Alfa Laval tank covers circular

Tank covers

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Circular cover Type HLSD-2

Introduction

The Alfa Laval Access Tank Cover – Circular Cover Type HLSD-2 is an outward-opening manway cover that provides a secure fit for openings on top of pressurized tanks and containers. It is approved for use on pressure vessels according to PED 2014/68/EU.

The HLSD-2 offers a quick, easy and convenient means of entry and egress to tank interiors. It also provides a closable means of access to the interior of the vessel, situated above or below the liquid level.

Application

The Access Tank Cover – Circular Cover Type HLSD-2 is designed for use in hygienic applications across the dairy, food, beverage, biotechnology, pharmaceutical and many other industries.

Benefits

- Versatility to cover all tank needs
- Hygienic design
- Easy to handle

Standard design

The Access Tank Cover – Circular Cover Type HLSD-2 consists of stainless steel lid, frame, hinge, swing bolt and seals. It is designed for installation in pressure vessels according to AD 2000-Merkblätt. The cover is not pressure tested and must be tested as a part of the pressure vessel. The HLSD-2 meets the PED 2014/68/EU, Fluid Group 1 and 2 and hazard category IV.

Working principle

The Alfa Laval Access Tank Cover – Circular Cover Type HLSD-2 lid is secured in the closed position by swing bolts. Together with the seal in the cover, the swing bolts ensure complete tightness. Attached to the frame by a rigid hinge, the cover secures the exact location of the cover in the closed position and is designed to stop the cover at an angle of 20-30° beyond the vertical position when opening.

Certificates

- 3.1 Certificate (EN10204)
- EC unit verification module G according to PED 2014/68/EU
- FDA declaration §177.2600 for seal material
- ASME BPE Certificate (option)

Technical data

Sizes
200 mm, 300 mm, 400 mm, 450 mm, 500 mm and 600 mm.

Pressure	
Max. allowable pressure:	According to selection table
Min. allowable negative pressure:	Full vacuum
Max. test pressure Ptest:	According to selection table

Physical data

Materials	
Product wetted steel parts:	1.4404 (AISI 316L)
Other steel parts:	1.4301 (AISI 304)
Seal:	EPDM, FPM, Silicone[1], FEP covered silicone, FEP covered FPM, PFA covered silicone

[1] Seal of Q (made of silicone, does not meet GB 4806.16-2025 standard, so it cannot be used in China)

Standard surface finish	**Semi bright**
Outside	Ra 1.6 µm
Inside	Ra 0.8 µm

Temperature	
Temperature range:	-10 °C to + 250 °C

Options

- Spring to assist opening.
- Arrangement for securing cover in open and closed position.
- Bracket for indication unit in size ø12 or ø18. Please specify size at order.
- Handle in stainless steel.
- Guide for cover for vertical installation. Please define positioning of the hinge (right or left hand side).
- Sight glass DIN 28120.
- Sight glass DIN 11851.
- Safety grid.
- Special surface finish.
- Frame height G = 300 mm.
- Seal of Q (silicone)[1], FPM, FEP covered silicone, PFA covered silicone, FEP covered FPM.
- Conical frame, different frame thickness and frame height available on request.

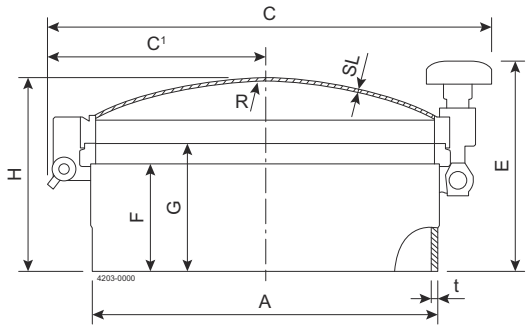
[1] Seal of Q (made of silicone, does not meet GB 4806.16-2025 standard, so it cannot be used in China)

Selection table

Size	**A**	**Number of bolts**	**Max. allowable pressure PS (bar) at design temperature Td (°C)**					**Max. test pressure**	**Cover thickness**	**Cover radius**
mm	**mm**		**50 °C**	**100 °C**	**150 °C**	**200 °C**	**250 °C**	**Ptest**	**(SL)**	
			bar	bar	bar	bar	bar	bar	mm	mm
200	208	4	14.7	13.0	11.8	10.8	10.0	21.1	8	500
300	308	4	7.6	6.7	6.4	6.1	6.0	13.5	5	500
		6	9.4	8.4	7.5	6.9	6.4	13.5	6	500
400	408	4	4.4	3.8	3.7	3.5	3.4	10.1	4	500
		6	6.6	5.8	5.5	5.3	5.2	14.3	5	500
		8	8.7	7.7	7.4	7.1	6.8	14.3	6	500
450	458	6	5.2	4.6	4.4	4.2	4.1	12.0	4	500
		8	7.0	6.1	5.9	5.7	5.5	12.5	5	500
		10	8.7	7.7	7.1	7.0	6.8	14.5	6	500
500	508	6	4.2	3.7	3.6	3.4	3.3	9.8	4	500
		8	5.7	5.0	4.8	4.6	4.5	10.7	4	500
		10	7.5	6.9	6.6	6.3	6.2	12.0	5	500

Size	A	Number of bolts	Max. allowable pressure PS (bar) at design temperature Td (°C)					Max. test pressure	Cover thickness	Cover radius
mm	mm		50 °C	100 °C	150 °C	200 °C	250 °C	Ptest	(SL)	
600	608	6	3.0	2.6	2.5	2.4	2.3	6.9	4	500
		8	4.0	3.5	3.3	3.2	3.1	7.7	4	500
		10	5.0	4.4	4.2	4.0	3.9	7.7	4	500
		12	6.0	5.3	5.0	4.9	4.7	8.8	5	500
		14	7.0	6.1	5.9	5.7	5.4	10.0	5	500

Dimensions (mm)



Size	200	300	400	450	500	600
A	208	308	408	458	508	608
C_1	154	204	254	279	309	359
C	320	420	520	570	625	725
E	237	237	247	247	247	247
F	125	125	125	125	125	125
G	150	150	150	150	150	150
H	185	198	226	240	251	285
R	500	500	500	500	500	500
SL see selection table						
t[1]	4	4	4	4	4	4

[1] Dimension only for guidance, measured before grinding and polishing

O-ring gaskets (HLSD-2)

Silicone[1]

Colour:	transparent
Temperature:	-50 °C to +200 °C FDA / USP Class VI

[1] Seal of Q (made of silicone, does not meet GB 4806.16-2025 standard, so it cannot be used in China)

EPDM

Colour:	black
Temperature:	-50 °C to +150 °C FDA / USP Class VI

Viton (FPM)

Colour:	green
Temperature:	-20 °C to +200 °C FDA

FEP covered Silicone

Colour:	shell: transparent, core: red
Temperature:	-60 °C to +200 °C FDA / USP Class VI

FEP covered Viton (FPM)

Colour:	shell: transparent, core: black
Temperature:	-20 °C to +200 °C FDA / USP Class VI

PFA covered Silicone

Colour:	shell: transparent, core: red
Temperature:	-60 °C to +230 °C FDA / USP Class VI

Circular cover Type LKDC



Introduction

The Alfa Laval Access Tank Cover - Circular Cover Type LKDC is a high-quality opening that provides quick, easy and convenient entry and egress to tank interiors. Available with a variety of surface finishes and seal materials, the Circular Cover Type LKDC securely fit the openings of low- or non-pressurized tanks.

Application

The Access Tank Cover - Circular Cover Type LKDC stainless steel manway cover is used on the top of tanks or containers across the dairy, food, beverage, and biopharm industries, where a hygienic closeable mean of access to the interior of the tank is required.

Benefits

- Covering all tank needs
- Hygienic design
- Available as a 3-A approved version
- Can be supplied with safety grid

Standard design

To enable visual inspection and/or physical entry into the tank, the tank cover swings outwards. The LKDC Tank covers needs to be positioned above the liquid level.

The Alfa Laval Access Tank Cover - Circular Cover Type LKDC is available in AISI 304 or AISI 316L stainless steel with EPDM, NBR, FPM or Q (silicone)[1] seal materials. Surface finishes include electropolished, brushed and acid pickled finishes and vary from Ra 0.4 to Ra 0.8 to meet the exceptionally high quality requirements of hygienic processes. In addition, a 3.1 Material Certification in accordance with EN 10204 is supplied. For more information, please refer to documentation and the Tank cover selection guide.

Working principle

The Alfa Laval Access Tank Cover - Circular Cover Type LKDC is supplied with a unique replaceable, self-sealing double lip seal to prevent fluids from spraying out, for instance, during CIP cleaning and similar processes or during travel on mobile tanks.

The seals are produced in compliance with 3-A recommendations. Open the cover by loosening the handle.

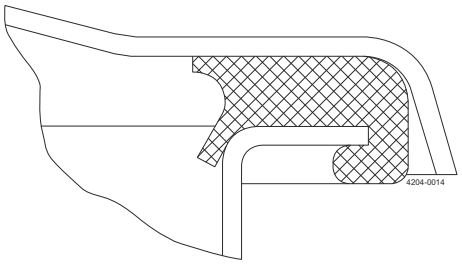


Figure 1. Double lip seal

Certificates

3.1 certificate

Technical data

Working pressure	
LKDC-306, 404, 454, 518, 620:	No pressure
LKDC-202:	0.4 bar

Physical data

Materials	
Lid and frame:	1.4301 (304) or 1.4404 (316L)
Plastic parts:	Nylon
Seals:	EPDM or NBR or FPM or Q (silicone)[1]

[1] Seal of Q (made of silicone, does not meet GB 4806.16-2025 standard, so it cannot be used in China)

Finish	
Surface finish:	Acid Pickled
Product wetted surfaces:	Ra 0.8 µm (Excluding welding zone)
Other frame and lid surfaces:	Ra 0.8 µm (Excluding welding zone)

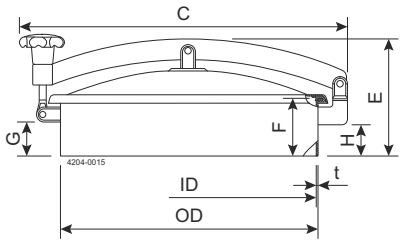
[1] Seal of Q (made of silicone, does not meet GB 4806.16-2025 standard, so it cannot be used in China)

3A finish	
3A surface finish:	Acid pickled
Product wetted surfaces:	Ra 0.4 µm
Other frame and lid surfaces:	Ra 0.4 µm (Excluding external welding zone)

Temperature	
Min. temperature:	- 20 °C
Max. temperature (NBR):	-30 °C / 110 °C
Max. temperature (Q) gasket[1]:	-50 °C/ 200 °C
Max. temperature (EPDM, not for oil and fat):	-15 °C/ 90 °C
Max. temperature (FPM flourinated rubber):	-10 °C/ 250 °C

[1] Seal of Q (made of silicone, does not meet GB 4806.16-2025 standard, so it cannot be used in China)

Dimensions (mm)

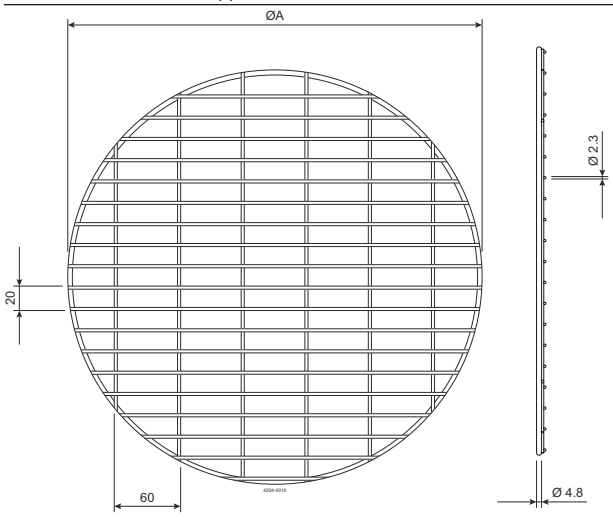


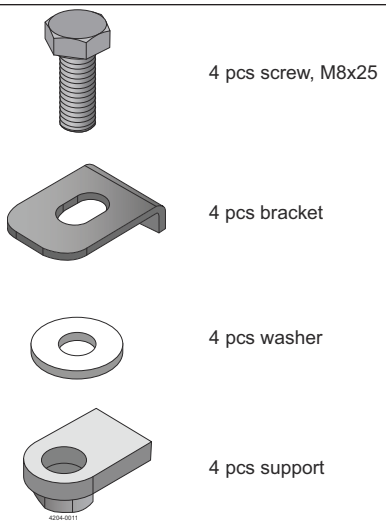
Size/OD	**202**	**306**	**404**	**454**	**454**	**518**	**518**	**620**	**620**
ID	198	302	400	448	448	512	512	614	614
F	85	100	100	100	200	100	200	100	200
t	2	2	2	3	3	3	3	3	3
C	354	457	555	609	609	675	675	778	778
G	50	64	64	65	165	53	153	62	162
H	44	57	59	60	160	58	158	59	159
E	156	146	178	201	301	197	297	203	303
Cover thickness	1.5	1.5	2	2	2	3	3	3	3
Weight (kg)	3.4	6.3	8.3	12.2	15.8	14.4	17.7	18.8	24.3

Options

Wire safety grid.

For installation in non-3A approved LKDC manhole covers.





4 pcs screw, M8x25

4 pcs bracket

4 pcs washer

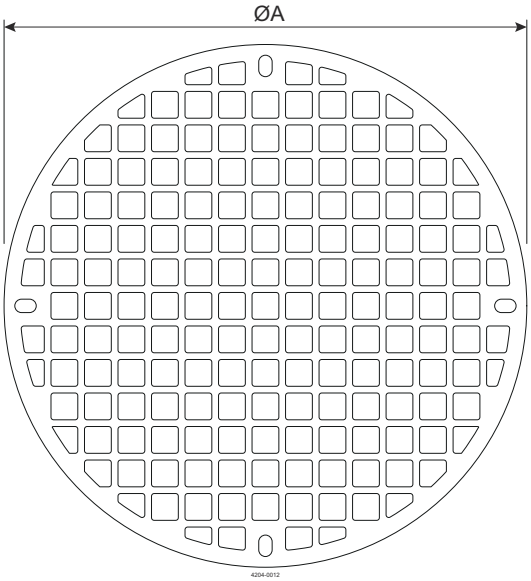
4 pcs support

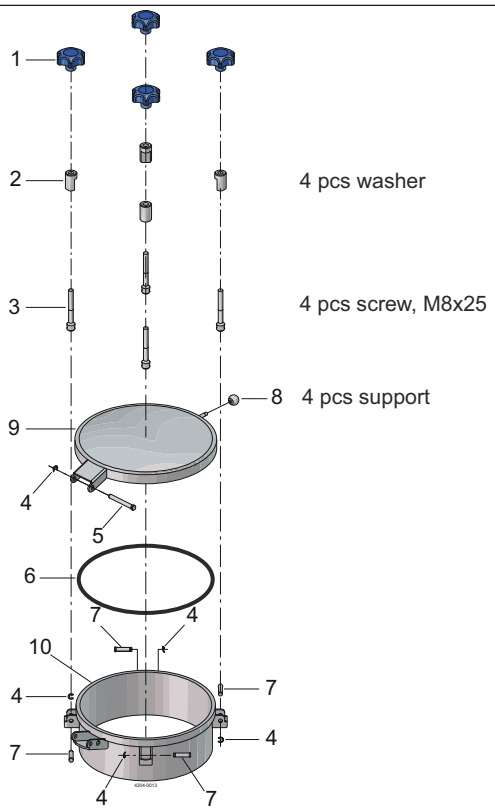
Dimensions:

LKDC	ØA	
	mm	inch
202	190	7.48
306	298	11.73
404	390	15.35
454	445	17.52
518	498	19.61
620	598	23.54

Material: 316L

Laser-cut safety grid. For installation in non-3A approved LKDC manhole covers.





Dimensions:

LKDC	ØA	
	mm	inch
202	190	7.48
306	296	11.65
404	390	14.96
454	436	17.17
518	500	19.68
620	605	23.82

Material: 316L

Circular cover Type LKDC - LPB and LP



Introduction

The Alfa Laval Access Tank Cover - Circular Cover Type LKDC – LPB and LP is a stainless steel manway cover that provides a secure fit for openings on top of tanks or containers that require quick, easy and convenient entry and egress to vessel interiors.

It is engineered to withstand vacuum conditions created during cleaning procedures or during production under low pressure conditions up to 1 bar.

Application

The Access Tank Cover - Circular Cover Type LKDC – LPB and LP are designed to cover openings on top of tanks or containers in hygienic applications across the dairy, food, beverage, brewery, wine, juice, personal care, pharmaceutical and many other industries.

Benefits

- Cost efficient solution for low pressure tanks
- Hygienic design
- Safe and easy handling with safety pin and springs on the handles of the LKDC-LP type

Standard design

To enable visual inspection and/or physical entry into the tank, the tank cover swings outwards. Tank covers may be positioned above and below liquid level to meet different application requirements.

The LKDC-LPB consists of AISI 304 or AISI 316L stainless steel lid and frame and EPDM seals and plastic handles.

The LKDC-LP consists of AISI 304 or AISI 316L stainless steel lid and frame and EPDM seals, handles, springs and safety pin for easy and safe handling. Acid-pickled surface finishes meet the high-quality requirements of hygienic processes; product wetted surfaces are Ra ≤ 0.8 µm. Other surfaces are Ra ≤ 1.2 µm.

Certificates

3.1 (cover and frame are supplied with material certificate 3.1 according to EN10204).

Technical data

Pressure	
Working pressure:	-1 to 1 bar

Note! The low pressure cover can stand up to 1 bar and is not PED approved.

Temperature	
Temperature range:	-10 to +150 °C

Physical data

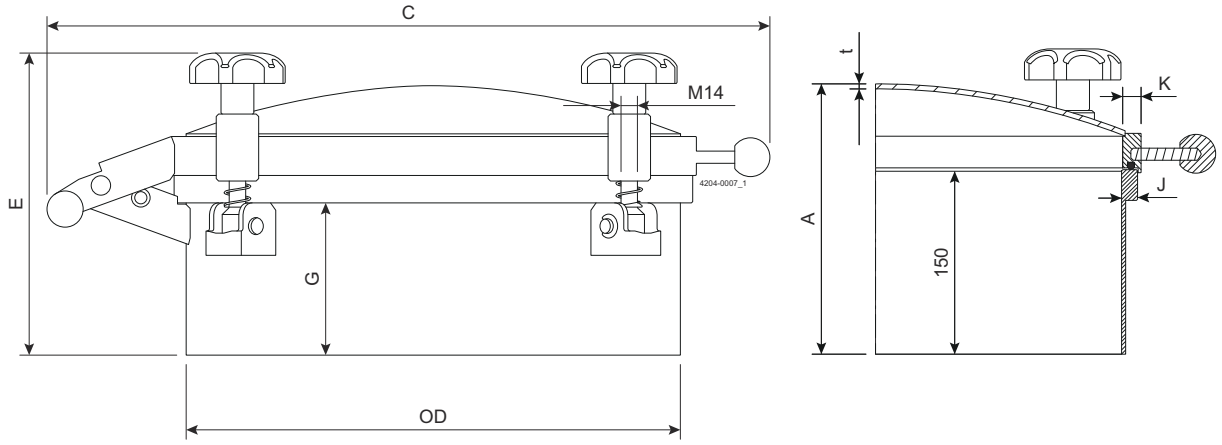
Materials	
Lid and frame:	1.4301 (304) or 1.4404 (316L)
Plastic parts:	Nylon Seals
(standard):	EPDM Seals
(optional):	NBR or FPM or Q (silicone)[1]
Surface finish:	Acid Pickled
Product wetted surfaces:	Ra≤ 0.8 µm
Other surfaces:	Ra≤ 1.2 µm

[1] Seal of Q (made of silicone, does not meet GB 4806.16-2025 standard, so it cannot be used in China)

Temperature:	
EPDM:	-15 °C / 90 °C
NBR:	-30 °C / 110 °C
SILICONE (Q)[1]:	-50 °C / 200 °C
FPM:	-10 °C / 250 °C

[1] Seal of Q (made of silicone, does not meet GB 4806.16-2025 standard, so it cannot be used in China)

Dimensions (mm)



Size	**300**	**400**	**450**	**498**	**600**
OD	306	406	458	506	608
C	483	594	661	701	807
A	211	221	231	232	247
E	236	236	236	236	236
G	82	82	67	67	67
K	15	15	18	18	18
J	13	13	14	14	14
Frame height	150	150	150	150	150
Frame thickness H	3	3	4	4	4
Weight (kg)	15.6	21.3	28.1	32.8	43,6
No.off handles	**3**	**4**	**4**	**6**	**6**

Circular cover Type C, CG and CG-LP



Introduction

The Alfa Laval Access Tank Cover - Circular Covers Type C, CG, CG-LP are a range of stainless steel manway cover that provides a secure fit for openings of tanks or containers. It offers a quick, easy and convenient means of entry and egress to tank interiors. It also provides a closeable means of access to the interior of the vessel, situated above or below the liquid level for tank top installation.

Application

The Access Tank Cover - Circular Cover Type C is designed for use on static tanks, process tanks, palletized road tankers and standard road tankers in a wide range of applications across the dairy, food, beverage and many other industries.

The type CG and CG-LP are designed for use on tanks, where a glass lid is used to visual inspection of the tank interior.

Benefits

- Versatility to cover all tank needs
- Swing flexibility due to optional hinge, for opening inwards, outwards or sideways
- Glass lid for non- or low-pressure (1 bar) applications

Standard design

The construction of Alfa Laval Access Tank Cover - Circular Cover Type consists of an AISI 304 or 316L stainless steel frame and cover, plastic or stainless steel handle and seal (EPDM, NBR, FPM, Silicone).

To enable visual inspection and/or physical entry into the tank for stainless steel covers, the tank cover swings inwards, outwards or sideways, depending upon the model. Tank covers can be positioned above and below liquid level to meet different application requirements. The CG type glass lid cover functions as an inspection or access port to the tank through a glass lid. It makes it possible to inspect the interior of the tank or the product without opening the tank, suitable for non-pressure tanks.

The CG-LP type glass lid cover is designed for up to 1 bar pressure and full-vacuum.

Electro-polished and acid pickled surface finishes (<Ra 0.8 µm) on the wetted part meet hygienic process quality requirements. 3.1 Material Certification in accordance with EN 10204 is supplied.

Optional stainless steel handle and relief valve are available for certain models.

Working principle

Open the cover by loosening the handle. This range includes covers with various openings.

Certificates

3.1 (cover and frame are supplied with material certificate 3.1 according to EN10204).

Technical data

Options:
SS handle on request
Relief valve

Physical data

Materials	
Steel parts:	1.4301 (304) or 1.4404 (316L)
Plastic parts:	Nylon
Seal:	EPDM
Glass part:	Sodalime tempered glass (max. temperature 120 °C)

Cover finish	**Electro polished**
Internal:	Ra 0.8 µm

Frame	**Acid Pickled**
Internal:	Ra 0.8 µm - 3 µm

Temperature	
EPDM:	-15 °C / 90 °C
NBR:	-30 °C / 110 °C
SILICONE (Q)[1]:	-50 °C / 200 °C
FPM:	-10 °C / 250 °C

[1] Seal of Q (made of silicone, does not meet GB 4806.16-2025 standard, so it cannot be used in China)

Cover shape	**Type**	**Function**	**Pressure Range[1](bar)**	**Relief Valve (option)**
Circular	C-202	Static tank	0.4	x
Circular	C-202A	Static tank	0.4	
Circular	C-202B	Static tank	0.4	
Circular	C-306	Static tank	0.1	x
Circular	C-404	Static tank	0	x
Circular	C-404SB	Static tank	0	x
Circular	C-404ASB	Static tank	0	x
Circular	C-404BSB	Static tank	0	x
Circular	C-404CC	Palletized road tanker	1.0	
Circular	C-404H6	Static tank	1.2	
Circular	C-404AH4	Static tank	0.2	x
Circular	C-418	Static tank	0.6	
Circular	C-454	Static tank and road tanker	0	x
Circular	C-454A	Road tanker	0.1	x
Circular	C-454SB	Static tank	0	x
Circular	C-518MH	Road tanker	0	x
Circular	C-518SBAR	Static tank	0.1	x
Circular	C-518 / C-518SB	Static tank	0	x
Circular	C-518A	Road tanker	0.1	x
Circular	C-620A / C-620SB	Static tank	0	x
Circular	CG-404	Static tank with glass opening	0	
Circular	CG-454	Static tank with glass opening	0	
Circular	CG-518	Static tank with glass opening	0	
Circular	CG-LP-300	Static tank with glass opening	1	
Circular	CG-LP-404	Static tank with glass opening	1	
Circular	CG-LP-518	Static tank with glass opening	1	

[1] Calculated max. pressure (bar).

Circular cover Type LKDS



Introduction
The Alfa Laval Access Tank Cover - Circular Cover Type LKDS is a stainless steel manway cover that fits on openings on top of tanks or containers. It offers a quick, easy and convenient means of entry and egress to tank interiors. It provides a cover, situated above the liquid level, but no closable means of access to the interior of the vessel.

Application
The Access Tank Cover - Circular Cover Type LKDS is designed for use in hygienic applications across the dairy, food and beverage industries. It is especially suitable for dairy balance tanks and Cleaning-in-Place (CIP) holding tanks.

Benefits
- High-quality tank cover
- Hygienic design

Standard design
The Alfa Laval Access Tank Cover - Circular Cover Type LKDS consists of a stainless steel lid and frame, and a splash guard to prevent liquid from spraying out during a cleaning process because the cover is not designed to fit watertight. Onsite assembly is required.

Acid pickled surface finishes (< Ra 0.8 µm) meet hygienic process quality requirements. 3.1 Material Certification in accordance with EN 10204 is supplied.

Working principle
The LKDS cover is not designed to fit watertight to the tank and therefore it is supplied with a splash guard to prevent liquid spraying out during a cleaning process.

Certificates
3.1 certificate.

Technical data

Pressure	
Working pressure:	No pressure

Physical data

Materials	
Lid and frame:	1.4301 (304) or 1.4404 (316L)

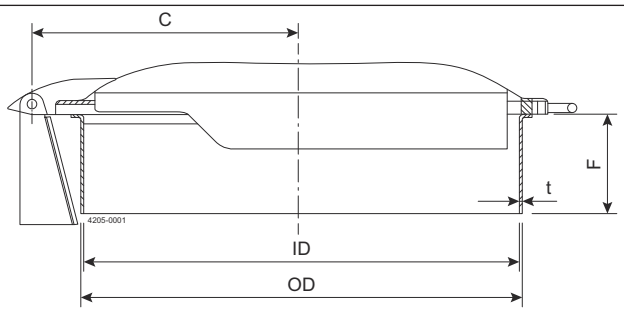
Surface finish	**Acid Pickled**
Product wetted surfaces:	Ra 0.8 µm (excluding welding zone)
Other frame and lid surfaces:	Ra 0.8 µm (excluding welding zone)
Other support and spindel surfaces:	Ra 3.0µm (excluding welding zone)

Temperature	
Min. temperature:	- 20 °C
Max. temperature:	+ 90 °C

Weight:	5 / 6 kg

Dimensions (mm)

Note! The LKDS covers are not assembled at delivery.



Size/OD	**454**	**454**
ID	448	448
F	24	100
t	3	3
C	272	272
Cover thickness	2	2

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