Longitudinal sight glass fitting Type 330 PN 16/40

For welding in or welding 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 securely screwed in place.

Operating conditions		
Temperature: (dependent on glass and Gasket)	≤ 243 °C	Borosilicate glass, reflective and transparent DIN 7081 (Saturated steam or hot water pressure)
	≤ 280 °C	Borosilicate glass, reflective and transparent DIN 7081 (without technically significant glass attack)
	≤ 320 °C	Borosilicate glass, transparent DIN 7081 (with Mica protection)
	≤ 400 °C	Borosilicate glass, transparent, untempered
Pressure:	- 0.9[1] barg to 16/40[2] barg	

1) Dependent on ambient variables
2) See pressure note on the next page

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) See „INFO Seals“

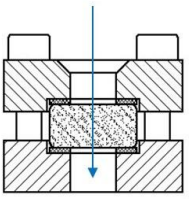
INSTALLATION NOTE

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

REFLECTIVE AND TRANSPARENT GLASS

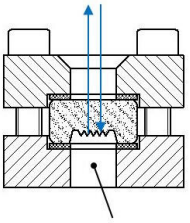
For clear media, dark or unlit vessels, or a closed Level indicator, the use of a reflex sight glass is recommended (see adjacent image). Refraction of light in the integrated prisms can make the liquid level more visible. However, if the vessel is illuminated, the medium is very clear, or the color of the medium should be visible, a Transparent glass should be used. Reflective glass cannot be protected with Mica discs, as that would inhibit the reflection. We are happy to help you choose the 1) design suitable depending on environmental variables.

Light rays



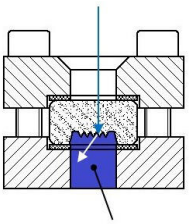
Transparent glass

Light rays



Reflective glass without liquid

Light rays



Reflective glass with liquid

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BL [mm]	140	170	220	250	300	310	350	370	400	500	600	620	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	0	0	0	0	0	0	0	0	1x46	1x36	1x46	1x46	1x46	1x46	2x46	3x46
h1/h2 [mm] (PN 16)	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Weight [kg] (PN 16)	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
h1/h2 [mm] (PN 40)	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
Weight [kg] (PN 40)	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

PRESSURE NOTE

The working pressure of 40 barg can only be achieved with transparent glass for liquid media without technically significant attack on the glass. For transparent and reflective glass exposed to steam or aggressive media, the maximum working pressure is PS = 35 barg at a maximum of 243 °C.

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

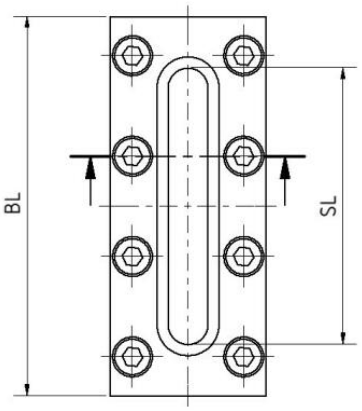
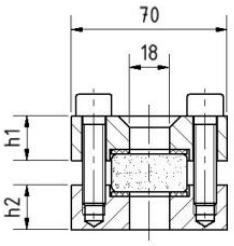


Illustration with transparent glass



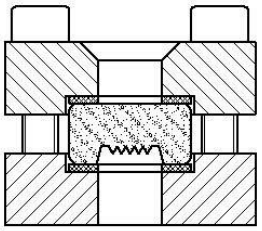


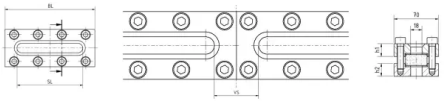
Illustration with reflective glass

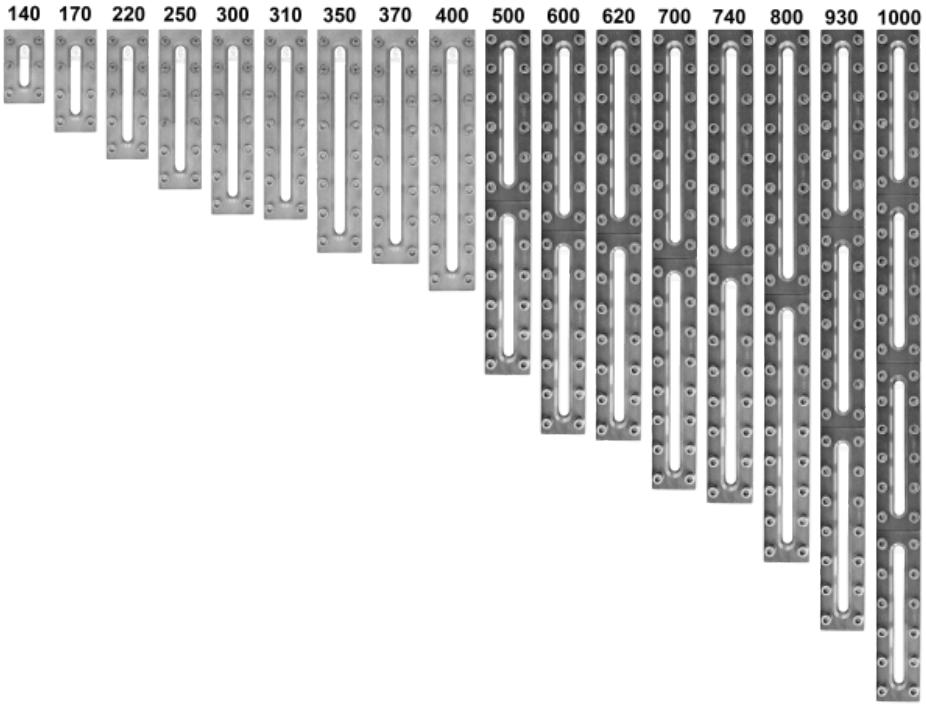
HIDDEN VIEW (HV)

For level indicators, a Concealed view appears at large overall lengths in the area between the individual longitudinal sight glasses. This is due to the manufacturing length of the longitudinal sight glasses according to DIN 7081. For overall lengths of 500 mm and above, 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.





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PRODUCT CODE

Example for Explaining the Code Composition

11 - 330 - 500 - 2 - 1 - 4 - 1 - 000

GROUP	TYPE	TOTAL LENGTH	BASE FRAME[1]	GLASS	GASKET	PN	VARIANT
11	330	140	2) 1.4571	1) Borosilicate glass (DIN 7081) Transparent glass	1) PTFE	1) 16	000) Standard
		170	3) 1.4404	2) Borosilicate glass (DIN 7081) + Mica protective screen Transparent glass	2) FKM	2) 40	
		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 offer / order confirmation

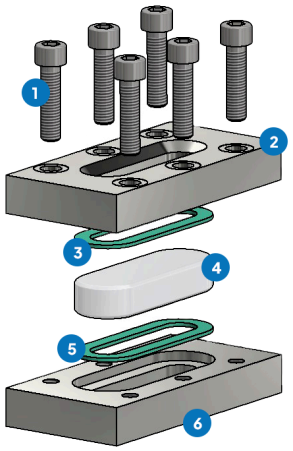
Unless otherwise specified, the highlighted factory standard will be supplied.

EXAMPLE

The product code 11-330-500-2-1-4-1-000 corresponds to the standard design:
ACI Type 330
500 mm long
PN 16
Base frame made of 1.4571
Cover frame made of 1.4571
Transparent borosilicate glass DIN 7081
Gasket KlingerSil® C4400

STRUCTURE

1. Screws
2. Cover frame
3. Glass cushion
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.

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QUICK OVERVIEW



max. 40 barg



Heat-resistant up to 400 °C



for liquid media



for gaseous media



Overall lengths 140 - 1000 mm



Custom-made designs possible



>50 gasket materials



Accessories available

OPERATING CONDITIONS

Operating conditions depend on the choice of glass and 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	Silicone 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	✗	✓	✗	✓	✗	✗	✗	✗	✗	✗	✓
	up to 400 °C	✗	✗	✗	✓	✗	✗	✗	✗	✗	✗	✓
PRESSURE	-0.9[1] to 16/40[2] barg	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

1) Dependent on ambient variables
2) See pressure note

✓ 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

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03112026 - Subject to technical changes and errors!