

INTERNATIONAL STANDARD



2084

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Pipeline flanges for general use — Metric series — Mating dimensions

Brides de tuyauteries à usage général — Série métrique — Dimensions de raccordement

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FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO Member Bodies). The work of developing International Standards is carried out through ISO Technical Committees. Every Member Body interested in a subject for which a Technical Committee has been set up has the right to be represented on that Committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the Technical Committees are circulated to the Member Bodies for approval before their acceptance as International Standards by the ISO Council.

Prior to 1972, the results of the work of the Technical Committees were published as ISO Recommendations; these documents are now in the process of being transformed into International Standards. As part of this process, Technical Committee ISO/TC 5 has reviewed ISO Recommendation R 2084 and found it suitable for transformation. International Standard ISO 2084 therefore replaces ISO Recommendation R 2084-1971.

ISO Recommendation R 2084 was approved by the Member Bodies of the following countries :

Canada	India	South Africa, Rep. of
Chile	Israel	Sweden
Denmark	Italy	Switzerland
Egypt, Arab Rep. of	Japan	Thailand
Finland	Netherlands	Turkey
France	New Zealand	United Kingdom
Germany	Norway	U.S.S.R.
Greece	Poland	
Hungary	Romania	

The Member Body of the following country expressed disapproval of the Recommendation on technical grounds :

Belgium

The Member Body of the following country disapproved the transformation of ISO/R 2084 into an International Standard :

Belgium

Pipeline flanges for general use — Metric series — Mating dimensions

1 SCOPE AND FIELD OF APPLICATION

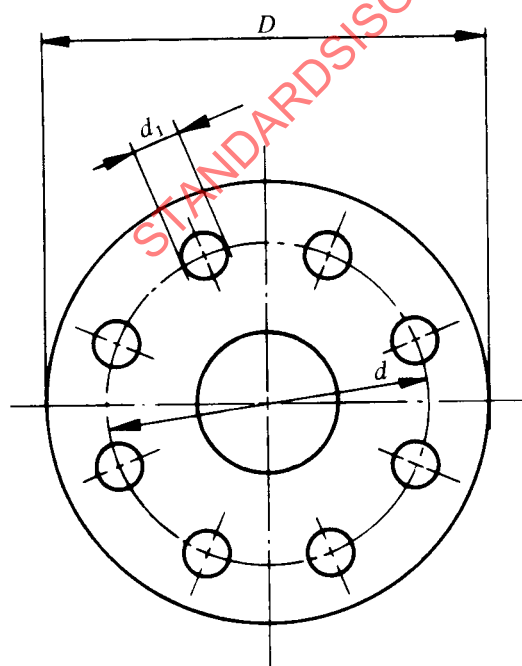
This International Standard specifies, in the form of tables, the mating dimensions of all kinds of pipeline flanges for general use of the metric series.

The same mating dimensions are only indicated once.

There is no nominal diameter in brackets, so that every country can choose nominal diameters suitable for its own usage.

Cast iron flanges in accordance with ISO/R 13 and ISO 2531 are excluded from this International Standard, in certain cases, for the outside diameters and the diameters of the bolt holes. These differences do not prevent the coupling of the flanges.

2 SYMBOLS



- DN = nominal diameter of pipeline
- D = outside diameter of flange
- d = pitch circle diameter of bolts
- d_1 = bolt hole diameter (according to ISO/R 273, medium series)
- Th. = thread of bolts
- n = number of bolts
- NP = nominal pressure in bars

3 DIMENSIONS

TABLE 1 — Dimensions for NP ≤ 2,5, NP 6 and NP 10

Dimensions in millimetres

Nominal diameter DN	NP ≤ 2,5					NP 6					NP 10				
	D	d	d ₁	Th.	n	D	d	d ₁	Th.	n	D	d	d ₁	Th.	n
6	See NP 6					65	40	11	M10	4	See NP 40				
8						70	45	11	M10	4					
10						75	50	11	M10	4					
15						80	55	11	M10	4					
20						90	65	11	M10	4					
25						100	75	11	M10	4					
32						120	90	14	M12	4					
40						130	100	14	M12	4					
50						140	110	14	M12	4					
65						160	130	14	M12	4	See NP 16				
80						190	150	18	M16	4	See NP 40				
100						210	170	18	M16	4	See NP 16				
125						240	200	18	M16	8					
150						265	225	18	M16	8					
175						295	255	18	M16	8					
200						320	280	18	M16	8	340	295	22	M20	8
225						345	305	18	M16	8	370	325	22	M20	8
250						375	335	18	M16	12	395	350	22	M20	12
300						440	395	22	M20	12	445	400	22	M20	12
350						490	445	22	M20	12	505	460	22	M20	16
400						540	495	22	M20	16	565	515	26	M24	16
450						595	550	22	M20	16	615	565	26	M24	20
500						645	600	22	M20	20	670	620	26	M24	20
550						705	655	26	M24	20	730	675	30	M27	20
600						755	705	26	M24	20	780	725	30	M27	20
650						810	760	26	M24	20	835	780	30	M27	24
700						860	810	26	M24	24	895	840	30	M27	24
750						920	865	30	M27	24	965	900	33	M30	24
800						975	920	30	M27	24	1015	950	33	M30	24
900						1075	1020	30	M27	24	1115	1050	33	M30	28
1000						1175	1120	30	M27	28	1230	1160	36	M33	28
1100	1275	1220	30	M27	28	1305	1240	33	M30	28	1340	1270	36	M33	32
1200	1375	1320	30	M27	32	1405	1340	33	M30	32	1455	1380	39	M36	32
1300	1475	1420	30	M27	32	1520	1450	36	M33	32	1575	1490	42	M39	32
1400	1575	1520	30	M27	36	1630	1560	36	M33	36	1675	1590	42	M39	36
1500	1690	1630	30	M27	36	1730	1660	36	M33	36	1785	1700	42	M39	36
1600	1790	1730	30	M27	40	1830	1760	36	M33	40	1915	1820	48	M45	40
1800	1990	1930	30	M27	44	2045	1970	39	M36	44	2115	2020	48	M45	44
2000	2190	2130	30	M27	48	2265	2180	42	M39	48	2325	2230	48	M45	48
2200	2405	2340	33	M30	52	2475	2390	42	M39	52	2550	2440	56	M52	52
2400	2605	2540	33	M30	56	2685	2600	42	M39	56	2760	2650	56	M52	56
2600	2805	2740	33	M30	60	2905	2810	48	M45	60	2960	2850	56	M52	60
2800	3030	2960	36	M33	64	3115	3020	48	M45	64	3180	3070	56	M52	64
3000	3230	3160	36	M33	68	3315	3220	48	M45	68	3405	3290	62	M56	68
3200	3430	3360	36	M33	72	3525	3430	48	M45	72					
3400	3630	3560	36	M33	76	3735	3640	48	M45	76					
3600	3840	3770	36	M33	80	3970	3860	56	M52	80					
3800	4045	3970	39	M36	80										
4000	4245	4170	39	M36	84										

TABLE 2 — Dimensions for NP 16, NP 25 and NP 40

Dimensions in millimetres

Nominal diameter DN	NP 16					NP 25					NP 40				
	D	d	d ₁	Th.	n	D	d	d ₁	Th.	n	D	d	d ₁	Th.	n
6	See NP 40					See NP 40					75	50	11	M10	4
8											80	55	11	M10	4
10											90	60	14	M12	4
15											95	65	14	M12	4
20											105	75	14	M12	4
25											115	85	14	M12	4
32	See NP 40					See NP 40					140	100	18	M16	4
40											150	110	18	M16	4
50											165	125	18	M16	4
65											185	145	18	M16	8
80											200	160	18	M16	8
100											235	190	22	M20	8
125	250	210	18	M16	8	330	280	26	M24	12	270	220	26	M24	8
150	285	240	22	M20	8	360	310	26	M24	12	300	250	26	M24	8
175	315	270	22	M20	8	395	340	30	M27	12	350	295	30	M27	12
200	340	295	22	M20	12	425	370	30	M27	12	375	320	30	M27	12
225	370	325	22	M20	12	485	430	30	M27	16	420	355	33	M30	12
250	405	355	26	M24	12	555	490	33	M30	16	450	385	33	M30	12
300	460	410	26	M24	12	620	550	36	M33	16	515	450	33	M30	16
350	520	470	26	M24	16	670	600	36	M33	20	580	510	36	M33	16
400	580	525	30	M27	16	730	660	36	M33	20	660	585	39	M36	16
450	640	585	30	M27	20	785	710	39	M36	20	685	610	39	M36	20
500	715	650	33	M30	20	845	770	39	M36	20	755	670	42	M39	20
550	775	710	33	M30	20	895	820	39	M36	24	835	740	48	M45	20
600	840	770	36	M33	20	960	875	42	M39	24	890	795	48	M45	20
650	860	790	36	M33	24	1020	935	42	M39	24	945	850	48	M45	24
700	910	840	36	M33	24	1085	990	48	M45	24	995	900	48	M45	24
750	970	900	36	M33	24	1185	1090	48	M45	28	1080	970	56	M52	24
800	1025	950	39	M36	24	1320	1210	56	M52	28	1140	1030	56	M52	24
900	1125	1050	39	M36	28	1420	1310	56	M52	32	1250	1140	56	M52	28
1000	1255	1170	42	M39	28	1530	1420	56	M52	32	1360	1250	56	M52	28
1100	1355	1270	42	M39	32	1645	1530	62	M56	32	1460	1350	56	M52	32
1200	1485	1390	48	M45	32	1755	1640	62	M56	36	1575	1460	62	M56	32
1300	1585	1490	48	M45	32	1865	1750	62	M56	36	1685	1570	62	M56	32
1400	1685	1590	48	M45	36	1975	1860	62	M56	40	1795	1680	62	M56	36
1500	1820	1710	56	M52	36	2195	2070	70	M64	44	1925	1800	70	M64	36
1600	1930	1820	56	M52	40	2425	2300	70	M64	48	2025	1900	70	M64	40
1800	2130	2020	56	M52	44										
2000	2345	2230	62	M56	48										
2200	2555	2440	62	M56	52										
2400	2765	2650	62	M56	56										
2600	2965	2850	62	M56	60										

TABLE 3 — Dimensions for NP 64, NP 100 and NP 160

Dimensions in millimetres

Nominal diameter DN	NP 64					NP 100					NP 160				
	<i>D</i>	<i>d</i>	<i>d</i> ₁	Th.	<i>n</i>	<i>D</i>	<i>d</i>	<i>d</i> ₁	Th.	<i>n</i>	<i>D</i>	<i>d</i>	<i>d</i> ₁	Th.	<i>n</i>
10	See NP 160					See NP 160					100	70	14	M12	4
15											105	75	14	M12	4
20											130	90	18	M16	4
25											140	100	18	M16	4
32											155	110	22	M20	4
40											170	125	22	M20	4
50	180	135	22	M20	4	See NP 160					195	145	26	M24	4
65	205	160	22	M20	8						220	170	26	M24	8
80	215	170	22	M20	8						230	180	26	M24	8
100	250	200	26	M24	8						265	210	30	M27	8
125	295	240	30	M27	8						315	250	33	M30	8
150	345	280	33	M30	8						355	290	33	M30	12
175	375	310	33	M30	12	385	320	33	M30	12	390	320	36	M33	12
200	415	345	36	M33	12	See NP 160					430	360	36	M33	12
225	440	370	36	M33	12						475	400	39	M36	12
250	470	400	36	M33	12	505	430	39	M36	12	515	430	42	M39	12
300	530	460	36	M33	16	See NP 160					585	500	42	M39	16
350	600	525	39	M36	16										
400	670	585	42	M39	16	655	560	48	M45	16					
450	715	630	42	M39	20	715	620	48	M45	16					
500	800	705	48	M45	20	770	675	48	M45	20					
550	855	760	48	M45	20	870	760	56	M52	20					
600	930	820	56	M52	20	935	820	62	M56	20					
650	985	875	56	M52	24	990	875	62	M56	20					
700	1045	935	56	M52	24	1050	935	62	M56	24					
750	1100	990	56	M52	24	1145	1020	70	M64	24					
800	1165	1050	62	M56	24										
900	1285	1170	62	M56	28										
1000	1415	1290	70	M64	28										
1100	1525	1400	70	M64	32										
1200	1665	1530	78	M72x6	32										