

For the closure of access and inspection openings  
(manhole)

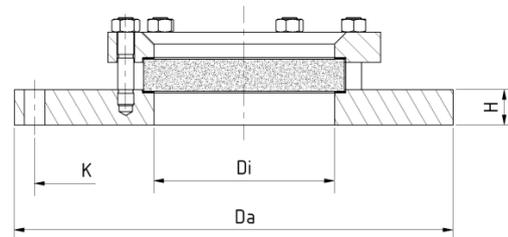
## USAGE

Manhole sight glass fittings serve the observation and illumination of the interior of closed containers (boilers, tanks, silos, etc.). Manhole sight glass fittings can be used, like a blind flange, to close entry openings. They also have a pressure-safe sight glass frame, allowing visual observation even when the opening is closed.

## INSTALLATION NOTE

Seals suitable for the sealing surfaces should be used. The screw material should be equivalent to or of higher quality than the sight glass flanges. In principle, use screws that match the hole pattern! If possible, both the screw thread and the screw head should be provided with lubricant.

## DRAWING



### Operating condition

Temperature: (dependent on glass and gasket)	$\leq 150\text{ °C}$	Soda lime glass DIN 8902 or similar
	$\leq 280\text{ °C}^1$	Borosilicate glass DIN 7080 or similar
Pressure:	$\leq 6/10/16\text{ barg}^1$	

1) Higher upon request

### Materials

Base flange:	1.4571; 1.4404; 1.4541; 1.4539; 1.4306
Glass:	Soda-lime glass DIN 8902 or similar Borosilicate glass DIN 7080 or similar
Gasket <sup>2</sup> :	PTFE; FKM; NBR; C4400; Silicone; EPDM, Graphite
Screws:	A2-70 / A4-70
Special materials on request	

2) See "INFO Gaskets"

DN <sup>3</sup>		300	350	400	450	500	600	700	800
Di [mm]		175	225	280	280	325	325	325	325
H [mm]	PN 6	23	25	28	31	33	37	42	47
	PN 10	29	34	38	40	44	49	57	63
	PN 16	36	45	50	54	60	68	71	79
Wgt. [kg]	PN 6	30	40	52	68	92	135	193	279
	PN 10	38	58	75	92	128	187	279	394
	PN 16	49	80	104	134	189	290	354	497
DA/K		According to DIN EN 1092-1 PN 6/10/16							

3) Other sizes and other diameters upon request

**PRODUCT CODE**

Example for Explaining the Code Composition

**11 - 325 - 2 - 6 - 2 - 1 - 4 - 0**

GROUP	TYPE	PN	NOMINAL SIZE	BASE FLANGE <sup>1</sup>	GLASS	GASKET	VARIANT
11	325	1) 6	1) DN 300	1) 1.4539	1) Borosilicate glass according to DIN 7080 or similar.	1) PTFE	0) Standard
		2) 10	2) DN 350	2) 1.4571		2) FKM	
		3) 16	3) DN 400	3) 1.4404	2) Soda-lime glass according to DIN 8902 or similar	3) NBR	
			4) DN 450	4) 1.4541	4) Borosilicate glass <sup>2</sup> + PTFE wiper SGW	4) C4400	
			5) DN 500	5) 1.4462	5) Borosilicate glass <sup>2</sup> + Silicone wiper SGW	5) Silicone	
			6) DN 600	6) 1.4306	6) Soda-lime glass <sup>3</sup> + PTFE wiper SGW	6) EPDM	
			7) DN 700	8) Special	7) Soda-lime glass <sup>3</sup> + Silicone wiper SGW	7) Graphite	
			8) DN 800			8) Special	

- 1) Cover flange according to offer / order confirmation
- 2) Similar to DIN 7080
- 3) Similar to DIN 8902



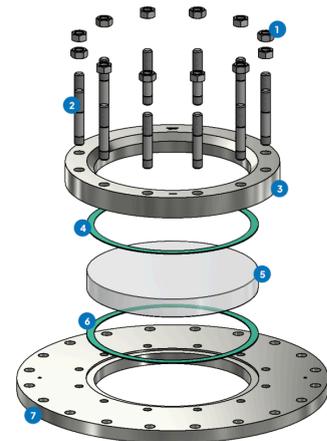
Unless otherwise specified, the highlighted factory standard is delivered.

**EXAMPLE**

The product code **11-325-2-600-2-1-4-0** corresponds to the standard version:  
 ACI type 325  
 DN 600  
 PN 10  
 Base flange made of 1.4571  
 Cover flange made of 1.4571  
 Borosilicate glass similar to DIN 7080  
 Gasket KlingerSil® C4400

**STRUCTURE**

1. Nuts
2. Stud bolts or screws
3. Cover flange
4. Glass cushion
5. Sight glass
6. Gasket
7. Base flange



For aggressive media, FEP or Halar® coated sight glass plates can be used. When steam is present, mica discs should be used to protect the glasses.

## QUICK OVERVIEW



max. 16 barg



heat resistant up to 400 °C



for liquid media



for gaseous media



Nominal sizes  
DN 300 - 800



Custom designs possible



> 50 gasket materials



Accessories available

## OPERATING CONDITIONS

Operating conditions depend on the choice of the glass and the seals:

		SIGHT GLASS				GASKETS				
		Soda-lime glass (DIN 8902 or similar)	Borosilicate glass (DIN 7080 or similar)	PTFE max. 200 °C	FKM max. 200 °C	NBR max. 80 °C	C4400 max. 175 °C	Silicone max. 180 °C	EPDM max. 130 °C	Graphite > 400 °C
TEMPERATURE	up to 80 °C	✓	✓	✓	✓	✓	✓	✓	✓	✓
	up to 130 °C	✓	✓	✓	✓	✗	✓	✓	✓	✓
	up to 150 °C	✓	✓	✓	✓	✗	✓	✓	✗	✓
	up to 175 °C	✗	✓	✓	✓	✗	✓	✓	✗	✓
	up to 200 °C	✗	✓	✓	✓	✗	✗	✗	✗	✓
	up to 280 °C	✗	✓	✗	✗	✗	✗	✗	✗	✓
PRESSURE	6/10/16 barg <sup>3</sup>	✓	✓	✓	✓	✓	✓	✓	✓	✓

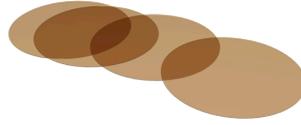
3) Higher upon request

✓ suitable    ✗ unsuitable

**OPTIONAL ACCESSORIES**



**Double glazing**



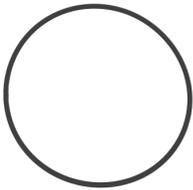
**Round mica discs**

- > up to 320 °C with Borosilicate glass  
DIN 7080



**Sight glass wiper**

- > with PTFE, silicone, EPDM or FKM  
wipers

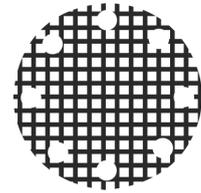


**O-Ring Gasket**

- > vacuum-compatible



**PLEXIGLAS Impact protection  
window**



**Grid impact protection window**



**LED lights**

- > for Ex and non-Ex areas



**FEP protective screen / coating**

- > for high pH values



**Spraying device SV1**

- > from high-quality stainless steel of  
grade 1.4571