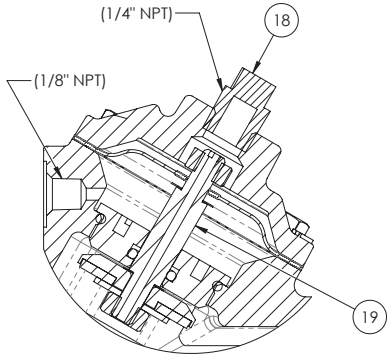
AQ Matic
Valve & Controls Company Inc.

TITLE
CATALOG SHEET, VAV1, 3/4" & 1"
NPT OR BSPT

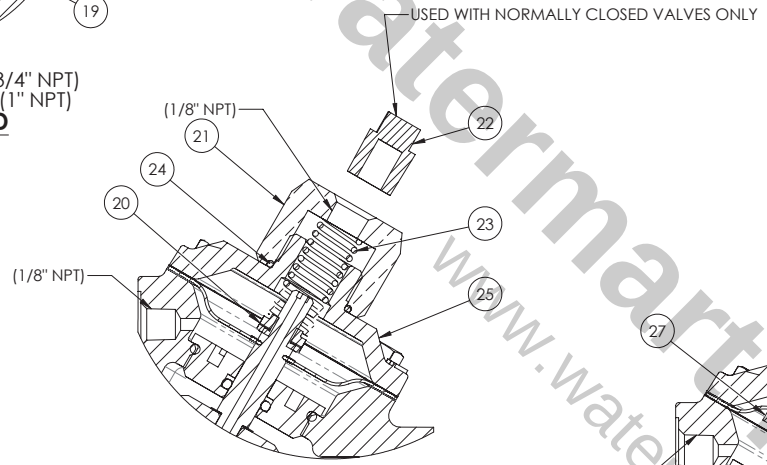
SIZE	DWG NO.	REV
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SCALE 1:1 SHEET 1 OF 2

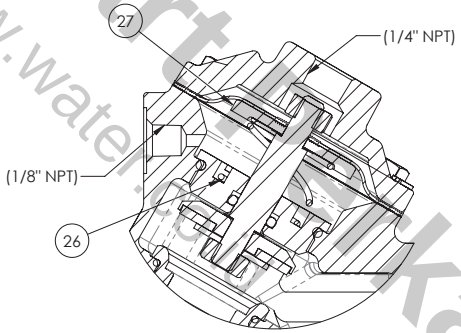
REVISIONS					
ZONE	ECN	REV.	DESCRIPTION	DATE	APP'D
			SEE SHEET 1 FOR REVISIONS		



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



1072456 (VAVB-0001-90000) (3/4" NPT)
1072460 (VAVC-0001-90000) (1" NPT)
SPRING ASSIST OPEN

NO.	DESCRIPTION		STD	PART NO.	QTY.
	NORMALLY CLOSED MODEL				
18	PIPE PLUG (1/4" N.P.T.)	PLATED STEEL	*	1071918 (PLZ-0008)	1
19	SHAFT (NORMALLY CLOSED)		*	1074153 (421-LL)	1
	SPRING ASSIST CLOSED MODEL				
20	CENTERING NUT		*	1074185 (421-X)	1
21	RETAINER NUT	BRASS	*	1074183 (421-TT)	1
22	PIPE PLUG (1/8" N.P.T.)	BRASS	*	1071903 (PLB-0007)	1
23	SPRING		*	1078602	1
24	O-RING		*	1071674 (ORB-020)	1
25	CAP	CAST IRON	*	1074099 (421-CC)	1
	SPRING ASSIST OPEN MODEL				
26	SPRING		*	1078608	1
27	DIAPHRAGM PLATE, SAO	SS	*	43727	1

REPAIR PARTS KITS	
DESCRIPTION	**PART NO.**
INT. PARTS KIT (NORM. CLOSED) CONSISTS OF STANDARD ITEM NO'S 4, 7, 10, 11(2), 19	1070129 (421-RG)
INT. PARTS KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 20, 23, 24	1074176 (421-SC)
INT. PARTS KIT (SPRING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO'S 4, 8, 26	1074178 (421-SO)

CONVERSION KITS	
DESCRIPTION	**PART NO.**
CONVERSION KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 20 THRU 25	1074177 (421-SCC)
CONVERSION KIT (SPRING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO'S 4, 8, 10, 26	1074179 (421-SOC)

SEE REVERSE SIDE FOR
NORMALLY OPEN MODEL

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1 PLACE .X: ± .015 [0.38]
2 PLACE .XX: ± .01 [0.3]
3 PLACE .XXX: ± .005 [0.13]

THIRD ANGLE PROJECTION

APPROVALS	DATE
DRAWN ANH	2/5/15
APPROVED	
CHECKED	

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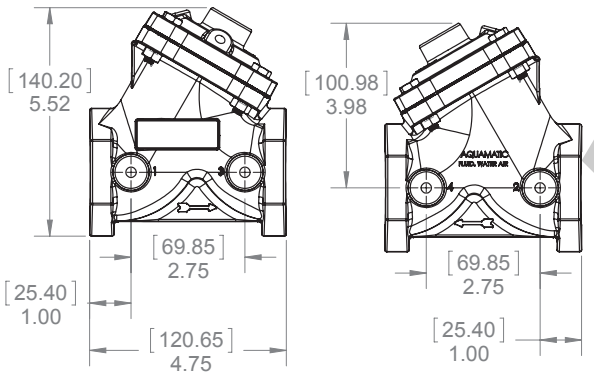
TITLE
CATALOG SHEET, VAV1, 3/4" & 1"
NPT OR BSPT

SIZE	DWG NO.	REV
B	1077635	N

SCALE 1:1 SHEET 2 OF 2

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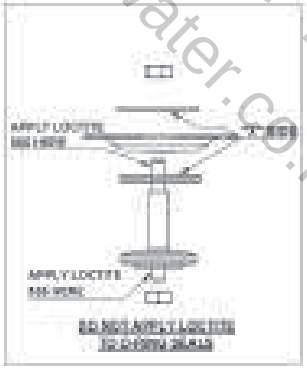


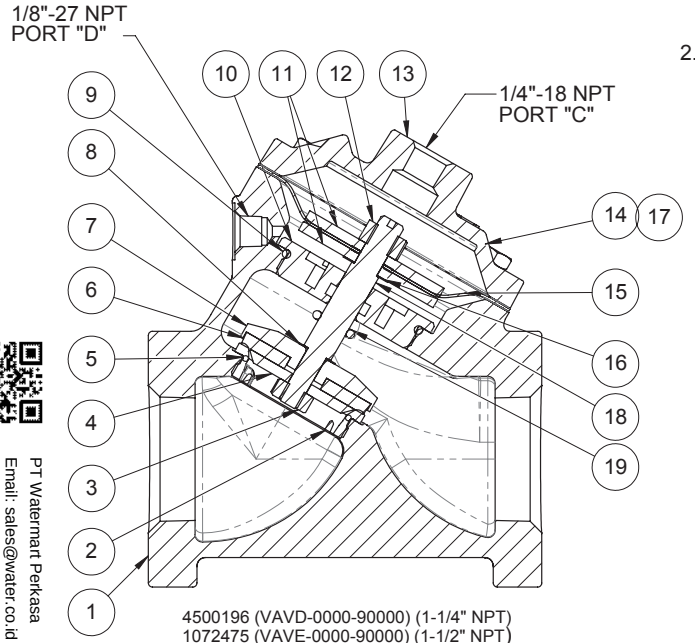
REPAIR PARTS KITS		
DISCRIPTION	PART NO.	
DIAPHRAGM & SEALS KIT CONSISTS OF ITEM NO'S 3, 5, 6, 8, 9, 12, 15, 16, 18	1070107 (AV4-RA) INCLUDES DISC 1074234 (424-JH) DIAPHRAGM 1074222 (424-FB)	1070502 (AV4-RAHT) INCLUDES DISC 1074235 (424-JT) DIAPHRAGM 1074224 (424-FV)
INT. PARTS KIT (NORM. OPEN) CONSISTS 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 NO. 2) (TOOL NOT SHOWN)	1074247 (424-MT)
FOR INSTALLATION & REMOVAL OF SHAFT GUIDE (ITEM NO. 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.T. END CONNECTIONS.





4500196 (VAVD-0000-90000) (1-1/4" NPT)
1072475 (VAVE-0000-90000) (1-1/2" NPT)
NORMALLY OPEN (STANDARD)

REVISIONS

ZONE	ECN	REV.	DESCRIPTION	DATE	APP'D
	104291	G	REDRAWN IN SOLIDWORKS-1-ITEM# 4- WAS:1074237, 2-ITEM#7-WAS:1074229, 3-ITEM #10-WAS: 1074225, 4-ITEM#11-WAS: 1074220- FORM# NOW DWG NUMBER	3/3/15	ANH
	104479	H	1- ITEM #11 WAS: 1074221	07APR15	TJM
	1001	J	AQ Matic update & verified part numbers	17JAN17	MGS
	1667	K	Update Diaphram Plate Assembly View	3/3/20	TRK

NO.	DESCRIPTION		STD	PART NO.	QTY.
1	VALVE BODY, CI	1-1/4" NPT	*	1074196 (424-A5)	1
		1-1/2" NPT	*	1074199 (424-A6)	1
2	SEAT (REQ'S ASSY TOOL)	BRASS	*	1074245 (424-MO)	1
3	HEX NUT (1/4-28)		*	1263852	1
4	DISC PLATE	STAINLESS STEEL	*	1074238	1
5	O-RING	FKM	*	1071793 (ORV-028)	1
6	DISC	HYCAR	*	1074234 (424-JH)	1
		GLASS FILLED TEFLON		1074235 (424-JT)	1
7	DISC HOLDER	STAINLESS STEEL	*	1074231	1
8	GASKET	COPPER	*	1073948 (200-GG)	1
9	O-RING	FKM	*	1071806 (ORV-132)	1
10	SHAFT GUIDE	STAINLESS STEEL	*	1074226	1
11	DIAPHRAGM PLATE	STAINLESS STEEL	*	43943	2
12	HEX NUT (5/16-24)		*	1263853	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	*	1074222 (424-FB)	1
		FKM		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 SHEET 2 FOR CONFIGURATION OPTIONS

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1 PLACE .X: ± .015 [0.38]
2 PLACE .XX: ± .01 [0.3]
3 PLACE .XXX: ± .005 [0.13]

THIRD ANGLE PROJECTION

APPROVALS	DATE
DRAWN ANH	2/20/15
APPROVED	
CHECKED	

AQ Matic
Valve & Controls Company Inc.

TITLE
CATALOG SHEET, AV4,DIAPHRAGM VALVE

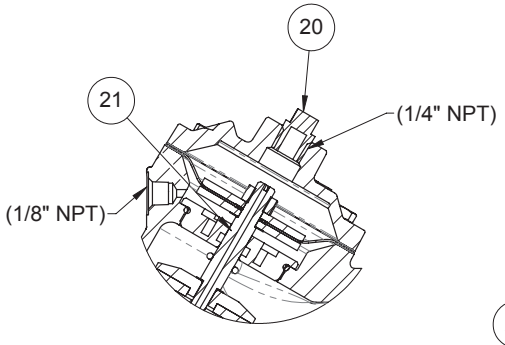
SIZE B | DWG NO. 1077636 | RFV K

SCALE 1:2 | SHEET 1 OF 2

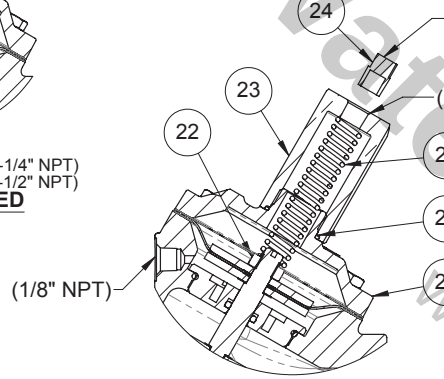
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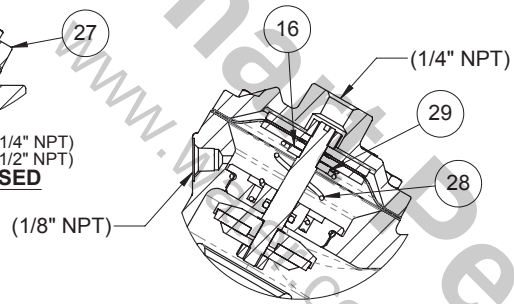
REVISIONS					
ZONE	ECN	REV.	DESCRIPTION	DATE	APP'D
			SEE SHEET 1 FOR REVISIONS		



4500197 (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.
NORMALLY CLOSED MODEL					
20	PIPE PLUG (1/4" N.P.T.)	PLATED STEEL	*	1071918 (PLZ-0008)	1
21	SHAFT (NORMALLLY CLOSED)		*	1074241 (424-LL)	1
SPRING ASSIST CLOSED MODEL					
22	CENTERING NUT		*	1074276 (424-X)	1
23	RETAINER NUT	BRASS	*	1074274 (424-TT)	1
24	PIPE PLUG (1/8" N.P.T.)	BRASS	*	1071903 (PLB-0007)	1
25	SPRING		*	1074270 (424-SS)	1
26	O-RING		*	1071674 (ORB-020)	1
27	CAP	CAST IRON	*	1074208 (424-CC)	1
SPRING ASSIST OPEN MODEL					
16	GASKET	COPPER	*	1074252 (424-R)	1
28	SPRING		*	1236766	1
29	CENTERING WASHER	BRASS	*	1074382 (426-HA)	1

REPAIR PARTS KIT	
DESCRIPTION	PART NO.
INT. PARTS KIT (NORM. CLOSED) CONSISTS OF STANDARD ITEM NO'S 4, 7, 10, 11(2), 21	1070130 (424-RG)
INT. PARTS KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 22, 25, 26	1074265 (424-SC)
INT. PARTS KIT (SPRING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO'S 16,28,29	1074268 (424-SO)

CONVERSION KITS	
DESCRIPTION	PART NO.
CONVERSION KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 22 THRU 27	1074266 (424-SCC)
CONVERSION KIT (SPRING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO'S 10, 16, 28, 29	1074269 (424-SOC)

SEE SHEET 1 FOR STANDARD NORMALLY OPEN MODEL

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THIRD ANGLE PROJECTION

APPROVALS	DATE
DRAWN ANH	2/20/15
APPROVED	
CHECKED	

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Valve & Controls Company Inc.

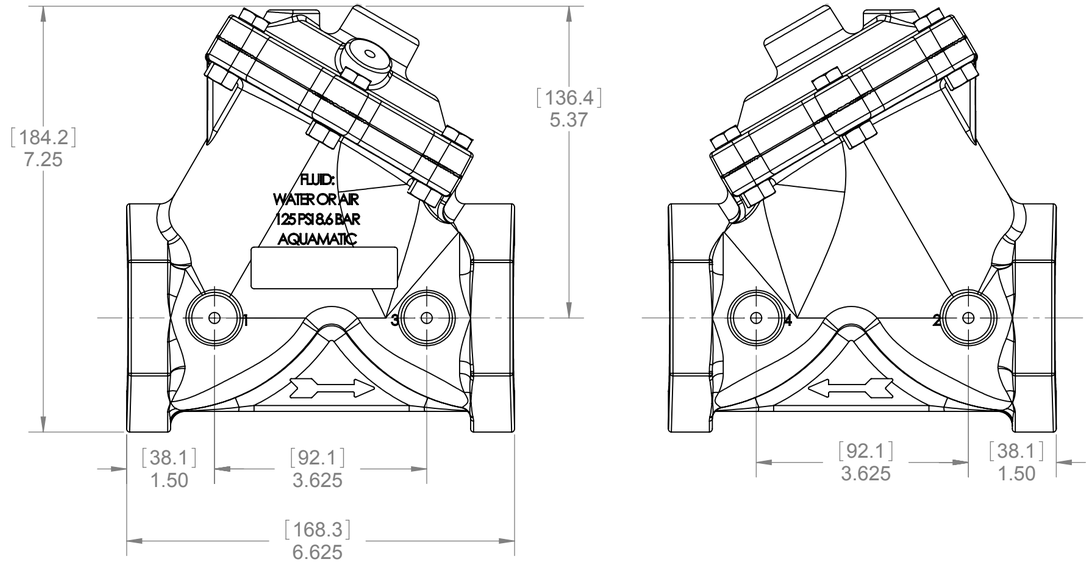
TITLE
CATALOG SHEET, AV4,DIAPHRAGM VALVE

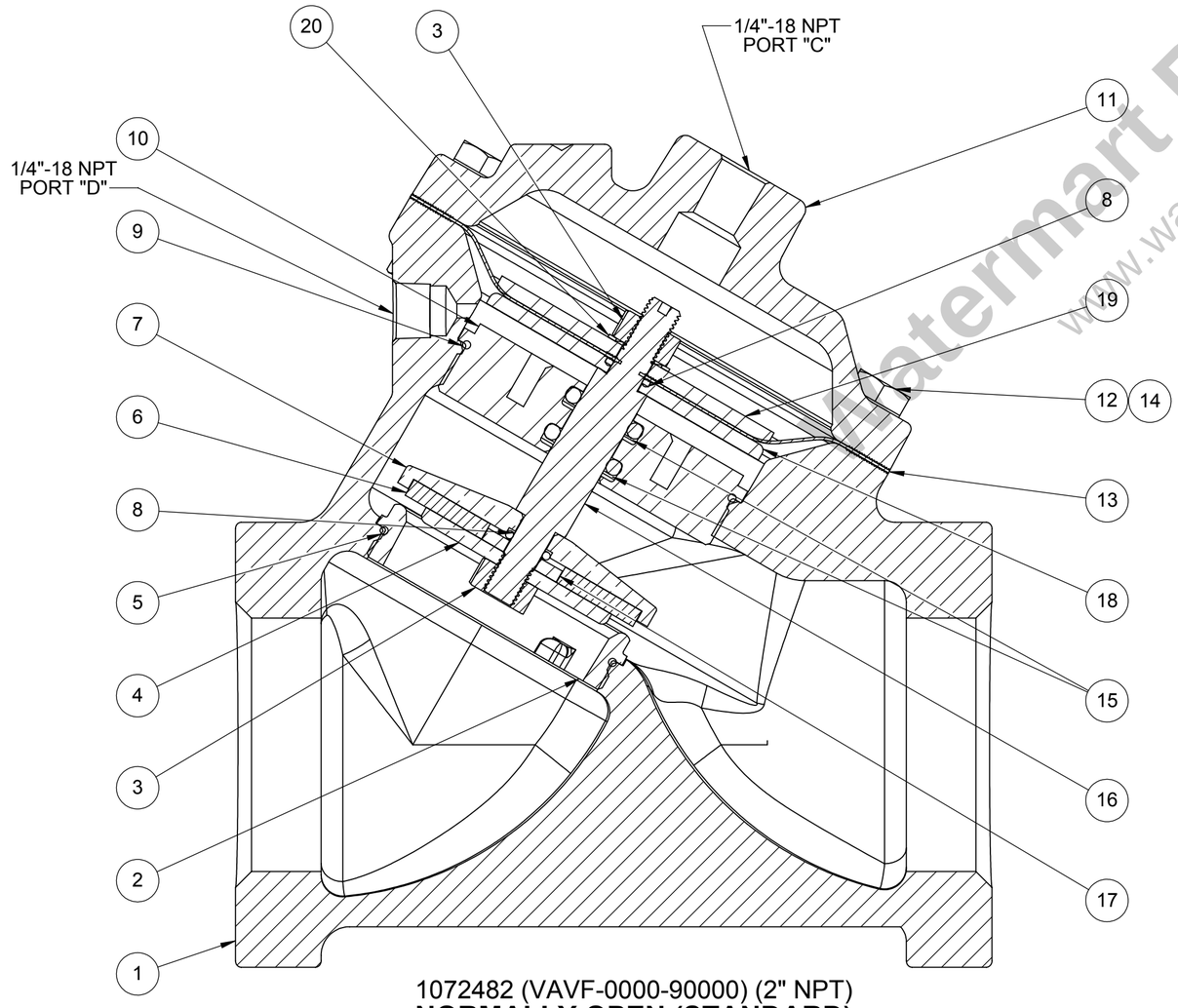
SIZE	DWG NO.	REV
B	1077636	K

SCALE 1:2 SHEET 2 OF 2

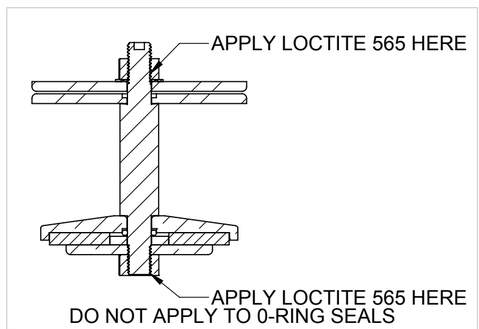
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1072482 (VAVF-0000-90000) (2" NPT)
NORMALLY OPEN (STANDARD)



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REVISIONS

ZONE	ECN	REV.	DESCRIPTION	DATE	APP'D
	102029	H	REDRAWN IN SOLIDWORKS, 1-WAS BR1074296	5-30-13	NBE
	103665	J	1-ITEM#10-WAS:BR43243, 2-ADD'D: ITEM#20	19AUG14	TJM
	103821	K	1- FIXED BOM/BALLOON NUMBERING, 2- UPDATED TITLE BLOCK	24SEP14	MCP
	103964	L	1-ITEM #20 WAS: 1073594	07NOV14	TJM
	1001	M	AQ Matic update & verified part numbers	16JAN17	MGS

NO.	DESCRIPTION		STD	PART NO.	QTY
1	VALVE BODY, 425, CI	2" NPT	*	1074277	1
2	SEAT; BRASS (REQ'S ASSY TOOL)		*	1074321 (425)	1
3	HEX NUT (5/16-24)		*	1263853	2
4	DISC PLATE, AV5	BRASS		1074313	1
5	O-RING	FKM		1071794 (ORV-035)	1
6	DISC	TEFLON	*	1074311 (425)	1
		HYCAR		1074310 (425)	
7	DISC HOLDER, AV5	BRASS	*	1074304	1
8	O-RING	FKM	*	1071786 (ORB-011)	2
9	O-RING	FKM	*	1071795 (ORB-038)	1
10	SHAFT GUIDE (REQ'S ASSY TOOL)	SS	*	43775	1
11	CAP, 425, NPT TAP TOP	CAST IRON	*	1074281	1
12	SCREW 5/16-18x1 1/8", HX HD		*	1072400	6
13	DIAPHRAGM	BUNA N	*	1074296	1
		FKM		1074297	
14	HEX NUT, 5/16" - 18	PLATED STEEL	*	1071657 (NUZ-0011)	6
15	O-RING	AFLAS	*	1071664 (ORB-206)	2
16	SHAFT (NORMALLY OPEN)		*	1074314 (425)	1
18	PLATE, LOWER DIAPHRAGM		*	1074295	1
19	PLATE, UPPER DIAPHRAGM		*	1074294	1
20	LOCKWASHER, 5/16,INTERNAL		*	1073590	1

REPAIR PARTS KITS

DESCRIPTION	PART NO.	
DIAPHRAGM & SEALS KIT CONSIST 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) CONSIST OF STANDARD ITEM NO'S 4,7,10,17,18,19,20	1070504 (AV5-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)

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

COMPONENTS / ASSEMBLIES TO BE COMPLIANT AND COMPATIBLE WITH EUROPEAN UNION DIRECTIVE 2011/65/EEC (RoHS2) & REGULATION (EC)1907/2006 (REACH) REQUIREMENTS

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UNLESS OTHERWISE SPECIFIED:
ALL FINISHED MACHINED SURFACES 125 ✓ OR BETTER.
TOLERANCES:
ANGLES : ± 1°
1 PLACE .X: ± .015 [0.38]
2 PLACE .XX: ± .01 [0.3]
3 PLACE .XXX: ± .005 [0.13]

THIRD ANGLE PROJECTION

APPROVALS	DATE
DRAWN NE	08-25-12
APPROVED	
CHECKED	

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Valve & Controls Company Inc.

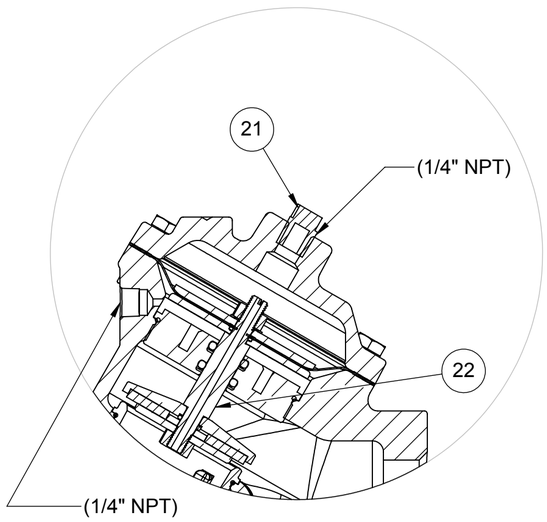
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SIZE B | DWG NO. | REV

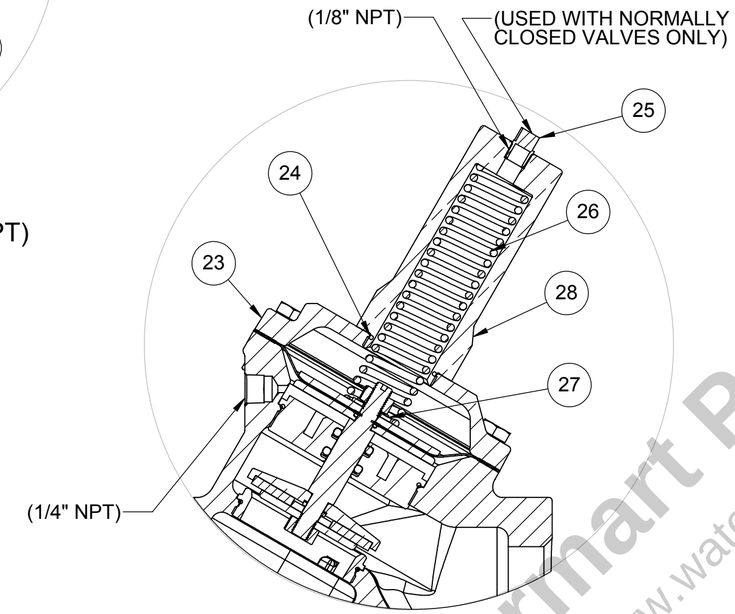
SCALE 1:2

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Email: sales@water.co.id Phone: +62-21-316-1671
Whatsapp (text only): +62815-8609-3500
Website: www.water.co.id

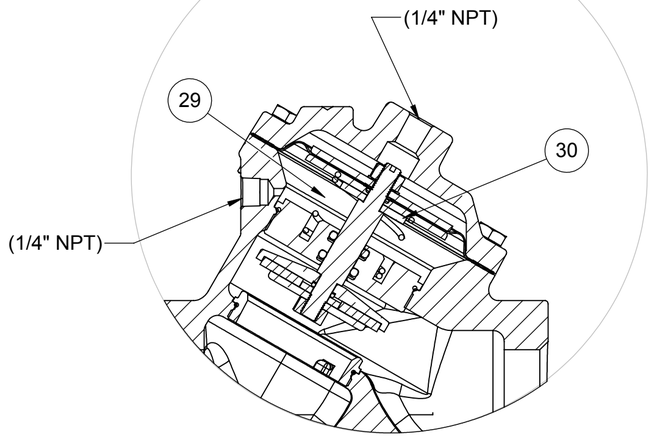
REVISIONS					
ZONE	ECN	REV.	DESCRIPTION	DATE	APP'D
			SEE SHEET ONE FOR LIST OF CHANGES		



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

NORMALLY CLOSED MODEL

ITEM NO.	DESCRIPTION	PART NUMBER	QTY.
21	MALE PIPE PLUGS,	1071918	1
22	VALVE SHAFT, STANDARD, NC	1074317	1

SPRING ASSIST CLOSED MODEL

ITEM NO.	DESCRIPTION	PART NUMBER	QTY.
23	CAP, 425,SPRING ASSIST CLOSED, CI	1074284	1
24	O-RING,2-025, BUNA N	1071677	1
25	MALE PIPE PLUGS,	1071903	1
26	COMPRESSION SPRING, SERIES	1074429	1
27	WASHER, BRASS	1074083	1
28	NUT, SPRING RETAINER, AV6,BRASS	1074431	1

SPRING ASSIST OPEN MODEL

ITEM NO.	DESCRIPTION	PART NUMBER	QTY.
29	SPRING, COMPRESSION	1078692	1
30	WASHER, CENTERING,BRASS	1074436	1

CONVERSION KITS	
DESCRIPTION	PART NO.
CONVERSION KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 22 THRU 37	1070507 (AV5-SCC)
CONVERSION KIT (SPRING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO'S 28, 29	1070508 (AV5-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	1070505 (AV-RG)
INT. PARTS KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 22, 25, 26	1070506 (AV5-SC)
INT. PARTS KIT (SPRING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO'S 28, 29	1070508 (AV5-SO)

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TOLERANCES:
ANGLES : ± 1°
1 PLACE .X ± .015 [0.38]
2 PLACE .XX: ± .01 [0.3]
3 PLACE .XXX: ± .005 [0.13]

THIRD ANGLE PROJECTION

APPROVALS	DATE
DRAWN NE	08-25-12
APPROVED	
CHECKED	

AQ Matic
Valve & Controls Company Inc.

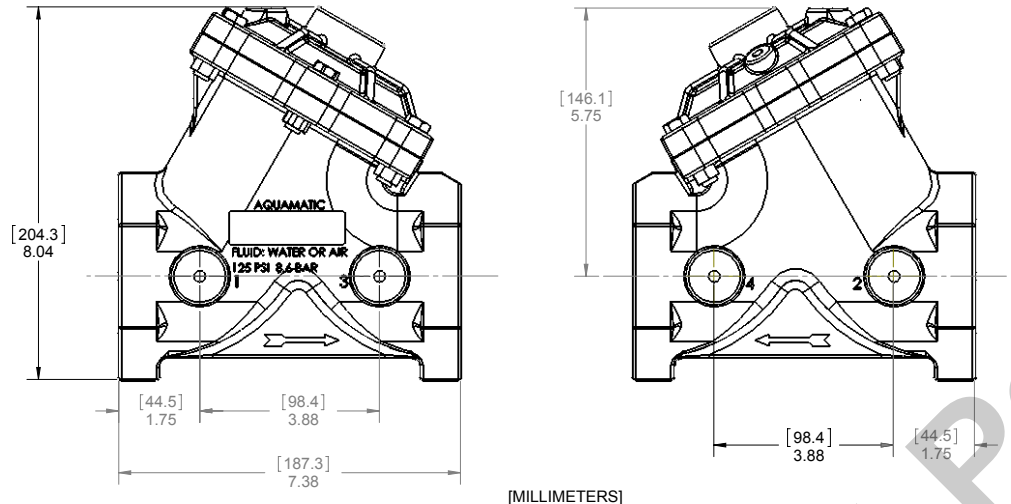
TITLE
CATALOG SHEET, AV5

SIZE B | DWG NO | REV

SCALE 1:2

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REVISIONS					
ZONE	ECN	REV.	DESCRIPTION	DATE	APP'D
	102071	K	REDRAWN IN SOLID WORKS 1-WAS 1074377	06-07-13	NBE
	102740	L	1-WAS: 1074377, NOW: 43244	28APR14	TJM
	103665	M	1-MOVED ITEM 20 FROM BOTTOM OF SHAFT TO TOP.	19AUG14	TJM
	103882	N	1- ROTATED CAP SO PORT IS AT INLET SIDE IN ALL VIEWS, 2- UPDATED TITLE BLOCK	16OCT14	TJM
	103964	P	1-ITEM #20 WAS: 1073594	07NOV14	TJM

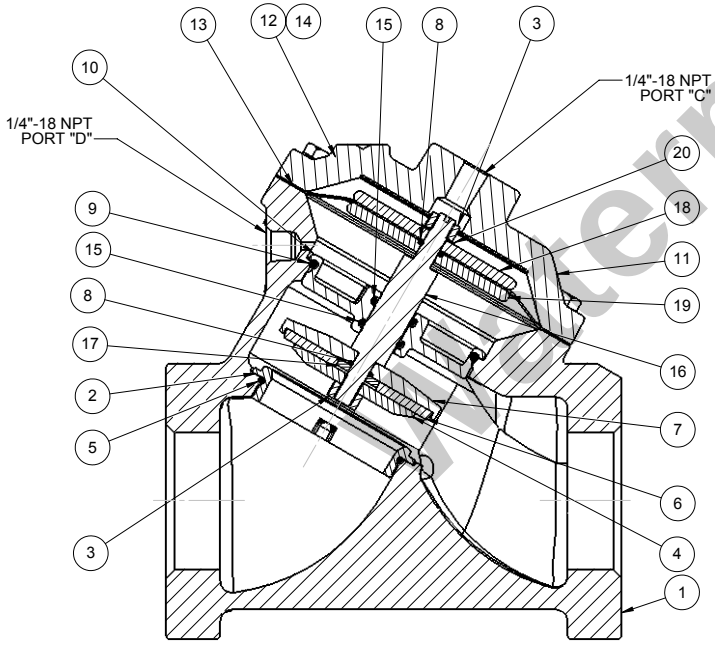


[MILLIMETERS]
INCHES

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

ITEM NO.	DESCRIPTION		PART NUMBER	QTY.
1	BODY, 426 (CAST IRON)	2" NPT	1074343	1
		2 1/2" NPT	1081559	
2	SEAT, 426, BRASS*		1074409	1
3	NUT,HEX, 5/16"-24 ,SS		1263853	2
4	DISC PLATE, BRASS		1074396	1
5	O-RING, -144	FKM	1071809	1
6	DISC, 426	HYCAR	1074392	1
		FKM	1074393	
7	HOLDER,DISC, AV6, BRASS		1074383	1
8	O-RING, -011	FKM	1071786	2
9	O-RING, -233	FKM	1071826	1
10	GUIDE, 426 SHAFT*		1074378	1
11	CAP, 426, NPT, (CAST IRON)		1081560	1
12	SCREW,HEX HD CAP,5/16-18X1-3/8		1072401	6
13	DIAPHRAGM, 426	BUNA	1074374	1
		FKM	1074376	
14	HEX NUT, 5/16"-18, PLATED		1071657	6
15	O-RING, -114	ALFAS	1071662	2
16	SHAFT,426,NO		1074401	1
17	SPACER, BRASS		1074382	1
18	PLATE, DIAPHRAGM, UPPER,SS		1074371	1
19	PLATE, DIAPHRAGM, LOWER,SS		1074372	1
20	LOCKWASHER, 5/16", INTERNAL TOOTH		1073590	1

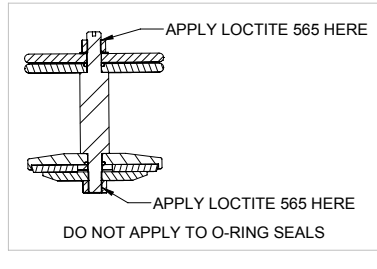
*REQUIRES ASSEMBLY TOOL



1072489 (VAVG-0000-90000) (2"NPT)
1072495 (VAVH-0000-90000) (2-1/2"NPT)

NORMALLY OPEN (STANDARD)

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



DO NOT APPLY TO O-RING SEALS

REPAIR PARTS KITS		
DESCRIPTION	PART NO.	
	1070109 (AV6-RA)	1070510 (AV6-RAHT)
DIAPHRAGM & SEAL KIT CONSISTS OF ITEM NO'S 3(2), 5, 6, 8(2), 9, 13, & 15(2)	INCLUDES DISC P/N 1074392 (HYCAR) AND DIAPHRAGM P/N 1074374 (BUNA N)	INCLUDES DISC P/N 1074393 (TEFLON) AND DIAPHRAGM P/N 1074376 (FKM)
INT. PARTS KIT (NORM. OPEN) CONSIST OF STANDARD ITEM NO'S 4, 7, 10, 16, 17, 18. 19	10705011 (AV6-RF)	
SEAT (ITEM NO. 2)	1074407	

SEE REVERSE SIDE FOR CONFIGURATION OPTIONS

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THIRD ANGLE PROJECTION

APPROVALS DATE

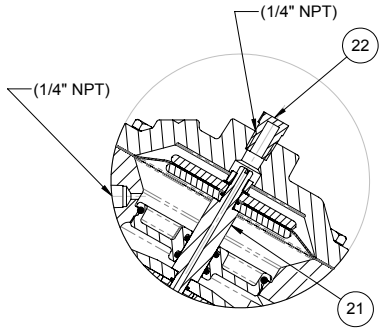
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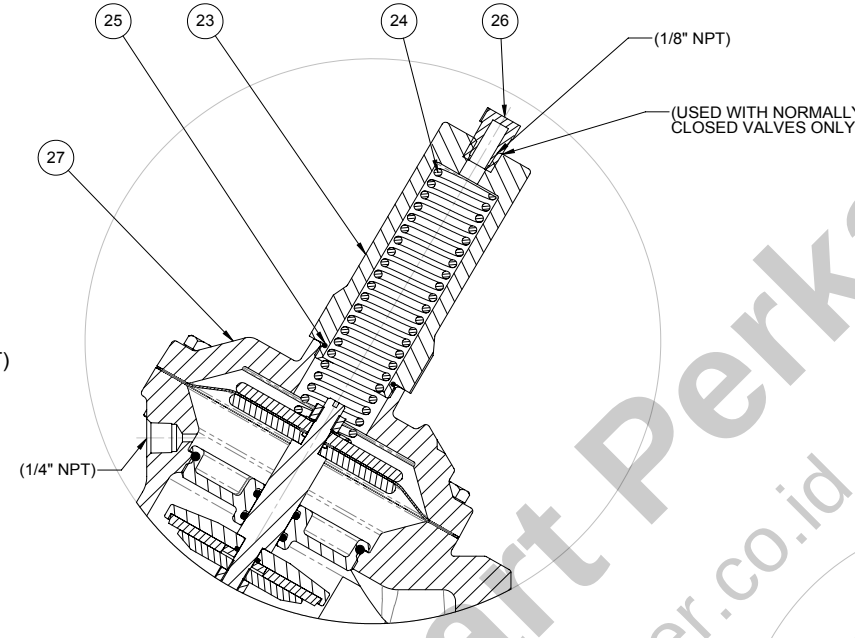
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REVISIONS					
ZONE	ECN	REV.	DESCRIPTION	DATE	APP'D
	1001	Q	AQ Matic update & verified part numbers	17JAN17	MGS



3026107 (VAVG-0030-90000) (2" NPT)
1080794 (VAVH-0030-90000) (2-1/2" NPT)

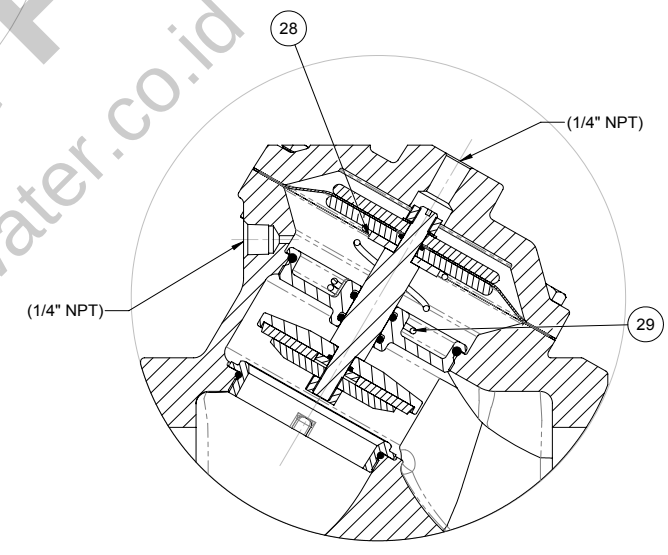
NORMALLY CLOSED



1077120 (VAVG-0002-90000) (2" NPT)
1072498 (VAVH-0002-90000) (2-1/2" NPT)

SPRING ASSIST CLOSED

NORMALLY CLOSED MODEL			
ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
21	1	43169	SHAFT,426,NC
22	1	1071918	PLUG,PIPE,1/4" MNPT
SPRING ASSIST CLOSED MODEL			
ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
23	1	1074431	SPRING RETAINER NUT, 425 & 426
24	1	1074429	COMPRESSION SPRING
25	1	1071677	O-RING,2-025, BUNA
26	1	1071903	PLUG,PIPE,1/8" MNPT
27	1	1074352	CAP - SAC (CAST IRON)
SPRING ASSIST OPEN MODEL			
ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
28	1	1074436	WASHER, CENTERING,BRASS
29	1	1078692	SPRING, COMPRESSION



1072491 (VAVG-0001-90000) (2" NPT)
1072497 (VAVH-0001-90000) (2-1/2" NPT)

SPRING ASSIST OPEN

SEE REVERSE SIDE FOR
STANDARD NORMALLY OPEN MODEL

REPAIR PARTS KITS	
DESCRIPTION	PART NO.
INT. PARTS KIT (NORM. CLOSED) CONSISTS OF STANDARD ITEM NO'S 4, 7, 10, 17, 18, 19, 21	1070512 (AV6-RG)
INT. PARTS KIT(SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 23 & 24	1070513 (AV6-SC)
INT. PARTS KIT(SPRING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO'S 28 & 29	1070515 (AV6-SO)

CONVERSION KITS	
DESCRIPTION	PART NO.
CONVERSION KIT(SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 23 THRU 27	1070514 (AV6-SCC)
CONVERSION KIT (SPRING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO'S 28 & 29	1070515 (AV6-SO)

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TOLERANCES:
ANGLES : ± 1°
1 PLACE .X: ± .015 [0.38]
2 PLACE .XX: ± .01 [0.3]
3 PLACE .XXX: ± .005 [0.13]

THIRD ANGLE PROJECTION

APPROVALS	DATE
DRAWN	
APPROVED	

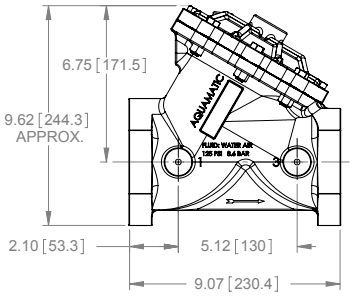
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TITLE
CATALOG SHEET, AV6
DIAPHRAGM VALVE STANDARD MODEL

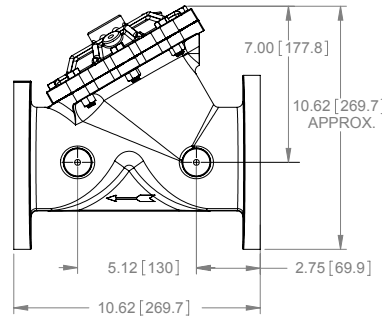
SIZE B | DWG NO. RD1077000 | REV

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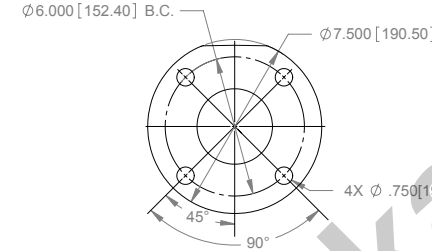


1235690 (VAVJ-0000-900000)
3" NPT ENDS

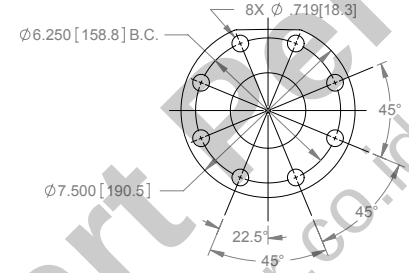


11077128 (VAVJ-3000-900000)
FLANGED ENDS

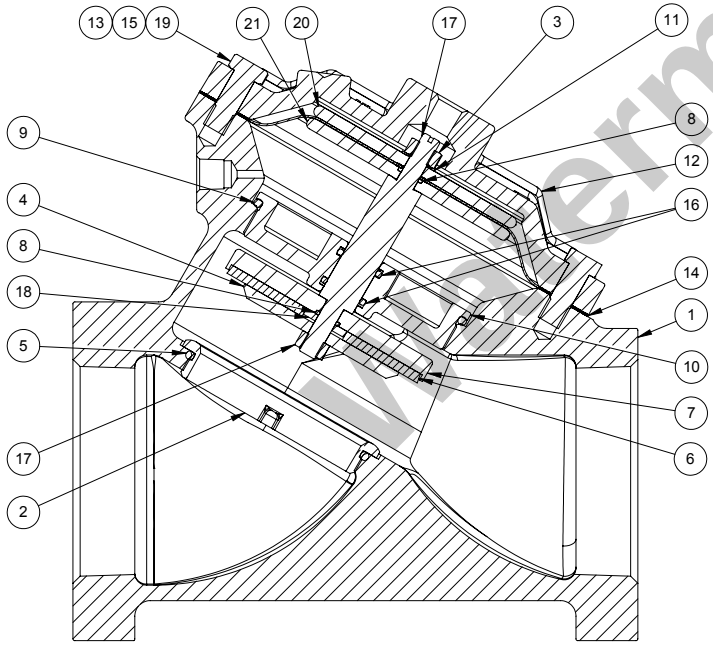
NOTE:
1. AMERICAN NATIONAL STANDARD TAPER PIPE THREADS (NPT) PER ANSI B2.1-1968
2. VALVES AVAILABLE WITH B.S.P.T. END CONNECTIONS.



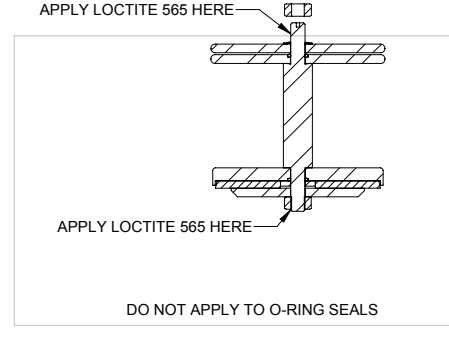
AMERICAN FLANGE PER
A.S.A. 16.1 CLASS 125



METRIC FLANGE PER
BS4504. DIN 10 & ISO R 2084



NORMALLY OPEN (STANDARD)



REVISIONS					
ZONE	ECN	REV.	DESCRIPTION	DATE	APP'D
	102056	K	REDRAWN - FORM # NOW DWG # (WAS 1084043), 1-1074495-WAS:1074493, 2-1074479-WAS: 1074478	6-4-13	NBE
	103665	L	ITEM #-11 WAS: QTY -2 .	19AUG14	TJM
	103964	M	1-ITEM #-11 WAS: 1073594, 2-UPDATED TITLE BLOCKS	10NOV4	TJM
	1001	N	AQ Matic update & verified part numbers	17JAN17	MGS

ITEM NO.	DESCRIPTION		PART NUMBER	QTY.
1	BODY, 427, CAST IRON	THREADED	1074446	1
		FLANGED	1083918	
2	SEAT, 427, MACHINING	BRASS	1074505	1
3	NUT,HEX, 5/16"-24	SS	1263853	2
4	PLATE, DISC	(303 SS)	1074495	1
5	O-RING, ORV-233	FKM	1071826	1
6	DISC, 427	HYCAR	1074490	1
		TELFON	1074491	1
7	DISC HOLDER, ALUM/BRONZE		1074483	1
8	O-RING, -011	FKM	1071786	2
9	O-RING, -237	FKM	1071828	1
10	SHAFT GUIDE, MACHINING		1074479	1
11	LOCKWASHER, 5/16", INTERNAL TOOTH		1073590	1
12	CAP, 427, MACHINING	CAST IRON	1074454	1
13	SCREW, 3/8-16 X 1 1/2", HX HD	PLATED STEEL	1072405	6
14	DIAPHRAGM SERIES 427,	BUNA-N	1074475	1
	DIAPHRAGM SERIES 427,	FKM	1074477	1
15	HEX NUT, 3/8-16	PLATED STEEL	1071658	6
16	O-RING, -114	ALFAS	1071662	2
17	SHAFT, 427, NO		1074496	1
18	SPACER, BRASS		1074382	1
19	HEX HEAD CAP SCREW, 3/8-16X 1.00	STAINLESS STEEL	19768	2
20	PLATE, UPPER DIAPHRAGM		1074472	1
21	DIAPH PLT, 427,LWR, MACH	SS	1074473	1

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

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)	1074505	

SEE REVERSE SIDE FOR CONFIGURATION OPTIONS

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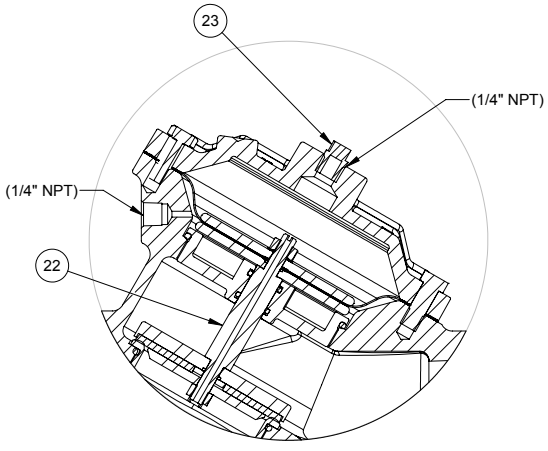
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TOLERANCES:
ANGLES ± 1°
1 PLACE .X: ± .015 [0.38]
2 PLACE .XX: ± .01 [0.3]
3 PLACE .XXX: ± .005 [0.13]

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Website: www.water.co.id

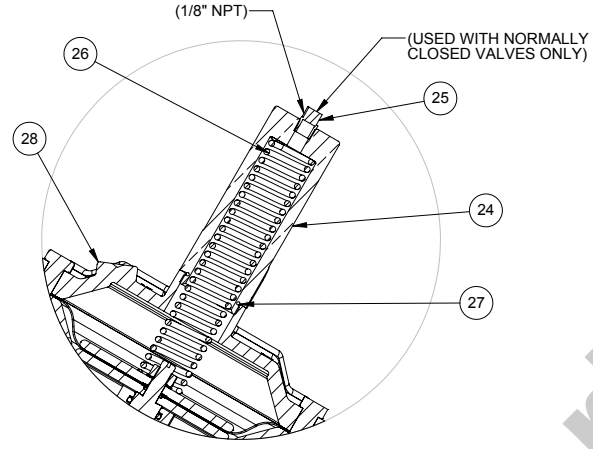
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REVISIONS					
ZONE	ECN	REV.	DESCRIPTION	DATE	APP'D
			SEE SHEET 1 FOR LIST OF CHANGES		



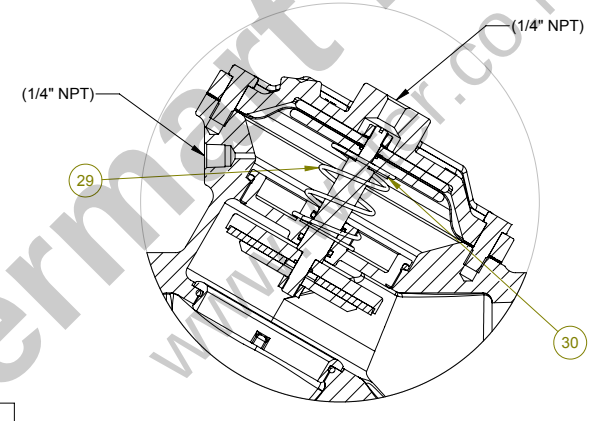
1269740 (VAVJ-0030-90000) (THREADED)
1242257 (VAVJ-3030-90000) (FLANGED)

NORMALLY CLOSED



3018900 (VAVJ-0002-90000) (THREADED)
1080797 (VAVJ-3002-90000) (FLANGED)

SPRING ASSIST CLOSED



1072502 (VAVJ-0001-90000) (THREADED)
1072509 (VAVJ-3001-90000) (FLANGED)

SPRING ASSIST OPEN

NORMALLY CLOSED MODEL

ITEM NO.	DESCRIPTION		PART NUMBER	QTY.
22	SHAFT, 427, NC		1074499	1
23	MALE PIPE PLUG	PLATED STEEL	1071918	1

SPRING ASSIST CLOSED MODEL

ITEM NO.	DESCRIPTION		PART NUMBER	QTY.
24	NUT, SPRING RETAINER	BRASS	1074431	1
25	MALE PIPE PLUGS (1/8" NPT)	BRASS	1071903	1
26	COMPRESSION SPRING		1074429	1
27	O-RING,2-025	BUNA	1071677	1
28	CAP, 427, SPRING ASSIST	CAST IRON	1074460	1

SPRING ASSIST OPEN MODEL

ITEM NO.	DESCRIPTION		PART NUMBER	QTY.
29	SPRING, COMPRESSION		1078692	1
30	WASHER, CENTERING	BRASS	1074436	1

REPAIR PARTS KITS	
DESCRIPTION	PART NO.
INT. PARTS KIT (NORM. CLOSED) CONSISTS OF STANDARD ITEM NO'S 4,7,10,11,18,20,21,23	BR1070518 (AV7-RG)
INT. PARTS KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 26,27	BR1070513 (AVG-SC)
INT. PARTS KIT (SPRING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO'S 29, 30	BR1070520 (AV7-SO)

CONVERSION KITS	
DESCRIPTION	PART NO.
CONVERSION KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 24 THRU 28	BR1070519 (AV-SCC)
CONVERSION KIT (SPRING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO'S 29, 30	BR1070520 (AV7-SO)

SEE REVERSE SIDE FOR STANDARD NORMALLY OPEN MODEL

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TOLERANCES:
ANGLES : ± 1°
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2 PLACE .XX ± .01 [0.3]
3 PLACE .XXX ± .005 [0.13]

THIRD ANGLE PROJECTION

APPROVALS	DATE
DRAWN	
APPROVED	

AQ Matic
Valve & Controls Company Inc.

TITLE
CATALOG SHEET, AV7
DIAPHRAGM VALVE STANDARD MODEL

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Email: sales@water.co.id Phone: +62-21-316-1671
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Website: www.water.co.id

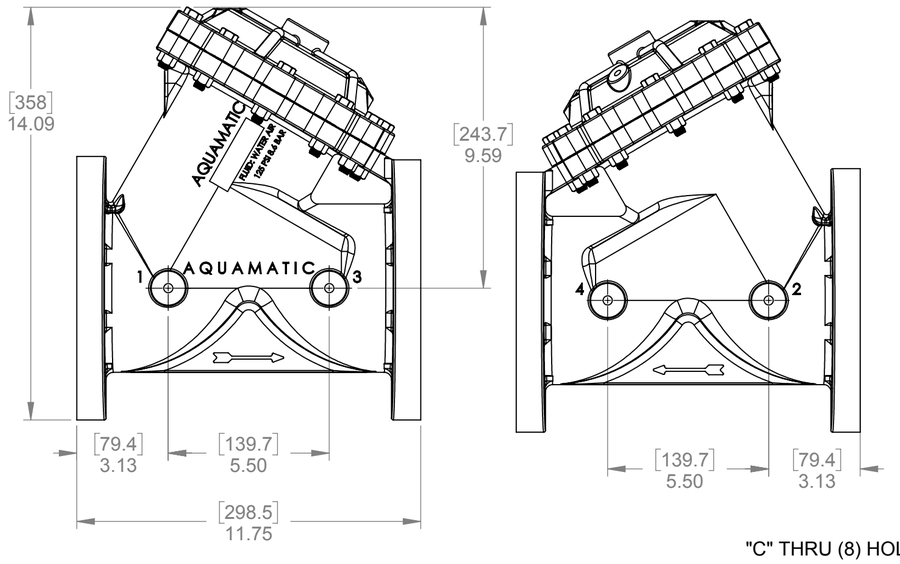
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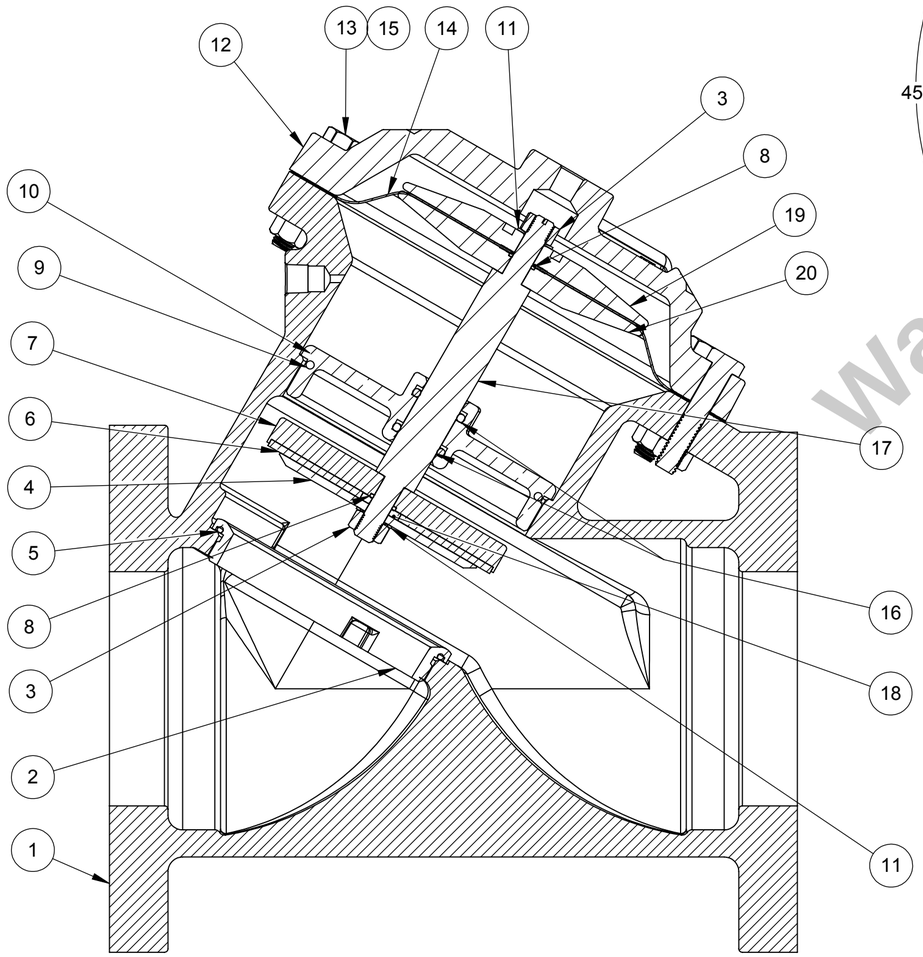
REPAIR PARTS KIT

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)
INT. PARTS KIT (NORM. OPEN) CONSISTS OF STANDARD ITEM NO'S 4,7,10,11,17,18,19,20	1070522 (AV8-RF)	
SEAT (ITEM NO. 2)	1074585 (428-MAO)	

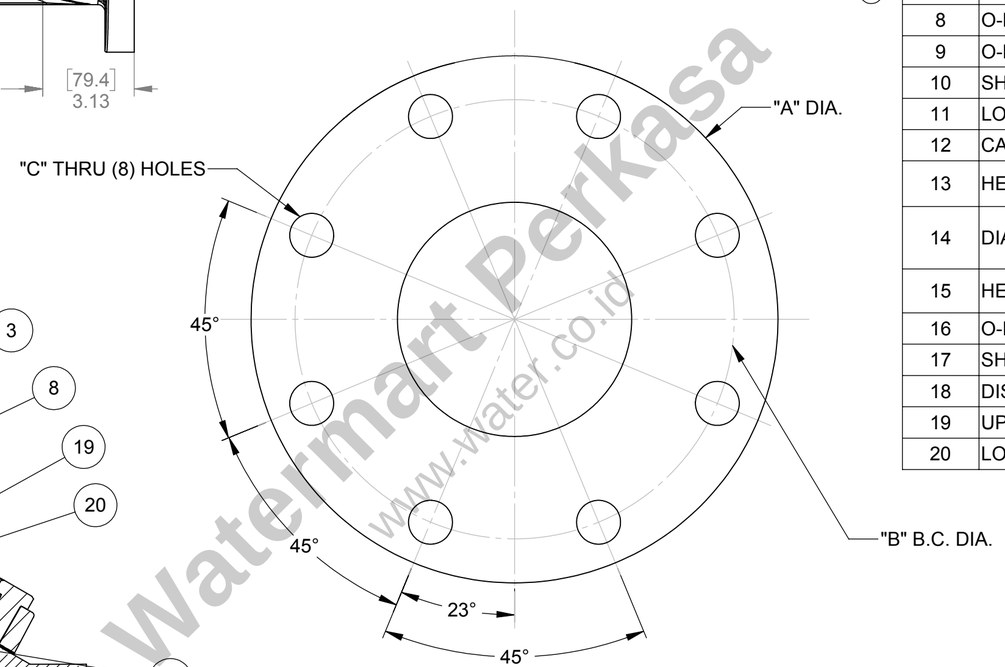
REVISIONS

ZONE	ECN	REV.	DESCRIPTION	DATE	APP'D
	103684	J	REDRAWN IN SOLIDWORKS, FORM # NOW DWG #, ITEM# 4 WAS:1074575 ,ADD'D: ITEM#11, DWG # WAS:1084044	8/20/14	ANH
	103964	K	ITEM #11 WAS: 1073594	10NOV14	TJM
	105687	L	1-ITEM #10 WAS: 1074560	02MAR16	TJM
	1001	M	AQ Matic update & verified part numbers	17JAN17	MGS
	1188	N	PART/DRAWING CHANGE WAS 1074588, NOW 1074589	1/26/18	TRK





1072513 (VAVK-3000-90000) (4" PIPE SIZE)
NORMALLY OPEN (STANDARD)



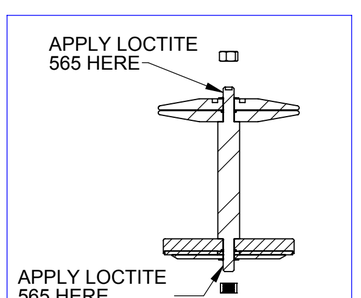
AMERICAN FLANGE PER A.S.A. 16.1 CLASS 125
METRIC FLANGE PER BS 4504, DIN 10 & ISO R 2084

NO.	DESCRIPTION		STD	PART NO.	QTY
1	BODY	CAST IRON	*	1074522 (428-A)	1
2	SEAT	BRASS	*	1074585 (428-MAO)	1
3	HEX NUT(3/8-24)		*	3001990	2
4	DISC PLATE	SS	*	43734 (428-KA)	1
5	O-RING	FKM	*	1071811 (ORV-156)	1
6	DISC	HYCAR	*	1074571 (428-JH)	1
		GLASS FILLED TEFLON		1074572 (428-JT)	
7	DISC HOLDER	SS	*	1074589 (428-NAS)	1
8	O-RING	FKM	*	1071787 (ORV-012)	2
9	O-RING	FKM	*	1071832 (ORV-245)	1
10	SHAFT GUIDE	BRASS	*	1074563	1
11	LOCKWASHER, 3/8", INTERNAL TOOTH		*	1073591	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

NOTE:

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

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



DO NOT APPLY TO O-RINGS

SEE SHEET 2 FOR CONFIGURATION OPTIONS

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3 PLACE .XXX: ± .005 [0.13]

THIRD ANGLE PROJECTION

APPROVALS	DATE
DRAWN ANH	8/19/14
APPROVED	
CHECKED	

AQ Matic
Valve & Controls Company Inc.

TITLE
CATALOG SHEET, AV8,
STANDARD MODEL

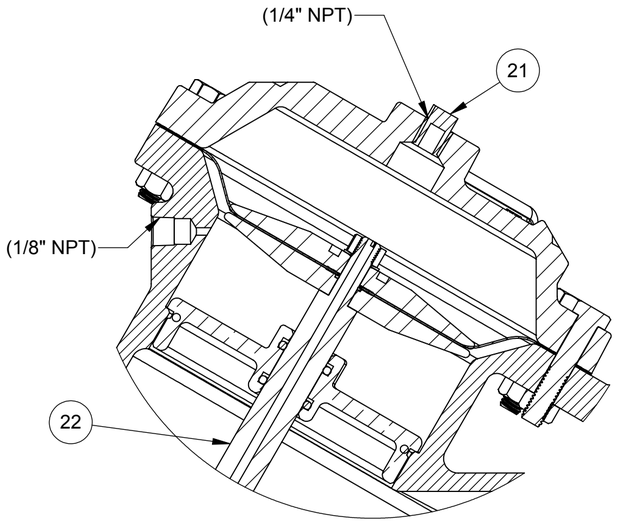
SIZE B | DWG NO | REV

SCALE 1:4

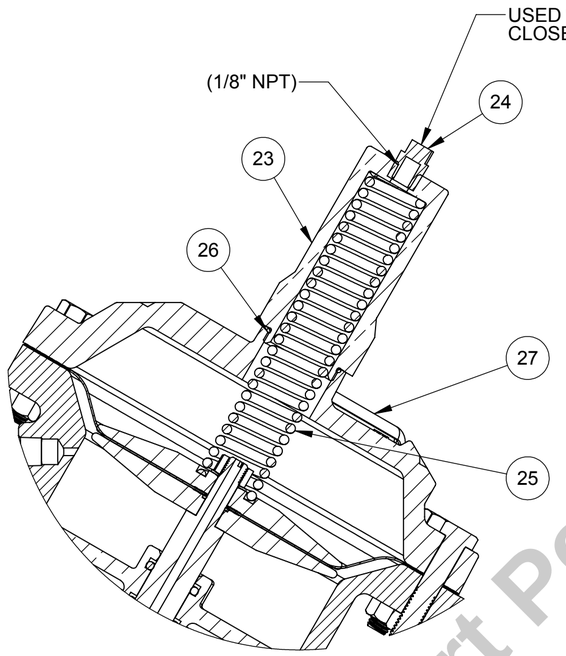
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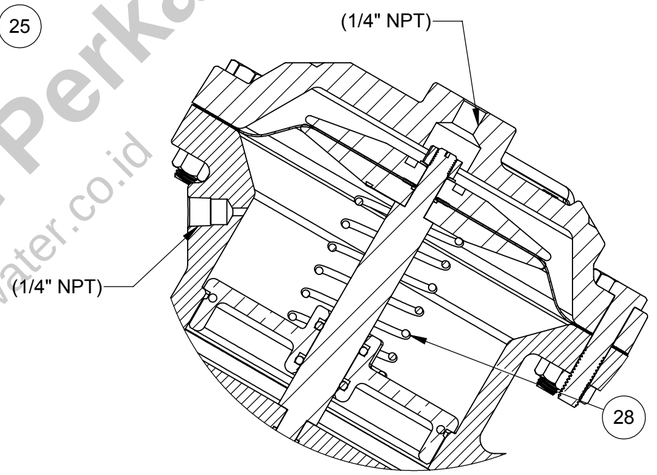
REVISIONS					
ZONE	ECN	REV.	DESCRIPTION	DATE	APP'D
			SEE SHEET 1 FOR LIST OF CHANGES		



VAVK-3030-90000
NORMALLY CLOSED



1072516 (VAVK-3002-90000)
SPRING ASSIST CLOSED



1072514 (VAVK-3001-90000)
SPRING ASSIST OPEN

NORMALLY CLOSED					
NO.	DESCRIPTION		STD	PART NO.	QTY
21	PIPE PLUG (1/4" N.P.T.)	CAST IRON	*	1071918 (PLZ-0008)	1
22	SHAFT (NORMALLY CLOSED)		*	1074582 (458-LLA)	1
SPRING ASSIST CLOSED					
NO.	DESCRIPTION		STD	PART NO.	QTY
23	RETAINER NUT	BRASS	*	1074609 (428-TT)	1
24	PIPE PLUG (1/8" N.P.T.)	BRASS	*	1071903 (PLB-0007)	1
25	SPRING		*	1074601 (428-SB)	1
26	O-RING		*	1071677 (ORB-025)	1
27	CAP	CAST IRON	*	1074540 (428-CC)	1
SPRING ASSIST OPEN MODEL					
NO.	DESCRIPTION		STD	PART NO.	QTY
28	SPRING		*	1074605 (428-SOA)	1

REPAIR PARTS KITS	
DESCRIPTION	PART NO.
INT. PARTS KIT (NORM. CLOSED) CONSISTS OF STANDARD ITEM NO'S 4,7,10,11,18,19,20,25	1070523 (AV8-SCC)
INT. PARTS KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 29,30	1070524 (AV8-SC)
IN. PARTS KIT (SPRING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO. 32	1070526 (AV8-SO)
CONVERSION KITS	
DESCRIPTION	PART NO.
CONVERSION KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 27-31	1070525 (AV-SCC)
CONVERSION KIT (SPRING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO. 32	1070526 (AV8-SO)

SEE SHEET 1 FOR STANDARD NORMALLY OPEN MODEL

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THIRD ANGLE PROJECTION

APPROVALS	DATE
DRAWN ANH	8/19/14
APPROVED	
CHECKED	

AQ Matic
Valve & Controls Company Inc.

TITLE
CATALOG SHEET, AV8,
STANDARD MODEL

SIZE B | DWG NO | REV

SCALE 1:4

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AQUAMATIC® V46 SERIES
STAINLESS STEEL CONTROL VALVES

HIGH-FLOW VALVES FOR CORROSION-RESISTANT APPLICATIONS

MADE IN THE USA



FEATURES/BENEFITS

Unique Y-pattern design with large seat opening and high lift disc permits higher flow rates at lower pressure loss than other comparable valves

All components can be serviced while the valve is in-line

Separate flow and control chambers permit positive closing without springs

Pre-formed, stress-relieved diaphragm minimizes fatigue, maximizes valve responsiveness and diaphragm lifetime

Durable stainless steel [CF8M] corrosion-resistant alloy, all metal internal parts machined from 316 stainless steel alloy

Diaphragm acts as an actuator, eliminating the need for electric or pneumatic actuators

Adaptable to a wide variety of control devices

OPTIONS

Spring-assist closed

Spring-assist open

Limit stop for flow control

Position indicator

Normally Closed†

Seal and diaphragm materials for special applications†

Available in threaded or flanged end configurations

TYPICAL APPLICATIONS

Bottling Plants

Chemical Injection

Condensate Polishers

Corrosive Liquid Handling

Deionizers

Laundry Equipment

Ozone Generators

Paper and Pulp Process

Water Systems

Reverse Osmosis Equipment

Steam Sterilization

IAPMO R&T

Certified by IAPMO R&T to NSF/ANSI 61 and NSF/ANSI 372 for lead free compliance.

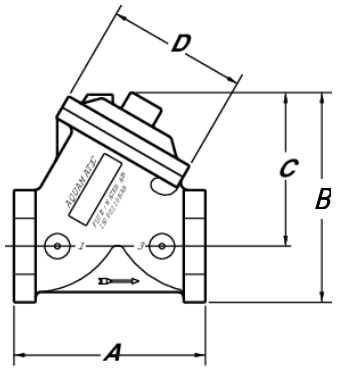
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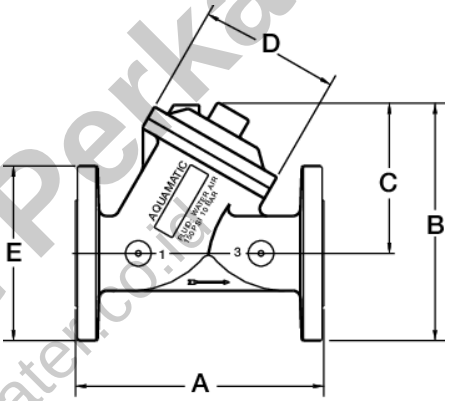
DIMENSIONS

MODEL #	ENDS	PIPE SIZE	Cv*	WEIGHT (STANDARD VALVE)	DIMENSIONS (APPROXIMATE)				
					A	B	C	D	E
V46C	Threaded	1"	14	4 lbs (1.8 kg)	3.75" (95 mm)	4.45" (113 mm)	3.21" (82 mm)	2.75" (70 mm)	–
V46E	Threaded	1-1/2"	33	7 lbs (3.1 kg)	4.75" (121 mm)	5.00" (127 mm)	3.50" (89 mm)	3.50" (89 mm)	–
V46F	Threaded	2"	54	15 lbs (6.8 kg)	6.62" (168 mm)	7.28" (185 mm)	5.34" (136 mm)	4.84" (123 mm)	–
V46C	Flanged	1"	14	6 lbs (2.7 kg)	5.50" (140 mm)	5.49" (139 mm)	3.36" (85 mm)	2.75" (70 mm)	4.25" (108 mm)
V46E	Flanged	1-1/2"	33	10 lbs (4.5 kg)	6.50" (165 mm)	6.45" (164 mm)	3.95" (100 mm)	3.50" (89 mm)	5.00" (127 mm)
V46F	Flanged	2"	54	18 lbs (8.2 kg)	8.50" (216 mm)	8.16" (207 mm)	5.16" (131 mm)	4.84" (123 mm)	6.00" (152 mm)

*Cv is the flow rate in gallons per minute of water at 60°F and 1 psid pressure drop. Liters per minute = Gal/Min x 3.78



THREADED



FLANGED

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PRINCIPLES OF OPERATION

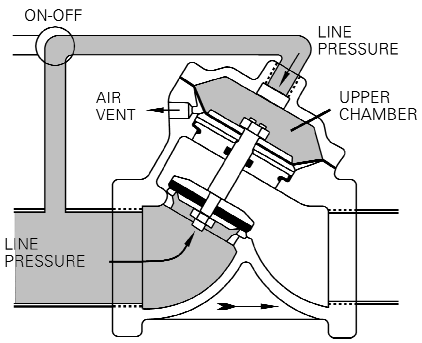
DRIP-TIGHT CLOSING

Closure is obtained by directing line pressure or equivalent independent pressure into the upper chamber. This pressure on the large diaphragm area causes the valve disc to seal against the seat.

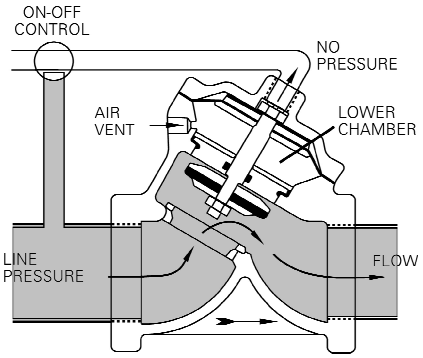
FULL OPEN OPERATION

When the closing pressure in the upper chamber is relieved by venting the pilot line, the valve opens positively, by line pressure on the disc.

VALVE CLOSED



VALVE OPEN

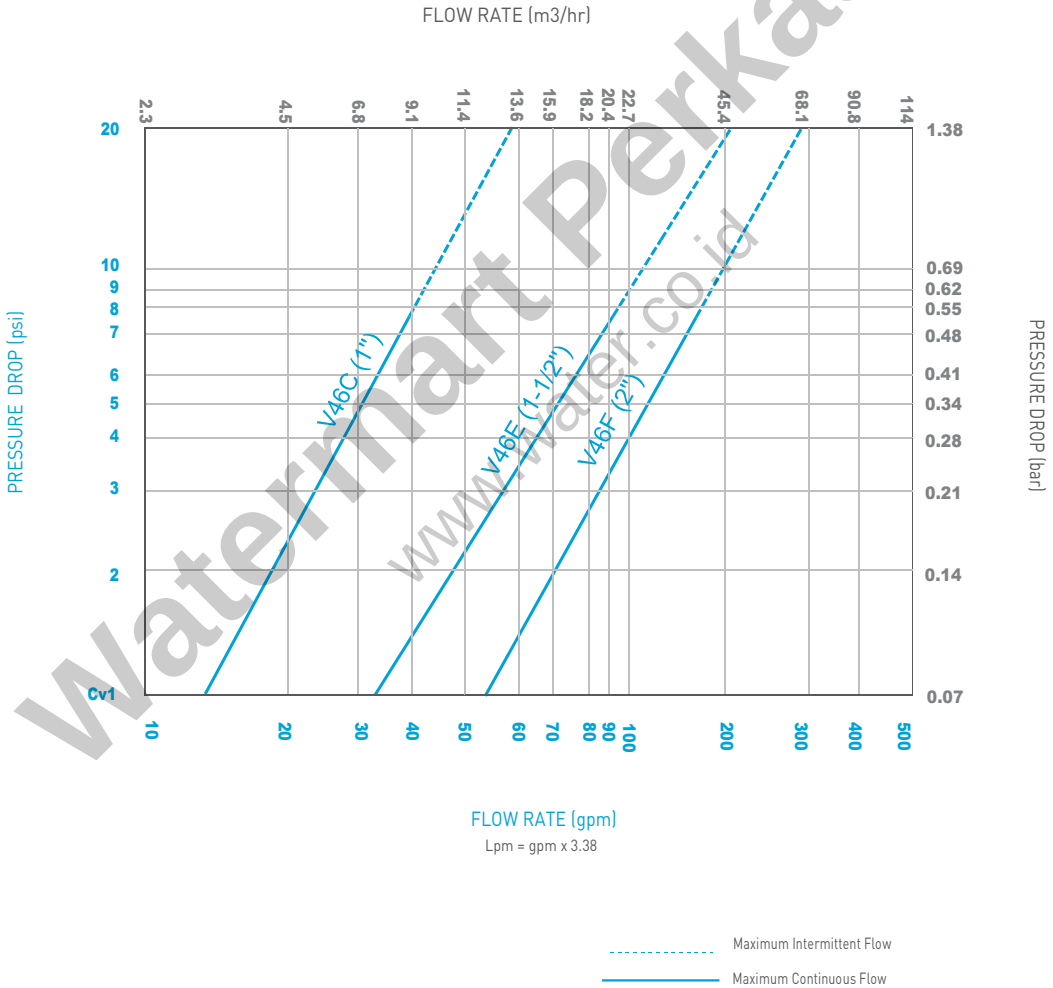


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OPERATING SPECIFICATIONS	THREADED VALVE	FLANGED VALVES
Maximum Working Pressure	250 psi (17 bar)	150 psi (10.3 bar)
Temperature	Standard: 150°F (65°C) Maximum: 250°F (120°C) †	Standard: 150°F (65°C) Maximum: 250°F (120°C) †
Pipe Sizes	1", 1½", and 2" threaded (NPT)	1", 1½", and 2" flanged (ASTM)

†IAPMO R&T NSF/ANSI 61 and NSF/ANSI 372 certifications are limited to restrictions below. Other options were not tested for certification:
Cold water applications below 73°F (23°C).
Normally Open valves.
Buna-N seal material (seal option #0).

PERFORMANCE DATA



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V46 SERIES DIAPHRAGM VALVE MASTER CHART

*** FILL IN PROPER DESIGNATIONS TO DETERMINE PRODUCT NUMBER:** V 4 6 _ - _ 2 _ _ - _ 3 0 0 0

PIPE SIZE
C = 1" (25mm)
E = 1-1/2" (40mm)
F = 2" (50mm)

BODY SIZE (Reference only)
1 = 1"
4 = 1-1/2"
5 = 2"

END CONNECTIONS

0 = Female N.P.T.
3 = Flanged / Female N.P.T. Boss Taps

BODY & CAP MATERIAL
2 = 316 Stainless Steel (Cast CF8M)

VALVE OPTIONS (00 = Standard)

00 = NO	11 = NO, LS, SAO
01 = NO, SAO	30 = NC
02 = NO, SAC	32 = NC, SAC
10 = NO, LS	40 = NC, LS

SEAL MATERIALS (0 = Standard) (Option 5 not valid for NC valves)

OPT.	OPERATING DIAPHRAGM	SEALING DISK	DYNAMIC SEAL	STATIC SEALS	MAX TEMPERATURE
0	Buna-N	Buna-N	Buna-N	Buna-N	150° (65°C)
1	Buna-N	EPDM	EPDM	EPDM	200° (93°C)
2	FKM	FKM	FKM	FKM	250° (121°C)
4	FKM	EP	EP	EP	200° (93°C)
5	Buna-N	FKM	FKM	FKM	200° (93°C)

INTERNAL PARTS
3 = 316 Stainless Steel

* To create a valve number replace each "_" with the proper number or letter for the feature you desire. For example, a 1" NPT Stainless Steel Valve Model V461 with Normally Closed and Spring Assist Closed Options is designated as a V46C-0232-03000.

REV.	ECO NO.	DESCRIPTION	BY/DATE	
C	21190	Reviewed for Pentair ECN release	JJJ	17-Nov-09
D	103533	REM'D:FEMALE BSPT (TAPERED) THD OPTION	TJM	20-Jun-14
E	1778	TOOK OUT OPTION 6 (SEAL MATERIAL)	MM	OCT-1-2020

42988

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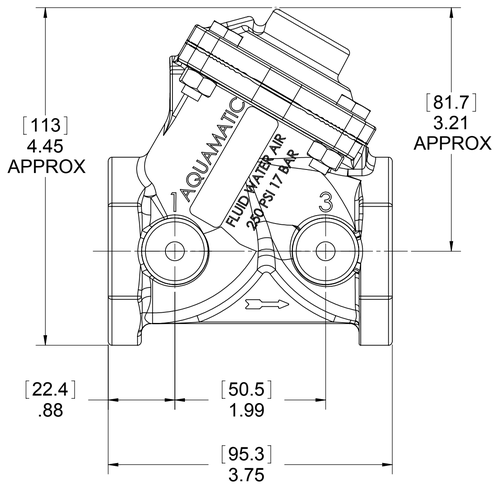
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42988 REV E 2020

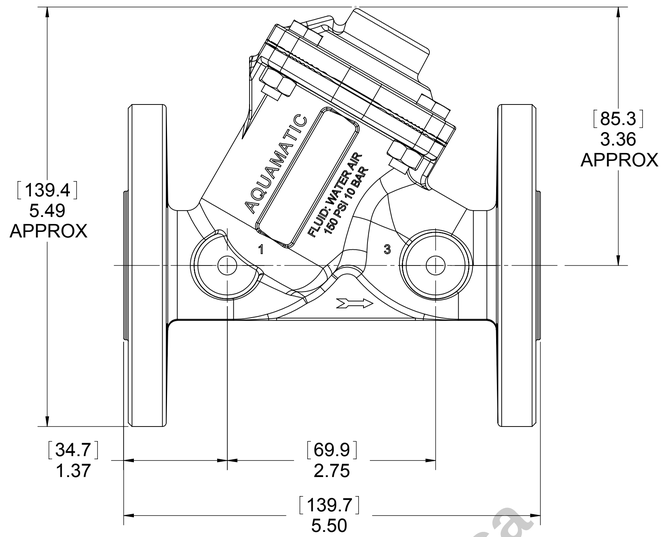
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THREADED

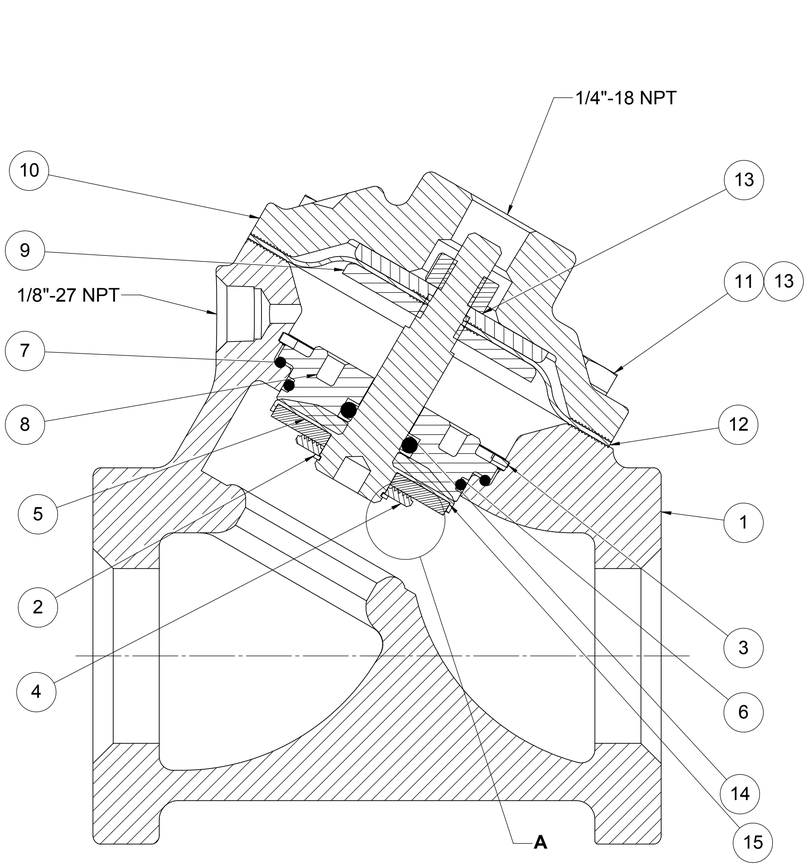


MODEL: V46C-0200-03000 (THREADED)

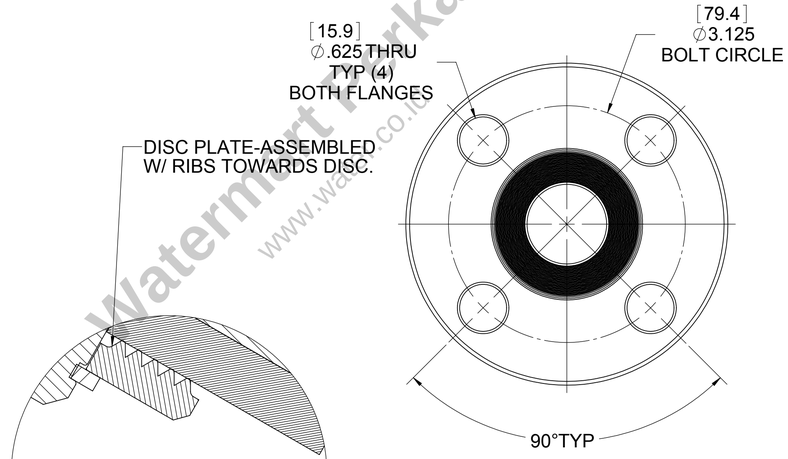
FLANGED



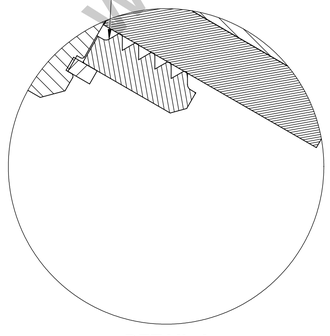
MODEL: V46C-3200-03000 (FLANGED)



NORMALLY OPEN (STANDARD)



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



DETAIL A
SCALE 8 : 1



REVISIONS				
ECN	REV.	DESCRIPTION	DATE	APP'D
100100	E	REDRAWN IN SOLIDWORKS	01/04/12	NBE
100886	F	1-AD DETAIL VIEW OF DISC PLATE ASSEMBLY	07/12/12	TJM
1001	H	AQ MATIC UPDATE & VERIFIED PART NUMBERS	01/17/17	MGS
1455	I	DIAPHRAGM AND SEAL KIT ELIMINATION	04/02/19	TRK
1564	J	CORRECTED MINOR FORMATTING ISSUES	10/19/19	KJB

ITEM NO.	DESCRIPTION			STD	PART NUMBER	QTY.
1	BODY, 461 THREADED	NPT	CAST CF8M (316 SS)	*	1079053	1
	BODY,FLANGE,461,SS,1.00,ASTM	NPT		*	1078568	
2	RING, RETAINING, SPIRAL		316 SS	*	1078562	1
3	RING, RETAINING, SPIRAL		316 SS	*	1075695	1
4	PLATE, DISC, 461,SS		316 SS	*	1075690	1
5	DISC		BUNA N	*	1074140	1
			E.P.D.M.		1074143	
			FKM		1074146	
6	O-RING, 2-026		BUNA N	*	1079834	1
			E.P.D.M.		1081944	
			FKM		1081946	
7	O-RING, 2-029		BUNA N	*	1079835	1
			E.P.D.M.		1081945	
			FKM		1081947	
8	SHAFT GUIDE, SS		316 SS	*	1078579	1
9	PLATE, DIAPHRAGM, 461		316 SS	*	1075684	2
10	CAP, NPT TAP TOP, CSS		CAST CF8M	*	1078572	1
11	SCREW, HEX, 1/4-20 UNC 2-A		316 SS	*	1075692	4
12	DIAPHRAGM, 421, NBR		BUNA N	*	1074119	1
			FKM		1074120	
13	NUT, HEX, 1/4"-20,SS		316 SS	*	1075693	5
14	O-RING, 2-110, TFLN CTD		BUNA N	*	1071689	1
			E.P.D.M.		1071726	
			FKM		1239021	
15	SHAFT, 461 NORMALLY OPEN		CAST CF8M	*	1078584	1

NOTES:
1. AMERICAN NATIONAL STANDARD TAPER PIPE THREADS (NPT) PER ANSI B1.20.1.
2. VALVES AVAILABLE IN BSPT CONFIGURATION. (SEE ITEM 1)

- SEE SHEET 2 FOR CONFIGURATION OPTIONS

REPAIR PARTS KITS			
DESCRIPTION	PART NO.		
DIAPHRAGM & SEALS KIT CONSISTS OF ITEM NO'S 2, 3, 5, 6, 7, 12, 13, 14	BR1078620 BUNA N INCLUDES DIAPHRAGM BR1074119	BR1078621 E.P.D.M. INCLUDES DIAPHRAGM BR1074119	BR1078622 FKM INCLUDES DIAPHRAGM BR1074120
INT. PARTS KIT (NORM. OPEN) CONSISTS OF STANDARD ITEM NO'S 4, 8, 9(2), 15	BR1078623		

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TOLERANCES:
ANGLES : ± 1°
1 PLACE .X: ± .100 [2.54]
2 PLACE .XX: ± .010 [0.3]
3 PLACE .XXX: ± .005 [0.13]

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THIRD ANGLE PROJECTION

APPROVALS	DATE
DRAWN NE	12/27/11
CHECKED BY	
APPROVED	

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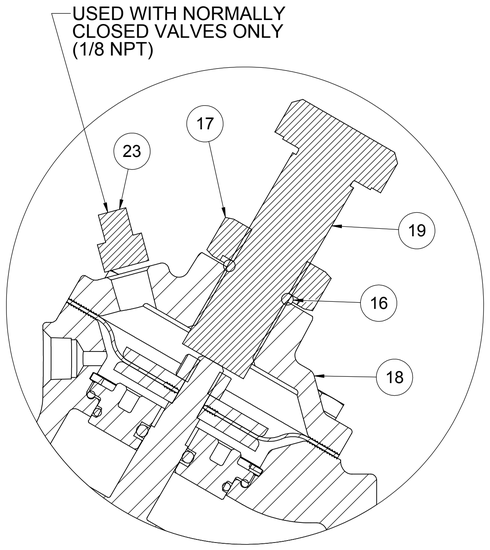
CATALOG SHEET, 461, 316SS
STANDARD MODEL

SIZE D | DWG NO. 1078622 | REV. J
SCALE 1:1

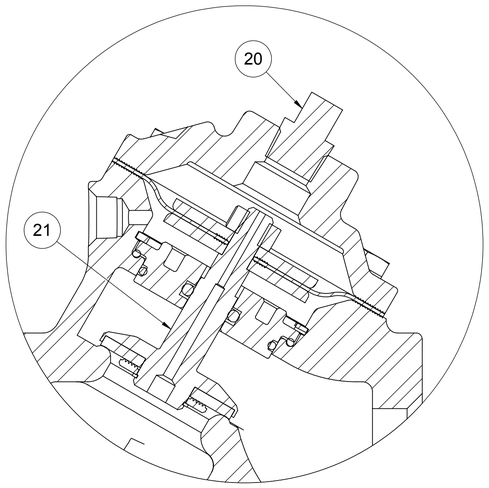
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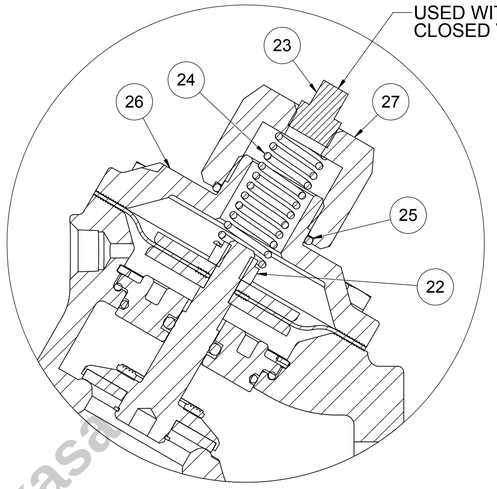
REVISIONS				
ECN	REV.	DESCRIPTION	DATE	APP'D
		SEE SHEET 1 FOR LIST OF CHANGES		



V46C-3210-03000 (FLANGED)
V46C-0210-03000 (THREADED)
LIMIT STOP



V46C-3230-03000 (FLANGED)
V46C-0230-03000 (THREADED)
NORMALLY CLOSED



V46C-3202-03000 (FLANGED)
V46C-0202-03000 (THREADED)
SPRING ASSIST CLOSED

LIMIT STOP MODEL

ITEM NO.	DESCRIPTION		PART NUMBER	QTY.
16	O-RING, 2-112	BUNA	1071690	1
17	NUT, LIMIT STOP, 461-465	SS	1078678	1
18	CAP, SPRING ASSIST CLOSED, 461	SS	1078590	1
19	BOLT, 5/8-18 X 2", HEX	SS	1078676	1

NORMALLY CLOSED MODEL

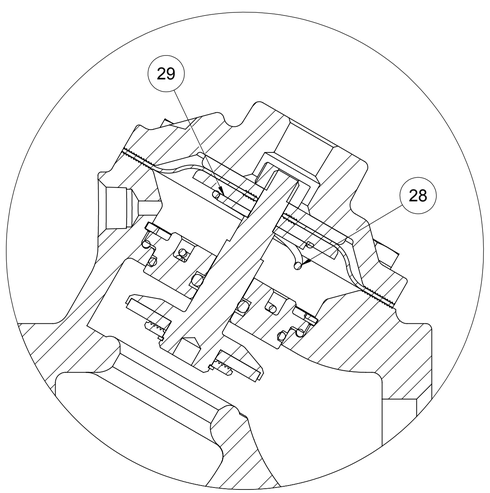
ITEM NO.	DESCRIPTION		PART NUMBER	QTY.
20	PLUG, 1/4" NPT SQ HD	SS	1078592	1
21	SHAFT, NORMALLY CLOSED, 461	SS	1078594	1

SPRING ASSIST CLOSED MODEL

ITEM NO.	DESCRIPTION		PART NUMBER	QTY.
22	NUT, SPRING CENTERING	SS	1078596	1
23	PLUG, 1/8" NPT SQ HD	SS	1078600	1
24	SPRING, COMPRESSION	SS	1078602	1
25	O-RING, 2-020	BUNA	1071674	1
26	CAP, SPRING ASSIST CLOSED, 461	SS	1078604	1
27	NUT, SPRING RETAINER	SS	1078598	1

SPRING ASSIST OPEN MODEL

ITEM NO.	DESCRIPTION		PART NUMBER	QTY.
28	SPRING, COMPRESSION	SS	1078608	1
29	WASHER, CENTERING	SS	1236665	1



V46C-3201-03000 (FLANGED)
V46C-0201-03000 (THREADED)
SPRING ASSIST OPEN

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 28, 29	1078627

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 28, 29	1078627

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

- SEE SHEET 1 FOR STANDARD NORMALLY OPEN MODEL

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TOLERANCES:
ANGLES : ± 1°
1 PLACE .X: ± .100 [2.54]
2 PLACE .XX: ± .010 [0.3]
3 PLACE .XXX: ± .005 [0.13]

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THIRD ANGLE PROJECTION

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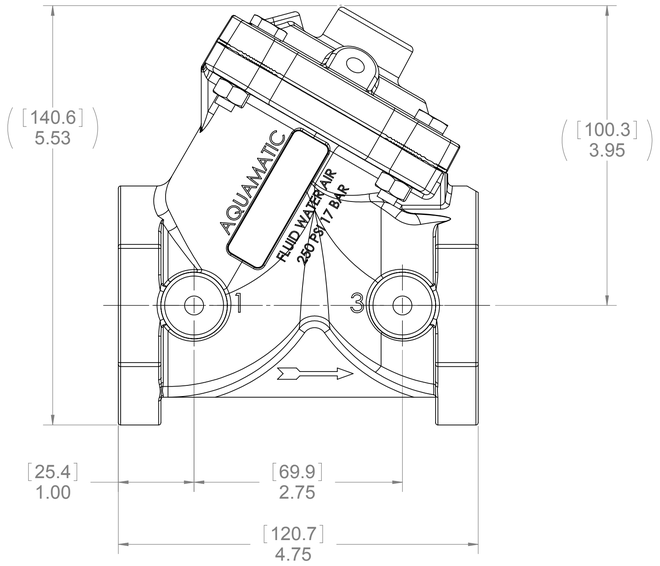
CATALOG SHEET, 461, 316SS STANDARD MODEL

SIZE D | DWG NO. 1078623 | REV. *

SCALE 1:1

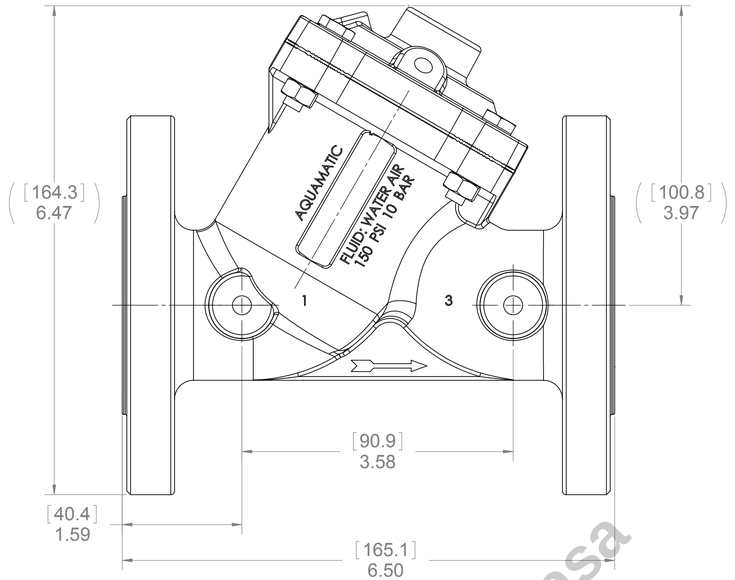
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Email: sales@water.co.id Phone: +62-21-316-1671
Whatsapp (text only): +62815-8609-3500
Website: www.water.co.id

THREADED

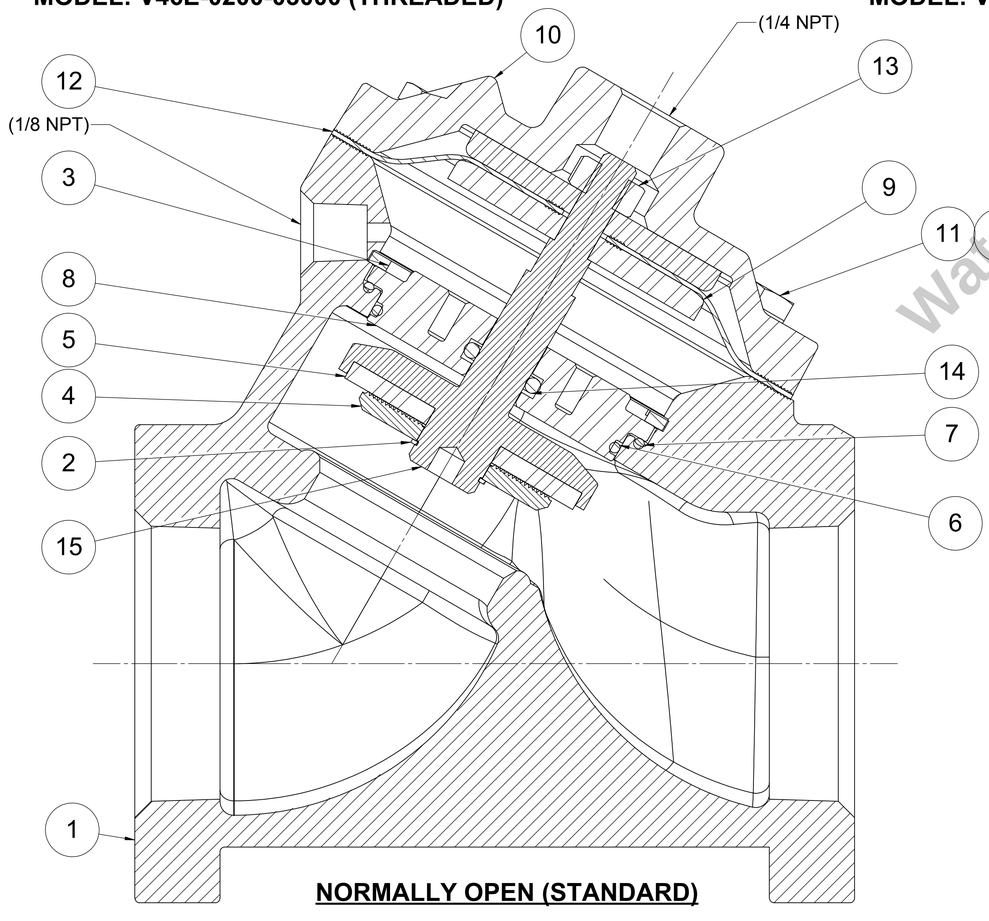


MODEL: V46E-0200-03000 (THREADED)

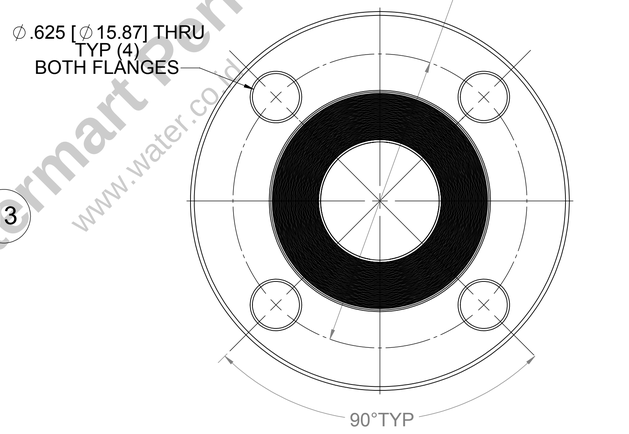
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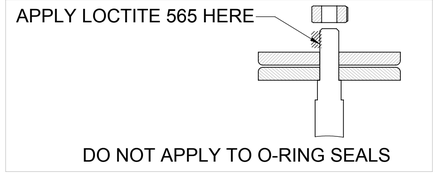
MODEL: V46E-3200-03000 (FLANGED)



NORMALLY OPEN (STANDARD)



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



REPAIR PARTS KITS			
DESCRIPTION	PART NO.		
	1236768	1236769	1236775
DIAPHRAGM & SEALS KIT CONSISTS OF ITEM NO'S 2, 3, 5, 6, 7, 12, 13, 14 (K)	BUNA N INCLUDES DIAPHRAGM 1074222	E.P.D.M. INCLUDES DIAPHRAGM 1074222	FKM INCLUDES DIAPHRAGM 1236800
INT. PARTS KIT (NORM. OPEN) CONSISTS OF STANDARD ITEM NO'S 4, 8, 9(2), 15	1236780		

REVISIONS

ZONE	ECN	REV.	DESCRIPTION	DATE	APP'D
	100100	G	REDRAWN IN SOLIDWORKS	1-4-12	NBE
	103445	H	MODIFIED DIMENSIONS TO SHOW AS REF ON PAGE ONE.	18JUN14	TJM
	1001	J	AQ Matic update & verified part numbers	17JAN17	MGS
	1455	K	DIAPHRAGM AND SEAL KIT ELIMINATION	4/2/19	TRK

ITEM NO.	DESCRIPTION		STD	PART NUMBER	QTY.
1	BODY, 464 1.5" NPT THREADED	CAST CF8M (316 SS)	*	1084204	1
	BODY, 464, FLANGED,			1084208	
2	RING, RETAINING, SPRIAL	316 SS	*	1078562	1
3	RING,RETAINING,2.255X.078,SS	316 SS	*	1236749	1
4	PLATE,DISC,464,MCHD	316 SS	*	1236752	1
5	DISC, 424, BUNA	BUNA N	*	1074232	1
	DISC, 424, EP	E.P.D.M.		1074233	
	DISC, 424, VITON	FKM		1074236	
6	O-RING,2-031,NITRILE	BUNA N	*	1071680	1
	O-RING,EP,ORE-031	E.P.D.M.		1236771	
	O-RING, -031, FKM	FKM		1236777	
7	O-RING (NITRILE), 2-033	BUNA N	*	1236751	1
	O-RING,EP,ORE-033	E.P.D.M.		1236772	
	O-RING, -033, FKM	FKM		1236778	
8	SHAFT GUIDE, 464,SS	316 SS	*	1236755	1
9	PLATE, DIAPHRAGM, 464,SS	316 SS	*	1236754	2
10	CAP, NPT TAP TOP, CSS	CAST CF8M	*	1236753	1
11	SCREW,HEX HD,1/4-20X 1 1/8,SS	316 SS	*	1236794	4
12	DIAPHRAGM, 424, NBR	BUNA N	*	1074222	1
	DIAPHRAGM, 424, FKM	FKM		1074224	
13	NUT, HEX, 1/4"-20,SS	316 SS	*	1075693	5
14	O-RING,2-110,NITRILE,TFLN CTD	BUNA N	*	1071689	1
	O-RING, EPDM,TEFLON COATED,	E.P.D.M.		1071726	
	O-RING, -110TC, FKM	FKM		1239021	
15	SHAFT, 464 NORMALLY OPEN	CAST CF8M	*	1084212	1

NOTES:
1. AMERICAN NATIONAL STANDARD TAPER PIPE THREADS (NPT) PER ANSI B1.20.1.
2. VALVES AVAILABLE IN BSPT CONFIGURATION. (SEE ITEM 1)

SEE SHEET 2 FOR CONFIGURATION OPTIONS

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UNLESS OTHERWISE SPECIFIED:
ALL FINISHED MACHINED SURFACES 125 √ OR BETTER.
TOLERANCES:
ANGLES : ± 1°
1 PLACE .X ± .015 [0.38]
2 PLACE .XX ± .01 [0.3]
3 PLACE .XXX ± .005 [0.13]

THIRD ANGLE PROJECTION

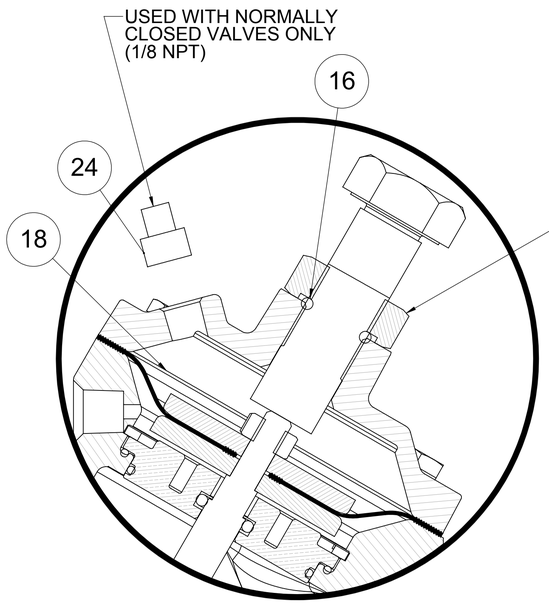
APPROVALS	DATE
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APPROVED	
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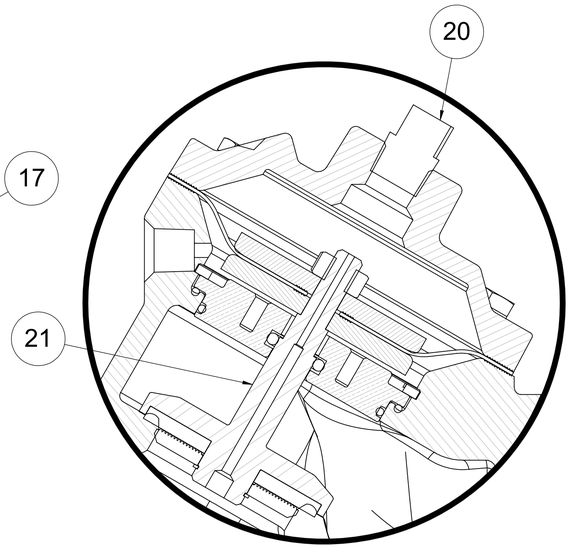
TITLE
CATALOG SHEET, 464,DIA VALVE
STANDARD MODEL

SIZE B | DWG NO. 1236757 | REV K
SCALE 1:1

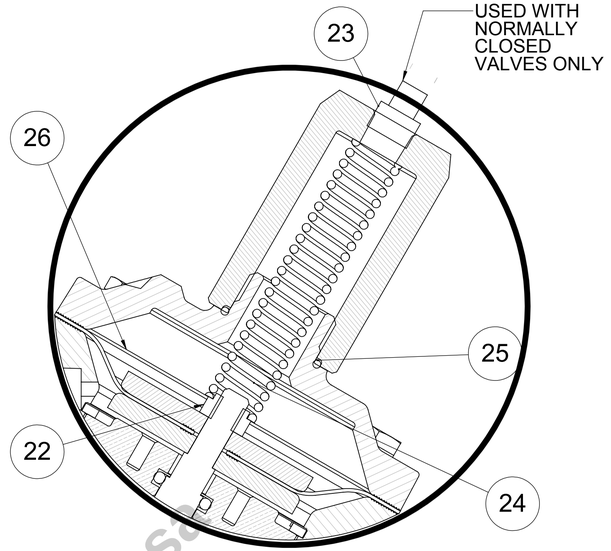
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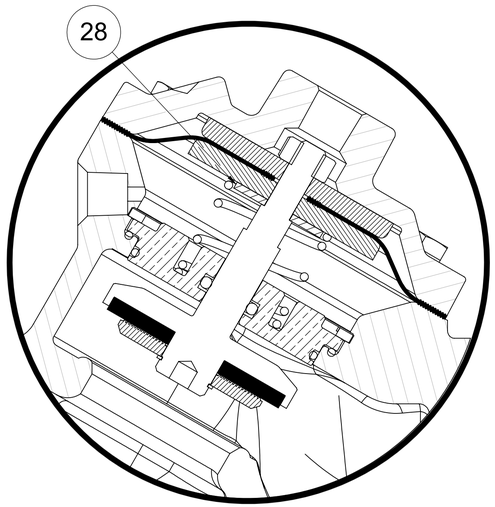
LIMIT STOP
MODEL:V46E-3210-03000 (FLANGED)
MODEL:V46E-0210-03000 (THREADED)



NORMALLY CLOSED
MODEL:V46E-3230-03000 (FLANGED)
MODEL:V46E-0230-03000 (THREADED)



SPRING ASSIST CLOSED
MODEL:V46E-3202-03000 (FLANGED)
MODEL:V46E-0202-03000 (THREADED)



SPRING ASSIST OPEN
MODEL:V46E-3201-03000 (FLANGED)
MODEL:V46E-0201-03000 (THREADED)

REVISIONS					
ZONE	ECN	REV.	DESCRIPTION	DATE	APP'D
			SEE SHEET 1 FOR LIST OF CHANGES.		

LIMIT STOP MODEL

ITEM NO.	DESCRIPTION	PART NUMBER	QTY.
16	O-RING,2-112,NITRILE	BR1071690	1
17	NUT,LIMITED STOP,461-465	1078678	1
18	CAP, LIMIT STOP W/NPT PORT,	1236759	1
45	BOLT,HEX HD,FLL THRD,5/8-18X2	BR1078676	1

NORMALLY CLOSED MODEL

ITEM NO.	DESCRIPTION		PART NUMBER	QTY.
20	PLUG, 1/4 IN. NPT SQUARE HEAD		1078592	1
21	SHAFT, 464, NORMALLY CLOSED		1236762	1
46	DIAPHRAGM, 424	BUNA	1074222	1
		FKM	1074224	

SPRING ASSIST CLOSED MODEL

ITEM NO.	DESCRIPTION	PART NUMBER	QTY.
22	NUT, SPRING CENTERING, SS	1078596	1
23	PLUG,1/8",SQ HD,316SS	1078600	1
24	SPRING,SS,COMPRESSION,464	1236764	1
25	O-RING,2-020,NITRILE	1071674	1
26	CAP, SPRING ASSIST CLOSED,CSS	1236765	1
52	SPRING RETAINER NUT, 316 SS	1236763	1

SPRING ASSIST OPEN MODEL

ITEM NO.	DESCRIPTION	PART NUMBER	QTY.
28	WASHER, CENTERING,SS	1236665	1
55	SPRING, COMPRESSION	1236766	1

NOTE:
1. SPRING ASSIST CLOSED MODEL CANNOT BE COMBINED WITH LIMITED STOP MODEL.

REPAIR PARTS KITS	
DESCRIPTION	PART NO.
INT. PARTS KIT (LIMIT STOP) CONSISTS OF STANDARD ITEM NO'S 16, 17, 18	1236781
INT. PARTS KIT (NORMALLY CLOSED) CONSISTS OF STANDARD ITEM NO'S 4, 8, 9(2), 21	1236782
INT. PARTS KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 22, 25, 26	1236783
INT. PARTS KIT (SPRING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO'S 28, 29	1236784

SEE SHEET 1 FOR STANDARD NORMALLY OPEN MODEL

CONVERSION KITS	
DESCRIPTION	PART NO.
CONVERSION KIT (LIMIT STOP) CONSISTS OF STANDARD ITEM NO'S 16, 17, 18, 19	1236785
CONVERSION KIT (SPRING ASSIST CLOSED) CONSISTS OF STANDARD ITEM NO'S 22, 23, 24, 25, 26, 27	1236786
CONVERSION KIT (SPRING ASSIST OPEN) CONSISTS OF STANDARD ITEM NO'S 28, 29	1236784

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UNLESS OTHERWISE SPECIFIED.
ALL FINISHED MACHINED SURFACES 125 ✓ OR BETTER.
TOLERANCES:
ANGLES : ± 1°
1 PLACE .X: ± .015 [0.38]
2 PLACE .XX: ± .01 [0.3]
3 PLACE .XXX: ± .005 [0.13]

THIRD ANGLE PROJECTION

APPROVALS	DATE
DRAWN NE	12-27-11
APPROVED	
CHECKED	

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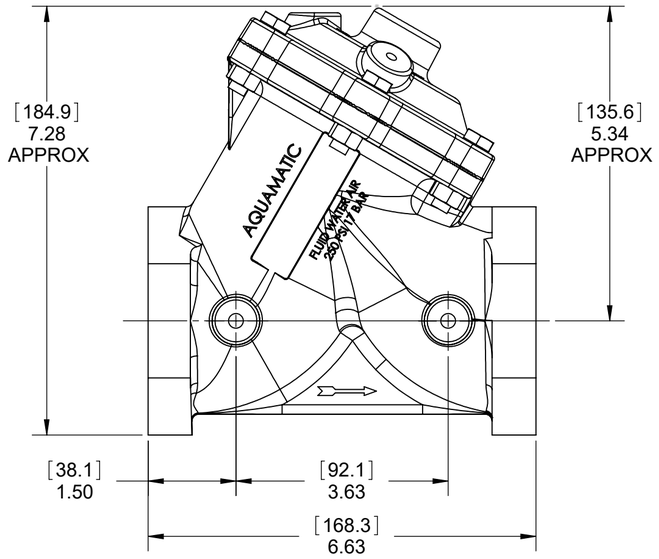
TITLE
CATALOG SHEET, 464,DIA VALVE
STANDARD MODEL

SIZE B | DWG NO. 1236757 | REV

SCALE 1:1

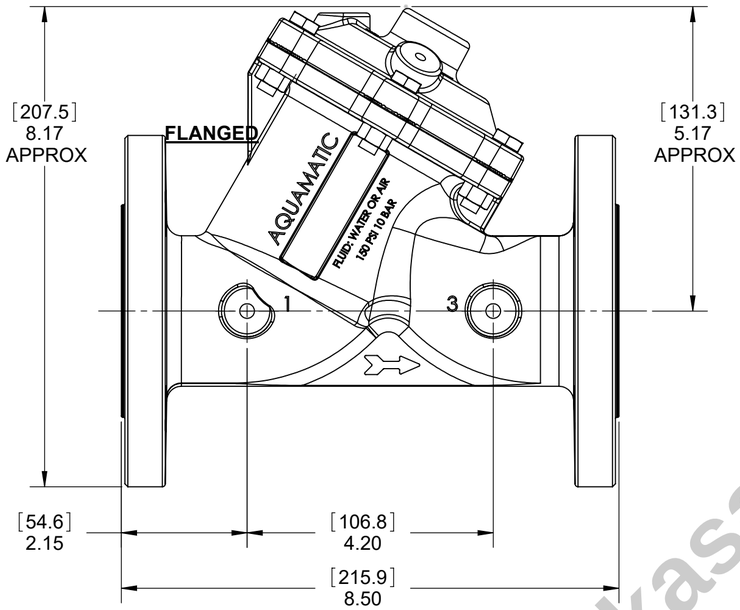
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THREADED



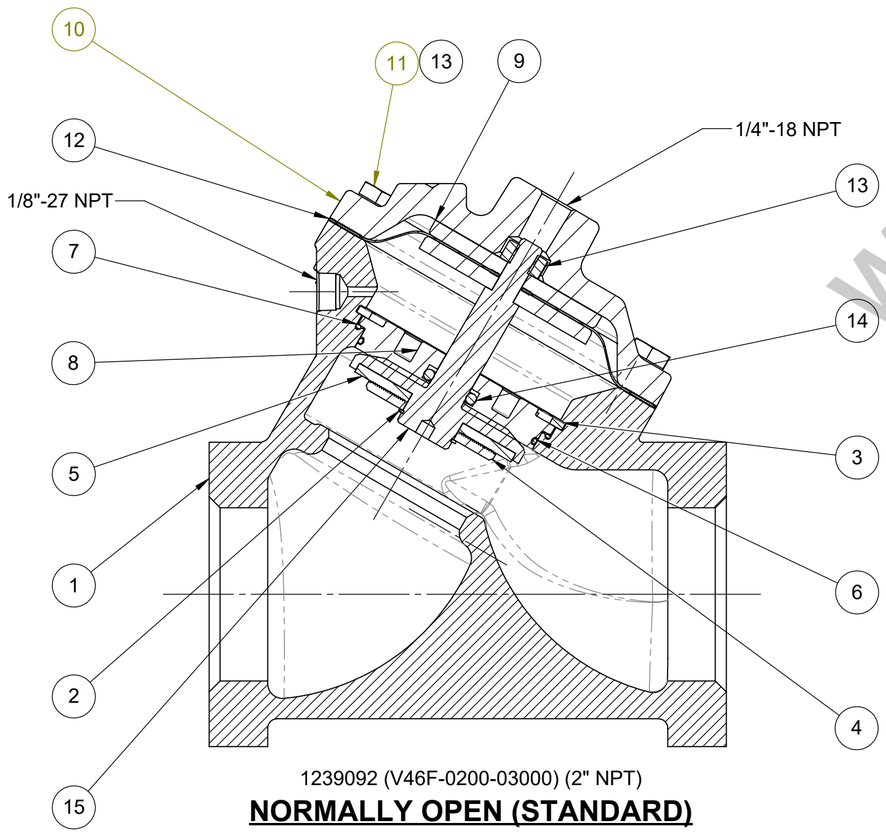
MODEL: V46F-0200-03000 (THREADED)
(1239092)

FLANGED



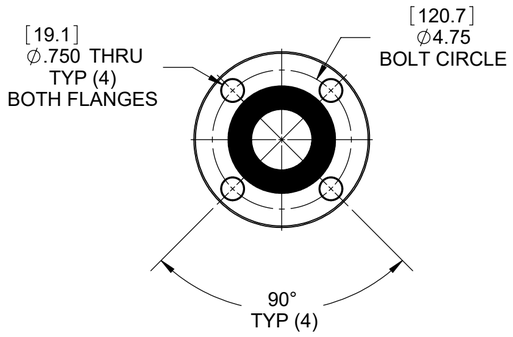
MODEL: V46F-3200-03000 (FLANGED)
(1081116)

TORQUE TABLE		
ITEM #	DESCRIPTION	TORQUE TO (+/- 10%)
11 &13	NUT, SCREW, HEX HEAD	140 IN/LBS
13	NUT UPPER	140 IN/LBS

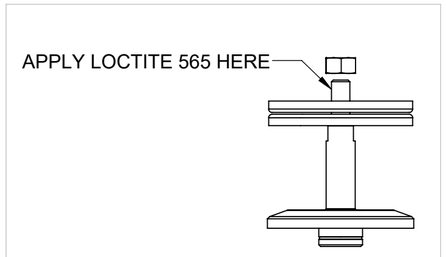


1239092 (V46F-0200-03000) (2" NPT)

NORMALLY OPEN (STANDARD)



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



SEE SHEET 2 FOR
CONFIGURATION OPTIONS

REVISIONS					
ZONE	ECN	REV.	DESCRIPTION	DATE	APP'D
	100100	G	REDRAWN IN SOLIDWORKS	1-4-12	NBE
	1001	H	AQ Matic update & verified part numbers	17JAN17	MGS
	1455	I	DIAPHRAGM AND SEAL KIT ELIMINATION	4/2/19	TRK
	1879	J	SHEET 2 VIEW DISPLAY FIX	4/19/21	PMJ

ITEM NO.	DESCRIPTION			STD	PART NUMBER	QTY.
1	BODY, 465, 2.00, NPT	NPT	CAST CF8M (316 SS)	*	1079059	1
	BODY 465, FLANGED	NPT			1078656	1
2	RING,RETAINING,.710X.031		316 SS	*	1078566	1
3	RING,RETAINING,3.053X.093		316 SS	*	1078648	1
4	DISC PLATE, 465		316 SS	*	1078654	1
5	DISC		BUNA	*	1074307	1
			E.P.D.M.		1074309	1
			FKM		1074312	1
6	O-RING, ORE-037		BUNA N	*	1079836	1
			E.P.D.M.		1081948	1
			FKM		1081950	1
7	O-RING, ORE-039		BUNA N	*	1071685	1
			E.P.D.M.		1081949	1
			FKM		1071796	1
8	SHAFT GUIDE,465		316 SS	*	1078666	1
9	DIAPHRAGM PLATE, 465		316 SS	*	1078664	2
10	CAP, 465, NPT TAP TOP		CAST CF8M	*	1078660	1
11	SCREW,HX HD CAP,5/16-18X1 1/4		316 SS	*	1078652	6
12	DIAPHRAGM, SERIES 425		BUNA N	*	1074296	1
	DIAPHRAGM, DOUBLE COATED		FKM		1074297	1
13	HEX NUT, 5/16"-18		316 SS	*	1078650	7
14	O-RING, -206TC		BUNA N	*	1071699	1
			FKM		1239009	1
15	SHAFT, 465, NORMALLY OPEN		CAST CF8M	*	1078670	1

NOTES:
1. AMERICAN NATIONAL STANDARD TAPER PIPE THREADS (NPT) PER ANSI B1.20.1.
2. VALVES AVAILABLE IN BSPT CONFIGURATION. (SEE ITEM 1)

REPAIR PARTS KITS			
DESCRIPTION	PART NO.		
	BR1078704	BR1078705	BR1078706
DIAPHRAGM & SEALS KIT CONSISTS OF ITEM NO'S 2, 3, 5, 6, 7, 12, 13, 14 (I)	BUNA N INCLUDES DIAPHRAGM 1074296	E.P.D.M. INCLUDES DIAPHRAGM 1074296	FKM INCLUDES DIAPHRAGM 1074297
INT. PARTS KIT (NORM. OPEN) CONSISTS OF STANDARD ITEM NO'S 4, 8, 9(2), 15	1078707		

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TOLERANCES:
ANGLES : ± 1°
1 PLACE .X: ± .015 [0.38]
2 PLACE .XX: ± .01 [0.3]
3 PLACE .XXX: ± .005 [0.13]

THIRD ANGLE PROJECTION

APPROVALS	DATE
DRAWN NE	12-27-11
APPROVED	
CHECKED	

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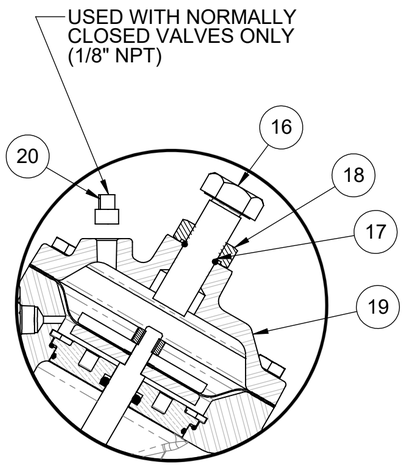
TITLE
CATALOG SHEET, 465
DIAPHRAGM VALVE STANDARD MODEL

SIZE B | DWG NO | REV
SCALE 1:2

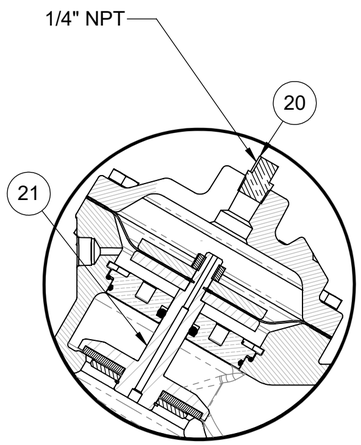
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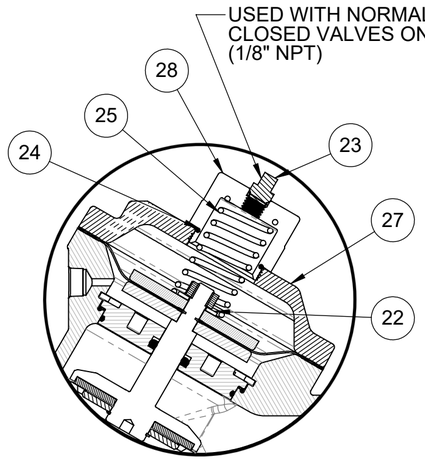
REVISIONS					
ZONE	ECN	REV.	DESCRIPTION	DATE	APP'D
			SEE SHEET 1 FOR LIST OF CHANGES		



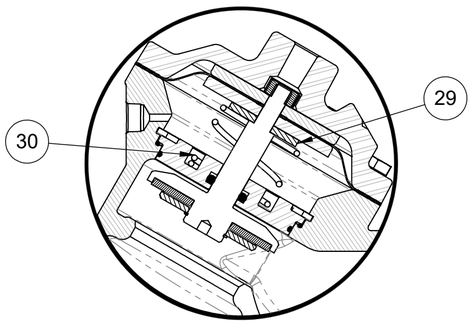
LIMIT STOP
MODEL:V46F-3210-03000 (FLANGED)
MODEL:V46F-0210-03000 (THREADED)



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



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)

NOTE:
1. SPRING ASSIST CLOSED MODEL CANNOT BE COMBINED WITH LIMITED STOP MODEL.

LIMIT STOP MODEL

ITEM NO.	DESCRIPTION		PART NUMBER	QTY.
16	BOLT,HEX HD,FLL THRD,5/8-18X2	SS	1078676	1
17	O-RING,2-112,NITRILE	BUNA	1071690	1
18	NUT,LIMITED STOP,461-465	SS	1078678	1
19	CAP, 465, NPT, LIMIT STOP	SS	1078680	1

NORMALLY CLOSED MODEL

ITEM NO.	DESCRIPTION		PART NUMBER	QTY.
20	PLUG, 1/4 IN. NPT SQUARE HEAD	SS	1078592	1
21	SHAFT, 465 NORMALLY CLOSED	SS	1078682	1

SPRING ASSIST CLOSED MODEL

ITEM NO.	DESCRIPTION		PART NUMBER	QTY.
22	WASHER,CENTERING,465/426/427	SS	1078684	1
23	PLUG,1/8",SQ HD	SS	1078600	1
24	O-RING,2-025,NITRILE	BUNA	1071677	2
25	SPRING,COMPRESSION	SS	1078688	1
27	CAP, 465, SPRING ASST CLSD	SS	1078690	1
28	NUT, SPRG RTNR,425 & 465	SS	1078686	1

SPRING ASSIST OPEN MODEL

ITEM NO.	DESCRIPTION		PART NUMBER	QTY.
29	SPRING, COMPRESSION	SS	1078692	1
30	SPACER,CENTERING	SS	1078694	1

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

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

SEE SHEET 1 FOR STANDARD NORMALLY OPEN MODEL

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TOLERANCES:
ANGLES : ± 1°
1 PLACE .X: ± .015 [0.38]
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3 PLACE .XXX: ± .005 [0.13]

THIRD ANGLE PROJECTION

APPROVALS	DATE
DRAWN NE	12-27-11
APPROVED	
CHECKED	

AQ Matic
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TITLE
CATALOG SHEET, 465
DIAPHRAGM VALVE STANDARD MODEL

SIZE B | SCALE 1:2

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AQUAMATIC® K52 SERIES
COMPOSITE CONTROL VALVES

CONSTRUCTED OF CORROSION-RESISTANT MATERIALS



FEATURES/BENEFITS

The unique Y-pattern design with large seat opening and high lift disc permits higher flow rates at lower pressure loss than other comparable valves

All components can be serviced while the valve is in-line

Separate flow and control chambers permit positive closing without springs

Pre-formed, stress-relieved diaphragm minimizes fatigue, maximizes valve responsiveness and diaphragm lifetime

Diaphragm acts as an actuator, eliminating the need for electric or pneumatic actuators

All internal parts in contact with media are made of composite materials*

Seals are ethylene propylene for better chemical resistance**

K52 Series Valves are available in sizes from 1/2"- 2"

A variety of available end connectors make the valve compatible for 3/8"-3" pipe sizes

Adaptable to a wide variety of control devices

OPTIONS

Normally open [standard]
Normally closed*†
Spring-assist closed
Spring-assist open
Limit stop for flow control
Position indicator
Seal and diaphragm materials for special applications†
Union End Connectors - Female socket weld connectors for easy installation and the ability to remove the valve without disrupting the service piping

TYPICAL APPLICATIONS

Chemical Injection
Deionizers Desalinization
Detergent and Bleach Handling
Electronic Industry
Evaporation
Fertilizer Spray Equipment
Level Control Systems
Metal Recovery Systems
Mining Wastes
Process Water Systems
Water Treatment Systems

Certified by IAPMO R&T to NSF/ANSI 61 and NSF/ANSI 372 for lead free compliance.

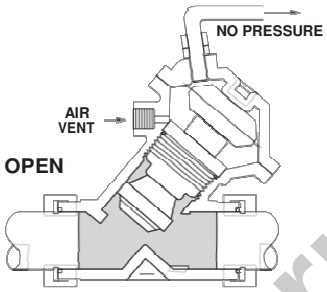
* Normally closed valve configurations are NOT recommended when used with corrosive fluids.
** Valves are NOT recommended for use with any aromatic, hydrocarbon-based media.

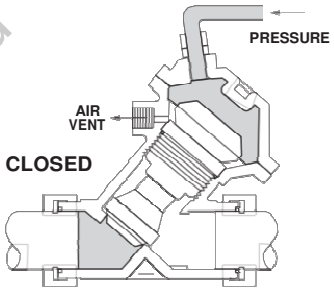
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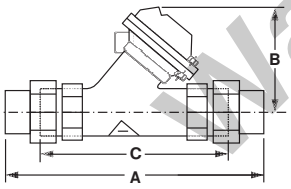
DIMENSIONS

MODEL #	PIPE SIZE	Cv	WEIGHT (STANDARD VALVE)	END CONNECTOR STYLE	DIMENSIONS (APPROXIMATE)					
					A	B	C	D	E	F
K520	1/2"	4.0	1 lbs (0.5 kg)	Union End Connectors	7.0" (177.8 mm)	2.62" (66.5 mm)	4.87" (123.7 mm)	–	–	–
K521	1"	15.0	1 lbs (0.5 kg)		9" (228.6 mm)	4.06" (103.1 mm)	6.31" (160.3 mm)	–	–	–
K524	1-1/2"	38.0	2 lbs (0.9 kg)		12.5" (317.5 mm)	5.06" (128.5 mm)	9.31" (135.0 mm)	–	–	–
K524	2"	41.0	2 lbs (0.9 kg)	Female / Male Socket Weld End Connectors	10.50" (266.7 mm)	5.06" (128.5 mm)	–	–	–	–
K526	2-1/2"	100.0	6 lbs (2.7 kg)		15" (381.0 mm)	7.31" (185.7 mm)	–	–	–	–
K520	1/2"	4.0	1 lbs (0.5 kg)	Grooved Adapter End Connectors	7" (177.8 mm)	2.62" (66.5 mm)	3.93" (99.8 mm)	–	–	–
K521	1"	15.0	1 lbs (0.5 kg)		9" (228.6 mm)	4.06" (103.1 mm)	4.50" (114.3 mm)	–	–	–
K524	1-1/2"	38.0	2 lbs (0.9 kg)		12.5" (336.5 mm)	5.06" (128.5 mm)	7.75" (196.8 mm)	–	–	–
K524	2"	41.0	2 lbs (0.9 kg)	Flanged End Connectors	9" (226.6 mm)	5.06" (128.5 mm)	6.00" (152.4 mm)	.75" (19.05 mm)	4.75" (120.85 mm)	.688" (174.8 mm)
K526	2-1/2"	100.0	6 lbs (2.7 kg)		11.37" (288.8 mm)	7.31" (185.7 mm)	6.94" (176.3 mm)	.94" (23.9 mm)	5.50" (139.7 mm)	6.88" (174.8 mm)
K526	3"	100.0	6 lbs (2.7 kg)		12.37" (314.2 mm)	7.31" (185.7 mm)	7.38" (187.5 mm)	1.81" (45.9 mm)	6.000" (152.4 mm)	.750" (19.05 mm)

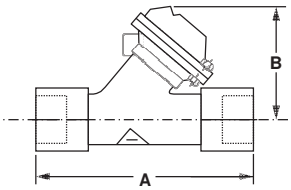




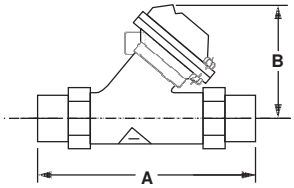
Union End Connectors



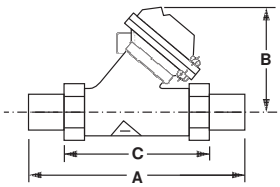
Female Socket Weld End Connectors



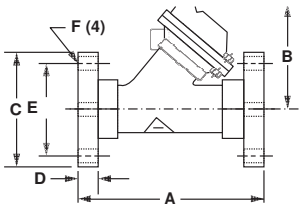
Male Socket Weld End Connectors



Grooved Adaptor Connectors



Flanged End Connectors



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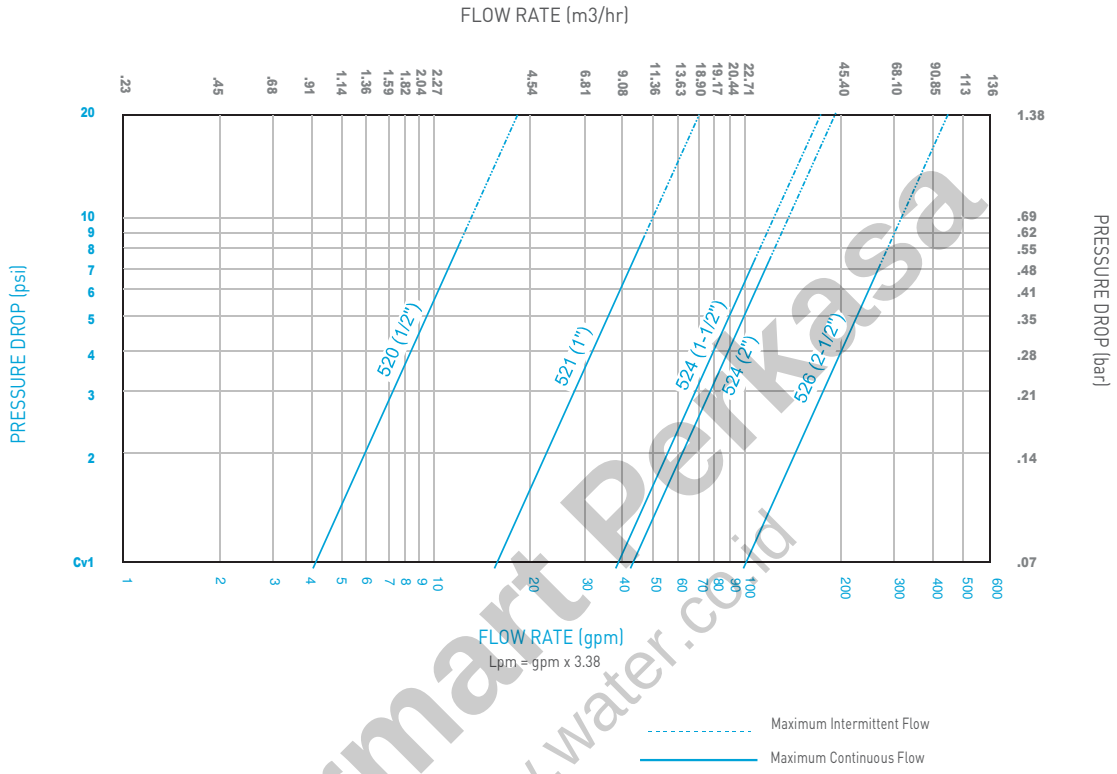
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Whatsapp (text only): +62815-8609-3500
Website: www.water.co.id

OPERATING SPECIFICATIONS

Max Pressure	125 psi (8.6 bar)
Max Temperature†	140°F (60°C)

†IAPMO R&T NSF/ANSI 61 and NSF/ANSI 372 certifications are limited to restrictions below. Other options were not tested for certification:
Cold water applications below 73°F (23°C).
Normally Open valves.
EPDM seal material (seal option #1).

PERFORMANCE DATA



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Website: www.water.co.id

K52 SERIES DIAPHRAGM VALVE MASTER CHART

*** FILL IN PROPER DESIGNATIONS TO DETERMINE PRODUCT NUMBER:** K 5 2 _ - X 2 _ _ - _ 4 _ _ _

BODY SIZE
- 0 = 1/2"
- 1 = 1"
- 4 = 1-1/2"
- 6 = 2-1/2"

END CONNECTIONS (X std)
- X = None

BODY & CAP MATERIAL (2 std)
- 2 = Noryl

VALVE OPTIONS (00 std for K521, K524, K526; 01 std for K520) [opt 00, 12, 32, & 42 not valid on K520]
[NC & XNC not valid with solenoid options]

00 = NO	12 = NO, LS, SAC	42 = NC, LS, SAC
01 = NO, SAO	21 = NO, PI, SAO	B2 = XNC, SAC
02 = NO, SAC	30 = NC	SX = Special Valve **
10 = NO, LS	31 = NC, SAO	
11 = NO, LS, SAO	32 = NC, SAC (See note 1)	

SEAL MATERIALS (1 std) (Option no. 2 not available on series 526 valves)

OPT.	OPERATING DIAPHRAGM	SEALING DISK	DYNAMIC SEALS	STATIC SEALS	KIT SERIES	TYPICAL USE
1	Buna-N	EP	EP	EP	RA	Water
2	Fluoroelast.	Fluoroelast.	Fluoroelast.	Fluoroelast.	RAVFV	Call Factory
5	Buna-N	Fluoroelast.	Fluoroelast.	Fluoroelast.	RAV	Acid
6	Buna-N	Butyl	Butyl	Butyl	RAJ	Caustic

INTERNAL PARTS (4 std)
- 4 = Noryl/PVC (140°F (60°C) Valve Rating)

DRILL & TAP BOSSES (0 std [1/8" NPT std for K520/K521/K524; 1/4" NPT std for K526])

0 = None	3 = Boss #3	6 = Bosses #1,2
1 = Boss #1	4 = Boss #4	
2 = Boss #2	5 = Bosses #1,2,3,4	

SOLENOID OPTIONS (0 std) [Solenoid option not available with NC or XNC valves]

0 = None	2 = Energize to Close (EC)	4 = EO w/ Dry Drain
1 = Energize to Open (EO)	3 = Independent pressure (IP)	5 = EC w/ Dry Drain

SOLENOID FEATURES (0 std) not valid with Independent Pressure (OPTION A)

0 = None	D = 115V/60HZ, NEMA 4	F = 24V/60HZ, NEMA 4
A = 24VDC	E = 220V/50HZ, NEMA 4	

* To create a valve number replace each "_" with the proper number or letter for the feature you desire. For example, a 2" Plastic Valve Model K524 with Normally Closed and Spring Assist Closed Options is designated as a K524-X232-14000.

** A special valve will have a custom drawing number (_ _ _ _ _ _ _)
and the item number format is (K52?-?2SX-_ _ _ _ _)
where the last 5 numbers (Far Right) are the last five digits of the drawing number.

Valve Option Notes:

1. **Option 32 (NC, SAC) not possible on K520, use option B2 (XNC, SAC).**

REV.	ECO NO.	DESCRIPTION	BY/DATE	
E	21190	Revised for Pentair ECN release	JJJ	17-Nov-09
F	1778	TOOK OUT OPTION 7 DRILL AND TAP	MM	OCT-1-2020
G	1789	ADDED 24VDC TO SOLENOID	MM	OCT-15-2020

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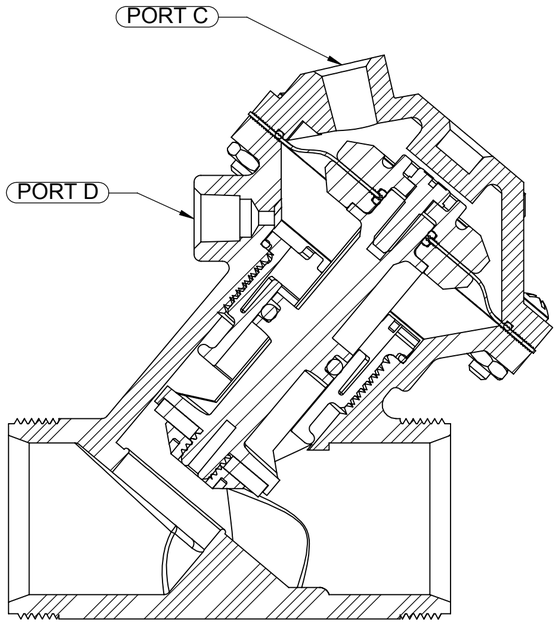
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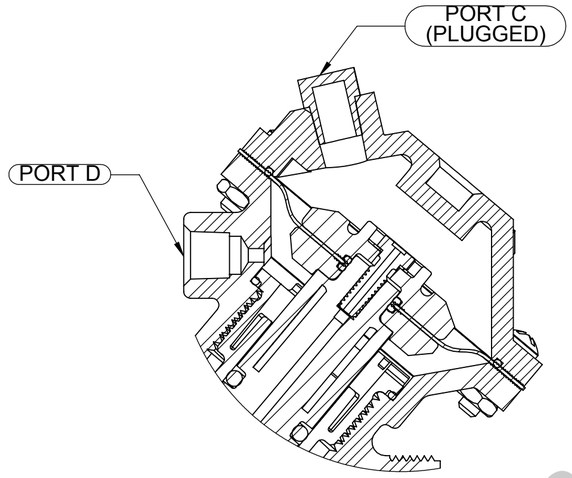
DIAPHRAGM VALVE CONFIGURATIONS - STANDARD MOD

REVISIONS				
ECN	REV.	DESCRIPTION	DATE	APP'D
1507	C	TRANSFER TO AQ TEMPLATE	05/20/19	KJB



NORMALLY OPEN

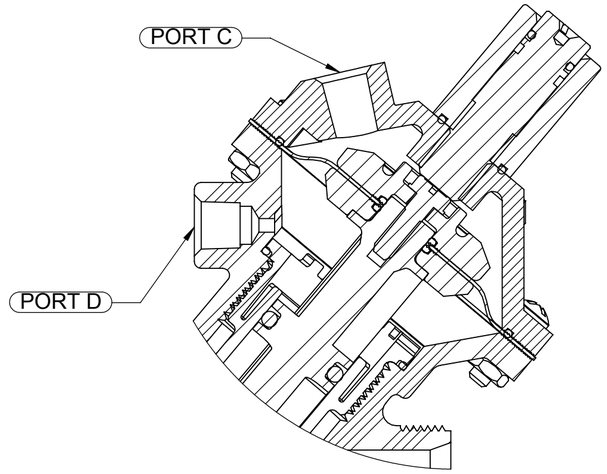
LINE PRESSURE/FLOW AGAINST THE VALVE SEATING DISC WILL OPEN THE VALVE. CONROL PRESSURE APPLIED TO THE TOP OF THE DIAPHRAGM (PORT "C") WILL CLOSE THE VALVE.



NORMALLY CLOSED

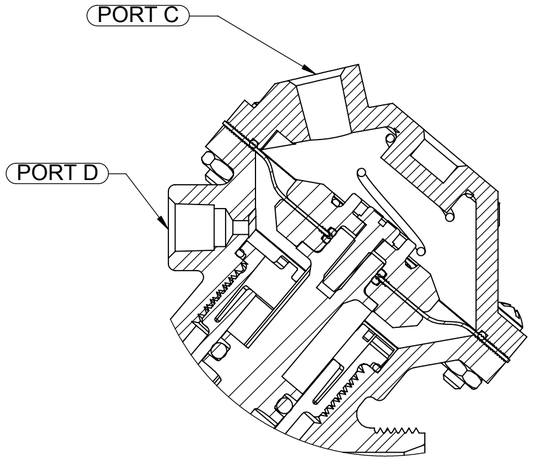
LINE PRESSURE AGAINST THE DISC, TRANSFERRED THRU THE VALVE'S HOLLOW SHAFT TO THE TOP OF THE DIAPHRAGM, WILL CLOSE THE VALVE. CONTROL PRESSURE AT PORT "D" WILL OPEN THE VALVE. ADDITION OF "SPRING ASSIST CLOSED" FEATURE IS RECOMMENDED FOR THE FOLLOWING CONDITIONS:

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



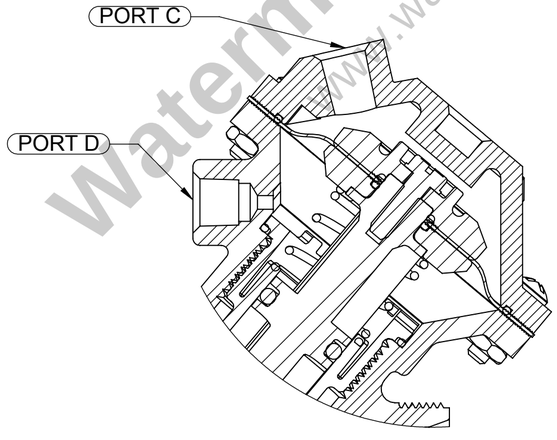
LIMIT STOP

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.



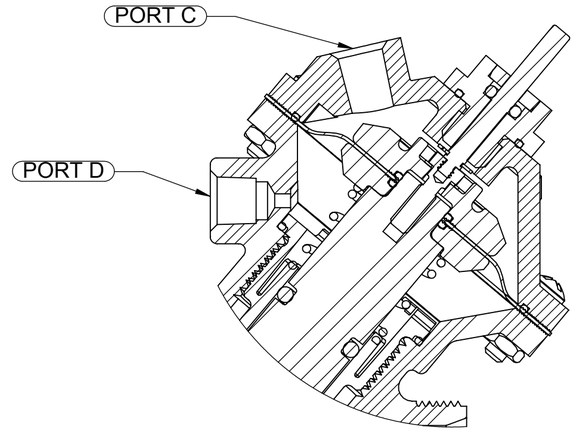
SPRING ASSIST CLOSED

SPRING SERVES AS AN ASSIST TO ASSURE FULL VALVE LOSURE 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.

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TOLERANCES:
ANGLES : ± 1°
1 PLACE .X ± .015 [0.38]
2 PLACE .XX ± .01 [0.3]
3 PLACE .XXX ± .005 [0.13]

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THIRD ANGLE PROJECTION

APPROVALS	DATE
DRAWN KJB	05/20/19
CHECKED BY	
APPROVED	

AQ Matic

K52 SERIES CONFIGURATIONS & BASIC INFORMATION

SIZE C | DWG NO. 1078147 | REV. C

SCALE | SOLIDV

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REVISIONS				
ECN	REV.	DESCRIPTION	DATE	APP'D
		SEE SHEET 1 FOR ALL CHANGES.		

PLASTIC DIAPHRAGM VALVES (520 THRU 526)

SERIES	PIPE SIZE	SEAT AREA IN. / CM.	SEAT AREA SQ. IN. / SQ. CM.	DIAPHRAGM AREA SQ. IN. / SQ. CM.	TOTAL STROKE IN. / CM.	DIAPHRAGM CHAMBER (VOLUME) CU IN / CU CM	Cv*	Kv**	FLOW RATE @ 10 FT./SEC (3 M./SEC.) NOTE 1 GAL/MIN / CU M/HR	FLOW RATE @ 20 FT./SEC (3 M./SEC.) NOTE 2 GAL/MIN / CU M/HR	PRESSURE DROP @ 10 FT./SEC (3 M./SEC.) NOTE 1 PSI / bar	PRESSURE DROP @ 20 FT./SEC (6 M./SEC.) NOTE 2 PSI / bar
520	1/2"	0.507 / 1.28	0.20 / 1.30	0.52 / 3.35	0.28 / 0.71	0.55 / 9.00	4.0	3.4	6.2 / 1.4	12.4 / 2.8	2.4 / 0.16	9.6 / 0.66
521	1"	0.996 / 2.52	0.77 / 4.96	2.07 / 13.35	0.56 / 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	3.30 / 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:

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

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

FOR AIR AND GAS:

WHEN P2<.5P1

$$Q = \frac{CFM\ \sqrt{e}}{.5P1}$$

WHEN P2>.5P1

$$Q = \frac{CFM\ \sqrt{e}}{\sqrt{\Delta P\ P2}}$$

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

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THIRD ANGLE PROJECTION

APPROVALS	DATE
DRAWN KJB	05/20/19
CHECKED BY	
APPROVED	

AQ-Matic

K52 SERIES CONFIGURATIONS & BASIC INFORMATION

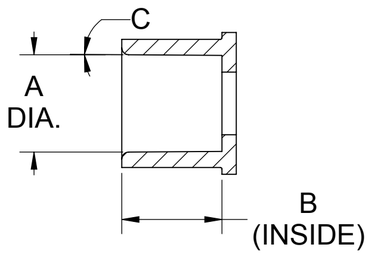
SIZE C | DWG NO. 1078147 | REV.

SCALE | SOLID\

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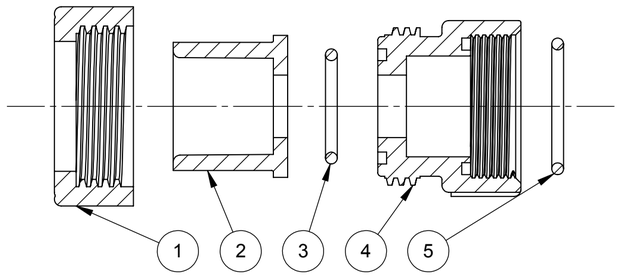
DIAPHRAGM VALVE INFORMATION - STANDARD MODEL

1/2", 1", & 1-1/2" ADAPTOR, END CONNECTOR PARTS & KI



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. NS-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. NS-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. NS-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'



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	1071191 (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	1071153 (K521101)
	FKM O-RING	1071154 (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)

REVISIONS				
ECN	REV.	DESCRIPTION	DATE	APP'D
1416	A	RELEASE NEW DESIGN	07/25/01	VP
103861	B	1- REDRAWN IN SOLIDWORKS, 2- WAS 1074991, 3- WAS 1070153, 4- WAS 1070154, 5- WAS 57.2 MM, 6- WAS 23.5 MM	10/06/14	TJM
1001	C	AQ MATIC UPDATE & VERIFIED PART NUMBERS	01/20/17	MGS
1507	D	1-ADD MODEL NUMBERS TO KIT CALLOUTS, 2-CORRECT MINOR ERRORS, 3- CONSOLODATE 1081309 & 1081309-2	05/15/19	KJB

SERIES 520 UNION END ADAPTOR

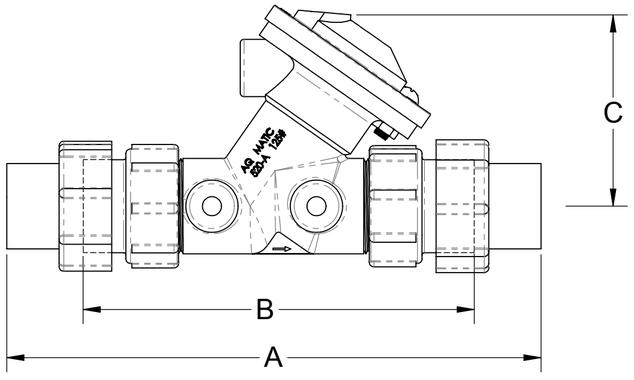
1	TAILPIECE NUT		1074995
2	FEMALE SOCKET WELD END CONNECTOR	A.S.T.M. 1/2"	3020727
		I.S.O. NW-15	1074992
		J.I.S. 16	1074993
3	O-RING	E.P.D.M	1071730
		BUTYL	1071766
		FKM	1071801
4	TAILPIECE		1074996
5	O-RING	E.P.D.M	1071731
		BUTYL	1071767
		FKM	1071802

SERIES 521 UNION END ADAPTOR

1	TAILPIECE NUT		1075067
2	FEMALE SOCKET WELD END CONNECTOR	A.S.T.M. 1"	1075061
		I.S.O. NW-25	1075063
		J.I.S. 25	1075065
3	O-RING	E.P.D.M	1071732
		BUTYL	1071768
		FKM	1071803
4	TAILPIECE		1075068
5	O-RING	E.P.D.M	1071733
		BUTYL	1071769
		FKM	1071804

SERIES 524 UNION END ADAPTOR

1	TAILPIECE NUT		1075150
2	FEMALE SOCKET WELD END CONNECTOR	A.S.T.M. 1-1/2"	1075144
		I.S.O. NW-40	1075146
		J.I.S. 40	1075148
3	O-RING	E.P.D.M	1071735
		BUTYL	1071771
		FKM	1071807
4	TAILPIECE		1075151
5	O-RING	E.P.D.M	1071736
		BUTYL	1071772
		FKM	1071808



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	236.5	128.5

- SEE DRAWING 1078150 FOR THREADED SOCKET WELD ENDS & THREADED FLANGED ADAPTORS

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TOLERANCES:
ANGLES : ± 1°
1 PLACE .X: ± .100 [2.54]
2 PLACE .XX: ± .010 [0.25]
3 PLACE .XXX: ± .005 [0.13]

THIRD ANGLE PROJECTION

APPROVALS	DATE
DRAWN MCP	7OCT14
CHECKED BY	
APPROVED	

K520, K521, K524 END CONECTOR PARTS & KITS

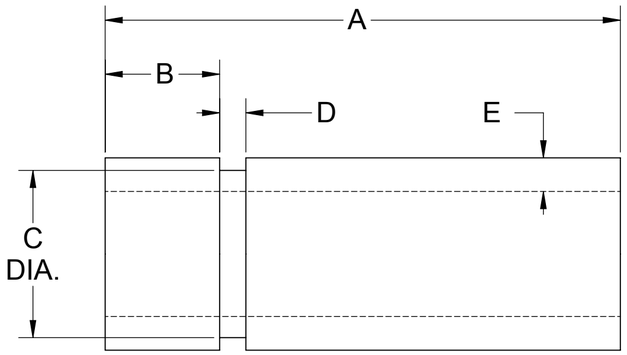
SIZE C | DWG NO. 1081309 | REV. D

SCALE 1:2 | SOLIDV

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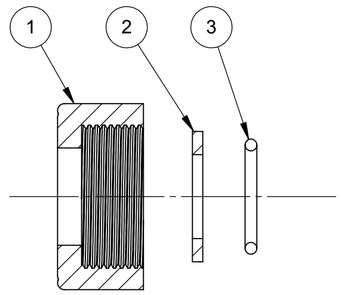
1/2", 1", & 1-1/2" ADAPTOR, END CONNECTOR PARTS & KI

REVISIONS				
ECN	REV.	DESCRIPTION	DATE	APP'D
		SEE SHEET 1 FOR A LIST OF CHANGES		



RING GROOVE DIMENSIONS

VALVE SERIES	UNITS	LENGTH A	LOCATION B	DIA. C	WIDTH D	WALL THK E
520	INCHES	2.25	0.500	0.730	0.115	0.147
	MM	57.2	12.7	18.5	2.9	3.7
521	INCHES	3.00	0.500	1.200	0.115	0.179
	MM	76.2	12.7	30.5	2.9	4.55
524	INCHES	4.00	0.875	1.800	0.115	0.200
	MM	101.6	22.2	45.7	2.9	5.1



RETAINER NUT/SPLIT RING CONNECTOR

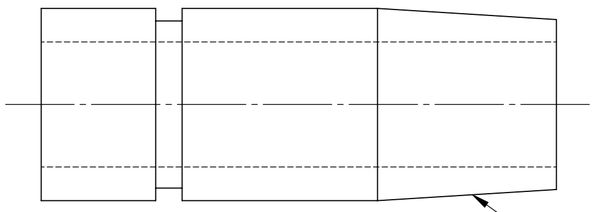
VALVE SERIES			520	521	524
1	RETAINER NUT		1074974	1075041	1075112
2	SPLIT RING		1074975	1075042	1075113
3	O-RING	E.P.D.M	1071730	1071732	1071734
		BUTYL	1071766	1071768	1071770
		FKM	1071801	1071803	1071806

RETAINER NUT/SPLIT RING CONNECTOR KITS

SERIES 520 INCLUDES ITEMS 1,2,3	E.P.D.M O-RING	1070238 (K520109)
	BUTYL O-RING	1070239 (K520110)
	FKM O-RING	1070240 (K520111)
SERIES 521 INCLUDES ITEMS 1,2,3	E.P.D.M O-RING	1070244 (K521109)
	BUTYL O-RING	1071159 (K521110)
	FKM O-RING	1071160 (K52111)
SERIES 524 INCLUDES ITEMS 1,2,3	E.P.D.M O-RING	1070246 (K524109)
	BUTYL O-RING	1071223 (K524110)
	FKM O-RING	1070247 (K524111)

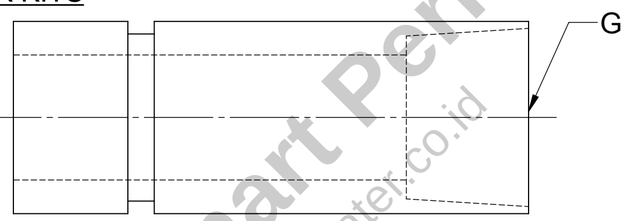
NOTE: ALL CONNECTOR KITS CONTAIN (2) CONNECTORS, (ONE KIT REQ'D PER VALVE)

GROOVED ADAPTOR KITS



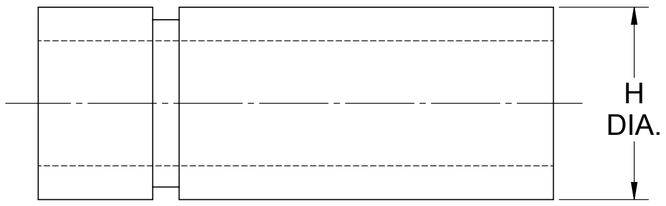
MALE PIPE THREAD

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



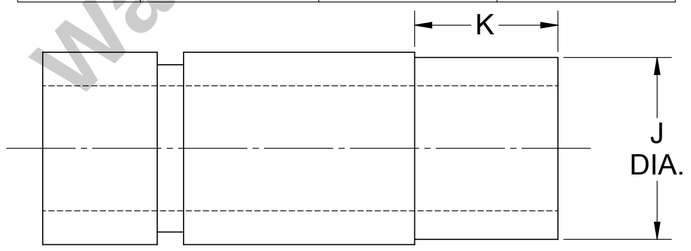
FEMALE PIPE THREAD

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



MALE SOCKET WELD

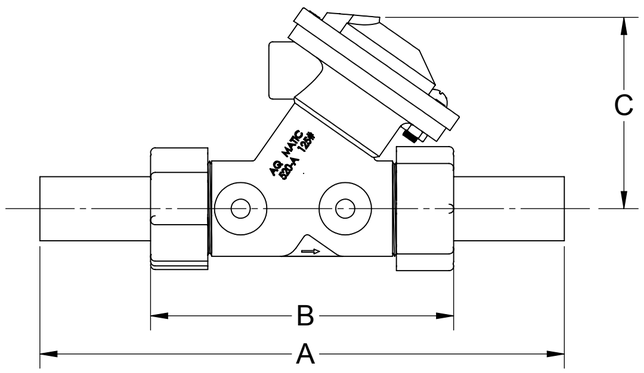
VALVE SERIES	520	521	524
PART NO.	1070220	1070226	1070232
DIM. H	0.840 IN. / 21.3 MM	1.315 IN. / 33.4 MM	1.900 IN. / 48.3 MM



MALE SOCKET WELD (METRIC)

VALVE SERIES	520	521	524
PART NO.	1071057	1071091	1071162
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)



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

- SEE DRAWING 1078150 FOR THREADED SOCKET WELD ENDS & THREADED FLANGED ADAPTORS

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TOLERANCES:
ANGLES : ± 1°
1 PLACE .X: ± .100 [2.54]
2 PLACE .XX: ± .010 [0.25]
3 PLACE .XXX: ± .005 [0.13]

THIRD ANGLE PROJECTION

APPROVALS	DATE
DRAWN MCP	7OCT14
CHECKED BY	
APPROVED	

K520, K521, K524 END CONNECTOR PARTS & KITS

SIZE C | DWG NO. 1081309 | REV. B

SCALE 1:2 | SOLIDW

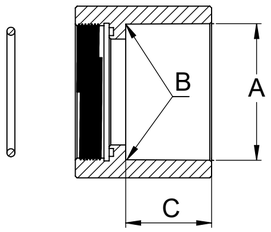
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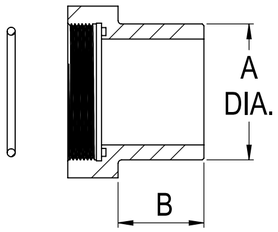
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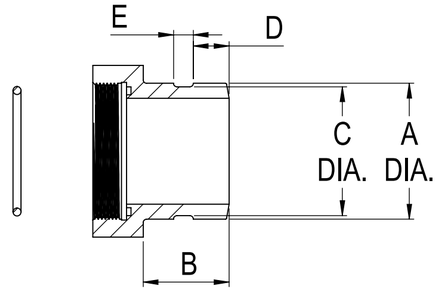
2" & 2-1/2" END CONNECTOR PARTS & KITS

REVISIONS				
ECN	REV.	DESCRIPTION	DATE	APP'D
	A	RELEASE NEW DESIGN	07/25/01	VP
1507	B	TRANSFER TO AQ TEMPLATE	05/15/19	KJB
1608	C	ADD 4510478 ASSEMBLE, PART# 4510473	3/5/20	TRK
1675	D	ADD 4510518 ASSEMBLE, PART# 4510517	3/16/20	TRK

THREADED END CONNECTORS







FEMALE SOCKET WELD END CONNECTOR

VALVE SERIES	PART NO.	STANDARD	ENTRANCE A	BOTTOM B	DEPTH C
524	1075126	A.S.T.M. 2"	2.387"	2.369"	1.50"
	1075128	I.S.O. NW-50	2.494"	2.481"	1.50"
	1075127	J.I.S. 50	2.376"	2.354"	1.50"
526	1075207	A.S.T.M. 2-1/2"	2.889"	2.868"	1.81"
	1075209	I.S.O. NW-65	2.970"	2.953"	1.81"
	1077594	J.I.S. 65	3.011"	2.984"	1.81"

MALE SOCKET WELD END CONNECTOR

VALVE SERIES	PART NO.	STANDARD	DIAMETER A	DEPTH B
524	1075129	A.S.T.M. 2"	2.375/2.370"	1.50"
	1075131	I.S.O. NW-50	2.490/2.486"	1.50"
526	1075210	A.S.T.M. 2 1/2"	2.882/2.868"	1.69"
	1075213	I.S.O. NW-65	2.965/2.953"	1.69"

GROOVED END CONNECTOR

VALVE SERIES	PART NO.	PIPE SIZE	DIAMETER A	DEPTH B	DIAMETER C	DEPTH D	WIDTH E
524	4510473	ASTM 2"	2.375/2.370"	1.50"	2.250"	.625"	.344"
526	4510517	ASTM 2 1/2"	2.882/2.868"	1.69"	2.720"	.625"	.344"

FEMALE SOCKET WELD END CONNECTOR KITS

VALVE SERIES	STANDARD	KIT PART NO.
524	A.S.T.M. 2"	1070256 (K524-UF08UEP)
	I.S.O. NW-50	1070260 (K524-UF50MEP)
	J.I.S. 50	1071165 (K524-UF50JEP)
526	A.S.T.M. 2-1/2"	1070257 (K526-UF10UEP)
	I.S.O. NW-65	1070261 (K526-UF65MEP)
	J.I.S. 65	1076600 (K526-UF65JEP)

MALE SOCKET WELD END CONNECTOR KITS

VALVE SERIES	STANDARD	KIT PART NO.
524	A.S.T.M. 2"	1070264 (K524-UM08UEP)
	I.S.O. NW-50	1070268 (K524-UM50MEP)
526	A.S.T.M. 2-1/2"	1070265 (K526-UM10UEP)
	I.S.O. NW-65	1070269 (K526-UM65MEP)

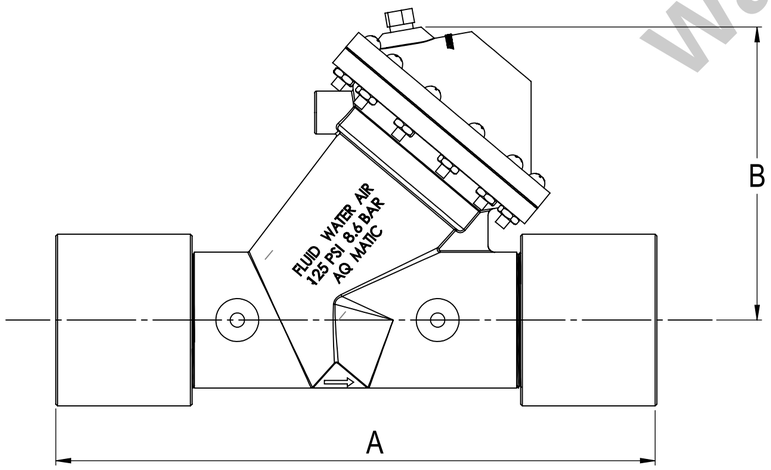
GROOVED END CONNECTOR KITS

PIPE SIZE	KIT PART NO.
ASTM 2"	4510478 (K524-UGO8UEP)
ASTM 2 1/2"	4510518 (K526-UG10UEP)

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

O-RING FOR SOCKET WELD AND GROOVED END CONNECTORS

VALVE SERIES	MATERIAL	PART NO.	O-RING IDENTIFIER
524	E.P.D.M.	1071750	E
526	E.P.D.M.	1071753	E



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

*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

- SEE DRAWING 1081309 FOR UNION END CONNECTORS & GROOVED ADAPTORS

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TOLERANCES:
ANGLES : ± 1°
1 PLACE .X: ± .100 [2.54]
2 PLACE .XX: ± .010 [0.25]
3 PLACE .XXX: ± .005 [0.13]

THIRD ANGLE PROJECTION

APPROVALS	DATE
DRAWN JWB	07/25/01
CHECKED BY	
APPROVED	

AQ-MATIC
VALVES AND CONTROLS

K524, K526
END CONNECTOR PARTS & KITS

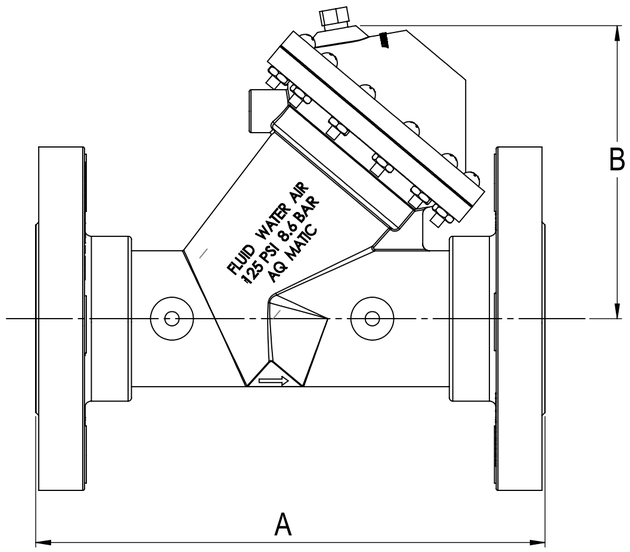
SIZE C | DWG NO. 1078150 | REV. D
SCALE 1:1 | SOLIDW

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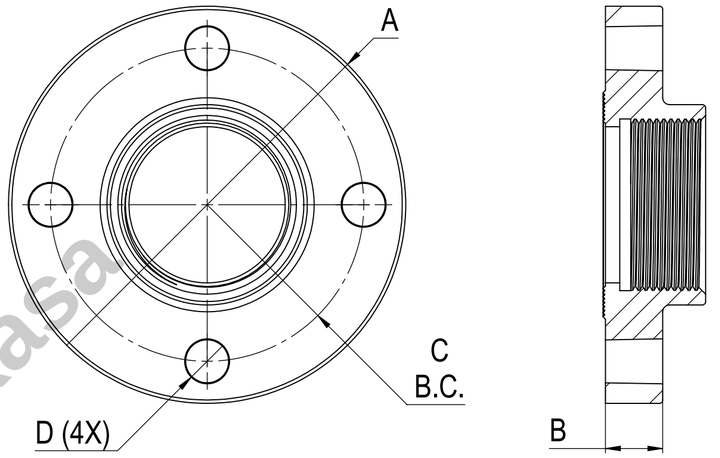
REVISIONS				
ECN	REV.	DESCRIPTION	DATE	APP'D
		SEE SHEET 1 FOR ALL CHANGES.		

2", 2-1/2", & 3" END CONNECTOR PARTS & 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
	3"	INCHES	12.37	7.31
		MM	314.2	185.7

THREADED FLANGED END CONNECTORS



FLANGED END CONNECTOR

VALVE SERIES	STANDARD	PART NO.	DIAMETER A	THICKNESS B	DIAMETER C	DIAMETER D
524	A.S.T.M 2"	3020168	6.00"	.75"	4.750"	.688"
526	A.S.T.M 2-1/2"	1075189	6.94"	.94"	5.500"	.688"
	A.S.T.M. 3"	3020169	7.38"	1.81"	6.000"	.750"

O-RING FOR FLANGED END CONNECTOR

VALVE SERIES	MATERIAL	PART NO.
524	E.P.D.M	1071750
526	E.P.D.M	1071753

FLANGED END CONNECTOR KITS

VALVE SERIES	STANDARD	KIT PART NO.
524	A.S.T.M 2"	1070250 (K524-V)
526	A.S.T.M 2-1/2"	1070251 (K524-L)
	A.S.T.M. 3"	1070252 (K524-T)

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

- SEE DRAWING 1081309 FOR UNION END CONNECTORS & GROOVED ADAPTORS

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2 PLACE .XX ± .01 [0.3]
3 PLACE .XXX ± .005 [0.13]

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THIRD ANGLE PROJECTION

APPROVALS	DATE
DRAWN JWB	07/25/01
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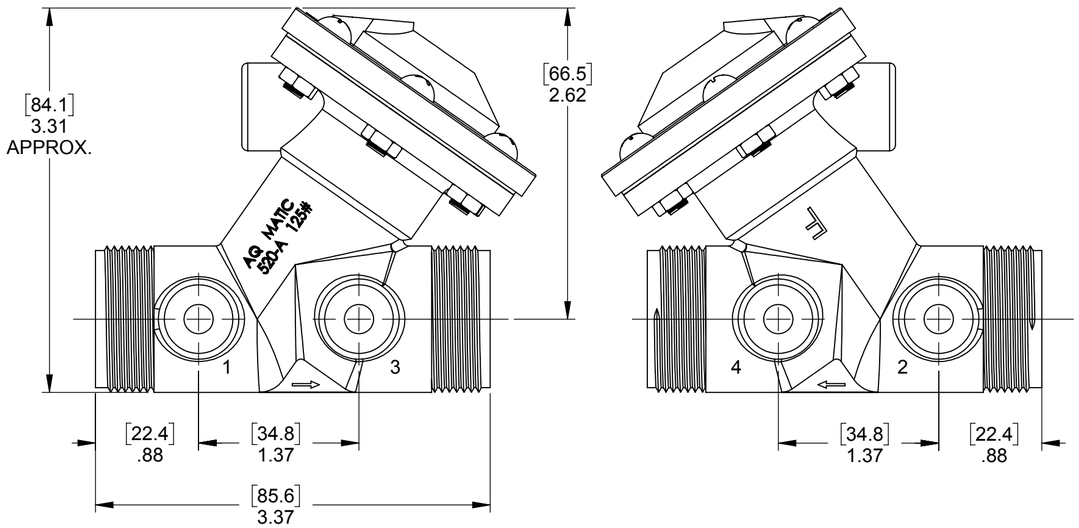
K524, K526
END CONNECTOR PARTS & KITS

SIZE C | DWG NO. 1078150 | REV. P

SCALE | SOLID

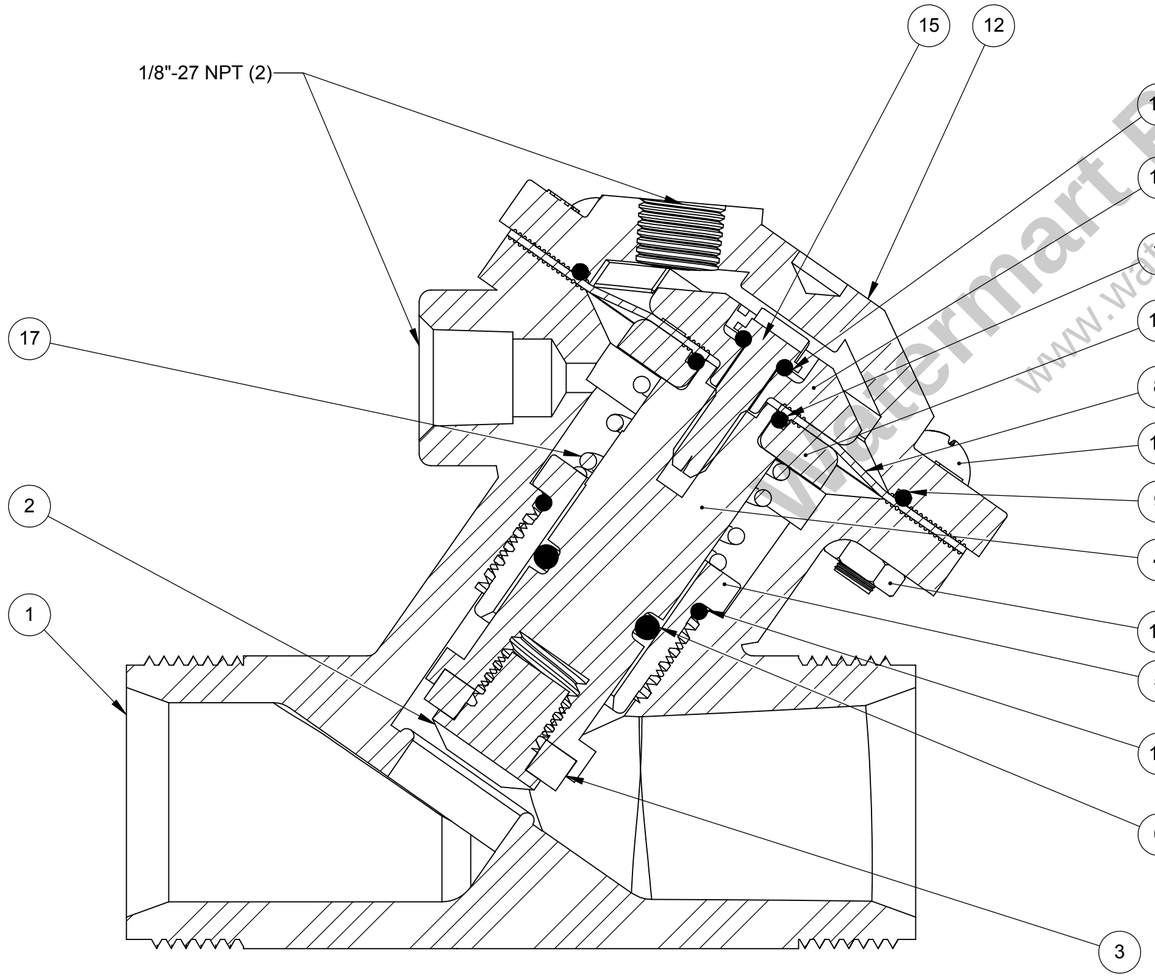
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REVISIONS				
ECN	REV.	DESCRIPTION	DATE	APP'D
1001	O	UPDATE TO AQ MATIC & VERIFIED PART NUMBERS	01/16/17	MGS
1507	P	LOGO UPDATE, REMOVE BR FROM DRW #, FIX MINOR ERRORS, ADD TORQUE TABLE	05/02/19	KJB



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

TORQUE TABLE		
ITEM #	DESCRIPTION	TORQUED TO (+/- 10%)
2	SCREW, PLATE, DISC	8 IN-LB
5	GUIDE, SHAFT	32 IN-LB
13 & 16	CA P SCREW & NUT	30 IN-LB
15	SCREW, CUTTING	15 IN-LB



1070140 (K520-X201-14000)
NORMALLY OPEN W/ SPRING ASSIST OPEN (STANDARD)

ITEM NO.	DESCRIPTION		PART NUMBER	QTY.
1	BODY, VALVE, 520	NORYL	1074943	1
2	SCREW,DISC,PLATE,520	NORYL	1077903	1
3	DISC	EPDM	1074966	1
		BUTYL	1074967	
		FKM	1074968	
4	SHAFT, 520	NORYL	1077854	1
5	GUIDE,SHAFT,520	NORYL	1074964	1
6	O-RING, -111	EPDM	1071727	1
		BUTYL	1071764	
		FKM	1071799	
7	O-RING, -012	EPDM	1071717	1
		FKM	1071787	
8	DIAPHRAM	BUNA	1078035	1
		FKM	1078047	
9	O-RING, -030	EPDM	3015801	1
10	PLATE,DIAPHRAGM,LWR	NORYL	1077858	1
11	PLATE,DIAPHRAGM,UPR	NORYL	1077856	1
12	CAP, VALVE, 520	NORYL	1074948	1
13	SCREW,10-32x5/8",RND HD	SS	1072379	6
14	O-RING, -018	EPDM	1071720	1
		BUTYL	1071762	
		FKM	1071790	
15	SCREW, CUTTING 1/4" TYPE BT	SS	1077781	1
16	HEX NUT, 10-32	SS	1071647	6
17	SPRING, COMPRESSION	SS	1074982	1
18	O-RING, -007	FKM	41122-01	1

REPAIR PARTS KIT		
DESCRIPTION	PART NO.	
DIAPHRAGM & SEAL KIT CONSISTS OF ITEM NO'S 3,6,7,8,9,14,18	1081784 (520-RAN) E.P.D.M. INCLUDES DIAPHRAGM 1078035	1081783 (520-RAJN) BUTYL INCLUDES DIAPHRAGM 1078035
	1081787 (520-RAVN) FKM INCLUDES DIAPHRAGM 1078035	1081786 (520-RAVFVN) FKM INCLUDES DIAPHRAGM 1078047
INT. PART KIT (NORM. OPEN) CONSISTS OF ITEM NO'S 2,4,5,10,11,15	1079600 (K520-RFN)	

- SEE DRAWING 1081309 FOR UNION END CONNECTORS & GROOVED ADAPTORS
- SEE SHEEET 2 FOR CONFIGURATION OPTIONS

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TOLERANCES:
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1 PLACE .X: ± .100 [2.54]
2 PLACE .XX: ± .010 [0.25]
3 PLACE .XXX: ± .005 [0.13]

THIRD ANGLE PROJECTION

APPROVALS	DATE
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APPROVED	

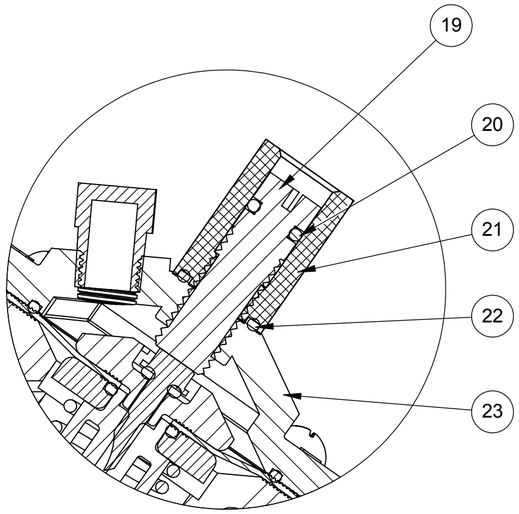
CATALOG SHEET, 520, VALVE
STANDARD MODEL

SIZE C | DWG NO. 1078139 | REV. P
SCALE 1:2

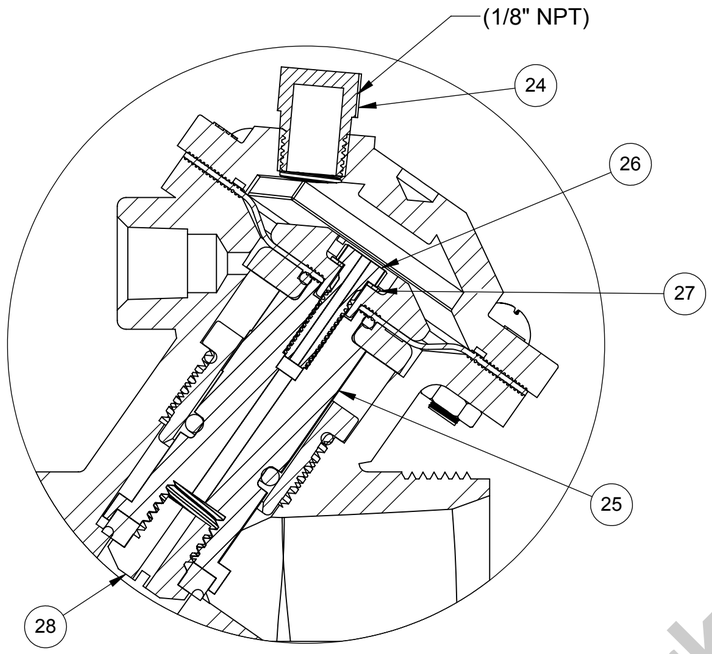
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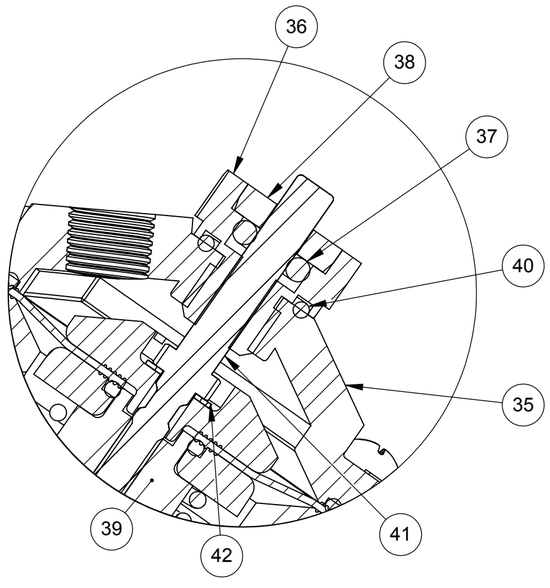
REVISIONS				
ECN	REV.	DESCRIPTION	DATE	APP'D
		SEE SHEET 1 FOR A LIST OF CHANGES		



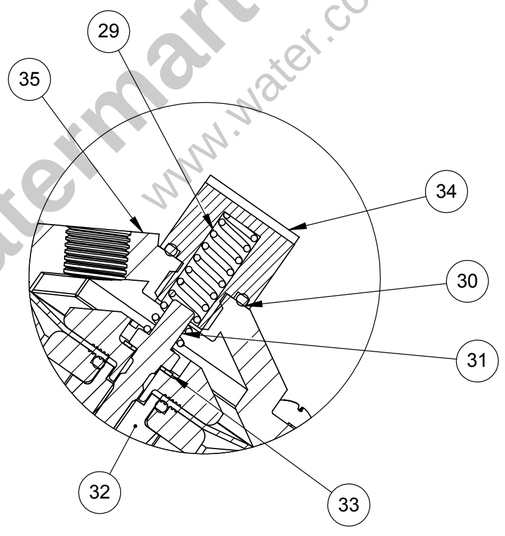
1070141 (K520-X211-14000)
LIMIT STOP



1071082 (K520-X230-14000)
NORMALLY CLOSED



1071079 (K520-X221-14000)
POSITION INDICATOR



1070143 (K520-X202-14000)
SPRING ASSIST CLOSED

LIMIT STOP MODEL				
ITEM NO.	DESCRIPTION		PART NUMBER	QTY.
19	LIMIT STOP SCREW, 520	SS	1074988	1
20	O-RING, 2-010	BUNA	1071667	1
21	LIMIT STOP NUT, 520	SS	1074987	1
22	O-RING, 2-013	BUNA	1071669	1
23	CAP, LIMIT STOP, 520	NORYL	1074946	1
NORMALLY CLOSED MODEL				
24	MALE PIPE PLUGS, 1/8" NPT	HDPE	1071912	1
25	SHAFT, 520, NC	NORYL	1077905	1
26	SCREW, 520, DIA PLT, NC	SS	1077818	1
27	WASHER, LOCK, INTERNAL, #8	SS	1006351	1
28	DISC SCREW, 520, NC	NORYL	1078324	1
SPRING ASSIST CLOSED MODEL				
29	SPRING, COMPRESSION	SS	1074981	1
30	O-RING, 2-013	BUNA	1071669	1
31	SCREW, 520, DIA PLT, SAC	SS	1077828	1
32	SHAFT, 520, NRYL, PI & SAC	NORYL	1077907	1
33	WASHER, LOCK, INTERNAL, #8	SS	1006351	1
34	SPRING RETAINER, 520	SS	1074986	1
35	CAP, LIMIT STOP, 520	NORYL	1074946	1
POSITION INDICATOR MODEL				
36	GUIDE HOUSING, 520	SS	1074970	1
37	O-RING, 2-106	BUNA	1071687	1
38	PLUG, GUIDE HOUSING, 520	SS	1074971	1
39	SHAFT, 520, PI & SAC	NORYL	1077907	1
40	O-RING, 2-013	BUNA	1071669	1
41	SCREW, 520, DIA PLT, PI	SS	1077826	1
42	WASHER, LOCK, INTERNAL, #8	SS	1006351	1

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.

- SEE DRAWING 1081309 FOR UNION END CONNECTORS & GROOVED ADAPTORS
- SEE SHEET 1 FOR STANDARD NORMALLY OPEN MODEL

CONVERSION KITS	
DESCRIPTION	PART NO.
CONVERSION KIT (LIMIT STOP) CONSISTS OF ITEM NO'S 19 THRU 23	1071056 (K520-LSC)
CONVERSION KIT (SPRING ASSIST CLOSED) CONSISTS OF ITEM NO'S 29 THRU 35	1079602 (K520-SCCN)
CONVERSION KIT (POSITION INDICATOR) CONSISTS OF ITEM NO'S 35 THRU 42	1079599 (K520-PICN)

REPAIR PARTS KIST	
DESCRIPTION	PART NO.
INT. PARTS KIT (LIMITED STOP) CONSIST OF ITEM NO'S 19 THRU 22	1074973 (520-LS)
INT. PARTS KIT (NORM. CLOSED) CONSIST OF ITEM NO'S 4,10,11,25,26,27,28	1079601 (520-RGN)
INT. PARTS KIT (SPRING ASSIST CLOSED) CONSIST OF ITEM NO'S 29 THRU 33	1081789 (520-SCN)
INT. PARTS KIT (POSITION INDICATOR) CONSIST OF ITEM NO'S 36 THRU 42	1081782 (520-PIN)

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TOLERANCES:
ANGLES : ± 1°
1 PLACE .X: ± .100 [2.54]
2 PLACE .XX: ± .010 [0.25]
3 PLACE .XXX: ± .005 [0.13]

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THIRD ANGLE PROJECTION

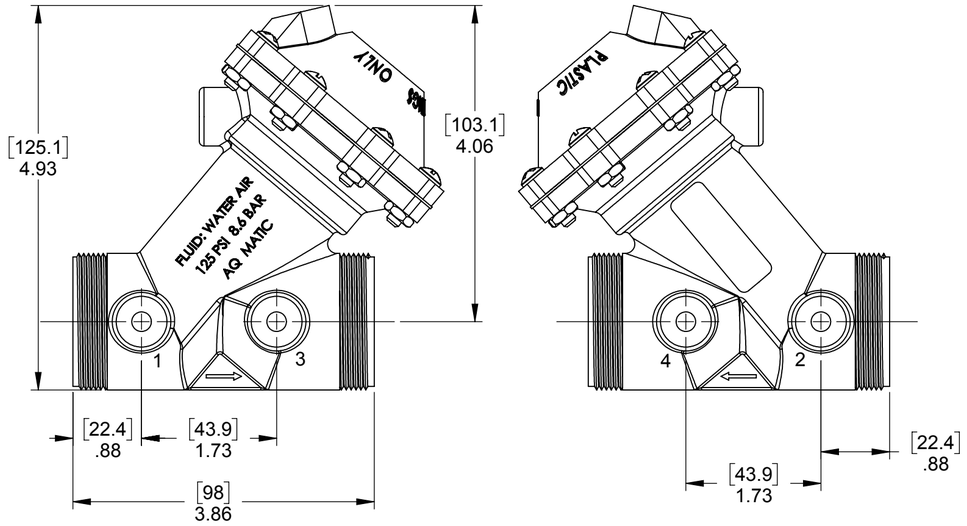
APPROVALS	DATE
DRAWN	
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APPROVED	

CATALOG SHEET, 520, VALVE
STANDARD MODEL

SIZE C | DWG NO. 1078139 | REV. B
SCALE 1:1

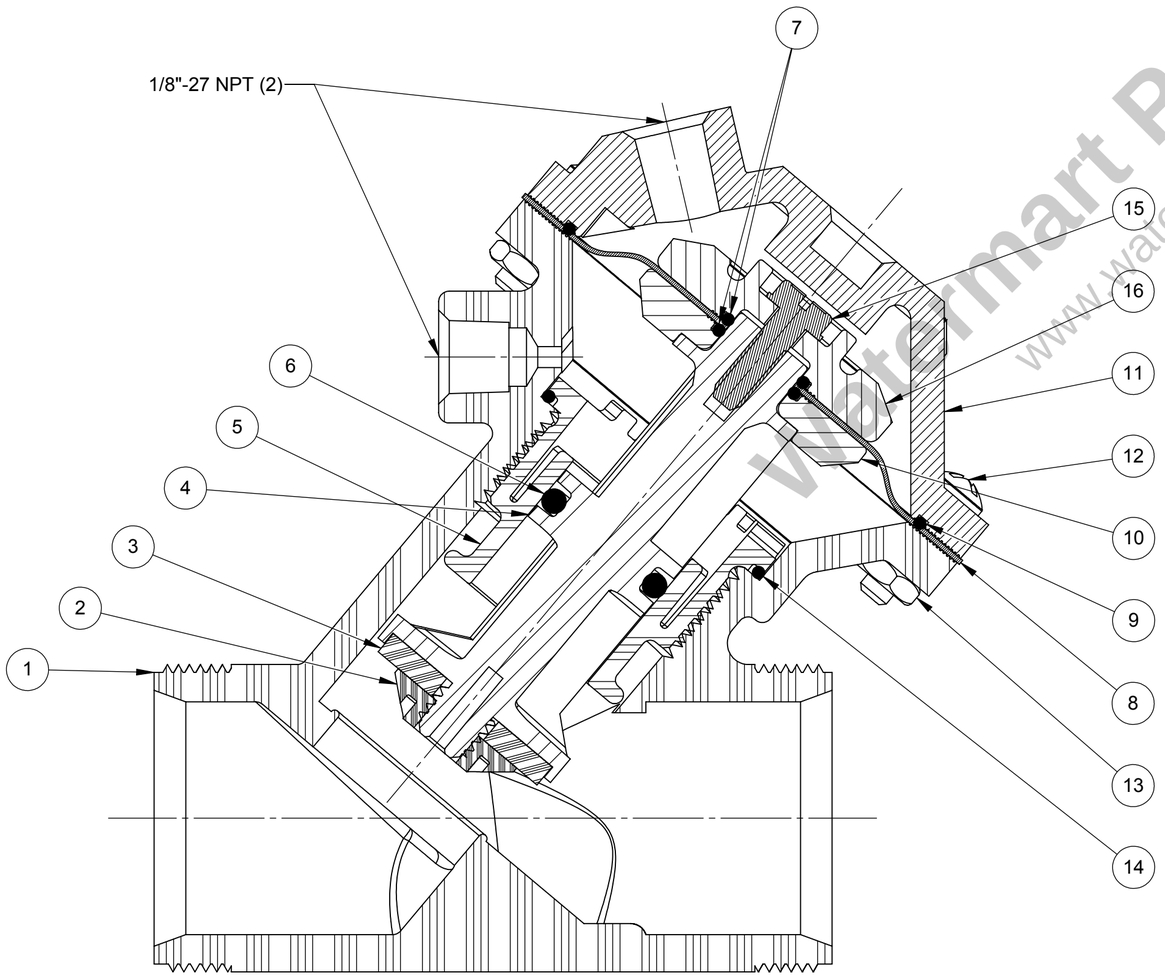
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ASSEMBLY TOOLS	
DESCRIPTION	**PART NO.**
FOR INSTALLATION & REMOVAL OF SHAFT GUIDE (ITEM #5)	1075059 (521-Z)
TO HOLD SHAFT (ITEM #4) DURING ASSEMBLY/ DISASSEMBLY	1077837

TORQUE TABLE		
ITEM #	**DESCRIPTION**	**TORQUED TO (+/- 10%)**
2	PLATE, DISC	8 IN-LB
5	GUIDE, SHAFT	32 IN-LB
12 & 13	CA P SCREW & NUT	30 IN-LB
15	SCREW, CUTTING	35 IN-LB



1070154 (K521-X200-14000)
NORMALLY OPEN (STANDARD)

REVISIONS

ECN	REV.	DESCRIPTION	DATE	APP'D
102568	J	REDRAWN IN SOLIDWORKS:ITEM #1: WAS 1075007, ITEM #11: WAS 1075012 ITEM #37: WAS 1075010, 4- FORM # NOW DWG #	10/31/13	TJM
10369	K	ITEM #14- WAS: 1071942, 1071943, 1071944	12/12/14	TJM
1001	L	AQ MATIC UPDATE & VERIFIED PART NUMBERS	01/17/17	MGS
1287	M	CORRECT ERROR IN REPAIR PARTS TABLE	08/16/18	KJB
1507	N	UPDATE BRANDING, CORRECT ERRORS, ADD TORQUE TABLE	05/03/19	KJB

ITEM NO.	DESCRIPTION		PART NUMBER	QTY.
1	BODY, VALVE, 521	NORYL	43476	1
2	PLATE, DISC, 521	NORYL	1075845	1
3	DISC, 521	EPDM	1077814	1
		BUTYL	1077815	
		FKM	1077816	
4	SHAFT, 521	NORYL	1075842	1
5	GUIDE,SHAFT,521	NORYL	1075030	1
6	O-RING, 2-208	EPDM	1071743	1
		BUTYL	1071775	
		FKM	1071814	
7	O-RING, -014	EPDM	1071718	2
		FKM	1071788	
8	DIAPHRAGM, 521	BUNA	1075028	1
		FKM	1075029	
9	O-RING 2-805	BUNA	1071715	1
10	PLATE,DIAPHRAGM,521,LOWER	NORYL	43043	1
11	CAP, VALVE, 521	NORYL	43477	1
12	SCREW, 10-32 x 3/4", RND HD	SS	1072380	8
13	HEX NUT, 10-32	SS	1071648	8
14	O-RING, 2-029	EPDM	1081945	1
		BUTYL	43893	
		FKM	1081947	
15	SCREW, CUTTING #10-16 TYPE BT		1077783	1
16	PLATE,DIAPHRAGM,521,UPPER		43042	1

REPAIR PARTS		
DESCRIPTION	**PART NO.**	
DIAPHRAGM & SEALS KIT CONSISTS OF ITEM NO'S 3,6,7,8,9,14	1081792 (521-RAN) E.P.D.M. INCLUDES DIAPHRAGM 1075028 (521-FB)	1081791(521-RAJN) BUTYL INCLUDES DIAPHRAGM 1075028 (521-FB)
	1081796 (521-RAVN) FKM INCLUDES DIAPHRAGM 1075028 (521-FB)	1081795 (521-RAVFVN) E.P.D.M. INCLUDES DIAPHRAGM 1075029 (521-FV)
INT. PARTS KIT (NORM. OPEN) CONSISTS OF ITEM NO'S 2,4,5,10,15,16	1079621 (K521-RFN)	

- SEE DRAWING 1081309 FOR UNION END CONNECTORS & GROOVED ADAPTORS
- SEE SHEET 2 FOR CONFIGURATION OPTIONS

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3 PLACE .XXX: ± .005 [0.13]

THIRD ANGLE PROJECTION

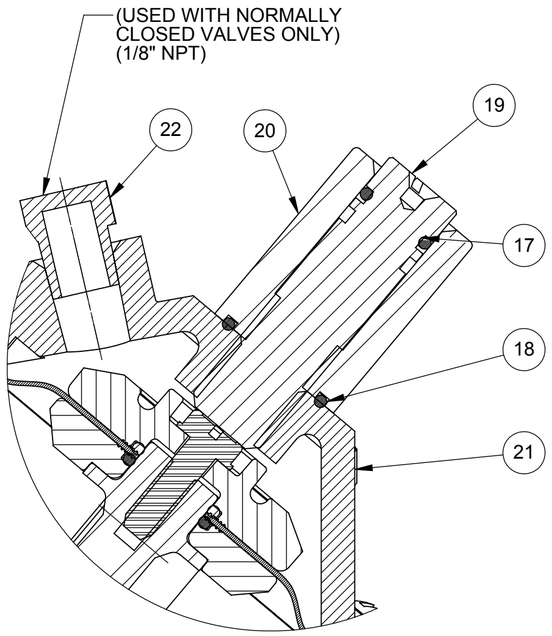
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DRAWN ANH	8/29/13
CHECKED BY	
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CATALOG SHEET, 521, VALVE
STANDARD MODEL

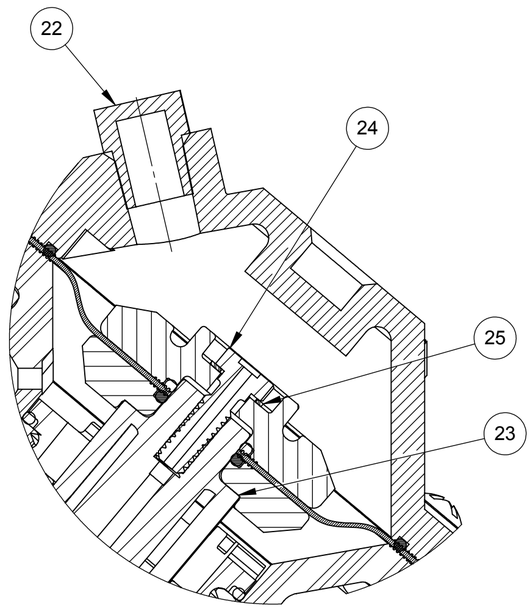
SIZE C | DWG NO. 1077654 | REV. N
SCALE 1:1

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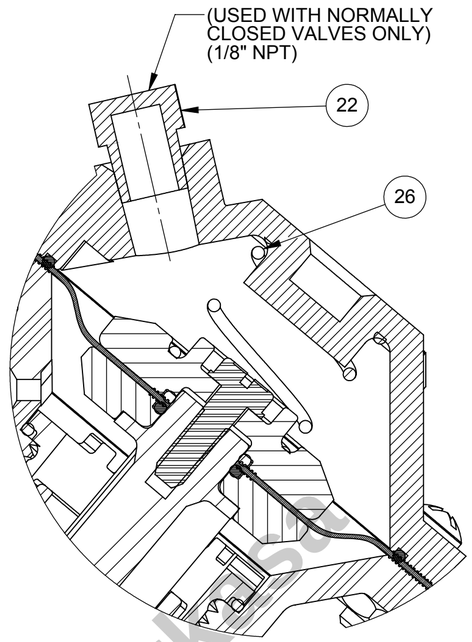
REVISIONS				
ECN	REV.	DESCRIPTION	DATE	APP'D
		SEE SHEET 1 FOR A LIST OF CHANGES		



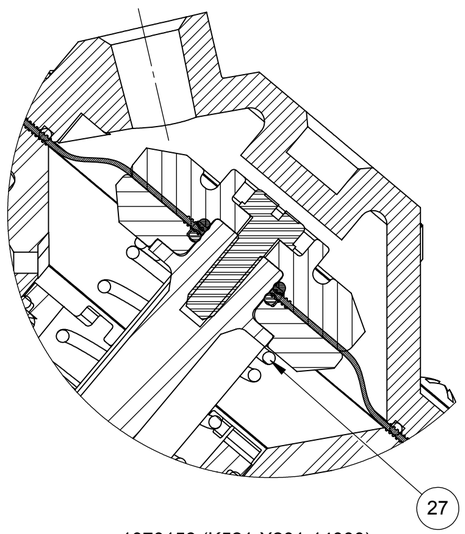
1070155 (K521-X210-14000)
LIMIT STOP



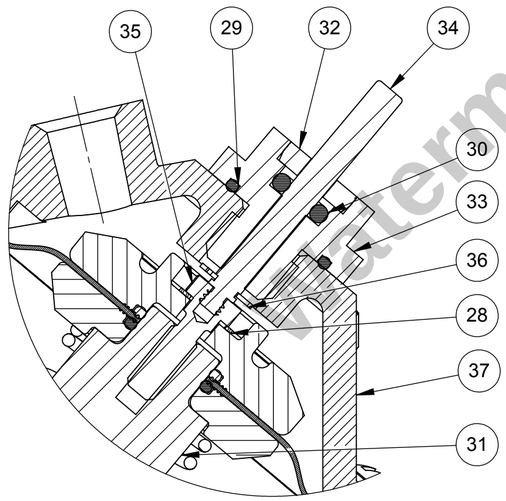
1070159 (K521-X230-14000)
NORMALLY CLOSED



1070157 (K521-X202-14000)
SPRING ASSIST CLOSED



1070158 (K521-X201-14000)
SPRING ASSIST OPEN



1071143 (K521-X221-14000)
POSITION INDICATOR

LIMIT STOP

ITEM NO.	DESCRIPTION		PART NUMBER	QTY.
17	O-RING,2-012	BUNA	1071668	1
18	O-RING,2-016	BUNA	1071671	1
19	LIMIT STOP SCREW	SS	1075058	1
20	LIMIT STOP NUT	SS	1075057	1
21	CAP, 521, LIMIT STOP	NORYL	43724	1
NORMALLY CLOSED MODEL				
22	MALE PIPE PLUGS,1/8"	HDPE	1071912	1
23	SHAFT, 521	NORYL	1077909	1
24	SCREW, 521, DIA PLT, NC	SS	1077830	1
25	WASHER, LOCK,INTERNAL,#10	SS	1078992	1
SPRING ASSIST CLOSED MODEL				
26	SPRING, COMPRESSION	SS	1075051	1
SPRING ASSIST OPEN MODEL				
27	SPRING, COMPRESSION	SS	1236766	1
POSITION INDICATOR MODEL				
28	WASHER, LOCK,INTERNAL,#10	SS	1078992	1
29	O-RING, 2-016	BUNA	1071671	1
30	O-RING, 2-106	BUNA	1071687	1
31	SHAFT, PI, 521	NORYL	1077911	1
32	PLUG, GUIDE HOUSING, 520	SS	1074971	1
33	GUIDE HOUSING, 521	SS	1075038	1
34	ROD, PI , 521	SS	1078062	1
35	SCREW, 521, DIA PLT, PI	SS	1077832	1
36	E-RING,	SS	1076200	1
37	CAP, 521, PI, LS	NORYL	43724	1

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 DRAWING 1081309 FOR UNION END CONNECTORS & GROOVED ADAPTORS
- SEE SHEET 1 FOR STANDARD NORMALLY OPEN MODEL

CONVERSION KITS	
DESCRIPTION	**PART NO.**
CONVERSION KIT (LIMIT STOP) CONSISTS OF ITEM NO'S 17 THRU 21	1071090 (K521-LSC)
CONVERSION KIT (SPRING ASSIST CLOSED) CONSISTS OF ITEM NO. 26	1075054 (521-SC)
CONVERSION KIT (SPRING ASSIST OPEN) CONSISTS OF ITEM NO. 27	1075055 (521-SO)
CONVERSION KIT (POSITION INDICATOR) CONSISTS OF ITEM NO'S 28 THRU 37	1079620 (K521-PICN)

REPAIR PARTS KITS	
DESCRIPTION	**PART NO.**
INT. PARTS KIT (LIMIT STOP) CONSISTS OF ITEM NO'S 17 THRU 20	1075040 (521-LS)
INT. PARTS KIT (NORM. CLOSED) CONSISTS OF ITEM NO'S 2,5,10,16,23,24,25	1079622 (K521-RGN)
INT. PARTS KIT (SPRING ASSIST CLOSED) CONSISTS OF ITEM NO. 26	1075054 (521-SC)
INT. PARTS KIT (SPRING ASSIST OPEN) CONSISTS OF ITEM NO. 27	1075055 (521-SO)
INT. PARTS KIT (POSITION INDICATOR) CONSISTS OF ITEM NO'S 28 THRU 36	1081790 (521-PIN)

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TOLERANCES:
ANGLES : ± 1°
1 PLACE .X: ± .100 [2.54]
2 PLACE .XX: ± .010 [0.25]
3 PLACE .XXX: ± .005 [0.13]

THIRD ANGLE PROJECTION

APPROVALS	DATE
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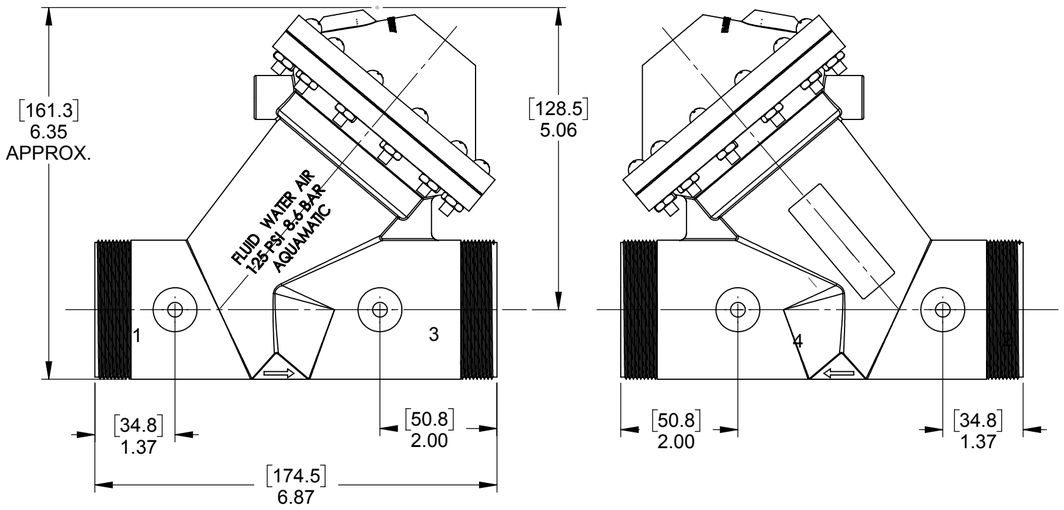
CATALOG SHEET, 521, VALVE
STANDARD MODEL

SIZE C | DWG NO. 1077654 | REV. N
SCALE 1:2

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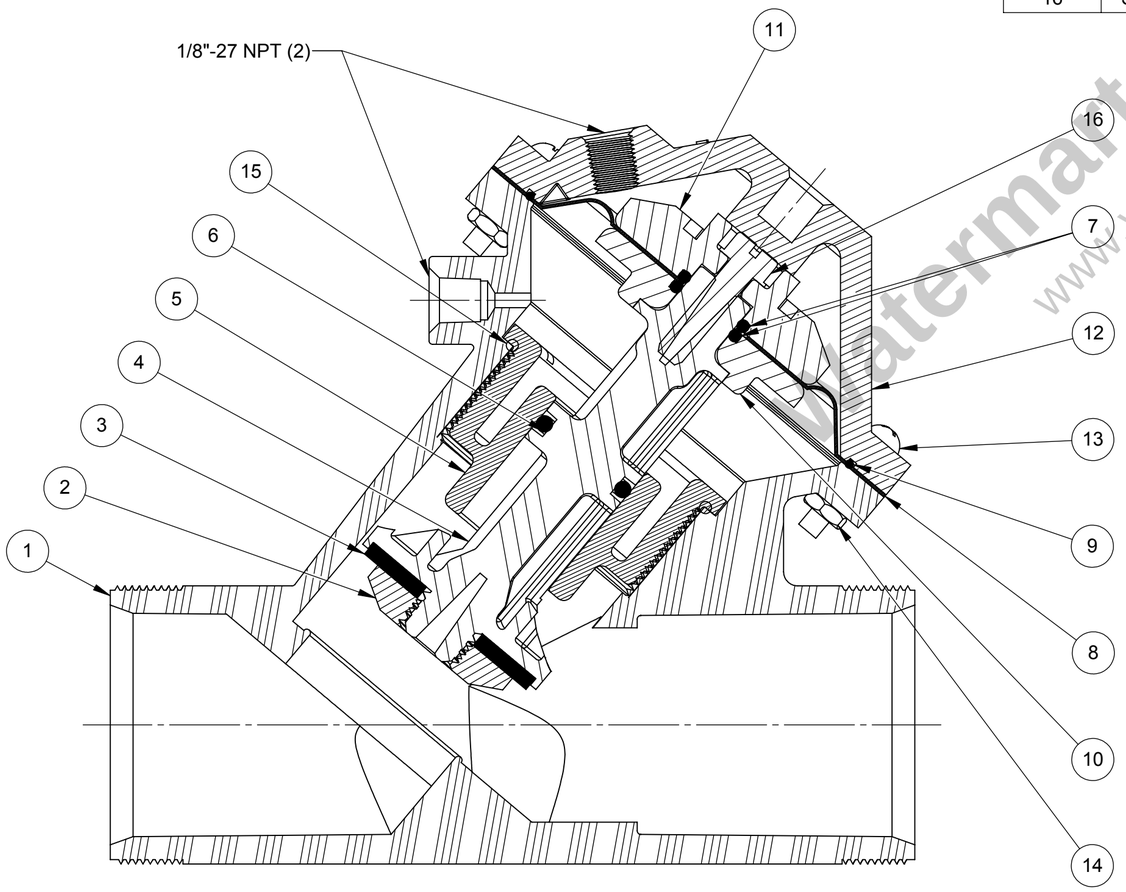
REVISIONS				
ECN	REV.	DESCRIPTION	DATE	APP'D
101699	J	REDRAWN IN SOLIDWORKS, DWG # NOW SAME AS FORM #	03/14/14	TJM
1001	K	AQ MATIC BRANDING UPDATE, AQ DRAWING TEMPLATE CONVERSION	01/17/17	MGS
1507	L	AQ MATIC BRANDING UPDATE, CORRECT ERRORS, ADD TORQUE TABLE	05/03/19	KJB



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

TORQUE TABLE		
ITEM #	DESCRIPTION	TORQUED TO (+/- 10%)
2	PLATE, DISC	24 IN-LB
5	GUIDE, SHAFT	80 IN-LB
13 & 14	CA P SCREW & NUT	30 IN-LB
16	SCREW, CUTTING	35 IN-LB

ITEM NO.	DESCRIPTION		PART NUMBER	QTY.
1	BODY, VALVE, 524	NORYL	1075079	1
2	PLATE, DISC, 524	NORYL	1076198	1
3	DISC	EPDM	1075107	1
		BUTYL	1075108	
		FKM	1075109	
4	SHAFT, 524	NORYL	1076205	1
5	GUIDE,SHAFT,524	NORYL	1075106	1
6	O-RING, 2-210	EPDM	1071744	1
		BUTYL	1071776	
		FKM	1071815	
7	O-RING, 2-113	EPDM	1071728	2
8	DIAPHRAGM, 524	BUNA	1078393	1
		FKM	1075105	
9	O-RING, 2-043	BUNA	1071686	1
10	PLATE, DIAPHRAGM, LOWER, 524	NORYL	1076197	1
11	PLATE, DIAPHRAGM, UPPER, 524	NORYL	43041	1
12	CAP,524, VALVE	NORYL	1075086	1
13	SCREW, 10-32 X1", RND HD	SS	1072381	12
14	HEX NUT, 10-32	SS	1071648	12
15	O-RING, 2-137	EPDM	1071735	1
		BUTYL	1071771	
		FKM	1071807	
16	SCREW, CUTTING 1/4" TYPE BT	SS	1077101	1



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

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

- SEE DRAWING 1081309 FOR UNION END CONNECTORS AND GROOVED ADAPTORS
- SEE DRAWING 1078150 FOR THREADED SOCKET WELD ENDS AND THREADED FLANGED ADAPTORS
- SEE SHEET 2 FOR CONFIGURATION OPTIONS

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1 PLACE .X: ± .100 [2.54]
2 PLACE .XX: ± .010 [0.25]
3 PLACE .XXX: ± .005 [0.13]

THIRD ANGLE PROJECTION

APPROVALS	DATE
DRAWN NE	02-28-13
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APPROVED	

CATALOG SHEET, 524, VALVE
STANDARD MODEL

SIZE C | DWG NO. 1077655 | REV. I

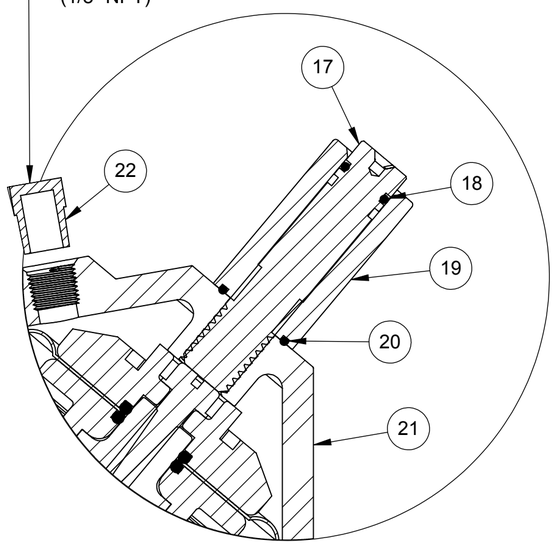
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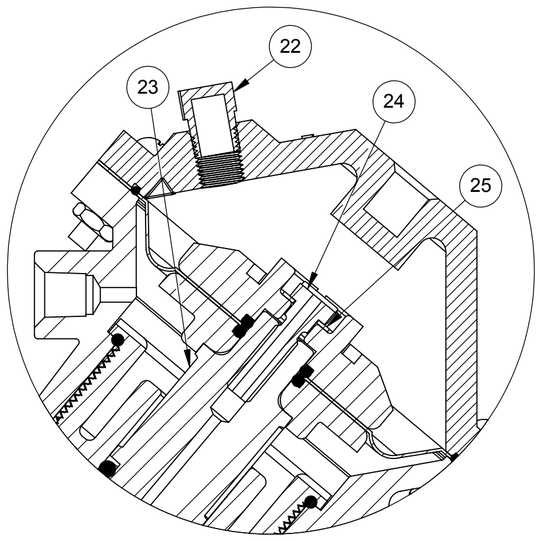
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REVISIONS				
ECN	REV.	DESCRIPTION	DATE	APP'D
		SEE SHEET ONE FOR LIST OF CHANGES		

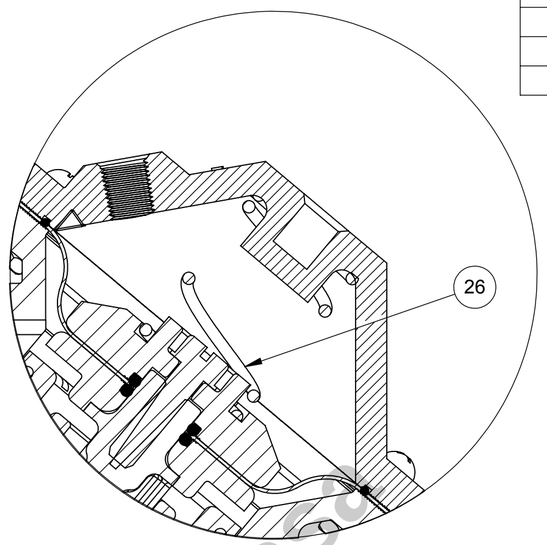
(USED WITH NORMALLY CLOSED VALVES ONLY)
(1/8" NPT)



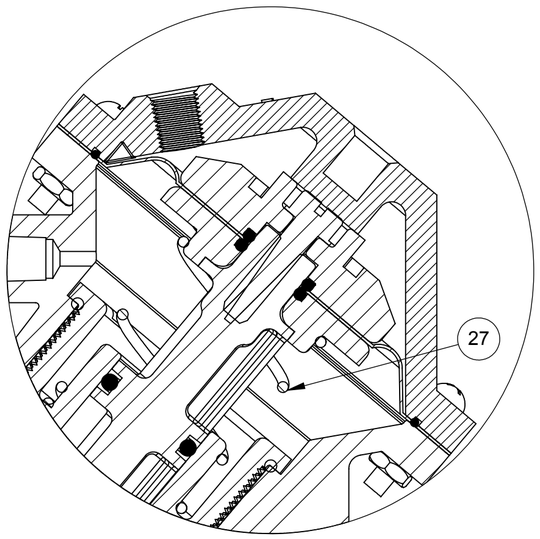
1070170 (K524-X210-14000)
LIMIT STOP



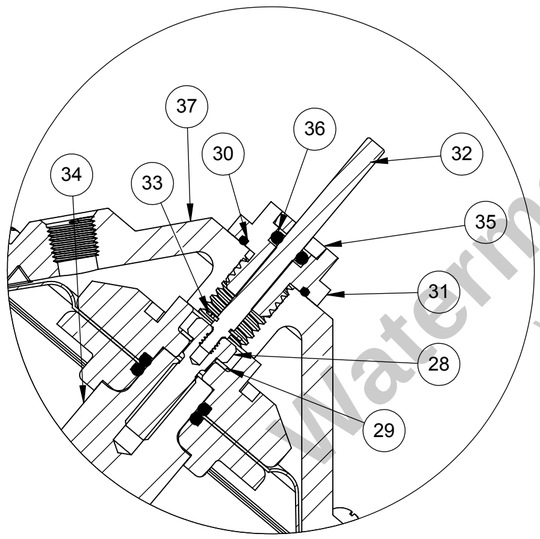
1070172 (K524-X230-14000)
NORMALLY CLOSED



1070171 (K524-X202-14000)
SPRING ASSIST CLOSED



1070169 (K524-X201-14000)
SPRING ASSIST OPEN



1071209 (K524-X221-14000)
POSITION INDICATOR

LIMIT STOP MODEL

ITEM NO.	DESCRIPTION		PART NUMBER	QTY.
17	LIMIT STOP SCREW	SS	1075142	1
18	O-RING, 2-012	BUNA	1071668	1
19	LIMIT STOP NUT	SS	1075141	1
20	O-RING, 2-016	BUNA	1071719	1
21	CAP, LIMIT STOP, 524	NORYL	1075083	1
NORMALLY CLOSED MODEL				
22	MALE PIPE PLUG	HDPE	1071912	1
23	SHAFT, 524, 1/4 THD	NORYL	1076238	1
24	SHAFT, SCREW	SS	1076204	1
25	WASHER	SS	1076201	1
SPRING ASSIST CLOSED MODEL				
26	SPRING, COMPRESSION	SS	1267398	1
SPRING ASSIST OPEN MODEL				
27	SPRING, COMPRESSION	SS	1078692	1
POSITION INDICATOR MODEL				
28	SHAFT, SCREW	SS	1076203	1
29	WASHER	SS	1076201	1
30	O-RING, 2-016	BUNA	1071671	1
31	GUIDE HOUSING	SS	1075038	1
32	ROD, POS. INDICATOR, 524	SS	1076199	1
33	E-RING, RETAINING	SS	1076200	1
34	SHAFT, POS INDICATOR, 524	NORYL	1076239	1
35	PLUG, GUIDE HOUSING, 520	SS	1074971	1
36	O-RING, 2-106	BUNA	1071687	1
37	CAP, LIMIT STOP, 524	NORYL	1075083	1

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 DRAWING 1081309 FOR UNION END CONNECTORS AND GROOVED ADAPTORS
- SEE FORM 1078150 FOR THREADED SOCKET WELD ENDS AND THREADED FLANGED ADAPTORS
- SEE SHEET 1 FOR STANDARD NORMALLY OPEN MODEL

CONVERSION KITS	
DESCRIPTION	**PART NO.**
CONVERSION KIT (LIMIT STOP) CONSISTS OF ITEM NO'S 9, 17 THRU 21	1071161 (K524-LSC)
CONVERSION KIT (SPRING ASSIST CLOSED) CONSISTS OF ITEM NO. 26	1075124 (524-SC)
CONVERSION KIT (SPRING ASSIST OPEN) CONSISTS OF ITEM NO. 27	1075125 (524-SO)
CONVERSION KIT (POSITION INDICATOR) CONSISTS OF ITEM NO'S 28 THRU 37	1079643 (524-PICN)

REPAIR PARTS KITS	
DESCRIPTION	**PART NO.**
INT. PARTS KIT (LIMIT STOP) CONSISTS OF ITEM NO'S 17 THRU 20	1075111 (524-LS)
INT. PARTS KIT (NORM. CLOSED) CONSISTS OF ITEM NO'S 2, 5,10,11,23,24,25	1076307 (K524-RGN)
INT. PARTS KIT (SPRING ASSIST CLOSED) CONSISTS OF ITEM NO. 26	1075124 (524-SC)
INT. PARTS KIT (SPRING ASSIST OPEN) CONSISTS OF ITEM NO. 27	1075125 (524-SO)
INT. PARTS KIT (POSITION INDICATOR) CONSISTS OF ITEM NO'S 28 THRU 36	1077591 (524-PIN)

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TOLERANCES:
ANGLES : ± 1°
1 PLACE .X: ± .100 [2.54]
2 PLACE .XX: ± .010 [0.25]
3 PLACE .XXX: ± .005 [0.13]

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THIRD ANGLE PROJECTION

APPROVALS	DATE
DRAWN NE	02-28-13
CHECKED BY	
APPROVED	

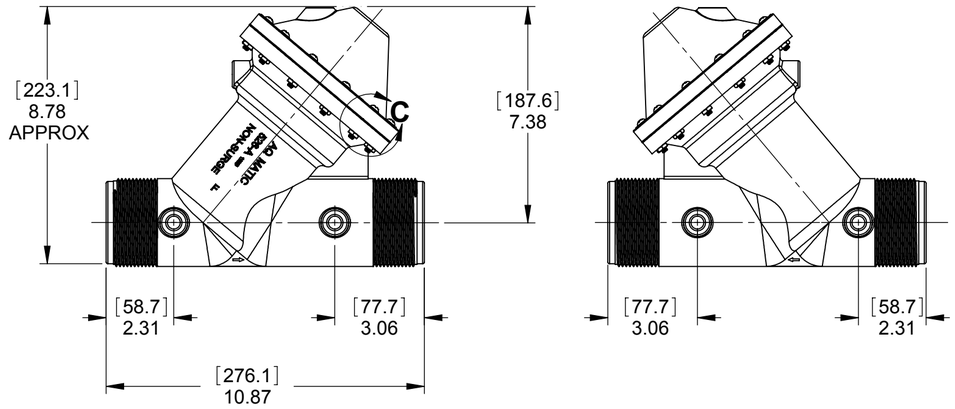
CATALOG SHEET, 524, VALVE
STANDARD MODEL

SIZE C | DWG NO. 1077655 | REV. I
SCALE 1:2

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REVISIONS				
ECN	REV.	DESCRIPTION	DATE	APP'D
100401	L	1- WAS: 1075174,-NOW:43051 2-REM'D:1075172 NORYL SHAFT	03/30/12	TJM
101856	M	1-WAS 1071746- NOW: 1010140	03/19/13	TJM
103884	N	ITEM # 31- WAS 1074970, 2- UPDATED TITLE BLOCK	10/16/14	TJM
1001	O	AQ TEMPLATE UPDATE & VERIFIED PART NUMBERS	01/17/17	MGS
1507	P	REMOVE BR FROM DRW NUMBER, CORRECT MINOR ERRORS, ADD TORQUE TABLE	05/14/19	KJB

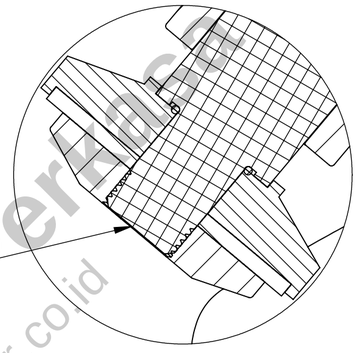


ASSEMBLY TOOLS	
DESCRIPTION	PART NO.
FOR INSTALLATION & REMOVAL OF SHAFT (ITEM #4) (TOOL NOT SHOWN)	1077837
FOR INSTALLATION & REMOVAL OF UPPER DIAPHRAGM PLATE (ITEM #11) (TOOL NOT SHOWN)	1075224 (526-Z)

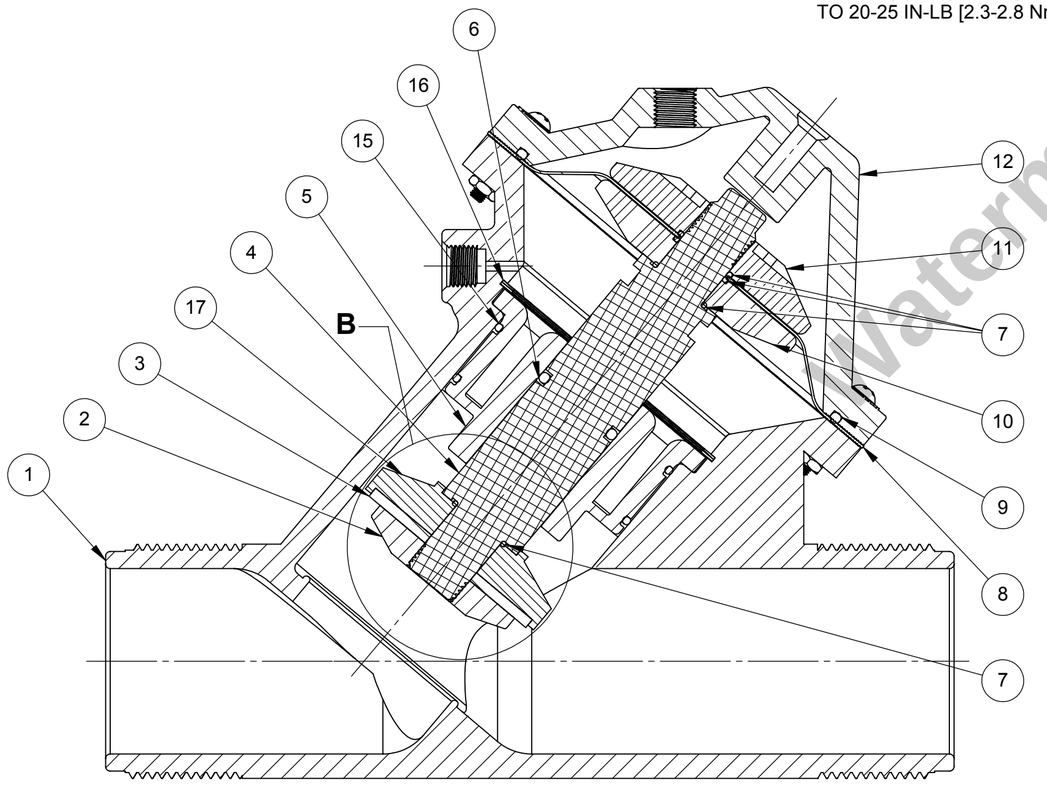
TORQUE TABLE		
ITEM #	DESCRIPTION	TORQUED TO (+/- 10%)
2	PLATE, DISC	22.5 IN-LB
11	UPR. DIA. PLATE	40 IN-LB
13 & 14	CA P SCREW & NUT	32.5 IN-LB

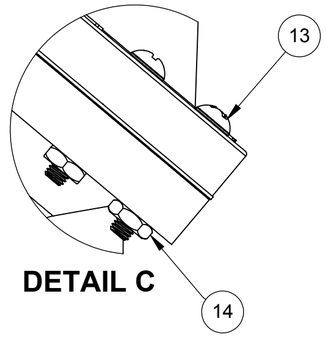
ITEM NO.	DESCRIPTION		PART NO.	QTY.
1	BODY, 526	NORYL	1075162	1
2	DISC PLATE	NORYL	1075176	1
3	DISC	E.P.D.M.	1075181	1
		BUTYL	1075182	
		FKM	1075183	
4	SHAFT	PVC	43119	1
5	SHAFT GUIDE	NORYL	1075178	1
6	O-RING, 2-214	E.P.D.M.	1010140	1
		BUTYL	1071778	
		FKM	1071817	
7	O-RING, 2-018	E.P.D.M.	1071673	4
		BUTYL	1071762	
		FKM	1071790	
8	DIAPHRAGM	BUNA	1075177	1
9	O-RING, 2-251	BUNA	1071713	1
10	LWR DIA. PLATE	NORYL	43051	1
11	UPR DIA. PLATE	NORYL	43050	1
12	CAP, 526	NORYL	1075167	1
13	SCREW, 10-32 x1 1/4", RND HD	SS	1072382	12
14	HEX NUT	SS	1071648	12
15	O-RING, 2-148	E.P.D.M	1071738	2
		BUTYL	1071773	
		FKM	1071810	
16	RETAINING RING	SS	1075180	1
17	DISC HOLDER	PVC	1075197	1

DISC NUT/SHAFT TO BE FLUSH
AFTER COMPONENTS ARE TIGHTENED
TO 20-25 IN-LB [2.3-2.8 Nm]



DETAIL B





DETAIL C

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

- SEE DRAWING 1081309 FOR THREADED SOCKET WELD ENDS AND THREADED FLANGED ADAPTORS
- SEE SHEET 2 FOR CONFIGURATION OPTIONS

1070180 (K526-X200-14000)
NORMALLY OPEN (STANDARD)

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2 PLACE .XX: ± .010 [0.25]
3 PLACE .XXX: ± .005 [0.13]

THIRD ANGLE PROJECTION

APPROVALS	DATE
DRAWN	
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APPROVED	

CATALOG SHEET, 526, VALVE
STANDARD MODEL

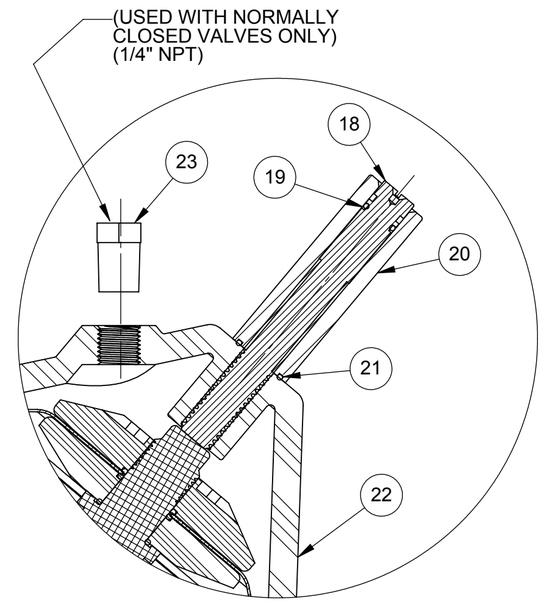
SIZE	DWG NO.	REV.
C	1077656	B

SCALE 1:1

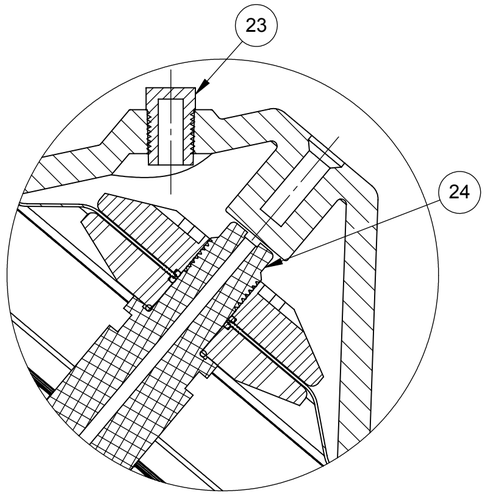
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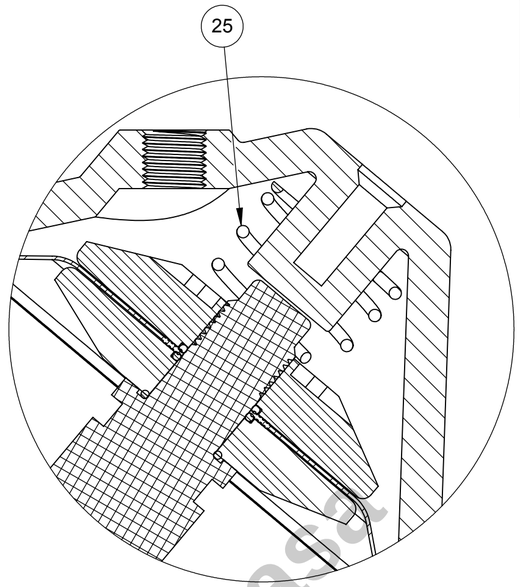
REVISIONS				
ECN	REV.	DESCRIPTION	DATE	APP'D
		SEE SHEET 1 FOR LIST OF CHANGES		



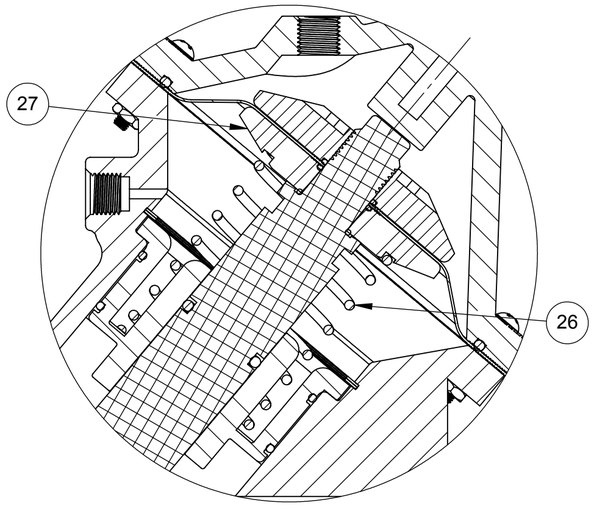
1070181 (K526-X210-14000)
LIMIT STOP



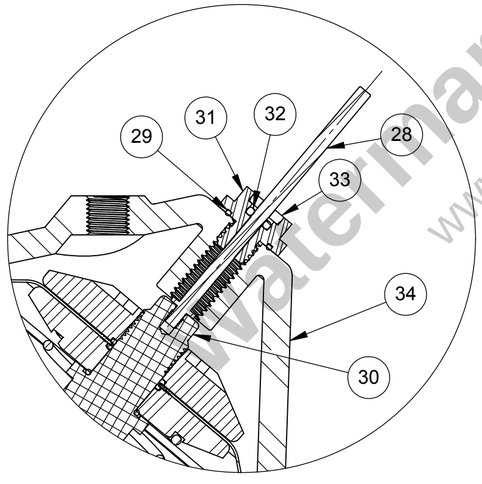
1071256 (K526-X230-14000)
NORMALLY CLOSED



1071246 (K526-X202-14000)
SPRING ASSIST CLOSED



1071242 (K526-X201-14000)
SPRING ASSIST OPEN



1071255 (K526-X221-14000)
POSITION INDICATOR

LIMIT STOP MODEL				
ITEM NO.	DESCRIPTION		PART NUMBER	QTY.
18	LIMIT STOP SCREW	SS	1075223	1
19	O-RING, 2-012	BUNA	1071668	1
20	LIMIT STOP NUT, SS	SS	1075222	1
21	O-RING, 2-016	BUNA	1071671	1
22	CAP, LIMIT STOP	NORYL	1075165	1
NORMALLY CLOSED MODEL				
23	MALE PIPE PLUGS	HDPE	1071913	1
24	SHAFT, VALVE, 526, NC	PVC	43143	1
SPRING ASSIST CLOSED MODEL				
25	SPRING, CONICAL	SS	1075202	1
SPRING ASSIST OPEN MODEL				
26	SPRING, COMPRESSION	SS	1267399	1
27	PLATE, DIAPHRAGM, 526, SA, LOWER	NORYL	1075175	1
POSITION INDICATOR MODEL				
28	ROD, PI, 526	SS	1075184	1
29	O-RING, 2-016	BUNA	1071671	1
30	SHAFT, VALVE, 526, PI	PVC	43142	1
31	GUIDE HOUSING,	SS	1075038	1
32	O-RING, 2-106, BUNA	BUNA	1071687	1
33	PLUG, GUIDE HOUSING, 520	SS	1074971	1
34	CAP, LIMIT STOP	NORYL	1075165	1

NOTES:

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 DRAWING 1081309 FOR THREADED SOCKET WELD ENDS AND THREADED FLANGED ADAPTORS
- SEE SHEET 1 FOR STANDARD NORMALLY OPEN MODEL

CONVERSION KITS	
DESCRIPTION	PART NO.
CONVERSION KIT (LIMIT STOP) CONSISTS OF ITEM NO'S 18 THRU 22	1071225 (526-LSC)
CONVERSION KIT (SPRING ASSIST CLOSED) CONSISTS OF ITEM NO 25	1075200 (526-SC)
CONVERSION KIT (SPRING ASSIST OPEN) CONSISTS OF ITEM NO'S 26 & 27	1071227 (526-SO)
CONVERSION KIT (POSITION INDICATOR) CONSISTS OF ITEM NO'S 28 THRU 34	1079674 (K526-PIC)

REPAIR PARTS KITS	
DESCRIPTION	PART NO.
INT. PARTS KIT (LIMIT STOP) CONSISTS OF NO'S 18 THRU 21	1075191 (526-LS)
INT. PARTS KIT (NORM. CLOSED) CONSISTS OF ITEM NO'S 2,5,10,11,17, 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'S 26 & 27	1071227 (526-SO)
INT. PARTS KIT (POSITION INDICATOR) CONSISTS OF ITEM NO'S 28 THRU 33	1081804 (526-PI)

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2 PLACE .XX: ± .010 [0.25]
3 PLACE .XXX: ± .005 [0.13]

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CATALOG SHEET, 526, VALVE
STANDARD MODEL

SIZE C | DWG NO. 1077656 | REV. D
SCALE 1:1

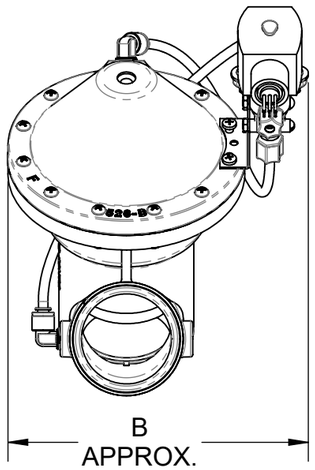
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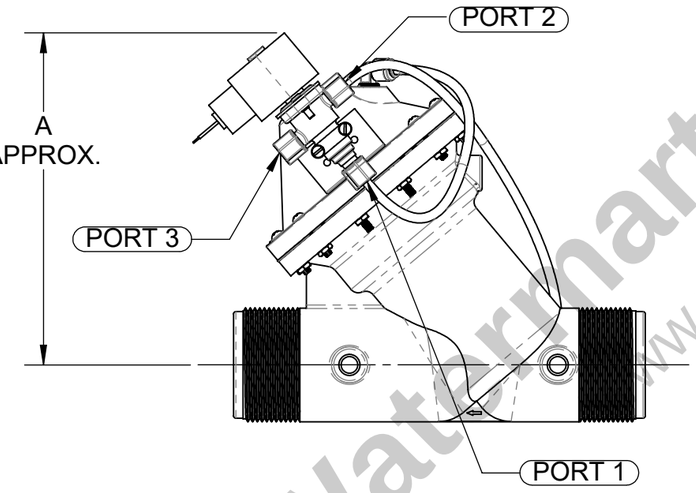
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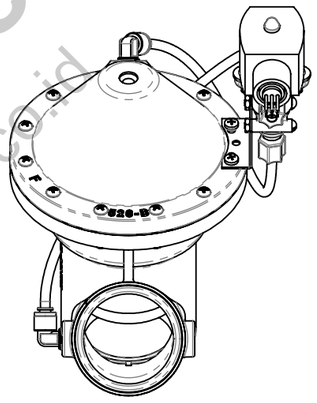
ITEM NO.	QTY.	PART NUMBER	DESCRIPTION	
1	1	-	DIAPHRAGM VALVE - NORMALLY OPEN	
2	1	1075637	SOLENOID, ASCO	110V.60Hz.
		1075638	SOLENOID, ASCO	220V.50Hz.
		1075639	SOLENOID, ASCO	24V.60Hz.
		4510604	SOLENOID, ASCO, 24 VDC, N.O.	E.O.
		4510605	SOLENOID, ASCO, 24 VDC, N.C.	E.C.
3	1	1074783	BRACKET, SOLENOID MOUNTING	
4	2	1072377	SCREW, RD HD, 8-32 X 1/4	
5	3	1071939	NUT & SLEEVE ASSEMBLY, 1/4" TUBE	
6	2	1078770	90° ELBOW, 1/4"NPT X 1/4T, PLS	526
		1071937	FITTING, ELBOW, 1/8NPT X 1/4T	520-524
7	N/A	1071936	TUBING, POLY 1/4" O.D. X .035	
8	2	3003551	SCREW, 10-32 X 1 1/2" SS	526
9	2	1071646	NUT, HEX, 8-32	

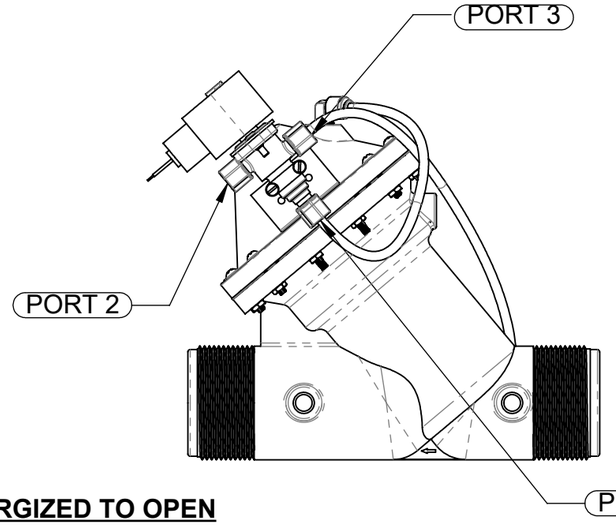
REVISIONS				
ECN	REV.	DESCRIPTION	DATE	APP'D
100876	C	REDRAWN IN SOLIDWORKS ADD DRY DRAIN VIEW	07/09/12	TJM
1092	D	AQ-MATIC REVIEW AND CORRECTIONS IMPLEMENTED	06/15/17	JJ
1507	E	CORRECT MINOR ERRORS	05/20/19	KJB
1789	F	ADDED P/N 4510604 & 4510605	10/22/20	PMJ
1820	G	VIEWS FOR EO & EODD RELINKED TO CORRECT MODEL	1/15/21	PMJ

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. SEE PAGE 2 FOR DRY DRAIN OPTION.
5. E.C. STANDS FOR ENERGIZED TO CLOSE, E.O. STANDS FOR ENERGIZED TO OPEN.









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. UPSTREAM PRESSURE OPENS THE DIAPHRAGM VALVE.

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

ENERGIZED TO OPEN

SOLENOID DE-ENERGIZED.
UPSTREAM PRESSURE, FROM SOLENOID PORT 3 TO PORT 1, IS APPLIED TO UPPER DIAPHRAGM

SOLENOID ENERGIZED.
PRESSURE FROM UPPER DIAPHRAGM CHAMBER IS VENTED. UPSTREAM PRESSURE OPENS THE DIAPHRAGM VALVE.

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CORNER FILLETS R.005-.020 [.127-.508]
TOLERANCES:
ANGLES : ± 1°
1 PLACE .X: ± .100 [2.54]
2 PLACE .XX: ± .010 [0.3]
3 PLACE .XXX: ± .005 [0.13]

APPROVALS	DATE
DRAWN	
CHECKED BY	
APPROVED	

AQ-MATIC
VALVES AND CONTROLS

DESCRIPTION
CATALOG SHEET, K520 - K526
SOLENOID OPERATED VALVES

SIZE B | DWG NO. 1081312 | REV. G

SCALE 1:4

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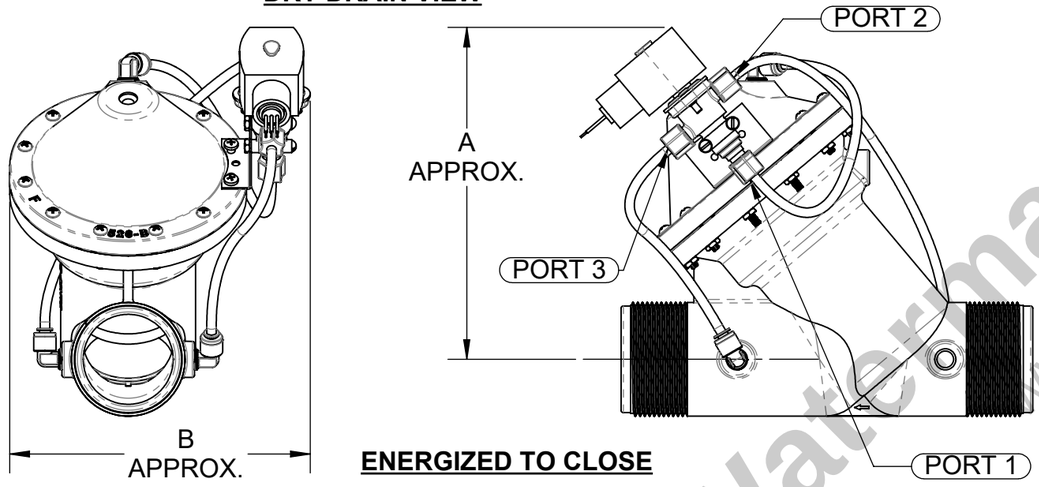
ITEM NO.	QTY.	PART NUMBER	DESCRIPTION	
1	1	-	DIAPHRAGM VALVE - NORMALLY OPEN	
2	1	1075637	SOLENOID, ASCO, 120/60 VAC	110V.60Hz.
		1075638	SOLENOID, ASCO, 220/50 VAC	220V.50Hz.
		1075639	SOLENOID, ASCO, 24/60 VAC	24V.60Hz.
		4510604	SOLENOID, ASCO, 24 VDC, N.O.	E.O.
		4510605	SOLENOID, ASCO, 24 VDC, N.C.	E.C.
3	1	1074783	BRACKET, SOLENOID MOUNTING	
4	2	1072377	SCREW, RD HD, 8-32 X 1/4	
5	3	1071939	NUT & SLEEVE ASSEMBLY, 1/4" TUBE	
6	3	1071937	FITTING, ELBOW, 1/8NPT X 1/4T	520-524
		1078770	FITTING, ELBOW, 1/4NPT X 1/4T	526
7	1	1071936	TUBING, POLY 1/4" O.D. X .035	
8	2	3003551	SCREW, 10-32 X 1 1/2" SS	
9	2	1071646	NUT, HEX, 8-32	

REVISIONS				
ECN	REV.	DESCRIPTION	DATE	APP'D
		SEE SHEET 1 FOR A LIST OF CHANGES.		

DRY DRAIN OPTION

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 AND NO. 4 ON VALVE TAPPED 1/8" N.P.T. (520,521, 524) 1/4" N.P.T.(526)
4. E.C. STANDS FOR ENERGIZED TO CLOSE, E.O. STANDS FOR ENERGIZED TO OPEN.

DRY DRAIN VIEW



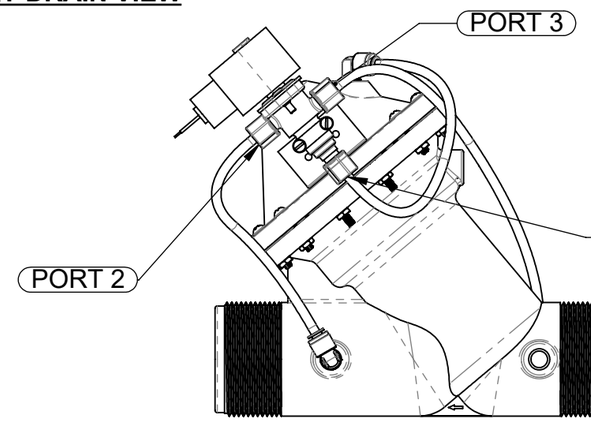
ENERGIZED TO CLOSE

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 / 149.1	4.12 / 104.6
521	3/4",1"	6.52 / 165.6	5.12 / 130.0
524	1-1/2",2"	7.62 / 193.5	6.25 / 158.75
526	2-1/2", 3"	9.62 / 244.3	7.87 / 200.0

DRY DRAIN VIEW



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.

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TOLERANCES:
ANGLES : ± 1°
1 PLACE .X: ± .100 [2.54]
2 PLACE .XX: ± .010 [0.3]
3 PLACE .XXX: ± .005 [0.13]

THIRD ANGLE PROJECTION

APPROVALS	DATE
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AQ-MATIC
VALVES AND CONTROLS

DESCRIPTION
CATALOG SHEET, K520 - K526
SOLENOID OPERATED VALVES

SIZE B | DWG NO. | REV.

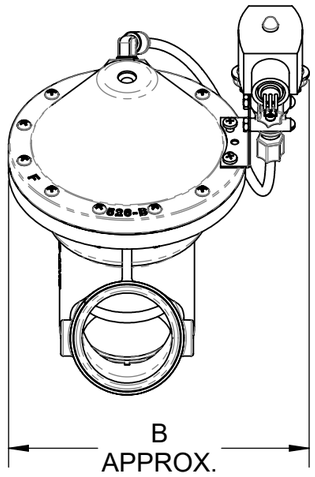
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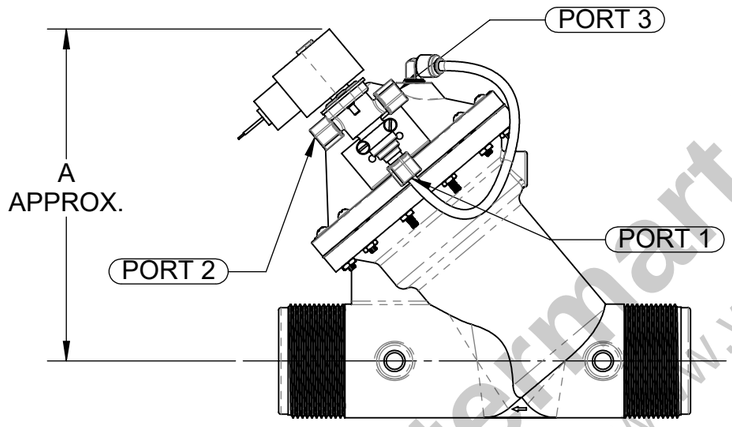
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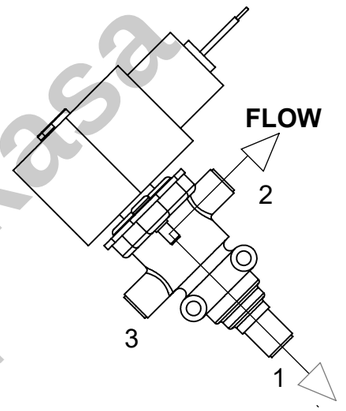
ITEM NO.	QTY.	PART NUMBER	DESCRIPTION	
1	1	-"-	DIAPHRAGM VALVE - NORMALLY OPEN	
2	1	1075637	SOLENOID, ASCO, 120/60 VAC	110V.60Hz.
		1075638	SOLENOID, ASCO, 220/50 VAC	220V.50Hz.
		1075639	SOLENOID, ASCO, 24/60 VAC	24V.60Hz.
3	1	1074783	BRACKET, SOLENOID MOUNTING	
4	2	1072377	SCREW, RD HD, 8-32 X 1/4	
5	3	1071939	NUT & SLEEVE ASSEMBLY, 1/4" TUBE	
6	1	1071937	FITTING, ELBOW, 1/8NPT X 1/4T	520-524
		1078770	FITTING, ELBOW, 1/4NPT X 1/4T	526
8	2	3003551	SCREW, 10-32 X 1 1/2" SS	
8	2	1071646	NUT, HEX, 8-32	
12	1	1071936	TUBING, POLY 1/4" O.D. X .035	

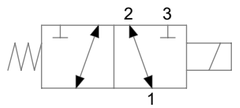
REVISIONS				
ECN	REV.	DESCRIPTION	DATE	APP'D
		SEE SHEET 1 FOR A LIST OF CHANGES.		

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

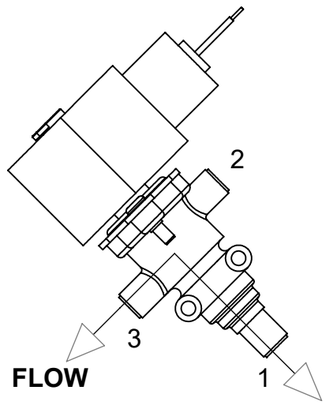


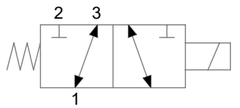






SOLENOID ENERGIZED





SOLENOID DE-ENERGIZED

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

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 / 149.1	4.12 / 104.6
521	3/4", 1"	6.52 / 165.6	5.12 / 130.0
524	1-1/2", 2"	7.62 / 193.5	6.25 / 158.75
526	2-1/2", 3"	9.62 / 244.3	7.87 / 200.00

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AQ-MATIC
VALVES AND CONTROLS

DESCRIPTION
CATALOG SHEET, K520 - K526
SOLENOID OPERATED VALVES

SIZE B | DWG NO. 1081312 | REV. C

SCALE 1:4

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AQUAMATIC® K55 SERIES
COMPOSITE CONTROL VALVES

CONSTRUCTED OF CORROSION-RESISTANT MATERIALS

MADE IN THE USA OF FOREIGN & DOMESTIC PARTS



FEATURES/BENEFITS

The unique Y-pattern design with large seat opening and high lift disc permits higher flow rates at lower pressure loss than other comparable valves

All components can be serviced while the valve is in-line

Separate flow and control chambers permit positive closing without springs

Pre-formed, stress-relieved diaphragm minimizes fatigue, maximizes valve responsiveness and diaphragm lifetime

Diaphragm acts as an actuator, eliminating the need for electric or pneumatic actuators

All internal parts in contact with media are made of composite materials

Seals are ethylene propylene for better chemical resistance*

K55 Series Valves are available in sizes from 1/2"- 2"

A variety of available end connectors make the valve compatible for 3/8"-3" pipe sizes

Adaptable to a wide variety of control devices

Isolated bonnet

Assures no cross connection between line & control fluid

OPTIONS

Normally open [standard]

Limit stop for flow control

Seal and diaphragm materials for special applications

Union End Connectors - Female socket weld connectors for easy installation and the ability to remove the valve without disrupting the service piping

Failsafe spring closed 30, 60, and 100 PSI

TYPICAL APPLICATIONS

Chemical Injection

Deionizers

Fertilizer Spray Equipment

Metal Recovery Systems

Mining Wastes

Process Water Systems

Water Treatment Systems

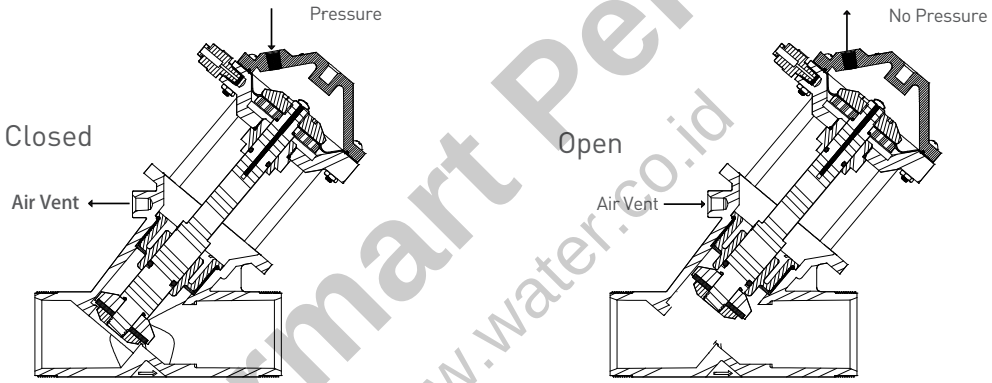
* Valves are NOT recommended for use with any aromatic, hydrocarbon-based media.

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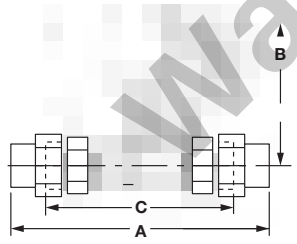
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DIMENSIONS

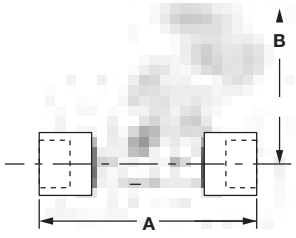
MODEL #	PIPE SIZE	DIMENSIONS (APPROXIMATE)					
		A	B	C	D	E	F
K5520	1/2"	7" (177.8 mm)	3.94" (100.1 mm)	4.87" (123.7 mm)	–	–	–
K5521	1"	9" (228.6 mm)	5.58" (141.7 mm)	6.31" (160.3 mm)	–	–	–
K5524	1-1/2"	12.5" (317.5 mm)	7.94" (201.7 mm)	9.31" (135.0 mm)	–	–	–
K5524	2"	10.50" (266.7 mm)	7.94" (201.7 mm)	–	–	–	–
K5524	2"	10.5" (266.7 mm)	7.94" (201.7 mm)	–	–	–	–
K5520	1/2"	7" (177.8 mm)	3.94" (100.1 mm)	3.93" (99.8 mm)	–	–	–
K5521	1"	9" (228.6 mm)	5.58" (141.7 mm)	4.50" (114.3 mm)	–	–	–
K5524	1-1/2"	12.5" (336.5 mm)	7.94" (201.7 mm)	7.75" (196.8 mm)	–	–	–
K5524	2"	9" (226.6 mm)	7.94" (201.7 mm)	6.00" (152.4 mm)	.75" (19.05 mm)	4.75" (120.85 mm)	.688" (17.48 mm)



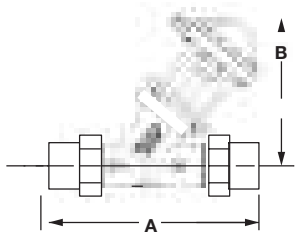
Union End Connectors



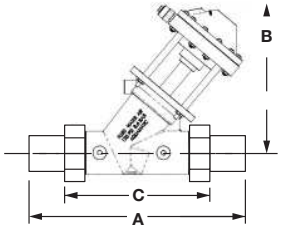
Female Socket Weld End Connectors



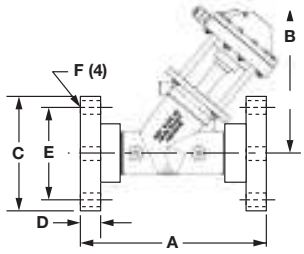
Male Socket Weld End Connectors



Grooved Adaptor Connectors



Flanged Socket Weld End Connectors



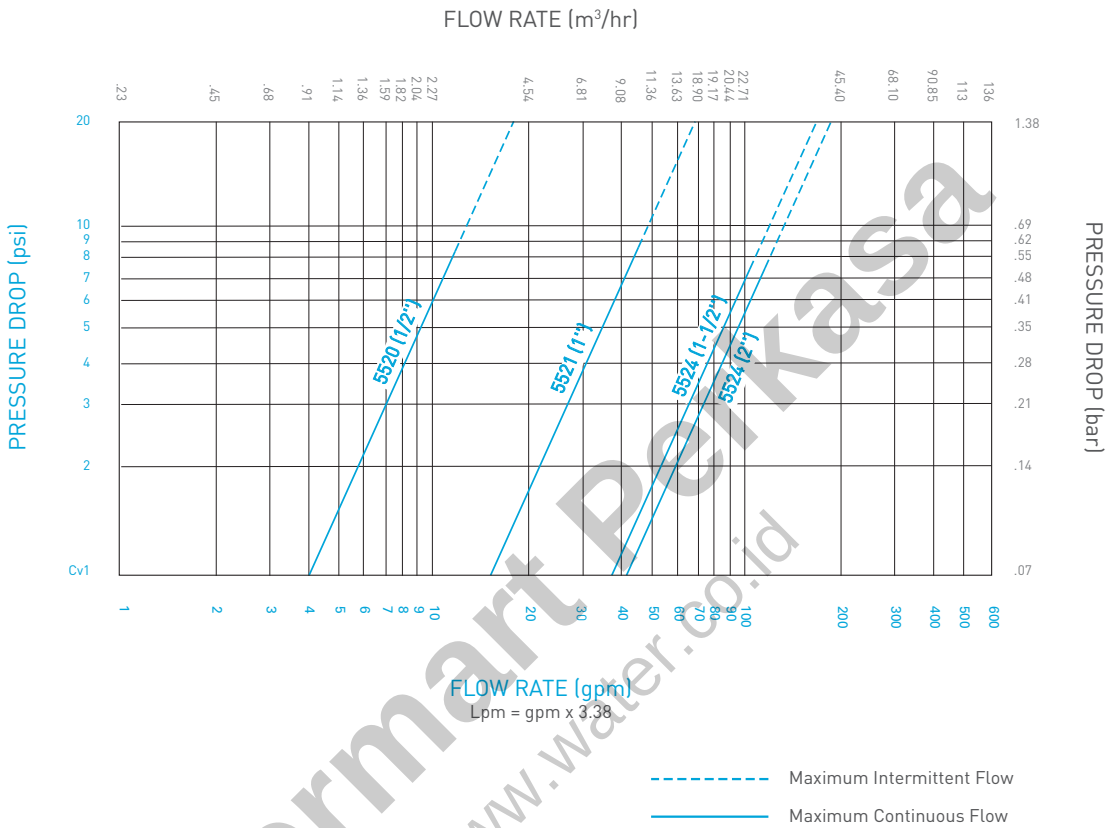
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OPERATING SPECIFICATIONS

Max Pressure	125 psi (8.6 bar)
Max Temperature	140°F (60°C)

PERFORMANCE DATA



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K55 SERIES ISOLATED BONNET DIAPHRAGM VALVE MASTER CHART

*** FILL IN PROPER DESIGNATIONS TO DETERMINE PRODUCT NUMBER:** K 5 5 _ - X 2 _ _ - 4 0 0 0

BODY SIZE (std)
0 = 1/2"
1 = 1"
4 = 1-1/2"

END CONNECTIONS (X std)
X = None

BODY & CAP MATERIAL (2 std)
2 = Noryl

VALVE OPTIONS (00 std)

00 = NO	04 = Spring Closed 60#	14 = LS, Spring Closed 60#
03 = Spring Closed 30#	05 = Spring Closed 100#	15 = LS, Spring Closed 100#
	10 = NO, LS	SX = Special Valve **

SEAL MATERIALS (1 std)

OPT.	OPERATING DIAPHRAGM	SEALING DISK	DYNAMIC SEALS	STATIC SEALS	KIT SERIES	TYPICAL USE
1	Buna-N	EP	EP	EP	RAE	Water
5	Buna-N	Fluoroelast.	Fluoroelast.	Fluoroelast.	RAV	Acid
6	Buna-N	Butyl	Butyl	Butyl	RAJ	Caustic

INTERNAL PARTS (4 std)
4 = Noryl/PVC (140°F (60°C) Valve Rating)

DRILL & TAP BOSSES (0 std)
0 = None

SOLENOID OPTIONS (0 std)
0 = None

SOLENOID FEATURES (0 std)
0 = None

* To create a valve number replace each "_" with the proper number or letter for the feature you desire. For example, a Normally Open 2" Plastic Valve Model K5524 with a Spring Assist Closed Option is designated as a K554-X202-14000.

** A special valve will have a custom drawing number (_ _ _ _ _ _ _)
and the item number format is (K55?-X2SX-_ _ _ _ _)
where the last 5 numbers (Far Right) are the last five digits of the drawing number.

REV.	ECO NO.	DESCRIPTION	BY/DATE
E	100997	Removed -02 & -12 valve options	TJM 8-Aug-12

42985

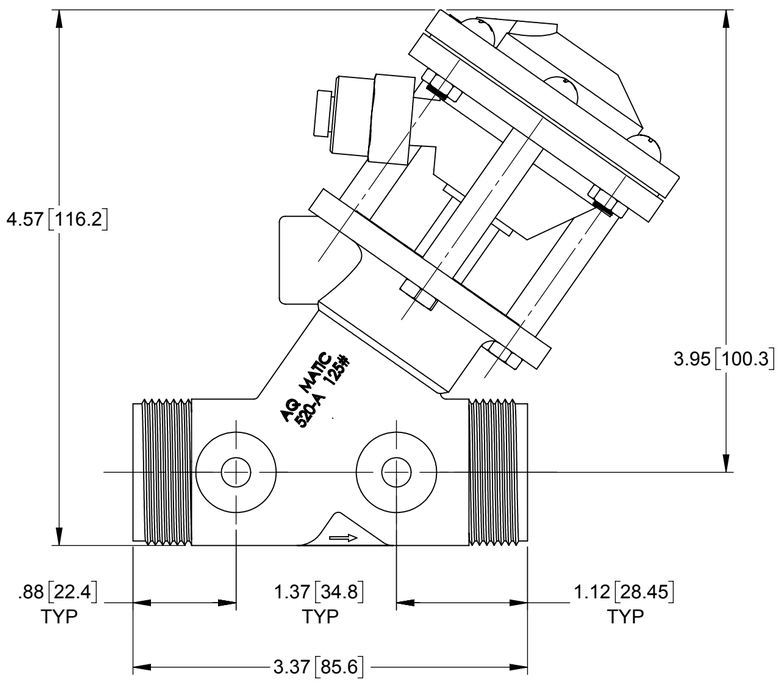
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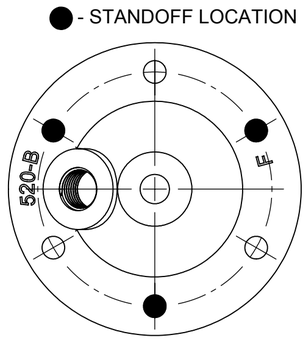
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42985 REV E

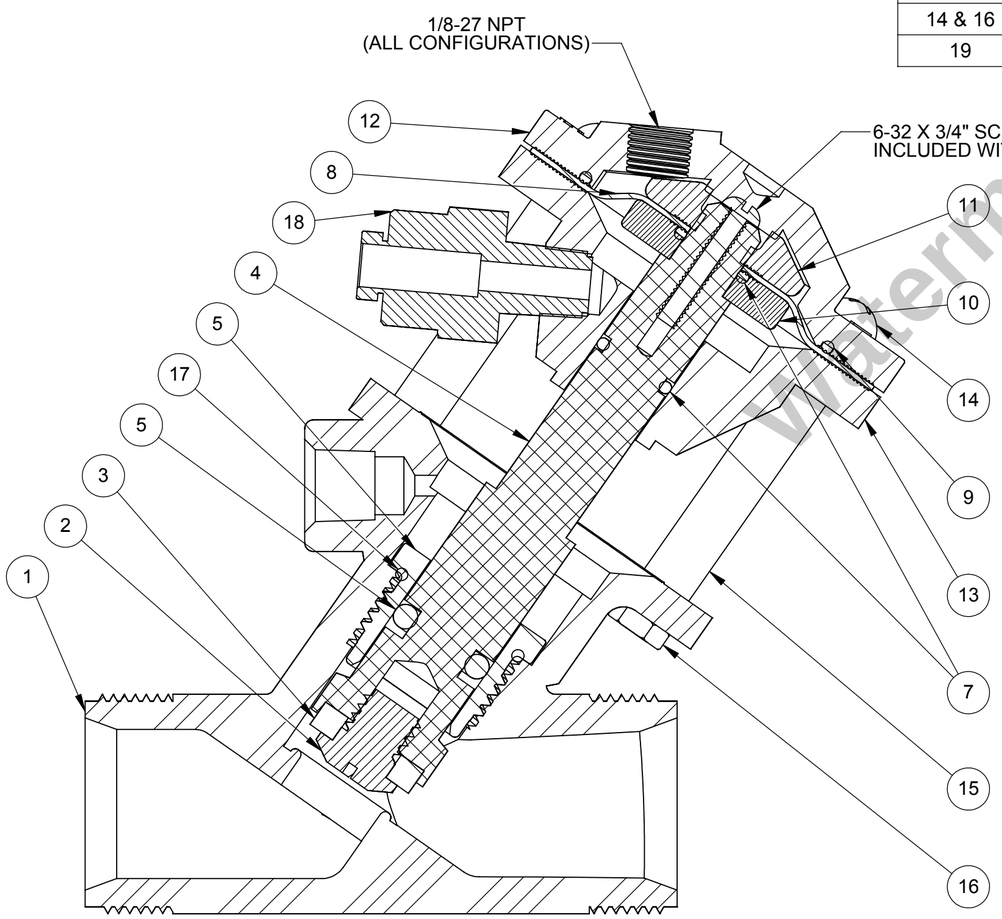
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ASSEMBLY TOOLS	
DESCRIPTION	**PART NO.**
FOR INSTALLATION AND REMOVAL OF SHAFT GUIDE & DIAPHRAGM PLATE (TOOL NOT SHOWN)	1074989

TORQUE TABLE		
ITEM #	**DESCRIPTION**	**TORQUED TO (+/- 10%)**
2	SCREW, PLATE, DISC	8 IN-LB
5	GUIDE, SHAFT	32 IN-LB
14 & 16	CAP SCREW & NUT	30 IN-LB
19	SCREW, DIAPHRAGM	20 IN-LB



1071402 (K550-X200-1400)
NORMALLY OPEN (STANDARD)

REVISIONS				
ECN	REV.	DESCRIPTION	DATE	APP'D
102124	J	REDRAWN IN SOLIDWORKS,FORM # NOW DWG #, WAS-1084013	06/25/13	TJM
1001	K	AQ MATIC UPDATE & VERIFIED PART NUMBERS	01/17/17	MGS
1431	L	VERIFIED PART NUMBERS BOM	02/19/19	TRK
1585	M	LOGO UPDATE, REMOVE BR FROM DRW #, FIX MINOR ERRORS, ADD TORQUE TABLE	11/14/19	KJB

ITEM NO.	DESCRIPTION		PART NUMBER	QTY.
1	BODY, 520, VALVE	NORYL	1074943	1
2	SCREW, DISC, PLATE, 520	NORYL	1077903	1
3	DISC	EPDM	1074966	1
		BUTYL	1074967	
		FKM	1074968	
4	SHAFT, K5520	PVC	1075335	1
5	GUIDE, SHAFT, 520	NORYL	1074964	1
6	O-RING, 2-204	EPDM	1071740	1
		BUTYL	1071774	
		FKM	1071812	
7	O-RING, 2-012	BUNA	1071688	2
8	DIAPHRAGM, 520	BUNA	1074962	1
9	O-RING, 2-030	EPDM	3015801	1
10	PLATE, DIAPHRAGM, LWR, 520	PVC	1075339	1
11	PLATE, DIAPHRAGM, UPR, 520	NORYL	1074958	1
12	CAP, VALVE, 520	NORYL	1074948	1
13	BOTTOM CAP, 520	PVC	1075334	1
14	SCREW, 10-32 X 5/8",RND HD	SS	1072379	6
15	STANDOFF	SS	1075338	3
16	HEX NUT, 10-32	SS	1071647	6
17	O-RING, -018	EPDM	1071720	1
		BUTYL	1071762	
		FKM	1071790	
18	CONNECTOR, 1/8 MNPT X 1/4T, PLS	ACETAL	1078767	1

REPAIR PARTS KITS			
DESCRIPTION	**PART NO.**		
DIAPHRAGM & SEALS KIT CONSISTS OF ITEM NO'S 3, 6, 7, 8, 9, 17	1075341 (5520-RAE) EPDM INCLUDES DIAPHRAGM 1074962	1075342 (5520-RAJ) BUTYL INCLUDES DIAPHRAGM 1074962	1075343 (5520-RAV) FKM INCLUDES DIAPHRAGM 1074962
INTERNAL PARTS KIT (NORMALLY OPEN) CONSISTS OF ITEM NO'S 2, 4, 5, 10, 11	1071432 (K5520-RF)		

- SEE DRAWING 1081309 FOR UNION END CONNECTORS & GROOVED ADAPTORS
- SEE SHEET 2 FOR CONFIGURATION OPTIONS

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THIRD ANGLE PROJECTION

APPROVALS	DATE
DRAWN MWL	06/25/13
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APPROVED	

CATALOG SHEET, 5520, VALVE

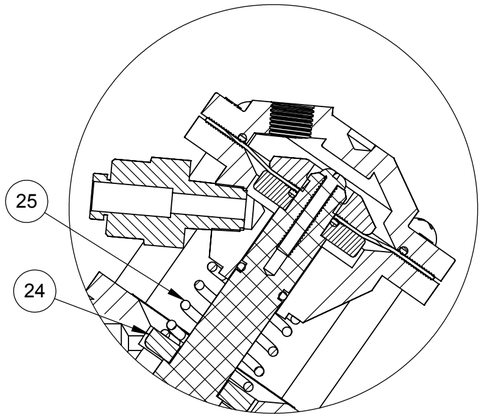
SIZE C | DWG NO. 1077602 | REV. M

SCALE 1:1

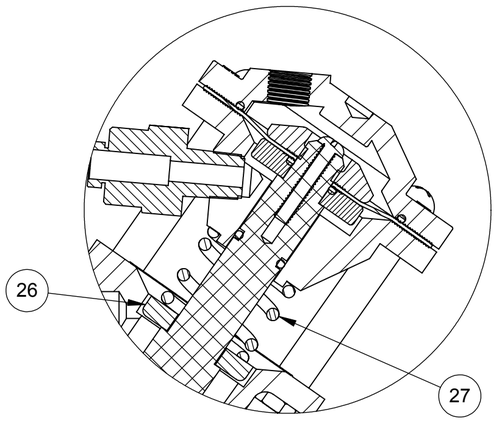
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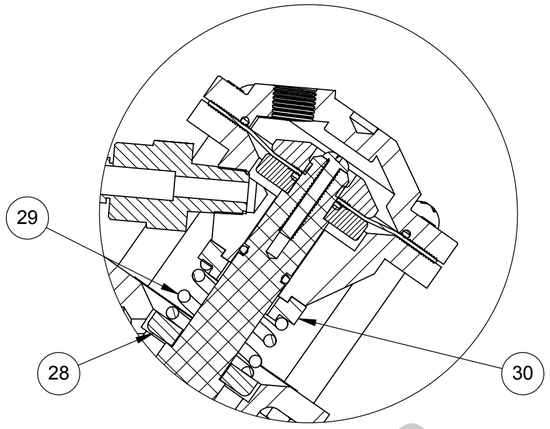
REVISIONS				
ECN	REV.	DESCRIPTION	DATE	APP'D
		SEE SHEET 1 FOR A LIST OF CHANGES.		



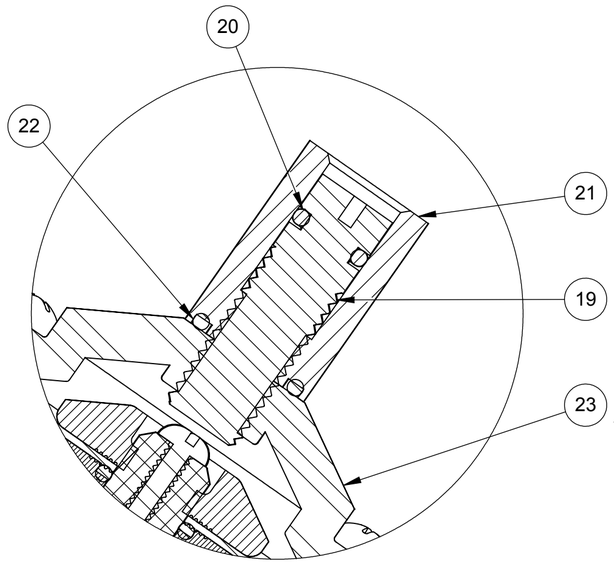
1071406 (K550-X203-14000)
FAILSAFE SPRING CLOSED 30 PSI



1071409 (K550-X204-14000)
FAILSAFE SPRING CLOSED 60 PSI



1071412 (K550-X205-14000)
FAILSAFE SPRING CLOSED 100 PSI



3020566 (K550-X210-14000)
LIMIT STOP

REPAIR PARTS KITS	
DESCRIPTION	**PART NO.**
INTERNAL PARTS KIT (LIMIT STOP) CONTAINS ITEM NO'S 19 THRU 22	1074973 (520-LS)

CONVERSION KITS	
DESCRIPTION	**PART NO.**
CONVERSION PARTS KIT (LIMIT STOP) CONTAINS ITEM NO'S 19 THRU 23	1071056 (K520-LSC)

LIMIT STOP MODEL

ITEM NO.	DESCRIPTION		PART NUMBER	QTY.
19	SCREW, LS, 520	SS	1074988	1
20	O-RING, 2-010	BUNA	1071667	1
21	NUT, LS, 520	SS	1074987	1
22	O-RING, 2-013	BUNA	1071669	1
23	CAP, LS, 520	NORYL	1074946	1

FAILSAFE SPRING CLOSED - 30 PSI

ITEM NO.	DESCRIPTION		PART NUMBER	QTY.
24	RETAINER, SPRING, 520	SS	1075344	1
25	SPRING, COMPRESSION	SS	3007473	1

FAILSAFE SPRING CLOSED - 60 PSI

ITEM NO.	DESCRIPTION		PART NUMBER	QTY.
26	RETAINER, SPRING, 520	SS	1075344	1
27	SPRING, COMPRESSION	SS	1075053	1

FAILSAFE SPRING CLOSED - 100 PSI

ITEM NO.	DESCRIPTION		PART NUMBER	QTY.
28	RETAINER, SPRING, 520	SS	1075344	1
29	SPRING, COMPRESSION	SS	1075053	1
30	CENTERING COLLAR	SS	1075337	1

NOTE:

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

- SEE DRAWING 1081309 FOR UNION END CONNECTORS & GROOVED ADAPTORS
- SEE SHEET 1 FOR STANDARD NORMALLY OPEN CONFIGURATION

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CORNER FILLETS R.005-.020 [.127-.508]
TOLERANCES:
ANGLES : ± 1°
1 PLACE .X: ± .100 [2.54]
2 PLACE .XX: ± .010 [0.25]
3 PLACE .XXX: ± .005 [0.13]

THIRD ANGLE PROJECTION

APPROVALS	DATE
DRAWN MWL	06/25/13
CHECKED BY	
APPROVED	

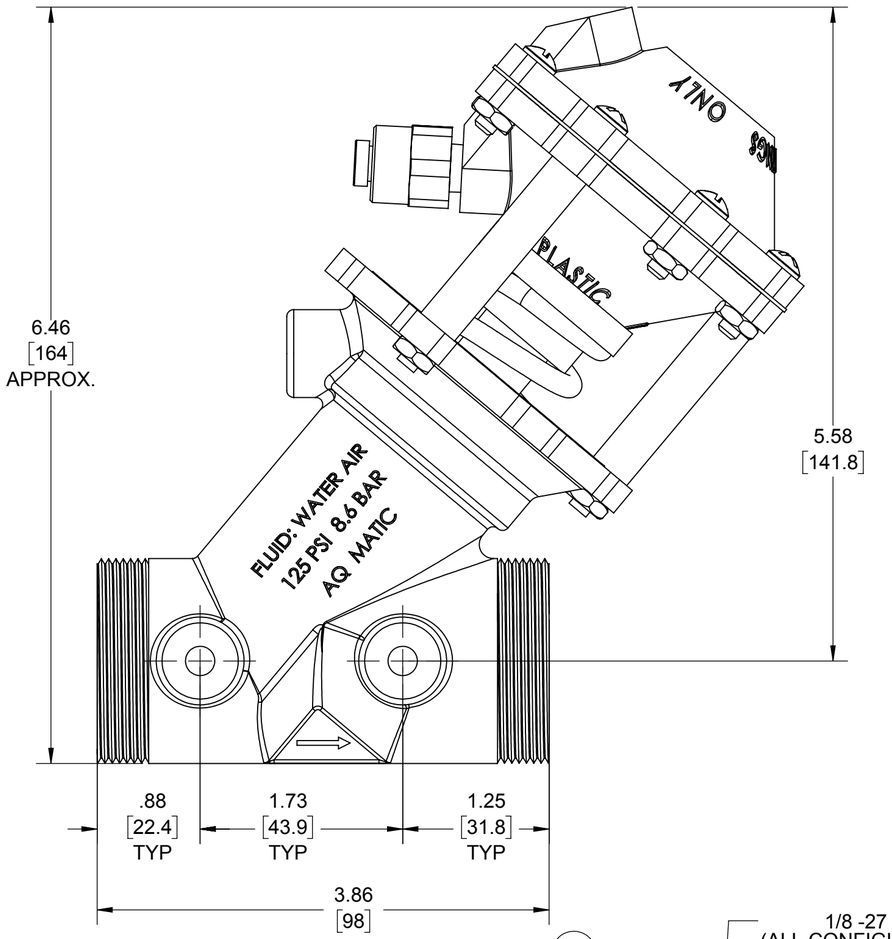
CATALOG SHEET, 5520, VALVE

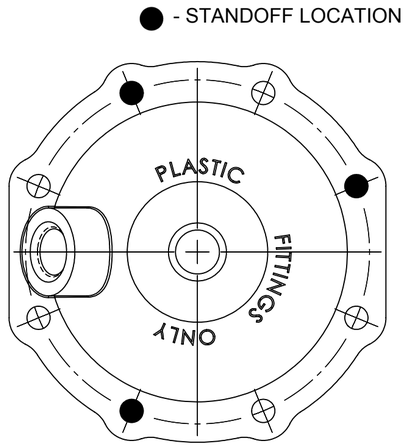
SIZE C | DWG NO. 1077692 | REV. M

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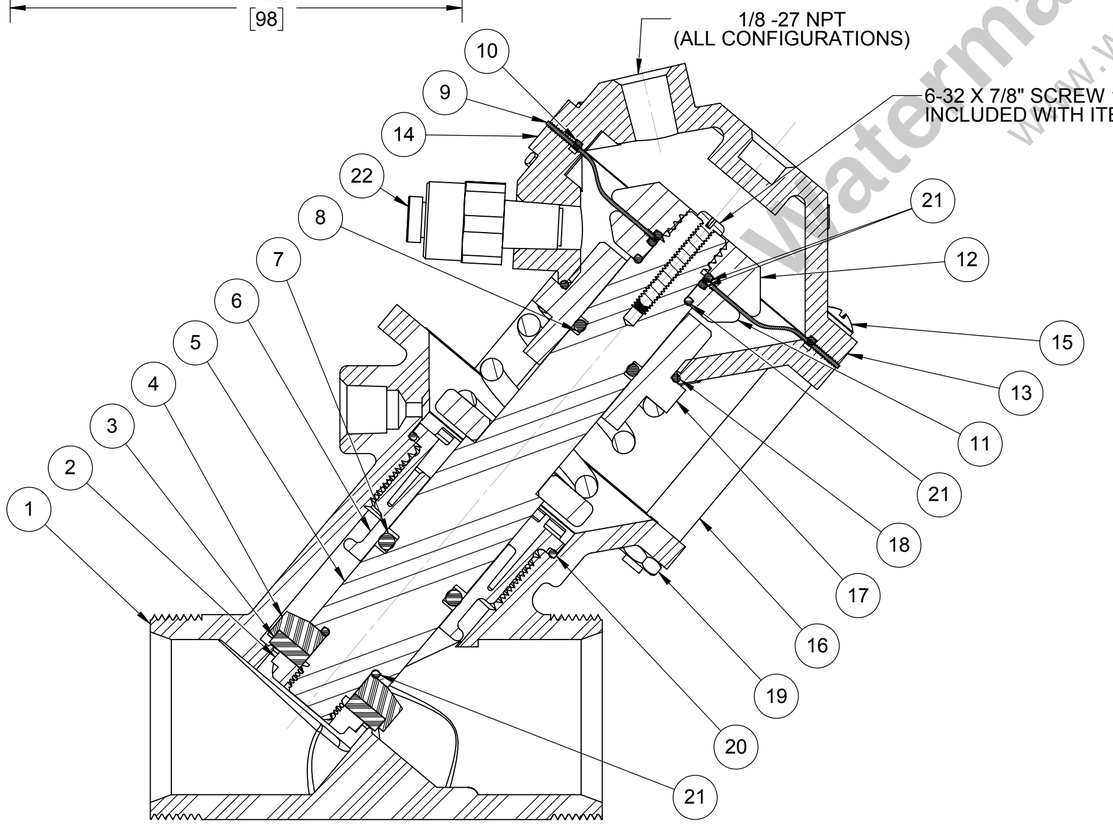
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ASSEMBLY TOOLS	
DESCRIPTION	**PART NO.**
FOR INSTALL & REMOVAL OF SHAFT GUIDE & DIAPHRAGM PLATE (TOOL NOT SHOWN)	1075059 (521-Z)

TORQUE TABLE		
ITEM #	**DESCRIPTION**	**TORQUED TO (+/- 10%)**
2	NUT, DISC PLATE	10 IN-LB
15 & 19	CAP SCREW & NUT	30 IN-LB
6	GUIDE, SHAFT	32 IN-LB
25	DIAPHRAGM SCREW	35 IN-LB



1071421 (K551-X200-14000)
NORMALLY OPEN

REVISIONS				
ECN	REV.	DESCRIPTION	DATE	APP'D
102658	H	REDRAWN IN SOLID WORKS: ITEM #1: WAS 1075007, ITEM #13: WAS 1075012 ITEM #14: WAS 1075348, ITEM #27: WAS 1075010, 5-FORM # NOW DWG #	10/31/13	TJM
103697	J	ITEM #20: WAS: 1071942, 1071943, 1071944	12/12/14	TJM
1001	K	AQ MATIC UPDATE & VERIFIED PART NUMBERS	01/16/17	MGS
1585	L	REMOVE BR FROM DRW #, FIX MINOR ERRORS, ADD TORQUE TABLE	11/14/19	KJB

ITEM NO.	DESCRIPTION		PART NUMBER	QTY.
1	BODY, 521, VALVE	NORYL	43476	1
2	NUT, DISC PLATE	PVC	1075358	1
3	DISC	EPDM	1075033	1
		BUTYL	1075034	
		FKM	1075036	
4	RETAINER, DISC	PVC	1075360	1
5	SHAFT, 5521	PVC	1075349	1
6	GUIDE, SHAFT, 521	NORYL	1075030	1
7	O-RING, 2-208	EPDM	1071743	1
		BUTYL	1071775	
		FKM	1071814	
8	O-RING, 2-112	BUNA	1071690	1
9	DIAPHRAGM, 521	BUNA	1075028	1
10	O-RING, 2-805	BUNA	1071715	1
11	PLATE, DIAPHRAGM, LWR, 5521	NORYL	43080	1
12	PLATE, DIAPHRAGM, UPR, 5521	NORYL	43081	1
13	CAP, VALVE, 521	NORYL	43477	1
14	CAP, LWR, 5521	NORYL	43725	1
15	SCREW, 10-32 X 3/4", RND HD	SS	1072380	8
16	STANDOFF	SS	1075354	3
17	GUIDE, SHAFT	PVC	1075357	1
18	O-RING, 2-025	BUNA	1071677	1
19	HEX NUT, 10-32	SS	1071648	8
20	O-RING, 2-029	EPDM	1081945	1
		BUTYL	43893	
		FKM	1081947	
21	O-RING, 2-014	EPDM	1071718	4
		BUTYL	1071760	
		FKM	1071788	
22	CONNECTOR, 1/8 MNPT X 1/4T	ACETAL	1078767	1
23	SPRING, COMPRESSION	SS	1075365	1

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

- SEE DRAWING 1081309 FOR UNION END CONNECTORS & GROOVED ADAPTORS
- SEE SHEET 2 FOR CONFIGURATION OPTIONS

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2 PLACE .XX: ± .010 [0.25]
3 PLACE .XXX: ± .005 [0.13]

APPROVALS	DATE
DRAWN NE	08/29/12
CHECKED BY	
APPROVED	

CATALOG SHEET, 5521, VALVE

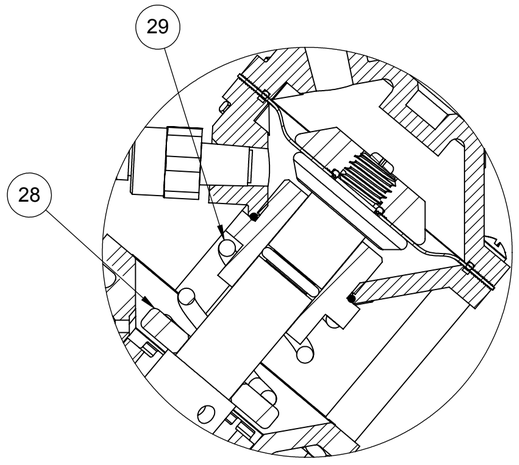
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SCALE 1:1

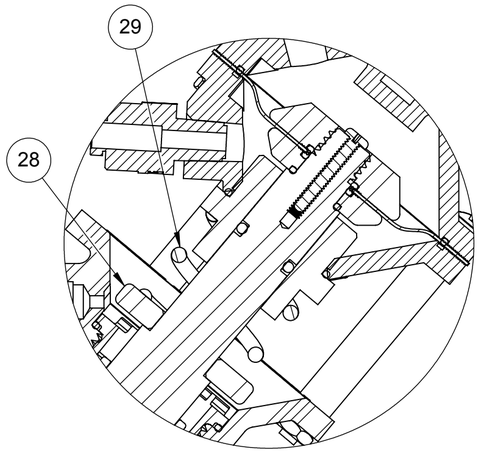
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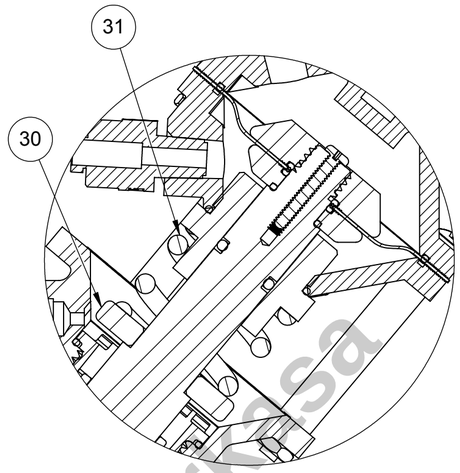
REVISIONS				
ECN	REV.	DESCRIPTION	DATE	APP'D
		SEE SHEET 1 FOR LIST OF CHANGES.		



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

LIMIT STOP MODEL

ITEM NO.	DESCRIPTION		PART NUMBER	QTY.
21	SCREW, LS, 521	SS	1075058	1
22	O-RING, 2-012	BUNA	1071668	1
23	NUT, LS, 521	SS	1075057	1
24	O-RING, 2-016	BUNA	1071671	1
25	CAP, LS, 521	NORYL	43724	1
36	SHAFT, 5521		1075349	1

FAILSAFE SPRING CLOSED - 30 PSI

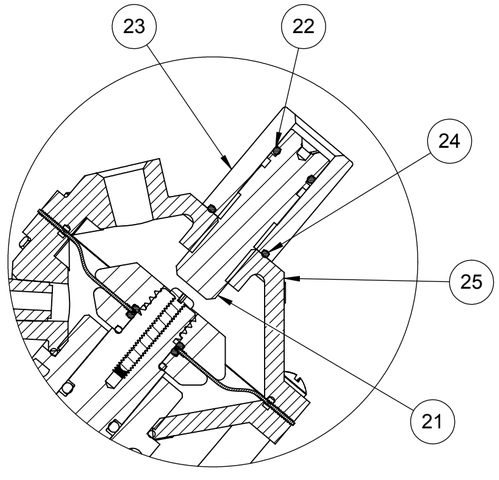
ITEM NO.	DESCRIPTION		PART NUMBER	QTY.
26	RETAINER, SPRING	PVC	1075351	1
29	SPRING, COMPRESSION	SS	1075366	1
32	SHAFT, 5521		1075349	1

FAILSAFE SPRING CLOSED - 60 PSI

ITEM NO.	DESCRIPTION		PART NUMBER	QTY.
28	RETAINER, SPRING	PVC	1075351	1
29	SPRING, COMPRESSION	SS	1075370	1
32	SHAFT, 5521		1075349	1

FAILSAFE SPRING CLOSED - 100 PSI

ITEM NO.	DESCRIPTION		PART NUMBER	QTY.
30	RETAINER, SPRING	PVC	1075351	1
31	SPRING, COMPRESSION	SS	1075365	1
32	SHAFT, 5521		1075349	1



1079761 (K551-X210-14000)
LIMIT STOP

REPAIR PARTS KITS	
DESCRIPTION	**PART NO.**
INT. PARTS KIT (LIMIT STOP) CONSIST 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)

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. COMPONENTS/ASSEMBLIES TO BE COMPLIANT AND COMPATIBLE WITH EUROPEAN UNION DIRECTIVE 2002/95/EEC (RoHS) REQUIREMENTS.

- SEE DRAWING 1081309 FOR UNION END CONNECTORS & GROOVED ADAPTORS
- SEE SHEET 1 FOR STANDARD NORMALLY OPEN CONFIGURATION

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3 PLACE .XXX: ± .005 [0.13]

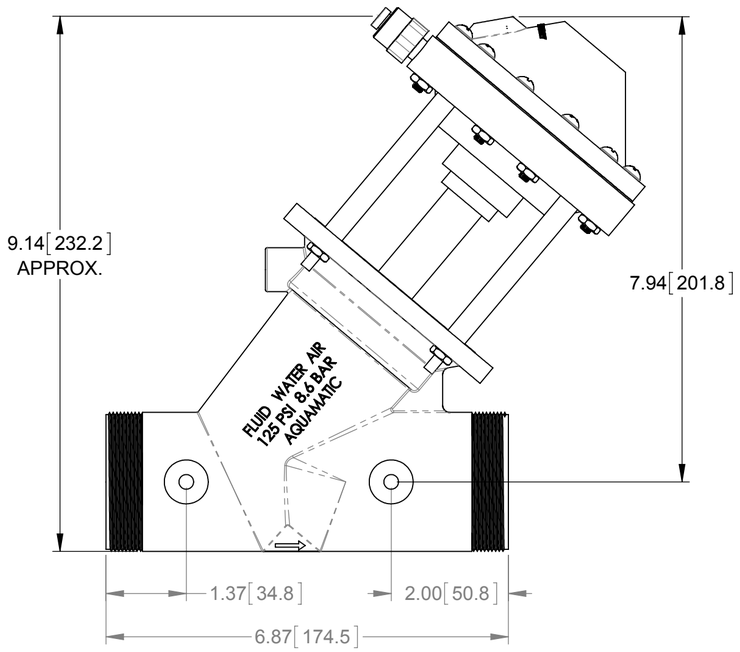
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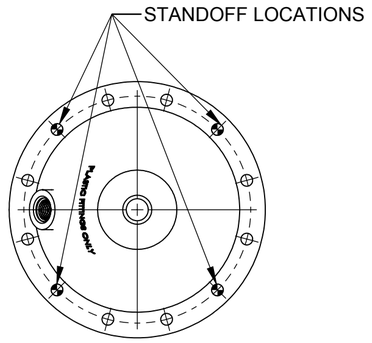
CATALOG SHEET, 5521, VALVE

SIZE C | DWG NO. 1077693 | REV. I

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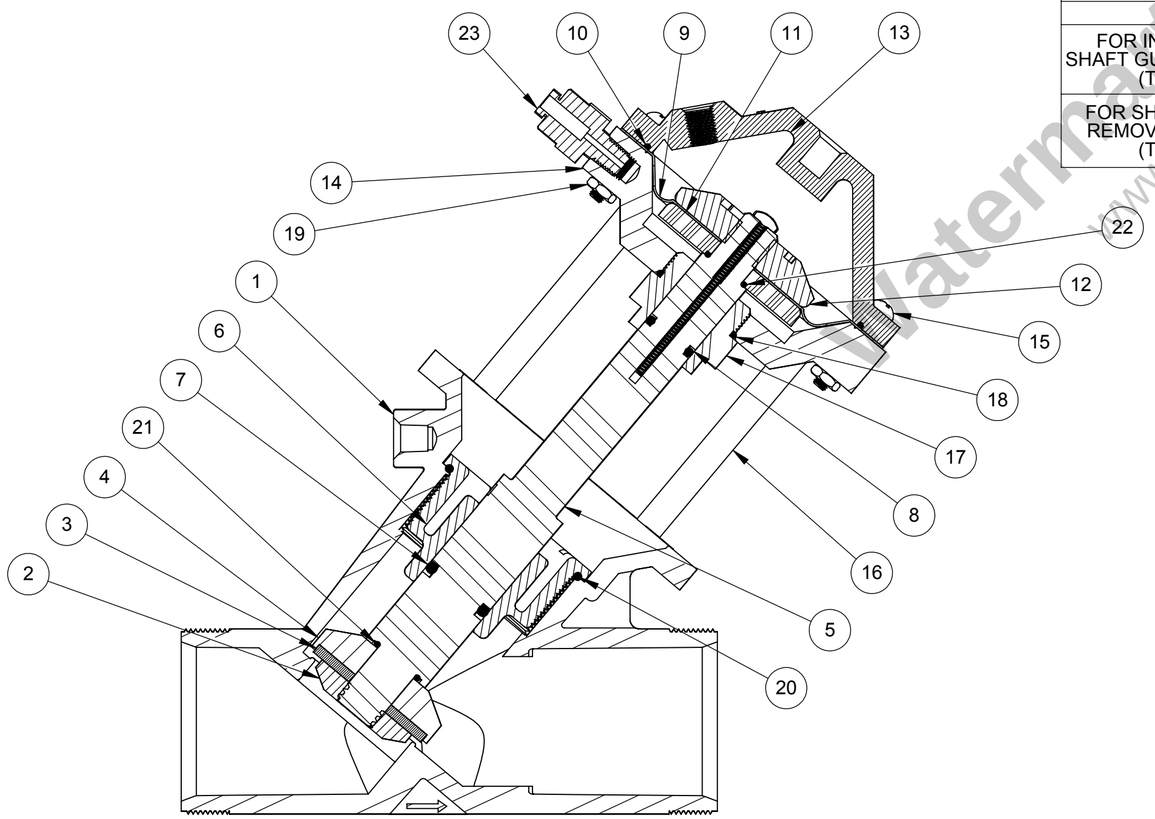




REVISIONS					
ZONE	ECN	REV.	DESCRIPTION	DATE	APP'D
	102135	H	REDRAWN IN SOLIDWORKS, FORM # NOW DWG # (WAS-1084015)	06-27-13	TJM
	1001	J	AQ Matic update & verified part numbers	17JAN17	MGS

REPAIR PARTS KITS		
DESCRIPTION	PART NO.	
DIAPHRAGM & SEALS KIT CONSISTS OF ITEM NO'S 3,7,8,9, 10,18, 20, 21, 22	1075377	1075378
	EPDM INCLUDES DIAPHRAGM 1075377	BUTYL INCLUDES DIAPHRAGM 1075104
	1075379 FKM INCLUDES DIAPHRAGM 1075104	
INT. PARTS KIT (NORM. OPEN) CONSISTS OF ITEM NO'S 2,4,5,6,11,12,17	1071434	

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



1071435 (K554-X200-14000)
NORMALLY OPEN

ITEM NO.	DESCRIPTION		PART NUMBER	QTY
1	BODY, VALVE 524		1075079	1
2	PLATE, DISC, 524		1076198	1
3	DISC	EPDM	1075107	1
		BUTYL	1075108	1
		FKM	1075109	1
4	HOLDER, DISC, 5524		1075121	1
5	SHAFT (SERIES 5524),		1075372	1
6	GUIDE,SHAFT,524,BLACK		1075106	1
7	O-RING, 2-210	EPDM	1071744	1
		BUTYL	1071776	1
		FKM	1071815	1
8	O-RING, (EPDM) 2-113		1071728	1
9	DIAPHRAGM, 524, PURCHASED		1078393	1
10	O-RING, 2-043 NITRILE		1071686	1
11	PLATE,DIAPHRAGM,5524,LOWER		1075375	1
12	PLATE,DIAPHRAGM,5524,UPPER,BLK		1075101	1
13	CAP,524, VALVE		1075086	1
14	CAP, STANDARD BOTTOM		1075371	1
15	SCREW, RND HD, #10-32X1 1/4"LG		1072382	12
16	STANDOFF, 5524, SS		1075374	4
17	BUSHING, GUIDE		1075376	1
18	O-RING,2-025,NITRILE		1071677	1
19	HEX NUT, 10-32, SS		1071648	12
20	O-RING, 2-137	EPDM	1071735	1
		BUTYL	1071771	1
		FKM	1071807	1
21	O-RING, -016	EPDM	1071719	1
		BUTYL	1071761	1
		FKM	1071789	1
22	O-RING,2-015,NITRILE		1071670	1
23	CONNECTOR, 1/8 MNPT X 1/4T,PLS		1078767	1

REPAIR PARTS KITS			
DESCRIPTION	PART NO.		
DIAPHRAGM & SEALS KIT CONSISTS OF ITEM NO'S 3,7, 8, 9, 10, 19, 20, 21, 22	1075377 EPDM INCLUDES DIAPHRAGM 1075377	1075378 BUTYL INCLUDES DIAPHRAGM 1075104	1075379 FKM INCLUDES DIAPHRAGM 1075104
INTERNAL PARTS KIT CONSISTS OF ITEM NO'S 2, 4, 5, 6, 11, 12, 18	1071434		

SEE SHEET 1078150 FOR SOCKET WELD & FLANGED ADAPTORS
SEE SHEET 1078140 FOR SOCKET WELD & PIPE ADAPTORS

SEE REVERSE SIDE FOR STANDARD NORMALLY OPEN MODEL

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TOLERANCES:
ANGLES : ± 1°
1 PLACE .X: ± .015 [0.38]
2 PLACE .XX: ± .01 [0.3]
3 PLACE .XXX: ± .005 [0.13]

THIRD ANGLE PROJECTION

APPROVALS	DATE
DRAWN MWL	06-27-13
APPROVED	
CHECKED	

AQ Matic
Valve & Controls Company Inc.

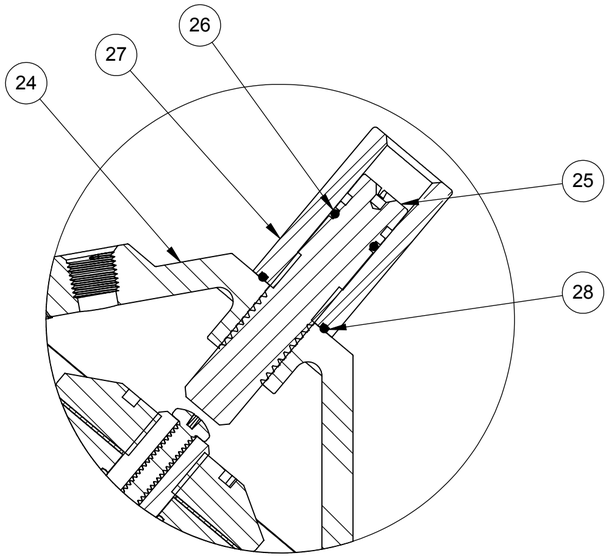
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SIZE B | DWG NO | REV

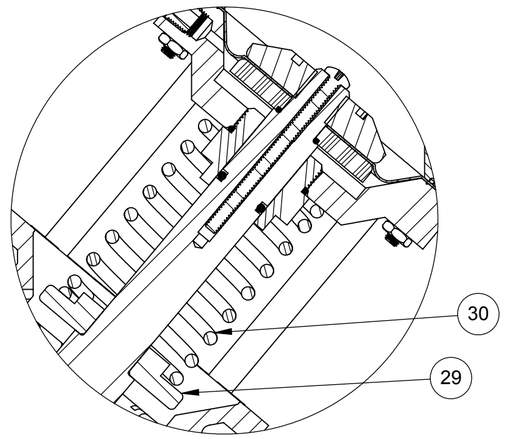
SCALE 1:2

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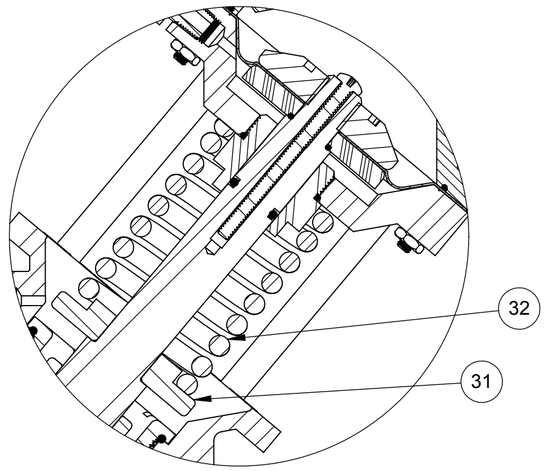
REVISIONS					
ZONE	ECN	REV.	DESCRIPTION	DATE	APP'D
			SEE SHEET 1 FOR LIST OF CHANGES		



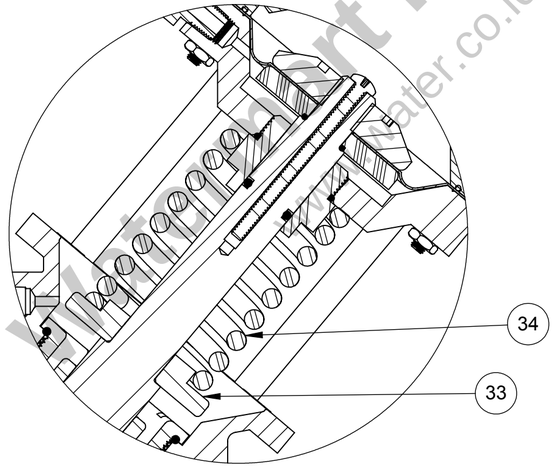
1079768 (K554-X210-14000)
LİMIT STOP



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

LIMIT STOP MODEL

ITEM NO.	DESCRIPTION	PART NUMBER	QTY.
24	CAP, LIMIT STOP,524	1075083	1
25	LIMIT STOP SCREW, SS	1075142	1
26	O-RING,2-012,BUNA	1071668	1
27	LIMIT STOP NUT, SS	1075141	1
28	O-RING,2-016,BUNA	1071671	1

FAILSAFE SPRING CLOSED - 30 PSI

ITEM NO.	DESCRIPTION	PART NUMBER	QTY.
29	RETAINER, SPRING, PVC	1075373	1
30	SPRING, COMPRESSION, SS	1077981	1

FAILSAFE SPRING CLOSED - 60 PSI

ITEM NO.	DESCRIPTION	PART NUMBER	QTY.
31	RETAINER, SPRING, PVC	1075373	1
32	SPRING, CMPRSN SERIES 4424	1267397	1

FAILSAFE SPRING CLOSED - 100 PSI

ITEM NO.	DESCRIPTION	PART NUMBER	QTY.
33	RETAINER, SPRING, PVC	1075373	1
34	SPRING, COMPRESSION	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 FAIL SAFE OPTION ASSEMBLY REQUIREMENTS.

SEE SHEET 1078150 FOR SOCKET WELD & FLANGED ADAPTORS
SEE SHEET 1078140 FOR SOCKET WELD & PIPE ADAPTORS

SEE REVERSE SIDE FOR STANDARD NORMALLY OPEN MODEL

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DO NOT SCALE DRAWING. DIMS. ARE IN INCHES [mm]
INTERPRET DIMS AND TOLERANCES PER ASME Y14.5M -2009
UNLESS OTHERWISE SPECIFIED:
ALL FINISHED MACHINED SURFACES 125 ✓ OR BETTER.
TOLERANCES:
ANGLES : ± 1°
1 PLACE .X: ± .015 [0.38]
2 PLACE .XX: ± .01 [0.3]
3 PLACE .XXX: ± .005 [0.13]

THIRD ANGLE PROJECTION

APPROVALS	DATE
DRAWN	
APPROVED	
CHECKED	

AQ Matic
Valve & Controls Company Inc.

TITLE
CATALOG SHEET, 5524

SIZE B | DWG NO | REV

SCALE 1:2

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AQUAMATIC® K53 SERIES

CONTROL VALVES

CORROSION-RESISTANT CONSTRUCTION WITHSTANDS HARSH MEDIA



FEATURES/BENEFITS

Unique Y-pattern design with large seat opening and high lift disc permits higher flow rates at lower pressure loss than other comparable valves

All components can be serviced while the valve is in-line

Separate flow and control chambers permit positive closing without springs; and only nominal cost for spring assist opening for low-pressure and self- draining applications

Pre-formed, stress-relieved diaphragm minimizes fatigue, maximizes valve responsiveness and diaphragm lifetime

Diaphragm acts as an actuator, eliminating the need for electric or pneumatic actuators

All internal parts in contact with media are made of composite materials*

Seals are ethylene propylene for better chemical resistance**

Two dynamic O-rings on the shaft, with a vent in between the O-rings, to prevent damage to the diaphragm

Female socket weld connectors for easy installation and the ability to remove the valve without disrupting the service piping

Valve bodies provided with molded pads that can be used to support the piping manifold

Cap held by a retaining ring, eliminating screws and nuts; no external metal parts to corrode in aggressive environment

Available in sizes from 1"-3"

A variety of end connectors are available to make the valve compatible in pipe sizes from 3/4"-3"

Adaptable to a wide variety of control devices

OPTIONS

Normally open [standard]

Externally normally closed†

Spring-assist closed

Spring-assist open

Fully adjustable Limit Stop from full-open to full-closed, with a Position Indicator to show the valve position

Seal and diaphragm materials for special applications†

TYPICAL APPLICATIONS

Chemical Injection

Deionizers

Desalinization

Detergent and Bleach Handling

Electronic Industry

Evaporation

Fertilizer Spray Equipment

Level Control Systems

Metal Recovery Systems

Mining Wastes

Process Water Systems

Water Treatment Systems

Certified by IAPMO R&T to NSF/ANSI 61 and NSF/ANSI 372 for lead free compliance.

* Normally closed valve configurations are NOT recommended when used with corrosive fluids.

** Valves are NOT recommended for use with any aromatic, hydrocarbon-based media.

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