

## EO-Tubes for Flange systems - Marine- and Offshore-Applications (DNV Rules)

### Seamless cold drawn EO stainless steel tube | Material 316L (1.4404)

Acc. to ASTM A269/A213, DIN EN 10305-4

1. DNV Bended pipe including manufacturing and corrosion tolerances.
2. DNV Straight pipe including manufacturing and corrosion tolerances.
3. Burst pressure (B.P.) calculation = Based on Tensile value, wall thickness tolerance not included.

Material 316L (1.4404)		d <sub>a</sub> Outer-Ø (mm)	Outer-Ø Tolerance (mm)	s Wall- thickness (mm)	d <sub>i</sub> Inner-Ø (mm)	Design pressure		3 Burst pressure bar	Weight kg/m
Surface						1 DNV PN bar	2 DNV PN bar		
pickled	bright annealed								
Order code									
	<b>R12X1.5-316BA</b>	<b>12</b>	±0.08	<b>1.5</b>	9.0	380	437	1514	0.394
<b>R16X2-316</b>		<b>16</b>	±0.08	<b>2.0</b>	12.0	380	437	1514	0.701
<b>R18X2-316</b>		<b>18</b>	±0.08	<b>2.0</b>	14.0	334	383	1325	0.801
<b>R20X2-316</b>		<b>20</b>	±0.08	<b>2.0</b>	16.0	298	341	1178	0.901
<b>R20X2.5-316</b>		<b>20</b>	±0.08	<b>2.5</b>	15.0	380	437	1514	1.096
<b>R25X2.5-316</b>		<b>25</b>	±0.08	<b>2.5</b>	20.0	298	341	1178	1.409
<b>R25X3-316</b>		<b>25</b>	±0.08	<b>3.0</b>	19.0	363	418	1445	1.653
<b>R30X3-316</b>		<b>30</b>	±0.08	<b>3.0</b>	24.0	298	341	1178	2.028
<b>R30X4-316</b>		<b>30</b>	±0.08	<b>4.0</b>	22.0	409	470	1631	2.604
<b>R38X2.5-316</b>		<b>38</b>	±0.15	<b>2.5</b>	33.0	190	217	746	2.222
<b>R38X3-316</b>		<b>38</b>	±0.15	<b>3.0</b>	32.0	231	264	909	2.629
<b>R38X4-316</b>		<b>38</b>	±0.15	<b>4.0</b>	30.0	315	361	1247	3.405
<b>R38X5-316</b>		<b>38</b>	±0.15	<b>5.0</b>	28.0	403	463	1606	4.132
<b>R42X3-316</b>		<b>42</b>	±0.20	<b>3.0</b>	36.0	207	237	815	2.930
<b>R50X3-316</b>		<b>50</b>	±0.20	<b>3.0</b>	44.0	173	197	677	3.531
<b>R50X5-316</b>		<b>50</b>	±0.20	<b>5.0</b>	40.0	298	341	1178	5.634
<b>R50X6-316</b>		<b>50</b>	±0.20	<b>6.0</b>	38.0	363	418	1445	6.611
<b>R60X3-316</b>		<b>60</b>	±0.25	<b>3.0</b>	54.0	143	163	558	4.282
<b>R60X5-316</b>		<b>60</b>	±0.25	<b>5.0</b>	50.0	244	280	964	6.886
<b>R60X6-316</b>		<b>60</b>	±0.25	<b>6.0</b>	48.0	298	341	1178	8.113
<b>R66X8.5-316</b>		<b>66</b>	±0.30	<b>8.5</b>	49.0	393	452	1567	12.238
<b>R73X7-316</b>		<b>73</b>	±0.35	<b>7.0</b>	59.0	284	326	1124	11.568
<b>R75X3-316</b>		<b>75</b>	±0.35	<b>3.0</b>	69.0	113	129	442	5.409
<b>R75X5-316</b>		<b>75</b>	±0.35	<b>5.0</b>	65.0	193	220	757	8.764
<b>R80X10-316</b>		<b>80</b>	±0.35	<b>10.0</b>	60.0	380	437	1514	17.528

Other sizes on request!

### Seamless cold drawn EO stainless steel tube | Material 316Ti (1.4571)

Acc. to ASTM A269/A213, DIN EN 10305-4

1. DNV Bended pipe including manufacturing and corrosion tolerances.
2. DNV Straight pipe including manufacturing and corrosion resistance.
3. Burst pressure (B.P.) calculation = Based on Tensile value, wall thickness tolerance not included.

Material 316Ti (1.4571) Surface bright annealed Order code	d <sub>a</sub> Outer-Ø (mm)	OuterAußen-Ø Tolerance (mm)	s Wall- thickness (mm)	d <sub>i</sub> Inner-Ø (mm)	Design pressure		3 Burst pressure bar	Weight kg/m
					1 DNV PN bar	2 DNV PN bar		
					<b>R12X1.571</b>	<b>12</b>		
<b>R16X271</b>	<b>16</b>	±0.08	<b>2.0</b>	12.0	380	437	1514	0.701
<b>R18X271</b>	<b>18</b>	±0.08	<b>2.0</b>	14.0	334	383	1325	0.801
<b>R20X271</b>	<b>20</b>	±0.08	<b>2.0</b>	16.0	298	341	1178	0.901
<b>R20X2.571</b>	<b>20</b>		<b>2.5</b>	15.0	380	437	1514	1.096
<b>R25X2.571</b>	<b>25</b>	±0.08	<b>2.5</b>	20.0	298	341	1178	1.409
<b>R25X371</b>	<b>25</b>		<b>3.0</b>	19.0	363	418	1445	1.653
<b>R30X371</b>	<b>30</b>	±0.08	<b>3.0</b>	24.0	298	341	1178	2.028
<b>R30X471</b>	<b>30</b>		<b>4.0</b>	22.0	409	470	1631	2.604
<b>R38X2.571</b>	<b>38</b>	±0.15	<b>2.5</b>	33.0	190	217	746	2.222
<b>R38X471</b>	<b>38</b>		<b>4.0</b>	30.0	315	361	1247	3.405
<b>R42X371</b>	<b>42</b>		±0.20	<b>3.0</b>	36.0	207	237	815

Other sizes on request!

## EO-Tubes for fitting systems (Industrial- and Mobile-Applications)

### Seamless EO stainless steel tubes | Material 316L (1.4404)

Acc. to ASTM A269/A213

1. DIN 2413 I static pressure (W.P.) capability for straight pipe including manufacturing tolerance.
2. Burst pressure (B.P.) acc. to Faupel-von-Mises

Material 316L (1.4404)		d <sub>a</sub> Outer-Ø (mm)	Outer-Ø Tolerance (mm)	s Wall- thickness (mm)	d <sub>i</sub> Inner-Ø (mm)	1 Design pressure		2 Burst pressure bar	Weight kg/m
Surface pickled	bright annealed					DIN 2413 I static PN bar	DIN 2413 III dynamic PN bar		
Order code									
	<b>R04X1-316BA</b>	<b>04</b>	±0.08	<b>1.0</b>	2.0	735	539	2961	0.075
	<b>R06X1-316BA</b>	<b>06</b>	±0.08	<b>1.0</b>	4.0	490	383	1732	0.125
	<b>R06X1.5-316BA</b>	<b>06</b>		<b>1.5</b>	3.0	735	539	2961	0.169
	<b>R08X1-316BA</b>	<b>08</b>	±0.08	<b>1.0</b>	6.0	368	297	1229	0.175
	<b>R10X1-316BA</b>	<b>10</b>	±0.08	<b>1.0</b>	8.0	294	242	953	0.225
	<b>R10X1.5-316BA</b>	<b>10</b>		<b>1.5</b>	7.0	441	349	1524	0.319
	<b>R10X2-316BA</b>	<b>10</b>		<b>2.0</b>	6.0	588	447	2182	0.401
	<b>R12X1-316BA</b>	<b>12</b>	±0.08	<b>1.0</b>	10.0	245	205	779	0.275
	<b>R12X1.5-316BA</b>	<b>12</b>		<b>1.5</b>	9.0	368	297	1229	0.394
	<b>R12X2-316BA</b>	<b>12</b>		<b>2.0</b>	8.0	490	383	1732	0.501
	<b>R15X1.5-316BA</b>	<b>15</b>	±0.08	<b>1.5</b>	12.0	294	242	953	0.507
<b>R16X2-316</b>		<b>16</b>	±0.08	<b>2.0</b>	12.0	368	297	1229	0.701
<b>R16X2.5-316</b>		<b>16</b>		<b>2.5</b>	11.0	459	362	1601	0.845
<b>R18X1.5-316</b>		<b>18</b>	±0.08	<b>1.5</b>	15.0	245	205	779	0.620
<b>R18X2-316</b>		<b>18</b>		<b>2.0</b>	14.0	327	267	1074	0.801
<b>R20X2-316</b>		<b>20</b>	±0.08	<b>2.0</b>	16.0	294	242	953	0.901
<b>R20X2.5-316</b>		<b>20</b>		<b>2.5</b>	15.0	368	297	1229	1.096
<b>R22X2-316</b>		<b>22</b>	±0.08	<b>2.0</b>	18.0	267	222	857	1.002
<b>R25X2-316</b>		<b>25</b>	±0.08	<b>2.0</b>	21.0	235	197	745	1.152
<b>R25X2.5-316</b>		<b>25</b>		<b>2.5</b>	20.0	294	242	953	1.409
<b>R25X3-316</b>		<b>25</b>		<b>3.0</b>	19.0	353	286	1172	1.653
<b>R28X2-316</b>		<b>28</b>	±0.08	<b>2.0</b>	24.0	210	177	659	1.302
<b>R30X2.5-316</b>		<b>30</b>	±0.08	<b>2.5</b>	25.0	245	205	779	1.722
<b>R30X3-316</b>		<b>30</b>		<b>3.0</b>	24.0	294	242	953	2.028
<b>R35X3-316</b>		<b>35</b>	±0.15	<b>3.0</b>	29.0	252	210	803	2.404
<b>R38X3-316</b>		<b>38</b>	±0.15	<b>3.0</b>	32.0	232	195	734	2.629
<b>R38X4-316</b>		<b>38</b>		<b>4.0</b>	30.0	309	254	1010	3.405
<b>R38X5-316</b>		<b>38</b>		<b>5.0</b>	28.0	387	311	1305	4.132
<b>R38X6-316</b>		<b>38</b>		<b>6.0</b>	26.0	464	365	1621	4.808
<b>R42X3-316</b>		<b>42</b>	±0.20	<b>3.0</b>	36.0	210	177	659	2.930

Other sizes on request!

## EO-Tubes for fitting systems (Industrial- and Mobile-Applications)

### Seamless EO stainless steel tubes | Material 316Ti (1.4571)

Acc. to DIN EN 10216-5, DIN EN 10305-1

1. DIN 2413 I: Tubes with a diameter of OD/ID>2 are calculated for static stress in accordance with DIN 2413 III but with K=yield strength.
2. Evaluated in Parker Lab and Test Field. ( ) = Burst pressure (B.P.) acc. to Faupel-von-Mises

Material 316Ti (1.4571)	d <sub>a</sub> Outer-Ø (mm)	Outer-Ø Tolerance (mm)	s Wall- thickness (mm)	d <sub>i</sub> Inner-Ø (mm)	Design pressure			Weight kg/m
					1 DIN 2413 I static	DIN 2413 III dynamic PN bar	2 Burst pressure bar	
R04X171	04	±0.08	1.0	2.0	735	539	(2961)	0.075
R06X171	06	±0.08	1.0	4.0	490	383	1850	0.125
R06X1.571	06		1.5	3.0	735	539	2900	0.169
R08X171	08	±0.08	1.0	6.0	368	297	1300	0.175
R08X1.571	08		1.5	5.0	551	424	2050	0.244
R10X171	10	±0.08	1.0	8.0	294	242	950	0.225
R10X1.571	10		1.5	7.0	441	349	1750	0.319
R10X271	10		2.0	6.0	588	447	2400	0.401
R12X171	12	±0.08	1.0	10.0	245	205	850	0.275
R12X1.571	12		1.5	9.0	368	297	1400	0.394
R12X271	12		2.0	8.0	490	383	1900	0.501
R14X1.571	14	±0.08	1.5	11.0	315	258	1200	0.469
R14X271	14		2.0	10.0	420	334	1550	0.601
R14X2.571	14		2.5	9.0	525	406	2100	0.720
R15X171	15	±0.08	1.0	13.0	196	166	675	0.351
R15X1.571	15		1.5	12.0	294	242	1100	0.507
R15X271	15		2.0	11.0	392	314	1400	0.651
R16X1.571	16	±0.08	1.5	13.0	276	228	950	0.545
R16X271	16		2.0	12.0	368	297	1300	0.701
R16X2.571	16		2.5	11.0	459	362	1850	0.845
R16X371	16		3.0	10.0	551	424	2400	0.977
R18X1.571	18	±0.08	1.5	15.0	245	205	800	0.620
R18X271	18		2.0	14.0	327	267	1150	0.801
R20X271	20	±0.08	2.0	16.0	294	242	1050	0.901
R20X2.571	20		2.5	15.0	368	297	1400	1.095
R20X371	20		3.0	14.0	441	349	1800	1.277
R22X1.571	22	±0.08	1.5	19.0	200	170	650	0.770
R22X271	22		2.0	18.0	267	222	900	1.002
R25X271	25	±0.08	2.0	21.0	235	197	763	1.152
R25X2.571	25		2.5	20.0	294	242	1050	1.408
R25X371	25		3.0	19.0	353	286	1275	1.653
R28X1.571	28	±0.08	1.5	25.0	158	135	550	0.995
R28X271	28		2.0	24.0	210	177	700	1.302
R28X2.571	28		2.5	23.0	263	218	(840)	1.596
R30X2.571	30	±0.08	2.5	25.0	245	205	850	1.722
R30X371	30		3.0	24.0	294	242	1150	2.028
R30X471	30		4.0	22.0	392	314	1500	2.605
R35X271	35	±0.15	2.0	31.0	168	143	550	1.653
R35X2.571	35		2.5	30.0	210	177	(659)	2.035
R35X371	35		3.0	29.0	252	210	(803)	2.404
R38X2.571	38	±0.15	2.5	33.0	193	164	628	2.222
R38X471	38		4.0	30.0	309	254	1150	3.405
R42X271	42	±0.20	2.0	38.0	140	121	475	2.003
R42X371	42		3.0	36.0	210	177	750	2.930

Other sizes on request!

## EO-Tubes for fitting systems (Industrial- and Mobile-Applications)

### Seamless EO steel tubes | Material E235+N / St.37.4 (1.0308)

Acc. to DIN EN 10305-4

1. DIN 2413 I: Tubes with a diameter of OD/ID>2 are calculated for static stress in accordance with DIN 2413 III but with K=yield strength.
2. Evaluated in Parker Lab and Test Field. ( ) = Burst pressure (B.P.) acc. to Faupel-von-Mises

Material E235+N / St.37.4 (1.0308)		d <sub>a</sub> Outer-Ø (mm)	Outer-Ø Tolerance (mm)	s Wall- thickness (mm)	d <sub>i</sub> Inner-Ø (mm)	Design pressure			Weight kg/m
Surface						1 DIN 2413 I static PN bar	DIN 2413 III dynamic PN bar	2 Burst pressure bar	
Phosphated and oiled	Cr(VI)- free								
Order code									
R04X0.5	R04X0.5CF	04		0.50	3.0	313	273	1160	0.047
	R04X0.75CF	04	±0.08	0.75	2.5	470	391	1820	0.063
R04X1	R04X1CF	04		1.00	2.0	627	500	2700	0.074
	R05X1CF	05	±0.08	1.00	3.0	501	414	2120	0.099
	R06X0.75CF	06		0.75	4.5	333	288	1150	0.103
R06X1	R06X1CF	06	±0.08	1.00	4.0	444	372	1650	0.123
R06X1.5	R06X1.5CF	06		1.50	3.0	666	526	2550	0.166
	R06X2CF	06		2.00	2.0	692	662	>3500	0.197
R06X2.25	R06X2.25CF	06		2.25	1.5	757	725	>3500	0.208
	R08X1CF	08		1.00	6.0	333	288	1175	0.173
R08X1	R08X1.5CF	08	±0.08	1.50	5.0	499	412	1925	0.240
R08X1.5	R08X2CF	08		2.00	4.0	666	526	2500	0.296
R08X2	R08X2.5CF	08		2.50	3.0	658	630	2650	0.339
	R10X1CF	10		1.00	8.0	282	248	900	0.222
R10X1	R10X1.5CF	10	±0.08	1.50	7.0	423	357	1450	0.314
R10X1.5	R10X2CF	10		2.00	6.0	564	458	2025	0.395
R10X2	R10X2.5CF	10		2.50	5.0	705	551	2675	0.462
R10X2.5	R10X3CF	10		3.00	4.0	666	638	>3500	0.518
	R12X1CF	12		1.00	10.0	235	209	750	0.271
R12X1	R12X1.5CF	12	±0.08	1.50	9.0	353	303	1150	0.388
R12X1.5	R12X2CF	12		2.00	8.0	470	391	1600	0.493
R12X2	R12X2.5CF	12		2.50	7.0	588	474	2025	0.586
	R12X3CF	12		3.00	6.0	705	551	2600	0.666
	R12X3.5CF	12		3.50	5.0	651	624	(3109)	0.734
	R14X1.5CF	14		1.50	11.0	302	264	975	0.462
R14X2	R14X2CF	14	±0.08	2.00	10.0	403	342	1325	0.592
R14X2.5	R14X2.5CF	14		2.50	9.0	504	415	1650	0.709
	R14X3CF	14		3.00	8.0	604	485	2200	0.814
	R15X1CF	15		1.00	13.0	188	170	575	0.345
R15X1	R15X1.5CF	15	±0.08	1.50	12.0	282	248	950	0.499
R15X1.5	R15X2CF	15		2.00	11.0	376	321	1275	0.641
R15X2	R16X1.5CF	16		1.50	13.0	264	233	850	0.536
R16X1.5	R16X2CF	16	±0.08	2.00	12.0	353	303	1175	0.691
R16X2	R16X2.5CF	16		2.50	11.0	441	370	1500	0.832
R16X2.5	R16X3CF	16		3.00	10.0	529	433	1850	0.962
R16X3	R18X1CF	18		1.00	16.0	157	143	450	0.419
R18X1	R18X1.5CF	18	±0.08	1.50	15.0	235	209	700	0.610
R18X1.5	R18X2CF	18		2.00	14.0	313	273	975	0.789
R18X2	R18X2.5CF	18		2.50	13.0	392	333	1300	0.956
R18X2.5	R18X3CF	18		3.00	12.0	470	391	1575	1.111

Surface finish:

- Tubes with I.D. 1.5-5 mm: outside and inside oiled.
- Tubes from 6 mm I.D.: outside and inside phosphated and oiled.

• Cr(VI)-free:

These dimensions are externally thick coat passivated (thickness of coat 8-12µm), inside oiled.

## EO-Tubes for fitting systems (Industrial- and Mobile-Applications)

### Seamless EO steel tubes | Material E355+N / St.52.4 (1.0580)

Acc. to DIN EN 10305-4

- DIN 2413 I: Tubes with a diameter of OD/ID>2 are calculated for static stress in accordance with DIN 2413 III but with K=yield strength.
- Burst pressure (B.P.) acc. to Faupel-von-Mises

Material E355+N / St.52.4 (1.0580)		d <sub>a</sub> Outer-Ø (mm)	Outer-Ø Tolerance (mm)	s Wall- thickness (mm)	d <sub>i</sub> Inner-Ø (mm)	Design pressure		2 Burst pressure bar	Weight kg/m
Surface						1 DIN 2413 I static PN bar	DIN 2413 III dynamic PN bar		
Phosphated and oiled	Cr(VI)- free								
Order code									
	<b>R10X2ST52CF</b>	<b>10</b>	±0.08	<b>2.00</b>	6.0	852	539	2671	0.395
	<b>R12X1.5ST52CF</b>	<b>12</b>	±0.08	<b>1.50</b>	9.0	533	357	1504	0.388
	<b>R12X2ST52CF</b>	<b>12</b>		<b>2.00</b>	8.0	710	461	2120	0.493
	<b>R15X1.5ST52CF</b>	<b>15</b>	±0.08	<b>1.50</b>	12.0	426	292	1167	0.499
	<b>R15X2ST52CF</b>	<b>15</b>		<b>2.00</b>	11.0	568	379	1622	0.641
<b>R16X2ST52</b>	<b>R16X1.5ST52CF</b>	<b>16</b>	±0.08	<b>1.50</b>	13.0	399	275	1086	0.536
	<b>R16X2ST52CF</b>	<b>16</b>		<b>2.00</b>	12.0	533	357	1504	0.691
	<b>R16X2.5ST52CF</b>	<b>16</b>		<b>2.50</b>	11.0	666	436	1959	0.832
	<b>R18X1.5ST52CF</b>	<b>18</b>	±0.08	<b>1.50</b>	15.0	355	247	953	0.610
	<b>R18X2ST52CF</b>	<b>18</b>		<b>2.00</b>	14.0	473	321	1314	0.789
	<b>R20X2ST52CF</b>	<b>20</b>	±0.08	<b>2.00</b>	16.0	426	292	1167	0.888
	<b>R20X2.5ST52CF</b>	<b>20</b>		<b>2.50</b>	15.0	533	357	1504	1.079
	<b>R20X3ST52CF</b>	<b>20</b>		<b>3.00</b>	14.0	639	420	185	1.258
	<b>R22X1.5ST52CF</b>	<b>22</b>	±0.08	<b>1.50</b>	19.0	290	204	767	0.758
	<b>R22X2ST52CF</b>	<b>22</b>		<b>2.00</b>	18.0	387	267	1049	0.986
<b>R25X3ST52</b>	<b>R25X2.5ST52CF</b>	<b>25</b>	±0.08	<b>2.50</b>	20.0	426	292	1167	1.387
	<b>R25X3ST52CF</b>	<b>25</b>		<b>3.00</b>	19.0	511	344	1435	1.628
	<b>R25X4ST52CF</b>	<b>25</b>		<b>4.00</b>	17.0	682	445	2016	2.072
	<b>R28X2ST52CF</b>	<b>28</b>	±0.08	<b>2.00</b>	24.0	304	213	806	1.282
<b>R30X3ST52</b>	<b>R30X3ST52CF</b>	<b>30</b>	±0.08	<b>3.00</b>	24.0	426	292	1167	1.998
	<b>R30X4ST52CF</b>	<b>30</b>		<b>4.00</b>	22.0	568	379	1622	2.565
	<b>R30X5ST52CF</b>	<b>30</b>		<b>5.00</b>	20.0	710	461	2120	3.083
	<b>R35X3ST52CF</b>	<b>35</b>	±0.15	<b>3.00</b>	29.0	365	253	983	2.367
<b>R38X4ST52</b>	<b>R38X3ST52CF</b>	<b>38</b>	±0.15	<b>3.00</b>	32.0	336	234	899	2.589
	<b>R38X4ST52CF</b>	<b>38</b>		<b>4.00</b>	30.0	448	306	1236	3.354
	<b>R38X5ST52CF</b>	<b>38</b>		<b>5.00</b>	28.0	561	374	1597	4.069
	<b>R38X6ST52CF</b>	<b>38</b>		<b>6.00</b>	26.0	673	440	1984	4.735
	<b>R42X3ST52CF</b>	<b>42</b>	±0.20	<b>3.00</b>	36.0	304	213	806	2.885
	<b>R42X4ST52CF</b>	<b>42</b>		<b>4.00</b>	34.0	406	279	1105	3.748
	<b>R42X5ST52CF</b>	<b>42</b>		<b>5.00</b>	32.0	507	342	1422	4.562

Surface finish:

- Tubes with I.D. 1.5-5 mm: outside and inside oiled.
- Tubes from 6 mm I.D.: outside and inside phosphated and oiled.

• Cr(VI)-free:

These dimensions are externally thick coat passivated (thickness of coat 8-12µm), inside oiled.

**Other sizes on request!**

## EO-Tubes for fitting systems (Industrial- and Mobile-Applications)

### Seamless EO steel tubes (continued) | Material E235+N / St.37.4 (1.0308)

Acc. to DIN EN 10305-4

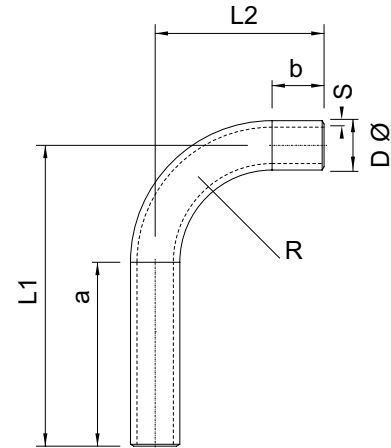
1. DIN 2413 I: Tubes with a diameter of OD/ID>2 are calculated for static stress in accordance with DIN 2413 III but with K=yield strength.
2. Evaluated in Parker Lab and Test Field.

Material E235+N / St.37.4 (1.0308)		$d_a$ Outer-Ø (mm)	Outer-Ø Tolerance (mm)	s Wall- thickness (mm)	$d_i$ Inner-Ø (mm)	Design pressure			Weight kg/m
Surface						1 DIN 2413 I static PN bar	DIN 2413 III dynamic PN bar	2 Burst pressure bar	
Phosphated and oiled	Cr(VI)- free								
Order code									
<b>R20X2</b> <b>R20X2.5</b> <b>R20X3</b>	<b>R20X1.5CF</b>	<b>20</b>	$\pm 0.08$	<b>1.50</b>	17.0	212	190	675	0.684
	<b>R20X2CF</b>	<b>20</b>		<b>2.00</b>	16.0	282	248	900	0.888
	<b>R20X2.5CF</b>	<b>20</b>		<b>2.50</b>	15.0	353	303	1100	1.079
	<b>R20X3CF</b>	<b>20</b>		<b>3.00</b>	14.0	423	357	1400	1.258
	<b>R20X3.5CF</b>	<b>20</b>		<b>3.50</b>	13.0	494	408	1650	1.424
	<b>R20X4CF</b>	<b>20</b>		<b>4.00</b>	12.0	564	458	2000	1.578
<b>R22X1.5</b> <b>R22X2</b> <b>R22X2.5</b>	<b>R22X1.5CF</b>	<b>22</b>	$\pm 0.08$	<b>1.50</b>	19.0	192	173	550	0.758
	<b>R22X2CF</b>	<b>22</b>		<b>2.00</b>	18.0	256	227	775	0.986
	<b>R22X2.5CF</b>	<b>22</b>		<b>2.50</b>	17.0	320	278	1025	1.202
	<b>R22X3CF</b>	<b>22</b>		<b>3.00</b>	16.0	385	328	1175	1.406
<b>R25X2</b> <b>R25X2.5</b> <b>R25X3</b> <b>R25X4</b>	<b>R25X2CF</b>	<b>25</b>	$\pm 0.08$	<b>2.00</b>	21.0	226	201	725	1.134
	<b>R25X2.5CF</b>	<b>25</b>		<b>2.50</b>	20.0	282	248	850	1.387
	<b>R25X3CF</b>	<b>25</b>		<b>3.00</b>	19.0	338	292	1025	1.628
	<b>R25X4CF</b>	<b>25</b>		<b>4.00</b>	17.0	451	378	1500	2.072
	<b>R25X4.5CF</b>	<b>25</b>		<b>4.50</b>	16.0	508	418	1625	2.275
<b>R28X1.5</b> <b>R28X2</b> <b>R28X2.5</b> <b>R28X3</b>	<b>R28X1.5CF</b>	<b>28</b>	$\pm 0.08$	<b>1.50</b>	25.0	151	138	425	0.980
	<b>R28X2CF</b>	<b>28</b>		<b>2.00</b>	24.0	201	181	600	1.282
	<b>R28X2.5CF</b>	<b>28</b>		<b>2.50</b>	23.0	252	223	750	1.572
	<b>R28X3CF</b>	<b>28</b>		<b>3.00</b>	22.0	302	264	900	1.850
<b>R30X2.5</b> <b>R30X3</b> <b>R30X4</b> <b>R30X5</b>	<b>R30X2CF</b>	<b>30</b>	$\pm 0.08$	<b>2.00</b>	26.0	188	170	575	1.381
	<b>R30X2.5CF</b>	<b>30</b>		<b>2.50</b>	25.0	235	209	725	1.695
	<b>R30X3CF</b>	<b>30</b>		<b>3.00</b>	24.0	282	248	850	1.998
	<b>R30X4CF</b>	<b>30</b>		<b>4.00</b>	22.0	376	321	1175	2.565
	<b>R30X5CF</b>	<b>30</b>		<b>5.00</b>	20.0	470	391	1600	3.083
<b>R35X2</b> <b>R35X2.5</b> <b>R35X3</b>	<b>R35X2CF</b>	<b>35</b>	$\pm 0.15$	<b>2.00</b>	31.0	161	147	450	1.628
	<b>R35X2.5CF</b>	<b>35</b>		<b>2.50</b>	30.0	201	181	600	2.004
	<b>R35X3CF</b>	<b>35</b>		<b>3.00</b>	29.0	242	215	700	2.367
	<b>R35X4CF</b>	<b>35</b>		<b>4.00</b>	27.0	322	280	960	3.058
<b>R38X3</b> <b>R38X4</b> <b>R38X5</b>	<b>R38X2.5CF</b>	<b>38</b>	$\pm 0.15$	<b>2.50</b>	33.0	186	168	550	2.189
	<b>R38X3CF</b>	<b>38</b>		<b>3.00</b>	32.0	223	199	675	2.589
	<b>R38X4CF</b>	<b>38</b>		<b>4.00</b>	30.0	297	260	900	3.354
	<b>R38X5CF</b>	<b>38</b>		<b>5.00</b>	28.0	371	318	1150	4.069
	<b>R38X6CF</b>	<b>38</b>		<b>6.00</b>	26.0	445	373	1425	4.735
	<b>R38X7CF</b>	<b>38</b>		<b>7.00</b>	24.0	519	427	1700	5.352
<b>R42X2</b> <b>R42X3</b> <b>R42X4</b>	<b>R42X2CF</b>	<b>42</b>	$\pm 0.20$	<b>2.00</b>	38.0	134	123	375	1.973
	<b>R42X3CF</b>	<b>42</b>		<b>3.00</b>	36.0	201	181	575	2.885
	<b>R42X4CF</b>	<b>42</b>		<b>4.00</b>	34.0	269	237	850	3.749

Other sizes on request!

**Seamless EO tube bends 90° Material E235N (St. 37.4) and 1.4571**

For minimum pressure loss



Order code			Tube O.D. D	Tolerance ±	Wall- thickness S	Tube I.D. mm	Bending radius R	Leg length		Length		Weight kg/piece
St. 37.4 phosphated	Cr(VI)-free	1.4571						a	b	L1	L2	
RB16X2	RB16X2CF	RB16X271	16	0.08	2.0	12	30	200	40	230	70	0.198
RB18X1.5	RB18X1.5CF	RB18X1.571	18	0.08	1.5	15	36	200	35	236	71	0.178
RB20X2	RB20X2CF		20	0.08	2.0	16	36	200	45	236	81	0.268
RB20X2.5	RB20X2.5CF	RB20X2.571	20	0.08	2.5	15	36	200	45	236	81	0.326
RB22X1.5	RB22X1.5CF		22	0.08	1.5	19	38	200	40	238	78	0.227
RB22X2	RB22X2CF	RB22X271	22	0.08	2.0	18	38	200	40	238	78	0.296
RB25X2	RB25X2CF		25	0.08	2.0	21	44	200	50	244	94	0.362
RB25X2.5	RB25X2.5CF	RB25X2.571	25	0.08	2.5	20	44	200	50	244	94	0.442
RB25X3	RB25X3CF		25	0.08	3.0	19	44	200	50	244	94	0.519
RB28X1.5	RB28X1.5CF		28	0.08	1.5	25	48	200	50	248	98	0.319
RB28X2	RB28X2CF	RB28X271	28	0.08	2.0	24	48	200	50	248	98	0.417
RB28X3	RB28X3CF		28	0.08	3.0	22	48	200	50	248	98	0.601
RB30X2.5	RB30X2.5CF		30	0.08	2.5	25	50	200	60	250	110	0.575
RB30X3	RB30X3CF	RB30X371	30	0.08	3.0	24	50	200	60	250	110	0.677
RB30X4	RB30X4CF		30	0.08	4.0	22	50	200	60	250	110	0.869
RB35X2	RB35X2CF	RB35X271	35	0.15	2.0	31	60	200	65	260	125	0.586
RB35X3	RB35X3CF		35	0.15	3.0	29	60	200	65	260	125	0.852
RB38X2.5	RB38X2.5CF		38	0.15	2.5	33	65	200	75	265	140	0.827
RB38X3	RB38X3CF		38	0.15	3.0	32	65	200	75	265	140	0.979
RB38X4	RB38X4CF	RB38X471	38	0.15	4.0	30	65	200	75	265	140	1.268
RB38X5	RB38X5CF		38	0.15	5.0	28	65	200	75	265	140	1.538
RB42X2	RB42X2CF	RB42X271	42	0.20	2.0	38	80	200	85	280	165	0.809
RB42X3	RB42X3CF		42	0.20	3.0	36	80	200	85	280	165	1.183
RB50X6			50	0.20	6.0	38	180	150	150	330	330	3.496
RB65X8			65	0.30	8.0	49	180	160	160	330	330	6.294



## Tubes for flange systems – Scheduled sizes

### Seamless stainless steel tubes | Material 316L (1.4404)

Acc. to ASTM A312/A999

Pressure table acc. to DNV Rules for Classification of Ships Newbuilding and Mobile Offshore Units Drilling Plants.

1. DNV Bended pipe including manufacturing and corrosion tolerances.
2. DNV Straight pipe including manufacturing and corrosion tolerances.
3. Burst pressure (B.P.) calculation = Based on Tensile value, wall thickness tolerance not included.

Material 316L (1.4404) Surface pickled Order code	d <sub>a</sub> Outer-Ø		s Wallthickness		d <sub>i</sub> Inner-Ø (mm)	Design pressure		3 Burst pressure bar	Weight kg/m
	SCH	mm	SCH	mm		1 DNV PN bar	2 DNV PN bar		
R21.34X2.11-316	1/2"	21.34	SCH 10	2.11	17.12	241	277	1130	1.014
R21.34X2.77-316			SCH 40	2.77	15.80	325	374	1536	1.285
R21.34X3.73-316			SCH 80	3.73	13.88	456	527	2182	1.641
R21.34X4.78-316			SCH 160	4.78	11.78	611	712	2973	1.977
R26.67X2.11-316	3/4"	26.67	SCH 10	2.11	24.56	190	217	885	1.299
R26.67X2.81-316			SCH 40	2.81	21.05	259	297	1213	1.713
R26.67X3.91-316			SCH 80	3.91	18.85	373	430	1769	2.231
R26.67X5.56-316			SCH 160	5.56	15.55	560	651	2713	2.943
R33.40X2.77-316-A999	1"	33.40	SCH 10	2.77	27.86	200	228	931	2.125
R33.40X3.38-316-A999			SCH 40	3.38	30.02	247	284	1160	2.541
R33.40X4.55-316-A999			SCH 80	4.55	24.30	343	395	1624	3.287
R33.40X6.35-316-A999			SCH 160	6.35	20.70	502	583	2418	4.301
R42.16X2.77-316-A999	1 1/4"	42.16	SCH 10	2.77	36.62	156	178	724	2.735
R42.16X3.56-316-A999			SCH 40	3.56	35.04	204	233	950	3.444
R42.16X4.85-316-A999			SCH 80	4.85	32.46	285	327	1339	4.536
R42.16X6.35-316-A999			SCH 160	6.35	29.46	384	443	1826	5.700
R48.26X2.77-316-A999	1 1/2"	48.26	SCH 10	2.77	42.72	135	154	627	3.158
R48.26X3.68-316-A999			SCH 40	3.68	40.90	183	209	850	4.112
R48.26X5.08-316-A999			SCH 80	5.08	38.10	258	296	1212	5.498
R48.26X7.14-316-A999			SCH 160	7.14	33.98	377	434	1788	7.359
R60.33X2.77-316-A999	2"	60.33	SCH 10	2.77	54.76	107	122	496	3.990
R60.33X3.91-316-A999			SCH 40	3.91	52.48	154	176	714	5.521
R60.33X5.54-316-A999			SCH 80	5.54	49.22	223	255	1041	7.596
R60.33X8.74-316-A999			SCH 160	8.74	42.82	368	424	1745	11.284
R73.03X3.05-316-A999	2 1/2"	73.03	SCH 10	3.05	66.90	97	111	449	5.342
R73.03X5.16-316-A999			SCH 40	5.16	62.68	168	192	783	8.765
R73.03X7.01-316-A999			SCH 80	7.01	58.98	234	268	1094	11.583
R73.03X9.53-316-A999			SCH 160	9.53	53.94	327	376	1546	15.146
R88.90X3.05-316	3"	88.90	SCH 10	3.05	82.80	79	90	366	6.557
R88.90X5.49-316-A999			SCH 40	5.49	77.92	146	167	678	11.466
R88.90X7.62-316-A999			SCH 80	7.62	73.56	207	237	966	15.509
R88.90X11.13-316-A999			SCH 160	11.13	66.64	312	359	1474	21.674
R114.30X3.05-316	4"	114.30	SCH 10	3.05	108.20	61	70	282	8.496
R114.30X6.02-316-A999			SCH 40	6.02	102.16	124	141	573	16.322
R114.30X8.56-316-A999			SCH 80	8.56	97.18	179	205	834	22.665
R114.30X13.49-316-A999			SCH 160	13.49	87.32	293	336	1378	34.053
R141.30X6.55-316-A999	5"	141.30	SCH 40	6.55	128.20	108	123	501	22.101
R141.30X9.53-316-A999			SCH 80	9.53	122.24	160	183	745	31.444
R141.30X15.88-316-A999			SCH 160	15.88	109.54	277	318	1304	49.871
R168.28X3.40-316	6"	168.28	SCH 10	3.40	161.48	46	53	212	14.039
R168.28X7.11-316-A999			SCH 40	7.11	154.08	98	112	454	28.697
R168.28X18.26-316-A999			SCH 160	18.26	131.78	267	306	1254	68.603
R219.08X8.18-316	8"	219.08	SCH 40	8.18	202.74	87	99	399	43.202
R219.08X23.01-316-A999			SCH 160	23.01	173.08	258	296	1209	112.981

Other sizes on request!