

# Alfa Laval tank sight glasses

## Tank Accessories

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### LKS 105 tank sight glass

#### Introduction

The Alfa Laval LKS 105 Tank Sight Glass is a sight glass that permits direct distortion-free visual inspection of process conditions, products, liquid levels and cleaning inside pressureless storage tanks.

Welded into tanks or containers and installed above the liquid level, the LKS 105 Tank Sight Glass provide free view through a 105-mm leakproof opening made of toughened borosilicate glass. This makes it possible for operators to view the color, clarity, turbidity, or other critical characteristics of the product or tank cleaning status.

Inspection enables early detection of potential issues and quick response. This helps prevent costly downtime, protect plant equipment and improve operational efficiency.

#### Application

The Alfa Laval LKS 105 Tank Sight Glass is designed to facilitate clear, continuous and unobstructed inspection of various process conditions inside pressureless storage tanks across the dairy, food, beverage, personal care, biotechnology and pharmaceutical industries.

#### Benefits

- Improved operational efficiency
- Enables early detection and quick response to potential issues
- Reliable operation and more uptime
- Quick and easy to install
- Low maintenance requirements
- Withstand static pressure up to 1 bar

#### Standard design

The LKS 105 In-Line Sight Glass consists of a threaded flange which is welded onto the tank, two seal rings, a borosilicate glass plate and lock washer.



## Technical data

### Pressure

Max. product pressure: 100 kPa (1 bar)

### Temperature

Max. temperature: 90 °C

### Options

- MiniVision light fitting with push button for LKS (20 or 50 Watt)
- MiniVision light fitting without push button for LKS (50 Watt)
- Collar flange fixation for MiniVision light fitting without push button for LKS size 105

## Physical data

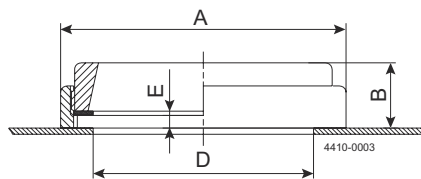
### Materials

Washers: Stainless steel AISI 304  
Glass: Borosilicate  
Seal rings: Para rubber, Klingerite  
Finish: Semi-bright

### Measurements

Size: Ø105 mm  
Weight: 1 kg

## Dimensions (mm)



**Size** 105 (mm)

A 136  
B 31  
D 105  
E 6.5

## LKS 78 and 120 tank sight glass



### Introduction

The Alfa Laval LKS 78 and 120 Tank Sight Glasses are accurate, tight-fitting circular gauge glasses that permit direct distortion-free visual inspection of process conditions, products, liquid levels and cleaning inside pressurized tanks and vessels.

Welded into tanks or vessels and installed above the liquid level, these LKS Tank Sight Glasses provide free view through a leak-proof opening made of toughened borosilicate glass. This makes it possible for operators to view the color, clarity, turbidity, or other critical characteristics of the product or tank cleaning status.

### Technical data

#### Pressure

78 mm : Max. test pressure (20 °C): 4000 kPa (40 bar)

120 mm: Max. test pressure (20 °C): 2000 kPa (20 bar)

Suggested working temperature: Max. 95 °C

If required, the sight glass can be tested with the actual pressure and provided with a label confirming the test results

#### Options

a. MiniVision light fitting with push button for LKS (20 or 50 Watt halogen or 4W LED)

b. MiniVision light fitting without push button for LKS (50 Watt halogen or 4W LED)

### Physical data

#### Materials

Steel types for LKS: AISI 316L

Glass: Hardened borosilicate

Seals: Nitrile (NBR). Klingerite (Fibre)

Finish: Semi bright

Inspection enables early detection of potential issues and quick response. This helps prevent costly downtime, protect plant equipment and improve operational efficiency.

### Application

The Alfa Laval LKS 78 and 120 Tank Sight Glasses are designed to facilitate clear, continuous and unobstructed view of various process conditions inside pressurized tanks and vessels across the dairy, food, beverage, personal care, biotechnology and pharmaceutical industries.

### Benefits

- Reliably clear viewing quality
- Clear, continuous and unobstructed visibility of processes
- Improved operational efficiency
- Enables early detection and quick response to potential issues
- Easy to install, low maintenance requirements

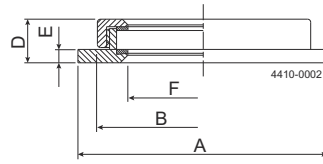
### Standard design

The LKS sight glass consists of a threaded flange for welding onto a pressurized tank or vessel, a borosilicate glass disc according to DIN 7080, two seal rings, and a threaded retaining ring. The LKS 78 provides a 78 mm free view and the LKS 120 a 120 mm free view of the tank interior. Both sizes are available with light fitting.

### Working principle

Using two sight glasses, one fitted with an electric light to illuminate the inside of the tank, facilitates observation of the tank interior.

## Dimensions (mm)



Size	LKS 78		LKS 120	
	mm	inch	mm	inch
A	130	5.12	180	7.09
B	111	4.37	165	6.50
D	23	0.91	28	1.10
E	7	0.28	7.5	0.30
F	78	3.07	120	4.72
Glass Ø x gauge	89 x 10	3.50 x 0.39	135 x 12	5.31 x 0.47

## Sight glass according to DIN 28120



### Introduction

The Alfa Laval Sight Glass according to DIN 28120 is a sight glass that permits direct distortion-free visual inspection of process conditions, products, liquid levels and cleaning inside vessels. It is typically used for high-pressure, high-temperature processes.

Affordable and easy-to-operate, the leakproof sight glass makes it possible for operators to view the color, clarity, turbidity, or other critical characteristics of the product or cleaning status inside the vessel.

Inspection enables early detection of potential issues and quick response. This helps prevent costly downtime, protect plant equipment and improve operational efficiency.

### Application

The sight glass is designed for use in high-pressure, high-temperature hygienic applications across the dairy, food,

beverage, brewery, chemical, personal care, biotechnology, pharmaceutical and many other industries.

### Benefits

- Improved operational efficiency
- Enables early detection and quick response to potential issues
- Reliable operation and more uptime
- Quick and easy to install
- Low maintenance requirements

### Standard design

Engineered with a welding nozzle, the sight glass consists of a base flange, cover flange, gaskets, borosilicate glass disc, grooved collar nut, nuts and studs.

Dimensioned according to DIN 28120, the flange thicknesses guarantee distortion-free positioning of the sight glass disc, provided that the flanges are properly welded into or onto the wall of the vessel.

The pressure resistance of the glass disc is dependent on the care with which the bolts and nuts are tightened (always work on diametrically opposed pairs). For lubricated bolts with  $R_a = 0.1$  mm, the recommended tightening torque values (Nm) are indicated in the table on page 2.

Made of borosilicate, the glass disc is able to withstand operating temperatures up to 280 °C (DIN 7080). All steel parts are available with material certificate EN10204. 3.1B/AD-W2.

Available in sizes from DN 50 – DN 200, the sight glass can be fitted with an optional Alfa Laval miniVISION Light Fitting.

### Technical data

#### Temperature

Temperature range:	-10 °C to +140 °C (EPDM), (higher temperatures up to 280 °C with gaskets of Klingsersil)
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#### Pressure

Max. product pressure:	Max. 10 bar (1000 kPa)
Min. product pressure:	Full vacuum

### Physical data

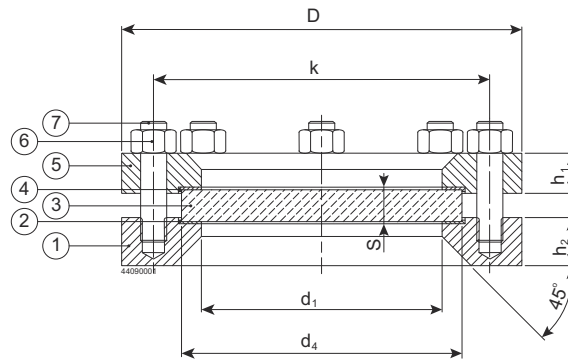
#### Materials

Base flange:	AISI 316L, material certificate 3.1B/AD-W2
Cover flange:	AISI 321, material certificate 3.1B/AD-W2

## Materials

Gaskets:	Klingsil C4400 (cover side)/EPDM (product side)
Glass disc:	Borosilicate to DIN 7080, material certificate 2.2 (max. 280 °C)
Bolts or studs:	To DIN 938/934 in A2-70

## Dimensions (mm)



Size DIN	Pressure Rating	Viewing Diameter	Sight glass disc			Base flange and cover flange				Bolts or studs and nuts		
DN	(bar)	d1	d4	s	D	k	h1	h2	Number	Size	Tightening torque (Nm)	
50	10	80	100	15	165	125	16	30	4	M16	28	
80	10	100	125	15	200	160	20	30	8	M16	20	
100	10	125	150	20	220	180	22	30	8	M16	26	
125	10	150	175	20	250	210	25	30	8	M16	32	
150	10	175	200	25	285	240	30	36	8	M20	47	
200	10	225	250	30	340	295	35	36	8	M20	63	

## Installation

The numbers in the following installation instructions refer to the drawing above.

After having correctly welded the base flange (1) onto or into the vessel wall, the gasket (2), the sight glass disc (3), the gasket (4) and the cover flange (5) are mounted one after the other and then the nuts (6) are tightened, always working on diametrically opposite pairs. The above indicated tightening torque values have to be strictly respected. Additional information may be taken from the DIN specification 28120.

## Options

- Product wetted side of gasket in Klingsil C4400
- miniVISION light fitting

## Ordering

When ordering, please state the following:

- DN size
- Material type of product wetted gasket side
- miniVISION light fitting, if needed

## Union sight glass based on DIN 11851



### Introduction

The Alfa Laval Union Sight Glass based on DIN 11851 is a sight glass that permits direct distortion-free visual inspection of process conditions, products, liquid levels and cleaning inside storage tanks, mixers, reactors, and other vessels. It is typically used for high-pressure, high-temperature processes.

Affordable and easy-to-operate, the leakproof sight glass makes it possible for operators to view the color, clarity,

turbidity, or other critical characteristics of the product or cleaning status inside the vessel.

Inspection enables early detection of potential issues and quick response. This helps prevent costly downtime, protect plant equipment and improve operational efficiency.

### Application

The Alfa Laval Union Sight Glass based on DIN 11851 is designed for the hygienic applications across the dairy, food, beverage, brewery, personal care, biotechnology and pharmaceutical industries.

### Benefits

- Improved operational efficiency
- Enables early detection and quick response to potential issues
- Reliable operation and more uptime
- Quick and easy to install
- Low maintenance requirements

### Standard design

The sight glass consists of: a welding flange (1); a grooved collar nut (2); a glass disc (3); and two gaskets (4-5). The product wetted side of the gasket is made of EPDM. The welding part (1) and glass disc (3) are delivered with a material certificate EN10204.3.1.B/2.2 as standard. The sight glass can be fitted with an optional Alfa Laval miniVISION Light Fitting.

## Technical data

### Temperature

Temperature range:	-10 °C to +140 °C (EPDM)
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### Pressure

Max. product pressure:	Max. 6 bar (600 kPa)
Min. product pressure:	1 mbar absolute (1 Torr)

## Physical data

### Materials

Welding flange:	AISI 316L, material certificate 3.1B/ADW2 to DIN 50049
Grooved collar nut:	AISI 304

## Materials

Glass disc:	Borosilicate to DIN 7080 (max. 280 °C), material certificate 2.2
Gasket cover side:	PTFE
Gasket product wetted side:	EPDM

## Dimensions (mm)



Size DIN DN	ID	a	A	OD	D
65	65	22	49	72	112
100	100	32	65	106	148
125	125	20	60	132	178

## Options

- Product wetted side of gasket in FPM, PTFE or Silicone
- miniVISION light fitting

## Ordering

- DN size
- Material type of product wetted gasket side
- miniVISION light fitting, if needed

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