



EUCARO OFFSHORE

CuNi 90/10

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This brochure will inform you about our main products for Offshore applications.
If you need more or other types please don't hesitate to contact us.

TECHNICAL INFORMATION

CHARACTERISTICS

- + good welding and soldering properties
- + good cold-workability
- + good thermal stability (up to approx. 300°C)
- + resistant to stress corrosion

MATERIAL-COMPARISATION OF STANDARDS:

| Designation | EEMUA | BS | DIN | EN |
|-------------------|-----------|--------|--------|--------|
| EUCARO® 10 | UNS 7060X | CN 102 | 2.1972 | CW352H |

CHEMICAL COMPOSITION

| Bezeichnung | | Cu | Ni | Fe | Mn | C* | Pb* | S* | Zn* | P* | Zr | other |
|---------------------------------------|------|------|-------|------|------|------|------|-------|------|------|------|-------|
| EUCARO® 10 | min. | Rest | 10,00 | 1,50 | 0,50 | - | - | - | - | - | - | - |
| | max. | Rest | 11,00 | 1,80 | 1,00 | 0,05 | 0,01 | 0,005 | 0,05 | 0,02 | 0,01 | 0,20 |
| EEMUA 144-1987 UNS 7060x | min. | Rest | 10,00 | 1,50 | 0,50 | - | - | - | - | - | - | - |
| | max. | Rest | 11,00 | 2,00 | 1,00 | 0,05 | 0,01 | 0,02 | 0,20 | 0,02 | - | 0,30 |
| BS 2871 CN 102 | min. | Rest | 10,00 | 1,00 | 0,50 | - | - | - | - | - | - | - |
| | max. | Rest | 11,00 | 2,00 | 1,00 | 0,05 | 0,01 | 0,05 | - | - | - | 0,30 |
| DIN 86019 2.1972 | min. | Rest | 9,00 | 1,50 | 0,50 | - | - | - | - | - | - | - |
| | max. | Rest | 11,00 | 1,80 | 1,00 | 0,05 | 0,01 | 0,005 | 0,05 | 0,02 | 0,03 | 0,20 |

The reduced impurities (*) in **EUCARO 10** are an important factor in achieving considerably improved weldability.

PHYSICAL AND MECHANICAL PROPERTIES

PHYSICAL PROPERTIES

| | EUCARO 10 |
|--|------------------|
| Density (20 °C), kg/m ³ | 8900 |
| specific heat (20 °C), J/kg K | 377 |
| melting range C° | 1100 - 1145 |
| Thermal conductivity (20 °C), W/mk | 50 |
| Coeff. of linear exp. (20-100 °C), 10 ⁻⁶ /K | 17 |
| Electrical resistance (20 °C, annealed), microohm cm | 19 |

MECHANICAL PROPERTIES FOR PIPES

| | EUCARO 10 |
|---|------------------|
| 0,2% proof stress (Rp 0,2), N/mm ² | min. 105 |
| tensile strength (Rm), N/mm ² | 300 - 380 |

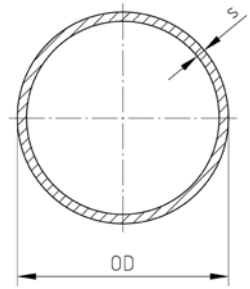
DIMENSIONS

Dimensions of our products are in acc. to the valid national and international specifications. Other wall thicknesses as mentioned in our catalogue can be delivered ex stock. After checking of possibility of manufacturing, special construction will also be delivered on request.

PIPES

14 / 16 / 20 BAR

Material: UNS 7060X
Standards: EEMUA 144 Section 1/2



SEAMLESS PIPE

| Size Nominal (in) | Size Specified (mm) | Specified Wall Thickness (mm) s | | | Theoretical Weight/ Metre (kg) | | |
|-------------------|---------------------|---------------------------------|--------|--------|--------------------------------|--------|--------|
| | | 14 bar | 16 bar | 20 bar | 14 bar | 16 bar | 20 bar |
| 1/2 | 16 | 1,0 | 2,0 | 2,0 | 0,42 | 0,78 | 0,78 |
| 3/4 | 25 | 1,5 | 2,0 | 2,0 | 0,99 | 1,29 | 1,29 |
| 1 | 30 | 1,5 | 2,5 | 2,5 | 1,20 | 1,93 | 1,93 |
| 1 1/4 | 38 | 1,5 | 2,5 | 2,5 | 1,55 | 2,49 | 2,49 |
| 1 1/2 | 44,5 | 1,5 | 2,5 | 2,5 | 1,81 | 2,94 | 2,94 |
| 2 | 57 | 1,5 | 2,5 | 2,5 | 2,33 | 3,82 | 3,82 |
| 2 1/2 | 76,1 | 2,0 | 2,5 | 2,5 | 4,15 | 5,15 | 5,15 |
| 3 | 88,9 | 2,5 | 2,5 | 2,5 | 6,05 | 6,05 | 6,05 |
| 4 | 108 | 2,5 | 3,0 | 3,0 | 7,40 | 8,82 | 8,82 |
| 6 | 159 | 2,5 | 3,0 | 3,5 | 11,00 | 13,10 | 15,24 |
| 8 | 219,1 | 3,5 | 4,0 | 4,5 | 21,10 | 24,10 | 27,04 |
| 10 | 267 | 4,0 | 4,5 | 5,5 | 29,50 | 33,10 | 40,27 |
| 12 | 323,9 | 5,0 | 5,5 | 7,0 | 43,50 | 49,05 | 62,10 |
| 14 | 368 | 5,5 | 6,5 | 8,0 | 56,20 | 65,80 | 80,64 |
| 16 | 419 | 6,0 | 7,0 | - | 77,30 | 80,75 | - |

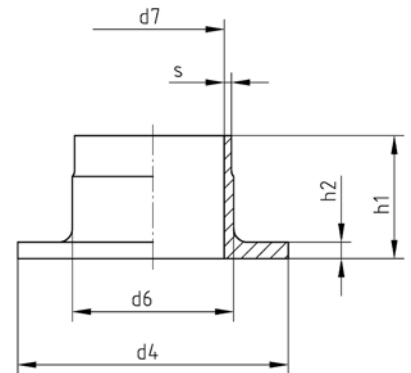
SEAM-WELDED PIPE

| Size Nominal (in) | Size Specified (mm) | Specified Wall Thickness (mm) s | | | Theoretical Weight/ Metre (kg) | | |
|-------------------|---------------------|---------------------------------|--------|--------|--------------------------------|--------|--------|
| | | 14 bar | 16 bar | 20 bar | 14 bar | 16 bar | 20 bar |
| 14 | 368 | 5,5 | 6,5 | 8,0 | 56,2 | 77,30 | 80,64 |
| 16 | 419 | 6,0 | 7,0 | 9,0 | 65,8 | 80,75 | 103,32 |
| 18 | 457,2 | 6,5 | 8,0 | 9,5 | 82,03 | 100,62 | 119,10 |
| 20 | 508 | 6,5 | 8,5 | 11,0 | 91,27 | 118,90 | 153,10 |
| 24 | 610 | 9,0 | 10,5 | 13,0 | 151,40 | 176,30 | 217,30 |
| 28 | 711 | 10,5 | 12,0 | 15,0 | 205,90 | 234,90 | 292,21 |
| 32 | 813 | 12,0 | 13,5 | 17,0 | 269,10 | 302,20 | 378,76 |
| 36 | 914 | 13,5 | 15,5 | 19,0 | 340,40 | 390,00 | 475,97 |

Pipes starting from OD 159 have an additional tolerance charge of 3 % on the theoretical weight.

INNER FLANGES 16 BAR

Material: UNS 7060X
Standards: EEMUA 145 Section 1
E10/9512/501



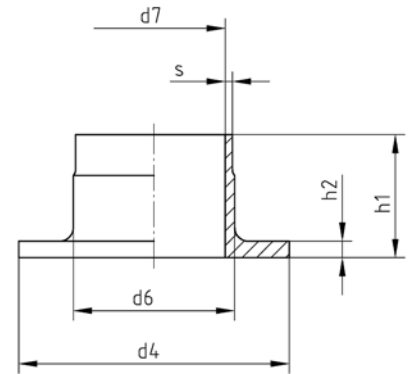
DIMENSIONS (MM)

| Size in | Size mm | d ₄ mm | d ₆ mm | d ₇ mm | Type S h ₁ mm | Type L h ₁ mm | h ₂ mm | s min. mm |
|---------|---------|-------------------|-------------------|-------------------|--------------------------|--------------------------|-------------------|-----------|
| 1/2 | 16 | 40 | 18 | 12,00 | 35 | 51 | 4 | 2,0 |
| 3/4 | 25 | 50 | 27 | 21,00 | 40 | 51 | 5 | 2,0 |
| 1 | 30 | 60 | 32 | 25,00 | 40 | 51 | 5 | 2,5 |
| 1 1/4 | 38 | 70 | 40 | 33,03 | 40 | 51 | 5 | 2,5 |
| 1 1/2 | 44,5 | 80 | 46,5 | 39,53 | 45 | 51 | 6 | 2,5 |
| 2 | 57 | 99 | 59 | 52,16 | 45 | 64 | 6 | 2,5 |
| 2 1/2 | 76,1 | 120 | 78 | 71,23 | 45 | 64 | 6 | 2,5 |
| 3 | 88,9 | 130 | 91 | 84,08 | 50 | 64 | 7 | 2,5 |
| 4 | 108 | 158 | 110 | 102,13 | 50 | 76 | 7 | 3,0 |
| 6 | 159 | 212 | 161,5 | 153,75 | 50 | 89 | 9 | 3,0 |
| 8 | 219,1 | 270 | 222 | 211,10 | 50 | 102 | 9 | 4,0 |
| 10 | 267 | 320 | 270 | 257,97 | 50 | 127 | 9 | 4,5 |
| 12 | 323,9 | 370 | 327 | 312,83 | 50 | 152 | 11 | 5,5 |
| 14 | 368 | 430 | 371 | 364,22 | 50 | 152 | 11 | 6,5 |
| 16 | 419 | 482 | 422 | 404,17 | 50 | 152 | 12 | 7,0 |
| 18 | 457,2 | 530 | 460 | 441,5 | 50 | 152 | 12 | 8,0 |
| 20 | 508 | 585 | 511 | 490,5 | 50 | 152 | 12 | 8,5 |
| 24 | 610 | 685 | 613 | 589,5 | 60 | 152 | 14 | 10,5 |
| 28 | 711 | 800 | 719 | 687,5 | 60 | 190 | 19 | 12,0 |
| 32 | 813 | 905 | 821 | 786,5 | 60 | 190 | 20,5 | 13,5 |

INNER FLANGES

20 BAR

Material: UNS 7060X
 Standards: EEMUA 145 Section 1
 E10/9512/501

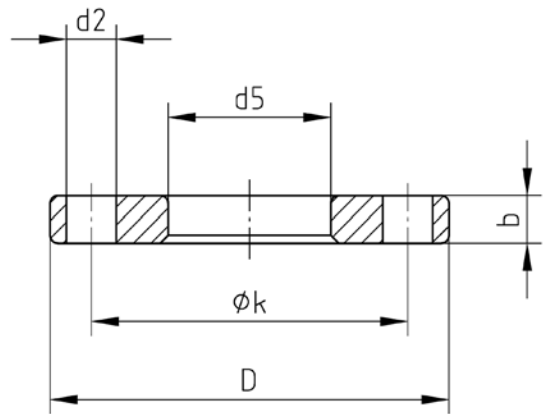


DIMENSIONS (MM)

| Size in | Size mm | d4 mm | d6 mm | d7 mm | Type S h1 mm | Type L h1 mm | h2 mm | s min. mm |
|------------|------------|----------|----------|----------|--------------------|--------------------|----------|-----------------|
| 1/2 | 16 | 40 | 18 | 12,00 | 35 | 51 | 4 | 2,0 |
| 3/4 | 25 | 50 | 27 | 21,00 | 40 | 51 | 5 | 2,0 |
| 1 | 30 | 60 | 32 | 25,00 | 40 | 51 | 5 | 2,5 |
| 1 1/4 | 38 | 70 | 40 | 33,03 | 40 | 51 | 5 | 2,5 |
| 1 1/2 | 44,5 | 80 | 46,5 | 39,53 | 45 | 51 | 6 | 2,5 |
| 2 | 57 | 99 | 59 | 52,16 | 45 | 64 | 6 | 2,5 |
| 2 1/2 | 76,1 | 120 | 78 | 71,23 | 45 | 64 | 6 | 2,5 |
| 3 | 88,9 | 130 | 91 | 84,08 | 50 | 64 | 7 | 2,5 |
| 4 | 108 | 158 | 110 | 102,13 | 50 | 76 | 7 | 3,0 |
| 6 | 159 | 212 | 161,5 | 152,38 | 50 | 89 | 9 | 3,5 |
| 8 | 219,1 | 270 | 222 | 210,10 | 50 | 102 | 9 | 4,5 |
| 10 | 267 | 320 | 270 | 255,93 | 50 | 127 | 9 | 5,5 |
| 12 | 323,9 | 370 | 327 | 309,74 | 50 | 152 | 11 | 7,0 |
| 14 | 368 | 430 | 371 | 351,00 | 50 | 152 | 11 | 8,0 |
| 16 | 419 | 482 | 422 | 399,84 | 50 | 152 | 12 | 9,0 |
| 18 | 457,2 | 530 | 460 | 438,5 | 50 | 152 | 12 | 9,5 |
| 20 | 508 | 585 | 511 | 486,5 | 50 | 152 | 12 | 11,0 |
| 24 | 610 | 685 | 613 | 584,5 | 60 | 152 | 14 | 13,0 |
| 28 | 711 | 800 | 719 | 681,5 | 60 | 190 | 19 | 15,0 |
| 32 | 813 | 905 | 821 | 779,5 | 60 | 190 | 20,5 | 17,0 |
| 36 | 914 | 1000 | 922 | 876,5 | 60 | 190 | 22 | 19,0 |

OUTER FLANGES 16/20 BAR

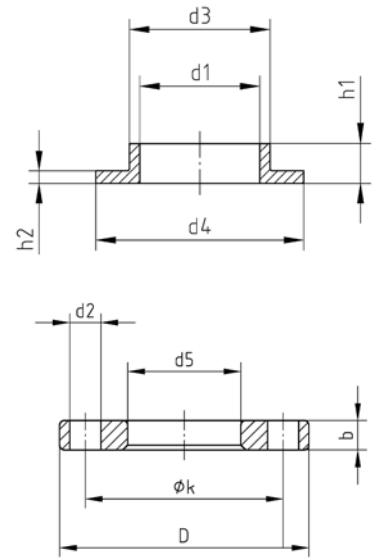
Material: ASTM A 105 galvanised
Standards: EEMUA 145 Section 1
Rating: Class 150
E10/9512/505



DIMENSIONS (MM)

| Size in | Size mm | D mm | b min. mm | d2 in | d2 mm | d5 min mm | k mm | No. of Bolts | Approx. Total Weight incl. Inner Flanges - kg | | | |
|------------|------------|---------|-----------------|----------|----------|-----------------|---------|-----------------|--|-------|-------|-------|
| | | | | | | | | | 16 Bar | | 20 Ba | |
| | | | | | | | | | S | L | S | L |
| 1/2 | 16 | 89 | 14 | 5/8 | 15,9 | 19 | 60,3 | 4 | 0,64 | 0,66 | 0,64 | 0,66 |
| 3/4 | 25 | 98 | 14 | 5/8 | 15,9 | 28 | 69,8 | 4 | 0,8 | 0,8 | 0,8 | 0,8 |
| 1 | 30 | 108 | 14 | 5/8 | 15,9 | 33 | 79,4 | 4 | 1,0 | 1,04 | 1,0 | 1,04 |
| 1 1/4 | 38 | 117 | 14 | 5/8 | 15,9 | 41 | 88,9 | 4 | 1,2 | 1,2 | 1,2 | 1,2 |
| 1 1/2 | 44,5 | 127 | 14 | 5/8 | 15,9 | 48 | 98,4 | 4 | 1,5 | 1,5 | 1,5 | 1,5 |
| 2 | 57 | 152 | 18 | 3/4 | 19,0 | 62 | 120,6 | 4 | 2,5 | 2,6 | 2,5 | 2,6 |
| 2 1/2 | 76,1 | 178 | 18 | 3/4 | 19,0 | 81 | 139,7 | 4 | 3,3 | 3,4 | 3,3 | 3,4 |
| 3 | 88,9 | 190 | 19 | 3/4 | 19,0 | 94 | 152,4 | 4 | 3,8 | 3,9 | 3,8 | 3,9 |
| 4 | 108 | 229 | 24 | 3/4 | 19,0 | 113 | 190,5 | 8 | 6,6 | 6,9 | 6,6 | 6,9 |
| 6 | 159 | 279 | 27 | 7/8 | 22,2 | 164 | 241,3 | 8 | 9,7 | 10,4 | 9,9 | 10,7 |
| 8 | 219,1 | 343 | 31 | 7/8 | 22,2 | 225 | 298,4 | 8 | 15,0 | 16,7 | 15,1 | 17,0 |
| 10 | 267 | 406 | 38 | 1 | 25,4 | 273 | 362,0 | 12 | 23,1 | 26,6 | 23,5 | 27,5 |
| 12 | 323,9 | 483 | 41 | 1 | 25,4 | 330 | 431,8 | 12 | 34,6 | 41,0 | 35,2 | 43,1 |
| 14 | 368 | 533 | 45 | 1 1/8 | 28,6 | 374 | 476,2 | 12 | 44,7 | 53,4 | 45,5 | 55,8 |
| 16 | 419 | 597 | 51 | 1 1/8 | 28,6 | 426 | 539,8 | 16 | 60,0 | 70,5 | 60,6 | 72,5 |
| 18 | 457,2 | 635 | 52 | 1 1/4 | 31,8 | 465 | 577,8 | 16 | 66,0 | 78,0 | 68 | 84,3 |
| 20 | 508 | 698 | 58 | 1 1/4 | 31,8 | 517 | 635,0 | 20 | 84,4 | 98,7 | 8 | 103,5 |
| 24 | 610 | 813 | 71 | 1 3/8 | 34,9 | 618 | 749,3 | 20 | 131,4 | 149,8 | 134 | 156,5 |
| 28 | 711 | 927 | 81 | 1 3/8 | 34,9 | 727 | 864,0 | 28 | 180,3 | 202,9 | 183,6 | 212,1 |
| 32 | 813 | 1060 | 95 | 1 5/8 | 41,1 | 829 | 978,0 | 28 | 269,0 | 296,8 | 275,5 | 311,2 |
| 36 | 914 | 1168 | 105 | 1 5/8 | 41,1 | 931 | 1086,0 | 32 | 335,8 | 369,8 | 341 | 385,8 |

COMPOSITE SLIP-ON FLANGES 16/20 BAR



Material: Slip-on Stub End - UNS 7060X
Backing Flange - ASTM A 105 galvanised

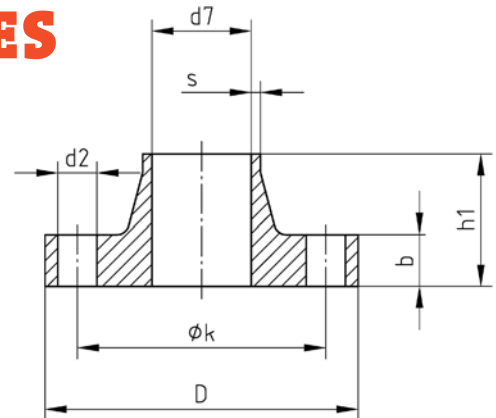
Standards: EEMUA 145 Section 2

Rating: Class 150
E10/2006/011
E10/2006/010

DIMENSIONS (MM)

| Size in | Size mm | Inner Stub End Dimension | | | | | D mm | Outer Steel Flange Dimension | | | | No. of Bolt Holes | Approx. total Weight (kg) |
|------------|------------|--------------------------|----------|----------|----------|----------|---------|------------------------------|---------|-----------------|----------|----------------------------|------------------------------------|
| | | d1 mm | d3 mm | d4 mm | h1 mm | h2 mm | | b min mm | k mm | d5 min mm | d2 mm | | |
| 1/2 | 16 | 16,07 | 21 | 40 | 16 | 5 | 89 | 14 | 60,3 | 23 | 15,9 | 4 | 0,61 |
| 3/4 | 25 | 25,08 | 31 | 53 | 16 | 5 | 98 | 14 | 69,8 | 33 | 15,9 | 4 | 0,75 |
| 1 | 30 | 30,08 | 36 | 60 | 18 | 5 | 108 | 14 | 79,4 | 38 | 15,9 | 4 | 0,92 |
| 1 1/4 | 38 | 38,10 | 45 | 70 | 18 | 5 | 117 | 14 | 88,9 | 47 | 15,9 | 4 | 1,1 |
| 1 1/2 | 44,5 | 44,60 | 51 | 80 | 19 | 5 | 127 | 14 | 98,4 | 53 | 15,9 | 4 | 1,3 |
| 2 | 57 | 57,23 | 67 | 99 | 19 | 6 | 152 | 18 | 120,6 | 69 | 19 | 4 | 2,2 |
| 2 1/2 | 76,1 | 76,33 | 87 | 120 | 19 | 6 | 178 | 18 | 139,7 | 89 | 19 | 4 | 3,0 |
| 3 | 88,9 | 89,18 | 100 | 130 | 21 | 7 | 190 | 19 | 152,4 | 103 | 19 | 4 | 3,5 |
| 4 | 108 | 108,9 | 120 | 158 | 23 | 7 | 229 | 24 | 190,5 | 123 | 19 | 4 | 6,0 |

WELDING NECK FLANGES 16 BAR



Material: UNS 7060X
 Standards: EEMUA 145 Section 3
 Rating: Class 150
 E10/9512/561

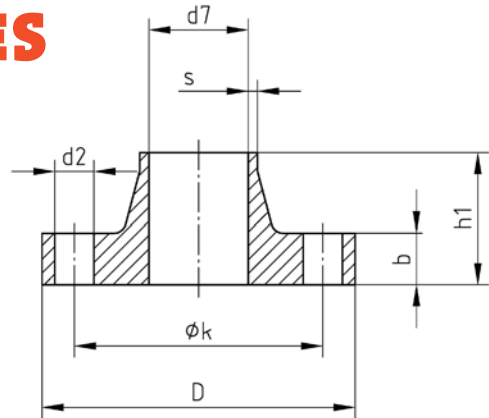
DIMENSIONS (MM)

| Size in | Size mm | Outside Diam. Flange mm D | Thickn. of Flange mm b | Length trough Hub mm h1 | Bore of Flange mm d7 | Thickness Hub Welding End mm s min. | Diam. of Bolt Circle mm k | Drilling No. of Bolts - | Diam. of Bolt Holes mm d2 | Approx. Weight kg - |
|---------|---------|---------------------------|------------------------|-------------------------|----------------------|-------------------------------------|---------------------------|-------------------------|---------------------------|---------------------|
| 1/2 | 16 | 89 | 14 | 48 | 12,00 | 2,0 | 60,3 | 4 | 15,9 | 0,72 |
| 3/4 | 25 | 98 | 16 | 52 | 21,00 | 2,0 | 69,8 | 4 | 15,9 | 1,04 |
| 1 | 30 | 108 | 16 | 56 | 25,00 | 2,5 | 79,4 | 4 | 15,9 | 1,3 |
| 1 1/4 | 38 | 117 | 17 | 57 | 33,03 | 2,5 | 88,9 | 4 | 15,9 | 1,7 |
| 1 1/2 | 44,5 | 127 | 20 | 62 | 39,53 | 2,5 | 98,4 | 4 | 15,9 | 2,3 |
| 2 | 57 | 152 | 25 | 64 | 52,16 | 2,5 | 120,6 | 4 | 19,0 | 4,1 |
| 2 1/2 | 76,1 | 178 | 27 | 70 | 71,23 | 2,5 | 139,7 | 4 | 19,0 | 6,1 |
| 3 | 88,9 | 190 | 27 | 70 | 84,08 | 2,5 | 152,4 | 4 | 19,0 | 7,1 |
| 4 | 108 | 229 | 27 | 76 | 102,13 | 3,0 | 190,5 | 8 | 19,0 | 10,2 |
| 6 | 159 | 279 | 27 | 89 | 153,75 | 3,0 | 241,3 | 8 | 22,2 | 15,5 |
| 8 | 219,1 | 343 | 31 | 98 | 211,10 | 4,0 | 298,4 | 8 | 22,2 | 27,7 |
| 10 | 267 | 406 | 31 | 98 | 257,97 | 4,5 | 362,0 | 12 | 25,4 | 38,5 |
| 12 | 323,9 | 483 | 35 | 98 | 312,83 | 5,5 | 431,8 | 12 | 25,4 | 61,6 |
| 14 | 368 | 533 | 41 | 99 | 354,22 | 6,5 | 476,2 | 12 | 28,6 | 86,8 |
| 16 | 419 | 597 | 43 | 106 | 404,17 | 7,0 | 539,8 | 16 | 28,6 | 114,2 |
| 18 | 457,2 | 635 | 45 | 113 | 441,50 | 8,0 | 577,8 | 16 | 31,8 | 136,0 |
| 20 | 508 | 698 | 45 | 118 | 490,50 | 8,5 | 635,0 | 20 | 31,8 | 164,6 |
| 24 | 610 | 813 | 49 | 137 | 589,50 | 10,5 | 749,3 | 20 | 34,9 | 247,7 |
| 28 | 711 | 927 | 72 | 145 | 687,50 | 12,0 | 864 | 28 | 34,9 | 453,0 |
| 32 | 813 | 1060 | 72 | 160 | 786,50 | 13,5 | 978 | 28 | 41,1 | 599,0 |
| 36 | 914 | 1168 | 72 | 175 | 883,50 | 15,5 | 1086 | 32 | 41,1 | 741,0 |

WELDING NECK FLANGES

20 BAR

Material: UNS 7060X
 Standards: EEMUA 145 Section 3
 Rating: Class 150
 E10/9512/561

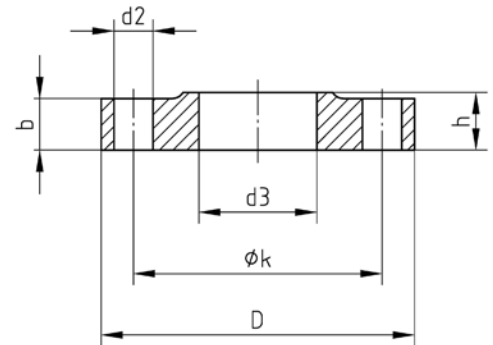


DIMENSIONS (MM)

| Size in | Size mm | Outside Diam. Flange mm D | Thickn. of Flange mm b | Length trough Hub mm h1 | Bore of Flange mm d7 | Thickness Hub Welding End mm s min. | Diam. of Bolt Circle mm k | Drilling No. of Bolts - | Diam. of Bolt Holes mm d2 | Approx. Weight kg - |
|---------|---------|---------------------------|------------------------|-------------------------|----------------------|-------------------------------------|---------------------------|-------------------------|---------------------------|---------------------|
| 1/2 | 16 | 89 | 14 | 48 | 12,00 | 2,0 | 60,3 | 4 | 15,9 | 0,72 |
| 3/4 | 25 | 98 | 16 | 52 | 21,00 | 2,0 | 69,8 | 4 | 15,9 | 1,04 |
| 1 | 30 | 108 | 16 | 56 | 25,00 | 2,5 | 79,4 | 4 | 15,9 | 1,3 |
| 1 1/4 | 38 | 117 | 17 | 57 | 33,03 | 2,5 | 88,9 | 4 | 15,9 | 1,7 |
| 1 1/2 | 44,5 | 127 | 20 | 62 | 39,53 | 2,5 | 98,4 | 4 | 15,9 | 2,3 |
| 2 | 57 | 152 | 25 | 64 | 52,16 | 2,5 | 120,6 | 4 | 19,0 | 4,1 |
| 2 1/2 | 76,1 | 178 | 27 | 70 | 71,23 | 2,5 | 139,7 | 4 | 19,0 | 6,1 |
| 3 | 88,9 | 190 | 27 | 70 | 84,08 | 2,5 | 152,4 | 4 | 19,0 | 7,1 |
| 4 | 108 | 229 | 27 | 76 | 102,13 | 3,0 | 190,5 | 8 | 19,0 | 10,2 |
| 6 | 159 | 279 | 27 | 89 | 152,38 | 3,5 | 241,3 | 8 | 22,2 | 15,8 |
| 8 | 219,1 | 343 | 31 | 98 | 210,10 | 4,5 | 298,4 | 8 | 22,2 | 28 |
| 10 | 267 | 406 | 31 | 98 | 255,93 | 5,5 | 362,0 | 12 | 25,4 | 39,3 |
| 12 | 323,9 | 483 | 35 | 98 | 309,74 | 7,0 | 431,8 | 12 | 25,4 | 62,9 |
| 14 | 368 | 533 | 41 | 99 | 351,00 | 8,0 | 476,2 | 12 | 28,6 | 88,4 |
| 16 | 419 | 597 | 43 | 106 | 399,84 | 9,0 | 539,8 | 16 | 28,6 | 115,6 |
| 18 | 457,2 | 635 | 45 | 113 | 438,5 | 9,5 | 577,8 | 16 | 31,8 | 140,7 |
| 20 | 508 | 698 | 45 | 118 | 486,5 | 11,0 | 635,0 | 20 | 31,8 | 168,4 |
| 24 | 610 | 813 | 49 | 137 | 584,5 | 13,0 | 749,3 | 20 | 34,9 | 253,7 |
| 28 | 711 | 927 | 72 | 145 | 681,4 | 15,0 | 864 | 28 | 34,9 | 461,1 |
| 32 | 813 | 1060 | 72 | 160 | 779,5 | 17,0 | 978 | 28 | 41,1 | 611,1 |
| 36 | 914 | 1168 | 72 | 175 | 876,5 | 19,0 | 1086 | 32 | 41,1 | 755,7 |

SLIP ON FLANGES 16/20 BAR

Material: UNS 7060X
 Standards: EEMUA 145 Section 4
 Rating: Class 150
 E10/9512/530



DIMENSIONS (MM)

| Size in | Size mm | Flange Diam. D mm | Flange Thickness | | | No. of Bolt Holes | Diam. of Bolt Holes d_2 mm | k mm | Approx. Weight mm |
|------------|------------|----------------------------|------------------|---------|---------|----------------------|---------------------------------------|---------|-------------------------|
| | | | d_3 mm | b mm | h mm | | | | |
| 1/2 | 16 | 89 | 16,07 | 14 | 20 | 4 | 15,9 | 60,3 | 0,66 |
| 3/4 | 25 | 98 | 25,08 | 16 | 24 | 4 | 15,9 | 69,8 | 0,91 |
| 1 | 30 | 108 | 30,08 | 16 | 24 | 4 | 15,9 | 79,4 | 1,16 |
| 1 1/4 | 38 | 117 | 38,10 | 17 | 26 | 4 | 15,9 | 88,9 | 1,4 |
| 1 1/2 | 44,5 | 127 | 44,60 | 20 | 26 | 4 | 15,9 | 98,4 | 1,9 |
| 2 | 57 | 152 | 57,23 | 25 | 28 | 4 | 19,0 | 120,6 | 3,3 |
| 2 1/2 | 76,1 | 178 | 76,33 | 27 | 32 | 4 | 19,0 | 139,7 | 4,7 |
| 3 | 88,9 | 190 | 89,18 | 27 | 34 | 4 | 19,0 | 152,4 | 5,2 |
| 4 | 108 | 229 | 108,38 | 27 | 40 | 8 | 19,0 | 190,5 | 7,7 |

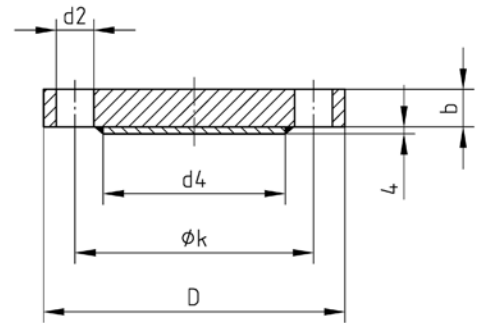
BLIND FLANGES

16/20 BAR

Material: Outer Flange - ASTM A 105 galvanised
Disk - UNS 7060X

Rating: Class 150

Standards: EHN 9512/650

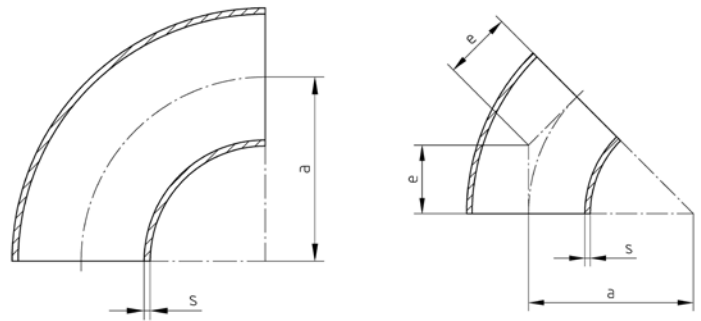


DIMENSIONS (MM)

| Size in | Size mm | Flange Diam. D mm | k mm | Diam. of Bolt Holes d_2 mm | Flange Thickness b min mm | Diam. of Disk d_4 mm | No. of Bolt Holes | Approx. total Weight kg |
|---------|---------|-------------------|--------|------------------------------|---------------------------|------------------------|-------------------|-------------------------|
| 1/2 | 16 | 89 | 60,3 | 15,9 | 14 | 40 | 4 | 0,82 |
| 3/4 | 25 | 98 | 69,8 | 15,9 | 14 | 50 | 4 | 1,04 |
| 1 | 30 | 108 | 79,4 | 15,9 | 14 | 60 | 4 | 1,31 |
| 1 1/4 | 38 | 117 | 88,9 | 15,9 | 14 | 70 | 4 | 1,58 |
| 1 1/2 | 44,5 | 127 | 98,4 | 15,9 | 14 | 80 | 4 | 1,90 |
| 2 | 57 | 152 | 120,6 | 19,0 | 18 | 99 | 4 | 3,01 |
| 2 1/2 | 76,1 | 178 | 139,7 | 19,0 | 18 | 120 | 4 | 4,68 |
| 3 | 88,9 | 190 | 152,4 | 19,0 | 19 | 130 | 4 | 5,70 |
| 4 | 108 | 229 | 190,5 | 19,0 | 24 | 158 | 8 | 8,67 |
| 6 | 159 | 279 | 241,3 | 22,2 | 27 | 212 | 8 | 15,46 |
| 8 | 219,1 | 343 | 298,4 | 22,2 | 31 | 270 | 8 | 24,90 |
| 10 | 267 | 406 | 362,0 | 25,4 | 38 | 320 | 12 | 41,23 |
| 12 | 323,9 | 483 | 431,8 | 25,4 | 41 | 370 | 12 | 70,55 |
| 14 | 368 | 533 | 476,2 | 28,6 | 45 | 430 | 12 | 93,16 |
| 16 | 419 | 597 | 539,8 | 28,6 | 51 | 482 | 16 | 123,99 |
| 18 | 457,2 | 635 | 577,8 | 31,8 | 52 | 530 | 16 | 147,55 |
| 20 | 508 | 698 | 635,0 | 31,8 | 58 | 585 | 20 | 191,00 |
| 24 | 610 | 813 | 749,0 | 34,9 | 71 | 685 | 20 | 285,74 |
| 28 | 711 | 927 | 864,0 | 34,9 | 81 | 800 | 28 | 434,66 |
| 32 | 813 | 1060 | 978,0 | 41,1 | 95 | 905 | 28 | 665,63 |
| 36 | 914 | 1168 | 1086,0 | 41,1 | 105 | 1000 | 32 | 886,43 |

ELBOWS LR 16/20 BAR

Material: UNS 7060X
Standards: EEMUA 146 Section 1
E10/9603/615

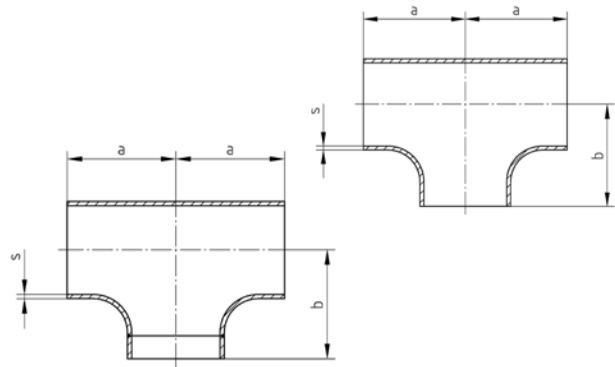


DIMENSIONS (MM)

| Nominal Size in | Specified Size mm | Specified Pipe Thickness s | | E-Centre to Face | | Approx. Weight (kg) | | | |
|--------------------|----------------------|----------------------------|--------|------------------|------|---------------------|---------------|---------------|---------------|
| | | 16 Bar | 20 Bar | e | a | 45° 16 Bar | 45° 20 Bar | 90° 16 Bar | 90° 20 Bar |
| 1 | 30 | 2,5 | 2,5 | 22 | 38 | 0,05 | 0,05 | 0,11 | 0,11 |
| 1 1/4 | 38 | 2,5 | 2,5 | 25 | 48 | 0,09 | 0,09 | 0,17 | 0,17 |
| 1 1/2 | 44,5 | 2,5 | 2,5 | 29 | 57 | 0,15 | 0,15 | 0,30 | 0,30 |
| 2 | 57 | 2,5 | 2,5 | 35 | 76 | 0,25 | 0,25 | 0,52 | 0,52 |
| 2 1/2 | 76,1 | 2,5 | 2,5 | 44 | 95 | 0,45 | 0,45 | 0,90 | 0,90 |
| 3 | 88,9 | 2,5 | 2,5 | 51 | 114 | 0,65 | 0,65 | 1,25 | 1,25 |
| 4 | 108 | 3,0 | 3,0 | 64 | 152 | 1,00 | 1,00 | 2,10 | 2,10 |
| 6 | 159 | 3,0 | 3,5 | 95 | 229 | 2,3 | 2,7 | 4,7 | 5,5 |
| 8 | 219,1 | 4,0 | 4,5 | 127 | 305 | 6,0 | 6,5 | 12 | 13 |
| 10 | 267 | 4,5 | 5,5 | 159 | 381 | 10 | 12 | 20 | 24 |
| 12 | 323,9 | 5,5 | 7,0 | 190 | 457 | 17 | 23 | 35 | 45 |
| 14 | 368 | 6,5 | 8,0 | 222 | 533 | 27 | 34 | 55 | 67 |
| 16 | 419 | 7,0 | 9,0 | 254 | 610 | 38 | 50 | 77 | 99 |
| 18 | 457,2 | 8,0 | 9,5 | 286 | 686 | 54 | 64 | 109 | 128 |
| 20 | 508 | 8,5 | 11,0 | 318 | 762 | 71 | 92 | 142 | 184 |
| 24 | 610 | 10,5 | 13,0 | 381 | 914 | 126 | 156 | 252 | 312 |
| 28 | 711 | 12,0 | 15,0 | 438 | 1067 | 197 | 245 | 394 | 490 |
| 32 | 813 | 13,5 | 17,0 | 502 | 1219 | 289 | 362 | 579 | 725 |
| 36 | 914 | 15,5 | 19,0 | 565 | 1372 | 420 | 513 | 841 | 1026 |

TEE-PIECES – EQUAL 16/20 BAR SEAMLESS/WELDED

Material: UNS 7060X
Standards: EEMUA 146 Section 1
E10/9603/290
E10/9603/300



DIMENSIONS (MM)

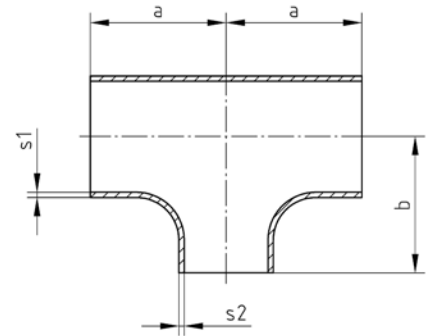
| Nominal Size in | Specified Size mm | Pipe Wall Thickness s mm | | a = b | Approx. Weight (kg) mm | |
|--------------------|----------------------|-----------------------------|--------|-------|---------------------------|--------|
| | | 16 Bar | 20 Bar | | 16 Bar | 20 Bar |
| 1 | 30 | 2,5 | 2,5 | 38 | 0,30 | 0,30 |
| 1 1/4 | 38 | 2,5 | 2,5 | 48 | 0,50 | 0,50 |
| 1 1/2 | 44,5 | 2,5 | 2,5 | 57 | 0,75 | 0,75 |
| 2 | 57 | 2,5 | 2,5 | 64 | 1,00 | 1,00 |
| 2 1/2 | 76,1 | 2,5 | 2,5 | 76 | 1,60 | 1,60 |
| 3 | 88,9 | 2,5 | 2,5 | 86 | 2,00 | 2,00 |
| 4 | 108 | 3,0 | 3,0 | 105 | 3,25 | 3,25 |
| 6 | 159 | 3,0 | 3,5 | 143 | 6,00 | 7,20 |
| 8 | 219,1 | 4,0 | 4,5 | 178 | 11,25 | 12,70 |
| WELDED | | | | | | |
| 10 | 267 | 4,5 | 5,5 | 219 | 22,50 | 27,50 |
| 12 | 323,9 | 5,5 | 7,0 | 254 | 39,50 | 50,30 |
| 14 | 368 | 6,5 | 8,0 | 279 | 62,00 | 76,00 |
| 16 | 419 | 7,0 | 9,0 | 305 | 88,00 | 119,00 |
| 18 | 457,2 | 8,0 | 9,5 | 343 | 128,00 | 152,00 |
| 20 | 508 | 8,5 | 11,0 | 381 | 165,00 | 214,00 |
| 24 | 610 | 10,5 | 13,0 | 432 | 266,00 | 330,00 |
| 28 | 711 | 12,0 | 15,0 | 521 | 388,00 | 458,00 |
| 32 | 813 | 13,5 | 17,0 | 597 | 508,00 | 606,00 |
| 36 | 914 | 15,4 | 19,0 | 673 | 650,00 | 794,00 |

TEE-PIECES - REDUCED

16 BAR

SEAMLESS

Material: UNS 7060X
 Standards: EEMUA 146 Section 1
 E10/g603/290



DIMENSIONS (MM)

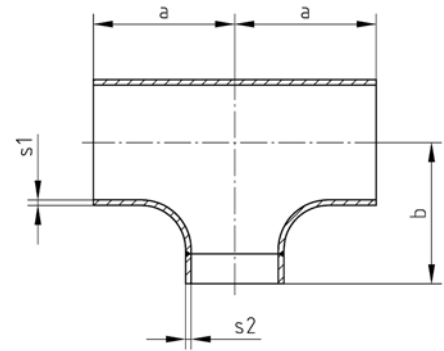
| Specified Size | | | | | Pipe Wall Thickness | | | | | Centre - to - End (mm) | | | | | |
|----------------|---|-------|---|------|---------------------|---|-----|---|-----|------------------------|--------------|-----|-----|-----------------|-----|
| mm | x | mm | x | mm | mm | x | mm | x | mm | max | Run a nom | min | max | Outlet b nom | min |
| 30 | | 30 | | 25 | 2,5 | | 2,5 | | 2,0 | 40 | 38 | 36 | 40 | 38 | 36 |
| 38 | | 38 | | 30 | 2,5 | | 2,5 | | 2,5 | 50 | 48 | 46 | 50 | 48 | 46 |
| 38 | | 38 | | 25 | 2,5 | | 2,5 | | 2,0 | 50 | 48 | 46 | 50 | 48 | 46 |
| 44,5 | | 44,5 | | 38 | 2,5 | | 2,5 | | 2,5 | 59 | 57 | 55 | 59 | 57 | 55 |
| 44,5 | | 44,5 | | 30 | 2,5 | | 2,5 | | 2,5 | 59 | 57 | 55 | 59 | 57 | 55 |
| 44,5 | | 44,5 | | 25 | 2,5 | | 2,5 | | 2,0 | 59 | 57 | 55 | 59 | 57 | 55 |
| 57 | | 57 | | 44,5 | 2,5 | | 2,5 | | 2,5 | 66 | 64 | 62 | 62 | 60 | 58 |
| 57 | | 57 | | 38 | 2,5 | | 2,5 | | 2,5 | 66 | 64 | 62 | 59 | 57 | 55 |
| 57 | | 57 | | 30 | 2,5 | | 2,5 | | 2,5 | 66 | 64 | 62 | 53 | 51 | 49 |
| 76,1 | | 76,1 | | 57 | 2,5 | | 2,5 | | 2,5 | 78 | 76 | 74 | 72 | 70 | 68 |
| 76,1 | | 76,1 | | 44,5 | 2,5 | | 2,5 | | 2,5 | 78 | 76 | 74 | 69 | 67 | 65 |
| 76,1 | | 76,1 | | 38 | 2,5 | | 2,5 | | 2,5 | 78 | 76 | 74 | 66 | 64 | 62 |
| 88,9 | | 88,9 | | 76,1 | 2,5 | | 2,5 | | 2,5 | 88 | 86 | 84 | 85 | 83 | 81 |
| 88,9 | | 88,9 | | 57 | 2,5 | | 2,5 | | 2,5 | 88 | 86 | 84 | 78 | 76 | 74 |
| 88,9 | | 88,9 | | 44,5 | 2,5 | | 2,5 | | 2,5 | 88 | 86 | 84 | 75 | 73 | 71 |
| 108 | | 108 | | 88,9 | 3,0 | | 3,0 | | 2,5 | 107 | 105 | 103 | 100 | 98 | 96 |
| 108 | | 108 | | 76,1 | 3,0 | | 3,0 | | 2,5 | 107 | 105 | 103 | 97 | 95 | 93 |
| 108 | | 108 | | 57 | 3,0 | | 3,0 | | 2,5 | 107 | 105 | 103 | 91 | 89 | 87 |
| 159 | | 159 | | 108 | 3,0 | | 3,0 | | 3,0 | 145 | 143 | 141 | 132 | 130 | 128 |
| 159 | | 159 | | 88,9 | 3,0 | | 3,0 | | 2,5 | 145 | 143 | 141 | 126 | 124 | 122 |
| 159 | | 159 | | 76,1 | 3,0 | | 3,0 | | 2,5 | 145 | 143 | 141 | 123 | 121 | 119 |
| 219,1 | | 219,1 | | 159 | 4,0 | | 4,0 | | 3,0 | 180 | 178 | 176 | 170 | 168 | 166 |
| 219,1 | | 219,1 | | 108 | 4,0 | | 4,0 | | 3,0 | 180 | 178 | 176 | 158 | 156 | 154 |
| 219,1 | | 219,1 | | 88,9 | 4,0 | | 4,0 | | 2,5 | 180 | 178 | 176 | 154 | 152 | 150 |

TEE-PIECES – REDUCED

16 BAR

WELDED

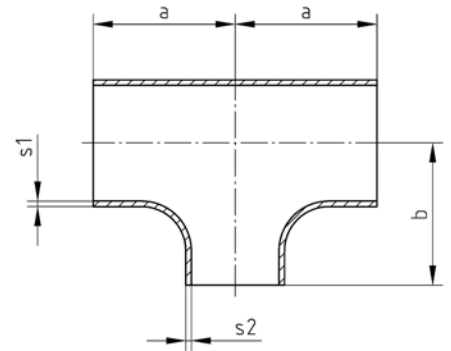
Material: UNS 7060X
 Standards: EEMUA 146 Section 1
 E10/9603/300



DIMENSIONS (MM)

| Specified Size | | | Pipe Wall Thickness | | | Centre - to - End (mm) | | | | | | | | | |
|----------------|---|-------|---------------------|-------|------|------------------------|------|---|------|-----|--------------|-----|-----|-----------------|-----|
| mm | x | mm | x | mm | mm | x | mm | x | mm | max | Run a nom | min | max | Outlet b nom | min |
| 267 | | 267 | | 219,1 | 4,5 | | 4,5 | | 4,0 | 218 | 216 | 214 | 205 | 203 | 201 |
| 267 | | 267 | | 159 | 4,5 | | 4,5 | | 3,0 | 218 | 216 | 214 | 196 | 194 | 192 |
| 267 | | 267 | | 108 | 4,5 | | 4,5 | | 3,0 | 218 | 216 | 214 | 186 | 184 | 182 |
| 323,9 | | 323,9 | | 267 | 5,5 | | 5,5 | | 4,5 | 257 | 254 | 251 | 244 | 241 | 238 |
| 323,9 | | 323,9 | | 219,1 | 5,5 | | 5,5 | | 4,0 | 257 | 254 | 251 | 232 | 229 | 226 |
| 323,9 | | 323,9 | | 159 | 5,5 | | 5,5 | | 3,0 | 257 | 254 | 251 | 222 | 219 | 216 |
| 368 | | 368 | | 323,9 | 6,5 | | 6,5 | | 5,5 | 282 | 279 | 276 | 273 | 27 | 267 |
| 368 | | 368 | | 267 | 6,5 | | 6,5 | | 4,5 | 282 | 279 | 276 | 260 | 257 | 254 |
| 368 | | 368 | | 219,1 | 6,5 | | 6,5 | | 4,0 | 282 | 279 | 276 | 251 | 248 | 245 |
| 419 | | 419 | | 368 | 7,0 | | 7,0 | | 6,5 | 308 | 305 | 302 | 308 | 305 | 302 |
| 419 | | 419 | | 323,9 | 7,0 | | 7,0 | | 5,5 | 308 | 305 | 302 | 298 | 295 | 292 |
| 419 | | 419 | | 267 | 7,0 | | 7,0 | | 4,5 | 308 | 305 | 302 | 286 | 283 | 280 |
| 457,2 | | 457,2 | | 419 | 8,0 | | 8,0 | | 7,0 | 346 | 343 | 340 | 333 | 330 | 327 |
| 457,2 | | 457,2 | | 368 | 8,0 | | 8,0 | | 6,5 | 346 | 343 | 340 | 333 | 330 | 327 |
| 457,2 | | 457,2 | | 323,9 | 8,0 | | 8,0 | | 5,5 | 346 | 343 | 340 | 324 | 321 | 318 |
| 508 | | 508 | | 457,2 | 8,5 | | 8,5 | | 8,0 | 384 | 381 | 378 | 371 | 368 | 365 |
| 508 | | 508 | | 419 | 8,5 | | 8,5 | | 7,0 | 384 | 381 | 378 | 359 | 356 | 353 |
| 508 | | 508 | | 368 | 8,5 | | 8,5 | | 6,5 | 384 | 381 | 378 | 359 | 356 | 353 |
| 610 | | 610 | | 508 | 10,5 | | 10,5 | | 8,5 | 435 | 432 | 429 | 435 | 432 | 429 |
| 610 | | 610 | | 457,2 | 10,5 | | 10,5 | | 8,0 | 435 | 432 | 429 | 422 | 419 | 416 |
| 610 | | 610 | | 419 | 10,5 | | 10,5 | | 7,0 | 435 | 432 | 429 | 409 | 406 | 403 |
| 711 | | 711 | | 610 | 12,0 | | 12,0 | | 10,5 | 524 | 521 | 518 | 511 | 508 | 505 |
| 711 | | 711 | | 508 | 12,0 | | 12,0 | | 8,5 | 524 | 521 | 518 | 486 | 483 | 480 |
| 711 | | 711 | | 457,2 | 12,0 | | 12,0 | | 8,0 | 524 | 521 | 518 | 473 | 470 | 467 |
| 813 | | 813 | | 711 | 13,5 | | 13,5 | | 12,0 | 602 | 597 | 592 | 577 | 572 | 567 |
| 813 | | 813 | | 510 | 13,5 | | 13,5 | | 10,5 | 602 | 597 | 592 | 564 | 559 | 554 |
| 813 | | 813 | | 508 | 13,5 | | 13,5 | | 8,5 | 602 | 597 | 592 | 538 | 533 | 528 |
| 914 | | 914 | | 813 | 15,5 | | 15,5 | | 13,5 | 678 | 673 | 668 | 653 | 648 | 643 |
| 914 | | 914 | | 711 | 15,5 | | 15,5 | | 12,0 | 678 | 673 | 668 | 627 | 622 | 617 |
| 914 | | 914 | | 610 | 15,5 | | 15,5 | | 10,5 | 678 | 673 | 668 | 615 | 610 | 605 |

TEE-PIECES – REDUCED 20 BAR SEAMLESS



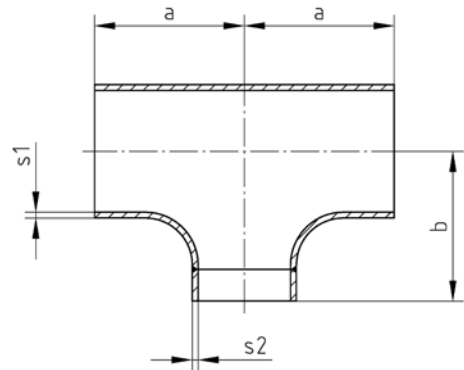
Material: UNS 7060X
Standards: EEMUA 146 Section 1
E10/9603/290

DIMENSIONS (MM)

| Specified Size | | | Pipe Wall Thickness | | | Centre - to - End (mm) | | | | | | | |
|----------------|---|-------|---------------------|------|-----|------------------------|-------|----------|----------|-----|-----|-----|-----|
| mm | x | mm | x | mm | s | Run a | Run a | Outlet b | Outlet b | min | min | | |
| | | | | | | max | nom | min | max | nom | min | | |
| 30 | | 30 | | 25 | 2,5 | 2,5 | 2,0 | 40 | 38 | 36 | 40 | 38 | 36 |
| 38 | | 38 | | 30 | 2,5 | 2,5 | 2,5 | 50 | 48 | 46 | 50 | 48 | 46 |
| 38 | | 38 | | 25 | 2,5 | 2,5 | 2,0 | 50 | 48 | 46 | 50 | 48 | 46 |
| 44,5 | | 44,5 | | 38 | 2,5 | 2,5 | 2,5 | 59 | 57 | 55 | 59 | 57 | 55 |
| 44,5 | | 44,5 | | 30 | 2,5 | 2,5 | 2,5 | 59 | 57 | 55 | 59 | 57 | 55 |
| 44,5 | | 44,5 | | 25 | 2,5 | 2,5 | 2,0 | 59 | 57 | 55 | 59 | 57 | 55 |
| 57 | | 57 | | 44,5 | 2,5 | 2,5 | 2,5 | 66 | 64 | 62 | 62 | 60 | 58 |
| 57 | | 57 | | 38 | 2,5 | 2,5 | 2,5 | 66 | 64 | 62 | 59 | 57 | 55 |
| 57 | | 57 | | 30 | 2,5 | 2,5 | 2,5 | 66 | 64 | 62 | 53 | 51 | 49 |
| 76,1 | | 76,1 | | 57 | 2,5 | 2,5 | 2,5 | 78 | 76 | 74 | 72 | 70 | 68 |
| 76,1 | | 76,1 | | 44,5 | 2,5 | 2,5 | 2,5 | 78 | 76 | 74 | 69 | 67 | 65 |
| 76,1 | | 76,1 | | 38 | 2,5 | 2,5 | 2,5 | 78 | 76 | 74 | 66 | 64 | 62 |
| 88,9 | | 88,9 | | 76,1 | 2,5 | 2,5 | 2,5 | 88 | 86 | 84 | 85 | 83 | 81 |
| 88,9 | | 88,9 | | 57 | 2,5 | 2,5 | 2,5 | 88 | 86 | 84 | 78 | 76 | 74 |
| 88,9 | | 88,9 | | 44,5 | 2,5 | 2,5 | 2,5 | 88 | 86 | 84 | 75 | 73 | 71 |
| 108 | | 108 | | 88,9 | 3,0 | 3,0 | 2,5 | 107 | 105 | 103 | 100 | 98 | 96 |
| 108 | | 108 | | 76,1 | 3,0 | 3,0 | 2,5 | 107 | 105 | 103 | 97 | 95 | 93 |
| 108 | | 108 | | 57 | 3,0 | 3,0 | 2,5 | 107 | 105 | 103 | 91 | 89 | 87 |
| 159 | | 159 | | 108 | 3,5 | 3,5 | 3,0 | 145 | 143 | 141 | 132 | 130 | 128 |
| 159 | | 159 | | 88,9 | 3,5 | 3,5 | 2,5 | 145 | 143 | 141 | 126 | 124 | 122 |
| 159 | | 159 | | 76,1 | 3,5 | 3,5 | 2,5 | 145 | 143 | 141 | 123 | 121 | 119 |
| 219,1 | | 219,1 | | 159 | 3,5 | 3,5 | 3,5 | 180 | 178 | 176 | 170 | 168 | 166 |
| 219,1 | | 219,1 | | 108 | 3,5 | 3,5 | 3,0 | 180 | 178 | 176 | 158 | 156 | 154 |
| 219,1 | | 219,1 | | 88,9 | 3,5 | 3,5 | 2,5 | 180 | 178 | 176 | 154 | 152 | 150 |

TEE-PIECES – REDUCED 20 BAR WELDED

Material: UNS 7060X
Standards: EEMUA 146 Section 1
E10/9603/300

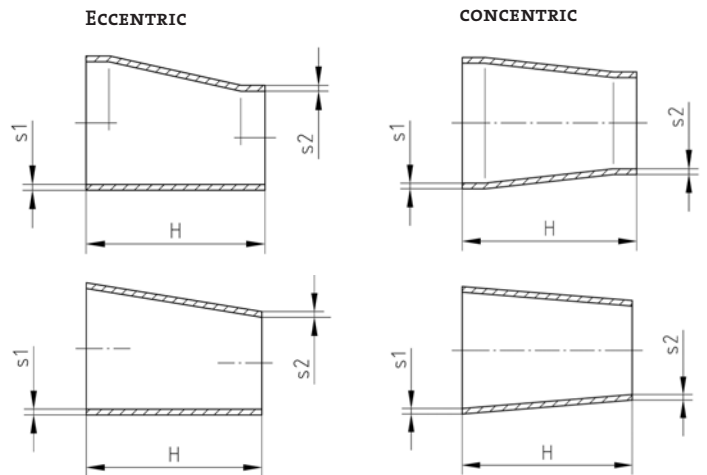


DIMENSIONS (MM)

| Specified Size | | | Pipe Wall Thickness s | | | Centre - to - End (mm) | | | | | | | | | |
|----------------|---|-------|-----------------------|-------|------|------------------------|------|---|----|-----|--------------|-----|-----|-----------------|-----|
| mm | x | mm | x | mm | mm | x | mm | x | mm | max | Run a nom | min | max | Outlet b nom | min |
| 267 | | 267 | | 219,1 | 5,5 | 5,5 | 4,5 | | | 218 | 216 | 214 | 205 | 203 | 201 |
| 267 | | 267 | | 159 | 5,5 | 5,5 | 3,5 | | | 218 | 216 | 214 | 196 | 194 | 192 |
| 267 | | 267 | | 108 | 5,5 | 5,5 | 3,0 | | | 218 | 216 | 214 | 186 | 184 | 182 |
| 323,9 | | 323,9 | | 267 | 7,0 | 7,0 | 5,5 | | | 257 | 254 | 251 | 244 | 241 | 238 |
| 323,9 | | 323,9 | | 219,1 | 7,0 | 7,0 | 4,5 | | | 257 | 254 | 251 | 232 | 229 | 226 |
| 323,9 | | 323,9 | | 159 | 7,0 | 7,0 | 3,5 | | | 257 | 254 | 251 | 222 | 219 | 216 |
| 368 | | 368 | | 323,9 | 8,0 | 8,0 | 7,0 | | | 282 | 279 | 276 | 273 | 27 | 267 |
| 368 | | 368 | | 267 | 8,0 | 8,0 | 5,5 | | | 282 | 279 | 276 | 260 | 257 | 254 |
| 368 | | 368 | | 219,1 | 8,0 | 8,0 | 4,5 | | | 282 | 279 | 276 | 251 | 248 | 245 |
| 419 | | 419 | | 368 | 9,0 | 9,0 | 8,0 | | | 308 | 305 | 302 | 308 | 305 | 302 |
| 419 | | 419 | | 323,9 | 9,0 | 9,0 | 7,0 | | | 308 | 305 | 302 | 298 | 295 | 292 |
| 419 | | 419 | | 267 | 9,0 | 9,0 | 5,5 | | | 308 | 305 | 302 | 286 | 283 | 280 |
| 457,2 | | 457,2 | | 419 | 9,5 | 9,5 | 9,0 | | | 346 | 343 | 340 | 333 | 330 | 327 |
| 457,2 | | 457,2 | | 368 | 9,5 | 9,5 | 8,0 | | | 346 | 343 | 340 | 333 | 330 | 327 |
| 457,2 | | 457,2 | | 323,9 | 9,5 | 9,5 | 7,0 | | | 346 | 343 | 340 | 324 | 321 | 318 |
| 508 | | 508 | | 457,2 | 11,0 | 11,0 | 9,5 | | | 384 | 381 | 378 | 371 | 368 | 365 |
| 508 | | 508 | | 419 | 11,0 | 11,0 | 9,0 | | | 384 | 381 | 378 | 359 | 356 | 353 |
| 508 | | 508 | | 368 | 11,0 | 11,0 | 8,0 | | | 384 | 381 | 378 | 359 | 356 | 353 |
| 610 | | 610 | | 508 | 13,0 | 13,0 | 11,0 | | | 435 | 432 | 429 | 435 | 432 | 429 |
| 610 | | 610 | | 457,2 | 13,0 | 13,0 | 9,5 | | | 435 | 432 | 429 | 422 | 419 | 416 |
| 610 | | 610 | | 419 | 13,0 | 13,0 | 9,0 | | | 435 | 432 | 429 | 409 | 406 | 403 |
| 711 | | 711 | | 610 | 15,0 | 15,0 | 13,0 | | | 524 | 521 | 518 | 511 | 508 | 505 |
| 711 | | 711 | | 508 | 15,0 | 15,0 | 11,0 | | | 524 | 521 | 518 | 486 | 483 | 480 |
| 711 | | 711 | | 457,2 | 15,0 | 15,0 | 9,5 | | | 524 | 521 | 518 | 473 | 470 | 467 |
| 813 | | 813 | | 711 | 17,0 | 17,0 | 15,0 | | | 602 | 597 | 592 | 577 | 572 | 567 |
| 813 | | 813 | | 610 | 17,0 | 17,0 | 13,0 | | | 602 | 597 | 592 | 564 | 559 | 554 |
| 813 | | 813 | | 508 | 17,0 | 17,0 | 11,0 | | | 602 | 597 | 592 | 538 | 533 | 528 |
| 914 | | 914 | | 813 | 19,0 | 19,0 | 17,0 | | | 678 | 673 | 668 | 653 | 648 | 643 |
| 914 | | 914 | | 711 | 19,0 | 19,0 | 15,0 | | | 678 | 673 | 668 | 627 | 622 | 617 |
| 914 | | 914 | | 610 | 19,0 | 19,0 | 13,0 | | | 678 | 673 | 668 | 615 | 610 | 605 |

REDUCERS 16/20 BAR

Material: UNS 7060X
 Standards: EEMUA 146 Section 1
 E10/9603/400+405
 E10/9603/440+450

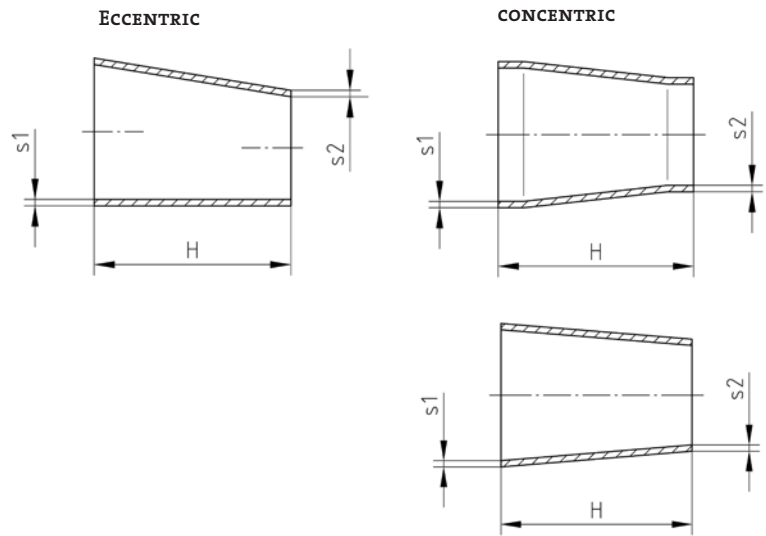


DIMENSIONS (MM)

| Specified Size | | | Length H mm | Specified Wall Thickness s1 x s2 | | | | | | Approx. Weight (kg) | |
|----------------|---|-------|----------------|-------------------------------------|---|--------|-----|--------|--------|------------------------|-------|
| mm | x | mm | | 16 Bar | | 20 Bar | | 16 Bar | 20 Bar | | |
| mm | x | mm | mm | mm | x | mm | mm | x | mm | mm | |
| 30 | | 25 | 51 | 2,5 | | 2,0 | 2,5 | | 2,0 | 0,07 | 0,07 |
| 38 | | 25 | 51 | 2,5 | | 2,0 | 2,5 | | 2,0 | 0,09 | 0,09 |
| 38 | | 30 | 51 | 2,5 | | 2,5 | 2,5 | | 2,5 | 0,11 | 0,11 |
| 44,5 | | 25 | 64 | 2,5 | | 2,0 | 2,5 | | 2,0 | 0,18 | 0,18 |
| 44,5 | | 30 | 64 | 2,5 | | 2,5 | 2,5 | | 2,5 | 0,20 | 0,20 |
| 44,5 | | 38 | 64 | 2,5 | | 2,5 | 2,5 | | 2,5 | 0,22 | 0,22 |
| 57 | | 30 | 76 | 2,5 | | 2,5 | 2,5 | | 2,5 | 0,29 | 0,29 |
| 57 | | 38 | 76 | 2,5 | | 2,5 | 2,5 | | 2,5 | 0,29 | 0,29 |
| 57 | | 44,5 | 76 | 2,5 | | 2,5 | 2,5 | | 2,5 | 0,29 | 0,29 |
| 76,1 | | 38 | 89 | 2,5 | | 2,5 | 2,5 | | 2,5 | 0,33 | 0,33 |
| 76,1 | | 44,5 | 89 | 2,5 | | 2,5 | 2,5 | | 2,5 | 0,36 | 0,36 |
| 76,1 | | 57 | 89 | 2,5 | | 2,5 | 2,5 | | 2,5 | 0,40 | 0,40 |
| 88,9 | | 57 | 89 | 2,5 | | 2,5 | 2,5 | | 2,5 | 0,44 | 0,44 |
| 88,9 | | 76,1 | 89 | 2,5 | | 2,5 | 2,5 | | 2,5 | 0,50 | 0,50 |
| 108 | | 57 | 102 | 3,0 | | 2,5 | 3,0 | | 2,5 | 0,67 | 0,67 |
| 108 | | 76,1 | 102 | 3,0 | | 2,5 | 3,0 | | 2,5 | 0,75 | 0,75 |
| 108 | | 88,9 | 102 | 3,0 | | 2,5 | 3,0 | | 2,5 | 0,80 | 0,80 |
| 159 | | 57 | 140 | 3,0 | | 2,5 | 3,5 | | 2,5 | 1,32 | 1,54 |
| 159 | | 76,1 | 140 | 3,0 | | 2,5 | 3,5 | | 2,5 | 1,44 | 1,68 |
| 159 | | 88,9 | 140 | 3,0 | | 2,5 | 3,5 | | 2,5 | 1,52 | 1,77 |
| 159 | | 108 | 140 | 3,0 | | 3,0 | 3,5 | | 3,0 | 1,64 | 1,91 |
| 219,1 | | 76,1 | 152 | 4,0 | | 2,5 | 4,5 | | 2,5 | 2,49 | 2,79 |
| 219,1 | | 88,9 | 152 | 4,0 | | 2,5 | 4,5 | | 2,5 | 2,60 | 2,92 |
| 219,1 | | 108 | 152 | 4,0 | | 3,0 | 4,5 | | 3,0 | 2,77 | 3,11 |
| 219,1 | | 159 | 152 | 4,0 | | 3,0 | 4,5 | | 3,5 | 3,21 | 3,60 |
| 267 | | 108 | 178 | 4,5 | | 3,0 | 5,5 | | 3,0 | 4,84 | 5,89 |
| 267 | | 159 | 178 | 4,5 | | 3,0 | 5,5 | | 3,5 | 5,52 | 6,71 |
| 267 | | 219,1 | 178 | 4,5 | | 4,0 | 5,5 | | 4,5 | 6,31 | 7,68 |
| 323,9 | | 159 | 203 | 5,5 | | 3,0 | 7,0 | | 3,5 | 7,63 | 9,65 |
| 323,9 | | 219,1 | 203 | 5,5 | | 4,0 | 7,0 | | 4,5 | 8,60 | 10,89 |
| 323,9 | | 267 | 203 | 5,5 | | 4,5 | 7,0 | | 5,5 | 9,38 | 11,87 |

REDUCERS 16/20 BAR WELDED

Material: UNS 7060X
 Standards: EEMUA 146 Section 1
 E10/9603/400+405
 E10/9603/450

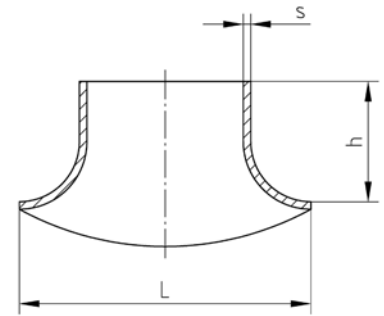


DIMENSIONS (MM)

| Specified Size | | Length H mm | Specified Wall Thickness s1 x s2 | | | | | Approx. Weight (kg) | |
|----------------|-------|----------------|-------------------------------------|----------|------|------|----------|---------------------|--------|
| mm | x mm | | mm | 16 Bar x | mm | mm | 20 Bar x | mm | 16 Bar |
| 368 | 219,1 | 330 | 6,5 | 4,0 | 8,0 | 4,5 | | 17,24 | 21,50 |
| 368 | 267 | 330 | 6,5 | 4,5 | 8,0 | 5,5 | | 18,68 | 23,00 |
| 368 | 323,9 | 330 | 6,5 | 5,5 | 8,0 | 7,0 | | 20,39 | 25,00 |
| 419 | 267 | 356 | 7,0 | 4,5 | 9,0 | 5,5 | | 23,44 | 30,00 |
| 419 | 323,9 | 356 | 7,0 | 5,5 | 9,0 | 7,0 | | 25,43 | 32,50 |
| 419 | 368 | 356 | 7,0 | 6,5 | 9,0 | 8,0 | | 26,97 | 34,50 |
| 457,2 | 323,9 | 381 | 8,0 | 5,5 | 9,5 | 7,0 | | 32,65 | 39,00 |
| 457,2 | 368 | 381 | 8,0 | 6,5 | 9,5 | 8,0 | | 34,53 | 41,00 |
| 457,2 | 419 | 381 | 8,0 | 7,0 | 9,5 | 9,0 | | 36,71 | 43,50 |
| 508 | 368 | 508 | 8,5 | 6,5 | 11,0 | 8,0 | | 51,93 | 67,00 |
| 508 | 419 | 508 | 8,5 | 7,0 | 11,0 | 9,0 | | 55,01 | 71,00 |
| 508 | 457,2 | 508 | 8,5 | 8,0 | 11,0 | 9,5 | | 57,32 | 74,00 |
| 610 | 419 | 508 | 10,5 | 7,0 | 13,0 | 9,0 | | 75,27 | 93,00 |
| 610 | 457,2 | 508 | 10,5 | 8,0 | 13,0 | 9,5 | | 78,13 | 96,50 |
| 610 | 508 | 508 | 10,5 | 8,5 | 13,0 | 11,0 | | 81,92 | 101,00 |
| 711 | 457,2 | 610 | 12,0 | 8,0 | 15,0 | 9,5 | | 117,26 | 146,00 |
| 711 | 508 | 610 | 12,0 | 8,5 | 15,0 | 11,0 | | 122,46 | 152,00 |
| 711 | 610 | 610 | 12,0 | 10,5 | 15,0 | 13,0 | | 132,92 | 166,00 |
| 813 | 610 | 610 | 13,5 | 10,5 | 17,0 | 13,0 | | 160,94 | 200,00 |
| 813 | 711 | 610 | 13,5 | 12,0 | 17,0 | 15,0 | | 172,59 | 215,00 |
| 914 | 610 | 610 | 15,5 | 10,5 | 19,0 | 13,0 | | 188,75 | 234,00 |
| 914 | 711 | 610 | 15,5 | 12,0 | 19,0 | 15,0 | | 196,71 | 250,00 |
| 914 | 813 | 610 | 15,5 | 13,5 | 19,0 | 17,0 | | 213,15 | 265,00 |

SADDLES 16/20 BAR

Material: UNS 7060X
Standards: EEMUA 146 Section 7
E10/9603/505



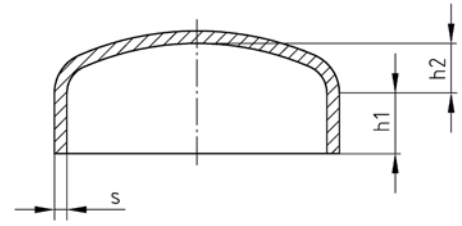
DIMENSIONS (MM)

| Nominal Size in | Specified Size mm | h mm | L mm | Pipe Wall Thickness s mm | |
|--------------------|----------------------|---------|---------|-----------------------------|--------|
| | | | | 16 Bar | 20 Bar |
| 1 | 30 | 30 | 50 | 2,5 | 2,5 |
| 1 1/4 | 38 | 35 | 64 | 2,5 | 2,5 |
| 1 1/2 | 44,5 | 35 | 74 | 2,5 | 2,5 |
| 2 | 57 | 40 | 97 | 2,5 | 2,5 |
| 2 1/2 | 76,1 | 50 | 126 | 2,5 | 2,5 |
| 3 | 88,9 | 55 | 149 | 2,5 | 2,5 |
| 4 | 108 | 75 | 188 | 3,0 | 3,0 |
| 6 | 159 | 95 | 279 | 3,0 | 3,5 |
| 8 | 219,1 | 125 | 379 | 4,0 | 4,5 |
| 10 | 267 | 155 | 447 | 4,5 | 5,5 |
| 12 | 323,9 | 185 | 560 | 5,5 | 7,0 |
| 14 | 368 | 200 | 613 | 6,5 | 8,0 |
| 16 | 419 | 225 | 680 | 7,0 | 9,0 |

The dimensions are available for all header sizes equal to or longer the branch up to and included OD 914 mm.

END CAPS 16/20 BAR

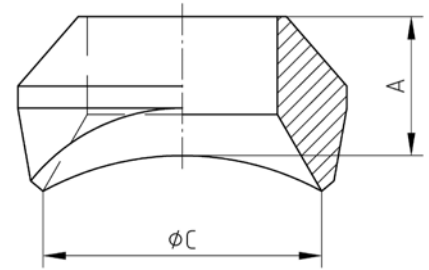
Material: UNS 7060X
Standards: EEMUA 146 Section 1
E10/9603/800



DIMENSIONS (MM)

| Nominal Size in | Specified Size in | 16 Bar | | 20 Bar | | Approx. Weight kg | |
|--------------------|----------------------|-------------|---------------|-------------|---------------|----------------------|--------|
| | | s min mm | h1 + h2 mm | s min mm | h1 + h2 mm | 16 Bar | 20 Bar |
| 1 | 30 | 2,5 | 16,0 | 2,5 | 16,0 | 0,03 | 0,03 |
| 1 1/4 | 38 | 2,5 | 17,5 | 2,5 | 17,5 | 0,05 | 0,05 |
| 1 1/2 | 44,5 | 2,5 | 19,6 | 2,5 | 19,6 | 0,08 | 0,08 |
| 2 | 57 | 2,5 | 22,0 | 2,5 | 22,0 | 0,11 | 0,11 |
| 2 1/2 | 76,1 | 2,5 | 25,7 | 2,5 | 25,7 | 0,18 | 0,18 |
| 3 | 88,9 | 2,5 | 28,2 | 2,5 | 28,2 | 0,24 | 0,24 |
| 4 | 108 | 3,0 | 31,7 | 3,0 | 31,7 | 0,40 | 0,40 |
| 6 | 159 | 3,0 | 41 | 3,5 | 44 | 0,80 | 0,97 |
| 8 | 219,1 | 4,0 | 55 | 4,5 | 60 | 2,0 | 2,4 |
| 10 | 267 | 4,5 | 69 | 5,5 | 69 | 3,4 | 4,1 |
| 12 | 323,9 | 5,5 | 80 | 7,0 | 85 | 5,9 | 7,7 |
| 14 | 368 | 6,5 | 93 | 8,0 | 103 | 9,1 | 11,9 |
| 16 | 419 | 7,0 | 102 | 9,0 | 112 | 12,4 | 16,9 |
| 18 | 457,2 | 8,0 | 119 | 9,5 | 119 | 17,6 | 20,9 |
| 20 | 508 | 8,5 | 129 | 11,0 | 139 | 22,7 | 30,8 |
| 24 | 610 | 10,5 | 148 | 13,0 | 163 | 39,2 | 51,6 |
| 28 | 711 | 12,0 | 176 | 15,0 | 191 | 61,8 | 81,4 |
| 32 | 813 | 13,5 | 200 | 17,0 | 210 | 90,5 | 117,4 |
| 36 | 914 | 15,5 | 221 | 19,0 | 231 | 132,2 | 166,2 |

WELDING OUTLET 16/20 BAR BUTT WELD BRANCH CONNECTORS

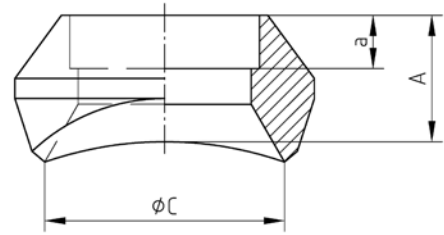


Material: UNS 7060X
Standards: EEMUA 146 Section 6
E10/9604/200

DIMENSIONS (MM)

| Branch Tube Size mm | x | Header Size Range mm | A mm | C mm | Approx. Weight kg |
|---------------------|---|----------------------|-------|------|-------------------|
| 16 | | 16 - 44,5 | 19,05 | 21 | 0,07 |
| 16 | | 57 - 610 | 17,5 | 29 | 0,11 |
| 25 | | 25 - 44,5 | 22,2 | 30 | 0,11 |
| 25 | | 57 - 610 | 20,6 | 38 | 0,21 |
| 30 | | 30 - 44,5 | 27,0 | 35 | 0,16 |
| 30 | | 57 - 610 | 22,2 | 41 | 0,26 |
| 38 | | 38 - 44,5 | 30,2 | 44 | 0,24 |
| 38 | | 57 - 610 | 25,4 | 50 | 0,39 |
| 44,5 | | 44,5 - 610 | 28,6 | 52 | 0,45 |
| 57 | | 57 - 76,1 | 38,1 | 63 | 0,48 |
| 57 | | 88,9 - 610 | 33,3 | 65 | 0,88 |
| 76,1 | | 76,1 - 108 | 47,6 | 85 | 2,0 - 1,85 |
| 76,1 | | 159 - 610 | 44,5 | 90 | 1,77 - 1,6 |
| 88,9 | | 88,9 - 108 | 47,6 | 86 | 2,68 - 2,39 |
| 88,9 | | 159 - 610 | 44,5 | 103 | 2,33 - 2,05 |
| 108 | | 108 | 46,8 | 105 | 2,82 |
| 108 | | 159 - 610 | 52,4 | 125 | 3,57 |
| 108 | | 219 - 610 | 49,2 | 116 | 3,0 - 2,71 |
| 159 | | 159 - 610 | 60,3 | 168 | 7,59 - 6,25 |
| 219,1 | | 219 - 610 | 69,9 | 235 | 15,5 - 12,0 |
| 267 | | 324 - 610 | 77,8 | 288 | 25,5 - 20,0 |
| 323,9 | | 324 - 610 | 85,7 | 308 | 35,0 - 26,1 |
| 368 | | 368 - 610 | 88,9 | 349 | 51,0 - 39,4 |
| 419 | | 419 - 610 | 93,7 | 398 | 75,0 - 60,5 |

SOCKET OUTLET 16/20 BAR SOCKET WELD BRANCH CONNECTORS

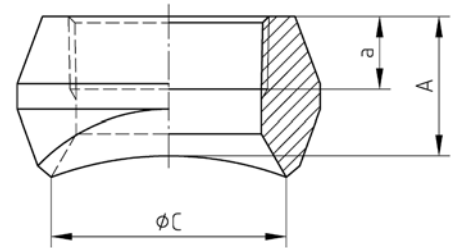


Material: UNS 7060X
Standards: EEMUA 146 Section 6
E10/9604/100

DIMENSIONS (MM)

| Branch Tube o.d. mm | x | Header Size Range mm | A nom mm | a min mm | C mm | Approx. Weight kg |
|---------------------|---|----------------------|----------|----------|------|-------------------|
| 16 | | 16 | 25,4 | 10 | 15 | 0,70 |
| 16 | | 25 - 44,5 | 25,4 | 10 | 18 | 0,06 |
| 16 | | 57 - 914 | 23,8 | 10 | 18 | 0,06 |
| 25 | | 25 | 26,9 | 13 | 23 | 0,10 |
| 25 | | 30 - 44,5 | 26,9 | 13 | 28 | 0,10 |
| 25 | | 57 - 914 | 25,4 | 13 | 28 | 0,21 |
| 30 | | 30 | 33,3 | 13 | 29 | 0,17 |
| 30 | | 38 - 44,5 | 33,3 | 13 | 35 | 0,17 |
| 30 | | 57 - 914 | 28,6 | 13 | 35 | 0,30 |
| 38 | | 38 | 33,3 | 13 | 43 | 0,25 |
| 38 | | 57 - 914 | 33,3 | 13 | 44 | 0,58 |
| 44,5 | | 44,5 | 30,2 | 13 | 46 | 0,24 |
| 44,5 | | 57 - 914 | 30,2 | 13 | 48 | 0,51 |
| 57 | | 57 | 38,1 | 16 | 55 | 0,42 |
| 57 | | 76,1 - 914 | 38,1 | 16 | 61 | 1,50 |

THREADED OUTLET 16/20 BAR SELF REINFORCED BRANCH CONNECTORS- THREADED TYPE



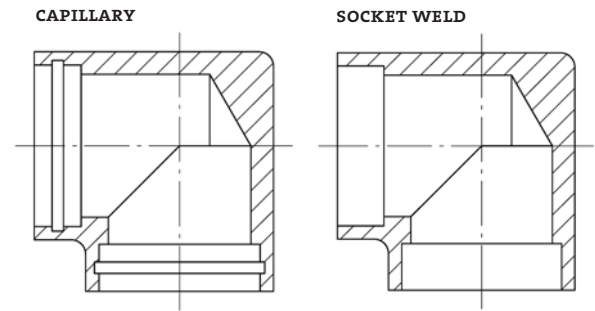
Material: UNS 7060X
Standards: EEMUA 146 Section 6
E10/9604/300

DIMENSIONS (MM)

| Branch Tube NPT | x | Header Size Range | A nom mm | a min mm | C mm | Approx. Weight kg |
|-----------------|---|-------------------|----------|----------|------|-------------------|
| 1/2 | | 25 - 44,5 | 25,4 | 13,5 | 21 | 0,08 |
| 1/2 | | 57 - 914 | 23,8 | 13,5 | 21 | 0,07 |
| 3/4 | | 30 - 44,5 | 26,9 | 14 | 23 | 0,17 |
| 3/4 | | 57 - 914 | 25,4 | 14 | 23 | 0,10 |
| 1 | | 38 - 44,5 | 33,3 | 17,5 | 35 | 0,33 |
| 1 | | 57 - 914 | 28,6 | 17,5 | 35 | 0,18 |
| 1 1/4 | | 57 - 914 | 33,3 | 18 | 47 | 0,40 |
| 1 1/2 | | 57 - 914 | 30,2 | 18,5 | 50 | 0,50 |
| 2 | | 76,1 - 914 | 38,1 | 19 | 63 | 1,00 |

ELBOW

Material: UNS 7060X
 Standards: EEMUA 146
 E10/9107/600

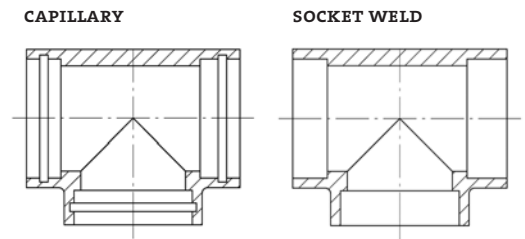


DIMENSIONS (MM)

| Fitting Size mm | Socket Depth mm | C to F mm |
|--------------------|--------------------|--------------|
| 16 | 10 | 24,5 |
| 25 | 13 | 37 |
| 30 | 13 | 37,5 |
| 38 | 13 | 42 |
| 44,5 | 13 | 51 |
| 57 | 16 | 53,5 |

CAPILLARY T-PIECE

Material: UNS 7060X
 Standards: EEMUA 146
 E10/9107/500

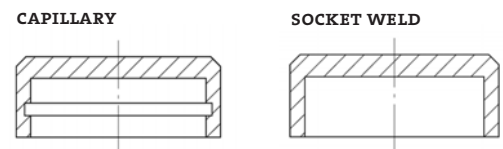


DIMENSIONS (MM)

| Fitting Size mm | Socket Depth mm | C to F mm |
|--------------------|--------------------|--------------|
| 16 | 10 | 20 |
| 25 | 13 | 28 |
| 30 | 13 | 29 |
| 38 | 13 | 35 |
| 44,5 | 13 | 40 |
| 57 | 16 | 49 |

END CAP

Material: UNS 7060X
 Standards: EEMUA 146



DIMENSIONS (MM)

| Fitting Size mm | Length mm | Socket Depth mm |
|--------------------|--------------|--------------------|
| 16 | 14 | 10 |
| 25 | 17 | 13 |
| 30 | 17 | 13 |
| 38 | 18 | 13 |
| 44,5 | 19 | 13 |
| 57 | 22 | 16 |

STRAIGHT COUPLINGS

CAPILLARY



Material: UNS 7060X
Standards: EEMUA 146
E10/9107/200

DIMENSIONS (MM)

| Pipe Size mm | Length mm | Socket Depth mm |
|--------------|-----------|-----------------|
| 16 | 23 | 10 |
| 25 | 30 | 13 |
| 30 | 30 | 13 |
| 38 | 30 | 13 |
| 44,5 | 31 | 13 |
| 57 | 38 | 16 |

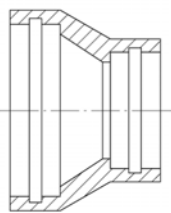
SOCKET WELD



REDUCING COUPLINGS

Material: UNS 7060X
Standards: EEMUA 146
E10/9107/300

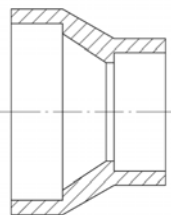
CAPILLARY



DIMENSIONS (MM)

| Fitting Size mm | Length mm | Socket Depth mm |
|-----------------|-----------|-----------------|
| 30 x 16 | 31 | 13 x 10 |
| 30 x 25 | 31 | 13 x 13 |
| 38 x 16 | 32 | 13 x 10 |
| 38 x 25 | 32 | 13 x 13 |
| 38 x 30 | 32 | 13 x 13 |
| 44,5 x 16 | 38 | 13 x 10 |
| 44,5 x 25 | 36 | 13 x 13 |
| 44,5 x 30 | 34 | 13 x 13 |
| 44,5 x 38 | 34 | 13 x 13 |
| 57 x 38 | 45 | 16 x 10 |
| 57 x 25 | 45 | 16 x 13 |
| 57 x 30 | 42 | 16 x 13 |
| 57 x 38 | 40 | 16 x 13 |
| 57 x 44,5 | 40 | 16 x 13 |

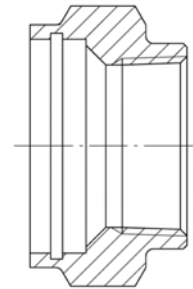
SOCKET WELD



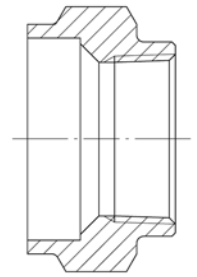
STRAIGHT FEMALE CONNECTOR

Material: UNS 7060X
 Standards: EEMUA 146

CAPILLARY



SOCKET WELD



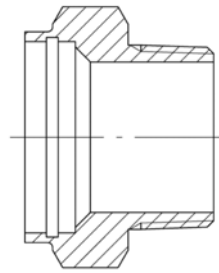
DIMENSIONS (MM)

| in / NPT | Fitting Size | | Length mm | Socket Depth mm |
|----------|--------------|------|--------------|-----------------------|
| | x | mm | | |
| 1/2" | | 16 | 40 | 10 |
| 1/2" | | 25 | 43 | 13 |
| 1/2" | | 30 | 43 | 13 |
| 1/2" | | 38 | 43 | 13 |
| 3/4" | | 16 | 43 | 10 |
| 3/4" | | 25 | 45 | 13 |
| 3/4" | | 30 | 45 | 13 |
| 3/4" | | 38 | 45 | 13 |
| 1" | | 25 | 47 | 13 |
| 1" | | 30 | 47 | 13 |
| 1" | | 38 | 48 | 13 |
| 1" | | 44,5 | 48 | 13 |
| 1 1/2" | | 44,5 | 51 | 13 |
| 1 1/2" | | 57 | 51 | 16 |
| 2" | | 44,5 | 53 | 13 |
| 2" | | 57 | 56 | 16 |

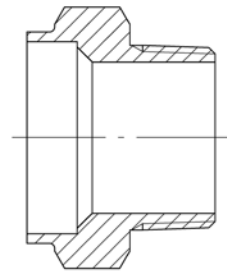
STRAIGHT MALE CONNECTOR

Material: UNS 7060X
Standards: EEMUA 146

CAPILLARY



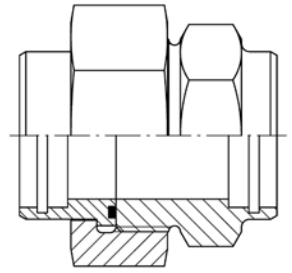
SOCKET WELD



DIMENSIONS (MM)

| in / NPT | Fitting Size | | Length mm | Socket Depth mm |
|----------|--------------|------|--------------|-----------------------|
| | x | mm | | |
| 1/2" | | 16 | 40 | 10 |
| 1/2" | | 25 | 43 | 13 |
| 1/2" | | 30 | 43 | 13 |
| 1/2" | | 38 | 43 | 13 |
| 3/4" | | 16 | 41 | 10 |
| 3/4" | | 25 | 44 | 13 |
| 3/4" | | 30 | 44 | 13 |
| 3/4" | | 38 | 44 | 13 |
| 1" | | 30 | 50 | 13 |
| 1" | | 38 | 50 | 13 |
| 1" | | 44,5 | 51 | 13 |
| 1" | | 57 | 54 | 16 |
| 1 1/4" | | 30 | 52 | 13 |
| 1 1/4" | | 38 | 52 | 13 |
| 1 1/4" | | 44,5 | 52 | 13 |
| 1 1/4" | | 57 | 55 | 16 |
| 1 1/2" | | 44,5 | 53 | 13 |
| 1 1/2" | | 57 | 56 | 16 |
| 2" | | 44,5 | 56 | 13 |
| 2" | | 57 | 59 | 16 |

UNION CONNECTOR

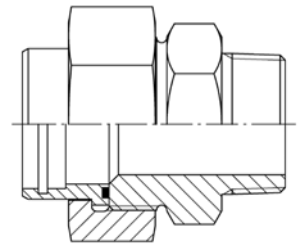


Material: UNS 7060X
 Standards: EEMUA 146
 E10/g308/700

DIMENSIONS (MM)

| Fitting Size | | | Length mm | Socket Depth mm |
|--------------|---|------|--------------|-----------------------|
| in | x | mm | | |
| 16 | | 16 | 54 | 10 |
| 25 | | 25 | 63 | 13 |
| 30 | | 30 | 69 | 13 |
| 38 | | 38 | 69 | 13 |
| 44,5 | | 44,5 | 74 | 13 |
| 57 | | 57 | 81 | 16 |

MALE UNION



Material: UNS 7060X
 Standards: EEMUA 146
 E10/9308/710

DIMENSIONS (MM)

| mm | Fitting Size | | Length mm | Socket Depth mm |
|------|--------------|----------|--------------|-----------------------|
| | x | in / NPT | | |
| 16 | | 1/2" | 66 | 10 |
| 25 | | 1" | 75 | 13 |
| 30 | | 1 1/4" | 85 | 13 |
| 38 | | 1 1/2" | 95 | 13 |
| 44,5 | | 1 3/4" | 96 | 13 |
| 57 | | 2 1/2" | 105 | 13 |



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