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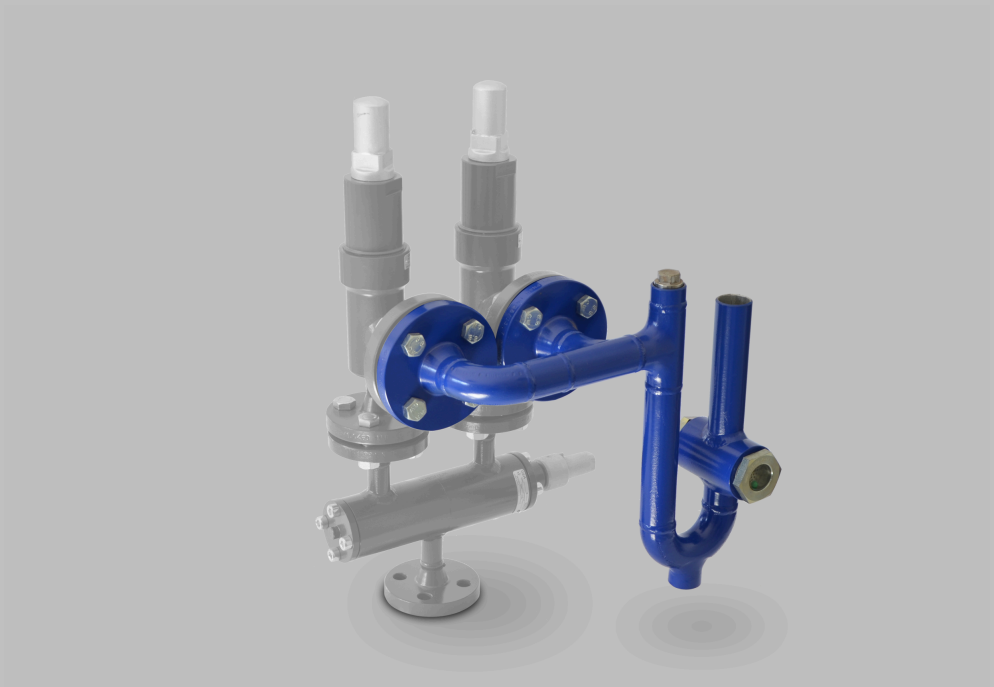
INDICATORS FOR HEATING TECHNOLOGIES

SGL, DA

05.02.2026



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HT: Temperature up to +200°C
SGL: Sight glass

SGL	Connection	Form	Material	Valve type
SGL	Materials			
SGL PS25 / PS40 PS63	Welding end		St	SGL AE
			NIRO	SGL AE NIRO
	Screwed End		St	SGL SE
			NIRO	SGL SE NIRO

DA: Flow indicator

DA	Connection	Form	Material	Valve type
DA	Materials			
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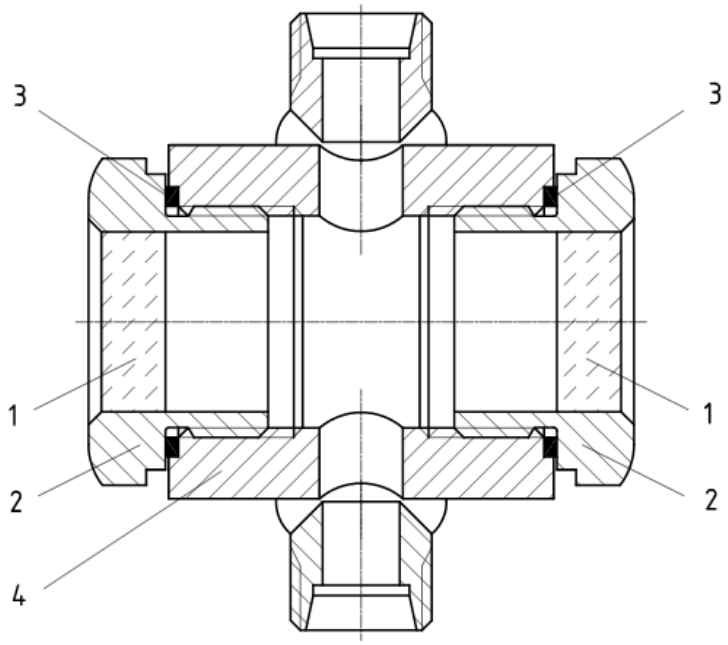
St = steel SS = stainless steel

2 SGL materials

Designation and materials

SGL HT - sight glass

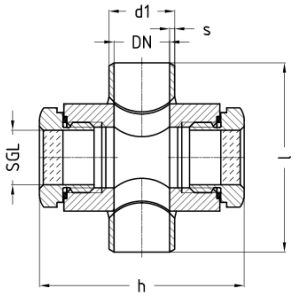


	Part	Material for steel valves	Material for stainless steel valves
1	Glass	Soda-lime glass	Soda-lime glass
2	Screw-in fitting	S235JR 1.0038	X5CrNi18-10 1.4301
3	Flat gasket	AL	AL
4	Body	S355J2 1.0577 P355N 1.0562	X5CrNi18-10 1.4301

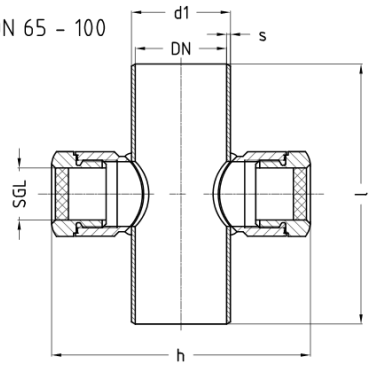
3 SGL AE HT

AE: Welding ends, **HT:**Temperature up to +200°C
SGL steel sight glass for natural gases and liquids (e.g. NH3, CO2) and non-corrosive media according to EN 378-1

DN 10 – 50



DN 65 – 100



Pressure / temperature operating limits:
PS: Max. permissible operating pressure in bar
TS: Permissible operating temperature in °C associated with the permissible operating pressures (PS)
PN: Nominal pressure rating

DN / INCH	PN	-10	+50	+200	TS [°C]
DN 10...100 3/8"...4"	PN25	25	25	25	PS [bar]
	PN40	40	40	40	PS [bar]
	PN63	63	63	63	PS [bar]

Nominal size:		Welding ends acc. to:							
		ISO Series 1			ANSI Sched 40				
DN	INCH	d1	s1)	s2)	d1	s	l	h	Ø SGL*
10	3/8"	17.2	1.8	1.8	17.1	2.3	96	85	28
15	1/2"	21.3	2.0	2.0	21.3	2.8	96	85	28
20	3/4"	26.9	2.3	2.6	26.7	2.9	100	85	28
25	1"	33.7	2.6	2.6	33.4	3.4	97	105	28
32	1 1/4"	42.4	2.6	2.9	42.2	3.6	97	105	28
40	1 1/2"	48.3	2.6	2.9	48.3	3.7	122	162	40
50	2"	60.3	2.9	2.9	60.3	3.9	122	162	40
65	2 1/2"	76.1	2.9	3.2	73.0	5.2	200	199	40
80	3"	88.9	3.2	3.6	88.9	5.5	200	212	40

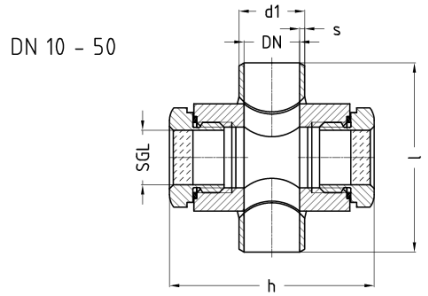
Nominal size:		Welding ends acc. to:							
100	4“	114.3	3.6	4.0	114.3	6.0	200	237	40

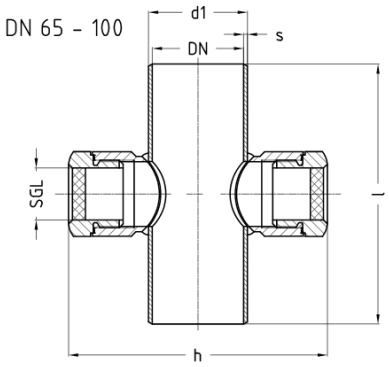
Table 1: Dimensions

Ø SGL* = sight glass diameter, 1) PN25 / PN40 2) PN63

4 SGL AE NIRO HT

AE: Welding ends, **HT:**Temperature up to +200°C
SGL stainless steel sight glass for natural gases and liquids (e.g. NH3, CO2) and non-corrosive media according to EN 378-1





Pressure / temperature operating limits:
PS: Max. permissible operating pressure in bar
TS: Permissible operating temperature in °C associated with the permissible operating pressures (PS)
PN: Nominal pressure rating

DN / INCH	PN	-10	+50	+200	TS [°C]
DN 10...100 3/8"...4"	PN25	25	25	25	PS [bar]
	PN40	40	40	40	PS [bar]
	PN63	63	63	63	PS [bar]

Nominal size:		Welding ends acc. to:							
		ISO Series 1			ANSI Sched 40				
DN	INCH	d1	s1)	s2)	d1	s	l	h	Ø SGL*
10	3/8"	17.2	1.8	1.8	17.1	2.3	96	85	28
15	1/2"	21.3	2.0	2.0	21.3	2.8	96	85	28
20	3/4"	26.9	2.3	2.6	26.7	2.9	100	85	28
25	1"	33.7	2.6	2.6	33.4	3.4	97	105	28
32	1 1/4"	42.4	2.6	2.9	42.2	3.6	97	105	28
40	1 1/2"	48.3	2.6	2.9	48.3	3.7	122	162	40
50	2"	60.3	2.9	2.9	60.3	3.9	122	162	40
65	2 1/2"	76.1	2.9	3.2	73.0	5.2	200	199	40
80	3"	88.9	3.2	3.6	88.9	5.5	200	212	40

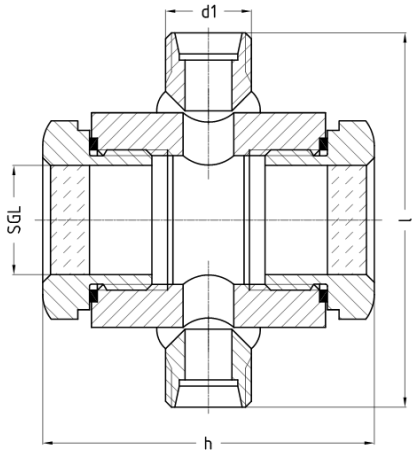
Nominal size:		Welding ends acc. to:							
100	4“	114.3	3.6	4.0	114.3	6.0	200	237	40

Table 2: Dimensions

Ø SGL* = sight glass diameter, 1) PN25 / PN40 2) PN63

5 SGL SE HT

SE: Screwed ends,**HT:** Temperature up to +200°C
SGL steel sight glass for natural gases and liquids (e.g. NH3, CO2) and non-corrosive media according to EN 378-1



Pressure / temperature operating limits:
PS: Max. permissible operating pressure in bar
TS: Permissible operating temperature in °C associated with the permissible operating pressures (PS)
PN: Nominal pressure rating

DN / INCH	PN	-10	+50	+200	TS [°C]
DN 6...20 1/8"...3/4"	PN25	25	25	25	PS [bar]
	PN40	40	40	40	PS [bar]
	PN63	63	63	63	PS [bar]

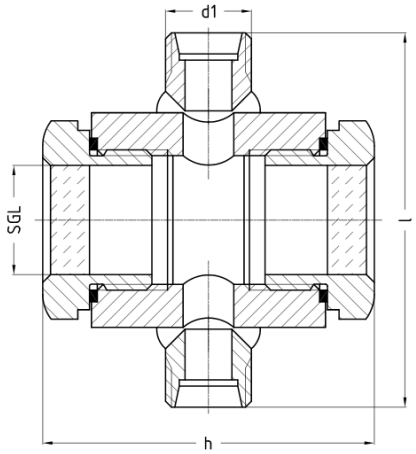
Nominal size:	Screwed ends acc. to:			
DN	d1*	l	h	Ø SGL*
6	G3/8"	96	85	28
8	G1/2"	105	85	28
8	G1/4"-i	105	85	28
8	M16x1.5 L RA10	96	85	28
8	M18x1.5 S RA10	96	85	28
8	M18x1.5 L RA 12	96	85	28
10	M26x1.5	96	85	28
15	G1"	126	85	28
20	M36x2.0 L RA28	126	85	28
20	G1 1/4"	126	85	28

Table 3: Dimensions

d1* = other threaded connections see technical appendix, Ø SGL* = sight glass diameter

6 SGL SE NIRO HT

SE: Screwed ends,**HT:** Temperature up to +200°C
SGL stainless steel sight glass for natural gases and liquids (e.g. NH3, CO2) and non-corrosive media according to EN 378-1



Pressure / temperature operating limits:
PS: Max. permissible operating pressure in bar
TS: Permissible operating temperature in °C associated with the permissible operating pressures (PS)
PN: Nominal pressure rating

DN / INCH	PN	-50	-10	+50	+120	TS [°C]
DN 6...20 1/8"...3/4"	PN25	25	25	25	25	PS [bar]
	PN40	40	40	40	40	PS [bar]
	PN63	63	63	63	63	PS [bar]

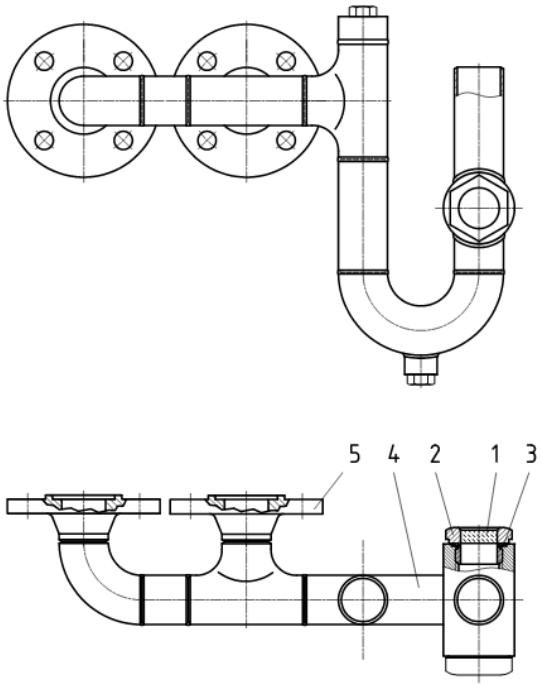
Nominal size:	Screwed ends acc. to:			
DN	d1*	l	h	Ø SGL*
6	G3/8"	96	85	28
8	G1/2"	105	85	28
8	G1/4"-i	105	85	28
8	M16x1.5 L RA10	96	85	28
8	M18x1.5 S RA10	96	85	28
8	M18x1.5 L RA 12	96	85	28
10	M26x1.5	96	85	28
15	G1"	126	85	28
20	M36x2.0 L RA28	126	85	28
20	G1 1/4"	126	85	28

Table 4: Dimensions

d1* = other threaded connections see technical appendix, Ø SGL* = sight glass diameter

7 DA materials

Designation and materials
DA HAT - flow indicator

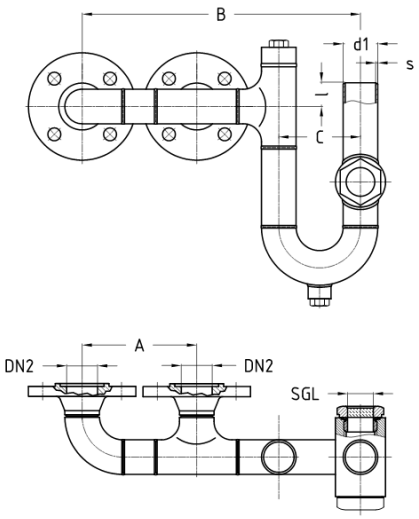


	Part	Material for steel valves	Material for stainless steel valves
1	Glass	Soda-lime glass	Soda-lime glass
2	Screw-in fitting	S235JR 1.0038	X5CrNi18-10 1.4301
3	Flat gasket	AL	AL
4	Body /	P235GH 1.0345 S355J2 1.0577 P355N 1.0562	X5CrNi18-10 1.4301
5	Flange	P250GH 1.0460	X6CrNiTi18-10 1.4541

Latest revision: 05.02.2026. Subject to modifications.
The most recent version of this document is available on awpvalves.com/downloads/

8 DA FL HT

FL: Flanged ends, **HT:** Temperature up to +200°C
DA steel flow indicator for natural gases and liquids (e.g. NH3, CO2) and non-corrosive media according to EN 378-1



Application: Flow indicator for change-over safety valve combination
Pressure / temperature operating limits:
PS: Max. permissible operating pressure in bar
TS: Permissible operating temperature in °C associated with the permissible operating pressures (PS)
PN: Nominal pressure rating

DN / INCH	PN	-10	+50	+200	TS [°C]
DN 20...100 3/4"...4"	PN25	25	25	25	PS [bar]
	PN40	40	40	40	PS [bar]
	PN63	63	63	63	PS [bar]

Nominal size:		Welding ends acc. to: ISO Series 1							
Inlet: DA FL	WVR-DN								
DN2*	DN1*	d1	s1)	s2)	l	A1)	B1)	C	Ø SGL*
20	10	26.9	2.3	2.6	45	108.0	224	58	28
25	15	33.7	2.6	2.6	33	120.0	272	76	28
32	20	42.4	2.6	2.9	33	150.0	343	96	28
40	25	48.3	2.6	2.9	33	160.0	389	114	40
50	32	60.3	2.9	2.9	86	180.0	461	152	40
65	40	76.1	2.9	3.2	97	214.0	556	190	40
80	50	88.9	3.2	3.6	123	228.0	629	228	40

Nominal size:		Welding ends acc. to: ISO Series 1							
100	65	114.3	3.6	4.0	144	276.0	791	304	40

Table 5: Dimensions

DN1* = suitable for change-over safety valve combination with change-over valve DN1, DN2* = outlet safety valves

Ø SGL* = sight glass diameter, 1) PN25 / PN40 2) PN63, DIN/EN flange facings as standard: tongue DIN2512

9 Comparison of European / American materials

GEA AWP valves contain individual parts in different materials. The following table contains all materials that GEA AWP uses for pressure-retaining parts and lists the equivalent American materials.

European material			American equivalent material	
Material number	Short name	Standard	Material standard	Grade
Valves made of carbon steel				
1.0345	P235GH, TC1 +N	DIN EN 10216-2	ASTM A106	A + B
1.0038	S235JR +N	DIN EN 10025-2	ASTM A570	36
1.0425	P265GH	DIN EN 10028-2	ASTM A516	60
1.0577	S355J2 +N	DIN EN 10025-2	ASTM A516	65
1.0562	P355N	DIN EN 10028-3		
1.6220	G20Mn5 +QT	DIN EN 10213	ASTM A352	LCC
1.0460	C22.8	VdTÜV 350/3	ASTM A105	-
Valves made of low-temperature steel				
1.0451	P215NL +N	DIN EN 10216-4	ASTM A333	6
1.0452	P255QL +QT	DIN EN 10216-4		
1.0566	P355NL1 +N	DIN EN 10028-3	ASTM A662	B
		DIN 17103	ASTM A420	WPL6
		VdTÜV 354/3	ASTM A350	LF2
1.0488	TStE 285	DIN 17103	ASTM A662	A
		VdTÜV 352/3	ASTM A350	LF2
1.6220	G20Mn5 +QT	DIN EN 10213	ASTM A352	LCC
Valves made of stainless steel				
1.4301	X5CrNi18-10	DIN EN 10216-5	ASTM A312	TP304
		DIN EN 10028-7	ASTM A240	304
		DIN EN 10222-5		
		DIN EN 1092-1	ASTM A182	F304
1.4581	GX5CrNiMoNb19-11-2	DIN EN 10213	ASTM A351	CF10M

Straight-way valves in non-standard design (e.g. deviating materials, third-party inspection) are only available in angle-seat form.

10 Coding of connections for small and service valves

GEA AWP valves can be manufactured with a variety of connection variants:

DN	Thread	Code	Welding ends		Dimensions	Code
DN8	M12x1.5 RA6	AL	DN6	R1	Ø10.2x1.6	C0
DN8	M12x1.5-taper	AY		ANSI 40	Ø1/8"x1.7	C1
DN8	M14x1.5 RA8	A4		ANSI 80	Ø1/8"x2.4	C2
DN8	M16x1.5 RA8	A5				
DN8	M16x1.5 RA10	A6	DN8	R1	Ø13.5x1.8	D0
DN8	M16x1.5-i	AZ		ANSI 40	Ø1/4"x2.2	D1
DN8	M16x1.5-taper	AC		ANSI 80	Ø1/4"x3.0	D2
DN8	M18x1.5 RA10	A7		12x2	Ø12x2.0	D3
DN8	M18x1.5 RA12	A8		12x3	Ø12x3.0	D4
DN8	M20x1.5 RA12	A9		R1 ext. L2=130 Niro	Ø13.5x1.8	D5
DN8	M22x1.5 RA14	AA		R1 ext. L2=130 C-St.	Ø13.5x1.8	D6
DN8	M22x1.5 RA15	AB				
DN8	M22x1.5	A0	DN10	R1	Ø17.2x1.8	E0
DN8	M22x1.5-taper	AD		ANSI 40	Ø3/8"x2.3	E1
DN20	M26x1.5 RA18	AS		ANSI 80	Ø3/8"x3.2	E2
DN20	M30x2 RA22	AT		R2	Ø15x2.5	E3
DN8	G1/4"	AF		18x3	Ø18x3.0	E4
DN8	G1/4"-taper	AG		R1 ext. L2=130 Niro	Ø17.2x1.8	E5
DN8	G1/4"-i	AH		R1 ext. L2=130 C-St.	Ø17.2x1.8	E6
DN8	G3/8"	AK		16x4 ext.L2=130 NIRO	Ø16x4.0	E7
DN8	G3/8"-i	AM		17,2x2	Ø17.2x2.0	E8
DN8	G3/8" RA10	AJ		R1 ext. L2=120 C-St.	Ø17.2x1.8	E9
DN8	G1/2"	A1		R1 ext. L2=140 Niro	Ø17.2x1.8	EA
DN8	G1/2"-LH	A2		R1 ext. L2=140 C-St.	Ø17.2x1.8	EB
DN8	G1/2" RA12	AN		R1 ext. L2=60 Niro	Ø17.2x1.8	EC

DN	Thread	Code	Welding ends		Dimensions	Code
DN8	G1/2″-i	AU		R1 ext. L2=60 C-St.	Ø17.2x1.8	ED
DN8	G1/2″ UM *)	AV		18x4 ext.L2=140 Niro	Ø18x4.0	EE
DN8	G1/2″ **)	AW		18x4 ext.L2=140C-St	Ø18x4.0	EF
DN8	G1/2″-taper	AX		18x4 ext.L2=60 Niro	Ø18x4.0	EG
DN20	G3/4″	AE		18x4 ext.L2=60 C-St.	Ø18x4.0	EH
DN20	G3/4″ RA18	AP				
DN8	1/4″NPT-male	A3	DN15	R1	Ø21.3x2.0	F0
DN8	1/4″NPT-female	AR		ANSI 40	Ø1/2″x2.8	F1
DN8	3/8″NPT-male	AI		ANSI 80	Ø1/2″x3.7	F2
DN8	3/8″NPT-female	B2		R2	Ø20x2.5	F3
DN8	1/2″NPT-male	B0		R1 ext. L2=130 Niro	Ø21.3x2.0	F5
DN8	1/2″NPT-female	B1		R1 ext. L2=130 C-St.	Ø21.3x2.0	F6
DN20	3/4''NPT-male	B3		R1 ext. L2=180 NIRO	Ø21.3x2.0	F7
DN8	M10-a	B4		ANSI 80 L2=130 C-St	Ø21.3x3.7	F8
DN20	G1″	B6	*) rotatable, welded to body			
DN8	G3/8'' BSPT-male	B7				
DN8	G3/8'' BSPT-female	B8	**) for one-piece blind nut			
DN8	3/8-18 NPTF-male	B9				
DN8	R3/8''-taper	BA				

i = female thread, a = male thread

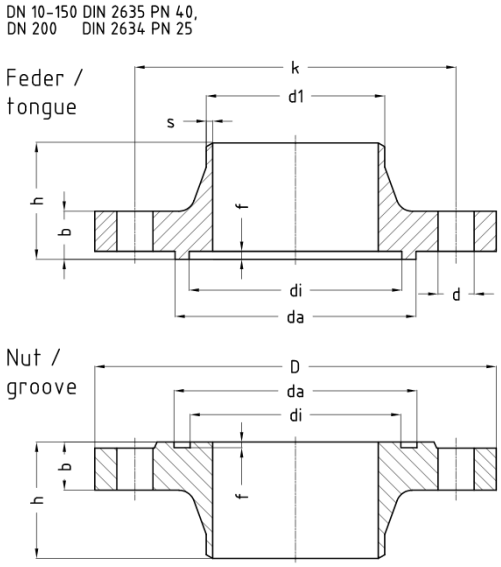
These connections can be equipped with accessories.

	Accessories	Short designation	Code
UM+ST	Union nut with welding nipple	UM+ST	1
BM	Blind nut	BM	2
DM	Double nut left/right	DM	3
UM+SKB	Union nut with weld ball nipple	UM+SKB	4

	Accessories	Short designation	Code
UM+SR	Union nut with cutting ring	UM+SR	5
UM+SLT	Union nut with hose nipple	UM+SLT	6
DM+ad-apter	Double nut with adapter G1/2"-a/ G1/4"-i	DM+adapter	7
UM+KKR	Union nut with clamping ring	UM+KKR	9

11 Welding neck flanges - DIN 2634/2635

- DIN-FL
- DIN-FL N
- DIN-FL F
- DIN-FL C
- DIN-FL D
- FL - flange
- Form N - groove, DIN 2512
- Form F - tongue, DIN 2512
- Form C - smooth flange facing, (Rz 160) DIN 2526
- Form D - smooth flange facing (Rz 40) DIN 2526



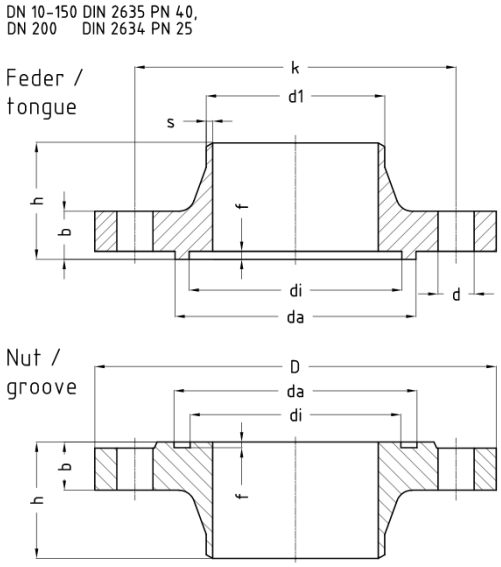
DIN2634 PN25 DN10-150 / DIN 2635 PN40 DN10-400																				
	Welding ends									Flange facing design						Screws DIN 931			Sealing ring DIN 2691	
	Series 1		Series 2							Groove			Tongue							
DN	d1	s	d1	s	b	k	h	d	D	di	da	f	di	da	f	Quant-ity	Thread	Lengt h	di	da
10	17.2	1.8	15.0	2.5	16	60	35	14	90	23	35	2.5	24	34	4.0	4	M 12	45	24	34
15	21.3	2.0	20.0	2.5	16	65	38	14	95	28	40	2.5	29	39	4.0	4	M 12	45	29	39
20	26.9	2.3	25.0	2.5	18	75	40	14	105	35	51	2.5	36	50	4.0	4	M 12	50	36	50
25	33.7	2.6	32.0	3.0	18	85	40	14	115	42	58	2.5	43	57	4.0	4	M 12	50	43	57

DIN2634 PN25 DN10-150 / DIN 2635 PN40 DN10-400																				
32	42.4	2.6	38.0	3.0	18	100	42	18	140	50	66	2.5	51	65	4.0	4	M 16	55	51	65
40	48.3	2.6	45.0	3.0	18	110	45	18	150	60	76	2.5	61	75	4.0	4	M 16	55	61	75
50	60.3	2.9	57.0	3.2	20	125	48	18	165	72	88	2.5	73	87	4.0	4	M 16	60	73	87
65	76.1	2.9	76.1	3.6	22	145	52	18	185	94	110	2.5	95	109	4.0	8	M 16	60	95	109
80	88.9	3.2	88.9	4.0	24	160	58	18	200	105	121	2.5	106	120	4.0	8	M 16	65	106	120
100	114.3	3.6	108.0	4.0	24	190	65	22	235	128	150	3.0	129	149	4.5	8	M 20	70	129	149
125	139.7	4.0	133.0	4.0	26	220	68	26	270	154	176	3.0	155	175	4.5	8	M 24	80	155	175
150	168.3	4.5	159.0	4.5	28	250	75	26	300	182	204	3.0	183	203	4.5	8	M 24	80	183	203
200	219.1	6.3			34	320	88	30	375	238	260	3.0	239	259	4.5	12	M 27	100	239	259
250	273.0	7.1			38	385	105	33	450	291	313	3.0	292	312	4.5	12	M 30	110	292	312
300	323.9	8.0			42	450	115	33	515	342	364	3.0	343	363	4.5	16	M 30	120	343	363
350	355.6	8.8			46	510	125	36	580	394	422	3.5	395	421	5.0	16	M 33	130	395	421
400	406.4	11.0			50	585	135	39	660	446	474	3.5	447	473	5.0	16	M 36	140	447	473

Table 6: Installation lengths

12 Welding neck flanges - DIN 2634/2635

- DIN-FL
- DIN-FL N
- DIN-FL F
- DIN-FL C
- DIN-FL D
- FL - flange
- Form N - groove, DIN 2512
- Form F - tongue, DIN 2512
- Form C - smooth flange facing, (Rz 160) DIN 2526
- Form D - smooth flange facing (Rz 40) DIN 2526



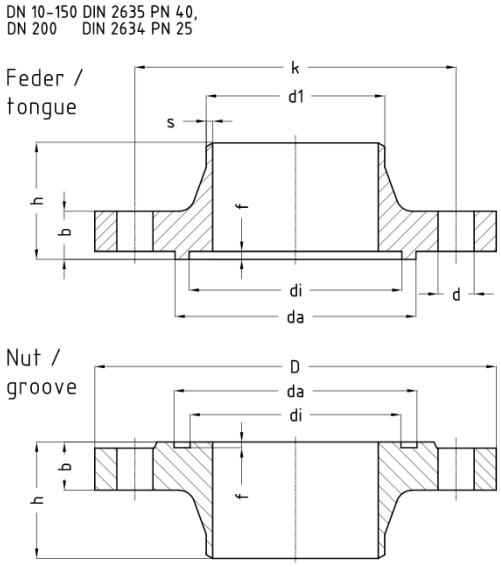
DIN 2634 PN25 DN200-500																		
	Welding ends							Flange facing design						Screws DIN 931			Sealing ring DIN 2691	
	Series 1							Groove			Tongue							
DN	d1	s	b	k	h	d	D	di	da	f	di	da	f	Quant-ity	Thread	Length	di	da
200	219.1	6.3	30	310	80	26	360	238	260	3.0	239	259	4.5	12	M 24	90	239	259
250	273.0	7.1	32	370	88	30	425	291	313	3.0	292	312	4.5	12	M 27	90	292	312
300	323.9	8.0	34	430	92	30	485	342	364	3.0	343	363	4.5	16	M 27	100	343	363
350	355.6	8.0	38	490	100	33	555	394	422	3.5	395	421	5.0	16	M 30	110	395	421

DIN 2634 PN25 DN200-500																	
400	406.4	8.8	40	550	110	36	620	446	474	3.5	447	473	5.0	16	M 33	120	447	473
500	508.0	10.0	44	660	125	36	730	548	576	3.5	549	575	5.0	20	M 33	130	549	575
DIN2636 PN63 DN10-40 / DIN 2637 PN100 DN10-40																		
DN	d1	s	b	k	h	d	D	di	da	f	di	da	f	Quant-ity	Thread	Length	di	Da
10	17.2	2.0	20	70	45	14	100	23	35	2.5	24	34	4.0	4	M 12	55	24	34
15	21.3	2.0	20	75	45	14	105	28	40	2.5	29	39	4.0	4	M 12	55	29	39
20	26.9	2.6	22	90	48	18	130	35	51	2.5	36	50	4.0	4	M 16	60	36	50
25	33.7	2.6	24	100	58	18	140	42	58	2.5	43	57	4.0	4	M 16	65	43	57
32	42.4	2.9	24	110	60	22	155	50	66	2.5	51	65	4.0	4	M 20	70	51	65
40	48.3	2.9	26	125	62	22	170	60	76	2.5	61	75	4.0	4	M 20	70	61	75
DIN 2636 PN63 DN50-125																		
DN	d1	S	b	k	h	d	D	di	da	f	di	da	f	Quant-ity	Thread	Length	di	da
50	60.3	2.9	26	135	62	22	180	72	88	2.5	73	87	4.0	4	M 20	75	73	87
65	76.1	3.2	26	160	68	22	205	94	110	2.5	95	109	4.0	8	M 20	75	95	109
80	88.9	3.6	28	170	72	22	215	105	121	2.5	106	120	4.0	8	M 20	75	106	120
100	114.3	4.0	30	200	78	26	250	128	150	3.0	129	149	4.5	8	M 24	90	129	149
125	139.7	4.5	34	240	88	30	295	154	176	3.0	155	175	4.5	8	M 27	100	155	175

Table 7: Installation lengths

13 Welding neck flanges - DIN EN 1092-1

- DIN EN-FL
- DIN EN-FL D
- DIN EN-FL C
- DIN EN-FL B1
- DIN EN-FL B2
- FL - flange
- Form D - groove, DIN EN 1092-1
- Form C - tongue, DIN EN 1092-1
- Form B1 - raised face (Rz 50) DIN EN 1092-1
- Form B2 - raised face (Rz 12.5) DIN EN 1092-1



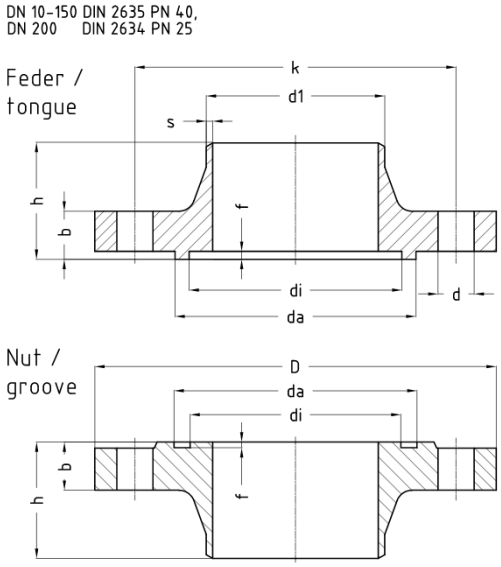
DIN EN 1092-1 PN25 DN10-150 / PN40 DN10-400																				
	Welding ends									Flange facing design						Screws DIN 931			Sealing ring DIN 2691	
	Series 1		Series 2							Groove			Tongue							
DN	d1	s	d1	s	b	k	h	d	D	di	da	f	di	da	f	Quant-ity	Thread	Lengt h	di	da
10	17.2	1.8	15.0	2.5	16	60	35	14	90	23	35	4.0	24	34	4.5	4	M 12	45	24	34
15	21.3	2.0	20.0	2.5	16	65	38	14	95	28	40	4.0	29	39	4.5	4	M 12	45	29	39
20	26.9	2.3	25.0	2.5	18	75	40	14	105	35	51	4.0	36	50	4.5	4	M 12	50	36	50
25	33.7	2.6	32.0	3.0	18	85	40	14	115	42	58	4.0	43	57	4.5	4	M 12	50	43	57

DIN EN 1092-1 PN25 DN10-150 / PN40 DN10-400																				
32	42.4	2.6	38.0	3.0	18	100	42	18	140	50	66	4.0	51	65	4.5	4	M 16	55	51	65
40	48.3	2.6	45.0	3.0	18	110	45	18	150	60	76	4.0	61	75	4.5	4	M 16	55	61	75
50	60.3	2.9	57.0	3.2	20	125	48	18	165	72	88	4.0	73	87	4.5	4	M 16	60	73	87
65	76.1	2.9	76.1	3.6	22	145	52	18	185	94	110	4.0	95	109	4.5	8	M 16	60	95	109
80	88.9	3.2	88.9	4.0	24	160	58	18	200	105	121	4.0	106	120	4.5	8	M 16	65	106	120
100	114.3	3.6	108.0	4.0	24	190	65	22	235	128	150	4.5	129	149	5.0	8	M 20	70	129	149
125	139.7	4.0	133.0	4.0	26	220	68	26	270	154	176	4.5	155	175	5.0	8	M 24	80	155	175
150	168.3	4.5	159.0	4.5	28	250	75	26	300	182	204	4.5	183	203	5.0	8	M 24	80	183	203
200	219.1	6.3			34	320	88	30	375	238	260	4.5	239	259	5.0	12	M 27	100	239	259
250	273.0	7.1			38	385	105	33	450	291	313	4.5	292	312	5.0	12	M 30	110	292	312
300	323.9	8.0			42	450	115	33	515	342	364	4.5	343	363	5.0	16	M 30	120	343	363
350	355.6	8.8			46	510	125	36	580	394	422	5.0	395	421	5.5	16	M 33	130	395	421
400	406.4	11.0			50	585	135	39	660	446	474	5.0	447	473	5.5	16	M 36	140	447	473

Table 8: Installation lengths

14 Welding neck flanges - DIN EN 1092-1

- DIN EN-FL
- DIN EN-FL D
- DIN EN-FL C
- DIN EN-FL B1
- DIN EN-FL B2
- FL - flange
- Form D - groove, DIN EN 1092-1
- Form C - tongue, DIN EN 1092-1
- Form B1 - raised face, (Rz 50) DIN EN 1092-1
- Form B2 - raised face, (Rz 12.5) DIN EN 1092-1



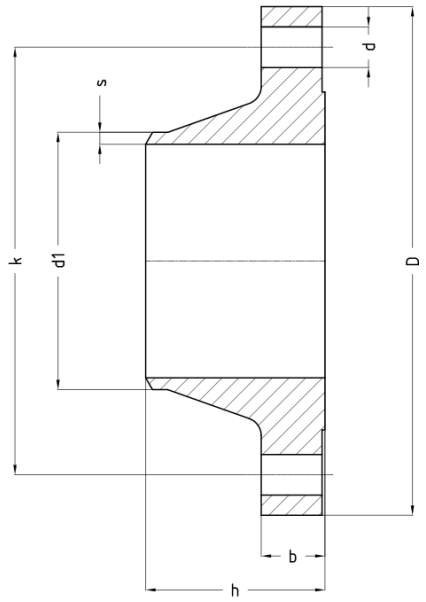
DIN EN 1092-1 PN25 DN200-500																		
	Welding ends							Flange facing design						Screws DIN 931			Sealing ring DIN 2691	
	Series 1							Groove			Tongue							
DN	d1	s	b	k	h	d	D	di	da	f	di	da	f	Quantity	Thread	Length	di	da
200	219.1	6.3	30	310	80	26	360	238	260	4.5	239	259	5.0	12	M 24	90	239	259
250	273.0	7.1	32	370	88	30	425	291	313	4.5	292	312	5.0	12	M 27	90	292	312
300	323.9	8.0	34	430	92	30	485	342	364	4.5	343	363	5.0	16	M 27	100	343	363
350	355.6	8.0	38	490	100	33	555	394	422	5.0	395	421	5.5	16	M 30	110	395	421

DIN EN 1092-1 PN25 DN200-500																		
400	406.4	8.8	40	550	110	36	620	446	474	5.0	447	473	5.5	16	M 33	120	447	473
500	508.0	10.0	44	660	125	36	730	548	576	5.0	549	575	5.5	20	M 33	130	549	575
DIN EN 1092-1 PN63 DN10-40 / PN100 DN10-40																		
DN	d1	s	b	k	h	d	D	di	da	F	di	da	f	Quantity	Thread	Length	di	Da
10	17.2	2.0	20	70	45	14	100	23	35	4.0	24	34	4.5	4	M 12	55	24	34
15	21.3	2.0	20	75	45	14	105	28	40	4.0	29	39	4.5	4	M 12	55	29	39
20	26.9	2.6	22	90	48	18	130	35	51	4.0	36	50	4.5	4	M 16	60	36	50
25	33.7	2.6	24	100	58	18	140	42	58	4.0	43	57	4.5	4	M 16	65	43	57
32	42.4	2.9	24	110	60	22	155	50	66	4.0	51	65	4.5	4	M 20	70	51	65
40	48.3	2.9	26	125	62	22	170	60	76	4.0	61	75	4.5	4	M 20	70	61	75
DIN EN 1092-1 PN63 DN50-125																		
DN	d1	S	b	k	h	d	D	di	da	f	di	da	F	Quantity	Thread	Length	di	da
50	60.3	2.9	26	135	62	22	180	72	88	4.0	73	87	4.5	4	M 20	75	73	87
65	76.1	3.2	26	160	68	22	205	94	110	4.0	95	109	4.5	8	M 20	75	95	109
80	88.9	3.6	28	170	72	22	215	105	121	4.0	106	120	4.5	8	M 20	75	106	120
100	114.3	4.0	30	200	78	26	250	128	150	4.5	129	149	5.0	8	M 24	90	129	149
125	139.7	4.5	34	240	88	30	295	154	176	4.5	155	175	5.0	8	M 27	100	155	175

Table 9: Installation lengths

15 Welding neck flanges - ANSI B16.5 raised face

- ANSI-FL
- ANSI-FL 150lbs RF
- ANSI-FL 300lbs RF
- FL - flange
- Facing with large and small male / female
- Facing with large and small tongue / groove according to ANSI B16.5

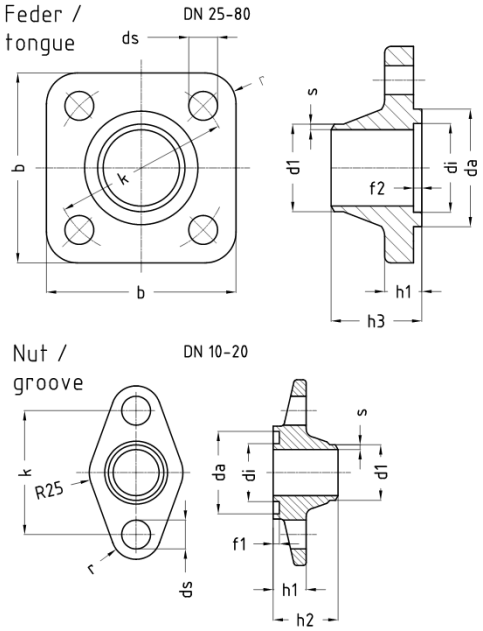


Nominal size		Welding ends acc. to:													
		ANSI		ANSI-FL 150lbs RF / sq. in					Screws DIN 931	ANSI-FL 300lbs RF / sq. in					Screws DIN 931
DN	INCH	d1	s	b	k	h	d	D	Quantity	b	k	h	d	D	Quantity
15	1/2"	21.3	2.8	11.2	60.5	47.8	15.7	88.9	4	14.2	66.5	52.3	15.7	95.2	4
20	3/4"	26.7	2.9	12.7	69.9	52.3	15.7	98.6	4	15.7	82.5	57.1	19.0	117.3	4
25	1"	33.4	3.4	14.2	79.2	55.6	15.7	108.0	4	17.5	88.9	62.0	19.0	123.9	4
32	1 1/4"	42.2	3.6	15.7	88.9	57.2	15.7	117.3	4	19.0	98.5	65.0	19.0	133.3	4
40	1 1/2"	48.3	3.7	17.5	98.6	62.0	15.7	127.0	4	20.6	114.3	68.3	22.3	155.4	4
50	2"	60.3	3.9	19.1	120.7	63.5	19.1	152.4	4	22.3	127.0	69.8	19.0	165.1	6
65	2 1/2"	73.0	5.2	22.4	139.7	69.9	19.1	177.8	4	25.4	149.3	76.2	22.3	190.5	8
80	3"	88.9	5.5	23.9	152.4	69.9	19.1	190.5	4	28.4	168.1	79.2	22.3	209.5	8
100	4"	114.3	6.0	23.9	190.5	76.2	19.1	228.6	8	31.7	200.1	85.8	22.3	254.0	8
125	5"	141.3	6.6	23.9	215.9	88.9	22.4	254.0	8	35.0	234.9	98.5	22.3	279.4	8
150	6"	168.3	7.1	25.4	241.3	88.9	22.4	279.4	8	36.5	269.7	98.5	22.3	317.5	12
200	8"	219.1	8.2	28.4	298.5	101.6	22.4	342.9	8	41.1	330.2	111.2	25.4	381.0	12
250	10"	273.0	9.3	30.2	362.0	101.6	25.4	406.4	12	47.7	387.3	117.3	28.4	444.5	16

Nominal size		Welding ends acc. to:													
300	12″	323.8	10.3	31.8	431.8	114.3	25.4	482.6	12	50.8	450.8	130.0	31.7	520.7	16
350	14″	355.6	11.1	35.1	476.3	127.0	28.4	533.4	12	53.8	514.3	142.7	31.7	584.2	20
400	16″	406.4	12.7	36.6	539.8	127.0	28.4	596.9	16	57.1	571.5	146.0	35.0	647.7	20

16 Welding neck flanges - AWP

- AWP-FL
- AWP-FL N
- AWP-FL F
- FL - flange
- N - groove
- F - tongue



AWP-FL PN25 DN10-20 / PN40 DN25-80																								
	Welding ends											Flange facing design								Screws DIN 931			Sealing ring DIN 2691	
	Series 1		Series 2		ANSI							Groove				Tongue				Quant-ity	Thread	Length		
DN	d1	s	d1	s	d1	s	b	k	r	h1	ds	di	da	f1	h2	di	da	f2	h3				di	da
10	17.2	1.8	15.0	2.5	17.1	2.3	88	60	13	16	14	28	40	3	31.5	29	39	4	32.0	2	M 12	45	29	39
15	21.3	2.0	20.0	2.5	21.3	2.8	88	60	13	16	14	28	40	3	31.5	29	39	4	32.0	2	M 12	45	29	39
20	26.9	2.3	25.0	2.5	26.7	2.9	88	60	13	16	14	28	40	3	31.5	29	39	4	32.0	2	M 12	45	29	39
25	33.7	2.6	32.0	3.0	33.4	3.4	92	85	15	18	14	42	58	3	44.0	43	57	4	44.0	4	M 12	50	43	57
32	42.4	2.6	38.0	3.0	42.2	3.6	92	85	15	18	14	42	58	3	44.0	43	57	4	44.0	4	M 12	50	43	57
40	48.3	2.6	45.0	3.0	48.3	3.7	92	85	15	18	14	42	58	3	38.5	43	57	4	38.5	4	M 12	50	43	57

AWP-FL PN25 DN10-20 / PN40 DN25-80																						
50	60.3	2.9	57.0	3.2	60.3	3.9	132	135	20	28	18	84	96	3	43.0	85	95	4	43.0	4	M 16	75	A85x95*
65	76.1	2.9	76.1	3.6	73.0	5.2	132	135	20	28	18	84	96	3	53.5	85	95	4	53.5	4	M 16	75	A85x95*
80	88.9	3.2	88.9	4.0	88.9	5.5	132	135	20	28	18	84	96	3	53.5	85	95	4	53.5	4	M 16	75	A85x95*

Table 10: Installation lengths
* = acc. to DIN 7603

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