

### Features

- Fire safe approved (API 607)
- Fugitive Emission approved (API 641)
- Pipeline use approved (API 608)
- Fugitive Emission Stem Seal approved (API 622)
- RTFE (reinforced Teflon) ball seats
- Braided graphite stem seals
- Spring Return or Double Acting Actuators
- Type IP66 & IP68 weatherproof actuator
- Rugged scotch yoke construction tested for 1 million+ cycles
- Anodized aluminum body with epoxy-polyester end covers
- Namur and ISO mounting standards
- Highly visible valve position indicator
- Actuator factory lubricated for normal lifetime

### Applications

Stainless steel ball valves with braided graphite seals are typically used for on-off control of water, air, oil, vacuum and other media compatible with the materials of construction. Also for use in pipeline, firesafe and low-emission applications. Cycle times 0.3 to 2.3 seconds per 90° rotation. Steam service up to 25 PSI with optional high temperature mounting bracket. Suitable for vacuum service to 29"Hg.

Scotch Yoke actuators should not be used for positioning applications.

\*Not suitable for potable water, oxygen or high purity fluid applications.

### Operation

Double acting scotch yoke actuators use air pressure to open and air pressure to close the ball valve (4-way pilot). Spring return scotch yoke actuators use air pressure to open and springs to close the ball valve (3-way pilot). Actuator will work with filtered dry or lubricated compressed air. Recommended air supply pilot pressure should be between 58 and 87 PSI. Easy to read visual valve position indicator located on top of actuator.

### Construction

|                           |                                                     |
|---------------------------|-----------------------------------------------------|
| Valve Body                | 316SS ASTM A351, CF8M                               |
| Ball/Stem                 | 316SS CF8M                                          |
| Ball Seats                | RTFE (reinforced Teflon)                            |
| Stem Seals                | Braided Graphite (Slade 3300i), Viton               |
| Actuator Seals            | NBR                                                 |
| Actuator Body/ End Covers | Hard anodized aluminium/ Polyester coated aluminium |
| Position Indicator        | Glass filled Polyamide                              |
| Fasteners                 | ASTM 304 Stainless Steel                            |



### Description

Dual certified (low emission/fire safe) investment cast 2-piece full port stainless steel body/ball for unrestricted flow and minimum pressure loss. Heavy duty quarter turn scotch yoke actuators designed for long life and tested for a minimum 1 million+ operations. Adjustable live loaded stem seal packing helps compensate for wear, pressure or temperature fluctuations, extending the cycle life of the valve. Blow-out proof stem. Standard Namur mounting pads for optional accessory confirmation switches and pilot valves.

### Approvals– Actuators

- CE Declaration of conformity: MD 2006/42/CE
- EN ISO 12100:2010
- EN ISO 4414:2010
- ISO5211/ DIN3337 valve mounting
- Namur VDI/VDE 3845 accessory mounting

### Standards– Valves

- Fire Safe: API 607(VI)/ISO10497(III)
- Fugitive Emission: API 641 (I)
- Pipeline Use: API 608
- Stem Packing: API 622
- Construction: ASME B16:34
- End Connection: ANSI Class 150 Flange RF
- Face to Face: ANSI B16.10 Class 150
- Flange Dimensions: ANSI B16.5 Class 150
- Pressure Testing: API 598, EN12266
- Direct Mounting Pad: ISO5211, square stem
- Stem Packing: API 622
- CE Declaration of conformity: PED 2014/68/UE

## Features

Heavy duty rugged scotch yoke design

Anodized aluminum alloy covers with 40 micron polyester powder coating

Spring return models use multiple pre-compressed spring cartridges with polyester coating

Braided graphite stem packing (API 622 approved)

316SS Ball with RTFE ball seats

150# RF flange dimensions per ANSI B16.5 and face-to-face dimensions per B16.10

Visual valve position indicator

Standard Namur top mounting for optional limit switches

Extruded aluminum body with 35 micron hard anodizing

NPT pilot air ports and additional Namur VDI/ VDE-3845 solenoid mounting pad

Direct mount ISO5211 flange, no brackets required

Fire safe sealing design (API607)

Full Port 316 stainless steel ball valve

## Pressure-Temperature

**Pressure Rating\*:** 275 PSI (19 Bar\*), 25 PSI saturated steam with high temp kit, Vacuum 29inHg

**Recommended Air Pilot Pressure:** 58-87 PSI (4-6 Bar)

**Max Air Pilot Pressure:** 120 PSI

**Valve Temperature Rating:** -4 to 392° F (-20 to 200° C)

**Actuator Temperature Rating:** -4 to 167° F (-20 to 75° C)

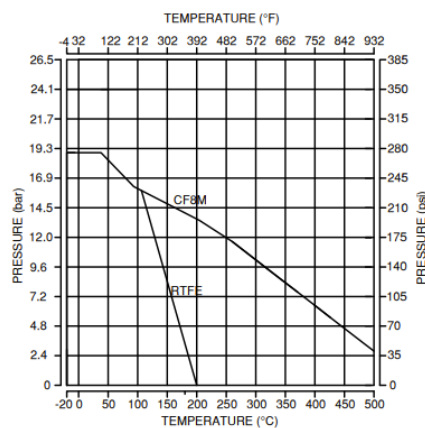
\*See P/T chart

Low Emission & Fire Safe Approved valve

International standard ISO5211 valve mounting pad

## Pressure/Temperature Charts

| P/T Chart (PSI/°F) |     |     |      |     |     |
|--------------------|-----|-----|------|-----|-----|
| PSI                | 275 | 275 | 210  | 125 | 0   |
| °F                 | -4  | 100 | 248  | 302 | 392 |
| P/T Chart (BAR/°C) |     |     |      |     |     |
| Bar                | 19  | 19  | 14.5 | 8.4 | 0   |
| °C                 | -20 | 38  | 120  | 150 | 200 |



## Optional Accessories

- DMS: Direct Mount Solenoid
- pilot to electrically operate the ball valve
- VPS: Valve Position Switches
- limit switches to confirm valve position
- HTB: High Temperature Bracket
- increases media working temperature

## Specifications (English units)

| Stock Number                                             | Pipe Size (NPT) | Orifice Size (inch) | Cv Flow Factor | Pressure Max. (PSI)* | Cycle Time /90° (seconds) | Pilot Air Port (NPT) | Air Volume/ 90° (cubic inches) |
|----------------------------------------------------------|-----------------|---------------------|----------------|----------------------|---------------------------|----------------------|--------------------------------|
| <b>STAINLESS FLAGE VALVE WITH SPRING RETURN ACTUATOR</b> |                 |                     |                |                      |                           |                      |                                |
| 555208A                                                  | 1               | 1.0                 | 60.0           | 275                  | 0.4-0.6                   | 1/4                  | 109.8                          |
| 555212A                                                  | 1-1/2           | 1.5                 | 125.0          | 275                  | 0.4-0.6                   | 1/4                  | 109.8                          |
| 555216A                                                  | 2               | 2.0                 | 240.0          | 275                  | 0.4-0.6                   | 1/4                  | 109.8                          |
| 555224A                                                  | 3               | 3.2                 | 580.0          | 275                  | 0.7-1.2                   | 1/4                  | 512.6                          |
| 555232A                                                  | 4               | 4.0                 | 1020.0         | 275                  | 1.0-2.3                   | 1/4                  | 1067.9                         |
| <b>STAINLESS FLAGE VALVE WITH DOUBLE ACTING ACTUATOR</b> |                 |                     |                |                      |                           |                      |                                |
| 555308A                                                  | 1               | 1.0                 | 60.0           | 275                  | 0.3                       | 1/4                  | 146.5                          |
| 555312A                                                  | 1-1/2           | 1.5                 | 125.0          | 275                  | 0.4                       | 1/4                  | 219.7                          |
| 555316A                                                  | 2               | 2.0                 | 240.0          | 275                  | 0.4                       | 1/4                  | 219.7                          |
| 555324A                                                  | 3               | 3.2                 | 580.0          | 275                  | 0.6                       | 1/4                  | 402.8                          |
| 555332A                                                  | 4               | 4.0                 | 1020.0         | 275                  | 0.8                       | 1/4                  | 842.1                          |

Cv = The GPM of water at 60° F that will pass through the valve with 1 PSI pressure drop

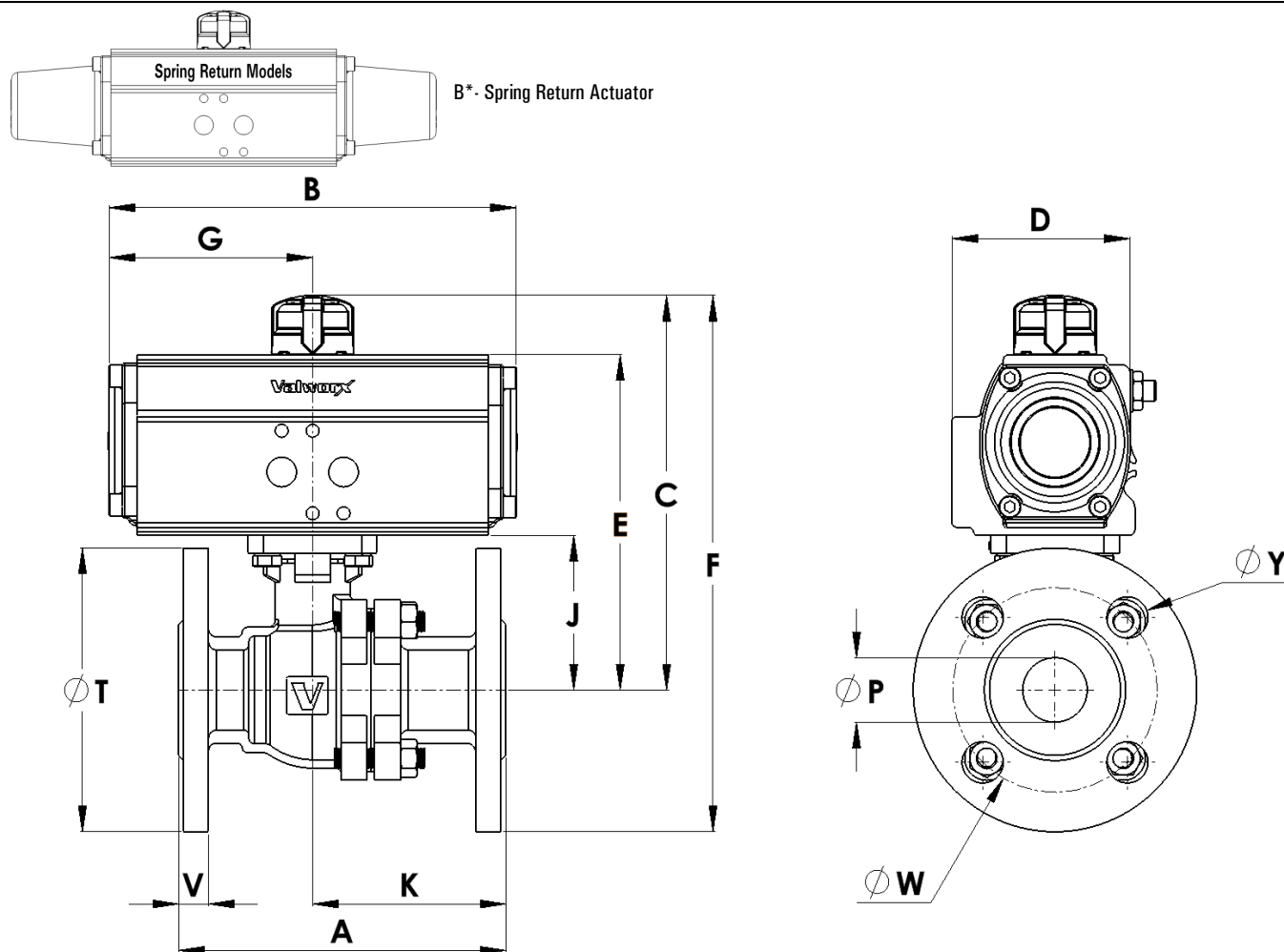
\* Pressure @ -4 to 392° F (reduced pressure at higher temperatures—see P/T chart)

## Specifications (Metric units)

| Stock Number                             | Pipe Size (NPT) | Orifice Size (mm) | Kv Flow Factor | Pressure Max.(Bar)* | Cycle Time/90° (seconds) | Pilot Air Port (NPT) | Air Volume/ 90° (liters) |
|------------------------------------------|-----------------|-------------------|----------------|---------------------|--------------------------|----------------------|--------------------------|
| <b>VALVE WITH SPRING RETURN ACTUATOR</b> |                 |                   |                |                     |                          |                      |                          |
| 555208A                                  | 1               | 25.0              | 52.0           | 19                  | 0.4-0.6                  | 1/4                  | 1.8                      |
| 555212A                                  | 1-1/2           | 38.0              | 108.0          | 19                  | 0.4-0.6                  | 1/4                  | 1.8                      |
| 555216A                                  | 2               | 50.0              | 207.0          | 19                  | 0.4-0.6                  | 1/4                  | 1.8                      |
| 555224A                                  | 3               | 80.0              | 501.0          | 19                  | 0.7-1.2                  | 1/4                  | 8.4                      |
| 555232A                                  | 4               | 98.0              | 882.0          | 19                  | 1.0-2.3                  | 1/4                  | 17.5                     |
| <b>VALVE WITH DOUBLE ACTING ACTUATOR</b> |                 |                   |                |                     |                          |                      |                          |
| 555308A                                  | 1               | 25.0              | 52.0           | 19                  | 0.3                      | 1/4                  | 2.4                      |
| 555312A                                  | 1-1/2           | 38.0              | 108.0          | 19                  | 0.4                      | 1/4                  | 3.6                      |
| 555316A                                  | 2               | 50.0              | 207.0          | 19                  | 0.4                      | 1/4                  | 3.6                      |
| 555324A                                  | 3               | 80.0              | 501.0          | 19                  | 0.6                      | 1/4                  | 6.6                      |
| 555332A                                  | 4               | 98.0              | 882.0          | 19                  | 0.8                      | 1/4                  | 13.8                     |

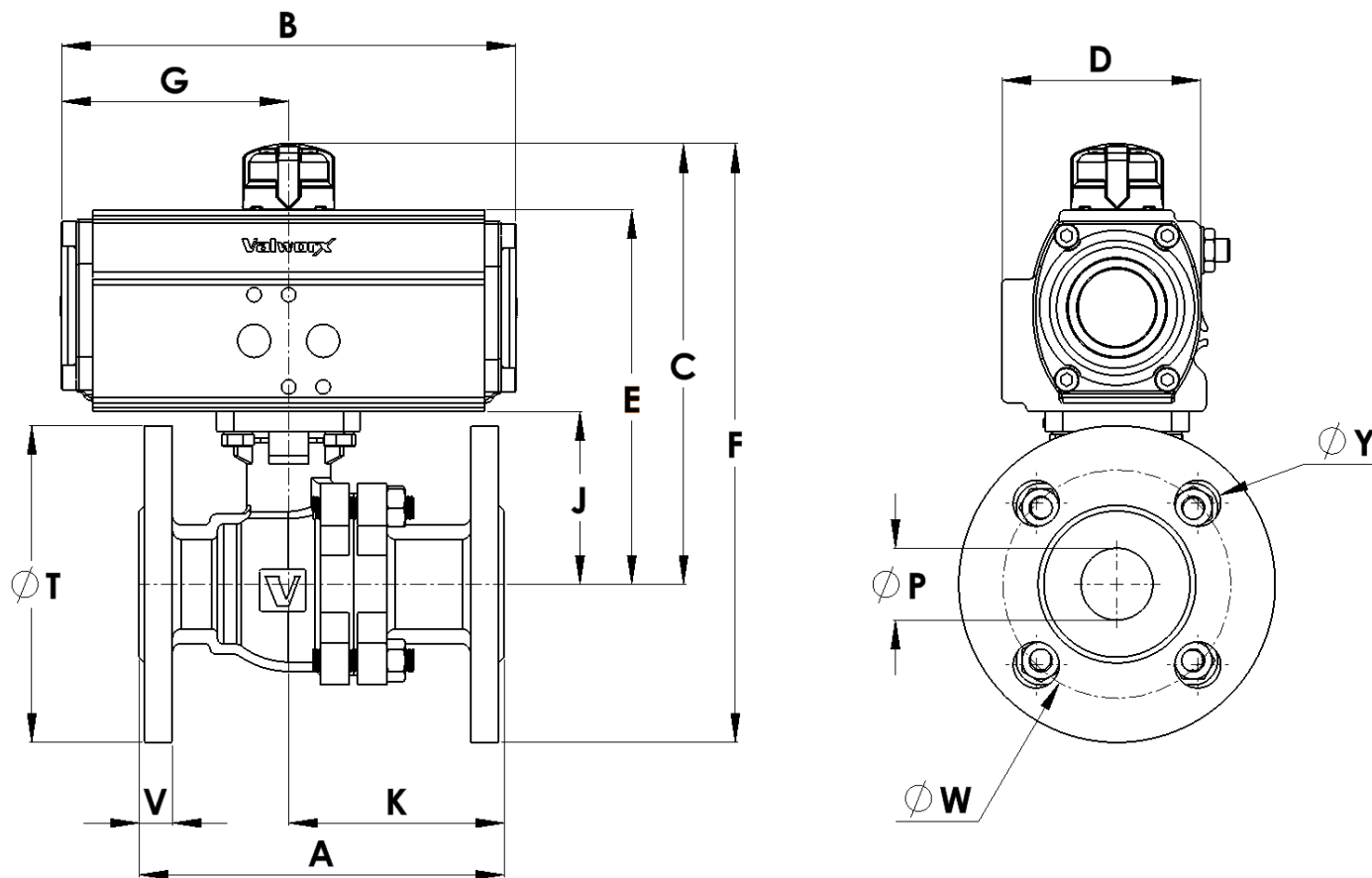
\* Pressure range @ -20 to 200°C (reduced pressure for higher temperatures—see P/T chart)

## Dimensions: Spring Return



| Pipe Size (NPT) |      | A     | B* (SR) | C     | D     | E     | F     | G     | J     | K     | P     | T     | V    | W    | Y (4)   | A & B Ports (NPT) | Weight    |
|-----------------|------|-------|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|---------|-------------------|-----------|
| 1               | inch | 5.0   | 12.3    | 6.7   | 3.5   | 5.8   | 8.8   | 6.2   | 2.4   | 3.0   | 1.0   | 4.3   | 0.4  | 0.3  | 4) 0.6  | 1/4               | 12.9 lbs  |
|                 | mm   | 127.0 | 312.4   | 169.5 | 88.9  | 146.5 | 224.5 | 157.5 | 60.0  | 75.0  | 25.0  | 110.0 | 9.6  | 7.0  | 4) 16.0 | -                 | 5.9 kg    |
| 1-1/2           | inch | 6.5   | 12.3    | 7.4   | 3.5   | 6.5   | 9.8   | 6.2   | 3.1   | 3.6   | 1.5   | 4.9   | 0.5  | 0.4  | 4) 0.6  | 1/4               | 19.4 lbs  |
|                 | mm   | 165.0 | 312.4   | 187.4 | 88.9  | 164.5 | 249.9 | 157.5 | 78.0  | 92.0  | 38.0  | 125.0 | 12.7 | 9.0  | 4) 16.0 | -                 | 8.8 kg    |
| 2               | inch | 7.0   | 12.3    | 7.7   | 3.5   | 6.8   | 10.7  | 6.2   | 3.4   | 3.8   | 2.0   | 5.9   | 0.6  | 0.4  | 4) 0.6  | 1/4               | 25.8 lbs  |
|                 | mm   | 178.0 | 312.4   | 196.5 | 88.9  | 173.5 | 271.4 | 157.5 | 87.0  | 96.2  | 50.0  | 150.0 | 14.3 | 10.0 | 4) 16.0 | -                 | 11.7 kg   |
| 3               | inch | 8.0   | 19.6    | 10.5  | 5.0   | 9.6   | 14.3  | 9.8   | 4.6   | 4.0   | 3.0   | 7.5   | 0.7  | 0.5  | 4) 0.8  | 1/4               | 58.9 lbs  |
|                 | mm   | 203.0 | 497.8   | 267.5 | 127.0 | 244.0 | 363.0 | 248.9 | 116.0 | 102.0 | 76.0  | 190.0 | 17.5 | 12.0 | 4) 19.0 | -                 | 26.7 kg   |
| 4               | inch | 9.0   | 23.8    | 12.5  | 5.9   | 11.6  | 17.0  | 11.9  | 5.5   | 4.5   | 3.9   | 9.1   | 0.9  | 0.5  | 8) 0.8  | 1/4               | 100.8 lbs |
|                 | mm   | 229.0 | 604.5   | 317.0 | 149.9 | 293.5 | 432.0 | 302.3 | 140.0 | 115.0 | 100.0 | 230.0 | 22.3 | 12.0 | 8) 19.0 | -                 | 45.7 kg   |

## Dimensions: Double Acting



| Pipe Size (NPT) |      | A     | B     | C     | D     | E     | F     | G    | J     | K     | P     | T     | V    | W    | Y (4)   | A & B Ports (NPT) | Weight   |
|-----------------|------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|------|------|---------|-------------------|----------|
| 1               | inch | 5.0   | 6.3   | 6.0   | 3.5   | 5.1   | 8.2   | 3.2  | 2.4   | 3.0   | 1.0   | 4.3   | 0.4  | 0.3  | 4) 0.6  | 1/4               | 9.4 lbs  |
|                 | mm   | 127.0 | 160.0 | 153.0 | 88.9  | 130.0 | 208.0 | 81.3 | 60.0  | 75.0  | 25.0  | 110.0 | 9.6  | 7.0  | 4) 16.0 | -                 | 4.3 kg   |
| 1-1/2           | inch | 6.5   | 7.9   | 7.4   | 3.5   | 6.5   | 9.8   | 4.0  | 3.1   | 3.6   | 1.5   | 4.9   | 0.5  | 0.4  | 4) 0.6  | 1/4               | 17.9 lbs |
|                 | mm   | 165.0 | 200.1 | 187.5 | 88.9  | 164.5 | 249.5 | 2.0  | 78.0  | 92.0  | 38.0  | 125.0 | 12.7 | 9.0  | 4) 16.0 | -                 | 8.1 kg   |
| 2               | inch | 7.0   | 7.9   | 7.7   | 3.9   | 6.8   | 10.7  | 4.0  | 3.4   | 3.8   | 2.0   | 5.9   | 0.6  | 0.4  | 4) 0.6  | 1/4               | 24.3 lbs |
|                 | mm   | 178.0 | 200.1 | 196.5 | 99.1  | 173.5 | 271.4 | 2.0  | 87.0  | 96.2  | 50.0  | 150.0 | 14.3 | 10.0 | 4) 16.0 | -                 | 11.0 kg  |
| 3               | inch | 8.0   | 9.9   | 9.8   | 5.9   | 8.74  | 13.6  | 5.0  | 4.6   | 4.0   | 3.0   | 7.5   | 0.7  | 0.5  | 4) 0.8  | 1/4               | 47.1 lbs |
|                 | mm   | 203.0 | 251.5 | 249.0 | 149.9 | 222.0 | 344.5 | 2.5  | 116.0 | 102.0 | 76.0  | 190.0 | 17.5 | 12.0 | 4) 19.0 | -                 | 21.4 kg  |
| 4               | inch | 9.0   | 12.2  | 11.5  | 5.9   | 10.6  | 16.0  | 6.1  | 5.5   | 4.5   | 3.9   | 9.1   | 0.9  | 0.5  | 8) 0.8  | 1/4               | 78.2 lbs |
|                 | mm   | 229.0 | 309.9 | 291.5 | 149.9 | 268.0 | 406.5 | 3.1  | 140.0 | 115.0 | 100.0 | 230.0 | 22.3 | 12.0 | 8) 19.0 | -                 | 35.5 kg  |