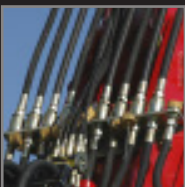


Hydraulic & Offshore Supplies



Instrumentation Tube, Seamless & Welded Pipe Catalogue

YOUR GATEWAY TO GLOBAL SUPPLY



HOSE ASSEMBLIES



PRESSURE TESTING



WALFORM



EQUIPMENT PACKAGES



FLANGES



PIPE & TUBE



Hydraulic & Offshore Supplies

Seamless Stainless Steel Pipe

Fully softened & descaled. In 5-7 metre random lengths. Tolerances & testing to ASTM A312/ASME SA312-A530. Conforming to NACE Standard MR-01-75 (latest Revision) Certificate to DIN 50049-3.1.B/EN 10 204-3.1.B. Other sizes available on request.

● Stock available from UK/Europe

| Schedule 5S | | | | |
|--------------------|--------|-------|-----|-------|
| Nominal Pipe Size | Finish | 304/L | 321 | 316/L |
| ½" | Cold | | | ● |
| ¾" | Cold | | | |
| 1" | Cold | ● | | ● |
| 1 ½" | Cold | ● | | ● |
| 2" | Cold | | | ● |
| 3" | Cold | | | ● |

| Schedule 10S | | | | |
|---------------------|--------|-------|-----|-------|
| Nominal Pipe Size | Finish | 304/L | 321 | 316/L |
| 1/8" | Cold | | | ● |
| ¼" | Cold | | | ● |
| 3/8" | Cold | ● | ● | ● |
| ½" | Cold | ● | ● | ● |
| ¾" | Cold | ● | ● | ● |
| 1" | Cold | ● | ● | ● |
| 1 ¼" | Cold | ● | | ● |
| 1 ½" | Cold | ● | ● | ● |
| 2" | Cold | ● | ● | ● |
| 2 ½" | Cold | ● | ● | ● |
| 3" | Hot | ● | ● | ● |
| 3 ½" | Cold | ● | | ● |
| 4" | Hot | ● | ● | ● |
| 5" | Cold | ● | | ● |
| 6" | Hot | ● | ● | ● |
| 8" | Cold | ● | ● | ● |
| 10" | Cold | | | ● |

| Schedule 5S | | | | |
|--------------------|--------|-------|-----|-------|
| Nominal Pipe Size | Finish | 304/L | 321 | 316/L |
| 1/8" | Cold | ● | | ● |
| ¼" | Cold | ● | ● | ● |
| 3/8" | Cold | ● | ● | ● |
| ½" | Cold | ● | ● | ● |
| ¾" | Cold | ● | ● | ● |
| 1" | Cold | ● | ● | ● |
| 1 ¼" | Cold | ● | ● | ● |
| 1 ½" | Cold | ● | ● | ● |
| 2" | Hot | ● | ● | ● |
| 2 ½" | Hot | ● | ● | ● |
| 3" | Hot | ● | ● | ● |
| 3 ½" | Hot | ● | ● | ● |
| 4" | Hot | ● | ● | ● |
| 5" | Hot | ● | ● | ● |
| 6" | Hot | ● | ● | ● |
| 8" | Hot | ● | ● | ● |
| 10" | Hot | | | ● |
| 12" | Hot | | | ● |

| Schedule 80S | | | | |
|---------------------|--------|-------|-----|-------|
| Nominal Pipe Size | Finish | 304/L | 321 | 316/L |
| 1/8" | Cold | | | ● |
| ¼" | Cold | ● | ● | ● |
| 3/8" | Cold | ● | ● | ● |
| ½" | Cold | ● | ● | ● |
| ¾" | Cold | ● | ● | ● |
| 1" | Cold | ● | ● | ● |
| 1 ¼" | Cold | ● | ● | ● |
| 1 ½" | Cold | ● | ● | ● |
| 2" | Hot | ● | ● | ● |
| 2 ½" | Hot | ● | ● | ● |
| 3" | Hot | ● | ● | ● |
| 3 ½" | Hot | ● | ● | ● |
| 4" | Hot | ● | ● | ● |
| 5" | Hot | ● | | ● |
| 6" | Hot | ● | ● | ● |
| 8" * | Hot | ● | ● | ● |
| 10" | Hot | | | ● |
| 12" | Hot | | | ● |

* Up to 5.0 metres maximum length

| Schedule 120 | | | | |
|---------------------|--------|-------|-----|-------|
| Nominal Pipe Size | Finish | 304/L | 321 | 316/L |
| 4" | Hot | | | ● |
| 6" * | Hot | | | ● |

* Up to 5.0 metres maximum length

| Schedule 160 | | | | |
|---------------------|--------|-------|-----|-------|
| Nominal Pipe Size | Finish | 304/L | 321 | 316/L |
| ½" | Cold | ● | ● | ● |
| ¾" | Cold | ● | ● | ● |
| 1" | Cold | ● | ● | ● |
| 1 ¼" | Hot | | | ● |
| 1 ½" | Hot | ● | ● | ● |
| 2" | Hot | ● | ● | ● |
| 2 ½" | Hot | | | ● |
| 3" | Hot | ● | ● | ● |
| 4" | Hot | ● | ● | ● |
| 6" * | Hot | ● | ● | ● |
| 8" ** | Hot | | | ● |
| 10" | Hot | | | ● |
| 12" | Hot | | | ● |

* Up to 4.5 metres maximum length
** Up to 2.6 metres maximum length

| Schedule XXS (Double E.H.) | | | | |
|-----------------------------------|--------|-------|-----|-------|
| Nominal Pipe Size | Finish | 304/L | 321 | 316/L |
| ½" | Cold | | | ● |
| ¾" | Cold | | | ● |
| 1" | Cold | | | ● |
| 1 ½" | Hot | | | ● |
| 2" | Hot | | | ● |
| 3" | Hot | | | ● |
| 4" | Hot | | | ● |
| 6" * | Hot | | | ● |

* Up to 4.4 metres maximum length



Hydraulic & Offshore Supplies

Seamless Duplex Pipe ASTM A790 UNS S31803/32205

Seamless Stainless Steel Duplex Pipe to ASTM A790 UNS S31803 (SBS A903). In random lengths 5-7.5 metres. Generally to Shell ES247 Rev 2 and NORSOK MD6 D41 Rev 3. Conforming to NACE Standard MR-01-75.

- Stock available from UK/Europe

| Schedules | NB Pipe Sizes | | | | | | | | | | | |
|-----------|----------------|----------------|--------------|------------------|------------------|--------------|------------------|--------------|---------------|---------------|---------------|---------------|
| | (1/2") 15mm | (3/4") 20mm | (1") 25mm | (1 1/4") 35mm | (1 1/2") 40mm | (2") 50mm | (2 1/2") 65mm | (3") 80mm | (4") 100mm | (5") 125mm | (6") 150mm | (8") 200mm |
| SCH 10 | ● | ● | ● | ● | ● | ● | | ● | ● | | ● | ● |
| SCH 40 | ● | ● | ● | | ● | ● | ● | ● | ● | ● | ● | ● |
| SCH 60 | | | | | | | | | | ● | | ● |
| SCH 80 | ● | ● | ● | | ● | ● | ● | ● | ● | | ● | ● |
| SCH 100 | | | | | | | | | | | | ● |
| SCH 120 | | | | | | | | | ● | | ● | ● |
| SCH 140 | | | | | | | | | | | | ● |
| SCH 160 | ● | ● | ● | | ● | ● | | ● | ● | | ● | ● |
| SCH XXS | | | | | | ● | | ● | | | ● | ● |

Seamless Super Duplex Pipe ASTM A790 UNS S32750/32760

Stainless Steel Super Duplex Pipe to ASTM A790 UNS S32750 (SBS A913) / UNS S32760 (SVS A915). In random lengths 5-7.5 metres. Generally to Shell ES247 and NORSOK MDS D51 Rev 3. Conforming to NACE Standard MR-01-75 (latest revision).

- Stock available from UK/Europe

| Schedules | NB Pipe Sizes | | | | | | | | | |
|-----------|----------------|----------------|--------------|------------------|--------------|--------------|---------------|---------------|---------------|--|
| | (1/2") 15mm | (3/4") 20mm | (1") 25mm | (1 1/2") 40mm | (2") 50mm | (3") 80mm | (4") 100mm | (6") 150mm | (8") 200mm | |
| SCH 10 | | | | | ● | ● | ● | ● | ● | |
| SCH 40 | ● | ● | ● | ● | ● | ● | ● | ● | ● | |
| SCH 80 | ● | ● | ● | ● | ● | ● | ● | ● | ● | |
| SCH 120 | | | | | | | ● | ● | ● | |
| SCH 160 | | ● | ● | | ● | ● | ● | ● | ● | |
| SCH XXS | | | | | | | | ● | | |

Seamless Stainless 6 Moly Pipe ASTM A312 UNS S31254 (6 MOLY)

Seamless Stainless Steel Pipe to ASTM A312 UNS S31254. In random lengths 5-7.5 metres. NORSOK MD6. Conforming to NACE Standard MR-01-75 (latest revision).

- Stock available from UK/Europe

| Schedules | NB Pipe Sizes | | | | | | | |
|-----------|----------------|----------------|--------------|------------------|--------------|--------------|---------------|---------------|
| | (1/2") 15mm | (3/4") 20mm | (1") 25mm | (1 1/2") 40mm | (2") 50mm | (3") 80mm | (4") 100mm | (6") 150mm |
| SCH 10 | | | ● | | ● | ● | ● | ● |
| SCH 40 | ● | | ● | ● | ● | ● | ● | ● |
| SCH 80 | ● | ● | | ● | | | | |



Hydraulic & Offshore Supplies

Seamless Stainless Steel Tube

Generally instrumentation tube and sizes up to 2" OD are supplied in a bright annealed condition.

Tubes up to 20mm in imperial and metric sizes, have a maximum hardness of RB80.

Random lengths 5-7.3 metres. Tolerances and testing to ASTM A269/A213. Certification to DIN 50049-3.1.B/EN 10204-3.1.B

● Stock available from UK/Europe

| Size | Finish | 304/L | 321 | 316/L |
|-----------------|--------|-------|-----|-------|
| 1/8" OD | | | | |
| 1/8" x 24swg | Cold | | | ● |
| 1/8" x 22swg | Cold | | | ● |
| 1/8" x 20swg | Cold | | | ● |
| 3/16" OD | | | | |
| 3/16" x 24swg | Cold | | | ● |
| 3/16" x 22swg | Cold | | | ● |
| 3/16" x 20swg | Cold | | | ● |
| 3/16" x 18swg | Cold | | | ● |
| 1/4" OD | | | | |
| 1/4" x 22swg * | Cold | ● | ● | ● |
| 1/4" x 20swg * | Cold | ● | ● | ● |
| 1/4" x 18swg * | Cold | ● | ● | ● |
| 1/4" x 16swg * | Cold | ● | ● | ● |
| 5/16" OD | | | | |
| 5/16" x 22swg * | Cold | | | ● |
| 5/16" x 20swg * | Cold | ● | | ● |
| 5/16" x 18swg | Cold | | | ● |
| 5/16" x 16swg * | Cold | ● | ● | ● |
| 3/8" OD | | | | |
| 3/8" x 22swg * | Cold | ● | ● | ● |
| 3/8" x 20swg * | Cold | ● | ● | ● |
| 3/8" x 18swg * | Cold | ● | ● | ● |
| 3/8" x 16swg * | Cold | ● | ● | ● |
| 3/8" x 14swg * | Cold | | | ● |
| 7/16" OD | | | | |
| 7/16" x 20swg | Cold | | | ● |
| 1/2" OD | | | | |
| 1/2" x 22swg * | Cold | ● | ● | ● |
| 1/2" x 20swg * | Cold | ● | ● | ● |
| 1/2" x 18swg * | Cold | ● | ● | ● |
| 1/2" x 16swg * | Cold | ● | ● | ● |
| 1/2" x 14swg * | Cold | ● | ● | ● |
| 1/2" x 12swg | Cold | | ● | ● |
| 1/2" x 10swg | Cold | ● | ● | ● |
| 5/8" OD | | | | |
| 5/8" x 20swg * | Cold | ● | ● | ● |
| 5/8" x 18swg * | Cold | ● | ● | ● |
| 5/8" x 16swg * | Cold | ● | ● | ● |
| 5/8" x 14swg * | Cold | ● | ● | ● |
| 5/8" x 10swg | Cold | | | ● |
| 3/4" OD | | | | |
| 3/4" x 20swg * | Cold | ● | ● | ● |
| 3/4" x 18swg * | Cold | ● | ● | ● |
| 3/4" x 16swg * | Cold | ● | ● | ● |
| 3/4" x 14swg * | Cold | ● | ● | ● |
| 3/4" x 12swg * | Cold | ● | ● | ● |
| 3/4" x 10swg | Cold | ● | ● | ● |
| 7/8" OD | | | | |
| 7/8" x 18swg * | Cold | | | ● |
| 7/8" x 16swg * | Cold | ● | ● | ● |
| 7/8" x 10swg | Cold | | | ● |
| 1" OD | | | | |
| 1" x 20swg * | Cold | ● | ● | ● |
| 1" x 18swg * | Cold | ● | ● | ● |
| 1" x 16swg * | Cold | ● | ● | ● |
| 1" x 14swg * | Cold | ● | ● | ● |
| 1" x 12swg * | Cold | ● | ● | ● |
| 1" x 10swg | Cold | ● | ● | ● |
| 1" x 0.250 | Cold | | | ● |

| Size | Finish | 304/L | 321 | 316/L |
|--------------------|--------|-------|-----|-------|
| 1 1/8" OD | | | | |
| 1 1/8" x 16swg | Cold | ● | | ● |
| 1 1/4" OD | | | | |
| 1 1/4" x 18swg * | Cold | | ● | ● |
| 1 1/4" x 16swg * | Cold | ● | | ● |
| 1 1/4" x 14swg * | Cold | | | ● |
| 1 1/4" x 10swg * | Cold | ● | ● | ● |
| 1 1/4" x 0.250" | Cold | | | ● |
| 1 3/8" OD | | | | |
| 1 3/8" x 16swg | Cold | | | ● |
| 1 1/2" OD | | | | |
| 1 1/2" x 18swg * | Cold | | | ● |
| 1 1/2" x 16swg * | Cold | ● | ● | ● |
| 1 1/2" x 14swg * | Cold | | ● | ● |
| 1 1/2" x 12swg * | Cold | | | ● |
| 1 1/2" x 10swg | Cold | ● | ● | ● |
| 1 1/2" x 0.250" | Cold | | ● | ● |
| 1 5/8" OD | | | | |
| 1 5/8" x 16swg * | Cold | ● | ● | ● |
| 1 3/4" OD | | | | |
| 1 3/4" x 16swg * | Cold | | ● | ● |
| 1 3/4" x 10swg | Cold | | | ● |
| 2" OD | | | | |
| 2" x 16swg * | Cold | ● | ● | ● |
| 2" x 14swg * | Cold | ● | ● | ● |
| 2" x 12swg | Cold | | | ● |
| 2" x 10swg | Cold | ● | ● | ● |
| 2" x 0.250" ** | Cold | ● | ● | ● |
| 2 1/4" OD | | | | |
| 2 1/4" x 16swg * | Cold | | | ● |
| 2 1/4" x 10swg | Cold | | ● | ● |
| 2 1/4" x 0.250" ** | Cold | | | ● |
| 2 1/2" OD | | | | |
| 2 1/2" x 16swg * | Cold | ● | ● | ● |
| 2 1/2" x 10swg | Cold | ● | ● | ● |
| 2 1/2" x 0.250" ** | Hot | | ● | ● |
| 2 3/4" OD | | | | |
| 2 3/4" x 16swg * | Cold | | | ● |
| 2 3/4" x 0.250" ** | Hot | | | ● |
| 3" OD | | | | |
| 3" x 16swg * | Cold | ● | | ● |
| 3" x 14swg * | Cold | | | ● |
| 3" x 12swg | Cold | | ● | ● |
| 3" x 10swg | Cold | ● | ● | ● |
| 3" x 0.250" ** | Hot | ● | ● | ● |
| 3" x 0.375" ** | Hot | | | ● |
| 4" OD | | | | |
| 4" x 0.250" ** | Hot | | | ● |
| 5" OD | | | | |
| 5" x 0.250" ** | Hot | | | ● |
| 6" OD | | | | |
| 6" x 0.250" ** | Hot | | | ● |

* Tubes available dual certified/marked swg/bwg
 ** Tubes produced to ASTM A312/A511



Hydraulic & Offshore Supplies

Metric Instrumentation

Tolerances and delivery to ASTM A269/A213. Bright annealed, hardness RB80 maximum. Lengths 5.7 metre randoms.

- Stock available from UK/Europe

| Size (mm) | 304/L | 321 | 316/L |
|-----------|-------|-----|-------|
| 6 x 0.5 | | | • |
| 6 x 1 | • | • | • |
| 6 x 1.5 | | | • |
| 8 x 0.8 | • | | |
| 8 x 1 | • | • | • |
| 8 x 1.5 | • | • | • |
| 8 x 2 | | | • |
| 10 x 1 | • | • | • |
| 10 x 1.5 | • | • | • |
| 10 x 2 | • | • | • |
| 11 x | | | • |
| 12 x 1 | • | • | • |
| 12 x 1.5 | • | • | • |
| 12 x 2 | • | • | • |
| 14 x 2 | | | • |
| 15 x 1 | • | • | • |
| 15 x 1.5 | • | • | • |
| 15 x 2 | • | • | • |
| 16 x 1 | • | • | • |
| 16 x 1.5 | • | • | • |
| 16 x 2 | • | • | • |
| 16 x 3 | | | • |



Metric Hydraulic/General Tube

Tolerances and delivery to ASTM A269/A213. Bright annealed. Lengths 5.7 metre randoms.

- Stock available from UK/Europe

| Size (mm) | 304/L | 321 | 316/L |
|-----------|-------|-----|-------|
| 18 x 1.5 | • | • | • |
| 18 x 2 | • | • | • |
| 20 x 1.5 | • | | • |
| 20 x 2 | • | • | • |
| 20 x 2.5 | | • | • |
| 20 x 3 | | • | • |
| 22 x 1.5 | • | • | • |
| 22 x 2 | • | • | • |
| 25 x 1.5 | | • | • |
| 25 x 2 | • | • | • |
| 25 x 2.5 | • | • | • |
| 25 x 3 | | • | • |
| 28 x 1.5 | | • | • |
| 28 x 2 | • | • | • |
| 30 x 1.5 | | • | • |
| 30 x 3 | | • | • |
| 35 x 2 | • | | • |
| 38 x 3 | | • | • |
| 38 x 4 | | • | • |
| 38 x 5 | | • | • |
| 42 x 2 | • | | • |



Heat Exchanger Tube

Seamless Stainless Steel Tube to ASTM A213. Cold finished, softened and descaled. In 12/13 metre random lengths supplied in average and minimum wall. Cut lengths available on request.

| OD Weight | mm | 304/L | 316/L |
|---------------|----------------|-------|-------|
| 3/4" x 16 Bwg | (19.05 x 1.65) | • | • |
| 3/4" x 14 Bwg | (19.05 x 2.11) | • | • |
| 1" x 16 Bwg | (25.40 x 1.65) | • | • |
| 1" x 14 Bwg | (25.40 x 2.11) | | • |



Hydraulic & Offshore Supplies

UK/European Stock – Additional material grades also available

| OD MM | X | WT MM | Inches | 316 316/L | 316Ti | 304 304/L | 321 321/H | S31803 |
|----------|---|-----------|------------------|--------------|-------|--------------|--------------|--------|
| 6 | X | 1.0 | | • | • | • | • | |
| 6 | X | 1.5 | | • | • | • | • | |
| 6.35 | X | 0.71 | ¼" x 22SWG/BWG | • | | • | | |
| 6.35 | X | 0.91/0.89 | ¼" x 20SWG/BWG | • | | • | | |
| 6.35 | X | 1.22/1.24 | ¼" x 18SWG/BWG | • | | • | | |
| 6.35 | X | 1.63/1.65 | ¼" x 16SWG/BWG | • | | • | | |
| 8 | X | 1.0 | | • | • | • | • | |
| 8 | X | 1.5 | | • | • | • | • | |
| 9.53 | X | 0.91/0.89 | 3/8" x 20SWG/BWG | • | | • | | |
| 9.53 | X | 1.22/1.24 | 3/8" x 18SWG/BWG | • | | • | | |
| 9.53 | X | 1.63/1.65 | 3/8" x 16SWG/BWG | • | | • | | |
| 10 | X | 1.0 | | • | • | • | • | |
| 10 | X | 1.5 | | • | • | • | • | |
| 10 | X | 2.0 | | • | • | • | • | |
| 10.3 | X | 1.73 | 1/8" sch 40s | • | | • | | |
| 12 | X | 1.0 | | • | • | • | • | |
| 12 | X | 1.5 | | • | • | • | • | |
| 12 | X | 2.0 | | • | • | • | • | |
| 12.7 | X | 0.91/0.89 | ½" x 20SWG/BWG | • | | • | | |
| 12.7 | X | 1.22/1.24 | ½" x 18SWG/BWG | • | | • | | |
| 12.7 | X | 1.63/1.65 | ½" x 16SWG/BWG | • | | • | | |
| 12.7 | X | 2.03/2.11 | ½" x 14SWG/BWG | • | | • | | |
| 13.5 | X | 2.3 | | • | • | • | • | |
| 13.72 | X | 1.65 | ¼" sch 10s | • | | • | | |
| 13.72 | X | 2.24 | ¼" sch 40s | • | | • | | |
| 13.72 | X | 3.02 | ¼" sch 80s | • | | • | | |
| 14 | X | 1.0 | | • | • | • | • | |
| 14 | X | 1.5 | | • | • | • | • | |
| 14 | X | 2.0 | | • | • | • | • | |
| 14 | X | 2.5 | | • | • | • | • | |
| 15 | X | 1.0 | | • | • | • | • | |
| 15 | X | 1.5 | | • | • | • | • | |
| 15 | X | 2.0 | | • | • | • | • | |
| 16 | X | 1.0 | | • | • | • | • | |
| 16 | X | 1.5 | | • | • | • | • | |
| 16 | X | 2.0 | | • | • | • | • | |
| 16 | X | 2.5 | | • | • | • | • | |
| 16 | X | 3.0 | | • | • | • | • | |
| 17.15 | X | 1.65 | 3/8" sch 10s | • | | • | | |
| 17.15 | X | 2.31 | 3/8" sch 40s | • | | • | | |
| 17.15 | X | 3.2 | 3/8" sch 80s | • | | • | | |
| 17.2 | X | 2.3 | | • | • | • | • | |
| 18 | X | 1.0 | | • | • | • | • | |
| 18 | X | 1.5 | | • | • | • | • | |
| 18 | X | 2.5 | | • | • | • | • | |
| 18 | X | 2.0 | | • | • | • | • | |
| 18 | X | 2.5 | | • | • | • | • | |
| 19.05 | X | 1.22/1.24 | ½" x 18SWG/BWG | • | | • | | |
| 19.05 | X | 1.63/1.65 | ½" x 16SWG/BWG | • | | • | | |
| 19.05 | X | 2.03/2.11 | ½" x 14SWG/BWG | • | | • | | |
| 20 | X | 1.0 | | • | • | • | • | |
| 20 | X | 1.5 | | • | • | • | • | |
| 20 | X | 2.0 | | • | • | • | • | |
| 20 | X | 2.5 | | • | • | • | • | |
| 20 | X | 3.0 | | • | • | • | • | |
| 21.3 | X | 2.0 | | • | • | • | • | |
| 21.3 | X | 2.6 | ½" ISO | • | | • | | |
| 21.3 | X | 3.2 | | • | • | • | • | |
| 21.34 | X | 1.65 | ½" sch 5 | • | | • | | |
| 21.34 | X | 2.11 | ½" sch 10 s | • | | • | | |
| 21.34 | X | 2.77 | ½" sch 40s | • | | • | | • |
| 21.34 | X | 3.73 | ½" sch 80s | • | | • | | • |
| 22 | X | 1.5 | | • | • | • | • | |
| 22 | X | 2.0 | | • | • | • | • | |
| 25 | X | 2.0 | | • | • | • | • | |
| 25 | X | 2.5 | | • | • | • | • | |
| 25 | X | 3.0 | | • | • | • | • | |
| 25 | X | 4.0 | | • | • | • | • | |
| 25.4 | X | 1.63/1.65 | 1" x 16SWG/BWG | • | | • | | |
| 25.4 | X | 2.03/2.11 | 1" x 14SWG/BWG | • | | • | | |
| 26.67 | X | 2.11 | ¾" sch 10s | • | | • | | • |
| 26.67 | X | 2.77 | ¾" sch 40s | • | | • | | • |
| 26.67 | X | 3.91 | ¾" sch 80s | • | | • | | • |
| 26.9 | X | 2.0 | | • | • | • | • | |
| 26.9 | X | 2.3 | | • | • | • | • | |
| 26.9 | X | 2.6 | ¾" ISO | • | | • | | |
| 26.9 | X | 3.2 | | • | • | • | • | |
| 28 | X | 1.5 | | • | • | • | • | |
| 28 | X | 2.0 | | • | • | • | • | |
| 30 | X | 2.0 | | • | • | • | • | |
| 30 | X | 3.0 | | • | • | • | • | |
| 30 | X | 4.0 | | • | • | • | • | |
| 30 | X | 5.0 | | • | • | • | • | |
| 33.4 | X | 1.65 | 1" sch 5 | • | | • | | |
| 33.4 | X | 2.77 | 1" sch 10s | • | | • | | |
| 33.4 | X | 3.38 | 1" sch 40s | • | | • | | • |

| OD MM | X | WT MM | Inches | 316 316/L | 316Ti | 304 304/L | 321 321/H | S31803 |
|----------|---|----------|--------------|--------------|-------|--------------|--------------|--------|
| 33.4 | X | 4.55 | 1" sch 80s | • | | • | • | • |
| 33.7 | X | 2.0 | | • | • | • | • | |
| 33.7 | X | 2.6 | | • | • | • | • | |
| 33.7 | X | 3.2 | 1" ISO | • | | • | | |
| 38 | X | 3.0 | | • | • | • | • | |
| 38 | X | 4.0 | | • | • | • | • | |
| 38 | X | 5.0 | | • | • | • | • | |
| 42 | X | 2.0 | | • | • | • | • | |
| 42 | X | 3.0 | | • | • | • | • | |
| 42.16 | X | 2.77 | 1½" sch 10s | • | | • | | • |
| 42.16 | X | 3.56 | 1½" sch 40s | • | | • | | • |
| 42.4 | X | 2.0 | | • | • | • | • | |
| 42.4 | X | 2.6 | | • | • | • | • | |
| 42.4 | X | 3.2 | | • | • | • | • | |
| 48.26 | X | 2.77 | 1½" sch 10s | • | | • | | • |
| 48.26 | X | 3.68 | 1½" sch 40s | • | | • | | • |
| 48.26 | X | 5.08 | 1½" sch 80s | • | | • | | • |
| 48.26 | X | 7.14 | 1½" sch 160s | • | | • | | • |
| 48.3 | X | 2.0 | | • | • | • | • | |
| 48.3 | X | 2.6 | | • | • | • | • | |
| 48.3 | X | 3.2 | | • | • | • | • | |
| 57 | X | 2.9 | | • | • | • | • | |
| 60.3 | X | 2.0 | | • | • | • | • | |
| 60.3 | X | 2.6 | | • | • | • | • | |
| 60.3 | X | 2.9 | | • | • | • | • | |
| 60.3 | X | 3.6 | 2" ISO | • | | • | | |
| 60.3 | X | 4.5 | | • | • | • | • | |
| 60.3 | X | 5.0 | | • | • | • | • | |
| 60.33 | X | 2.77 | 2" sch 10s | • | | • | | • |
| 60.33 | X | 3.91 | 2" sch 40s | • | | • | | • |
| 60.33 | X | 5.54 | 2" sch 80s | • | | • | | • |
| 60.33 | X | 8.74 | 2" sch 160 | • | | • | | • |
| 60.33 | X | 11.07 | 2" XXS | • | | • | | • |
| 73.03 | X | 3.05 | 2½" sch 10s | • | | • | | • |
| 73.03 | X | 5.16 | 2½" sch 40s | • | | • | | • |
| 73.03 | X | 7.01 | 2½" sch 80s | • | | • | | • |
| 76.1 | X | 2.0 | | • | • | • | • | |
| 76.1 | X | 2.6 | | • | • | • | • | |
| 76.1 | X | 2.9 | | • | • | • | • | |
| 76.1 | X | 6.3 | | • | • | • | • | |
| 76.1 | X | 3.6 | | • | • | • | • | |
| 76.1 | X | 4.0 | | • | • | • | • | |
| 76.1 | X | 4.5 | | • | • | • | • | |
| 76.1 | X | 5.0 | | • | • | • | • | |
| 88.9 | X | 2.0 | | • | • | • | • | |
| 88.9 | X | 2.3 | | • | • | • | • | |
| 88.9 | X | 2.6 | | • | • | • | • | |
| 88.9 | X | 2.9 | | • | • | • | • | |
| 88.9 | X | 3.05 | 3" sch 10s | • | | • | | • |
| 88.9 | X | 3.2 | | • | • | • | • | |
| 88.9 | X | 3.6 | | • | • | • | • | |
| 88.9 | X | 4.05 | | • | • | • | • | |
| 88.9 | X | 4.5 | | • | • | • | • | |
| 88.9 | X | 5.49 | 3" sch 40s | • | | • | | • |
| 88.9 | X | 6.3 | | • | • | • | • | |
| 88.9 | X | 7.62 | 3" sch 80s | • | | • | | • |
| 88.9 | X | 11.13 | 3" sch 160 | • | | • | | • |
| 88.9 | X | 15.24 | 3" XXS | • | | • | | • |
| 101.6 | X | 5.74 | 3½" sch 40s | • | | • | | • |
| 101.6 | X | 8.08 | 3½" sch 80s | • | | • | | • |
| 114.3 | X | 2.60 | | • | • | • | • | |
| 114.3 | X | 3.05 | 4" sch 10s | • | | • | | • |
| 114.3 | X | 3.60 | | • | • | • | • | |
| 114.3 | X | 4.50 | | • | • | • | • | |
| 114.3 | X | 6.02 | 4" sch 40s | • | | • | | • |
| 114.3 | X | 8.56 | 4" sch 80s | • | | • | | • |
| 114.3 | X | 13.49 | 4" sch 160s | • | | • | | • |
| 133 | X | 4.0 | | • | • | • | • | |
| 133 | X | 6.3 | | • | • | • | • | |
| 139.7 | X | 4.0 | | • | • | • | • | |
| 139.7 | X | 7.1 | | • | • | • | • | |
| 141.3 | X | 3.4 | 5" sch 10s | • | | • | | • |
| 141.3 | X | 6.55 | 5" sch 40s | • | | • | | • |
| 141.3 | X | 9.53 | 5" sch 80s | • | | • | | • |
| 159 | X | 4.5 | | • | • | • | • | |
| 159 | X | 6.3 | | • | • | • | • | |
| 168.28 | X | 3.4 | 6" sch 10s | • | | • | | • |
| 168.28 | X | 7.11 | 6" sch 40s | • | | • | | • |
| 168.28 | X | 10.97 | 6" sch 80s | • | | • | | • |
| 168.28 | X | 18.26 | 6" sch 160 | • | | • | | • |
| 168.3 | X | 4.5 | | • | • | • | • | |
| 168.3 | X | 5.0 | | • | • | • | • | |
| 219.08 | X | 3.76 | 8" sch 10s | • | | • | | • |
| 219.08 | X | 6.3 | 8" sch 20s | • | | • | | • |
| 219.08 | X | 8.18 | 8" sch 40s | • | | • | | • |
| 219.08 | X | 12.70 | 8" sch 80s | • | | • | | • |



Hydraulic & Offshore Supplies

ASTM SPECIFICATIONS AND TOLERANCES

ASTM A213/A213M (Latest Edition)

Seamless Ferritic and Austenitic alloy steel boiler, superheater and heat exchanger tubes.
TOLERANCES

Outside diameter and wall thickness tolerances to ASTM A450/A450M (Latest edition).

| Permissible variations in outside diameter | | |
|--|---|-------|
| Outside Diameter in. | Outside Diameter (inc Out-of-Roundness) | |
| | In. | In. |
| | Over | Under |
| Cold-Drawn Tubes | | |
| Under 1 | 0-004 | 0.004 |
| 1 to 1 ½ inclusive | 0.006 | 0.006 |
| Over 1 ½ to 2 excl. | 0.008 | 0.008 |
| 2 to 2 ½ excl. | 0.010 | 0.010 |
| 2 ½ to 3 excl. | 0.012 | 0.012 |
| 3 to 4 incl. | 0.015 | 0.015 |
| Over 4 | 0.015 | 0.025 |
| Hot Finished Tubes | | |
| 4 & under | 1/64 | 1/32 |
| Over 4 | 1/64 | 3/64 |

For cold drawn seamless tubes under 2" OD the maximum OD variation may be +/- 0.010". This increased variation is necessitated by ovality and is not to be added to the above values.

| Permissible variations in wall thickness | | | | | | | | |
|--|-----------------------|-------|---|-------|---------------------------------------|-------|------------------|-------|
| Outside Dia in. (mm) | 0.095 (2.4) and under | | Over 0.095 to 0.150 (2.4) (2.4 to 3.8) inc. | | Over 0.150 to 0.180 (3.8 to 4.6) inc. | | Over 0.180 (4.6) | |
| | Over | Under | Over | Under | Over | Under | Over | Under |
| Seamless, Hot-Finished Tubes | | | | | | | | |
| 4 (101.6) & Under | 40 | 0 | 35 | 0 | 33 | 0 | 28 | 0 |
| Over 4 (101.6) | 35 | 0 | 33 | 0 | 28 | 0 | | |
| Seamless, Hot-Finished Tubes | | | | | | | | |
| | Over | | Under | | | | | |
| 1 ½ (38.1) & Under | | | 20 | | | | 0 | |
| Over 1 ½ (38.1) | | | 22 | | | | 0 | |

ASTM A269 (Latest Edition)

Seamless & Welded Austenitic Stainless Steel Tube for general corrosion resisting and low or high temperature service.

TOLERANCES

| Size Outside Dia. In. | Permissible Variations in Outside Dia. In. (mm) | Permissible Variations in Wall Thickness percent | Ovality shall be double the permissible variations in outside dia. When wall thickness is less than | Permissible variations in cut lengths in. (mm) |
|-----------------------|---|--|---|--|
| Up to ½ | ±0.005(0.13) | ±15 | | 1/8 (3.2) 0 |
| ½ to 1 ½" excl. | ±0.005(0.13) | ±10 | 0.065" (1.65mm) | 1/8 (3.2) 0 |
| 1 ½ to 3 ½ excl. | ±0.010 (0.25) | ±10 | 0.095" (2.41mm) | 3/16 (4.8) 0 |
| 3 ½ to 5 ½ excl. | ±0.015 (0.38) | ±10 | 0.150" (3.81mm) | 3/16 (4.8) 0 |
| 5 ½ to 8 excl. | ±0.030 (0.76) | ±10 | 0.150" (3.81mm) | 3/16 (4.8) 0 |

ASTM A312/A312M (Latest Edition)

Seamless & Welded Austenitic Steel Pipe for high temperature and general corrosive duties.

TOLERANCES – In accordance with ASTM A530

| Nominal Pipe Size | Permissible variations in Outside Diameter | |
|--------------------|--|--------------|
| | Over | Under |
| 1/8 to 1 ½ inc. | 1/64 (0.015) | 1/32 (0.031) |
| Over 1 ½ to 4 inc. | 1/32 (0.031) | 1/32 (0.031) |
| Over 4 to 8 inc. | 1/16 (0.062) | 1/32 (0.031) |
| Over 8 to 18 inc. | 3/32 (0.093) | 1/32 (0.031) |
| Over 18 to 26 inc. | 1/8 (0.125) | 1/32 (0.031) |
| Over 26 to 30 inc. | 5/32 (0.156) | 1/32 (0.031) |

Minimum wall thickness not to exceed 12.5% under nominal wall.

ASTM A790/A790M (Latest Edition)

Seamless & Welded Ferritic/Austenitic Stainless Steel Pipe.

TOLERANCES

| Permissible variations in outside diameter (in.) | | |
|--|--------------|--------------|
| NPS | Over | Under |
| 1/8 to 1 ½ inc. | 1/64 (0.015) | 1/32 (0.031) |
| Over 1 ½ to 4 inc. | 1/32 (0.031) | 1/32 (0.031) |
| Over 4 to 8 inc. | 1/16 (0.062) | 1/32 (0.031) |
| Over 8 to 18 inc. | 3/32 (0.093) | 1/32 (0.031) |
| Over 18 to 26 inc. | 1/8 (0.125) | 1/32 (0.031) |
| Over 26 to 30 inc. | 5/32 (0.156) | 1/32 (0.031) |

Minimum wall thickness not to exceed 12.5% under nominal wall.





Hydraulic & Offshore Supplies

DIMENSIONS & THEORETICAL WEIGHTS – PIPE SCHEDULES

UPPER FIGURES – Wall thickness in mm. LOWER FIGURE – Weight per metre in kilos. ANSI/ASME B36 19M 1985 – ANSI / ASME B36 10M 1985

| Nom. Pipe | O/D in mm | 5S * | 5 | 10S * | 10 | 20 | 30 | STD 40S* | 40 | 60 | EH 80S* | 80 | 100 | 120 | 140 | 160 | Dble EH |
|-----------|-----------|-------|-------|-------|-------|--------|--------|----------|--------|--------|---------|--------|--------|--------|--------|--------|---------|
| 1/8" | 10.29 | | 0.89 | 1.24 | 1.24 | | | 1.73 | 1.73 | | 2.41 | 2.41 | | | | | |
| | | | 0.209 | 0.281 | 0.281 | | | 0.371 | 0.371 | | 0.476 | 0.476 | | | | | |
| 1/4" | 13.72 | | 1.24 | 1.65 | 1.65 | | | 2.24 | 2.24 | | 3.02 | 3.02 | | | | | |
| | | | 0.387 | 0.499 | 0.499 | | | 0.644 | 0.644 | | 0.809 | 0.809 | | | | | |
| 3/8" | 17.15 | | 1.24 | 1.65 | 1.65 | | | 2.31 | 2.31 | | 3.20 | 3.20 | | | | | |
| | | | 0.494 | 0.640 | 0.640 | | | 0.858 | 0.858 | | 1.12 | 1.12 | | | | | |
| 1/2" | 21.34 | 1.65 | 1.65 | 2.11 | 2.11 | | | 2.77 | 2.77 | | 3.73 | 3.73 | | | | 4.75 | 7.47 |
| | | 0.814 | 0.814 | 1.02 | 1.02 | | | 1.29 | 1.29 | | 1.64 | 1.64 | | | | 1.97 | 2.59 |
| 3/4" | 26.67 | 1.65 | 1.65 | 2.11 | 2.11 | | | 2.87 | 2.87 | | 3.91 | 3.91 | | | | 5.54 | 7.82 |
| | | 1.03 | 1.03 | 1.30 | 1.30 | | | 1.71 | 1.71 | | 2.23 | 2.23 | | | | 2.93 | 3.69 |
| 1" | 33.40 | 1.65 | 1.65 | 2.77 | 2.77 | | | 3.38 | 3.38 | | 4.55 | 4.55 | | | | 6.35 | 9.09 |
| | | 1.31 | 1.31 | 2.12 | 2.12 | | | 2.54 | 2.54 | | 3.29 | 3.29 | | | | 4.30 | 5.53 |
| 1 1/4" | 42.16 | 1.65 | 1.65 | 2.77 | 2.77 | | | 3.56 | 3.56 | | 4.85 | 4.85 | | | | 6.35 | 9.70 |
| | | 1.67 | 1.67 | 2.73 | 2.73 | | | 3.44 | 3.44 | | 4.53 | 4.53 | | | | 5.69 | 7.88 |
| 1 1/2" | 48.26 | 1.65 | 1.65 | 2.77 | 2.77 | | | 3.68 | 3.68 | | 5.08 | 5.08 | | | | 7.14 | 10.16 |
| | | 1.93 | 1.93 | 3.16 | 3.16 | | | 4.11 | 4.11 | | 5.49 | 5.49 | | | | 7.35 | 9.70 |
| 2" | 60.33 | 1.65 | 1.65 | 2.77 | 2.77 | | | 3.91 | 3.91 | | 5.54 | 5.54 | | | | 8.71 | 11.07 |
| | | 2.42 | 2.42 | 3.99 | 3.99 | | | 5.52 | 5.52 | | 7.60 | 7.60 | | | | 11.29 | 13.65 |
| 2 1/2" | 73.03 | 2.11 | 2.11 | 3.05 | 3.05 | | | 5.16 | 5.16 | | 7.01 | 7.01 | | | | 9.53 | 14.02 |
| | | 3.75 | 3.75 | 5.34 | 5.34 | | | 8.77 | 8.77 | | 11.59 | 11.59 | | | | 15.15 | 20.72 |
| 3" | 88.90 | 2.11 | 2.11 | 3.05 | 3.05 | | | 5.49 | 5.49 | | 7.62 | 7.62 | | | | 11.13 | 15.24 |
| | | 4.59 | 4.59 | 6.56 | 6.56 | | | 11.47 | 11.47 | | 15.51 | 15.51 | | | | 21.67 | 28.11 |
| 3 1/2" | 101.60 | 2.11 | 2.11 | 3.05 | 3.05 | | | 5.74 | 5.74 | | 8.08 | 8.08 | | | | | 16.15 |
| | | 5.26 | 5.26 | 7.43 | 7.43 | | | 13.78 | 13.78 | | 18.92 | 18.92 | | | | | 34.56 |
| 4" | 114.30 | 2.11 | 2.11 | 3.05 | 3.05 | | | 6.02 | 6.02 | 7.14 | 8.56 | 8.56 | | 11.13 | | 13.49 | 17.12 |
| | | 5.93 | 5.93 | 8.50 | 8.50 | | | 16.32 | 16.32 | 19.16 | 22.64 | 22.64 | | 28.75 | | 34.05 | 41.66 |
| 4 1/2" | 127.00 | | | | | | | 6.27 | 6.27 | | 9.02 | 9.02 | | | | | 18.03 |
| | | | | | | | | 18.65 | 18.65 | | 26.65 | 26.65 | | | | | 49.20 |
| 5" | 141.30 | 2.77 | 2.77 | 3.40 | 3.40 | | | 6.55 | 6.55 | | 9.53 | 9.53 | | 12.70 | | 15.88 | 19.05 |
| | | 9.61 | 9.61 | 11.74 | 11.74 | | | 22.10 | 22.10 | | 31.44 | 31.44 | | 40.90 | | 49.94 | 58.32 |
| 6" | 168.28 | 2.77 | 2.77 | 3.40 | 3.40 | | 6.35 | 7.11 | 7.11 | | 10.97 | 10.97 | | 14.27 | | 18.24 | 21.95 |
| | | 11.48 | 11.48 | 14.04 | 14.04 | | 25.33 | 28.69 | 28.69 | | 43.21 | 43.21 | | 55.03 | | 68.53 | 80.43 |
| 8" | 219.08 | 2.77 | 2.77 | 3.76 | 3.76 | 6.35 | 7.04 | 8.18 | 8.18 | 10.31 | 12.70 | 12.70 | 15.06 | 18.24 | 20.62 | 23.01 | 22.23 |
| | | 15.00 | 15.00 | 20.27 | 20.27 | 33.82 | 37.38 | 42.49 | 42.49 | 53.90 | 64.58 | 64.58 | 76.94 | 90.23 | 102.47 | 111.16 | 109.57 |
| 9" | 244.48 | | | | | | | 8.69 | | | 12.70 | | | | | | |
| | | | | | | | | 51.31 | | | 73.71 | | | | | | |
| 10" | 273.05 | 3.40 | 3.40 | 4.19 | 4.19 | 6.35 | 7.80 | 9.27 | 12.70 | 12.70 | 15.06 | 18.24 | 21.41 | 25.40 | 28.58 | 25.40 | |
| | | 22.96 | 22.96 | 28.21 | 28.21 | 42.41 | 51.81 | 61.23 | 61.23 | 82.79 | 82.79 | 97.29 | 116.38 | 134.91 | 157.51 | 174.95 | 154.41 |
| 11" | 298.45 | | | | | | | 9.53 | | | 12.70 | | | | | | |
| | | | | | | | | 68.94 | | | 90.87 | | | | | | |
| 12" | 323.85 | 3.96 | 4.19 | 4.57 | 4.57 | 6.35 | 8.38 | 9.53 | 10.31 | 14.27 | 12.70 | 17.45 | 21.41 | 25.40 | 28.58 | 33.32 | 25.40 |
| | | 31.72 | 33.54 | 36.54 | 36.54 | 50.48 | 66.20 | 75.00 | 80.94 | 110.62 | 98.95 | 133.88 | 162.14 | 189.82 | 211.31 | 242.40 | 189.82 |
| 14" | 355.60 | 3.96 | 4.78 | 6.35 | 6.35 | 7.92 | 9.53 | 9.53 | 11.13 | 15.06 | 12.70 | 19.05 | 23.80 | 27.76 | 31.75 | 35.71 | |
| | | 34.87 | 41.99 | 55.53 | 55.53 | 68.95 | 82.58 | 82.58 | 96.00 | 128.42 | 109.04 | 160.54 | 197.74 | 227.89 | 257.47 | 286.04 | |
| 16" | 406.40 | 4.19 | 4.78 | 6.35 | 6.35 | 7.92 | 9.53 | 9.53 | 12.70 | 16.66 | 12.70 | 21.41 | 26.19 | 30.94 | 36.50 | 40.46 | |
| | | 42.40 | 48.07 | 63.61 | 63.61 | 79.03 | 94.71 | 94.71 | 125.20 | 162.59 | 125.50 | 206.40 | 249.34 | 290.88 | 338.07 | 370.74 | |
| 18" | 457.20 | 4.19 | 4.78 | 6.35 | 6.35 | 7.92 | 11.10 | 9.53 | 14.27 | 19.05 | 12.70 | 23.80 | 29.36 | 34.93 | 39.67 | 45.24 | |
| | | 47.53 | 54.15 | 71.69 | 71.69 | 89.10 | 124.00 | 106.83 | 158.27 | 209.00 | 141.36 | 258.29 | 314.54 | 369.34 | 414.75 | 466.67 | |
| 20" | 508.00 | 4.78 | 5.54 | 6.35 | 6.35 | 9.53 | 12.70 | 9.53 | 15.06 | 20.62 | 12.70 | 26.19 | 32.51 | 38.10 | 44.45 | 49.99 | |
| | | 60.23 | 69.70 | 79.76 | 79.76 | 118.95 | 157.51 | 118.95 | 196.90 | 251.65 | 157.51 | 315.97 | 387.07 | 448.30 | 515.94 | 573.31 | |
| 24" | 609.60 | 5.54 | 6.35 | 6.35 | 6.35 | 9.53 | 14.27 | 9.53 | 17.45 | 24.59 | 12.70 | 30.94 | 38.89 | 46.02 | 52.37 | 59.51 | |
| | | 83.80 | 95.92 | 95.92 | 95.92 | 143.20 | 212.72 | 143.20 | 258.74 | 360.21 | 189.82 | 448.31 | 556.96 | 649.44 | 730.72 | 819.71 | |