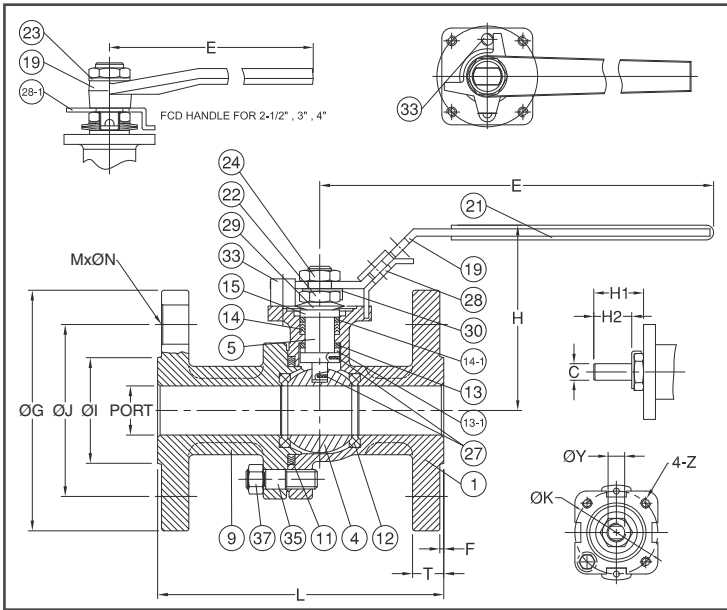
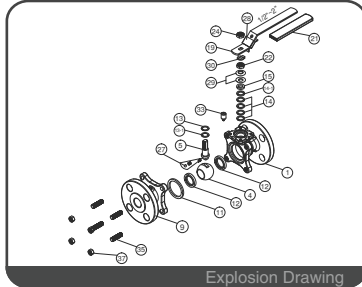
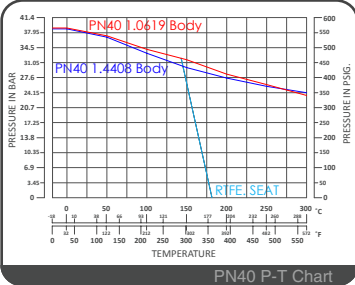




DN15 ~ DN100 ( 1/2" ~ 4" )



### FEATURES

- Investment Cast Body Construction
- 2 Pieces Body Design
- ISO 5211 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 ~ DN300 ( 1/2" ~ 12" )
- End Connection Flanged End, RF
- Working Pressure 1.4408 - PN40 38.8 at RT.  
1.0619 - PN40 39.0 at RT.
- Steam Pressure 150 PSIG. Saturated Steam for RTFE.
- Temperature Range -4 to 356 °F ( -20 to 180 °C ) for RTFE.

### STANDARDS

- Design ISO12516-1/2 / ISO 17292 / API 608
- Mounting Flange ISO 5211
- Face to Face DIN 3202 F4 for DN15 ~ DN100  
DIN 3202 F5 for DN125 ~ DN300
- Flange Dimension EN 1092-1 PN40
- 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+SS316 SPIRAL WOUND WIRE       |                 |
| 12   | SEAT               | RTFE.(15%G.F.)                         |                 |
| 13   | THRUST WASHER      | RTFE.(15%G.F.)                         |                 |
| 13-1 | THRUST WASHER      | RTFE.+50%SS316                         |                 |
| 14   | STEM PACKING       | GRAPHITE                               |                 |
| 14-1 | STEM PACKING       | PTFE.+50%SS316                         |                 |
| 15   | GLAND BUSH         | SS304                                  |                 |
| 19   | HANDLE             | SS304 / FCD45                          |                 |
| 21   | HANDLE COVER       | PLASTIC                                |                 |
| 22   | STEM NUT           | SS304                                  |                 |
| 23   | HANDLE WASHER      | SS304                                  |                 |
| 24   | HANDLE NUT         | SS304                                  |                 |
| 27   | ANTI-STATIC DEVICE | SS316                                  |                 |
| 28   | LOCKING DEVICE     | SS304                                  |                 |
| 28-1 | STOP PLATE         | SS304                                  |                 |
| 29   | BELLEVEILLE WASHER | SS301                                  |                 |
| 30   | TAB WASHER         | SS304                                  |                 |
| 33   | STOP PIN           | SS304                                  |                 |
| 35   | STUD               | ASTM A193 Gr.B8                        | ASTM A193 Gr.B7 |
| 37   | BOLT NUT           | ASTM A194 Gr.8                         | ASTM A194 Gr.2H |

### DIMENSION

| SIZE  | PORT   | L     | E   | H   | H1    | H2 | C  | ØY   | ØG   | ØJ  | ØI  | T   | F  | M | ØN | ØK | Z   |     |         |
|-------|--------|-------|-----|-----|-------|----|----|------|------|-----|-----|-----|----|---|----|----|-----|-----|---------|
| DN15  | 1/2"   | 15.0  | 115 | 165 | 66.0  | 14 | 8  | 6.35 | 9.3  | 95  | 65  | 45  | 16 | 2 | 4  | 14 | 42  | F04 | M5x0.8  |
| DN20  | 3/4"   | 20.0  | 120 | 165 | 74.0  | 14 | 8  | 6.35 | 9.3  | 105 | 75  | 58  | 18 | 2 | 4  | 14 | 42  | F03 | M5x0.8  |
| DN25  | 1"     | 25.0  | 125 | 200 | 87.0  | 19 | 11 | 8.0  | 10.9 | 115 | 85  | 68  | 18 | 2 | 4  | 14 | 50  | F05 | M6x1.0  |
| DN32  | 1-1/4" | 32.0  | 130 | 200 | 92.0  | 19 | 11 | 8.0  | 10.9 | 140 | 100 | 78  | 18 | 2 | 4  | 18 | 50  | F05 | M6x1.0  |
| DN40  | 1-1/2" | 38.0  | 140 | 250 | 105.0 | 23 | 14 | 9.5  | 15.7 | 150 | 110 | 88  | 18 | 3 | 4  | 18 | 70  | F05 | M8x1.25 |
| DN50  | 2"     | 50.0  | 150 | 265 | 115.0 | 23 | 14 | 9.5  | 15.7 | 165 | 125 | 102 | 20 | 3 | 4  | 18 | 70  | F07 | M8x1.25 |
| DN65  | 2-1/2" | 64.0  | 170 | 390 | 152.5 | 71 | 50 | 17.0 | 28.0 | 185 | 145 | 122 | 22 | 3 | 8  | 18 | 102 | F10 | M10x1.5 |
| DN80  | 3"     | 76.0  | 180 | 390 | 161.5 | 71 | 50 | 17.0 | 28.0 | 200 | 160 | 138 | 24 | 3 | 8  | 18 | 102 | F10 | M10x1.5 |
| DN100 | 4"     | 100.0 | 190 | 390 | 179.0 | 71 | 50 | 17.0 | 28.0 | 235 | 190 | 162 | 24 | 3 | 8  | 22 | 102 | F10 | M10x1.5 |

### DIMENSION

| SIZE  | PORT   | L    | E    | H     | H1   | H2   | C    | ØY   | ØG   | ØJ   | ØI   | T    | F    | M    | ØN | ØK   | Z    |     |         |
|-------|--------|------|------|-------|------|------|------|------|------|------|------|------|------|------|----|------|------|-----|---------|
| DN15  | 1/2"   | 0.59 | 4.53 | 6.50  | 2.60 | 0.55 | 0.31 | 0.25 | 0.37 | 3.74 | 2.56 | 1.77 | 0.63 | 0.08 | 4  | 0.55 | 1.65 | F04 | M5x0.8  |
| DN20  | 3/4"   | 0.79 | 4.72 | 6.50  | 2.91 | 0.55 | 0.31 | 0.25 | 0.37 | 4.13 | 2.95 | 2.28 | 0.71 | 0.08 | 4  | 0.55 | 1.65 | F03 | M5x0.8  |
| DN25  | 1"     | 0.98 | 4.92 | 7.87  | 3.43 | 0.75 | 0.43 | 0.31 | 0.43 | 4.53 | 3.35 | 2.68 | 0.71 | 0.08 | 4  | 0.55 | 1.97 | F05 | M6x1.0  |
| DN32  | 1-1/4" | 1.26 | 5.12 | 7.87  | 3.62 | 0.75 | 0.43 | 0.31 | 0.43 | 5.51 | 3.94 | 3.07 | 0.71 | 0.08 | 4  | 0.71 | 1.97 | F05 | M6x1.0  |
| DN40  | 1-1/2" | 1.50 | 5.51 | 9.84  | 4.13 | 0.91 | 0.55 | 0.37 | 0.62 | 5.91 | 4.33 | 3.46 | 0.71 | 0.12 | 4  | 0.71 | 2.76 | F07 | M8x1.25 |
| DN50  | 2"     | 1.97 | 5.91 | 10.43 | 4.53 | 0.91 | 0.55 | 0.37 | 0.62 | 6.50 | 4.92 | 4.02 | 0.79 | 0.12 | 4  | 0.71 | 2.76 | F07 | M8x1.25 |
| DN65  | 2-1/2" | 2.52 | 6.69 | 15.35 | 6.00 | 2.80 | 1.97 | 0.67 | 1.10 | 7.28 | 5.71 | 4.80 | 0.87 | 0.12 | 8  | 0.71 | 4.02 | F10 | M10x1.5 |
| DN80  | 3"     | 2.99 | 7.09 | 15.35 | 6.36 | 2.80 | 1.97 | 0.67 | 1.10 | 7.87 | 6.30 | 5.43 | 0.94 | 0.12 | 8  | 0.71 | 4.02 | F10 | M10x1.5 |
| DN100 | 4"     | 3.94 | 7.48 | 15.35 | 7.05 | 2.80 | 1.97 | 0.67 | 1.10 | 9.25 | 7.48 | 6.38 | 0.94 | 0.12 | 8  | 0.87 | 4.02 | F10 | M10x1.5 |



# MD-82

## Two Pieces Flanged Ball Valve

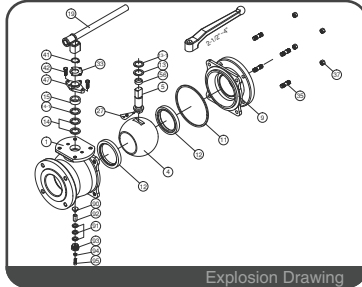
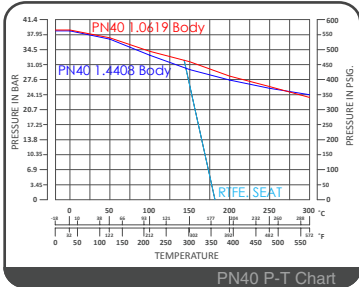
API 607 6<sup>th</sup> Edition / ISO 10497 Certified

PN40 for DN15 ~ DN300

Full Bore



DN150 ~ DN.300 ( 6" ~ 12" )



### FEATURES

- Investment Cast Body Construction
- 2 Pieces Body Design
- ISO 5211 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

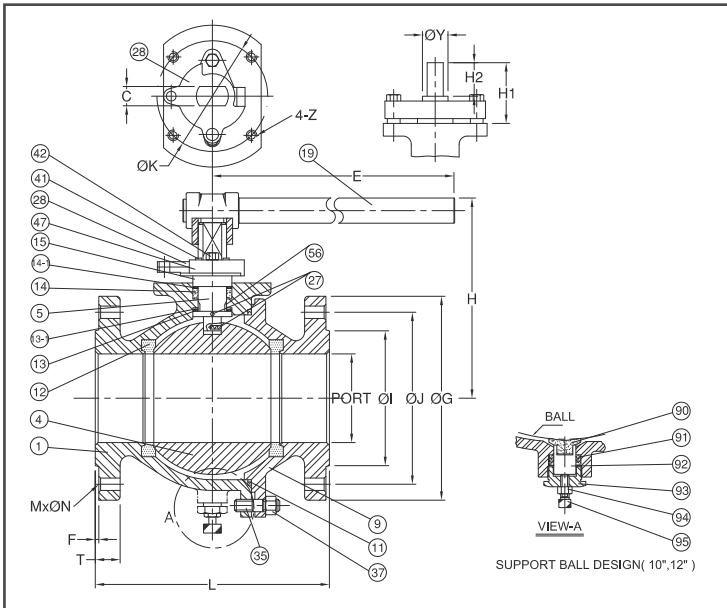
- Size Range: DN15 ~ DN300 ( 1/2" ~ 12" )
- End Connection: Flanged End, RF
- Working Pressure: 1.4408 - PN40 38.8 at RT.  
1.0619 - PN40 39.0 at RT.
- Steam Pressure: 150 PSIG. Saturated Steam for RTFE.
- Temperature Range: -4 to 356 °F ( -20 to 180 °C ) for RTFE.

### STANDARDS

- Design: ISO12516-1/2 / ISO 17292 / API 608
- Mounting Flange: ISO 5211
- Face to Face: DIN 3202 F4 for DN15 ~ DN100  
DIN 3202 F5 for DN125 ~ DN300
- Flange Dimension: EN 1092-1 PN40
- 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 (more options available) |                    |
|------|--------------------|-----------------------------------|--------------------|
|      |                    | 1                                 | 2                  |
| 1    | BODY               | EN1503-1 1.4408                   | EN1503-1 1.0619    |
| 4    | BALL               | ASTM A351 Gr.CF8M                 | ASTM A351 Gr.CF8   |
| 5    | STEM               | ASTM A276 Gr.SS316                | ASTM A276 Gr.SS304 |
| 9    | END CAP            | EN1503-1 1.4408                   | EN1503-1 1.0619    |
| 11   | BODY SEAL          | GRAPHITE+SS316 SPIRAL WOUND WIRE  |                    |
| 12   | SEAT               | RTFE.(15%G.F.)                    |                    |
| 13   | THRUST WASHER      | RTFE.(15%G.F.)                    |                    |
| 13-1 | THRUST WASHER      | PTFE.+50%SS316                    |                    |
| 14   | STEM PACKING       | GRAPHITE                          |                    |
| 14-1 | STEM PACKING       | PTFE.+50%SS316                    |                    |
| 15   | GLAND BUSH         | SS304                             | CARBON STEEL       |
| 19   | HANDLE             | FCD ADAPTER / S15C PIPE HANDLE    |                    |
| 27   | ANTI-STATIC DEVICE | SS316                             |                    |
| 28   | STOP PLATE         | SS304                             |                    |
| 35   | STUD (BODY BOLT)   | ASTM A193 Gr.B8                   | ASTM A193 Gr.B7    |
| 37   | BOLT NUT           | ASTM A194 Gr.8                    | ASTM A194 Gr.2H    |
| 41   | SNAP RING          | SS304                             |                    |
| 42   | GLAND BOLT         | SS304                             | CARBON STEEL       |
| 47   | GLAND FLANGE       | ASTM A351 Gr.CF8                  | ASTM A216 Gr.WCB   |
| 56   | STEM BEARING       | RTFE.(15%G.F.)                    |                    |
| 90   | PIN SEAT           | PTFE.(15%G.F.)                    |                    |
| 91   | PIN PACKING        | GRAPHITE                          |                    |
| 92   | SUPPORT PIN        | SS316                             |                    |
| 93   | SUPPORT NUT        | SS304                             |                    |
| 94   | SET NUT            | SS304                             |                    |
| 95   | TUNING SCREW       | SS304                             |                    |

### DIMENSION

|       |      | unit : mm |     |      |     |    |    |    |      |     |     |     |    |   |    |    |     |     |          |
|-------|------|-----------|-----|------|-----|----|----|----|------|-----|-----|-----|----|---|----|----|-----|-----|----------|
| SIZE  | PORT | L         | E   | H    | H1  | H2 | C  | ØY | ØG   | ØJ  | ØI  | T   | F  | M | ØN | ØK | Z   |     |          |
| DN150 | 6"   | 150       | 350 | 650  | 274 | 84 | 54 | 26 | 43.5 | 300 | 250 | 218 | 28 | 3 | 8  | 26 | 125 | F12 | M12x1.75 |
| DN200 | 8"   | 200       | 400 | 950  | 302 | 84 | 54 | 26 | 43.5 | 375 | 320 | 285 | 34 | 3 | 12 | 30 | 125 | F12 | M12x1.75 |
| DN250 | 10"  | 250       | 450 | 1100 | 372 | 98 | 54 | 35 | 50   | 450 | 385 | 345 | 38 | 3 | 12 | 33 | 140 | F16 | M16x2.0  |
| DN300 | 12"  | 300       | 500 | 1100 | 413 | 98 | 54 | 35 | 50   | 515 | 450 | 410 | 42 | 4 | 16 | 33 | 140 | F16 | M16x2.0  |

### DIMENSION

|       |      | unit : inch |       |       |       |      |      |      |      |       |       |       |      |      |    |      |      |     |          |
|-------|------|-------------|-------|-------|-------|------|------|------|------|-------|-------|-------|------|------|----|------|------|-----|----------|
| SIZE  | PORT | L           | E     | H     | H1    | H2   | C    | ØY   | ØG   | ØJ    | ØI    | T     | F    | M    | ØN | ØK   | Z    |     |          |
| DN150 | 6"   | 5.91        | 13.78 | 25.59 | 10.79 | 3.31 | 2.13 | 1.02 | 1.71 | 11.81 | 9.84  | 8.58  | 1.10 | 0.12 | 8  | 1.02 | 4.92 | F12 | M12x1.75 |
| DN200 | 8"   | 7.87        | 15.75 | 37.40 | 11.89 | 3.31 | 2.13 | 1.02 | 1.71 | 14.76 | 12.60 | 11.22 | 1.34 | 0.12 | 12 | 1.18 | 4.92 | F12 | M12x1.75 |
| DN250 | 10"  | 9.84        | 17.72 | 43.31 | 14.65 | 3.86 | 2.13 | 1.38 | 1.97 | 17.72 | 15.16 | 13.58 | 1.50 | 0.12 | 12 | 1.30 | 5.51 | F16 | M16x2.0  |
| DN300 | 12"  | 11.81       | 19.69 | 43.31 | 16.26 | 3.86 | 2.13 | 1.38 | 1.97 | 20.28 | 17.72 | 16.14 | 1.65 | 0.16 | 12 | 1.30 | 5.51 | F16 | M16x2.0  |