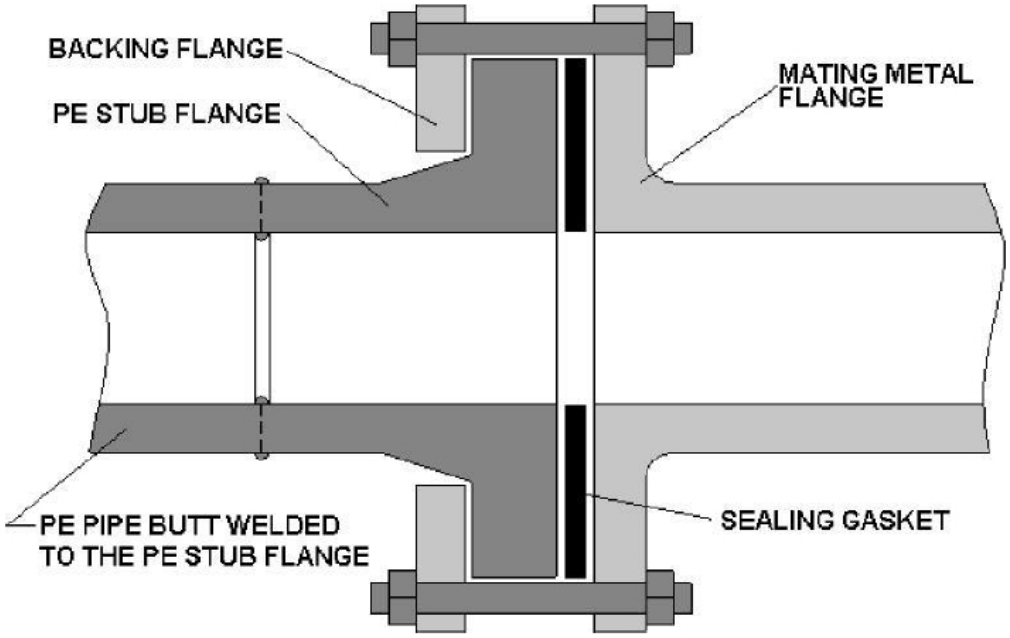
Thermoplastics pipes for fluids under pressure
Mating dimensions of flange adaptors and loose backing flanges



Thermoplastics pipes for fluids under pressure
Mating dimensions of flange adaptors and loose backing flanges

International Standard ISO 9624

This International Standard specifies the mating dimensions of flange adaptors of thermoplastic materials and the corresponding dimensions of loose backing flanges to be used with thermoplastic pipes under pressure (butt fusion systems of polyethylene and polypropylene).

For butt fusion systems, the dimensions of the flange adaptors shall conform to those given in table 1. The dimensions of the loose backing flanges shall conform to those given in table 2 for nominal pressure PN10 and to those given in table 3 for nominal pressure PN16.

NOTE[1] – The thickness of the flange adaptor face will be dependent on the material used in the manufacture of the adaptor and on the nominal pressure (PN) for which it is designed.
NOTE[2] – The thickness of the loose backing flanges will be dependent on the material used in the manufacture of the flange and on the nominal pressure (PN) for which it is designed. The inside diameter (D2) of the loose backing flanges shall conform to the design of the flange adaptor. In some applications, values of the inside diameter of the loose backing flanges differing from those given in the tables 2 and 3 may be used.

BUTT FUSION SYSTEMS

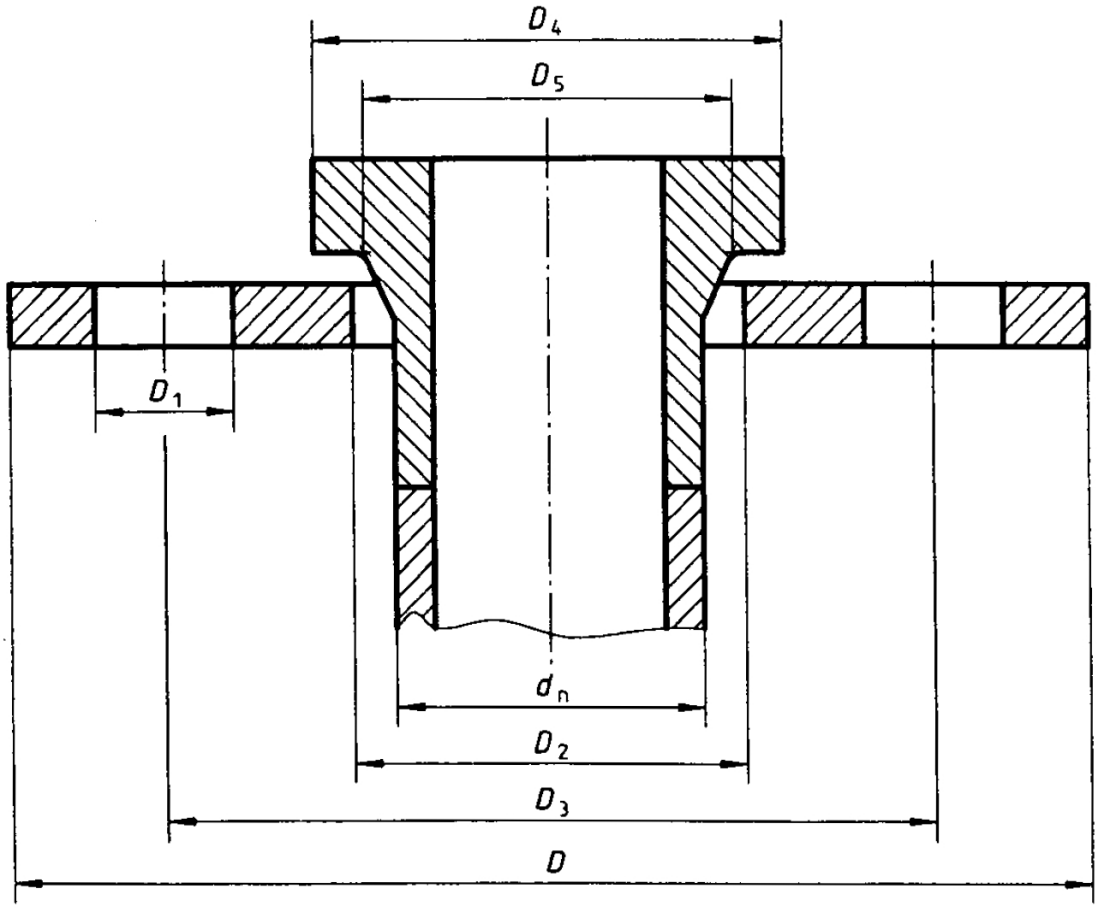


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TABLE 1
Flange adaptors – Dimensions for butt fusion systems

Nominal outside diameter of pipe and spigot DN	D4 min.	D5
20	45	27
25	58	33
32	68	40
40	78	50
50	88	61
63	102	75
75	122	89
90	138	105
110	158	125
125	158	132
140	188	155
160	212	175
180	212	180
200	268	232
225	268	235
250	320	285
280	320	291
315	370	335
355	430	373
400	482	427
450	585	514
500	585	530
560	685	615
630	685	642
710	800	737
800	905	840
900	1005	944
1000	1110	1047
1200	1330	1245

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TABLE 2
Loose backing flanges for butt fusion systems – Nominal pressure PN10

DN	Nominal outside diameter of pipe	Loose backing flanges					
		Outside diameter	Inside diameter	Pitch circle diameter	Bolts		
					Bolt hole diameter	Number	Screw thread
	dn	D	D2	D3	D1	n	
15	20	95	28	65	14	4	M12
20	25	105	34	75	14	4	M12
25	32	115	42	85	14	4	M12
32	40	140	51	100	18	4	M16
40	50	150	62	110	18	4	M16
50	63	165	78	125	18	4	M16
65	75	185	92	145	18	4	M16
80	90	200	108	160	18	8	M16
100	110	220	128	180	18	8	M16
100	125	220	135	180	18	8	M16
125	140	250	158	210	18	8	M16
150	160	285	178	240	22	8	M20
150	180	285	188	240	22	8	M20
200	200	340	235	295	22	8	M20
200	225	340	238	295	22	8	M20
250	250	395	288	350	22	12	M20
250	280	395	294	350	22	12	M20
300	315	445	338	400	22	12	M20
350	355	505	376	460	22	16	M20
400	400	565	430	515	26	16	M24
450	450	615	470	565	26	20	M24
500	450	670	517	620	26	20	M24
500	500	670	533	620	26	20	M24
600	560	780	618	725	30	20	M27
600	630	780	645	725	30	24	M27
700	710	895	740	840	30	24	M27
800	800	1015	843	950	33	24	M30
900	900	1115	947	1050	33	28	M30
1000	1000	1230	1050	1160	36	28	M33
1200	1200	1455	1260	1380	39	32	M36

The dimensions are conform to EN 1092.

NOTE[2] – The thickness of the loose backing flanges will be dependent on the material used in the manufacture of the flange and on the nominal pressure (PN) for which it is designed. The inside diameter (D2) of the loose backing flanges shall conform to the design of the flange adaptor. In some applications, values of the inside diameter of the loose backing flanges differing from those given in the tables 2 and 3 may be used.

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TABLE 3
Loose backing flanges for butt fusion systems – Nominal pressure PN16

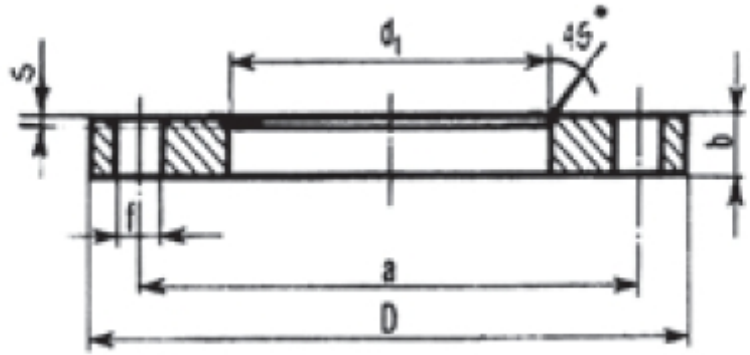
DN	Nominal outside diameter of pipe	Loose backing flanges					
		Outside diameter	Inside diameter	Pitch circle diameter	Bolts		
					Bolt hole diameter	Number	Screw thread
	dn	D	D2	D3	D1	n	
15	20	95	28	65	14	4	M12
20	25	105	34	75	14	4	M12
25	32	115	42	85	14	4	M12
32	40	140	51	100	18	4	M16
40	50	150	62	110	18	4	M16
50	63	165	78	125	18	4	M16
65	75	185	92	145	18	4	M16
80	90	200	108	160	18	8	M16
100	110	220	128	180	18	8	M16
100	125	220	135	180	18	8	M16
125	140	250	158	210	18	8	M16
150	160	285	178	240	22	8	M20
150	180	285	188	240	22	8	M20
200	200	340	235	295	22	8	M20
200	225	340	238	295	22	8	M20
250	250	405	288	355	26	12	M24
250	280	405	294	355	26	12	M24
300	315	460	338	410	26	12	M24
350	355	520	376	470	26	16	M24
400	400	580	430	525	30	16	M27
450	450	670	517	585	30	20	M27
500	500	715	533	650	33	20	M30
600	560	840	618	770	36	20	M33
600	630	840	645	770	36	20	M33
700	710	910	740	840	36	24	M33
800	800	1025	843	950	39	24	M36
900	900	1125	947	1050	39	28	M36
1000	1000	1230	1050	1170	42	28	M39
1200	1200	1455	1260	1390	48	32	M45

The dimensions are conform to EN 1092.

NOTE[2] – The thickness of the loose backing flanges will be dependent on the material used in the manufacture of the flange and on the nominal pressure (PN) for which it is designed. The inside diameter (D2) of the loose backing flanges shall conform to the design of the flange adaptor. In some applications, values of the inside diameter of the loose backing flanges differing from those given in the tables 2 and 3 may be used.

F.lli Valenti S.r.l – Loose backing flanges

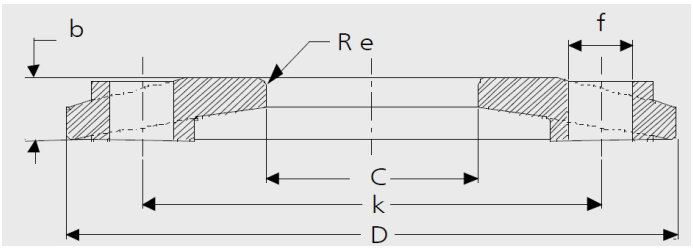
Loose backing flanges – Steel

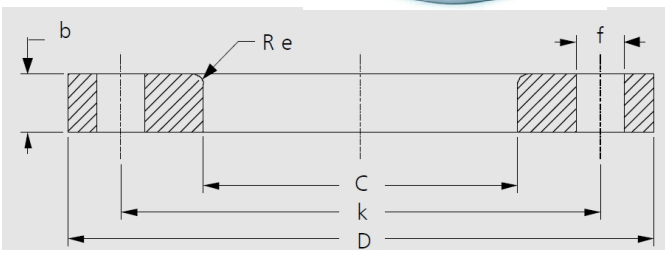


Loose backing flanges – Aluminum

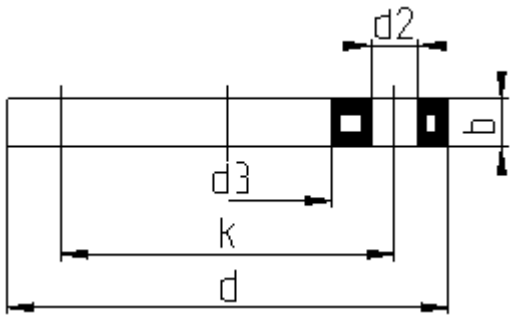
TYPE A
PN10/16

TYPE B
PN10 – PN16





Loose backing flanges – PP/Steel



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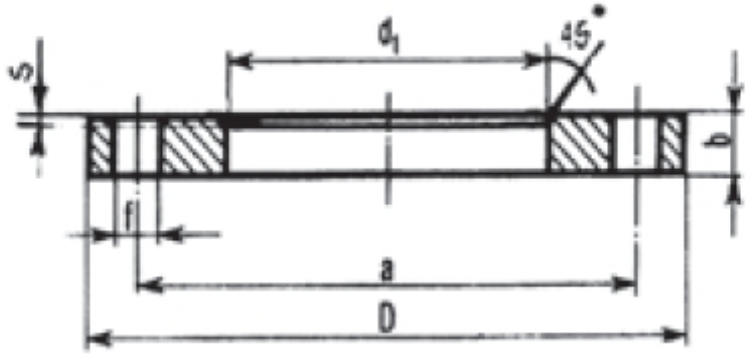
Loose backing flanges – Steel – Nominal pressure PN10



DE	DN	d1	s	a	b	D	f	N° holes	Bolts	Weight kg
15	10	23	2	60	10	90	14	4	M12	0.42
20	15	28	2	65	10	95	14	4	M12	0.53
25	20	34	2	75	10	105	14	4	M12	0.56
32	25	43	2	85	10	115	14	4	M12	0.68
40	32	50	3	100	12	140	18	4	M16	1.17
50	40	62	3	110	12	150	18	4	M16	1.28
63	50	78	3	125	12	165	18	4	M16	1.47
75	65	95	3	145	12	185	18	4	M16	1.77
90	80	109	3	160	13	200	18	8	M16	2.04
110	100	130	4	180	13	220	18	8	M16	2.31
125	100	135	4	180	13	220	18	8	M16	2.20
140	125	160	4	210	14	250	18	8	M16	2.95
160	150	180	4	240	14	285	22	8	M20	3.87
180	150	190	4	240	14	285	22	8	M20	3.55
200	200	235	4	295	16	340	22	8	M20	5.52
225	200	238	4	295	16	340	22	8	M20	5.38
250	250	288	4	350	18	395	22	12	M20	7.47
280	250	294	4	350	18	395	22	12	M20	7.07
315	300	338	4	400	20	445	22	12	M20	9.57
355	350	376	4	460	20	505	22	16	M20	13.08
400	400	430	5	515	22	565	26	16	M24	16.86
450	500	517	5	620	22	670	26	20	M24	22.86
500	500	533	5	620	22	670	26	20	M24	20.54
560	600	618	5	725	25	780	30	20	M27	32.24
630	600	645	5	725	25	780	30	20	M27	26.88
710	700	740	5	840	25	895	30	24	M27	39.80
800	800	843	6	950	28	1015	33	24	M30	58.24
900	900	947	6	1050	28	1115	33	28	M30	60.08
1000	1000	1050	6	1160	30	1230	36	28	M33	89.64
1200	1200	1248	6	1380	30	1455	39	32	M36	99.46

The dimensions are conforms to norm EN 1092.
The thickness (b) is conform to norm ISO 9624 (see note[2] at page1).

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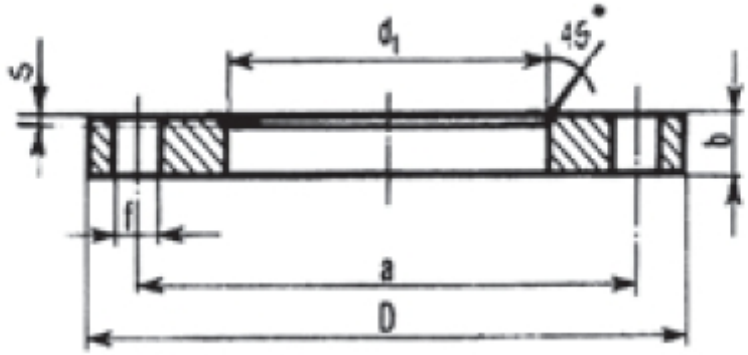
Loose backing flanges – Steel – Nominal pressure PN16



DE	DN	d1	s	a	b	D	f	N° holes	Bolts	Weight kg
15	10	23	2	60	10	90	14	4	M12	0.42
20	15	28	2	65	10	95	14	4	M12	0.53
25	20	34	2	75	10	105	14	4	M12	0.56
32	25	43	2	85	10	115	14	4	M12	0.68
40	32	50	3	100	12	140	18	4	M16	1.17
50	40	62	3	110	12	150	18	4	M16	1.28
63	50	78	3	125	12	165	18	4	M16	1.47
75	65	95	3	145	12	185	18	4	M16	1.77
90	80	109	3	160	13	200	18	8	M16	2.04
110	100	130	4	180	13	220	18	8	M16	2.31
125	100	135	4	180	13	220	18	8	M16	2.20
140	125	160	4	210	14	250	18	8	M16	2.95
160	150	180	4	240	14	285	22	8	M20	3.87
180	150	190	4	240	14	285	22	8	M20	3.55
200	200	235	4	295	16	340	22	12	M20	5.52
225	200	238	4	295	16	340	22	12	M20	5.38
250	250	288	4	355	18	405	26	12	M24	8.15
280	250	294	4	355	18	405	26	12	M24	7.72
315	300	338	4	410	20	460	26	12	M24	11.06
355	350	376	4	470	20	520	26	16	M24	14.84
400	400	430	5	525	22	580	30	16	M27	18.68
450	500	517	5	650	22	715	33	20	M30	27.20
500	500	533	5	650	22	715	33	20	M30	24.88
560	600	618	5	770	25	840	36	20	M33	40.56
630	600	645	5	770	25	840	36	20	M33	35.05
710	700	740	5	840	25	910	36	24	M33	47.39
800	800	843	6	950	28	1025	39	24	M36	65.86
900	900	947	6	1050	28	1125	39	28	M36	65.74
1000	1000	1050	6	1170	30	1255	42	28	M39	88.98
1200	1200	1248	6	1390	30	1485	48	32	M45	101.22

The dimensions are conforms to norm EN 1092.
The thickness (b) is conform to norm ISO 9624 (see note[2] at page1).

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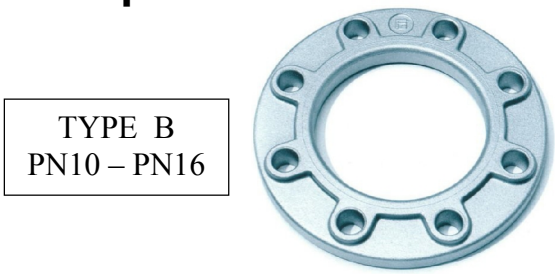
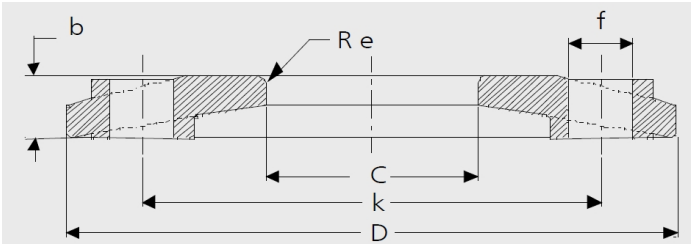
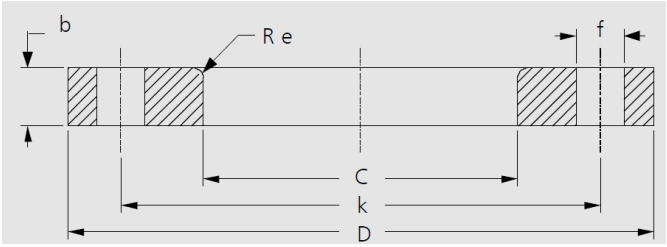
Loose backing flanges – Aluminum – Nominal pressure PN10 - PN16

TYPE A
PN10/16

TYPE B
PN10 – PN16







DN	DE	ØC	ØD	b	e	ØK	Øf	N° holes	Weight kg
50 (A)	63	78	165	18	4	125	18	4	0.48
65 (A)	75	92	185	20	4	145	18	4	0.67
80 (A)	90	108	200	20	5	160	18	8	0.74
100 (A)	110	128	220	20	5	180	18	8	0.84
125 (A)	125	135	250	22	5	210	18	8	1.08
125 (A)	140	158	250	22	5	210	18	8	1.08
150 (A)	160	178	285	22	5	240	22	8	1.40
150 (A)	180	188	285	22	5	240	22	8	1.40
200 (B)	200	235	340	26	5	295	22	8	2.30
200 (B)	225	238	340	26	5	295	22	8	2.25
250 (B)	250	288	395	28	5	350	22	12	3.03
250 (B)	280	294	395	28	5	350	22	12	2.84
300 (B)	315	338	445	28	5	400	22	12	3.50
350 (B)	355	376	505	22	5	460	22	16	5.00
400 (B)	400	430	565	25	6	515	25	16	6.50
200 (B)	200	235	340	26	5	295	22	12	2.45
200 (B)	225	238	340	26	5	295	22	12	2.33
250 (B)	250	288	405	28	5	355	25	12	3.62
250 (B)	280	294	405	28	5	355	25	12	3.40
300 (B)	315	338	460	32	5	410	25	12	5.00

The dimensions are conforms to norm EN 1092.
The thickness (b) is conform to norm ISO 9624 (see note[2] at page1).

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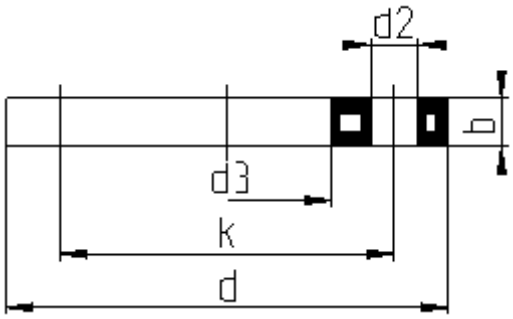
Loose backing flanges – PP/Steel – Nominal pressure PN10



DE	DN	d	d2	d3	b	k	P bar	K	nm	N° holes	Weight kg
20	15	95	14	28	12	65	16	M12	15	4	0.24
25	20	108	14	34	14	75	16	M12	15	4	0.31
32	25	115	14	42	16	85	16	M12	15	4	0.40
40	32	140	18	51	18	100	16	M16	25	4	0.64
50	40	150	18	62	18	110	16	M16	35	4	0.68
63	50	165	18	78	18	125	16	M16	35	4	0.79
75	65	186	18	92	18	145	16	M16	40	4	1.12
90	80	202	18	108	20	160	16	M16	40	8	1.18
110	100	220	18	128	20	180	16	M16	40	8	1.33
125	100	220	18	135	20	180	16	M16	45	8	1.21
140	125	250	18	158	24	210	16	M16	50	8	1.92
160	150	285	22	178	23	240	16	M20	60	8	2.6
180	150	285	22	190	23	240	16	M20	60	8	2.25
200	200	340	22	235	25	295	16	M20	70	8	2.64
225	200	340	22	238	25	295	16	M20	70	8	2.68
250	250	409	22	288	30	350	16	M20	100	12	6.27
280	250	409	22	294	30	350	16	M20	100	12	6.16
315	300	463	23	338	34	400	16	M20	110	12	9.76
355	350	515	22,5	376	42	460	16	M20	160	16	14.2
400	400	574	26	430	46	515	16	M24	170	16	17.74
450	500	678	26	517	45	620	10	M24	190	20	24.96
500	500	678	26	533	45	620	10	M24	190	20	24.38
560	600	789	30	618	50	725	10	M27	220	20	33.4
630	600	789	30	645	50	725	10	M27	220	20	32.62

The dimensions are conforms to norm EN 1092.
The thickness (b) is conform to norm ISO 9624 (see note[2] at page1).

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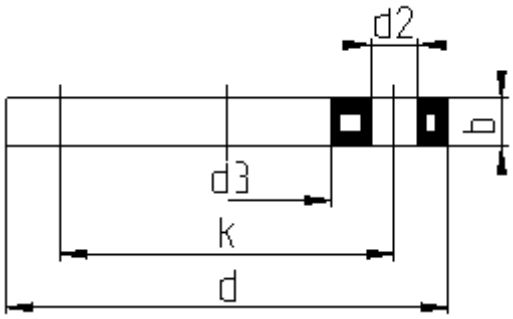
Loose backing flanges – PP/Steel – Nominal pressure PN16



DE	DN	d	d2	d3	b	k	P bar	K	nm	N° holes	Weight kg
20	15	95	14	28	12	65	16	M12	15	4	0.24
25	20	108	14	34	14	75	16	M12	15	4	0.31
32	25	115	14	42	16	85	16	M12	15	4	0.40
40	32	140	18	51	18	100	16	M16	25	4	0.64
50	40	150	18	62	18	110	16	M16	35	4	0.68
63	50	165	18	78	18	125	16	M16	35	4	0.79
75	65	186	18	92	18	145	16	M16	40	4	1.12
90	80	202	18	108	20	160	16	M16	40	8	1.18
110	100	220	18	128	20	180	16	M16	40	8	1.33
125	100	220	18	135	20	180	16	M16	45	8	1.21
140	125	250	18	158	24	210	16	M16	50	8	1.92
160	150	285	22	178	23	240	16	M20	60	8	2.6
180	150	285	22	190	23	240	16	M20	60	8	2.25
200	200	340	22	235	24	295	16	M20	70	12	2.85
225	200	340	22	238	24	295	16	M20	70	12	2.85
250	250	418	26	288	30	355	16	M24	100	12	6.8
280	250	418	26	294	30	355	16	M24	100	12	6.61
315	300	478	26	338	30	410	16	M24	110	12	8.45
355	350	530	26	376	42	470	16	M24	160	16	16.7
400	400	599	30	430	41	525	16	M27	170	16	17

The dimensions are conforms to norm EN 1092.
The thickness (b) is conform to norm ISO 9624 (see note[2] at page1).

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