UDC 621.643.412

Ref. No. : ISO/R 2084-1971 (E)

Transformed.

ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION

R 2084

PIPELINE FLANGES FOR GENERAL USE

MATING DIMENSIONS

1st EDITION

October 1971

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Printed in Switzerland

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BRIEF HISTORY

The ISO Recommendation R 2084, *Pipeline flanges for general use – Mating dimensions,* was drawn up by Technical Committee ISO/TC 5, *Metal pipes and fittings,* the Secretariat of which is held by the Association Suisse de Normalisation (SNV).

Work on this question led to the adoption of Draft ISO Recommendation No. 2084, which was circulated to all the ISO Member Bodies for enquiry in September 1970. It was adopted, subject to a few modifications of an editorial nature, by the following Member Bodies :

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

The following Member Body opposed the approval of the Draft :

Belgium

This Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided to accept it as an ISO RECOMMENDATION.

ISO Recommendation R 2084 October 1971

PIPELINE FLANGES FOR GENERAL USE

MATING DIMENSIONS

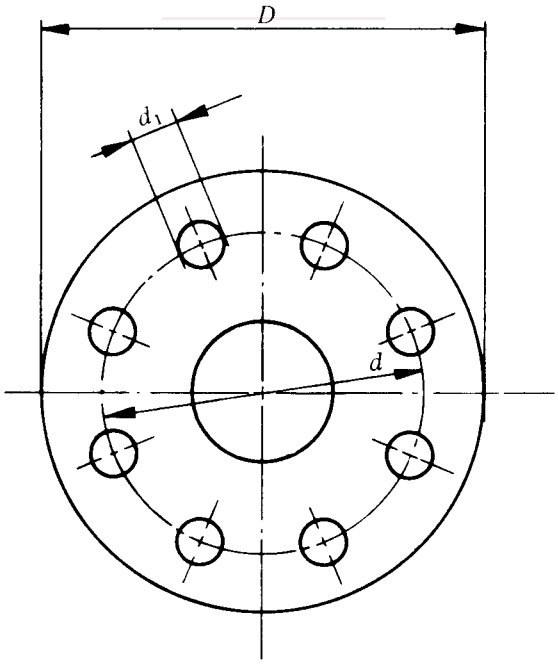
1. SCOPE

This ISO Recommendation tabulates the mating dimensions of all kinds of pipeline flanges for general use.

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.

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 Recommendation R 273, medium series)
Th. = thread of bolts
n = number of bolts
PN = nominal pressure in bars

3. DIMENSIONS

TABLE 1 – **Dimensions for PN ⩽ 2.5, PN 6 and PN 10**

Dimensions in millimetres

Nominal diameter DN	PN ⩽ 2.5					PN 6					PN 10				
	D	*d*	d_1	Th.	*n*	*D*	*d*	d_1	Th.	*n*	*D*	*d*	d_1	Th.	*n*
6	See PN 6					65	40	11	M10	4	See PN 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 PN 16				
80						190	150	18	M16	4	See PN 40				
100						210	170	18	M16	4	See PN 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 PN 16, PN 25 and PN 40**

Dimensions in millimetres

Nominal diameter DN	PN 16					PN 25					PN 40				
	D	*d*	d_1	Th.	*n*	*D*	*d*	d_1	Th.	*n*	*D*	*d*	d_1	Th.	*n*
6	See PN 40					See PN 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											140	100	18	M16	4
40											150	110	18	M16	4
50											165	125	18	M16	4
65	185	145	18	M16	4						185	145	18	M16	8
80	See PN 40										200	160	18	M16	8
100	220	180	18	M16	8						235	190	22	M20	8
125	250	210	18	M16	8						270	220	26	M24	8
150	285	240	22	M20	8						300	250	26	M24	8
175	315	270	22	M20	8	330	280	26	M24	12	350	295	30	M27	12
200	340	295	22	M20	12	360	310	26	M24	12	375	320	30	M27	12
225	370	325	22	M20	12	395	340	30	M27	12	420	355	33	M30	12
250	405	355	26	M24	12	425	370	30	M27	12	450	385	33	M30	12
300	460	410	26	M24	12	485	430	30	M27	16	515	450	33	M30	16
350	520	470	26	M24	16	555	490	33	M30	16	580	510	36	M33	16
400	580	525	30	M27	16	620	550	36	M33	16	660	585	39	M36	16
450	640	585	30	M27	20	670	600	36	M33	20	685	610	39	M36	20
500	715	650	33	M30	20	730	660	36	M33	20	755	670	42	M39	20
550	775	710	33	M30	20	785	710	39	M36	20	835	740	48	M45	20
600	840	770	36	M33	20	845	770	39	M36	20	890	795	48	M45	20
650	860	790	36	M33	24	895	820	39	M36	24	945	850	48	M45	24
700	910	840	36	M33	24	960	875	42	M39	24	995	900	48	M45	24
750	970	900	36	M33	24	1020	935	42	M39	24	1080	970	56	M52	24
800	1025	950	39	M36	24	1085	990	48	M45	24	1140	1030	56	M52	24
900	1125	1050	39	M36	28	1185	1090	48	M45	28	1250	1140	56	M52	28
1000	1255	1170	42	M39	28	1320	1210	56	M52	28	1360	1250	56	M52	28
1100	1355	1270	42	M39	32	1420	1310	56	M52	32	1460	1350	56	M52	32
1200	1485	1390	48	M45	32	1530	1420	56	M52	32	1575	1460	62	M56	32
1300	1585	1490	48	M45	32	1645	1530	62	M56	32	1685	1570	62	M56	32
1400	1685	1590	48	M45	36	1755	1640	62	M56	36	1795	1680	62	M56	36
1500	1820	1710	56	M52	36	1865	1750	62	M56	36	1925	1800	70	M64	36
1600	1930	1820	56	M52	40	1975	1860	62	M56	40	2025	1900	70	M64	40
1800	2130	2020	56	M52	44	2195	2070	70	M64	44					
2000	2345	2230	62	M56	48	2425	2300	70	M64	48					
2200	2555	2440	62	M56	52										
2400	2765	2650	62	M56	56										
2600	2965	2850	62	M56	60										

TABLE 3 – **Dimensions for PN 64, PN 100 and PN 160**

Dimensions in millimetres

Nominal diameter DN	PN 64					PN 100					PN 160				
	D	d	d_1	Th.	n	D	d	d_1	Th.	n	D	d	d_1	Th.	n
10	See PN 160					See PN 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						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 PN 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 PN 160					585	500	42	M39	16
350	600	525	39	M36	16	655	560	48	M45	16					
400	670	585	42	M39	16	715	620	48	M45	16					
450	715	630	42	M39	20	770	675	48	M45	20					
500	800	705	48	M45	20	870	760	56	M52	20					
550	855	760	48	M45	20	935	820	62	M56	20					
600	930	820	56	M52	20	990	875	62	M56	20					
650	985	875	56	M52	24	1050	935	62	M56	24					
700	1045	935	56	M52	24	1145	1020	70	M64	24					
750	1100	990	56	M52	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										

TABLE 4 – **Dimensions for PN 250, PN 320 and PN 400**

Dimensions in millimetres

Nominal diameter DN	PN 250					PN 320					PN 400				
	D	*d*	d_1	Th.	*n*	*D*	*d*	d_1	Th.	*n*	*D*	*d*	d_1	Th.	*n*
10	See PN 400					See PN 400					125	85	18	M16	4
15	See PN 320					130	90	18	M16	4	145	100	22	M20	4
20	135	95	18	M16	4	150	105	22	M20	4	160	115	22	M20	4
25	150	105	22	M20	4	160	115	22	M20	4	180	130	26	M24	4
32	165	120	22	M20	4	180	130	26	M24	4	205	150	30	M27	4
40	185	135	26	M24	4	195	145	26	M24	4	220	165	30	M27	4
50	200	150	26	M24	8	210	160	26	M24	8	235	180	30	M27	8
65	230	180	26	M24	8	255	200	30	M27	8	290	225	33	M30	8
80	255	200	30	M27	8	275	220	30	M27	8	305	240	33	M30	8
100	300	235	33	M30	8	335	265	36	M33	8	370	295	39	M36	8
125	340	275	33	M30	12	380	310	36	M33	12	415	340	39	M36	12
150	390	320	36	M33	12	425	350	39	M36	12	475	390	42	M39	12
175	430	355	39	M36	12	485	400	42	M39	12	545	450	48	M45	12
200	485	400	42	M39	12	525	440	42	M39	16	585	490	48	M45	16
250	585	490	48	M45	16	640	540	52	M48	16					
300	690	590	52	M48	16										