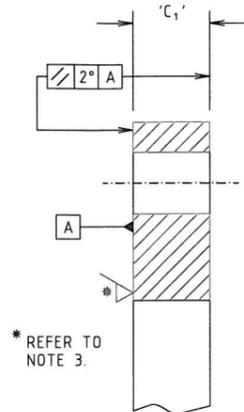
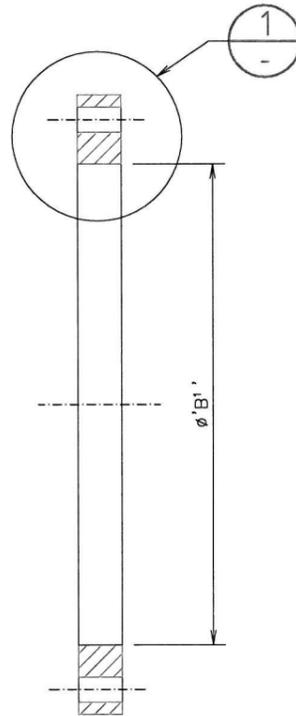
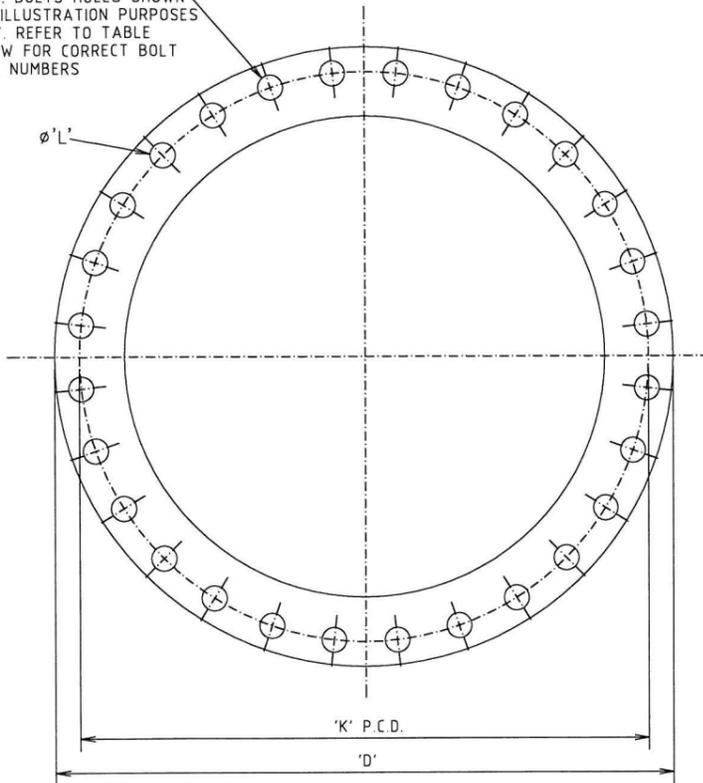


NOTE: BOLTS HOLES SHOWN FOR ILLUSTRATION PURPOSES ONLY. REFER TO TABLE BELOW FOR CORRECT BOLT HOLE NUMBERS



GENERAL NOTES

- INSPECTION AND TESTING: INSPECTION AND TESTING OF THE MATERIAL SHALL BE CARRIED OUT IN ACCORDANCE WITH AS3678.
- DATA SHEETS & MATERIAL TEST CERTIFICATES ARE TO BE SUPPLIED WITH ALL FLANGES.
- GASKET FACE SURFACE TO BE MACHINED TO EN1092-1:2007 AS FOLLOWS:

| METHOD OF MACHINING | RADIUS OF TOOL NOSE mm | R _a * µm | | R _z * µm | |
|---------------------|---------------------------|------------------------|------|------------------------|------|
| | | MIN. | MAX. | MIN. | MAX. |
| TURNING | 1.0 | 3.2 | 12.5 | 12.5 | 50 |

*ROUGHNESS AVERAGE R_a IS THE ARITHMETIC AVERAGE OF THE ABSOLUTE VALUES OF THE ROUGHNESS PROFILE ORDINATES.

MEAN ROUGHNESS DEPTH R_z IS THE ARITHMETIC MEAN VALUE OF THE SINGLE ROUGHNESS DEPTHS R_{zi} OF CONSECUTIVE SAMPLING LENGTHS.

- SURFACE FINISHES TO BE TO EN1092-1:2007 AS FOLLOWS:

| OUTER DIAMETER µm | | CENTRE BORE DIAMETER µm | | SPOT FACING |
|----------------------|---------------------|----------------------------|---------------------|-------------|
| R _a MAX. | R _z MAX. | R _a MAX. | R _z MAX. | |
| 25 | 160 | 25 | 160 | YES* |

*REFER TO NOTE 5.

- ANY SPOT FACING OR BACK FACING SHALL NOT REDUCE THE FLANGE THICKNESS TO LESS THAN THE FLANGE THICKNESS SPECIFIED. WHEN SPOT FACING IS USED, THE DIAMETER SHALL BE LARGE ENOUGH TO ACCOMMODATE THE OUTSIDE DIAMETER OF THE EQUIVALENT NORMAL SERIES OF WASHERS IN ACCORDANCE WITH EN ISO 887 (IDENTICAL TO AS1237) FOR THE BOLT SIZE BEING FITTED. THE BEARING SURFACES FOR THE BOLTING SHALL BE PARALLEL TO THE FLANGE FACE WITHIN THE LIMITS SPECIFIED IN DETAIL 1. WHEN THE FLANGE IS FACED BACK A MINIMUM FILLET RADIUS OF 3.2mm SHALL BE MAINTAINED.
- WELD INSPECTION AS PER EN13445.5 GROUP 1,2,3 & 4.
- FLANGES TO BE COATED WITH SILICONE BASED WATER REPELLENT AS PER WATER CORPORATIONS STANDARD DS 60. GASKET FACE COATING TO BE REMOVED PRIOR TO FLANGE ASSEMBLY.
- FLANGE JOINTS SHALL BE SQUARE TO PIPE WITHIN 0.25° OR 2mm WHICHEVER IS THE LESSER AND THE LAYBACK SHALL BE WITHIN THE RANGE OF 0 - 0.75° (LAYBACK AS PER AS1579 IS "THE ANGULAR DISTORTION OF A FLANGE FROM IT'S ORIGINAL PLANE DUE TO WELDING THE FLANGE ONTO A PIPE OF FITTING")

DESIGN DATA

| | |
|-----------------------------|--------------------------------|
| DESIGN STANDARD: | EN1591-1:2001 / EN13445-3:2002 |
| DIMENSIONAL SPECIFICATIONS: | EN1092-1:2007 |
| FLANGE PRESSURE RATING: | PN25 |
| SERVICE: | WATER |
| DESIGN PRESSURE: | 2500 kPa |
| MAXIMUM HYDROTEST PRESSURE: | 3575 kPa |
| DESIGN TEMPERATURE: | 50°C |

FLANGE MATERIAL: AS3678 Gr250

FASTENER SPECIFICATIONS

| | |
|--|--|
| BOLT DIMENSIONAL SPECIFICATION: | AS1110.1 |
| NUT DIMENSIONAL SPECIFICATION: | AS1112.1 |
| BOLT & NUT MECHANICAL PROPERTIES: | AS4291.1:2000 - GRADE 8.8 (HOT DIP GALVANISED) |
| WASHER TOLERANCES & MECHANICAL PROPERTIES: | AS1237 |
| GALVANISING: | AS1214 |
| FLANGE BOLTING PROCEDURE: | WATER CORP. DS 38-03 |

GASKET SPECIFICATIONS

| | |
|------------------|-------------------------------|
| SPECIFICATION: | EN1591 & EN13445 |
| GASKET TYPE: | NON-METALLIC FLAT |
| GASKET MATERIAL: | NON-ASBESTOS COMPRESSED FIBRE |

GASKET PROPERTIES:

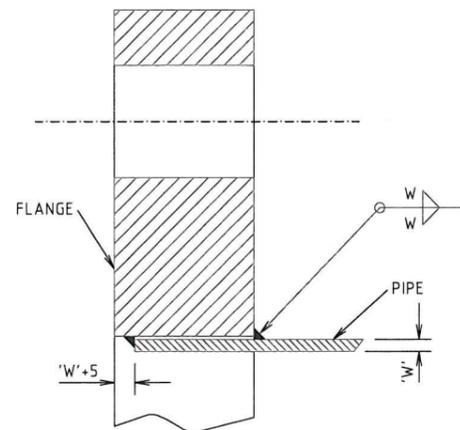
| | |
|--------------------------------------|--------|
| "E ₀ " | 500MPa |
| "K ₁ " | 20 |
| "m" | 1.6 |
| "g _c OR P _{QR} " | 0.9 |
| "Q _{0 min} " | 35MPa |
| "Q _{max} " | 70MPa |
| "Q _{smin} " | 10MPa |
| "Q _{smax} " | 120MPa |

PN25 FLANGE DIMENSIONS (TYPE 1 - "SLIP ON")

| DN | MATING DIMENSIONS | | | | | | APPROX. WEIGHT (KG) | PIPE THICKNESS | MIN. REQUIRED BOLT-UP TORQUE (Nm) | |
|------|-------------------|------|-----|---------|------|-------------------|---------------------|----------------|-----------------------------------|-------------------|
| | 'D' | 'K' | 'L' | BOLTING | | 'B ₁ ' | | | | 'C ₁ ' |
| | | | | NUMBER | SIZE | | | | | |
| 700 | 960 | 875 | 42 | 24 | M39 | 717 | 68 | 170 | 6 | 2130 |
| 800 | 1085 | 990 | 48 | 24 | M45 | 819 | 75 | 230 | 7 | 3110 |
| 900 | 1185 | 1090 | 48 | 28 | M45 | 920 | 83 | 280 | 7 | 3300 |
| 1000 | 1320 | 1210 | 56 | 28 | M52 | 1022 | 94 | 370 | 8 | 4530 |
| 1200 | 1530 | 1420 | 56 | 32 | M52 | 1225 | 115 | 580 | 9 | 6210 |
| 1400 | 1755 | 1640 | 62 | 36 | M56 | 1428 | 130 | 750 | 11 | 7690 |

* IF ONLY FRONT FACE IS MACHINED TOLERANCE TO BE +⁷/₀

NOT TO BE USED WITH SEAL-ON BODY BUTTERFLY VALVES DUE TO INCOMPATIBILITY OF I.D. WITH VALVE SEAL. - USE WELD NECK FLANGE



FLANGE TO PIPE WELD DETAIL

| ISSUE | DATE | GRID | REVISION | DRN | REC | APPD |
|-------|---------|------|-------------------------------------|-----|-----|------|
| E | 01/2013 | | NOTE ADDED AND TITLE LINE 4 DELETED | BJ | MC | MC |
| D | 10/2012 | | TITLE LINE 3 AMENDED | AC | MC | MC |
| C | 05/2010 | | FLANGE DIMENSIONS TABLE AMENDED | AC | MC | SE |
| B | 03/2010 | | REDRAWN IN AUTOCAD | AC | GC | MC |

| | | | | | |
|---------------|------|----------------|----------|------------|------------|
| DESIGN SURVEY | NONE | VERTICAL DATUM | NONE | DES. CALC | D. HEATON |
| ASCON SURVEY | NONE | COORDINATE SYS | NONE | DES CHD | M. CALLARD |
| DES REF | DRN | L. ZUIDEMA | Q.C. CHD | M. KEATING | |

HATCH

RECOMMENDED 01/12/2009
M.L.HOLMES
ENGINEERING CONSULTANT
APPROVED 01/12/2009
S.W.EVANS
PROJECT MECHANICAL ENGINEER



| | | | |
|--|-----------|----------------------------------|-------|
| HATCH REFERENCE NUMBER H333468-0000-50-035-0005 | | HATCH | |
| MECHANICAL STANDARD DRAWING MECHANICAL DESIGN STANDARD DS 38-03 PN25 FLAT FACE SLIP-ON FLANGES | | ORIGINAL SHEET SIZE A1 | |
| FILE | PLAN | CAD | ISSUE |
| PROJECT | JZ39-91-5 | E | MF |