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Blank Flanges
 Nominal Pressure 6 to 100

DIN
 2527

Blindflansche; Nenndruck 6 bis 100

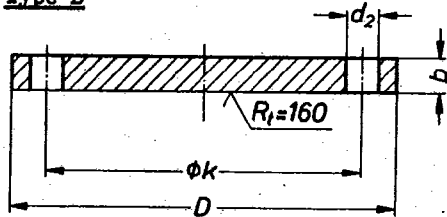
Dimensions in mm

Range of application

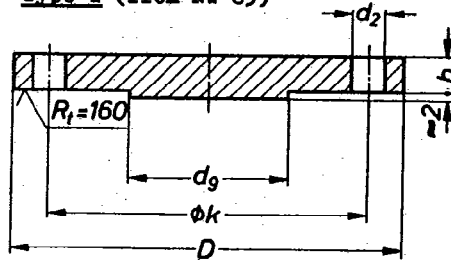
Blank flanges in the dimensions of this Standard of USt 37-1 or RSt 37-1, or alternatively of C 22, can be used at temperatures up to 120 °C and at working pressures up to the nominal pressures shown in the individual Tables. At temperatures above 120 °C, recalculation with the strength values valid for the higher temperatures is necessary¹⁾.

For nominal pressure 6 to 40

Type B



Type T (from NW 65)

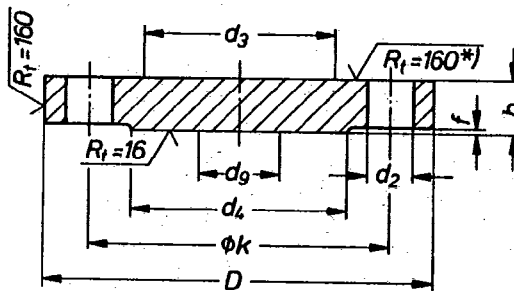


Designation of a blank flange in regular version (Type B) for nominal width 250 and nominal pressure 6 of USt 37-1:

Flange B 250 ND 6 DIN 2527 - USt 37-1

For nominal pressure 64 and 100

Type E



Designation of a blank flange in regular version (Type E) for nominal width 100 and nominal pressure 64 of C 22:

Flange E 100 ND 64 DIN 2527 - C 22

^{*)} $R_f = 160$ is valid only for the annular area $D - d_3$

¹⁾ See AD Data Sheet B 5 "Flat ends and plates with fixings", Section 4.1

Continued on pages 2 to 5
 Explanations on page 6

The following can be manufactured from Type B:

Blank flanges with plain raised face according to DIN 2526 (Type O)
(for diameter and height of raised face, see standards for flanges of the corresponding nominal pressure, e.g., DIN 2631 to DIN 2635)

Blank flanges with tongue or groove according to DIN 2512 (Type F or N)

Blank flanges with male or female face according to DIN 2514 (Type V 14 or R 14)

The following can be manufactured from Type E:

Blank flanges with tongue or groove according to DIN 2512 (Type F or N)

Blank flanges with chamfer for diaphragm welded seal according to DIN 2695 (Type M)

When ordering such flanges, the appropriate type letter is to be quoted, e.g.:

Designation of a blank flange with tongue (Type F) of nominal width 100 and nominal pressure 64, of C 22:

Flange F 100 ND 64 DIN 2527 - C 22

Nominal pressure 6

Nominal width	Flange			d _g max.	Bolts			Weight of one flange (7,85 kg/dm ³) for			
	D	b	k		Number	Thread	d ₂	Type B kg ≈	Type T kg ≈		
10	75	12	50		4	M 10	11	0,38			
15	80	12	55					0,44			
20	90	14	65					0,65			
25	100	14	75					0,82			
32	120	14	90					1,17			
40	130	14	100			1,39					
50	140	14	110			1,62	M 12	14		2,44	2,48
65	160	14	130			55				3,43	3,49
80	190	16	150			70				4,76	4,86
100	210	16	170			90				6,11	6,28
125	240	18	200	115	7,51	7,75					
150	265	18	225	140	8	M 16	18	10,4	10,7		
(175)	298	20	255	165				12,3	12,7		
200	320	20	280	190				18,3	19,0		
250	375	22	335	235				25,3	26,3		
300	440	22	395	285				31,6	32,9		
350	490	22	445	330	12	M 20	22	38,4	40,2		
400	540	22	495	380				60,4	63,2		
500	645	24	600	475				20			

Nominal pressure 10

Nominal width	Flange			d _g max.	Bolts			Weight of one flange (7,85 kg/dm ³) for	
	D	b	k		Number	Thread	d ₂	Type B kg ≈	Type T kg ≈
10 to 175	For nominal widths 10 to 175 blank flanges of nominal pressure 16 should be used.								
200	340	24	295	190	8	M 20	22	16,5	16,9
250	395	26	350	235	12			24,0	24,7
300	445	26	400	285	16			30,9	31,9
350	505	26	460	330	20			40,6	41,9
400	565	26	515	380				49,4	51,2
500	670	28	620	475	20	M 24	26	75,0	77,8

Nominal pressure 16

Nominal width	Flange			d_9 max.	Bolts			Weight of one flange (7,85 kg/dm ³) for	
	D	b	k		Number	Thread	d_2	Type B kg ≈	Type T kg ≈
10	90	14	60		4	M 12	14	0,63	
15	95	14	65					0,72	
20	105	16	75					1,01	
25	115	16	85					1,23	
32	140	16	100					1,80	
40	150	16	110					2,09	
50	165	18	125					2,88	
65	185	18	145	55	8	M 16	18	3,66	3,70
80	200	20	160	70				4,77	4,83
100	220	20	180	90				5,65	5,75
125	250	22	210	115				8,42	8,59
150	285	22	240	140				10,4	10,6
(175)	315	24	270	165				14,0	14,3
200	340	24	295	190				16,1	16,5
250	405	26	355	235	12	M 24	26	24,9	25,6
300	460	28	410	285				35,1	36,1
350	520	30	470	330				47,8	49,1
400	580	32	525	380	16	M 27	30	63,5	65,3
500	715	36	650	475				20	M 30

Nominal pressure 25

Nominal width	Flange			d_9 max.	Bolts			Weight of one flange (7,85 kg/dm ³) for	
	D	b	k		Number	Thread	d_2	Type B kg ≈	Type T kg ≈
10 to 150	For nominal widths 10 to 150 blank flanges of nominal pressure 40 should be used.								
(175)	330	28	280	165	12	M 24	26	17,3	17,6
200	360	30	310	190				22,3	22,7
250	425	32	370	237				33,5	34,2
300	485	34	430	285	16	M 27	30	46,3	47,3
350	555	38	490	332				68,0	69,3
400	620	40	550	380				89,7	91,5
500	730	45	660	475	20	M 33	36	138	141

Nominal pressure 40

Nominal width	Flange			d_0 max.	Bolts			Weight of one flange (7,85 kg/dm ³) for			
	D	b	k		Number	Thread	d_2	Type B kg ≈	Type T kg ≈		
10	90	16	60		4	M 12	14	0,72			
15	95	16	65					0,81			
20	105	18	75					1,24			
25	115	18	85					1,38			
32	140	18	100					2,03			
40	150	18	110					2,35			
50	165	20	125		8	M 16	18	3,20			
65	185	22	145	55				4,29	4,33		
80	200	24	160	70	12	M 20	22	5,88	5,94		
100	235	24	190	90				7,54	7,64		
125	270	26	220	115				M 24	26	10,8	11,0
150	300	28	250	140						14,5	14,7
(175)	350	32	295	165	M 27	30	22,1	22,4			
200	375	34	320	190			27,2	27,6			
250	450	38	385	235	M 30	33	43,8	44,5			
300	515	42	450	285			63,3	64,3			
350	580	46	510	330	16	M 33	36	89,5	90,8		
400	660	50	585	380				M 36	39	127	129
500	755	56	670	475	20	M 39	42	172	175		

Nominal pressure 64

Nominal width	Flange							Bolts			Weight of one flange (7,85 kg/dm ³) kg ≈
	D	b	k	d_3	d_4	d_9 max.	f	Number	Thread	d_2	
10 to 40	For nominal widths 10 to 40 blank flanges of nominal pressure 100 should be used.										
50	180	26	135	82	102	—	3	4	M 20	22	4,51
65	205	28	160	98	122	45	3	8	M 20	22	5,71
80	215	28	170	112	138	60	3	8	M 20	22	6,92
100	250	30	200	138	162	80	3	8	M 24	26	10,1
125	295	34	240	168	188	105	3	8	M 27	30	16,0
150	345	36	280	202	218	130	3	8	M 30	33	23,5
(175)	375	40	310	228	260	155	3	12	M 30	33	30,8
200	415	42	345	256	285	180	3	12	M 33	36	39,7
250	470	46	400	316	345	220	3	12	M 33	36	57,4
300	530	52	460	372	410	270	4	16	M 33	36	81,0
350	600	56	525	420	465	310	4	16	M 36	39	114
400	670	60	585	475	535	360	4	16	M 39	42	153

Nominal pressure 100

Nominal width	Flange							Bolts			Weight of one flange (7,85 kg/dm ³) kg ≈
	D	b	k	d ₃	d ₄	d ₉ max.	f	Number	Thread	d ₂	
10	100	20	70	32	40	—	2	4	M 12	14	1,00
15	105	20	75	34	45	—	2	4	M 12	14	1,22
25	140	24	100	52	68	—	2	4	M 16	18	2,65
32	155	24	110	62	78	—	2	4	M 20	22	3,24
40	170	26	125	70	88	—	3	4	M 20	22	4,09
50	195	28	145	90	102	—	3	4	M 24	26	5,84
65	220	30	170	108	122	45	3	8	M 24	26	8,03
80	230	32	180	120	138	60	3	8	M 24	26	9,43
100	265	36	210	150	162	80	3	8	M 27	30	14,3
125	315	40	250	180	188	105	3	8	M 30	33	22,6
150	355	44	290	210	218	130	3	12	M 30	33	31,8
(175)	385	48	320	245	260	155	3	12	M 30	33	41,3
200	430	52	360	278	285	180	3	12	M 33	36	56,1
250	505	60	430	340	345	210	3	12	M 36	39	89,6
300	585	68	500	400	410	260	4	16	M 39	42	119
350	655	74	560	460	465	300	4	16	M 45	48	175

Bracketed size should be avoided wherever possible.

Material:

For nominal pressure 6 to 16: USt 37-1 or RSt 37-1 according to DIN 17100
For nominal pressure 25 to 100: C 22 according to DIN 17200

Other materials to be agreed when ordering, e.g., high-temperature steels such as C 22 N or alloy steels such as are listed in DIN 17175 for tubes.

Manufacturing process and as delivered condition

According to DIN 2519

Marking

Each flange is to be marked in accordance with the provisions of DIN 2519.

Other relevant standards

Flanges, survey see DIN 2500
Steel flanges, technical conditions of delivery see DIN 2519
Steel tubes see DIN 2448 and DIN 2458

Explanations

A working group of the Advisory Committee on Flanges first attempted to establish from the technology of flange manufacture what types of blank flange it would be reasonable to manufacture and to standardize. The argument that only a ring-shaped area should normally be machined, leaving the central area unmachined, was accepted as justified. It was pointed out that, in the case of rubber-coated, plastic-coated or metal-clad versions, the whole of the underside of the flange must be machined.

In discussion, an attempt was also made to restrict the number of blank flanges to be manufactured. It was not considered reasonable to double the two existing types of blank flanges by permitting blank flanges with the underside unmachined in addition to the versions already standardized.

Proceeding from the manufacture of flanges, Type B was regarded as the accepted blank flange. The starting shape can be a cylindrical body which is either drop-forged or cut from a plate. If the entire annular surface is machined, the existing Type B is the result. If machining is limited to those areas which must in any case be machined, that is to say, if only the bearing area of the nut and the raised face are machined, what is now known as the Type T version is obtained from the same initial shape. This is also desirable. The working group was of the opinion that, from the point of view of application, these two blank flanges would meet all requirements.

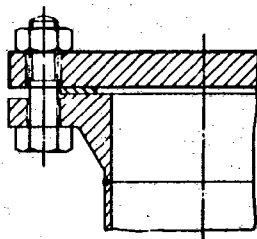
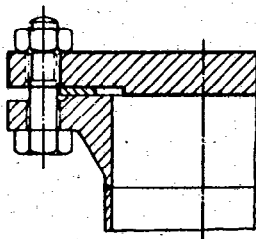
At the same time, the Technical Commission on Flanges of the Swiss Standards Association has considered the matter and has also proposed that only the types designated B and T in DIN 2527 be standardized. However, allowance was also made for the possibility of ordering blank flanges for counterflanges provided with a plain raised face, tongue or groove, male or female face and a stepped-down section. This latter concept should also be adopted for German standardization. For this reason, Type B is stipulated as the regular version and, additionally, the widely used Type T introduced for nominal widths of 65 and above. As all variations of the raised face can be eliminated from Type B, the intention is to make it possible to order blank flanges with raised face, tongue or groove and male or female faces conforming to this Standard. Conformity between the DIN and VSM standards for blank flanges is thus achieved.

In conformity with the ASA version of the flange corresponding to Type T, the depth of the female face in the machined surface of this type is given as 2 mm. This dimension can be stipulated. It must not be confused with the dimension f in standards dealing with flanges. It should be noted that the machined area includes the raised face which, in the case of counterflanges, projects for distance f .

Type T is introduced for nominal widths of 65 and upwards. It did not appear worthwhile to standardize blank flanges of smaller nominal widths in this type; for that purpose, Type B should in principal be used. The diameter of the unmachined annular surface is designated by d_0 ; the dimensions were laid down in terms of the inside diameter of the pipes for the associated welding neck flange.

During the revision of standard DIN 2527, which stems from the year 1963, it was found that blank flanges for the pressure ratings ND 64 and ND 100 were required on an increasing scale. It has therefore been proposed that these blank flanges be also standardized; for these pressure stages, however, the blank flange with plain raised face must be selected as the regular version (Type E);

The following examples of application are shown to clarify the installation possibilities of the three types of blank flange.

Examples of applicationType BType TType C

(can be made from Type B)

