


MS3000X-xxx Series Valve

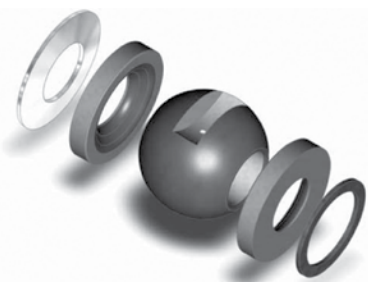
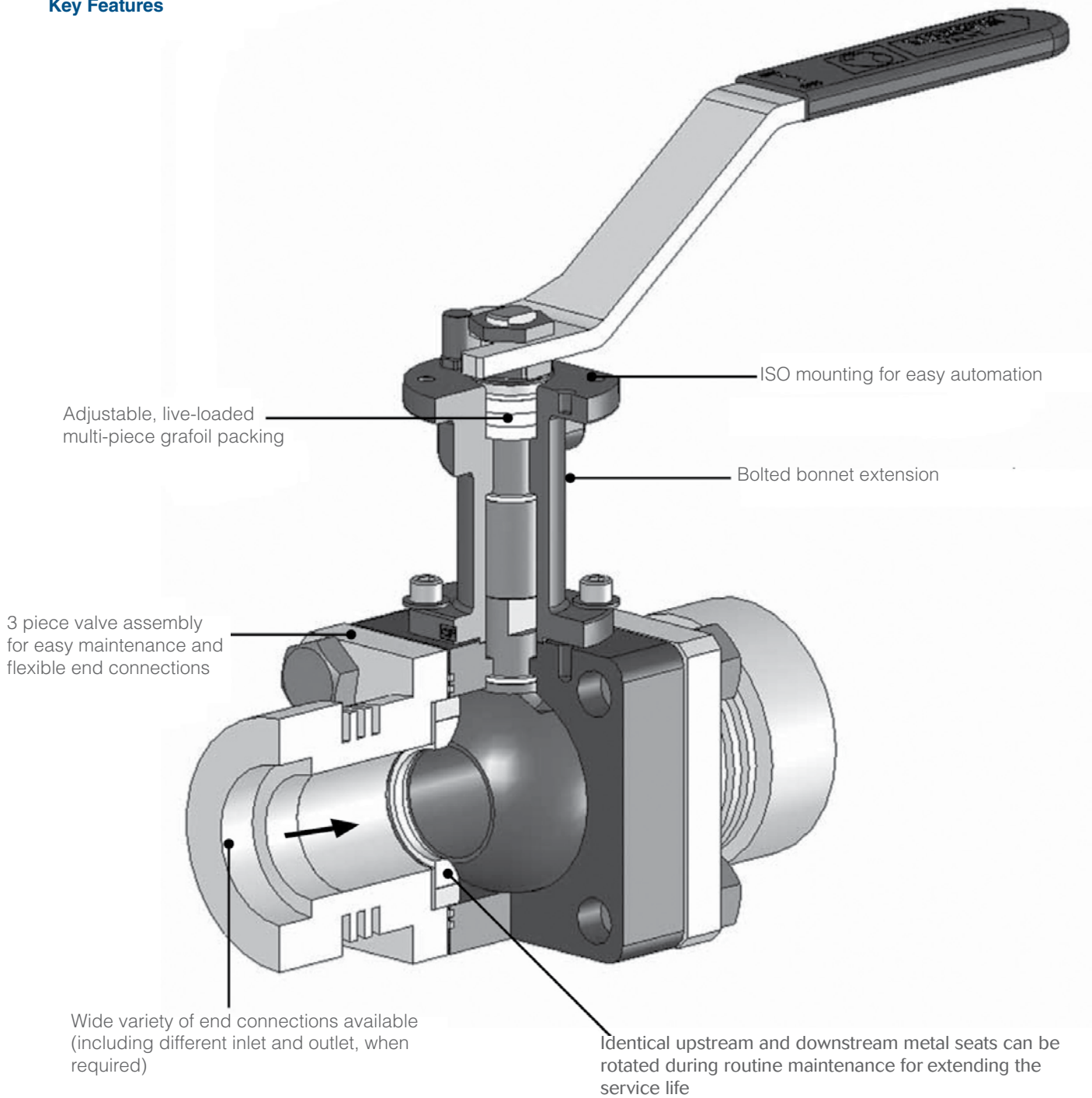
| Quick Spec | |
|---------------------------|---|
| Product Scope | |
| Size Range | 1/4" – 2", 3" x 2" (sch. 160 pipe bore) |
| Body Type | 3-pc, non Swing-out design |
| End Connections | Flanged, NPT, Weld, Custom |
| Pressure Rating | up to 990 psi WOG (69 bar) |
| Temperature Range / WSP | up to 1000°F (538°C) |
| Body, Ball, Stem Material | Standard & Special alloys, |
| Ball Seats | 316SS Chrome Carbide Coated |
| Stem Packing | Graphite |
| Body Seals | Graphite |
| Operator / Mounting Pad | Lever/ISO 5211 |
| Design Standards | |
| Design | |
| Flange | ASME B165 |
| Thread/Weld Design | ASME B1.20.1 / ASME B16.25 |
| Testing Standards | |
| Pressure Testing | Class V |
| Approvals | |
| | |
| | |
| | |

Features

- Heavy duty, metal seated design
- Designed for pressure up to 990 psi (69 bar)
- Temperatures up to 1000°F (538°C)
- Ideal for condensate, steam or gas service
- Wide variety of end connections available
- Class V shutoff
- Adjustable, live-loaded graphite packing
- 3-piece valve assembly for easy maintenance

| Materials of Construction | | |
|---------------------------|-------------------------------|--------------|
| Part | Stainless Steel | Carbon Steel |
| Body | A351 CF8M | A216 WCB |
| End Cap (Upstream) | A479-316L SS | SA-A105 CS |
| End Cap (Downstream) | A479-316L SS | SA-A105 CS |
| Bonnet | ASTM A351 CF3M | |
| Ball | 316SS / Chrome Carbide Coated | |
| Stem, Valve | 17-4 PH | |
| Stem, Bonnet | 17-4 PH | |
| Seat | 316SS / Chrome Carbide Coated | |
| Support Ring | A479-316L SS | |
| Seat Belleville | Inconel | |
| Seat Gasket | | |
| Body Seal | Graphite | |
| Secondary Body Seal | | |
| Thrust Washer | Carbon | |
| Bonnet Gasket | Graphite | |
| Packing | Graphite | |
| Packing GLand | 316SS | |
| Packing Bellville | | |
| Packing Nut | SST | |
| Stop Screw | | |
| Jam Nut | | |
| Handle | Steel | |
| Body Bolts | A193 B7 | A193 B8 CL1 |
| Bonnet Bolts | 304SS | |

Key Features

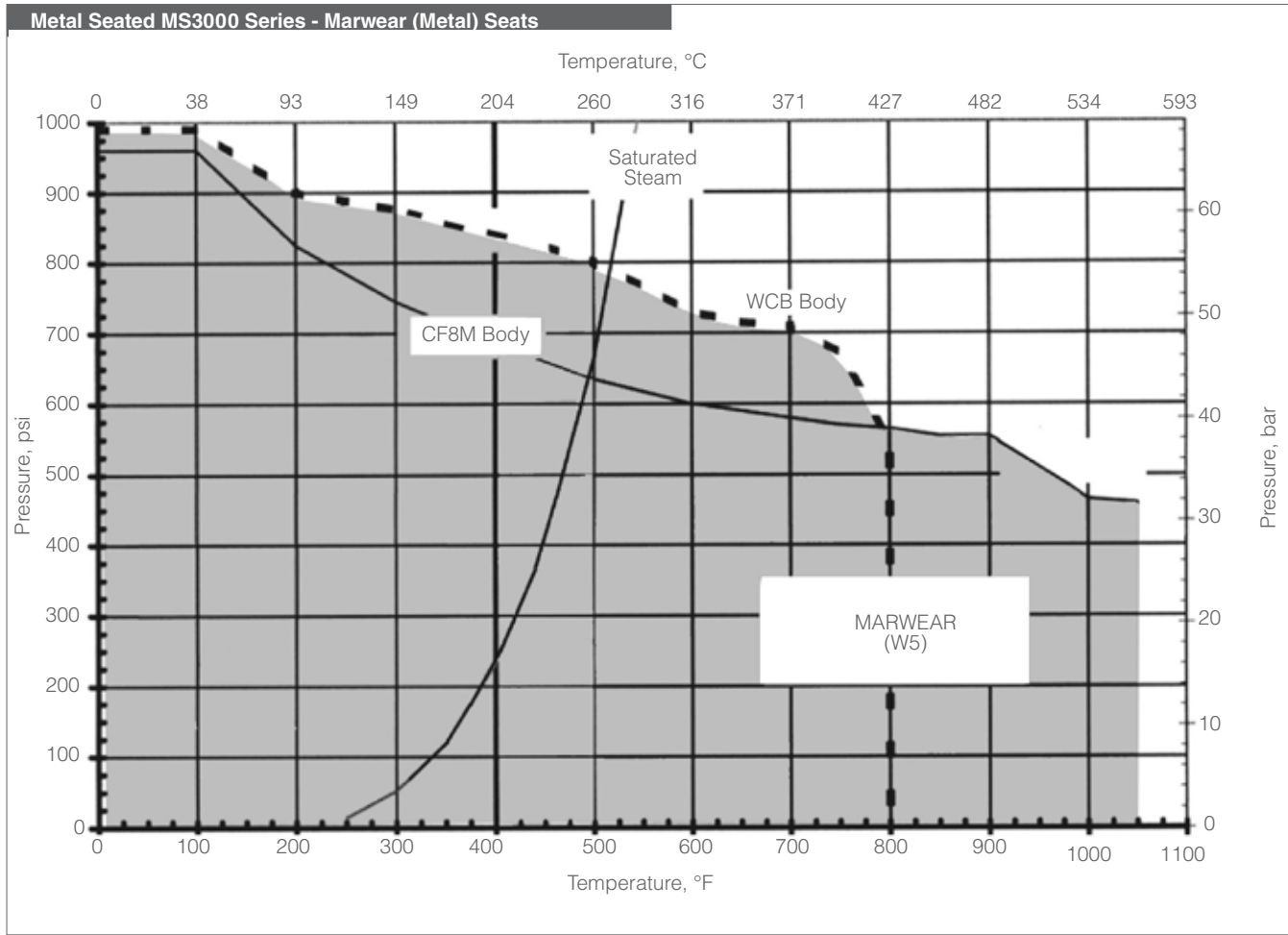


Marwear (W5) Metal Seats

Marwear seats with ANSI Class V shutoff rating are comprised of dual 316 / 316L stainless steel base material. The ball and seats are coated with a chrome carbide plasma spray coating (HRC 64) using an HVOF process¹, giving a surface hardness greater than Stellite 6B, but with reduced friction for better operating torque. These seats provide long service life, high temperature capabilities and are perfect for steam and condensate applications.

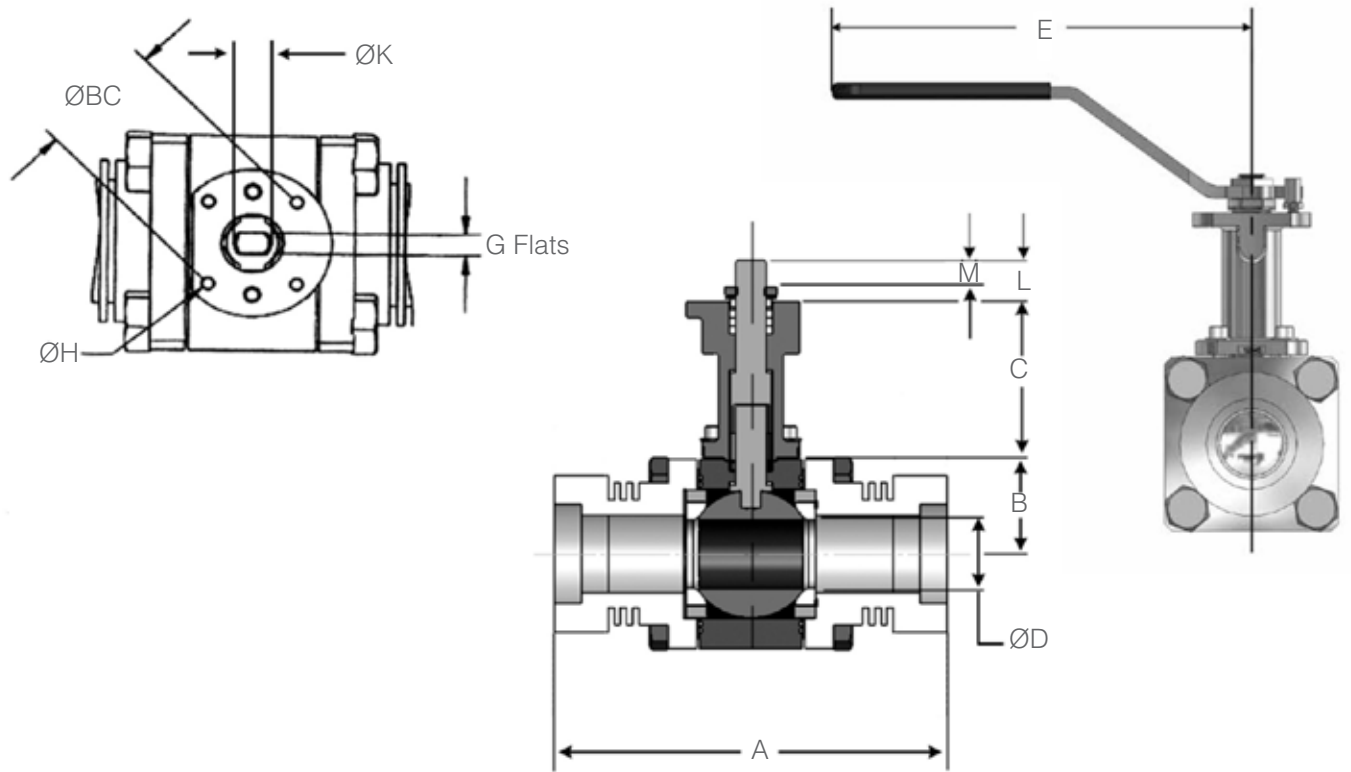
¹ **H**igh **V**elocity **O**xygen **F**uel (HVOF). This advanced coating process produces a dense surface that can be lapped to a mirror finish for tighter shutoff and lower operating torque.

Pressure / Temperature Limits



Note: Maximum temperature for 17-4 PH stem is 800°F.

Dimensions



FNPT Extended, FSW Extended, BWE Extended

| Dimensions, Inches | | | | | | | | | | | | |
|--------------------|------------|-----|-----|------|------|---------|------|---------|------|------|------|--------------|
| Size | Dimensions | | | | | | | | | | | Weight (lbs) |
| | A | B | C | D | E | H | BC | G Flats | K | L | M | |
| 1/4" | 5.50 | 1.3 | 3.0 | 0.44 | 6.1 | 10-24 | 1.42 | 0.215 | 0.39 | 0.56 | 0.27 | 3.2 |
| 3/8" | 5.50 | 1.3 | 3.0 | 0.44 | 6.1 | 10-24 | 1.42 | 0.215 | 0.39 | 0.56 | 0.27 | 3.0 |
| 1/2" | 5.50 | 1.3 | 3.0 | 0.44 | 6.1 | 10-24 | 1.42 | 0.215 | 0.39 | 0.56 | 0.27 | 3.6 |
| 3/4" | 6.50 | 1.6 | 3.0 | 0.61 | 7.5 | 10-24 | 1.65 | 0.295 | 0.47 | 0.78 | 0.40 | 5.8 |
| 1" | 7.12 | 1.5 | 3.0 | 0.83 | 7.5 | 10-24 | 1.65 | 0.295 | 0.47 | 0.87 | 0.45 | 8.0 |
| 1-1/4" | 7.50 | 1.8 | 3.0 | 1.35 | 8.7 | 0.25-20 | 1.97 | 0.352 | 0.59 | 1.10 | 0.54 | 10.5 |
| 1-1/2" | 7.50 | 1.8 | 3.0 | 1.35 | 8.7 | 0.25-20 | 1.97 | 0.352 | 0.59 | 1.10 | 0.54 | 10.5 |
| 2" | 8.50 | 2.3 | 3.0 | 1.69 | 11.0 | 0.25-20 | 1.97 | 0.352 | 0.59 | 1.10 | 0.54 | 23.3 |
| 3" x 2" | 11.12 | 2.3 | 3.0 | 1.69 | 11.0 | 0.25-20 | 1.97 | 0.352 | 0.59 | 1.10 | 0.54 | 26.3 |

| Dimensions, mm | | | | | | | | | | | | |
|----------------|------------|----|----|------|-----|---------|------|---------|------|------|------|--------------|
| Size | Dimensions | | | | | | | | | | | Weight (kgs) |
| | A | B | C | D | E | H | BC | G Flats | K | L | M | |
| DN8 | 139,7 | 33 | 76 | 11,2 | 154 | 10-24 | 36,1 | 5,46 | 9,9 | 14,2 | 6,9 | 1,5 |
| DN12 | 139,7 | 33 | 76 | 11,2 | 154 | 10-24 | 36,1 | 5,46 | 9,9 | 14,2 | 6,9 | 1,4 |
| DN15 | 139,7 | 33 | 76 | 11,2 | 154 | 10-24 | 36,1 | 5,46 | 9,9 | 14,2 | 6,9 | 1,6 |
| DN20 | 165,1 | 39 | 76 | 15,5 | 191 | 10-24 | 41,9 | 7,49 | 11,9 | 19,8 | 10,2 | 2,6 |
| DN25 | 180,8 | 37 | 76 | 21,1 | 191 | 10-24 | 41,9 | 7,49 | 11,9 | 22,1 | 11,4 | 3,6 |
| DN32 | 190,5 | 46 | 76 | 34,3 | 221 | 0.25-20 | 50,0 | 8,94 | 15,0 | 27,9 | 13,7 | 4,8 |
| DN40 | 190,5 | 46 | 76 | 34,3 | 221 | 0.25-20 | 50,0 | 8,94 | 15,0 | 27,9 | 13,7 | 6,4 |
| DN50 | 215,9 | 58 | 76 | 42,9 | 279 | 0.25-20 | 50,0 | 8,94 | 15,0 | 27,9 | 13,7 | 10,6 |
| DN80x50 | 282,4 | 58 | 76 | 42,9 | 279 | 0.25-20 | 50,0 | 8,94 | 15,0 | 27,9 | 13,7 | 11,9 |

| Technical Specifications | | | |
|--------------------------|---|------|--------|
| Valve Size Inches | Marwear Class V Metal Seats @ 1000 psi | Flow | Weight |
| | in-lbs | Cv | lbs |
| 1/4"X | 134 | 8 | 3.2 |
| 3/8"X | 134 | 8 | 3.0 |
| 1/2"X | 134 | 8 | 3.6 |
| 3/4"X | 358 | 25 | 5.8 |
| 1"X | 422 | 34 | 8.0 |
| 1-1/4"X | 735 | 100 | 10.5 |
| 1-1/2"X | 735 | 105 | 14.1 |
| 2"X | 1345 | 180 | 23.3 |
| 3" x 2"X | 1345 | 180 | 26.3 |

| Technical Specifications | | | |
|--------------------------|---|------|--------|
| Valve Size DN | Marwear Class V Metal Seats @ 69 bar | Flow | Weight |
| | N.m | Kv | kgs |
| DN8 | 15,2 | 6,9 | 1,5 |
| DN12 | 15,2 | 6,9 | 1,4 |
| DN15 | 15,2 | 6,9 | 1,6 |
| DN20 | 40,4 | 21,5 | 2,6 |
| DN25 | 47,7 | 29,2 | 3,6 |
| DN32 | 83,0 | 86 | 4,8 |
| DN40 | 83,0 | 90,3 | 6,4 |
| DN50 | 152 | 155 | 10,6 |
| DN80x50 | 152 | 155 | 11,9 |

Ordering Schematic

| Series | Size | Body Mat'l | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | |
|--------|------|------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|--|
| | | | | | | | | | | | | | | | | | | | | | |

| Series | |
|---------|--------------------------|
| MS3000X | Metal Seated 3000 Series |

| Size | |
|------|---------------------|
| *025 | 1/4" (DN8) |
| *038 | 3/8" (DN12) |
| 050 | 1/2" (DN15) |
| 075 | 3/4" (DN20) |
| 100 | 1" (DN25) |
| *125 | 1-1/4" (DN32) |
| 150 | 1-1/2" (DN40) |
| 200 | 2" (DN50) |
| *300 | 3" x 2" (DN80 x 50) |

* Consult factory

| Body Material | |
|---------------|----------------------|
| CS | Carbon Steel WCB |
| S6 | Stainless Steel CF8M |
| ZZ | Other Special Alloy |

| 1&2 End Connections | |
|---------------------|-----------------------|
| PT | FNPT |
| SE | FSW Extended |
| F1 | 150# FE |
| F3 | 300# FE |
| F6 | 600# FE |
| F9 | 900# FE |
| E4 | XBWE Extended Sch. 40 |
| E8 | XBWE Extended Sch. 80 |
| E6 | BWE Extended Sch 160 |
| ZZ | Non-standard |

| 3&4 Trim (Ball / Stem) | |
|------------------------|--|
| S3 | 316SS Chrome Carbide Coated Ball & Seats / 17-4 PH Stem (Standard) |
| ZZ | Other Special Alloy |

| 5&6 Seat | |
|----------|-----------------|
| W5 | Marwear Class V |
| ZZ | Non-standard |

| 7&8 | Packing |
|-----|--------------|
| GR | Graphite |
| ZZ | Non-standard |

| 9&10 | Handle & Gear Operator |
|------|----------------------------------|
| NN | None |
| HL | Handle Lever |
| HD | Handle Lever with Locking Device |
| GO | Gear Operator |
| ZZ | Non-standard |

| 11&12 | Operation |
|-------|--------------------|
| HL | Lever |
| NN | None |
| P2 | UT-0-DA STD |
| P3 | UT-1-DA STD |
| P4 | UT-2-DA STD |
| P5 | UT-2.5-DA STD |
| P6 | UT-3-DA STD |
| P7 | UT-3.5-DA STD |
| P8 | UT-4-DA STD |
| PF | UT-4.5-DA STD |
| P9 | UT-5-DA STD |
| PA | UT-6-DA STD |
| PB | UT-7-DA STD |
| S1 | UT-0-SR STD |
| S2 | UT-1-SR STD |
| S3 | UT-2-SR STD |
| S4 | UT-2.5-SR STD |
| S5 | UT-3-SR-STD |
| S6 | UT-3.5SR STD |
| S7 | UT-4-SR STD |
| SF | UT-4.5-SR STD |
| S8 | UT-5-SR STD |
| S9 | UT-6-SR STD |
| M2 | ER-2-5-4 110 VAC |
| M3 | ER-3-5-4 110 VAC |
| M8 | ER-4-10-4 110 VAC |
| M4 | ER-6-15-4 110 VAC |
| M5 | ER-10-15-4 110 VAC |
| M9 | ER-15-30-4 110 VAC |
| M7 | ER-38-14-4 110 VAC |
| MC | ER-50-68-4 110 VAC |
| ZZ | Non-standard |

| 13&14 | Solenoid Feature | Act. Type |
|-------|---------------------------------|-----------|
| 00 | None | |
| 3A | 3W 8551-120VAC N4 UT-0/5 | SR |
| 3C | 3W EF8551-120VAC N7 UT-0/5 | SR |
| 3J | 3W 8317G35-120VAC N4 UT-0/2.5 | SR |
| 3M | 3W 8321G1-120VAC N4 UT-3/5 | SR |
| 3Q | 3W EF8317G35-120VAC N7 UT-0/2.5 | SR |
| 3R | 3W EF8321G1-120VAC N7 UT-3/5 | SR |
| 4B | 4W 8551-120VAC N4 UT-0/5 | DA |
| 4E | 4W EF8551-120VAC N7 UT0/5 | DA |
| ZZ | Non-Standard | |

| 15 | Limit Switch |
|----|-----------------------------|
| 0 | None |
| A | LS FMYB-5120-N4 to UT-0/3 |
| B | LS FMYB-5120-N4 to UT-3.5/7 |
| C | LS AMYB-5120-N7 to UT-0/3 |
| D | LS AMYB-5120-N7 to UT-3.5/7 |
| Z | Non-Standard |

| 16 | Positioner |
|----|---------------------------------------|
| 0 | None |
| A | Siemens 760P (3-15 psi), for UT-0/3 |
| B | Siemens 760P (3-15 psi), for UT-3.5/7 |
| C | Siemens 760E (4-20mA), for UT-0/3 |
| D | Siemens 760E (4-20mA), for UT-3.5/7 |
| E | Siemens 2-IQ (4-20mA), for UT-0/3DA |
| F | Siemens 2-IQ (4-20mA), for UT-3.5/7DA |
| Q | Siemens 2-IQ (4-20mA), for UT-0/3SR |
| R | Siemens 2-IQ (4-20mA), for UT-3.5/7DA |
| Z | Non-Standard |

| 17 | Fail Position |
|----|-----------------------------|
| 0 | None / No Spring Actuator |
| 1 | Fail Open - 80 psi supply |
| 2 | Fail Closed - 80 psi supply |
| 3 | Fail Open - 60 psi supply |
| 4 | Fail Closed - 60 psi supply |

| 18 | Accessory |
|----|----------------------|
| 00 | None |
| 04 | Air Filter Regulator |