

ARITA UL/FM Resilient Seat Butterfly Valve with Tamper Switch

General

Model

| | |
|---------------|-----------------------------|
| BF-28G series | Butterfly Valve Groove Type |
| BF-29G series | Butterfly Valve Groove Type |
| BF-28W series | Butterfly Valve Wafer Type |
| BF-29W series | Butterfly Valve Wafer Type |



Features

| Features | Benefit |
|------------------------------------|---|
| Ductile Iron Body | Weighs ~50% less than conventional cast iron design, easy on-site handling and halved shipping cost |
| EPDM Coated Ductile Iron Disc | Full encapsulated design ensures drop-tight sealing and reduction of wear and jamming |
| Bubble Tight Closure | Zero leakage at full rated pressure |
| Epoxy Resin Coated Body and Bonnet | Enhanced UV protection in exposed installations for long and reliable service life, internally protect against corrosion and abrasion |
| 2 sets of Tamper Switch | One for connection to supervisory circuit and the other to be connected to auxiliary devices |



Technical Data

Size

| | |
|--------------|---------------|
| BF 28 Series | 2 to 8 inch |
| BF 29 Series | 10 to 12 inch |

Approval

| | |
|-------------|--------------|
| UL Listed | 2 to 12 inch |
| FM Approved | 2 to 12 inch |

Pressure Rating

| | |
|-------------------|---------|
| 2 inch to 12 inch | 300 PSI |
|-------------------|---------|

Temperature Rating

14°F (-10 °C) ~ 248°F (120°C)

Standard

| | |
|-----------------------------|--|
| Compliance | UL 1091/FM 1112/NFPA 11 NFPA 13/NFPA 14/NFPA 15/NFPA 16 NFPA 20/NFPA 22/NFPA 24/NFPA 71 NFPA 72 |
| Design Standard | AWWA C504/API 609 (Groove Type) AWWA C504/API 609 (Wafer Type) |
| Groove Connection Dimension | AWWA C606 |
| Connecting Flange Standard | ASME B16.42 ANSI 150 (Wafer Type) |
| Face to Face Dimension | ASME B16.1 |
| Epoxy Coating | AWWA C550 |
| Rubber to Iron bond on Disc | Inspected per ASTM D 429-73 |



Material Specification

BF28 Series (2" to 8")

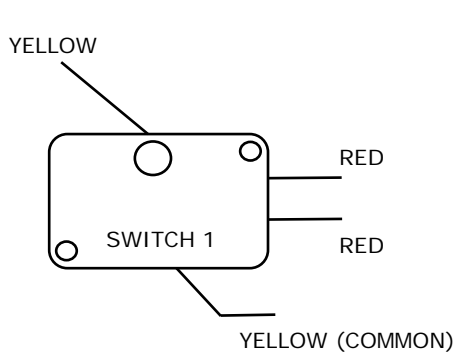
Body: Ductile Iron, ASTM A536 Gr. 65-45-12
End Face Seal & Shaft Seal: ASTM D2000 EPDM
Stem Bushing: PTFE/C95400
Body Coating: Epoxy Resin Fusion Bonded
Top Shaft: Stainless Steel, ASTM A582 SS416
Under Shaft: Stainless Steel, ASTM A582 SS416
Disc: EPDM Coated Ductile Iron, ASTM A536 Gr. 65-45-12
Shaft Sealing Nut: Carbon Steel, ASTM A216 WCB

BF29 Series (10" to 12")

Body: Ductile Iron, ASTM A536 Gr. 65-45-12
End Face Seal & Shaft Seal: ASTM D2000 EPDM
Stem Bushing: C95400+Graphite
Body Coating: Epoxy Resin Fusion Bonded
Top Shaft: Stainless Steel, ASTM A582 SS416
Under Shaft: Stainless Steel, ASTM A582 SS416
Disc: EPDM Coated Ductile Iron, ASTM A536 Gr. 65-45-12
Shaft Sealing Nut: Carbon Steel, ASTM A216 WCB
Key: Carbon Steel, ASTM A216 WCB

Tamper Switch Wiring Diagram

Wiring Diagram

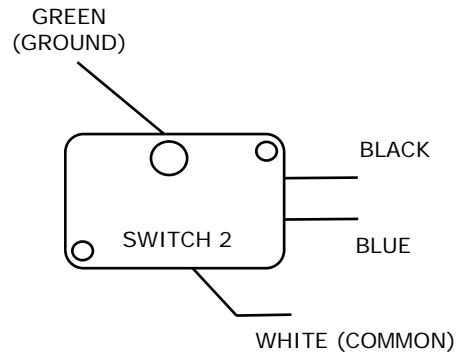


Switch 1: Supervisory Switch

Red & Yellow 1 > Supervisory Panel

Red 2 > S.P.S.T.N.C Switch with dual leads soldered to switch tabs (switch shown in FULL OPEN position)

Yellow 2 > To end of line resistor or next supervisory switch



Switch 2: Auxiliary Switch

Black > to Auxiliary Device

Blue > S.P.D.T Switch with single lead soldered to switch tab (switch shown in FULL OPEN position)

Green > Connect to ground screw inside housing

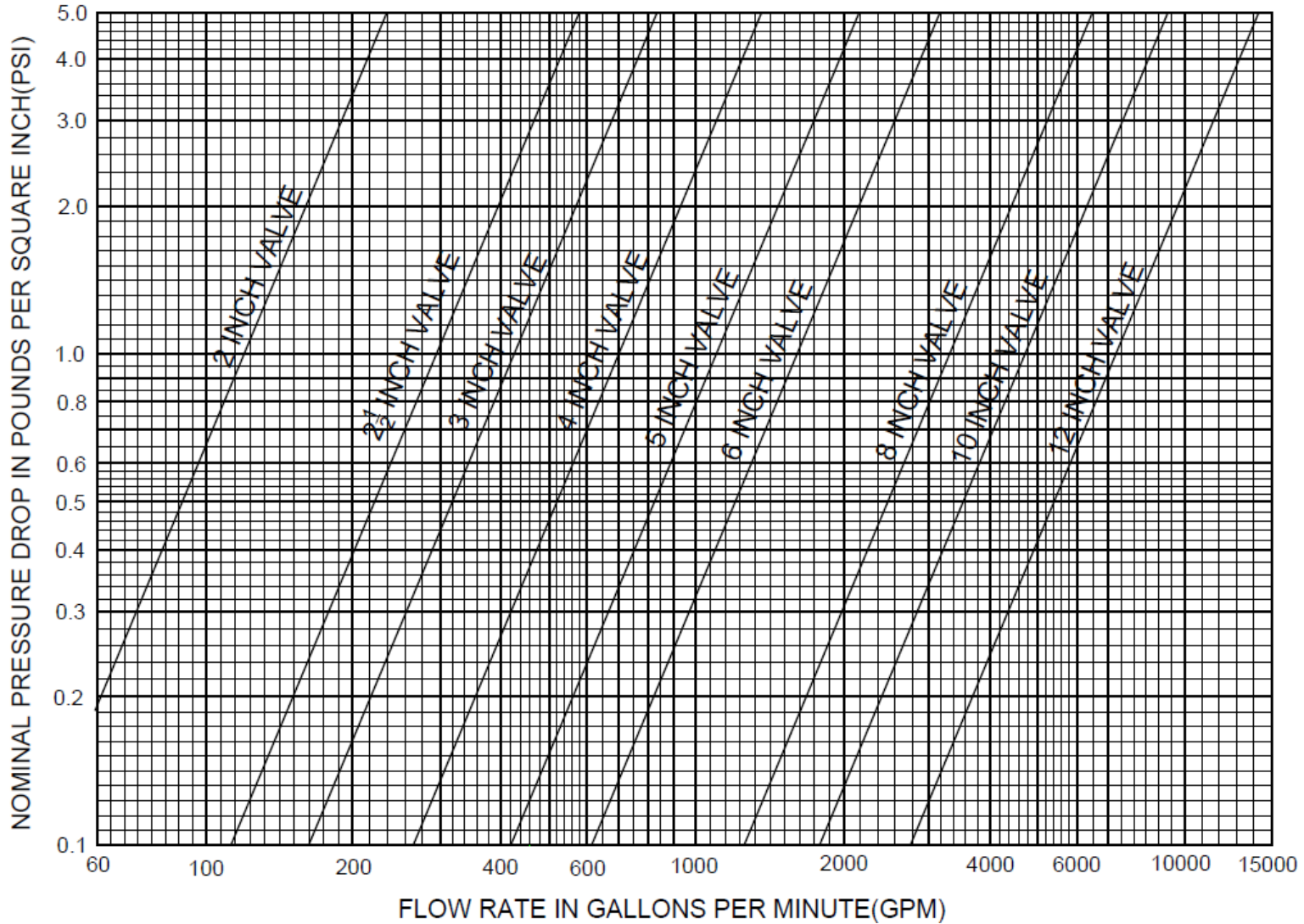
BF-28 & BF-29 series Butterfly Valve is installed with one supervisory switch and one auxiliary switch with actuator suitable for outdoor and indoor use.

Switches are installed with current monitor, Input Rating: 10A 250 VAC

Conduit and electrical connections to tamper switch must be in accordance to NFPA 13, 71 and 72.



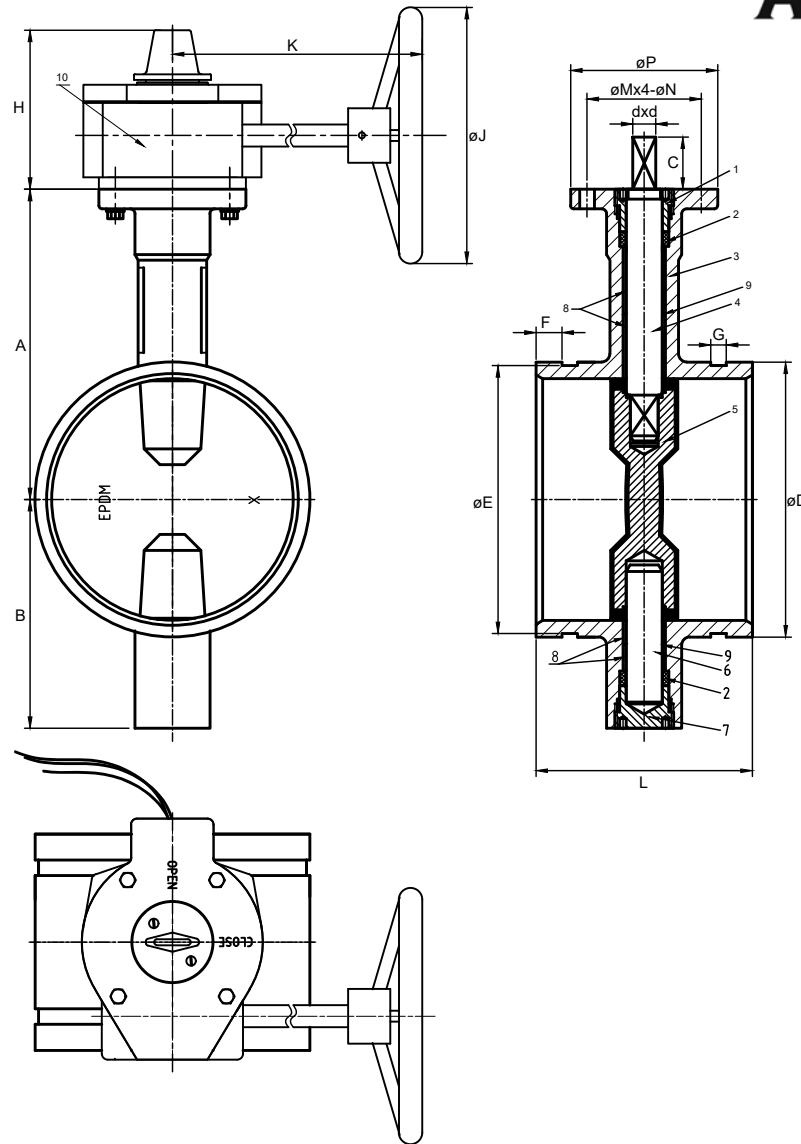
Flow Rate



Butterfly Valve Friction Loss

Valves conform to the standards and specifications:

1. The valve structure conform to API 609
2. The valve test accord with UL1091 / FM1112 300 psi
3. The valve connecting flange in accordance with AWWA C606 groove connection standard, etc
4. The body surface coated with epoxy
5. Test standard API 598



| SIZE | A | B | C | D | E | F | G | H | K | J | P | M | N | d | L | |
|------|-----|-----|----|-------|-------|------|------|-----|-----|-----|-----|-----|-----|----|-----|-------|
| 2" | 110 | 85 | 32 | 60.3 | 57.15 | 15.9 | 7.9 | 111 | 153 | 218 | 152 | 90 | 70 | 9 | 10 | 88 |
| 2.5" | 125 | 95 | 32 | 73 | 69.1 | 15.9 | 7.9 | 111 | 153 | 218 | 152 | 90 | 70 | 9 | 10 | 96.4 |
| | | | | 76.1 | 72.3 | | | | | | | | | | | |
| 3" | 140 | 100 | 32 | 88.9 | 84.9 | 15.9 | 7.9 | 111 | 153 | 218 | 152 | 90 | 70 | 9 | 11 | 97 |
| 4" | 160 | 100 | 32 | 114.3 | 110.1 | 15.9 | 9.5 | 111 | 153 | 218 | 152 | 90 | 70 | 9 | 14 | 115.1 |
| 5" | 170 | 125 | 32 | 139.7 | 135.5 | 15.9 | 9.5 | 111 | 153 | 218 | 152 | 90 | 70 | 9 | 14 | 132.4 |
| | | | | 141.3 | 137 | | | | | | | | | | | |
| 6" | 190 | 140 | 32 | 165.1 | 160.9 | 15.9 | 9.5 | 111 | 153 | 218 | 200 | 90 | 70 | 9 | 16 | 132.4 |
| | | | | 168.3 | 164 | | | | | | | | | | | |
| 8" | 230 | 175 | 32 | 219.1 | 214.4 | 19 | 11.1 | 126 | 210 | 232 | 300 | 125 | 102 | 12 | 19 | 147.4 |
| | | | | 216.3 | 211.6 | | | | | | | | | | | |
| 10" | 260 | 200 | 45 | 267.4 | 262.6 | 19 | 12.7 | 126 | 210 | 232 | 300 | 125 | 102 | 12 | 24 | 159 |
| | | | | 273 | 268.3 | | | | | | | | | | | |
| 12" | 300 | 240 | 45 | 318.5 | 312.9 | 19 | 12.7 | 161 | 249 | 350 | 150 | 125 | 14 | 26 | 165 | |
| | | | | 323.9 | 318.3 | | | | | | | | | | | |

| | | |
|-----|-------------------------|----------------------------|
| 10 | GEAR BOX | |
| 9 | O-RING | EPDM |
| 8 | STEM BUSHING | PTFE/C954 |
| 7 | LOWER SHAFT SEALING NUT | ASTM A216 WCB |
| 6 | LOWER SHAFT | ASTM A582 SS416 |
| 5 | DISC | ASTM A536 GR 65-45-12+EPDM |
| 4 | UPPER SHAFT | ASTM A582 SS416 |
| 3 | BODY | ASTM A536 GR 65-45-12+EPDM |
| 2 | SHAFT SEAL | ASTM D2000 EPDM |
| 1 | UPPER SHAFT SEALING NUT | ASTM A216 WCB |
| NO. | NAME | MATERIAL |

Manufacture/Supplier:
Arita Valve

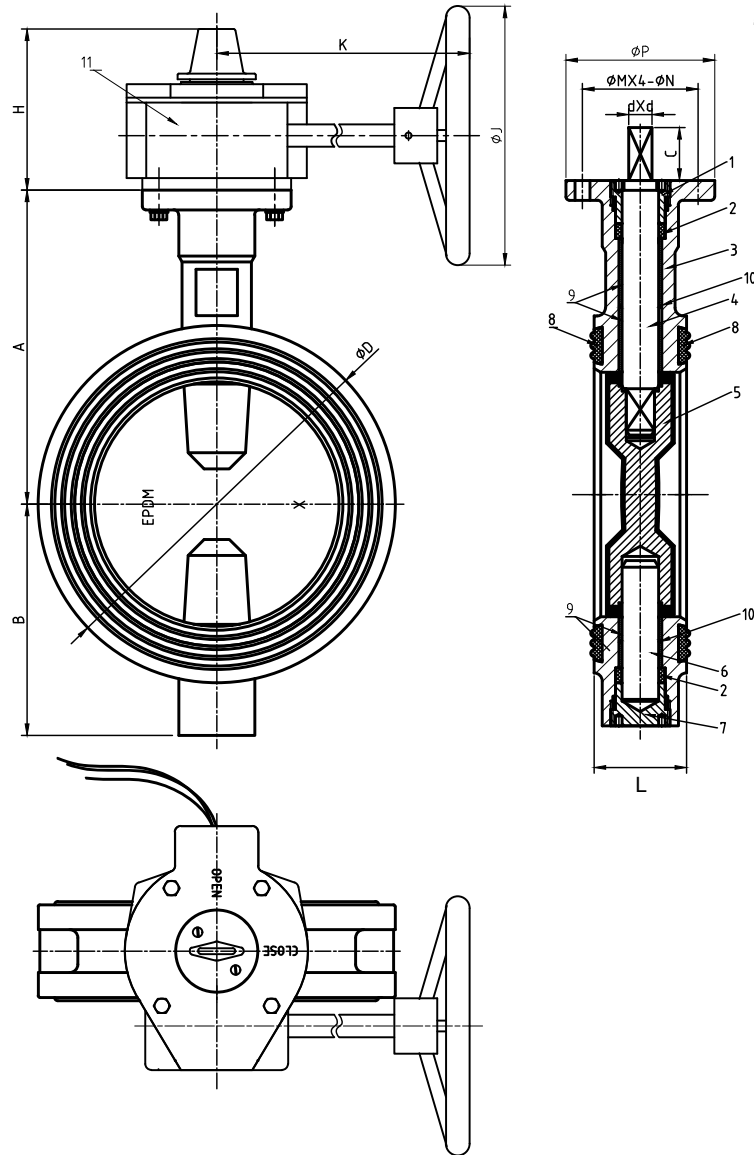
SHOP DRAWING

FIG NO. 28G



| | | | | | | | | | | |
|------|----|------|-------------|------|--|------------|---|------|--|---|
| | | | | | | DRAWN | | Date | | TITLE: Grooved butterfly valves 2-12 300PSI |
| | | | | | | Checked | | Date | | |
| | | | | | | Approved | | Date | | |
| REV. | BY | APP. | Description | Date | | Projection | ALL DIM'S IN:mm DO NOT SCALE FROM DRAWING | | | DRAWING NO. : ARITA28GG-2-12-300PSI-00 |

ARITA



Valves conform to the standards and specifications:

1. The valve structure conform to API 609
2. The valve test accord with UL1091 / FM1112 300 psi
3. The valve face to face dimension in accordance with ASME B16.1
4. The body surface coated with epoxy
5. The top flange standard conform to ISO 5211

| SIZE | A | B | C | D | H | K | | J | P | M | N | d | L |
|------|-----|-----|----|-----|-----|-----|-----|-----|-----|-----|----|----|------|
| 2" | 110 | 85 | 32 | 100 | 111 | 153 | 218 | 152 | 90 | 70 | 9 | 10 | 42 |
| 2.5" | 125 | 95 | 32 | 112 | 111 | 153 | 218 | 152 | 90 | 70 | 9 | 10 | 44.2 |
| 3" | 140 | 100 | 32 | 120 | 111 | 153 | 218 | 152 | 90 | 70 | 9 | 11 | 45.3 |
| 4" | 160 | 100 | 32 | 161 | 111 | 153 | 218 | 152 | 90 | 70 | 9 | 14 | 52 |
| 5" | 170 | 125 | 32 | 182 | 111 | 153 | 218 | 152 | 90 | 70 | 9 | 14 | 54.4 |
| 6" | 190 | 140 | 32 | 216 | 111 | 153 | 218 | 200 | 90 | 70 | 9 | 16 | 55.8 |
| 8" | 230 | 175 | 32 | 260 | 126 | 210 | 232 | 300 | 125 | 102 | 12 | 19 | 60.5 |

| | | |
|-----|-------------------------|----------------------------|
| 11 | GEAR BOX | |
| 10 | O-RING | EPDM |
| 9 | STEM BUSHING | PTFE/C95400 |
| 8 | END FACE SEAL | ASTM D2000 EPDM |
| 7 | LOWER SHAFT SEALING NUT | ASTM A216 WCB |
| 6 | LOWER SHAFT | ASTM A582 SS416 |
| 5 | DISC | ASTM A536 GR 65-45-12+EPDM |
| 4 | UPPER SHAFT | ASTM A582 SS416 |
| 3 | BODY | ASTM A536 GR 65-45-12+EPDM |
| 2 | SHAFT SEAL | ASTM D2000 EPDM |
| 1 | UPPER SHAFT SEALING NUT | ASTM A216 WCB |
| NO. | NAME | MATERIAL |

Manufacture/Supplier:
Arita Valve

SHOP DRAWING

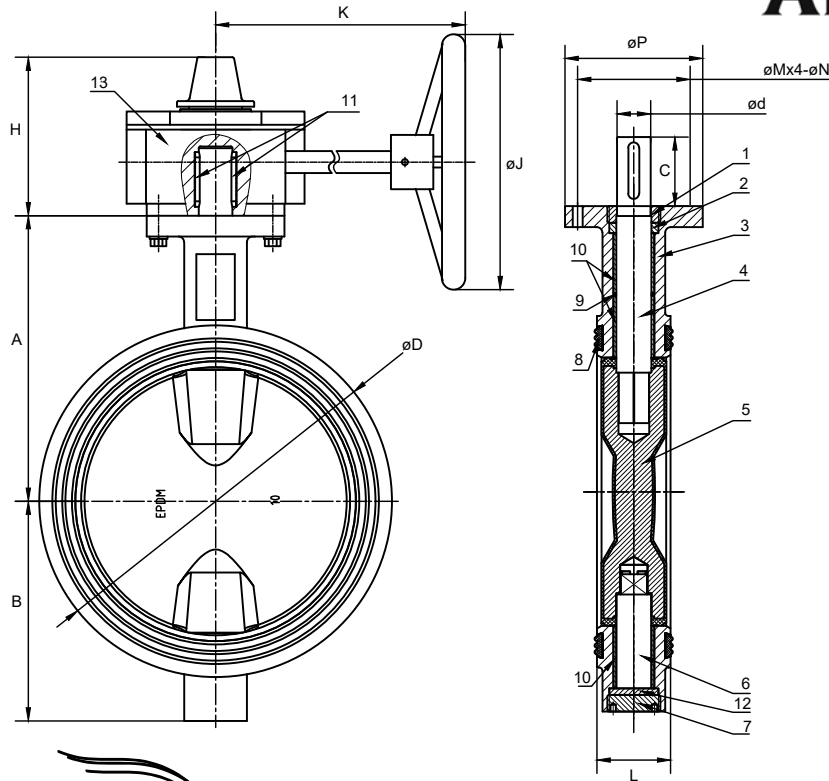
FIG NO. 28W



| REV. | BY | APP. | Description | Date |
|------|----|------|-------------|------|
| | | | | |
| | | | | |
| | | | | |

| | |
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| DRAWN | Date |
| Checked | Date |
| Approved | Date |
| Projection | ALL DIM'S IN:mm DO NOT SCALE FROM DRAWING |

| |
|---|
| TITLE: |
| Grooved butterfly valves 2-8 300PSI |
| DRAWING NO. : ARITA28W-2-8-300PSI-00 |



Valves conform to the standards and specifications:

1. The valve structure conform to API 609
2. The valve test accord with UL1091 / FM1112 300 psi
3. The valve face to face dimension in accordance with ASME B16.1
4. The body surface coated with epoxy
5. The top flange standard conform to ISO 5211

| SIZE | A | B | C | D | H | K | | J | P | M | N | d | L |
|------|-----|-----|----|-----|-----|-----|-----|-----|-----|-----|----|------|------|
| 10" | 260 | 200 | 63 | 320 | 126 | 210 | 232 | 300 | 125 | 102 | 12 | 30.5 | 66.5 |

| | | |
|-----|-------------------------|----------------------------|
| 13 | GEAR BOX | |
| 12 | LOWER SHAFT SEAL | ASTM D2000 EPDM |
| 11 | KEY | ASTM A216 WCB |
| 10 | STEM BUSHING | C95400+GRAPHITE |
| 9 | O-RING | ASTM D2000 EPDM |
| 8 | END FACE SEAL | ASTM D2000 EPDM |
| 7 | LOWER SHAFT SEALING NUT | ASTM A216 WCB |
| 6 | LOWER SHAFT | ASTM A582 SS416 |
| 5 | DISC | ASTM A536 GR 65-45-12+EPDM |
| 4 | UPPER SHAFT | ASTM A582 SS416 |
| 3 | BODY | ASTM A536 GR 65-45-12+EPDM |
| 2 | SHAFT SEAL | ASTM D2000 EPDM |
| 1 | UPPER SHAFT SEALING NUT | ASTM A216 WCB |
| NO. | NAME | MATERIAL |

Manufacture/Supplier:
Arita Valve

SHOP DRAWING

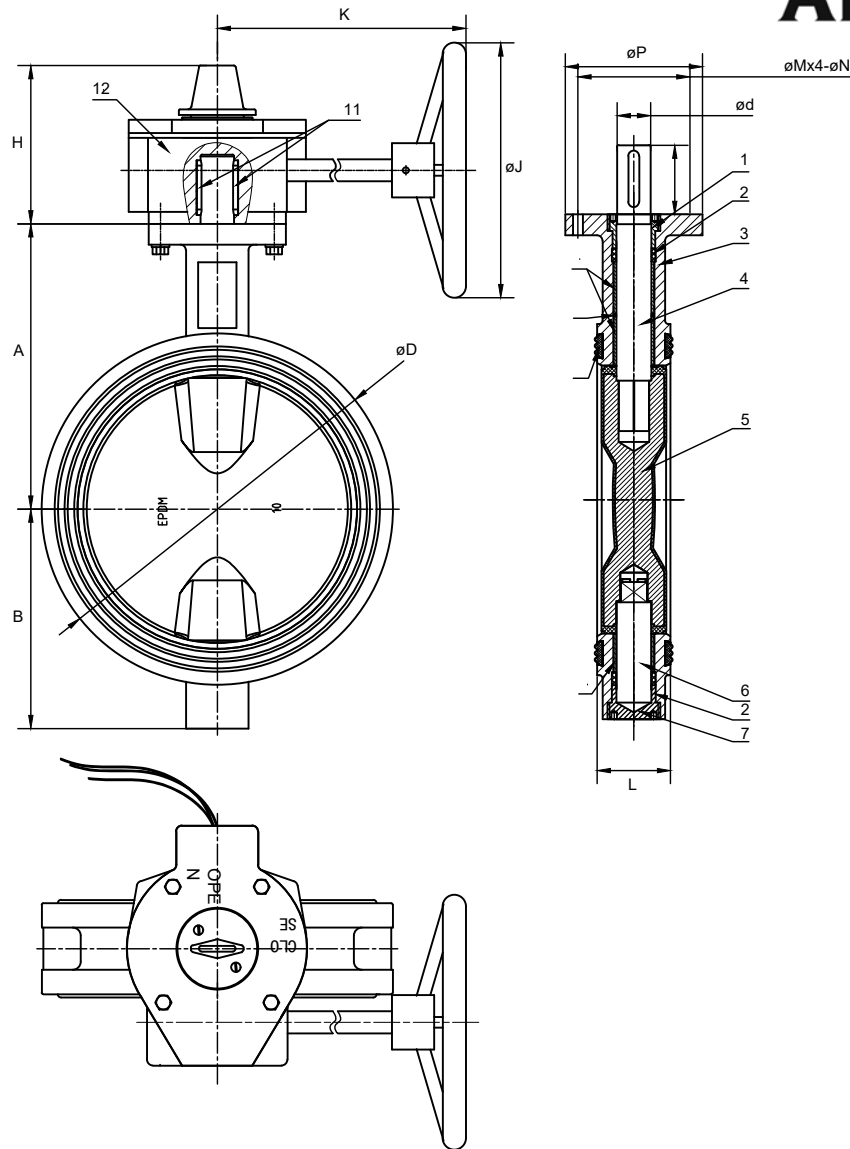
FIG NO. 29W



| REV. | BY | APP. | Description | Date |
|------|----|------|-------------|------|
| | | | | |
| | | | | |
| | | | | |

| | |
|------------|---|
| DRAWN | Date |
| Checked | Date |
| Approved | Date |
| Projection | ALL DIM'S IN:mm DO NOT SCALE FROM DRAWING |

| |
|--|
| TITLE: |
| Grooved butterfly valves 10 300PSI |
| DRAWING NO. : ARITA29W-10-300PSI-00 |



Valves conform to the standards and specifications:

1. The valve structure conform to API 609
2. The valve test accord with UL1091 / FM1112 300 psi
3. The valve face to face dimension in accordance with ASME B16.1
4. The body surface coated with epoxy
5. The top flange standard conform to ISO 5211

| SIZE | A | B | C | D | H | K | J | P | M | N | d | L |
|------|-----|-----|----|-----|-----|-----|-----|-----|-----|----|----|------|
| 12" | 300 | 240 | 77 | 375 | 161 | 249 | 350 | 150 | 125 | 14 | 33 | 76.9 |

| | | |
|-----|-------------------------|----------------------------|
| 12 | GEAR BOX | |
| 11 | KEY | ASTM A216 WCB |
| 10 | STEM BUSHING | C95400+GRAPHITE |
| 9 | O-RING | ASTM D2000 EPDM |
| 8 | END FACE SEAL | ASTM D2000 EPDM |
| 7 | LOWER SHAFT SEALING NUT | ASTM A216 WCB |
| 6 | LOWER SHAFT | ASTM A582 SS416 |
| 5 | DISC | ASTM A536 GR 65-45-12+EPDM |
| 4 | UPPER SHAFT | ASTM A582 SS416 |
| 3 | BODY | ASTM A536 GR 65-45-12+EPDM |
| 2 | SHAFT SEAL | ASTM D2000 EPDM |
| 1 | UPPER SHAFT SEALING NUT | ASTM A216 WCB |
| NO. | NAME | MATERIAL |

Manufacture/Supplier:
Arita Valve

SHOP DRAWING

FIG NO. 29W



| | | | | | | | | | | |
|------|----|------|-------------|------|--|------------|--|---|--|---|
| | | | | | | DRAWN | | Date | | TITLE: Grooved butterfly valves 12 300PSI |
| | | | | | | Checked | | Date | | |
| | | | | | | Approved | | Date | | |
| REV. | BY | APP. | Description | Date | | Projection | | ALL DIM'S IN:mm DO NOT SCALE FROM DRAWING | DRAWING NO. : ARITA29W-12-300PSI-00 | |