



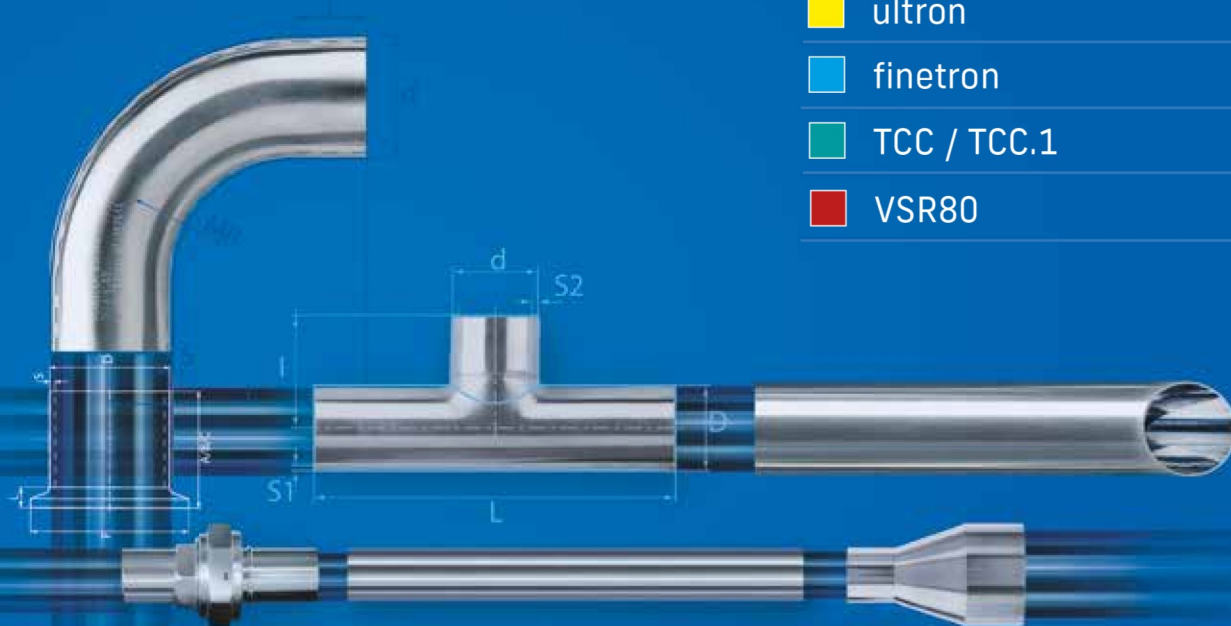
D-CKWEILER
connecting flow to **purity**

MICROELECTRONICS

TUBES, PIPES, FITTINGS AND CONNECTIONS

FOR SEMICONDUCTOR
AND HIGH-TECH INDUSTRIES

-  **ultron**
-  **finetron**
-  **TCC / TCC.1**
-  **VSR80**



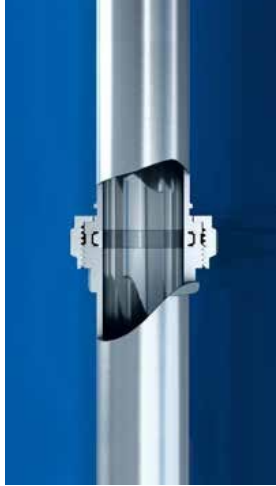
EMEA



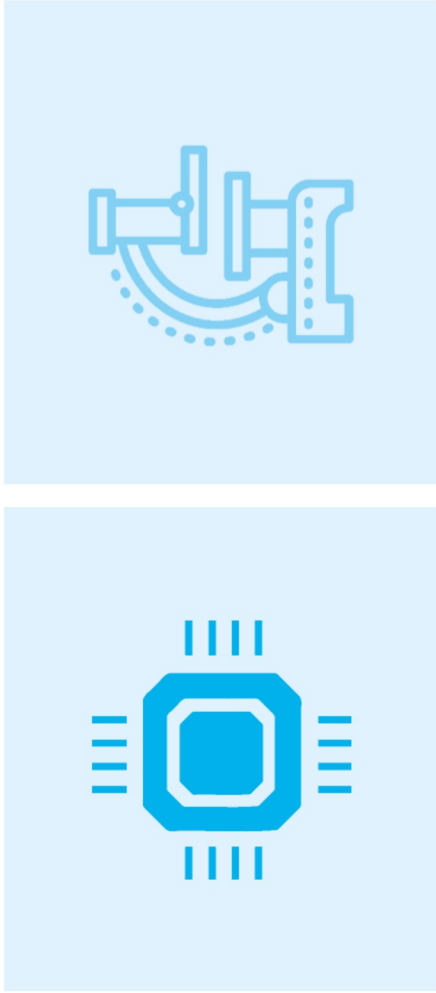
Tubes, Fittings and Components for Microelectronic Applications

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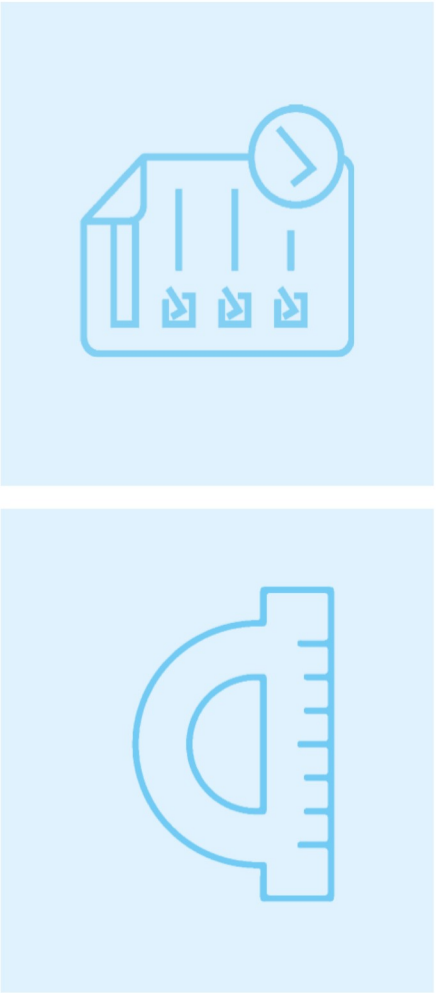
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Technical Specifications

Qualities, Materials, Dimensions, Testing, Documentation & Delivery

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Specification
ultron

For UHP gas applications in semiconductor industry
and fine chemistry



1. SURFACES QUALITIES

Tubes and fittings:		Inner surface (ep)	Outer surface
■ ultron		Ra_{avg} ≤ 0,25 µm (10 µin)	Ra_{avg} ≤ 1.0 µm (40 µin)
On request:		Ra _{avg} ≤ 0,13 µm (5 µin)	
		Ra _{avg} ≤ 0,18 µm (7 µin)	
		Ra _{avg} ≤ 0,38 µm (15 µin)	
Pipe:		Inner surface (ep)	Outer surface
■ ultron		Ra_{avg} ≤ 0,51 µm (20 µin)	Mill finish, RA not defined
Additional notes:		- Tube and Fittings are prepared for orbital welding (acc. to Dockweiler guideline Doc. 8.3-9/7). - Ra values may differ for 1/8" tubes - Pipe will be supplied with a square cut (acc. to Dockweiler guideline Doc. 8.3-9/7). - Other specified surfaces or ends are available upon request. - The Ra value in the cold worked area of fittings (inner and outer surface) and on the surface of circumferential welds is not defined. For dimensions OD < 1/4" (6,35 mm) roughness is not defined. - Free of oil and grease acc. to CGA G-4.1-2018 and ASTM G93 – level A. - Electropolishing procedure acc. to Dockweiler guideline Doc. 8.4-40/3.1/3.3.1 - Cleanroom cleaning and packing (ISO Class 4 / Federal Class 10)	

2. MATERIALS

■ ultron	1.4404 / UNS S31603 (316L) 1.4435 / UNS S31603 (316L) UNS S31603 (316L)
Hardness equivalent to:	- max. 180 HV* according to DIN EN ISO 6507-1 - max. 90 HRB* according to DIN EN ISO 6508-1 * comparable to ASTM E-384 (HV) and ASTM E 18-22 (HRB)

3. DIMENSIONS

Imperial:	Imperial according to ASTM A269 / A270 / A632	
OD x WT	1/8" x 0.022" to 6" x 0.109"	3.18 x 0.56 mm to 152.4 x 2.77 mm
Pipe:	Pipe according to ASTM A312	
Dimensions	NPS 8, 10, 12 Schedule 10S	Length: min. 19.36 ft to max. 19.98 ft
Metric:		
OD x WT	6,00 x 1,00 mm to 35,00 x 1,50 mm	Length: 6000 mm -100/+90
Manufacturing process:	Seamless tubes (≤ 1")	Welded or seamless tubes (> 1")

4. QUALITY AND TEST PROCEDURES

	Verification of basic test certificate		Visual inspection		Endoscopic inspection of bright finished tubes
	Verification of dimensions		Roughness measurements		Conductivity test (DI water)
	TOC-measurement of DI water		Particle measurements		Scanning electron microscope (SEM)
	XPS / ESCA		Auger analysis (AES)		

5. TECHNICAL TERMS OF DELIVERY

Tubes and fittings are prepared for orbital welding:

Tubes	Acc. to ASTM A 632 / A 269 / A 312 (Pipe), DIN EN 10217-7 / 10216-5 with a length of 19.35 ft - 19.98 ft (5900 - 6090 mm), max. 10% short lengths of min. 9.84 ft (3000 mm)
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Tube fitting components	Prematerial acc. to ASTM A 269 / A 632 / A 312 / A 403 (Pipe), DIN EN 10217-7 / 10216-5
Packaging	Tubes and fittings filled with N2 (99.9998% incl. inert gas), capped with PA/PE squares and yellow PE caps, double-bagged and sealed in PE-sleeves. The batch label on the foil contains the information ultron.

Machined components	Prematerial acc. to ASTM A 479, DIN EN 10088-3, DIN 17440, ASTM A403 (Pipe)
Shipping	Delivery in tubular container or wooden crate, fittings in strong cardboard box with shock absorbing filler.

Marking always with	DOCKWEILER / DW-Number / Dimension / Material / Heat number
	Tube, pipe and fittings shall be permanently marked as per Dockweiler guideline AA 8.5.2-80. The marking must provide all necessary information to trace back the heat number and the material grade.

Specification
finetron

For gas applications in semiconductor industry
as well as in photovoltaics



1. SURFACES QUALITIES

Tubes and fittings:		Inner surface (bf)	Outer surface
finetron	Ra	avg. ≤ 0.40 µm (16 µin)	Ra avg. ≤ 1.0 µm (40 µin)
Additional notes:		- Tubes and fittings are prepared for orbital welding. - Other specified surfaces or ends are available upon request. - The Ra value in the cold worked area of fittings (inner and outer surface) and on the surface of circumferential welds is not defined. For dimensions OD ≤ 3/8" (5.00 mm) roughness is not measured. - Cleaning and test procedure ASTM A 632, S3 – level C.	

2. MATERIALS

Austenitic stainless steel tubes and fittings (seamless or welded / depending on diameter):	
finetron	1.4404 / UNS S31603 (316L) 1.4435 / UNS S31603 (316L) UNS S31603 (316L)
Hardness equivalent to:	- max. 180 HV* according to DIN EN ISO 6507-1 - max. 90 HRB* according to DIN EN ISO 6508-1 * comparable to ASTM E-384 (HV) and ASTM E 18-22 (HRB)

3. DIMENSIONS

Imperial:		according to ASTM A269 / A632
OD x WT	1/4" to 6" (0.250 x 0.035 inch to 6.000 x 0.109 inch)	6,35 x 0,89 mm to 152,40 x 2,77 mm
Length	min. 19.36 ft to max. 19.98 ft	6000 mm -100/+90
Metric:		
OD x WT	6,00 x 1,00 mm to 35,00 x 1,50 mm	
Length	6000 mm -100/+90	
Manufacturing process:	Seamless tubes (≤ 1")	Welded or seamless tubes (> 1")

4. QUALITY AND TEST PROCEDURES

	Verification of basic test certificate		Visual inspection		Endoscopic inspection of bright finished tubes
	Verification of dimensions		Roughness measurements		

5. TECHNICAL TERMS OF DELIVERY

Tubes and fittings are prepared for orbital welding:

Tubes	Documentation
Acc. to ASTM A 632 / A 269 / A 270, DIN EN 10217-7 / 10216-5 with a length of 5900 - 6090 mm (max. 10% short lengths of min. 3000 mm possible).	The documentation result by the Dockweiler Inspection Certificate 3.1 according to DIN EN 10204, Optional online documentation WebCert.
Tube fitting components	Packaging
Prematerial acc. to ASTM A 269 / A 632 / A 312 / A 403 (Pipe), DIN EN 10217-7 / 10216-5	Bright finished tubes and fittings are capped with transparent PE caps and are individually sealed in PE foil. The batch label on the foil contains the information finetron.
Marking always with	Shipping
DOCKWEILER / DW-Number / Dimension / Material / Heat number	Delivery in tubular container or wooden crate, fittings in strong cardboard box with shock absorbing filler.
Tubes and fittings shall be permanently marked as per Dockweiler guideline AA 8.5.2-80. The marking must provide all necessary information to trace back the heat number and the material grade.	

6. DOCUMENTATION, PACKAGING & SHIPPING

Specification
TCC/TCC.1

Widely used in production, process measurement
and photovoltaic

TCC / TCC.1



1. SURFACES QUALITIES

Tubes and fittings:		Inner surface	Outer surface
TCC (bf)	not defined;	on request Ra _{avg} ≤ 0,80 µm (32 µin)	not defined
TCC.1 (ac)	not defined;	on request Ra _{avg} ≤ 0,80 µm (32 µin)	not defined
Pipe and pipe fittings:		Inner surface	Outer surface
TCC (bf)	not defined;	on request Ra _{avg} ≤ 0,80 µm (32 µin)	not defined
TCC.1 (ac)	not defined;	on request Ra _{avg} ≤ 0,80 µm (32 µin)	not defined
Additional notes:			
- Tubes and fittings are prepared for orbital welding. - Other specified surfaces or ends are available upon request. - Pipes and fitting will be supplied with a square cut. - Different end preparations may be agreed on. - The Ra value in the cold worked area of fittings (inner and outer surface) and on the surface of circumferential welds is not defined. For dimensions OD ≤ 3/8" (5,00 mm) roughness is not measured. - TCC (bf): Cleaning and test procedure ASTM A 632, S3 and ASTM G93 – level D. - TCC.1 (ac): Free of oil and grease acc. to CCA G-4.1-2018 and ASTM G93 – level B.			

2. MATERIALS

TCC / TCC.1
Austenitic stainless steel tubes and fittings (seamless or welded) in: 1.4435 / UNS S31603 (316L) 1.4404 / UNS S31603 (316L) UNS S31603 (316L) UNS S30403 (304L)

Hardness equivalent to:	- max. 180 HV* according to DIN EN ISO 6507-1 - max. 90 HRB* according to DIN EN ISO 6508-1 * comparable to ASTM E-384 (HV) and ASTM E 18-22 (HRB)
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3. DIMENSIONS

Imperial:	according to ASTM A269 / A270 / A632
OD x WT	1/8" x 0.022" to 6" x 0.109"
Length	min. 19.36 ft to max. 19.98 ft (6000 mm -100/+90) 3.18 x 0.56 mm to 152.4 x 2.77 mm
Pipe:	according to ASTM A312
Dimensions	NPS 8, 10, 12, 16, 20 Schedule 10S
Length	min. 19.36 ft to max. 19.98 ft (6000 mm -100/+90) 219,08 x 3,76 mm to 508,00 x 5,54 mm
Metric:	
Dimensions	3,00 x 0,50 mm to 35,00 x 1,50 mm
Length	min. 19.36 ft to max. 19.98 ft (6000 mm -100/+90)
Manufacturing process:	Seamless tubes (≤ 1/2") Welded or seamless tubes (> 1/2")

4. QUALITY AND TEST PROCEDURES

	Verification of basic test certificate		Visual inspection		Endoscopic inspection of bright finished tubes
	Verification of dimensions		Roughness measurements		

5. TECHNICAL TERMS OF DELIVERY

Tubes and fittings are prepared for orbital welding:

Tubes
Acc. to ASTM A 632 / A 269 / A 270, DIN EN 10217-7 / 10216-5 with a length of 5900 - 6090 mm (max. 10% short lengths of min. 3000 mm possible).

Fittings

According to DIN 11865, ASTM A 403 (Pipe), ASTM A 182 (Pipe)
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Marking always with

DOCKWEILER / DW-Number / Dimension / Material / Heat number

Tube and fittings shall be permanently marked as per Dockweiler guideline AA 8.5.2-80. The marking must provide all necessary information to trace back the heat number and the material grade.

6. DOCUMENTATION, PACKAGING & SHIPPING

Documentation

The documentation result by the Dockweiler Inspection Certificate 3.1 according to DIN EN 10204. Optional online documentation WebCert.

Packaging

Bright finished tubes and fittings are capped with white/transparent PE caps and packaged in PE foil. The batch label contains the information TCC. Anodically cleaned tubes and fittings are capped with PE/PA squares and white/transparent PE caps and packed in PE foil. The batch label contains the information TCC.1.

Shipping

Delivery in tubular container or wooden crate, fittings in strong cardboard box with shock absorbing filler.
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Specification
VSR80

For leak-tight but detachable connections
with controlled hardness for easy installation



bf bright finished



1. SURFACES QUALITIES

Tubes:		Inner surface	Outer surface
 VSR80	Ra values are not defined		Ra_{avg} ≤ 1.0 µm (40 µin) free of longitudinal and vertical scratches

2. MATERIALS

 VSR80	1.4404 / UNS S31603 (316L) 1.4571 / S31635
Hardness equivalent to:	- max. 70-90 HRB* according to DIN EN ISO 6508-1 * comparable to ASTM E-384 (HV) and ASTM E 18-22 (HRB)

3. DIMENSIONS

Imperial:	according to ASTM A269 and DIN 11866 Series C			
OD x WT	1/16" (0.0625"x 0.010") to 1" (1.000" x 0.065 ")	1.59 mm x 0.25 mm to 25.40 mm x 1.65 mm		
Length	min. 19.36 ft to max. 19.98 ft (6000 mm -100/+90)			
Metric:	according to DIN 11866 Series A			
Dimensions	3,00 mm x 0,50 mm to 28,00 mm x 1,50 mm	Length: 6000 mm -100/+90		
Manufacturing process:	Seamless austenitic stainless steel tubes			

4. QUALITY AND TEST PROCEDURES

	Verification of basic test certificate		Visual inspection		Endoscopic inspection of bright finished tubes
	Verification of dimensions		Roughness measurements		

5. TECHNICAL TERMS OF DELIVERY

Tubes according to the following standards:	
Tubes	Acc. to ASTM A 632 / A 269 / A 270, DIN EN 10217-7 / 10216-5 with a length of 19.35 ft - 19.98 ft (max. 10% short lengths of 9.8 ft min. possible)
Marking always with	
DOCKWEILER / DW-Number / Dimension / Material / Heat number	
Tubes are permanently marked in accordance with Dockweiler guideline AA 8.5.2-80.	
Documentation	The documentation result by the Dockweiler Inspection Certificate 3.1 according to DIN EN 10204, Optional online documentation WebCert.
Packaging	The batch label on the foil contains the information VSR80.
Shipping	Delivery in tubular container or case for safe transport.

6. DOCUMENTATION, PACKAGING AND SHIPPING

How to Order Dockweiler Order Code System

Order Code for Dockweiler products:

- Dockweiler quality** (Inner surface in combination with the material)
- Product-Code**
- Diameter**

Qualities highlighted in **blue colour** are stock products.
Others articles are non-stock products.



Sample for **TCC.1 ac, 90° Elbow, 1 Inch**

IMPERIAL / DIN 11865

Dimensions		d1	s1	I1	I3	r1	TCC	TCC1	finet	ultra	
Inch	mm										
							316L				Code
1/4	6,35	0,89	66,70	52,40	14,30		T	T1	F	U	- E9-04
3/8	9,53	0,89	66,70	38,10	28,60		T	T1	F	U	- E9-06
1/2	12,70	1,24**	76,20	49,20	27,00		T	T1	F	U	- E9-08
1/2	12,70	1,65	76,20	47,60	28,60		T	T1	F	U	- E9-08
3/4	19,05	1,24**	76,20	50,20	26,00		T	1.	F	U	- E9-08
3/4	19,05	1,65	76,20	47,60	28,60		T	F	U	- E9-08	
1	25,40	1,65	76,20	38,10	38,10		T	T1	F	U	- E9-16
1 1/2	38,10	1,65	95,30	38,10	57,20		T	T1	F	U	- E9-24
2	50,80	1,65	120,70	44,50	76,20		T	T1	F	U	- E9-32
2 1/2	63,50	1,65	139,70	44,40	95,30		T	T1	F	U	- E9-40
3	76,20	1,65	158,80	44,50	114,30		T	T1	F	U	- E9-48
4	101,60	2,11	203,20	50,80	152,40		T	T1	F	U	- E9-64
6	152,40	2,77	292,10	63,50	228,60		T	T1	F	U	- E9-96

Order Code:

T1-E9-16



Sample for **ultron ep, Coaxial 45° Elbow, 1/2 Inch**

IMPERIAL

		Inner Tube		Outer Tube		Dimensions					
		d1	s1	d2	s2	I1	I2	MR1		316L	
Inch					mm						
1/4	6,35	0,89	12,70	1,24	98,45	79,40	38,10			T	1.
3/8	9,53	0,89	15,88	1,24	98,45	79,40	57,00			T	2.
1/2	12,70	1,24	19,05	1,65	109,26	90,21	85,00			T	U
3/4	19,05	1,65	25,40	1,65	135,61	110,21	85,00			T	U
1	25,40	1,65	38,10	1,65	88,90	63,50	38,10			T	U

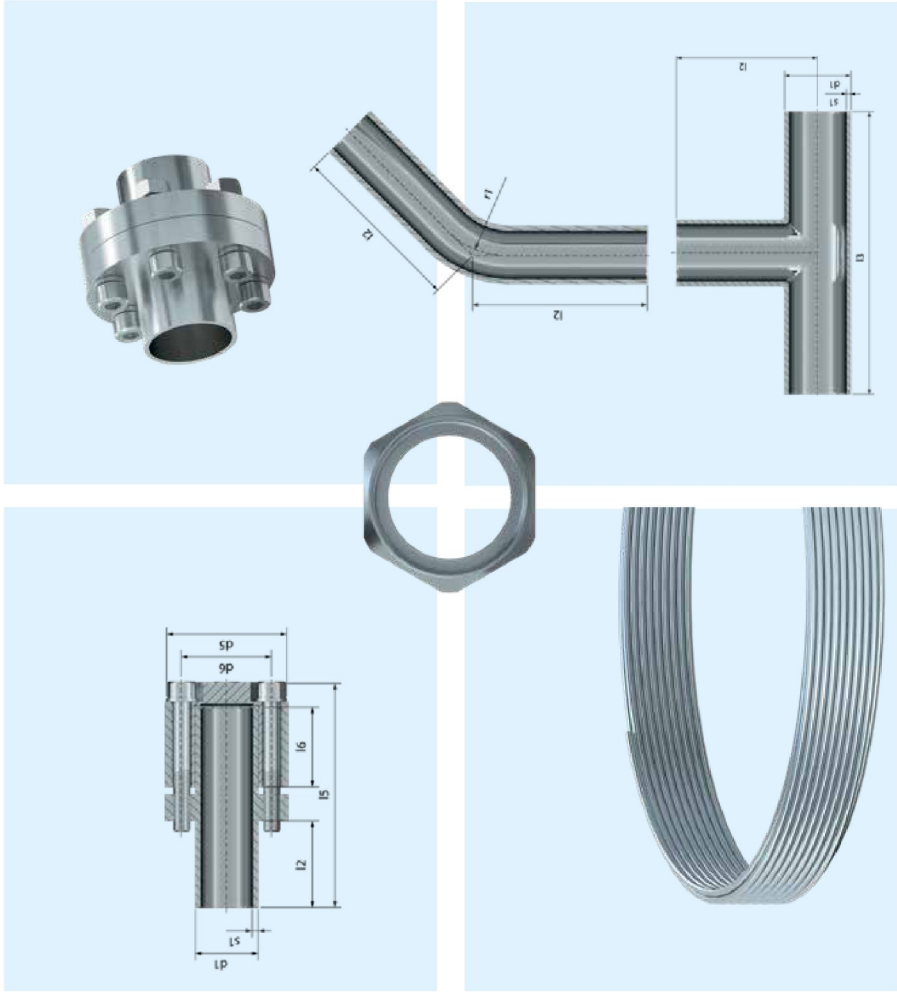
Order Code:

U-CE4-08

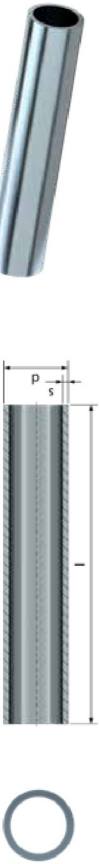
If you require stainless steel grade **1.4435 / UNS S31603** or **1.4404 / UNS S31603**, please add **-35** or **-04** at the end of the order code.

Tubes, Fittings and Connections
Microelectronics

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Tube
Imperial / PIPE NPS / Metric



IMPERIAL

IMPERIAL

Dimensions		d x s		Weight							
Inch	mm			kg/m	316L*				Code		
1/8	3,18	x	0,56	0,04	V	T			U	-	02
1/4	6,35	x	0,89	0,12	V	T	T1	F	U	-	04
3/8	9,53	x	0,89	0,20	V	T	T1	F	U	-	06
1/2	12,70	x	1,24	0,35	V	T	T1	F	U	-	08
1/2	12,70	x	1,65	0,46	V	T	T1	F	U	-	08-65
3/4	19,05	x	1,24	0,55	V	T	T1	F	U	-	12-49
3/4	19,05	x	1,65	0,72	V	T	T1	F	U	-	12
1	25,40	x	1,65	0,98	V	T	T1	F	U	-	16
1 1/2	38,10	x	1,65	1,51		T	T1	F	U	-	24
2	50,80	x	1,65	2,03		T	T1	F	U	-	32
2 1/2	63,50	x	1,65	2,56		T	T1	F	U	-	40
3	76,20	x	1,65	3,08		T	T1	F	U	-	48
4	101,60	x	2,11	5,26		T	T1	F	U	-	64
6	152,40	x	2,77	10,39		T	T1	F	U	-	96

*According to the Dockweiler standard, the material is usually double certified as 1.4404/316L or 1.4435/316L.
Blue marked = [Stock item](#) / Further dimensions on request

PIPE NPS / SCHEDULE 10

PIPE NPS / SCHEDULE 10

Dimensions			d x s		Weight	TCC bf		ultron ep	
NPS			mm			kg/m	316L*	Code	
6*	168,28	x	3,40		14,04		T	U	- 96NPS
8	219,08	x	3,76		20,27		T	U	- 128NPS
10	273,05	x	4,19		28,21		T	U	- 160NPS
12	323,85	x	4,57		36,54		T	U	- 192NPS
16	406,40	x	4,78		48,07		T	-	- 256NPS
20	508,00	x	5,54		69,95		T	-	- 320NPS

*According to the Dockweiler standard, the material is usually double certified as 1.4404/316L or 1.4435/316L.
Blue marked = [Stock item](#) / Further dimensions on request

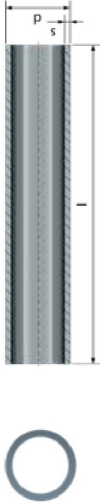
METRIC

METRIC									
Dimensions			d x s		Weight				
DN	mm				kg/m	316L*			Code
2	3,00	x	0,50		0,03	V	T		U - 02M
4	6,00	x	1,00		0,13	V	T	T1 F	U - 04M
6	8,00	x	1,00		0,18	V	T	T1 F	U - 06M
8	10,00	x	1,00		0,23	V	T	T1 F	U - 08M
10	12,00	x	1,00		0,28	V	T	T1 F	U - 10M
15	18,00	x	1,50		0,62	V	T	T1 F	U - 15M
20	23,00	x	1,50		0,81	V	T	T1 F	U - 20M
25	28,00	x	1,50		1,00	V	T	T1 F	U - 25M

*According to the Dockweiler standard, the material is usually double certified as 1.4404/316L or 1.4435/316L.
Blue marked = [Stock item](#) / Further dimensions on request

Instrument Tubings

Coil Tube
Imperial / Metric



d / s		Weight	d / s		Weight
mm		kg/m	mm		kg/m
0,30 x 0,06		0,0004	5,00 x 1,00		0,1002
0,80 x 0,20		0,0030	6,00 x 0,50		0,0689
1,20 x 0,10		0,0028	6,00 x 1,00		0,1252
1,20 x 0,20		0,0050	6,00 x 1,50		0,1690
1,59 x 0,25		0,0084	6,35 x 0,89		0,1240
1,59 x 0,30		0,0097	7,00 x 0,50		0,0814
1,59 x 0,40		0,0119	8,00 x 0,50		0,0939
1,59 x 0,45		0,0128	8,00 x 1,00		0,1753
1,59 x 0,59		0,0148	8,00 x 1,50		0,2441
2,00 x 0,20		0,0090	9,53 x 0,89		0,1925
2,00 x 0,40		0,0160	9,53 x 1,65		0,3256
2,00 x 0,50		0,0188	10,00 x 0,50		0,1189
3,18 x 0,56		0,0367	10,00 x 1,00		0,2254
3,18 x 0,71		0,0432	12,00 x 0,20		0,0591
4,00 x 0,50		0,0438	12,00 x 2,00		0,5008
4,00 x 1,00		0,0751			

Further dimensons on request. Subject to alteration.

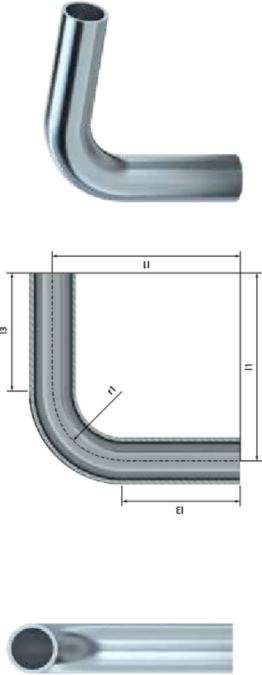
These dimensions are only a selection of instrumentation and capillary tubes and not all are available from stock. These tubes are available in various alloys (e.g. 304L, 316L, 316 Ti) and specifications (hard as drawn, annealed). Further dimensions and materials on request.

IMPERIAL		d / s		Weight		TCC bf		finetron bf		ultron ep		Code
Inch	mm	kg / m				316L*						
1/8	3,18 x 0,56	0,0368				T						- CT-02
1/4	6,35 x 0,89	0,1241				T		F		U		- CT-04
3/8	9,53 x 0,89	0,1966				T		F		U		- CT-06
1/2	12,70 x 1,24**	0,3511				T		F		U		- CT-08

METRIC		d / s		Weight		TCC bf		finetron bf		ultron ep		Code
DN	mm	kg / m				316L*						
2	3,00 x 0,50	0,0368				T						- CT-02M
4	6,00 x 1,00	0,1241				T		F		U		- CT-04M

*According to the Dockweiler standard, the material is usually double certified as 1.4404/316L or 1.4435/316L.
Blue marked = [Stock item](#) / Further dimensions on request

Elbows 90°
Imperial / Metric



IMPERIAL

METRIC							316L*				Code	
Dimensions	d1	s1	l1	l3	r1		TCC bf	TCC.1 ac	finetron bf	ultron ep		
Inch							mm					
1/4	6,35	0,89	66,70	52,40	14,30		T	T1	F	U	-	E9-04
3/8	9,53	0,89	66,70	38,10	28,60		T	T1	F	U	-	E9-06
1/2	12,70	1,24	76,20	49,20	27,00		T	T1	F	U	-	E9-08
1/2	12,70	1,65	76,20	47,60	28,60		T	T1	F	U	-	E9-08-65
3/4	19,05	1,24	76,20	50,20	26,00		T	T1	F	U	-	E9-12-49
3/4	19,05	1,65	76,20	47,60	28,60		T	T1	F	U	-	E9-12
1	25,40	1,65	76,20	38,10	38,10		T	T1	F	U	-	E9-16
1 1/2	38,10	1,65	95,30	38,10	57,20		T	T1	F	U	-	E9-24
2	50,80	1,65	120,70	44,50	76,20		T	T1	F	U	-	E9-32
2 1/2	63,50	1,65	139,70	44,40	95,30		T	T1	F	U	-	E9-40
3	76,20	1,65	158,80	44,50	114,30		T	T1	F	U	-	E9-48
4	101,60	2,11	203,20	50,80	152,40		T	T1	F	U	-	E9-64
6	152,40	2,77	292,10	63,50	228,60		T	T1	F	U	-	E9-96

*According to the Dockweiler standard, the material is usually double certified as 1.4404/316L or 1.4435/316L.

Blue marked = Stock item / Further dimensions on request

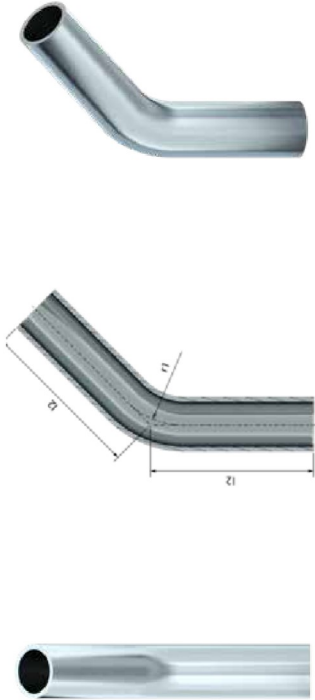
METRIC

METRIC							316L*				Code	
Dimensions	d1	s1	l1	l3	r1		TCC bf	TCC.1 ac	finetron bf	ultron ep		
DN / NW							mm					
4	6,00	1,00	40,00	24,00	16,00		T	T1	F	U	-	E9-04M
6	8,00	1,00	45,00	25,00	20,00		T	T1	F	U	-	E9-06M
8	10,00	1,00	50,00	25,00	25,00		T	T1	F	U	-	E9-08M
10	12,00	1,00	51,00	25,00	26,00		T	T1	F	U	-	E9-10M
15	18,00	1,50	60,00	25,00	35,00		T	T1	F	U	-	E9-15M
20	23,00	1,50	65,00	25,00	40,00		T	T1	F	U	-	E9-20M
25	28,00	1,50	90,00	40,00	50,00		T	T1	F	U	-	E9-25M

*According to the Dockweiler standard, the material is usually double certified as 1.4404/316L or 1.4435/316L.

Blue marked = Stock item / Further dimensions on request

Elbows 45°
Imperial / Metric



IMPERIAL

Dimensions			r1			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			TCC			T		
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T-Pieces Equal and Reduced
Imperial

Size	d1 x d 2	s1	s2	i3	i2
IMPERIAL					
					
					
					
TCC bf					
TCC,1 ac					
finetron bf					
ultron ep					

IMPERIAL

Size		d1 x d 2		s1	s2	s3	i2
Inch		mm					
1/4 x 1/4		6,35	x 6,35	0,89	0,89	89,00	44,50
3/8 x 1/4		9,53	x 6,35	0,89	0,89	89,00	44,50
3/8 x 3/8		9,53	x 9,53	0,89	0,89	89,00	44,50
1/2 x 1/4		12,70	x 6,35	1,24	0,89	95,20	47,60
1/2 x 3/8		12,70	x 9,53	1,24	0,89	95,20	47,60
1/2 x 1/2		12,70	x 12,70	1,24	1,24	95,20	47,60
1/2 x 1/4		12,70	x 6,35	1,65	0,89	101,60	47,60
1/2 x 3/8		12,70	x 9,53	1,65	0,89	101,60	47,60
1/2 x 1/2		12,70	x 12,70	1,65	1,65	101,60	47,60
3/4 x 1/4		19,05	x 6,35	1,24	0,89	101,60	50,80
3/4 x 3/8		19,05	x 9,53	1,24	0,89	101,60	50,80
3/4 x 1/2		19,05	x 12,70	1,24	1,24	101,60	50,80
3/4 x 3/4		19,05	x 19,05	1,24	1,24	101,60	50,80
3/4 x 1/4		19,05	x 6,35	1,65	0,89	101,60	50,80
3/4 x 3/8		19,05	x 9,53	1,65	0,89	101,60	50,80
3/4 x 1/2		19,05	x 12,70	1,65	1,65	101,60	50,80
3/4 x 3/4		19,05	x 19,05	1,65	1,65	101,60	50,80
1 x 1/4		25,40	x 6,35	1,65	0,89	108,00	54,00
1 x 3/8		25,40	x 9,53	1,65	0,89	108,00	54,00
1 x 1/2		25,40	x 12,70	1,65	1,24	108,00	54,00
1 x 1/2		25,40	x 12,70	1,65	1,65	108,00	54,00
1 x 3/4		25,40	x 19,05	1,65	1,24	108,00	54,00
1 x 3/4		25,40	x 19,05	1,65	1,65	108,00	54,00
1 x 1		25,40	x 25,40	1,65	1,65	108,00	54,00

*According to the Dockweiler standard, the material is usually double certified as 1.4404/316L or 1.4435/316L.

Blue marked = [Stock item](#) / Further dimensions on request

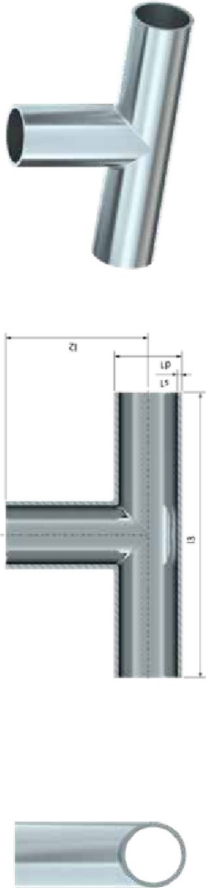
IMPERIAL

Size		d1 x d 2		s1	s2	s3	i2
Inch		mm					
1 1/2 x 1/2		38,10	x 12,70	1,65	1,24	120,60	60,30
1 1/2 x 1/2		38,10	x 12,70	1,65	1,65	120,60	60,30
1 1/2 x 3/4		38,10	x 19,05	1,65	1,24	120,60	60,30
1 1/2 x 3/4		38,10	x 19,05	1,65	1,65	120,60	60,30
1 1/2 x 1		38,10	x 25,40	1,65	1,65	120,60	60,30
1 1/2 x 1 1/2		38,10	x 38,10	1,65	1,65	120,60	60,30
2 x 1/2		50,80	x 12,70	1,65	1,24	146,00	66,70
2 x 1/2		50,80	x 12,70	1,65	1,65	146,00	66,70
2 x 3/4		50,80	x 19,05	1,65	1,24	146,00	66,70
2 x 3/4		50,80	x 19,05	1,65	1,65	146,00	66,70
2 x 1		50,80	x 25,40	1,65	1,65	146,00	66,70
2 x 1 1/2		50,80	x 38,10	1,65	1,65	146,00	66,70
2 x 2		50,80	x 50,80	1,65	1,65	146,00	73,00
2 1/2 x 1/2		63,50	x 12,70	1,65	1,24	158,80	73,00
2 1/2 x 1/2		63,50	x 12,70	1,65	1,65	158,80	73,00
2 1/2 x 3/4		63,50	x 19,05	1,65	1,65	158,80	73,00
2 1/2 x 1		63,50	x 25,40	1,65	1,65	158,80	73,00
2 1/2 x 1 1/2		63,50	x 38,10	1,65	1,65	158,80	73,00
2 1/2 x 2		63,50	x 50,80	1,65	1,65	158,80	73,00
2 1/2 x 2 1/2		63,50	x 63,50	1,65	1,65	158,80	79,40
3 x 1/2		76,20	x 12,70	1,65	1,24	171,50	79,40
3 x 1/2		76,20	x 12,70	1,65	1,65	171,50	79,40
3 x 3/4		76,20	x 19,05	1,65	1,65	171,50	79,40
3 x 1		76,20	x 25,40	1,65	1,65	171,50	79,40
3 x 1 1/2		76,20	x 38,10	1,65	1,65	171,50	79,40
3 x 2		76,20	x 50,80	1,65	1,65	171,50	79,40
3 x 2 1/2		76,20	x 63,50	1,65	1,65	171,50	79,40
3 x 3		76,20	x 76,20	1,65	1,65	171,40	85,70
4 x 1/2		101,60	x 12,70	2,11	1,24	209,60	92,10
4 x 1/2		101,60	x 12,70	2,11	1,65	209,60	92,10
4 x 3/4		101,60	x 19,05	2,11	1,65	209,60	92,10
4 x 1		101,60	x 25,40	2,11	1,65	209,60	92,10
4 x 1 1/2		101,60	x 38,10	2,11	1,65	209,60	92,10
4 x 2		101,60	x 50,80	2,11	1,65	209,60	98,40
4 x 2 1/2		101,60	x 63,50	2,11	1,65	209,60	98,40
4 x 3		101,60	x 76,20	2,11	1,65	209,60	98,40
4 x 4		101,60	x 101,60	2,11	2,11	209,60	104,80
6 x 3		152,40	x 76,20	2,77	1,65	285,80	130,20
6 x 4		152,40	x 101,60	2,77	2,11	285,80	130,20
6 x 6		152,40	x 152,40	2,77	2,77	285,80	142,90

*According to the Dockweiler standard, the material is usually double certified as 1.4404/316L or 1.4435/316L.

Blue marked = [Stock item](#) / Further dimensions on request

T-Pieces Equal and Reduced
Metric



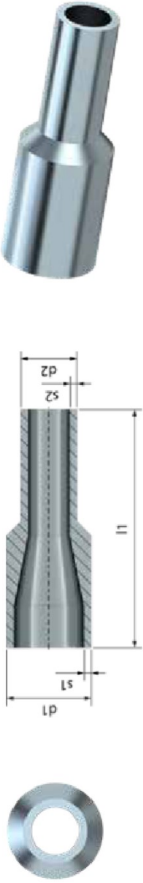
METRIC

Size	d1 x d2	s1	s2	l1	l2
Inch	mm	mm	mm		
4 x 4	6,00 x 6,00	1,00	1,00	60,00	30,00
6 x 4	8,00 x 6,00	1,00	1,00	60,00	30,00
6 x 6	8,00 x 8,00	1,00	1,00	60,00	30,00
8 x 6	10,00 x 8,00	1,00	1,00	60,00	30,00
8 x 8	10,00 x 10,00	1,00	1,00	60,00	30,00
10 x 6	12,00 x 8,00	1,00	1,00	70,00	35,00
10 x 8	12,00 x 10,00	1,00	1,00	70,00	35,00
10 x 10	12,00 x 12,00	1,00	1,00	70,00	35,00
15 x 6	18,00 x 8,00	1,50	1,00	70,00	35,00
15 x 8	18,00 x 10,00	1,50	1,00	70,00	35,00
15 x 10	18,00 x 12,00	1,50	1,00	70,00	35,00
15 x 15	18,00 x 18,00	1,50	1,50	70,00	35,00
20 x 10	23,00 x 12,00	1,50	1,00	80,00	40,00
20 x 15	23,00 x 18,00	1,50	1,50	80,00	40,00
20 x 20	23,00 x 23,00	1,50	1,50	80,00	40,00
25 x 10	28,00 x 12,00	1,50	1,00	100,00	50,00
25 x 15	28,00 x 18,00	1,50	1,50	100,00	50,00
25 x 20	28,00 x 23,00	1,50	1,50	100,00	50,00
25 x 25	28,00 x 28,00	1,50	1,50	100,00	50,00

316L*				Code	
T	T1	F	U	-	TE-04M
T	T1	F	U	-	TR-06M-04M
T	T1	F	U	-	TE-06M
T	T1	F	U	-	TR-08M-06M
T	T1	F	U	-	TE-08M
T	T1	F	U	-	TR-10M-06M
T	T1	F	U	-	TR-10M-08M
T	T1	F	U	-	TE-10M
T	T1	F	U	-	TR-15M-06M
T	T1	F	U	-	TR-15M-08M
T	T1	F	U	-	TR-15M-10M
T	T1	F	U	-	TE-15M
T	T1	F	U	-	TR-20M-10M
T	T1	F	U	-	TR-20M-15M
T	T1	F	U	-	TE-20M
T	T1	F	U	-	TR-25M-10M
T	T1	F	U	-	TR-25M-15M
T	T1	F	U	-	TR-25M-20M
T	T1	F	U	-	TE-25M

*According to the Dockweiler standard, the material is usually double certified as 1.4404/316L or 1.4435/316L.
Blue marked = Stock item / Further dimensions on request

Reducers Concentric
Imperial / Metric



IMPERIAL

Size	d1 x d2	s1	s2	l1	TCC br	TCC.1 ac	finetron bf	ultron ep	Code
Inch	mm	mm	mm	mm					
3/8 x 1/4	9.53 x 6.35	0.89	0.89	41.28	T	T1	F	U	RC-06-04
1/2 x 1/4	12.70 x 6.35	1.24	0.89	38.00	T	T1	F	U	RC-08-04
1/2 x 1/4	12.70 x 6.35	1.65	0.89	47.63	T	T1	F	U	RC-08-65-04
1/2 x 3/8	12.70 x 9.53	1.24	0.89	38.00	T	T1	F	U	RC-08-06
1/2 x 3/8	12.70 x 9.53	1.65	0.89	47.63	T	T1	F	U	RC-08-65-06
3/4 x 1/4	19.05 x 6.35	1.24	0.89	38.00	T	T1	F	U	RC-12-04
3/4 x 3/8	19.05 x 9.53	1.24	0.89	60.00	T	T1	F	U	RC-12-49-06
3/4 x 3/8	19.05 x 9.53	1.65	0.89	50.80	T	T1	F	U	RC-12-06
3/4 x 1/2	19.05 x 12.70	1.24	1.24	60.00	T	T1	F	U	RC-12-08
3/4 x 1/2	19.05 x 12.70	1.65	1.65	53.98	T	T1	F	U	RC-12-08-65
1 x 1/2	25.40 x 12.70	1.65	1.24	60.00	T	T1	F	U	RC-16-08
1 x 1/2	25.40 x 12.70	1.65	1.65	63.50	T	T1	F	U	RC-16-08-65
1 x 3/4	25.40 x 19.05	1.65	1.24	60.00	T	T1	F	U	RC-16-12-49
1 x 3/4	25.40 x 19.05	1.65	1.65	53.98	T	T1	F	U	RC-16-12
1 1/2 x 1/2	38.10 x 12.70	1.65	1.24	80.00	T	T1	F	U	RC-24-08
1 1/2 x 1/2	38.10 x 12.70	1.65	1.65	80.00	T	T1	F	U	RC-24-08-65
1 1/2 x 3/4	38.10 x 19.05	1.65	1.24	80.00	T	T1	F	U	RC-24-12-49
1 1/2 x 3/4	38.10 x 19.05	1.65	1.65	76.20	T	T1	F	U	RC-24-12
1 1/2 x 1	38.10 x 25.40	1.65	1.65	63.50	T	T1	F	U	RC-24-16
2 x 1	50.80 x 25.40	1.65	1.65	85.73	T	T1	F	U	RC-32-16
2 x 1 1/2	50.80 x 38.10	1.65	1.65	63.50	T	T1	F	U	RC-32-24
2 1/2 x 1	63.50 x 25.40	1.65	1.65	100.00	T	T1	F	U	RC-40-16
2 1/2 x 1 1/2	63.50 x 38.10	1.65	1.65	85.73	T	T1	F	U	RC-40-24
2 1/2 x 2	63.50 x 50.80	1.65	1.65	63.50	T	T1	F	U	RC-40-32
3 x 1 1/2	76.20 x 38.10	1.65	1.65	107.95	T	T1	F	U	RC-48-24
3 x 2	76.20 x 50.80	1.65	1.65	85.73	T	T1	F	U	RC-48-32
3 x 2 1/2	76.20 x 63.50	1.65	1.65	66.68	T	T1	F	U	RC-48-40
4 x 2	101.60 x 50.80	2.11	1.65	130.18	T	T1	F	U	RC-64-32
4 x 2 1/2	101.60 x 63.50	2.11	1.65	107.95	T	T1	F	U	RC-64-40
4 x 3	101.60 x 76.20	2.11	1.65	98.43	T	T1	F	U	RC-64-48
6 x 3	152.40 x 76.20	2.77	1.65	184.15	T	T1	F	U	RC-96-64
6 x 4	152.40 x 101.60	2.77	2.11	142.88	T	T1	F	U	RC-96-48

*According to the Dockweiler standard, the material is usually double certified as 1.4404/316L or 1.4435/316L.

Blue marked = Stock item / Further dimensions on request

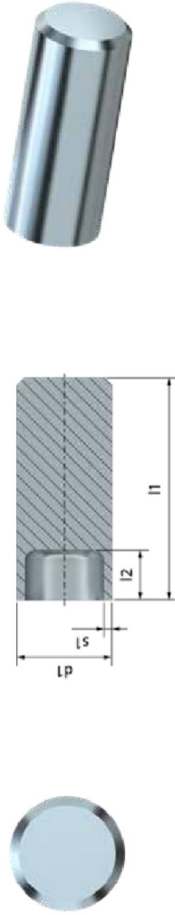
METRIC

Size	d1 x d2	s1	s2	l1	TCC br	TCC.1 ac	finetron bf	ultron ep	Code
DN	mm	mm	mm	mm					
6 x 4	8,00 x 6,00	1,00	1,00	38,00	T	T1	F	U	RC-06M-04M
8 x 4	10,00 x 6,00	1,00	1,00	38,00	T	T1	F	U	RC-08M-04M
8 x 6	10,00 x 8,00	1,00	1,00	38,00	T	T1	F	U	RC-08M-06M
10 x 4	12,00 x 6,00	1,00	1,00	38,00	T	T1	F	U	RC-10M-04M
10 x 6	12,00 x 8,00	1,00	1,00	38,00	T	T1	F	U	RC-10M-06M
10 x 8	12,00 x 10,00	1,00	1,00	38,00	T	T1	F	U	RC-10M-08M
15 x 8	18,00 x 10,00	1,50	1,00	38,00	T	T1	F	U	RC-15M-08M
15 x 10	18,00 x 12,00	1,50	1,00	38,00	T	T1	F	U	RC-15M-10M
20 x 10	23,00 x 12,00	1,50	1,00	60,00	T	T1	F	U	RC-20M-10M
20 x 15	23,00 x 18,00	1,50	1,50	60,00	T	T1	F	U	RC-20M-15M
25 x 15	28,00 x 18,00	1,50	1,50	70,00	T	T1	F	U	RC-25M-15M
25 x 20	28,00 x 23,00	1,50	1,50	70,00	T	T1	F	U	RC-25M-20M
32 x 20	35,00 x 23,00	1,50	1,50	80,00	T	T1	F	U	RC-32M-20M
32 x 25	35,00 x 28,00	1,50	1,50	80,00	T	T1	F	U	RC-32M-25M

*According to the Dockweiler standard, the material is usually double certified as 1.4404/316L or 1.4435/316L.

Blue marked = Stock item / Further dimensions on request

Weld Cap
Imperial / Metric



IMPERIAL	Inch	d1	s1	l1	l2	316L*				Code
						TCC bf	TCC.1 ac	finetron bf	ultron ep	
				mm		T	T1	F	U	WC-04
	1/4	6,35	0,89	34,75	5,00	T	T1	F	U	WC-06
	3/8	9,53	0,89	44,45	5,00	T	T1	F	U	WC-08
	1/2	12,70	1,24	44,45	5,00	T	T1	F	U	WC-08-65
	1/2	12,70	1,65	44,45	5,00	T	T1	F	U	WC-12-49
	3/4	19,05	1,24	44,45	10,00	T	T1	F	U	WC-12
	3/4	19,05	1,65	44,45	10,00	T	T1	F	U	WC-16
	1	25,40	1,65	44,45	10,00	T	T1	F	U	WC-24
	1 1/2	38,10	1,65	50,80	10,00	T	T1	F	U	WC-32
	2	50,80	1,65	50,80	15,00	T	T1	F	U	WC-40
	2 1/2	63,50	1,65	50,80	15,00	T	T1	F	U	WC-48
	3	76,20	1,65	50,80	15,00	T	T1	F	U	WC-64
	4	101,60	2,11	63,50	22,50	T	T1	F	U	WC-96
	6**	152,40	2,77	200,00	150,00	T	T1	F	U	WC-96

*According to the Dockweiler standard, the material is usually double certified as 1.4404/316L or 1.4435/316L.

** Differing design: not machined but dished bolted end welded to tube stub.

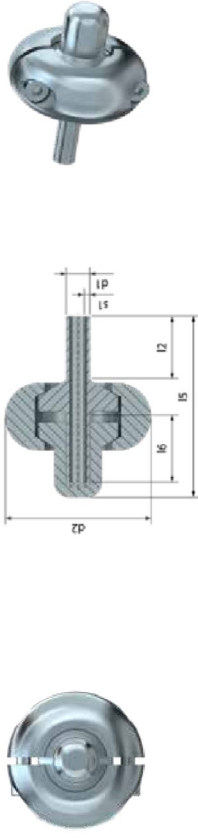
Blue marked = Stock item / Further dimensions on request

METRIC	DN	d1	s1	l1	l2	316L*				Code
						TCC bf	TCC.1 ac	finetron bf	ultron ep	
			mm			T	T1	F	U	WC-10M
	10	12,00	1,00	37,00	5,00	T	T1	F	U	WC-15M
	15	18,00	1,50	37,00	10,00	T	T1	F	U	WC-20M
	20	23,00	1,50	45,00	10,00	T	T1	F	U	WC-25M
	25	28,00	1,50	45,00	10,00	T	T1	F	U	WC-32M
	32	35,00	1,50	45,00	10,00	T	T1	F	U	WC-32M

*According to the Dockweiler standard, the material is usually double certified as 1.4404/316L or 1.4435/316L.

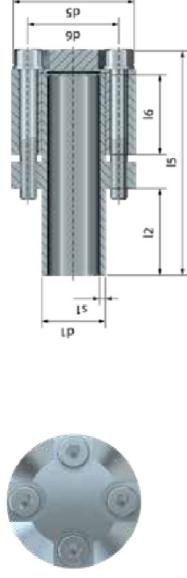
Blue marked = Stock item / Further dimensions on request

Dockweiler Cap Type A & B
Imperial



IMPERIAL	Inch	Type	d1	s1	l2	l5	d5	d6	l6	316L*		Code
										T1	U	
	1/4	A	6,35	0,89	19,05	48,40	39,00	-	26,65	T1	U	DC-04

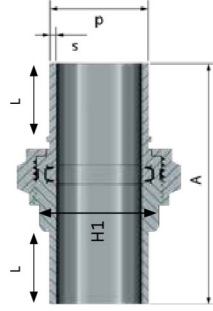
Cap Type B



IMPERIAL	Inch	Type	d1	s1	l2	l5	d5	d6	l6	316L*		Code
										T1	U	
	1/2	B	12,70	1,24	26,00	66,60	27,30	19,30	26,00	T1	U	DC-08
	1/2	B	12,70	1,65	26,00	66,30	27,30	19,30	26,00	T1	U	DC-08-65
	3/4	B	19,05	1,24	26,00	67,30	37,05	27,05	26,00	T1	U	DC-12-49
	3/4	B	19,05	1,65	26,00	67,30	37,05	27,05	26,00	T1	U	DC-12
	1	B	25,40	1,65	26,00	68,30	43,40	33,40	26,00	T1	U	DC-16
	1 1/2	B	38,10	1,65	30,00	77,30	57,90	46,90	30,00	T1	U	DC-24
	2	B	50,80	1,65	45,00	109,30	70,60	59,60	45,00	T1	U	DC-32
	2 1/2	B	63,50	1,65	45,00	110,30	83,30	73,30	45,00	T1	U	DC-40
	3	B	76,20	1,65	45,00	111,30	96,00	85,00	45,00	T1	U	DC-48
	4	B	101,60	2,11	55,00	132,30	121,40	110,40	55,00	T1	U	DC-64
	6	B	152,40	2,77	55,00	134,30	172,20	161,20	55,00	T1	U	DC-96

*According to the Dockweiler standard, the material is usually double certified as 1.4404/316L or 1.4435/316L.
Further dimensions on request.

ZeroCon up to 1" Complete Kit Screwed



Please note: The system size for the screwed ZeroCon kit is always based on the number for the gasket and the number for the connecting nut

IMPERIAL

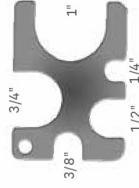
IMPERIAL									
Dimensions		d	s	A	L	H1	H2	Material	
System	Inch	mm		mm		mm (Inch)	mm (Inch)	1.4435 / 316L	Code
20-1	1/4	6,35	0,89	62,80	19,00	11 (7/16")	19 (3/4")	F U -	Z-SK-04
40-2	3/8	9,53	0,89	62,80	19,00	14 (9/16")	24 (15/16")	F U -	Z-SK-06
60-3	1/2	12,70	1,24	62,80	19,00	16 (5/8")	27 (1 1/16")	F U -	Z-SK-08
50-3	1/2	12,70	1,65	62,30	19,00	16 (5/8")	27 (1 1/16")	F U -	Z-SK-08-65
100-4	3/4	19,05	1,24	62,30	19,00	22 (7/8")	32 (1 1/4")	F U -	Z-SK-12-49
90-4	3/4	19,05	1,65	62,80	19,00	22 (7/8")	32 (1 1/4")	F U -	Z-SK-12
130-5	1	25,40	1,65	62,80	19,00	27 (1 1/16")	38 (1 1/2")	F U -	Z-SK-16

Blue marked = Stock item / Further dimensions on request

The ZeroCon Kit consists of:

- Pressure joint (1x)
- Screw joint (1x)
- Metal gasket (1x)
- Nut (1x)
- Assembly instruction

Please follow the assembly instructions for the correct use of the tool. The instruction is part of the ZeroCon kit.



The ZeroCon Disassembly Tool

Order Code: Z-SDT

ZeroCon up to 1" Parts

Gaskets

Gaskets			
System	d		Code
	mm		
20	8,95	1.4435 / 316L	F U - Z-SR-04
40	12,35		F U - Z-SR-06
60	15,25		F U - Z-SR-08
50	15,25		F U - Z-SR-08-65
100	21,60		F U - Z-SR-12-49
90	21,60		F U - Z-SR-12
130	27,20		F U - Z-SR-16

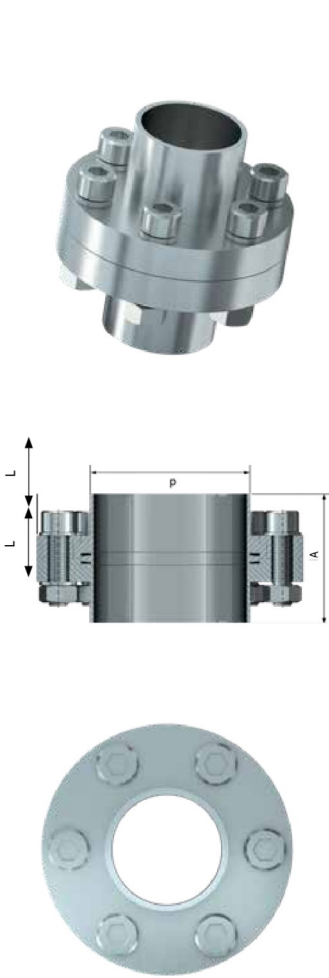
* For technical reasons, the seal is not electropolished. The gasket has an RA value of 0,4 μm and is cleanroom cleaned.

Nuts

Tube (d)		Code
System	Inch	
1	1/4	Z-N-04
2	3/8	Z-N-06
3	1/2	Z-N-08
4	3/4	Z-N-12
5	1	Z-N-16

34

ZeroCon from 1"
Complete Kit Flanged



Dimensions				Wrench Size					
Inch	d	s	A	L	Screw Set	H1	H2	1.4435 / 316L	Code
1	25.40	1.65	58.00	20.00	1F	10 (3/8")	5 (3/16")	F U	Z-FK-16
1 1/2	38.10	1.65	62.00	20.00	2F	13 (1/2")	6 (7/32")	F U	Z-FK-24
2	50.80	1.65	62.00	20.00	2F	13 (1/2")	6 (7/32")	F U	Z-FK-32
3	76.20	1.65	62.00	20.00	3F	16 (5/8")	8 (5/16")	F U	Z-FK-48
4	101.60	2.11	62.00	20.00	4F	16 (5/8")	8 (5/16")	F U	Z-FK-64

Blue marked = Stock item / Further dimenions on request

The ZeroCon Kit consists of:

- Fixed flange (1x)
- Rotatable flange (1x)
- Metal gasket (1x)
- Screw set (1x)
- Assembly instruction



Please follow the assembly instructions for the correct use of the tool. The instruction is part of the ZeroCon kit.

Disassembly Tool		Dimensions of Screws	
System	Bolt / mm	Code	
1F	M6 x 30	Z-FDT-M6	
2F	M8 x 35	Z-FDT-M8	
3F	M10 x 35	Z-FDT-M10	
4F	M10 x 35	Z-FDT-M10	

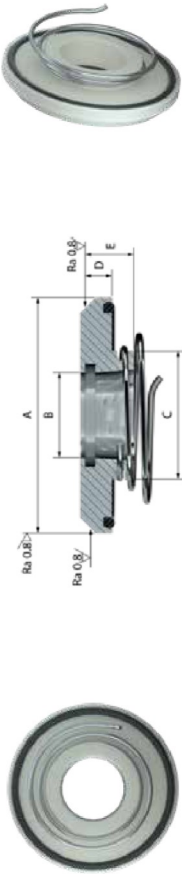


Gaskets					
Inch	d (mm)	1.4435 / 316L		Code	
1	27.20	F	U	Z-SR-16	
1 1/2	42.90	F	U	Z-SR-24	
2	56.60	F	U	Z-SR-32	
3"	85.00	F	U	Z-SR-48	
4"	109.65	F	U	Z-SR-64	

** For technical reasons, the seal is not electropolished.
The gasket has an RA value of 0,4 µm and is cleanroom cleaned.

Screw Set					
Dimensions of Screws		Amount of Screws	Lock washer	Code	
System	Bolt / mm	Nut / mm			
1F	M6 x 30	M6 x 1	SWS-M6	Z-SN-M6	
2F	M8 x 35	M8 x 1	SWS-M8	Z-SN-M8	
3F	M10 x 35	M10 x 1	SWS-M10	Z-SN-M10-8	
4F	M10 x 35	M10 x 1	SWS-M10	Z-SN-M10-10	

CleanShut
Wall and Ceiling Feedthroughs



IMPERIAL

Size	OD Tube	A	B	C	D	E	Order Code		PVDF
Inch		mm					Code		
1/2	12,70	64,00	12,90	34,00	10,00	18,00	WFT - 08	-	PV
3/4	19,05	75,00	19,25	45,00	10,00	18,00	WFT - 12	-	PV
1	25,40	75,00	25,60	45,00	10,00	18,00	WFT - 16	-	PV
1 1/2	38,10	105,00	38,30	75,00	10,00	20,00	WFT - 24	-	PV
2	50,80	105,00	51,00	75,00	10,00	20,00	WFT - 32	-	PV
2 1/2	63,50	138,00	63,70	108,00	10,00	22,00	WFT - 40	-	PV
3	76,20	138,00	76,40	108,00	10,00	22,00	WFT - 48	-	PV
4	101,60	149,00	101,80	127,00	10,00	22,00	WFT - 64	-	PV

Blue marked = Stock item
Further dimensions and materials on request. Subject to alteration.

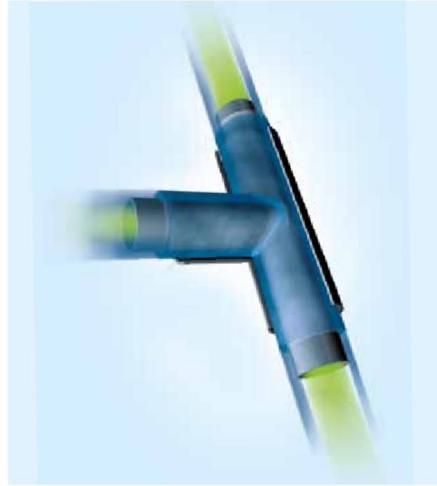
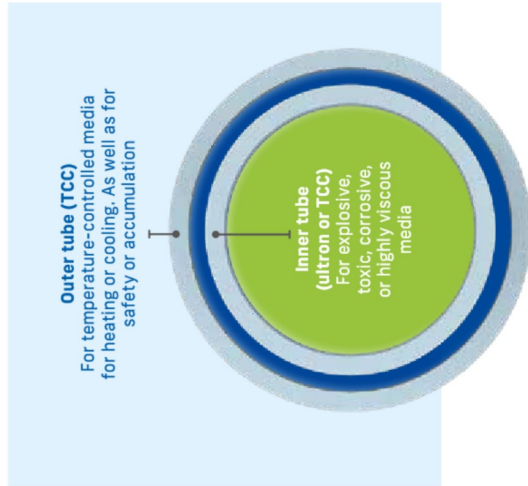
METRIC

Size	OD Tube	A	B	C	D	E	Order Code		PVDF
DN		mm					Code		
10	13,00	64,00	13,20	34,00	10,00	18,00	WFT - 10M	-	PV
15	19,00	75,00	19,20	45,00	10,00	18,00	WFT - 15M	-	PV
20	23,00	75,00	23,20	45,00	10,00	18,00	WFT - 20M	-	PV
25	29,00	87,00	29,20	57,00	10,00	18,00	WFT - 25M	-	PV
32	35,00	87,00	35,20	57,00	10,00	18,00	WFT - 32M	-	PV
40	41,00	105,00	41,20	75,00	10,00	20,00	WFT - 40M	-	PV
50	53,00	105,00	53,20	75,00	10,00	20,00	WFT - 50M	-	PV
65	70,00	138,00	70,20	108,00	10,00	22,00	WFT - 65M	-	PV
80	85,00	138,00	85,20	108,00	10,00	22,00	WFT - 80M	-	PV
100	104,00	149,00	104,20	127,00	10,00	22,00	WFT - 100M	-	PV

Blue marked = Stock item
Further dimensions and materials on request. Subject to alteration.

COAX – The Coaxial Tube System For Enhanced Safety

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Coaxial Tube System
Coaxial Tubes



TCC b7
Ultron ep

Inch	Inner Tube		Outer Tube		Weight**	316L*	Code
	d1	s1	d2	s2			
1/4	6,35	0,89	12,70	1,24	0,4752	T	CO-04
3/8	9,53	0,89	15,88	1,24	0,6512	T	CO-06
1/2	12,70	1,24	19,05	1,65	1,0709	T	CO-08
3/4	19,05	1,65	25,40	1,65	1,7022	T	CO-12
1	25,40	1,65	38,10	1,65	2,4901	T	CO-16

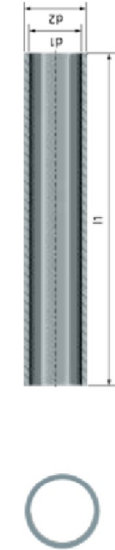
* According to the Dockweiler standard, the material is usually double certified as 1.4404/316L or 1.4435/316L.

** Temp. 20 to 150 °C; static loading; rating depends on outer tube.

Blue marked = Stock item / Further dimensions on request



Coaxial Tube System
Coaxial Weld Sleeve



TCC b7

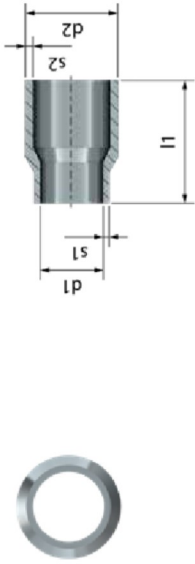
IMPERIAL

Inch	For outer tube		Sleeve		316L*	Code
	d	mm	d1	d2		
1/4	12,70	12,90	15,88	101,60	T	CS-04
3/8	15,87	16,11	19,05	101,60	T	CS-06
1/2	19,05	19,30	22,23	101,60	T	CS-08
3/4	25,40	25,60	30,00	101,60	T	CS-12
1	38,10	38,40	42,40	101,60	T	CS-16

*According to the Dockweiler standard, the material is usually double certified as 1.4404/316L or 1.4435/316L.

Blue marked = Stock item / Further dimensions on request

Coaxial Terminator



TCC b7

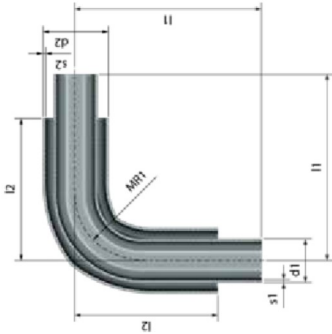
IMPERIAL

Inch	Sleeve		316L*	Code
	d1	d2		
1/4	6,35	12,70	25,40	CTM-04
3/8	9,53	15,88	25,40	CTM-06
1/2	12,70	19,05	25,40	CTM-08
3/4	19,05	25,40	31,75	CTM-12
1	25,40	38,10	31,75	CTM-16

*According to the Dockweiler standard, the material is usually double certified as 1.4404/316L or 1.4435/316L.

Blue marked = Stock item / Further dimensions on request

Coaxial Tube System
Coaxial 90° Elbow



TCC bT
ultron ep

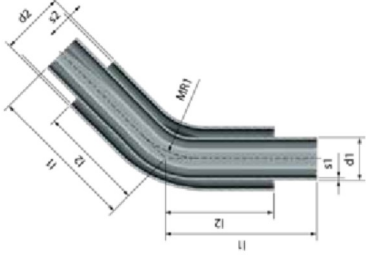
IMPERIAL

Inch	Inner Tube		Outer Tube		Dimensions			316L*	Code
	d1	s1	d2	s2	l1	l2	MR1		
1/4	6,35	0,89	12,70	1,24	120,70	101,65	38,10	T U	- CE9-04 bent
3/8	9,53	0,89	15,88	1,24	130,70	111,65	57,00	T U	- CE9-06 bent
1/2	12,70	1,24	19,05	1,65	184,40	165,35	85,00	T U	- CE9-08 bent
3/4	19,05	1,65	25,40	1,65	190,75	165,35	85,00	T U	- CE9-12 bent
1	25,40	1,65	38,10	1,65	107,97	82,57	38,10	T U	- CE9-16 welded

*According to the Dockweiler standard, the material is usually double certified as 1.4404/316L or 1.4435/316L.

Blue marked = Stock item / Further dimenions on request

Coaxial Tube System
Coaxial 45° Elbow



TCC bT
ultron ep

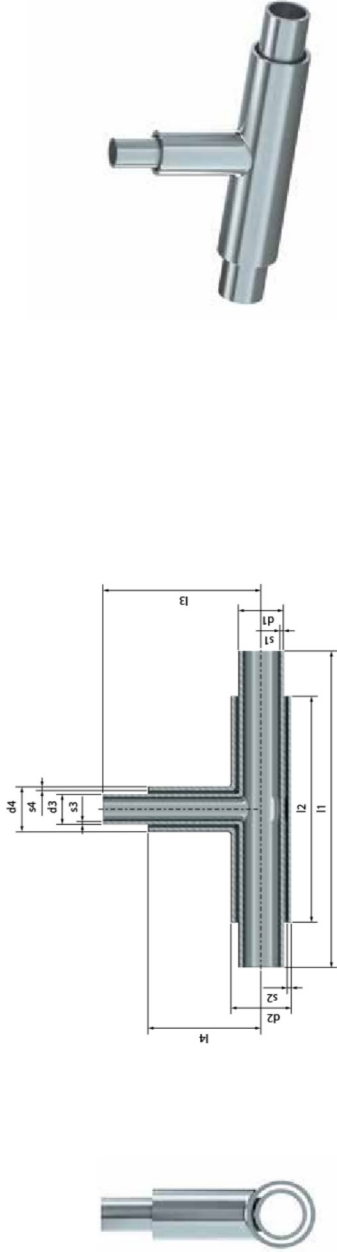
IMPERIAL

Inch	Inner Tube		Outer Tube		Dimensions			316L*	Code
	d1	s1	d2	s2	l1	l2	MR1		
1/4	6,35	0,89	12,70	1,24	98,45	79,40	38,10	T U	- CE4-04 bent
3/8	9,53	0,89	15,88	1,24	98,45	79,40	57,00	T U	- CE4-06 bent
1/2	12,70	1,24	19,05	1,65	109,26	90,21	85,00	T U	- CE4-08 bent
3/4	19,05	1,65	25,40	1,65	135,61	110,21	85,00	T U	- CE4-12 bent
1	25,40	1,65	38,10	1,65	88,90	63,50	38,10	T U	- CE4-16 welded

*According to the Dockweiler standard, the material is usually double certified as 1.4404/316L or 1.4435/316L.

Blue marked = Stock item / Further dimenions on request

Coaxial Tube System
Coaxial Tee / Reducing Tee



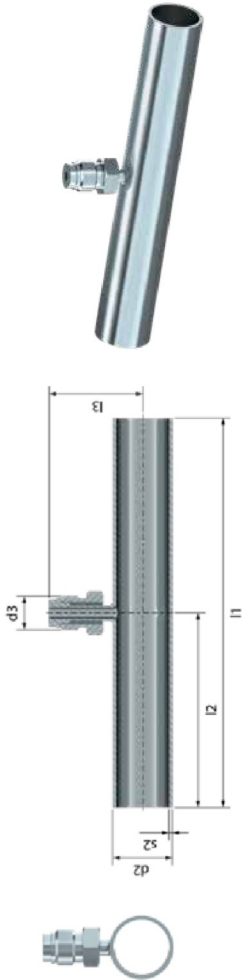
IMPERIAL

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*According to the Dockweiler standard, the material is usually double certified as 1.4404/316L or 1.4435/316L.

Blue marked = Stock item / Further dimensions on request

Coaxial Tube System
Coaxial Purge Tee



IMPERIAL		Inner Tube ¹	Outer Tube				VCR*	TCC br	
		d1	s1	d2	s2	l1	l2	l3	d3

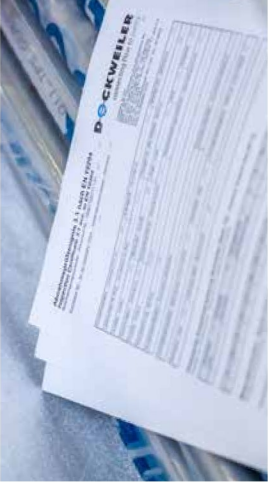
Inch		d1	s1	d2	s2	l1	l2	l3	d3	316L*		Code
1/4	6,35	0,89	1,24	12,70	1,24	146,00	73,00	33,30	1/4	T	-	CPT-04
3/8	9,53	0,89	1,24	15,88	1,24	152,40	76,20	34,80	1/4	T	-	CPT-06
1/2	12,70	1,24	1,65	19,05	1,65	152,40	76,20	36,40	1/4	T	-	CPT-08
3/4	19,05	1,65	2,54	25,40	1,65	165,10	82,55	39,60	1/4	T	-	CPT-12
1	25,40	1,65	3,81	38,10	1,65	165,10	82,55	45,85	1/4	T	-	CPT-16

¹According to the Dockweiler standard, the material is usually double certified as 1.4404/316L or 1.4435/316L.
Blue marked = Stock item / Further dimensions on request

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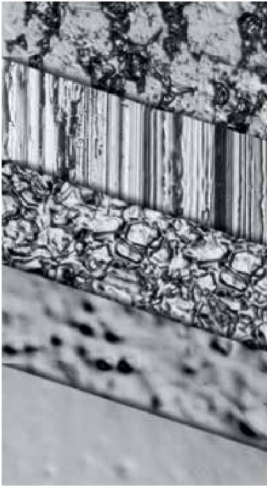


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