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Operating Instructions

DG04

Flow sight glass for installation between two flanges

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1 Introduction

Series DG04 flow sight glasses are noted for their reliable function and easy operation. To obtain the greatest benefit from this device, please observe the following cautionary statement:

Persons who are responsible for setting up or operating this device must be sure to read the and understand the operating instructions and the safety information pertaining to it.

2 Safety Information

2.1 General Instructions

To ensure safe operation, the device must only be operated according to the information in the operating instructions. When the device is in use, the regulations and safety standards applicable to the specific application must also be observed. This statement also applies to the use of accessories.

2.2 Proper Usage

Series DG04 flow sight glasses are designed to monitor the flow from different liquids. Any application extending beyond this specific intended use does not constitute proper usage. Series DG04 flow sight glasses must not be employed as the sole means of avoiding hazardous conditions in machinery and installations.

The machinery and installations must be designed in such a manner that faulty conditions and malfunctions will not present hazardous situations for operating personnel.

2.3 Qualified Personnel

Series DG04 flow sight glasses must only be used by qualified, knowledgeable personnel trained in correct use of these devices. Qualified personnel are those persons familiar with setting up and assembling these devices, placing them in service and operating them. In addition, such personnel must also be qualified to perform the work associated with the application for which the device is being used.

3 Assembly instructions and tightening torques

Caution: Be sure to tighten the flange bolts evenly.
Avoid shock loads/uneven loads.
During assembly make sure that the gaskets and sight glass are centered.

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 bolts $\mu = 0,1$

4 Cleaning

The sight glasses are unaffected by contamination since the inner surface is rinsed by the flowing liquid.

The sight glasses have no dead spaces (inaccessible areas such as nooks and crannies) so that whenever the liquid product is changed, the sight glass can be rinsed or cleaned right along with the piping. The sight glass does not have to be removed and rinsed or cleaned separately.

DG04

Flow sight glass for installation between two flanges

- **Easy installation between two DIN or ANSI flanges**
- **Economical acrylic cylinder**
- **Available in borosilicate glass for caustic/corrosive liquids**
- **Insensitive to contamination**
- **Maximum rated pressure of 232 psi / 16 bar**
- **For liquid temperatures up to 572 °F / 300 °C**



Description:

Model series DG04 sight glasses are distinguished by their rugged construction and wide range of applications. They feature 0.94", 1.18", or 1.97" / 24, 30, or 50 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 direc-

tion. 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.

Designs:

- DG04.A:**
- Material: acrylic
 - Max. temperature 176 °F / 80 °C
 - Economical design
- DG04.N:**
- Material: soda-lime glass
 - Max. temperature 300 °F / 150 °C
 - High resistance to chemicals
- DG04.B:**
- Material: borosilicate
 - Max. temperature 572 °F / 300 °C
 - For caustic/corrosive liquids and high temperatures

Dimensions:

Nominal size	DG04 for DIN flanges Diameter (inch / mm)		DG04 for ANSI flanges Diameter (mm)		Permitted process pressure
	Outside	Inside	Outside	Inside	
Sight-glass length:					
DG04.A... / DG04.B...: 1.18" / 30 mm DG04.N...: 0.94" / 24 mm					
3/8" / DN 10	1.57 / 40	0.55 / 14	–	–	232 / 16
1/2" / DN 15	1.77 / 45	0.71 / 18	1.38 / 35	0.63 / 16	232 / 16
3/4" / DN 20	2.28 / 58	0.91 / 23	1.69 / 42	0.83 / 21	232 / 16
1" / DN 25	2.68 / 68	1.14 / 29	1.97 / 50	1.06 / 27	232 / 16
Sight-glass length:					
DG04.A... / DG04.B...: 1.97" / 50 mm DG04.N...: 0.94" / 24 mm					
1 1/4" / DN 32	3.11 / 79	1.50 / 38	2.48 / 63	1.38 / 35	232 / 16
1 1/2" / DN 40	3.47 / 88	1.73 / 44	2.87 / 73	1.61 / 41	232 / 16
2" / DN 50	4.02 / 102	2.17 / 55	3.62 / 92	2.09 / 53	232 / 16
2 1/2" / DN 65	4.80 / 122	2.80 / 71	4.13 / 105	2.48 / 63	232 / 16
3" / DN 80	5.43 / 138	3.27 / 83	5.00 / 127	3.07 / 78	232 / 16
4" / DN 100	6.22 / 158	4.25 / 108	6.18 / 157	4.02 / 102	232 / 16
5" / DN 125	7.40 / 188	5.20 / 132	7.32 / 186	5.04 / 128	232 / 16
6" / DN 150	8.35 / 212	6.30 / 160	8.50 / 216	6.06 / 154	232 / 16
8" / DN 200	10.55 / 268	8.19 / 208	10.63 / 270	8.00 / 203	145 / 10
10" / DN 250	12.60 / 320	10.28 / 261	12.75 / 324	10.04 / 255	145 / 10
12" / DN 300	14.57 / 370	12.20 / 310	15.00 / 381	12.00 / 305	145 / 10

The pressure values apply to borosilicate glass exposed to liquid temperatures up to 150°C. If higher liquid temperatures are anticipated in the application, please consult us first.

Model coding:

Order number: **DG04.A.D.025.0**

Flow sight glass for installation between two flanges

Design:

A = Acrylic
N = Soda-lime glass
B = Borosilicate glass

Connection:

D = for flange PN 10/16 as per DIN 2501
A = for ANSI flange, RF, 150 lbs
S = for special flanges

Nominal size:

010...300 = Nominal size as per "Dimensions" table

Special versions:

0 = None
1 = Please specify in writing

Assembly

Design DG04.A, N or B

