



ASME BPE

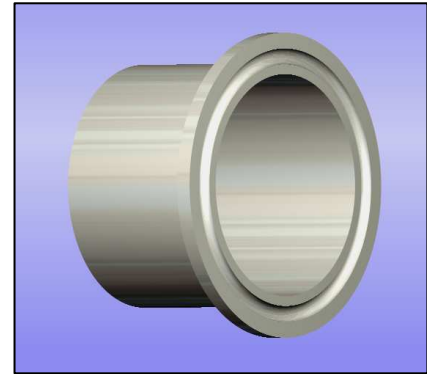
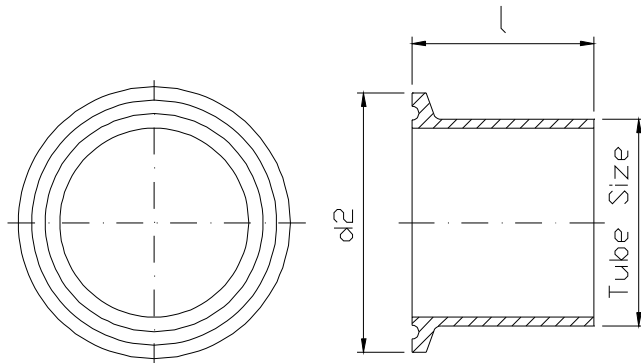


FITTINGS & TUBING

Contents

Tri-Clamp Ferrules	6.2
Tri-Clamp Tank Ferrules	6.3
Tri-Clamp Tank Connect Flange	6.4
Tri-Clamp Blind Caps	6.5
90 Degree Bends	6.6
45 Degree Bends	6.7
Tees	6.8
Instrument Tees	6.9
Y-Pieces	6.10
Crosses	6.11
Concentric Reducers	6.12
Eccentric Reducers	6.13
Machined Flow Orifices	6.14
Tube End Caps	6.15
Tri-Clamp Hose Tails	6.16
Tri-Clamp Adaptors	6.17
High Purity Tubing	6.18

6.2 Tri-Clamp Ferrules



The Heleon high quality pharmaceutical Tri-Clamp welding ferrule is available in several designs and is a one piece Stainless Steel machined fitting. For the US OD sizes available in a short, standard and long version (suitable for orbital welding).

The ferrules can be offered in the US OD, ISO and DIN sizes and they all can be supplied with material certification. The fittings are permanently marked by dot-printing and packed separately.

Standards:

- Tri-Clover® compliant
- 3A Sanitary standard
- Acc. to ASME BPE available

Materials:

- SS 316L / 1.4435 BN2

Internal Finish:

- $Ra \leq 0,4 \mu\text{m}$ (Standard for US OD)
- $Ra \leq 0,8 \mu\text{m}$ (Standard for DIN & ISO)
- Electro-Polish (EP) available on request

Figure Numbers:

- K125 (short)
- K124 & K131 (standard)
- K129 (long) = ASME-BPE
- K135 (L=21,5)

Certification:

- Acc. to EN 10204 3.1.B
- Acc. to ASTM on request
- Surface finish test reports available on request

Also in Wstnr 1.4435

Standard DIN			
Size DN	Tube Size	l	d2
DN 10	12,0x1,0	18,0	34,0
DN 15	19,0x1,5	18,0	34,0
DN 20	23,0x1,5	18,0	34,0
DN 25	29,0x1,5	21,5	50,5
DN 32	35,0x1,5	21,5	50,5
DN 40	41,0x1,5	21,5	50,5
DN 50	53,0x1,5	21,5	64,0
DN 65	70,0x2,0	28,0	91,0
DN 80	85,0x2,0	28,0	106,0
DN 100	104,0x2,0	28,0	119,0
DN 125	129,0x2,0	28,0	155,0
DN 150	154,0x2,0	28,0	183,0
DN 200	204,0x2,0	28,0	233,5

DIN sizes Only in SS 316L

Standard ISO			
Size DN	Tube Size	l	d2
DN 8	13,5x1,6	21,5	25,0
DN 10	17,2x1,6	21,5	25,0
DN 15	21,3x1,6	21,5	50,5
DN 20	26,9x1,6	21,5	50,5
DN 25	33,7x2,0	21,5	50,5
DN 32	42,4x2,0	21,5	64,0
DN 40	48,3x2,0	21,5	64,0
DN 50	60,3x2,0	21,5	77,5
DN 65	76,1x2,0	21,5	91,0
DN 80	88,9x2,3	21,5	106,0
DN 100	114,3x2,3	28,5	144,4
DN 125	139,7x2,3	28,5	155,0
DN 150	168,3x2,6	28,5	183,0
DN 200	219,1x2,6	28,5	233,5
DN 250	273,0x2,6	28,5	287,0
DN 300	323,9x2,6	28,5	338,0

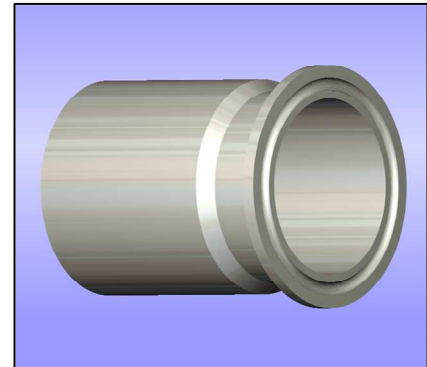
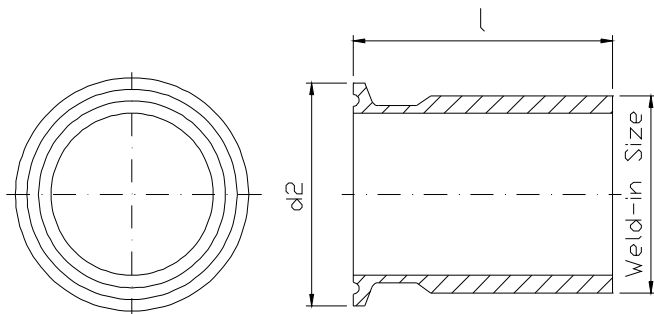
Above DN 100 only in SS 316L

Standard US OD						
Size Inch	Tube Size	K125	K124	K135	K129	d2
		l	l	l	l	
1/4"	6,35x0,91	12,7	28,6	21,5	44,5	25,0
3/8"	9,53x1,24	12,7	28,6	21,5	44,5	25,0
1/2"	12,7x1,65	12,7	28,6**	21,5	44,5	25,0
3/4"	19,05x1,65	12,7	28,6**	21,5	44,5	25,0
1"	25,4x1,65	12,7	28,6**	21,5	44,5	50,5
1 1/2"	38,1x1,65	12,7	28,6**	21,5	44,5	50,5
2"	50,8x1,65	12,7	28,6**	21,5	57,2	64,0
2 1/2"	63,5x1,65	12,7	28,6**	21,5	57,2	77,5
3"	76,2x1,65	12,7	28,6**	21,5	57,2	91,0
4"	101,6x2,11	12,7	28,6**	21,5	57,2	119,0
6"	152,4x2,77	-	38,1*	-	76,2	167,0
8"	203,2x2,77	-	44,4*	-	-	217,5
10"	254,0x3,40	-	44,4*	-	-	268,5
12"	304,8x3,40	-	44,4*	-	-	319,0

* These sizes have fig.nr: K131

**Available in 1.4435

6.3 Tri-Clamp Tank Ferrules



The Heleon pharmaceutical Tri-Clamp tank welding ferrule is a special item for welding into tank walls. This one piece machined fitting is available in two versions, in a heavy and in a light execution. The light version (K128) is actually an extra long ferrule with a standard wall thickness. Pictured above is the K195.

These fittings exist in the US OD size only and they all can be supplied with material certification. The fittings are permanently marked by dot-printing and packed separately.

Standards:

- Tri-Clover® compliant
- 3A Sanitary standard
- Acc. to ASME BPE possible

Figure Numbers:

- K195 (heavy)
- K128 (light)

Materials:

- SS 316L
- Special alloys possible (Hastelloy, AL6XN, etc)

Internal Finish:

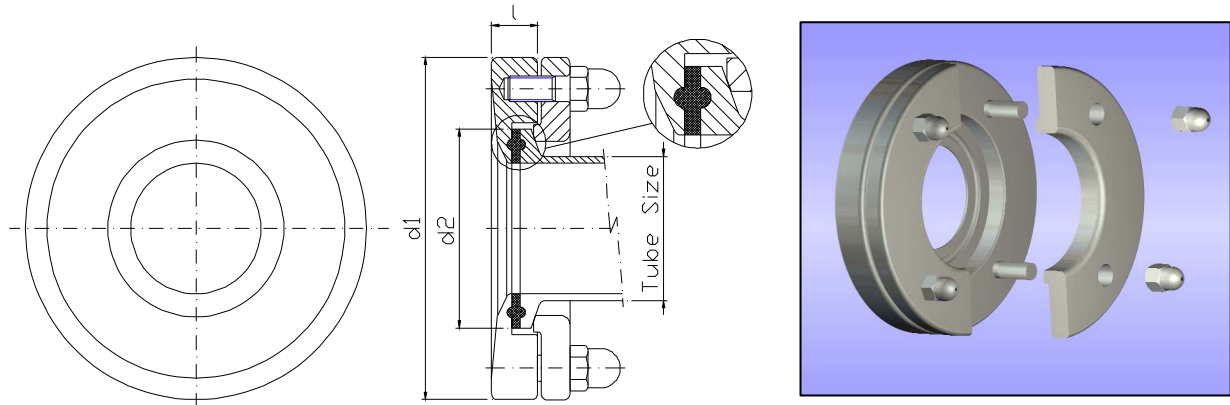
- $Ra \leq 0,4 \mu\text{m}$ (Standard)
- $Ra \leq 0,8 \mu\text{m}$
- Electro-Polish (EP) available on request

Certification:

- Acc. to EN 10204 3.1.B
- Acc. to ASTM on request
- Surface finish test reports available on request

Standard US OD			
Light Tank Welding Ferrule K128			
Size Inch	Weld-in Size	l	d2
1/2"	12,7x1,65	76,2	25,0
3/4"	19,05x1,65	76,2	25,0
1"	25,4x1,65	76,2	50,5
1 1/2"	38,1x1,65	76,2	50,5
2"	50,8x1,65	76,2	64,0
2 1/2"	63,5x1,65	76,2	77,5
3"	76,2x1,65	101,6	91,0
4"	101,6x2,11	101,6	119,0
6"	152,4x2,77	101,6	167,0
8"	203,2x2,77	101,6	217,5

Standard US OD			
Heavy Tank Welding Ferrule K195			
Size Inch	Weld-in Size	l	d2
1/2"	16,6x3,60	51,0	25,0
3/4"	23,0x3,60	51,0	25,0
1"	34,8x6,35	63,5	50,5
1 1/2"	47,5x6,35	63,5	50,5
2"	60,2x6,35	76,2	64,0
2 1/2"	73,2x6,50	76,2	77,5
3"	85,6x6,35	101,6	91,0
4"	110,3x6,45	101,6	119,0
6"	159,9x6,50	101,6	167,0
8"	210,7x6,50	101,6	217,5



The Heleon Tri-Clamp Tank Connect is special design for welding into tanks. This item features a compact design that allows the installation of clamped accessories (valves, sight glasses, instrumentation, etc...) directly and close to the tank. The design shuts off flush with the inside of the tank and guarantees zero dead leg. The counter flange is a two part design for easy mounting.

These fittings are available in the US OD size and they all can be supplied with material certification. The fittings are permanently marked by dot-printing and packed separately. Stainless Steel studs and cap nuts included.

Standards:

- Tri-Clover® compliant
- 3A Sanitary standard

Figure Numbers:

- TK

Materials:

- SS 316L

Internal Finish:

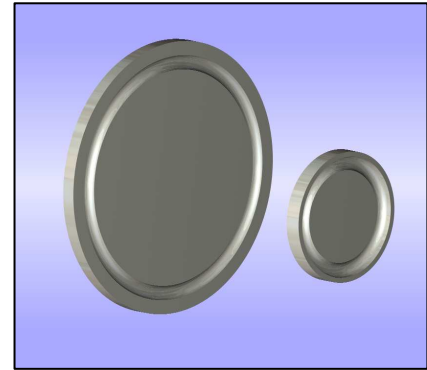
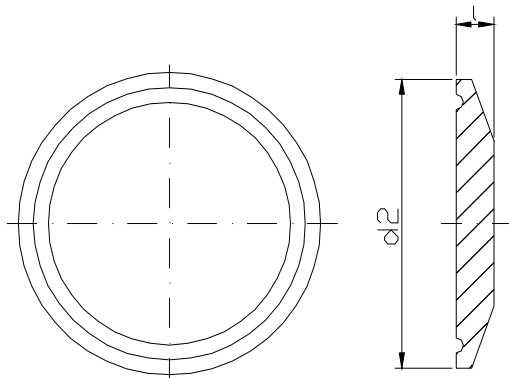
- $Ra \leq 0,4 \mu m$
- $Ra \leq 0,8 \mu m$ (Standard)
- Electro-Polish (EP) available on request

Certification:

- Acc. to EN 10204 3.1.B
- Surface finish test reports available on request

Standard US OD Tank Connect					
Size Inch	Max Diam	l	d1	d2	d3
3/4"	19,05	9,0	55,0	25,0	15,75
1 1/2"	38,1	11,0	85,0	50,5	34,8
2"	50,8	11,0	100,0	64,0	47,5
2 1/2"	63,5	11,0	112,0	77,5	60,2
3"	76,2	20,0	131,0	91,0	72,9
4"	101,6	20,0	170,0	119,0	97,6

6.5 Tri-Clamp Blind Caps



Heleon also provides the blind caps for the Tri-Clamp connections. It is a solid one piece Stainless Steel machined item. The blind caps can be offered in the US OD, ISO and DIN sizes and they all can be supplied with material certification. The fittings are permanently marked by dot-printing and packed separately.

Standards:

- Tri-Clover® compliant
- 3A Sanitary standard
- Acc. to ASME BPE

Figure Numbers:

- K116

Materials:

- SS 316L / 1.4435 BN2

Internal Finish:

- $Ra \leq 0,4 \mu\text{m}$ (Standard)
- $Ra \leq 0,8 \mu\text{m}$
- Electro-Polish (EP) available on request

Certification:

- Acc. to EN 10204 3.1.B
- Acc. to ASTM on request
- Surface finish test reports available on request

Also in Wstnr 1.4435

Standard ISO Blind Cap K116		
Size DN	l	d2
DN 8	4,8*	25,0
DN 10	4,8*	25,0
DN 15	6,3*	50,5
DN 20	6,3*	50,5
DN 25	6,3*	50,5
DN 32	6,3*	64,0
DN 40	6,3*	64,0
DN 50	6,3*	77,5
DN 65	6,3*	91,0
DN 80	7,0	106,0
DN 100	9,0	144,4
DN 125	10,0	155,0
DN 150	10,0	183,0
DN 200	10,0	233,5
DN 250	10,0	287,0
DN 300	10,0	338,0

*Available in 1.4435

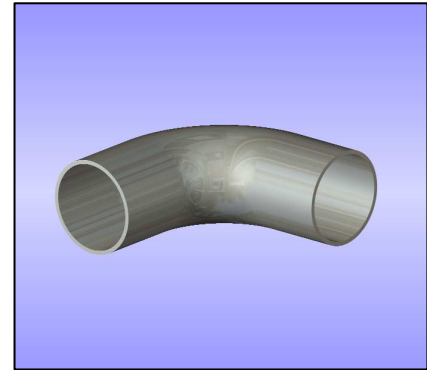
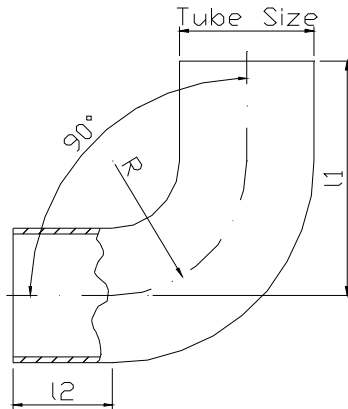
Standard DIN Blind Cap K116		
Size DN	l	d2
DN 10	6,0	34,0
DN 15	6,0	34,0
DN 20	6,0	34,0
DN 25	6,3*	50,5
DN 32	6,3*	50,5
DN 40	6,3*	50,5
DN 50	6,3*	64,0
DN 65	6,3*	91,0
DN 80	7,0	106,0
DN 100	9,0	119,0
DN 125	10,0	155,0
DN 150	10,0	183,0
DN 200	10,0	233,5

*Available in 1.4435

Standard US OD Blind Cap K116		
Size Inch	l	d2
1/2"	4,8*	25,0
3/4"	4,8*	25,0
1"	6,3*	50,5
1 1/2"	6,3*	50,5
2"	6,3*	64,0
2 1/2"	6,3*	77,5
3"	6,3*	91,0
4"	7,9*	119,0
6"	11,1	167,0
8"	11,1	217,5
10"	14,3	268,5
12"	14,3	319,0

*Available in 1.4435

6.6 90 Degree Bends



The Heleon 90 degrees aseptic bends are standard with orbital weld ends. The bends can be offered in the US OD, ISO and DIN sizes and they all can be supplied with material certification. The fittings are permanently marked by dot-printing and packed separately. Dimensions according DIN 11865 and ASME-BPE.

Bends with welded on Tri-Clamp (TC) ferrules are also available, dimensions on request.

Standards:

- Tri-Clover® compliant
- 3A Sanitary standard
- Acc. to ASME BPE available

Figure Numbers:

- N484 - 90° (weld - weld)
- K258 - 90° (TC - weld)
- K257 - 90° (TC - TC)

Materials:

- SS 316L / 1.4435 BN2

Internal Finish:

- $Ra \leq 0,4 \mu\text{m}$ (Standard)
- $Ra \leq 0,8 \mu\text{m}$
- Electro-Polish (EP) available on request

Certification:

- Acc. to EN 10204 3.1.B
- Acc. to ASTM on request
- Surface finish test reports available on request

Also in Wstnr 1.4435

Standard DIN 90° bend N484				
DN	Tube Size	I1	I2	R
8	10,0x1,0	50,0	25,0	25,0
10	12,0x1,0	51,0	25,0	25,0
15	19,0x1,5	60,0	25,0	35,0
20	23,0x1,5	65,0	25,0	40,0
25	29,0x1,5	90,0	40,0	50,0
32	35,0x1,5	95,0	40,0	55,0
40	41,0x1,5	100,0	40,0	60,0
50	53,0x1,5	110,0	40,0	70,0
65	70,0x2,0	120,0	40,0	80,0
80	85,0x2,0	145,0	55,0	90,0
100	104,0x2,0	155,0	55,0	100,0

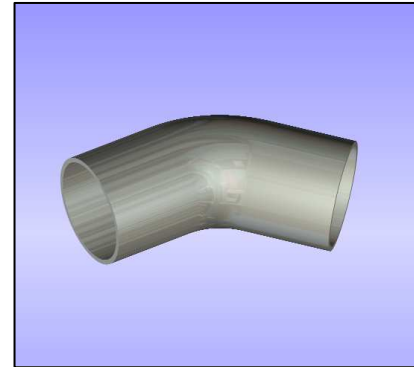
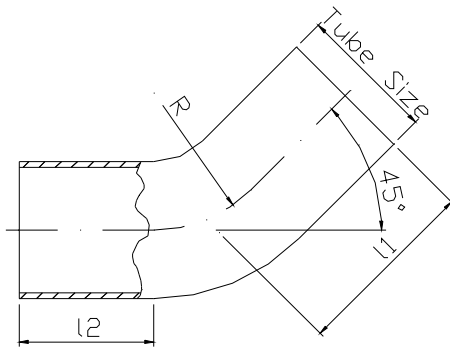
All available in 1.4435

Standard ISO 90° bend N484				
DN	Tube Size	I1	I2	R
8	13,5x1,6	45,0	25,0	20,0
10	17,2x1,6	53,0	25,0	28,0
15	21,3x1,6	55,0	25,0	30,0
20	26,9x1,6	68,5	40,0	28,5
25	33,7x2,0	78,0	40,0	38,0
32	42,4x2,0	87,5	40,0	47,5
40	48,3x2,0	97,0	40,0	57,0
50	60,3x2,0	116,0	40,0	76,0
65	76,1x2,0	150,0	55,0	95,0
80	88,9x2,3	169,5	55,0	114,5
100	114,3x2,3	207,5	55,0	152,5

All available in 1.4435

Standard US OD 90° bend N484 ASME-BPE DT-7				
Inch	Tube Size	I1	I2	R
3/8"	9,53x0,91	66,7	41,3	25,4
1/2"	12,7x1,65	76,2	50,8	25,4
3/4"	19,05x1,65	76,2	50,8	25,4
1"	25,4x1,65	76,2	38,1	38,1
1 1/2"	38,1x1,65	95,3	38,1	57,2
2"	50,8x1,65	120,7	44,5	76,2
2 1/2"	63,5x1,65	139,7	44,4	95,3
3"	76,2x1,65	158,8	44,5	114,3
4"	101,6x2,11	203,2	50,8	152,4

All available in 1.4435



The Heleon 45 degrees aseptic bends are standard with orbital weld ends. The bends can be offered in the US OD, ISO and DIN sizes and they all can be supplied with material certification. The fittings are permanently marked by dot-printing and packed separately. Dimensions according DIN 11865 and ASME-BPE.

Bends with welded on Tri-Clamp (TC) ferrules are also available, dimensions on request.

Standards:

- Tri-Clover® compliant
- 3A Sanitary standard
- Acc. to ASME BPE available

Figure Numbers:

- N488 - 45° (weld - weld)
- K267 - 45° (TC - weld)
- K266 - 45° (TC - TC)

Materials:

- SS 316L / 1.4435 BN2

Internal Finish:

- $Ra \leq 0,4 \mu m$ (Standard)
- $Ra \leq 0,8 \mu m$
- Electro-Polish (EP) available on request

Certification:

- Acc. to EN 10204 3.1.B
- Acc. to ASTM on request
- Surface finish test reports available on request

Also in Wstnr 1.4435

Standard DIN 45° bend N488				
DN	Tube Size	I1	I2	R
8	10,0x1,0	35,4	25,0	25,0
10	12,0x1,0	35,8	25,0	25,0
15	19,0x1,5	39,5	25,0	35,0
20	23,0x1,5	41,6	25,0	40,0
25	29,0x1,5	60,7	40,0	50,0
32	35,0x1,5	62,8	40,0	55,0
40	41,0x1,5	64,8	40,0	60,0
50	53,0x1,5	69,0	40,0	70,0
65	70,0x2,0	73,1	40,0	80,0
80	85,0x2,0	92,3	55,0	90,0
100	104,0x2,0	96,4	55,0	100,0

All available in 1.4435

Standard ISO 45° bend N488				
DN	Tube Size	I1	I2	R
8	13,5x1,6	33,3	25,0	20,0
10	17,2x1,6	36,6	25,0	28,0
15	21,3x1,6	37,4	25,0	30,0
20	26,9x1,6	51,8	40,0	28,5
25	33,7x2,0	55,7	40,0	38,0
32	42,4x2,0	59,7	40,0	47,5
40	48,3x2,0	63,6	40,0	57,0
50	60,3x2,0	71,5	40,0	76,0
65	76,1x2,0	94,4	55,0	95,0
80	88,9x2,3	102,4	55,0	114,5
100	114,3x2,3	118,2	55,0	152,5

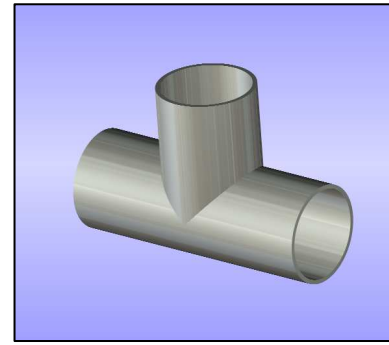
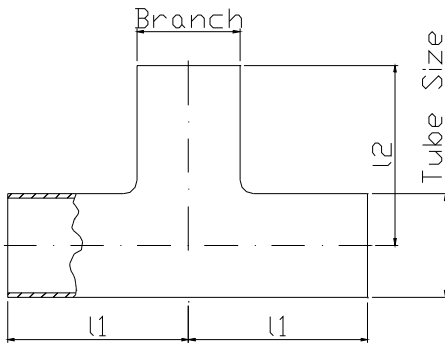
All available in 1.4435

Standard US OD 45° bend N488 ASME-BPE DT-8				
Inch	Tube Size	I1	I2	R
3/8"	9,53x0,91	50,8	40,3	25,4
1/2"	12,7x1,65	57,2	46,7	25,4
3/4"	19,05x1,65	57,2	46,7	25,4
1"	25,4x1,65	57,2	41,4	38,1
1 1/2"	38,1x1,65	63,5	39,8	57,2
2"	50,8x1,65	76,2	44,5	76,2
2 1/2"	63,5x1,65	85,7	47,0	95,3
3"	76,2x1,65	92,1	44,8	114,3
4"	101,6x2,11	114,3	51,2	152,4

All available in 1.4435

6.8

Tees



The Heleon aseptic tees are standard with orbital weld ends. They are available with an equal or a reducing branch. They can be offered in the US OD, ISO and DIN sizes and they all can be supplied with material certification. The fittings are permanently marked by dot-printing and packed separately. Tees with welded on Tri-Clamp (TC) ferrules are also available, dimensions on request. Dimensions according DIN 11865.

Standards:

- Tri-Clover® compliant
- 3A Sanitary standard
- Acc. to ASME BPE also available

Figure Numbers:

- N492 – equal (weld-weld-weld)
- N495 - reducing (weld-weld-weld)
- K318 - equal (TC-TC-TC)
- K338 - reducing (TC-TC-TC)

Materials:

- SS 316L / 1.4435 BN2

Also in Wstrnr 1.4435

Internal Finish:

- Ra ≤ 0,4 µm (Standard)
- Ra ≤ 0,8 µm
- Electro-Polish (EP) available on request

Certification:

- Acc. to EN 10204 3.1.B
- Acc. to ASTM on request
- Surface finish test reports available on request

Standard DIN Tees N492 & N495			
Tube Size	Branch	I1	I2
10,0x1,0	10,0x1,0	30,0	30,0
12,0x1,0	8,0x1,0	32,0	32,0
12,0x1,0	10,0x1,0	32,0	32,0
12,0x1,0	12,0x1,0	32,0	32,0
19,0x1,5	10,0x1,0	35,0	35,0
19,0x1,5	12,0x1,0	35,0	35,0
19,0x1,5	19,0x1,5	35,0	35,0
23,0x1,5	12,0x1,0	40,0	40,0
23,0x1,5	19,0x1,5	40,0	40,0
23,0x1,5	23,0x1,5	40,0	40,0
29,0x1,5	19,0x1,5	50,0	50,0
29,0x1,5	23,0x1,5	50,0	50,0
29,0x1,5	29,0x1,5	50,0	50,0
35,0x1,5	23,0x1,5	55,0	55,0
35,0x1,5	29,0x1,5	55,0	55,0
35,0x1,5	35,0x1,5	55,0	55,0
41,0x1,5	29,0x1,5	60,0	60,0
41,0x1,5	35,0x1,5	60,0	60,0
41,0x1,5	41,0x1,5	60,0	60,0
53,0x1,5	35,0x1,5	80,0	80,0
53,0x1,5	41,0x1,5	80,0	80,0
53,0x1,5	53,0x1,5	80,0	80,0
70,0x2,0	41,0x1,5	105,0	80,0
70,0x2,0	53,0x1,5	105,0	80,0
70,0x2,0	70,0x2,0	105,0	105,0
85,0x2,0	53,0x1,5	130,0	105,0
85,0x2,0	70,0x2,0	130,0	105,0
85,0x2,0	85,0x2,0	130,0	130,0
104,0x2,0	70,0x2,0	155,0	130,0
104,0x2,0	85,0x2,0	155,0	130,0
104,0x2,0	104,0x2,0	155,0	155,0

All available in 1.4435

Standard ISO Tees N492 & N495			
Tube Size	Branch	I1	I2
13,5x1,6	13,5x1,6	32,0	32,0
17,2x1,6	13,5x1,6	34,0	34,0
17,2x1,6	17,2x1,6	34,0	34,0
21,3x1,6	13,5x1,6	36,0	36,0
21,3x1,6	17,2x1,6	36,0	36,0
21,3x1,6	21,3x1,6	36,0	36,0
26,9x1,6	17,2x1,6	55,0	55,0
26,9x1,6	21,3x1,6	55,0	55,0
26,9x1,6	26,9x1,6	55,0	55,0
33,7x2,0	21,3x1,6	60,0	60,0
33,7x2,0	26,9x1,6	60,0	60,0
33,7x2,0	33,7x2,0	60,0	60,0
42,4x2,0	26,9x1,6	65,0	65,0
42,4x2,0	33,7x2,0	65,0	65,0
42,4x2,0	42,4x2,0	65,0	65,0
48,3x2,0	33,7x2,0	65,0	65,0
48,3x2,0	42,4x2,0	65,0	65,0
48,3x2,0	48,3x2,0	65,0	65,0
60,3x2,0	42,4x2,0	90,0	90,0
60,3x2,0	48,3x2,0	90,0	90,0
60,3x2,0	60,3x2,0	90,0	90,0
76,1x2,0	48,3x2,0	110,0	90,0
76,1x2,0	60,3x2,0	110,0	90,0
76,1x2,0	76,1x2,0	110,0	110,0
88,9x2,3	60,3x2,0	130,0	110,0
88,9x2,3	76,1x2,0	130,0	110,0
88,9x2,3	88,9x2,3	130,0	130,0
114,3x2,3	76,1x2,0	160,0	130,0
114,3x2,3	88,9x2,3	160,0	130,0
114,3x2,3	114,3x2,3	160,0	160,0

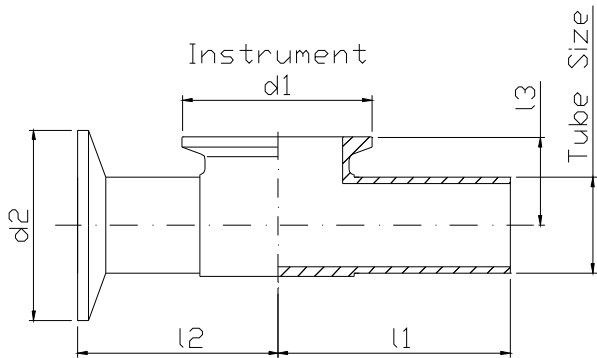
All available in 1.4435

Standard US OD Tees N492 & N495			
Tube Size	Branch	I1	I2
9,53x0,91	9,53x0,91	32,0	32,0
12,7x1,65	9,53x0,91	34,0	34,0
12,7x1,65	12,7x1,65	34,0	34,0
19,05x1,65	9,53x0,91	36,0	36,0
19,05x1,65	12,7x1,65	36,0	36,0
19,05x1,65	19,05x1,65	36,0	36,0
25,4x1,65	12,7x1,65	55,0	55,0
25,4x1,65	19,05x1,65	55,0	55,0
25,4x1,65	25,4x1,65	55,0	55,0
38,1x1,65	19,05x1,65	60,0	60,0
38,1x1,65	25,4x1,65	60,0	60,0
38,1x1,65	38,1x1,65	60,0	60,0
50,8x1,65	25,4x1,65	65,0	65,0
50,8x1,65	38,1x1,65	65,0	65,0
50,8x1,65	50,8x1,65	65,0	65,0
63,5x1,65	38,1x1,65	65,0	65,0
63,5x1,65	50,8x1,65	65,0	65,0
63,5x1,65	63,5x1,65	65,0	65,0
76,2x1,65	50,8x1,65	90,0	90,0
76,2x1,65	63,5x1,65	90,0	90,0
76,2x1,65	76,2x1,65	90,0	90,0
101,6x2,11	63,5x1,65	110,0	90,0
101,6x2,11	76,2x1,65	110,0	90,0
101,6x2,11	101,6x2,11	110,0	110,0

All available in 1.4435

6.9

Instrument Tees



With this item Heleon provides an excellent instrument connection. This Tri-Clamp Instrument tee is designed as close as possible to the center of the main line, so a very small dead space remains in between.

The Heleon Instrument tees are standard with orbital weld ends. They are also available with Tri-Clamp ends and they can only be offered in the US OD sizes from stock. Other tube standards on request. They all can be supplied with material certification. The fittings are permanently marked by dot-printing and packed separately.

Standards:

- Tri-Clover® compliant
- 3A Sanitary standard

Figure Numbers:

- N337 – with weld ends
- K336 - with Tri-Clamp ends

Materials:

- SS 316L

Internal Finish:

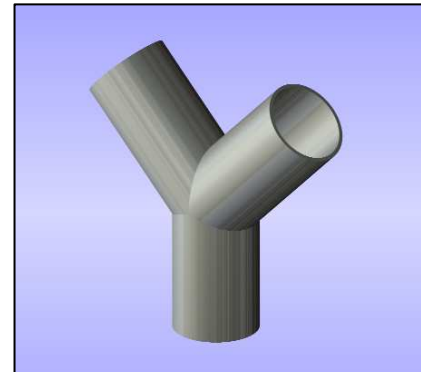
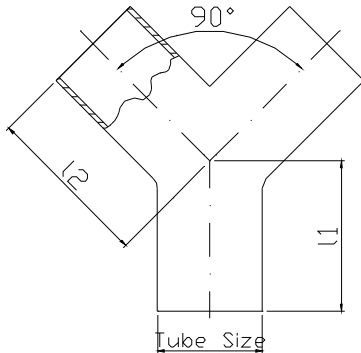
- Ra ≤ 0,4 µm (Standard)
- Ra ≤ 0,8 µm
- Electro-Polish (EP) available on request

Certification:

- Acc. to EN 10204 3.1.B
- Acc. to ASTM on request
- Surface finish test reports available on request

Standard US OD Instrument Tee N337					
Tube Size	Instrument	d1	l1	l3	
12,7x1,65	1 1/2" TC	50,5	63,0	17,0	
12,7x1,65	2" TC	64,0	69,5	19,5	
19,05x1,65	1 1/2" TC	50,5	62,0	20,5	
19,05x1,65	2" TC	64,0	69,0	20,5	
25,4x1,65	1 1/2" TC	50,5	60,5	23,5	
25,4x1,65	2" TC	64,0	67,5	24,0	
38,1x1,65	2" TC	64,0	68,0	30,5	

Standard US OD Instrument Tee K336						
Tube Size	Instrument	d1	d2	l2	l3	
12,7x1,65	1 1/2" TC	50,5	25,0	53,0	17,0	
12,7x1,65	2" TC	64,0	25,0	59,5	19,5	
19,05x1,65	1 1/2" TC	50,5	25,0	52,0	20,5	
19,05x1,65	2" TC	64,0	25,0	59,0	20,5	
25,4x1,65	1 1/2" TC	50,5	50,5	50,5	23,5	
25,4x1,65	2" TC	64,0	50,5	57,5	24,0	
38,1x1,65	2" TC	64,0	50,5	58,0	30,5	

6.10
Y-Pieces


The Heleon Y-Pieces are standard with orbital weld ends. Other than US OD tube standards available on request. They all can be supplied with material certification. The fittings are permanently marked by dot-printing and packed separately. Y-Pieces with welded on Tri-Clamp (TC) ferrules are also available.

Standards:

- Tri-Clover® compliant
- 3A Sanitary standard
- Acc. to ASME BPE possible

Materials:

- SS 316L

Internal Finish:

- $Ra \leq 0,4 \mu m$ (Standard)
- $Ra \leq 0,8 \mu m$
- Electro-Polish (EP) available on request

Figure Numbers:

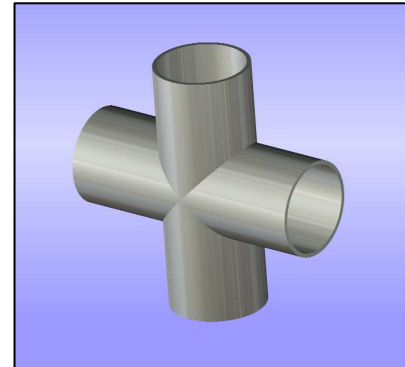
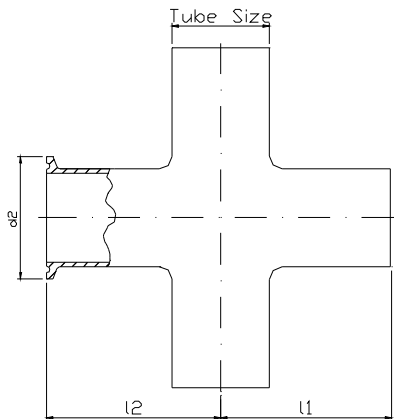
- N171 – with weld ends
- K171 - with Tri-Clamp ends

Certification:

- Acc. to EN 10204 3.1.B
- Acc. to ASTM on request
- Surface finish test reports available on request

Standard US OD Y-Piece N171			
Size Inch	Tube Size	I1	I2
1/2"	12,7x1,65	22,0	44,0
3/4"	19,05x1,65	22,0	44,0
1"	25,4x1,65	22,0	44,0
1 1/2"	38,1x1,65	31,0	64,0
2"	50,8x1,65	44,0	89,0
2 1/2"	63,5x1,65	58,0	114,0
3"	76,2x1,65	67,0	134,0
4"	101,6x2,11	85,0	174,0

Standard US OD Y-Piece K171			
Size Inch	Tube Size	I1	I2
1/2"	12,7x1,65	22,0	44,0
3/4"	19,05x1,65	22,0	44,0
1"	25,4x1,65	22,0	44,0
1 1/2"	38,1x1,65	31,0	64,0
2"	50,8x1,65	44,0	89,0
2 1/2"	63,5x1,65	58,0	114,0
3"	76,2x1,65	67,0	134,0
4"	101,6x2,11	85,0	174,0



The Heleon aseptic crosses are standard with orbital weld ends. Other than US OD tube standards available on request. They all can be supplied with material certification. The fittings are permanently marked by dot-printing and packed separately. Y-Pieces with welded on Tri-Clamp (TC) ferrules are also available.

Standards:

- Tri-Clover® compliant
- 3A Sanitary standard
- Acc. to ASME BPE

Figure Numbers:

- N570 – with weld ends
- K335 - with Tri-Clamp ends

Materials:

- SS 316L

Internal Finish:

- $Ra \leq 0,4 \mu m$ (Standard)
- $Ra \leq 0,8 \mu m$
- Electro-Polish (EP) available on request

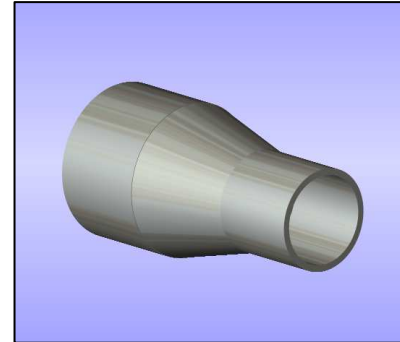
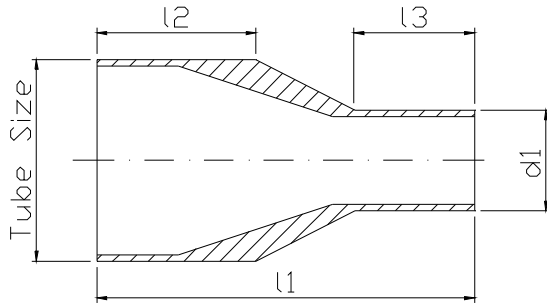
Certification:

- Acc. to EN 10204 3.1.B
- Acc. to ASTM on request
- Surface finish test reports available on request

Standard US OD		
Cross N570		ASME-BPE DT-9B
Size Inch	Tube Size	l1
1/2"	12,7x1,65	47,6
3/4"	19,05x1,65	50,8
1"	25,4x1,65	54,0
1 1/2"	38,1x1,65	60,3
2"	50,8x1,65	73,0
2 1/2"	63,5x1,65	79,4
3"	76,2x1,65	85,7
4"	101,6x2,11	104,8

Standard US OD			
Cross K335		ASME-BPE DT-18B	
Size Inch	Tube Size	d2	l2
1/2"	12,7x1,65	25,0	57,2
3/4"	19,05x1,65	25,0	60,3
1"	25,4x1,65	50,5	66,7
1 1/2"	38,1x1,65	50,5	73,0
2"	50,8x1,65	64,0	85,7
2 1/2"	63,5x1,65	77,5	92,1
3"	76,2x1,65	91,0	98,4
4"	101,6x2,11	119,0	120,7

6.12 Concentric Reducers



The Heleon concentric reducers are high quality one piece machined items. They come standard with orbital weld ends and they can be offered in a wide range of sizes (US OD, DIN & ISO). They all can be supplied with material certification. Permanently marked by dot-printing and packed separately. Dimensions with welded on Tri-Clamp (TC) ferrules are also available, on request. Dimensions according DIN 11865.

Standards:

- Tri-Clover® compliant
- 3A Sanitary standard
- Acc. to ASME BPE available on request

Figure Numbers:

- N594 – with weld ends
- K358 - with Tri-Clamp ends

Materials:

- SS 316L / 1.4435 BN2

Also in Wstrnr 1.4435

Internal Finish:

- $Ra \leq 0,4 \mu m$ (Standard)
- $Ra \leq 0,8 \mu m$
- Electro-Polish (EP) available on request

Certification:

- Acc. to EN 10204 3.1.B
- Acc. to ASTM on request
- Surface finish test reports available on request

Standard DIN Concentric Reducers N594				
Tube Size	d1	l1	l2	l3
12,0x1,0	8,0x1,0	38,0	19,0	19,0
12,0x1,0	10,0x1,0	38,0	19,0	19,0
19,0x1,5	8,0x1,0	60,0	25,0	25,0
19,0x1,5	10,0x1,0	60,0	25,0	25,0
19,0x1,5	12,0x1,0	60,0	25,0	25,0
23,0x1,5	10,0x1,0	60,0	25,0	25,0
23,0x1,5	12,0x1,0	60,0	25,0	25,0
23,0x1,5	19,0x1,5	60,0	25,0	25,0
29,0x1,5	12,0x1,0	70,0	25,0	25,0
29,0x1,5	19,0x1,5	70,0	25,0	25,0
29,0x1,5	23,0x1,5	70,0	25,0	25,0
35,0x1,5	19,0x1,5	80,0	30,0	25,0
35,0x1,5	23,0x1,5	80,0	30,0	25,0
35,0x1,5	29,0x1,5	80,0	30,0	25,0
41,0x1,5	23,0x1,5	90,0	30,0	25,0
41,0x1,5	29,0x1,5	90,0	30,0	25,0
41,0x1,5	35,0x1,5	90,0	30,0	30,0
53,0x1,5	29,0x1,5	90,0	30,0	25,0
53,0x1,5	35,0x1,5	90,0	30,0	30,0
53,0x1,5	41,0x1,5	90,0	30,0	30,0
70,0x2,0	35,0x1,5	110,0	40,0	30,0
70,0x2,0	41,0x1,5	110,0	40,0	30,0
70,0x2,0	53,0x1,5	110,0	40,0	30,0
85,0x2,0	41,0x1,5			
85,0x2,0	53,0x1,5			
85,0x2,0	70,0x2,0			
104,0x2,0	53,0x1,5			
104,0x2,0	70,0x2,0			
104,0x2,0	85,0x2,0			

All available in 1.4435

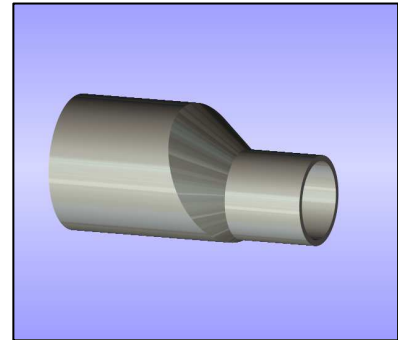
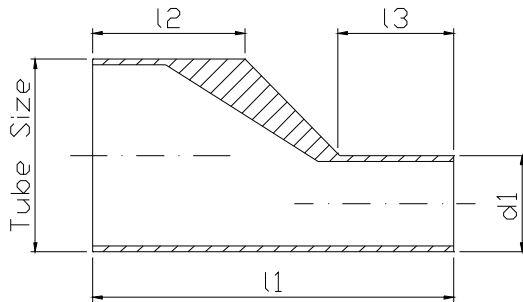
Standard ISO Concentric Reducers N594				
Tube Size	d1	l1	l2	l3
17,2x1,6	13,5x1,6	60,0	25,0	25,0
21,3x1,6	13,5x1,6	60,0	25,0	25,0
21,3x1,6	17,2x1,6	60,0	25,0	25,0
26,9x1,6	13,5x1,6	60,0	25,0	25,0
26,9x1,6	17,2x1,6	60,0	25,0	25,0
26,9x1,6	21,3x1,6	60,0	25,0	25,0
33,7x2,0	17,2x1,6	70,0	30,0	25,0
33,7x2,0	21,3x1,6	70,0	30,0	25,0
33,7x2,0	26,9x1,6	70,0	30,0	25,0
42,4x2,0	21,3x1,6	80,0	30,0	25,0
42,4x2,0	26,9x1,6	80,0	30,0	25,0
42,4x2,0	33,7x2,0	80,0	30,0	30,0
48,3x2,0	26,9x1,6	90,0	30,0	25,0
48,3x2,0	33,7x2,0	90,0	30,0	30,0
48,3x2,0	42,4x2,0	90,0	30,0	30,0
60,3x2,0	33,7x2,0	100,0	30,0	30,0
60,3x2,0	42,4x2,0	100,0	30,0	30,0
60,3x2,0	48,3x2,0	100,0	30,0	30,0
76,1x2,0	42,4x2,0	110,0	40,0	30,0
76,1x2,0	48,3x2,0	110,0	40,0	30,0
76,1x2,0	60,3x2,0	110,0	40,0	30,0
88,9x2,3	48,3x2,0	110,0	40,0	30,0
88,9x2,3	60,3x2,0	110,0	40,0	30,0
88,9x2,3	76,1x2,0	110,0	40,0	40,0
114,3x2,3	60,3x2,0	135,0	40,0	30,0
114,3x2,3	76,1x2,0	135,0	40,0	40,0
114,3x2,3	88,9x2,3	135,0	40,0	40,0

All available in 1.4435

Standard US OD Concentric Reducers N594				
Tube Size	d1	l1	l2	l3
12,7x1,65	9,53x0,91	38,0	19,0	19,0
19,05x1,65	9,53x0,91	60,0	25,0	25,0
19,05x1,65	12,7x1,65	60,0	25,0	25,0
25,4x1,65	9,53x0,91	60,0	25,0	25,0
25,4x1,65	12,7x1,65	60,0	25,0	25,0
25,4x1,65	19,05x1,65	60,0	25,0	25,0
38,1x1,65	12,7x1,65	80,0	30,0	25,0
38,1x1,65	19,05x1,65	80,0	30,0	25,0
38,1x1,65	25,4x1,65	80,0	30,0	25,0
50,8x1,65	19,05x1,65	90,0	30,0	25,0
50,8x1,65	25,4x1,65	90,0	30,0	25,0
50,8x1,65	38,1x1,65	90,0	30,0	30,0
63,5x1,65	25,4x1,65	100,0	30,0	25,0
63,5x1,65	38,1x1,65	100,0	30,0	30,0
63,5x1,65	50,8x1,65	100,0	30,0	30,0
76,2x1,65	38,1x1,65	110,0	40,0	30,0
76,2x1,65	50,8x1,65	110,0	40,0	30,0
76,2x1,65	63,5x1,65	110,0	40,0	40,0
101,6x2,11	50,8x1,65	135,0	40,0	30,0
101,6x2,11	63,5x1,65	135,0	40,0	40,0
101,6x2,11	76,2x1,65	135,0	40,0	40,0

All available in 1.4435

6.13 Eccentric Reducers



The Heleon eccentric reducers are high quality one piece machined items. They come standard with orbital weld ends and they can be offered in a wide range of sizes (US OD, DIN & ISO). They all can be supplied with material certification. The fittings are permanently marked by dot-printing and packed separately. Dimensions with welded on Tri-Clamp (TC) ferrules are also available, on request. Dimensions according DIN 11865.

Standards:

- Tri-Clover® compliant
- 3A Sanitary standard
- Acc. to ASME BPE available on request.

Materials:

- SS 316L / 1.4435 BN2

Also in Wstrnr 1.4435

Internal Finish:

- $Ra \leq 0,4 \mu m$ (Standard)
- $Ra \leq 0,8 \mu m$
- Electro-Polish (EP) available on request

Figure Numbers:

- N595 – with weld ends
- K367 - with Tri-Clamp ends

Certification:

- Acc. to EN 10204 3.1.B
- Acc. to ASTM on request
- Surface finish test reports available on request

Standard DIN Eccentric Reducers N595				
Tube Size	d1	l1	l2	l3
12,0x1,0	8,0x1,0	38,0	19,0	19,0
12,0x1,0	10,0x1,0	38,0	19,0	19,0
19,0x1,5	8,0x1,0	60,0	25,0	25,0
19,0x1,5	10,0x1,0	60,0	25,0	25,0
19,0x1,5	12,0x1,0	60,0	25,0	25,0
23,0x1,5	10,0x1,0	60,0	25,0	25,0
23,0x1,5	12,0x1,0	60,0	25,0	25,0
23,0x1,5	19,0x1,5	60,0	25,0	25,0
29,0x1,5	12,0x1,0	70,0	25,0	25,0
29,0x1,5	19,0x1,5	70,0	25,0	25,0
29,0x1,5	23,0x1,5	70,0	25,0	25,0
35,0x1,5	19,0x1,5	80,0	30,0	25,0
35,0x1,5	23,0x1,5	80,0	30,0	25,0
35,0x1,5	29,0x1,5	80,0	30,0	25,0
41,0x1,5	23,0x1,5	90,0	30,0	25,0
41,0x1,5	29,0x1,5	90,0	30,0	25,0
41,0x1,5	35,0x1,5	90,0	30,0	25,0
53,0x1,5	29,0x1,5	90,0	30,0	25,0
53,0x1,5	35,0x1,5	90,0	30,0	30,0
53,0x1,5	41,0x1,5	90,0	30,0	30,0
70,0x2,0	35,0x1,5	110,0	40,0	30,0
70,0x2,0	41,0x1,5	110,0	40,0	30,0
70,0x2,0	53,0x1,5	110,0	40,0	30,0
85,0x2,0	41,0x1,5			
85,0x2,0	53,0x1,5			
85,0x2,0	70,0x2,0			
104,0x2,0	53,0x1,5			
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104,0x2,0	85,0x2,0			

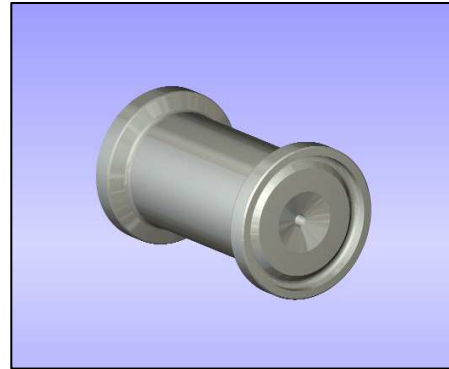
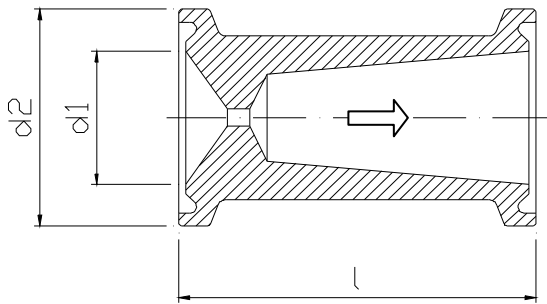
All available in 1.4435

Standard ISO Eccentric Reducers N595				
Tube Size	d1	l1	l2	l3
17,2x1,6	13,5x1,6	60,0	25,0	25,0
21,3x1,6	13,5x1,6	60,0	25,0	25,0
21,3x1,6	17,2x1,6	60,0	25,0	25,0
26,9x1,6	13,5x1,6	60,0	25,0	25,0
26,9x1,6	17,2x1,6	60,0	25,0	25,0
26,9x1,6	21,3x1,6	60,0	25,0	25,0
33,7x2,0	17,2x1,6	70,0	30,0	25,0
33,7x2,0	21,3x1,6	70,0	30,0	25,0
33,7x2,0	26,9x1,6	70,0	30,0	25,0
42,4x2,0	21,3x1,6	80,0	30,0	25,0
42,4x2,0	26,9x1,6	80,0	30,0	25,0
42,4x2,0	33,7x2,0	80,0	30,0	25,0
48,3x2,0	26,9x1,6	90,0	30,0	25,0
48,3x2,0	33,7x2,0	90,0	30,0	30,0
48,3x2,0	42,4x2,0	90,0	30,0	30,0
60,3x2,0	33,7x2,0	100,0	30,0	30,0
60,3x2,0	42,4x2,0	100,0	30,0	30,0
60,3x2,0	48,3x2,0	100,0	30,0	30,0
76,1x2,0	42,4x2,0	110,0	40,0	30,0
76,1x2,0	48,3x2,0	110,0	40,0	30,0
76,1x2,0	60,3x2,0	110,0	40,0	30,0
88,9x2,3	48,3x2,0	110,0	40,0	30,0
88,9x2,3	60,3x2,0	110,0	40,0	30,0
88,9x2,3	76,1x2,0	110,0	40,0	40,0
114,3x2,3	60,3x2,0	135,0	40,0	30,0
114,3x2,3	76,1x2,0	135,0	40,0	40,0
114,3x2,3	88,9x2,3	135,0	40,0	40,0

All available in 1.4435

Standard US OD Eccentric Reducers N595				
Tube Size	d1	l1	l2	l3
12,7x1,65	9,53x0,91	38,0	19,0	19,0
19,05x1,65	9,53x0,91	60,0	25,0	25,0
19,05x1,65	12,7x1,65	60,0	25,0	25,0
25,4x1,65	9,53x0,91	60,0	25,0	25,0
25,4x1,65	12,7x1,65	60,0	25,0	25,0
25,4x1,65	19,05x1,65	60,0	25,0	25,0
38,1x1,65	12,7x1,65	80,0	30,0	25,0
38,1x1,65	19,05x1,65	80,0	30,0	25,0
38,1x1,65	25,4x1,65	80,0	30,0	25,0
50,8x1,65	19,05x1,65	90,0	30,0	25,0
50,8x1,65	25,4x1,65	90,0	30,0	25,0
50,8x1,65	38,1x1,65	90,0	30,0	30,0
63,5x1,65	25,4x1,65	100,0	30,0	25,0
63,5x1,65	38,1x1,65	100,0	30,0	30,0
63,5x1,65	50,8x1,65	100,0	30,0	30,0
76,2x1,65	38,1x1,65	110,0	40,0	30,0
76,2x1,65	50,8x1,65	110,0	40,0	30,0
76,2x1,65	63,5x1,65	110,0	40,0	40,0
101,6x2,11	50,8x1,65	135,0	40,0	30,0
101,6x2,11	63,5x1,65	135,0	40,0	40,0
101,6x2,11	76,2x1,65	135,0	40,0	40,0

All available in 1.4435



The Heleon Stainless Steel flow orifices (FO) are high quality one piece machined items. This flow orifice reduces the flow and/or pressure in your system and the design causes less turbulent flow. In vertical lines it assures 100% drainability and the streamlined inner flow path prevents product residue adhesion.

They come standard with Tri-Clamp ends and they can be offered in US OD standard (ISO & DIN on request). They can be supplied with material certification. The fittings are permanently marked by dot-printing and packed separately.

Standard hole diameter : Ø 2,0 mm (minimum), other hole sizes on request.

Standards:

- Tri-Clover® compliant
- 3A Sanitary standard

Materials:

- SS 316L / 1.4435 BN2

Internal Finish:

- $Ra \leq 0,4 \mu\text{m}$ (Standard)
- $Ra \leq 0,8 \mu\text{m}$
- Electro-Polish (EP) available on request

Figure Numbers:

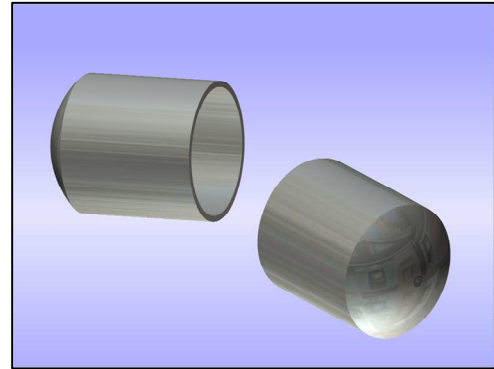
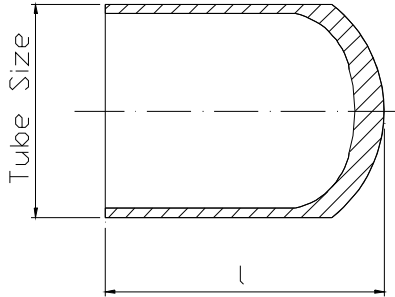
- FO

Certification:

- Acc. to EN 10204 3.1.B
- Surface finish test reports available on request
- Acc. to ASTM on request

Also in Wstnr 1.4435

Standard US OD			
Flow Orifices FO			
Size Inch	d1	d2	l
1/2"	9,4	25,0	40,0
3/4"	15,8	25,0	40,0
1"	22,1	50,5	40,0
1 1/2"	34,8	50,5	40,0
2"	47,5	64,0	50,0

6.15 Tube End Cap


The Heleon Stainless Steel tube end caps are high quality one piece machined items. These caps ensure a sanitary and dead-space free tube end. The drainable and the streamlined inside minimizes product residue adhesion. The weld ends are long for orbital welding. They come standard in US OD sizing (ISO & DIN on request). They can be supplied with material certification. The fittings are permanently marked by dot-printing and packed separately. Also in ASME-BPE material possible.

Standards:

- 3A Sanitary standard

Figure Numbers:

- TE

Materials:

- SS 316L / 1.4435 BN2

Certification:

- Acc. to EN 10204 3.1.B
- Surface finish test reports available on request
- Acc. to ASTM on request

Internal Finish:

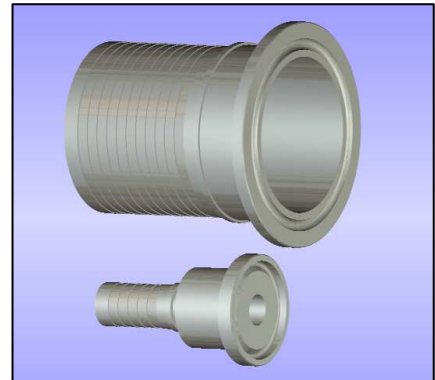
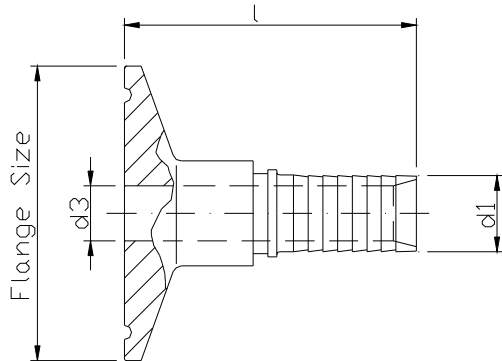
- $Ra \leq 0,4 \mu\text{m}$ (Standard)
- $Ra \leq 0,8 \mu\text{m}$
- Electro-Polish (EP) available on request

Also in Wstnr 1.4435

Standard ISO Tube End Cap		
Size DN	I	Tube Size
DN 8	30,0	10,0x1,0
DN 10	30,0	12,0x1,0
DN 15	30,0	19,0x1,5
DN 20	48,0	23,0x1,5
DN 25	48,0	29,0x1,5
DN 32	48,0	35,0x1,5
DN 40	48,0	41,0x1,5
DN 50	54,0	53,0x1,5
DN 65	54,0	70,0x2,0
DN 80	65,0	85,0x2,0
DN 100	65,0	104,0x2,0

Standard ISO Tube End Cap		
Size DN	I	Tube Size
DN 8	30,0	13,5x1,6
DN 10	30,0	17,2x1,6
DN 15	48,0	21,3x1,6
DN 20	48,0	26,9x1,6
DN 25	48,0	33,7x2,0
DN 32	48,0	42,4x2,0
DN 40	54,0	48,3x2,0
DN 50	54,0	60,3x2,0
DN 65	54,0	76,1x2,0
DN 80	65,0	88,9x2,3
DN 100	65,0	114,3x2,3

Standard US OD Tube End Cap		
Size Inch	I	Tube Size
1/2"	30,0	12,7x1,65
3/4"	30,0	19,05x1,65
1"	48,0	25,4x1,65
1 1/2"	48,0	38,1x1,65
2"	54,0	50,8x1,65
2 1/2"	54,0	63,5x1,65
3"	54,0	76,2x1,65
4"	65,0	101,6x2,11
6"	80,0	152,4x2,77



The Heleon pharmaceutical Tri-Clamp hose tails is a high quality, one piece machined item. These items are standard in the US OD size and they all can be supplied with material certification. Special custom made sizes (DIN / ISO) and executions are always possible. This item is also suitable for fabricating hose assemblies in combination with crimping collars. The fittings are permanently marked by dot-printing and packed separately.

Standards:

- Tri-Clover® compliant
- 3A Sanitary standard

Figure Numbers:

- K118

Materials:

- SS 316L

Internal Finish:

- $Ra \leq 0,4 \mu\text{m}$ (Standard)
- $Ra \leq 0,8 \mu\text{m}$
- Electro-Polish (EP) available on request

Certification:

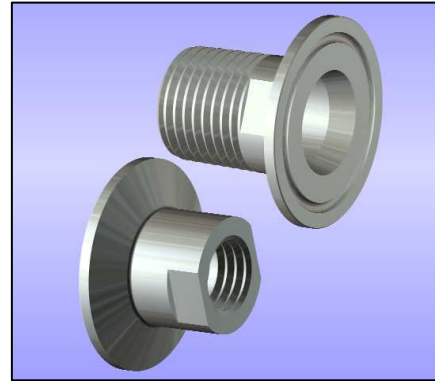
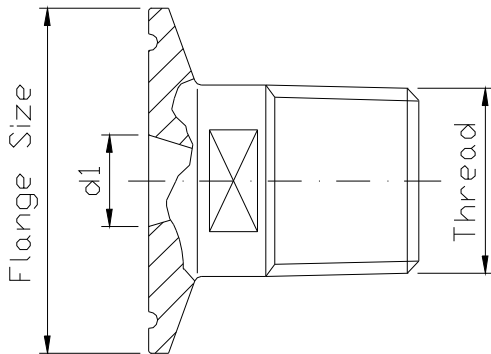
- Acc. to EN 10204 3.1.B
- Surface finish test reports available on request

Hose Tails K118 standard US OD						
TC Size	Tail Size	Flange Size	Figurnummer	l	d1	d3
3/8"	3/8"	25	K118-38-38	40	9,6	7,1
1/2"	1/4"	25	K118-05-14	40	6,4	4,2
1/2" *	3/8"	25	K118-05-38T	40	9,6	9,4
1/2"	1/2"	25	K118-05-05	46,5	12,7	9,4
3/4" *	3/8"	25	K118-07-38T	40	9,6	15,8
3/4" *	1/2"	25	K118-07-05T	46,5	12,7	15,8
3/4"	3/4"	25	K118-07-07	53,5	19,1	15,8
1"	1/4"	50,5	K118-10-14	45,5	6,4	4,2
1"	3/8"	50,5	K118-10-38	45,5	9,6	7,1
1"	1/2"	50,5	K118-10-05	50	12,7	9,4
1"	3/4"	50,5	K118-10-07	56,5	19,1	15,8
1"	1"	50,5	K118-10-10	58	25,4	22,1
1" *	3/8"	50,5	K118-10-38T	45,5	9,6	22,1
1" *	1/2"	50,5	K118-10-05T	50	12,7	22,1
1" *	3/4"	50,5	K118-10-07T	56,5	19,1	22,1
1 1/2" *	3/8"	50,5	K118-15-38T	45,5	9,6	34,8
1 1/2" *	1/2"	50,5	K118-15-05T	50	12,7	34,8
1 1/2" *	3/4"	50,5	K118-15-07T	56,5	19,1	34,8
1 1/2" *	1"	50,5	K118-15-10T	58	25,4	34,8
1 1/2"	1 1/2"	50,5	K118-15-15	57,5	38,1	34,8
2"	1/4"	64	K118-20-14	60,5	6,4	4,2
2"	1"	64	K118-20-10	60,5	25,4	22,1
2"	1 1/2"	64	K118-20-15	60,5	38,1	34,8
2"	2"	64	K118-20-20	60,5	51	47,5
2" *	1"	64	K118-20-10T	60,5	25,4	47,5
2" *	1 1/2"	64	K118-20-15T	60,5	38,1	47,5

* These items have a tapered bore at the flange to match standard Tri-Clamp gaskets

6.17

Tri-Clamp Adaptors



Heleon also has various Tri-Clamp adaptors. These are available in male and female connections. They can be supplied in BSP(T), NPT and metrical thread standards. These items are standard in the US OD size and they all can be supplied with material certification. Special custom made sizes (DIN / ISO) and executions are always possible. The adaptor is always provided with flat faces for wrench usage. The fittings are permanently marked by dot-printing and packed separately.

Standards:

- Tri-Clover® compliant
- 3A Sanitary standard

Materials:

- SS 316L

Internal Finish:

- Ra ≤ 0,4 µm
- Ra ≤ 0,8 µm (Standard)
- Electro-Polish (EP) available on request

Figure Numbers:

- K204 (BSP male)
- K205 (BSP female)
- K214 (NPT male)
- K215 (NPT female)

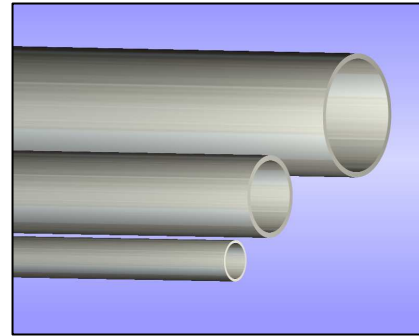
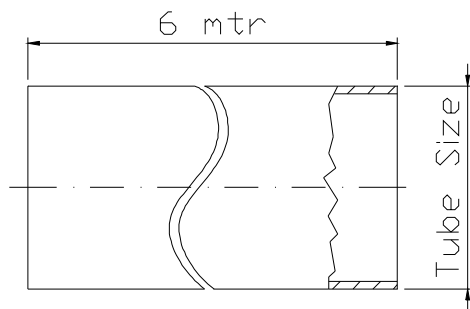
Certification:

- Acc. to EN 10204 3.1.B
- Surface finish test reports available on request

Standard US OD Adaptors female (K205 & K215)		
Thread	Flange Size	d1
1/8"	25,0	9,4
1/8"	50,5	22,1
1/8"	50,5	34,8
1/4"	25,0	9,4
1/4"	50,5	22,1
1/4"	50,5	34,8
3/8"	25,0	9,4
3/8"	50,5	22,1
3/8"	50,5	34,8
1/2"	25,0	9,4
1/2"	50,5	22,1
1/2"	50,5	34,8
3/4"	50,5	22,1
3/4"	50,5	34,8
1"	50,5	22,1
1"	50,5	34,8
1 1/2"	50,5	34,8
2"	64,0	47,5
2 1/2"	77,5	60,2
3"	91,0	72,9
4"	119,0	97,4

Standard US OD Adaptors male (K204 & K214)		
Thread	Flange Size	d1
1/4"	25,0	9,4
3/8"	25,0	9,4
3/8"	50,5	22,1
1/2"	25,0	15,8
1/2"	50,5	34,8
3/4"	50,5	22,1
3/4"	50,5	34,8
1"	50,5	22,1
1"	50,5	34,8
1 1/2"	50,5	34,8
2"	64,0	47,5
2 1/2"	77,5	60,2
3"	91,0	72,9
4"	119,0	97,4

6.18 High Purity Tubing



Heleon represents the complete range of **NEUMO**[®] high precision pharmaceutical tubing. These are available in the "S" (**S**mooth) and "XS" (**eX**tra **S**mooth) quality and they can be offered in the US OD, ISO and DIN sizes. Standard supplied with material certification, outside continuously marked, separately packed and capsulated with plastic caps. Tubing according to the ASME-BPE standard ($Ra \leq 0,5 \mu m$, etc...) is also available.

Pharmatube[®] "S"

- $Ra \leq 0,8 \mu m$ (including weld seam)
- 1"- 4": welded acc. to DIN 17457, PK2 execution k2g/k3g, annealed, weld seam bead rolled
- 1.4404/SS 316L and 1.4435 BN2
- Electro-Polish (EP) available on request (Pharmatube[®] "S-E": $Ra \leq 0,6 \mu m$)

Pharmatube[®] "XS"

- $Ra \leq 0,4 \mu m$ (including weld seam)
- 1/4" - 3/4": fine drawn seamless acc. to DIN 17458, PK2 and ASTM-A-269
- 1"- 2 1/2" (DN15-DN50): welded acc. to DIN 17457, PK2 execution L2 and ASTM-A-269 / 270 weld seam bead rolled and cold drawn
- 3"- 4": welded acc. to DIN 17457, PK2 execution k2g/k3g, annealed, weld seam bead rolled, internal mechanically polished
- 1.4404/SS 316L and 1.4435 BN2
- Electro-Polish (EP) available on request (Pharmatube[®] "XS-E": $Ra \leq 0,25 \mu m$)

Standards:

- Standards & Tolerances acc. to DIN 17457 / 17458; DT4/T4, and ISO 5252.

Outside Finish:

- Annealed (standard)
- Polished/grinded optional

Also in Wstrnr 1.4435

Certification:

- To EN 10204 3.1.B
- Acc. to ASTM

Standard DIN	
Size DN	Tube Size
DN 10 **	12,0x1,0
DN 15 **	19,0x1,5
DN 20	23,0x1,5
DN 25	29,0x1,5
DN 32	35,0x1,5
DN 40	41,0x1,5
DN 50	53,0x1,5
DN 65	70,0x2,0
DN 80	85,0x2,0
DN 100	104,0x2,0
DN 125 *	129,0x2,0
DN 150 *	154,0x2,0

* Only in Pharmatube "S"
** Seamless and only in "XS"

Standard ISO	
Size DN	Tube Size
DN 6 **	10,0x1,0
DN 8 **	13,5x1,6
DN 10 **	17,2x1,6
DN 15	21,3x1,6
DN 20	26,9x1,6
DN 25	33,7x2,0
DN 32	42,4x2,0
DN 40	48,3x2,0
DN 50	60,3x2,0
DN 65	76,1x2,0
DN 80	88,9x2,3
DN 100 *	114,3x2,3
DN 125 *	139,7x2,3
DN 150 *	168,3x2,6
DN 200 *	219,1x2,6

* Only in Pharmatube "S"
** Seamless and only in "XS"

Standard US OD	
Size Inch	Tube Size
1/4" **	6,35x0,91
3/8" **	9,53x0,91
1/2" **	12,7x1,65
3/4" **	19,05x1,65
1"	25,4x1,65
1 1/2"	38,1x1,65
2"	50,8x1,65
2 1/2"	63,5x1,65
3"	76,2x1,65
4"	101,6x2,11

** Seamless and only in "XS"