

## Crosses (PN 10)

The one-piece execution with PFA assures a perfect flow in all four directions. Crosses larger than DN 100 are manufactured with paste liner.



# Crosses (PN 10)

## Lining-Materials:

- up to diameter nominal DN<sub>1</sub> 100 (one-piece): PFA (virgin or conductive)
- from diameter nominal DN<sub>1</sub> 125 (two-piece): PTFE (virgin or conductive)
- up to diameter nominal DN<sub>1</sub> 300 (two-piece): PP From Standard

Different lining thicknesses and flange designs on request.

## Flange design:

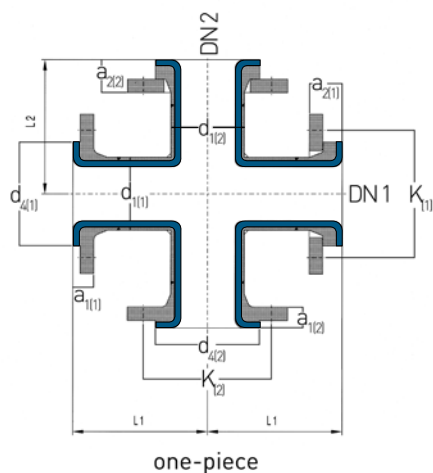
- fix-loose-fix-loose
- fix-fix-fix-fix
- loose-loose-loose-loose

## Other pressure rates:

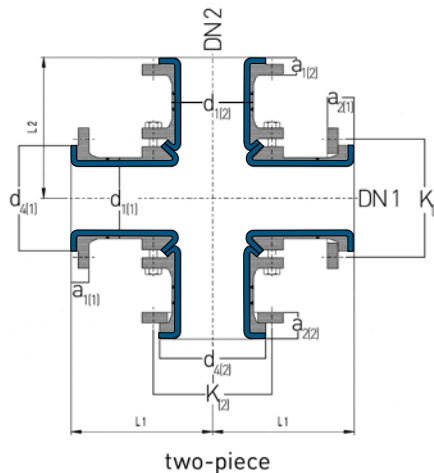
- PN 16
- PN 25
- PN 40

Material: carbon steel and stainless steel

Special features: earthing studs, earthing lugs, flange stopper, final painting.



one-piece



two-piece

DN <sub>1</sub>	DN <sub>2</sub>	L <sub>1</sub> (mm)	L <sub>2</sub> (mm)	d <sub>1(1)</sub> (mm)	d <sub>4(1)</sub> (mm)	K <sub>1(1)</sub> (mm)	a <sub>1(1)</sub> (mm)	a <sub>2(1)</sub> (mm)	d <sub>1(2)</sub> (mm)	d <sub>4(2)</sub> (mm)	K <sub>2(2)</sub> (mm)	a <sub>1(2)</sub> (mm)	a <sub>2(2)</sub> (mm)	Screws		Wt. (ca. kg/ piece)
														(1)	(2)	
15	15	85	85	21,3	45	65	19,0	29,0	21,3	45	65	19,0	29,0	4xM12	4xM12	3,1
20	20	95	95	26,9	58	75	21,0	33,0	26,9	58	75	21,0	33,0	4xM12	4xM12	5,0
20	15		85						21,3	45	65	19,0	29,0	4xM12	4xM12	4,5
25	25	110	110	33,7	68	85	21,0	33,0	33,7	68	85	21,0	33,0	4xM12	4xM12	8,5
25	20	110	95	33,7	68	85	21,0	33,0	26,9	58	75	21,0	33,0	4xM12	4xM12	7,8
25	15	110	85	33,7	68	85	21,0	33,0	21,3	45	65	19,0	29,0	4xM12	4xM12	7,5
32	32	130	130	42,4	78	100	21,0	35,0	42,4	78	100	21,0	35,0	4xM16	4xM16	11,0
32	25		110						33,7	68	85	21,0	33,0	4xM16	4xM12	10,0
32	20		100						26,9	58	75	21,0	33,0	4xM16	4xM12	9,5
32	15		85						21,3	45	65	19,0	29,0	4xM16	4xM12	8,0
40	40	150	150	48,3	88	110	21,0	35,0	48,3	88	110	21,0	35,0	4xM16	4xM16	14,0
40	32	150	130	48,3	88	110	21,0	35,0	42,4	78	100	21,0	35,0	4xM16	4xM16	13,4
40	25	150	110	48,3	88	110	21,0	35,0	33,7	68	85	21,0	33,0	4xM16	4xM12	11,5
40	20	150	100	48,3	88	110	21,0	35,0	26,9	58	75	21,0	33,0	4xM16	4xM12	10,6
50	50	120	120	60,3	102	125	21,0	38,0	60,3	102	125	21,0	38,0	4xM16	4xM16	17,0
50	40	120	150	60,3	102	125	21,0	38,0	48,3	88	110	21,0	35,0	4xM16	4xM16	16,0
50	32	120	130	60,3	102	125	21,0	38,0	42,4	78	100	21,0	35,0	4xM16	4xM16	15,0
50	25	120	110	60,3	102	125	21,0	38,0	33,7	68	85	21,0	33,0	4xM16	4xM12	13,0

to be continued

# Crosses (PN 10)

DN <sub>1</sub>	DN <sub>2</sub>	L <sub>1</sub> (mm)	L <sub>2</sub> (mm)	d <sub>1(1)</sub> (mm)	d <sub>4(1)</sub> (mm)	K <sub>1(1)</sub> (mm)	a <sub>1(1)</sub> (mm)	a <sub>2(1)</sub> (mm)	d <sub>1(2)</sub> (mm)	d <sub>4(2)</sub> (mm)	K <sub>1(2)</sub> (mm)	a <sub>1(2)</sub> (mm)	a <sub>2(2)</sub> (mm)	Screws		Wt. (ca. kg/ piece)
														(1)	(2)	
65	65	140	140	76,1	122	145	21,0	39,0	76,1	122	145	21,0	39,0	4xM16	4xM16	22,0
65	50		120						60,3	102	125	21,0	38,0	4xM16	4xM16	21,0
65	40		150						48,3	88	110	21,0	35,0	4xM16	4xM16	18,0
65	32		130						42,4	78	100	21,0	35,0	4xM16	4xM16	17,0
65	25		110						33,7	68	85	21,0	33,0	4xM16	4xM12	15,0
80	80	165	165	88,9	138	160	23,0	39,0	88,9	138	160	23,0	39,0	8xM16	8xM16	26,5
80	65	165	140	88,9	138	160	23,0	39,0	76,1	122	145	21,0	39,0	8xM16	4xM16	25,0
80	50	165	120	88,9	138	160	23,0	39,0	60,3	102	125	21,0	38,0	8xM16	4xM16	22,5
80	40	165	150	88,9	138	160	23,0	39,0	48,3	88	110	21,0	35,0	8xM16	4xM16	20,5
80	25	165	110	88,9	138	160	23,0	39,0	33,7	68	85	21,0	33,0	8xM16	4xM12	17,5
100	100	205	205	114,3	158	180	23,0	43,0	114,3	158	180	23,0	43,0	8xM16	8xM16	36,0
100	80	205	165	114,3	158	180	23,0	43,0	88,9	138	160	23,0	39,0	8xM16	8xM16	34,0
100	65	205	140	114,3	158	180	23,0	43,0	76,1	122	145	21,0	39,0	8xM16	4xM16	29,5
100	50	205	120	114,3	158	180	23,0	43,0	60,3	102	125	21,0	38,0	8xM16	4xM16	28,0
100	25	205	110	114,3	158	180	23,0	43,0	33,7	68	85	21,0	33,0	8xM16	4xM12	23,5
125	125	245	245	139,7	188	210	26,5	44,5	139,7	188	210	26,5	44,5	8xM16	8xM16	73,0
125	100		205						114,3	158	180	23,0	43,0	8xM16	8xM16	69,0
125	80		165						88,9	138	160	23,0	39,0	8xM16	8xM16	66,0
125	65		140						76,1	122	145	21,0	39,0	8xM16	4xM16	64,0
150	150	285	285	168,3	212	240	27,0	49,0	168,3	212	240	27,0	49,0	8xM20	8xM20	97,0
150	125		245						139,7	188	210	26,5	44,5	8xM20	8xM16	92,0
150	100		205						114,3	158	180	23,0	43,0	8xM20	8xM16	88,0
150	80		165						88,9	138	160	23,0	39,0	8xM20	8xM16	84,0
200	200	365	365	219,1	268	295	29,0	49,0	219,1	268	295	29,0	49,0	8xM20	8xM20	126,0
200	150		285						168,3	212	240	27,0	49,0	8xM20	8xM20	121,0
200	125		245						139,7	188	210	26,5	44,5	8xM20	8xM16	118,0
200	100		205						114,3	158	180	23,0	43,0	8xM20	8xM16	114,0
250	250	450	450	273,0	320	350	31,0	53,0	273,0	320	350	31,0	53,0	12xM20	12xM20	198,0
250	200		365						219,1	268	295	29,0	49,0	12xM20	8xM20	188,0
250	150		285						168,3	212	240	27,0	49,0	12xM20	8xM20	183,0
250	125		245						139,7	188	210	26,5	44,5	12xM20	8xM16	179,0
300	300	525	525	323,9	370	400	31,0	53,0	323,9	370	400	31,0	53,0	12xM20	12xM20	286,0
300	250		450						273,0	320	350	31,0	53,0	12xM20	12xM20	280,0
300	200		365						219,1	268	295	29,0	49,0	12xM20	8xM20	273,0
300	150		285						168,3	212	240	27,0	49,0	12xM20	8xM20	265,0
350	350	600	600	355,6	430	460	31,0	55,0	355,6	430	460	31,0	55,0	16xM20	16xM20	385,0
350	300		525						323,9	370	400	31,0	53,0	16xM20	12xM20	375,0
350	250		450						273,0	320	350	31,0	53,0	16xM20	12xM20	367,0
350	200		365						219,1	268	295	29,0	49,0	16xM20	8xM20	360,0

to be continued




























# Crosses (PN 10)

DN <sub>1</sub>	DN <sub>2</sub>	L <sub>1</sub> (mm)	L <sub>2</sub> (mm)	d <sub>1(1)</sub> (mm)	d <sub>4(1)</sub> (mm)	K <sub>(1)</sub> (mm)	a <sub>1(1)</sub> (mm)	a <sub>2(1)</sub> (mm)	d <sub>1(2)</sub> (mm)	d <sub>4(2)</sub> (mm)	K <sub>(2)</sub> (mm)	a <sub>1(2)</sub> (mm)	a <sub>2(2)</sub> (mm)	Screws		Wt. (ca. kg/ piece)
														(1)	(2)	
400	400	680	680	406,4	482	515	31,0	61,0	406,6	482	515	31,0	61,0	16xM24	16xM24	485,0
400	350		600						355,6	430	460	31,0	55,0	16xM24	16xM20	470,0
400	300		525						323,9	370	400	31,0	53,0	16xM24	12xM20	461,0
400	250		450						273,0	320	350	31,0	53,0	16xM24	12xM20	453,0
450	450	680	680	457,0	532	565	33,0	65,0	457,0	532	565	33,0	65,0	20xM24	20xM24	530,0
450	400		680						406,4	482	515	31,0	61,0	20xM24	16xM24	520,0
450	350		600						355,6	430	460	31,0	55,0	20xM24	16xM20	510,0
450	300		525						323,9	370	400	31,0	53,0	20xM24	12xM20	505,0
500	500	830	830	508,0	585	585	33,0	69,0	508,0	585	585	33,0	69,0	20xM24	20xM24	560,0
500	450		680						457,0	532	565	33,0	65,0	20xM24	20xM24	545,0
500	400		680						406,4	482	515	31,0	61,0	20xM24	16xM24	535,0
500	350		600						355,6	430	460	31,0	55,0	20xM24	16xM20	526,0
500	300		525						323,9	370	400	31,0	53,0	20xM24	12xM20	515,0




Standard lengths available from stock:  
flange design fix-loose-fix-loose und fix-fix-fix-fix

- L = Total length
- d<sub>e</sub> = External diameter of the pipe
- d<sub>f</sub> = Flaring diameter
- K = Bolt circle
- a<sub>1</sub> = Length with fixed flange (standard lining)
- a<sub>2</sub> = Length with loose flange (standard lining)

The construction dimensions for DN 15 and DN 450 are not defined in DIN 2848.

DN	Standard	Lining thickness (mm)	possible vacuum		
			23°C	100°C	230°C
25	●	3			
40	●	3			
50	●	3			
80	●	4			
100	●	4			
150	●	6			
200	●	6			
250	●	7			
300	●	7			

#### Vacuum resistance:

-  = full vacuum
-  = limited vacuum
-  = no vacuum

Please refer to the next diameter nominal if your diameter nominal is not listed.