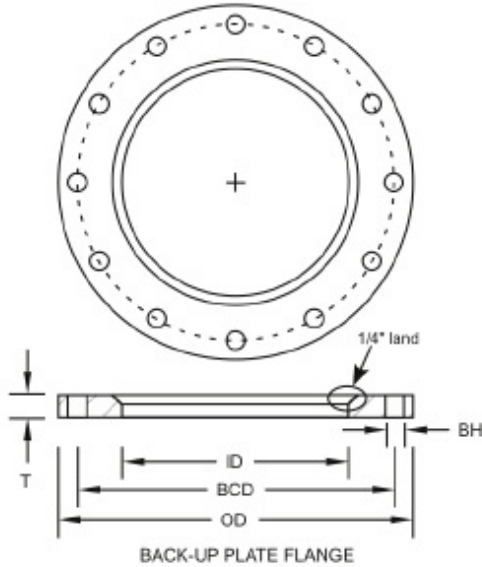
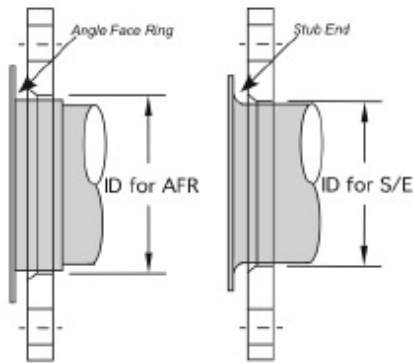


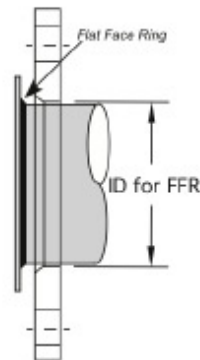
[Plate] Back-up Flanges



| PIPE SIZE | OD | ID for AFR | ID for StubEnd | T | No. of BH | BH | BCD |
|-----------|--------|------------|----------------|-----|-----------|-----|--------|
| 2 | 6 | 2-3/4 | 2-7/16 | 1/2 | 4 | 3/4 | 4-3/4 |
| 2-1/2 | 7 | 3-1/4 | 2-15/16 | 1/2 | 4 | 3/4 | 5-1/2 |
| 3 | 7-1/2 | 4 | 3-9/16 | 1/2 | 4 | 3/4 | 6 |
| 3-1/2 | 8-1/2 | 4-5/8 | 4-1/16 | 1/2 | 8 | 3/4 | 7 |
| 4 | 9 | 5-1/8 | 4-9/16 | 1/2 | 8 | 3/4 | 7-1/2 |
| 5 | 10 | 6-1/16 | 5-5/8 | 1/2 | 8 | 7/8 | 8-1/2 |
| 6 | 11 | 7-1/4 | 6-3/4 | 1/2 | 8 | 7/8 | 9-1/2 |
| 8 | 13-1/2 | 9-3/8 | 8-3/4 | 1/2 | 8 | 7/8 | 11-3/4 |
| 10 | 16 | 11-3/8 | 10-7/8 | 1/2 | 12 | 1 | 14-1/4 |
| 12 | 19 | 13-5/8 | 12-7/8 | 1/2 | 12 | 1 | 17 |



The back-up flange for a flat face ring (FFR) is the same ID as a Type A or Type C stub end



| TUBE SIZE | OD | ID for AFR | ID for StubEnd | T | No. of BH | BH | BCD |
|-----------|--------|------------|----------------|-----|-----------|-------|--------|
| 2 | 6 | 2-3/8 | 2-1/8 | 1/2 | 4 | 3/4 | 4-3/4 |
| 2-1/2 | 7 | 2-7/8 | 2-5/8 | 1/2 | 4 | 3/4 | 5-1/2 |
| 3 | 7-1/2 | 3-5/8 | 3-1/8 | 1/2 | 4 | 3/4 | 6 |
| 3-1/2 | 8-1/2 | 4 | 3-5/8 | 1/2 | 8 | 3/4 | 7 |
| 4 | 9 | 4-5/8 | 4-1/8 | 1/2 | 8 | 3/4 | 7-1/2 |
| 5 | 10 | 5-1/2 | 5-1/8 | 1/2 | 8 | 7/8 | 8-1/2 |
| 6 | 11 | 6-5/8 | 6-1/8 | 1/2 | 8 | 7/8 | 9-1/2 |
| 8 | 13-1/2 | 8-3/4 | 8-1/8 | 1/2 | 8 | 7/8 | 11-3/4 |
| 10 | 16 | 10-5/8 | 10-1/8 | 1/2 | 12 | 1 | 14-1/4 |
| 12 | 19 | 12-3/4 | 12-1/8 | 1/2 | 12 | 1 | 17 |
| 14 | 21 | 14-3/4 | 14-1/4 | 1/2 | 12 | 1-1/8 | 18-3/4 |
| 16 | 23-1/2 | 16-3/4 | 16-1/4 | 1/2 | 16 | 1-1/8 | 21-1/4 |
| 18 | 25 | 18-3/4 | 18-1/4 | 1/2 | 16 | 1-1/4 | 22-3/4 |
| 20 | 27-1/2 | 20-3/4 | 20-1/4 | 1/2 | 20 | 1-1/4 | 25 |
| 24 | 32 | 24-3/4 | 24-1/4 | 1/2 | 20 | 1-3/8 | 29-1/2 |
| 30 | 38-3/4 | 30-7/8 | 30-1/4 | 1/2 | 28 | 1-3/8 | 36 |
| 36 | 46 | 36-7/8 | 36-1/4 | 1/2 | 32 | 1-5/8 | 42-3/4 |

- Manufactured from ASTM A240 stainless steel plate.
- Alloys available include 304L, 316L, 317L, carbon steel; others upon request.
- Back-up flange is used in conjunction with an angle face ring or stub end to form a "VanStone" joint allowing the flange infinite positioning as it spins freely behind the ring/stub-end.