





## DIN 11866

This norm range DIN 11866, DIN 11865 and DIN 11864 are linked to each other. The DIN 11866 is for example also mentioned in the other norms in the range. The fittings have to be made out of tube according DIN11866. Therefore the different components don't only fit when it comes to the dimensions and sizes, but also have an equivalent surface finishing and a material sort. The application options are also the same. Below you can see a technical summary of the different parts en we will give a review of the delivery options and the associated details. This European norm range for the Bio-industry is the counterpart of the American ASME BPE. The range C is exactly the same as the ASME BPE The 2 norms are on the home market described in material composition and surface finishing.

### DIN 11866 tubes

#### Pharma



Range	DIN (Europa)
Tubes	DIN 11866
Weld fittings	DIN 11865
Couplings	DIN 11864-A-1 DIN 11864-A-2 DIN 11864-A-3
	DIN 11864-B-1
Also applicable	DIN 32676 Clamp ASME BPE Clamp (Range C) BS 4825-3 (Range C) DIN 11853 (Range A)

This norm was the first within this range and consists of many details which also count for the DIN 11865 and DIN 11864. To meet the applications within the Bio-industry, the norm is differentiating on 3 levels. Besides these 3 ranges, there is also a distinction in surface finishing (hygienic class) and material sort. By combining these variants, a lot of configurations are possible. The available supply is limited to the most current versions. The DIN 11866 is directly linked to the EN 10217-7 and is suitable for pressure applications which belong to PED (Pressure Equipment Directive 97/23/EC). SKS only works with producers that are PED certified.

#### Materiaal volgens EN 10088-1

Stainless steel; 1.4404, 1.4435 and 1.4539

#### Size table and tolerances according EN-ISO 1127:

The 3 size ranges are:

DIN 11866 series-A	(equal to DIN11850 R2)
DIN 11866 series-B	(equal to ISO 1127 series 2)
DIN 11866 series-C	(equal to ASME BPE A-270)
Diameter tolerance	D4 (see table)
Wall thickness tolerance	T5 /T4 (see table)

#### Test procedure EN 10217-7 TC2 (welded tube) or EN 10216-5 (seamless)

Destructive and non-destructive tests.

#### Surface finishing Ra (DIN 4768 table 3)

Intern length of the seam cold rolled.

H3 (HE3) version = Ra < 0,8 µm also in the weld environment

H4 (HE4) version = Ra < 0,4 µm also in the weld environment

H3 (HE5) version = Ra < 0,25 µm also in the weld environment

Code of the hygienic class with an "o" (for example. H3o), means that the tube is external polished to a Ra value of <1µm.

#### Version

The tubes are cleaned, oil and grease free, dry and provided with end caps, packed in a sealed plastic sleeve. The delta ferrite content DF1 <3.0%, DF2 <1.0% and DF3 <0.5%  
Laser of Tig welded.

#### Certificates

3.1 certificate according EN 10204 (3.2 certificate also deliverable on request.)

### SURFACE FINISHING CODES ACCORDING DIN 11866

	H2	H2o	H3	H3o	H4	H4o	HE4o	HE5	HE5o
Ra internal	<0,8/1,6µm*	<0,8/1,6µm*	<0,8µm	<0,8µm	<0,4µm	<0,4µm	<0,4µm	<0,25µm	<0,25µm
Ra external	X	X	<0,8µm	<0,8µm	<0,8µm	<0,8µm	<0,8µm	<0,8µm	<0,8µm
E-polish	X	X	X	X	X	X	Yes	Yes	Yes

\* = 1,6µm in range of deformation and welding seam

### IN COMPARISON, THE CODES AND VALUES ACCORDING ASME BPE

	SFT1	SFT2	SFT3	SFT4	SFT5	SFT6
Rmax inside	0,5µm	0,625µm	0,75µm	0,375µm	0,5µm	0,625µm
Ra outside	1,2µm	1,2µm	1,2µm	1,2µm	1,2µm	1,2µm
E-polish	X	X	X	yes	yes	yes

## SIZE RANGES DIN 11866

## Serie A

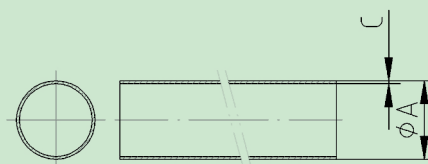
DN	MM	Kg/metre.	Tol. Diam.	Tol. thickness	versions	Max pressure 20°C bar	Max pressure 150°C bar
10	13 x 1,5	0,432	± 0,1	± 0,1	H3o, H4o and H5o	369	234
15	19 x 1,5	0,658	± 0,1	± 0,1	H3o, H4o and H5o	253	160
20	23 x 1,5	0,808	± 0,12	± 0,1	H3o, H4o and H5o	209	132
25	29 x 1,5	1,034	± 0,15	± 0,1	H3o, H4o and H5o	165	105
32	35 x 1,5	1,26	± 0,18	± 0,1	H3o, H4o and H5o	137	87
40	41 x 1,5	1,485	± 0,21	± 0,1	H3o, H4o and H5o	117	74
50	53 x 1,5	1,937	± 0,27	± 0,1	H3o, H4o and H5o	90	57
65	70 x 2	3,409	± 0,35	± 0,1	H3o, H4o and H5o	91	58
80	85 x 2	4,161	± 0,43	± 0,1	H3o, H4o and H5o	75	47
100	104 x 2	5,114	± 0,52	± 0,1	H3o, H4o and H5o	61	39

## Serie B

DN / ISO	MM	Kg/metre.	Tol. Diam.	Tol. thickness	versions	Max pressure 20°C bar	Max pressure 150°C bar
8	13,5 x 1,6	0,477	± 0,1	± 0,1	H3o, H4o and H5o	379	240
10	17,2 x 1,6	0,626	± 0,1	± 0,1	H3o, H4o and H5o	298	189
15	21,3 x 1,6	0,79	± 0,11	± 0,1	H3o, H4o and H5o	240	152
20	26,9 x 1,6	1,015	± 0,14	± 0,1	H3o, H4o and H5o	190	120
25	33,7 x 2	1,589	± 0,17	± 0,1	H3o, H4o and H5o	190	120
32	42,4 x 2	2,026	± 0,21	± 0,1	H3o, H4o and H5o	151	95
40	48,3 x 2	2,321	± 0,24	± 0,1	H3o, H4o and H5o	132	84
50	60,3 x 2	2,923	± 0,3	± 0,1	H3o, H4o and H5o	106	67
65	76,1 x 2	3,715	± 0,38	± 0,1	H3o, H4o and H5o	84	53
80	88,9 x 2,3	4,993	± 0,44	± 0,12	H3o, H4o and H5o	82	52
100	114,3 x 2,3	6,458	± 0,57	± 0,12	H3o, H4o and H5o	64	40

## Serie C

Inch	MM	Kg/metre.	Tol. Diam.	Tol. thickness	versions	Max pressure 20°C bar	Max pressure 150°C bar
0,5"	12,7 x 1,65	0,457	± 0,1	± 0,1	H3o, H4o and H5o	416	264
0,75"	19,05 x 1,65	0,72	± 0,11	± 0,1	H3o, H4o and H5o	277	176
1"	25,4 x 1,65	0,982	± 0,13	± 0,1	H3o, H4o and H5o	208	132
1,5"	38,1 x 1,65	1,508	± 0,19	± 0,1	H3o, H4o and H5o	138	88
2"	50,8 x 1,65	2,033	± 0,25	± 0,1	H3o, H4o and H5o	104	66
2,5"	63,5 x 1,65	2,558	± 0,32	± 0,1	H3o, H4o and H5o	83	52
3"	76,2 x 1,65	3,084	± 0,38	± 0,1	H3o, H4o and H5o	69	44
4"	101,6 x 2,11	5,263	± 0,51	± 0,11	H3o, H4o and H5o	66	42
6"	152,4 x 2,77	10,39	± 0,76	± 0,14	H3o, H4o and H5o	58	36



### TUBE DIN 11866 SERIE A 1.4404 + ALTERNATIVES

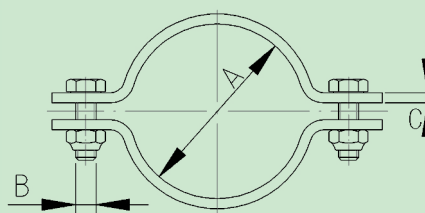
DN	A	B	C	D	E	Kg	DIN11850 H2	DIN11850 H3	DIN11866 H3o	DIN11866 H4o	DIN11866 HE4o
10	13,0		1,50			0,432	-	-	03158126	03156126	03154126
15	19,0		1,50			0,657	01328135IT	01328135	03158135	03156135	03154135
20	23,0		1,50			0,808	01328178IT	01328178	03158169	03156169	03154169
25	29,0		1,50			1,033	01328253IT	01328253	03158253	03156253	03154253
32	35,0		1,50			1,258	01328320IT	01328320	03158320	03156320	03154320
40	41,0		1,50			1,484	01328371IT	01328371	03158371	03156371	03154371
50	53,0		1,50			1,934	01328473IT	01328473	03158473	03156473	03154473
65	70,0		2,00			3,405	01376566IT	01376566	03158566	03156566	03154566
80	85,0		2,00			4,157	01376632IT	01376632	03158632	03156632	03154632
100	104,0		2,00			5,108	01376694IT	01376694	03158694	03156694	03154694

### TUBE DIN 11866 SERIE B 1.4404

DN / ISO	A	B	C	D	E	Kg	DIN11866 H3o	DIN11866 H4o	DIN11866 HE4o
8 / 13,5	13,5		1,60			0,477	03178095	03156095	03174095
10 / 17,2	17,2		1,60			0,626	03178112	03156112	03174112
15 / 21,3	21,3		1,60			0,790	03178158	03156156	03174154
20 / 26,9	26,9		1,60			1,015	03178222	03156222	03174222
25 / 33,7	33,7		2,00			1,589	03178296	03156296	03174296
32 / 42,4	42,4		2,00			2,026	03178383	03156383	03174383
40 / 48,3	48,3		2,00			2,321	03178428	03156428	03174428
50 / 60,3	60,3		2,00			2,923	03178519	03156519	03174519
65 / 76,1	76,1		2,00			3,715	03178595	03156595	03174595
80 / 88,9	88,9		2,30			4,993	03178642	03156642	03174642
100 / 114,3	114,3		2,30			6,458	03178725	03156725	03174725

### TUBE DIN 11866 SERIE C 1.4404 + ALTERNATIVES

Inch	A	B	C	D	E	Kg	ASME BPE SFT1	ASME BPE SFT4	DIN11866 H3o	DIN11866 H4o	DIN11866 HE4o
0,5"	12,7		1,65			0,457	02837127	02838127	03158127	03156127	03154127
0,75"	19,1		1,65			0,720	02837136	02838136	03158136	03156136	03154136
1"	25,4		1,65			0,982	02837213	02838213	03158213	03156213	03154213
1,5"	38,1		1,65			1,508	02837353	02838353	03158353	03156353	03154353
2"	50,8		1,65			2,033	02837453	02838453	03158453	03156453	03154453
2,5"	63,5		1,65			2,558	02837541	02838541	03158541	03156541	03154541
3"	76,2		1,65			3,084	02837591	02838591	03158591	03156591	03154591
4"	101,6		2,11			5,263	02837673	02838673	03158673	03156673	03154673



### PIPESUPPORT HEAVY SERIE A

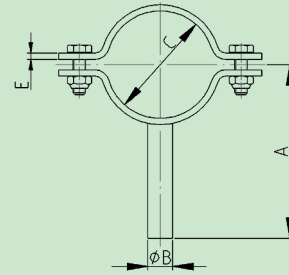
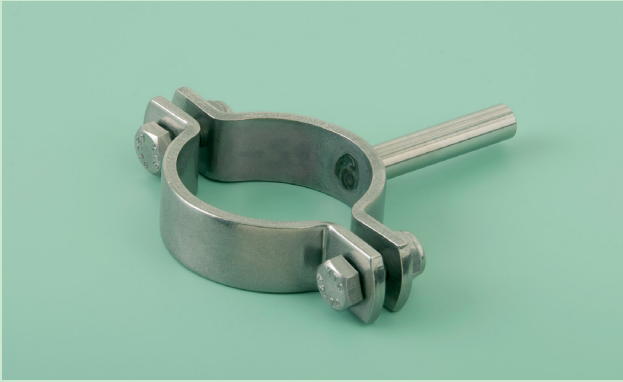
DN	A	B	C	D	E	Kg	304	316
10	13,0	M6	20x3			0,040	90333001	90336001
15	19,0	M6	20x3			0,045	90333002	90336002
20	23,0	M6	20x4			0,070	90333003	90336003
25	29,0	M8	20x4			0,070	90333005	90336005
32	35,0	M8	20x4			0,090	90333007	90336007
40	41,0	M8	20x4			0,090	90333009	90336009
50	53,0	M8	20x4			0,110	90333011	90336011
65	70,0	M8	20x4			0,140	90333013	90336013
80	85,0	M8	25x4			0,200	90333015	90336015
100	104,0	M8	25x4			0,260	90333017	90336017

### PIPESUPPORT HEAVY SERIE B

DN / ISO	A	B	C	D	E	Kg	304	316
8 / 13,5	13,5	M6	20x3			0,110	90233009	90236009
10 / 17,5	17,2	M6	20x3			0,110	90233012	90236012
15 / 21,3	21,3	M6	20x3			0,120	90233017	90236017
20 / 26,9	26,9	M6	20x4			0,120	90233023	90236023
25 / 33,7	33,7	M8	20x4			0,120	90233028	90236028
32 / 42,4	42,4	M8	20x4			0,130	90233034	90236034
40 / 48,3	48,3	M8	20x4			0,150	90233043	90236043
50 / 60,3	60,3	M8	20x4			0,165	90233054	90236054
65 / 76,1	76,1	M8	20x4			0,210	90233067	90236067
80 / 88,9	88,9	M8	25x4			0,240	90233089	90236089
100 / 114,3	114,3	M8	25x4			0,300	90233104	90236104

### PIPESUPPORT HEAVY SERIE C

Inch	A	B	C	D	E	Kg	304	316
1"	24,4	M8	20x4			0,060	90333004	90336004
1,25"	32,0	M8	20x4			0,075	90333006	90336006
1,5"	38,0	M8	20x4			0,080	90333008	90336008
2"	50,8	M8	20x4			0,090	90333010	90336010
2,5"	63,4	M8	20x4			0,110	90333012	90336012
3"	76,0	M8	20x4			0,170	90333014	90336014
4"	102,0	M8	25x4			0,250	90333018	90336018



### PIPESUPPORT WITH SHANK (HEAVY DUTY) SERIE A

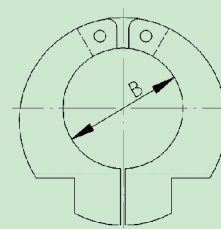
DN	A	B	C	D	E	Kg	304
10	58,5	8,0	13,0		20x3	0,090	90333026
15	61,5	8,0	19,0		20x3	0,120	90333027
20	64,5	8,0	23,0		20x4	0,130	90333028
25	67,5	10,0	29,0		20x4	0,170	90333030
32	70,5	10,0	35,0		20x4	0,180	90333032
40	73,5	10,0	41,0		20x4	0,200	90333034
50	79,5	12,0	53,0		20x4	0,240	90333036
65	88,5	12,0	70,0		20x4	0,270	90333038
80	96,0	12,0	85,0		25x4	0,370	90333040
100	105,5	12,0	104,0		25x4	0,440	90333042

### PIPESUPPORT WITH SHANK (HEAVY DUTY) SERIE B

DN / ISO	A	B	C	D	E	Kg	304
20 / 26,9	71,0	10,0	26,9		25x3	0,140	90233323
25 / 33,7	74,5	10,0	33,7		25x3	0,140	90233328
32 / 42,4	79,0	10,0	42,4		25x3	0,150	90233334
40 / 48,3	82,0	10,0	48,3		25x3	0,160	90233343
50 / 60,3	88,0	12,0	60,3		25x3	0,200	90233354
65 / 76,1	95,5	12,0	76,1		25x3	0,220	90233364
80 / 88,9	102,0	12,0	88,9		25x3	0,300	90233389
100 / 114,3	115,0	12,0	114,3		25x3	0,350	90233404

### PIPESUPPORT WITH SHANK (HEAVY DUTY) SERIE C

Inch	A	B	C	D	E	Kg	304
1"	65,7	10,0	25,4		20x4	0,095	90333029
1,25"	68,9	10,0	31,8		20x4	0,100	90333031
1,5"	72,1	10,0	38,1		20x4	0,110	90333033
2"	78,4	12,0	50,8		20x4	0,125	90333035
2,5"	85,3	12,0	63,5		20x4	0,150	90333037
3"	91,6	12,0	76,1		25x4	0,270	90333039
4"	104,3	12,0	101,6		25x4	0,300	90333043



### PIPE SAWING TOOL SERIE A

DN	A	B	C	D	E	Kg	SKS nr.
10		13,0				0,570	90902751R2
15		19,0				0,550	90902752R2
20		23,0				0,530	90902753R2
25		29,0				0,710	90902755R2
32		35,0				0,640	90902757R2
40		41,0				0,830	90902759R2
50		53,0				0,980	90902761R2
65		70,0				1,940	90902763
80		85,0				2,150	90902765
100		104,0				2,690	90902767

### PIPE SAWING TOOL SERIE B

DN / ISO	A	B	C	D	E	Kg	SKS nr.
15 / 21,3		21,3				0,530	90902776
20 / 26,9		26,9				0,530	90902776
25 / 33,7		33,7				0,640	90902778
32 / 42,4		42,4				0,830	90902779
40 / 48,3		48,3				0,830	90902780
50 / 60,3		60,3				0,980	90902781
65 / 76,1		76,1				1,940	90902764
80 / 88,9		88,9				2,150	90902782
100 / 114,3		114,3				2,690	90902783

### PIPE SAWING TOOL SERIE C

Inch	A	B	C	D	E	Kg	SKS nr.
1"		25,4				0,750	90902754
1,25"		31,8				0,800	90902756
1,5"		38,1				0,830	90902758
2"		50,8				0,980	90902760
2,5"		63,5				1,940	90902762
3"		76,2				2,150	90902764
4"		101,6				2,690	90902768

**DIN 11865 weld fittings**

Following the DIN 11866, the DIN 11865 describes all technical specifications according all occurring weld fittings. The various fittings are also provided with a code and could vary in the surface finishing or material type. According the norm, there is the possibility to choose for different materials like 1.4404 or 1.4435. The last one could be also provided with a lower Δ Ferrite content.

SKS based its standard package on the most occurring executions (material / external (surface) finishing).

H2 standard W.St. 1.4404. External untreated

H3o standard W.St. 1.4404, optional 1.4435 is deliverable. External 1,6µm

H4o standard W.St. 1.4404, optional 1.4435 is deliverable. External 0,8µm

HE5o standard W.St. 1.4435. External 0,8µm

The letter "o" in the code means that it is a polished execution.

**Executions**

BL = Welding bends long in 45° and 90°

TS = Tees symmetric (equal and reducing)

TK = Tees short (equal and reducing)

RK = Reducers conical

RE = Reducers eccentric

All fittings can be provided with one or more coupling parts.

**Material table**

According EN DIN 10088

**Dimension table and tolerances**

According DIN 11865 and ISO 2768

There are, as with the tubes and couplings, 3 size ranges Serie A, B and C.

Serie A: Concerns the mm sizes equal to the DIN 11850 Reihe 2.

Serie B: Concerns the ISO sizes and also called the ISO 1127.

Serie C: Concerns the Inch sizes and are exactly the same as the dimensions according ASME BPE A270.

**Execution**

The bends and Tees are produced from a tube according DIN 11866, the reducers are machined out of full material. The fittings are cleaned, oil and grease free, dry and provided with PE end caps. Packed in a sealed plastic sleeve. According DIN 11865.

**Surface finishing (roughness) Ra**

Internal surface finishing mechanical polished or pulled.

H2o Ra max. 0,8 / 1,6 µm

H30 Ra max. 0,8 / 0,8 µm

H4o Ra max. 0,4 / 0,4 µm

Internal surface finishing mechanical & electrolytic polished

HE4o Ra max. 0,4 / 0,4 µm

HE5o Ra max. 0,25 / 0,25 µm

**Certificates**

3.1 certificate according EN 10204

Also the 2.1 or 2.2 declarations for the Ra values or composition of the stainless steel are deliverable.

**SURFACE FINISHING CODES ACCORDING DIN 11866**

	H2	H2o	H3	H3o	H4	H4o	HE4o	HE5	HE5o
Ra internal	<0,8/1,6µm*	<0,8/1,6µm*	<0,8µm	<0,8µm	<0,4µm	<0,4µm	<0,4µm	<0,25µm	<0,25µm
Ra external	X	X	<0,8µm	<0,8µm	<0,8µm	<0,8µm	<0,8µm	<0,8µm	<0,8µm
E-polish	X	X	X	X	X	X	Yes	Yes	Yes

\* = 1,6µm in range of deformation and welding seam

**IN COMPARISON, THE CODES AND VALUES ACCORDING ASME BPE**

	SFT1	SFT2	SFT3	SFT4	SFT5	SFT6
Rmax inside	0,5µm	0,625µm	0,75µm	0,375µm	0,5µm	0,625µm
Ra outside	1,2µm	1,2µm	1,2µm	1,2µm	1,2µm	1,2µm
E-polish	X	X	X	yes	yes	yes





## Pipetite®

### The hygienic wall boot system

#### “A new approach to an old problem”

The current solutions for pipe connections through walls are visually and hygienically flawed. They often do not seal properly and are not flexible or uniform.

With the Pipetite® program, S.K.S. offers a true solution to this problem. Pipetite® has been developed based on the above practical shortcomings and can therefore be used in any environment. All models are self-sealing, hygienic and easy to fit.

#### Pipetite® is simple and effective

- 6 sizes for pipe diameters up to 380 mm
- Hygienic white silicone and 316 stainless steel
- Totally self-sealing and maintenance-free
- Vibration-absorbing
- Waterproof
- Resistant to temperatures up to 260°C (medium pipe)
- Quick and easy installation
- Long lifespan

Pipetite is available for wall connections (Pipetite® and ReBoot®), pipe connections (Pipe n Pipe®) or plate connections (Tube Grommets and Hose grommets).

As an option, the Pipetite® range can be made fireproof by using traditional firestop products.

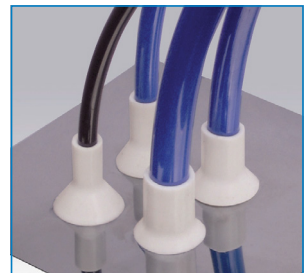
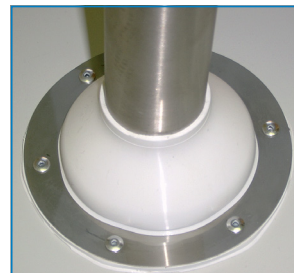
Pipetite® can be used in many common situations. The connector surrounding the pipe is the same for all models. You trim the boot to size and slide the wall connector over the pipe. ReBoot® models can be easily fitted around the existing situation and are sealed with a clip.

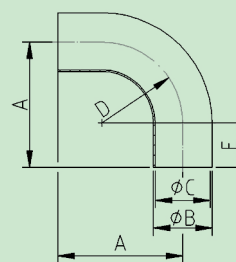


The actual connection with the application for the pipe is different for every model.

- The Pipetite® and ReBoot® can be easily fitted on walls or ceilings.
- The Pipe n Pipe® is made for pipe connections of 4"/DN100 or 6"/DN150.
- Grommets are used for pipe or hose connections through machine walls or stainless steel wall plates up to 3 mm thick. Multi range is available.
- Flat. A flat range for tank or wall boot and cover.

*In case you need assistance in choosing the right Pipetite®, please contact us.*





### WELDING BEND 90° DIN 11865 SERIE A

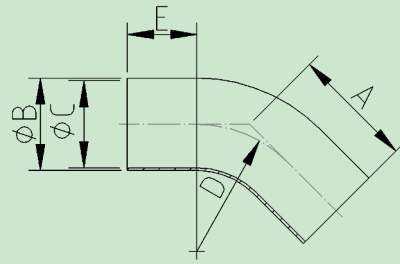
DN	A	B	C	D	E	Kg	H2o 1.4404	H3o 1.4404	H4o 1.4404	H5o 1.4435
10	51,0	13,0	10,0	25,0	25,0	0,040	04535999MS	04537999MS	04538999MS	04536999MS
15	60,0	19,0	16,0	35,0	25,0	0,060	04536002MS	04538002MS	04539002MS	04537002MS
20	65,0	23,0	20,0	40,0	25,0	0,080	04536003MS	04538003MS	04539003MS	04537003MS
25	90,0	29,0	26,0	50,0	40,0	0,160	04536005MS	04538005MS	04539005MS	04537005MS
32	95,0	35,0	32,0	55,0	40,0	0,200	04536007MS	04538007MS	04539007MS	04537007MS
40	100,0	41,0	38,0	60,0	40,0	0,260	04536009MS	04538009MS	04539009MS	04537009MS
50	110,0	53,0	50,0	70,0	40,0	0,400	04536011MS	04538011MS	04539011MS	04537011MS
65	120,0	70,0	66,0	80,0	40,0	0,760	04536013MS	04538013MS	04539013MS	04537013MS
80	145,0	85,0	81,0	90,0	55,0	1,080	04536015MS	04538015MS	04539015MS	04537015MS
100	155,0	104,0	100,0	100,0	55,0	1,560	04536017MS	04538017MS	04539017MS	04537017MS

### WELDING BEND 90° DIN 11865 SERIE B

DN / ISO	A	B	C	D	E	Kg	H2o 1.4404	H3o 1.4404	H4o 1.4404	H5o 1.4435
8	45,0	13,5	10,3	20,0	25,0	0,040	04536050MS	04538050MS	04539050MS	04537050MS
10	53,0	17,2	14,0	28,0	25,0	0,080	04536051MS	04538051MS	04539051MS	04537051MS
15	55,0	21,3	18,1	30,0	25,0	0,080	04536052MS	04538052MS	04539052MS	04537052MS
20	68,5	26,9	23,7	28,5	40,0	0,120	04536053MS	04538053MS	04539053MS	04537053MS
25	78,0	33,7	29,7	38,0	40,0	0,220	04536055MS	04538055MS	04539055MS	04537055MS
32	87,5	42,4	38,4	47,5	40,0	0,300	04536057MS	04538057MS	04539057MS	04537057MS
40	97,0	48,3	44,3	57,0	40,0	0,380	04536059MS	04538059MS	04539059MS	04537059MS
50	116,0	60,3	56,3	76,0	40,0	0,560	04536061MS	04538061MS	04539061MS	04537061MS
65	150,0	76,1	72,1	95,0	55,0	1,120	04536063MS	04538063MS	04539063MS	04537063MS
80	169,5	88,9	84,3	114,5	55,0	1,560	04536065MS	04538065MS	04539065MS	04537065MS
100	207,5	114,3	109,7	152,5	55,0	2,260	04536067MS	04538067MS	04539067MS	04537067MS

### WELDING BEND 90° DIN 11865 SERIE C

Inch	A	B	C	D	E	Kg	H2o 1.4404	H3o 1.4404	H4o 1.4404	H5o 1.4435
0,5"	76,2	12,7	9,4	25,4	50,8	0,070	04536000MS	04538000MS	04539000MS	04537000MS
0,75"	76,2	19,05	15,75	25,4	50,8	0,100	04536001MS	04538001MS	04539001MS	04537001MS
1"	76,2	25,4	22,1	38,1	38,1	0,140	04536004MS	04538004MS	04539004MS	04537004MS
1,5"	95,3	38,1	34,8	57,2	38,1	0,250	04536008MS	04538008MS	04539008MS	04537008MS
2"	120,7	50,8	47,5	76,2	44,5	0,500	04536010MS	04538010MS	04539010MS	04538010MS
2,5"	139,7	63,5	60,2	95,3	44,4	0,650	04536012MS	04538012MS	04539012MS	04538012MS
3"	158,8	76,2	72,9	114,3	44,5	0,850	04536014MS	04538014MS	04539014MS	04538014MS
4"	203,2	101,6	97,4	152,4	50,8	1,950	04536018MS	04538018MS	04539018MS	04538018MS



### WELDING BEND 45° DIN 11865 SERIE A

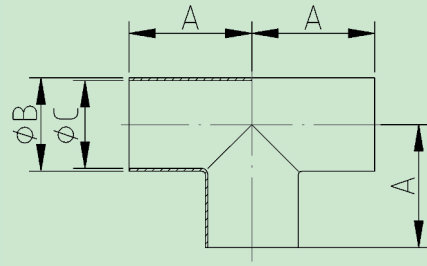
DN	A	B	C	D	E	Kg	H2o 1.4404	H3o 1.4404	H4o 1.4404	H5o 1.4435
10	35,8	13,0	10,0	25,0	25,0	0,040	04536099MS	04538099MS	04539099MS	04537099MS
15	39,5	19,0	16,0	35,0	25,0	0,060	04536102MS	04538102MS	04539102MS	04537102MS
20	41,6	23,0	20,0	40,0	25,0	0,080	04536103MS	04538103MS	04539103MS	04537103MS
25	60,7	29,0	26,0	50,0	40,0	0,120	04536105MS	04538105MS	04539105MS	04537105MS
32	62,8	35,0	32,0	55,0	40,0	0,160	04536107MS	04538107MS	04539107MS	04537107MS
40	64,9	41,0	38,0	60,0	40,0	0,195	04536109MS	04538109MS	04539109MS	04537109MS
50	69,0	53,0	50,0	70,0	40,0	0,280	04536111MS	04538111MS	04539111MS	04537111MS
65	73,1	70,0	66,0	80,0	40,0	0,580	04536113MS	04538113MS	04539113MS	04537113MS
80	92,3	85,0	81,0	90,0	55,0	0,900	04536115MS	04538115MS	04539115MS	04537115MS
100	96,4	104,0	100,0	100,0	55,0	1,120	04536117MS	04538117MS	04539117MS	04537117MS

### WELDING BEND 45° DIN 11865 SERIE B

DN / ISO	A	B	C	D	E	Kg	H2o 1.4404	H3o 1.4404	H4o 1.4404	H5o 1.4435
8	33,3	13,5	10,3	20,0	25,0	0,040	04536150MS	04538150MS	04539150MS	04537150MS
10	36,3	17,2	14,0	28,0	25,0	0,040	04536151MS	04538151MS	04539151MS	04537151MS
15	37,4	21,3	18,1	30,0	25,0	0,060	04536152MS	04538152MS	04539152MS	04537152MS
20	51,8	26,9	23,7	28,5	40,0	0,120	04536153MS	04538153MS	04539153MS	04537153MS
25	55,7	33,7	29,7	38,0	40,0	0,180	04536155MS	04538155MS	04539155MS	04537155MS
32	59,7	42,4	38,4	47,5	40,0	0,220	04536157MS	04538157MS	04539157MS	04537157MS
40	63,6	48,3	44,3	57,0	40,0	0,300	04536159MS	04538159MS	04539159MS	04537159MS
50	71,5	60,3	56,3	76,0	40,0	0,400	04536161MS	04538161MS	04539161MS	04537161MS
65	94,4	76,1	72,1	95,0	55,0	0,820	04536163MS	04538163MS	04539163MS	04537163MS
80	102,4	88,9	84,3	114,5	55,0	1,140	04536165MS	04538165MS	04539165MS	04537165MS
100	118,2	114,3	109,7	152,5	55,0	1,650	04536167MS	04538167MS	04539167MS	04537167MS

### WELDING BEND 45° DIN 11865 SERIE C

Inch	A	B	C	D	E	Kg	H2o 1.4404	H3o 1.4404	H4o 1.4404	H5o 1.4435
0,5"	57,2	12,7	9,4	25,4	46,7	0,060	04536100MS	04538100MS	04539100MS	04537100MS
0,75"	57,2	19,05	15,75	25,4	46,7	0,090	04536101MS	04538101MS	04539101MS	04537101MS
1"	57,2	25,4	22,1	38,1	41,4	0,110	04536104MS	04538104MS	04539104MS	04537104MS
1,5"	63,5	38,1	34,8	57,2	39,8	0,240	04536108MS	04538108MS	04539108MS	04537108MS
2"	76,2	50,8	47,5	76,2	44,6	0,350	04536110MS	04538110MS	04539110MS	04537110MS
2,5"	85,7	63,5	60,2	95,3	47,0	0,450	04536112MS	04538112MS	04539112MS	04537112MS
3"	92,1	76,2	72,9	114,3	44,8	0,650	04536114MS	04538114MS	04539114MS	04537114MS
4"	114,3	101,6	97,4	152,4	51,2	1,250	04536118MS	04538118MS	04539118MS	04537118MS



### EQUAL TEE TS DIN 11865 SERIE A

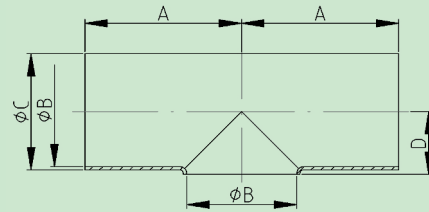
DN	A	B	C	D	E	Kg	H2o 1.4404	H3o 1.4404	H4o 1.4404	H5o 1.4435
10	35,0	13,0	10,0			0,040	04535399MS	04537399MS	04538399MS	04536399MS
15	35,0	19,0	16,0			0,060	04536402MS	04538402MS	04539402MS	04537402MS
20	40,0	23,0	20,0			0,100	04536403MS	04538403MS	04539403MS	04537405MS
25	50,0	29,0	26,0			0,140	04536405MS	04538405MS	04539405MS	04537405MS
32	55,0	35,0	32,0			0,180	04536407MS	04538407MS	04539407MS	04537407MS
40	60,0	41,0	38,0			0,240	04536409MS	04538409MS	04539409MS	04537409MS
50	80,0	53,0	50,0			0,380	04536411MS	04538411MS	04539411MS	04537411MS
65	105,0	70,0	66,0			0,800	04536413MS	04538413MS	04539413MS	04537413MS
80	130,0	85,0	81,0			1,020	04536415MS	04538415MS	04539415MS	04537415MS
100	155,0	104,0	100,0			1,360	04536417MS	04538417MS	04539417MS	04537417MS

### EQUAL TEE TS DIN 11865 SERIE B

DN / ISO	A	B	C	D	E	Kg	H2o 1.4404	H3o 1.4404	H4o 1.4404	H5o 1.4435
8	32,0	13,5	10,3			0,040	04536450MS	04538450MS	04539450MS	04537450MS
10	34,0	17,2	14,0			0,060	04536451MS	04538451MS	04539451MS	04537451MS
15	36,0	21,3	18,1			0,100	04536452MS	04538452MS	04539452MS	04537452MS
20	55,0	26,9	23,7			0,160	04536453MS	04538453MS	04539453MS	04537453MS
25	60,0	33,7	29,7			0,260	04536455MS	04538455MS	04539455MS	04537455MS
32	65,0	42,4	38,4			0,340	04536457MS	04538457MS	04539457MS	04537457MS
40	65,0	48,3	44,3			0,380	04536459MS	04538459MS	04539459MS	04537459MS
50	90,0	60,3	56,3			0,600	04536461MS	04538461MS	04539461MS	04537461MS
65	110,0	76,1	72,1			1,000	04536463MS	04538463MS	04539463MS	04537463MS
80	130,0	88,9	84,3			1,400	04536465MS	04538465MS	04539465MS	04537465MS
100	160,0	114,3	109,7			1,600	04536467MS	04538467MS	04539467MS	04537467MS

### EQUAL TEE TS DIN 11865 SERIE C

Inch	A	B	C	D	E	Kg	H2o 1.4404	H3o 1.4404	H4o 1.4404	H5o 1.4435
0,5"	47,6	12,7	9,4			0,060	04536400MS	04538400MS	04539400MS	04537400MS
0,75"	50,8	19,05	15,75			0,120	04536401MS	04538401MS	04539401MS	04537401MS
1"	54,0	25,4	22,1			0,140	04536404MS	04538404MS	04539404MS	04537404MS
1,5"	60,3	38,1	34,8			0,260	04536408MS	04538408MS	04539408MS	04537408MS
2"	73,0	50,8	47,5			0,400	04536410MS	04538410MS	04539410MS	04537410MS
2,5"	79,4	63,5	60,2			0,560	04536412MS	04538412MS	04539412MS	04537412MS
3"	85,7	76,2	72,9			0,720	04536414MS	04538414MS	04539414MS	04537414MS
4"	104,8	101,6	97,4			1,480	04536418MS	04538418MS	04539418MS	04537418MS



### TEE TK SHORT DIN 11865 TK SERIE A

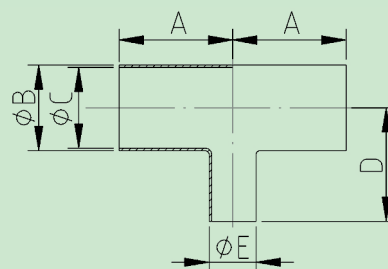
DN	A	B	C	D	E	Kg	H2o 1.4404	H3o 1.4404	H4o 1.4404	H5o 1.4435
10	35,0	13,0	10,0	7,5		0,02	04435399MS	04437399MS	04438399MS	04436399MS
15	35,0	19,0	16,0	11		0,03	04436402MS	04438402MS	04439402MS	04437402MS
20	40,0	23,0	20,0	13		0,05	04436403MS	04438403MS	04439403MS	04437405MS
25	50,0	29,0	26,0	16		0,08	04436405MS	04438405MS	04439405MS	04437405MS
32	55,0	35,0	32,0	19,5		0,11	04436407MS	04438407MS	04439407MS	04437407MS
40	60,0	41,0	38,0	23		0,15	04436409MS	04438409MS	04439409MS	04437409MS
50	80,0	53,0	50,0	30		0,24	04436411MS	04438411MS	04439411MS	04437411MS
65	105,0	70,0	66,0	40		0,48	04436413MS	04438413MS	04439413MS	04437413MS
80	130,0	85,0	81,0	47,5		0,65	04436415MS	04438415MS	04439415MS	04437415MS
100	155,0	104,0	100,0	58		0,91	04436417MS	04438417MS	04439417MS	04437417MS

### TEE SHORT TK DIN 11865 TK SERIE B

DN / ISO	A	B	C	D	E	Kg	H2o 1.4404	H3o 1.4404	H4o 1.4404	H5o 1.4435
8	32,0	13,5	10,3	8,3		0,02	04436450MS	04438450MS	04439450MS	04437450MS
10	34,0	17,2	14,0	10,1		0,03	04436451MS	04438451MS	04439451MS	04437451MS
15	36,0	21,3	18,1	12,2		0,05	04436452MS	04438452MS	04439452MS	04437452MS
20	55,0	26,9	23,7	15		0,08	04436453MS	04438453MS	04439453MS	04437453MS
25	60,0	33,7	29,7	18,4		0,11	04436455MS	04438455MS	04439455MS	04437455MS
32	65,0	42,4	38,4	23,2		0,15	04436457MS	04438457MS	04439457MS	04437457MS
40	65,0	48,3	44,3	26,7		0,24	04436459MS	04438459MS	04439459MS	04437459MS
50	90,0	60,3	56,3	33,7		0,48	04436461MS	04438461MS	04439461MS	04437461MS
65	110,0	76,1	72,1	43,1		0,65	04436463MS	04438463MS	04439463MS	04437463MS
80	130,0	88,9	84,3	49,5		0,91	04436465MS	04438465MS	04439465MS	04437465MS
100	160,0	114,3	109,7	63,2		1,11	04436467MS	04438467MS	04439467MS	04437467MS

### TEE TS SHORT DIN 11865 TK SERIE C

Inch	A	B	C	D	E	Kg	H2o 1.4404	H3o 1.4404	H4o 1.4404	H5o 1.4435
0,5"	47,6	12,7	9,4	7,5		0,04	04436400MS	04438400MS	04439400MS	04437400MS
0,75"	50,8	19,05	15,75	11		0,08	04436401MS	04438401MS	04439401MS	04437401MS
1"	54,0	25,4	22,1	14,2		0,1	04436404MS	04438404MS	04439404MS	04437404MS
1,5"	60,3	38,1	34,8	21,1		0,14	04436408MS	04438408MS	04439408MS	04437408MS
2"	73,0	50,8	47,5	28,9		0,23	04436410MS	04438410MS	04439410MS	04437410MS
2,5"	79,4	63,5	60,2	35,3		0,34	04436412MS	04438412MS	04439412MS	04437412MS
3"	85,7	76,2	72,9	43,1		0,62	04436414MS	04438414MS	04439414MS	04437414MS
4"	104,8	101,6	97,4	56,8		0,84	04436418MS	04438418MS	04439418MS	04437418MS

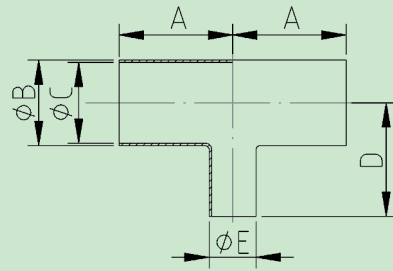


### REDUCED TEE LONG DIN 11865 TS SERIE A

DN	A	B	C	D	E	Kg	H3o 1.4404	H4o 1.4404	H5o 1.4435
15 - 10	35,0	19,0	16,0	35,0	13,0	0,060	04538703MS	04539703MS	04537703MS
20 - 10	40,0	23,0	20,0	40,0	13,0	0,080	04538704MS	04539704MS	04537704MS
20 - 15	40,0	23,0	20,0	40,0	19,0	0,100	04538705MS	04539705MS	04537705MS
25 - 10	50,0	29,0	26,0	50,0	13,0	0,120	04538706MS	04539706MS	04537706MS
25 - 15	50,0	29,0	26,0	50,0	19,0	0,140	04538707MS	04539707MS	04537707MS
25 - 20	50,0	29,0	26,0	50,0	23,0	0,140	04538708MS	04539708MS	04537708MS
32 - 15	55,0	35,0	32,0	55,0	19,0	0,180	04538709MS	04539709MS	04537709MS
32 - 20	55,0	35,0	32,0	55,0	23,0	0,180	04538710MS	04539710MS	04537710MS
32 - 25	55,0	35,0	32,0	55,0	29,0	0,180	04538711MS	04539711MS	04537711MS
40 - 15	60,0	41,0	38,0	60,0	19,0	0,200	04538713MS	04539713MS	04537713MS
40 - 20	60,0	41,0	38,0	60,0	23,0	0,240	04538714MS	04539714MS	04537714MS
40 - 25	60,0	41,0	38,0	60,0	29,0	0,220	04538715MS	04539715MS	04537715MS
40 - 32	60,0	41,0	38,0	60,0	35,0	0,240	04538716MS	04539716MS	04537716MS
50 - 15	80,0	53,0	50,0	80,0	19,0	0,360	04538719MS	04539719MS	04537719MS
50 - 25	80,0	53,0	50,0	80,0	29,0	0,400	04538720MS	04539720MS	04537720MS
50 - 32	80,0	53,0	50,0	80,0	35,0	0,340	04538721MS	04539721MS	04537721MS
50 - 40	80,0	53,0	50,0	80,0	41,0	0,420	04538722MS	04539722MS	04537722MS
65 - 25	105,0	70,0	66,0	80,0	29,0	0,780	04538726MS	04539726MS	04537726MS
65 - 32	105,0	70,0	66,0	80,0	35,0	0,660	04538727MS	04539727MS	04537727MS
65 - 40	105,0	70,0	66,0	80,0	41,0	0,820	04538728MS	04539728MS	04537728MS
65 - 50	105,0	70,0	66,0	80,0	53,0	0,840	04538729MS	04539729MS	04537729MS
80 - 40	130,0	85,0	81,0	105,0	41,0	1,200	04538733MS	04539733MS	04537733MS
80 - 50	130,0	85,0	81,0	105,0	53,0	0,900	04538734MS	04539734MS	04537734MS
80 - 65	130,0	85,0	81,0	105,0	70,0	1,380	04538735MS	04539735MS	04537735MS
100 - 50	155,0	104,0	100,0	130,0	53,0	1,880	04538742MS	04539742MS	04537742MS
100 - 65	155,0	104,0	100,0	130,0	70,0	2,000	04538743MS	04539743MS	04537743MS
100 - 80	155,0	104,0	100,0	130,0	85,0	2,020	04538744MS	04539744MS	04537744MS

	H2	H2o	H3	H3o	H4	H4o	HE4o	HE5	HE5o
Ra internal	<0,8/1,6µm*	<0,8/1,6µm*	<0,8µm	<0,8µm	<0,4µm	<0,4µm	<0,4µm	<0,25µm	<0,25µm
Ra external	X	X	<0,8µm	<0,8µm	<0,8µm	<0,8µm	<0,8µm	<0,8µm	<0,8µm
E-polish	X	X	X	X	X	X	Yes	Yes	Yes

\* = 1,6µm in range of deformation and welding seam

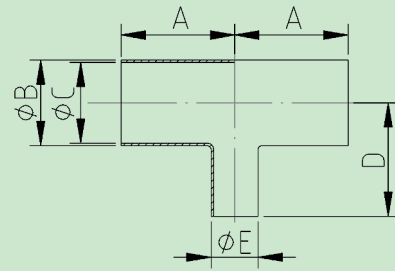


### REDUCED TEE LONG DIN 11865 TS SERIE B

DN / ISO	A	B	C	D	E	Kg	H3o 1.4404	H4o 1.4404	H5o 1.4435
17,2 - 13,5	34,0	17,2	14,0	34,0	13,5	0,060	04538749MS	04539749MS	04537749MS
21,3 - 13,5	36,0	21,3	18,1	36,0	13,5	0,080	04538750MS	04539750MS	04537750MS
21,3 - 17,2	36,0	21,3	18,1	36,0	17,2	0,080	04538751MS	04539751MS	04537751MS
26,9 - 13,5	55,0	26,9	23,7	55,0	13,5	0,140	04538752MS	04539752MS	04537752MS
26,9 - 17,2	55,0	26,9	23,7	55,0	17,2	0,140	04538753MS	04539753MS	04537753MS
26,9 - 21,3	55,0	26,9	23,7	55,0	21,3	0,140	04538754MS	04539754MS	04537754MS
33,7 - 17,2	60,0	33,7	29,7	60,0	17,2	0,200	04538756MS	04539756MS	04537756MS
33,7 - 21,3	60,0	33,7	29,7	60,0	21,3	0,220	04538757MS	04539757MS	04537757MS
33,7 - 26,9	60,0	33,7	29,7	60,0	26,9	0,220	04538758MS	04539758MS	04537758MS
42,4 - 21,3	65,0	42,4	38,4	65,0	21,3	0,320	04538759MS	04539759MS	04537759MS
42,4 - 26,9	65,0	42,4	38,4	65,0	26,9	0,320	04538760MS	04539760MS	04537760MS
42,4 - 33,7	65,0	42,4	38,4	65,0	33,7	0,320	04538761MS	04539761MS	04537761MS
48,3 - 21,3	65,0	48,3	44,3	65,0	21,3	0,360	04538763MS	04539763MS	04537763MS
48,3 - 26,9	65,0	48,3	44,3	65,0	26,9	0,340	04538764MS	04539764MS	04537764MS
48,3 - 33,7	65,0	48,3	44,3	65,0	33,7	0,360	04538765MS	04539765MS	04537765MS
48,3 - 42,4	65,0	48,3	44,3	65,0	42,4	0,400	04538766MS	04539766MS	04537766MS
60,3 - 21,3	90,0	60,3	56,3	90,0	21,3	0,600	04538769MS	04539769MS	04537769MS
60,3 - 33,7	90,0	60,3	56,3	90,0	33,7	0,620	04538770MS	04539770MS	04537770MS
60,3 - 42,4	90,0	60,3	56,3	90,0	42,4	0,740	04538771MS	04539771MS	04537771MS
60,3 - 48,3	90,0	60,3	56,3	90,0	48,3	0,760	04538772MS	04539772MS	04537772MS
76,1 - 33,7	110,0	76,1	72,1	90,0	33,7	0,980	04538776MS	04539776MS	04537776MS
76,1 - 42,4	110,0	76,1	72,1	90,0	42,4	0,980	04538777MS	04539777MS	04537777MS
76,1 - 48,3	110,0	76,1	72,1	90,0	48,3	1,000	04538778MS	04539778MS	04537778MS
76,1 - 60,3	110,0	76,1	72,1	90,0	60,3	1,020	04538779MS	04539779MS	04537779MS
88,9 - 48,3	130,0	88,9	84,3	110,0	48,3	1,260	04538783MS	04539783MS	04537783MS
88,9 - 60,3	130,0	88,9	84,3	110,0	60,3	1,300	04538784MS	04539784MS	04537784MS
88,9 - 76,1	130,0	88,9	84,3	110,0	76,1	1,700	04538785MS	04539785MS	04537785MS
114,3 - 60,3	160,0	114,3	109,7	130,0	60,3	2,360	04538792MS	04539792MS	04537792MS
114,3 - 76,1	160,0	114,3	109,7	130,0	76,1	2,400	04538793MS	04539793MS	04537793MS
114,3 - 88,9	160,0	114,3	109,7	130,0	88,9	2,560	04538794MS	04539794MS	04537794MS

	H2	H2o	H3	H3o	H4	H4o	HE4o	HE5	HE5o
Ra internal	<0,8/1,6µm*	<0,8/1,6µm*	<0,8µm	<0,8µm	<0,4µm	<0,4µm	<0,4µm	<0,25µm	<0,25µm
Ra external	X	X	<0,8µm	<0,8µm	<0,8µm	<0,8µm	<0,8µm	<0,8µm	<0,8µm
E-polish	X	X	X	X	X	X	Yes	Yes	Yes

\* = 1,6µm in range of deformation and welding seam



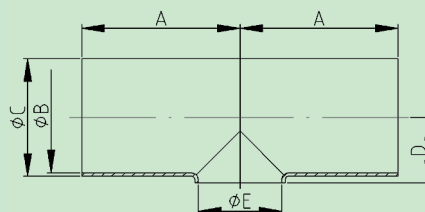
### REDUCED TEE LONG DIN 11865 TS SERIE C

Inch	A	B	C	D	E	Kg	H3o 1.4404	H4o 1.4404	H5o 1.4435
0,75 - 0,5"	50,8	19,05	15,75	50,8	12,7	0,100	04538855MS	04539855MS	04537855MS
1 - 0,5"	54,0	25,4	22,1	54,0	12,7	0,120	04538856MS	04539856MS	04537856MS
1 - 0,75"	54,0	25,4	22,1	54,0	19,05	0,280	04538857MS	04539857MS	04537857MS
1,5 - 0,75"	60,3	38,1	34,8	60,3	19,05	0,220	04538859MS	04539859MS	04537859MS
1,5 - 1"	60,3	38,1	34,8	60,3	25,4	0,240	04538860MS	04539860MS	04537860MS
2 - 1"	73,0	50,8	47,5	66,7	25,4	0,320	04538863MS	04539863MS	04537863MS
2 - 1,5"	73,0	50,8	47,5	66,7	38,1	0,360	04538865MS	04539865MS	04537865MS
2,5 - 1"	79,4	63,5	60,2	73,0	25,4	0,500	04538868MS	04539868MS	04537868MS
2,5 - 1,5"	79,4	63,5	60,2	73,0	38,1	0,500	04538870MS	04539870MS	04537870MS
2,5 - 2"	79,4	63,5	60,2	73,0	50,8	0,530	04538871MS	04539871MS	04537871MS
3 - 1,5"	85,7	76,2	72,9	79,4	38,1	0,780	04538876MS	04539876MS	04537876MS
3 - 2"	85,7	76,2	72,9	79,4	50,8	0,820	04538877MS	04539877MS	04537877MS
3 - 2,5"	85,7	76,2	72,9	79,4	63,5	1,380	04538878MS	04539878MS	04537878MS
4 - 2"	104,8	101,6	97,4	98,4	50,8	1,880	04538884MS	04539884MS	04537884MS
4 - 2,5"	104,8	101,6	97,4	98,4	63,5	2,000	04538885MS	04539885MS	04537885MS
4 - 3"	104,8	101,6	97,4	98,4	76,2	2,020	04538886MS	04539886MS	04537886MS

	H2	H2o	H3	H3o	H4	H4o	HE4o	HE5	HE5o
Ra internal	<0,8/1,6µm*	<0,8/1,6µm*	<0,8µm	<0,8µm	<0,4µm	<0,4µm	<0,4µm	<0,25µm	<0,25µm
Ra external	X	X	<0,8µm	<0,8µm	<0,8µm	<0,8µm	<0,8µm	<0,8µm	<0,8µm
E-polish	X	X	X	X	X	X	Yes	Yes	Yes

\* = 1,6µm in range of deformation and welding seam



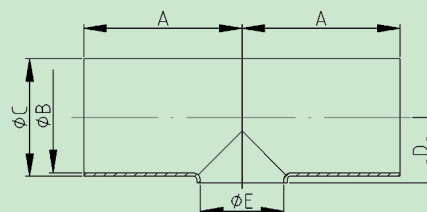


### REDUCED TEE SHORT DIN 11865 TK SERIE A

DN	A	B	C	D	E	Kg	H3o 1.4404	H4o 1.4404	H5o 1.4435
15 - 10	35,0	19,0	16,0	11	13,0	0,040	04438703MS	04439703MS	04437703MS
20 - 10	40,0	23,0	20,0	13	13,0	0,070	04438704MS	04439704MS	04437704MS
20 - 15	40,0	23,0	20,0	13	19,0	0,060	04438705MS	04439705MS	04437705MS
25 - 10	50,0	29,0	26,0	16	13,0	0,110	04438706MS	04439706MS	04437706MS
25 - 15	50,0	29,0	26,0	16	19,0	0,100	04438707MS	04439707MS	04437707MS
25 - 20	50,0	29,0	26,0	16	23,0	0,090	04438708MS	04439708MS	04437708MS
32 - 15	55,0	35,0	32,0	19	19,0	0,130	04438709MS	04439709MS	04437709MS
32 - 20	55,0	35,0	32,0	19	23,0	0,130	04438710MS	04439710MS	04437710MS
32 - 25	55,0	35,0	32,0	19	29,0	0,130	04438711MS	04439711MS	04437711MS
40 - 15	60,0	41,0	38,0	22	19,0	0,160	04438713MS	04439713MS	04437713MS
40 - 20	60,0	41,0	38,0	22	23,0	0,160	04438714MS	04439714MS	04437714MS
40 - 25	60,0	41,0	38,0	22	29,0	0,160	04438715MS	04439715MS	04437715MS
40 - 32	60,0	41,0	38,0	22,5	35,0	0,150	04438716MS	04439716MS	04437716MS
50 - 15	80,0	53,0	50,0	28	19,0	0,240	04438719MS	04439719MS	04437719MS
50 - 25	80,0	53,0	50,0	28	29,0	0,240	04438720MS	04439720MS	04437720MS
50 - 32	80,0	53,0	50,0	28,5	35,0	0,260	04438721MS	04439721MS	04437721MS
50 - 40	80,0	53,0	50,0	29	41,0	0,230	04438722MS	04439722MS	04437722MS
65 - 25	105,0	70,0	66,0	37	29,0	0,520	04438726MS	04439726MS	04437726MS
65 - 32	105,0	70,0	66,0	37	35,0	0,520	04438727MS	04439727MS	04437727MS
65 - 40	105,0	70,0	66,0	37,5	41,0	0,510	04438728MS	04439728MS	04437728MS
65 - 50	105,0	70,0	66,0	38,5	53,0	0,540	04438729MS	04439729MS	04437729MS
80 - 40	130,0	85,0	81,0	45	41,0	0,700	04438733MS	04439733MS	04437733MS
80 - 50	130,0	85,0	81,0	46	53,0	0,690	04438734MS	04439734MS	04437734MS
80 - 65	130,0	85,0	81,0	47,5	70,0	0,680	04438735MS	04439735MS	04437735MS
100 - 50	155,0	104,0	100,0	55,5	53,0	0,940	04438742MS	04439742MS	04437742MS
100 - 65	155,0	104,0	100,0	57	70,0	0,950	04438743MS	04439743MS	04437743MS
100 - 80	155,0	104,0	100,0	57	85,0	0,950	04438744MS	04439744MS	04437744MS

	H2	H2o	H3	H3o	H4	H4o	HE4o	HE5	HE5o
Ra internal	<0,8/1,6µm*	<0,8/1,6µm*	<0,8µm	<0,8µm	<0,4µm	<0,4µm	<0,4µm	<0,25µm	<0,25µm
Ra external	X	X	<0,8µm	<0,8µm	<0,8µm	<0,8µm	<0,8µm	<0,8µm	<0,8µm
E-polish	X	X	X	X	X	X	Yes	Yes	Yes

\* = 1,6µm in range of deformation and welding seam

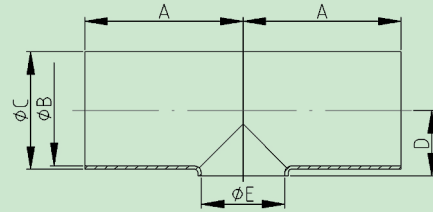


### REDUCED TEE SHORT DIN 11865 TK SERIE B

DN / ISO	A	B	C	D	E	Kg	H3o 1.4404	H4o 1.4404	H5o 1.4435
17,2 - 13,5	34,0	17,2	14,0	10,1	13,5	0,04	04438749MS	04439749MS	04437749MS
21,3 - 13,5	36,0	21,3	18,1	12,2	13,5	0,04	04438750MS	04439750MS	04437750MS
21,3 - 17,2	36,0	21,3	18,1	12,2	17,2	0,04	04438751MS	04439751MS	04437751MS
26,9 - 13,5	55,0	26,9	23,7	15	13,5	0,07	04438752MS	04439752MS	04437752MS
26,9 - 17,2	55,0	26,9	23,7	15	17,2	0,06	04438753MS	04439753MS	04437753MS
26,9 - 21,3	55,0	26,9	23,7	15	21,3	0,06	04438754MS	04439754MS	04437754MS
33,7 - 17,2	60,0	33,7	29,7	18,4	17,2	0,10	04438756MS	04439756MS	04437756MS
33,7 - 21,3	60,0	33,7	29,7	18,4	21,3	0,10	04438757MS	04439757MS	04437757MS
33,7 - 26,9	60,0	33,7	29,7	18,4	26,9	0,10	04438758MS	04439758MS	04437758MS
42,4 - 21,3	65,0	42,4	38,4	22,7	21,3	0,13	04438759MS	04439759MS	04437759MS
42,4 - 26,9	65,0	42,4	38,4	22,7	26,9	0,13	04438760MS	04439760MS	04437760MS
42,4 - 33,7	65,0	42,4	38,4	22,7	33,7	0,13	04438761MS	04439761MS	04437761MS
48,3 - 21,3	65,0	48,3	44,3	25,7	21,3	0,16	04438763MS	04439763MS	04437763MS
48,3 - 26,9	65,0	48,3	44,3	25,7	26,9	0,16	04438764MS	04439764MS	04437764MS
48,3 - 33,7	65,0	48,3	44,3	25,7	33,7	0,16	04438765MS	04439765MS	04437765MS
48,3 - 42,4	65,0	48,3	44,3	26,2	42,4	0,16	04438766MS	04439766MS	04437766MS
60,3 - 21,3	90,0	60,3	56,3	31,7	21,3	0,26	04438769MS	04439769MS	04437769MS
60,3 - 33,7	90,0	60,3	56,3	31,7	33,7	0,26	04438770MS	04439770MS	04437770MS
60,3 - 42,4	90,0	60,3	56,3	32,2	42,4	0,26	04438771MS	04439771MS	04437771MS
60,3 - 48,3	90,0	60,3	56,3	32,7	48,3	0,26	04438772MS	04439772MS	04437772MS
76,1 - 33,7	110,0	76,1	72,1	40,1	33,7	0,52	04438776MS	04439776MS	04437776MS
76,1 - 42,4	110,0	76,1	72,1	40,1	42,4	0,52	04438777MS	04439777MS	04437777MS
76,1 - 48,3	110,0	76,1	72,1	40,6	48,3	0,52	04438778MS	04439778MS	04437778MS
76,1 - 60,3	110,0	76,1	72,1	41,6	60,3	0,52	04438779MS	04439779MS	04437779MS
88,9 - 48,3	130,0	88,9	84,3	47	48,3	0,70	04438783MS	04439783MS	04437783MS
88,9 - 60,3	130,0	88,9	84,3	48	60,3	0,70	04438784MS	04439784MS	04437784MS
88,9 - 76,1	130,0	88,9	84,3	49,5	76,1	0,70	04438785MS	04439785MS	04437785MS
114,3 - 60,3	160,0	114,3	109,7	60,7	60,3	0,94	04438792MS	04439792MS	04437792MS
114,3 - 76,1	160,0	114,3	109,7	62,2	76,1	0,94	04438793MS	04439793MS	04437793MS
114,3 - 88,9	160,0	114,3	109,7	62,2	88,9	0,94	04438794MS	04439794MS	04437794MS

	H2	H2o	H3	H3o	H4	H4o	HE4o	HE5	HE5o
Ra internal	<0,8/1,6µm*	<0,8/1,6µm*	<0,8µm	<0,8µm	<0,4µm	<0,4µm	<0,4µm	<0,25µm	<0,25µm
Ra external	X	X	<0,8µm	<0,8µm	<0,8µm	<0,8µm	<0,8µm	<0,8µm	<0,8µm
E-polish	X	X	X	X	X	X	Yes	Yes	Yes

\* = 1,6µm in range of deformation and welding seam

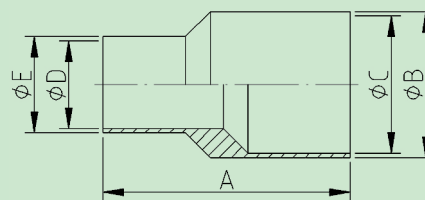


### REDUCED TEE SHORT DIN 11865 TK SERIE C

Inch	A	B	C	D	E	Kg	H3o 1.4404	H4o 1.4404	H5o 1.4435
0,75 - 0,5"	50,8	19,05	15,75	11,0	12,7	0,100	04438855MS	04439855MS	04437855MS
1 - 0,5"	54,0	25,4	22,1	14,2	12,7	0,120	04438856MS	04439856MS	04437856MS
1 - 0,75"	54,0	25,4	22,1	14,2	19,05	0,280	04438857MS	04439857MS	04437857MS
1,5 - 0,75"	60,3	38,1	34,8	20,6	19,05	0,220	04438859MS	04439859MS	04437859MS
1,5 - 1"	60,3	38,1	34,8	20,6	25,4	0,240	04438860MS	04439860MS	04437860MS
2 - 1"	73,0	50,8	47,5	26,9	25,4	0,320	04438863MS	04439863MS	04437863MS
2 - 1,5"	73,0	50,8	47,5	27,4	38,1	0,360	04438865MS	04439865MS	04437865MS
2,5 - 1"	79,4	63,5	60,2	33,3	25,4	0,500	04438868MS	04439868MS	04437868MS
2,5 - 1,5"	79,4	63,5	60,2	33,8	38,1	0,500	04438870MS	04439870MS	04437870MS
2,5 - 2"	79,4	63,5	60,2	35,3	50,8	0,530	04438871MS	04439871MS	04437871MS
3 - 1,5"	85,7	76,2	72,9	40,1	38,1	0,780	04438876MS	04439876MS	04437876MS
3 - 2"	85,7	76,2	72,9	41,6	50,8	0,820	04438877MS	04439877MS	04437877MS
3 - 2,5"	85,7	76,2	72,9	41,6	63,5	1,380	04438878MS	04439878MS	04437878MS
4 - 2"	104,8	101,6	97,4	54,3	50,8	1,880	04438884MS	04439884MS	04437884MS
4 - 2,5"	104,8	101,6	97,4	54,3	63,5	2,000	04438885MS	04439885MS	04437885MS
4 - 3"	104,8	101,6	97,4	55,8	76,2	2,020	04438886MS	04439886MS	04437886MS

	H2	H2o	H3	H3o	H4	H4o	HE4o	HE5	HE5o
Ra internal	<0,8/1,6µm*	<0,8/1,6µm*	<0,8µm	<0,8µm	<0,4µm	<0,4µm	<0,4µm	<0,25µm	<0,25µm
Ra external	X	X	<0,8µm	<0,8µm	<0,8µm	<0,8µm	<0,8µm	<0,8µm	<0,8µm
E-polish	X	X	X	X	X	X	Yes	Yes	Yes

\* = 1,6µm in range of deformation and welding seam

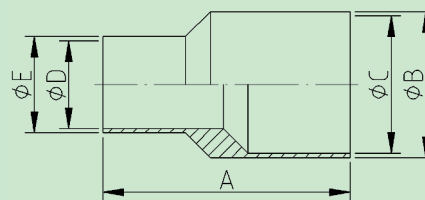


### REDUCER CONCENTRIC 11865 RK SERIE A 1.4404

DN	A	B	C	D	E	Kg	H3o 1.4404	H4o 1.4404	H5o 1.4435
15 - 10	60,0	19,0	16,0	10,0	13,0	0,060	04538501MS	04539501MS	04537501MS
20 - 10	60,0	23,0	20,0	10,0	13,0	0,040	04538502MS	04539502MS	04537502MS
20 - 15	60,0	23,0	20,0	16,0	19,0	0,060	04538503MS	04539503MS	04537503MS
25 - 10	70,0	29,0	26,0	10,0	13,0	0,120	04538506MS	04539506MS	04537506MS
25 - 15	70,0	29,0	26,0	16,0	19,0	0,120	04538507MS	04539507MS	04537507MS
25 - 20	70,0	29,0	26,0	20,0	23,0	0,100	04538508MS	04539508MS	04537508MS
32 - 15	80,0	35,0	32,0	16,0	19,0	0,160	04538509MS	04539509MS	04537509MS
32 - 20	80,0	35,0	32,0	20,0	23,0	0,140	04538510MS	04539510MS	04537510MS
32 - 25	80,0	35,0	32,0	26,0	29,0	0,140	04538511MS	04539511MS	04537511MS
40 - 15	90,0	41,0	38,0	16,0	19,0	0,260	04538513MS	04539513MS	04537513MS
40 - 20	90,0	41,0	38,0	20,0	23,0	0,160	04538514MS	04539514MS	04537514MS
40 - 25	90,0	41,0	38,0	26,0	29,0	0,200	04538515MS	04539515MS	04537515MS
40 - 32	90,0	41,0	38,0	32,0	35,0	0,160	04538516MS	04539516MS	04537516MS
50 - 15	90,0	53,0	50,0	16,0	19,0	0,500	04538519MS	04539519MS	04537519MS
50 - 25	90,0	53,0	50,0	26,0	29,0	0,360	04538520MS	04539520MS	04537520MS
50 - 32	90,0	53,0	50,0	32,0	35,0	0,400	04538521MS	04539521MS	04537521MS
50 - 40	90,0	53,0	50,0	38,0	41,0	0,280	04538522MS	04539522MS	04537522MS
65 - 25	110,0	70,0	66,0	26,0	29,0	0,960	04538526MS	04539526MS	04537526MS
65 - 32	110,0	70,0	66,0	32,0	35,0	0,780	04538527MS	04539527MS	04537527MS
65 - 40	110,0	70,0	66,0	38,0	41,0	0,580	04538528MS	04539528MS	04537528MS
65 - 50	110,0	70,0	66,0	50,0	53,0	0,500	04538529MS	04539529MS	04537529MS
80 - 40	110,0	85,0	81,0	38,0	41,0	0,600	04538533MS	04539533MS	04537533MS
80 - 50	110,0	85,0	81,0	50,0	53,0	0,840	04538534MS	04539534MS	04537534MS
80 - 65	110,0	85,0	81,0	66,0	70,0	0,780	04538535MS	04539535MS	04537535MS
100 - 50	135,0	104,0	100,0	50,0	53,0	2,220	04538542MS	04539542MS	04537542MS
100 - 65	135,0	104,0	100,0	66,0	70,0	1,280	04538543MS	04539543MS	04537543MS
100 - 80	135,0	104,0	100,0	81,0	85,0	1,160	04538544MS	04539544MS	04537544MS

	H2	H2o	H3	H3o	H4	H4o	HE4o	HE5	HE5o
Ra internal	<0,8/1,6µm*	<0,8/1,6µm*	<0,8µm	<0,8µm	<0,4µm	<0,4µm	<0,4µm	<0,25µm	<0,25µm
Ra external	X	X	<0,8µm	<0,8µm	<0,8µm	<0,8µm	<0,8µm	<0,8µm	<0,8µm
E-polish	X	X	X	X	X	X	Yes	Yes	Yes

\* = 1,6µm in range of deformation and welding seam

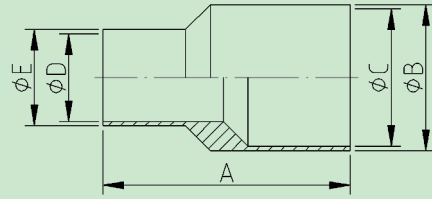


### REDUCER CONCENTRIC 11865 RK SERIE B 1.4404

DN / ISO	A	B	C	D	E	Kg	H3o 1.4404	H4o 1.4404	H5o 1.4435
10 - 8	60,0	17,2	14,0	10,3	13,5	0,040	04538649MS	04539649MS	04537649MS
15 - 8	60,0	21,3	18,1	10,3	13,5	0,060	04538650MS	04539650MS	04537650MS
15 - 10	60,0	21,3	18,1	14,0	17,2	0,060	04538651MS	04539651MS	04537651MS
20 - 8	60,0	26,9	23,7	10,3	13,5	0,100	04538652MS	04539652MS	04537652MS
20 - 10	60,0	26,9	23,7	14,0	17,2	0,080	04538653MS	04539653MS	04537653MS
20 - 15	60,0	26,9	23,7	18,1	21,3	0,080	04538654MS	04539654MS	04537654MS
25 - 10	70,0	33,7	29,7	14,0	17,2	0,140	04538656MS	04539656MS	04537656MS
25 - 15	70,0	33,7	29,7	18,1	21,3	0,120	04538657MS	04539657MS	04537657MS
25 - 20	70,0	33,7	29,7	23,7	26,9	0,120	04538658MS	04539658MS	04537658MS
32 - 15	80,0	42,4	38,4	18,1	21,3	0,300	04538659MS	04539659MS	04537659MS
32 - 20	80,0	42,4	38,4	23,7	26,9	0,300	04538660MS	04539660MS	04537660MS
32 - 25	80,0	42,4	38,4	29,7	33,7	0,200	04538661MS	04539661MS	04537661MS
40 - 15	90,0	48,3	44,3	18,1	21,3	0,300	04538663MS	04539663MS	04537663MS
40 - 20	90,0	48,3	44,3	23,7	26,9	0,400	04538664MS	04539664MS	04537664MS
40 - 25	90,0	48,3	44,3	29,7	33,7	0,300	04538665MS	04539665MS	04537665MS
40 - 32	90,0	48,3	44,3	38,4	42,4	0,280	04538666MS	04539666MS	04537666MS
50 - 15	100,0	60,3	56,3	18,1	21,3	0,420	04538669MS	04539669MS	04537669MS
50 - 25	100,0	60,3	56,3	29,7	33,7	0,460	04538670MS	04539670MS	04537670MS
50 - 32	100,0	60,3	56,3	38,4	42,4	0,400	04538671MS	04539671MS	04537671MS
50 - 40	100,0	60,3	56,3	44,3	48,3	0,420	04538672MS	04539672MS	04537672MS
65 - 25	110,0	76,1	72,1	29,7	33,7	0,580	04538676MS	04539676MS	04537676MS
65 - 32	110,0	76,1	72,1	38,4	42,4	0,760	04538677MS	04539677MS	04537677MS
65 - 40	110,0	76,1	72,1	44,3	48,3	0,900	04538678MS	04539678MS	04537678MS
65 - 50	110,0	76,1	72,1	56,3	60,3	0,640	04538679MS	04539679MS	04537679MS
80 - 40	110,0	88,9	84,3	44,3	48,3	1,000	04538683MS	04539683MS	04537683MS
80 - 50	110,0	88,9	84,3	56,3	60,3	0,880	04538684MS	04539684MS	04537684MS
80 - 65	110,0	88,9	84,3	72,1	76,1	0,820	04538685MS	04539685MS	04537685MS
100 - 50	135,0	114,3	109,7	56,3	60,3	1,720	04538692MS	04539692MS	04537692MS
100 - 65	135,0	114,3	109,7	72,1	76,1	1,580	04538693MS	04539693MS	04537693MS
100 - 80	135,0	114,3	109,7	84,3	88,9	1,600	04538694MS	04539694MS	04537694MS

	H2	H2o	H3	H3o	H4	H4o	HE4o	HE5	HE5o
Ra internal	<0,8/1,6µm*	<0,8/1,6µm*	<0,8µm	<0,8µm	<0,4µm	<0,4µm	<0,4µm	<0,25µm	<0,25µm
Ra external	X	X	<0,8µm	<0,8µm	<0,8µm	<0,8µm	<0,8µm	<0,8µm	<0,8µm
E-polish	X	X	X	X	X	X	Yes	Yes	Yes

\* = 1,6µm in range of deformation and welding seam

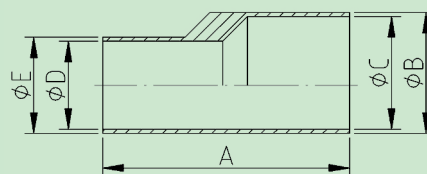


### REDUCER CONCENTRIC 11865 RK SERIE C 1.4404

Inch	A	B	C	D	E	Kg	H3o 1.4404	H4o 1.4404	H5o 1.4435
0,75 - 0,5"	60,0	19,05	15,75	9,4	12,7	0,050	04538556MS	04539556MS	04537556MS
1 - 0,5"	60,0	25,4	22,1	9,4	12,7	0,060	04538557MS	04539557MS	04537557MS
1 - 0,75"	60,0	25,4	22,1	15,75	19,05	0,060	04538558MS	04539558MS	04537558MS
1,5 - 0,75"	80,0	38,1	34,8	15,75	19,05	0,260	04538559MS	04539559MS	04537559MS
1,5 - 1"	80,0	38,1	34,8	22,1	25,4	0,260	04538560MS	04539560MS	04537560MS
2 - 1"	90,0	50,8	47,5	22,1	25,4	0,420	04538563MS	04539563MS	04537563MS
2 - 1,5"	90,0	50,8	47,5	34,8	38,1	0,260	04538565MS	04539565MS	04537565MS
2,5 - 1"	100,0	63,5	60,2	22,1	25,4	0,580	04538568MS	04539568MS	04537568MS
2,5 - 1,5"	100,0	63,5	60,2	34,8	38,1	0,400	04538570MS	04539570MS	04537570MS
2,5 - 2"	100,0	63,5	60,2	47,5	50,8	0,380	04538571MS	04539571MS	04537571MS
3 - 1,5"	110,0	76,2	72,9	34,8	38,1	0,760	04538576MS	04539576MS	04537576MS
3 - 2"	110,0	76,2	72,9	47,5	50,8	0,660	04538577MS	04539577MS	04537577MS
3 - 2,5"	110,0	76,2	72,9	60,2	63,5	0,520	04538578MS	04539578MS	04537578MS
4 - 2"	135,0	101,6	97,4	47,5	50,8	1,420	04538584MS	04539584MS	04537584MS
4 - 2,5"	135,0	101,6	97,4	60,2	63,5	1,260	04538585MS	04539585MS	04537585MS
4 - 3"	135,0	101,6	97,4	72,9	76,2	1,100	04538586MS	04539586MS	04537586MS

	H2	H2o	H3	H3o	H4	H4o	HE4o	HE5	HE5o
Ra internal	<0,8/1,6µm*	<0,8/1,6µm*	<0,8µm	<0,8µm	<0,4µm	<0,4µm	<0,4µm	<0,25µm	<0,25µm
Ra external	X	X	<0,8µm	<0,8µm	<0,8µm	<0,8µm	<0,8µm	<0,8µm	<0,8µm
E-polish	X	X	X	X	X	X	Yes	Yes	Yes

\* = 1,6µm in range of deformation and welding seam

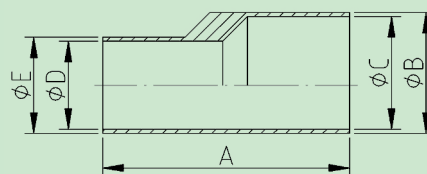


### REDUCER ECCENTRIC 11865 RE SERIE A 1.4404

DN	A	B	C	D	E	Kg	H3o 1.4404	H4o 1.4404	H5o 1.4435
15 - 10	60,0	19,0	16,0	10,0	13,0	0,060	04538901MS	04539901MS	04537901MS
20 - 10	60,0	23,0	20,0	10,0	13,0	0,060	04538902MS	04539902MS	04537902MS
20 - 15	60,0	23,0	20,0	16,0	19,0	0,060	04538903MS	04539903MS	04537903MS
25 - 10	70,0	29,0	26,0	10,0	13,0	0,090	04538906MS	04539906MS	04537906MS
25 - 15	70,0	29,0	26,0	16,0	19,0	0,120	04538907MS	04539907MS	04537907MS
25 - 20	70,0	29,0	26,0	20,0	23,0	0,120	04538908MS	04539908MS	04537908MS
32 - 15	80,0	35,0	32,0	16,0	19,0	0,200	04538909MS	04539909MS	04537909MS
32 - 20	80,0	35,0	32,0	20,0	23,0	0,180	04538910MS	04539910MS	04537910MS
32 - 25	80,0	35,0	32,0	26,0	29,0	0,140	04538911MS	04539911MS	04537911MS
40 - 15	90,0	41,0	38,0	16,0	19,0	0,300	04538913MS	04539913MS	04537913MS
40 - 20	90,0	41,0	38,0	20,0	23,0	0,280	04538914MS	04539914MS	04537914MS
40 - 25	90,0	41,0	38,0	26,0	29,0	0,260	04538915MS	04539915MS	04537915MS
40 - 32	90,0	41,0	38,0	32,0	35,0	0,200	04538916MS	04539916MS	04537916MS
50 - 15	90,0	53,0	50,0	16,0	19,0	0,480	04538919MS	04539919MS	04537919MS
50 - 25	90,0	53,0	50,0	26,0	29,0	0,440	04538920MS	04539920MS	04537920MS
50 - 32	90,0	53,0	50,0	32,0	35,0	0,60	04538921MS	04539921MS	04537921MS
50 - 40	90,0	53,0	50,0	38,0	41,0	0,380	04538922MS	04539922MS	04537922MS
65 - 25	110,0	70,0	66,0	26,0	29,0	1,060	04538926MS	04539926MS	04537926MS
65 - 32	110,0	70,0	66,0	32,0	35,0	0,800	04538927MS	04539927MS	04537927MS
65 - 40	110,0	70,0	66,0	38,0	41,0	0,780	04538928MS	04539928MS	04537928MS
65 - 50	110,0	70,0	66,0	50,0	53,0	0,700	04538929MS	04539929MS	04537929MS
80 - 40	110,0	85,0	81,0	38,0	41,0	0,960	04538933MS	04539933MS	04537933MS
80 - 50	110,0	85,0	81,0	50,0	53,0	1,180	04538934MS	04539934MS	04537934MS
80 - 65	110,0	85,0	81,0	66,0	70,0	0,820	04538935MS	04539935MS	04537935MS
100 - 50	135,0	104,0	100,0	50,0	53,0	2,440	04538942MS	04539942MS	04537942MS
100 - 65	135,0	104,0	100,0	66,0	70,0	1,520	04538943MS	04539943MS	04537943MS
100 - 80	135,0	104,0	100,0	81,0	85,0	1,440	04538944MS	04539944MS	04537944MS

	H2	H2o	H3	H3o	H4	H4o	HE4o	HE5	HE5o
Ra internal	<0,8/1,6µm*	<0,8/1,6µm*	<0,8µm	<0,8µm	<0,4µm	<0,4µm	<0,4µm	<0,25µm	<0,25µm
Ra external	X	X	<0,8µm	<0,8µm	<0,8µm	<0,8µm	<0,8µm	<0,8µm	<0,8µm
E-polish	X	X	X	X	X	X	Yes	Yes	Yes

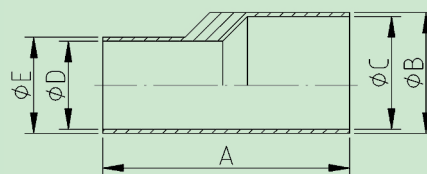
\* = 1,6µm in range of deformation and welding seam



### REDUCER CONCENTRIC 11865 RK SERIE B 1.4404

DN / ISO	A	B	C	D	E	Kg	H3o 1.4404	H4o 1.4404	H5o 1.4435
10 - 8	60,0	17,2	14,0	10,3	13,5	0,060	04538949MS	04539949MS	04537949MS
15 - 8	60,0	21,3	18,1	10,3	13,5	0,060	04538950MS	04539950MS	04537950MS
15 - 10	60,0	21,3	18,1	14,0	17,2	0,060	04538951MS	04539951MS	04537951MS
20 - 8	60,0	26,9	23,7	10,3	13,5	0,100	04538952MS	04539952MS	04537952MS
20 - 10	60,0	26,9	23,7	14,0	17,2	0,100	04538953MS	04539953MS	04537953MS
20 - 15	60,0	26,9	23,7	18,1	21,3	0,080	04538954MS	04539954MS	04537954MS
25 - 8	70,0	33,7	29,7	10,3	13,5	0,180	04538955MS	04539955MS	04537955MS
25 - 10	70,0	33,7	29,7	14,0	17,2	0,160	04538956MS	04539956MS	04537956MS
25 - 15	70,0	33,7	29,7	18,1	21,3	0,120	04548957MS	04549957MS	04547957MS
25 - 20	70,0	33,7	29,7	23,7	26,9	0,200	04548958MS	04549958MS	04547958MS
32 - 15	80,0	42,4	38,4	18,1	21,3	0,280	04548959MS	04549959MS	04547959MS
32 - 20	80,0	42,4	38,4	23,7	26,9	0,320	04548960MS	04549960MS	04547960MS
32 - 25	80,0	42,4	38,4	29,7	33,7	0,220	04548961MS	04549961MS	04547961MS
40 - 15	90,0	48,3	44,3	18,1	21,3	0,440	04548963MS	04549963MS	04547963MS
40 - 20	90,0	48,3	44,3	23,7	26,9	0,420	04548964MS	04549964MS	04547964MS
40 - 25	90,0	48,3	44,3	29,7	33,7	0,360	04548965MS	04549965MS	04547965MS
40 - 32	90,0	48,3	44,3	38,4	42,4	0,320	04548966MS	04549966MS	04547966MS
50 - 15	100,0	60,3	56,3	18,1	21,3	0,620	04548969MS	04549969MS	04547969MS
50 - 25	100,0	60,3	56,3	29,7	33,7	0,600	04548970MS	04549970MS	04547970MS
50 - 32	100,0	60,3	56,3	38,4	42,4	0,580	04548971MS	04549971MS	04547971MS
50 - 40	100,0	60,3	56,3	44,3	48,3	0,440	04548972MS	04549972MS	04547972MS
65 - 25	110,0	76,1	72,1	29,7	33,7	1,260	04548976MS	04549976MS	04547976MS
65 - 32	110,0	76,1	72,1	38,4	42,4	0,960	04548977MS	04549977MS	04547977MS
65 - 40	110,0	76,1	72,1	44,3	48,3	0,920	04548978MS	04549978MS	04547978MS
65 - 50	110,0	76,1	72,1	56,3	60,3	0,780	04548979MS	04549979MS	04547979MS
80 - 40	110,0	88,9	84,3	44,3	48,3	1,460	04548983MS	04549983MS	04547983MS
80 - 50	110,0	88,9	84,3	56,3	60,3	1,260	04548984MS	04549984MS	04547984MS
80 - 65	110,0	88,9	84,3	72,1	76,1	0,880	04548985MS	04549985MS	04547985MS
100 - 50	135,0	114,3	109,7	56,3	60,3	3,040	04548992MS	04549992MS	04547992MS
100 - 65	135,0	114,3	109,7	72,1	76,1	2,260	04548993MS	04549993MS	04547993MS
100 - 80	135,0	114,3	109,7	84,3	88,9	3,080	04548994MS	04549994MS	04547994MS





### REDUCER ECCENTRIC 11865 RE SERIE C 1.4404

Inch	A	B	C	D	E	Kg	H3o 1.4404	H4o 1.4404	H5o 1.4435
0,75 - 0,5"	60,0	19,05	15,75	9,4	12,7	0,060	04538956MS	04539956MS	04537956MS
1 - 0,5"	60,0	25,4	22,1	9,4	12,7	0,210	04538957MS	04539957MS	04537957MS
1 - 0,75"	60,0	25,4	22,1	15,75	19,05	0,070	04538958MS	04539958MS	04537958MS
1,5 - 0,75"	80,0	38,1	34,8	15,75	19,05	0,220	04538959MS	04539959MS	04537959MS
1,5 - 1"	80,0	38,1	34,8	22,1	25,4	0,200	04538960MS	04539960MS	04537960MS
2 - 1"	90,0	50,8	47,5	22,1	25,4	0,280	04538963MS	04539963MS	04537963MS
2 - 1,5"	90,0	50,8	47,5	34,8	38,1	0,320	04538965MS	04539965MS	04537965MS
2,5 - 1"	100,0	63,5	60,2	22,1	25,4	0,720	04538968MS	04539968MS	04537968MS
2,5 - 1,5"	100,0	63,5	60,2	34,8	38,1	0,600	04538970MS	04539970MS	04537970MS
2,5 - 2"	100,0	63,5	60,2	47,5	50,8	0,420	04538971MS	04539971MS	04537971MS
3 - 1,5"	110,0	76,2	72,9	34,8	38,1	0,420	04538976MS	04539976MS	04537976MS
3 - 2"	110,0	76,2	72,9	47,5	50,8	0,900	04538977MS	04539977MS	04537977MS
3 - 2,5"	110,0	76,2	72,9	60,2	63,5	0,660	04538978MS	04539978MS	04537978MS
4 - 2"	135,0	101,6	97,4	47,5	50,8	2,300	04538984MS	04539984MS	04537984MS
4 - 2,5"	135,0	101,6	97,4	60,2	63,5	2,400	04538985MS	04539985MS	04537985MS
4 - 3"	135,0	101,6	97,4	72,9	76,2	1,520	04538986MS	04539986MS	04537986MS

	H2	H2o	H3	H3o	H4	H4o	HE4o	HE5	HE5o
Ra internal	<0,8/1,6µm*	<0,8/1,6µm*	<0,8µm	<0,8µm	<0,4µm	<0,4µm	<0,4µm	<0,25µm	<0,25µm
Ra external	X	X	<0,8µm	<0,8µm	<0,8µm	<0,8µm	<0,8µm	<0,8µm	<0,8µm
E-polish	X	X	X	X	X	X	Yes	Yes	Yes

\* = 1,6µm in range of deformation and welding seam

## DIN 32676 Clamp Coupling

The clamp coupling is a many applied coupling within the pharmaceutical industry, especially because many of these companies have American roots. In the norm family of the DIN 11866, 11865 and the 11864, is the existing norm DIN 32676 added. The DIN 32676 is adapted to the specifications within this family. SKS based its standard package on the most common versions (material / internal surface finishing).

H3: Ra < 0.8µm, standard W.St. 1.4404, optional is 1.4435 deliverable.

H4: Ra < 0.4µm, standard W.St. 1.4404, optional is 1.4435 deliverable.

HE5: Ra < 0.25µm, standard W.St. 1.4435.

### Dimension range and material

According DIN 11866

There are just as with the tubes and weld fittings, 3 dimension ranges.

Series A, B and C.

Series A: concerns the mm dimensions, equal to the DIN 11850 Reihe 2.

Series B: concerns the ISO dimensions and are also called ISO 1127

Series C: concerns the Inch sizes and are exactly the same as the ASME BPE A270 sizes.

Stainless steel according EN DIN 10088

Seal materials EPDM, FKM, PTFE and PTFE in combination with EPDM or FKM. According FDA §177.2600

### Tolerances and specifications

DIN 405-1 and 2, DIN ISO 2768-1, ISO 48, ISO 2852, FDA and BGA

### Versions and codes

Weld ferrule: Deliverable in Series A, B and C

Clamp: various versions

Seals: deliverable with or without lip and in a so-called envelope version.

Standard Ra value < 0,8µm, but also deliverable in Ra < 0,4µm or < 0.25µm.

Connection: Weld (S). Other connections don't have a norm: Blind, hose connector, screw

### Pressure application (to 140°C)

DN10 – DN50 max. 16 bar

DN65 – DN200 max. 10 bar

### Seals

EPDM, FKM (Viton), MVQ (silicone), PTFE (Teflon) or Envelope PTFE/EPDM, PTFE/FKM.

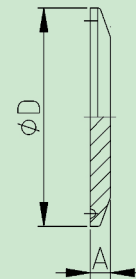
### Certificates

3.1 certificate according EN 10204

The 2.1 of 2.2 are available for the Ra value or the composition of the stainless steel.

### Version

The parts are cleaned free oil and grease, dry, and provided with end caps. Packed in a sealed plastic sleeve.



## BLINDFERRULE CLAMP DIN 32676

DN / Inch / ISO	A	B	C	D	E	Kg	1.4404
10-20 / 0,5"-0,75" / 13,5-21,3	6,0			34,0		0,200	18138526
25-40 / 1"-1,5" / 26,9-33,7	6,0			50,5		0,070	18138529
50/2" / 42,4-48,3	6,0			64,0		0,100	18138535
2,5" / 60,3	6,0			77,5		0,170	18138537
65 / 3" / 76,1	7,0			91,0		0,240	18138539
80 / 88,9	8,0			106,0		0,470	18138540
100 / 4"	8,0			119,0		0,540	18138543
114,3	8,0			130,0		0,650	18138543ISO



## Complementary materials

To complete the “One stop shopping” concept, S.K.S. also provides a range of wastage products. This package is based on the delivery history of the different customers of SKS. With the choice of the materials, S.K.S. gives the opportunity to save some costs by combine your technical purchases.

S.K.S. as a logistic partner is an added value, based on reducing the quantity of your suppliers. Besides the broad package of products, we also can adapt out our range to your needs.

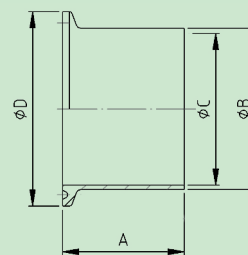
## Mounting materials

For the mounting and assembly of the different tube components, you need the necessary mounting materials.

To complete your orders S.K.S. included the most occurring parts in its package. The possibilities are:

- Tube caps (plastic)
- Nuts and bolts
- Hose clamps
- Hinges

Description	art.nr. SKS
Scotch brite 100 mm (per role a 10 metre)	90900785
RVS shine (detergent)	98100787
Pickle paste transparent per pot a 2 kg	98100788
Pickle paste white per pot a 2 kg	98100789
Acid-resistant brushes	98300920
PTFE (Teflon) tape with Gastec mark (0,1mm L= 12 metre.) kl.0, 2	90900790
Screw-thread seal Loctite 542	90900791
Blade disk con. 115x22 K60 zirk	90900840
Grinding disk 115x7x22,2 RVS TR5296	98300901
Grinding disk 178x7x22,2 RVS TR5362	98300902
Cutting disk 115x2x22,2 RVS TR2073	98300904
Cutting disk 178x2x22,2 RVS TR3131	98300905
Molybdeen tester (flask)	98300910



### WELDING FERRULE DIN 32676 KL SERIE A

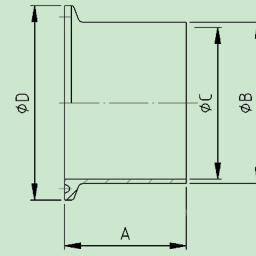
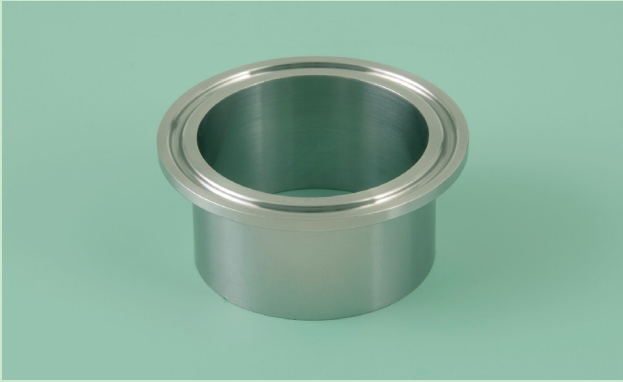
DN	A	B	C	D	E	Kg	H3o 1.4404	H4o 1.4404	HE5o 1.4435
10	28,6	13,0	10,0	34,0		0,040	18537999	18538999	18536999
15	28,6	19,0	16,0	34,0		0,040	18538002	18539002	18537002
20	28,6	23,0	20,0	34,0		0,040	18538003	18539003	18537003
25	36,0	29,0	26,0	50,5		0,100	18538005	18539005	18537005
32	36,0	35,0	32,0	50,5		0,080	18538007	18539007	18537007
40	36,0	41,0	38,0	50,5		0,080	18538009	18539009	18537009
50	36,0	53,0	50,0	64,0		0,120	18538011	18539011	18537011
65	48,0	70,0	66,0	91,0		0,280	18538013	18539013	18537013
80	48,0	85,0	81,0	106,0		0,340	18538015	18539015	18537015
100	48,0	104,0	100,0	119,0		0,380	18538017	18539017	18537017

### WELDING FERRULE DIN 32676 KL SERIE B

DN / ISO	A	B	C	D	E	Kg	H3o 1.4404	H4o 1.4404	HE5o 1.4435
8 / 13,5	28,6	13,5	10,3	25,0		0,060	18538050	18539050	18537050
10 / 17,2	28,6	17,2	14,0	25,0		0,040	18538051	18539051	18537051
15 / 21,3	36,0	21,3	18,1	50,5		0,040	18538052	18539052	18537052
20 / 26,9	36,0	26,9	23,7	50,5		0,100	18538053	18539053	18537053
25 / 33,7	36,0	33,7	29,7	50,5		0,100	18538055	18539055	18537055
32 / 42,4	36,0	42,4	38,4	64,0		0,100	18538057	18539057	18537057
40 / 48,3	36,0	48,3	44,3	64,0		0,140	18538059	18539059	18537059
50 / 60,3	36,0	60,3	56,3	77,5		0,180	18538061	18539061	18537061
65 / 76,1	48,0	76,1	72,1	91,0		0,280	18538063	18539063	18537063
80 / 88,9	48,0	88,9	84,3	106,0		0,360	18538065	18539065	18537065
100 / 114,3	48,0	114,3	109,7	130,0		0,440	18538067	18539067	18537067

### WELDING FERRULE DIN 32676 KL SERIE C

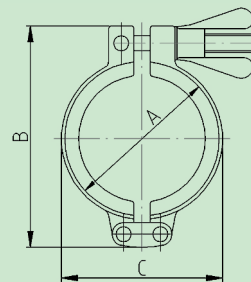
Inch	A	B	C	D	E	Kg	H3o 1.4404	H4o 1.4404	HE5o 1.4435
0,5"	28,6	12,7	9,4	25,0		0,010	18538000	18539000	18537000
0,75"	28,6	19,05	15,75	25,0		0,040	18538001	18539001	18537001
1"	36,0	25,4	22,1	50,5		0,100	18538004	18539004	18537004
1,5"	36,0	38,1	34,8	50,5		0,100	18538008	18539008	18537008
2"	36,0	50,8	47,5	64,0		0,160	18538010	18539010	18537010
2,5"	36,0	63,5	60,2	77,5		0,200	18538012	18539012	18537012
3"	48,0	76,2	72,9	91,0		0,280	18538014	18539014	18537014
4"	48,0	101,6	97,4	119,0		0,440	18538018	18539018	18537018



**CLAMP FERRULE ASME BPE BS14AM**

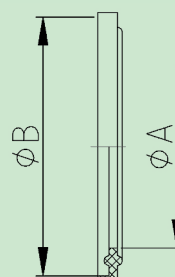
Inch	A	B	C	D	E	Kg	SFF1 316L	SFF4 316L
0,5"	44,5	12,7	9,4	25		0,040	18536571	18537571
0,75"	44,5	19,05	15,8	25		0,040	18536572	18537572
1"	44,5	25,4	22,1	50,5		0,090	18536579	18537579
1,5"	44,5	38,1	34,8	50,5		0,100	18536583	18537583
2"	57,2	50,8	47,5	64		0,130	18536585	18537585
2,5"	57,2	63,5	60,2	77,5		0,280	18536587	18537587
3"	57,2	76,1	72,9	91		0,280	18536589	18537589
4"	57,2	101,6	97,4	119		0,400	18536593	18537593

	SFT1	SFT2	SFT3	SFT4	SFT5	SFT6
Rmax inside	0,5µm	0,625µm	0,75µm	0,375µm	0,5µm	0,625µm
Ra outside	1,2µm	1,2µm	1,2µm	1,2µm	1,2µm	1,2µm
E-polish	X	X	X	yes	yes	yes



**CLAMP HEAVY DIN 32676**

DN / Inch / ISO	A	B	C	D	E	Kg	304
0,5"-0,75" / 13,5-21,3	28,0	51,0	33,0			0,150	18134500
10-20	37,0	70,0	43,0			0,175	18134501
25-40 / 1"-1,5" / 26,9-33,7	53,0	90,0	57,0			0,220	18134504
50 / 2" / 42,4-48,3	67,0	106,0	73,0			0,300	18134510
2,5" / 60,3	80,0	120,0	89,0			0,320	18134512
65 / 3" / 76,1	94,0	135,0	99,0			0,340	14134514
80 / 88,9	109,0	149,0	118,0			0,430	18134515
100/4"	122,0	162,0	127,0			0,370	18134518
114,3	134,0	180,0	145,0			0,580	18134518ISO



### GASKET CLAMP DIN 32676 SERIE A

DN	A	B	C	D	E	Kg	MVQ/Silicone	NBR	EPDM	FKM/Viton	PTFE	FKM/PTFE	EPDM/PTFE
10	10,2	34,0				0,003	18400526	18400601	18400576	18400551	18400501	18400201	18400301
15	16,2	34,0				0,002	18400527	18400602	18400577	18400552	18400502	18400202	18400302
20	20,2	34,0				0,002	18400528	18400603	18400578	18400553	18400503	18400203	18400303
25	26,2	50,5				0,005	18400530	18400605	18400580	18400555	18400505	18400205	18400305
32	32,2	50,5				0,004	18400532	18400607	18400582	18400557	18400507	18400207	18400307
40	38,2	50,5				0,004	18400534	18400609	18400584	18400559	18400509	18400209	18400309
50	50,2	64,0				0,005	18400536	18400611	18400586	18400561	18400511	18400211	18400311
65	66,2	91,0				0,012	18400538	18400613	18400588	18400563	18400513	18400213	18400313
80	81,2	106,0				0,012	18400540	18400615	18400590	18400565	18400515	18400215	18400315
100	100,2	119,0				0,011	18400542	18400617	18400592	18400567	18400517	18400217	18400317

### GASKET CLAMP DIN 32676 SERIE B

DN / ISO	A	B	C	Kg	MVQ/Silicone	NBR	EPDM	FKM/Viton	PTFE	FKM/PTFE	EPDM/PTFE
8 / 13,5	10,5	21,8		0,003	18401525		18401575	18401550	18400978	18401200	18401300
10 / 17,2	14,2	21,8		0,003	18401526		18401576	18401551	18400979	18401201	18401301
15 / 21,3	18,3	50,5		0,002	18401527		18401577	18401552	18400980	18401202	18401302
20 / 26,9	23,9	50,5		0,002	18401528		18401578	18401553	18400981	18401203	18401303
25 / 33,7	29,9	50,5		0,005	18401530		18401580	18401555	18400982	18401205	18401305
32 / 42,4	38,6	64,0		0,004	18401532		18401582	18401557	18400983	18401207	18401307
40 / 48,3	44,5	64,0		0,004	18401534		18401584	18401559	18400984	18401209	18401309
50 / 60,3	56,5	77,5		0,005	18401536		18401586	18401561	18400985	18401211	18401311
65 / 76,1	72,3	91,0		0,012	18401538		18401588	18401563	18400986	18401213	18401313
80 / 88,9	85,1	106,0		0,012	18401540		18401590	18401565	18400987	18401215	18401315
100 / 114,3	110,5	130,0		0,011	18401542		18401592	18401567	18400988	18401217	18401317

### GASKET CLAMP DIN 32676 SERIE C (ASME BPE TYPE 40MP/MO)

Inch	A	B	C	D	E	Kg	MVQ/Silicone	NBR	EPDM	FKM/Viton	PTFE	FKM/PTFE	EPDM/PTFE
0,5"	10,6	21,8				0,003	18500524	18500599	18500574	18500549	18500499	-	-
0,75"	16,0	21,8				0,004	18500525	18500600	18500575	18500550	18500500	-	-
1"	23,1	50,5				0,005	18500529	18500604	18500579	18500554	18500504	18400204	18400304
1,5"	35,3	50,5				0,004	18500533	18500608	18500583	18500558	18500508	18400208	18400308
2"	48,0	64,0				0,005	18500535	18500610	18500585	18500560	18500510	18400210	18400310
2,5"	60,7	77,5				0,007	18500537	18500612	18500587	18500562	18500512	18400212	18400312
3"	72,3	91,0				0,009	18500539	18500614	18500589	18500564	18500514	18400214	18400314
4"	97,8	119,0				0,012	18500543	18500618	18500593	18500568	18500518	18400218	18400318



## Pre-insulated tube systems

The advantages of the pre-insulated tube systems and our experience and knowledge of process tubes are the best base of your process tubes. The possibilities are unlimited within a range from  $-200^{\circ}\text{C}$  up to  $+350^{\circ}\text{C}$ . Especially in tube bridges you can reduce costs according to the investment costs, installation time but mainly the energy costs.

### The Mix of 4 variable components

1. Transport tube: all materials with a diameter up to 800mm.
2. Isolation: Customised materials based on the temperature of the application
3. Jacket: Choice between 5 robust sorts of materials.
4. Options: Divers options possible, like tracing, leak-detection etc.

The combination of the chosen variables is the optimal configuration for your application. The choice depends on the technical and economical input.

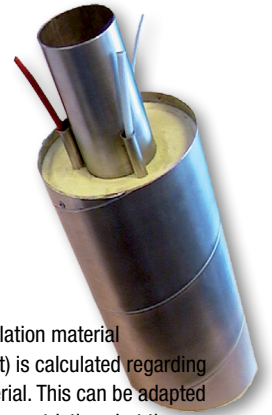
### Features

- 100% waterproof
- High mechanical resistance
- Effective corrosion protection of the tube
- Resistant against chemical products and UV
- Tracing of the tube is possible
- Sandwichsystem
- Easy installation of the products

### Advantages



- Well cleanable
- Constant isolation during the lifetime
- Quick payback time
- No source of infection
- Less loss of energy
- Low maintenance costs



### Customised delivery

Every application is different. That is why the isolation material (based on the temperature and the needed result) is calculated regarding to the size and composition of the isolation material. This can be adapted to your specific needs. The system has some little restrictions but they are minor to the enormous advantages. Besides the possibility of the standard tube components, SKS can also isolate the short tube installations, skids-fittings or machine parts. We can even produce these products for you if we get a drawing for it.

Why should you isolate afterwards when it can be done much better in an optimal situation forwards.



## DIN 11864 Couplings

Consistent with the DIN 11866 and the 11865, the DIN 11864 includes all technical specifications about the different connections. Besides the 2 kind of seals (A and B), the most common form is the A seal, this is also the S.K.S. standard. The less used B seal is less available. Both kinds consist of 3 types of connections.

Type 1 = Screw connection: connection by nut

Type 2 = Flange connection: connection by nuts and bolts

Type 3 = Clamp connection: Connection by clamp

The sealing principle is the same, you can choose within this norm for the most suitable way of connecting an application. For all kind of coupling you can also choose for a certain material finishing or kind of materials and quality. According the norm, there is also the possibility to choose for 1.4404 or 1.4435 materials. The last one can be delivered with a low  $\Delta$  Ferrite content. The DIN 11864 always has long welding ends (orbital weld able). The common short version is officially called the DIN 11853 and is meant for the food industry (see also the brochure DIN 11850). SKS compiled its standard package based on the most common versions (material / external surface finishing).

H3 standard W.St. 1.4404, optional 1.4435 is deliverable.

H4 standard W.St. 1.4404, optional 1.4435 is deliverable.

HE5 standard W.St. 1.4435.

### Versions

Version A (versions with O-gasket)

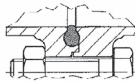
Type 1: Screw connection consisting of liner, male thread, seal and nut. Deliverable in the size ranges A, B and C

Type 2: Flange connection consisting of flange with collar, flange with chest, seals and bolt and nuts kit. Deliverable in the size ranges A, B en C

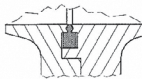
Type 3: Clamp connection consisting of ferrule with collar, ferrule with chest, seal and clamp mounting materials. Deliverable in size ranges A, B en C

Version B (Version with a seal with a profile)

In the norm all the versions for all size ranges are described. The availability in the market is limited to the types 1 and 2 in the size range A



**Version A**



**Version B**

### Material table

Stainless steel according EN DIN 10088

Seal materials are: EPDM, HNBR, FKM and FFKM.

According FDA §177.2600

### Size table and tolerances

According DIN 11864 and ISO 2768

The same size ranges as in the tube and weld fitting range: 3 size ranges, Series A, B and C

Series A: concerns the mm dimensions according to DIN 11850 Reihe 2.

Series B: Concerns the ISO dimensions, in the market also called the ISO 1127.

Series C: Concerns the Inch dimensions and are exactly the same as the dimensions according ASME BPE A270

### Pressure application (tot 140°C)

Size	Screw coupling	Flange connection	Clamp connection
DN10 – DN40	max. 40 bar	max. 25 bar	max. 40 bar
DN50 – DN100	max. 25 bar	max. 16 bar	max. 25 bar
DN125 – DN150	max. 16 bar	max. 10 bar	max. 16 bar

### Version:

The unionparts are cleaned, free of oil and grease, dry and provided of PE end caps. Packed in a sealed plastic sleeve. According DIN 11864

### Surface finishing Ra

Internal surface finishing mechanical polished or pulled

H2o Ra max. 0,8 / 1,6  $\mu\text{m}$

H30 Ra max. 0,8 / 0,8  $\mu\text{m}$

H4o Ra max. 0,4 / 0,4  $\mu\text{m}$

Internal surface finishing mechanical polished or electrolytic polished

HE4o Ra max. 0,4 / 0,4  $\mu\text{m}$

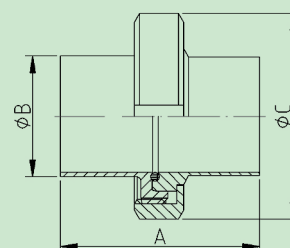
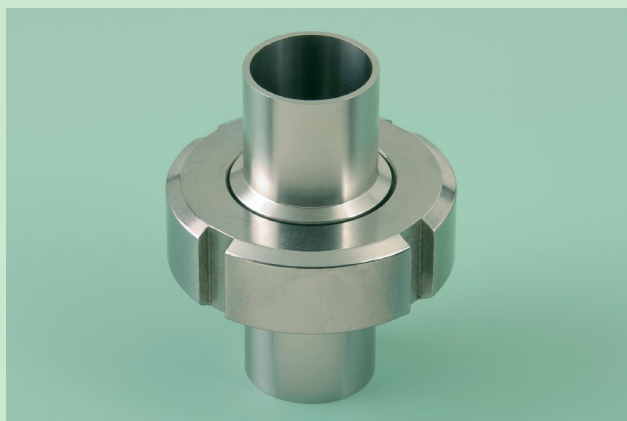
HE5o Ra max. 0,25 / 0,25  $\mu\text{m}$

### Certificates

3.1 certificate according EN 10204

Eventually the 2.1 or 2.2 declarations are possible to deliver for the Ra value or the composition of the stainless steel.





### SCREWCONNECTION COMPLETE DIN 11864 A-1 SERIE A

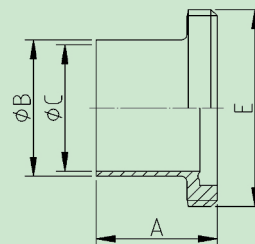
DN	A	B	C	D	E	Kg	H3o 1.4404/EPDM	H4o 1.4404/EPDM	H5o 1.4435/EPDM
10	76,0	13,0	38,0			0,101	16738001	16739001	16737001
15	76,0	19,0	44,0			0,161	16738002	16739002	16737002
20	76,0	23,0	54,0			0,251	16738003	16739003	16737003
25	77,0	29,0	63,0			0,402	16738005	16739005	16737005
32	88,0	35,0	70,0			0,494	16738007	16739007	16737007
40	88,0	41,0	78,0			0,606	16738009	16739009	16737009
50	89,0	53,0	92,0			0,787	16738011	16739011	16737011
65	113,0	70,0	112,0			1,399	16738013	16739013	16737013
80	117,0	85,0	127,0			1,851	16738015	16739015	16737015
100	120,0	104,0	148,0			2,485	16738017	16739017	16737017

### SCREWCONNECTION COMPLETE DIN 11864 A-1 SERIE B

DN / ISO	A	B	C	D	E	Kg	H3o 1.4404	H4o 1.4404	H5o 1.4435
8 / 13,5	76,0	13,5	38,0			0,141	16738200	16739200	16737200
10 / 17,2	76,0	17,2	44,0			0,201	16738201	16739201	16737201
15 / 21,3	78,0	21,3	54,0			0,311	16738202	16739202	16737202
20 / 26,9	78,0	26,9	63,0			0,422	16738203	16739203	16737203
25 / 33,7	88,0	33,7	70,0			0,515	16738205	16739205	16737205
32 / 42,4	88,0	42,4	78,0			0,646	16738207	16739207	16737207
40 / 48,3	90,0	48,3	92,0			0,906	16738209	16739209	16737209
50 / 60,3	114,0	60,3	112,0			1,578	16738211	16739211	16737211
65 / 76,1	117,0	76,1	127,0			2,110	16738213	16739213	16737213
80 / 88,9	122,0	88,9	148,0			3,062	16738215	16739215	16737215
100 / 114,3	130,0	114,3	178,0			4,448	16738217	16739217	16737217

### SCREWCONNECTION COMPLETE DIN 11864 A-1 SERIE C

Inch	A	B	C	D	E	Kg	H3o 1.4404	H4o 1.4404	H5o 1.4435
0,5"	76,0	12,7	38,0			0,101	16737999	16738999	16736999
0,75"	76,0	19,05	44,0			0,161	16738000	16739000	16737000
1"	77,0	25,4	63,0			0,441	16738004	16739004	16737004
1,5"	88,0	38,1	78,0			0,646	16738008	16739008	16737008
2"	89,0	50,8	92,0			0,833	16738010	16739010	16737010
2,5"	115,0	63,5	112,0			1,439	16738012	16739012	16737012
3"	117,0	76,2	127,0			1,950	16738014	16739014	16737014
4"	119,0	101,6	148,0			2,563	16738018	16739018	16737018



### MALE PART DIN 11864 A-1 SERIE A

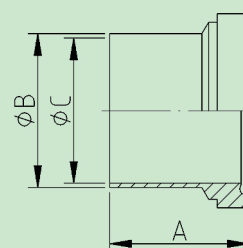
DN	A	B	C	D	E	Kg	H3o 1.4404	H4o 1.4404	H5o 1.4435
10	41,0	13,0	10,0		Rd28x1/8"	0,020	16238001	16239001	16237001
15	41,0	19,0	16,0		Rd34x1/8"	0,040	16238002	16239002	16237002
20	43,0	23,0	20,0		Rd44x1/6"	0,060	16238003	16239003	16237003
25	43,0	29,0	26,0		Rd52x1/6"	0,140	16238005	16239005	16237005
32	48,0	35,0	32,0		Rd58x1/6"	0,160	16238007	16239007	16237007
40	48,0	41,0	38,0		Rd65x1/6"	0,200	16238009	16239009	16237009
50	48,0	53,0	50,0		Rd78x1/6"	0,260	16238011	16239011	16237011
65	60,0	70,0	66,0		Rd95x1/6"	0,440	16238013	16239013	16237013
80	64,0	85,0	81,0		Rd110x1/4"	0,620	16238015	16239015	16237015
100	64,0	104,0	100,0		Rd130x1/4"	0,740	16238017	16239017	16237017

### DRAADSTUK / MALE PART DIN 11864 A-1 SERIE B

DN / ISO	A	B	C	D	E	Kg	H3o 1.4404	H4o 1.4404	H5o 1.4435
8 / 13,5	41,0	13,5	10,3		Rd28x1/8"	0,040	16238200	16239200	16237200
10 / 17,2	41,0	17,2	14,0		Rd34x1/8"	0,060	16238201	16239201	16237201
15 / 21,3	43,0	21,3	18,1		Rd44x1/6"	0,120	16238202	16239202	16237202
20 / 26,9	43,0	26,9	23,7		Rd52x1/6"	0,140	16238203	16239203	16237203
25 / 33,7	48,0	33,7	29,7		Rd58x1/6"	0,180	16238205	16239205	16237205
32 / 42,4	48,0	42,4	38,4		Rd65x1/6"	0,220	16238207	16239207	16237207
40 / 48,3	49,0	48,3	44,3		Rd78x1/6"	0,300	16238209	16239209	16237209
50 / 60,3	60,0	60,3	56,3		Rd95x1/6"	0,480	16238211	16239211	16237211
65 / 76,1	64,0	76,1	72,1		Rd110x1/4"	0,720	16238213	16239213	16237213
80 / 88,9	64,0	88,9	84,3		Rd130x1/4"	0,880	16238215	16239215	16237215
100 / 114,3	68,0	114,3	109,7		Rd160x1/4"	1,660	16238217	16239217	16237217

### MALE PART DIN 11864 A-1 SERIE C

Inch	A	B	C	D	E	Kg	H3o 1.4404	H4o 1.4404	H5o 1.4435
0,5"	41,0	12,7	9,4		Rd28x1/8"	0,020	16237999	16238999	16236999
0,75"	41,0	19,05	15,75		Rd34x1/8"	0,040	16238000	16239000	16237000
1"	43,0	25,4	22,1		Rd52x1/6"	0,160	16238004	16239004	16237004
1,5"	48,5	38,1	34,8		Rd65x1/6"	0,220	16238008	16239008	16237008
2"	48,5	50,8	47,5		Rd78x1/6"	0,270	16238010	16239010	16237010
2,5"	60,0	63,5	60,2		Rd95x1/6"	0,440	16238012	16239012	16237012
3"	64,0	76,2	72,9		Rd110x1/4"	0,640	16238014	16239014	16237014
4"	64,0	101,6	97,4		Rd130x1/4"	0,760	16238018	16239018	16237018

**LINER PART DIN 11864 A-1 SERIE A**

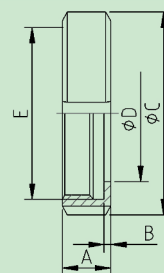
DN	A	B	C	D	E	Kg	H3o 1.4404	H4o 1.4404	H5o 1.4435
10	39,0	13,0	10,0			0,020	16238026	16239026	16237026
15	39,0	19,0	16,0			0,040	16238027	16239027	16237027
20	38,0	23,0	20,0			0,080	16238028	16239028	16237028
25	40,0	29,0	26,0			0,100	16238030	16239030	16237030
32	47,0	35,0	32,0			0,140	16238032	16239032	16237032
40	47,0	41,0	38,0			0,160	16238034	16239034	16237034
50	48,0	53,0	50,0			0,200	16238036	16239036	16237036
65	61,0	70,0	66,0			0,420	16238038	16239038	16237038
80	61,0	85,0	81,0			0,500	16238040	16239040	16237040
100	66,0	104,0	100,0			0,760	16238042	16239042	16237042

**LINER PART DIN 11864 A-1 SERIE B**

DN / ISO	A	B	C	D	E	Kg	H3o 1.4404	H4o 1.4404	H5o 1.4435
8 / 13,5	39,0	13,5	10,3			0,040	16238225	16239225	16237225
10 / 17,2	39,0	17,2	14,0			0,060	16238226	16239226	16237226
15 / 21,3	40,0	21,3	18,1			0,080	16238227	16239227	16237227
20 / 26,9	41,0	26,9	23,7			0,120	16238228	16239228	16237228
25 / 33,7	47,0	33,7	29,7			0,140	16238230	16239230	16237230
32 / 42,4	47,0	42,4	38,4			0,180	16238232	16239232	16237232
40 / 48,3	48,0	48,3	44,3			0,280	16238234	16239234	16237234
50 / 60,3	62,0	60,3	56,3			0,560	16238236	16239236	16237236
65 / 76,1	61,0	76,1	72,1			0,660	16238238	16239238	16237238
80 / 88,9	68,0	88,9	84,3			1,200	16238240	16239240	16237240
100 / 114,3	72,0	114,3	109,7			1,440	16238242	16239242	16237242

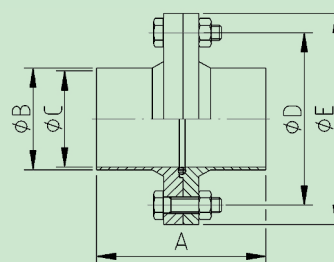
**LINER PART DIN 11864 A-1 SERIE C**

Inch	A	B	C	D	E	Kg	H3o 1.4404	H4o 1.4404	H5o 1.4435
0,5"	39,0	12,7	9,4			0,020	16238024	16239024	16237024
0,75"	39,0	19,05	15,75			0,040	16238025	16239025	16237025
1"	40,0	25,4	22,1			0,120	16238029	16239029	16237029
1,5"	46,5	38,1	34,8			0,180	16238033	16239033	16237033
2"	47,5	50,8	47,5			0,240	16238035	16239035	16237035
2,5"	63,0	63,5	60,2			0,460	16238037	16239037	16237037
3"	61,0	76,2	72,9			0,580	16238039	16239039	16237039
4"	65,0	101,6	97,4			0,820	16239043	16239043	16239043



### NUT DIN 11864 SERIE A, B AND C

DN / ISO / Inch	A	B	C	D	E	Kg	304L	316L
10 / 13,5 / 0,5"	18,0	3,0	38,0	19,0	Rd28x1/8"	0,060	14134001	14138001
15 / 17,2 / 0,75"	18,0	3,0	44,0	25,0	Rd34x1/8"	0,080	14134002	14138002
20 / 21,3	20,0	3,0	54,0	31,0	Rd44x1/6"	0,110	14134003	14138003
25 / 26,9 / 1"	21,0	3,0	63,0	36,0	Rd52x1/6"	0,160	14134005	14138005
32 / 33,7	21,0	3,0	70,0	42,0	Rd58x1/6"	0,190	14134007	14138007
40 / 42,4 / 1,5"	21,0	3,0	78,0	49,0	Rd65x1/6"	0,240	14134009	14138009
50 / 48,3 / 2"	22,0	3,0	92,0	62,0	Rd78x1/6"	0,320	14134011	14138011
65 / 60,3 / 2,5"	25,0	4,0	112,0	80,0	Rd95x1/6"	0,530	14134013	14138013
80 / 76,1 / 3"	29,0	4,0	127,0	94,0	Rd110x1/4"	0,720	14134015	14138015
100 / 88,9 / 4"	31,0	5,0	148,0	115,0	Rd130x1/4"	0,970	14134017	14138017
125 / 114,3	35,0	5,0	178,0	138,0	Rd160x1/4"	1,380	14134019	14138019



### FLANGE CONNECTION COMPLETE DIN 11864 A-2 SERIE A

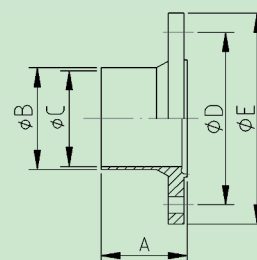
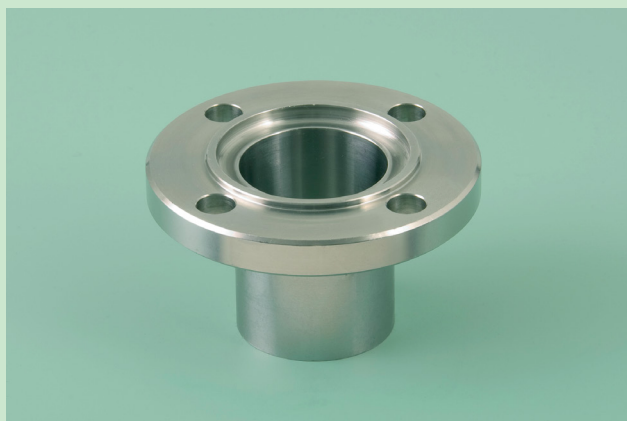
DN	A	B	C	D	E	Kg	H3o 1.4404/EPDM	H4o 1.4404/EPDM	H5o 1.4435/EPDM
10	80,0	13,0	10,0	37,0	54,0	0,401	16738101	16739101	16737101
15	80,0	19,0	16,0	42,0	59,0	0,481	16738102	16739102	16737102
20	80,0	23,0	20,0	47,0	64,0	0,561	16738103	16739103	16737103
25	80,0	29,0	26,0	53,0	70,0	0,622	16738105	16739105	16737105
32	90,0	35,0	32,0	59,0	76,0	0,744	16738107	16739107	16737107
40	90,0	41,0	38,0	65,0	82,0	0,806	16738109	16739109	16737109
50	90,0	53,0	50,0	77,0	94,0	0,967	16738111	16739111	16737111
65	108,0	70,0	66,0	95,0	113,0	1,449	16738113	16739113	16737113
80	116,0	85,0	81,0	112,0	133,0	2,231	16738115	16739115	16737115
100	116,0	104,0	100,0	137,0	159,0	3,315	16738117	16739117	16737117
125	120,0	129,0	125,0	161,0	183,0	4,500	16738119	16739119	16737119
150	120,0	154,0	150,0	188,0	213,0	7,350	16738120	16739120	16737120

### FLANGE CONNECTION COMPLETE DIN 11864 A-2 SERIE B

DN / ISO	A	B	C	D	E	Kg	H3o 1.4404/EPDM	H4o 1.4404/EPDM	H5o 1.4435/EPDM
8 / 13,5	80,0	13,5	10,3	37,0	54,0	0,401	16738300	16739300	16737300
10 / 17,2	80,0	17,2	14,0	42,0	59,0	0,481	16738301	16739301	16737301
15 / 21,3	80,0	21,3	18,1	45,0	62,0	0,521	16738302	16739302	16737302
20 / 26,9	80,0	26,9	23,7	52,0	69,0	0,602	16738303	16739303	16737303
25 / 33,7	90,0	33,7	29,7	57,0	74,0	0,725	16738305	16739305	16737305
32 / 42,4	90,0	42,4	38,4	65,0	82,0	0,826	16738307	16739307	16737307
40 / 48,3	90,0	48,3	44,3	71,0	88,0	0,926	16738309	16739309	16737309
50 / 60,3	108,0	60,3	56,3	85,0	103,0	1,204	16738311	16739311	16737311
65 / 76,1	112,0	76,1	72,1	104,0	125,0	2,130	16738313	16739313	16737313
80 / 88,9	116,0	88,9	84,3	116,0	137,0	2,326	16738315	16739315	16737315
100 / 114,3	116,0	114,3	109,7	146,0	168,0	3,688	16738317	16739317	16737317

### FLANGE CONNECTION COMPLETE DIN 11864 A-2 SERIE C

Inch	A	B	C	D	E	Kg	H3o 1.4404/EPDM	H4o 1.4404/EPDM	H5o 1.4435/EPDM
0,5"	80,0	12,7	9,4	35,0	52,0	0,421	16738099	16739099	16737099
0,75"	80,0	19,05	15,75	40,0	57,0	0,521	16738100	16739100	16737100
1"	80,0	25,4	22,1	49,0	66,0	0,601	16738104	16739104	16737104
1,5"	90,0	38,1	34,8	62,0	79,0	0,762	16738108	16739108	16737108
2"	90,0	50,8	47,5	75,0	92,0	0,963	16738110	16739110	16737110
2,5"	108,0	63,5	60,2	89,0	107,0	1,284	16738112	16739112	16737112
3"	112,0	76,2	72,9	104,0	125,0	2,126	16738114	16739114	16737114
4"	116,0	101,6	97,4	135,0	157,0	3,288	16738118	16739118	16737118



### FLANGE WITH GROOVE DIN 11864 A-2 SERIE A

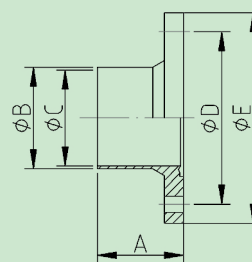
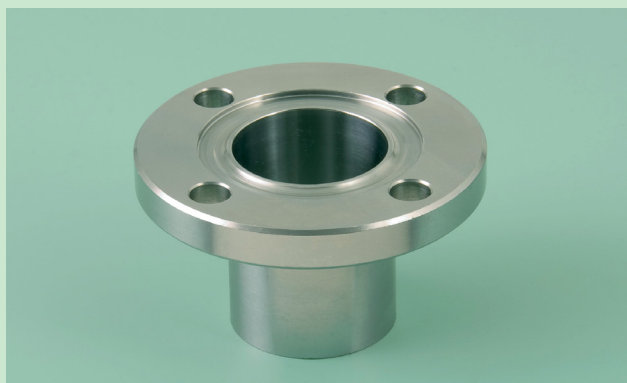
DN	A	B	C	D	E	Kg	H3o 1.4404	H4o 1.4404	H5o 1.4435
10	41,5	13,0	10,0	37,0	54,0	0,160	16238101	16239101	16237101
15	41,5	19,0	16,0	42,0	59,0	0,200	16238102	16239102	16237102
20	41,5	23,0	20,0	47,0	64,0	0,240	16238103	16239103	16237103
25	41,5	29,0	26,0	53,0	70,0	0,280	16238105	16239105	16237105
32	46,5	35,0	32,0	59,0	76,0	0,340	16238107	16239107	16237107
40	46,5	41,0	38,0	65,0	82,0	0,360	16238109	16239109	16237109
50	46,5	53,0	50,0	77,0	94,0	0,440	16238111	16239111	16237111
65	55,5	70,0	66,0	95,0	113,0	0,640	16238113	16239113	16237113
80	59,5	85,0	81,0	112,0	133,0	0,940	16238115	16239115	16237115
100	59,5	104,0	100,0	137,0	159,0	1,480	16238117	16239117	16237117
125	61,5	129,0	125,0	161,0	183,0	1,720	16238119	16239119	16237119
150	61,5	154,0	150,0	188,0	213,0	3,500	16238120	16239120	16237120

### FLANGE WITH GROOVE DIN 11864 A-2 SERIE B

DN / ISO	A	B	C	D	E	Kg	H3o 1.4404	H4o 1.4404	H5o 1.4435
8 / 13,5	41,5	13,5	10,3	37,0	54,0	0,160	16238300	16239300	16237300
10 / 17,2	41,5	17,2	14,0	42,0	59,0	0,200	16238301	16239301	16237301
15 / 21,3	41,5	21,3	18,1	45,0	62,0	0,220	16238302	16239302	16237302
20 / 26,9	41,5	26,9	23,7	52,0	69,0	0,260	16238303	16239303	16237303
25 / 33,7	46,5	33,7	29,7	57,0	74,0	0,320	16238305	16239305	16237305
32 / 42,4	46,5	42,4	38,4	65,0	82,0	0,360	16238307	16239307	16237307
40 / 48,3	46,5	48,3	44,3	71,0	88,0	0,420	16238309	16239309	16237309
50 / 60,3	55,5	60,3	56,3	85,0	103,0	0,560	16238311	16239311	16237311
65 / 76,1	57,5	76,1	72,1	104,0	125,0	0,900	16238313	16239313	16237313
80 / 88,9	59,5	88,9	84,3	116,0	137,0	1,000	16238315	16239315	16237315
100 / 114,3	59,5	114,3	109,7	146,0	168,0	1,660	16238317	16239317	16237317

### FLANGE WITH GROOVE DIN 11864 A-2 SERIE C

Inch	A	B	C	D	E	Kg	H3o 1.4404	H4o 1.4404	H5o 1.4435
0,5"	41,5	12,7	9,4	37,0	54,0	0,160	16238099	16239099	16237099
0,75"	41,5	19,05	15,75	42,0	59,0	0,200	16238100	16239100	16237100
1"	41,5	25,4	22,1	49,0	66,0	0,260	16238104	16239104	16237104
1,5"	46,5	38,0	34,8	62,0	79,0	0,340	16238108	16239108	16237108
2"	46,5	51,0	47,5	75,0	92,0	0,440	16238110	16239110	16237110
2,5"	55,5	63,5	60,2	89,0	107,0	0,560	16238112	16239112	16237112
3"	57,5	76,2	72,9	104,0	125,0	0,900	16238114	16239114	16237114
4"	59,5	101,6	97,4	135,0	157,0	1,480	16238118	16239118	16237118



### FLANGE WITH COLLAR DIN 11864 A-2 SERIE A

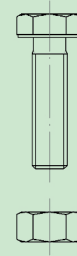
DN	A	B	C	D	E	Kg	H3o 1.4404	H4o 1.4404	H5o 1.4435
10	40,0	13,0	10,0	37,0	54,0	0,160	16238126	16239126	16237126
15	40,0	19,0	16,0	42,0	59,0	0,200	16238127	16239127	16237127
20	40,0	23,0	20,0	47,0	64,0	0,240	16238128	16239128	16237128
25	40,0	29,0	26,0	53,0	70,0	0,260	16238130	16239130	16237130
32	45,0	35,0	32,0	59,0	76,0	0,320	16238132	16239132	16237132
40	45,0	41,0	38,0	65,0	82,0	0,360	16238134	16239134	16237134
50	45,0	53,0	50,0	77,0	94,0	0,440	16238136	16239136	16237136
65	54,0	70,0	66,0	95,0	113,0	0,640	16238138	16239139	16237137
80	58,0	85,0	81,0	112,0	133,0	0,960	16238140	16239140	16237140
100	58,0	104,0	100,0	137,0	159,0	1,480	16238142	16239142	16237142
125	60,0	129,0	125,0	161,0	183,0	1,720	16238144	16239144	16237144
150	60,0	154,0	150,0	188,0	213,0	3,500	16238145	16239145	16237145

### FLANGE WITH COLLAR DIN 11864 A-2 SERIE B

DN / ISO	A	B	C	D	E	Kg	H3o 1.4404	H4o 1.4404	H5o 1.4435
8 / 13,5	40,0	13,5	10,3	37,0	54,0	0,160	16238325	16239325	16237325
10 / 17,2	40,0	17,2	14,0	42,0	59,0	0,200	16238326	16239326	16237326
15 / 21,3	40,0	21,3	18,1	45,0	62,0	0,220	16238327	16239327	16237327
20 / 26,9	40,0	26,9	23,7	52,0	69,0	0,260	16238328	16239328	16237328
25 / 33,7	45,0	33,7	29,7	57,0	74,0	0,320	16238330	16239330	16237330
32 / 42,4	45,0	42,4	38,4	65,0	82,0	0,380	16238332	16239332	16237332
40 / 48,3	45,0	48,3	44,3	71,0	88,0	0,420	16238334	16239334	16237334
50 / 60,3	54,0	60,3	56,3	85,0	103,0	0,560	16238336	16239336	16237336
65 / 76,1	56,0	76,1	72,1	104,0	125,0	0,900	16238338	16239339	16237337
80 / 88,9	58,0	88,9	84,3	116,0	137,0	1,000	16238340	16239340	16237340
100 / 114,3	58,0	114,3	109,7	146,0	168,0	1,680	16238342	16239342	16237342

### FLANGE WITH COLLAR DIN 11864 A-2 SERIE C

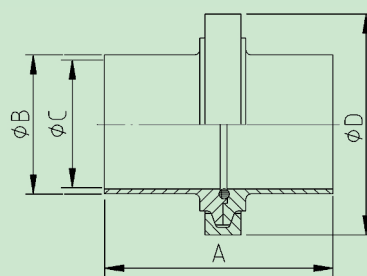
Inch	A	B	C	D	E	Kg	H3o 1.4404	H4o 1.4404	H5o 1.4435
0,5"	40,0	12,7	9,4	37,0	54,0	0,200	16238124	16239124	16237124
0,75"	40,0	19,05	15,75	42,0	59,0	0,240	16238125	16239125	16237125
1"	40,0	25,4	22,1	49,0	66,0	0,260	16238129	16239129	16237129
1,5"	45,0	38,1	34,8	62,0	79,0	0,340	16238133	16239133	16237133
2"	45,0	50,8	47,5	75,0	92,0	0,440	16238135	16239135	16237135
2,5"	54,0	63,5	60,2	89,0	107,0	0,560	16238137	16239137	16237137
3"	56,0	76,2	72,9	104,0	125,0	0,900	16238139	16239139	16237139
4"	58,0	101,6	97,4	135,0	157,0	1,480	16238143	16239143	16237143



### ASSEMBLY FLANGE CONNECTION DIN 11864-2-A

DN	DIN 933	DIN 934	C	D	E	Kg	304(L)
10 - 50	4 st. M8x30	4 st. M8				0,080	16238271
65	8 st. M8x30	8 st. M8				0,160	16238272
80	8 st. M10x30	8 st. M10				0,320	16238274
100	8 st. M10x40	8 st. M10				0,340	16238275
125	8 st. M10x40	8 st. M10				0,340	16238277
150	8 st. M12x40	8 st. M12				0,510	16238276





### CLAMP CONNECTION COMPLETE DIN 11864 A-3 SERIE A

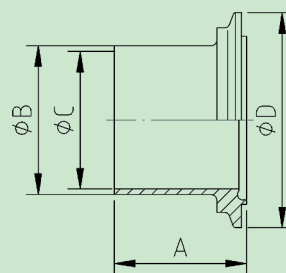
DN	A	B	C	D	E	Kg	H3o 1.4404/EPDM	H4o 1.4404/EPDM	H5o 1.4435/EPDM
10	76,0	13,0	10,0	43,0		0,296	16738401	16739401	16737401
15	76,0	19,0	16,0	43,0		0,296	16738402	16739402	16737402
20	76,0	23,0	20,0	57,0		0,476	16738403	16739403	16737403
25	77,0	29,0	26,0	57,0		0,462	16738405	16739405	16737405
32	88,0	35,0	32,0	57,0		0,462	16738407	16739407	16737407
40	88,0	41,0	38,0	73,0		0,623	16738409	16739409	16737409
50	89,0	53,0	50,0	89,0		0,783	16738411	16739411	16737411
65	113,0	70,0	66,0	99,0		1,085	16738413	16739413	16737413
80	117,0	85,0	81,0	118,0		1,416	16738415	16739415	16737415
100	120,0	104,0	100,0	145,0		2,047	16738417	16739417	16737417

### CLAMP CONNECTION COMPLETE DIN 11864 A-3 SERIE B

DN / ISO	A	B	C	D	E	Kg	H3o 1.4404/EPDM	H4o 1.4404/EPDM	H5o 1.4435/EPDM
8 / 13,5	76,0	13,5	10,3	43,0		0,296	16738600	16739600	16737600
10 / 17,2	76,0	17,2	14,0	43,0		0,296	16738601	16739601	16737601
15 / 21,3	78,0	21,3	18,1	43,0		0,276	16738602	16739602	16737602
20 / 26,9	78,0	26,9	23,7	57,0		0,542	16738603	16739603	16737603
25 / 33,7	88,0	33,7	29,7	57,0		0,505	16738605	16739605	16737605
32 / 42,4	88,0	42,4	38,4	73,0		0,706	16738607	16739607	16737607
40 / 48,3	90,0	48,3	44,3	73,0		0,706	16738609	16739609	16737609
50 / 60,3	114,0	60,3	56,3	99,0		1,288	16738611	16739611	16737611
65 / 76,1	117,0	76,1	72,1	118,0		1,585	16738613	16739613	16737613
80 / 88,9	122,0	88,9	84,3	127,0		1,956	16738615	16739615	16737615
100 / 114,3	130,0	114,3	109,7	155,0		2,528	16738617	16739617	16737617

### CLAMP CONNECTION COMPLETE DIN 11864 A-3 SERIE C

Inch	A	B	C	D	E	Kg	H3o 1.4404/EPDM	H4o 1.4404/EPDM	H5o 1.4435/EPDM
0,5"	76,0	12,70	9,40	43,0		0,296	16738399	16739399	16737399
0,75"	76,0	19,05	15,75	43,0		0,296	16738400	16739400	16737400
1"	77,0	25,4	22,1	57,0		0,501	16738404	16739404	16737404
1,5"	88,0	38,1	34,8	73,0		0,742	16738408	16739408	16737408
2"	89,0	50,8	47,5	89,0		0,844	16738410	16739410	16737410
2,5"	115,0	63,5	60,2	99,0		1,184	16738412	16739412	16737412
3"	117,0	76,2	72,9	118,0		1,506	16738414	16739414	16737414
4"	119,0	101,6	97,4	145,0		2,188	16738418	16739418	16737418



### CLAMPFERRULE WITH GROOVE DIN 11864 A-3 SERIE A

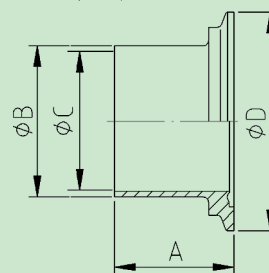
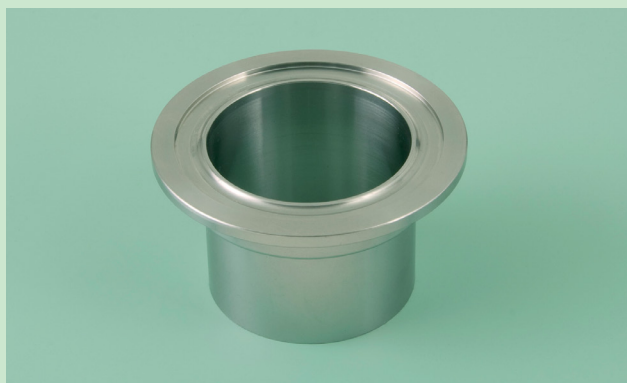
DN	A	B	C	D	E	Kg	H3 1.4404	H4 1.4404	H5 1.4435
10	39,5	13,0	10,0	34,0		0,060	16238401	16239401	16237401
15	39,5	19,0	16,0	34,0		0,060	16238402	16239402	16237402
20	39,5	23,0	20,0	50,5		0,160	16238403	16239403	16237403
25	40,0	29,0	26,0	50,5		0,120	16238405	16239405	16237405
32	45,5	35,0	32,0	50,5		0,120	16238407	16239407	16237407
40	45,5	41,0	38,0	64,0		0,200	16238409	16239409	16237409
50	46,0	53,0	50,0	77,5		0,240	16238411	16239411	16237411
65	58,0	70,0	66,0	91,0		0,380	16238413	16239413	16237413
80	60,0	85,0	81,0	106,0		0,500	16238415	16239415	16237415
100	61,5	104,0	100,0	130,0		0,740	16238417	16239417	16237417

### CLAMPFERRULE WITH GROOVE DIN 11864 A-3 SERIE B

DN / ISO	A	B	C	D	E	Kg	H3 1.4404	H4 1.4404	H5 1.4435
8 / 13,5	39,5	13,5	10,3	34,0		0,060	16238500	16239500	16237500
10 / 17,2	39,5	17,2	14,0	34,0		0,060	16238501	16239501	16237501
15 / 21,3	40,5	21,3	18,1	34,0		0,060	16238502	16239502	16237502
20 / 26,9	40,5	26,9	23,7	50,5		0,160	16238503	16239503	16237503
25 / 33,7	45,5	33,7	29,7	50,5		0,140	16238505	16239505	16237505
32 / 42,4	45,5	42,4	38,4	64,0		0,200	16238507	16239507	16237507
40 / 48,3	46,5	48,3	44,3	64,0		0,200	16238509	16239509	16237509
50 / 60,3	58,5	60,3	56,3	91,0		0,480	16238511	16239511	16237511
65 / 76,1	60,0	76,1	72,1	106,0		0,620	16238513	16239513	16237513
80 / 88,9	62,5	88,9	84,3	119,0		0,800	16238515	16239515	16237515
100 / 114,3	66,5	114,3	109,7	144,4		1,000	16238517	16239517	16237517

### CLAMPFERRULE WITH GROOVE DIN 11864 A-3 SERIE C

Inch	A	B	C	D	E	Kg	H3 1.4404	H4 1.4404	H5 1.4435
0,5"	39,5	12,7	9,4	34,0		0,060	16238399	16239399	16237399
0,75"	39,5	19,05	15,75	34,0		0,060	16238400	16239400	16237400
1"	40,0	25,4	22,1	50,5		0,140	16238404	16239404	16237404
1,5"	45,5	38,1	34,8	64,0		0,220	16238408	16239408	16237408
2"	46,0	50,8	47,5	77,5		0,260	16238410	16239410	16237410
2,5"	59,0	63,5	60,2	91,0		0,420	16238412	16239412	16237412
3"	60,0	76,2	72,9	106,0		0,580	16238414	16239414	16237414
4"	61,0	101,6	97,4	130,0		0,800	16238418	16239418	16237418



### CLAMPFERRULE WITH COLLAR DIN 11864 A-3 SERIE A

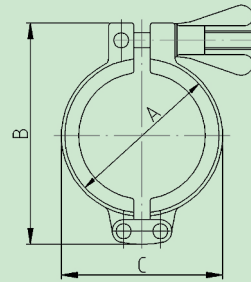
DN	A	B	C	D	E	Kg	H3 1.4404	H4 1.4404	H5 1.4435
10	38,0	13,0	10,0	34,0		0,060	16238426	16239426	16237426
15	38,0	19,0	16,0	34,0		0,060	16238427	16239427	16237427
20	38,0	23,0	20,0	50,5		0,140	16238428	16239428	16237428
25	38,5	29,0	26,0	50,5		0,120	16238430	16239430	16237430
32	44,0	35,0	32,0	50,5		0,120	16238432	16239432	16237432
40	44,0	41,0	38,0	64,0		0,200	16238434	16239434	16237434
50	44,5	53,0	50,0	77,5		0,240	16238436	16239436	16237436
65	56,5	70,0	66,0	91,0		0,360	16238438	16239438	16237438
80	58,5	85,0	81,0	106,0		0,480	16238440	16239440	16237440
100	60,0	104,0	100,0	130,0		0,720	16238442	16239442	16237442

### CLAMPFERRULE WITH COLLAR DIN 11864 A-3 SERIE B

DN / ISO	A	B	C	D	E	Kg	H3 1.4404	H4 1.4404	H5 1.4435
8 / 13,5	38,0	13,5	10,3	34,0		0,060	16238525	16239525	16237525
10 / 17,2	38,0	17,2	14,0	34,0		0,060	16238526	16239526	16237526
15 / 21,3	39,0	21,3	18,1	34,0		0,040	16238527	16239527	16237527
20 / 26,9	39,0	26,9	23,7	50,5		0,160	16238528	16239528	16237528
25 / 33,7	44,0	33,7	29,7	50,5		0,140	16238530	16239530	16237530
32 / 42,4	44,0	42,4	38,4	64,0		0,200	16238532	16239532	16237532
40 / 48,3	45,0	48,3	44,3	64,0		0,200	16238534	16239534	16237534
50 / 60,3	57,0	60,3	56,3	91,0		0,480	16238536	16239536	16237536
65 / 76,1	58,5	76,1	72,1	106,0		0,620	16238538	16239538	16237538
80 / 88,9	61,0	88,9	84,3	119,0		0,780	16238540	16239540	16237540
100 / 114,3	65,0	114,3	109,7	144,4		1,000	16238542	16239542	16237542

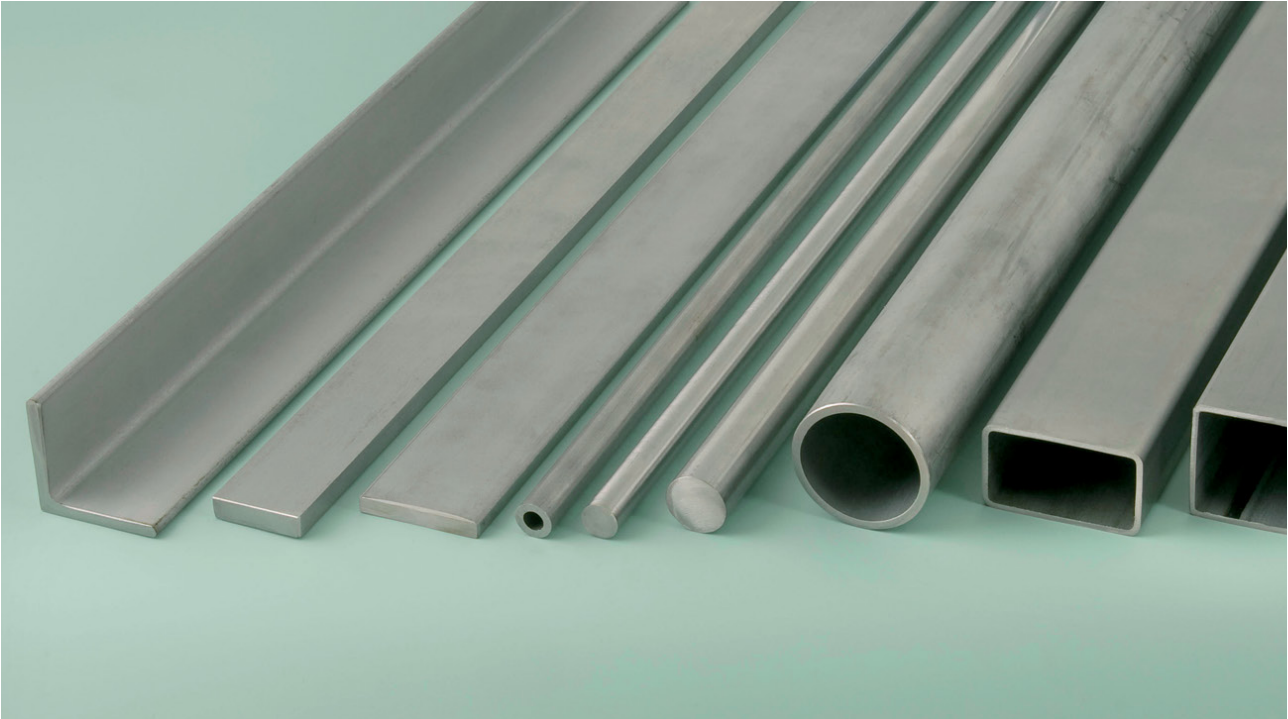
### CLAMPFERRULE WITH COLLAR DIN 11864 A-3 SERIE C

Inch	A	B	C	D	E	Kg	H3 1.4404	H4 1.4404	H5 1.4435
0,5"	38,0	12,7	9,4	34,0		0,060	16238424	16239424	16237424
0,75"	38,0	19,05	15,75	34,0		0,060	16238425	16239425	16237425
1"	38,5	25,4	22,1	50,5		0,140	16238429	16239429	16237429
1,5"	44,0	38,1	34,8	64,0		0,220	16238433	16239433	16237433
2"	44,5	50,8	47,5	77,5		0,260	16238435	16239435	16237435
2,5"	57,5	63,5	60,2	91,0		0,420	16238437	16239437	16237437
3"	58,5	76,2	72,9	106,0		0,580	16238439	16239439	16237439
4"	59,5	101,6	97,4	130,0		0,800	16238443	16239443	16237443



### CLAMP HEAVY DIN 11864/11853

DN / Inch / ISO	A	B	C	D	E	Kg	304
10-15 / 0,5"-0,75" / 13,5-21,3	37,0	70,0	43,0			0,175	18134501
20-32 / 1" / 26,9-33,7	53,0	90,0	57,0			0,220	18134504
40 / 1,5" / 42,4-48,3	67,0	106,0	73,0			0,300	18134510
50 / 2"	80,0	120,0	89,0			0,320	18134512
65 / 2,5" / 60,3	94,0	135,0	99,0			0,340	18134514
80 / 3" / 76,1	109,0	149,0	118,0			0,430	18134515
88,9	122,0	162,0	127,0			0,370	18134518
100 / 4"	134,0	180,0	145,0			0,580	18134518ISO
114,3	149,0	210,0	160,0			0,520	18134518DIN



## Mill products

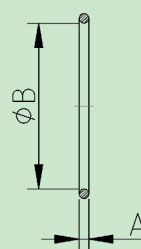
On places where tube components are processed, the use of mill products for construction is inevitable. Some examples for this are the tube bridge, the plateau around a tank, or the frame for a skid. SKS provides a range of this kind of products to also fulfil the demand for it. The biggest part of this range is deliverable from stock.

### **The SKS range of mill products are**

- Square tube
- Rectangular tube
- Flat bar warm rolled (variable lengths between the 3.5 and 5 meter)
- Slit flat bar (lengths of 4 meter)
- Round bar tol H9
- Round bar descaled
- Equal angle material (lengths of 6 meter)
- Cold rolled plate (sizes 2000x1000 mm)
- Perforated plate (sizes 2000x1000 mm)
- Warm rolled square bar (lengths between 3.5 and 5 meter)
- Warm rolled hexagonal bar (lengths between 3.5 and 5 meter)

However it is hardly asked, these materials can be delivered with a 3.1 certificate. For complete review of this product range we refer to the brochures of the industrial installation materials (EN DIN of ANSI ASTM).





### GASKET O-RING DIN 11864-A SERIE A

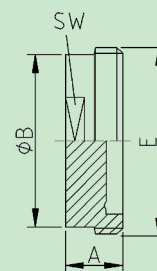
DN	A	B	C	D	E	Kg	EPDM	HNBR	FKM / Viton	MVQ / Silicone
10	3,5	12,0				0,001	16400576	16400701	16400551	16400526
15	3,5	18,0				0,001	16400577	16400702	16400552	16400527
20	3,5	22,0				0,001	16400578	16400703	16400553	16400528
25	3,5	28,0				0,001	16400580	16400705	16400555	16400530
32	5,0	34,0				0,002	16400582	16400707	16400557	16400532
40	5,0	40,0				0,003	16400584	16400709	16400559	16400534
50	5,0	52,0				0,003	16400586	16400711	16400561	16400536
65	5,0	68,0				0,005	16400588	16400713	16400563	16400538
80	5,0	83,0				0,006	16400590	16400715	16400565	16400540
100	5,0	102,0				0,007	16400592	16400717	16400567	16400542
125	5,0	127,0				0,009	16400594	16400719	16400569	16400544
150	5,0	152,0				0,010	16400595	16400720	16400570	16400545

### GASKET O-RING DIN 11864-A SERIE B

DN / ISO	A	B	C	D	E	Kg	EPDM	HNBR	FKM / Viton	MVQ / Silicone
8 / 13,5	3,5	12,0				0,001	16400576	16400701	16400551	16400526
10 / 17,2	3,5	16,0				0,001	16400502	16400721	16400451	16400476
15 / 21,3	3,5	20,0				0,001	16400503	16400722	16400452	16400477
20 / 26,9	3,5	26,0				0,001	16400504	16400723	16400453	16400478
25 / 33,7	5,0	32,0				0,002	16400505	16400724	16400454	16400479
32 / 42,4	5,0	40,5				0,003	16400506	16400725	16400455	16400480
40 / 48,3	5,0	46,5				0,003	16400507	16400726	16400456	16400481
50 / 60,3	5,0	58,5				0,004	16400508	16400727	16400457	16400482
65 / 76,1	5,0	73,5				0,005	16400509	16400728	16400458	16400483
80 / 88,9	5,0	86,5				0,006	16400510	16400729	16400459	16400484
100 / 114,3	5,0	111,0				0,008	16400511	16400730	16400460	16400485

### GASKET O-RING DIN 11864-A SERIE C

Inch	A	B	C	D	E	Kg	EPDM	HNBR	FKM / Viton	MVQ / Silicone
0,5"	3,5	12,0				0,001	16400576	16400701	16400551	16400526
0,75"	3,5	18,0				0,001	16400577	16400702	16400552	16400527
1"	3,5	24,0				0,001	16400579	16400704	16400554	16400529
1,5"	5,0	37,0				0,002	16400583	16400708	16400557	16400533
2"	5,0	50,0				0,003	16400585	16400710	16400559	16400535
2,5"	5,0	62,0				0,004	16400587	16400712	16400561	16400537
3"	5,0	75,0				0,006	16400589	16400714	16400563	16400539
4"	5,0	100,0				0,008	16400593	16400716	16400567	16400543

**BLIND MALEPART DIN 11853 SERIE A**

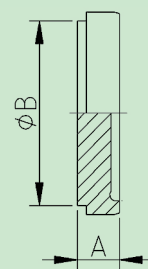
DN	A	B	SW	D	E	Kg	316L
10	24,0	23,0	19		Rd28x1/8"	0,090	16136001
15	24,0	28,0	24		Rd34x1/8"	0,160	16136002
20	24,0	34,0	30		Rd44x1/6"	0,160	16136003
25	24,0	44,0	41		Rd52x1/6"	0,260	16136005
32	24,0	53,0	46		Rd58x1/6"	0,340	16136007
40	24,0	60,0	50		Rd65x1/6"	0,420	16136009
50	24,0	72,0	65		Rd78x1/6"	0,640	16136011
65	28,0	87,0	80		Rd95x1/6"	1,080	16136013
80	28,0	100,0	95		Rd110x1/4"	1,420	16136015
100	30,0	120,0	115		Rd130x1/4"	2,220	16136017

**BLIND MALEPART DIN 11864 A-1 SERIE B**

DN / ISO	A	B	SW	D	E	Kg	H4 1.4435
8 / 13,5	24,0	23,0	19		Rd28x1/8"	0,090	16137200
10 / 17,2	24,0	28,0	24		Rd34x1/8"	0,160	16137201
15 / 21,3	24,0	34,0	30		Rd44x1/6"	0,160	16137202
20 / 26,9	24,0	44,0	41		Rd52x1/6"	0,260	16137203
25 / 33,7	24,0	53,0	46		Rd58x1/6"	0,340	16137205
32 / 42,4	24,0	60,0	50		Rd65x1/6"	0,420	16137207
40 / 48,3	24,0	72,0	65		Rd78x1/6"	0,640	16137209
50 / 60,3	28,0	87,0	80		Rd95x1/6"	1,080	16137211
65 / 76,1	28,0	100,0	95		Rd110x1/4"	1,420	16137213
80 / 88,9	30,0	120,0	115		Rd130x1/4"	2,220	16137215
100 / 114,3	38,0	150,0	145		Rd160x1/4"	3,050	16137217

**BLIND MALEPART DIN 11864 A-1 SERIE C**

Inch	A	B	SW	D	E	Kg	H4 1.4435
0,5"	24,0	23,0	19		Rd28x1/8"	0,090	16136999
0,75"	24,0	28,0	24		Rd34x1/8"	0,160	16137000
1"	24,0	44,0	41		Rd52x1/6"	0,260	16137003
1,5"	24,0	60,0	50		Rd65x1/6"	0,420	16137008
2"	24,0	72,0	65		Rd78x1/6"	0,640	16137010
2,5"	28,0	87,0	80		Rd95x1/6"	1,080	16137012
3"	28,0	100,0	95		Rd110x1/4"	1,420	16137014
4"	30,0	120,0	115		Rd130x1/4"	2,040	16137018

**BLIND LINER DIN 11853 SERIE A**

DN	A	B	C	D	E	Kg	316L
10	9,0	18,0				0,019	16136026
15	9,0	24,0				0,030	16136027
20	10,0	30,0				0,040	16136028
25	12,0	35,0				0,120	16136030
32	13,0	41,0				0,140	16136032
40	13,0	48,0				0,180	16136034
50	14,0	61,0				0,300	16136036
65	16,0	79,0				0,560	16136038
80	16,0	93,0				0,760	16136040
100	20,0	114,0				1,480	16136042

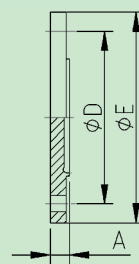
**BLIND LINER DIN 11864 A-1 SERIE B**

DN / ISO	A	B	C	D	E	Kg	H4 1.4435
8 / 13,5	9,0	18,0				0,020	16137222
10 / 17,2	9,0	24,0				0,030	16137224
15 / 21,3	10,0	30,0				0,040	16137226
20 / 26,9	12,0	35,0				0,120	16137228
25 / 33,7	13,0	41,0				0,140	16137230
32 / 42,4	13,0	48,0				0,180	16137232
40 / 48,3	14,0	61,0				0,320	16137234
50 / 60,3	16,0	79,0				0,600	16137236
65 / 76,1	16,0	93,0				0,800	16137238
80 / 88,9	20,0	114,0				1,530	16137240
100 / 114,3	22,0	137,0				2,040	16137242

**BLIND LINER DIN 11864 A-1 SERIE C**

Inch	A	B	C	D	E	Kg	H4 1.4435
0,5"	9,0	18,0				0,020	16137024
0,75"	9,0	24,0				0,030	16137025
1"	12,0	35,0				0,120	16137029
1,5"	13,0	48,0				0,180	16137033
2"	14,0	61,0				0,300	16137035
2,5"	16,0	79,0				0,560	16137037
3"	16,0	93,0				0,800	16137039
4"	20,0	114,0				1,480	16137043





### BLINDFLANGE WITH GROOVE DIN 11853 SERIE A

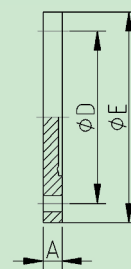
DN	A	B	C	D	E	Kg	316L
10	11,5			37,0	54,0	0,100	16136101
15	11,5			42,0	59,0	0,200	16136102
20	11,5			47,0	64,0	0,200	16136103
25	11,5			53,0	70,0	0,260	16136105
32	11,5			59,0	76,0	0,320	16136107
40	11,5			65,0	82,0	0,480	16136109
50	11,5			77,0	94,0	0,480	16136111
65	11,5			95,0	113,0	0,680	16136113
80	13,5			112,0	133,0	1,160	16136115
100	15,5			137,0	159,0	2,060	16136117
125	15,5			161,0	183,0	3,060	16136119
150	17,5			188,0	213,0	4,060	16136120

### BLINDFLANGE WITH GROOVE DIN 11864 A-2 SERIE B

DN / ISO	A	B	C	D	E	Kg	H4 1.4435
8 / 13,5	11,5			37,0	54,0	0,100	16137300
10 / 17,2	11,5			42,0	59,0	0,200	16137301
15 / 21,3	11,5			45,0	62,0	0,260	16137302
20 / 26,9	11,5			52,0	69,0	0,200	16137303
25 / 33,7	11,5			57,0	74,0	0,300	16137305
32 / 42,4	11,5			65,0	82,0	0,360	16137307
40 / 48,3	11,5			71,0	88,0	0,420	16137309
50 / 60,3	11,5			85,0	103,0	0,580	16137311
65 / 76,1	13,5			104,0	125,0	1,000	16137313
80 / 88,9	13,5			116,0	137,0	1,300	16137315
100 / 114,3	15,5			146,0	168,0	2,340	16137317

### BLINDFLANGE WITH GROOVE DIN 11864 A-2 SERIE C

Inch	A	B	C	D	E	Kg	H4 1.4435
0,5"	11,5			37,0	54,0	0,100	16137102
0,75"	11,5			42,0	59,0	0,200	16137103
1"	11,5			49,0	66,0	0,260	16137104
1,5"	11,5			62,0	79,0	0,200	16137108
2"	11,5			75,0	92,0	0,460	16137110
2,5"	11,5			89,0	107,0	0,560	16137112
3"	13,5			104,0	125,0	0,900	16137114
4"	15,5			135,0	157,0	1,940	16137118



### BLINDFLANGE WITH COLLAR DIN 11853 SERIE A

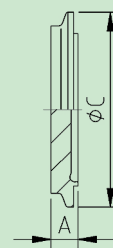
DN	A	B	C	D	E	Kg	316L
10	10,0			37,0	54,0	0,100	16137126
15	10,0			42,0	59,0	0,180	16137127
20	10,0			47,0	64,0	0,140	16137128
25	10,0			53,0	70,0	0,280	16137130
32	10,0			59,0	76,0	0,300	16137132
40	10,0			65,0	82,0	0,360	16137134
50	10,0			77,0	94,0	0,500	16137136
65	10,0			95,0	113,0	0,720	16137138
80	12,0			112,0	133,0	1,200	16137140
100	14,0			137,0	159,0	2,060	16137142
125	14,0			161,0	183,0	3,060	16137144
150	16,0			188,0	213,0	4,060	16137145

### BLINDFLANGE WITH COLLAR DIN 11864 A-2 SERIE B

DN / ISO	A	B	C	D	E	Kg	H4 1.4435
8 / 13,5	10,0			37,0	54,0	0,100	16137325
10 / 17,2	10,0			42,0	59,0	0,180	16137326
15 / 21,3	10,0			45,0	62,0	0,220	16137327
20 / 26,9	10,0			52,0	69,0	0,240	16137328
25 / 33,7	10,0			57,0	74,0	0,310	16137330
32 / 42,4	10,0			65,0	82,0	0,360	16137332
40 / 48,3	10,0			71,0	88,0	0,440	16137334
50 / 60,3	10,0			85,0	103,0	0,600	16137336
65 / 76,1	10,0			104,0	125,0	1,000	16137338
80 / 88,9	12,0			116,0	137,0	1,300	16137340
100 / 114,3	14,0			146,0	168,0	2,340	16137342

### BLINDFLANGE WITH COLLAR DIN 11864 A-2 SERIE C

Inch	A	B	C	D	E	Kg	H4 1.4435
0,5"	10,0			37,0	54,0	0,100	16137124
0,75"	10,0			42,0	59,0	0,180	16137125
1"	10,0			49,0	66,0	0,240	16137131
1,5"	10,0			62,0	79,0	0,340	16137133
2"	10,0			75,0	92,0	0,480	16137135
2,5"	10,0			89,0	107,0	0,640	16137137
3"	12,0			104,0	125,0	1,040	16137139
4"	14,0			135,0	157,0	2,020	16137143



### BLINDFERRULE WITH GROOVE DIN 11864 A-3 SERIE A

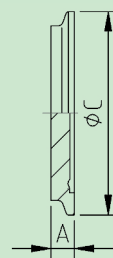
DN	A	B	C	D	E	Kg	H4 1.4435
10	13,0		34,0			0,060	16137398
15	13,0		34,0			0,060	16137399
20	13,0		50,5			0,160	16137403
25	13,0		50,5			0,160	16137405
32	13,0		50,5			0,160	16137407
40	13,0		64,0			0,260	16137409
50	15,0		77,5			0,360	16137411
65	15,0		91,0			0,620	16137413
80	15,0		106,0			0,900	16137415
100	15,0		130,0			1,640	16137417

### BLINDFERRULE WITH GROOVE DIN 11864 A-3 SERIE B

DN / ISO	A	B	C	D	E	Kg	H4 1.4435
8 / 13,5	13,0		34,0			0,060	16137525
10 / 17,2	13,0		34,0			0,060	16137526
15 / 21,3	13,0		34,0			0,060	16137527
20 / 26,9	13,0		50,5			0,160	16137528
25 / 33,7	13,0		50,5			0,160	16137529
32 / 42,4	13,0		64,0			0,260	16137532
40 / 48,3	13,0		64,0			0,260	16137534
50 / 60,3	15,0		91,0			0,640	16137536
65 / 76,1	15,0		106,0			1,020	16137538
80 / 88,9	15,0		119,0			1,510	16137540
100 / 114,3	15,0		144,4			2,060	16137542

### BLINDFERRULE WITH GROOVE DIN 11864 A-3 SERIE C

Inch	A	B	C	D	E	Kg	H4 1.4435
0,5"	13,0		34,0			0,060	16137401
0,75"	13,0		34,0			0,060	16137402
1"	13,0		50,5			0,160	16137404
1,5"	13,0		64,0			0,260	16137408
2"	15,0		77,5			0,360	16137410
2,5"	15,0		91,0			0,400	16137412
3"	15,0		106,0			0,580	16137414
4"	15,0		130,0			0,900	16137418



### BLINDFERRULE WITH COLLAR DIN 11864 A-3 SERIE A

DN	A	B	C	D	E	Kg	H4 1.4435
10	11,5		34,0			0,060	16137426
15	11,5		34,0			0,060	16137427
20	11,5		50,5			0,180	16137428
25	11,5		50,5			0,160	16137430
32	11,5		50,5			0,160	16137432
40	11,5		64,0			0,300	16137434
50	13,5		77,5			0,420	16137436
65	13,5		91,0			0,620	16137438
80	13,5		106,0			0,900	16137440
100	13,5		130,0			1,640	16137442

### BLINDFERRULE WITH COLLAR DIN 11864 A-3 SERIE B

DN / ISO	A	B	C	D	E	Kg	H4 1.4435
8 / 13,5	11,5		34,0			0,060	16137500
10 / 17,2	11,5		34,0			0,060	16137501
15 / 21,3	11,5		34,0			0,060	16137502
20 / 26,9	11,5		50,5			0,120	16137503
25 / 33,7	11,5		50,5			0,120	16137505
32 / 42,4	11,5		64,0			0,280	16137507
40 / 48,3	11,5		64,0			0,300	16137509
50 / 60,3	13,5		91,0			0,640	16137511
65 / 76,1	13,5		106,0			1,020	16137513
80 / 88,9	13,5		119,0			1,020	16137515
100 / 114,3	13,5		144,4			1,720	16137517

### BLINDFERRULE WITH COLLAR DIN 11864 A-3 SERIE C

Inch	A	B	C	D	E	Kg	H4 1.4435
0,5"	11,5		34,0			0,060	16137424
0,75"	11,5		34,0			0,060	16137425
1"	11,5		50,5			0,160	16137429
1,5"	11,5		64,0			0,260	16137431
2"	13,5		77,5			0,360	16137433
2,5"	13,5		91,0			0,620	16137435
3"	13,5		106,0			0,900	16137439
4"	13,5		130,0			1,640	16137441