

This diagram illustrates the arrangement but not necessarily the correct number of bolt holes. Refer to the column "Bolting Number" in Table 13 for the actual number.

- NOTE 1 Dimensions N_1 , N_2 and N_3 are measured at the intersection of the hub draft angle and the back face of the flange.
- NOTE 2 For dimension d_1 , see Table 8.
- NOTE 3 For dimensions G_{max} refer to NOTE 1 of 5.6.1.
- NOTE 4 Type 33; lapped pipe end without determination of thickness and height.

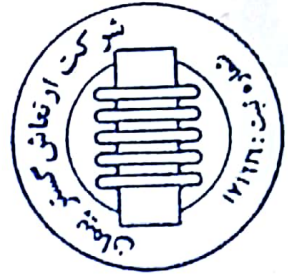


Figure 8 — Dimensions of PN 16 flanges

Table 22 — Tolerances

Dimension	Flange Type	Size	Tolerance mm		
Outside diameter of neck <i>A</i>	11, 21, 34	≤ DN 125	+ 3,0 0		
		> DN 125 ≤ DN 1200	+ 4,5 0		
		> DN 1200	+ 6,0 0		
	35, 36, 37	≤ DN 150	± 0,75 % ^a , min. ± 0,3 mm		
		> DN 150	± 1 % ^a , max ± 3,0 mm		
	Bore diameter <i>B</i> ₁ , <i>B</i> ₂ , <i>B</i> ₃	01, 02, 04, 12, 32	≤ DN 100	+ 0,5 0	
> DN 100 ≤ DN 400			+ 1,0 0		
> DN 400 ≤ DN 600			+ 1,5 0		
> DN 600			+ 3,0 0		
Wall thickness <i>S</i> ^c	11, 34 ^b		machined neck (both faces)	neck one face machined or unmachined	
		≤ DN 100	+ 1,0 0	+ 2,0 0	
		> DN 100 ≤ DN 400	+ 1,5 0	+ 2,5 0	
	35	> DN 400	S ≤ 8	+ 15 % - 10 %	
			S > 8	+ 15 % - 5 %	
	36, 37	≤ DN 600	- 12,5 % ^a + 15 %		
		> DN 600	- 0,5 mm ^a + 15 %		
	Bevelled wall thickness <i>S</i> _p	35, 36, 37	S ≤ 6	+ 1,0 0	
			S > 6	+ 2,0 0	
	Outside diameter <i>D</i>	21	≤ DN 250	± 4,0	
> DN 250 ≤ DN 500			± 5,0		
> DN 500 ≤ DN 800			± 6,0		
> DN 800 ≤ DN 1200			± 7,0		
> DN 1200 ≤ DN 1600			± 8,0		
> DN 1600 ≤ DN 2000			± 10,0		
All other types			≤ DN 150	± 2,0	
		> DN 150 ≤ DN 500	± 3,0		
		> DN 500 ≤ DN 1200	± 5,0		
		> DN 1200 ≤ DN 1800	± 7,0		
		> DN 1800	± 10,0		

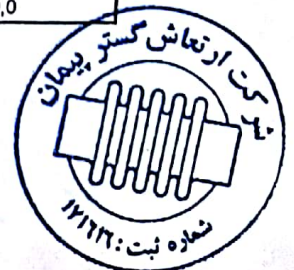


Table 22 (continued)

Dimension	Flange Type	Size	Tolerance mm
Length through hub H_1, H_2, H_3, H_4, H_5	11, 12, 13, 34, 35, 36, 37	\leq DN 80	$\pm 1,5$
		$>$ DN 80 \leq DN 250	$\pm 2,0$
		$>$ DN 250	$\pm 3,0$
Neck diameter N_1, N_2, N_3	11, 21, 34	\leq DN 50	0 - 2,0
		$>$ DN 50 \leq DN 150	0 - 4,0
		$>$ DN 150 \leq DN 300	0 - 6,0
		$>$ DN 300 \leq DN 600	0 - 8,0
		$>$ DN 600 \leq DN 4000	0 - 10,0
	12, 13	\leq DN 50	+ 10 0
		$>$ DN 50 \leq DN 150	+ 2,0 0
		$>$ DN 150 \leq DN 300	+ 4,0 0
		$>$ DN 300 \leq DN 600	+ 8,0 0
		$>$ DN 600 \leq DN 1200	+ 12,0 0
		$>$ DN 1200 \leq DN 1800	+ 16,0 0
		$>$ DN 1800	+ 20,0 0
	Collar thickness F	35 (machined on both faces)	≤ 18 mm thickness
> 18 mm ≤ 50 mm thickness			$\pm 1,5$ mm
36 (machined on front face only or un-machined)		≤ 18 mm thickness	± 10 %
	37 (un-machined)	≤ 5 mm thickness	$\pm 0,20$ mm
Flange thickness C_1, C_2, C_3, C_4	All types (machined on both faces)	≤ 18 mm thickness	+ 10 - 13
		> 18 mm ≤ 50 mm thickness	$\pm 1,5$
		> 50 mm thickness	$\pm 2,0$
	All types (machined on front face only) Type 02 and 04 (un-machined)	≤ 18 mm thickness	+ 2,0 - 13
		> 18 mm ≤ 50 mm thickness	+ 4,0 - 1,5
		> 50 mm thickness	+ 7,0 - 2,0
Collar thickness F	32, 34		
Facing diameter d_1	All types	\leq DN 250	+ 2,0 - 1,0
		$>$ DN 250	+ 3,0 - 1,0



Table 22 (concluded)

Dimension		Flange type	Size		Tolerance mm
Facing height f_1		All types (facing type B, D, F and G)	\leq DN 32	2 mm	0 -1
			$>$ DN 32 to DN 250	3 mm	0 -2
			$>$ DN 250 to DN 500	4 mm	0 -3
			$>$ DN 500	5 mm	0 -4
Facing height f_2		All types (facing types C, E and G)	All DN		+0,5 0
Facing height f_3		All types (facing types D and F)	All DN		+0,5 0
		All types (facing type H)	All DN		+0,2 0
Facing height f_4		All types (facing type H)	All DN		+0,5 0
Facing	W	All types	All DN		+0,5 0
	X				0 -0,5
	Y				+0,5 0
	Z				0 -0,5
Diameter of bolt circle K		All types	Bolt sizes M10 to M24		$\pm 1,0$
			Bolt sizes M27 to M45		$\pm 1,5$
Centre-to-centre of adjacent bolt holes		All types	Bolt sizes M10 to M24		$\pm 1,0$
			Bolt sizes M27 to M45		$\pm 1,5$
Eccentricity of machined facing diameters		All types	\leq DN 65		1,0
			$>$ DN 65		2,0
Parallelism between bolting bearing surfaces and flange jointing faces		All types (machined bearing surfaces)	All DN		1°
		All types (un-machined bearing surfaces)			2°

^a Tolerance in % from the outside diameter or respectively from the wall thickness.
^b Bore tolerance not applicable.
^c Preparation of ends see Annex A.



Table 23 — Corner radii R_1 and hub radius R_2 after back facing

Flange size	R_1 min. ^a mm	R_1 max. ^a mm	R_2 min. mm
Up to and including DN 50	3	5	1,6
Over DN 50 and up to including DN 350	3	6	2,4
Over DN 350	5	8	3,2

^a Dimensions R_1 are valid for types 33 to 37.
Dimensions R_1 for other types 11, 12, 13 and 21, see Tables 10 to 21.

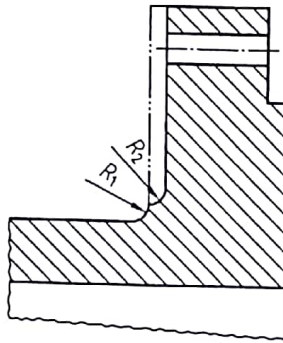


Figure 17 — Minimum hub radius after back facing

