INDUSTRIEARMATUREN

Longitudinal sight glass fitting Type 330 PS 16/35

For welding in or on

Type 330

EDELSTAHL Rostfrei INOX STAINLESS STEEL

USAGE

Observation of the liquid level inside closed vessels (boilers, tanks, silos, etc.). Type 330 sight glass fittings are rectangular longitudinal sight glass fittings for weld-in or weld-on installation, each completed with a sight glass plate inserted between the gaskets and firmly bolted.

Operating conditions		
Temperature: (depending on glass and gasket)	≤ 243 °C[1]	Borosilicate glass Reflex and Transparent DIN 7081 (Saturated steam or hot-water pressure)
	≤ 280 °C[2]	Borosilicate glass Reflex and Transparent DIN 7081 (without technically significant glass attack)
	≤ 320 °C[1]	Borosilicate glass Transparent DIN 7081 (with mica protection)
	≤ 400 °C[3]	Borosilicate glass Transparent untempered
Pressure:	up to 16/35 barg	

1) Depending on the gasket material & pressure rating
2) See pressure note on the next page
3) Available on request

Materials	
Base frame:	1.4571, 1.4404
Glass:	Borosilicate glass (DIN 7081), reflective or transparent glass
Gasket[1]:	PTFE; FKM; NBR; C4400; Silicone; EPDM; Graphite
Screws:	A2-70 / A4-70
Special materials on request	

1) Many other gaskets available on request

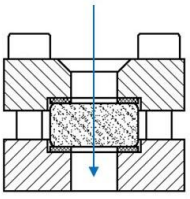
INSTALLATION NOTE

After welding the base frame, check whether the sealing surface has warped. If necessary, it must be reworked! Also observe the specified tightening torques for the bolting in accordance with the operating and maintenance manual! The working pressure does not apply to the base frame; it must be checked together with the pressure device according to AD2000 Leaflet B9.

REFLECTIVE AND TRANSPARENT GLASS

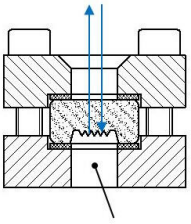
For clear media, dark or unlit vessels, or a closed Level indicator, the use of a reflex sight glass is recommended (see the adjacent image). The refraction of light in the integrated prisms can make the level more visible. However, if the vessel is illuminated, the medium is very clear, or the color of the medium should be visible, a Transparent glass should be used. Reflective glass cannot be protected with Mica discs, as this prevents the reflection. We will be happy to assist you in selecting the 1) configuration suitable depending on environmental variables.

Light rays



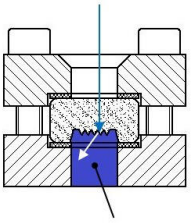
Transparent glass

Light rays



Reflective glass without liquid

Light rays



Reflective glass with liquid

Pressure notes PS 16																	
BL [mm]	140	170	220	250	300	310	350	370	400	500	600	320	700	740	800	930	1000
SL [mm]	79	124	174	204	264	264	304	324	354	454	564	564	654	694	754	884	954
Concealed view [mm]	0									1x46	1x36	1x46	1x46	1x46	1x46	2x46	3x46
h1/h2 [mm]	20																
PS max [barg]	16																
TS max [°C][1]	320																
Weight [kg]	2,8	3,2	4,0	4,6	5,3	5,6	6,3	6,6	7,1	9,1	10,7	11,1	12,5	13,2	14,2	16,7	18,2

1) Depending on the glass material, gasket material and design

Pressure notes PS 35																	
BL [mm]	140	170	220	250	300	310	350	370	400	500	600	320	700	740	800	930	1000
SL [mm]	79	124	174	204	264	264	304	324	354	454	564	564	654	694	754	884	954
Concealed view [mm]	0									1x46	1x36	1x46	1x46	1x46	1x46	2x46	3x46
h1/h2 [mm]	25																
PS max [barg]	35																
TS max [°C][1]	280																
Weight [kg]	3,4	4,0	5,0	5,7	6,6	6,9	7,8	8,2	8,8	11,3	13,3	13,8	15,6	16,4	17,7	20,8	22,6

1) Depending on the glass material, gasket material and design

PRESSURE NOTE

The operating pressure of 35 barü[1] is only achievable with transparent glass, for liquid media, without technically significant glass attack. For transparent and reflective glass exposed to steam or aggressive media, the maximum operating pressure PS = 35 barü[1] at a maximum of 243 °C.

1) See table pressure notes PS max. & TS max.

More detailed information can be found in our information sheet DIN 7081.

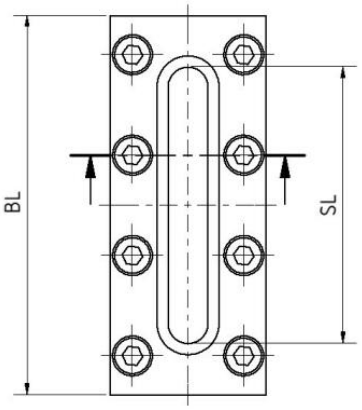
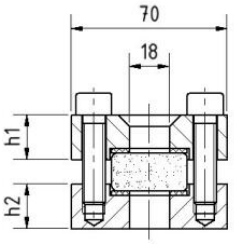


Illustration with transparent glass



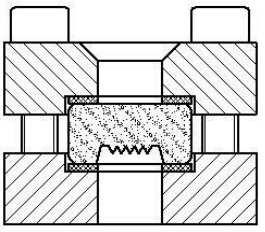


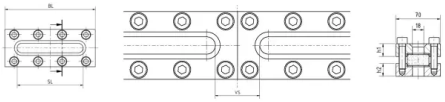
Illustration with reflective glass

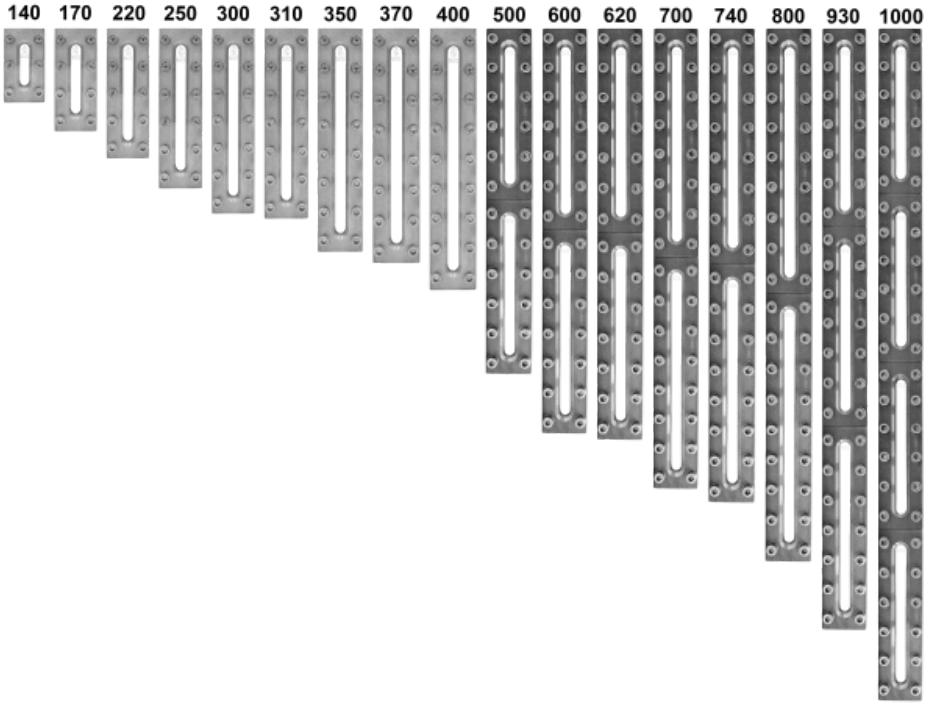
HIDDEN VIEW (HV)

For level indicators, a Concealed view occurs at large overall lengths in the area between the individual longitudinal sight glasses. This is caused by the manufacturing length of the longitudinal sight glasses according to DIN 7081. From a total length of 500 mm, a Concealed view is therefore unavoidable.

The configuration for sizes 140 mm to 1000 mm can be found in the adjacent illustrations.

Special sizes available on request.





PRODUCT CODE

Example for Explaining the Code Composition

11 - 330 - 500 - 2 - 1 - 4 - 1 - 0

GROUP	TYPE	TOTAL LENGTH	BASE FRAME[1]	GLASS	GASKET	WORKING PRESSURE	VARIANT
11	330	140	2) 1.4571	1) Borosilicate glass (DIN 7081) Transparent glass	1) PTFE	1) 16	0) Standard
		170	3) 1.4404	2) Borosilicate glass (DIN 7081) + mica protection screen Transparent glass	2) FKM	2) 35[2]	
		220	8) Special	3) Borosilicate glass (DIN 7081) Reflective glass	3) NBR		
		250		4) Borosilicate glass untempered Transparent glass	4) C4400		
		300			5) Silicone		
		310			6) EPDM		
		350			7) Graphite		
		370			8) Special		
		400					
		500					
		600					
		620					
		700					
		740					
		800					
		930					
		1000					

1) Cover frame according to quotation / order confirmation
2) See table of pressure notes PS max. & TS max.

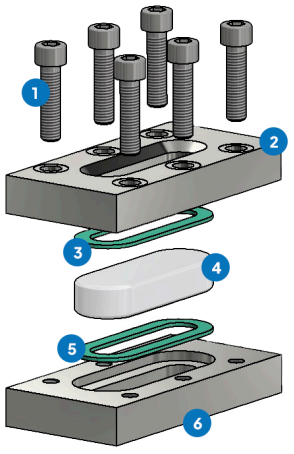
Unless otherwise specified, the highlighted factory standard will be supplied.

EXAMPLE

The product code 11-330-500-2-1-4-1-0 corresponds to the standard design:
ACI type 330
500 mm long
PS 16
Base frame made of 1.4571
Cover frame made of 1.4571
Borosilicate glass transparent DIN 7081
Gasket KlingerSil® C4400

STRUCTURE

1. Screws
2. Cover frame
3. Glass spacer
4. Sight glass
5. Gasket
6. Base frame



For aggressive media, FEP- or Halar®-coated sight glass plates can be used. For steam, Mica discs should be used to protect the glass.

Longitudinal sight glass fitting Type 330 PS 16/35

For welding in or on

Type 330

QUICK OVERVIEW

max. 35 barg

heat-resistant up to 400 °C

for liquid media

for gaseous media

Overall lengths 140 - 1000 mm

Custom-made designs possible

>50 sealing materials

Accessories available

OPERATING CONDITIONS

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

		SIGHT GLASS				GASKETS						
		Borosilicate glass (DIN 7081) Transparent glass	Borosilicate glass (DIN 7081) Transparent glass + Mica discs	Borosilicate glass (DIN 7081) Reflective glass	Borosilicate glass untempered Transparent glass	PTFE max. 200 °C	FKM max. 200 °C	NBR max. 80 °C	C4400 max. 175 °C	Silikon max. 180 °C	EPDM max. 130 °C	Graphite > 400 °C
TEMPERATURE	up to 80 °C	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	up to 130 °C	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓
	up to 175 °C	✓	✓	✓	✓	✓	✓	✗	✓	✓	✗	✓
	up to 200 °C	✓	✓	✓	✓	✓	✓	✗	✗	✗	✗	✓
	up to 243 °C	✓	✓	✓	✓	✗	✗	✗	✗	✗	✗	✓
	up to 280 °C	✓	✓	✓	✓	✗	✗	✗	✗	✗	✗	✓
	up to 320 °C	✗	✓	✗	✓	✗	✗	✗	✗	✗	✗	✓
PRESSURE	up to 16 barg	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	up to 35[1] barg	✓	✓	✓	✗	✓	✗	✗	✓	✗	✗	✓

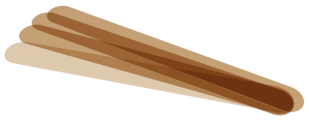
1) See table "Pressure notes"

✓ suitable ✗ unsuitable

OPTIONAL ACCESSORIES

FEP protective screen / coating

> for high pH values



Mica discs in longitudinal form with round ends

> up to 320 °C with Borosilicate glass DIN 7081 transparent

ACI Industriearmaturen GmbH

info@aci24.com
+49 (0) 2461 91634 00
www.aci24.com
+49 (0) 2461 91634 44
Königskamp 19 · 52428 Jülich · Germany