

# 33D Series

## Stainless Steel 3-way Full Port Ball Valve



The 33D is a full port, 3-way, 316 stainless steel, NPT threaded end multi port ball valve. It can be equipped with a manual handle or with direct mount pneumatic or electric actuators. The direct mount actuators eliminate the valve-actuator mounting kit, which adds unnecessary height and expense.

A full range of accessory items are available including limit switches, and solenoid valves.

### FEATURES

- Full port for unrestricted flow.
- Blow-out proof stem.
- Integrated mounting pad for actuators.
- Compact assembly.
- Complete line of accessories.

### ACTUATOR CONFIGURATIONS

- Electric.
- Pneumatic (spring return).
- Pneumatic (double acting).
- Manual handle.

### PRESSURE RANGE

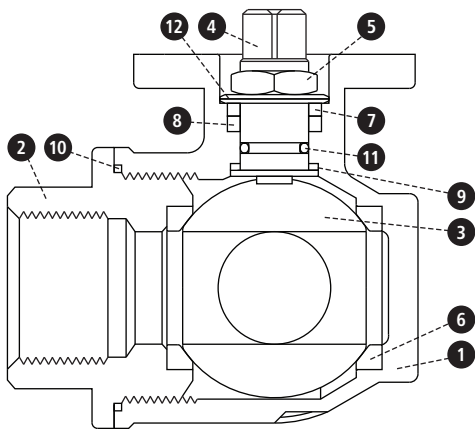
29 inHg vacuum to 800 PSI

### TEMPERATURE RANGE

-20°F to 400°F

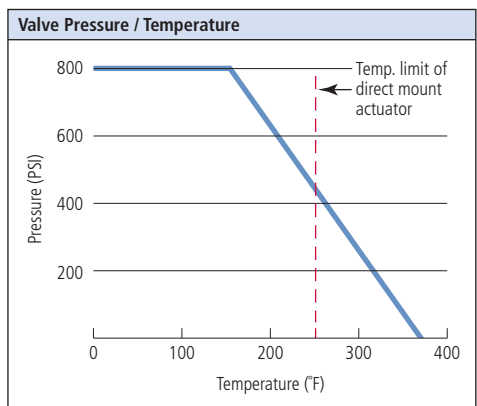
### TYPICAL APPLICATIONS

- Air drying equipment, sterilizers and autoclaves.
- Pollution control equipment.
- Process control applications.
- Laundry equipment.
- Textile dyeing and drying.
- Bottling and dispensing.
- Ink and paint dispensing.



### PORT ARRANGEMENTS

L Port		T Port			
Flow Plan A	Flow Plan D	Flow Plan E	Flow Plan F	Flow Plan G	
Pos1 Pos2	Pos1 Pos2	Pos1 Pos2	Pos1 Pos2	Pos1 Pos2	



### MATERIALS OF CONSTRUCTION

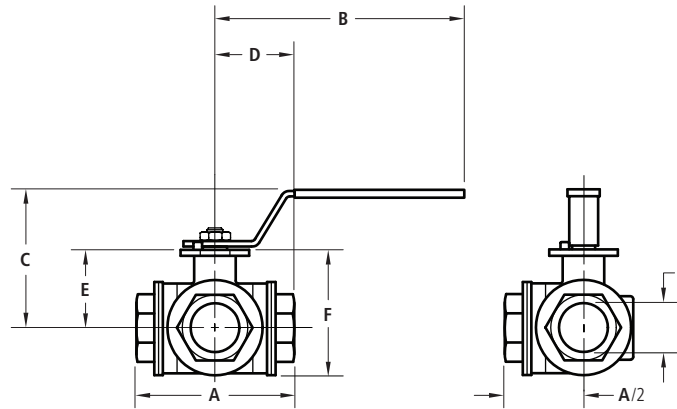
Part	Qty.	Description	Standard Material
1	1	Body	ASTM A351 Gr. CF8M
2	3	End Cap	ASTM A351 Gr. CF8M
3	1	Ball	316 Stainless Steel
4	1	Stem	316 Stainless Steel
5	1	Stem Nut	304 Stainless Steel
6	4	Seat	RPTFE
7	1	Gland	304 Stainless Steel
8	1	Stem Packing	RPTFE
9	1	Thrust Washer	RPTFE
10	4	Body O-Ring	PTFE
11	1	Stem O-Ring	Viton®
12	2	Bellville Washer	301 Stainless Steel

### CV FACTORS

Size	CV
1/4"	3.2
3/8"	3.5
1/2"	4.5
3/4"	10
1"	16
1-1/4"	31
1-1/2"	49
2"	82

# 33DXM Series

Stainless steel 3-way full port ball valve with manual handle  
(Threaded end connection)



## DIMENSIONS, WEIGHTS & SPECIFICATIONS

Size	A	B	C	D	E	F	I	Wt. (lbs.)	Model No.
1/4"	2.84	5.12	2.44	1.42	1.54	2.18	.250	2.0	A33D⊙XM
3/8"	2.84	5.12	2.44	1.42	1.54	2.18	.375	2.0	B33D⊙XM
1/2"	3.27	5.12	2.52	1.63	1.62	2.50	.500	2.0	C33D⊙XM
3/4"	3.90	6.50	3.23	1.95	1.93	2.95	.750	3.0	D33D⊙XM
1"	4.41	6.50	3.50	2.20	2.17	3.45	1.000	5.0	E33D⊙XM
1-1/4"	4.93	8.08	3.86	2.46	2.48	3.97	1.250	6.0	F33D⊙XM
1-1/2"	5.87	8.08	4.25	2.93	2.92	4.66	1.500	11.0	G33D⊙XM
2"	6.85	12.81	5.52	3.42	3.66	5.88	2.000	20.0	H33D⊙XM

⊙ Flow Plan: A, D, E, F, G (see Port Arrangements diagram).

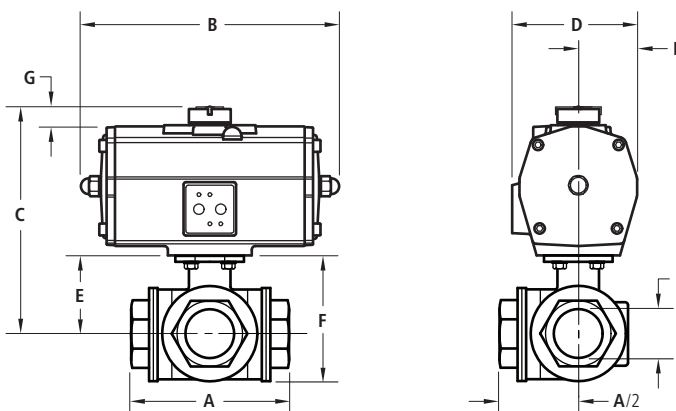
## 33D VALVE FEATURES

- Full port stainless steel body, ball and blow out proof stem.
- 3-way valve with investment cast body.
- NPT threaded end connection.
- RPTFE seats and seals.
- Mounting pad for direct mount.
- Temperature range: -20°F to 400°F.
- Pressure range: 29 inHg vacuum to 800 PSI.

# 33DXEDA Series

## Stainless steel 3-way full port ball valve with double acting pneumatic actuator

(Threaded end connection, actuators are sized for 400 PSI pressure differential)



### DIMENSIONS, WEIGHTS & SPECIFICATIONS

Size	A	B	C	D	E	F	G	H	I	Actuator	Wt. (lbs.)	Model No.
<b>80 PSI Minimum Actuator Air Supply = 8D</b>												
1/4"	2.84	6.26	5.48	3.26	1.54	2.18	.79	1.46	.250	ED25	4.9	A33D⊙XE8D
3/8"	2.84	6.26	5.48	3.26	1.54	2.18	.79	1.46	.375	ED25	4.9	B33D⊙XE8D
1/2"	3.27	6.26	5.56	3.26	1.62	2.50	.79	1.46	.500	ED25	4.9	C33D⊙XE8D
3/4"	3.90	6.26	5.87	3.26	1.93	2.95	.79	1.46	.750	ED25	5.9	D33D⊙XE8D
1"	4.41	7.09	6.62	3.78	2.17	3.45	.79	1.70	1.000	ED40	9.0	E33D⊙XE8D
1-1/4"	4.93	7.83	7.40	4.19	2.48	3.97	.79	1.93	1.250	ED65	11.3	F33D⊙XE8D
1-1/2"	5.87	7.83	7.84	4.19	2.92	4.66	.79	1.93	1.500	ED65	16.3	G33D⊙XE8D
2"	6.85	8.70	9.10	4.60	3.66	5.88	.79	2.12	2.000	ED100	26.8	H33D⊙XE8D
<b>60 PSI Minimum Actuator Air Supply = 6D</b>												
1/4"	2.84	6.26	5.48	3.26	1.54	2.18	.79	1.46	.250	ED25	4.9	A33D⊙XE6D
3/8"	2.84	6.26	5.48	3.26	1.54	2.18	.79	1.46	.375	ED25	4.9	B33D⊙XE6D
1/2"	3.27	6.26	5.56	3.26	1.62	2.50	.79	1.46	.500	ED25	4.9	C33D⊙XE6D
3/4"	3.90	7.09	6.38	3.78	1.93	2.95	.79	1.70	.750	ED40	7.0	D33D⊙XE6D
1"	4.41	7.83	7.09	4.19	2.17	3.45	.79	1.93	1.000	ED65	10.3	E33D⊙XE6D
1-1/4"	4.93	8.70	7.92	4.60	2.48	3.97	.79	2.12	1.250	ED100	12.8	F33D⊙XE6D
1-1/2"	5.87	8.70	8.36	4.60	2.92	4.66	.79	2.12	1.500	ED100	17.8	G33D⊙XE6D
2"	6.85	11.14	10.08	5.39	3.66	5.88	.79	2.52	2.000	ED200	32.8	H33D⊙XE6D

© Flow Plan: **A, D, E, F, G** (see Port Arrangements diagram).

### 33D VALVE FEATURES

- Full port stainless steel body, ball and blow out proof stem.
- 3-way valve with investment cast body.
- NPT threaded end connection.
- RPTFE seats and seals.
- Mounting pad for direct mount.
- Temperature range: -20°F to 400°F.
- Pressure range: 29 inHg vacuum to 800 PSI.

### PNEUMATIC ACTUATOR FEATURES

- E Series double acting rack and pinion actuator.
- Corrosion resistant coating.
- NAMUR solenoid mounting pad, ISO 5211 mounting standard.
- Visual position indicators.
- High duty cycle.
- Permanent lubrication.
- Temperature range: -4°F to 175°F.



# 33DXODA Series

Stainless steel 3-way full port ball valve with double acting pneumatic actuator  
(Threaded end)

**Notice:**

The **O series** actuators have been DISCONTINUED.

They are being replaced by the new **P series**

The Configurator has been updated. This Datasheet, CAD files, and Dimension Drawings are all in progress.

**Call 1-800-899-0553 for immediate help**

**DIMENSIONS, W**

Size	A
<b>80 PSI Minimum Actuator</b>	
1/4"	2.84
3/8"	2.84
1/2"	3.27
3/4"	3.90
1"	4.41
1-1/4"	4.93
1-1/2"	5.87
2"	6.85
<b>60 PSI Minimum Actuator</b>	
1/4"	2.84
3/8"	2.84
1/2"	3.27
3/4"	3.90
1"	4.41
1-1/4"	4.93
1-1/2"	5.87
2"	6.85

7.24	7.48	5.15	2.92	4.80	1.18	1.57	1.500	PD120	17.2	G33D	XO6D
8.35	8.62	3.54	3.66	5.88	1.18	1.77	2.000	PD180	27.5	H33D	XO6D

	Wt. (lbs.)	Model No.
	4.2	A33D
	4.2	B33D
	4.2	C33D
	5.8	D33D
	7.8	E33D
	10.1	F33D
	15.1	G33D
	27.5	H33D
	4.2	A33D
	4.2	B33D
	4.2	C33D
	5.8	D33D
	8.4	E33D
	10.1	F33D
	17.2	G33D
	27.5	H33D

© Flow Plan: **A, D, E, F, G** (see Port Arrangements diagram).

**33D VALVE FEATURES**

- Full port stainless steel body, ball and blow out proof stem.
- 3-way valve with investment cast body.
- NPT threaded end connection.
- RPTFE seats and seals.
- Mounting pad for direct mount.
- Temperature range: -20°F to 400°F.
- Pressure range: 29 inHg vacuum to 800 PSI.

**PNEUMATIC ACTUATOR FEATURES**

- O Series double acting pneumatic actuator.
- Corrosion resistant coating.
- NAMUR solenoid mounting pad, ISO 5211 mounting standard.
- Visual position indicators.
- High duty cycle.
- Permanent lubrication.
- Temperature range: -4°F to 175°F.

# 33DXOSR Series

Stainless steel 3-way full port ball valve with spring return pneumatic actuator  
(Threaded end)

**Notice:**

The **O series** actuators  
have been DISCONTINUED.

They are being replaced by  
the new **P series**

**The Configurator has been updated.  
This Datasheet, CAD files, and  
Dimension Drawings are all in progress.**

**Call 1-800-899-0553  
for immediate help**

**DIMENSIONS, W**

Size	A
<b>80 PSI Minimum Actuator</b>	
1/4"	2.84
3/8"	2.84
1/2"	3.27
3/4"	3.90
1"	4.41
1-1/4"	4.93
1-1/2"	5.87
2"	6.85
<b>60 PSI Minimum Actuator</b>	
1/4"	2.84
3/8"	2.84
1/2"	3.27
3/4"	3.90
1"	4.41
1-1/4"	4.93
1-1/2"	5.87
2"	6.85

or	Wt. (lbs.)	Model No.
	4.9	A33D○X08S
	4.9	B33D○X08S
	6.4	C33D○X08S
	7.4	D33D○X08S
	10.3	E33D○X08S
	13.7	F33D○X08S
	21.1	G33D○X08S
	34.7	H33D○X08S
	6.4	A33D○X06S
	6.4	B33D○X06S
	6.4	C33D○X06S
	7.4	D33D○X06S
	12.7	E33D○X06S
	16.1	F33D○X06S
	25.7	G33D○X06S
	40.7	H33D○X06S

© Flow Plan: **A, D, E, F, G** (see Port Arrangements diagram).

**33D VALVE FEATURES**

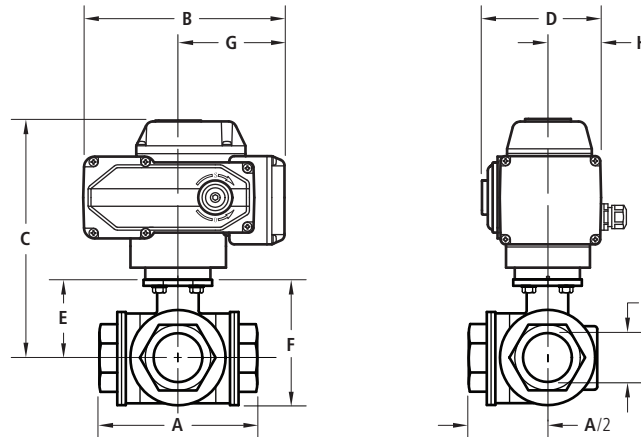
- Full port stainless steel body, ball and blow out proof stem.
- 3-way valve with investment cast body.
- NPT threaded end connection.
- RPTFE seats and seals.
- Mounting pad for direct mount.
- Temperature range: -20°F to 400°F.
- Pressure range: 29 inHg vacuum to 800 PSI.

**PNEUMATIC ACTUATOR FEATURES**

- O Series spring return pneumatic actuator.
- Corrosion resistant coating.
- NAMUR solenoid mounting pad, ISO 5211 mounting standard.
- Visual position indicators.
- High duty cycle.
- Permanent lubrication.
- Temperature range: -4°F to 175°F.

## 33DXK4 Series

Stainless steel 3-way full port ball valve with electric actuator, NEMA 4, 4X  
(Threaded end connection, actuators are sized for 400 PSI pressure differential)



### DIMENSIONS, WEIGHTS & SPECIFICATIONS

Size	A	B	C	D	E	F	G	H	I	Actuator	Wt. (lbs.)	Model No.
3/4"	3.90	8.17	8.37	4.82	1.93	2.95	4.43	2.14	0.75	KOUNIC10A-ISO	13.0	D33D $\odot$ XK4A
1"	4.41	8.17	8.61	4.82	2.17	3.45	4.43	2.14	1.00	KOUNIC10A-ISO	15.0	E33D $\odot$ XK4A
1-1/4"	4.93	8.17	8.92	4.82	2.48	3.97	4.43	2.14	1.25	KOUNIC10A-ISO	16.0	F33D $\odot$ XK4A
1-1/2"	5.87	8.17	9.36	4.82	2.92	4.66	4.43	2.14	1.50	KOUNIC10A-ISO	21.0	G33D $\odot$ XK4A
2"	6.85	8.17	10.10	4.82	3.66	5.88	4.43	2.14	2.00	KOUNIC10A-ISO	30.0	H33D $\odot$ XK4A

© Flow Plan: **A, D, E, F, G** (see Port Arrangements diagram).

### 33D VALVE FEATURES

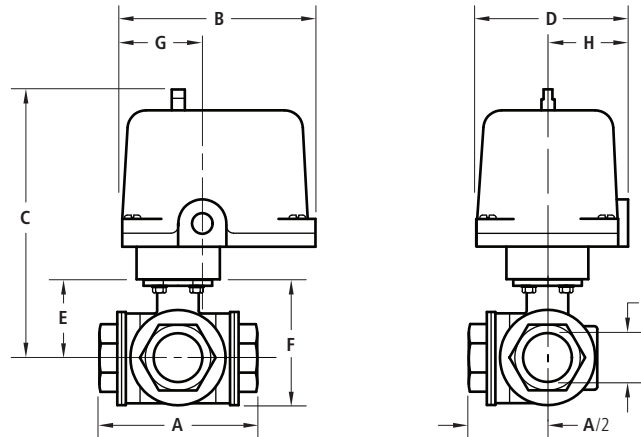
- Full port stainless steel body, ball and blow out proof stem.
- 3-way valve with investment cast body.
- NPT threaded end connection.
- RPTFE seats and seals.
- Mounting pad for direct mount.
- Temperature range: -20°F to 400°F.
- Pressure range: 29 inHg vacuum to 800 PSI.

### ELECTRIC ACTUATOR FEATURES

- K Series electric actuator.
- Most voltages available.
- Quarter turn: 0-90° rotation.
- NEMA 4/4X certified by UL labs.
- ISO 5211 mounting standard.
- Visual position indicators.
- Self-locking drive train.
- Mounts in any direction.
- 1/2" NPT conduit connection.
- CSA-NRTL/C and CE certified.
- Temperature range: 0°F to 160°F.

## 33DXR4 Series

Stainless steel 3-way full port ball valve with electric actuator, NEMA 4, 4X  
(Threaded end connection, actuators are sized for 400 PSI pressure differential)



### DIMENSIONS, WEIGHTS & SPECIFICATIONS

Size	A	B	C	D	E	F	G	H	I	Actuator	Wt. (lbs.)	Model No.
1/4"	2.84	5.95	7.25	4.40	1.54	2.18	2.48	2.20	.250	R150 (5 sec.)	6.0	A33D⊙XR4⊙
3/8"	2.84	5.95	7.25	4.40	1.54	2.18	2.48	2.20	.375	R150 (5 sec.)	6.0	B33D⊙XR4⊙
1/2"	3.27	5.95	7.25	4.40	1.62	2.50	2.48	2.20	.500	R150 (5 sec.)	6.0	C33D⊙XR4⊙
3/4"	3.90	5.95	7.98	4.40	1.93	2.95	2.48	2.20	.750	R300 (9 sec.)	9.0	D33D⊙XR4⊙
1"	4.41	5.95	8.22	4.40	2.17	3.45	2.48	2.20	1.000	R600 (16 sec.)	11.0	E33D⊙XR4⊙
1-1/4"	4.93	5.95	8.53	4.40	2.48	3.97	2.48	2.20	1.250	R600 (16 sec.)	17.0	F33D⊙XR4⊙
1-1/2"	5.87	5.95	8.97	4.40	2.92	4.66	2.48	2.20	1.500	R600 (16 sec.)	26.0	G33D⊙XR4⊙
2"	See K Series											

⊙ Flow Plan: **A, D, E, F, G** (see Port Arrangements diagram). ⊙ Voltage: **A** = 120 VAC; **B** = 24 VDC; **E** = 24 VAC; **F** = 12 VDC.

### 33D VALVE FEATURES

- Full port stainless steel body, ball and blow out proof stem.
- 3-way valve with investment cast body.
- NPT threaded end connection.
- RPTFE seats and seals.
- Mounting pad for direct mount.
- Temperature range: -20°F to 400°F.
- Pressure range: 29 inHg vacuum to 800 PSI.

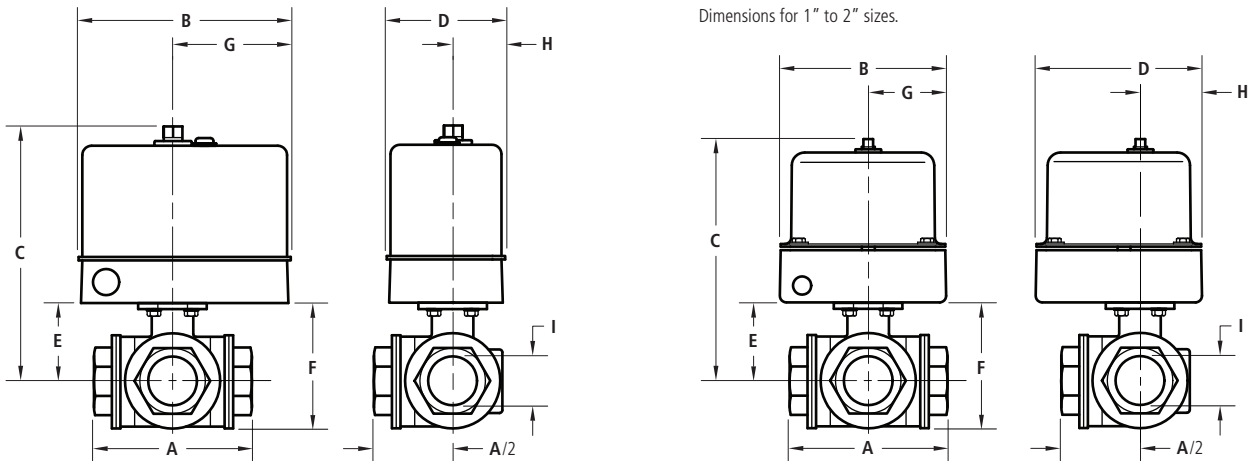
### ELECTRIC ACTUATOR FEATURES

- R Series electric actuator.
- NEMA 4, 4X.
- Voltages available: 120 VAC, 12 VDC, 24 VDC.
- Duty cycle: 25% at 120 VAC, 100% at DC units.
- ISO 5211 universal mounting.
- Manual override.
- Permanent lubrication.
- Visual position indicator.
- Temperature range: -0°F to 150°F.



# 33DXV4 Series

Stainless steel 3-way full port ball valve with electric actuator, NEMA 4, 4X  
(Threaded end connection, actuators are sized for 400 PSI pressure differential)



## DIMENSIONS, WEIGHTS & SPECIFICATIONS

Size	A	B	C	D	E	F	G	H	I	Actuator	Wt. (lbs.)	Model No.
1/4"	2.84	5.50	5.77	3.00	1.54	2.18	3.06	1.38	.250	EV1S1V1	7.0	A33D⊙XV4⊙
3/8"	2.84	5.50	5.77	3.00	1.54	2.18	3.06	1.38	.375	EV1S1V1	7.0	B33D⊙XV4⊙
1/2"	3.27	5.50	5.85	3.00	1.62	2.50	3.06	1.38	.500	EV3S2V1	7.0	C33D⊙XV4⊙
3/4"	3.90	5.50	6.16	3.00	1.93	2.95	3.06	1.38	.750	EV3S2V1	8.0	D33D⊙XV4⊙
1"	4.41	6.43	8.49	6.43	2.17	3.45	3.01	2.63	1.000	NV6S2V1	16.0	E33D⊙XV4⊙
1-1/4"	4.93	6.43	8.80	6.43	2.48	3.97	3.01	2.63	1.250	NV6S2V1	17.0	F33D⊙XV4⊙
1-1/2"	5.87	6.43	9.24	6.43	2.92	4.66	3.01	2.63	1.500	NV6S2V1	22.0	G33D⊙XV4⊙
2"	6.85	6.43	9.98	6.43	3.66	5.88	3.01	2.63	2.000	NV1KS2V1	31.0	H33D⊙XV4⊙

⊙ Flow Plan: **A, D, E, F, G** (see Port Arrangements diagram). ⊙ Voltage: **A** = 120 VAC; **B** = 24 VDC; **C** = 220 VAC; **E** = 24 VAC; **F** = 12 VDC.

### 33D VALVE FEATURES

- Full port stainless steel body, ball and blow out proof stem.
- 3-way valve with investment cast body.
- NPT threaded end connection.
- RPTFE seats and seals.
- Mounting pad for direct mount.
- Temperature range: -20°F to 400°F.
- Pressure range: 29 inHg vacuum to 800 PSI.

### ELECTRIC ACTUATOR FEATURES

- V Series electric actuator.
- NEMA 4, 4X.
- Voltages available: 120 VAC, 220 VAC, 24 VAC, 12 VDC, 24 VDC.
- Duty cycle: 25% at 120 VAC (EV1), 75% at 120 VAC (EV3, NV6), 100% at DC units.
- ISO 5211 universal mounting.
- Manual override.
- Permanent lubrication.
- Visual position indicator.
- Temperature range: 0°F to 160°F.