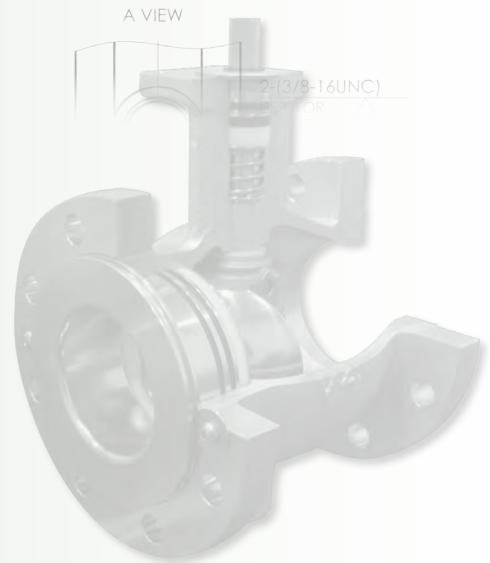
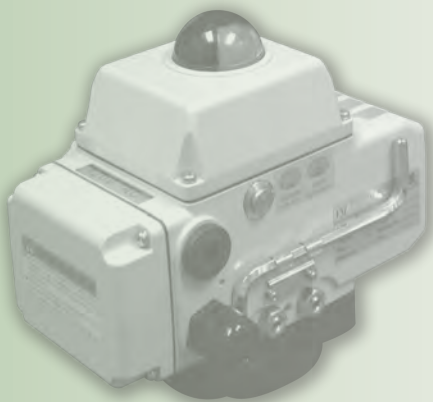
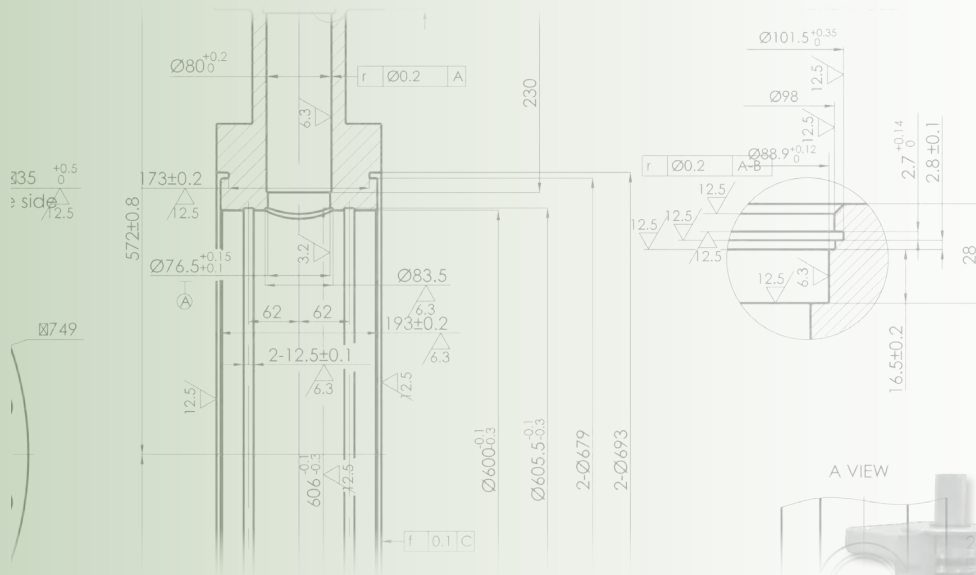


VSI



Kele



2013 VSI - KELE ORDERING GUIDE

TABLE OF CONTENTS

BUTTERFLY VALVE PART NUMBER MATRIX

V-BALL VALVE PART NUMBER MATRIX

2 WAY BUTTERFLY VALVES

With 120V / 24V Electric Actuators - 2 Position	1-2
With 120V / 24V Electric Actuators - Modulating	1-4
With High Pressure Pneumatic Actuators - 2 Position	1-6
With High Pressure Pneumatic Actuators - Modulating	1-8
With Low Pressure Pneumatic Actuators - 2 Position	1-10
With Low Pressure Pneumatic Actuators - Modulating	1-11
With 24V Electric Damper Actuators - 2 Position	1-12
With 24V Electric Damper Actuators - Modulating	1-13

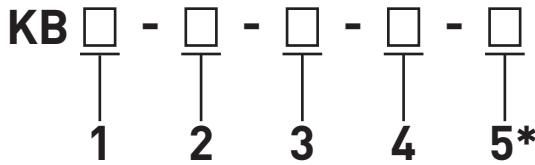
3 WAY BUTTERFLY VALVES

With 120V / 24V Electric Actuators - 2 Position	2-2
With 120V / 24V Electric Actuators - Modulating	2-4
With High Pressure Pneumatic Actuators - 2 Position	2-6
With High Pressure Pneumatic Actuators - Modulating	2-8
With Low Pressure Pneumatic Actuators - 2 Position	2-10
With Low Pressure Pneumatic Actuators - Modulating	2-11
With 24V Electric Damper Actuators - 2 Position	2-12
With 24V Electric Damper Actuators - Modulating	2-13
Butterfly Valve Arrangement Form	2-14

2 WAY V-BALL VALVES

With 120V / 24V Electric Actuators - 2 Position	3-2
With 120V / 24V Electric Actuators - Modulating	3-3
With High Pressure Pneumatic Actuators - 2 Position	3-4
With High Pressure Pneumatic Actuators - Modulating	3-5
With Low Pressure Pneumatic Actuators - 2 Position	3-6
With Low Pressure Pneumatic Actuators - Modulating	3-7
With 24V Electric Damper Actuators - 2 Position	3-8
With 24V Electric Damper Actuators - Modulating	3-9

VSI - KELE BUTTERFLY VALVE PART NUMBER MATRIX



KB - BUTTERFLY VALVES

1. PRESSURE	CODE
100 psi	1
150/200 psi	2

2. TYPE	CODE
2-WAY	2
3-WAY	3

3. SIZE	CODE
2"	02
2.5"	25
3"	03
to	
24"	24

5. ARRANGEMENT	CODE *
ARRANGEMENT 1	01
ARRANGEMENT 2	02
ARRANGEMENT 3	03
ARRANGEMENT 4	04
ARRANGEMENT 5	05
ARRANGEMENT 6	06

* ONLY REQUIRED FOR 3-WAY ASSEMBLIES
See page 2-14 for arrangement form

4. ACTUATOR	CODE
NEMA 4 ELECTRIC	
24V ELECTRIC, 2-POSITION	2E2V
24V ELECTRIC, MODULATING, 2-10VDC INPUT	2EMV2
24V ELECTRIC, MODULATING, 4-20MA INPUT	2EMV4
120V ELECTRIC, 2-POSITION	1E2V
120V ELECTRIC, MODULATING, 2-10VDC INPUT	1EMV2
120V ELECTRIC, MODULATING, 4-20MA INPUT	1EMV4
NEMA 2 ELECTRIC	
24V ELECTRIC, 2-POSITION	2E2D
24V ELECTRIC, 2-POSITION, SPRING RETURN, NORMALLY CLOSED	2E2DSC
24V ELECTRIC, 2-POSITION, SPRING RETURN, NORMALLY OPEN	2E2DSO
24V ELECTRIC, MODULATING	2EMD
24V ELECTRIC, MODULATING, SPRING RETURN, NORMALLY CLOSED	2EMDSC
24V ELECTRIC, MODULATING, SPRING RETURN, NORMALLY OPEN	2EMDSO
LOW PRESSURE PNEUMATIC	
LOW PRESSURE PNEUMATIC, 2-POSITION SPRING RETURN, NORMALLY CLOSED	LP2SC
LOW PRESSURE PNEUMATIC, 2-POSITION SPRING RETURN, NORMALLY OPEN	LP2SO
LOW PRESSURE PNEUMATIC, 3-15 POSITIONER SPRING RETURN, NORMALLY CLOSED	LPMSC
LOW PRESSURE PNEUMATIC, 3-15 POSITIONER SPRING RETURN, NORMALLY OPEN	LPMSO
HIGH PRESSURE PNEUMATIC	
HIGH PRESSURE PNEUMATIC, DOUBLE ACTING, 120V SOLENOID	HP21
HIGH PRESSURE PNEUMATIC, DOUBLE ACTING, 24V SOLENOID	HP22
HIGH PRESSURE PNEUMATIC, DOUBLE ACTING, 3-15 POSITIONER	HPM
HIGH PRESSURE PNEUMATIC, SPRING RETURN NORMALLY CLOSED, 120V SOLENOID	HP2SC1
HIGH PRESSURE PNEUMATIC, SPRING RETURN NORMALLY OPEN, 120V SOLENOID	HP2SO1
HIGH PRESSURE PNEUMATIC, SPRING RETURN NORMALLY CLOSED, 24V SOLENOID	HP2SC2
HIGH PRESSURE PNEUMATIC, SPRING RETURN NORMALLY OPEN, 24V SOLENOID	HP2SO2
HIGH PRESSURE PNEUMATIC, SPRING RETURN NORMALLY CLOSED, 3-15 POSITIONER	HPMSC
HIGH PRESSURE PNEUMATIC, SPRING RETURN NORMALLY OPEN, 3-15 POSITIONER	HPMSO

EXAMPLES:

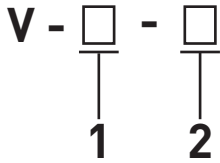
KB1-3-6-2EMV4-04

3-WAY 6" 100 PSI BUTTERFLY VALVE w/ 24V ELECTRIC, MODULATING, NEMA 4, 4-20mA INPUT, ARRANGEMENT #4

KB2-2-10-HP2SC2

2-WAY 10" 200 PSI BUTTERFLY VALVE w/ HIGH PRESSURE PNEUMATIC, SPRING RETURN, NORMALLY CLOSED, 24V SOLENOID

VSI - KELE V-BALL VALVE PART NUMBER MATRIX



V-BALL VALVES

1. SIZE	CODE
1"	01
1.5"	15
2"	02
3"	03
4"	04
6"	06

2. ACTUATOR	CODE
NEMA 4 ELECTRIC	
24V ELECTRIC, 2-POSITION	2E2V
24V ELECTRIC, MODULATING, 2-10VDC INPUT	2EMV2
24V ELECTRIC, MODULATING, 4-20MA INPUT	2EMV4
120V ELECTRIC, 2-POSITION	1E2V
120V ELECTRIC, MODULATING, 2-10VDC INPUT	1EMV2
120V ELECTRIC, MODULATING, 4-20MA INPUT	1EMV4
NEMA 2 ELECTRIC	
24V ELECTRIC, 2-POSITION	2E2D
24V ELECTRIC, 2-POSITION, SPRING RETURN, NORMALLY CLOSED	2E2DSC
24V ELECTRIC, 2-POSITION, SPRING RETURN, NORMALLY OPEN	2E2DSO
24V ELECTRIC, MODULATING	2EMD
24V ELECTRIC, MODULATING, SPRING RETURN, NORMALLY CLOSED	2EMDSC
24V ELECTRIC, MODULATING, SPRING RETURN, NORMALLY OPEN	2EMDSO
LOW PRESSURE PNEUMATIC	
LOW PRESSURE PNEUMATIC, 2-POSITION SPRING RETURN, NORMALLY CLOSED	LP2SC
LOW PRESSURE PNEUMATIC, 2-POSITION SPRING RETURN, NORMALLY OPEN	LP2SO
LOW PRESSURE PNEUMATIC, 3-15 POSITIONER SPRING RETURN, NORMALLY CLOSED	LPMSC
LOW PRESSURE PNEUMATIC, 3-15 POSITIONER SPRING RETURN, NORMALLY OPEN	LPMSO
HIGH PRESSURE PNEUMATIC	
HIGH PRESSURE PNEUMATIC, DOUBLE ACTING, 120V SOLENOID	HP21
HIGH PRESSURE PNEUMATIC, DOUBLE ACTING, 24V SOLENOID	HP22
HIGH PRESSURE PNEUMATIC, DOUBLE ACTING, 3-15 POSITIONER	HPM
HIGH PRESSURE PNEUMATIC, SPRING RETURN NORMALLY CLOSED, 120V SOLENOID	HP2SC1
HIGH PRESSURE PNEUMATIC, SPRING RETURN NORMALLY OPEN, 120V SOLENOID	HP2SO1
HIGH PRESSURE PNEUMATIC, SPRING RETURN NORMALLY CLOSED, 24V SOLENOID	HP2SC2
HIGH PRESSURE PNEUMATIC, SPRING RETURN NORMALLY OPEN, 24V SOLENOID	HP2SO2
HIGH PRESSURE PNEUMATIC, SPRING RETURN NORMALLY CLOSED, 3-15 POSITIONER	HPMSC
HIGH PRESSURE PNEUMATIC, SPRING RETURN NORMALLY OPEN, 3-15 POSITIONER	HPMSO

EXAMPLES:

V-15-2EMDSC

1.5" V-BALL w/ 24V MODULATING, SPRING RETURN DAMPER ACTUATOR, NORMALLY CLOSED

V-6-HPM

6" V-BALL w/ HIGH PRESSURE PNEUMATIC, DOUBLE ACTING, 3-15 PSI POSITIONER

2-WAY BUTTERFLY VALVES WITH 120V/24V ELECTRIC ACTUATORS

100 PSI / 150 PSI / 200 PSI CLOSE OFF - 2 POSITION

SERIES 2100 BUTTERFLY VALVE

SERVICE: Chilled/Hot Water - 50% Glycol
FLOW CHARACTERISTIC: Modified EQ%
SIZES: 2" - 24"
BODY: Ductile Iron ASTM A536
BODY COATING: Fusion Bonded Epoxy
BODY PRESSURE RATING: ASME/ANSI Class 125
END FITTING: Lugged ANSI Class 125/150 Flanged
DISC: 304SS
STEM: 416SS
SEAT: EPDM
O-RING: EPDM
BUSHING: PTFE
CLOSE OFF: 100 PSI, 150 PSI or 200PSI
LEAKAGE: Bubble Tight Shutoff
TEMPERATURE RANGE: -22°F to 250°F

SERIES 1000-X 2 POSITION ACTUATOR

MOTOR: 120V or 24V Single Phase - 60Hz
TORQUE RANGE: 443 - 22,127 in/lbs
HOUSING: Die Cast Aluminum - NEMA 4
PROTECTION: Thermal Overload Protection
LIMIT SWITCHES: 2x SPDT Open/Closed
POSITION INDICATOR: Mechanical Dome
CONDUIT ENTRIES: 2 x 1/2" NPT
POWER GEARS: Alloy Steel and Aluminum Bronze
BEARINGS: Alloy Steel Sleeve and Ball Bearings
CERTIFICATIONS: CE, NRTL, NEMA 4, CSA File 226201
INTERNAL HEATER: Standard
MANUAL OVERRIDE POWER SWITCH:
 Not available on 1005 and all 24V models
MANUAL OVERRIDE: Allen Handle Standard
 Optional Handwheel not available on 1005



Shown with optional handwheel

SERIES 1000-X 2 POSITION ACTUATOR SPECIFICATIONS

MODEL	1005-X	1010-X	1020-X	1040-X	1060-X	1100-X	1160-X	1250-X
Output Torque (in-lb)	443	885	1770	3540	5310	8851	14616	22127
Output Torque (Nm)	50	100	200	400	600	1000	1600	2500
Duty Cycle	80%	80%	80%	80%	80%	70%	70%	70%
Travel Speed @ 60Hz (Sec)	20	30	30	30	45	30	48	75
Max Current (Amp @ 110/220VAC)	0.34/0.17	0.81/0.47	1.68/0.78	3.41/1.78	3.60/1.87	3.80/2.12	3.93/2.16	3.95/2.20
Run Current (AMP @ 110/220VAC)	0.24/0.16	0.57/0.30	0.65/0.37	1.12/0.57	1.18/0.60	1.93/0.94	1.75/0.96	1.75/0.98
Max Current (Amp @ 24VAC)	1.60	1.90	4.80	7.2	N/A	N/A	N/A	N/A
Run Current (Amp @ 24VAC)	1.40	1.70	4.60	6.8	N/A	N/A	N/A	N/A
Enclosure Rating	WATERTIGHT NEMA 4							

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100 PSI CLOSEOFF VALVES - 2 POSITION						
INCH	DN (MM)	PRESSURE	Cv 60°	Cv 90°	KELE PN	ACTUATOR PN
2"	50	100	64	135	KB1-2-02-2E2V	1005-X-24V
					KB1-2-02-1E2V	1005-X
2.5"	65	100	98	220	KB1-2-25-2E2V	1005-X-24V
					KB1-2-25-1E2V	1005-X
3"	80	100	116	302	KB1-2-03-2E2V	1005-X-24V
					KB1-2-03-1E2V	1005-X
4"	100	100	230	600	KB1-2-04-2E2V	1005-X-24V
					KB1-2-04-1E2V	1005-X
5"	125	100	392	1022	KB1-2-05-2E2V	1005-X-24V
					KB1-2-05-1E2V	1005-X
6"	150	100	605	1579	KB1-2-06-2E2V	1010-X-24V
					KB1-2-06-1E2V	1010-X
8"	200	100	1202	3136	KB1-2-08-2E2V	1020-X-24V
					KB1-2-08-1E2V	1020-X
10"	250	100	2047	5340	KB1-2-10-2E2V	1020-X-24V
					KB1-2-10-1E2V	1020-X
12"	300	100	3162	8250	KB1-2-12-2E2V	1040-X-24V
					KB1-2-12-1E2V	1040-X
14"	350	100	4568	11917	KB1-2-14-2E2V	1040-X-24V
					KB1-2-14-1E2V	1040-X
16"	400	100	6282	16388	KB1-2-16-1E2V	1100-X
18"	450	100	8320	21705	KB1-2-18-1E2V	1100-X
20"	500	100	10698	27908	KB1-2-20-1E2V	1160-X
24"	600	100	16528	43116	KB1-2-24-1E2V	1250-X
150 PSI / 200 PSI CLOSEOFF VALVES - 2 POSITION						
INCH	DN (MM)	PRESSURE	Cv 60°	Cv 90°	KELE PN	ACTUATOR PN
2"	50	200	64	135	KB2-2-02-2E2V	1005-X-24V
					KB2-2-02-1E2V	1005-X
2.5"	65	200	98	220	KB2-2-25-2E2V	1005-X-24V
					KB2-2-25-1E2V	1005-X
3"	80	200	116	302	KB2-2-03-2E2V	1005-X-24V
					KB2-2-03-1E2V	1005-X
4"	100	200	230	600	KB2-2-04-2E2V	1005-X-24V
					KB2-2-04-1E2V	1005-X
5"	125	200	392	1022	KB2-2-05-2E2V	1010-X-24V
					KB2-2-05-1E2V	1010-X
6"	150	200	605	1579	KB2-2-06-2E2V	1010-X-24V
					KB2-2-06-1E2V	1010-X
8"	200	200	1202	3136	KB2-2-08-2E2V	1020-X-24V
					KB2-2-08-1E2V	1020-X
10"	250	200	2047	5340	KB2-2-10-2E2V	1040-X-24V
					KB2-2-10-1E2V	1040-X
12"	300	200	3162	8250	KB2-2-12-2E2V	1040-X-24V
					KB2-2-12-1E2V	1040-X
14"	350	150	4568	11917	KB2-2-14-1E2V	1060-X
16"	400	150	6282	16388	KB2-2-16-1E2V	1100-X
18"	450	150	8320	21705	KB2-2-18-1E2V	1160-X
20"	500	150	1098	27908	KB2-2-20-1E2V	1160-X
24"	600	150	16528	43116	KB2-2-24-1E2V	1250-X

2-WAY BUTTERFLY VALVES WITH 120V/24V ELECTRIC ACTUATORS

100 PSI / 150 PSI / 200 PSI CLOSE OFF - MODULATING

SERIES 2100 BUTTERFLY VALVE

- SERVICE:** Chilled/Hot Water - 50% Glycol
- FLOW CHARACTERISTIC:** Modified EQ%
- SIZES:** 2" - 24"
- BODY:** Ductile Iron ASTM A536
- BODY COATING:** Fusion Bonded Epoxy
- BODY PRESSURE RATING:** ASME/ANSI Class 125
- END FITTING:** Lugged ANSI Class 125/150 Flanged
- DISC:** 304SS
- STEM:** 416SS
- SEAT:** EPDM
- O-RING:** EPDM
- BUSHING:** PTFE
- CLOSE OFF:** 100 PSI, 150 PSI or 200PSI
- LEAKAGE:** Bubble Tight Shutoff
- TEMPERATURE RANGE:** -22°F to 250°F



Shown with optional handwheel

SERIES 1000-X MODULATING ACTUATOR

- MOTOR:** 120V or 24V Single Phase - 60Hz
- TORQUE RANGE:** 443 - 22,127 in/lbs
- HOUSING:** Die Cast Aluminum - NEMA 4
- CONTROL SIGNAL:** 4-20mA or 2-10VDC
- FEEDBACK:** 4-20mA
- RESOLUTION:** 80 Steps (4-20mA) 200 Steps (2-10VDC)
- PROTECTION:** Thermal Overload Protection
- POSITION INDICATOR:** Mechanical Dome
- CONDUIT ENTRIES:** 2 x 1/2" NPT
- POWER GEARS:** Alloy Steel and Aluminum Bronze
- BEARINGS:** Alloy Steel Sleeve and Ball Bearings
- CERTIFICATIONS:** CE, NRTL, NEMA 4, CSA File 226201
- INTERNAL HEATER:** Standard
- MANUAL OVERRIDE POWER SWITCH:**
Not available on 1005 and all 24V models
- MANUAL OVERRIDE:** Allen Handle Standard
Optional Handwheel not available on 1005

SERIES 1000-X MODULATING ACTUATOR SPECIFICATIONS

MODEL	1005/S-X	1010/S-X	1020/S-X	1040/S-X	1060/S-X	1100/S-X	1160/S-X	1250/S-X
Output Torque (in-lb)	443	885	1770	3540	5310	8851	14616	22127
Output Torque (Nm)	50	100	200	400	600	1000	1600	2500
Duty Cycle	80%	80%	80%	80%	80%	70%	70%	70%
Travel Speed @ 60Hz [Sec]	20	30	30	30	45	30	48	75
Max Current (Amp @ 110/220VAC)	0.34/0.17	0.81/0.47	1.68/0.78	3.41/1.78	3.60/1.87	3.80/2.12	3.93/2.16	3.95/2.20
Run Current (AMP @ 110/220VAC)	0.24/0.16	0.57/0.35	0.65/0.37	1.12/0.57	1.18/0.60	1.93/0.94	1.75/0.96	1.75/0.98
Max Current (Amp @ 24VAC)	1.80	2.30	3.80	7.20	N/A	N/A	N/A	N/A
Run Current (Amp @ 24VAC)	1.70	2.11	3.65	6.80	N/A	N/A	N/A	N/A
Input Signal	*	Switchable 2-10VDC or 4-20mA on 120V, Specific control packs for 2-10VDC or 4-20mA on 24V						
Output Signal	4-20mA							
Enclosure Rating	WATERTIGHT NEMA 4							

* Specific control packs for 2-10VDC or 4-20mA for both 120V and 24V

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04/13 - Subject to change. © VSI, LLC.

100 PSI CLOSEOFF VALVES - MODULATING						
INCH	DN (MM)	PRESSURE	Cv 60°	Cv 90°	KELE PN	ACTUATOR PN
2"	50	100	64	135	KB1-2-02-2EMV2(4)*	1005/S-X-24V-2(4)*
					KB1-2-02-1EMV2(4)*	1005/S-X-2(4)*
2.5"	65	100	98	220	KB1-2-25-2EMV2(4)*	1005/S-X-24V-2(4)*
					KB1-2-25-1EMV2(4)*	1005/S-X-2(4)*
3"	80	100	116	302	KB1-2-03-2EMV2(4)*	1005/S-X-24V-2(4)*
					KB1-2-03-1EMV2(4)*	1005/S-X-2(4)*
4"	100	100	230	600	KB1-2-04-2EMV2(4)*	1005/S-X-24V-2(4)*
					KB1-2-04-1EMV2(4)*	1005/S-X-2(4)*
5"	125	100	392	1022	KB1-2-05-2EMV2(4)*	1005/S-X-24V-2(4)*
					KB1-2-05-1EMV2(4)*	1005/S-X-2(4)*
6"	150	100	605	1579	KB1-2-06-2EMV2(4)*	1010/S-X-24V-2(4)*
					KB1-2-06-1EMV2(4)*	1010/S-X-2(4)*
8"	200	100	1202	3136	KB1-2-08-2EMV2(4)*	1020/S-X-24V-2(4)*
					KB1-2-08-1EMV2(4)*	1020/S-X-2(4)*
10"	250	100	2047	5340	KB1-2-10-2EMV2(4)*	1020/S-X-24V-2(4)*
					KB1-2-10-1EMV2(4)*	1020/S-X-2(4)*
12"	300	100	3162	8250	KB1-2-12-2EMV2(4)*	1040/S-X-24V-2(4)*
					KB1-2-12-1EMV2(4)*	1040/S-X-2(4)*
14"	350	100	4568	11917	KB1-2-14-2EMV2(4)*	1040/S-X-24V-2(4)*
					KB1-2-14-1EMV2(4)*	1040/S-X-2(4)*
16"	400	100	6282	16388	KB1-2-16-1EMV2(4)*	1100/S-X-2(4)*
18"	450	100	8320	21705	KB1-2-18-1EMV2(4)*	1100/S-X-2(4)*
20"	500	100	10698	27908	KB1-2-20-1EMV2(4)*	1160/S-X-2(4)*
24"	600	100	16528	43116	KB1-2-24-1EMV2(4)*	1250/S-X-2(4)*
150 PSI / 200 PSI CLOSEOFF VALVES - MODULATING						
INCH	DN (MM)	PRESSURE	Cv 60°	Cv 90°	KELE PN	ACTUATOR PN
2"	50	200	64	135	KB2-2-02-2EMV2(4)*	1005/S-X-24V-2(4)*
					KB2-2-02-1EMV2(4)*	1005/S-X-2(4)*
2.5"	65	200	98	220	KB2-2-25-2EMV2(4)*	1005/S-X-24V-2(4)*
					KB2-2-25-1EMV2(4)*	1005/S-X-2(4)*
3"	80	200	116	302	KB2-2-03-2EMV2(4)*	1005/S-X-24V-2(4)*
					KB2-2-03-1EMV2(4)*	1005/S-X-2(4)*
4"	100	200	230	600	KB2-2-04-2EMV2(4)*	1005/S-X-24V-2(4)*
					KB2-2-04-1EMV2(4)*	1005/S-X-2(4)*
5"	125	200	392	1022	KB2-2-05-2EMV2(4)*	1010/S-X-24V-2(4)*
					KB2-2-05-1EMV2(4)*	1010/S-X-2(4)*
6"	150	200	605	1579	KB2-2-06-2EMV2(4)*	1010/S-X-24V-2(4)*
					KB2-2-06-1EMV2(4)*	1010/S-X-2(4)*
8"	200	200	1202	3136	KB2-2-08-2EMV2(4)*	1020/S-X-24V-2(4)*
					KB2-2-08-1EMV2(4)*	1020/S-X-2(4)*
10"	250	200	2047	5340	KB2-2-10-2EMV2(4)*	1040/S-X-24V-2(4)*
					KB2-2-10-1EMV2(4)*	1040/S-X-2(4)*
12"	300	200	3162	8250	KB2-2-12-2EMV2(4)*	1040/S-X-24V-2(4)*
					KB2-2-12-1EMV2(4)*	1040/S-X-2(4)*
14"	350	150	4568	11917	KB2-2-14-1EMV2(4)*	1060/S-X-2(4)*
16"	400	150	6282	16388	KB2-2-16-1EMV2(4)*	1100/S-X-2(4)*
18"	450	150	8320	21705	KB2-2-18-1EMV2(4)*	1160/S-X-2(4)*
20"	500	150	1098	27908	KB2-2-20-1EMV2(4)*	1160/S-X-2(4)*
24"	600	150	16528	43116	KB2-2-24-1EMV2(4)*	1250/S-X-2(4)*

* 2 = 2-10VDC; 4 = 4-20mA

2-WAY BUTTERFLY VALVES WITH HP PNEUMATIC ACTUATORS

100 PSI / 150 PSI / 200 PSI CLOSE OFF - 2 POSITION

SERIES 2100 BUTTERFLY VALVE

SERIES C ACTUATOR

SERVICE: Chilled/Hot Water - 50% Glycol
FLOW CHARACTERISTIC: Modified EQ%
SIZES: 2" - 24"
BODY: Ductile Iron ASTM A536
BODY COATING: Fusion Bonded Epoxy
BODY PRESSURE RATING: ASME/ANSI Class 125
END FITTING: Lugged ANSI Class 125/150 Flanged
DISC: 304SS
STEM: 416SS
SEAT: EPDM
O-RING: EPDM
BUSHING: PTFE
CLOSE OFF: 100 PSI, 150 PSI or 200PSI
LEAKAGE: Bubble Tight Shutoff
TEMPERATURE RANGE: -22°F to 250°F

MINIMUM AIR SUPPLY: 40 psi
MAXIMUM AIR SUPPLY: 130 psi
TORQUE RANGE: 124 - 40519 in/lb (~80 psi)
HOUSING: Die Cast Aluminum Alloy
TEMPERATURE: 0°C to +80°C
 -20°C to +80°C with dry air
 -40°C to +150°C in special execution

OPERATING MEDIA: Compressed filtered air
Standard NAMUR mounts for optional accessories
DOUBLE ACTING OPERATION (DA)

CCW

Air is supplied to Port A forcing the pistons away from each other (towards ends), rotating the drive pinion counter-clockwise and exhausting air out of Port B

CW

Air is supplied to Port B forcing the pistons toward each other (towards center), rotating the drive pinion clockwise and exhausting air out of Port A

SPRING RETURN OPERATION (SR)

FAIL CCW

Air is supplied to Port A forcing the pistons away from each other (towards ends), rotating the drive pinion counter-clockwise, compressing the springs and exhausting air out of Port B

FAIL CW

Air failure (loss of pressure) allows the compressed springs to force the pistons toward each other (towards center), rotating the drive pinion clockwise and exhausting air out of Port A



Shown with optional limit switch



ASC0 8551 Direct Mount Solenoid			
Watt Rating and Power Consumption			
DC Watts	AC Watts	VA Holding	VA Inrush
6.9	6.3	7	10.1
Temperature Range: AC 5°F to 140°F (-15°C to 60°C) DC 5°F to 77°F (-15°C to 25°C)			

ALS-100 Limit Switch (Optional)	
Position Indicator	Polycarbonate Dome
Switches	2x SPDT 5A 125-250 VAC micro-switches
Terminal Strip	Standard 8 Points
Cable Entry	2x 1/2" NPT
Mounting	NAMUR Standard shaft and bracket

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100 PSI CLOSE OFF VALVES - 2 POSITION HIGH PRESSURE PNEUMATIC DA/SR						
INCH	DN (MM)	PRESSURE	Cv 60°	Cv 90°	KELE PN	ACTUATOR PN
2"	50	100	64	135	KB1-2-02-HP21(2)*	C-DA063
					KB1-2-02-HP25C(0)**1(2)*	C-SR063
2.5"	65	100	98	220	KB1-2-25-HP21(2)*	C-DA063
					KB1-2-25-HP25C(0)**1(2)*	C-SR083
3"	80	100	116	302	KB1-2-03-HP21(2)*	C-DA063
					KB1-2-03-HP25C(0)**1(2)*	C-SR083
4"	100	100	230	600	KB1-2-04-HP21(2)*	C-DA083
					KB1-2-04-HP25C(0)**1(2)*	C-SR092
5"	125	100	392	1022	KB1-2-05-HP21(2)*	C-DA083
					KB1-2-05-HP25C(0)**1(2)*	C-SR092
6"	150	100	605	1579	KB1-2-06-HP21(2)*	C-DA092
					KB1-2-06-HP25C(0)**1(2)*	C-SR125
8"	200	100	1202	3136	KB1-2-08-HP21(2)*	C-DA105
					KB1-2-08-HP25C(0)**1(2)*	C-SR125
10"	250	100	2047	5340	KB1-2-10-HP21(2)*	C-DA125
					KB1-2-10-HP25C(0)**1(2)*	C-SR140
12"	300	100	3162	8250	KB1-2-12-HP21(2)*	C-DA140
					KB1-2-12-HP25C(0)**1(2)*	C-SR160
14"	350	100	4568	11917	KB1-2-14-HP21(2)*	C-DA160
					KB1-2-14-HP25C(0)**1(2)*	C-SR190
16"	400	100	6282	16388	KB1-2-16-HP21(2)*	C-DA190
					KB1-2-16-HP25C(0)**1(2)*	C-SR210
18"	450	100	8320	21705	KB1-2-18-HP21(2)*	C-DA190
					KB1-2-18-HP25C(0)**1(2)*	C-SR240
20"	500	100	10698	27908	KB1-2-20-HP21(2)*	C-DA210
					KB1-2-20-HP25C(0)**1(2)*	C-SR270
24"	600	100	16528	43116	KB1-2-24-HP21(2)*	C-DA270
150 PSI / 200 PSI CLOSE OFF VALVES - 2 POSITION HIGH PRESSURE PNEUMATIC DA/SR						
INCH	DN (MM)	PRESSURE	Cv 60°	Cv 90°	KELE PN	ACTUATOR PN
2"	50	200	64	135	KB1-2-02-HP21(2)*	C-DA063
					KB2-2-02-HP25C(0)**1(2)*	C-SR063
2.5"	65	200	98	220	KB2-2-25-HP21(2)*	C-DA063
					KB2-2-25-HP25C(0)**1(2)*	C-SR083
3"	80	200	116	302	KB2-2-03-HP21(2)*	C-DA063
					KB2-2-03-HP25C(0)**1(2)*	C-SR083
4"	100	200	230	600	KB2-2-04-HP21(2)*	C-DA083
					KB2-2-04-HP25C(0)**1(2)*	C-SR092
5"	125	200	392	1022	KB2-2-05-HP21(2)*	C-DA092
					KB2-2-05-HP25C(0)**1(2)*	C-SR125
6"	150	200	605	1579	KB2-2-06-HP21(2)*	C-DA105
					KB2-2-06-HP25C(0)**1(2)*	C-SR125
8"	200	200	1202	3136	KB2-2-08-HP21(2)*	C-DA125
					KB2-2-08-HP25C(0)**1(2)*	C-SR140
10"	250	200	2047	5340	KB2-2-10-HP21(2)*	C-DA140
					KB2-2-10-HP25C(0)**1(2)*	C-SR160
12"	300	200	3162	8250	KB2-2-12-HP21(2)*	C-DA160
					KB2-2-12-HP25C(0)**1(2)*	C-SR190
14"	350	150	4568	11917	KB2-2-14-HP21(2)*	C-DA160
					KB2-2-14-HP25C(0)**1(2)*	C-SR210
16"	400	150	6282	16388	KB2-2-16-HP21(2)*	C-DA190
					KB2-2-16-HP25C(0)**1(2)*	C-SR240
18"	450	150	8320	21705	KB2-2-18-HP21(2)*	C-DA240
					KB2-2-18-HP25C(0)**1(2)*	C-SR300
20"	500	150	10698	27908	KB2-2-20-HP21(2)*	C-DA240
24"	600	150	16528	43116	KB2-2-24-HP21(2)*	C-DA300

* 1 = 120VAC SOLENOID; 2 = 24VAC SOLENOID

** SC = SPRING CLOSED; SO = SPRING OPEN

2-WAY BUTTERFLY VALVES WITH HP PNEUMATIC ACTUATORS

100 PSI / 150 PSI / 200 PSI CLOSE OFF - MODULATING

SERIES 2100 BUTTERFLY VALVE

SERIES C ACTUATOR

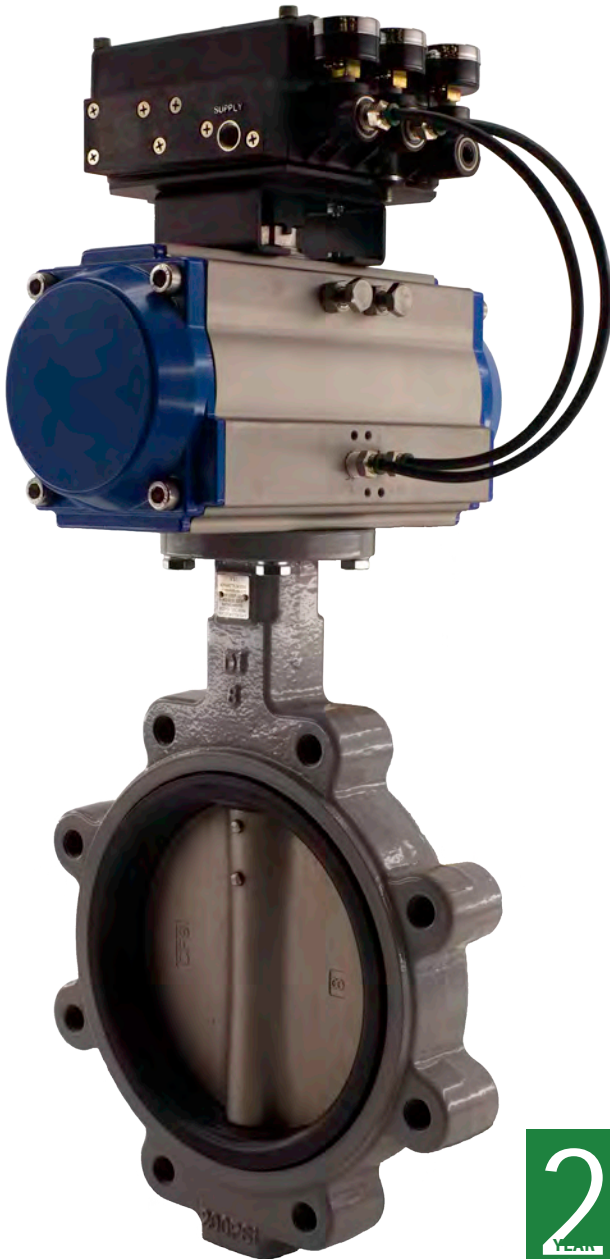
SERVICE: Chilled/Hot Water - 50% Glycol
FLOW CHARACTERISTIC: Modified EQ%
SIZES: 2" - 24"
BODY: Ductile Iron ASTM A536
BODY COATING: Fusion Bonded Epoxy
BODY PRESSURE RATING: ASME/ANSI Class 125
END FITTING: Lugged ANSI Class 125/150 Flanged
DISC: 304SS
STEM: 416SS
SEAT: EPDM
O-RING: EPDM
BUSHING: PTFE
CLOSE OFF: 100 PSI, 150 PSI or 200PSI
LEAKAGE: Bubble Tight Shutoff
TEMPERATURE RANGE: -22°F to 250°F

MINIMUM AIR SUPPLY: 40 psi
MAXIMUM AIR SUPPLY: 130 psi
TORQUE RANGE: 124 - 40519 in/lb (~80 psi)
HOUSING: Die Cast Aluminum Alloy
TEMPERATURE: 0°C to +80°C
 -20°C to +80°C with dry air
 -40°C to +150°C in special execution
OPERATING MEDIA: Compressed filtered air
Standard NAMUR mounts for optional accessories
DOUBLE ACTING OPERATION

CCW
 Air is supplied to Port A forcing the pistons away from each other (towards ends), rotating the drive pinion counter-clockwise and exhausting air out of Port B
CW
 Air is supplied to Port B forcing the pistons toward each other (towards center), rotating the drive pinion clockwise and exhausting air out of Port A

SPRING RETURN OPERATION

FAIL CCW
 Air is supplied to Port A forcing the pistons away from each other (towards ends), rotating the drive pinion counter-clockwise, compressing the springs and exhausting air out of Port B
FAIL CW
 Air failure (loss of pressure) allows the compressed springs to force the pistons toward each other (towards center), rotating the drive pinion clockwise and exhausting air out of Port A



VRC Model V Series Positioner	
VP - Pneumatic 3-15 PSI VE - Electro-Pneumatic 4-20mA (Optional)	
Position Indicator: Flat Lens Dome Lens (Optional)	
PERFORMANCE	
RESOLUTION	0.25% Maximum 0.10% Typical
REPEATABILITY	99.75% Minimum 99.90% Typical
HYSTERESIS	0.50% Maximum 0.25% Typical
LINEARITY	+/- 1.0% Maximum
GAIN @80 PSIG	250 Single-Acting 500 Double-Acting
AIR CONSUMPTION @80 PSIG	0.25 SCFM Standard Flow Spool Valve 0.45 SCFM Maximum Flow Spool Valve
TEMPERATURE RANGE	-40 to 150F / -40 to 65C

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100 PSI CLOSE OFF VALVES - MODULATING HIGH PRESSURE PNEUMATIC DA/SR

INCH	DN (MM)	PRESSURE	Cv 60°	Cv 90°	KELE PN	ACTUATOR PN
2"	50	100	64	135	KB1-2-02-HPM	C-DA063
					KB1-2-02-HPMSC(0)*	C-SR063
2.5"	65	100	98	220	KB1-2-25-HPM	C-DA063
					KB1-2-25-HPMSC(0)*	C-SR083
3"	80	100	116	302	KB1-2-03-HPM	C-DA063
					KB1-2-03-HPMSC(0)*	C-SR083
4"	100	100	230	600	KB1-2-04-HPM	C-DA083
					KB1-2-04-HPMSC(0)*	C-SR092
5"	125	100	392	1022	KB1-2-05-HPM	C-DA083
					KB1-2-05-HPMSC(0)*	C-SR092
6"	150	100	605	1579	KB1-2-06-HPM	C-DA092
					KB1-2-06-HPMSC(0)*	C-SR125
8"	200	100	1202	3136	KB1-2-08-HPM	C-DA105
					KB1-2-08-HPMSC(0)*	C-SR125
10"	250	100	2047	5340	KB1-2-10-HPM	C-DA125
					KB1-2-10-HPMSC(0)*	C-SR140
12"	300	100	3162	8250	KB1-2-12-HPM	C-DA140
					KB1-2-12-HPMSC(0)*	C-SR160
14"	350	100	4568	11917	KB1-2-14-HPM	C-DA160
					KB1-2-14-HPMSC(0)*	C-SR190
16"	400	100	6282	16388	KB1-2-16-HPM	C-DA190
					KB1-2-16-HPMSC(0)*	C-SR210
18"	450	100	8320	21705	KB1-2-18-HPM	C-DA190
					KB1-2-18-HPMSC(0)*	C-SR240
20"	500	100	10698	27908	KB1-2-20-HPM	C-DA210
					KB1-2-20-HPMSC(0)*	C-SR270
24"	600	100	16528	43116	KB1-2-24-HPM	C-DA270

150 PSI / 200 PSI CLOSE OFF VALVES - MODULATING HIGH PRESSURE PNEUMATIC DA/SR

INCH	DN (MM)	PRESSURE	Cv 60°	Cv 90°	KELE PN	ACTUATOR PN
2"	50	200	64	135	KB1-2-02-HPM	C-DA063
					KB2-2-02-HPMSC(0)*	C-SR063
2.5"	65	200	98	220	KB2-2-25-HPM	C-DA063
					KB2-2-25-HPMSC(0)*	C-SR083
3"	80	200	116	302	KB2-2-03-HPM	C-DA063
					KB2-2-03-HPMSC(0)*	C-SR083
4"	100	200	230	600	KB2-2-04-HPM	C-DA083
					KB2-2-04-HPMSC(0)*	C-SR092
5"	125	200	392	1022	KB2-2-05-HPM	C-DA092
					KB2-2-05-HPMSC(0)*	C-SR125
6"	150	200	605	1579	KB2-2-06-HPM	C-DA105
					KB2-2-06-HPMSC(0)*	C-SR125
8"	200	200	1202	3136	KB2-2-08-HPM	C-DA125
					KB2-2-08-HPMSC(0)*	C-SR140
10"	250	200	2047	5340	KB2-2-10-HPM	C-DA140
					KB2-2-10-HPMSC(0)*	C-SR160
12"	300	200	3162	8250	KB2-2-12-HPM	C-DA160
					KB2-2-12-HPMSC(0)*	C-SR190
14"	350	150	4568	11917	KB2-2-14-HPM	C-DA160
					KB2-2-14-HPMSC(0)*	C-SR210
16"	400	150	6282	16388	KB2-2-16-HPM	C-DA190
					KB2-2-16-HPMSC(0)*	C-SR240
18"	450	150	8320	21705	KB2-2-18-HPM	C-DA240
					KB2-2-18-HPMSC(0)*	C-SR300
20"	500	150	10698	27908	KB2-2-20-HPM	C-DA240
24"	600	150	16528	43116	KB2-2-24-HPM	C-DA300

* SC = SPRING CLOSED; SO = SPRING OPEN

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2-WAY BUTTERFLY VALVES WITH LP PNEUMATIC ACTUATORS

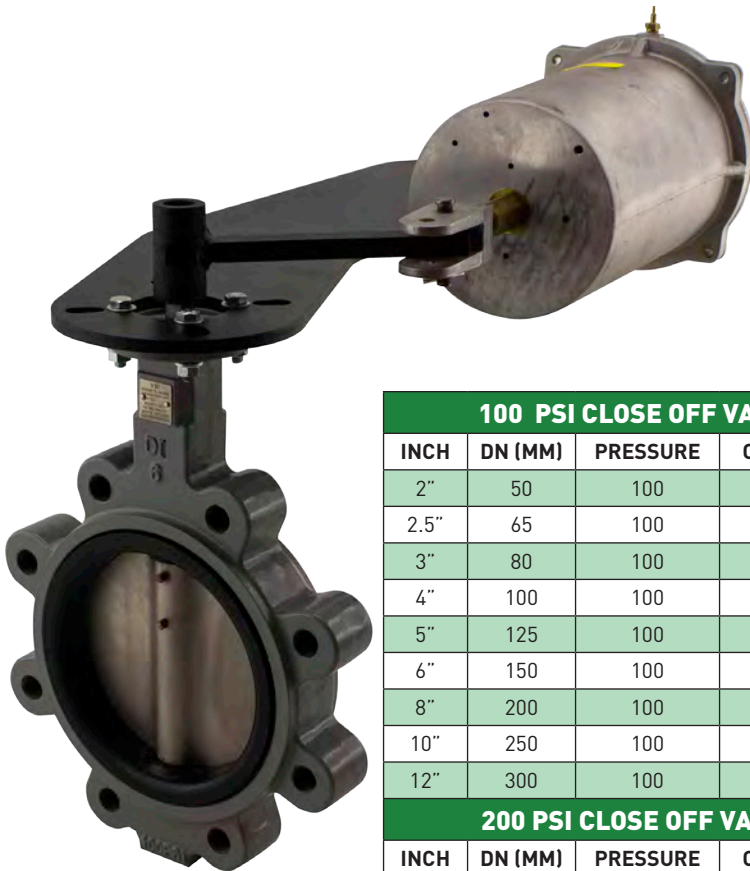
100 PSI / 200 PSI CLOSE OFF - 2 POSITION

SERIES 2100 BUTTERFLY VALVE

SERVICE: Chilled/Hot Water - 50% Glycol
FLOW CHARACTERISTIC: Modified EQ%
SIZES: 2" - 24"
BODY: Ductile Iron ASTM A536
BODY COATING: Fusion Bonded Epoxy
BODY PRESSURE RATING: ASME/ANSI Class 125
END FITTING: Lugged ANSI Class 125/150 Flanged
DISC: 304SS
STEM: 416SS
SEAT: EPDM
O-RING: EPDM
BUSHING: PTFE
CLOSE OFF: 100 PSI, 150 PSI or 200PSI
LEAKAGE: Bubble Tight Shutoff
TEMPERATURE RANGE: -22°F to 250°F

SERIES L ACTUATOR

MINIMUM AIR SUPPLY: 20psig
MAXIMUM AIR SUPPLY: 30psig
AIR CONSUMPTION: 2 SCIM (0.55 mL/s)
STROKE:
 D-3153 - 3 INCHES
 D-3244 - 4 INCHES
 D-3246 - 6 INCHES
AMBIENT OPERATING CONDITIONS:
 -20 TO 150°F (-29° TO 66°C)
BODY: Die-cast Aluminum
DIAPHRAGM: Synthetic elastomer
EFFECTIVE DIAPHRAGM:
 D-3153 - 15 inch² (97 cm²)
 D-3244 & D-3246 - 23.4 inch² (151 cm²)
SPRING RANGE (nominal): 8 to 13 psig
AIR CONNECTION: 1/8" NPT Barbed fitting



100 PSI CLOSE OFF VALVES - 2 POSITION LOW PRESSURE PNEUMATIC						
INCH	DN (MM)	PRESSURE	Cv 60°	Cv 90°	KELE PN	ACTUATOR PN
2"	50	100	64	135	KB1-2-02-LP2SC(O)*	D-3153-5130
2.5"	65	100	98	220	KB1-2-25-LP2SC(O)*	D-3153-5130
3"	80	100	116	302	KB1-2-03-LP2SC(O)*	D-3153-5130
4"	100	100	230	600	KB1-2-04-LP2SC(O)*	D-3244-5110
5"	125	100	392	1022	KB1-2-05-LP2SC(O)*	D-3244-5110
6"	150	100	605	1579	KB1-2-06-LP2SC(O)*	D-3246-5110
8"	200	100	1202	3136	KB1-2-08-LP2SC(O)*	D-3246-5110
10"	250	100	2047	5340	KB1-2-10-LP2SC(O)*	D-3246-5110 (X2)
12"	300	100	3162	8250	KB1-2-12-LP2SC(O)*	D-3246-5110 (X2)
200 PSI CLOSE OFF VALVES - 2 POSITION LOW PRESSURE PNEUMATIC						
INCH	DN (MM)	PRESSURE	Cv 60°	Cv 90°	KELE PN	ACTUATOR PN
2"	50	200	64	135	KB2-2-02-LP2SC(O)*	D-3153-5130
2.5"	65	200	98	220	KB2-2-25-LP2SC(O)*	D-3153-5130
3"	80	200	116	302	KB2-2-03-LP2SC(O)*	D-3244-5110
4"	100	200	230	600	KB2-2-04-LP2SC(O)*	D-3244-5110
5"	125	200	392	1022	KB2-2-05-LP2SC(O)*	D-3246-5110
6"	150	200	605	1579	KB2-2-06-LP2SC(O)*	D-3246-5110
8"	200	200	1202	3136	KB2-2-08-LP2SC(O)*	D-3246-5110 (X2)

* SC = SPRING CLOSED; SO = SPRING OPEN

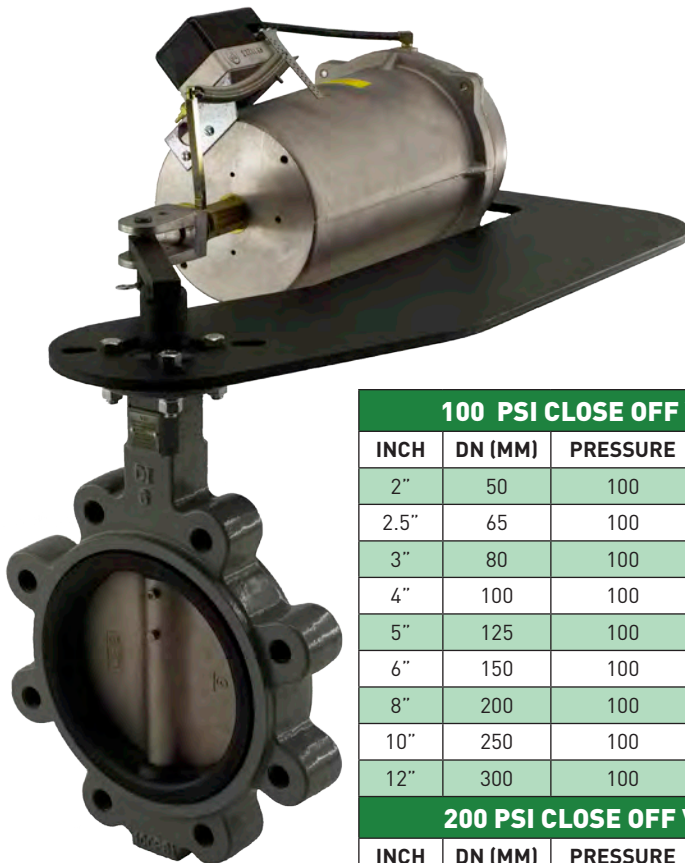
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2-WAY BUTTERFLY VALVES WITH LP PNEUMATIC ACTUATORS

100 PSI / 200 PSI CLOSE OFF - MODULATING

SERIES 2100 BUTTERFLY VALVE

SERVICE: Chilled/Hot Water - 50% Glycol
FLOW CHARACTERISTIC: Modified EQ%
SIZES: 2" - 24"
BODY: Ductile Iron ASTM A536
BODY COATING: Fusion Bonded Epoxy
BODY PRESSURE RATING: ASME/ANSI Class 125
END FITTING: Lugged ANSI Class 125/150 Flanged
DISC: 304SS
STEM: 416SS
SEAT: EPDM
O-RING: EPDM
BUSHING: PTFE
CLOSE OFF: 100 PSI, 150 PSI or 200PSI
LEAKAGE: Bubble Tight Shutoff
TEMPERATURE RANGE: -22°F to 250°F



SERIES L ACTUATOR

MINIMUM AIR SUPPLY: 20psig
MAXIMUM AIR SUPPLY: 30psig
AIR CONSUMPTION: 2 SCIM (0.55 mL/s)
STROKE:
 D-3153 - 3 INCHES
 D-3244 - 4 INCHES
 D-3246 - 6 INCHES
AMBIENT OPERATING CONDITIONS:
 -20 TO 150°F (-29° TO 66°C)
BODY: Die-cast Aluminum
DIAPHRAGM: Synthetic elastomer
EFFECTIVE DIAPHRAGM:
 D-3153 - 15 inch² (97 cm²)
 D-3244 & D-3246 - 23.4 inch² (151 cm²)
SPRING RANGE (nominal): 8 to 13 psig
AIR CONNECTION: 1/8" NPT Barbed fitting

PILOT POSITIONER

START POINT: Adjustable from 2 to 12 psig
SPAN: Adjustable from 3 to 13 psi
MAXIMUM AIR SUPPLY: 25 psig
AIR CONSUMPTION: 5 SCIM (1.4 mL/s)
AMBIENT OPERATING CONDITIONS:
 -20 TO 150°F (-29° TO 66°C)
AIR CONNECTION: 1/8" NPT Barbed fitting

04/13 - Subject to change. © VSI, LLC.

100 PSI CLOSE OFF VALVES - MODULATING LOW PRESSURE PNEUMATIC

INCH	DN (MM)	PRESSURE	Cv 60°	Cv 90°	KELE PN	ACTUATOR PN
2"	50	100	64	135	KB1-2-02-LPMSC(O)*	D-3153-5120
2.5"	65	100	98	220	KB1-2-25-LPMSC(O)*	D-3153-5120
3"	80	100	116	302	KB1-2-03-LPMSC(O)*	D-3153-5120
4"	100	100	230	600	KB1-2-04-LPMSC(O)*	D-3244-5100
5"	125	100	392	1022	KB1-2-05-LPMSC(O)*	D-3244-5100
6"	150	100	605	1579	KB1-2-06-LPMSC(O)*	D-3246-5100
8"	200	100	1202	3136	KB1-2-08-LPMSC(O)*	D-3246-5100
10"	250	100	2047	5340	KB1-2-10-LPMSC(O)*	D-3246-5100 (X2)
12"	300	100	3162	8250	KB1-2-12-LPMSC(O)*	D-3246-5100 (X2)

200 PSI CLOSE OFF VALVES - MODULATING LOW PRESSURE PNEUMATIC

INCH	DN (MM)	PRESSURE	Cv 60°	Cv 90°	KELE PN	ACTUATOR PN
2"	50	200	64	135	KB2-2-02-LPMSC(O)*	D-3153-5120
2.5"	65	200	98	220	KB2-2-25-LPMSC(O)*	D-3153-5120
3"	80	200	116	302	KB2-2-03-LPMSC(O)*	D-3244-5100
4"	100	200	230	600	KB2-2-04-LPMSC(O)*	D-3244-5100
5"	125	200	392	1022	KB2-2-05-LPMSC(O)*	D-3246-5100
6"	150	200	605	1579	KB2-2-06-LPMSC(O)*	D-3246-5100
8"	200	200	1202	3136	KB2-2-08-LPMSC(O)*	D-3246-5100 (X2)

* SC = SPRING CLOSED; SO = SPRING OPEN



2-WAY BUTTERFLY VALVES WITH 24V ELECTRIC ACTUATORS

100 PSI / 200 PSI CLOSE OFF - 2 POSITION

SERIES 2100 BUTTERFLY VALVE

DAMPER ACTUATORS

SERVICE: Chilled/Hot Water - 50% Glycol
FLOW CHARACTERISTIC: Modified EQ%
SIZES: 2" - 24"
BODY: Ductile Iron ASTM A536
BODY COATING: Fusion Bonded Epoxy
BODY PRESSURE RATING: ASME/ANSI Class 125
END FITTING: Lugged ANSI Class 125/150 Flanged
DISC: 304SS
STEM: 416SS
SEAT: EPDM
O-RING: EPDM
BUSHING: PTFE
CLOSE OFF: 100 PSI, 150 PSI or 200PSI
LEAKAGE: Bubble Tight Shutoff
TEMPERATURE RANGE: -22°F to 250°F

NEMA 2 PROTECTION
POWER SUPPLY: 24VAC ± 20% 50/60Hz
 24VDC ± 10%
TEMPERATURE RANGE: -5°F to +125°F
RUNTIME: 95 to 150 sec

POWER CONSUMPTION

KA-175-2T: 6VA / 6W **KAS-175-2:** 40VA / 6W
KA-301-2T: 9VA / 9W **GKB24-3:** 21VA / 12W
GMB24-3: 6VA / 2W **GKX24-MFT:** 21VA / 12W

POWER CONNECTION

KA-175-2T: KA-301-2T:	1/2" CONDUIT TO TERMINAL BLOCK
KAS-175-2: GMB24-3: GKB24-3: GKX24-MFT:	1/2" CONDUIT TO 3' CABLE (18 GA)



100 PSI CLOSE OFF VALVES - 2 POSITION						
INCH	DN (MM)	PRESSURE	Cv 60°	Cv 90°	KELE PN	ACTUATOR PN
2"	50	100	64	135	KB1-2-02-2E2D	KA-175-2T
					K1-2-02-2E2DSC(0)*	KAS-175-2
2.5"	65	100	98	220	KB1-2-25-2E2D	KA-175-2T
					K1-2-25-2E2DSC(0)*	KAS-175-2
3"	80	100	116	302	KB1-2-03-2E2D	KA-175-2T
					KB1-2-03-2E2DSC(0)*	KAS-175-2
4"	100	100	230	600	KB1-2-04-2E2D	KA-301-2T
					KB1-2-04-2E2DSC(0)*	GKB24-3
5"	125	100	392	1022	KB1-2-05-2E2D	GMB24-3
					KB1-2-05-2E2DSC(0)*	GKB24-3
6"	150	100	605	1579	KB1-2-06-2E2D	GMB24-3 (X2)
					KB1-2-06-2E2DSC(0)*	GKX24-MFT (X2)
200 PSI CLOSE OFF VALVES - 2 POSITION						
INCH	DN (MM)	PRESSURE	Cv 60°	Cv 90°	KELE PN	ACTUATOR PN
2"	50	200	64	135	KB2-2-02-2E2D	KA-175-2T
					K2-2-02-2E2DSC(0)*	KAS-175-2
2.5"	65	200	98	220	KB2-2-25-2E2D	KA-175-2T
					K2-2-25-2E2DSC(0)*	KAS-175-2
3"	80	200	116	302	KB2-2-03-2E2D	KA-301-2T
					KB2-2-03-2E2DSC(0)*	GKB24-3
4"	100	200	230	600	KB2-2-04-2E2D	KA-301-2T
					KB2-2-04-2E2DSC(0)*	GKB24-3
5"	125	200	392	1022	KB2-2-05-2E2D	GMB24-3 (X2)
					KB2-2-05-2E2DSC(0)*	GKX24-MFT (X2)

* SC = SPRING CLOSED; SO = SPRING OPEN

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2-WAY BUTTERFLY VALVES WITH 24V ELECTRIC ACTUATORS

100 PSI / 200 PSI CLOSE OFF - MODULATING

SERIES 2100 BUTTERFLY VALVE

DAMPER ACTUATORS

SERVICE: Chilled/Hot Water - 50% Glycol
FLOW CHARACTERISTIC: Modified EQ%
SIZES: 2" - 24"
BODY: Ductile Iron ASTM A536
BODY COATING: Fusion Bonded Epoxy
BODY PRESSURE RATING: ASME/ANSI Class 125
END FITTING: Lugged ANSI Class 125/150 Flanged
DISC: 304SS
STEM: 416SS
SEAT: EPDM
O-RING: EPDM
BUSHING: PTFE
CLOSE OFF: 100 PSI, 150 PSI or 200PSI
LEAKAGE: Bubble Tight Shutoff
TEMPERATURE RANGE: -22°F to 250°F

NEMA 2 PROTECTION
POWER SUPPLY: 24VAC ± 20% 50/60Hz
 24VDC ± 10%
TEMPERATURE RANGE: -5°F to +125°F
RUNTIME: 95 to 150 sec

POWER CONSUMPTION

KA-175-P: 6VA / 6W **KAS-175-M:** 16VA / 5VA
KA-301-P: 8VA / 6W **GKB24-SR:** 21VA / 12W
GMB24-SR: 6.5VA / 4.5W **GKX24-MFT:** 21VA / 12W

POWER CONNECTION

KA-175-P: KA-301-P:	1/2" CONDUIT TO TERMINAL BLOCK
KAS-175-M: GMB24-SR: GKB24-SR: GKX24-MFT:	1/2" CONDUIT TO 3' CABLE (18 GA)



100 PSI CLOSE OFF VALVES - MODULATING						
INCH	DN (MM)	PRESSURE	Cv 60°	Cv 90°	KELE PN	ACTUATOR PN
2"	50	100	64	135	KB1-2-02-2EMD	KA-175-P
					K1-2-02-2EMDSC(0)*	KAS-175-M
2.5"	65	100	98	220	KB1-2-25-2EMD	KA-175-P
					K1-2-25-2EMDSC(0)*	KAS-175-M
3"	80	100	116	302	KB1-2-03-2EMD	KA-175-P
					KB1-2-03-2EMDSC(0)*	KAS-175-M
4"	100	100	230	600	KB1-2-04-2EMD	KA-301-P
					KB1-2-04-2EMDSC(0)*	GKB24-SR
5"	125	100	392	1022	KB1-2-05-2EMD	GMB24-SR
					KB1-2-05-2EMDSC(0)*	GKB24-SR
6"	150	100	605	1579	KB1-2-06-2EMD	GMB24-SR(X2)
					KB1-2-06-2EMDSC(0)*	GKX24-MFT (X2)
200 PSI CLOSE OFF VALVES - MODULATING						
INCH	DN (MM)	PRESSURE	Cv 60°	Cv 90°	KELE PN	ACTUATOR PN
2"	50	200	64	135	KB2-2-02-2EMD	KA-175-P
					K2-2-02-2EMDSC(0)*	KAS-175-M
2.5"	65	200	98	220	KB2-2-25-2EMD	KA-175-P
					K2-2-25-2EMDSC(0)*	KAS-175-M
3"	80	200	116	302	KB2-2-03-2EMD	KA-301-P
					KB2-2-03-2EMDSC(0)*	GKB24-SR
4"	100	200	230	600	KB2-2-04-2EMD	KA-301-P
					KB2-2-04-2EMDSC(0)*	GKB24-SR
5"	125	200	392	1022	KB2-2-05-2EMD	GMB24-SR (X2)
					KB2-2-05-2EMDSC(0)*	GKX24-MFT (X2)

* SC = SPRING CLOSED; SO = SPRING OPEN

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3-WAY BUTTERFLY VALVES WITH 120V/24V ELECTRIC ACTUATORS

100 PSI / 150 PSI / 200 PSI CLOSE OFF - 2 POSITION

SERIES 2100 BUTTERFLY VALVE

SERVICE: Chilled/Hot Water - 50% Glycol
FLOW CHARACTERISTIC: Modified EQ%
SIZES: 2" - 24"
BODY: Ductile Iron ASTM A536
BODY COATING: Fusion Bonded Epoxy
BODY PRESSURE RATING: ASME/ANSI Class 125
END FITTING: Lugged ANSI Class 125/150 Flanged
DISC: 304SS
STEM: 416SS
SEAT: EPDM
O-RING: EPDM
BUSHING: PTFE
CLOSE OFF: 100 PSI, 150 PSI or 200PSI
LEAKAGE: Bubble Tight Shutoff
TEMPERATURE RANGE: -22°F to 250°F



SERIES 1000-X 2 POSITION ACTUATOR

MOTOR: 120V or 24V Single Phase - 60Hz
TORQUE RANGE: 443 - 22,127 in/lbs
HOUSING: Die Cast Aluminum - NEMA 4
PROTECTION: Thermal Overload Protection
LIMIT SWITCHES: 4x SPDT Open/Closed
POSITION INDICATOR: Mechanical Dome
CONDUIT ENTRIES: 2 x 1/2" NPT
POWER GEARS: Alloy Steel and Aluminum Bronze
BEARINGS: Alloy Steel Sleeve and Ball Bearings
CERTIFICATIONS: CE, NRTL, NEMA 4, CSA File 226201
INTERNAL HEATER: Standard
MANUAL OVERRIDE POWER SWITCH:
 Not available on 1005 and all 24V models
MANUAL OVERRIDE: Allen Handle Standard
 Optional Handwheel not available on 1005

SERIES 1000-X 2 POSITION ACTUATOR SPECIFICATIONS

MODEL	1005-X	1010-X	1020-X	1040-X	1060-X	1100-X	1160-X	1250-X
Output Torque (in-lb)	443	885	1770	3540	5310	8851	14616	22127
Output Torque (Nm)	50	100	200	400	600	1000	1600	2500
Duty Cycle	80%	80%	80%	80%	80%	70%	70%	70%
Travel Speed @ 60Hz (Sec)	20	30	30	30	45	30	48	75
Max Current (Amp @ 110/220VAC)	0.34/0.17	0.81/0.47	1.68/0.78	3.41/1.78	3.60/1.87	3.80/2.12	3.93/2.16	3.95/2.20
Run Current (AMP @ 110/220VAC)	0.24/0.16	0.57/0.30	0.65/0.37	1.12/0.57	1.18/0.60	1.93/0.94	1.75/0.96	1.75/0.98
Max Current (Amp @ 24VAC)	1.60	1.90	4.80	7.2	N/A	N/A	N/A	N/A
Run Current (Amp @ 24VAC)	1.40	1.70	4.60	6.8	N/A	N/A	N/A	N/A
Enclosure Rating	WATERTIGHT NEMA 4							

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100 PSI CLOSEOFF VALVES - 2 POSITION						
INCH	DN (MM)	PRESSURE	Cv 60°	Cv 90°	KELE PN	ACTUATOR PN
2"	50	100	64	135	KB1-3-02-2E2V	1005-X-24V
					KB1-3-02-1E2V	1005-X
2.5"	65	100	98	220	KB1-3-25-2E2V	1005-X-24V
					KB1-3-25-1E2V	1005-X
3"	80	100	116	302	KB1-3-03-2E2V	1005-X-24V
					KB1-3-03-1E2V	1005-X
4"	100	100	230	600	KB1-3-04-2E2V	1005-X-24V
					KB1-3-04-1E2V	1005-X
5"	125	100	392	1022	KB1-3-05-2E2V	1005-X-24V
					KB1-3-05-1E2V	1005-X
6"	150	100	605	1579	KB1-3-06-2E2V	1010-X-24V
					KB1-3-06-1E2V	1010-X
8"	200	100	1202	3136	KB1-3-08-2E2V	1020-X-24V
					KB1-3-08-1E2V	1020-X
10"	250	100	2047	5340	KB1-3-10-2E2V	1020-X-24V
					KB1-3-10-1E2V	1020-X
12"	300	100	3162	8250	KB1-3-12-2E2V	1040-X-24V
					KB1-3-12-1E2V	1040-X
14"	350	100	4568	11917	KB1-3-14-1E2V	1060-X
16"	400	100	6282	16388	KB1-3-16-1E2V	1100-X
18"	450	100	8320	21705	KB1-3-18-1E2V	1100-X
20"	500	100	10698	27908	KB1-3-20-1E2V	1160-X
24"	600	100	16528	43116	KB1-3-24-1E2V	1250-X
150 PSI / 200 PSI CLOSEOFF VALVES - 2 POSITION						
INCH	DN (MM)	PRESSURE	Cv 60°	Cv 90°	KELE PN	ACTUATOR PN
2"	50	200	64	135	KB2-3-02-2E2V	1005-X-24V
					KB2-3-02-1E2V	1005-X
2.5"	65	200	98	220	KB2-3-25-2E2V	1005-X-24V
					KB2-3-25-1E2V	1005-X
3"	80	200	116	302	KB2-3-03-2E2V	1005-X-24V
					KB2-3-03-1E2V	1005-X
4"	100	200	230	600	KB2-3-04-2E2V	1005-X-24V
					KB2-3-04-1E2V	1005-X
5"	125	200	392	1022	KB2-3-05-2E2V	1010-X-24V
					KB2-3-05-1E2V	1010-X
6"	150	200	605	1579	KB2-3-06-2E2V	1010-X-24V
					KB2-3-06-1E2V	1010-X
8"	200	200	1202	3136	KB2-3-08-2E2V	1020-X-24V
					KB2-3-08-1E2V	1020-X
10"	250	200	2047	5340	KB2-3-10-2E2V	1040-X-24V
					KB2-3-10-1E2V	1040-X
12"	300	200	3162	8250	KB2-3-12-1E2V	1060-X
14"	350	150	4568	11917	KB2-3-14-1E2V	1060-X
16"	400	150	6282	16388	KB2-3-16-1E2V	1100-X
18"	450	150	8320	21705	KB2-3-18-1E2V	1160-X
20"	500	150	10698	27908	KB2-3-20-1E2V	1250-X

3-WAY BUTTERFLY VALVES WITH 120V/24V ELECTRIC ACTUATORS

100 PSI / 150 PSI / 200 PSI CLOSE OFF - MODULATING

SERIES 2100 BUTTERFLY VALVE



SERVICE: Chilled/Hot Water - 50% Glycol
FLOW CHARACTERISTIC: Modified EQ%
SIZES: 2" - 24"
BODY: Ductile Iron ASTM A536
BODY COATING: Fusion Bonded Epoxy
BODY PRESSURE RATING: ASME/ANSI Class 125
END FITTING: Lugged ANSI Class 125/150 Flanged
DISC: 304SS
STEM: 416SS
SEAT: EPDM
O-RING: EPDM
BUSHING: PTFE
CLOSE OFF: 100 PSI, 150 PSI or 200PSI
LEAKAGE: Bubble Tight Shutoff
TEMPERATURE RANGE: -22°F to 250°F



SERIES 1000-X MODULATING ACTUATOR

MOTOR: 120V or 24V Single Phase - 60Hz
TORQUE RANGE: 443 - 22,127 in/lbs
HOUSING: Die Cast Aluminum - NEMA 4
CONTROL SIGNAL: 4-20mA or 2-10VDC
FEEDBACK: 4-20mA
RESOLUTION: 80 Steps (4-20mA) 200 Steps (2-10VDC)
PROTECTION: Thermal Overload Protection
POSITION INDICATOR: Mechanical Dome
CONDUIT ENTRIES: 2 x 1/2" NPT
POWER GEARS: Alloy Steel and Aluminum Bronze
BEARINGS: Alloy Steel Sleeve and Ball Bearings
CERTIFICATIONS: CE, NRTL, NEMA 4, CSA File 226201
INTERNAL HEATER: Standard
MANUAL OVERRIDE POWER SWITCH:
 Not available on 1005 and all 24V models
MANUAL OVERRIDE: Allen Handle Standard
 Optional Handwheel not available on 1005

SERIES 1000-X MODULATING ACTUATOR SPECIFICATIONS

MODEL	1005/S-X	1010/S-X	1020/S-X	1040/S-X	1060/S-X	1100/S-X	1160/S-X	1250/S-X
Output Torque (in-lb)	443	885	1770	3540	5310	8851	14616	22127
Output Torque (Nm)	50	100	200	400	600	1000	1600	2500
Duty Cycle	80%	80%	80%	80%	80%	70%	70%	70%
Travel Speed @ 60Hz [Sec]	20	30	30	30	45	30	48	75
Max Current (Amp @ 110/220VAC)	0.34/0.17	0.81/0.47	1.68/0.78	3.41/1.78	3.60/1.87	3.80/2.12	3.93/2.16	3.95/2.20
Run Current (AMP @ 110/220VAC)	0.24/0.16	0.57/0.35	0.65/0.37	1.12/0.57	1.18/0.60	1.93/0.94	1.75/0.96	1.75/0.98
Max Current (Amp @ 24VAC)	1.80	2.30	3.80	7.20	N/A	N/A	N/A	N/A
Run Current (Amp @ 24VAC)	1.70	2.11	3.65	6.80	N/A	N/A	N/A	N/A
Input Signal	*	Switchable 2-10VDC or 4-20mA on 120V, Specific control packs for 2-10VDC or 4-20mA on 24V						
Output Signal	4-20mA							
Enclosure Rating	WATERTIGHT NEMA 4							

* Specific control packs for 2-10VDC or 4-20mA for both 120V and 24V

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100 PSI CLOSEOFF VALVES - MODULATING						
INCH	DN (MM)	PRESSURE	Cv 60°	Cv 90°	KELE PN	ACTUATOR PN
2"	50	100	64	135	KB1-3-02-2EMV2(4)*	1005/S-X-24V-2(4)*
					KB1-3-02-1EMV2(4)*	1005/S-X-2(4)*
2.5"	65	100	98	220	KB1-3-25-2EMV2(4)*	1005/S-X-24V-2(4)*
					KB1-3-25-1EMV2(4)*	1005/S-X-2(4)*
3"	80	100	116	302	KB1-3-03-2EMV2(4)*	1005/S-X-24V-2(4)*
					KB1-3-03-1EMV2(4)*	1005/S-X-2(4)*
4"	100	100	230	600	KB1-3-04-2EMV2(4)*	1005/S-X-24V-2(4)*
					KB1-3-04-1EMV2(4)*	1005/S-X-2(4)*
5"	125	100	392	1022	KB1-3-05-2EMV2(4)*	1005/S-X-24V-2(4)*
					KB1-3-05-1EMV2(4)*	1005/S-X-2(4)*
6"	150	100	605	1579	KB1-3-06-2EMV2(4)*	1010/S-X-24V-2(4)*
					KB1-3-06-1EMV2(4)*	1010/S-X-2(4)*
8"	200	100	1202	3136	KB1-3-08-2EMV2(4)*	1020/S-X-24V-2(4)*
					KB1-3-08-1EMV2(4)*	1020/S-X-2(4)*
10"	250	100	2047	5340	KB1-3-10-2EMV2(4)*	1020/S-X-24V-2(4)*
					KB1-3-10-1EMV2(4)*	1020/S-X-2(4)*
12"	300	100	3162	8250	KB1-3-12-2EMV2(4)*	1040/S-X-24V-2(4)*
					KB1-3-12-1EMV2(4)*	1040/S-X-2(4)*
14"	350	100	4568	11917	KB1-3-14-1EMV2(4)*	1060/S-X-2(4)*
16"	400	100	6282	16388	KB1-3-16-1EMV2(4)*	1100/S-X-2(4)*
18"	450	100	8320	21705	KB1-3-18-1EMV2(4)*	1100/S-X-2(4)*
20"	500	100	10698	27908	KB1-3-20-1EMV2(4)*	1160/S-X-2(4)*
24"	600	100	16528	43116	KB1-3-24-1EMV2(4)*	1250/S-X-2(4)*
150 PSI / 200 PSI CLOSEOFF VALVES - MODULATING						
INCH	DN (MM)	PRESSURE	Cv 60°	Cv 90°	KELE PN	ACTUATOR PN
2"	50	200	64	135	KB2-3-02-2EMV2(4)*	1005/S-X-24V-2(4)*
					KB2-3-02-1EMV2(4)*	1005/S-X-2(4)*
2.5"	65	200	98	220	KB2-3-25-2EMV2(4)*	1005/S-X-24V-2(4)*
					KB2-3-25-1EMV2(4)*	1005/S-X-2(4)*
3"	80	200	116	302	KB2-3-03-2EMV2(4)*	1005/S-X-24V-2(4)*
					KB2-3-03-1EMV2(4)*	1005/S-X-2(4)*
4"	100	200	230	600	KB2-3-04-2EMV2(4)*	1005/S-X-24V-2(4)*
					KB2-3-04-1EMV2(4)*	1005/S-X-2(4)*
5"	125	200	392	1022	KB2-3-05-2EMV2(4)*	1010/S-X-24V-2(4)*
					KB2-3-05-1EMV2(4)*	1010/S-X-2(4)*
6"	150	200	605	1579	KB2-3-06-2EMV2(4)*	1010/S-X-24V-2(4)*
					KB2-3-06-1EMV2(4)*	1010/S-X-2(4)*
8"	200	200	1202	3136	KB2-3-08-2EMV2(4)*	1020/S-X-24V-2(4)*
					KB2-3-08-1EMV2(4)*	1020/S-X-2(4)*
10"	250	200	2047	5340	KB2-3-10-2EMV2(4)*	1040/S-X-24V-2(4)*
					KB2-3-10-1EMV2(4)*	1040/S-X-2(4)*
12"	300	200	3162	8250	KB2-3-12-1EMV2(4)*	1060/S-X-2(4)*
14"	350	150	4568	11917	KB2-3-14-1EMV2(4)*	1060/S-X-2(4)*
16"	400	150	6282	16388	KB2-3-16-1EMV2(4)*	1100/S-X-2(4)*
18"	450	150	8320	21705	KB2-3-18-1EMV2(4)*	1160/S-X-2(4)*
20"	500	150	10698	27908	KB2-3-20-1EMV2(4)*	1250/S-X-2(4)*

* 2 = 2-10VDC; 4 = 4-20mA

3-WAY BUTTERFLY VALVES WITH HP PNEUMATIC ACTUATORS

100 PSI / 150 PSI / 200 PSI CLOSE OFF - 2 POSITION

SERIES 2100 BUTTERFLY VALVE

SERIES C ACTUATOR

SERVICE: Chilled/Hot Water - 50% Glycol
FLOW CHARACTERISTIC: Modified EQ%
SIZES: 2" - 24"
BODY: Ductile Iron ASTM A536
BODY COATING: Fusion Bonded Epoxy
BODY PRESSURE RATING: ASME/ANSI Class 125
END FITTING: Lugged ANSI Class 125/150 Flanged
DISC: 304SS
STEM: 416SS
SEAT: EPDM
O-RING: EPDM
BUSHING: PTFE
CLOSE OFF: 100 PSI, 150 PSI or 200PSI
LEAKAGE: Bubble Tight Shutoff
TEMPERATURE RANGE: -22°F to 250°F

MINIMUM AIR SUPPLY: 40 psi
MAXIMUM AIR SUPPLY: 130 psi
TORQUE RANGE: 124 - 40519 in/lb (~80 psi)
HOUSING: Die Cast Aluminum Alloy
TEMPERATURE: 0°C to +80°C
 -20°C to +80°C with dry air
 -40°C to +150°C in special execution

OPERATING MEDIA: Compressed filtered air
Standard NAMUR mounts for optional accessories
DOUBLE ACTING OPERATION (DA)

CCW

Air is supplied to Port A forcing the pistons away from each other (towards ends), rotating the drive pinion counter-clockwise and exhausting air out of Port B

CW

Air is supplied to Port B forcing the pistons toward each other (towards center), rotating the drive pinion clockwise and exhausting air out of Port A

SPRING RETURN OPERATION (SR)

FAIL CCW

Air is supplied to Port A forcing the pistons away from each other (towards ends), rotating the drive pinion counter-clockwise, compressing the springs and exhausting air out of Port B

FAIL CW

Air failure (loss of pressure) allows the compressed springs to force the pistons toward each other (towards center), rotating the drive pinion clockwise and exhausting air out of Port A



Shown with optional limit switch

ASC0 8551 Direct Mount Solenoid			
Watt Rating and Power Consumption			
DC Watts	AC Watts	VA Holding	VA Inrush
6.9	6.3	7	10.1
Temperature Range: AC 5°F to 140°F (-15°C to 60°C) DC 5°F to 77°F (-15°C to 25°C)			

ALS-100 Limit Switch (Optional)	
Position Indicator	Polycarbonate Dome
Switches	2x SPDT 5A 125-250 VAC micro-switches
Terminal Strip	Standard 8 Points
Cable Entry	2x 1/2" NPT
Mounting	NAMUR Standard shaft and bracket

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100 PSI CLOSE OFF VALVES - 2 POSITION HIGH PRESSURE PNEUMATIC DA/SR						
INCH	DN (MM)	PRESSURE	Cv 60°	Cv 90°	KELE PN	ACTUATOR PN
2"	50	100	64	135	KB1-3-02-HP21(2)*	C-DA063
					KB1-3-02-HP25C(0)**1(2)*	C-SR063
2.5"	65	100	98	220	KB1-3-25-HP21(2)*	C-DA063
					KB1-3-25-HP25C(0)**1(2)*	C-SR083
3"	80	100	116	302	KB1-3-03-HP21(2)*	C-DA063
					KB1-3-03-HP25C(0)**1(2)*	C-SR083
4"	100	100	230	600	KB1-3-04-HP21(2)*	C-DA083
					KB1-3-04-HP25C(0)**1(2)*	C-SR092
5"	125	100	392	1022	KB1-3-05-HP21(2)*	C-DA083
					KB1-3-05-HP25C(0)**1(2)*	C-SR105
6"	150	100	605	1579	KB1-3-06-HP21(2)*	C-DA092
					KB1-3-06-HP25C(0)**1(2)*	C-SR125
8"	200	100	1202	3136	KB1-3-08-HP21(2)*	C-DA105
					KB1-3-08-HP25C(0)**1(2)*	C-SR140
10"	250	100	2047	5340	KB1-3-10-HP21(2)*	C-DA125
					KB1-3-10-HP25C(0)**1(2)*	C-SR140
12"	300	100	3162	8250	KB1-3-12-HP21(2)*	C-DA140
					KB1-3-12-HP25C(0)**1(2)*	C-SR160
14"	350	100	4568	11917	KB1-3-14-HP21(2)*	C-DA160
					KB1-3-14-HP25C(0)**1(2)*	C-SR190
16"	400	100	6282	16388	KB1-3-16-HP21(2)*	C-DA190
					KB1-3-16-HP25C(0)**1(2)*	C-SR240
18"	450	100	8320	21705	KB1-3-18-HP21(2)*	C-DA210
					KB1-3-18-HP25C(0)**1(2)*	C-SR270
20"	500	100	10698	27908	KB1-3-20-HP21(2)*	C-DA240
					KB1-3-20-HP25C(0)**1(2)*	C-SR300
24"	600	100	16528	43116	KB1-3-24-HP21(2)*	C-DA270

150 PSI / 200 PSI CLOSEOFF VALVES - 2 POSITION HIGH PRESSURE PNEUMATIC DA/SR						
INCH	DN (MM)	PRESSURE	Cv 60°	Cv 90°	KELE PN	ACTUATOR PN
2"	50	200	64	135	KB2-3-02-HP21(2)*	C-DA063
					KB2-3-02-HP25C(0)**1(2)*	C-SR083
2.5"	65	200	98	220	KB2-3-25-HP21(2)*	C-DA063
					KB2-3-25-HP25C(0)**1(2)*	C-SR083
3"	80	200	116	302	KB2-3-03-HP21(2)*	C-DA083
					KB2-3-03-HP25C(0)**1(2)*	C-SR092
4"	100	200	230	600	KB2-3-04-HP21(2)*	C-DA083
					KB2-3-04-HP25C(0)**1(2)*	C-SR105
5"	125	200	392	1022	KB2-3-05-HP21(2)*	C-DA092
					KB2-3-05-HP25C(0)**1(2)*	C-SR125
6"	150	200	605	1579	KB2-3-06-HP21(2)*	C-DA105
					KB2-3-06-HP25C(0)**1(2)*	C-SR140
8"	200	200	1202	3136	KB2-3-08-HP21(2)*	C-DA125
					KB2-3-08-HP25C(0)**1(2)*	C-SR140
10"	250	200	2047	5340	KB2-3-10-HP21(2)*	C-DA140
					KB2-3-10-HP25C(0)**1(2)*	C-SR190
12"	300	200	3162	8250	KB2-3-12-HP21(2)*	C-DA160
					KB2-3-12-HP25C(0)**1(2)*	C-SR210
14"	350	150	4568	11917	KB2-3-14-HP21(2)*	C-DA190
					KB2-3-14-HP25C(0)**1(2)*	C-SR240
16"	400	150	6282	16388	KB2-3-16-HP21(2)*	C-DA210
					KB2-3-16-HP25C(0)**1(2)*	C-SR270
18"	450	150	8320	21705	KB2-3-18-HP21(2)*	C-DA240
					KB2-3-18-HP25C(0)**1(2)*	C-SR300
20"	500	150	10698	27908	KB2-3-20-HP21(2)*	C-DA270

* 1 = 120VAC SOLENOID; 2 = 24VAC SOLENOID

** SC = SPRING CLOSED; SO = SPRING OPEN

3-WAY BUTTERFLY VALVES WITH HP PNEUMATIC ACTUATORS

100 PSI / 150 PSI / 200 PSI CLOSE OFF - MODULATING

SERIES 2100 BUTTERFLY VALVE

SERIES C ACTUATOR

SERVICE: Chilled/Hot Water - 50% Glycol
FLOW CHARACTERISTIC: Modified EQ%
SIZES: 2" - 24"
BODY: Ductile Iron ASTM A536
BODY COATING: Fusion Bonded Epoxy
BODY PRESSURE RATING: ASME/ANSI Class 125
END FITTING: Lugged ANSI Class 125/150 Flanged
DISC: 304SS
STEM: 416SS
SEAT: EPDM
O-RING: EPDM
BUSHING: PTFE
CLOSE OFF: 100 PSI, 150 PSI or 200PSI
LEAKAGE: Bubble Tight Shutoff
TEMPERATURE RANGE: -22°F to 250°F

MINIMUM AIR SUPPLY: 40 psi
MAXIMUM AIR SUPPLY: 130 psi
TORQUE RANGE: 124 - 40519 in/lb (~80 psi)
HOUSING: Die Cast Aluminum Alloy
TEMPERATURE: 0°C to +80°C
 -20°C to +80°C with dry air
 -40°C to +150°C in special execution

OPERATING MEDIA: Compressed filtered air
Standard NAMUR mounts for optional accessories
DOUBLE ACTING OPERATION (DA)

CCW

Air is supplied to Port A forcing the pistons away from each other (towards ends), rotating the drive pinion counter-clockwise and exhausting air out of Port B

CW

Air is supplied to Port B forcing the pistons toward each other (towards center), rotating the drive pinion clockwise and exhausting air out of Port A

SPRING RETURN OPERATION (SR)

FAIL CCW

Air is supplied to Port A forcing the pistons away from each other (towards ends), rotating the drive pinion counter-clockwise, compressing the springs and exhausting air out of Port B

FAIL CW

Air failure (loss of pressure) allows the compressed springs to force the pistons toward each other (towards center), rotating the drive pinion clockwise and exhausting air out of Port A



VRC Model V Series Positioner	
VP - Pneumatic 3-15 PSI	
VE - Electro-Pneumatic 4-20mA (Optional)	
Position Indicator: Flat Lens Dome Lens (Optional)	
PERFORMANCE	
RESOLUTION	0.25% Maximum 0.10% Typical
REPEATABILITY	99.75% Minimum 99.90% Typical
HYSTERESIS	0.50% Maximum 0.25% Typical
LINEARITY	+/- 1.0% Maximum
GAIN @80 PSIG	250 Single-Acting 500 Double-Acting
AIR CONSUMPTION @80 PSIG	0.25 SCFM Standard Flow Spool Valve 0.45 SCFM Maximum Flow Spool Valve
TEMPERATURE RANGE	-40 to 150F / -40 to 65C

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100 PSI CLOSEOFF VALVES - MODULATING HIGH PRESSURE PNEUMATIC DA/SR						
SIZE	DN (MM)	PRESSURE	Cv 60°	Cv 90°	KELE PN	ACTUATOR PN
2"	50	100	64	135	KB1-3-02-HPM	C-DA063
					KB1-3-02-HPMSC(0)*	C-SR063
2.5"	65	100	98	220	KB1-3-25-HPM	C-DA063
					KB1-3-25-HPMSC(0)*	C-SR083
3"	80	100	116	302	KB1-3-03-HPM	C-DA063
					KB1-3-03-HPMSC(0)*	C-SR083
4"	100	100	230	600	KB1-3-04-HPM	C-DA083
					KB1-3-04-HPMSC(0)*	C-SR092
5"	125	100	392	1022	KB1-3-05-HPM	C-DA083
					KB1-3-05-HPMSC(0)*	C-SR105
6"	150	100	605	1579	KB1-3-06-HPM	C-DA105
					KB1-3-06-HPMSC(0)*	C-SR125
8"	200	100	1202	3136	KB1-3-08-HPM	C-DA105
					KB1-3-08-HPMSC(0)*	C-SR140
10"	250	100	2047	5340	KB1-3-10-HPM	C-DA125
					KB1-3-10-HPMSC(0)*	C-SR140
12"	300	100	3162	8250	KB1-3-12-HPM	C-DA140
					KB1-3-12-HPMSC(0)*	C-SR160
14"	350	100	4568	11917	KB1-3-14-HPM	C-DA160
					KB1-3-14-HPMSC(0)*	C-SR190
16"	400	100	6282	16388	KB1-3-16-HPM	C-DA190
					KB1-3-16-HPMSC(0)*	C-SR240
18"	450	100	8320	21705	KB1-3-18-HPM	C-DA210
					KB1-3-18-HPMSC(0)*	C-SR270
20"	500	100	10698	27908	KB1-3-20-HPM	C-DA240
					KB1-3-20-HPMSC(0)*	C-SR300
24"	600	100	16528	43116	KB1-3-24-HPM	C-DA270
150 PSI / 200 PSI CLOSEOFF VALVES - MODULATING HIGH PRESSURE PNEUMATIC DA/SR						
INCH	DN (MM)	PRESSURE	Cv 60°	Cv 90°	KELE PN	ACTUATOR PN
2"	50	200	64	135	KB2-3-02-HPM	C-DA063
					KB2-3-02-HPMSC(0)*	C-SR063
2.5"	65	200	98	220	KB2-3-25-HPM	C-DA063
					KB2-3-25-HPMSC(0)*	C-SR083
3"	80	200	116	302	KB2-3-03-HPM	C-DA063
					KB2-3-03-HPMSC(0)*	C-SR083
4"	100	200	230	600	KB2-3-04-HPM	C-DA083
					KB2-3-04-HPMSC(0)*	C-SR092
5"	125	200	392	1022	KB2-3-05-HPM	C-DA092
					KB2-3-05-HPMSC(0)*	C-SR125
6"	150	200	605	1579	KB2-3-06-HPM	C-DA105
					KB2-3-06-HPMSC(0)*	C-SR125
8"	200	200	1202	3136	KB2-3-08-HPM	C-DA125
					KB2-3-08-HPMSC(0)*	C-SR140
10"	250	200	2047	5340	KB2-3-10-HPM	C-DA140
					KB2-3-10-HPMSC(0)*	C-SR160
12"	300	200	3162	8250	KB2-3-12-HPM	C-DA160
					KB2-3-12-HPMSC(0)*	C-SR190
14"	350	150	4568	11917	KB2-3-14-HPM	C-DA160
					KB2-3-14-HPMSC(0)*	C-SR210
16"	400	150	6282	16388	KB2-3-16-HPM	C-DA190
					KB2-3-16-HPMSC(0)*	C-SR240
18"	450	150	8320	21705	KB2-3-18-HPM	C-DA240
					KB2-3-18-HPMSC(0)*	C-SR300
20"	500	150	10698	27908	KB2-3-20-HPM	C-DA240

* SC = SPRING CLOSED; SO = SPRING OPEN

3-WAY BUTTERFLY VALVES WITH LP PNEUMATIC ACTUATORS

100 PSI / 150 PSI / 200 PSI CLOSE OFF - 2 POSITION

SERIES 2100 BUTTERFLY VALVE

SERIES L ACTUATOR

SERVICE: Chilled/Hot Water - 50% Glycol

FLOW CHARACTERISTIC: Modified EQ%

SIZES: 2" - 24"

BODY: Ductile Iron ASTM A536

BODY COATING: Fusion Bonded Epoxy

BODY PRESSURE RATING: ASME/ANSI Class 125

END FITTING: Lugged ANSI Class 125/150 Flanged

DISC: 304SS

STEM: 416SS

SEAT: EPDM

O-RING: EPDM

BUSHING: PTFE

CLOSE OFF: 100 PSI, 150 PSI or 200PSI

LEAKAGE: Bubble Tight Shutoff

TEMPERATURE RANGE: -22°F to 250°F

MINIMUM AIR SUPPLY: 20psig

MAXIMUM AIR SUPPLY: 30psig

AIR CONSUMPTION: 2 SCIM (0.55 mL/s)

STROKE:

D-3153 - 3 INCHES

D-3244 - 4 INCHES

D-3246 - 6 INCHES

AMBIENT OPERATING CONDITIONS:

-20 TO 150°F (-29° TO 66°C)

BODY: Die-cast Aluminum

DIAPHRAGM: Synthetic elastomer

EFFECTIVE DIAPHRAGM:

D-3153 - 15 inch² (97 cm²)

D-3244 & D-3246 - 23.4 inch² (151 cm²)

SPRING RANGE (nominal): 8 to 13 psig

AIR CONNECTION: 1/8" NPT Barbed fitting



100 PSI CLOSEOFF VALVES - 2 POSITION LOW PRESSURE PNEUMATIC

INCH	DIN (MM)	PRESSURE	Cv 60°	Cv 90°	KELE PN	ACTUATOR PN
2"	50	100	64	135	KB1-3-02-LP2SC(O)*	D-3153-5130
2.5"	65	100	98	220	KB1-3-25-LP2SC(O)*	D-3153-5130
3"	80	100	116	302	KB1-3-03-LP2SC(O)*	D-3244-5110
4"	100	100	230	600	KB1-3-04-LP2SC(O)*	D-3244-5110
5"	125	100	392	1022	KB1-3-05-LP2SC(O)*	D-3246-5110
6"	150	100	605	1579	KB1-3-06-LP2SC(O)*	D-3246-5110
8"	200	100	1202	3136	KB1-3-08-LP2SC(O)*	D-3246-5110 (X2)
10"	250	100	2047	5340	KB1-3-10-LP2SC(O)*	D-3246-5110 (X2)

200 PSI CLOSEOFF VALVES - 2 POSITION LOW PRESSURE PNEUMATIC

INCH	DIN (MM)	PRESSURE	Cv 60°	Cv 90°	KELE PN	ACTUATOR PN
2"	50	200	64	135	KB2-3-02-LP2SC(O)*	D-3153-5130
2.5"	65	200	98	220	KB2-3-25-LP2SC(O)*	D-3244-5110
3"	80	200	116	302	KB2-3-03-LP2SC(O)*	D-3244-5110
4"	100	200	230	600	KB2-3-04-LP2SC(O)*	D-3246-5110
5"	125	200	392	1022	KB2-3-05-LP2SC(O)*	D-3246-5110
6"	150	200	605	1579	KB2-3-06-LP2SC(O)*	D-3246-5110 (X2)
8"	200	200	1202	3136	KB2-3-08-LP2SC(O)*	D-3246-5110 (X2)

* SC = SPRING CLOSED; SO = SPRING OPEN

3-WAY BUTTERFLY VALVES WITH LP PNEUMATIC ACTUATORS

100 PSI / 150 PSI / 200 PSI CLOSE OFF - MODULATING

SERIES 2100 BUTTERFLY VALVE

SERIES L ACTUATOR

SERVICE: Chilled/Hot Water - 50% Glycol
FLOW CHARACTERISTIC: Modified EQ%
SIZES: 2" - 24"
BODY: Ductile Iron ASTM A536
BODY COATING: Fusion Bonded Epoxy
BODY PRESSURE RATING: ASME/ANSI Class 125
END FITTING: Lugged ANSI Class 125/150 Flanged
DISC: 304SS
STEM: 416SS
SEAT: EPDM
O-RING: EPDM
BUSHING: PTFE
CLOSE OFF: 100 PSI, 150 PSI or 200PSI
LEAKAGE: Bubble Tight Shutoff
TEMPERATURE RANGE: -22°F to 250°F

MINIMUM AIR SUPPLY: 20psig
MAXIMUM AIR SUPPLY: 30psig
AIR CONSUMPTION: 2 SCIM (0.55 mL/s)
STROKE:
 D-3153 - 3 INCHES
 D-3244 - 4 INCHES
 D-3246 - 6 INCHES
AMBIENT OPERATING CONDITIONS:
 -20 TO 150°F (-29° TO 66°C)
BODY: Die-cast Aluminum
DIAPHRAGM: Synthetic elastomer
EFFECTIVE DIAPHRAGM:
 D-3153 - 15 inch² (97 cm²)
 D-3244 & D-3246 - 23.4 inch² (151 cm²)
SPRING RANGE (nominal): 8 to 13 psig
AIR CONNECTION: 1/8" NPT Barbed fitting



PILOT POSITIONER

START POINT: Adjustable from 2 to 12 psig
SPAN: Adjustable from 3 to 13 psi
MAXIMUM AIR SUPPLY: 25 psig
AIR CONSUMPTION: 5 SCIM (1.4 mL/s)
AMBIENT OPERATING CONDITIONS:
 -20 TO 150°F (-29° TO 66°C)
AIR CONNECTION: 1/8" NPT Barbed fitting

100 PSI CLOSEOFF VALVES - MODULATING LOW PRESSURE PNEUMATIC

INCH	DIN (MM)	PRESSURE	Cv 60°	Cv 90°	KELE PN	ACTUATOR PN
2"	50	100	64	135	KB1-3-02-LPMSC(O)*	D-3153-5120
2.5"	65	100	98	220	KB1-3-25-LPMSC(O)*	D-3153-5120
3"	80	100	116	302	KB1-3-03-LPMSC(O)*	D-3244-5100
4"	100	100	230	600	KB1-3-04-LPMSC(O)*	D-3244-5100
5"	125	100	392	1022	KB1-3-05-LPMSC(O)*	D-3246-5100
6"	150	100	605	1579	KB1-3-06-LPMSC(O)*	D-3246-5100
8"	200	100	1202	3136	KB1-3-08-LPMSC(O)*	D-3246-5100 (X2)
10"	250	100	2047	5340	KB1-3-10-LPMSC(O)*	D-3246-5100 (X2)

200 PSI CLOSEOFF VALVES - MODULATING LOW PRESSURE PNEUMATIC

INCH	DIN (MM)	PRESSURE	Cv 60°	Cv 90°	KELE PN	ACTUATOR PN
2"	50	200	64	135	KB2-3-02-LPMSC(O)*	D-3153-5120
2.5"	65	200	98	220	KB2-3-25-LPMSC(O)*	D-3244-5100
3"	80	200	116	302	KB2-3-03-LPMSC(O)*	D-3244-5100
4"	100	200	230	600	KB2-3-04-LPMSC(O)*	D-3246-5100
5"	125	200	392	1022	KB2-3-05-LPMSC(O)*	D-3246-5100
6"	150	200	605	1579	KB2-3-06-LPMSC(O)*	D-3246-5100 (X2)
8"	200	200	1202	3136	KB2-3-08-LPMSC(O)*	D-3246-5100 (X2)

* SC = SPRING CLOSED; SO = SPRING OPEN

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3-WAY BUTTERFLY VALVES WITH 24V ELECTRIC ACTUATORS

100 PSI / 200 PSI CLOSE OFF - 2 POSITION

SERIES 2100 BUTTERFLY VALVE

DAMPER ACTUATORS

SERVICE: Chilled/Hot Water - 50% Glycol

FLOW CHARACTERISTIC: Modified EQ%

SIZES: 2" - 24"

BODY: Ductile Iron ASTM A536

BODY COATING: Fusion Bonded Epoxy

BODY PRESSURE RATING: ASME/ANSI Class 125

END FITTING: Lugged ANSI Class 125/150 Flanged

DISC: 304SS

STEM: 416SS

SEAT: EPDM

O-RING: EPDM

BUSHING: PTFE

CLOSE OFF: 100 PSI, 150 PSI or 200PSI

LEAKAGE: Bubble Tight Shutoff

TEMPERATURE RANGE: -22°F to 250°F

NEMA 2 PROTECTION

POWER SUPPLY: 24VAC ± 20% 50/60Hz
24VDC ± 10%

TEMPERATURE RANGE: -5°F to +125°F

RUNTIME: 95 to 150 sec

POWER CONSUMPTION

KA-175-2T: 6VA / 6W

KAS-175-2: 40VA / 6W

KA-301-2T: 9VA / 9W

GKB24-3: 21VA / 12W

GMB24-3: 6VA / 2W

EFB24: 14VA / 9W

GKX24-MFT: 21VA / 12W

POWER CONNECTION

KA-175-2T:
KA-301-2T: 1/2" CONDUIT TO TERMINAL BLOCK

KAS-175-2:
GMB24-3:
EFB24: 1/2" CONDUIT TO 3' CABLE (18 GA)
GKB24-3:
GKX24-MFT:



100 PSI CLOSEOFF VALVES - 2 POSITION						
SIZE	DIN (MM)	PRESSURE	Cv 60°	Cv 90°	KELE PN	ACTUATOR PN
2"	50	100	64	135	KB1-3-02-2E2D	KA-175-2T
					K1-3-02-2E2DSC(0)*	KAS-175-2
2.5"	65	100	98	220	KB1-3-25-2E2D	KA-175-2T
					K1-3-25-2E2DSC(0)*	KAS-175-2
3"	80	100	116	302	KB1-3-03-2E2D	KA-301-2T
					KB1-3-03-2E2DSC(0)*	GKB24-3
4"	100	100	230	600	KB1-3-04-2E2D	KA-301-2T
					KB1-3-04-2E2DSC(0)*	GKB24-3
5"	125	100	392	1022	KB1-3-05-2E2D	GMB24-3(X2)
					KB1-3-05-2E2DSC(0)*	GKX24-MFT(X2)
6"	150	100	605	1579	KB1-3-06-2E2D	GMB24-3(X2)
					KB1-3-06-2E2DSC(0)*	GKX24-MFT(X2)
200 PSI CLOSEOFF VALVES - 2 POSITION						
INCH	DIN (MM)	PRESSURE	Cv 60°	Cv 90°	KELE PN	ACTUATOR PN
2"	50	200	64	135	KB2-3-02-2E2D	KA-175-2T
					K2-3-02-2E2DSC(0)*	KAS-175-2
2.5"	65	200	98	220	KB2-3-25-2E2D	KA-301-2T
					K2-3-25-2E2DSC(0)*	GKB24-3
3"	80	200	116	302	KB2-3-03-2E2D	KA-301-2T
					KB2-3-03-2E2DSC(0)*	GKB24-3
4"	100	200	230	600	KB2-3-04-2E2D	GMB24-3(X2)
					KB2-3-04-2E2DSC(0)*	EFB24(X2)
5"	125	200	392	1022	KB2-3-05-2E2D	GMB24-3(X2)
					KB2-3-05-2E2DSC(0)*	GKX24-MFT(X2)

* SC = SPRING CLOSED; SO = SPRING OPEN

3-WAY BUTTERFLY VALVES WITH 24V ELECTRIC ACTUATORS

100 PSI / 200 PSI CLOSE OFF - MODULATING

SERIES 2100 BUTTERFLY VALVE

DAMPER ACTUATORS

SERVICE: Chilled/Hot Water - 50% Glycol
FLOW CHARACTERISTIC: Modified EQ%
SIZES: 2" - 24"
BODY: Ductile Iron ASTM A536
BODY COATING: Fusion Bonded Epoxy
BODY PRESSURE RATING: ASME/ANSI Class 125
END FITTING: Lugged ANSI Class 125/150 Flanged
DISC: 304SS
STEM: 416SS
SEAT: EPDM
O-RING: EPDM
BUSHING: PTFE
CLOSE OFF: 100 PSI, 150 PSI or 200PSI
LEAKAGE: Bubble Tight Shutoff
TEMPERATURE RANGE: -22°F to 250°F

NEMA 2 PROTECTION
POWER SUPPLY: 24VAC ± 20% 50/60Hz
 24VDC ± 10%
TEMPERATURE RANGE: -5°F to +125°F
RUNTIME: 95 to 150 sec

POWER CONSUMPTION

KA-175-P: 6VA / 6W	KAS-175-M: 16VA / 5VA
KA-301-P: 8VA / 6W	GKB24-SR: 21VA / 12W
GMB24-SR: 6.5VA / 4.5W	EFB24-SR: 14VA / 8W
	GKX24-MFT: 21VA / 12W

POWER CONNECTION

KA-175-P: KA-301-P:	1/2" CONDUIT TO TERMINAL BLOCK
KAS-175-M: GMB24-SR: EFB24-SR: GKB24-SR: GKX24-MFT:	1/2" CONDUIT TO 3' CABLE (18 GA)



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100 PSI CLOSEOFF VALVES - MODULATING						
SIZE	DIN (MM)	PRESSURE	Cv 60°	Cv 90°	KELE PN	ACTUATOR PN
2"	50	100	64	135	KB1-3-02-2EMD	KA-175-P
					K1-3-02-2EMDSC(O)*	KAS-175-M
2.5"	65	100	98	220	KB1-3-25-2EMD	KA-175-P
					K1-3-25-2EMDSC(O)*	KAS-175-M
3"	80	100	116	302	KB1-3-03-2EMD	KA-301-P
					KB1-3-03-2EMDSC(O)*	GKB24-SR
4"	100	100	230	600	KB1-3-04-2EMD	KA-301-P
					KB1-3-04-2EMDSC(O)*	GKB24-SR
5"	125	100	392	1022	KB1-3-05-2EMD	GMB24-SR(X2)
					KB1-3-05-2EMDSC(O)*	GKX24-MFT(X2)
6"	150	100	605	1579	KB1-3-06-2EMD	GMB24-SR(X2)
					KB1-3-06-2EMDSC(O)*	GKX24-MFT(X2)
200 PSI CLOSEOFF VALVES - MODULATING						
INCH	DIN (MM)	PRESSURE	Cv 60°	Cv 90°	KELE PN	ACTUATOR PN
2"	50	200	64	135	KB2-3-02-2EMD	KA-175-P
					K2-3-02-2EMDSC(O)*	KAS-175-M
2.5"	65	200	98	220	KB2-3-25-2EMD	KA-301-P
					K2-3-25-2EMDSC(O)*	GKB24-SR
3"	80	200	116	302	KB2-3-03-2EMD	KA-301-P
					KB2-3-03-2EMDSC(O)*	GKB24-SR
4"	100	200	230	600	KB2-3-04-2EMD	GMB24-SR(X2)
					KB2-3-04-2EMDSC(O)*	EFB24-SR(X2)
5"	125	200	392	1022	KB2-3-05-2EMD	GMB24-SR(X2)
					KB2-3-05-2EMDSC(O)*	GKX24-MFT(X2)

* SC = SPRING CLOSED; SO = SPRING OPEN

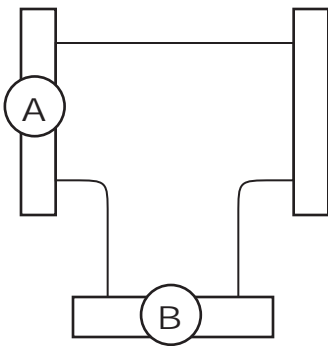
3-WAY BUTTERFLY VALVES ARRANGEMENTS

The arrangements illustrated represent the most common layouts.
If these layouts do not cover your requirements, simply provide us with a sketch and details.

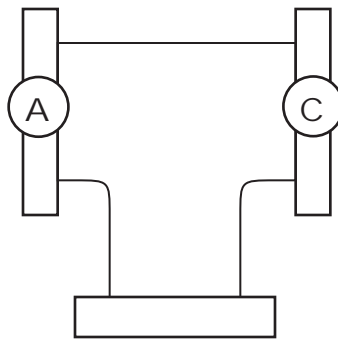
All three-way butterfly valve assembly orders should have the arrangement specified.

ARRANGEMENT	ACTUATED VALVE	NORMALLY CLOSED	NORMALLY OPEN
1	VALVE A	VALVE A	VALVE B
2	VALVE A	VALVE A	VALVE C
3	VALVE B	VALVE B	VALVE C
4	VALVE B	VALVE B	VALVE A
5	VALVE C	VALVE C	VALVE B
6	VALVE C	VALVE C	VALVE A

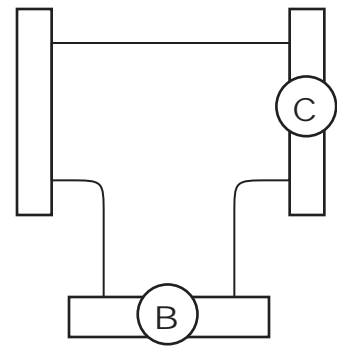
Top View



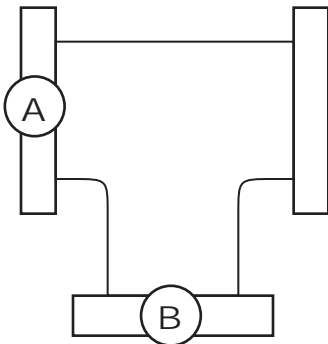
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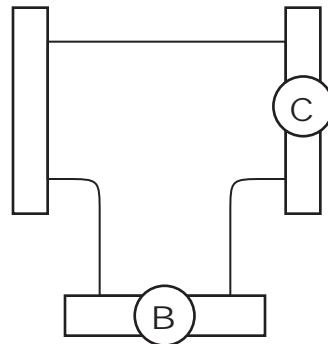
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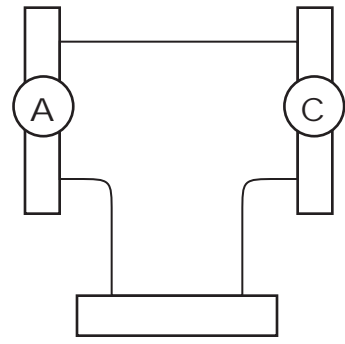
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4



5

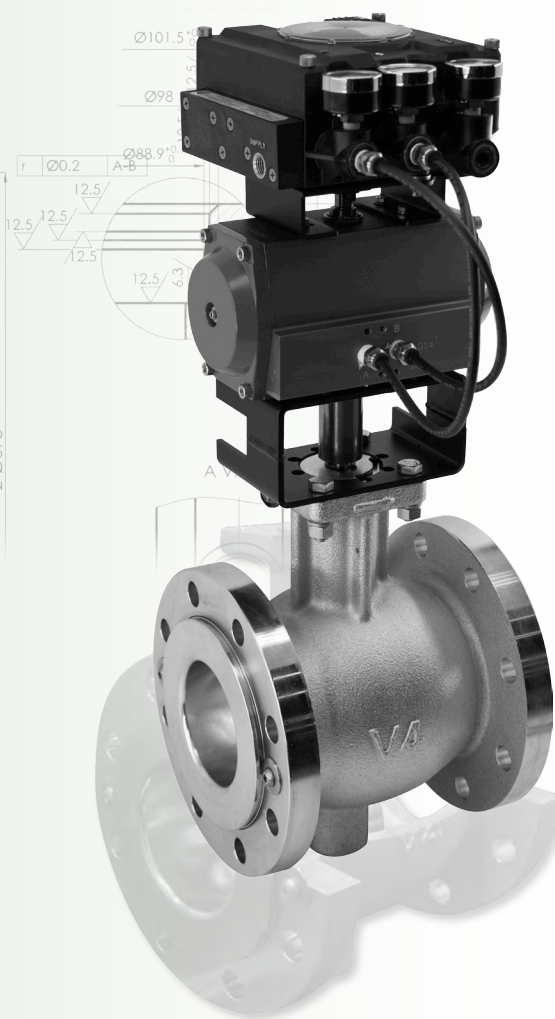
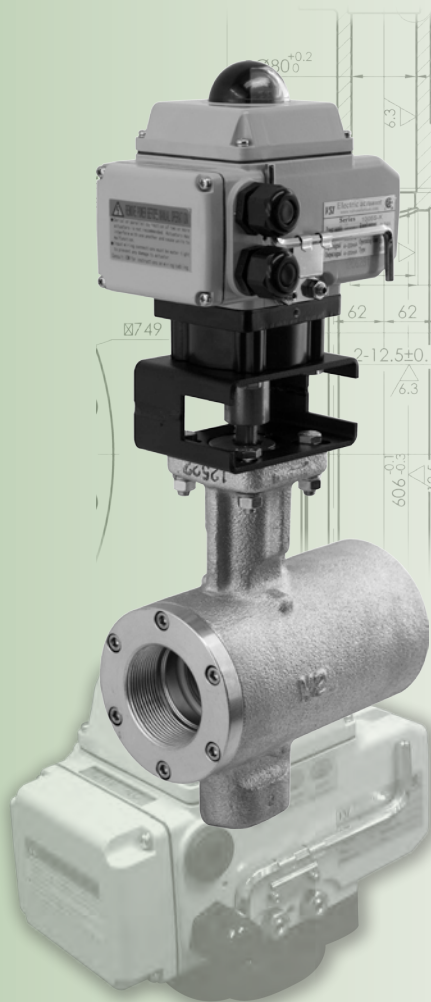


6

VSI



Kele



2 WAY V-BALL VALVES

2-WAY V-BALL VALVES WITH 120V/24V ELECTRIC ACTUATORS

250 PSI CLOSE OFF - 2 POSITION

SERIES V BALL VALVE

SERVICE: Chilled/Hot Water - 50% Glycol

Steam: 125 psi

FLOW CHARACTERISTIC: Equal %

SIZES: 1" - 6"

BODY: Carbon Steel / Stainless Steel Optional

BALL: 304SS

SHAFT: 304SS

SEAT: TFM 1700

O-RING: ALFAS

BEARING: PEEK

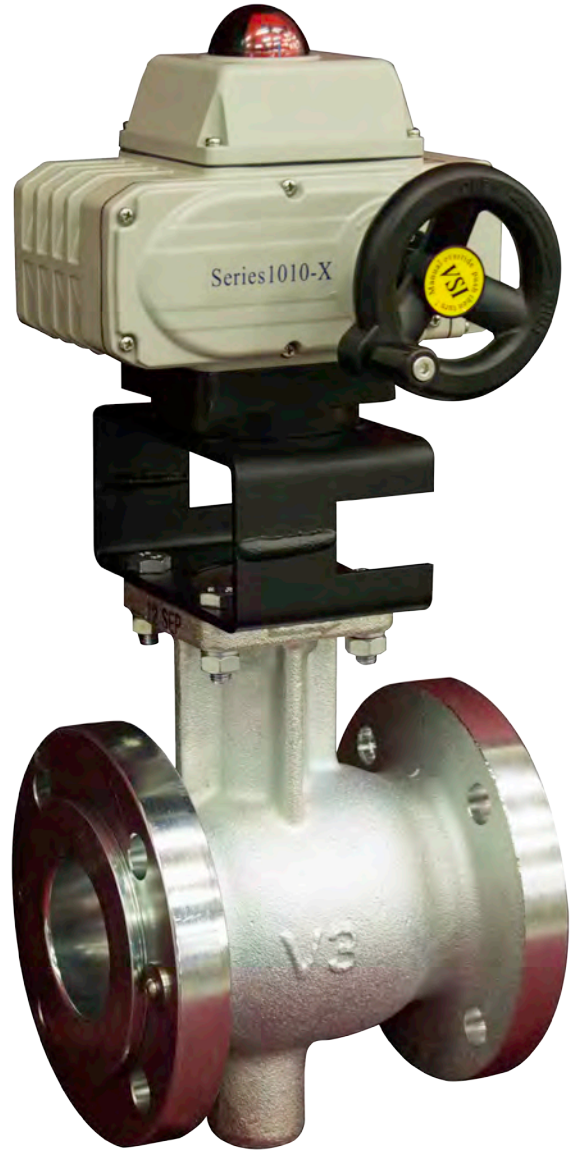
TEMPERATURE RANGE: -20°F to 400°F

CLOSE OFF: 250PSI

END CONNECTIONS:

1" - 2" : NPT/Wafer ANSI 150/300

3" - 6" : ANSI 150 Flanged or ANSI 300 Flanged



SERIES 1000-X 2 POSITION ACTUATOR

MOTOR: 120V or 24V Single Phase - 60Hz

TORQUE RANGE: 443 - 885 in/lbs

HOUSING: Die Cast Aluminum - NEMA 4

PROTECTION: Thermal Overload Protection

LIMIT SWITCHES: 4x SPDT Open/Closed

POSITION INDICATOR: Mechanical Dome

CONDUIT ENTRIES: 2 x 1/2" NPT

POWER GEARS: Alloy Steel and Aluminum Bronze

BEARINGS: Alloy Steel Sleeve and Ball Bearings

CERTIFICATIONS: CE, NRTL, NEMA 4, CSA File 226201

INTERNAL HEATER: Standard

MANUAL OVERRIDE POWER SWITCH:

Not available on 1005 and all 24V models

MANUAL OVERRIDE: Allen Handle Standard

Optional Handwheel not available on 1005

SERIES 1000-X SPECIFICATIONS - 2 POSITION

MODEL	1005-X	1010-X
Output Torque (in-lb)	443	885
Output Torque (Nm)	50	100
Duty Cycle	80%	80%
Travel Speed @ 60Hz (Sec)	20	30
Max Current (Amp @ 110/220VAC)	0.34/0.17	0.81/0.47
Run Current (AMP @ 110/220VAC)	0.24/0.16	0.57/0.30
Max Current (Amp @ 24VAC)	1.60	1.90
Run Current (Amp @ 24VAC)	1.40	1.70
Enclosure Rating	WATERTIGHT NEMA 4	

SERIES V with 2 POSITION ACTUATORS

INCH	DN (MM)	BODY	Cv 75°	Cv 90°	KELE PN	ACTUATOR PN
1"	25	150/300	24	31	V-01-2E2V	1005-X-24V
					V-01-1E2V	1005-X
1.5"	40	150/300	55	73	V-15-2E2V	1005-X-24V
					V-15-1E2V	1005-X
2"	50	150/300	77	96	V-02-2E2V	1005-X-24V
					V-02-1E2V	1005-X
3"	80	150	207	270	V-03-2E2V	1005-X-24V
					V-03-1E2V	1005-X
4"	100	150	350	529	V-04-2E2V	1010-X-24V
					V-04-1E2V	1010-X
6"	150	150	507	850	V-06-2E2V	1010-X-24V
					V-06-1E2V	1010-X

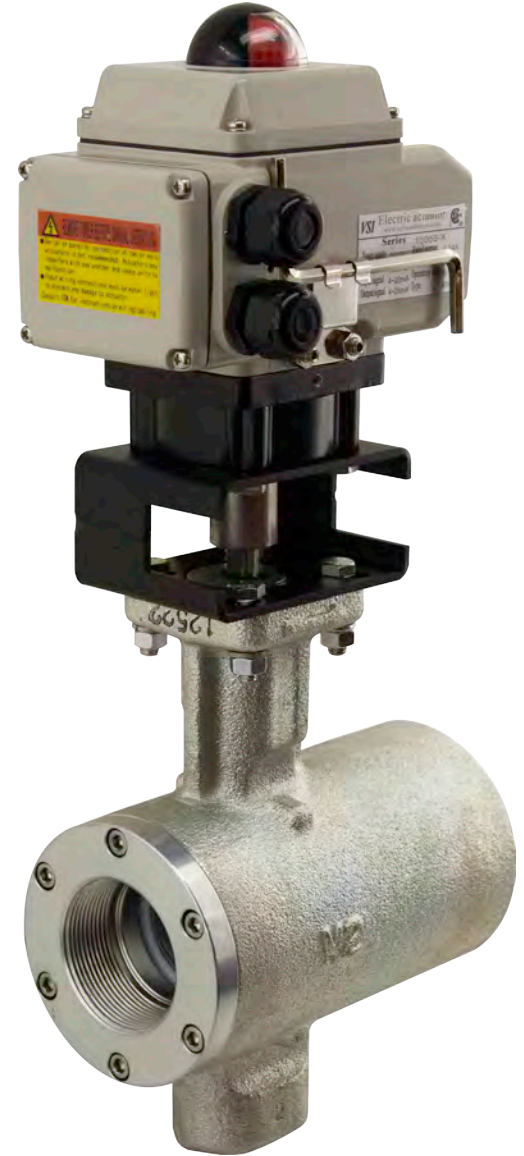
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2-WAY V-BALL VALVES WITH 120V/24V ELECTRIC ACTUATORS

250 PSI CLOSE OFF - MODULATING

SERIES V BALL VALVE

SERVICE: Chilled/Hot Water - 50% Glycol
Steam: 125 psi
FLOW CHARACTERISTIC: Equal %
SIZES: 1" - 6"
BODY: Carbon Steel / Stainless Steel Optional
BALL: 304SS
SHAFT: 304SS
SEAT: TFM 1700
O-RING: ALFAS
BEARING: PEEK
TEMPERATURE RANGE: -20°F to 400°F
CLOSE OFF: 250PSI
END CONNECTIONS:
1" - 2" : NPT/Wafer ANSI 150/300
3" - 6" : ANSI 150 Flanged or ANSI 300 Flanged



SERIES 1000-X MODULATING ACTUATOR

MOTOR: 120V or 24V Single Phase - 60Hz
TORQUE RANGE: 443 - 885 in/lbs
HOUSING: Die Cast Aluminum - NEMA 4
CONTROL SIGNAL: 4-20mA or 2-10VDC
FEEDBACK: 4-20mA
RESOLUTION: 80 Steps (4-20mA) 200 Steps (2-10VDC)
PROTECTION: Thermal Overload Protection
POSITION INDICATOR: Mechanical Dome
CONDUIT ENTRIES: 2 x 1/2" NPT
POWER GEARS: Alloy Steel and Aluminum Bronze
BEARINGS: Alloy Steel Sleeve and Ball Bearings
CERTIFICATIONS: CE, NRTL, NEMA 4, CSA File 226201
INTERNAL HEATER: Standard
MANUAL OVERRIDE POWER SWITCH:
Not available on 1005 and all 24V models
MANUAL OVERRIDE: Allen Handle Standard
Optional Handwheel not available on 1005

SERIES 1000-X SPECIFICATIONS - MODULATING

MODEL	1005/S-X	1010/S-X
Output Torque (in-lb)	443	885
Output Torque (Nm)	50	100
Duty Cycle	80%	80%
Travel Speed @ 60Hz (Sec)	20	30
Max Current (Amp @ 110/220VAC)	0.34/0.17	0.81/0.47
Run Current (Amp @ 110/220VAC)	0.24/0.16	0.57/0.35
Max Current (Amp @ 24VAC)	1.80	2.30
Run Current (Amp @ 24VAC)	1.70	2.11
Input Signal	**	***
Output Signal	4-20mA	
Enclosure Rating	WATERTIGHT NEMA 4	

SERIES V with MODULATING ACTUATORS

INCH	DIN (MM)	BODY	Cv 75°	Cv 90°	KELE PN	ACTUATOR PN
1"	25	150/300	24	31	V-01-2EMV2(4)*	1005/S-X-24V-2(4)*
					V-01-1EMV2(4)*	1005/S-X-2(4)*
1.5"	40	150/300	55	73	V-15-2EMV2(4)*	1005/S-X-24V-2(4)*
					V-15-1EMV2(4)*	1005/S-X-2(4)*
2"	50	150/300	77	96	V-02-2EMV2(4)*	1005/S-X-24V-2(4)*
					V-02-1EMV2(4)*	1005/S-X-2(4)*
3"	80	150	207	270	V-03-2EMV2(4)*	1005/S-X-24V-2(4)*
					V-03-1EMV2(4)*	1005/S-X-2(4)*
4"	100	150	350	529	V-04-2EMV2(4)*	1010/S-X-24V-2(4)*
					V-04-1EMV2(4)*	1010/S-X-2(4)*
6"	150	150	507	850	V-06-2EMV2(4)*	1010/S-X-24V-2(4)*
					V-06-1EMV2(4)*	1010/S-X-2(4)*

* 2 = 2-10VDC; 4 = 4-20mA

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Specific control packs for 2-10VDC or 4-20mA for both 120V and 24V * Switchable 2-10VDC or 4-20mA on 120V, Specific control packs for 2-10VDC or 4-20mA on 24V

2-WAY V-BALL VALVES WITH HP PNEUMATIC ACTUATORS

250 PSI CLOSE OFF - 2 POSITION

SERIES V BALL VALVE

SERVICE: Chilled/Hot Water - 50% Glycol
Steam: 125 psi
FLOW CHARACTERISTIC: Equal %
SIZES: 1" - 6"
BODY: Carbon Steel / Stainless Steel Optional
BALL: 304SS
SHAFT: 304SS
SEAT: TFM 1700
O-RING: ALFAS
BEARING: PEEK
TEMPERATURE RANGE: -20°F to 400°F
CLOSE OFF: 250PSI
END CONNECTIONS:
1" - 2" : NPT/Wafer ANSI 150/300
3" - 6" : ANSI 150 Flanged or ANSI 300 Flanged



Shown with optional limit switch



SERIES C ACTUATOR

MINIMUM AIR SUPPLY: 40 psi
MAXIMUM AIR SUPPLY: 130 psi
TORQUE RANGE: 124 - 40519 in/lb (~80 psi)
HOUSING: Die Cast Aluminum Alloy
TEMPERATURE: 0°C to +80°C
-20°C to +80°C with dry air
-40°C to +150°C in special execution
OPERATING MEDIA: Compressed filtered air
Standard NAMUR mounts for optional accessories

DOUBLE ACTING OPERATION (DA)

CCW

Air is supplied to Port A forcing the pistons away from each other (towards ends), rotating the drive pinion counter-clockwise and exhausting air out of Port B

CW

Air is supplied to Port B forcing the pistons toward each other (towards center), rotating the drive pinion clockwise and exhausting air out of Port A

SPRING RETURN OPERATION (SR)

FAIL CCW

Air is supplied to Port A forcing the pistons away from each other (towards ends), rotating the drive pinion counter-clockwise, compressing the springs and exhausting air out of Port B

FAIL CW

Air failure (loss of pressure) allows the compressed springs to force the pistons toward each other (towards center), rotating the drive pinion clockwise and exhausting air out of Port A

SERIES V with 2 POSITION ACTUATORS						
INCH	DN(MM)	BODY	Cv 75°	Cv 90°	KELE PN	ACTUATOR PN
1"	25	150/300	24	31	V-01-HP21(2)*	C-DA063
					V-01-HP2SC(0)**1(2)*	C-SR083
1.5"	40	150/300	55	73	V-15-HP21(2)*	C-DA063
					V-15-HP2SC(0)**1(2)*	C-SR083
2"	50	150/300	77	96	V-02-HP21(2)*	C-DA063
					V-02-HP2SC(0)**1(2)*	C-SR083
3"	80	150	207	270	V-03-HP21(2)*	C-DA063
					V-03-HP2SC(0)**1(2)*	C-SR083
4"	100	150	350	529	V-04-HP21(2)*	C-DA083
					V-04-HP2SC(0)**1(2)*	C-SR105
6"	150	150	507	850	V-06-HP21(2)*	C-DA092
					V-06-HP2SC(0)**1(2)*	C-SR125

*1 = 120VAC SOLENOID; 2 = 24VAC SOLENOID

** SC = SPRING CLOSED; SO = SPRING OPEN

ASCO 8551 Direct Mount Solenoid			
Watt Rating and Power Consumption			
DC Watts	AC Watts	VA Holding	VA Inrush
6.9	6.3	7	10.1
Temperature Range: AC 5°F to 140°F (-15°C to 60°C) DC 5°F to 77°F (-15°C to 25°C)			

ALS-100 Limit Switch (Optional)	
Position Indicator	Polycarbonate Dome
Switches	2x SPDT 5A 125-250 VAC micro-switches
Terminal Strip	Standard 8 Points
Cable Entry	2x 1/2" NPT
Mounting	NAMUR Standard shaft and bracket

2-WAY V-BALL VALVES WITH HP PNEUMATIC ACTUATORS

250 PSI CLOSE OFF - MODULATING

SERIES V BALL VALVE

SERIES C ACTUATOR

SERVICE: Chilled/Hot Water - 50% Glycol
 Steam: 125 psi
FLOW CHARACTERISTIC: Equal %
SIZES: 1" - 6"
BODY: Carbon Steel / Stainless Steel Optional
BALL: 304SS
SHAFT: 304SS
SEAT: TFM 1700
O-RING: ALFAS
BEARING: PEEK
TEMPERATURE RANGE: -20°F to 400°F
CLOSE OFF: 250PSI
END CONNECTIONS:
 1" - 2" : NPT/Wafer ANSI 150/300
 3" - 6" : ANSI 150 Flanged or ANSI 300 Flanged

MINIMUM AIR SUPPLY: 40 psi
MAXIMUM AIR SUPPLY: 130 psi
TORQUE RANGE: 124 - 40519 in/lb (~80 psi)
HOUSING: Die Cast Aluminum Alloy
TEMPERATURE: 0°C to +80°C
 -20°C to +80°C with dry air
 -40°C to +150°C in special execution
OPERATING MEDIA: Compressed filtered air
Standard NAMUR mounts for optional accessories

DOUBLE ACTING OPERATION (DA)

CCW

Air is supplied to Port A forcing the pistons away from each other (towards ends), rotating the drive pinion counter-clockwise and exhausting air out of Port B

CW

Air is supplied to Port B forcing the pistons toward each other (towards center), rotating the drive pinion clockwise and exhausting air out of Port A

SPRING RETURN OPERATION (SR)

FAIL CCW

Air is supplied to Port A forcing the pistons away from each other (towards ends), rotating the drive pinion counter-clockwise, compressing the springs and exhausting air out of Port B

FAIL CW

Air failure (loss of pressure) allows the compressed springs to force the pistons toward each other (towards center), rotating the drive pinion clockwise and exhausting air out of Port A



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SERIES V with MODULATING ACTUATORS

INCH	DN(MM)	BODY	Cv 75°	Cv 90°	KELE PN	ACTUATOR PN
1"	25	150/300	24	31	V-01-HPM	C-DA063
					V-01-HPMSC(O)*	C-SR083
1.5"	40	150/300	55	73	V-15-HPM	C-DA063
					V-15-HPMSC(O)*	C-SR083
2"	50	150/300	77	96	V-02-HPM	C-DA063
					V-02-HPMSC(O)*	C-SR083
3"	80	150	207	270	V-03-HPM	C-DA063
					V-03-HPMSC(O)*	C-SR083
4"	100	150	350	529	V-04-HPM	C-DA083
					V-04-HPMSC(O)*	C-SR105
6"	150	150	507	850	V-06-HPM	C-DA092
					V-06-HPMSC(O)*	C-SR125

* SC = SPRING CLOSED; SO = SPRING OPEN

VRC Model V Series Positioner

VP - Pneumatic 3-15 PSI

VE - Electro-Pneumatic 4-20mA (Optional)

Position Indicator: Flat Lens

Dome Lens (Optional)

PERFORMANCE

RESOLUTION	0.25% Maximum 0.10% Typical
REPEATABILITY	99.75% Minimum 99.90% Typical
HYSTERESIS	0.50% Maximum 0.25% Typical
LINEARITY	+/- 1.0% Maximum
GAIN @80 PSIG	250 Single-Acting 500 Double-Acting
AIR CONSUMPTION @80 PSIG	0.25 SCFM Std Flow Spool Valve 0.45 SCFM Max Flow Spool Valve
TEMPERATURE RANGE	-40 to 150F / -40 to 65C

2-WAY V-BALL VALVES WITH LP PNEUMATIC ACTUATORS

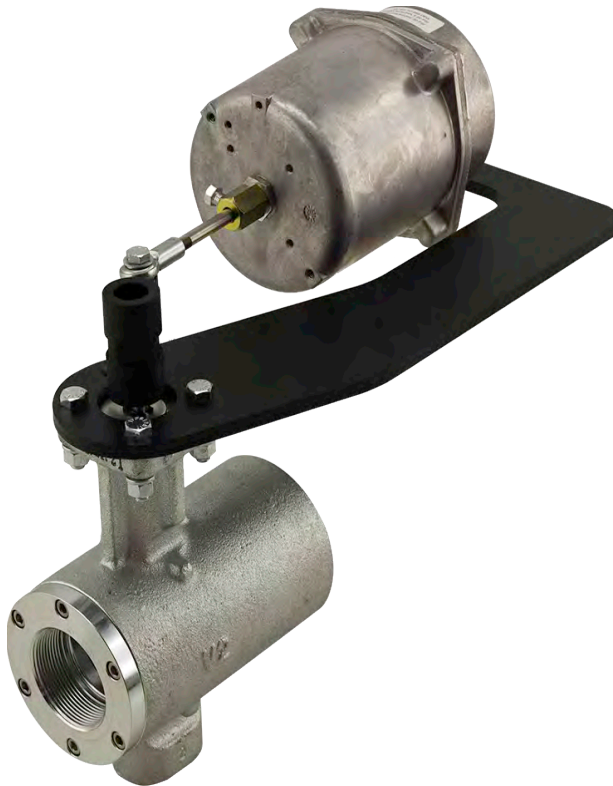
250 PSI CLOSE OFF - 2 POSITION

SERIES V BALL VALVE

SERVICE: Chilled/Hot Water - 50% Glycol
 Steam: 125 psi
FLOW CHARACTERISTIC: Equal %
SIZES: 1" - 6"
BODY: Carbon Steel / Stainless Steel Optional
BALL: 304SS
SHAFT: 304SS
SEAT: TFM 1700
O-RING: ALFAS
BEARING: PEEK
TEMPERATURE RANGE: -20°F to 400°F
CLOSE OFF: 250PSI
END CONNECTIONS:
 1" - 2" : NPT/Wafer ANSI 150/300
 3" - 6" : ANSI 150 Flanged or ANSI 300 Flanged

SERIES L ACTUATOR

MINIMUM AIR SUPPLY: 20psig
MAXIMUM AIR SUPPLY: 30psig
AIR CONSUMPTION: 2 SCIM (0.55 mL/s)
STROKE:
 D-3153 - 3 INCHES
 D-3244 - 4 INCHES
 D-3246 - 6 INCHES
AMBIENT OPERATING CONDITIONS:
 -20 TO 150°F (-29° TO 66°C)
BODY: Die-cast Aluminum
DIAPHRAGM: Synthetic elastomer
EFFECTIVE DIAPHRAGM:
 D-3153 - 15 inch² (97 cm²)
 D-3244 & D-3246 - 23.4 inch² (151 cm²)
SPRING RANGE (nominal): 8 to 13 psig
AIR CONNECTION: 1/8" NPT Barbed fitting



SERIES V with 2 POSITION ACTUATORS

INCH	DN(MM)	BODY	Cv 75°	Cv 90°	KELE PN	ACTUATOR PN
1"	25	150/300	24	31	V-01-LP2SC(O)*	D-3153-5130
1.5"	40	150/300	55	73	V-15-LP2SC(O)*	D-3153-5130
2"	50	150/300	77	96	V-02-LP2SC(O)*	D-3153-5130
3"	80	150	207	270	V-03-LP2SC(O)*	D-3244-5110
4"	100	150	350	529	V-04-LP2SC(O)*	D-3246-5110
6"	150	150	507	850	V-06-LP2SC(O)*	D-3246-5110

* SC = SPRING CLOSE; SO = SPRING OPEN

2-WAY V-BALL VALVES WITH LP PNEUMATIC ACTUATORS

250 PSI CLOSE OFF - MODULATING

SERIES V BALL VALVE

SERVICE: Chilled/Hot Water - 50% Glycol
Steam: 125 psi
FLOW CHARACTERISTIC: Equal %
SIZES: 1" - 6"
BODY: Carbon Steel / Stainless Steel Optional
BALL: 304SS
SHAFT: 304SS
SEAT: TFM 1700
O-RING: ALFAS
BEARING: PEEK
TEMPERATURE RANGE: -20°F to 400°F
CLOSE OFF: 250PSI
END CONNECTIONS:
1" - 2" : NPT/Wafer ANSI 150/300
3" - 6" : ANSI 150 Flanged or ANSI 300 Flanged



SERIES L ACTUATOR

MINIMUM AIR SUPPLY: 20psig
MAXIMUM AIR SUPPLY: 30psig
AIR CONSUMPTION: 2 SCIM (0.55 mL/s)
STROKE:
D-3153 - 3 INCHES
D-3244 - 4 INCHES
D-3246 - 6 INCHES
AMBIENT OPERATING CONDITIONS:
-20 TO 150°F (-29° TO 66°C)
BODY: Die-cast Aluminum
DIAPHRAGM: Synthetic elastomer
EFFECTIVE DIAPHRAGM:
D-3153 - 15 inch² (97 cm²)
D-3244 & D-3246 - 23.4 inch² (151 cm²)
SPRING RANGE (nominal): 8 to 13 psig
AIR CONNECTION: 1/8" NPT Barbed fitting

PILOT POSITIONER

START POINT: Adjustable from 2 to 12 psig
SPAN: Adjustable from 3 to 13 psi
MAXIMUM AIR SUPPLY: 25 psig
AIR CONSUMPTION: 5 SCIM (1.4 mL/s)
AMBIENT OPERATING CONDITIONS:
-20 TO 150°F (-29° TO 66°C)
AIR CONNECTION: 1/8" NPT Barbed fitting



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SERIES V with MODULATING ACTUATORS

INCH	DN(MM)	BODY	Cv 75°	Cv 90°	KELE PN	ACTUATOR PN
1"	25	150/300	24	31	V-01-LPMSC(O)*	D-3153-5120
1.5"	40	150/300	55	73	V-15-LPMSC(O)*	D-3153-5120
2"	50	150/300	77	96	V-02-LPMSC(O)*	D-3153-5120
3"	80	150	207	270	V-03-LPMSC(O)*	D-3244-5100
4"	100	150	350	529	V-04-LPMSC(O)*	D-3246-5100
6"	150	150	507	850	V-06-LPMSC(O)*	D-3246-5100

* SC = SPRING CLOSE; SO = SPRING OPEN

2-WAY V-BALL VALVES WITH 24V ELECTRIC ACTUATORS

250 PSI CLOSE OFF - 2 POSITION

SERIES V BALL VALVE

SERVICE: Chilled/Hot Water - 50% Glycol
Steam: 125 psi

FLOW CHARACTERISTIC: Equal %

SIZES: 1" - 6"

BODY: Carbon Steel / Stainless Steel Optional

BALL: 304SS

SHAFT: 304SS

SEAT: TFM 1700

O-RING: ALFAS

BEARING: PEEK

TEMPERATURE RANGE: -20°F to 400°F

CLOSE OFF: 250PSI

END CONNECTIONS:

1" - 2" : NPT/Wafer ANSI 150/300

3" - 6" : ANSI 150 Flanged or ANSI 300 Flanged

DAMPER ACTUATORS

NEMA 2 PROTECTION

POWER SUPPLY: 24VAC ± 20% 50/60Hz
24VDC ± 10%

TEMPERATURE RANGE: -5°F to +125°F

RUNTIME: 95 to 150 sec

POWER CONSUMPTION

KA-44-2T: 5VA / 2W

KAS-44-2: 14VA / 5W

KA-88-2T: 5VA / 2W

KAS-88-2: 14VA / 5W

KA-175-2T: 6VA / 6W

KAS-175-2: 16VA / 5W

KA-301-2T: 9VA / 9W

EFB24-3: 14VA / 8W

GMB24-3: 6VA / 2W

GKX24-MFT: 21VA / 12W



POWER CONNECTION

KA-44-2T:	1/2" CONDUIT TO TERMINAL BLOCK	KAS-44-2:	1/2" CONDUIT TO 3' CABLE (18 GA)
KA-88-2T:		KAS-88-2:	
KA-175-2T:		KAS-175-2:	
KA-301-2T:		GMB24-3:	
		EFB24:	
		GKX24-MFT:	

SERIES V with 2 POSITION ACTUATORS

INCH	DN(MM)	BODY	Cv 75°	Cv 90°	KELE PN	ACTUATOR PN
1"	25	150/300	24	31	V-01-2E2D	KA-44-2T
					V-01-2E2DSC(O)*	KAS-44-2
1.5"	40	150/300	55	73	V-15-2E2D	KA-88-2T
					V-15-2E2DSC(O)*	KAS-88-2
2"	50	150/300	77	96	V-02-2E2D	KA-175-2T
					V-02-2E2DSC(O)*	KAS-175-2
3"	80	150	207	270	V-03-2E2D	KA-301-2T
					V-03-2E2DSC(O)*	EFB24
4"	100	150	350	529	V-04-2E2D	GMB24-3(X2)
					V-04-2E2DSC(O)*	EFB24(X2)
6"	150	150	507	850	V-06-2E2D	GMB24-3(X2)
					V-06-2E2DSC(O)*	GKX24-MFT(X2)

* SC = SPRING CLOSED; SO = SPRING OPEN

2-WAY V-BALL VALVES WITH 24V ELECTRIC ACTUATORS

250 PSI CLOSE OFF - MODULATING

SERIES V BALL VALVE

SERVICE: Chilled/Hot Water - 50% Glycol
 Steam: 125 psi
FLOW CHARACTERISTIC: Equal %
SIZES: 1" - 6"
BODY: Carbon Steel / Stainless Steel Optional
BALL: 304SS
SHAFT: 304SS
SEAT: TFM 1700
O-RING: ALFAS
BEARING: PEEK
TEMPERATURE RANGE: -20°F to 400°F
CLOSE OFF: 250PSI
END CONNECTIONS:
 1" - 2" : NPT/Wafer ANSI 150/300
 3" - 6" : ANSI 150 Flanged or ANSI 300 Flanged

DAMPER ACTUATORS

NEMA 2 PROTECTION
POWER SUPPLY: 24VAC ± 20% 50/60Hz
 24VDC ± 10%
TEMPERATURE RANGE: -5°F to +125°F
RUNTIME: 95 to 150 sec

POWER CONSUMPTION

KA-44-M: 5VA / 2W	KAS-44-M: 14VA / 5W
KA-88-M: 5VA / 2W	KAS-88-M: 14VA / 5W
KA-175-P: 6VA / 6W	KAS-175-M: 16VA / 5W
KA-301-P: 8VA / 6W	EFB24-SR: 14VA / 8W
GMB24-SR: 6.5VA / 4.5W	GKX24-MFT: 21VA / 12W



POWER CONNECTION

KA-44-M: KA-88-M: KA-175-P: KA-301-P:	1/2" CONDUIT TO TERMINAL BLOCK	KAS-44-M: KAS-88-M: KAS-175-M: GMB24-SR: EFB24-SR: GKX24-MFT:	1/2" CONDUIT TO 3' CABLE (18 GA)
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SERIES V with MODULATING ACTUATORS						
INCH	DN(MM)	BODY	Cv 75°	Cv 90°	KELE PN	ACTUATOR PN
1"	25	150/300	24	31	V-01-2E2D	KA-44-M
					V-01-2E2DSC(O)*	KAS-44-M
1.5"	40	150/300	55	73	V-15-2E2D	KA-88-M
					V-15-2E2DSC(O)*	KAS-88-M
2"	50	150/300	77	96	V-02-2E2D	KA-175-P
					V-02-2E2DSC(O)*	KAS-175-M
3"	80	150	207	270	V-03-2E2D	KA-301-P
					V-03-2E2DSC(O)*	EFB24-SR
4"	100	150	350	529	V-04-2EMD	GMB24-SR(X2)
					V-04-2EMDSC(O)*	EFB24-SR(X2)
6"	150	150	507	850	V-06-2EMD	GMB24-SR(X2)
					V-06-2EMDSC(O)*	GKX24-MFT(X2)

* SC = SPRING CLOSED; SO = SPRING OPEN

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VSI Limited Product Warranty

This limited warranty applies in the United States to products manufactured by VSI, LLC. VSI, LLC. warrants the product purchased from it or its authorized reseller to be free from defects in material and workmanship under normal use during the two year warranty period from the date of its purchase. Other products not manufactured by VSI, LLC. which are provided as part of an assembly may carry additional warranties from that manufacturer or supplier.

During the warranty period, VSI, LLC. will repair or replace defective parts of the product, or, at VSI, LLC. sole option, issue a credit for the original purchase price of the product. Repaired or replaced product will be warranted hereunder only for the remaining portion of the original warranty period. All exchanged products under this Limited Warranty will become the property of VSI, LLC. A proper Return Material Authorization (RMA) number will have to be obtained for all products to be returned under this Limited Warranty. Any claim under this Limited Warranty must include a description of the problem encountered and any relevant information that may assist VSI, LLC. in the replication or resolution of the problem.

This Limited Warranty is transferable during its term to the end user of the product. Any transfer shall not extend or alter the terms of this Limited Warranty.

This Limited Warranty extends only to products purchased from VSI, LLC. or its authorized reseller and does not extend to any product that has been damaged or rendered defective as a result of (a) modification, repair, alteration or improper installation by any person other than VSI, LLC. or its authorized representative; (b) unreasonable or improper use or storage, use beyond rated conditions, operation other than per VSI, LLC. or the manufacturer's instructions, or being otherwise subjected to improper maintenance, negligence or accident; or (c) any use of the product after purchaser has knowledge of any defect in the product.

The warranties provided above are in lieu of and exclude all other warranties, statutory, express or implied, including without limitation any warranty or merchantability or fitness for a particular purpose. VSI, LLC. expressly disclaims all warranties not stated in this limited warranty. Any implied warranties that may be imposed by law are limited to the terms of this limited warranty.

VSI, LLC. warranty liability shall not exceed the original purchase price of the defective product. VSI, LLC. is not liable for any damages caused by the product or other products or the failure of the product or other products to perform, including any lost profits, lost savings, incidental or consequential damages. VSI, LLC. is not responsible for charges resulting from the removal and/or replacement of the product. VSI, LLC. is not liable for any claims made by third parties or by the purchaser for a third party. This limitation applies whether damages are sought, or a claim is made, under the Limited Warranty or as a tort claim, product liability claim, contract claim, or any other claim. This limitation cannot be waived by any person. This limitation of liability will be effective even if VSI, LLC. or its authorized representative has been advised by the purchaser of the possibility of such damages.

As part of an on-going product development process, VSI, LLC. reserves the right to amend or change specifications without prior notice. Published data may be subject to change. For the latest version, visit our website at www.valvesolutions.com

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