
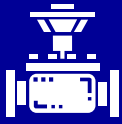


**GOVAL**

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**FLNAGES TECHNICAL  
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Catálogo Técnico FLANGIA





**GOVAL**  
I T A L Y 



## **GOVAL ITALY S.r.L**

GOVAL ITALY established in 2009, a fast-growing company based in Milano Italy, specializes in the supply of valves, pipes, and pipe fittings to variety of industries such as Gas & Oil and Water.

Our policy is to provide high end products sourced from quality assessed manufacturers, whose products meet the EU standards.

Furthermore, we operate internationally and exports products to customers overseas. We make sure that we provide a streamlined process for all of our clients.

Our business model enables manufacturers to have full access to global trade, empowering them to focus on their core markets. We provide our retail partners with high demand products and offer direct to customer fulfillment to help build their extended aisle assortments.

*Why US:*

*Privileges to work with us:*

- We stock all of our products in warehouse located in Milano industrial area. We are ready to ship and fulfill your immediate needs.
- We carry a very wide range of valves, pipes and fittings, covering a wide range of corporate needs.
- We are constantly revamping logistics and supply chain processes, so as to keep costs down and our prices competitive.

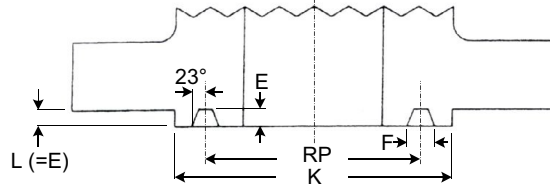
**Our Mission**

We adopt the latest technology to guarantee excellent quality and services.

**Our Vision**

To make a difference through providing the technical solutions that appropriate to every customer's needs.

## ANSI B16.5 RING JOINT FACE DIMENSIONS



Ring Joint

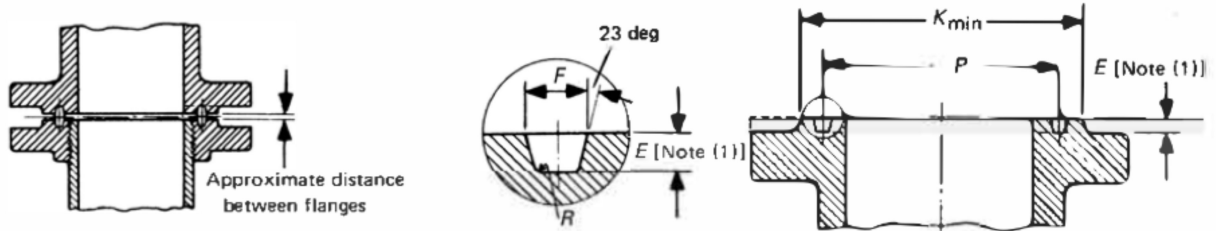
### RING JOINT FACE DIMENSIONS (mm)

Size	ANSI 150					ANSI 300/600					ANSI 900				
	Ring No.	Pitch Diam.	Width Groove	Depth Groove	RF Diam.	Ring No.	Pitch Diam.	Width Groove	Depth Groove	RF Diam.	Ring No.	Pitch Diam.	Width Groove	Depth Groove	RF Diam.
mm	RN	RP	F	E	K	RN	RP	F	E	K	RN	RP	F	E	K
15						11	34.1	7.1	5.5	50.8	12	39.6	8.7	6.3	60.3
20						13	42.8	8.7	6.3	63.5	14	44.4	8.7	6.3	66.6
25	15	47.6	8.7	6.3	63.5	16	50.8	8.7	6.3	69.8	16	50.8	8.7	6.3	71.4
32	17	57.1	8.7	6.3	73.0	18	60.3	8.7	6.3	79.3	18	60.3	8.7	6.3	80.9
40	19	65.0	8.7	6.3	82.5	20	68.2	8.7	6.3	90.4	20	68.2	8.7	6.3	92.0
50	22	82.5	8.7	6.3	101.6	23	82.5	11.9	7.9	107.9	24	95.2	11.9	7.9	123.8
65	25	101.6	8.7	6.3	120.6	26	101.6	11.9	7.9	127.0	27	107.9	11.9	7.9	136.5
80	29	114.3	8.7	6.3	133.3	31	123.8	11.9	7.9	146.0	31	123.8	11.9	7.9	155.5
90	33	131.7	8.7	6.3	153.9	34	131.7	11.9	7.9	158.7					
100	36	149.2	8.7	6.3	171.4	37	149.2	11.9	7.9	174.6	37	149.2	11.9	7.9	180.9
125	40	171.4	8.7	6.3	193.6	41	180.9	11.9	7.9	209.5	41	180.9	11.9	7.9	215.9
150	43	193.6	8.7	6.3	219.0	45	211.1	11.9	7.9	241.3	45	211.1	11.9	7.9	241.3
200	48	247.6	8.7	6.3	273.0	49	269.8	11.9	7.9	301.6	49	269.8	11.9	7.9	307.9
250	52	304.8	8.7	6.3	330.2	53	323.8	11.9	7.9	355.6	53	323.8	11.9	7.9	361.9
300	56	381.0	8.7	6.3	406.4	57	381.0	11.9	7.9	412.7	57	381.0	11.9	7.9	419.1
350	59	396.8	8.7	6.3	425.4	61	419.1	11.9	7.9	457.2	62	419.1	16.6	11.1	466.7
400	64	454.0	8.7	6.3	482.6	65	469.9	11.9	7.9	508.0	66	469.9	16.6	11.1	523.8
450	68	517.5	8.7	6.3	546.1	69	533.4	11.9	7.9	574.6	70	533.4	19.8	12.7	593.7
500	72	558.8	8.7	6.3	596.9	73	584.2	13.4	9.5	635.0	74	584.2	19.8	12.7	647.7
600	76	673.1	8.7	6.3	711.2	77	692.1	16.6	11.1	749.3	78	692.1	26.9	15.8	771.5

Size	ANSI 1500					ANSI 2500				
	Ring No.	Pitch Diam.	Width Groove	Depth Groove	RF Diam.	Ring No.	Pitch Diam.	Width Groove	Depth Groove	RF Diam.
mm	RN	RP	F	E	K	RN	RP	F	E	K
15						13	42.8	8.7	6.3	65.0
20						16	50.8	8.7	6.3	73.0
25						18	60.3	8.7	6.3	82.5
32						21	72.2	11.9	7.9	101.6
40						23	82.5	11.9	7.9	114.3
50						26	101.6	11.9	7.9	133.3
65						28	111.1	13.4	9.5	149.2
80	35	136.5	11.9	7.9	168.2	32	127.0	13.4	9.5	168.2
100	39	161.9	11.9	7.9	193.6	38	157.1	16.6	11.1	203.2
125	44	193.6	11.9	7.9	228.6	42	190.5	19.8	12.7	241.3
150	46	211.1	13.4	9.5	247.6	47	228.6	19.8	12.7	279.4
200	50	269.8	16.6	11.1	317.5	51	279.4	23.0	14.2	339.7
250	54	323.8	16.6	11.1	371.4	55	342.9	30.1	17.4	425.4
300	58	381.0	23.0	14.2	438.1	60	406.4	33.3	17.4	495.3
350	63	419.1	26.9	15.8	488.9					
400	67	469.9	30.1	17.4	546.1					
450	71	533.4	30.1	17.4	612.7					
500	75	584.2	33.3	17.4	673.1					
600	79	692.1	36.5	20.6	793.7					



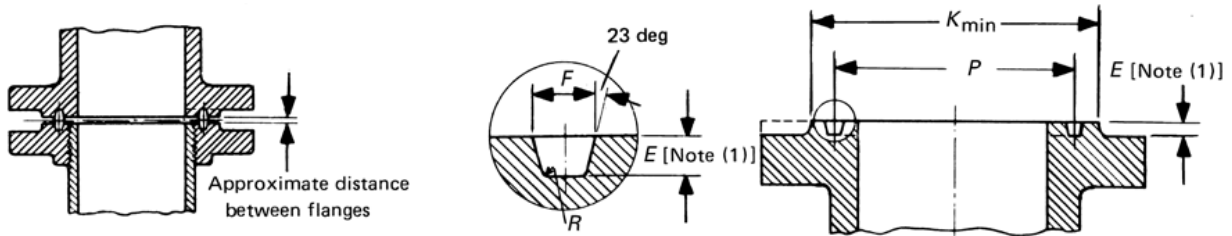
**Table 5 Dimensions of Ring Joint Facings (All Pressure Rating Classes)**



Nominal Size							Groove Dimensions			Radius at Bottom, R	
Class 150 NPS	Class 300 NPS	Class 400 NPS [Note (2)]	Class 600 NPS	Class 900 NPS [Note (3)]	Class 1500 NPS	Class 2500 NPS	Groove Number	Pitch Diameter, P	Depth, E [Note (1)]		Width, F
...	1/2	...	1/2	...	...	...	11	34.14	5.54	7.14	0.8
...	...	...	...	...	1/2	...	12	39.67	6.35	8.74	0.8
...	3/4	...	3/4	...	...	1/2	13	42.88	6.35	8.74	0.8
...	...	...	...	...	3/4	...	14	44.45	6.35	8.74	0.8
1	...	...	...	...	...	...	15	47.63	6.35	8.74	0.8
...	1	...	1	...	1	3/4	16	50.80	6.35	8.74	0.8
1 1/4	...	...	...	...	...	...	17	57.15	6.35	8.74	0.8
...	1 1/4	...	1 1/4	...	1 1/4	1	18	60.33	6.35	8.74	0.8
1 1/2	...	...	...	...	...	...	19	65.07	6.35	8.74	0.8
...	1 1/2	...	1 1/2	...	1 1/2	...	20	68.27	6.35	8.74	0.8
...	...	...	...	...	...	1 1/4	21	72.23	7.92	11.91	0.8
2	...	...	...	...	...	...	22	82.55	6.35	8.74	0.8
...	2	...	2	...	...	1 1/2	23	82.55	7.92	11.91	0.8
...	...	...	...	...	2	...	24	95.25	7.92	11.91	0.8
2 1/2	...	...	...	...	...	...	25	101.60	6.35	8.74	0.8
...	2 1/2	...	2 1/2	...	...	2	26	101.60	7.92	11.91	0.8
...	...	...	...	...	2 1/2	...	27	107.95	7.92	11.91	0.8
...	...	...	...	...	...	2 1/2	28	111.13	9.53	13.49	1.5
3	...	...	...	...	...	...	29	114.30	6.35	8.74	0.8
...	[Note (4)]	...	[Note (4)]	...	...	...	30	117.48	7.92	11.91	0.8
...	3 [Note (4)]	...	3 [Note (4)]	3	...	...	31	123.83	7.92	11.91	0.8
...	...	...	...	...	...	3	32	127.00	9.53	13.49	1.5
3 1/2	...	...	...	...	...	...	33	131.78	6.35	8.74	0.8
...	3 1/2	...	3 1/2	...	...	...	34	131.78	7.92	11.91	0.8
...	...	...	...	...	3	...	35	136.53	7.92	11.91	0.8
4	...	...	...	...	...	...	36	149.23	6.35	8.74	0.8
...	4	4	4	4	...	...	37	149.23	7.92	11.91	0.8
...	...	...	...	...	...	4	38	157.18	11.13	16.66	1.5
...	...	...	...	...	4	...	39	161.93	7.92	11.91	0.8
5	...	...	...	...	...	...	40	171.45	6.35	8.74	0.8
...	5	5	5	5	...	...	41	180.98	7.92	11.91	0.8

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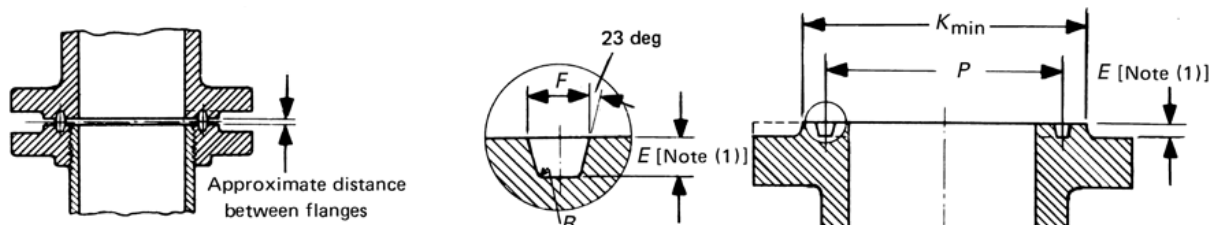
**Table 5 Dimensions of Ring Joint Facings (All Pressure Rating Classes) (Cont'd)**



Diameter of Raised Portion, <i>K</i>					Approximate Distance Between Flanges							
Class	Class 300 400 600	Class 900	Class 1500	Class 2500	Class 150	Class 300	Class 400	Class 600	Class 900	Class 1500	Class 2500	
...	51.0	...	...	...	...	3	...	3	...	...	...	
...	...	...	60.5	...	...	...	...	...	...	4	...	
...	63.5	...	...	65.0	...	4	...	4	...	...	4	
...	...	...	66.5	...	...	...	...	...	...	4	...	
63.5	...	...	...	...	4	...	...	...	...	...	...	
...	70.0	...	71.5	73.0	...	4	...	4	...	4	4	
73.0	...	...	...	...	4	...	...	...	...	...	...	
...	79.5	...	81.0	82.5	...	4	...	4	...	4	4	
82.5	...	...	...	...	4	...	...	...	...	...	...	
...	90.5	...	92.0	...	...	4	...	4	...	4	...	
...	...	...	...	102	...	...	...	...	...	...	3	
102	...	...	...	...	4	...	...	...	...	...	...	
...	108	...	...	114	...	6	...	5	...	...	3	
...	...	...	124	...	...	...	...	...	...	3	...	
121	...	...	...	...	4	...	...	...	...	...	...	
...	127	...	...	133	...	6	...	5	...	...	3	
...	...	...	137	...	...	...	...	...	...	3	...	
...	...	...	...	149	...	...	...	...	...	...	3	
133	...	...	...	...	4	...	...	...	...	...	...	
...	...	...	...	...	...	...	...	...	...	...	...	
...	146	156	...	...	...	6	...	5	4	...	...	
...	...	...	...	168	...	...	...	...	...	...	3	
154	...	...	...	...	4	...	...	...	...	...	...	
...	159	...	...	...	...	6	...	5	...	...	...	
...	...	...	168	...	...	...	...	...	...	3	...	
171	...	...	...	...	4	...	...	...	...	...	...	
...	175	181	...	...	...	6	6	5	4	...	...	
...	...	...	...	203	...	...	...	...	...	...	4	
...	...	...	194	...	...	...	...	...	...	3	...	
194	...	...	...	...	4	...	...	...	...	...	...	
...	210	216	...	...	...	6	6	5	4	...	...	

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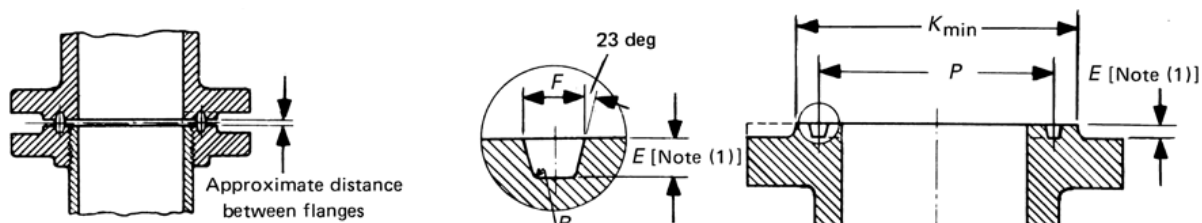
**Table 5 Dimensions of Ring Joint Facings (All Pressure Rating Classes) (Cont'd)**



1	2	3	4	5	6	7	8	9	10	11	12
Nominal Size							Groove Dimensions				Radius at Bottom, R
Class 150 NPS	Class 300 NPS	Class 400 NPS [Note (2)]	Class 600 NPS	Class 900 NPS [Note (3)]	Class 1500 NPS	Class 2500 NPS	Groove Number	Pitch Diameter, P	Depth, E [Note (1)]	Width, F	
...	...	...	...	...	...	5	42	190.50	12.70	19.84	1.5
6	...	...	...	...	...	...	43	193.68	6.35	8.74	0.8
...	...	...	...	...	5	...	44	193.68	7.92	11.91	0.8
...	6	6	6	6	...	...	45	211.12	7.92	11.91	0.8
...	...	...	...	...	6	...	46	211.14	9.53	13.49	1.5
...	...	...	...	...	...	6	47	228.60	12.70	19.84	1.5
8	...	...	...	...	...	...	48	247.65	6.35	8.74	0.8
...	8	8	8	8	...	...	49	269.88	7.92	11.91	0.8
...	...	...	...	...	8	...	50	269.88	11.13	16.66	1.5
...	...	...	...	...	...	8	51	279.40	14.27	23.01	1.5
10	...	...	...	...	...	...	52	304.80	6.35	8.74	0.8
...	10	10	10	10	...	...	53	323.85	7.92	11.91	0.8
...	...	...	...	...	10	...	54	323.85	11.13	16.66	1.5
...	...	...	...	...	...	10	55	342.90	17.48	30.18	2.4
12	...	...	...	...	...	...	56	381.00	6.35	8.74	0.8
...	12	12	12	12	...	...	57	381.00	7.92	11.91	0.8
...	...	...	...	...	12	...	58	381.00	14.27	23.01	1.5
14	...	...	...	...	...	...	59	396.88	6.35	8.74	0.8
...	...	...	...	...	...	12	60	406.40	17.48	33.32	2.4
...	14	14	14	...	...	...	61	419.10	7.92	11.91	0.8
...	...	...	...	14	...	...	62	419.10	11.13	16.66	1.5
...	...	...	...	...	14	...	63	419.10	15.88	26.97	2.4
16	...	...	...	...	...	...	64	454.03	6.35	8.74	0.8
...	16	16	16	...	...	...	65	469.90	7.92	11.91	0.8
...	...	...	...	16	...	...	66	469.90	11.13	16.66	1.5
...	...	...	...	...	16	...	67	469.90	17.48	30.18	2.4
18	...	...	...	...	...	...	68	517.53	6.35	8.74	0.8
...	18	18	18	...	...	...	69	533.40	7.92	11.91	0.8
...	...	...	...	18	...	...	70	533.40	12.70	19.84	1.5
...	...	...	...	...	18	...	71	533.40	17.48	30.18	2.4
20	...	...	...	...	...	...	72	558.80	6.35	8.74	0.8
...	20	20	20	...	...	...	73	584.20	9.53	13.49	1.5

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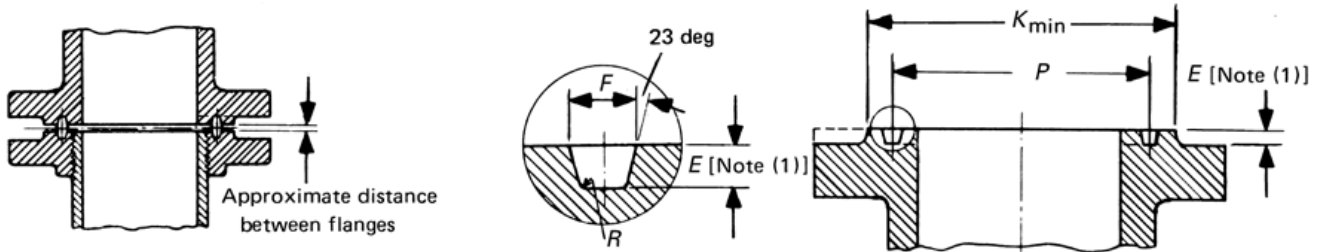
**Table 5 Dimensions of Ring Joint Facings (All Pressure Rating Classes) (Cont'd)**



13	14	15	16	17	18	19	20	21	22	23	24
Diameter of Raised Portion, <i>K</i>					Approximate Distance Between Flanges						
Class	Class 300 400 600	Class 900	Class 1500	Class 2500	Class 150	Class 300	Class 400	Class 600	Class 900	Class 1500	Class 2500
...	...	...	...	241	...	...	...	...	...	...	4
219	...	...	...	...	4	...	...	...	...	...	...
...	...	...	229	...	...	...	...	...	...	3	...
...	241	241	...	...	...	6	6	5	4	...	...
...	...	...	248	...	...	...	...	...	...	3	...
...	...	...	...	279	...	...	...	...	...	...	4
273	...	...	...	...	4	...	...	...	...	...	...
...	302	308	...	...	...	6	6	5	4	...	...
...	...	...	318	...	...	...	...	...	...	4	...
...	...	...	...	340	...	...	...	...	...	...	5
330	...	...	...	...	4	...	...	...	...	...	...
...	356	362	...	...	...	6	6	5	4	...	...
...	...	...	371	...	...	...	...	...	...	4	...
...	...	...	...	425	...	...	...	...	...	...	6
406	...	...	...	...	4	...	...	...	...	...	...
...	413	419	...	...	...	6	6	5	4	...	...
...	...	...	438	...	...	...	...	...	...	5	...
425	...	...	...	...	3	...	...	...	...	...	...
...	...	...	...	495	...	...	...	...	...	...	8
...	457	...	...	...	...	6	6	5	...	...	...
...	...	467	...	...	...	...	...	...	4	...	...
...	...	...	489	...	...	...	...	...	...	6	...
483	...	...	...	...	3	...	...	...	...	...	...
...	508	...	...	...	...	6	6	5	...	...	...
...	...	524	...	...	...	...	...	...	4	...	...
...	...	...	546	...	...	...	...	...	...	8	...
546	...	...	...	...	3	...	...	...	...	...	...
...	575	...	...	...	...	6	6	5	...	...	...
...	...	594	...	...	...	...	...	...	5	...	...
...	...	...	613	...	...	...	...	...	...	8	...
597	...	...	...	...	3	...	...	...	...	...	...
...	635	...	...	...	...	6	6	5	...	...	...

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**Table 5 Dimensions of Ring Joint Facings (All Pressure Rating Classes) (Cont'd)**

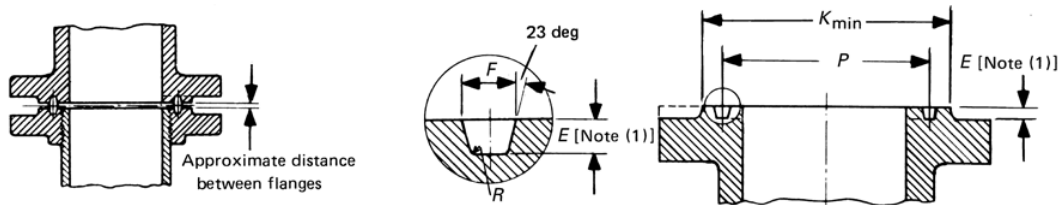


1	2	3	4	5	6	7	8	9	10	11	12
Nominal Size							Groove Dimensions				Radius at Bottom, <i>R</i>
Class 150 NPS	Class 300 NPS	Class 400 NPS [Note (2)]	Class 600 NPS	Class 900 NPS [Note (3)]	Class 1500 NPS	Class 2500 NPS	Groove Number	Pitch Diameter, <i>P</i>	Depth, <i>E</i> [Note (1)]	Width, <i>F</i>	
...	...	...	...	20	...	...	74	584.20	12.70	19.84	1.5
...	...	...	...	...	20	...	75	584.20	17.48	33.32	2.4
22	...	...	...	...	...	...	80	615.95	6.35	8.74	0.8
...	22	22	22	...	...	...	81	635.00	11.13	15.09	1.5
24	...	...	...	...	...	...	76	673.10	6.35	8.74	0.8
...	24	24	24	...	...	...	77	692.15	11.13	16.66	1.5
...	...	...	...	24	...	...	78	692.15	15.88	26.97	2.4
...	...	...	...	...	24	...	79	692.15	20.62	36.53	2.4



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**Table 5 Dimensions of Ring Joint Facings (All Pressure Rating Classes) (Cont'd)**



13	14	15	16	17	18	19	20	21	22	23	24	
Diameter of Raised Portion, <i>K</i>					Approximate Distance Between Flanges							
Class	Class		Class	Class	Class	Class	Class	Class	Class	Class	Class	
150	300	600	900	1500	2500	150	300	400	600	900	1500	2500
...	...	648	...	...	...	...	...	...	...	5	...	...
...	...	...	673	...	...	...	...	...	...	...	10	...
648	...	...	...	...	...	3	...	...	...	...	...	...
...	686	...	...	...	...	...	6	6	6	...	...	...
711	...	...	...	...	...	3	...	...	...	...	...	...
...	749	...	...	...	...	...	6	6	6	...	...	...
...	...	772	...	...	...	...	...	...	...	6	...	...
...	...	...	794	...	...	...	...	...	...	...	11	...

## ASME B16.5

This is the most used flange standard worldwide. The standard includes forged, cast and laminated flanges. It covers service, materials, dimensions, tolerances, marking and testing for flanges. It also describes all flange types for size 1/2" to 24" Class 150, #300, #400, #600, #900 & #1500#, and 1/2" to 12" Class 2500.#

## ASME B16.36

This standard is applicable to flanges for flow measurement with orifice plate. ASME B16.36 flanges have the same dimensions as B16.5 flanges except for the minimum thickness that is increased to allow measurement orifices. Moreover two slots and bolts allow flange separation and the replacement of the measurement plate. It covers sizes from 1" to 24" Class 300# to 1500, # and sizes 1" to 12" Class 2500.#

## MSS SP-44

An standardization used for thin thicknesses and high strength. It covers ranges from 12" to 60" Class 150# to 600# and up to 48" Class 900# only for blind and welding neck flanges. Outside diameter and drilling template matches with ASME up to 36". Therefore they can be used with valves and pumps according to ASME.

## ASME B16.47

This standard covers the previous one complementing it with materials, pressure ratings and temperatures from ASME B16.5. A type class is similar to MSS-SP44. B type is the same as API 605.

## ASME B16.20

It includes materials, dimensions and marking of rings for steel flanges 1/2" to 24" Class 150# to 1500#, and 36" Class 900.#

## API 6 A

API 6 A specification has been created for wellheads and christmas trees. It includes the standardization of lap joint flanges, which are dimensionally replaceable with ASME B16.5 ones but adding some tolerances with all sizes. However as API materials are more resistant, the maximum service pressure of API/ASME union is limited to that of lower performance flange.

## STEEL FOR FLANGES

Steels for flanges and joint rings here mentioned below are only a few of those covered by B16.5 standard. The physical and chemical values indicated correspond to the latest issued standard, although they are affected by modifications year after year, so we suggest to use them only as a guide.

### ASTM Designation

A105	A182	A350	A694
	F1 F5	LF1	F42 / F52 / F56
	F11 Cl. 1	LF2 Cl. 1	F60 / F65 / F70
	F11 Cl. 2 / Cl. 3	LF2 Cl. 2	
	F22 Cl. 1 / Cl. 3	LF3	
	F304 L F304		
	F31 F321		
	F316L		

### GENERAL NOTES:

- Dimensions are in millimeters. For dimensions in inch units, refer to Table II-5 of Mandatory Appendix II.
- For facing requirements for flanges and flanged fitting, see para. 6.4.1 and Figure 6.
- For facing requirements for lapped joints, see para. 6.4.3 and Figure 6.
- See para. 4.2.7 for marking requirements.

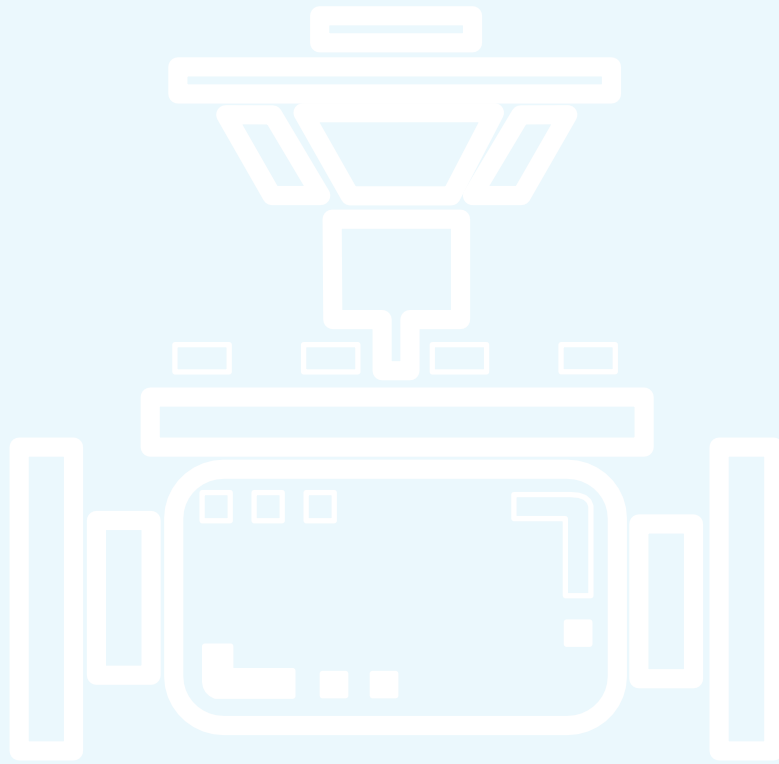
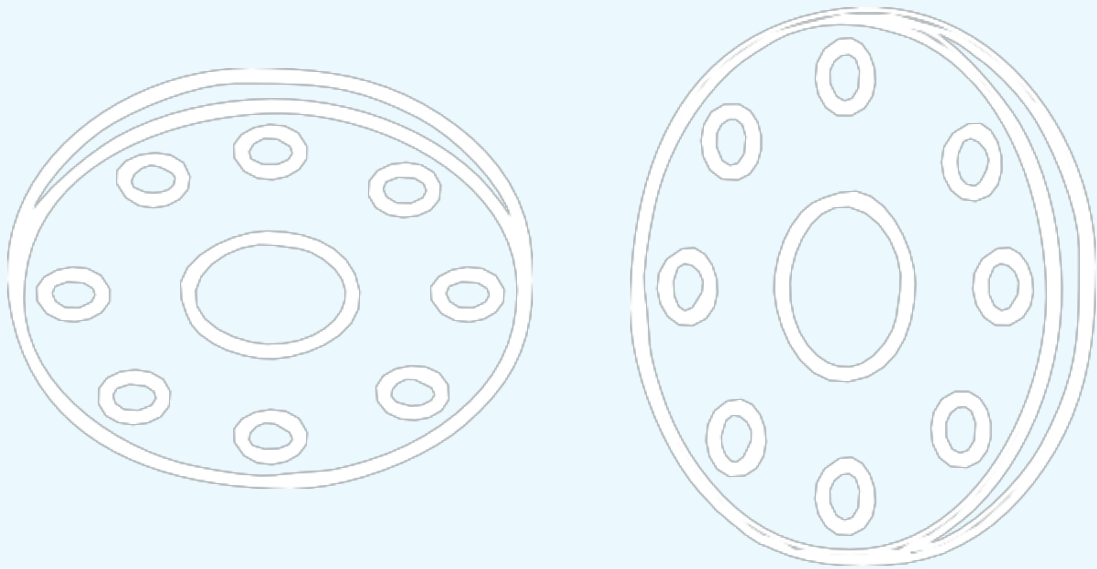
### NOTES:

- The height of the raised portion is equal to the depth of the groove dimension, *E*, but is not subjected to the tolerances for *E*. Former full-face contour may be used.
- Use Class 600 in sizes NPS 1/2 to NPS 3 1/2 for Class 400.
- Use Class 1500 in sizes NPS 1/2 to NPS 2 1/2 for Class 900.
- For ring joints with lapped flanges in Classes 300 and 600, ring and groove number R30 is used instead of R31.

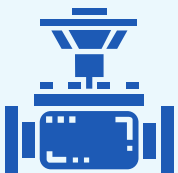
### TOLERANCES:

- E* (depth) +0.40, -0.00 mm  
*F* (width) ±0.20 mm  
*P* (pitch diameter) ±0.013 mm  
*R* (radius at bottom)  
*R* ≤ 2 + 0.8, -0.00 mm  
*R* > 2 ± 0.8 mm  
23 deg (angle) ± 1/2 deg

■ The manufacturer does not accept any responsibility for any typing or printing errors in this catalog. It also reserves the right to make any alterations or modifications deemed necessary at any time, without altering or interfering with the basic functions of the apparatus.



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