



AN ISO 9001 : 2015
AN ISO 14001 : 2015
CERTIFIED COMPANY

SANKALP FORGE & ALLOYS

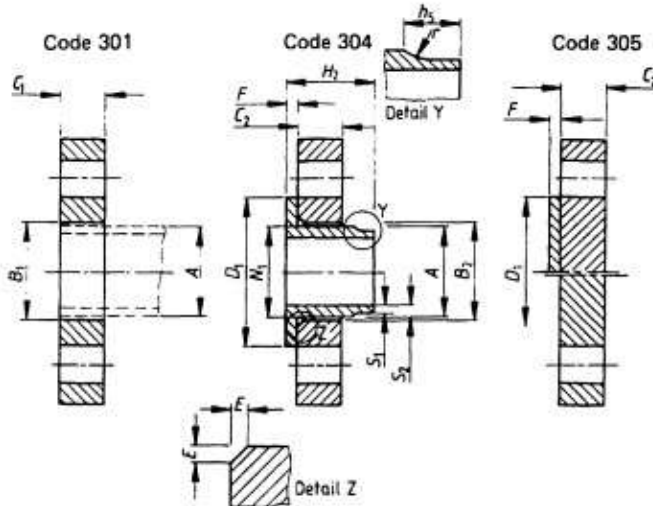
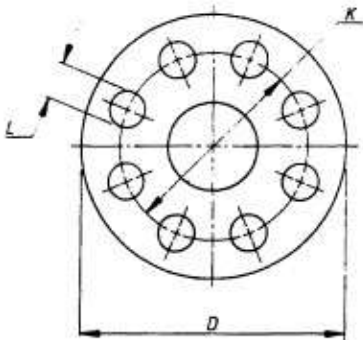
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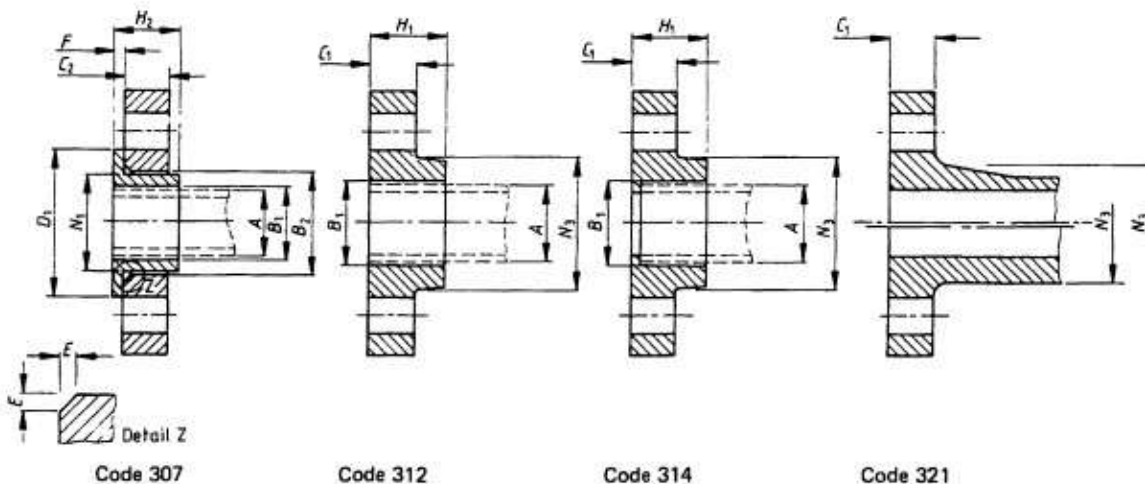
This diagram illustrates the
arrangement but not necessarily
the correct number of bolt holes.



Additional dimensions for
code 304

DN	h_3	r
Up to 100	15	3
125 to 250	15	5
300 to 350	16	5
400 to 450	16	7
500 to 600	20	7
700 to 800	24	7

All dimensions are in millimetres.



NOTE. Dimension N_3 is measured at the intersection of the projections of the hub draft angle and the back face of the flange.

Dimensions of PN 6 flanges



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Dimensions of PN 6 flanges

Nominal size	Tube outside diameter A		Mating dimensions						Flange thickness				Hub dia.	Neck dia.	Stub end diameter		Length through hub or collar			Collar thickness		Collar flange thickness	Cladding thickness	Collar or raised face dia.	Bore of flange or collar		Bore of flange		Chamfer
			Outside diameter	Diameter of bolt circle	Diameter of bolt hole	Bolt																							
	DN	T1	T2	D	K	L	Number	Size	C2	C1	N3	N3	N1	N1	H1	H2	H2	S1 min.	S2	F	F	D1	B1	B2	E				
Codes affected	301, 304, 305, 307, 312, 314, 321								304	305 307	301 312 314		312 314	321	304	307	312 314	304	307	304	304	307	305	304 305 307	301, 307, 312, 314	304	307	304 307	
	mm	mm	mm	mm	mm			mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	
10	15	16.0	75	50	11	4	M10	10	6	21	16	18.0	21	10	35	16	1.0	2.0	5	5	33	15.07	16.07	19	23	—			
15	18	20.0	80	55	11	4	M10	10	6	26	21	22.0	26	10	35	16	1.0	2.0	5	5	38	18.07	20.08	24	28	2			
20	22	25.0	90	65	11	4	M10	10	6	31	28	27.0	31	10	40	16	1.5	2.5	5	5	48	22.08	25.08	28	33	2			
25	28	30.0	100	75	11	4	M10	12	8	36	35	32.0	36	12	40	18	1.5	2.5	5	5	58	28.08	30.08	33	38	2			
32	35	38.0	120	90	14	4	M12	12	8	45	42	40.0	45	12	40	18	1.5	2.5	5	5	69	35.09	38.08	41	47	3			
40	42	44.5	130	100	14	4	M12	12	9	51	52	46.5	51	13	45	19	1.5	2.5	5	5	78	42.09	44.60	48	53	3			
50	54	57.0	140	110	14	4	M12	12	11	67	64	59.0	67	15	45	19	1.5	2.5	6	5	88	54.09	57.23	62	69	2			
65	67	76.1	160	130	14	4	M12	12	13	87	79	78.0	87	17	45	19	2.0	3.5	6	5	108	66.78	76.33	81	89	2			
80	88.9		190	150	18	4	M16	14	13	104	94	91.0	104	17	50	21	2.5	4.0	6	5	124	89.18		94	106	2			
100	108.0		210	170	18	4	M16	14	16	123	116	110.0	123	20	50	21	2.5	4.0	6	5	144	108.38		113	125	3			
125	133.0		240	200	18	8	M16	14	18	20	148	155	135.0	148	22	50	21	2.5	4.0	6	5	174	133.63		138	151	4		
150	159.0		265	225	18	8	M16	14	18	20	175	180	161.0	175	24	50	21	2.5	4.0	8	5	199	159.63		164	178	4		
175	193.7		295	255	18	8	M16	18	20	22	210	209	196.0	210	26	50	23	3.0	4.5	8	5	229	194.63		200	213	5		
200	219.1		320	280	18	8	M16	18	20	22	235	234	221.0	235	28	50	23	3.0	4.5	8	5	254	220.03		225	238	5		
250	267.0		375	335	18	12	M16	20	22	24	285	286	269.0	285	30	50	27	3.0	4.5	8	5	309	268.13		278	288	5		
250	273.0		375	335	18	12	M16	20	22	24	285	286	275.0	291	30	50	27	3.0	4.5	8	5	309	274.13		284	296	7		
300	323.9		440	395	22	12	M20	24	22	24	342	336	326.0	342	30	50	30	4.0	5.5	10	5	363	325.03		330	345	7		
350	368.0		490	445	22	12	M20	26	22	26	386	390	370.0	386	30	50	32	4.0	5.5	10	5	413	369.13		374	389	7		
400	419.0		540	495	22	16	M20	30	22	28	439	442	421.0	439	30	50	36	4.0	5.5	10	5	463	420.13		426	442	7		
450	457.2		585	550	22	16	M20	32	24	30	477	492	459.0	477	32	50	38	4.0	5.5	10	5	518	458.33		465	480	7		
500	508.0		645	600	22	20	M20	32	24	30	530	546	510.0	530	33	50	47	4.5	6.0	10	5	568	509.13		516	533	9		
600	610.0		755	705	26	20	M24	36	—	30	—	646	612.0	637	—	60	50	5.0	6.5	14	5	667	612.00		619	639	9		
700	711.0		860	810	26	24	M24	40	—	32	—	748	713.0	741	—	60	55	6.0	7.5	14	15	772	713.00		721	743	9		
800	813.0		975	920	30	24	M27	44	—	34	—	852	815.0	844	—	60	60	6.0	7.5	14	16	5	878	815.00		824	846	9	
900	914.0		1 075	1 020	30	24	M27	—	48	—	36	—	954	—	948	—	65	—	—	—	17	5	978	916.00	—	—	950	9	
1 000	1 016.0		1 175	1 120	30	28	M27	—	52	—	36	—	1054	—	1 051	—	70	—	—	—	18	5	1 078	1 018.00	—	—	1 050	9	
1 200	1 220.0		1 405	1 340	33	32	M30	—	60	—	40	—	1260	—	1 259	—	80	—	—	—	20	5	1 295	1 222.00	—	—	1 262	9	
1 400	1 420.0		1 630	1 560	36	36	M33	—	66	—	44	—	1466	—	1 465	—	88	—	—	—	22	5	1 510	1 422.00	—	—	1 468	9	
1 600	1 620.0		1 830	1 760	36	40	M33	—	74	—	48	—	1672	—	1 669	—	98	—	—	—	24	5	1 710	1 622.00	—	—	1 672	9	
1 800	1 820.0		2 045	1 970	39	44	M36	—	84	—	50	—	1876	—	1 873	—	110	—	—	—	26	5	1 918	1 822.00	—	—	1 876	9	

NOTE 1 For Code 321 flanges in sizes up to and including DN 100, codes 312 and 314 flanges up to and including DN 50 for bolting to flanges with raised faces the appropriate thickness C₁ in Table 11 (PN 40) apply.

NOTE 2 Codes 304, 305 and 307 flanges and code 321 flanges in the sizes DN 125 to DN 1800 may be used with inside bolt circle gaskets.

NOTE 3 See clause 8 for joint facings.



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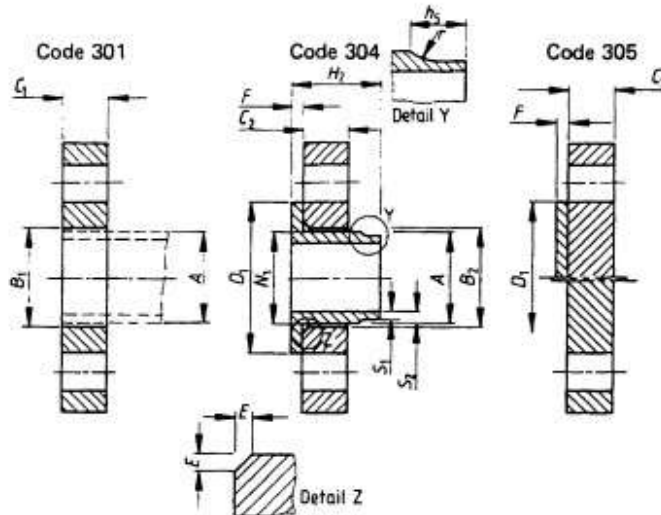
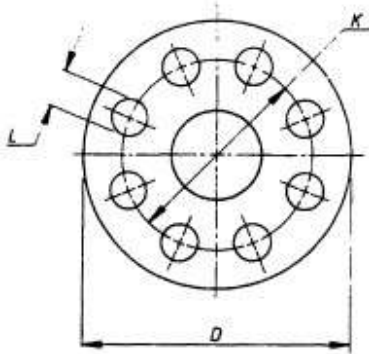
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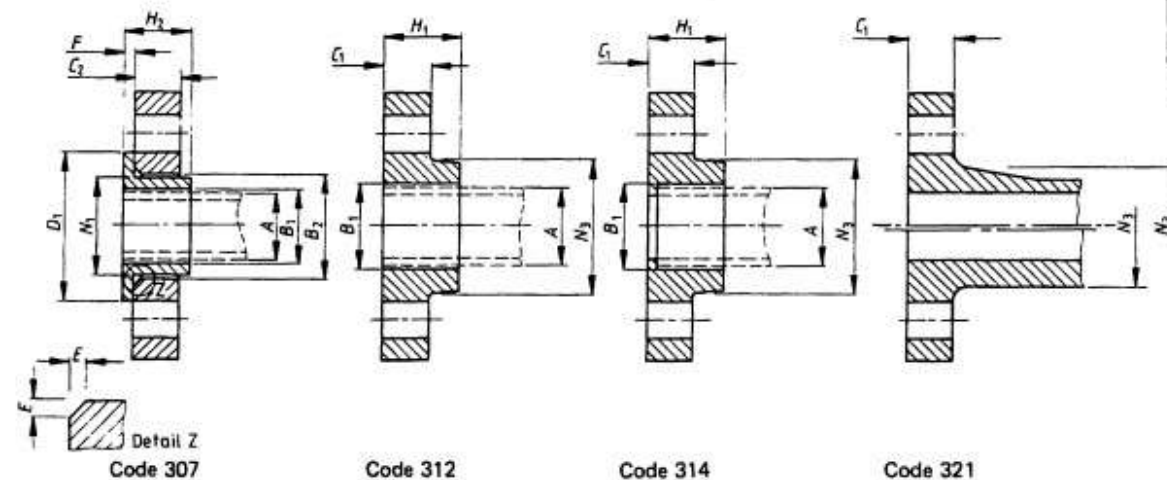
This diagram illustrates the
arrangement but not necessarily
the correct number of bolt holes.



Additional dimensions for
code 304

DN	h_5	r
Up to 100	15	3
125 to 250	15	5
300 to 350	16	5
400 to 450	16	7
500 to 600	20	7
700 to 800	24	7
900 to 1200	32	7

All dimensions are in millimetres.



NOTE: Dimension N_3 is measured at the intersection of the projections of the hub draft angle and the back face of the flange.

Dimensions of PN 10 flanges



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Dimensions of PN 10 flanges

Nominal size DN	Tube outside diameter A		Mating dimensions					Flange thickness				Hub dia.	Neck dia.	Stub end diameter		Length through hub or collar			Collar thickness		Collar flange thickness		Cladding thickness	Collar raised face dia.	Bore of flange or collar		Bore of flange		Chamfer	
			Outside diameter	Diameter of bolt circle K	Diameter of bolt hole L	Bolt																								
	T ₁	T ₂				D	K	L	Number	Size	C ₂	C ₁	N ₂	N ₃	N ₁	N ₂	H ₁	H ₂	H ₂	S ₁ min.	S ₂	F	F	D ₁	B ₁	B ₂	E			
Codes affected	301, 304, 305, 307, 312, 314, 321							304 305	307	301 312 314	321	312 314	321	304	307	312 314	304	307	304		304	307	305	304 305 307	301, 307, 312, 314	304	307	304 307		
	mm	mm	mm	mm	mm			mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm		
10	15	16.0	90	60	14	4	M12	14	8	6	21	16	18.0	21	20	35	16	1.0	2.0	5	5		41	15.07	16.07	19	23	—		
15	18	20.0	95	65	14	4	M12	14	8	6	26	21	22.0	26	20	35	16	1.0	2.0	5	5		46	18.07	20.08	24	28	2		
20	22	25.0	105	75	14	4	M12	14	8	6	31	28	27.0	31	24	40	16	1.5	2.5	5	5		56	22.08	25.08	28	33	3		
25	28	30.0	115	85	14	4	M12	16	9	8	36	35	32.0	36	24	40	18	1.5	2.5	5	5		65	28.08	30.08	33	38	3		
32	35	38.0	140	100	18	4	M16	16	10	8	45	42	40.0	45	26	40	18	1.5	2.5	5	5		76	35.09	38.08	41	47	3		
40	42	44.5	150	110	18	4	M16	16	11	9	51	52	46.5	51	26	45	19	1.5	2.5	6	5		84	42.09	44.60	48	53	3		
50	54	57.0	165	125	18	4	M16	16	13	11	67	64	59.0	67	28	45	19	1.5	2.5	6	5		99	54.09	57.23	62	69	3		
65	67	76.1	185	145	18	4	M16	16	13	13	87	79	78.0	87	17	45	19	2.0	3.5	6	5		118	66.78	76.33	81	89	3		
80	88.9		200	160	18	8	M16	18	13	13	104	94	91.0	104	17	50	21	2.5	4.0	7	5		132	89.13		94	106	3		
100	108.0		220	180	18	8	M16	18	16	16	123	116	110.0	123	20	50	21	2.5	4.0	7	5		156	108.38		113	125	3		
125	133.0		250	210	18	8	M16	18	18	22	148	159	135.0	148	22	50	21	2.5	4.0	7	5		184	133.63		138	151	4		
150	159.0		285	240	22	8	M20	18	20	22	175	184	161.0	175	24	50	21	2.5	4.0	9	5		211	159.63		164	178	4		
175	193.7		315	270	22	8	M20	20	22	24	210	211	196.0	210	26	50	23	3.0	4.5	9	5		242	194.63		200	213	5		
200	219.1		340	295	22	8	M20	20	24	26	235	240	221.0	235	28	50	23	3.0	4.5	9	5		266	220.03		225	238	5		
250	267.0		395	350	22	12	M20	22	26	28	285	292	269.0	285	30	50	27	3.0	4.5	9	5		319	268.13		278	288	5		
250	273.0		395	350	22	12	M20	22	26	28	285	292	275.0	291	30	50	27	3.0	4.5	9	5		319	274.13		284	296	7		
300	323.9		445	400	22	12	M20	26	26	28	342	342	326.0	342	30	50	30	4.0	5.5	11	5		370	325.03		330	345	7		
350	368.0		505	460	22	16	M20	28	26	30	386	396	370.0	386	30	50	32	4.0	5.5	11	5		429	369.13		374	389	7		
400	419.0		565	515	26	16	M24	32	26	32	439	448	421.0	439	30	50	36	4.0	5.5	12	5		480	420.13		426	442	7		
450	457.2		615	565	26	20	M24	34	28	32	477	498	459.0	477	32	50	38	4.5	6.0	12	5		530	458.33		465	480	7		
500	508.0		670	620	26	20	M24	38	28	34	530	552	510.0	530	33	50	42	5.0	6.5	12	5		582	509.13		516	533	9		
600	610.0		780	725	30	20	M27	38	31	36	647	654	612.0	637	49	60	50	6.0	7.5	14	5		629	612.00		619	639	9		
700	711.0		895	840	30	24	M27	40	33	40	751	760	713.0	741	53	60	55	6.5	9.5	15	5		733	713.00		727	743	9		
800	813.0		1 015	950	33	24	M30	44	35	44	853	866	815.0	844	55	60	60	7.5	10.5	16	5		836	815.00		829	846	9		
900	914.0		1 115	1 050	33	28	M30	48	—	46	—	970	918.0	948	—	60	65	8.5	11.5	17	5		940	916.00		931	950	9		
1 000	1 016.0		1 230	1 160	36	28	M33	52	—	50	—	1 076	1 018.0	1 051	—	60	70	9.0	12.0	14	18	5		1 043	1 018.00		1 025	1 053	9	
1 200	1 220.0		1 455	1 380	39	32	M36	60	—	56	—	1 284	1 223.0	1 259	—	60	80	11.0	14.0	14	20	5		1 251	1 222.00		1 230	1 262	9	
1 400	1 420.0		1 675	1 590	42	36	M39	—	66	—	62	—	1 494	—	1 465	—	—	88	—	—	—	22	5		1 457	1 422.00		—	1 468	9
1 600	1 620.0		1 915	1 820	48	40	M45	—	74	—	68	—	1 702	—	1 669	—	—	98	—	—	—	24	5		1 661	1 622.00		—	1 672	9
1 800	1 820.0		2 115	2 020	48	44	M45	—	84	—	70	—	1 906	—	1 873	—	—	110	—	—	—	26	5		1 865	1 822.00		—	1 875	9

NOTE 1 For Code 321 flanges in sizes up to and including DN 100, codes 312 and 314 flanges up to and including DN 50 for bolting to flanges with raised faces the appropriate thickness C₁ in Table 11 (PN 40) apply.

NOTE 2 Codes 304, 305 and 307 flanges, and code 321 flanges in the sizes DN 65 to DN 1 800 may be used with inside bolt circle gaskets.

NOTE 3 See clause 8 for joint facings.



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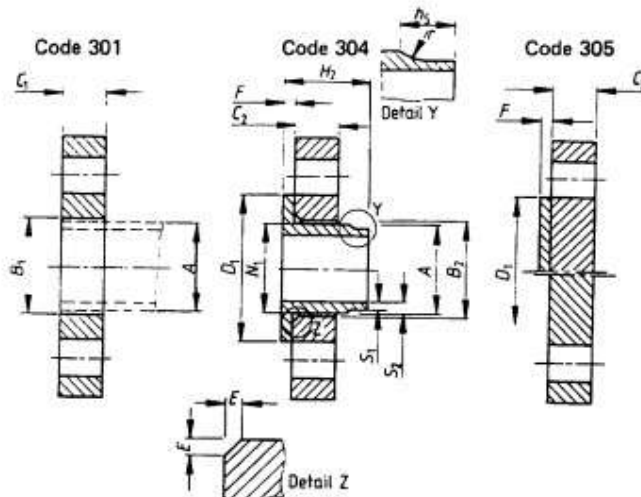
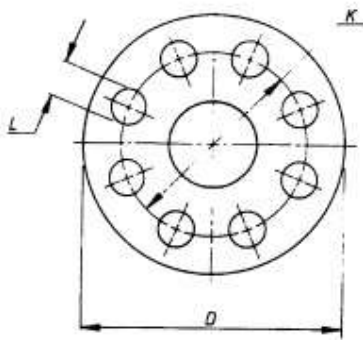
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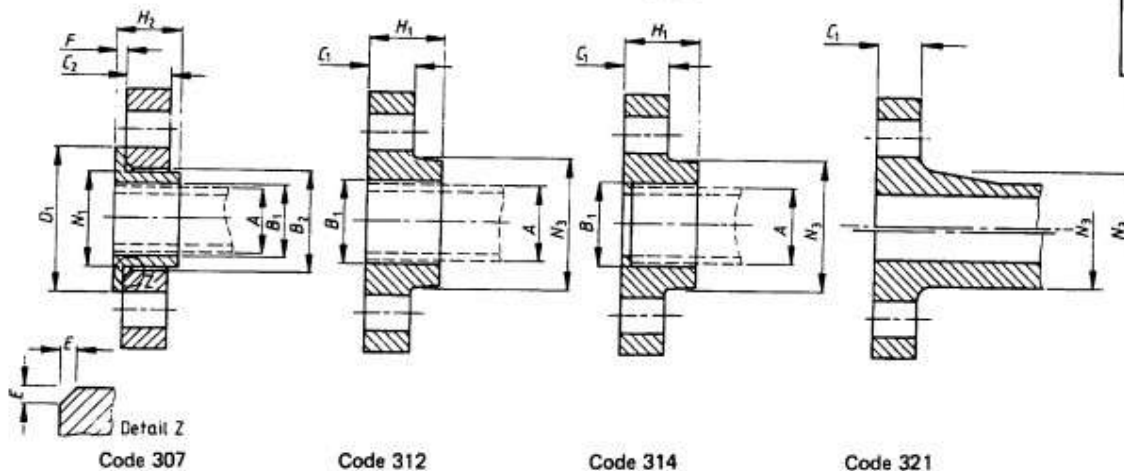
This diagram illustrates the
arrangement but not necessarily
the correct number of bolt holes.



Additional dimensions for
code 304

DN	h_s	r
Up to 100	15	3
125 to 250	15	5
300 to 350	16	5
400	16	7

All dimensions are in millimetres.



NOTE. Dimension N_3 is measured at the intersection of the projections of the hub draft angle and the back face of the flange.

Dimensions of PN 16 flanges



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Dimensions of PN 16 flanges

Nominal size	Tube outside diameter A		Mating dimensions					Flange thickness			Hub dia.	Neck dia.	Stub end diameter		Length through hub or collar			Collar thickness		Collar flange thickness		Cladding thickness	Collar or raised face dia.		Bore of flange or collar		Bore of flange		Chamber
			Outside diameter	Diameter of bolt circle	Diameter of bolt hole	Bolting																							
	DN	T ₁				T ₂	D	K	L	Number	Size	C ₂	C ₁	N ₂	N ₁	N ₁	H ₁	H ₂	H ₂	S ₁ min.	S ₁	F	F	D ₁	B ₁	B ₁	B ₂	E	
Codes affected	301, 304, 305, 307, 312, 314, 321							304 305	307 312 314	321	312 314	321	304	307	312 314	304	307	304			304 307	305	304 305	307	301, 307, 312, 314	304	307	304 307	
	mm	mm	mm	mm	mm			mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	
10	15	16.0	90	60	14	4	M12	14	8	6	21	16	18.0	21	20	35	16	1.0	2.5	5	5	41	15.07	16.07	19	23	—		
15	18	20.0	95	65	14	4	M12	14	8	6	26	21	22.0	26	20	35	16	1.0	2.5	5	5	46	18.07	20.08	24	28	2		
20	22	25.0	105	75	14	4	M12	14	8	6	31	28	27.0	31	24	40	16	1.5	2.5	5	5	56	22.08	25.08	28	33	3		
25	28	30.0	115	85	14	4	M12	16	9	8	36	35	32.0	36	24	40	18	1.5	2.5	5	5	65	28.08	30.08	33	38	3		
32	35	38.0	140	100	18	4	M16	16	10	8	45	42	40.0	45	26	40	18	1.5	2.5	5	5	76	35.09	38.08	41	47	3		
40	42	44.5	150	110	18	4	M16	16	11	9	51	52	46.5	51	26	45	19	1.5	2.5	6	5	84	42.09	44.60	48	53	3		
50	54	57.0	165	125	18	4	M16	16	13	11	67	64	59.0	67	28	45	19	1.5	2.5	6	5	99	54.09	57.23	62	69	3		
65	67	76.1	185	145	18	4	M16	16	20	13	103	79	78.0	87	32	45	19	2.0	3.5	6	5	118	66.78	76.33	81	89	3		
80	88.9		200	160	18	8	M16	18	20	13	114	94	91.0	104	34	50	21	2.5	4.0	7	5	132	89.13		94	106	3		
100	108.0		220	180	18	8	M16	18	20	16	134	116	110.0	123	40	50	21	2.5	4.0	7	5	156	108.38		113	125	3		
125	133.0		250	210	18	8	M16	18	22		164	159	135.5	148	44	50	21	2.5	4.0	7	5	184	133.63		138	151	4		
150	159.0		285	240	22	8	M20	18	22		188	184	161.5	175	44	50	21	2.5	4.0	9	5	211	159.63		164	178	4		
175	193.7		315	270	22	8	M20	22	24		213	211	197.0	210	44	50	23	3.0	4.5	9	5	242	194.63		200	213	5		
200	219.1		340	295	22	12	M20	22	26		238	236	222.0	235	46	50	23	4.0	4.5	9	5	266	220.03		225	238	5		
250	267.0		405	355	26	12	M24	24	28		287	290	269.0	285	48	50	27	4.0	4.5	9	5	319	268.13		278	288	5		
250	273.0		405	355	26	12	M24	24	28		287	290	275.0	291	48	50	27	4.0	4.5	9	5	319	274.13		284	296	7		
300	323.9		460	410	26	12	M24	28	—	—	28	—	342	327.0	—	—	50	—	5.0	6.5	11	5	370	—	325.03	—	330	—	7
350	368.0		520	470	26	16	M24	32	—	—	30	—	396	371.0	—	—	50	—	6.0	7.5	11	5	429	—	369.13	—	374	—	7
400	419.0		580	525	30	16	M27	36	—	—	32	—	448	422.0	—	—	50	—	7.5	9.0	12	5	480	—	420.13	—	426	—	7
500	508.0		715	650	33	20	M30	—	—	—	34	—	552	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	

NOTE 1 For code 321 flanges in sizes up to and including DN 100, codes 312 and 314 flanges up to and including DN 50 for bolting to flanges with raised face the appropriate thickness C₁ in Table 11 (PN 40) apply.

NOTE 2 Codes 304, 305 and 307 flanges, codes 312 and 314 in sizes DN 65 to DN 250 and code 321 in sizes DN 125 to DN 250 may be used with inside bolt circle gaskets.

NOTE 3 See clause 8 for joint facings.



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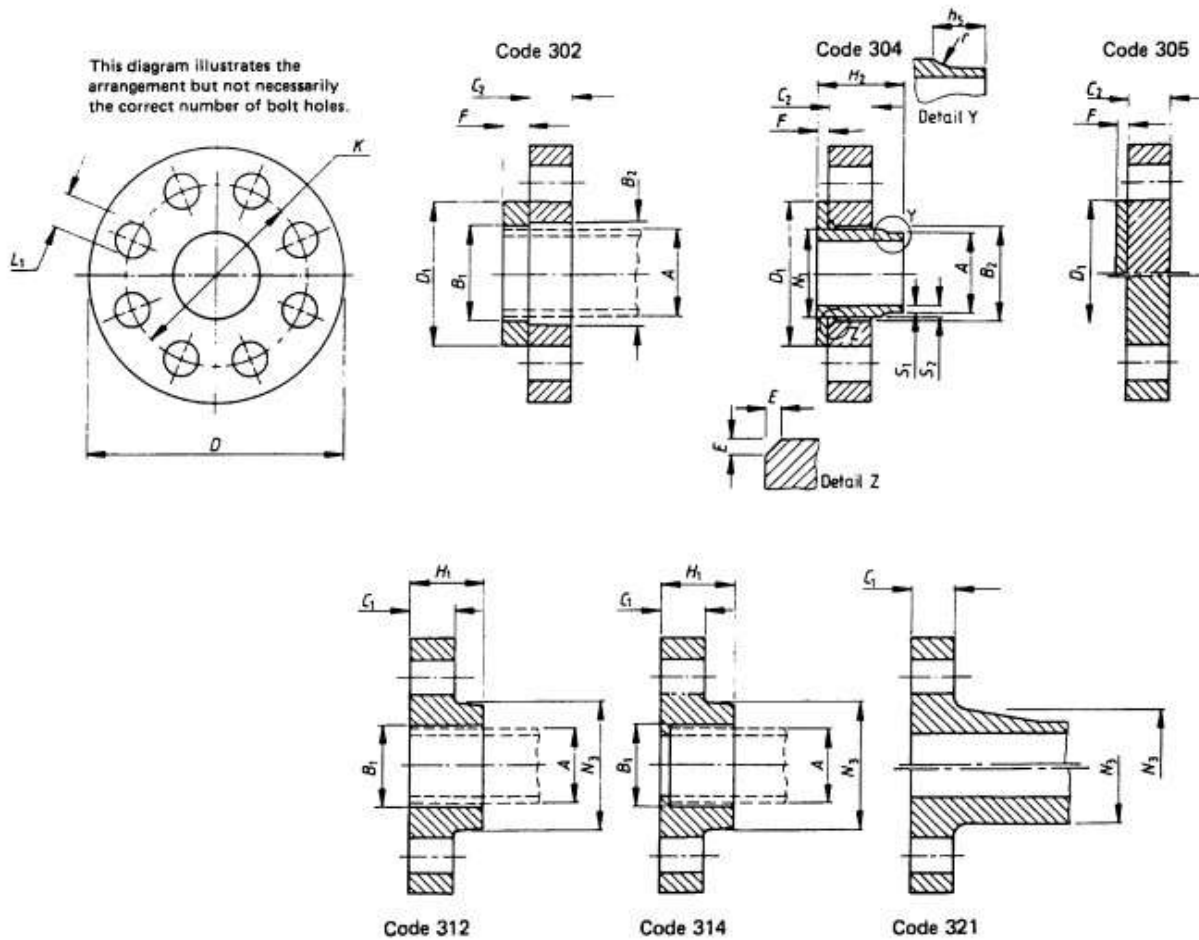
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NOTE. Dimension N_3 is measured at the intersection of the projections of the hub draft angle and the back face of the flange.

Dimensions of PN 25 flanges



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Dimensions of PN 25 flanges (see Figure 5)

Nominal size	Tube outside diameter A		Mating dimensions					Flange thickness		Hub dia.	Neck dia.	Stub end diameter	Length through hub or collar		Collar thickness		Collar flange thickness		Cladding thickness	Collar or face diameter	Bore of flange or collar		Bore of flange	Chamfer	
			Outside diameter	Diameter of bolt circle	Diameter of bolt hole	Bolting																			
	T ₁	T ₂				D	K	L	Number				Size	C ₂	C ₁	N ₂	N ₁	H ₁		H ₂	S ₁ min.	S ₂	F	F	D ₁
DN			302, 304, 305, 312, 314, 321					302 304 305		312 314	312 314	321	304	312 314	304	304	302 304 305	302 304 305	302 304 305	302, 312, 314		302 304	304		
Codes affected			302, 304, 305, 312, 314, 321					302 304 305		312 314	312 314	321	304	312 314	304	304	302 304 305	302 304 305	302 304 305	302, 312, 314		302 304	304		
10	15	16.0	90	60	14	4	M12	16	8	21	16	18.0	20	35	1.5	2.5	12	5	5	40	15.07	16.07	18	—	
15	18	20.0	95	65	14	4	M12	16	8	26	21	22.0	20	35	1.5	2.5	12	5	5	45	18.07	20.08	22	2	
20	22	25.0	105	75	14	4	M12	16	8	31	28	27.0	24	40	1.5	2.5	14	5	5	58	22.08	25.08	28	3	
25	28	30.0	115	85	14	4	M12	18	9	36	35	32.0	24	40	1.5	2.5	14	5	5	68	28.08	30.08	33	3	
32	35	38.0	140	100	18	4	M16	18	10	9	45	42	40.0	26	40	1.5	2.5	14	5	5	78	35.09	38.08	42	3
40	42	44.5	150	110	18	4	M16	18	11		51	52	46.5	26	45	1.5	2.5	14	6	5	88	42.09	44.60	50	3
50	54	57.0	165	125	18	4	M16	20	13	11	67	64	59.0	28	45	2.0	3.0	16	6	5	102	54.09	57.23	62	3
65	67	76.1	185	145	18	8	M16	20	22	13	103	79	78.0	32	45	2.5	4.0	16	6	5	122	66.78	76.33	81	3
80	88.9		200	160	18	8	M16	22	24	14	114	94	91.0	34	50	3.5	4.5	18	7	5	138	89.18		94	3
100	108.0		235	190	22	8	M20	22	26	17	137	116	110.0	40	50	4.0	5.0	20	7	5	162	108.38		113	3
125	133.0		270	220	26	8	M24	24	26	160		165	135.5	44	50	5.0	6.3	22	7	5	188	133.63		138	4
150	159.0		300	250	26	8	M24	24	28	26	186	192	161.5	48	50	5.0	6.3	22	9	5	218	159.63		164	4
175	193.7		330	280	26	12	M24	—	28		216	217	197.0	50	50	4.0	5.5	23	9	5	242	194.63		200	5
200	219.1		360	310	26	12	M24	26	30		246	246	222.0	50	50	6.0	7.5	24	9	5	278	220.03		225	5
250	267.0		425	370	30	12	M27	30	32		296	298	269.0	54	50	7.0	8.5	26	9	5	335	268.13		273	5
250	273.0		425	370	30	12	M27	30	32		—	298	275.0	54	50	7.0	8.5	26	9	5	335	274.13		279	7
300	323.9		485	430	30	16	M27	34	—	32	—	348	327.0	—	50	8.0	9.5	28	11	5	395	325.03		329	7
350	368.0		555	490	33	16	M30	38	—	36	—	404	—	—	—	—	—	32	—	5	450	369.13		374	—
400	419.0		620	550	36	16	M33	42	—	38	—	458	—	—	—	—	—	34	—	5	505	420.13		426	—
500	508.0		730	660	36	20	M33	50	—	42	—	564	—	—	—	—	—	38	—	5	615	509.13		517	—

NOTE 1 For code 321 flanges in sizes up to and including DN 100 and for bolting to flanges with raised face the appropriate thicknesses C₁ in Table 11 (PN 40) apply.

NOTE 2 Codes 304 and 305 flanges, codes 312 and 314 in the sizes DN 65 to DN 250, code 321 in the sizes DN 250 may be used with inside bolt circle gaskets.

NOTE 3 See clause 8 for joint facings.



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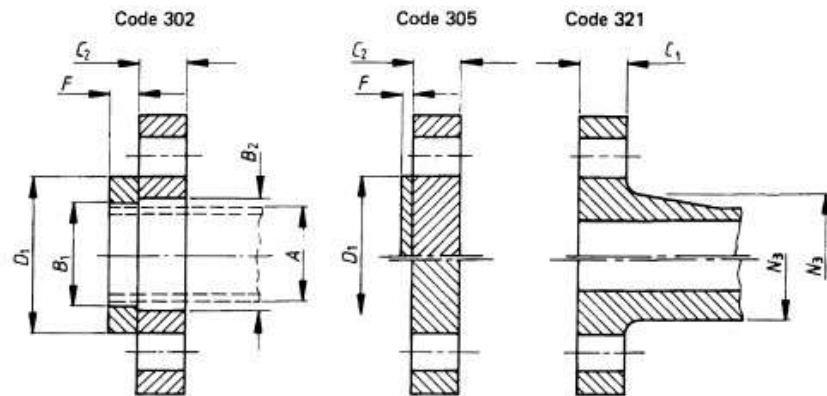
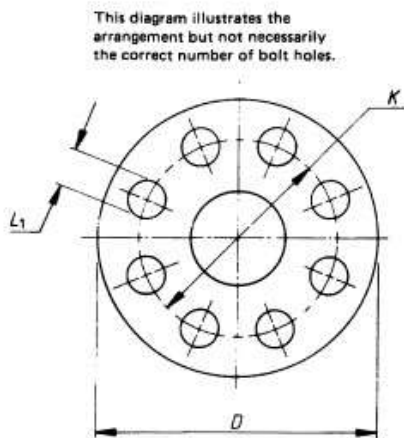
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NOTE: Dimension N_3 is measured at the intersection of the projections of the hub draft angle and the back face of the flange.

Dimensions of PN 40 flanges



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Dimensions of PN 40 flanges

Nominal size	Tube outside diameter	Mating dimensions					Flange thickness			Neck diameter	Collar thickness	Cladding thickness	Collar or raised face diameter	Bore of collar	Bore of flange
		Outside diameter	Diameter of bolt circle	Diameter of bolt hole	Bolting										
					Number	Size	C ₂	C ₁	C ₁ [*]						
DN	A	D	K	L			C ₂	C ₁	C ₁ [*]	N ₃	F	F	D ₁	B ₁	B ₂
Codes affected	302, 305, 321						302 305	321	321	321	302	305	302 305	302	302
	mm	mm	mm	mm			mm	mm	mm	mm	mm	mm	mm	mm	mm
10	16.0	90	60	14	4	M12	16	9	12	16	12	5	40	16.07	18
15	20.0	95	65	14	4	M12	16	9	12	21	12	5	45	20.08	22
20	25.0	105	75	14	4	M12	16	9	12	28	14	5	58	25.08	28
25	30.0	115	85	14	4	M12	18	11	14	35	14	5	68	30.08	33
32	38.0	140	100	18	4	M16	18	11	15	42	14	5	78	38.10	42
40	44.5	150	110	18	4	M16	18	13	16	52	14	5	88	44.60	50
50	57.0	165	125	18	4	M16	20	13	17	64	16	5	102	57.23	62
65	76.1	185	145	18	8	M16	20	14	17	79	16	5	122	76.33	81
80	88.9	200	160	18	8	M16	22	16	19	94	18	5	138	89.13	94
100	108.0	235	190	22	8	M20	22	19	21	116	20	5	162	108.38	113
125	133.0	270	220	26	8	M24	24	—	—	—	22	5	188	133.63	138
150	159.0	300	250	26	8	M24	24	—	—	—	22	5	218	159.63	164
200	219.1	375	320	30	12	M27	30	—	—	—	26	5	285	220.03	225
250	267.0	450	385	33	12	M30	36	—	—	—	30	5	345	268.13	278
250	273.0	450	385	33	12	M30	36	—	—	—	30	5	345	274.13	278
300	323.9	515	450	33	16	M30	40	—	—	—	34	5	410	325.03	329
350	368.0	580	510	36	16	M33	46	—	—	—	38	5	465	369.13	374
400	419.0	660	585	39	16	M36	50	—	—	—	42	5	535	420.13	426

NOTE 1 See clause 8 for joint facings.

* For codes 321 flanges C₁ * thicknesses are applicable when required for flanges with a raised face of 1.6 mm or when required to be used with inside bolt circle gaskets or codes 304, 305 and 307 flanges.



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Dimension	Flange code	Tolerance	Size
Bore diameter B_1	301, 302, 307, 312, 314	mm + 0.05 - 0	$\leq$ DN 65
		+ 0.1 - 0	> DN 65 $\leq$ DN 200
		+ 0.25 - 0	> DN 200 $\leq$ DN 500
		+ 1.5 _a - 0	> DN 200 $\leq$ DN 350
		+ 2.0 _a - 0	> DN 350 $\leq$ DN 500
		+ 3.0 - 0	> DN 500
Bore diameter B_2	302, 304, 307	+ 1.0 - 0	$\leq$ DN 100
		+ 1.5 - 0	> DN 100 $\leq$ DN 300
	302, 304	+ 2.0 - 0	> DN 300 $\leq$ DN 800
		+ 4.0 - 0	> DN 800
	307	+ 2.0 - 0	> DN 300 $\leq$ DN 900
		+ 4.0 - 0	> DN 900
Length through hub H_1	312, 314	+ 1.5 - 0	$\leq$ DN 100
		+ 2.5 - 0	> DN 100 $\leq$ DN 800
		+ 3.5 - 0	> DN 800
Length through collar H_2	304	$\pm$ 1.5	$\leq$ DN 65
		$\pm$ 2	> DN 65
	307	+ 1.5 - 0	$\leq$ DN 200
		+ 2.5 - 0	> DN 200 $\leq$ DN 800
		+ 3.5 - 0	> DN 800



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Table 12 — Tolerances

Dimension	Flange code	Tolerance mm	Size
Hub neck N_1 or collar diameter N_3	304	± 0.5	$\leq$ DN 65
		± 1.0	$>$ DN 65 $\leq$ DN 150
		± 1.5	$>$ DN 150 $\leq$ DN 300
		± 2	$>$ DN 300
	307, 312, 314	± 0.5	$\leq$ DN 65
		± 1.0	$>$ DN 65 $\leq$ DN 150
		± 2.0	$>$ DN 150 $\leq$ DN 400
		± 3.0	$>$ DN 400 $\leq$ DN 800
		± 4.0	$>$ DN 800
	321	$+1.5$ -0	$\leq$ DN 65
		$+2.5$ -0	$>$ DN 65 $\leq$ DN 150
		$+3.5$ -0	$>$ DN 150 $\leq$ DN 400
		$+5.0$ -0	$>$ DN 400 $\leq$ DN 800
		$+10.0$ -0	$>$ DN 800
Outside diameter D	All codes (machined)	± 1.0	$\leq$ DN 200
		± 1.5	$>$ DN 200 $\leq$ DN 300
		± 2.0	$>$ DN 300
	All codes (unmachined)	± 2.0	$\leq$ DN 300
		± 3.0	$>$ DN 300 $\leq$ DN 400
		± 5.0	$>$ DN 400
Flange thickness C_1, C_2	All codes	$+2.5$ -0	$\leq$ 25 mm thickness
		$+5.0$ -0	$>$ 25 mm $\leq$ 50 mm thickness
		$+7.5$ -0	$>$ 50 mm $\leq$ 75 mm thickness
		$+10.0$ -0	$>$ 75 mm thickness
Collar or cladding diameter D_1	304, 305	± 1.0	$\leq$ DN 80
		± 2.0	$>$ DN 80 $\leq$ DN 1200
		± 3.0	$>$ DN 1200
	302, 307	$+1.0$ -0	$\leq$ 65
		$+2.0$ -0	$>$ DN 65 $\leq$ DN 400
		$+3.0$ -0	$>$ DN 400



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Table 12 — Tolerances

Dimension	Flange code	Tolerance	Size
Facing height <i>F</i>	302, 304	mm	
		± 0.5	$\leq$ DN 125
		± 1.0	$>$ DN 125 $\leq$ DN 500
		± 1.5	$>$ DN 500
	305	± 0.3	$\leq$ DN 250
		± 0.6	$>$ DN 250
	307	$+1.0$ -0	$\leq$ DN 65
		$+2.0$ -0	$>$ DN 65 $\leq$ DN 500
		$+3.0$ -0	$>$ DN 500
Diameter of bolt circle <i>K</i>	All codes	± 0.9	Bolt sizes M12 to M24
		± 1.4	Bolt sizes M27 to M45
Centre-to-centre of adjacent bolt holes	All codes	± 0.45	Bolt sizes M12 to M24
		± 0.7	Bolt sizes M27 to M45
Concentricity (see note 1)	All codes	1.0	$\leq$ DN 100
		2.0	$>$ DN 100
Parallelism between bolting bearing surfaces and flange jointing faces	All codes (machined surfaces)	1°	All sizes
	All codes (unmachined surfaces)	2°	

NOTE 1 Concentricity is between *K* and any machined diameter. This tolerance does not apply if a suitable machined diameter does not exist.

NOTE 2 Miscellaneous radii chamfers should be regarded as maximum unless otherwise specified. Tolerances on the pitch circle diameter and centre-to-centre of adjacent bolt holes are determined by the difference between the bolt and the bolt hole diameter and thus in conjunction cannot exceed the clearance together with any tolerance on the diameter of the bolt hole.

^a These tolerances apply only to codes 301, 302, 307, 312 and 314 flanges intended for attachment by fusion welding.



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Table 13 — Pressure/temperature ratings (general applications)

PN	Temperature (see notes)						
	- 10 °C to 120 °C	150 °C	180 °C	200 °C	220 °C	250 °C	260 °C
	Maximum non-shock gauge pressure						
	bar ^a	bar	bar	bar	bar	bar	bar
6	6.0	6.0	6.0	5.0	4.0	2.5	2.0
10	10.0	10.0	10.0	8.5	7.0	5.0	4.0
16	16.0	16.0	16.0	13.5	11.3	8.0	7.0
25	25.0	25.0	25.0	21.2	17.5	12.2	10.5
40	40.0	38.5	34.0	30.0	25.5	19.5	17.5

NOTE 1 Flanges larger than DN 250 are limited to a maximum temperature of 120 °C.

NOTE 2 Flanges in alloy CZ 110 are limited to a maximum temperature of 200 °C.

NOTE 3 Flange sizes up to and including DN 250 in alloy AB 2, alloy CA 104 and alloy CN 107 may be used up to and including 350 °C and the rating at 260 °C applies.

NOTE 4 PN 6, PN 10, PN 16 and PN 25 flanges used in conjunction with copper tubes to BS 2871-1 up to and including DN 50 and attached by soft solder (see BS 864-2), are limited to the following maximum operating temperature and/or pressures:

6 bar at 110 °C

10 bar at 65 °C

16 bar at 30 °C

NOTE 5 All flanges attached by silver brazing to copper or copper alloy tubes are limited to a maximum operating temperature of 200 °C.

NOTE 6 For the suitability of copper alloy and steel components and bolting at low temperatures reference should be made to the appropriate application standard.

^a 1 bar = 10⁵ N/m² = 10⁵ Pa.