

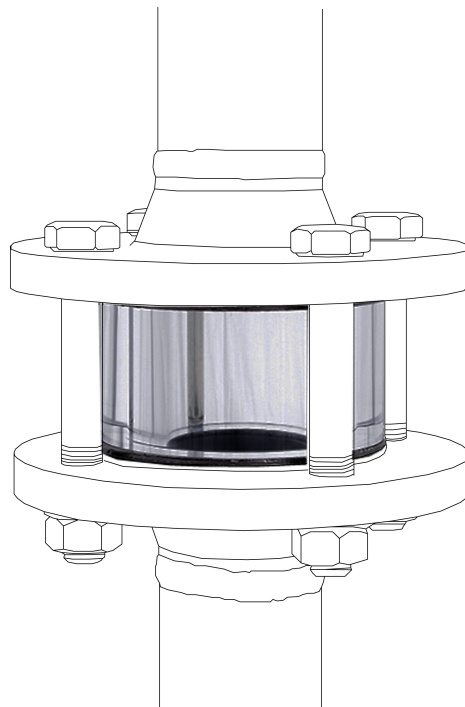


Instruction Manual

DG04

Flow Sight Class

for Installation between two Flanges



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Safety Information

General Instructions

To ensure safe operation, the device should only be operated according to the specifications in the instruction manual. The requisite Health & Safety regulations for a given application must also be observed. This statement also applies to the use of accessories. Every person who is commissioned with the initiation or operation of this device must have read and understood the operating instructions and in particular the safety instructions!

The liability of the manufacturer expires in the event of damage due to improper use, non-observance of this operating manual, use of insufficiently qualified personnel and unauthorized modification of the device.

Proper Usage

The sight class of the DG04 series are used for the optical control monitoring of liquids. Any other use of the device is prohibited and outside the scope of application.

In particular, applications in which shock loads occur (for example, pulsed operation) should be discussed and checked in advance with our technical staff.

The devices of the DG04 series should not be used as sole monitoring devices in order to detect or even avoid dangerous operating states in plants and machines. The plant or machine itself must be planned and constructed in such a way that critical conditions which pose a danger to man and the environment are excluded from the outset

Dangerous substances

For dangerous media such as e.g. Oxygen, Acetylene, flammable or toxic substances as well as refrigeration systems, compressors, etc. must comply with the relevant regulations beyond the general rules.

Qualified Personnel

The devices of the DG04 may only be installed by trained, qualified personnel who are able to mount the devices correctly. Qualified personnel are persons, who are familiar with assembling, installation, placing in service and operating these devices and who are suitably trained and qualified.

Inward Monitoring

Please check directly after delivery the device for any transport damages and deficiencies. Additional with reference to the accompanying delivery note the number of parts must be checked.

Claims for replacement or goods which relate to transport damage can only be considered valid if the delivery company is notified without delay.

Assembly instructions and tightening torques

Attention:

- Tighten flange screws evenly.
- Avoid shock loads.
- Mount flat gaskets and sight glass centred.

Nominal size DN	25	40	50	80	100	125	150	200	250	300
max. tightening torque (Nm)*	12	21	28	20	26	32	47	63	63	63

*for lubricated torques $\mu = 0,1$

Maintenance and care

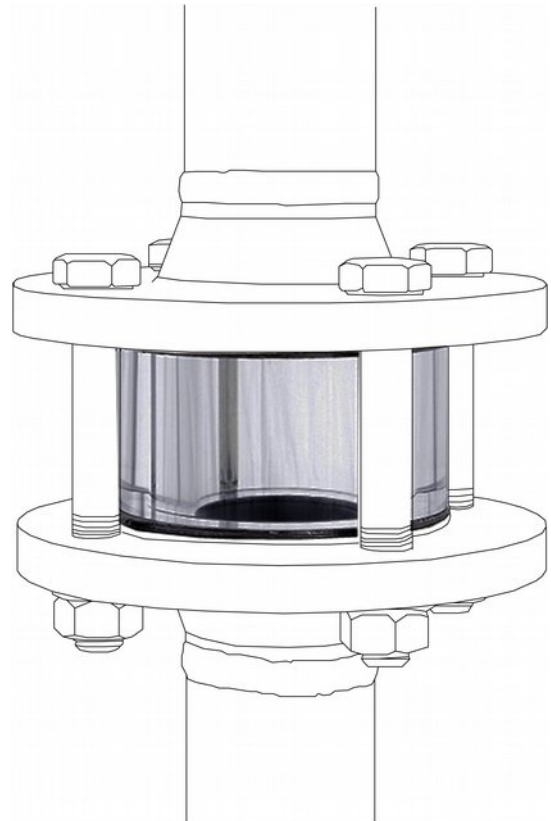
The sight glasses are insensitive to contamination, as the inner surface is flushed by the flowing medium.

The sight glasses have no dead spaces, so that the sight glass can be flushed or cleaned together with the pipeline when changing the product.

DG04

Flow Sight Glass for Installation between Two Flanges

- for liquids and gases
- 360° all round visibility
- easy installation between two DIN- or ANSI-flanges
- design in borosilicate glass for aggressive media, until 300 °C media temperature
- quartz glass-design for media-temperatures until 1100 °C
- insensitive to contamination
- maximum pressure 16 bar



Description:

Model series DG04 sight glasses are distinguished by their rugged construction and wide range of applications. They feature 30, 50 or 100 mm long transparent cylinders made of acrylic, soda-lime or borosilicate glass with very high wall thickness. These cylinders are intended to be clamped between two existing flanges. Their dimensions match those of the sealing face on the raised area of the flange. This sizing makes support from a separate metal housing unnecessary. In addition, this design allows the flow to be viewed and monitored from any direction. The flange screws provide additional protection against mechanical damage.

The sight glass has no dead spaces, so that it can be flushed / cleaned together with the pipeline when changing products.

There are no deposits in the sight glass when the pipeline is drained, because the inner diameter of the sight glass corresponds to the inner diameter of the pipeline. The DG04 are therefore also ideally suited for sterile and antiseptide applications.

Typical applications:

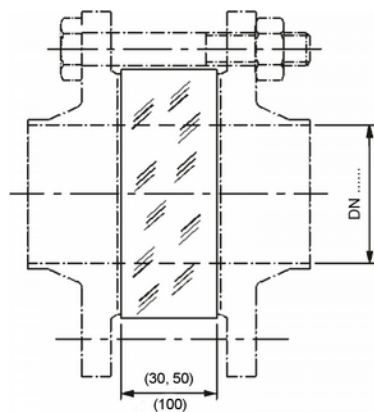
The flange bolts also offer additional protection against mechanical damage. The borosilicate glass version can be installed in devices used with very caustic / corrosive liquids. They are insensitive to contamination because the inner surface is constantly being rinsed by the flowing liquid.

In particular, the larger nominal sizes are very cost effective solutions since they only require the transparent cylinder and no metal housing with flanges.

Models:

- DG 04.A:** material: acrylic
 max. temperature: +80 °C
 max. pressure: 16 bar
- DG 04.B:** material: borosilicate glass
 max. temperature: -200...+300 °C
 max. pressure: 16 bar
 for aggressive medias and high temperatures
- DG 04.Q:** material: quartz glass-
 max. temperature: +1100 °C
 max. pressure: 16 bar
 for aggressive medias and very high temperatures

Assembly / Mounting:



Dimensions:

Nominal sizes	DG04 for DIN-flanges diameters [mm]		DG04 for ANSI-flanges diameters [mm]		Permitted process pressure [bar] with 150 °C and borosilicate glass
	outside	inside	outside	inside	
DN 10	40	14	40	14	16
DN 15	45	18	35	16	16
DN 20	58	23	43	21	16
DN 25	68	29	50	27	16
DN 32	79	38	63	35	16
DN 40	88	44	73	41	16
DN 50	102	55	92	53	16
DN 65	122	71	105	63	16
DN 80	138	83	127	78	16
DN 100	158	108	157	102	16
DN 125	188	132	186	128	16
DN 150	212	160	216	154	16
DN 200	268	208	270	203	16
DN 250	320	261	324	255	10

Larger nominal sizes and higher pressures on request.

Order Code:

Order number: **DG04.** **A.** **50.** **D.** **025.** **0**

Flow sight glass for installation between two flanges

Models:

A = acrylic
 B = borosilicate glass
 Q = quartz glass

Length:

030 = 30 mm (DG04.B only)
 050 = 50 mm
 100 = 100 mm (DG04.A only)

Connection:

D = flange, max. PN 16
 A = ANSI-flange, max. 150 lbs.

Nominal size:

010...250 = nominal size appropriate table „Dimensions“

Options:

0 = without
 1 = please specify in plain text

Advice:

The flanges, screws and gaskets are **not included** in the delivery.

Weights:

Nominal sizes	DG04 for DIN-flanges weight [Kg]				DG04 for ANSI-flanges weight [Kg]			
	Borosilicate glass		Acrylic		Borosilicate glass		Acrylic	
	L [mm] 30	L [mm] 50	L [mm] 50	L [mm] 100	L [mm] 30	L [mm] 50	L [mm] 50	L [mm] 100
DN 10	0,08	0,13	0,07	0,14	0,06	0,09	0,05	0,09
DN 15	0,1	0,16	0,08	0,16	0,08	0,13	0,07	0,14
DN 20	0,16	0,27	0,14	0,27	0,1	0,17	0,09	0,17
DN 25	0,22	0,36	0,18	0,36	0,16	0,26	0,13	0,26
DN 32	0,28	0,46	0,23	0,46	0,21	0,35	0,18	0,35
DN 40	0,33	0,56	0,28	0,56	0,32	0,54	0,27	0,55
DN 50	0,42	0,71	0,36	0,71	0,4	0,67	0,34	0,68
DN 65	0,56	0,94	0,47	0,95	0,58	0,96	0,48	0,97
DN 80	0,7	1,16	0,59	1,17	0,82	1,36	0,69	1,37
DN 100	0,76	1,27	0,64	1,28	1,05	1,74	0,88	1,76
DN 125	1,03	1,71	0,86	1,73	1,32	2,19	1,11	2,21
DN 150	1,11	1,85	0,93	1,87	1,82	3,03	1,53	3,06
DN 200	1,64	2,73	1,38	2,75	2,29	3,82	1,93	3,85
DN 250	1,97	3,28	1,65	3,31	-	-	-	-