

Pipe joint assemblies and fittings for unplasticized
polyvinyl chloride (PVC-U) pressure pipes
Bushings, flanges, seals
Dimensions

DIN
8063
Part 4

Rohrverbindungen und Rohrleitungsteile für Druckrohrleitungen
aus weichmacherfreiem Polyvinylchlorid (PVC-U); Bunde, Flansche,
Dichtungen; Masse

Supersedes July 1980 edition

*In keeping with current practice in standards published by the International Organization for Standardization (ISO),
a comma has been used throughout as the decimal marker.*

Dimensions in mm

1 Field of application

This standard applies to bushings, flanges and seals used in pressure pipelines for jointing unplasticized polyvinyl chloride (PVC-U) pipes in accordance with DIN 8062 to one another and to pipes of other materials.

Pipe series 3 or 4 as specified in DIN 8062 shall apply to PVC-U pipes.

PVC-U bushings and flanges shall conform to the requirements of DIN 8063 Part 5.

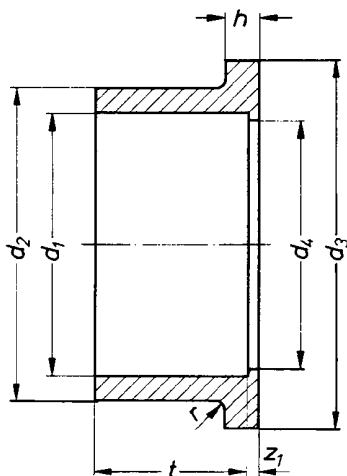
Continued on pages 2 to 12

2 Dimensions, designation

Bushings, flanges and seals need not conform to the illustration; only the dimensions specified are to be adhered to. Where dimensions are specified without tolerance indications, any permissible deviations desired shall be agreed on the basis of DIN 7168 Part 1 or DIN 16 901.

Flanged bushing (serial No. 7)

(for cementing with a highly solvent adhesive)



Designation of a flanged bushing (serial No. 7) for pipe outside diameter $d = 75$ mm, assigned to pipe series 4:

Flanged bushing DIN 8063 – 7 – 75 – 4

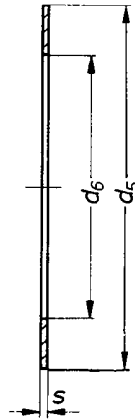
Table 1. Flanged bushing (Serial No. 7)

Pipe outside diameter d as specified in DIN 8062	Mean solvent weld diameter ^{1), 2)} d_1		d_2		d_3 Pipe series ⁴⁾		d_4	h	r	t ³⁾	z_1
		Per. dev. *)		Per. dev. *)	3	4					
16	16	+0,3 +0,1	22	±0,1	29		13	6	1	14	3
20	20		27	±0,15	34		16	6	1	16	
25	25		33	±0,15	41		21	7	1,5	19	
32	32		41	±0,2	50		28	7	1,5	22	3
40	40		50		61		36	8	2	26	
50	50		61	±0,3	73		45	8	2	31	3
63	63		76		90		57	9	2,5	38	
75	75		90		106		69	10	2,5	44	
90	90		108	±0,3	125		82	11	3	51	5
110	110		131		150		102	12	3	61	5
140	140	165	±0,4	181	188	132	14	4	76		
160	160	188	±0,4	206	213	152	16	4	86		
225	225	248	±0,4	—	274	217	25	4	119	6	

*) Per. dev. = permissible deviations.

- 1) The mean solvent weld diameter is determined as the arithmetical mean of two solvent weld diameters perpendicular to each other at the mid-point of the solvent weld depth.
- 2) The tolerances quoted are valid for cementing with a highly solvent adhesive; for pipe outside diameters from 16 to 90 mm, they correspond to those of type B specified in ISO 727 – 1979. Permissible deviations other than those shown are necessary for cementing with light solvent.
- 3) Solvent weld depth $t = 0,5 d_1 + 6$ mm, in conformity with ISO 727 – 1979.
- 4) For flanged bushings of $d = 16$ mm to $d = 110$ mm, only pipe series 4 shall be given in the designation.

Gasket (serial No. 8)



Designation of a gasket (serial No. 8) for pipe outside diameter $d = 75$ mm, assigned to pipe series 4:

Gasket DIN 8063 – 8 – 75 – 4

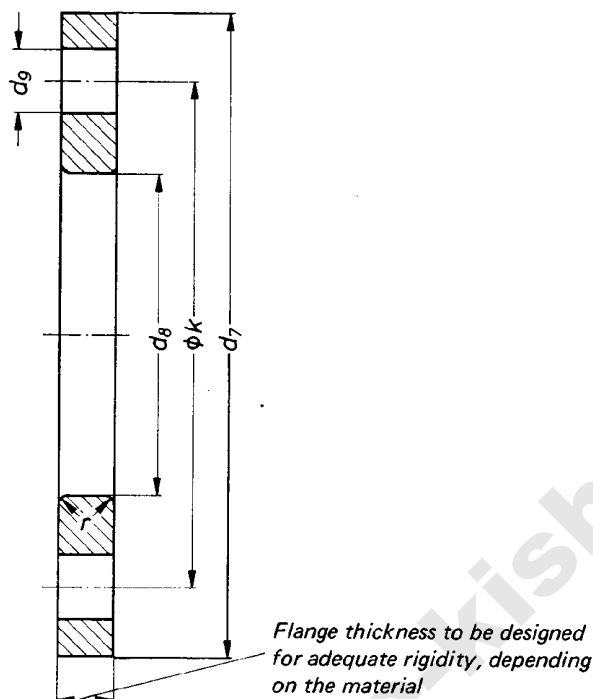
Table 2. Gasket (serial No. 8)

Pipe outside diameter d as specified in DIN 8062	d_5 Pipe series ⁵⁾		d_6	s
	3	4		
16	27		16	2
20	32		20	
25	39		25	
32	48		32	2
40	59		40	
50	71		50	
63	88		63	2
75	104		75	
90	128		90	
110	148		110	3
140	179	186	140	3
160	204	211	160	3
225	–	275	220	5

⁵⁾ For gaskets of $d = 16$ mm to $d = 110$ mm, only pipe series 4 shall be given in the designation.

Flange (serial No. 9)

Connecting dimensions of pipe series 3 flanges in accordance with DIN 2501 Part 1, for PN 6, of pipe series 4 flanges as given in DIN 2501 Part 1, for PN 10.



Designation of a kraft (Hp) flange (serial No. 9) for pipe outside diameter $d = 75$ mm, assigned to pipe series 4 7):

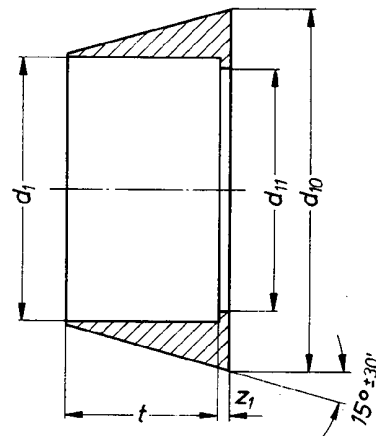
Flange DIN 8063 – 9 – 75 – 4 Hp

Table 3. Flange (serial No. 9)

Pipe outside diameter d as specified in DIN 8062	Pipe series 3 and 4 d_8 <small>Permissible deviations</small>	Pipe series 3					Pipe series 4					r
		d_7	d_9	Bolt holes		k	d_7	d_9	Bolt holes		k	
				Number	Thread size				Number	Thread size		
16	23	75	11	4	M 10	50	90	14	4	M 12	60	1
20	28	80	11			55	95				65	1
25	34	90	11			65	105				75	1,5
32	42	100	11	4	M 10	75	115	14	4	M 12	85	1,5
40	51	120	14		M 12	90	140	18		M 16	100	2
50	62 ⁶⁾	130	14		M 12	100	150	18		M 16	110	2
63	78 ⁶⁾	140	14	4	M 12	110	165	18	4	M 16	125	2,5
75	92 ⁶⁾	160	14		M 12	130	185		4		145	2,5
90	110	190	18		M 16	150	200		8		160	3
110	133	210	18	4	M 16	170	220	18	8	M 16	180	3
140	167	240	18	8	M 16	200	250	18		M 16	210	4
160	190	265	18	8	M 16	225	285	22		M 20	240	4
225	250	—	—	—	—	—	340	22		M 20	295	4

6) If, in the case of flange sizes for pipe outside diameters $d = 50, 63$ and 75 mm, the use of a steel (St) flange is proposed, it shall be designated and ordered in accordance with DIN 2673. The associated dimensions for d_8 correspond to the specifications of DIN 2673.

Tapered flanged bushing (serial No. 10)
(for cementing with a highly solvent adhesive)



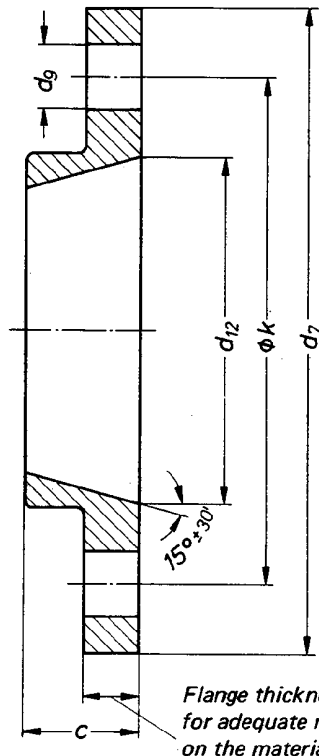
Designation of a tapered flanged bushing (serial No. 10) for pipe outside diameter $d = 75$ mm:
Flange bushing DIN 8063 – 10 – 75

Table 4. Tapered flanged bushing (serial No. 10)

Pipe outside diameter d as specified in DIN 8062	Mean solvent weld diameter ^{1), 2)} d_1	Permissible deviations	d_{10}	d_{11}	$t^3)$	z_1
63	63	+0,3 +0,1	89	57	38	3
75	75		104	69	44	3
90	90		124	82	51	5
110	110	+0,4 +0,1	150	102	61	5
140	140	+0,5 +0,2	189	132	76	5
160	160		216	152	86	5

For 1) to 3), see page 2.

Flange (serial No. 11)



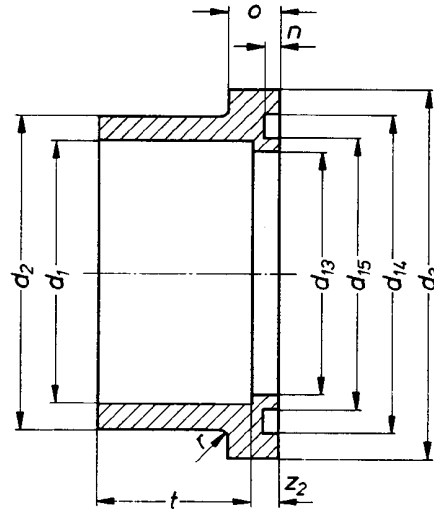
Connecting dimensions of flanges assigned to pipe series 4 as given in DIN 2501 Part 1 for PN 10.

Designation of a USt 37-2 (St) flange (serial No. 11) for pipe outside diameter $d = 75$ mm:
 Flange DIN 8063 – 11 – USt 37-2

Table 5. Flange (serial No. 11)

Pipe outside diameter d as specified in DIN 8062	c	Permissible deviations	d_7	d_9	d_{12}	Permissible deviations	k	Bolt holes	
								Number	Thread size
63	29	$\begin{matrix} +3 \\ -2 \end{matrix}$	165	18	84	$\begin{matrix} +0.5 \\ 0 \end{matrix}$	125	4	M 16
75	33	$\begin{matrix} +4 \\ -3 \end{matrix}$	185	18	99	$\begin{matrix} +0.5 \\ 0 \end{matrix}$	145	4	M 16
90	35		200	18	117	$\begin{matrix} +1 \\ 0 \end{matrix}$	160	8	M 16
110	39		220	18	143	$\begin{matrix} +1 \\ 0 \end{matrix}$	180	8	M 16
140	42		250	18	180	$\begin{matrix} +1 \\ 0 \end{matrix}$	210	8	M 16
160	44		285	22	206	$\begin{matrix} +1 \\ 0 \end{matrix}$	240	8	M 20

Flanged bushing for O ring (serial No. 15)
(for cementing with highly solvent adhesive)



Designation of a flanged bushing (serial No. 15) for pipe outside diameter $d = 75$ mm, assigned to pipe series 4:
Flanged bushing DIN 8063 – 15 – 75 – 4

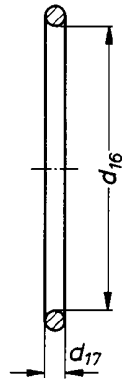
Table 6. Flanged bushing for O ring (serial No. 15)

Pipe outside diameter d as specified in DIN 8062	Mean solvent weld diameter ^{1), 2)} d_1	d_2	d_3 Pipe series 4)		d_{13}	d_{14}	d_{15}	n	o	r	$t^{3)}$	z_2		
			3	4										
16	16	22	29		13	25	-0,1	+0,1 0	2,8	±0,1	9	1	14	6
20	20	27	34		16	29,7								
25	25	33	41		21	34,5								
32	32	41	50		28	42,4	-0,2	+0,2 0	4,3	±0,1	10	1,5	22	6
40	40	50	61		36	53,7								
50	50	61	73		45	63,2								
63	63	76	90		57	78,9	-0,3	+0,3 0	5,6	±0,1	14	2,5	38	8
75	75	90	106		69	91,6								
90	90	108	125		82	110,5								
110	110	131	150		102	132,8	-0,3	+0,3 0	5,6	±0,1	18	3	61	11
140	140	165	181	188	132	164,2								
160	160	188	206	213	152	189,6								
225	225	248	—	274	217	253,5	-0,12	5,9	-0,12	31	4	119	12	

*) Per. dev. = permissible deviations.
 For 1) to 4) see page 2.

Provide

O ring (serial No. 16)



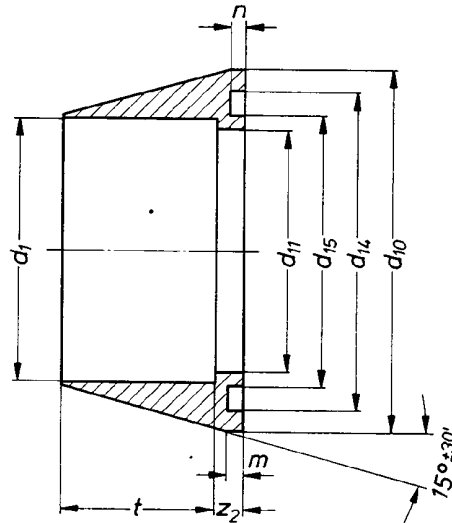
Designation of an O ring (serial No. 16) for pipe outside diameter $d = 75 \text{ mm}$ ⁷⁾:
 O ring DIN 8063 – 16 – 75

Table 7. O ring (serial No. 16)

Pipe outside diameter d as specified in DIN 8062	d_{16}		d_{17}	
		Permissible deviations		Permissible deviations
16	18,6	$\pm 0,3$	3,5	$\pm 0,1$
20	23,4	$\pm 0,4$	3,5	
25 ⁷⁾	28,2		3,5	
32	36,1		3,5	
40	43,8	$\pm 0,5$	5,3	$\pm 0,13$
50	53,3		5,3	
63	69,2	$\pm 0,7$	5,3	
75	81,9		5,3	
90	101		5,3	
110	120	$\pm 1,2$	7	$\pm 0,15$
140	151,8		7	
160	177,2		7	
225	240,7		7	

⁷⁾ For this size, a DIN 8063 – 13 – 25 O ring (in accordance with DIN 8063 Part 3) shall be used.

Tapered flanged bushing for O ring (serial No. 17)
 (for cementing with a highly solvent adhesive)



Designation of a tapered flanged bushing (serial No. 17) for pipe outside diameter $d = 75$ mm:

Flanged bushing DIN 8063 – 17 – 75

Table 8. Tapered flanged bushing for O ring (serial No. 17)

Pipe outside diameter d as specified in DIN 8062	Mean solvent weld diameter ^{1), 2)} d_1	Permissible deviations	d_{10}	d_{11}	d_{14}	Permissible deviations	d_{15}	Permissible deviations	m	n	Permissible deviations	$t^3)$	z_2
63	63		89	57	78,9		65,3		5	4,3	±0,1	38	8
75	75	+0,3 +0,1	104	69	91,6	-0,2	78	+0,2 0	5			44	8
90	90		124	82	110,5		96,9		6			51	10
110	110	+0,4 +0,1	150	102	132,8		114,8		8	5,6	±0,1	61	11
140	140		189	132	164,2	-0,3	146,2	+0,3 0	8	5,6		76	11
160	160	+0,5 +0,2	216	152	189,6		171,6		9	5,6		86	11

For 1) to 3) see page 2.

3 Material

Table 9. Material symbols for flanged connections and allocation of materials to components

Material symbols	Flanged bushings (serial Nos. 7 and 15)	O rings (serial No. 16) and gaskets (serial No. 8)	Flanges		Tapered flanged bushings (serial Nos. 10 and 17)
			(serial No. 9)	(serial No. 11)	
GG	PVC-U (unplasticized PVC)	Materials subject to agreement.	GG	GG	PVC-U (unplasticized PVC)
RSt 37-2, USt 37-2	PVC-U (unplasticized PVC)		RSt 37-2, USt 37-2	RSt 37-2, USt 37-2	PVC-U (unplasticized PVC)
Al	PVC-U (unplasticized PVC)		Al	—	—
Hp	PVC-U (unplasticized PVC)		Hp	—	—
PVC	PVC-U (unplasticized PVC)		PVC-U (unplasticized PVC)	—	—
GFK	PVC-U (unplasticized PVC)		GFK	—	—
PP	PVC-U (unplasticized PVC)		PP	—	—

PVC = PVC-U (unplasticized PVC), in accordance with the requirements of DIN 8063 Part 5.
GG = cast iron (grey cast iron) in accordance with DIN 1691.
USt 37-2 or RSt 37-2 in accordance with DIN 17 100.
Al = light metal.
Hp = kraft in accordance with DIN 7735 Part 2.
GFK = glass fibre reinforced plastic.
PP = polypropylene.
For serial Nos. 8 and 16 the material shall be agreed in accordance with the type of component, concentration of liquid and operating temperature.

4 Joint assemblies

Table 10. Allocation of nominal sizes

Nominal size ⁸⁾ DN		Pipe outside diameter <i>d</i> as specified in DIN 8062
Types F1 and F3	Types F2 and F4	
10	—	16
15	—	20
20	—	25
25	—	32
32	—	40
40	—	50
50	50	63
65	65	75
80	80	90
100	100	110
125	125	140
150	150	160
200	—	225

⁸⁾ The allocation of nominal sizes to pipe outside diameters is in accordance with the specifications of DIN 19 532.

The following flanged joint assemblies can be formed with the flanged bushings, flanges and seals described in clause 4:

Type F1 Flanged joint assembly with loose flange and flanged bushing

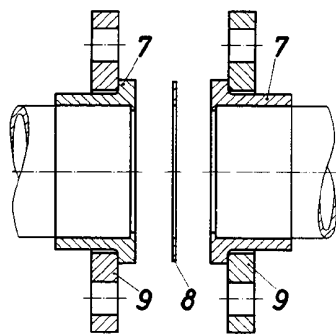


Table 11. Parts list

Serial No.	Component
7	Flanged bushing
8	Gasket
9	Flange

Type F2 Flanged joint assembly with loose flange and tapered flanged bushing

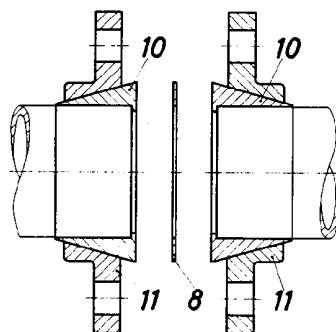


Table 12. Parts list

Serial No.	Component
8	Gasket
10	Tapered flanged bushing
11	Flange

Type F3 Flanged joint assembly with loose flange and flanged bushing

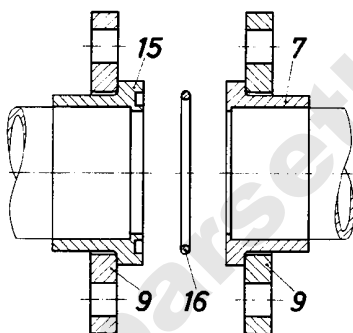


Table 13. Parts list

Serial No.	Component
7	Flanged bushing
9	Flange
15	Flanged bushing
16	O ring

Type F4 Flanged joint assembly with loose flange and tapered flanged bushing

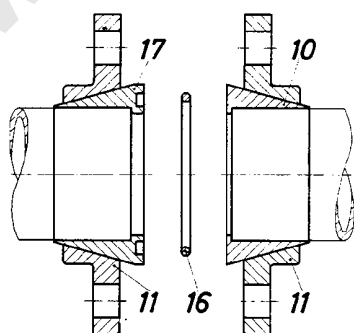


Table 14. Parts list

Serial No.	Component
10	Tapered flanged bushing
11	Flange
16	O ring
17	Flanged bushing

Standards referred to

DIN 1691	Cast iron with lamellar graphite (grey cast iron)
DIN 2501 Part 1	Flanges, connecting dimensions
DIN 2673	Loose flanges and welding necks; nominal pressure 10
DIN 7168 Part 1	General tolerances; linear and angular dimensions
DIN 7735 Part 2/ VDE 0318 Part 2	VDE specification on laminated plastic products; kraft, laminated fabric, laminated mat; requirements, types
DIN 8062	Unplasticized PVC (polyvinyl chloride) pipes; dimensions
DIN 8063 Part 3	Pipe joint assemblies and fittings for unplasticized polyvinyl chloride (PVC-U) pressure pipe lines; compression couplings, dimensions
DIN 8063 Part 5	Pipe joint assemblies and fittings for unplasticized polyvinyl chloride (PVC-U) pressure pipe lines; general quality requirements, testing
DIN 16901	Plastics mouldings; tolerances and acceptance conditions for linear dimensions
DIN 17 100	Steels for general structural purposes; quality standard
DIN 19 532	Unplasticized polyvinyl chloride (PVC, PVC-U) pipe lines for drinking water supply; pipes, pipe joint assemblies, fittings; DVGW Code of practice
ISO 727 – 1979	Unplasticized polyvinyl chloride (PVC) fittings with plain sockets for pipes under pressure – Dimensions of sockets – Metric series

Other relevant standards

DIN 2950	Malleable cast iron pipe fittings
DIN 8061 Part 1	(at present at the stage of draft) Unplasticized polyvinyl chloride (unplasticized PVC) pipes; general quality requirements, testing
DIN 8061 Part 2	(at present at the stage of draft) High impact strength unplasticized polyvinyl chloride pipes (HIPVC); general quality requirements, testing
DIN 8063 Part 1	Pipe joint assemblies and fittings for unplasticized polyvinyl chloride (PVC-U) pressure pipe lines; unplasticized PVC bends, dimensions
DIN 8063 Part 2	Pipe joint assemblies and fittings for unplasticized polyvinyl chloride (PVC-U) pressure pipe lines; injection-moulded bends for bonding, dimensions
DIN 8063 Part 6	Pipe joint assemblies and fittings for unplasticized polyvinyl chloride (PVC-U) pressure pipe lines; injection-moulded elbows for bonding, dimensions
DIN 8063 Part 7	Pipe joint assemblies and fittings for unplasticized polyvinyl chloride (PVC-U) pressure pipe lines; injection-moulded tees and branches for bonding, dimensions
DIN 8063 Part 8	Pipe joint assemblies and fittings for unplasticized polyvinyl chloride (PVC-U) pressure pipe lines; injection-moulded sockets, caps and nipples for bonding, dimensions
DIN 8063 Part 9	Pipe joint assemblies and fittings for unplasticized polyvinyl chloride (PVC-U) pressure pipe lines; injection-moulded reducers for bonding, dimensions
DIN 8063 Part 10	Pipe joint assemblies and fittings for unplasticized polyvinyl chloride (PVC-U) pressure pipe lines; wall disks, dimensions
DIN 8063 Part 11	Pipe joint assemblies and fittings for unplasticized polyvinyl chloride (PVC-U) pressure pipe lines; copper-zinc alloy body sockets for solvent welding, dimensions

Previous editions

DIN 8063 Part 4: 07.67, 12.69, 07.80

Amendments

Compared with the July 1980 edition, the following amendments have been made:

- The dimensions of gaskets (serial No. 8) and the associated example of designation have been modified in some respects.
- The content has been revised editorially.

International Patent Classification

F 16 L 23-00

B 28 B 21-74