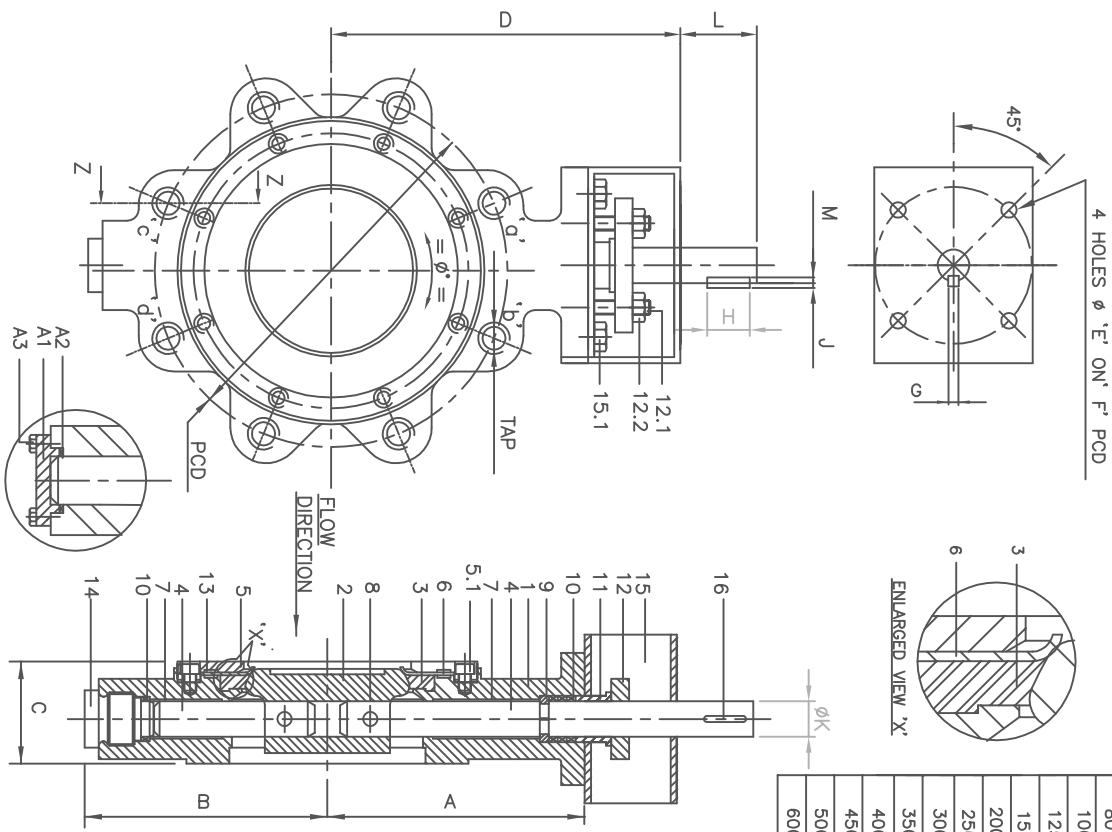


| INTERVALVE® (ENGINEERING DATA SHEET) | | DOC NO. : IVED-006 |
|--|-------------------------------|--|
| Title : Product Specification for IVEX - F model Butterfly Valve | | REV NO. : 0 |
| | | DATE : 02/08/06 |
| | | PAGE NO. : 1 OF 1 |
| GENERAL FEATURES | VALVE TYPE | DOUBLE ECCENTRIC DISC BUTTERFLY VALVE |
| | VALVE MODEL | IVEX-F |
| | DESCRIPTION | HIGH PERFORMANCE BUTTERFLY VALVE WITH DOUBLE ECCENTRIC DISC & FIRE SAFE SEAT. |
| | DESIGN, MFG. STD. | API 609 API 607 EDITION IV APPROVAL |
| | FACE TO FACE DIMENSION | API 609 (CATEGORY B) / ANSI B16.10 |
| | TESTING STANDARD | API 598 / API 607 / BS 6755 PART I & PART II |
| | TOP FLANGE | ISO 5211.2 (PROVIDED ON BRACKET) |
| PRODUCT SPECIFICATION | SIZE RANGE | 80 NB TO 600 NB |
| | OPERATING TEMPERATURE | - 25° C ~ +200° C. (DEPENDING ON MOC) |
| | PRESSURE RATING | ANSI CLASS 150 |
| | FLANGE STANDARD | ANSI 150 RF AS PER ANSI B 16.5 |
| | BODY TYPE | WAFER WAFER LUGGED (WITH THRU OR TAPPED HOLES) |
| | DISC TYPE | DOUBLE ECCENTRIC |
| | SEAT TYPE | PRIMARY SOFT SEAT BACKED BY SECONDARY METAL SEAT (PRESSURE ENERGISED) |
| | SEAT LEAKAGE | CLASS VI (AS PER ANSI / FCI 70-2) |
| | FLOW DIRECTION | SHAFT SIDE TO DOWN STREAM |
| | PAINTING FINISH | BLACK EPOXY POWDER COATED (EXCEPT ST. STEEL) / OTHERS ON REQUEST |
| | MATL. OF CONSTRUCTION | BODY MATL. |
| DISC MATL. | | WCB / CF8 / CF8M / Duplex / 6Mo / SUPER DUPLEX / AB2 / MONEL / OTHERS ON REQUEST |
| SEAT MATL. | | PRIMARY - PTFE, SECONDARY - INCONEL-600 |
| SHAFT MATL. | | AISI 410/SS 316 SH/17-4Ph / UNSS32760 / OTHERS ON REQUEST |
| BEARING MATL. | | SELF LUBRICATED (ST.STEEL BACKED PTFE) |
| SHAFT SEALING | | GLAND PACKING (GRAPHOIL) |
| CLAMPING RING | | WCB / CF8 / CF8M / Duplex / 6Mo / OTHERS ON REQUEST |
| FASTENERS (INTERNAL) | | ST.STEEL 304 / OTHERS ON REQUEST |
| OPERATION | STANDARD PRESSED HAND LEVER | 80 NB TO 150 NB |
| | CAST HAND LEVER | 200 NB |
| | GEAR BOXES | 250 NB TO 600 NB (OPTIONAL ON SMALLER SIZES) |
| | ACTUATOR (ELECT. / PNEUMATIC) | OPTIONALLY AVAILABLE FOR ENTIRE RANGE. |
| 1. SPECIFICATION SUBJECT TO CHANGE WITHOUT NOTICE DUE TO CONTINUOUS IMPROVEMENT. | | |
| 2. OTHER MATERIAL OPTIONS OR NON-STANDARD REQUIREMENTS AVAILABLE ON REQUEST. | | |
| PREPARED BY | | APPROVED BY |

| VALVE SIZE | A | B | C | D | E | F | G | H | J | K | L | M | PCD | Ø | TAP | HOLE | LUGS |
|------------|-----|-----|-----|-----|----|-----|----|----|-----|----|----|-----|-------|------|-------------|------|------|
| 80 | 133 | 125 | 48 | 193 | 9 | 70 | 5 | 20 | 2 | 16 | 32 | 3 | 152.4 | 90 | 5/8"-11 UNC | 19.1 | 4 |
| 100 | 145 | 135 | 54 | 205 | 9 | 70 | 5 | 20 | 2 | 16 | 32 | 3 | 190.5 | 45 | 5/8"-11 UNC | 19.1 | 8 |
| 125 | 157 | 150 | 57 | 217 | 11 | 102 | 6 | 20 | 2.5 | 20 | 32 | 3.5 | 215.9 | 45 | 3/4"-10 UNC | 22.4 | 8 |
| 150 | 175 | 168 | 57 | 235 | 11 | 102 | 6 | 20 | 2.5 | 20 | 32 | 3.5 | 241.3 | 45 | 3/4"-10 UNC | 22.4 | 8 |
| 200 | 200 | 195 | 64 | 260 | 11 | 102 | 8 | 25 | 3 | 30 | 32 | 4 | 298.5 | 45 | 3/4"-10 UNC | 22.4 | 8 |
| 250 | 265 | 245 | 71 | 325 | 13 | 125 | 8 | 25 | 3 | 30 | 32 | 4 | 362 | 30 | 7/8"-9 UNC | 25.4 | 12 |
| 300 | 290 | 272 | 81 | 370 | 13 | 125 | 8 | 25 | 3 | 30 | 50 | 4 | 431.8 | 30 | 7/8"-9 UNC | 25.4 | 12 |
| 350 | 310 | 290 | 92 | 410 | 13 | 125 | 12 | 50 | 3 | 40 | 60 | 5 | 476.3 | 30 | 1"-8 UNC | 28.5 | 12 |
| 400 | 370 | 360 | 102 | 470 | 17 | 140 | 12 | 50 | 3 | 40 | 60 | 5 | 539.8 | 22.5 | 1"-8 UNC | 28.5 | 16 |
| 450 | 390 | 380 | 114 | 490 | 21 | 165 | 12 | 50 | 3 | 40 | 60 | 5 | 577.9 | 22.5 | 1 1/8"-8 UN | 31.8 | 16 |
| 500 | 420 | 410 | 127 | 520 | 21 | 165 | 14 | 63 | 3.5 | 50 | 70 | 5.5 | 635 | 18 | 1 1/8"-8 UN | 31.8 | 20 |
| 600 | 500 | 490 | 154 | 600 | 21 | 165 | 18 | 70 | 4 | 60 | 80 | 7 | 749.3 | 18 | 1 1/4"-8 UN | 35.1 | 20 |



NO. OF LUGS SHOWN ARE FOR INDICATIVE PURPOSE
 @ - FOR MATERIAL PLEASE ENQUIRE

FLANGE STD:-ANSI B 16.5 # 150
 VALVE RATING:-ANSI # 150
 MFG. STD- API 609

TEST STD- API 598
 HYD. TEST PRESS- 1) BODY- 30 KG/CM2
 2) SEAT- 22 KG/CM2



SECTION ZZ
 FOR 500 & 600 NB
 AT 4 PLACES MARKED 'c'' 'b'' 'c'' 'd''

| SIZE | X |
|------|----|
| 500 | 20 |
| 600 | 30 |

| NO. | DESCRIPTION | QTY | MATL |
|-----|----------------|-----|----------|
| A3 | SOC HD SCREW | 4 | AISI 304 |
| A2 | BOTTOM PACKING | SET | GRAFOIL |
| A1 | BOTTOM COVER | 1 | MS+EPOXY |

| NO. | DESCRIPTION | QTY | MATL |
|------|-------------------|-----|---------|
| 16 | KEY | 1 | @@ |
| 15.1 | HEX BOLT | 4 | @@ |
| 15 | BRACKET | 1 | @@ |
| 14 | BOTTOM PLUG/PLATE | 1 | @@ |
| 13 | PACKING RING | 2 | @@ |
| 12.2 | HEX NUT | 2 | @@ |
| 12.1 | STUD | 2 | @@ |
| 12 | GLAND FLANGE | 1 | @@ |
| 11 | GLAND | 1 | @@ |
| 10 | GLAND PACKING | SET | GRAFOIL |
| 9 | SPLIT RING | 1 | @@ |
| 8 | TAPER PIN | 2 | @@ |
| 7 | BEARING | 2 | @@ |
| 6 | BACKUP RING | 1 | @@ |
| 5.1 | SOC. HD SCREW | SET | @@ |
| 5 | CLAMPING RING | 1 | @@ |
| 4 | SHAFT | 2 | @@ |
| 3 | SEAT | 1 | @@ |
| 2 | DISC | 1 | @@ |
| 1 | BODY | 1 | @@ |

| IV. NO. | APPD | CHKD | DT |
|---------|------|------|----|
| | | | |

REV MOD. NO. DATE SIGN ASK IF IN DOUBT SCALE CUSTOMER:-

SIZE 300NB & ABOVE

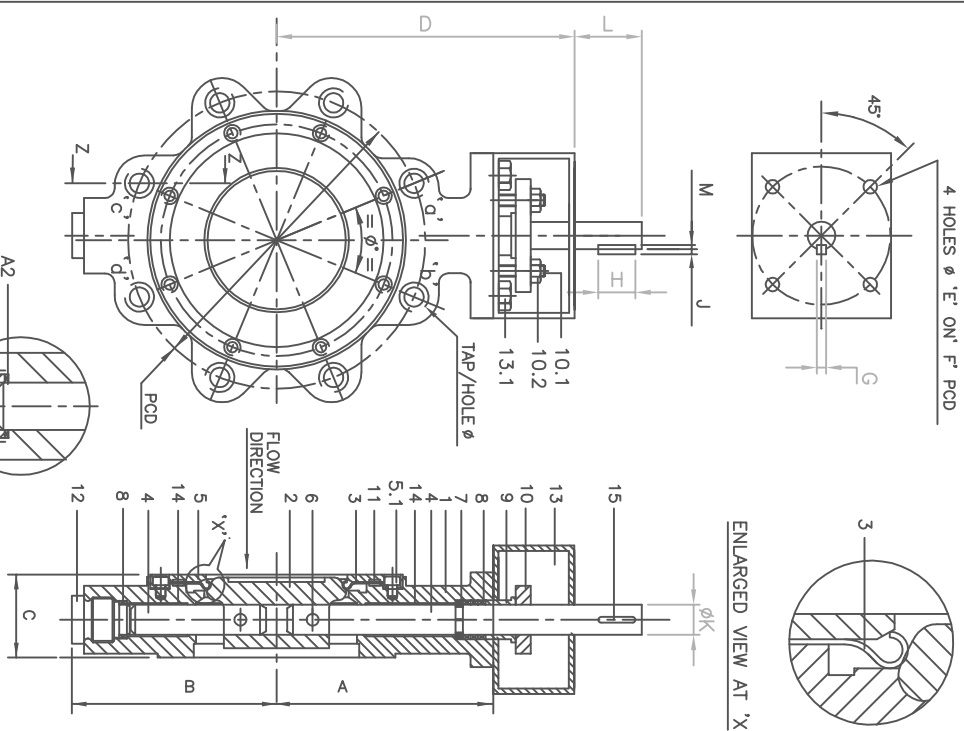
DRG. NO. PD14501/MDS126

DT 28.8.05

INTERVALVE

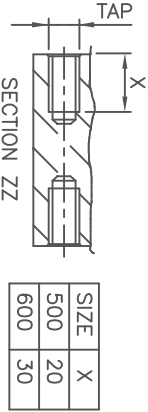
| INTERVALVE® (ENGINEERING DATA SHEET) | | DOC NO. : IVED-005 |
|---|-------------------------------|--|
| Title : Product Specification for IVEX-M model Butterfly Valve | | REV NO. : 0 |
| | | DATE : 02/11/01 |
| | | PAGE NO. : 1 OF 1 |
| GENERAL FEATURES | VALVE TYPE | DOUBLE ECCENTRIC DISC BUTTERFLY VALVE |
| | VALVE MODEL | IVEX-M |
| | DESCRIPTION | HIGH PERFORMANCE BUTTERFLY VALVE WITH DOUBLE ECCENTRIC DISC & METAL SEAT. |
| | DESIGN, MFG. STD. | API 609 / ANSI B16.34 |
| | FACE TO FACE DIMENSION | ANSI B16.10 / API 609 (CATEGORY B) |
| | TESTING STANDARD | API 598 / BS 6755 PART I / ANSI-FCI 70-2 |
| | TOP FLANGE | ISO 5211.2 (PROVIDED ON BRACKET) |
| PRODUCT SPECIFICATION | SIZE RANGE | 80 NB TO 600 NB |
| | OPERATING TEMPERATURE | - 25° C ~ +500° C. (DEPENDING ON MOC) |
| | PRESSURE RATING | ANSI CLASS 150 |
| | FLANGE STANDARD | ANSI 150 RF AS PER ANSI B 16.5 |
| | BODY TYPE | WAFER WAFER LUGGED (WITH THRU OR TAPPED HOLES) |
| | DISC TYPE | DOUBLE ECCENTRIC |
| | SEAT TYPE | PRESSURE ENERGISED CLAMPED ON BODY |
| | SEAT LEAKAGE | CLASS IV (AS PER ANSI / FCI 70-2) |
| | FLOW DIRECTION | SHAFT SIDE TO DOWN STREAM |
| | PAINTING FINISH | HIGH TEMP. ALUMINIUM PAINT (EXCEPT ST. STEEL) |
| MATL. OF CONSTRUCTION | BODY MATL. | WCB / CF8 / CF8M / Duplex / 6Mo / SUPER DUPLEX / AB2 / MONEL / OTHERS ON REQUEST |
| | DISC MATL. | WCB / CF8 / CF8M / Duplex / 6Mo / SUPERDUPLEX / AB2 / MONEL / OTHERS ON REQUEST |
| | SEAT MATL. | INCONEL-600 / AISI316 |
| | SHAFT MATL. | AISI 410 / SS 316 SH / 17-4 PH / UNSS3260 / OTHERS ON REQUEST |
| | BEARING MATL. | AL.BRONZE (UPTO 300° C) ST. STEEL 316 + 'SURSULF' (FOR > 300° C) |
| | SHAFT SEALING | GLAND PACKING OF GRAPHOIL |
| | CLAMPING RING | WCB / CF8 / CF8M / Duplex / 6Mo / OTHERS ON REQUEST |
| | FASTENERS (INTERNAL) | ST.STEEL 304 / OTHERS ON REQUEST |
| OPERATION | STANDARD PRESSED HAND LEVER | 80 NB TO 125 NB |
| | CAST HAND LEVER | 150 NB |
| | GEAR BOXES | 200 NB TO 600 NB (OPTIONAL ON SMALLER SIZES) |
| | ACTUATOR (ELECT. / PNEUMATIC) | OPTIONALLY AVAILABLE FOR ENTIRE RANGE. |
| 1. SPECIFICATION SUBJECT TO CHANGE WITHOUT NOTICE DUE TO CONTINUOUS IMPROVEMENT. 2. OTHER MATERIAL OPTIONS OR NON-STANDARD REQUIREMENTS AVAILABLE ON REQUEST | | |
| PREPARED BY | | APPROVED BY |

| VALVE SIZE | A | B | C | D | E | F | G | H | J | K | L | M | PCD | Ø" | TAP | HOLE | LUGS |
|------------|-----|-----|-----|-----|----|-----|----|----|-----|----|----|-----|-------|------|-------------|------|------|
| 80 | 133 | 125 | 48 | 193 | 9 | 70 | 5 | 20 | 2 | 16 | 32 | 3 | 152.4 | 90 | 5/8"-11 UNC | 19.1 | 4 |
| 100 | 145 | 135 | 54 | 205 | 9 | 70 | 5 | 20 | 2 | 16 | 32 | 3 | 190.5 | 45 | 5/8"-11 UNC | 19.1 | 8 |
| 125 | 157 | 150 | 57 | 217 | 11 | 102 | 6 | 20 | 2.5 | 20 | 32 | 3.5 | 215.9 | 45 | 3/4"-10 UNC | 22.4 | 8 |
| 150 | 175 | 168 | 57 | 235 | 11 | 102 | 6 | 20 | 2.5 | 20 | 32 | 3.5 | 241.3 | 45 | 3/4"-10 UNC | 22.4 | 8 |
| 200 | 200 | 195 | 64 | 260 | 11 | 102 | 8 | 25 | 3 | 30 | 32 | 4 | 298.5 | 45 | 3/4"-10 UNC | 22.4 | 8 |
| 250 | 265 | 245 | 71 | 325 | 13 | 125 | 8 | 25 | 3 | 30 | 32 | 4 | 362 | 30 | 7/8"-9 UNC | 25.4 | 12 |
| 300 | 290 | 272 | 81 | 370 | 13 | 125 | 8 | 25 | 3 | 30 | 50 | 4 | 431.8 | 30 | 7/8"-9 UNC | 25.4 | 12 |
| 350 | 310 | 290 | 92 | 410 | 13 | 125 | 12 | 50 | 3 | 40 | 60 | 5 | 476.3 | 30 | 1"-8 UNC | 28.5 | 12 |
| 400 | 370 | 360 | 102 | 470 | 17 | 140 | 12 | 50 | 3 | 40 | 60 | 5 | 539.8 | 22.5 | 1"-8 UNC | 28.5 | 16 |
| 450 | 390 | 380 | 114 | 490 | 21 | 165 | 12 | 50 | 3 | 40 | 60 | 5 | 577.9 | 22.5 | 1 1/8"-8 UN | 31.8 | 16 |
| 500 | 420 | 410 | 127 | 520 | 21 | 165 | 14 | 63 | 3.5 | 50 | 70 | 5.5 | 635 | 18 | 1 1/8"-8 UN | 31.8 | 20 |
| 600 | 500 | 490 | 154 | 600 | 21 | 165 | 18 | 70 | 4 | 60 | 80 | 7 | 749.3 | 18 | 1 1/4"-8 UN | 35.1 | 20 |



NO. OF LUGS SHOWN ARE FOR INDICATIVE PURPOSE
 @@ - FOR MATERIAL PLEASE ENQUIRE

FLANGE STD-ANSI B16.5#150
 VALVE RATING-ANSI#150
 MFG. STD-API 609
 TEST STD-API 598
 HYD. TEST PRESS-1) BODY-30 KG/CM2
 2) SEAT-22 KG/CM2
 LEAKAGE CLASS-IV AS PER ANSI B16.104



SECTION ZZ
 FOR 500 & 600 NB
 AT 4 PLACES MARKED 'd'' 'b'' 'c'' 'd''

| SIZE | X |
|------|----|
| 500 | 20 |
| 600 | 30 |

| NO. | DESCRIPTION | QTY | MATL |
|-----|--------------------|-----|----------|
| A3 | SOC HD SCREW | 4 | ANSI 304 |
| A2 | BOTTOM PACKING SET | 1 | GRAFOIL |
| A1 | BOTTOM COVER | 1 | MS+EPOXY |

| NO. | DESCRIPTION | QTY | MATL |
|------|-------------------|-----|---------|
| 1 | BODY | 1 | @@ |
| 2 | DISC | 1 | @@ |
| 3 | SEAT | 1 | @@ |
| 4 | SHAFT | 2 | @@ |
| 5 | CLAMPING RING | 1 | @@ |
| 5.1 | SOC. HD SCREW | SET | @@ |
| 6 | TAPER PIN | 2 | @@ |
| 7 | SPLIT RING | 1 | @@ |
| 8 | GLAND PACKING SET | 1 | GRAFOIL |
| 9 | GLAND FLANGE | 1 | @@ |
| 10 | STUD | 2 | @@ |
| 10.1 | HEX NUT | 2 | @@ |
| 11 | PACKING RING | 2 | @@ |
| 12 | BOTTOM PLUG/COVER | 1 | @@ |
| 13 | BRACKET | 1 | @@ |
| 14 | HEX BOLT | 2 | @@ |
| 15 | BEARING | 1 | EN8 |

REV MODNO DATE SIGN ASK IF IN DOUBT SCALE NTS CUSTOMER:-

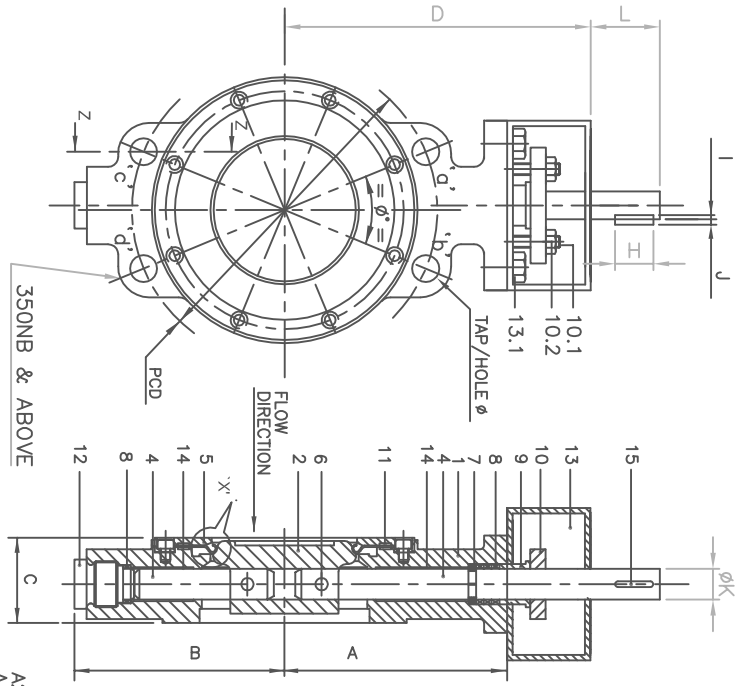
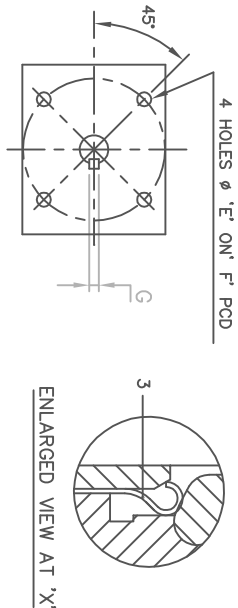
SIZE 300NB & ABOVE

DRG. NO. PD14505/MDS146

INTERVALVE

CHKD DT BMW

DT 30.8.05



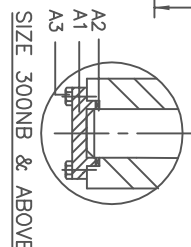
| VALVE SIZE | A | B | C | D | E | F | G | H | I | J | K | L | PCD | HOLE/TAP | Ø | LUGS |
|------------|-----|-----|-----|-----|----|-----|----|----|-----|-----|----|----|-------|-----------|------|------|
| 80 | 133 | 125 | 48 | 193 | 9 | 70 | 5 | 20 | 3 | 2 | 16 | 32 | 152.4 | 19.1 | 90 | 4 |
| 100 | 145 | 135 | 54 | 205 | 9 | 70 | 5 | 20 | 3 | 2 | 16 | 32 | 190.5 | 19.1 | 45 | 8 |
| 125 | 157 | 150 | 57 | 217 | 11 | 102 | 6 | 20 | 3.5 | 2.5 | 20 | 32 | 215.9 | 22.4 | 45 | 8 |
| 150 | 175 | 168 | 57 | 235 | 11 | 102 | 6 | 20 | 3.5 | 2.5 | 20 | 32 | 241.3 | 22.4 | 45 | 8 |
| 200 | 200 | 195 | 64 | 260 | 11 | 102 | 8 | 25 | 4 | 3 | 30 | 32 | 298.5 | 22.4 | 45 | 8 |
| 250 | 265 | 245 | 71 | 325 | 13 | 125 | 8 | 25 | 4 | 3 | 30 | 32 | 362 | 25.4 | 30 | 12 |
| 300 | 290 | 272 | 81 | 370 | 13 | 125 | 8 | 25 | 4 | 3 | 30 | 50 | 431.8 | 25.4 | 30 | 12 |
| 350 | 310 | 290 | 92 | 410 | 13 | 125 | 12 | 50 | 5 | 3 | 40 | 60 | 476.3 | 28.5 | 30 | 12 |
| 400 | 370 | 350 | 102 | 470 | 17 | 140 | 12 | 50 | 5 | 3 | 40 | 60 | 539.8 | 28.5 | 22.5 | 16 |
| 450 | 390 | 380 | 114 | 490 | 21 | 165 | 12 | 50 | 5 | 3 | 40 | 60 | 577.9 | 31.8 | 22.5 | 16 |
| 500 | 420 | 410 | 127 | 520 | 21 | 165 | 14 | 63 | 5.5 | 3.5 | 50 | 70 | 635 | 1/8"-8 UN | 18 | 20 |
| 600 | 500 | 490 | 154 | 600 | 21 | 165 | 18 | 70 | 7 | 4 | 60 | 80 | 749.3 | 1/4"-8 UN | 18 | 20 |

@@ - FOR MATERIALS PLEASE ENQUIRE

- FLANGE STD-ANSI B16.5#150
- VALVE RATING-ANSI#150
- MFG STD-API 609
- TEST STD-API 598
- HYD. TEST PRESS- 1) BODY-30 KG/CM2
- 2) SEAT-22 KG/CM2
- LEAKAGE CLASS-IV AS PER ANSI/FCI 70.2.



| SIZE | X |
|------|----|
| 500 | 20 |
| 600 | 30 |

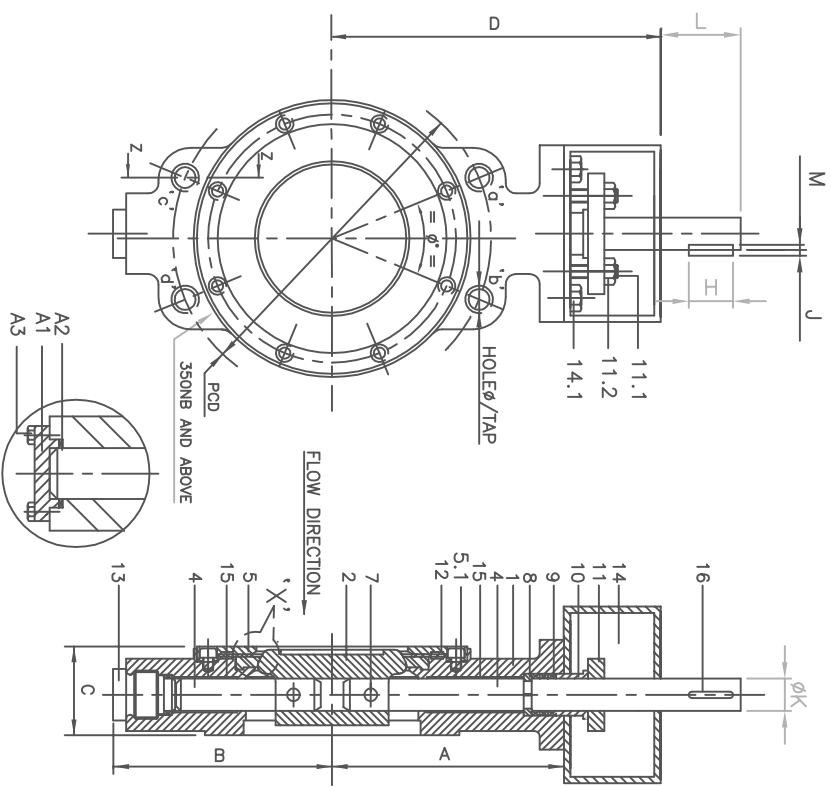
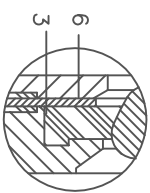
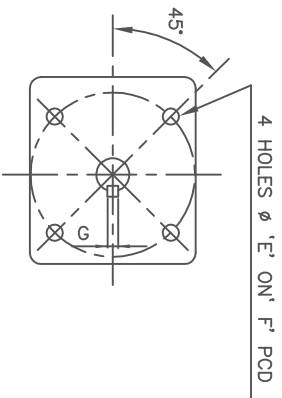


| NO | DESCRIPTION | QTY | MATL |
|----|----------------|-----|----------|
| A3 | SOC HD SCREW | 4 | ANSI 304 |
| A2 | BOTTOM PACKING | SET | GRAFOIL |
| A1 | BOTTOM COVER | 1 | MS+EPOXY |

| NO | DESCRIPTION | QTY | MATL |
|------|-------------------|-----|---------|
| 15 | KEY | 1 | EN8 |
| 14 | BEARING | 2 | @@ |
| 13.1 | HEX BOLT | 4 | @@ |
| 13 | BRACKET | 1 | @@ |
| 12 | BOTTOM PLUG/COVER | 1 | @@ |
| 11 | PACKING RING | 2 | @@ |
| 10.2 | HEX NUT | 2 | @@ |
| 10.1 | STUD | 2 | @@ |
| 10 | GLAND FLANGE | 1 | @@ |
| 9 | GLAND | 1 | @@ |
| 8 | GLAND PACKING | SET | GRAFOIL |
| 7 | SPLIT RING | 1 | @@ |
| 6 | TAPER PIN | 2 | @@ |
| 5.1 | SOC.HD SCREW | SET | @@ |
| 5 | CLAMPING RING | 1 | @@ |
| 4 | SHAFT | 2 | @@ |
| 3 | SEAT | 1 | @@ |
| 2 | DISC | 1 | @@ |
| 1 | BODY | 1 | @@ |

| | | | | | | | |
|-------------------------|-------|------|------|---------|-------------|------------|-----------|
| REV | MODNO | DATE | SIGN | ASK | IF IN DOUBT | SCALE | CUSTOMER- |
| | | | | | | NTS | |
| INTERVALVE | | | | | | | |
| DRG. NO. PD14507/MDS146 | | | | CHKD DT | | DRN DT | |
| | | | | BMW | | DT 29.8.05 | |

| INTERVALVE® (ENGINEERING DATA SHEET) | | DOC NO. : IVED-007 |
|--|-------------------------------|--|
| Title : Product Specification for IVEX-T model Butterfly Valve | | REV NO. : 0 |
| | | DATE : 02/08/06 |
| | | PAGE NO. : 1 OF 1 |
| GENERAL FEATURES | VALVE TYPE | DOUBLE ECCENTRIC DISC BUTTERFLY VALVE |
| | VALVE MODEL | IVEX-T |
| | DESCRIPTION | HIGH PERFORMANCE BUTTERFLY VALVE WITH DOUBLE ECCENTRIC DISC & SOFT SEAT |
| | DESIGN, MFG. STD. | API 609 |
| | FACE TO FACE DIMENSION | ANSI B16.10 / API 609 (CATEGORY- B) |
| | TESTING STANDARD | API 598 / BS 6755 PART-I / ANSI-FCI 70-2 |
| | TOP FLANGE FOR ACTUATOR MTG. | ISO 5211.2 (PROVIDED ON BRACKET) |
| PRODUCT SPECIFICATIONS | SIZE RANGE | 80 NB TO 600 NB |
| | OPERATING TEMPERATURE | -45° C ~ +200° C. (DEPENDING ON MOC) |
| | PRESSURE RATING | ANSI CLASS 150 # |
| | FLANGE STANDARD | ANSI 150 RF, AS PER ANSI B 16.5 |
| | BODY TYPE | WAFER WAFER LUGGED (WITH THRU OR TAPPED HOLES) |
| | DISC TYPE | DOUBLE ECCENTRIC |
| | SEAT TYPE | RING TYPE CLAMPED ON BODY |
| | SEAT LEAKAGE | TIGHT SHUT OFF (CLASS VI AS PER ANSI / FCI 70-2) |
| | FLOW DIRECTION | SHAFT SIDE TO DOWN STREAM |
| | PAINTING FINISH | BLACK EPOXY POWDER COATED (EXCEPT ST. STEEL) |
| MATL. OF CONSTRUCTION | BODY MATL. | WCB / CF8 / CF8M / AB2 / Duplex / 6Mo / SUPER DUPLEX / AB2 / MONEL / OTHERS ON REQUEST |
| | DISC MATL. | WCB / CF8 / CF8M / AB2 / Duplex / 6Mo / SUPER DUPLEX / AB2 / MONEL / OTHERS ON REQUEST |
| | SEAT MATL. | PTFE, GLASS FILLED PTFE |
| | SHAFT MATL. | AISI 410 / SS 316 SH /17-4PH / OTHERS ON REQUEST |
| | BEARING MATL. | SELF LUBRICATED (ST. STEEL BACKED PTFE) |
| | SHAFT SEALING | GLAND PACKING (GRAPHOIL) |
| | CLAMP RING | WCB / CF8 / CF8M / AB2 / Duplex / 6Mo / UNSS32760 / OTHERS ON REQUEST |
| | FASTENERS (INTERNAL) | ST. STEEL 304 / OTHERS ON REQUEST |
| OPERATION | STD. PRESSED HAND LEVER | 80 NB TO 150 NB |
| | CAST HAND LEVER | 200 NB |
| | GEAR BOX | 250 NB TO 600 NB (OPTIONAL ON SMALLER SIZES) |
| | ACTUATOR (ELECT. / PNEUMATIC) | OPTIONALLY AVAILABLE ON ENTIRE RANGE |
| 1. SPECIFICATION SUBJECT TO CHANGE WITHOUT NOTICE DUE TO CONTINUOUS IMPROVEMENT. 2. OTHER MATERIAL OPTIONS OR NON-STANDARD REQUIREMENTS AVAILABLE ON REQUEST. | | |
| PREPARED BY | | APPROVED BY |



| VALVE SIZE | A | B | C | D | E | F | G | H | J | K | L | M | PCD | Ø | TAP/HOLE Ø |
|------------|-----|-----|-----|-----|----|-----|----|----|-----|----|----|-----|-------|------|-------------|
| 80 | 133 | 125 | 48 | 193 | 9 | 70 | 5 | 20 | 2 | 16 | 32 | 3 | 152.4 | 90 | 19.1 |
| 100 | 145 | 135 | 54 | 205 | 9 | 70 | 5 | 20 | 2 | 16 | 32 | 3 | 190.5 | 45 | 19.1 |
| 125 | 157 | 150 | 57 | 217 | 11 | 102 | 6 | 20 | 2.5 | 20 | 32 | 3.5 | 215.9 | 45 | 22.4 |
| 150 | 175 | 168 | 57 | 235 | 11 | 102 | 6 | 20 | 2.5 | 20 | 32 | 3.5 | 241.3 | 45 | 22.4 |
| 200 | 200 | 195 | 64 | 260 | 11 | 102 | 8 | 25 | 3 | 30 | 32 | 4 | 298.5 | 45 | 22.4 |
| 250 | 265 | 245 | 71 | 325 | 13 | 125 | 8 | 25 | 3 | 30 | 32 | 4 | 362 | 30 | 25.4 |
| 300 | 290 | 272 | 81 | 370 | 13 | 125 | 8 | 25 | 3 | 30 | 50 | 4 | 431.8 | 30 | 25.4 |
| 350 | 310 | 290 | 92 | 410 | 13 | 125 | 12 | 50 | 3 | 40 | 60 | 5 | 476.3 | 30 | 28.5 |
| 400 | 370 | 360 | 102 | 470 | 17 | 140 | 12 | 50 | 3 | 40 | 60 | 5 | 539.8 | 22.5 | 28.5 |
| 450 | 390 | 380 | 114 | 490 | 21 | 165 | 12 | 50 | 3 | 40 | 60 | 5 | 577.9 | 22.5 | 31.8 |
| 500 | 420 | 410 | 127 | 520 | 21 | 165 | 14 | 63 | 3.5 | 50 | 70 | 5.5 | 635 | 18 | 1 1/8"-8 UN |
| 600 | 500 | 490 | 154 | 600 | 21 | 165 | 18 | 70 | 4 | 60 | 80 | 7 | 749.3 | 18 | 1 1/4"-8 UN |

@@ - FOR MATERIALS PLEASE ENQUIRE

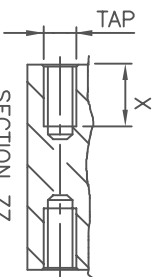
FLANGE STD-ANSI B16.5#150
VALVE RATING-ANSI#150

MFG.STD-API 609

TEST STD-API 598

HYD.TEST PRESS-1) BODY-30 KG/CM2

2) SEAT-22 KG/CM2



| SIZE | X |
|------|----|
| 500 | 20 |
| 600 | 30 |

| NO | DESCRIPTION | QTY | MATL |
|----|--------------------|---------|----------|
| A3 | SOC HD SCREW | 4 | ANSI 304 |
| A2 | BOTTOM PACKING SET | GRAFOIL | |
| A1 | BOTTOM COVER | 1 | MS+EPOXY |

| NO | DESCRIPTION | QTY | MATL |
|------|-------------------|---------|------|
| 16 | KEY | 1 | EN8 |
| 15 | BEARING | 2 | @@ |
| 14.1 | HEX BOLT | 4 | @@ |
| 14 | BRACKET | 1 | @@ |
| 13 | BOTTOM PLUG | 1 | @@ |
| 12 | PACKING RING | 2 | @@ |
| 11.2 | HEX NUT | 2 | @@ |
| 11.1 | STUD | 2 | @@ |
| 11 | GLAND FLANGE | 1 | @@ |
| 10 | GLAND | 1 | @@ |
| 9 | GLAND PACKING SET | GRAFOIL | |
| 8 | SPLIT RING | 1 | @@ |
| 7 | TAPER PIN | 2 | @@ |
| 6 | SUPPORT RING | 1 | @@ |
| 5.1 | SOC.HD SCREW SET | @@ | |
| 5 | CLAMPING RING | 1 | @@ |
| 4 | SHAFT | 2 | @@ |
| 3 | SEAT | 1 | @@ |
| 2 | DISC | 1 | @@ |
| 1 | BODY | 1 | @@ |

| IV.NO. | APPD | DT |
|--------|------|----|
| | | |

TITLE NEXT WATER TYPE BUTTERFLY VALVE WITH BARE SHAFT

DWG.NO. PD14509/MDS166

DRN DT

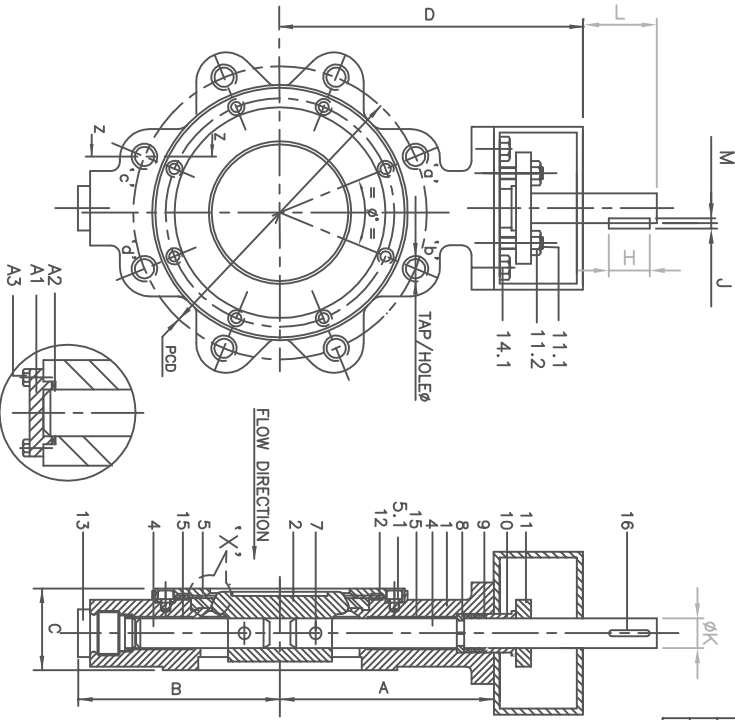
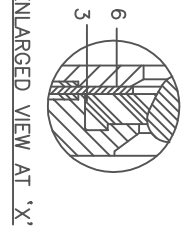
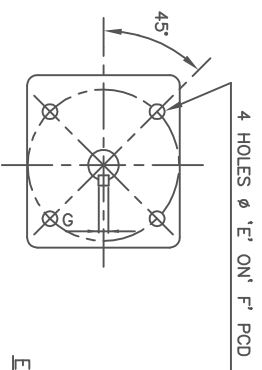
DT 29.8.05

INTERVALVE

| REV | MODNO | DATE | SIGN | ASK |
|-----|-------|------|------|-----|
| | | | | |

IF IN DOUBT SCALE NTS

CUSTOMER-



| VALVE SIZE | A | B | C | D | E | F | G | H | J | K | L | M | PCD | φ | TAP | HOLE | LUGS |
|------------|-----|-----|-----|-----|----|-----|----|----|-----|----|----|-----|-------|------|-------------|------|------|
| 80 | 133 | 125 | 48 | 193 | 9 | 70 | 5 | 20 | 2 | 16 | 32 | 3 | 152.4 | 90 | 5/8"-11 UNC | 19.1 | 4 |
| 100 | 145 | 135 | 54 | 205 | 9 | 70 | 5 | 20 | 2 | 16 | 32 | 3 | 190.5 | 45 | 5/8"-11 UNC | 19.1 | 8 |
| 125 | 157 | 150 | 57 | 217 | 11 | 102 | 6 | 20 | 2.5 | 20 | 32 | 3.5 | 215.9 | 45 | 3/4"-10 UNC | 22.4 | 8 |
| 150 | 175 | 168 | 57 | 235 | 11 | 102 | 6 | 20 | 2.5 | 20 | 32 | 3.5 | 241.3 | 45 | 3/4"-10 UNC | 22.4 | 8 |
| 200 | 200 | 195 | 64 | 260 | 11 | 102 | 8 | 25 | 3 | 30 | 32 | 4 | 298.5 | 45 | 3/4"-10 UNC | 22.4 | 8 |
| 250 | 265 | 245 | 71 | 325 | 13 | 125 | 8 | 25 | 3 | 30 | 32 | 4 | 362 | 30 | 7/8"-9 UNC | 25.4 | 12 |
| 300 | 290 | 272 | 81 | 370 | 13 | 125 | 8 | 25 | 3 | 30 | 50 | 4 | 431.8 | 30 | 7/8"-9 UNC | 25.4 | 12 |
| 350 | 310 | 290 | 92 | 410 | 13 | 125 | 12 | 50 | 3 | 40 | 60 | 5 | 476.3 | 30 | 1"-8 UNC | 28.5 | 12 |
| 400 | 370 | 360 | 102 | 470 | 17 | 140 | 12 | 50 | 3 | 40 | 60 | 5 | 539.8 | 22.5 | 1"-8 UNC | 28.5 | 16 |
| 450 | 390 | 380 | 114 | 490 | 21 | 165 | 12 | 50 | 3 | 40 | 60 | 5 | 577.9 | 22.5 | 1 1/8"-8 UN | 31.8 | 16 |
| 500 | 420 | 410 | 127 | 520 | 21 | 165 | 14 | 63 | 3.5 | 50 | 70 | 5.5 | 635 | 18 | 1 1/8"-8 UN | 31.8 | 20 |
| 600 | 500 | 490 | 154 | 600 | 21 | 165 | 18 | 70 | 4 | 60 | 80 | 7 | 749.3 | 18 | 1 1/4"-8 UN | 35.1 | 20 |

NO. OF LUGS SHOWN ARE FOR INDICATIVE PURPOSE
 @@ -- FOR MATERIALS PLEASE ENQUIRE
 FLANGE STD-ANSI B16.5#150
 VALVE RATING-ANSI#150
 MFG. STD-API 609
 TEST STD-API 598
 HYD. TEST PRESS-1) BODY-30 KG/CM2
 2) SEAT-22 KG/CM2



SECTION ZZ
 FOR 500 & 600 NB
 AT 4 PLACES MARKED 'd'' 'b'' 'c'' 'd''

| SIZE | X |
|------|----|
| 500 | 20 |
| 600 | 30 |

| NO. | DESCRIPTION | QTY | MATL |
|-----|----------------|-----|----------|
| A3 | SOC HD SCREW | 4 | ANSI 304 |
| A2 | BOTTOM PACKING | SET | GRAFOIL |
| A1 | BOTTOM COVER | 1 | MS+EPOXY |

| REV/ MODNO | DATE | SIGN | ASK | IF IN DOUBT | SCALE | CUSTOMER- |
|------------|------|------|-----|-------------|-------|-----------|
| | | | | | | |

| DRG. NO. | DT | DRN | DT |
|----------------|----|-----|---------|
| PD14513/MDS166 | | BMW | 30.8.05 |

INTERVALVE



| APPD | DT |
|------|----|
| | |