

Flow indicator (Double window sight glasses)

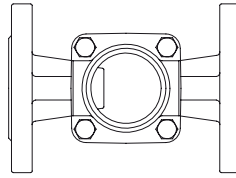
PN16 / PN40

- with flanges
- with screwed sockets
- with butt weld ends

(Fig. 660....1)

(Fig. 660....2)

(Fig. 660....4)



Grey cast iron
Cast steel
Stainless steel

Fig. 660

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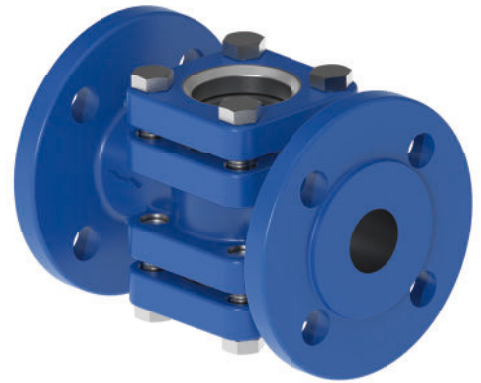


Fig. 660....1

Features:

- with double sided window (borosilicate glass)
- Mounting in any position
- Robust and water hammer proof design

Flow indicator (Grey cast iron, Cast steel, Stainless steel)

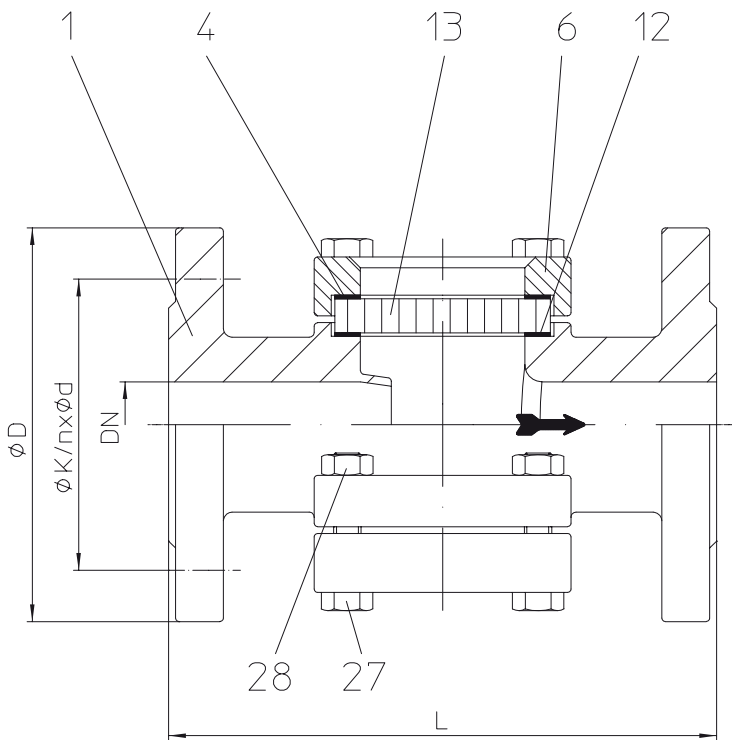


Fig. 660....1 with flanges

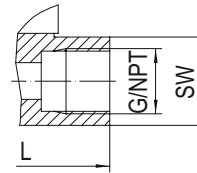


Fig. 660....2
with screwed sockets

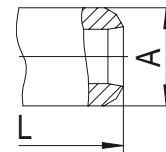


Fig. 660....4
with butt weld ends

Figure	Nominal pressure	Material	Nominal diameter / NPS	Operating pressure PS (barg)	Inlet temperature TS (°C)	max. pH value
12.660	PN16	5.1301	6 - 200 / 1/4" - 8"	16	120	9-10
				9.6	280	
32.660	PN16	1.0619+N	6 - 200 / 1/4" - 8"	16	120	
				11	280	
52.660	PN16	1.4408	6 - 200 / 1/4" - 8"	16	120	
				11.8	280	
35.660	PN40	1.0619+N	6 - 200 / 1/4" - 8"	40	120	
				27.6	280	
55.660	PN40	1.4408	6 - 200 / 1/4" - 8"	40	120	
				29.7	280	

All flanges also available in ANSI version, upon request.

Types of connection

Other types of connection on request.

- Flanges1 _____ acc. to DIN 2533 or DIN EN 1092-2 (PN16) / DIN 2635 or DIN EN 1092-1 (PN40)
- Screwed sockets2 ____ thread acc. to DIN EN ISO 228-1 or NPT thread acc. to ANSI B1.20.1
- Butt weld ends4 _____ acc. to DIN 3239 or DIN EN 12627
(Note restriction on operating pressure / inlet temperature depending to design!)

Features

- Double window sight glasses in straight through (borosilicate glass)
- Sight glasses provide visual indication of the flow through pipe works and monitoring of the system.
- In connection with steam traps they will allow the monitoring of the function of steam traps
- Installation in any position. In connection with the steam trap the sight glass has to be installed in front of it.

Selection criteria

- Operating pressure
- Operating temperature
- Nominal diameter / pressure
- Type of connection
- Body material

Example for order data

For monitoring the function of steam traps in pipe work systems, PS = 22 bar, TS = 250 °C, Screwed sockets G1/2, Body stainless steel, Window borosilicate glass DIN 7080-40.
=> **Flow indicator, Fig. 660, G 1/2, PN40, Stainless steel, Face-to-face dimension 100 mm, Screwed sockets.**



DN	6	10	15	20	25	32	40	50	65	80	100	125	150	200
NPS (G/NPT)	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"	8"

Dimensions and weights (Face-to-face acc. to data sheet resp. customer request) Standard-flange dimensions refer to page 4

Type	Component	Unit	Dimensions (mm)													Weight (kg)	
			6	10	15	20	25	32	40	50	65	80	100	125	150		200
PN16	Flanges	L	--	--	130	150	160	180	200	230	290	310	350	400	480	600	
		D	--	--	95	105	115	140	150	165	185	200	220	250	285	340	
		Weight approx.	--	--	3.6	4.2	6.5	8.1	10.5	14.5	23	32	41	47	on request		
	Screwed sockets (NPT not for 5.1301)	L (5.1301)	(mm)	100	100	100	120	120	160	160	180	--	--	--	--	--	--
		L	(mm)	100	100	100	120	120	160	160	230	--	--	--	--	--	--
		SW	(mm)	36	36	36	46	46	75	75	80	--	--	--	--	--	--
Weight approx.		(kg)	2.2	2.2	2.2	3.4	3.4	7	7	10	--	--	--	--	--	--	
PN40	Flanges	L	--	--	130	150	160	180	200	230	290	310	350	400	480	600	
		D	--	--	95	105	115	140	150	165	185	200	235	270	300	375	
		Weight approx.	--	--	3.6	4.2	6.5	8.1	11.5	14.9	23	33	43	50	on request		
	Screwed sockets	L	(mm)	100	100	100	120	120	160	160	230	--	--	--	--	--	--
		SW	(mm)	36	36	36	46	46	75	75	80	--	--	--	--	--	--
		Weight approx.	(kg)	2.2	2.2	2.2	3.4	3.4	7	7	10	--	--	--	--	--	--
	Butt weld ends	L	(mm)	--	--	100	100	120	120	160	on request						
		A	(mm)	--	--	22	28	34	42	49	on request						
		Weight approx.	(kg)	--	--	2.2	2.2	4	4	7	on request						

Parts					
Pos.	Sp.p.	Description	Fig. 12.660	Fig. 32.660 Fig. 35.660	Fig. 52.660 Fig. 55.660
1		Body	5.1301	1.0619+N	1.4408
4	x (window cpl.)	Gasket	Aramidfaser C4400		
+ 12		Gasket	Graphite		
+ 13		Window	borosilicate glass DIN 7080 max. 280°C		
6		Cover flange	5.1301	1.0619+N	1.4408
27		Hexagon screw	5.6 zinc coated		A4
28		Hexagonal nut	5		A4
		L Spare parts			

Information / restriction of technical rules need to be observed!

ARI valves made of 5.1301 are not approved for use in systems according to TRD 110.

Resistance and fitness must be verified (contact manufacturer for information, refer to Product overview and Resistance list).

Operating and installation instructions can be downloaded at www.ari-armaturen.com.

Flow conditions through a sight glass installed in front of a steam trap

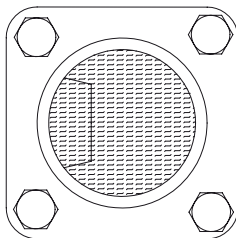


Figure 1: Back pressure of condensate
On a back pressure of condensate the interior space will be filled with liquid.

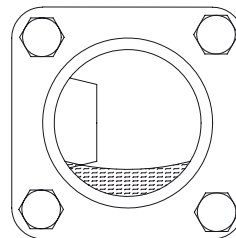


Figure 2: Steam flow
On steam flow the liquid level is lowered below the edge of the inlet pipe. Intensive mixture of water and steam can lead to an intensive bubbling.

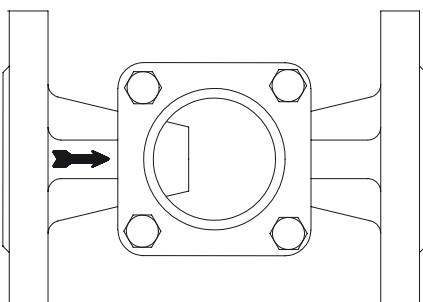


Figure 3: Tetragonal top flange (< DN 65)

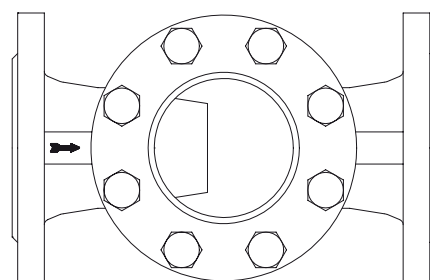


Figure 4: Circular top flange (DN65-250)

Informations about pipe welding

Welding groove acc. to DIN 3239 or DIN EN 12627

The material used for ARI valves with butt weld ends are:

1.0619+N GP240GH+N acc. to DIN EN 10213-2

Note:
Note restriction on operating pressure / inlet temperature depending to design!

1.4408 GX5CrNiMo19-11-2 acc. to DIN EN 10213-4

Due to our experience, we recommend to apply an electric welding process.

Because of the different material compositions and wall thickness of the steam traps and the pipe gas welding shall not be applied. Quenching cracks and coarse grain structure may develop.

Observe the instructions in the operating manual.

If during the time of warranty others than the manufacturer or by the manufacturer authorized persons are interfering in the product and/or the setting, the right of claim for warranty will lapse!

Standard-flange dimensions acc. to DIN 2533 / DIN 2634 / DIN 2635 or DIN EN 1092-2/ -1

DN		15	20	25	32	40	50	65	80	100	125	150	200
NPS		1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	4 1/2"	6"	8"
PN16	ØD (mm)	95	105	115	140	150	165	185	200	220	250	285	340
	ØK (mm)	65	75	85	100	110	125	145	160	180	210	240	295
	n x Ød (mm)	4 x 14	4 x 14	4 x 14	4 x 18	4 x 18	4 x 18	4 x 18	8 x 18	8 x 18	8 x 18	8 x 22	12 x 22
PN25	ØD (mm)	95	105	115	140	150	165	185	200	235	270	300	360
	ØK (mm)	65	75	85	100	110	125	145	160	190	220	250	310
	n x Ød (mm)	4x14	4x14	4x14	4x18	4x18	4x18	8x18	8x18	8x22	8x26	8x26	12x26
PN40	ØD (mm)	95	105	115	140	150	165	185	200	235	270	300	375
	ØK (mm)	65	75	85	100	110	125	145	160	190	220	250	320
	n x Ød (mm)	4 x 14	4 x 14	4 x 14	4 x 18	4 x 18	4 x 18	8 x 18	8 x 18	8 x 22	8 x 18	8 x 22	12 x 30