
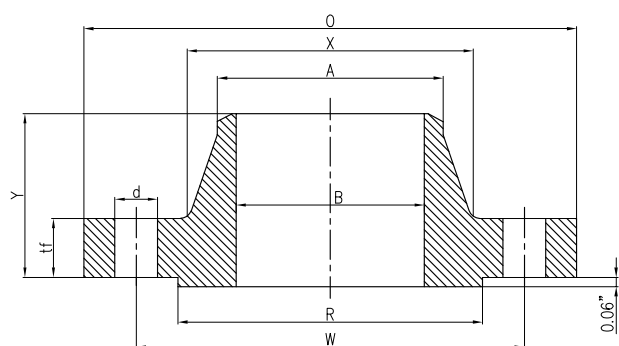


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|---|--------------------|-------------------------------|--|-------------------------|--|
|  | | <div>CORPORATE STANDARD</div> | | AA7246306 | |
| | | | | Rev No.04 | |
| | | | | PAGE 1 of 4 | |
| <div>WELDING NECK FLANGE, PRESSURE CLASS 300, CARBON STEEL</div> | | | | | |
| <div>1.0 SCOPE:</div> | | | | | |
| <div>1.1 This standard gives information as to the designation, material, sizes, dimensions and Information required for ordering purposes for Carbon steel welding neck flanges of pressure class 300 as per ASME B16.5.</div> <div>This standard covers flanges with raised face (RF) and ring Joint (RJ) Surfaces.</div> | | | | | |
| <div>2.0 DESIGNATION:</div> | | | | | |
| <div>(Eg.) A welding neck flange to this standard with ring joint face and nominal size 1", schedule 80 shall be designated as follows:</div> | | | | | |
| <div>2.1 On Drawings:</div> | | | | | |
| <div>i). Material Specification column: AA7246306</div> <div>ii). Description column: FLANGE 1" ASME 300 WNRJ SCH 80.</div> | | | | | |
| <div>2.2 For Placing Indents on Purchase:</div> | | | | | |
| <div>Welding neck flange, ring joint face, carbon steel, pressure class 300, nominal size 1", schedule 80, AA7246306.</div> | | | | | |
| <div>2.3 For Issuing Enquiries and Purchase Orders:</div> | | | | | |
| <div>While issuing enquiries and purchase orders delete the Corporate Standard No. from clause 2.2 and add the information given under clauses 3 & 4.</div> | | | | | |
| <div>3.0 COMPLIANCE WITH STANDARDS:</div> | | | | | |
| <div>3.1 Dimensions, tolerances and other requirements: ASME B16.5</div> | | | | | |
| <div>3.2 Material: Forging to ASTM A105.</div> | | | | | |
| <div>4.0 TECHNICAL DELIVERY CONDITIONS:</div> | | | | | |
| <div>As per corporate standard AA0851401 (a copy to be enclosed).</div> | | | | | |
| <div>5.0 NOTE:</div> | | | | | |
| <div>5.1 For details of the corresponding CAF gaskets for raised face flanges refer corporate standards AA7240346, AA7240350, AA7240354.</div> | | | | | |
| <div>Revisions: Brought upto Date</div> | | | <div>APPROVED: INTERPLANT MATERIAL RATIONALISATION COMMITTEE – MRC(SMC+RP)</div> | | |
| <div>Rev No.04</div> | <div>Amd No.</div> | <div>Reaffirmed</div> | <div>Prepared</div> | <div>Issued</div> | <div>Dt. of 1st Issue</div> |
| <div>Dt:23-11-2013</div> | <div>Dt:</div> | <div>Year:</div> | <div>HPEP, Hyderabad</div> | <div>Corp.R&D</div> | <div>Dec 1980</div> |

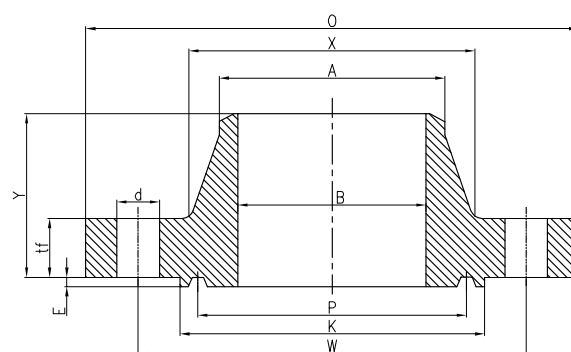
- 5.2** For details of the corresponding metallic spiral wound gaskets for raised face flanges refer corporate standards AA7240358 up-to nominal sizes 3" and AA7240357 for nominal sizes 3 ½" and above. The facing of the raised face of the flanges shall be rough machined to 12.5 microns finish when these gaskets are used.
- 5.3** For details of the corresponding gaskets for ring joint flanges refer corporate standard AA7240341.
- 5.4** Weights given in the table are for general reference only and are not meant for commercial transactions.
- 5.5** Corporate sub codes are shown against corporate rationalised sizes.
- 5.6** Sizes used by individual plants are covered in the Annexure along with complete code numbers

6.0 REFERRED STANDARDS:

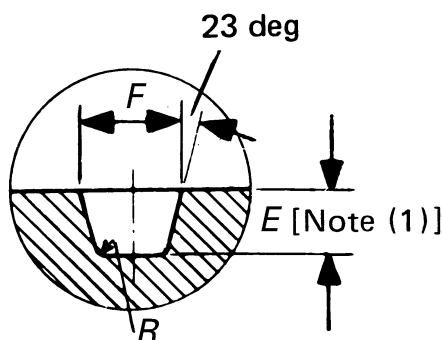
- | | | | |
|---------------|------------------|--------------|--------------|
| 1) ASME B16.5 | 2) ASTM A105 | 3) AA0851401 | 4) AA7240346 |
| 5) AA7240350 | 6) AA7240354 | 7) AA7240357 | 8) AA7240358 |
| 9) AA7240341 | 10) ASME B36.10M | | |



WELDING NECK FLANGE
RAISED FACE(RF)



WELDING NECK FLANGE
RING JOINT(RJ)



RING JOINT GROOVE DETAILS

TABLE: 1 – FACING DIMENSIONS
(ALL DIMENSIONS IN INCHES OTHERWISE SPECIFIED)

| NOM. PIPE SIZE (Inches) | RAISED FACE DIM. DIA. R ± 0.03 | RING JOINT DIMENSIONS | | | | | |
|----------------------------------|---|-------------------------|----------------|-------------------|-------------------------|--------------|-----------|
| | | RING & GROOVE No. | DIA. K MIN. | DIA. P ± 0.005 | *E + 0.016 - 0.00 | F ± 0.008 | R Max. |
| 1/2 | 1.38 | R 11 | 2.00 | 1.344 | 0.219 | 0.281 | 0.03 |
| 3/4 | 1.69 | R 13 | 2.50 | 1.688 | 0.250 | 0.344 | 0.03 |
| 1 | 2.00 | R 16 | 2.75 | 2.000 | 0.250 | 0.344 | 0.03 |
| 1 1/4 | 2.50 | R 18 | 3.12 | 2.375 | 0.250 | 0.344 | 0.03 |
| 1 1/2 | 2.88 | R 20 | 3.56 | 2.688 | 0.250 | 0.344 | 0.03 |
| 2 | 3.62 | R 23 | 4.25 | 3.250 | 0.312 | 0.469 | 0.03 |
| 2 1/2 | 4.12 | R 26 | 5.00 | 4.000 | 0.312 | 0.469 | 0.03 |
| 3 | 5.00 | R 31 | 5.75 | 4.875 | 0.312 | 0.469 | 0.03 |
| 3 1/2 | 5.50 | R 34 | 6.25 | 5.188 | 0.312 | 0.469 | 0.03 |
| 4 | 6.19 | R 37 | 6.88 | 5.875 | 0.312 | 0.469 | 0.03 |
| 5 | 7.31 | R 41 | 8.25 | 7.125 | 0.312 | 0.469 | 0.03 |
| 6 | 8.50 | R 45 | 9.50 | 8.312 | 0.312 | 0.469 | 0.03 |
| 8 | 10.62 | R 49 | 11.88 | 10.625 | 0.312 | 0.469 | 0.03 |
| 10 | 12.75 | R 53 | 14.00 | 12.750 | 0.312 | 0.469 | 0.03 |
| 12 | 15.00 | R 57 | 16.25 | 15.000 | 0.312 | 0.469 | 0.03 |
| 14 | 16.25 | R 61 | 18.00 | 16.500 | 0.312 | 0.469 | 0.03 |
| 16 | 18.50 | R 65 | 20.00 | 18.500 | 0.312 | 0.469 | 0.03 |
| 18 | 21.00 | R 69 | 22.62 | 21.000 | 0.312 | 0.469 | 0.03 |
| 20 | 23.00 | R 73 | 25.00 | 23.000 | 0.375 | 0.531 | 0.06 |
| 24 | 27.25 | R 77 | 29.50 | 27.250 | 0.438 | 0.656 | 0.06 |

NOTE:

- 1) Height of raised portion is equal to the depth of groove dimension 'E', but is not subjected to the tolerance for 'E'. Full face contour may be used.
- 2) Tolerances 23deg (angle) ± 1/2 deg

CORPORATE STANDARD



TABLE - 2 - FLANGE DIMENSIONS

(ALL DIMENSIONS IN INCHES UNLESS OTHERWISE SPECIFIED)

| NOM. SIZE INCH | SCHE DULE | PIPE SIZE OD X th | FLANGE DIMENSIONS | | | | | | | | | | BOLTING DIMENSIONS | | | | | WEIGHT PER PIECE KG. | SUB CODE | |
|----------------------|--------------|----------------------|-------------------|-----------|-------|----------------|--------|-----------------|----------------|--------|------|----------------|--------------------|-----------|--------------|--------------------|-------|-------------------------------|----------|-----|
| | | | DIA. O | DIA. X | DIA A | | DIA B | | t _f | | Y | | DIA. W ±0.06 | DIA. d | BOLT SIZE | No. OF BOLTS | | | | |
| | | | | | NOM | TOL. | NOM. | TOL. | NOM. | TOL. | NOM. | TOL. | | | | | NOM. | | TOL. | |
| ½ | 80 | 0.84 x 0.147 | 3.75 | 1.50 | 0.84 | | 0.62 | | 0.50 | | 2.00 | | 2.62 | ⅝ | ½ | 4 | 0.8 | 013 | 218 | |
| ¾ | 80 | 1.05 x 0.154 | 4.62 | 1.88 | 1.05 | +0.09 -0.03 | 0.82 | | 0.56 | | 2.19 | | 3.25 | ¾ | ⅝ | 4 | 1.4 | 021 | 226 | |
| | | | | | | | 1.05 | | 0.62 | | 2.38 | | 3.50 | ¾ | ⅝ | 4 | 1.6 | 030* | 234 | |
| 1 | 80 | 1.315 x 0.179 | 4.88 | 2.12 | 1.32 | | 1.38 | | 0.69 | | 2.50 | | 3.88 | ¾ | ⅝ | 4 | 2.1 | 048 | 242 | |
| 1 ¼ | | | 5.25 | 2.50 | 1.66 | | | 1.61 | | 0.75 | | 2.63 | | 4.50 | ⅞ | ¾ | 4 | 3.0 | 056 | 250 |
| 1 ½ | 80 | 1.90 x 0.200 | 6.12 | 2.75 | 1.90 | | 2.07 | | 0.81 | | 2.69 | | 5.00 | ¾ | ⅝ | 8 | 3.5 | 064 | 269 | |
| 2 | 40 | 2.375 x 0.154 | 6.50 | 3.31 | 2.38 | | 2.47 | | 0.94 | | 2.94 | | 5.88 | ⅞ | ¾ | 8 | 5.0 | 072 | 277 | |
| 2 ½ | 40 | 2.875 x 0.203 | 7.50 | 3.94 | 2.88 | | 3.07 | | 1.06 | | 3.06 | | 6.62 | ⅞ | ¾ | 8 | 6.8 | 080 | 285 | |
| 3 | 40 | 3.50 x 0.216 | 8.25 | 4.62 | 3.50 | | 3.55 | | 1.12 | +0.12 | 3.13 | | 7.25 | ⅞ | ¾ | 8 | 8.2 | 099 | 293 | |
| 3 ½ | | | 9.00 | 5.25 | 4.00 | | 4.03 | | 1.19 | - 0.00 | 3.32 | | 7.88 | ⅞ | ¾ | 8 | 11.0 | 102 | 307 | |
| 4 | 40 | 4.5 x 0.237 | 10.00 | 5.75 | 4.50 | | 5.05 | | 1.31 | | 3.82 | | 9.25 | ⅞ | ¾ | 8 | 14.6 | 110 | 315 | |
| 5 | | | 11.00 | 7.00 | 5.56 | | 6.07 | | 1.38 | | 3.82 | +0.06 -0.12 | 10.62 | ⅞ | ¾ | 12 | 19.5 | 129 | 323 | |
| 6 | 40 | 6.625 x 0.280 | 12.50 | 8.12 | 6.63 | | 7.98 | | 1.56 | | 4.32 | | 13.00 | 1 | ⅞ | 12 | 30.0 | 137 | 331 | |
| 8 | 20 | 8.625 x 0.250 | 15.00 | 10.25 | 8.63 | | 10.02 | | 1.81 | | 4.56 | | 15.25 | 1 ⅛ | 1 | 16 | 42.0 | 145 | 340* | |
| 10 | 30 | 10.750 x 0.307 | 17.50 | 12.62 | 10.75 | | 12.00 | | 1.94 | | 5.06 | | 17.75 | 1 ¼ | 1 ⅛ | 16 | 62.0 | 153 | 358 | |
| 12 | 40 | 12.750 x 0.406 | 20.50 | 14.75 | 12.75 | +0.16 -0.03 | Note-2 | | 2.06 | | 5.56 | | 20.25 | 1 ¼ | 1 ⅛ | 20 | 82.0 | 161 | 366 | |
| 14 | 60 | 14.00 x 0.594 | 23.00 | 16.75 | 14.00 | | Note-2 | | 2.19 | | 5.69 | +0.12 -0.18 | 22.50 | 1 ⅜ | 1 ¼ | 20 | 115.0 | 170* | 374 | |
| 16 | 40 | 16.000 x 0.500 | 25.50 | 19.00 | 16.00 | | Note-2 | | 2.31 | | 6.19 | | 24.75 | 1 ⅜ | 1 ¼ | 24 | 143.0 | 188 | 382 | |
| 18 | 40 | 18.000 x 0.562 | 28.00 | 21.00 | 18.00 | | Note-2 | | 2.44 | +0.19 | 6.32 | | 27.00 | 1 ⅜ | 1 ¼ | 24 | 175.0 | 196 | 390 | |
| 20 | 40 | 20.00 x 0.594 | 30.50 | 23.12 | 20.00 | | Note-2 | +0.12 - 0.06 | 2.69 | - 0.00 | 6.56 | | 32.00 | 1 ⅜ | 1 ½ | 24 | 260.0 | 200* | 404 | |

Note:

- 1) Value of Pipe Size OD X th taken from ASME B36.10M
- 2) To be specified by purchaser.