

Butt Weld Tube Ends

SED offers tube end outside diameter and wall thickness dimensions in accordance to the several international standards. These standards and dimensions are listed in the below table.

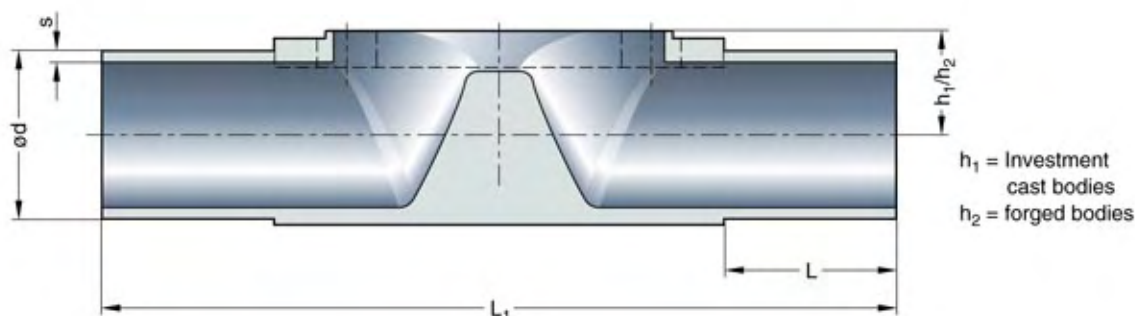
In order to install a proper aseptic process piping system, it is important that the correct and consistent international tube end standards be followed throughout the aseptic process piping system. If the connecting tube ends are not identical and of the same diameter standard, there may

result a reduction or step in the process piping system or the ability of self draining ends is not guaranteed.

The most common standard connection is the butt-welding of the tube endings without any additional material. Examples of butt welding include automatic and orbital welding.

Besides the standard any customer-specified connection type is possible.

Some examples are displayed on the following pages.



Butt weld Tube End Standard				ISO 1127	DIN 11850			DIN	ASTM 269	BS O.D.	SMS	JIS G
Code	40	41	42	43	39	45	94	49	97			
DN	NPS	MA	L (min)	L ₁	h ₁	h ₂	ød x s	ød x s	ød x s	ød x s	ød x s	ød x s

Valve Type Manually Operated 290 / 297

Valve Type Pneumatically Operated 190 / 207

4	-	8	20	72	9	9	-	-	-	6x1,0	-	-	-	-	-	
6	-	8	20	72	9	9	-	-	-	8x1,0	-	-	-	-	-	
8	1/4"	8	20	72	9	9	13,5x1,6	-	-	10x1,0	6,35	0,89	1,20	-	-	
10	3/8"	8	20	72	9	9	-	12x1,0	13x1,5	14x2,0	12x1,5	9,53	0,89	1,20	-	-
15	1/2"	8	20	72	9	9	-	-	-	-	12,70	1,65	1,20	-	-	

Valve Type Manually Operated 289 / 295 / 397

Valve Type Pneumatically Operated 188 / 195 / 307

8	1/4"	10	25	108	12	12	13,5x1,6	-	-	-	-	-	-	-	-	
10	3/8"	10	25	108	12	12	17,2x1,6	12x1,0	13x1,5	14x2,0	12x1,5	9,53	0,89	1,20	-	-
15	1/2"	10	25	108	12	12	21,3x1,6	18x1,0	19x1,5	20x2,0	18x1,5	12,70	1,65	1,20	-	-
20	3/4"	10	25	108	12	12	-	22x1,0	¹⁾ 23x1,5	-	22x1,5	19,05	1,65	1,20	-	-

Valve Type Manually Operated 985 / 995 / 997

Valve Type Pneumatically Operated 385 / 402 / 407 / 495

15	1/2"	25	25	120	13	16	21,3x1,6	18x1,0	19x1,5	20x2,0	18x1,5	12,70	-	1,20	-	-
20	3/4"	25	25	120	16	16	26,9x1,6	22x1,0	23x1,5	24x2,0	22x1,5	19,05	1,65	1,20	-	-
25	1"	25	25	120	19	19	33,7x2,0	28x1,0	29x1,5	30x2,0	28x1,5	25,40	1,65	1,60	25,0x1,2	25,4x1,2
32	1 1/4"	40	25	153	24	26	42,4x2,0	34x1,0	35x1,5	36x2,0	34x1,5	31,75	1,65	1,60	33,7x1,2	31,8x1,2
40	1 1/2"	40	25	153	24	26	48,3x2,0	40x1,0	41x1,5	42x2,0	40x1,5	38,10	1,65	1,60	38,0x1,2	38,1x1,2
50	2"	50	30	173	32	32	60,3x2,0	52x1,0	53x1,5	54x2,0	52x1,5	50,80	1,65	1,60	51,0x1,2	50,8x1,5
65	2 1/2"	80	30	216	47	47	76,1x2,0	-	²⁾ 70x2,0	-	-	²⁾ 63,50	1,65	1,60	²⁾ 63,5x1,6	63,5x2,0
80	3"	80	30	254	47	47	88,9x2,3	-	85x2,0	-	-	76,20	1,65	1,60	76,1x1,6	76,3x2,0
100	4"	100	30	305	61	58	114,3x2,3	-	104x2,0	-	-	101,60	2,11	2,00	101,6x2,0	101,6x2,0

Sizes in mm; MA = Diaphragm size

¹⁾Investment cast body only

²⁾Forged body only

Aseptic Connections

Clamps

The clamp connection is the most popular connection for easy assembly and breakdown of process lines and valves. The clamp end connection is designed for a face-to-face joint that is leak proof and free of crevices.

The clamp end has a machined beveled seat and is used with specifically formed sealing gaskets made of EPDM or PTFE.

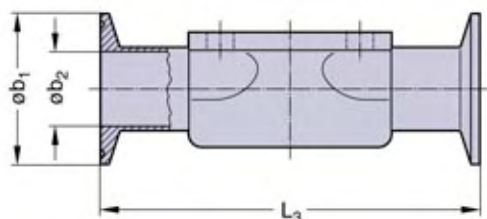
The gasket is inserted between the opposing clamp ends and is compressed tight with a wing nut quick disconnect clamp.

In general, the valve clamp ends are welded to the valve butt weld ends and polished according to the specified interior valve body surface finish.

The welded clamp ends are 100% visually inspected and compression tested. The clamp connections are available for all current pipe standard diameters.

If the connecting clamp ends are not identical and of the same diameter standard, there may result a reduction or step in the process piping system or the ability of self draining ends is not guaranteed.

If assembled correctly, the clamp end process system offers a smooth, crevice-free, self-aligning joint that reduce the hazards of contamination but minimize turbulence and pressure drop through the system.



Dimensions inch

Clamp End Ident. Tube End Ident.			ASME BPE ASME BPE Code 645			ASME BPE ASME BPE Code 545		
DN	NPS	MA	L ₃	b ₂	b ₁	L ₃	b ₂	b ₁
8	1/4"	8	-	-	-	2,5	0,18	1
10	3/8"	8	-	-	-	2,5	0,31	1
15	1/2"	8	4,25	0,37	1	2,5	0,37	1
10	3/8"	10	-	-	-	-	-	-
15	1/2"	10	4,25	0,37	1	3,5	0,37	1
20	3/4"	10	4,60	0,62	1	4,0	0,62	1
15	1/2"	25	4,25	0,37	1	4,0	0,37	1
20	3/4"	25	4,60	0,62	1	4,0	0,62	1
25	1"	25	5,00	0,87	2	4,5	0,87	2
32	1 1/4"	40	-	-	-	-	-	-
40	1 1/2"	40	6,25	1,37	2	5,5	1,37	2
50	2"	50	7,50	1,87	2,5	6,25	1,87	2,5
65	2 1/2"	80	8,50	2,37	3	7,65	2,37	3
80	3"	80	10,00	2,87	3,5	8,75	2,87	3,5
100	4"	100	12,00	3,83	4,5	11,5	3,83	4,5

Dimensions mm

Clamp End Ident. Tube End Ident.			Similar ISO 2852 ISO 1127 Code 640			DIN 32676 DIN 11850 Code 642			ASME BPE ASME BPE Code 645			ASME BPE ASME BPE Code 545			SMS 3017 SMS 3008 Code 649		
Design			DIN EN 558-1			DIN EN 558-1			DIN EN 558-1			short design			DIN EN 558-1		
DN	NPS	MA	L ₃	b ₂	b ₁	L ₃	b ₂	b ₁	L ₃	b ₂	b ₁	L ₃	b ₂	b ₁	L ₃	b ₂	b ₁
8	1/4"	8	63,5	10,3	25,4	-	-	-	-	-	-	63,5	4,57	25,0	-	-	-
10	3/8"	8	-	-	-	*89,0	10,0	34,0	-	-	-	63,5	7,75	25,0	-	-	-
15	1/2"	8	-	-	-	-	-	-	*89,0	9,40	25,0	63,5	9,40	25,0	-	-	-
10	3/8"	10	108	14,0	25,4	108,0	10,0	34,0	-	-	-	-	-	-	-	-	-
15	1/2"	10	108	18,1	50,5	108,0	16,0	34,0	108,0	9,40	25,0	89,0	9,40	25,0	-	-	-
20	3/4"	10	-	-	-	-	-	-	117,0	15,75	25,0	101,6	15,75	25,0	-	-	-
15	1/2"	25	108	18,1	50,5	108,0	16,0	34,0	108,0	9,40	25,0	101,6	9,40	25,0	-	-	-
20	3/4"	25	117	23,7	50,5	117,0	20,0	34,0	117,0	15,75	25,0	101,6	15,75	25,0	-	-	-
25	1"	25	127	29,7	50,5	127,0	26,0	50,5	127,0	22,10	50,5	114,3	22,10	50,5	127,0	22,6	50,5
32	1 1/4"	40	146	38,4	64,0	146,0	32,0	50,5	-	-	-	-	-	-	146,0	31,3	50,5
40	1 1/2"	40	159	44,3	64,0	159,0	38,0	50,5	159,0	34,80	50,5	139,7	34,80	50,5	159,0	35,6	50,5
50	2"	50	190	56,3	77,5	190,0	50,0	64,0	190,0	47,50	64,0	158,75	47,50	64,0	190,0	48,6	64,0
65	2 1/2"	80	216	72,1	91,0	216,0	66,0	91,0	216,0	60,20	77,5	193,68	60,20	77,5	216,0	60,3	77,5
80	3"	80	254	84,3	106,0	254,0	81,0	106,0	254,0	72,90	91,0	222,25	72,90	91,0	254,0	72,9	91,0
100	4"	100	305	109,7	130,0	305,0	100,0	119,0	305,0	97,38	119,0	292,1	97,38	119,0	305,0	97,6	119,0

*Length differing from standard; other lengths on request

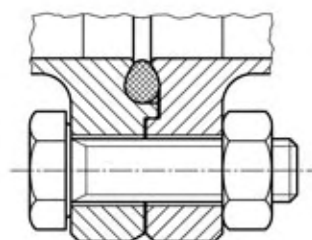
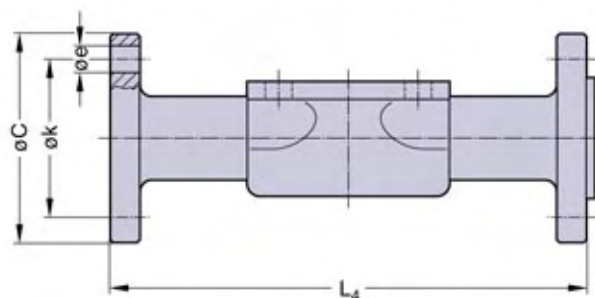
Aseptic Connections

Aseptic Flanges

Aseptic flanges according to DIN 11864-2 Form A are connections with a partly open o-ring for optimized cleaning features and a reduced dead leg. The round flange and the groove flange are welded with the pipe ends and the weld seam is polished according to the specified interior valve body surface finish.



The connections are available for the current pipe standards within the aseptic application. The round flange and the groove flange are welded orbital with the pipe ends and the weld seam is polished mechanically according to the valve body.



DIN 11864-2-A						
Code 3.. (mm)						
DN	NPS	MA	L_4	C	k	e
15	1/2"	25	130	59	42	$\phi 9$
20	3/4"	25	150	64	47	$\phi 9$
25	1"	25	160	70	53	$\phi 9$
32	1 1/4"	40	180	76	59	$\phi 9$
40	1 1/2"	40	200	82	65	$\phi 9$
50	2"	50	230	94	77	$\phi 9$
65	2 1/2"	80	290	113	95	$\phi 9$
80	3"	80	310	133	112	$\phi 11$
100	4"	100	350	159	137	$\phi 11$

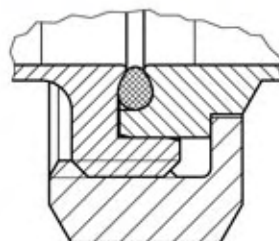
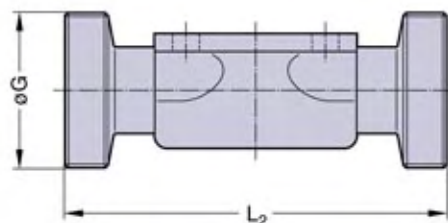
Aseptic Threads

Threaded spigot, liner and the interjacent seal are compressed with a spigot nut.

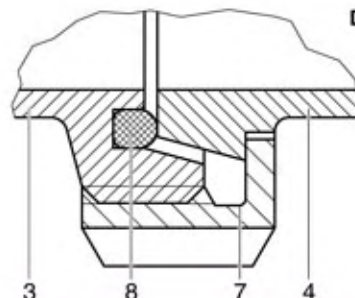
- Milk-threaded ends DIN 11851 with form sealing
- Aseptic connection according to DIN 11864-1 A with partly open o-ring for optimized cleaning features and a reduced dead leg. The threaded spigot, the liner and the interjacent o-ring are compressed against a metallic block with a spigot nut.

The connections are available for the current pipe standards within the aseptic application.

The threaded spigot and liner are welded with the pipe ends and the weld seam is polished according to the specified interior valve surface finish.



DIN 11864-1-A



DIN 11851

L in mm			DIN 11851		DIN 11864-1-A	
			Code 8..		Code 4..	
DN	NPS	MA	L_2	G	L_2	G
4	-	8	-	-	-	-
6	-	8	-	-	-	-
8	1/4"	8	-	-	-	-
10	3/8"	8	92	Rd 28 x 1/8	92	Rd 28 x 1/8
15	1/2"	8	-	-	-	-
8	1/4"	10	-	-	-	-
10	3/8"	10	118	Rd 28 x 1/8	118	Rd 28 x 1/8
15	1/2"	10	118	Rd 34 x 1/8	118	Rd 34 x 1/8
20	3/4"	10	-	-	-	-
15	1/2"	25	118	Rd 34 x 1/8	120	Rd 34 x 1/8
20	3/4"	25	118	Rd 44 x 1/6	144	Rd 44 x 1/8
25	1"	25	128	Rd 52 x 1/6	164	Rd 52 x 1/6
32	1 1/4"	40	147	Rd 58 x 1/6	192	Rd 58 x 1/6
40	1 1/2"	40	160	Rd 65 x 1/6	214	Rd 65 x 1/6
50	2"	50	191	Rd 78 x 1/6	244	Rd 78 x 1/6
65	2 1/2"	80	246	Rd 95 x 1/6	314	Rd 95 x 1/6
80	3"	80	256	Rd 110 x 1/4	342	Rd 110 x 1/4
100	4"	100	-	-	-	Rd 130 x 1/4