

Liquid ring compressors

LOH 25003, LOH 25007, LOH 25309

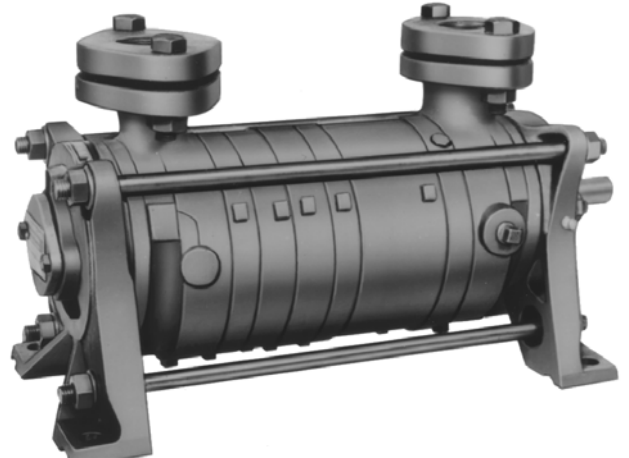
Compression pressure: 0,2 to 2 bar
Suction volume flow: 12 to 58 m³/h

CONSTRUCTION TYPE

Sterling SIHI liquid ring compressors are displacement compressors of simple and robust construction. They have the following important features:

- Handling of nearly all gases and vapours
- non-polluting due to nearly isothermal compression
- oil-free, as no lubrication in the working chamber
- additional liquid can be handled with the gas flow
- easy in maintenance and reliable operation
- low noise and nearly free of vibrations
- wide choice of material, therefore applicable nearly everywhere
- incorporated central drain
- no metallic contact of the rotating parts

The Sterling SIHI liquid ring compressors LOH 25003, LOH 25007 and LOH 25309 are two-stage compressors. They can be applied without modification as vacuum pump up to a suction pressure of 40 mbar (see catalogue part LI2).



APPLICATION

Handling and compressing of dry and humid gases; entrained liquid can be handled during normal duty. The compressors are applied in all fields where a compression over pressure of up to 1 bar has to be created by robust compressors and only a small increase in temperature is admissible during compression.

Fields of application are e.g.:

- the plastics industry, for the recovery of process gases as vinyl chloride
- the petrochemical industry, for the compression of combustible gases as gasoline vapours or hydrogen
- transport of gases in general, e.g. to a reactor

NOTE

During operation the compressor must continuously be supplied with service liquid, normally water, in order to eliminate the heat resulting from the gas compression and in order to replenish the liquid ring, because part of the liquid is leaving the compressor together with the gas. This liquid can be separated from the gas in a pressure liquid separator (see catalogue part accessories). It is possible to reuse the service liquid.

The direction of rotation is clockwise, when looking from the drive on the pump.

GENERAL TECHNICAL DATA

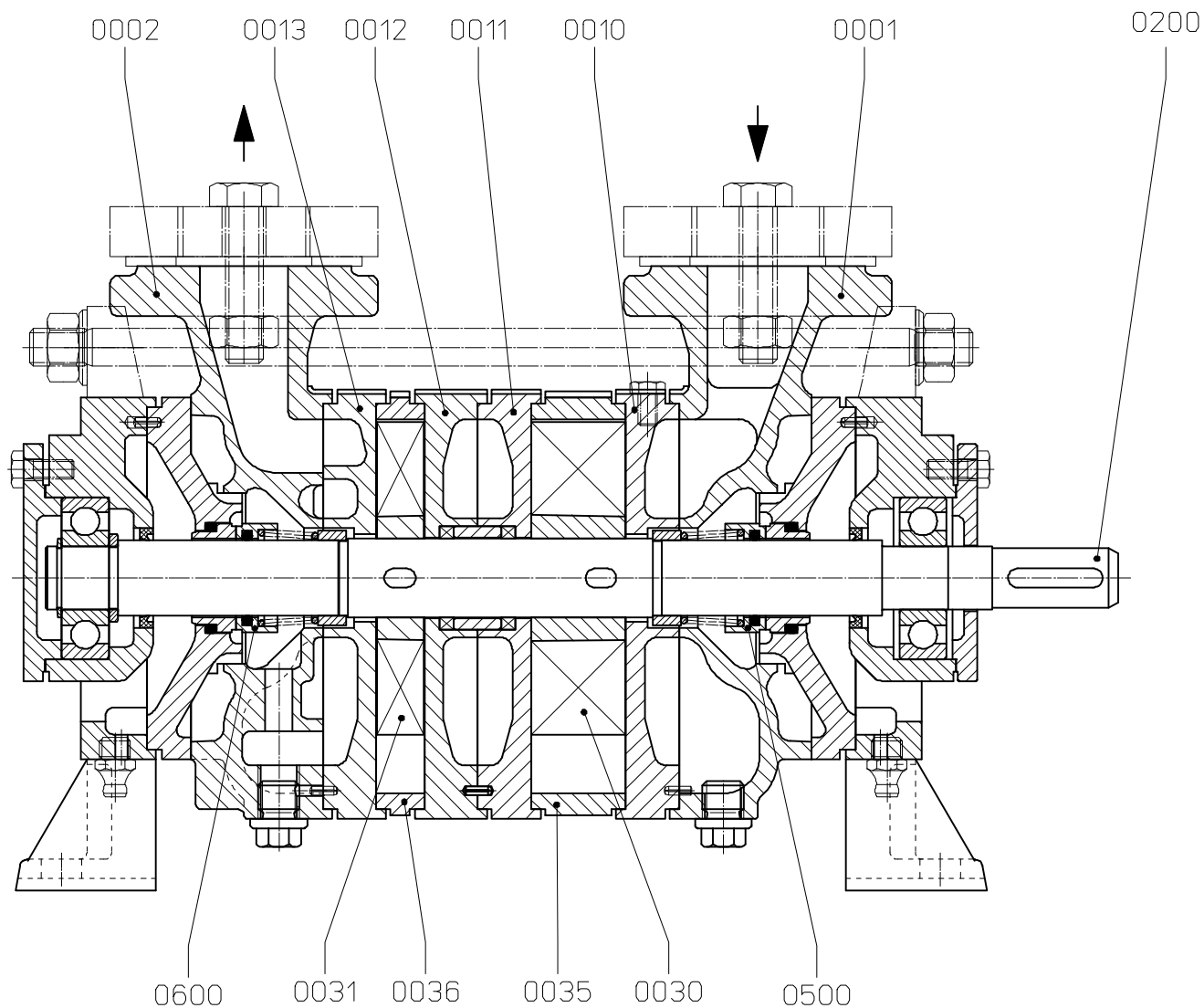
Pump type	unit	LOH 25003	LOH 25007	LOH 25309
Speed	50 Hz 60 Hz	2800 3400	2800 3400	2900 3500
Max. compression over pressure	bar		2,6	
hydraulic test (over pressure)	bar		4	
Moment of inertial of the rotating pump parts and the water filling	kg · m ²	0,004	0,0065	0,00875
Sound pressure level of measuring area	dB (A)	70 71	70 71	70 71
Min. pulley diameter permissible in case of V-belt drive	mm	80 90	80 90	112
Max. gas temperature	dry °C saturated °C		200 100	
Service liquid				
max. admissible temperature	°C		100	
max. viscosity	mm ² /s		90	
max. density	kg/m ³		1200	
volume up to shaft level	liter	1	1,2	1,4

The combination of several limiting values is not admissible.

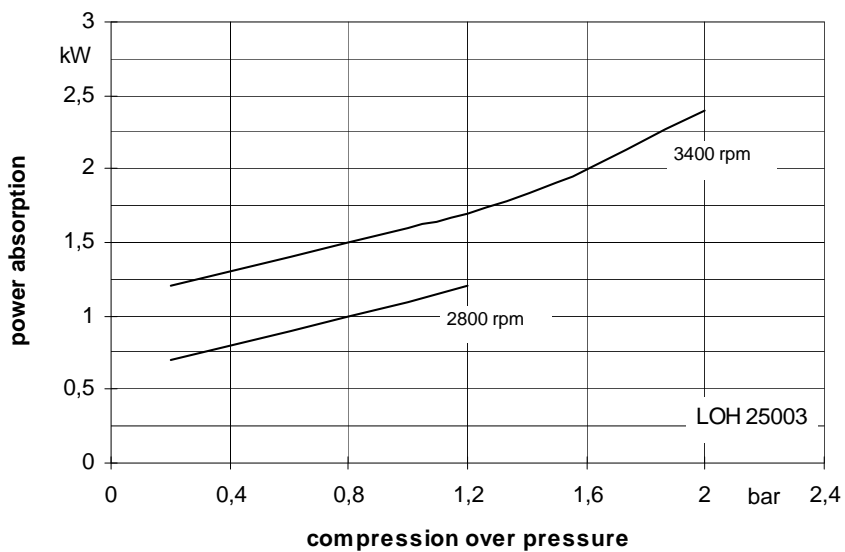
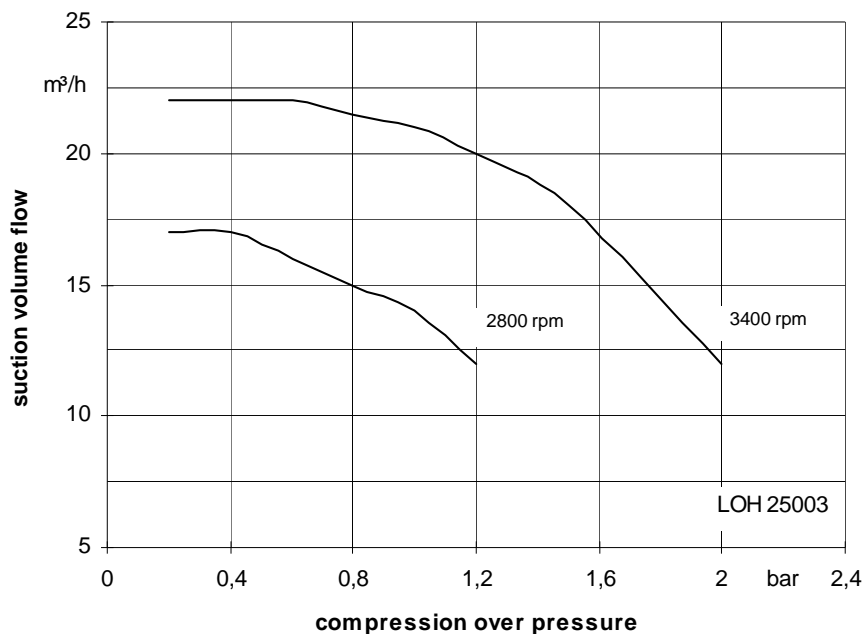
Material design

Pos.	COMPONENTS	MATERIAL DESIGN		
		01	02	42
0001, 0002	Casing	0.6025		1.4408
0035, 0036	Central body	0.6025 / 1.0570		
0010, 0011, 0012, 0013	Guide disk	0.6025		
0030, 0031	Vane wheel impeller	Rg9	1.4027.05	1.4517
0200	Shaft	1.4021		1.4401
0500, 0600	Mechanical seal	Cr Ni-steel / carbon / Perbunan		Cr Ni Mo-steel / carbon / Viton

Sectional drawing LOH 25003, LOH 25007, LOH 25309



Suction volume flow and power absorption LOH 25003

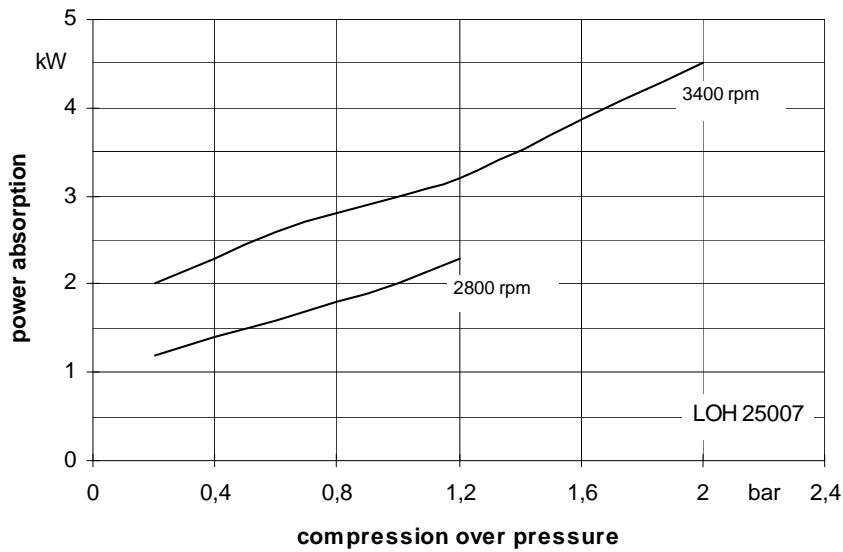
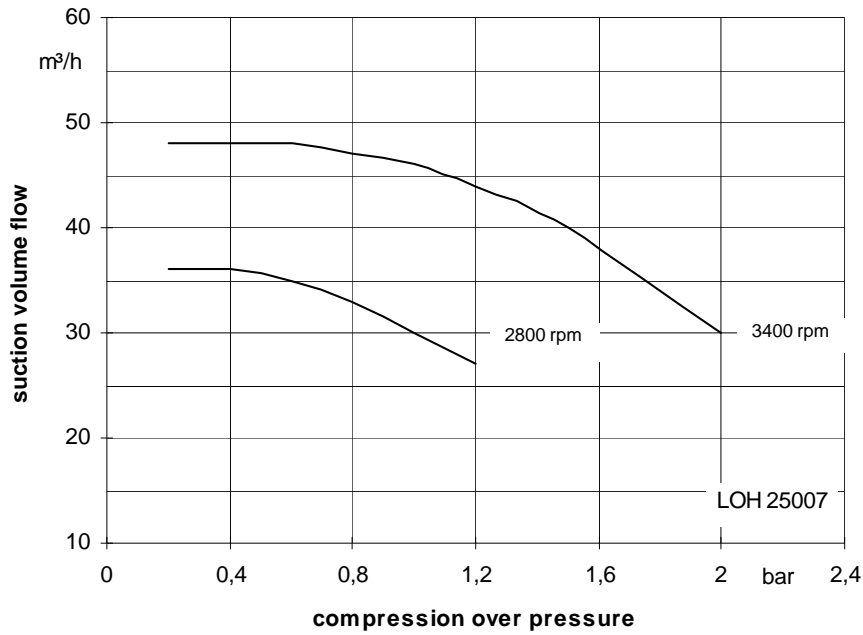


The values indicated for volume flow and power absorption are valid for compression of dry air at 20°C from atmospheric pressure (1013 mbar) to the respective compression pressure with water at 20°C as service liquid. Tolerance of the curve values is 10 %. The compression pressure in bar is indicated as pressure above the atmospheric pressure.

The data indicated change with deviating service conditions, such as deviating physical data of the gas to be handled or of the service liquid (vapour pressure, temperature, density, viscosity) when handling entrained liquid, at a suction pressure deviating from atmospheric pressure, when handling gas-vapours mixtures.

For determination of service data for deviating service conditions please see catalogue section TH.

Suction volume flow and power absorption LOH 25007

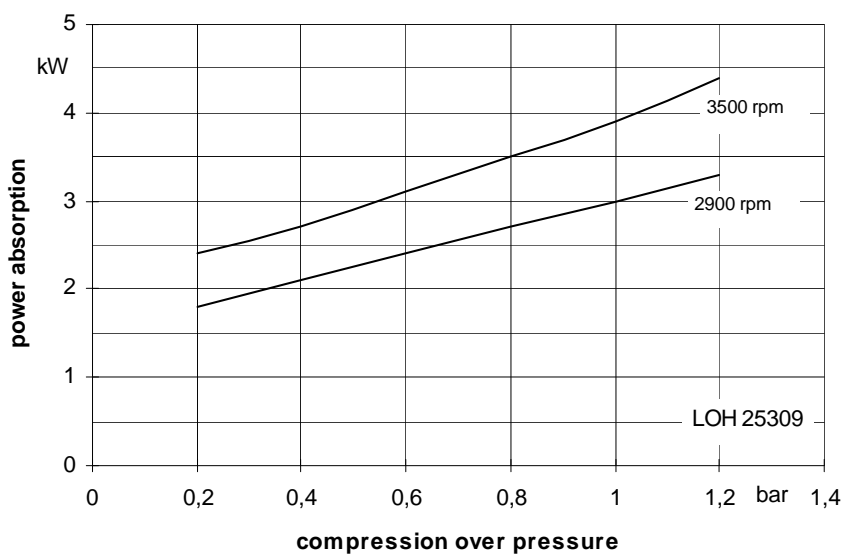
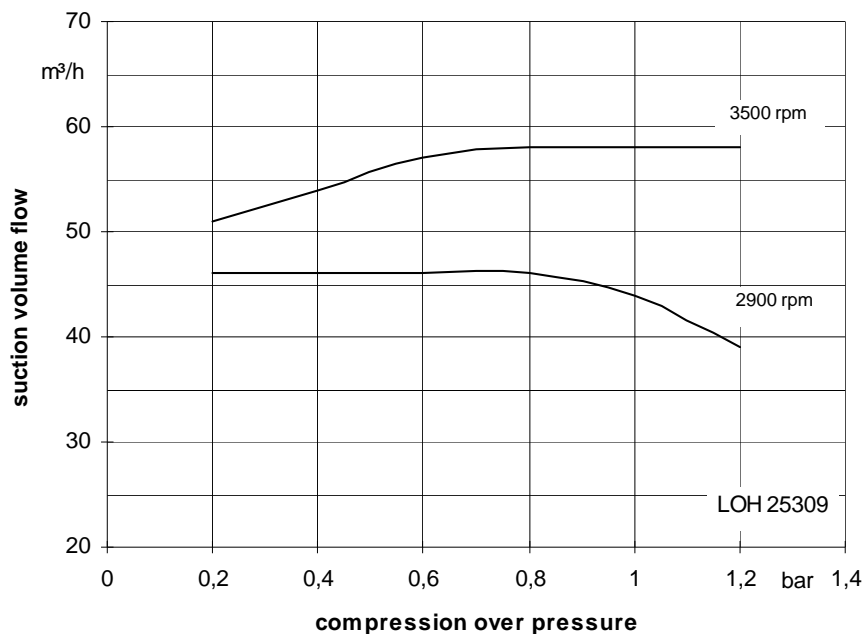


The values indicated for volume flow and power absorption are valid for compression of dry air at 20°C from atmospheric pressure (1013 mbar) to the respective compression pressure with water at 20°C as service liquid. Tolerance of the curve values is 10 %. The compression pressure in bar is indicated as pressure above the atmospheric pressure.

The data indicated change with deviating service conditions, such as deviating physical data of the gas to be handled or of the service liquid (vapour pressure, temperature, density, viscosity) when handling entrained liquid, at a suction pressure deviating from atmospheric pressure, when handling gas-vapours mixtures.

For determination of service data for deviating service conditions please see catalogue section TH.

Suction volume flow and power absorption LOH 25309

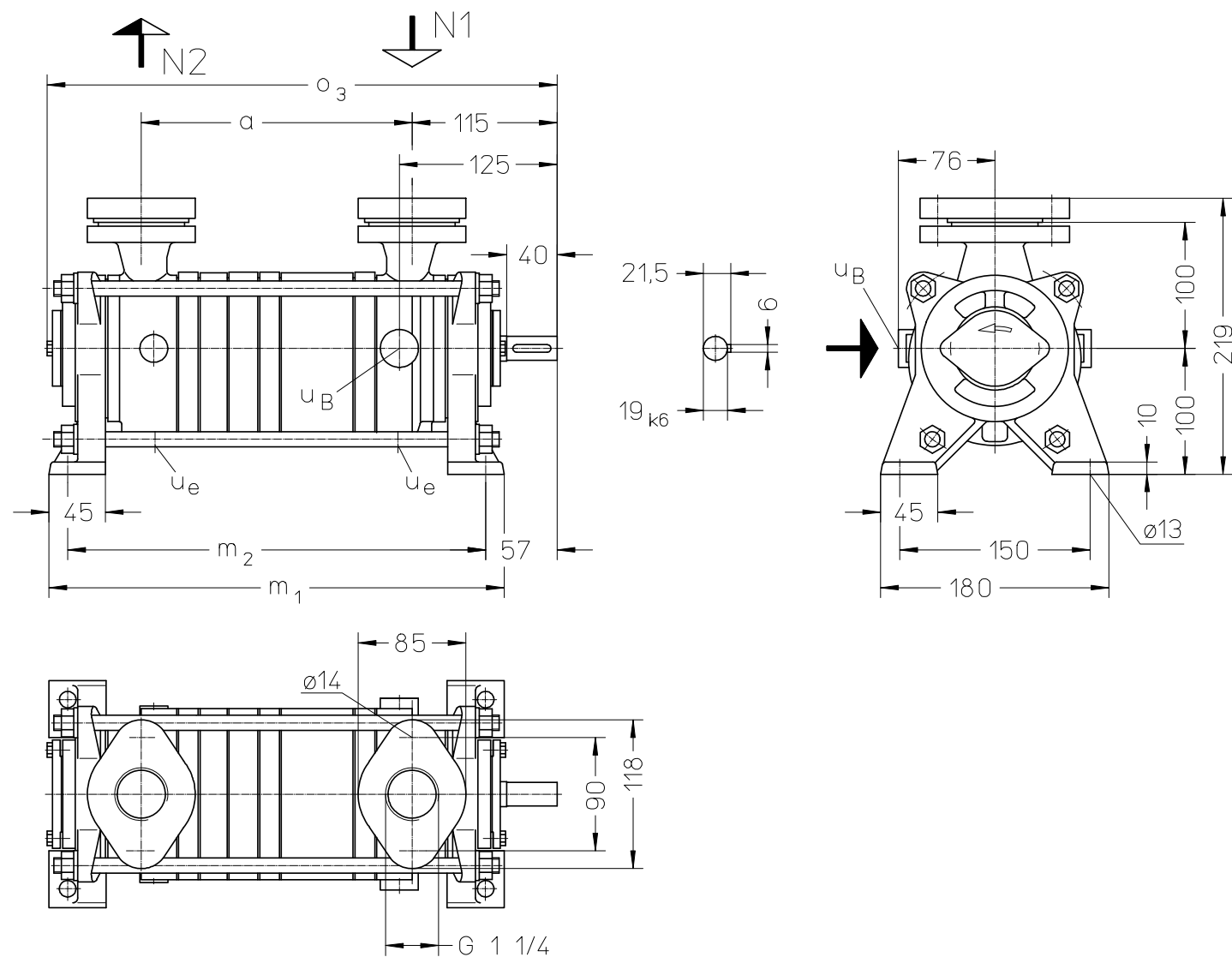


The values indicated for volume flow and power absorption are valid for compression of dry air at 20°C from atmospheric pressure (1013 mbar) to the respective compression pressure with water at 20°C as service liquid. Tolerance of the curve values is 10 %. The compression pressure in bar is indicated as pressure above the atmospheric pressure.

The data indicated change with deviating service conditions, such as deviating physical data of the gas to be handled or of the service liquid (vapour pressure, temperature, density, viscosity) when handling entrained liquid, at a suction pressure deviating from atmospheric pressure, when handling gas-vapours mixtures.

For determination of service data for deviating service conditions please see catalogue section TH.

Dimension drawing LOH 25003, LOH 25007



N 1 = gas inlet G 1 1/4

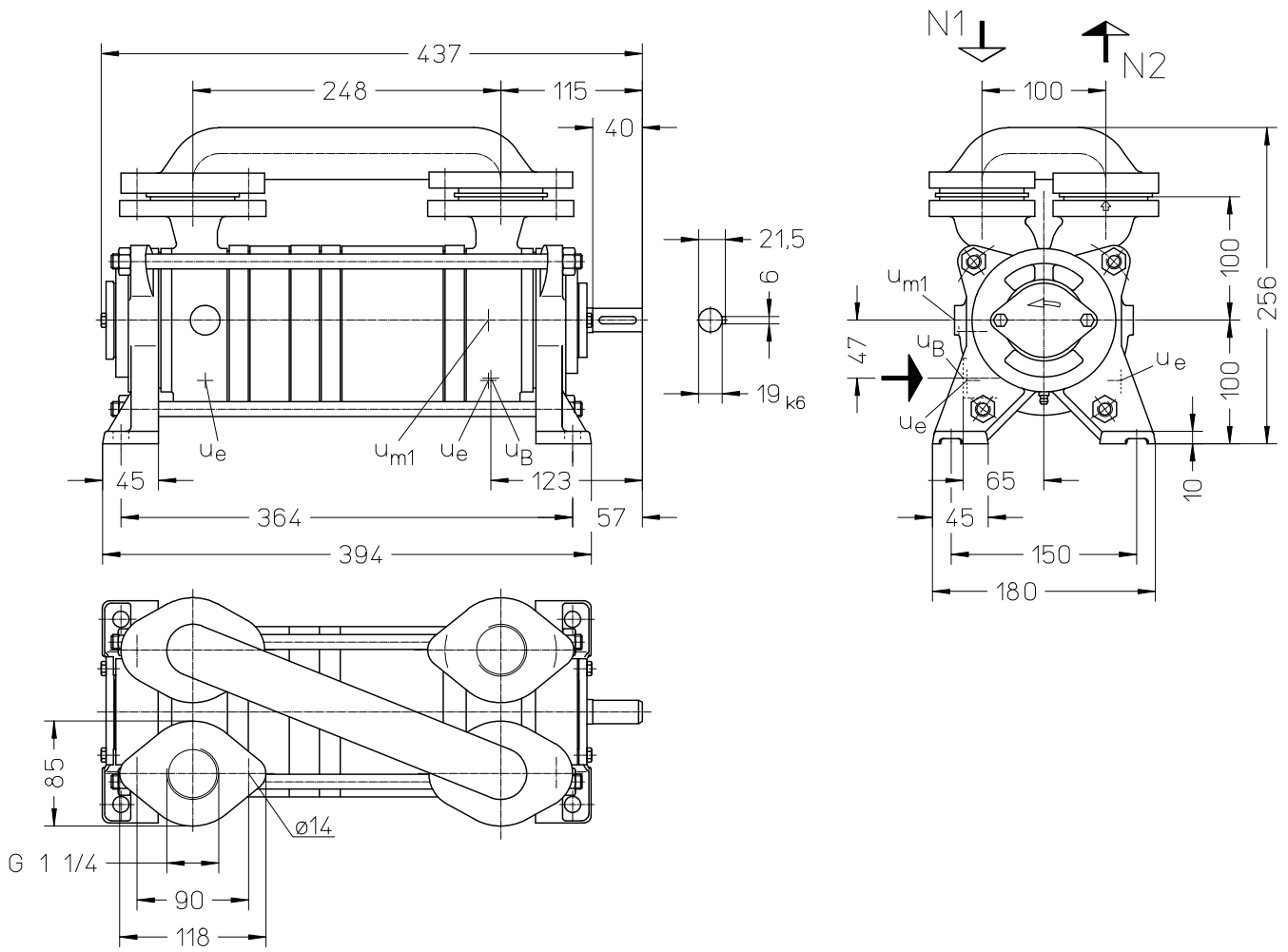
N 2 = gas outlet G 1 1/4

u_B = connection for service liquid G 3/8

u_e = drain connection G 1/4

	a	m_1	m_2	o_3	weight abt. kg
LOH 25003	163	309	279	348	22
LOH 25007	213	359	329	398	23

Dimensional drawing LOH 25309



- N 1 = gas inlet G 1 ¼
- N 2 = gas outlet G 1 ¼
- u_B = connection for service liquid G ½
- u_e = drain connection G ¼
- u_{m1} = connection for drain valve G ¼

Fresh water requirements in [m³/h] dependent on compression pressure, speed, mode of operation and difference in temperature

pump	speed [rpm]	compression pressure in bar																			
		0,4				FB	0,8				FB	1,2				FB	2,0				FB
		KB					KB					KB					KB				
		difference in temperature [°C]				difference in temperature [°C]				difference in temperature [°C]				difference in temperature [°C]							
30	20	10	5	30	20	10	5	30	20	10	5	30	20	10	5						
LOH 25003	2800	0,02	0,03	0,05	0,08	0,18	0,03	0,04	0,07	0,11	0,3	0,03	0,05	0,08	0,14	0,4	-	-	-	-	-
	3400	0,03	0,04	0,07	0,10		0,04	0,05	0,09	0,14		0,04	0,06	0,11	0,17		0,06	0,09	0,15	0,24	0,6
LOH 25007	2800	0,03	0,05	0,07	0,10	0,18	0,04	0,06	0,10	0,15	0,3	0,06	0,08	0,13	0,20	0,4	-	-	-	-	-
	3400	0,05	0,06	0,09	0,12		0,06	0,09	0,13	0,18		0,07	0,10	0,16	0,23		0,11	0,15	0,24	0,34	0,6
LOH 25309	2900	0,05	0,07	0,11	0,16	0,3	0,07	0,10	0,17	0,26	0,6	0,08	0,12	0,21	0,33	0,8	-	-	-	-	-
	3500	0,06	0,08	0,13	0,18		0,09	0,12	0,20	0,30		0,11	0,15	0,26	0,39		-	-	-	-	-

FB = fresh liquid service

KB = combined fresh liquid service 30 °C, 20 °C, 10 °C, 5 °C warmer than the fresh water.

Data regarding the size - order notes

series + size	hydraulics + bearings	shaft sealing	material design	case sealing
	<ul style="list-style-type: none"> B• 2 lubricated antifriction bearings •N 1 shaft end clockwise 	131 mechanical seal	<ul style="list-style-type: none"> 01 normal design, cast iron 02 as above, but without non-ferrous metal 42 main parts of Cr Ni Mo-steel 	0 liquid seal
LOH 25003 25007 25309	BN	131	01, 02, 42	0

Accessories

Recommended accessories			LOH 25003	LOH 25007	LOH 25309				
Pressure liquid separator material design 130 / galvanized 172 / 1.4571 service liquid line material design 072 / St 37-0 172 / 1.4571 discharge line material design 072 / St 37-0 172 / 1.4571	type / weight SIHI part No. SIHI part No. SIHI part No.	XBd 0413 / 28 kg 35 000 298 35 000 299 upon request upon request upon request 35 003 088 35 003 089 35 003 090 35 003 167 35 003 168							
		Liquid discharge trap material design 762/ 0.6020+1.4541 hanging gas line material design 072 / St 37-0	type / weight SIHI part No. SIHI part No.	XUk 1602 / 11 kg 43 014 792 upon request					
				Motor in case of standard design IP 55 EEx e II T3	size power weight size power weight	80 B 90 S 90 L 100 L 100 L 112 M	1,1 kW 1,5 kW 2,2 kW 3 kW 3 kW 4 kW	10 kg 13 kg 16 kg 23 kg 23 kg 30 kg	80 B 90 S 90 L 100 L 112 M 132 S
		for motor IP 55 pump side motor side				B68 / 0,6 kg 43 021 400 43 021 404 43 021 405		B80 / 1,5 kg 43 021 409 43 021 417	
for motor EEx e II T3 pump side motor side		BDS76 / 0,8 kg 43 025 689 43 025 690 43 025 930				BDS88 / 1,9 kg 43 024 676 43 024 707		BDS103/3,1 kg 43 025 935 43 025 941	
Safety contact device material design 076 / 1.0330 345 / 2.0321		SIHI part No. SIHI part No.				43 042 201 43 042 202 43 042 206 43 042 205 43 042 245			
Base frame material design 081 / 1.0038		type / weight SIHI part No.		S008 / 10 kg 43 040 648 S241 / 24 kg 43 040 631 for motor 100+112 : S272 / 28 kg 43 040 633 for motor 132 : S303 / 34 kg 43 040 635					

Any changes in the interest of technical development are reserved.

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