

## FEATURES

- Investment Cast Body Construction
- 2 Pieces Body Design
- ISO 5211 Direct Mounting Flange
- Blow-Out-Proof Stem Design
- Anti-Static Device
- Available for Pneumatic or Electric Actuator
- NACE MR0175 is available upon request
- Super Alloy materials for highly corrosive medium are available upon request

AUTOMATION AVAILABLE

## SPECIFICATIONS

- Size Range DN15~DN150 ( 1/2" ~ 6" )
- End Connection Flanged End, RF
- Working Pressure
  - 1.4408 PN40 - 38.8 Bar at RT
  - 1.0619 PN40 - 39.0 Bar at RT
  - 1.4408 PN16 - 15.5 Bar at RT
  - 1.0619 PN16 - 15.6 Bar at RT
- Steam Pressure 150 PSIG. Saturated Steam for RTFE.
- Temperature Range -4 to 356 °F ( -20 to 180 °C ) for RTFE.

## STANDARDS

- Design EN 12516-1/2 / API 608
- Mounting Flange ISO 5211
- Face to Face
  - DIN 3202 F4 for DN15 ~ DN100
  - DIN 3202 F5 for DN125 ~ DN150
- Flange Dimension
  - PN40 EN1092-1 for DN15 ~ DN50
  - PN16 EN1092-1 for DN65 ~ DN150
- Material EN1503-1
- Pressure Testing EN 12266

## CERTIFICATE

- Fire Safe API 607 6<sup>th</sup> Edition / ISO 10497
- Fugitive Emission ISO 15848-1 / TA-LUFT
- Quality Assurance ISO 9001
- Material Certificate EN 10204-3.1 MTR
- CE Approval PED 2014/68/EU Module H

## MATERIAL LIST

| NO.  | PART NAME         | MATERIAL<br>( more options available ) |
|------|-------------------|--|
| 1    | BODY              | EN1503-1 1.4408   EN1503-1 1.0619      |
| 4    | BALL              | ASTM A351 Gr.CF8M                      |
| 5    | STEM              | ASTM A276 Gr.SS316                     |
| 9    | END CAP           | EN1503-1 1.4408   EN1503-1 1.0619      |
| 11   | BODY SEAL         | GRAPHITE                               |
| 12   | SEAT              | RTFE.(15%G.F.)                         |
| 13   | THRUST WASHER     | PTFE.+25%G.F.                          |
| 13-1 | THRUST WASHER     | GRAPHITE                               |
| 14   | STEM PACKING      | GRAPHITE                               |
| 15   | GLAND BUSH        | SS304                                  |
| 19   | HANDLE            | SS304                                  |
| 21   | HANDLE COVER      | PLASTIC                                |
| 22   | STEM NUT          | SS304                                  |
| 23   | HANDLE WASHER     | SS304                                  |
| 24   | HANDLE NUT        | SS304                                  |
| 28   | LOCKING PAD       | SS304                                  |
| 29   | BELLEVILLE WASHER | SS301                                  |
| 30   | TAB WASHER        | SS304                                  |
| 31   | O-RING            | VITON®                                 |
| 32   | THRUST WASHER     | PTFE.+25%G.F.                          |
| 33   | STOP PIN          | SS304                                  |
| 35   | STUD              | ASTM A193 Gr.B8                        |
| 37   | BOLT NUT          | ASTM A194 Gr.8                         |

## DIMENSION

|       |        |       |     |     |      |       |    |       |       |       |      |     |    |      |     | unit : mm |          |      |
|-------|--------|-------|-----|-----|------|-------|----|-------|-------|-------|------|-----|----|------|-----|-----------|----------|------|
| SIZE  | PORT   | L     | E   | H2  | H3   | C     | ØG | ØJ    | ØI    | T     | F    | M   | ØN | ØK   | ØK1 | Z-4       | Z1-4     |      |
| DN15  | 1/2"   | 15.0  | 115 | 112 | 8.5  | 48.0  | 9  | 95.0  | 65.0  | 45.0  | 16.0 | 2.0 | 4  | 14.0 | 50  | F05 36    | F03 7.0  | 6.0  |
| DN20  | 3/4"   | 20.0  | 120 | 112 | 8.5  | 53.5  | 9  | 105.0 | 75.0  | 58.0  | 18.0 | 2.0 | 4  | 14.0 | 50  | F05 36    | F03 7.0  | 6.0  |
| DN25  | 1"     | 25.0  | 125 | 136 | 9.5  | 64.0  | 9  | 115.0 | 85.0  | 68.0  | 18.0 | 2.0 | 4  | 14.0 | 50  | F05 36    | F03 7.0  | 6.0  |
| DN32  | 1-1/4" | 32.0  | 130 | 185 | 9.5  | 71.0  | 9  | 140.0 | 100.0 | 78.5  | 18.0 | 2.0 | 4  | 18.0 | 50  | F05 36    | F03 7.0  | 6.0  |
| DN40  | 1-1/2" | 38.0  | 140 | 198 | 14.0 | 76.0  | 14 | 150.0 | 110.0 | 88.2  | 18.0 | 2.0 | 4  | 18.0 | 70  | F07 50    | F05 9.0  | 7.0  |
| DN50  | 2"     | 50.0  | 150 | 198 | 13.7 | 84.5  | 14 | 165.0 | 125.0 | 102.0 | 20.0 | 2.0 | 4  | 18.0 | 70  | F07 50    | F05 9.0  | 7.0  |
| DN65  | 2-1/2" | 64.0  | 170 | 265 | 18.0 | 108.5 | 17 | 185.0 | 145.0 | 122.0 | 18.0 | 2.0 | 4  | 18.0 | 102 | F10 70    | F07 12.0 | 10.0 |
| DN80  | 3"     | 76.0  | 180 | 265 | 18.0 | 117.5 | 17 | 200.0 | 160.0 | 138.0 | 20.0 | 2.0 | 4  | 18.0 | 102 | F10 70    | F07 12.0 | 10.0 |
| DN100 | 4"     | 100.0 | 190 | 325 | 18.0 | 157.0 | 17 | 220.0 | 180.0 | 158.0 | 20.0 | 2.0 | 8  | 18.0 | 102 | F10 70    | F07 12.0 | 10.0 |

## DIMENSION

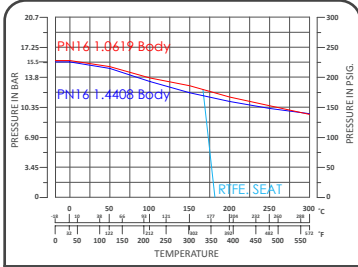
|       |        |      |      |       |      |      |      |      |      |      |      |      |    |      |      | unit : inch |          |      |
|-------|--------|------|------|-------|------|------|------|------|------|------|------|------|----|------|------|-------------|----------|------|
| SIZE  | PORT   | L    | E    | H2    | H3   | C    | ØG   | ØJ   | ØI   | T    | F    | M    | ØN | ØK   | ØK1  | Z-4         | Z1-4     |      |
| DN15  | 1/2"   | 0.59 | 4.53 | 4.41  | 0.33 | 1.89 | 0.35 | 3.74 | 2.56 | 1.77 | 0.63 | 0.08 | 4  | 0.55 | 1.97 | F05 1.42    | F03 0.28 | 0.24 |
| DN20  | 3/4"   | 0.79 | 4.72 | 4.41  | 0.33 | 2.11 | 0.35 | 4.13 | 2.95 | 2.28 | 0.71 | 0.08 | 4  | 0.55 | 1.97 | F05 1.42    | F03 0.28 | 0.24 |
| DN25  | 1"     | 0.98 | 4.92 | 5.35  | 0.37 | 2.52 | 0.35 | 4.53 | 3.35 | 2.68 | 0.71 | 0.08 | 4  | 0.55 | 1.97 | F05 1.42    | F03 0.28 | 0.24 |
| DN32  | 1-1/4" | 1.26 | 5.11 | 7.28  | 0.37 | 2.80 | 0.35 | 5.51 | 3.94 | 3.07 | 0.71 | 0.08 | 4  | 0.71 | 1.97 | F05 1.42    | F03 0.28 | 0.24 |
| DN40  | 1-1/2" | 1.50 | 5.51 | 7.80  | 0.55 | 2.99 | 0.55 | 5.91 | 4.33 | 3.47 | 0.71 | 0.08 | 4  | 0.71 | 2.76 | F07 1.97    | F05 0.35 | 0.28 |
| DN50  | 2"     | 1.97 | 5.92 | 7.80  | 0.54 | 3.33 | 0.55 | 6.50 | 4.92 | 4.02 | 0.79 | 0.08 | 4  | 0.71 | 2.76 | F07 1.97    | F05 0.35 | 0.28 |
| DN65  | 2-1/2" | 2.52 | 6.69 | 10.43 | 0.71 | 4.27 | 0.67 | 7.28 | 5.71 | 4.80 | 0.71 | 0.08 | 4  | 0.71 | 4.02 | F10 2.76    | F07 0.47 | 0.39 |
| DN80  | 3"     | 2.99 | 7.09 | 10.43 | 0.71 | 4.63 | 0.67 | 7.87 | 6.30 | 5.43 | 0.79 | 0.08 | 8  | 0.71 | 4.02 | F10 2.76    | F07 0.47 | 0.39 |
| DN100 | 4"     | 3.94 | 7.48 | 12.80 | 0.71 | 6.18 | 0.67 | 8.66 | 7.09 | 6.22 | 0.79 | 0.08 | 8  | 0.71 | 4.02 | F10 2.76    | F07 0.47 | 0.39 |



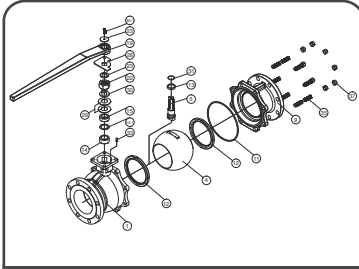
# MD-28FS

# Fire Safe Ball Valve

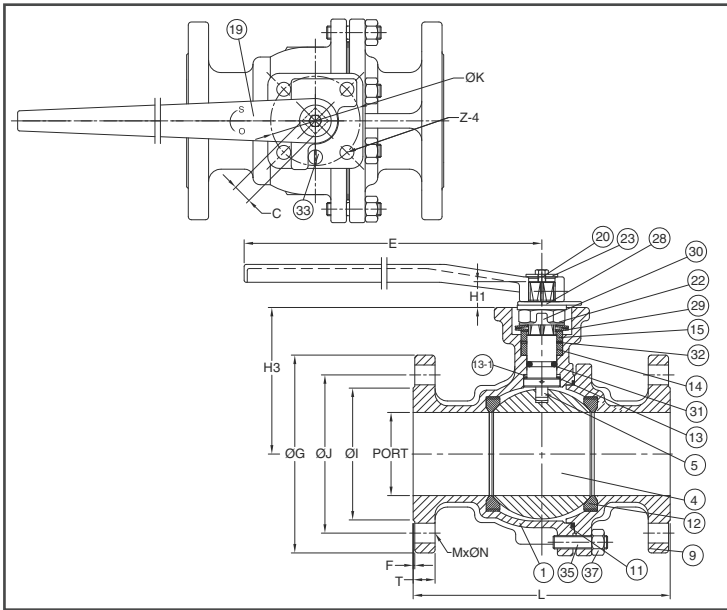
API 607 Fire Safe / Full Bore  
 PN40 for DN15 ~ DN50  
 PN16 for DN65 ~ DN150



PN16 P-T Chart for DN125 - DN150



Explosion Drawing



## FEATURES

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- 2 Pieces Body Design
- ISO 5211 Direct Mounting Flange
- Blow-Out-Proof Stem Design
- Anti-Static Device
- Available for Pneumatic or Electric Actuator
- NACE MR0175 is available upon request
- Super Alloy materials for highly corrosive medium are available upon request

**AUTOMATION AVAILABLE**

## SPECIFICATIONS

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## STANDARDS

- Design: EN 12516-1/2 / API 608
- Mounting Flange: ISO 5211
- Face to Face:
  - DIN 3202 F4 for DN15 ~ DN100
  - DIN 3202 F5 for DN125 ~ DN150
- Flange Dimension:
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  - PN16 EN1092-1 for DN65 ~ DN150
- Material: EN1503-1
- Pressure Testing: EN 12266

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- Material Certificate: EN 10204-3.1 MTR
- CE Approval: PED 2014/68/EU Module H

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| 5    | STEM              | ASTM A276 Gr.316                       |
| 9    | END CAP           | EN1503-1 1.4408   EN1503-1 1.0619      |
| 11   | BODY SEAL         | GRAPHITE                               |
| 12   | SEAT              | PTFE.+50%SS316                         |
| 13   | THRUST WASHER     | PTFE.+25%G.F.                          |
| 13-1 | THRUST WASHER     | GRAPHITE                               |
| 14   | STEM PACKING      | GRAPHITE                               |
| 15   | GLAND BUSH        | SS304                                  |
| 19   | HANDLE            | FCD45                                  |
| 20   | HANDLE BOLT       | SS304                                  |
| 22   | STEM NUT          | SS304                                  |
| 23   | HANDLE WASHER     | SS304                                  |
| 28   | TRIANGLE STOPPER  | SS304                                  |
| 29   | BELLEVILLE WASHER | SS301                                  |
| 30   | TAB WASHER        | SS304                                  |
| 31   | STEM O-RING       | VITON®                                 |
| 32   | PACKING FOLLOWER  | PTFE.+25%G.F.                          |
| 33   | STOP PIN          | SS304                                  |
| 35   | STUD              | ASTM A193 Gr.B8                        |
| 37   | BOLT NUT          | ASTM A194 Gr.8                         |

## DIMENSION

unit : mm

| SIZE  | PORT | L     | E   | H1  | H3   | C     | ØG | ØJ    | ØI    | T     | F    | M   | ØN | ØK   | Z   |     |      |
|-------|------|-------|-----|-----|------|-------|----|-------|-------|-------|------|-----|----|------|-----|-----|------|
| DN125 | 5"   | 125.0 | 325 | 750 | 30.0 | 194.0 | 27 | 250.0 | 210.0 | 188.0 | 22.0 | 2.0 | 8  | 18.0 | 125 | F12 | 14.0 |
| DN150 | 6"   | 150.0 | 350 | 750 | 30.0 | 213.0 | 27 | 285.0 | 240.0 | 212.0 | 22.0 | 2.0 | 8  | 22.0 | 125 | F12 | 14.0 |

## DIMENSION

unit : inch

| SIZE  | PORT | L    | E     | H1    | H3   | C    | ØG   | ØJ    | ØI   | T    | F    | M    | ØN | ØK   | Z    |     |      |
|-------|------|------|-------|-------|------|------|------|-------|------|------|------|------|----|------|------|-----|------|
| DN125 | 5"   | 4.92 | 12.80 | 29.53 | 1.18 | 7.64 | 1.06 | 9.84  | 8.27 | 7.40 | 0.87 | 0.08 | 8  | 0.71 | 4.92 | F12 | 0.55 |
| DN150 | 6"   | 5.91 | 13.78 | 29.53 | 1.18 | 8.39 | 1.06 | 11.22 | 9.45 | 8.35 | 0.87 | 0.08 | 8  | 0.87 | 4.92 | F12 | 0.55 |