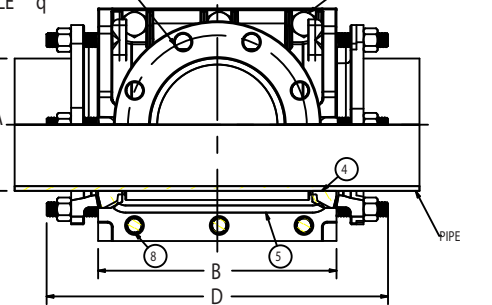


"L" NO. & SIZE OF HOLES ON "S" B.C. STRADDLE

"N" NO. & SIZE OF BOLTS INCLUDING BOTH ENDS

"P" NO. & SIZE OF BOLTS



SECTION A-A

| | A (H415) O.D. RANGE | A (H416) O.D. RANGE | B | C | D REF. | E | F | G | H | J | K | L | M | N | P | S |
|---|---------------------|---------------------|--------|-------|--------|-------|--------|--------|--------|------|-------|---------|--------|---------|---------|-------|
| 6x4 | 4.74-5.33 | | 10.94 | 9.75 | 16.51 | 9.00 | 5.02 | 7.00 | 4.25 | .250 | .655 | 8-750 | 8.25 | 8-750 | 6-750 | 7.50 |
| 6x6 | 6.84-7.40 | | 12.66 | 11.88 | 18.17 | 9.00 | 5.05 | 8.00 | 5.96 | .313 | .715 | 8-875 | 10.38 | 12-750 | 6-750 | 9.50 |
| 8x8 | 8.99-9.62 | | 14.86 | 14.25 | 21.26 | 11.00 | 9.00 | 9.50 | 7.19 | .313 | .775 | 8-875 | 12.75 | 12-750 | 8-750 | 11.75 |
| 10x4 | | 11.04-11.16 | 13.36 | 23.19 | 11.56 | 19.19 | 9.00 | 5.05 | | .250 | .938 | 8-750 | | | 8-750 | 7.50 |
| 10x6 | | 11.34-11.46 | 13.36 | 23.19 | 19.19 | 11.00 | 7.016 | 11.00 | 8.19 | .313 | 1.00 | 8-875 | 14.625 | 16-750 | 8-750 | 9.50 |
| 10x8 | | | 19.56 | 23.19 | 23.19 | 13.50 | 9.016 | | | .313 | 1.25 | 8-875 | | | 8-750 | 11.75 |
| 10x10 | | | 17.56 | 23.19 | 23.19 | 16.00 | 11.016 | | | .313 | 1.168 | 12-1000 | | | 10-750 | 14.25 |
| 12x4 | | 13.14-13.26 | 13.50 | 18.50 | 19.00 | 9.00 | 5.05 | | | .250 | .938 | 8-750 | | | 8-750 | 7.50 |
| 12x6 | | | 13.50 | 18.50 | 19.00 | 11.00 | 7.016 | | | .313 | 1.00 | 8-875 | 16.875 | 16-750 | 8-750 | 9.50 |
| 12x8 | | | 15.56 | 18.50 | 21.06 | 13.50 | 9.016 | 12.00 | 9.38 | .313 | 1.125 | 8-875 | | | 10-750 | 11.75 |
| 12x10 | | | 19.56 | 18.50 | 25.06 | 16.00 | 11.016 | | | .313 | 1.168 | 12-1000 | | | 12-750 | 14.25 |
| 12x12 | | | 19.56 | 18.50 | 25.06 | 19.00 | 13.016 | | | .313 | 1.250 | 12-1000 | | | 12-750 | 17.00 |
| 14x4 | | | 22.50 | 21.50 | 28.88 | 9.00 | 5.05 | 13.063 | | .250 | .938 | 8-750 | | | 14-1000 | 7.50 |
| 14x6 | | | 22.50 | 21.50 | 28.88 | 11.00 | 7.016 | 13.625 | | .313 | 1.000 | 8-875 | | | 14-1000 | 9.50 |
| 14x8 | | 15.22-15.35 | 22.50 | 21.50 | 28.88 | 13.50 | 9.016 | 14.625 | 10.563 | .313 | 1.125 | 8-875 | 19.500 | 20-750 | 14-1000 | 11.75 |
| 14x10 | | | 22.50 | 21.50 | 28.88 | 16.00 | 11.016 | 15.625 | | .313 | 1.168 | 12-1000 | | | 14-1000 | 14.25 |
| 14x12 | | | 22.50 | 21.50 | 28.88 | 19.00 | 13.016 | 16.625 | | .313 | 1.250 | 12-1000 | | | 14-1000 | 17.00 |
| 14x14 | | | 28.25 | 21.50 | 34.63 | 21.00 | 15.281 | 18.188 | | .313 | 1.375 | 12-1125 | | | 18-1000 | 18.75 |
| 18x4 | | 17.32-17.45 | 22.50 | 23.75 | 28.75 | 9.00 | 5.05 | 14.188 | 11.781 | .250 | .938 | 8-750 | | | 14-1000 | 7.50 |
| 18x6 | | | 22.50 | 23.75 | 28.75 | 11.00 | 7.016 | 14.750 | | .313 | 1.00 | 8-875 | 22.000 | 24-750 | 14-1000 | 9.50 |
| 18x8 | | | 22.50 | 23.75 | 28.75 | 13.50 | 9.016 | 14.750 | | .313 | 1.125 | 8-875 | | | 14-1000 | 11.75 |
| 18x10 | | | 22.50 | 23.75 | 28.75 | 16.00 | 11.016 | 14.750 | | .313 | 1.168 | 12-1000 | | | 14-1000 | 14.25 |
| 18x12 | | | 22.50 | 23.75 | 28.75 | 19.00 | 13.016 | 14.750 | | .313 | 1.250 | 12-1000 | | | 14-1000 | 17.00 |
| 18x14 | | | 28.25 | 23.75 | 36.75 | 21.00 | 15.281 | 16.375 | | .313 | 1.375 | 12-1125 | | | 18-1000 | 18.75 |
| 18x16 | | | 28.25 | 23.75 | 36.50 | 23.50 | 17.281 | 16.688 | | .313 | 1.438 | 16-1125 | | | 18-1000 | 21.25 |
| 18x4 | | 19.42-19.55 | 22.50 | 29.00 | 28.50 | 9.00 | 5.05 | 15.375 | 12.938 | .250 | .938 | 8-750 | 24.25 | 24-750 | 14-1125 | 7.50 |
| 18x6 | | | 22.50 | 29.00 | 28.50 | 11.00 | 7.016 | 16.000 | | .313 | 1.000 | 8-875 | | | 14-1125 | 9.50 |
| 18x8 | | | 22.50 | 29.00 | 28.50 | 13.50 | 9.016 | 16.000 | | .313 | 1.125 | 8-875 | | | 14-1125 | 11.75 |
| 18x10 | | | 22.50 | 29.00 | 28.50 | 16.00 | 11.016 | 16.000 | | .313 | 1.168 | 12-1000 | | | 14-1125 | 14.25 |
| 18x12 | | | 22.50 | 29.00 | 28.50 | 19.00 | 13.016 | 16.000 | | .313 | 1.250 | 12-1000 | | | 14-1125 | 17.00 |
| 18x16 | | | 30.50 | 29.00 | 36.50 | 23.50 | 17.281 | 17.875 | | .313 | 1.438 | 16-1250 | | | 18-1125 | 21.25 |
| 18x18 | | | 30.50 | 29.00 | 36.50 | 25.00 | 19.500 | 18.500 | | .313 | 1.563 | 16-1250 | | | 18-1125 | 22.75 |
| 20x4 | | 21.52-21.65 | 22.50 | 31.00 | 28.50 | 9.00 | 5.05 | 16.625 | 14.063 | .250 | .938 | 8-750 | 26.500 | 28-750 | 14-1125 | 7.50 |
| 20x6 | | | 22.50 | 31.00 | 28.50 | 11.00 | 7.016 | 16.625 | | .313 | 1.000 | 8-875 | | | 14-1125 | 9.50 |
| 20x8 | | | 22.50 | 31.00 | 28.50 | 13.50 | 9.016 | 16.875 | | .313 | 1.125 | 8-875 | | | 14-1125 | 11.75 |
| 20x10 | | | 22.50 | 31.00 | 28.50 | 16.00 | 11.016 | 16.875 | | .313 | 1.168 | 12-1000 | | | 14-1125 | 14.25 |
| 20x12 | | | 22.50 | 31.00 | 28.50 | 19.00 | 13.016 | 16.875 | | .313 | 1.250 | 12-1000 | | | 14-1125 | 17.00 |
| 20x14 | | | 28.25 | 31.00 | 37.25 | 21.00 | 15.281 | 18.625 | | .313 | 1.375 | 12-1125 | | | 20-1125 | 18.75 |
| 20x16 | | | 22.50 | 31.00 | 37.88 | 23.50 | 17.281 | 19.000 | | .313 | 1.438 | 16-1250 | | | 20-1125 | 21.25 |
| 20x18 | | | 31.875 | 31.00 | 37.88 | 25.00 | 19.500 | 19.750 | | .313 | 1.563 | 16-1250 | | | 20-1125 | 22.75 |
| 20x20 | | | 31.875 | 31.00 | 37.88 | 27.50 | 21.500 | 20.063 | | .313 | 1.688 | 20-1250 | | | 20-1125 | 25.00 |
| 24x4 | | 25.72-25.85 | 22.50 | 35.50 | 29.25 | 9.00 | 5.05 | 18.000 | 15.313 | .250 | .938 | 8-750 | 31.000 | 32-750 | 14-1125 | 7.50 |
| 24x6 | | | 22.50 | 35.50 | 29.25 | 11.00 | 7.016 | 18.000 | | .313 | 1.000 | 8-875 | | | 14-1125 | 9.50 |
| 24x8 | | | 22.50 | 35.50 | 29.25 | 13.50 | 9.016 | 19.000 | | .313 | 1.125 | 8-875 | | | 14-1125 | 11.75 |
| 24x10 | | | 22.50 | 35.50 | 29.25 | 16.00 | 11.016 | 18.000 | | .313 | 1.168 | 12-1000 | | | 14-1125 | 14.25 |
| 24x12 | | | 22.50 | 35.50 | 29.25 | 19.00 | 13.016 | 18.000 | | .313 | 1.250 | 12-1000 | | | 14-1125 | 17.00 |
| 24x14 | | | 35.50 | 35.50 | 42.25 | 21.00 | 15.281 | 21.188 | | .313 | 1.375 | 12-1125 | | | 22-1125 | 18.75 |
| 24x16 | | | 35.50 | 35.50 | 42.25 | 23.50 | 17.281 | 21.438 | | .313 | 1.438 | 16-1250 | | | 22-1125 | 21.25 |
| 24x18 | | | 35.50 | 35.50 | 42.25 | 25.00 | 19.500 | 22.500 | | .313 | 1.563 | 16-1250 | | | 22-1125 | 23.75 |
| 24x20 | | | 35.50 | 35.50 | 42.25 | 27.50 | 21.500 | 22.500 | | .313 | 1.688 | 20-1250 | | | 22-1125 | 25.00 |
| 24x24 | | | 35.50 | 35.50 | 42.25 | 32.00 | 25.500 | 23.250 | | .313 | 1.875 | 20-1375 | | | 22-1125 | 28.50 |
| SIZES 20# THROUGH 360# ARE STYLE TO TAPPING SLEEVES | | | | | | | | | | | | | | | | |
| 30x4 | | CLASS A PIPE 31.74 | 20.38 | 35.50 | 28.62 | 9.00 | 5.05 | 22.315 | | .313 | 1.188 | 8-750 | | | 12-1250 | 7.50 |
| 30x6 | | CLASS B PIPE 32.00 | 20.38 | 35.50 | 28.62 | 11.00 | 7.016 | 22.588 | | .313 | 1.188 | 8-875 | | | 12-1250 | 9.50 |
| 30x8 | | CLASS C PIPE 32.40 | 20.38 | 35.50 | 28.62 | 13.50 | 9.016 | 22.563 | | .313 | 1.188 | 8-875 | | | 12-1250 | 11.75 |
| 30x12 | | | 20.38 | 35.50 | 28.62 | 19.00 | 13.016 | 22.938 | 19.56 | .313 | 1.188 | 12-1000 | 36.875 | 40-1000 | 12-1250 | 17.00 |
| 30x16 | | | 35.38 | 35.38 | 43.62 | 23.50 | 17.281 | 23.500 | | .313 | 1.563 | 16-1250 | | | 20-1250 | 21.25 |
| 30x20 | | | 35.38 | 35.38 | 43.62 | 27.50 | 21.500 | 23.188 | | .313 | 1.750 | 20-1250 | | | 20-1250 | 25.00 |
| 30x24 | | | 35.38 | 35.38 | 43.62 | 32.00 | 25.500 | 23.500 | | .313 | 1.875 | 20-1380 | | | 20-1250 | 28.50 |
| 36x4 | | CLASS A PIPE 37.96 | 20.38 | 35.50 | 28.38 | 9.00 | 5.05 | 25.375 | 23.00 | .313 | 1.000 | 8-750 | 43.700 | 48-1000 | 12-1250 | 7.50 |
| 36x6 | | CLASS B PIPE 38.30 | 20.38 | 35.50 | 28.38 | 11.00 | 7.016 | 25.479 | | .313 | 1.063 | 8-875 | | | 12-1250 | 9.50 |
| 36x8 | | CLASS C PIPE 38.70 | 20.38 | 35.50 | 28.38 | 13.50 | 9.016 | 25.625 | | .313 | 1.168 | 8-875 | | | 12-1250 | 11.75 |
| 36x12 | | | 30.38 | 35.50 | 38.38 | 19.00 | 13.016 | 25.750 | | .313 | 1.313 | 8-875 | | | 12-1250 | 17.00 |
| 36x16 | | | 30.38 | 35.50 | 38.38 | 23.50 | 17.281 | 25.750 | | .313 | 1.438 | 16-1125 | | | 18-1250 | 21.25 |
| 36x20 | | | 30.38 | 35.50 | 38.38 | 27.50 | 21.500 | 26.875 | | .313 | 1.688 | 20-1250 | | | 18-1250 | 25.00 |

| ITEM | DESCRIPTION | REQ'D | PARTS LIST | | |
|------|------------------------|-------|---------------------|-----------|-------------------|
| | | | MATERIAL | ASTM | |
| 1 | OUTLET | 1 | DUCTILE IRON | | |
| 2 | CAP | 1 | DUCTILE IRON | | |
| 3 | PIPE GLAND | 2 | DUCTILE IRON | A536 | 65-45-12 |
| 4 | GASKET | 2 | EPDM | | |
| 5 | SIDE PACKING | 2 | EPDM | | |
| 6 | PIPE PLUG | 1 | 304 STAINLESS STEEL | | GRADE B |
| 7 | PIPE GLAND BOLTS & NUT | "N" | 588-80 OR 584-80/18 | | GRADE B OR TYPE 1 |
| 8 | SIDE BOLT NUTS | "P" | 304 STAINLESS STEEL | A193 A194 | GRADE BB GRADE B |

DRP: Cap, Bolt, Gland, Nuts, Washers, Packing, Gasket, Flange, Outlet, Pipe
 DIM: Overall, Inside, Flange, Bolt, Nut, Gland, Packing, Gasket, Flange, Outlet, Pipe
 UNIT: LINEAR, ANGULAR
 TOLERANCES: FRACTIONAL, DECIMAL, ANGULAR
 FINISH: NONE, POLISH, ANNEAL, GALVANNEAL, ZINC PLATE, CHROME PLATE, BLACK OXIDE, PHOSPHATE, ELECTROLYTIC ZINC PLATE, ELECTROLYTIC NICKEL PLATE, ELECTROLYTIC COPPER NICKEL PLATE, ELECTROLYTIC BRASS PLATE, ELECTROLYTIC ALUMINUM PLATE, ELECTROLYTIC INCONEL PLATE, ELECTROLYTIC TITANIUM PLATE, ELECTROLYTIC STAINLESS STEEL PLATE, ELECTROLYTIC CUPRO-NICKEL PLATE, ELECTROLYTIC MONEL PLATE, ELECTROLYTIC NICKEL ALLOY PLATE, ELECTROLYTIC COPPER ALLOY PLATE, ELECTROLYTIC BRASS ALLOY PLATE, ELECTROLYTIC ALUMINUM ALLOY PLATE, ELECTRO