

SIHI^{LPH-X} - Liquid Ring Vacuum Pump

One Stage



SIHI® Pumps

LPH 40106, LPH 40411, LPH 40516

Pressure Range: 150 to 1013 mbar

Suction Range: 45 to 275 m³/h

CONSTRUCTION

SIHI liquid ring vacuum pumps have a simple but robust construction with the following features and benefits:

- Near isothermal compression
- Oil free, with no internal lubrication
- Capable of handling almost all gases and vapours
- Able to handle quantities of liquid "carry over"
- Low maintenance and safe operation
- Low noise and almost vibration free
- Available in a wide range of materials
- Broad range of applications
- O-ring sealing as standard
- Drain hole as standard
- Built-in solids drain
- Rotating metallic parts are non contacting to minimise wear
- ATEX compliance

SIHI liquid ring vacuum pumps of the range LPH 40106, LPH 40411 and LPH 40516 are one stage pumps. They can be used as compressors without any modification.

APPLICATIONS

Evacuation and pumping of dry gases and saturated vapours. The pumps can also handle liquids. These units offer pressures in the range of 150...900 mbar(a) to atmospheric. Typical application areas include:

- Chemical and pharmaceutical industry for distillation, drying and degassing
- Electronic industry for impregnation and drying
- Plastics & Rubber industry for degassing
- Food and beverage industry for bottle filling.



NOTE

By continuously feeding the pump with a small amount of service liquid (usually water), the heat due to gas/vapour compression is conducted away. This also replenishes the liquid ring and ensures that it does not become saturated with process media. The condensed gas and fluid can be separated in a liquid separator (see Accessories Catalogue). Recharging the pump with service liquid at ambient temperature enables the unit to condense evacuated gases/vapours. It can therefore be used for solvent recovery. More information is provided in the accessory catalogues. The integrated solids drain permits the removal of any entrained solids whilst the pump is operating. The service liquid can, therefore, simply be re-circulated. The rotation of the pump is clockwise when viewed from the drive end.

GENERAL TECHNICAL DATA

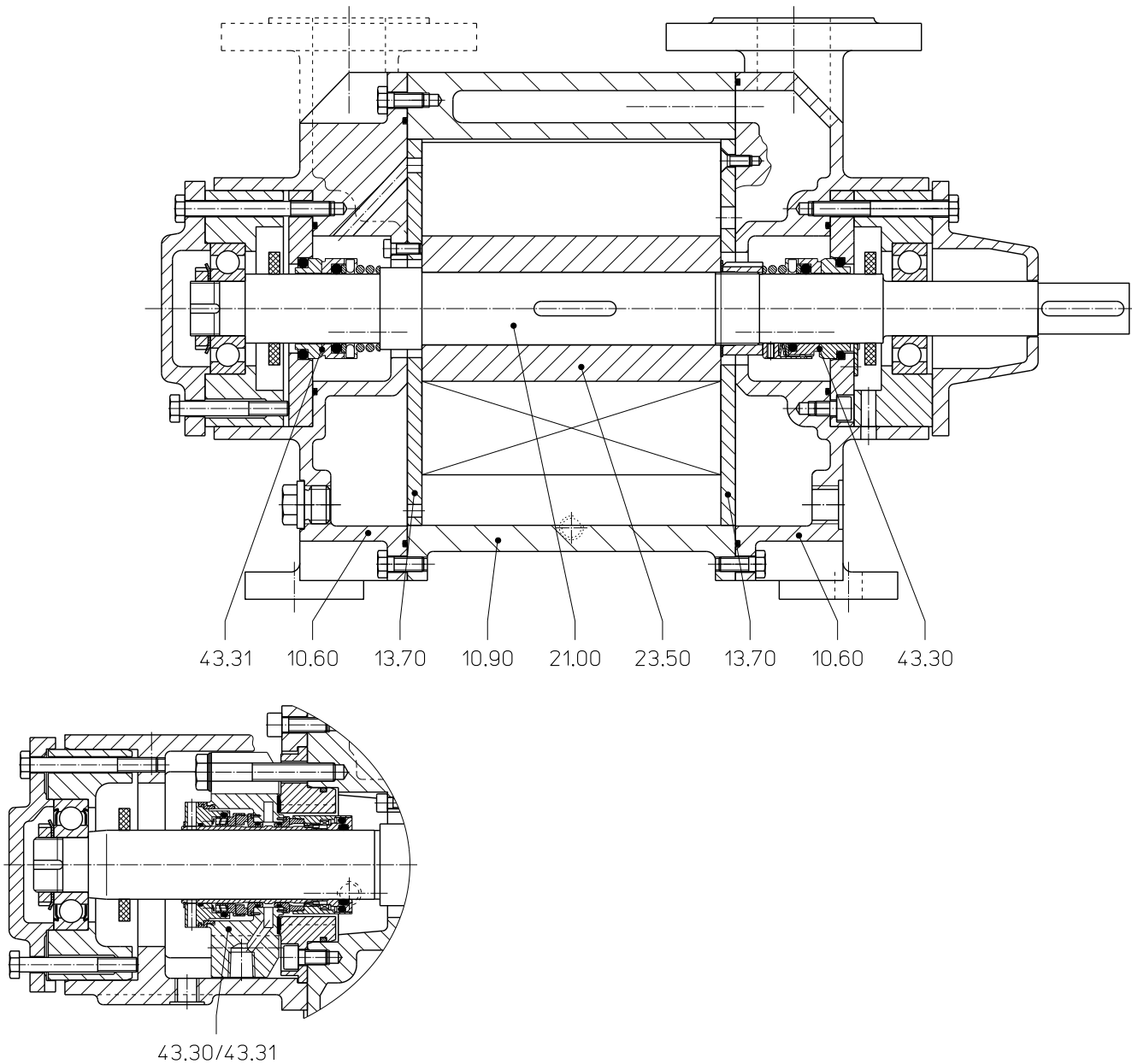
Pump Type	Units	LPH 40106	LPH 40411	LPH 40516
Speed	50 Hz 60 Hz	rpm rpm	1450 1740	
Maximum overpressure on compression	bar	0.6	0.8	0.4
Permissible pressure difference between suction and discharge side	max. min.	bar bar	1.2 0.2	1.2 0.2
Hydraulic test pressure (overpressure)	bar	3.0		
Moment of inertia of rotating parts of pump and water content	kg · m ²	0.0375	0.05	0.065
Noise level at 200 mbar suction pressure [50Hz]	dB (A)	57	61.5	
Minimum permissible pulley diameter for V belt drive	mm	160		
Maximum gas temperature	dry saturated	°C °C	200 100	
Service liquid:				
Maximum permissible temperature	°C	80		
Minimum permissible temperature	°C	10		
Maximum viscosity	mm ² /s	90		
Maximum density	kg/m ³	1200		
Liquid capacity up to middle of shaft	litre	3.5	4.5	5.5
Maximum flow resistance of the heat exchanger	bar	0.2		

In selecting a pump, avoid choosing one which is likely to be operating at a combination of its maximum permissible limits e.g. maximum viscosity and maximum permissible pressure difference.

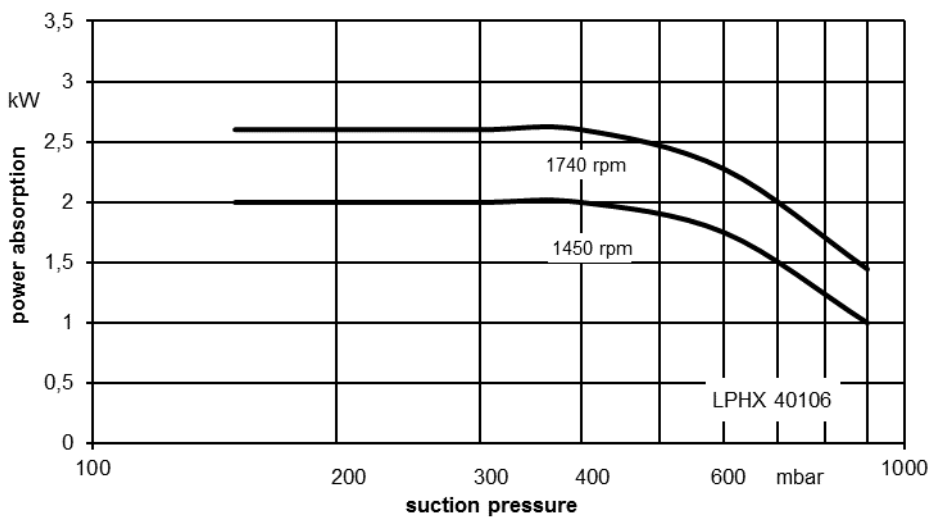
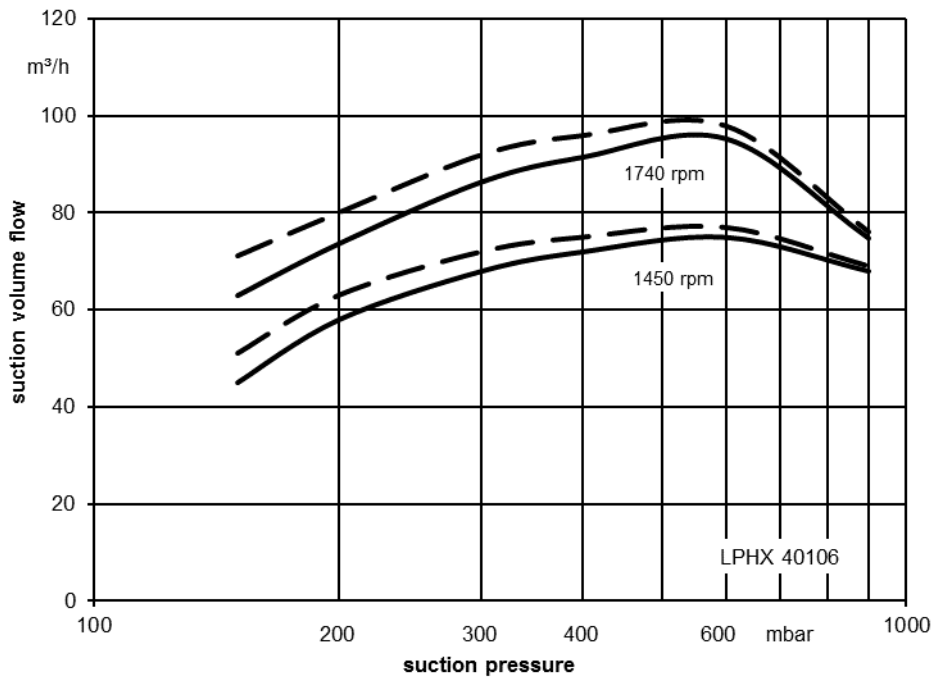
Materials

Position number	Component	Materials	
		0K	4B
10.60	Casing	0.6025	1.4408
10.90	Central body		
13.70	Guide disc		1.4404
21.00	Shaft	1.4021	1.4408
23.50	Impeller	1.4308	1.4408
43.30, 43.31	Mechanical seal, Type SIHI FK (AG•)	Cr-Steel / Carbon / Butadiene rubber	Cr Ni Mo-Steel / Carbon / Viton
43.30, 43.31	Double mechanical seal	on request	

Cut-away diagram LPH 40106, LPH 40411, LPH 40516 with single and double mechanical seal



Performance Characteristics LPHX 40106



The operating data is valid under the following conditions:

- Process media:
 - dry air: 20°C —————
 - steam saturated air: 20°C - - - - -
- Service liquid: - water: 15°C

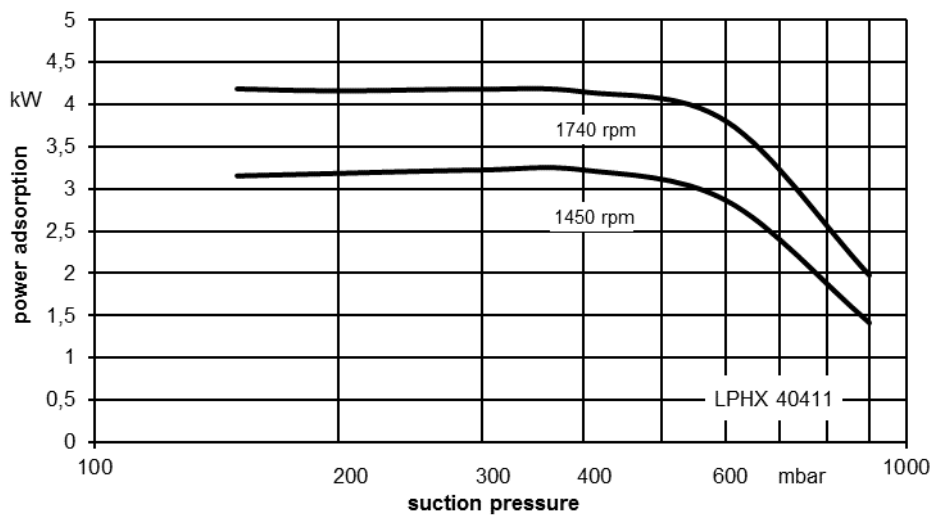
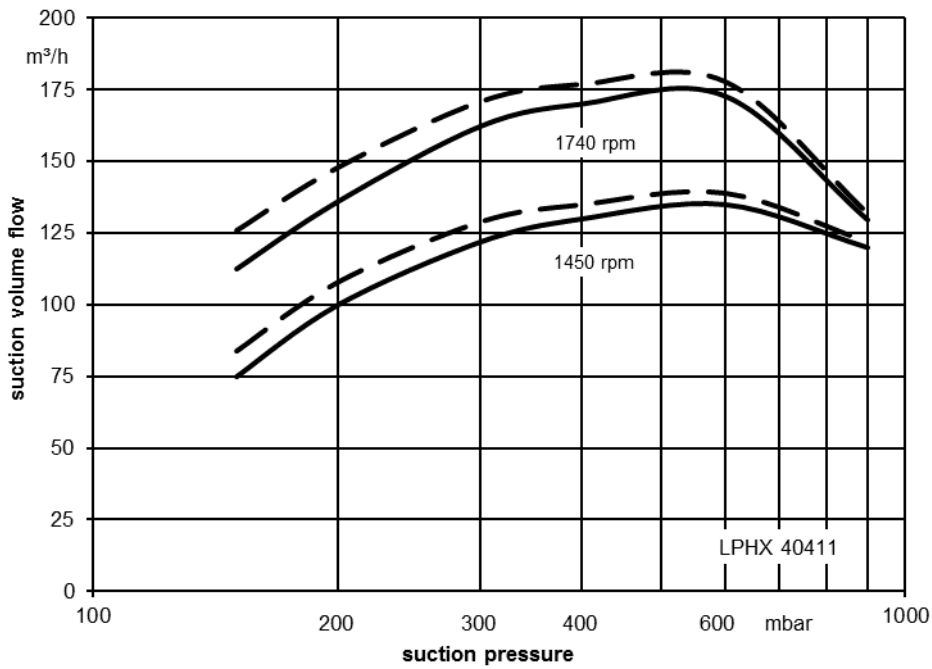
Pressure of gas to be evacuated: 1013 mbar (Atmospheric pressure)

The suction volume is related to the suction pressure.

Tolerance for the suction volume flow is 10% and for power 5%.

The maximum consumption of make up water occurs at the lowest suction pressure.

Performance Characteristics LPHX 40411



The operating data is valid under the following conditions:

- Process media:
 - dry air: 20°C —————
 - steam saturated air: 20°C - - - - -
- Service liquid:
 - water: 15°C

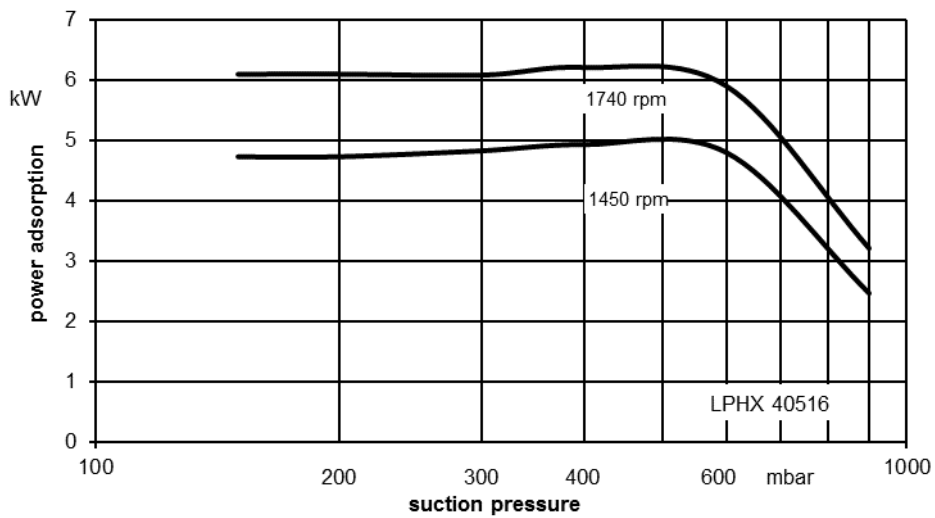
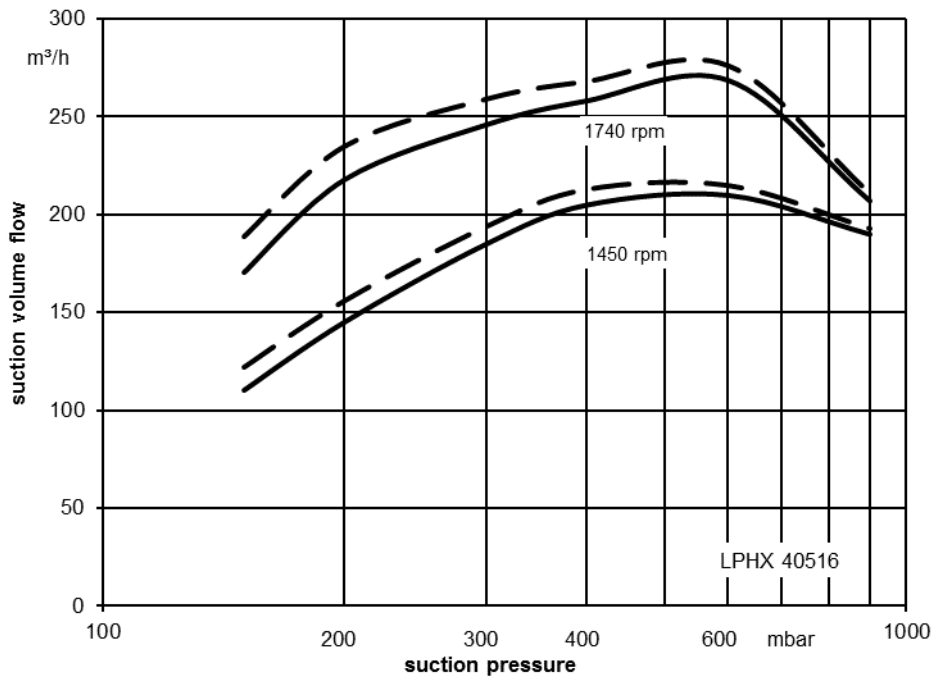
Pressure of gas to be evacuated: 1013 mbar (Atmospheric pressure)

The suction volume is related to the suction pressure.

Tolerance for the suction volume flow is 10% and for power 5%.

The maximum consumption of make up water occurs at the lowest suction pressure.

Performance Characteristics LPHX 40516



The operating data is valid under the following conditions:

- Process media:
 - dry air: 20°C —————
 - steam saturated air: 20°C - - - - -

- Service liquid:
 - water: 15°C

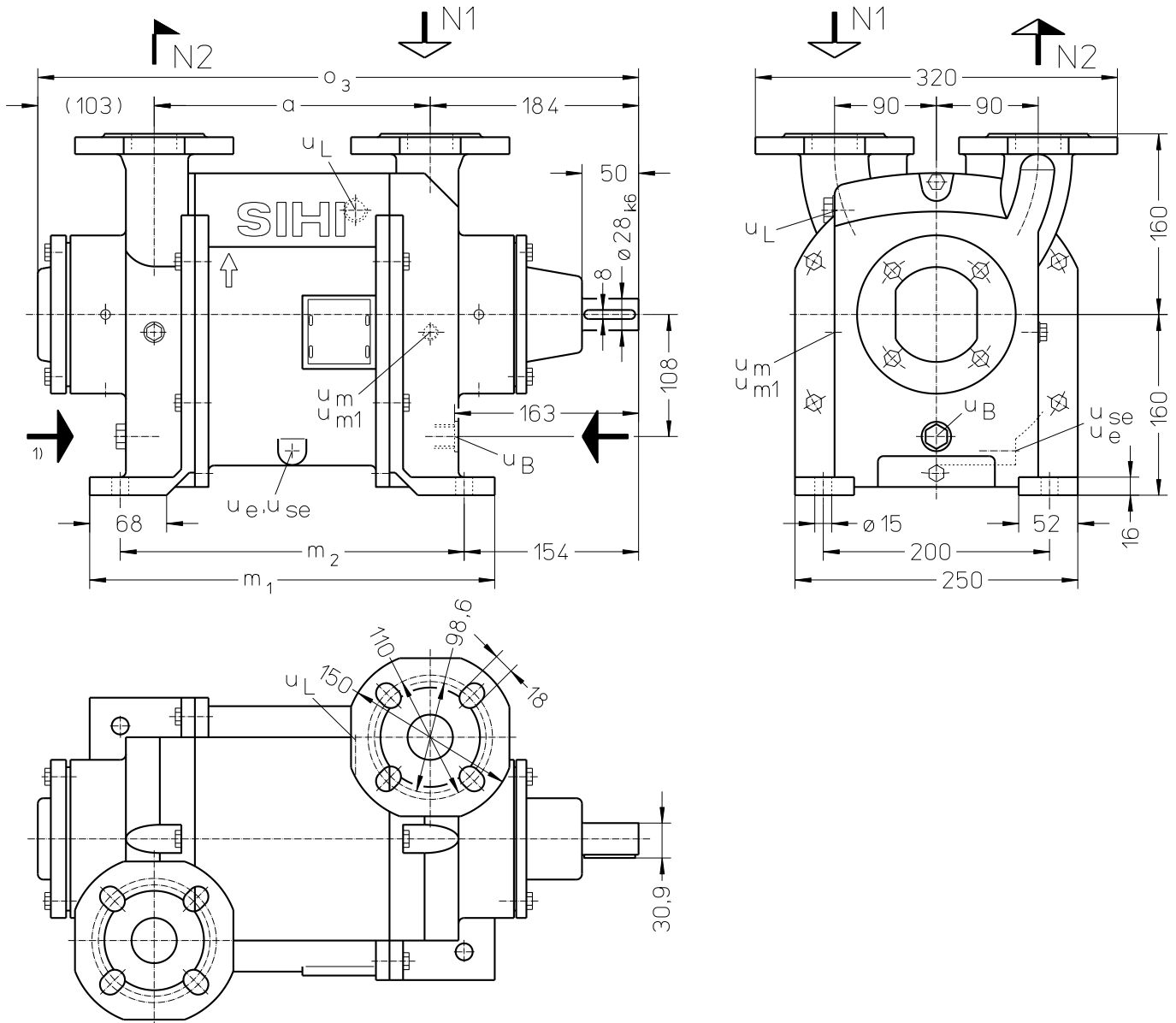
Pressure of gas to be evacuated: 1013 mbar (Atmospheric pressure)

The suction volume is related to the suction pressure.

Tolerance for the suction volume flow is 10% and for power 5%.

The maximum consumption of make up water occurs at the lowest suction pressure.

Dimensions LPH 40106, LPH 40411, LPH 40516 with single mechanical seal



1) = Connection u_B on both sides is only necessary for LPH 40516

N1 = Gas inlet DN 40 (according to DIN EN 1092 PN 10)
 Gas inlet 1 1/2" (according to ANSI 150 lbs)

N2 = Gas outlet DN 40 (according to DIN EN 1092 PN 10)
 Gas outlet 1 1/2" (according to ANSI 150 lbs)

u_B = Connection for service liquid G 1/2

u_e = Connection for drain G 1/8

u_{se} = Connection for dirt drain G 1/8

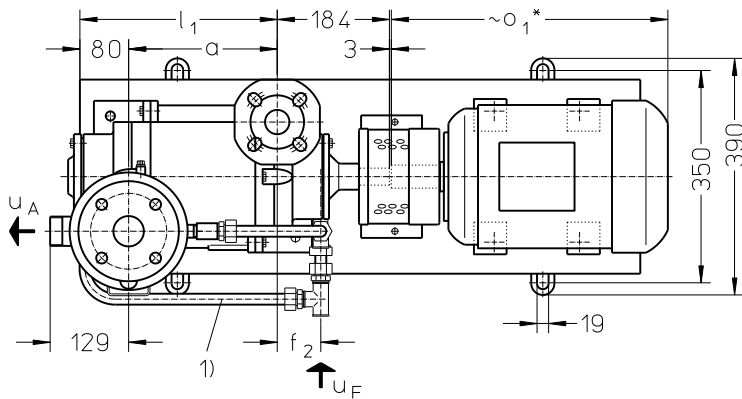
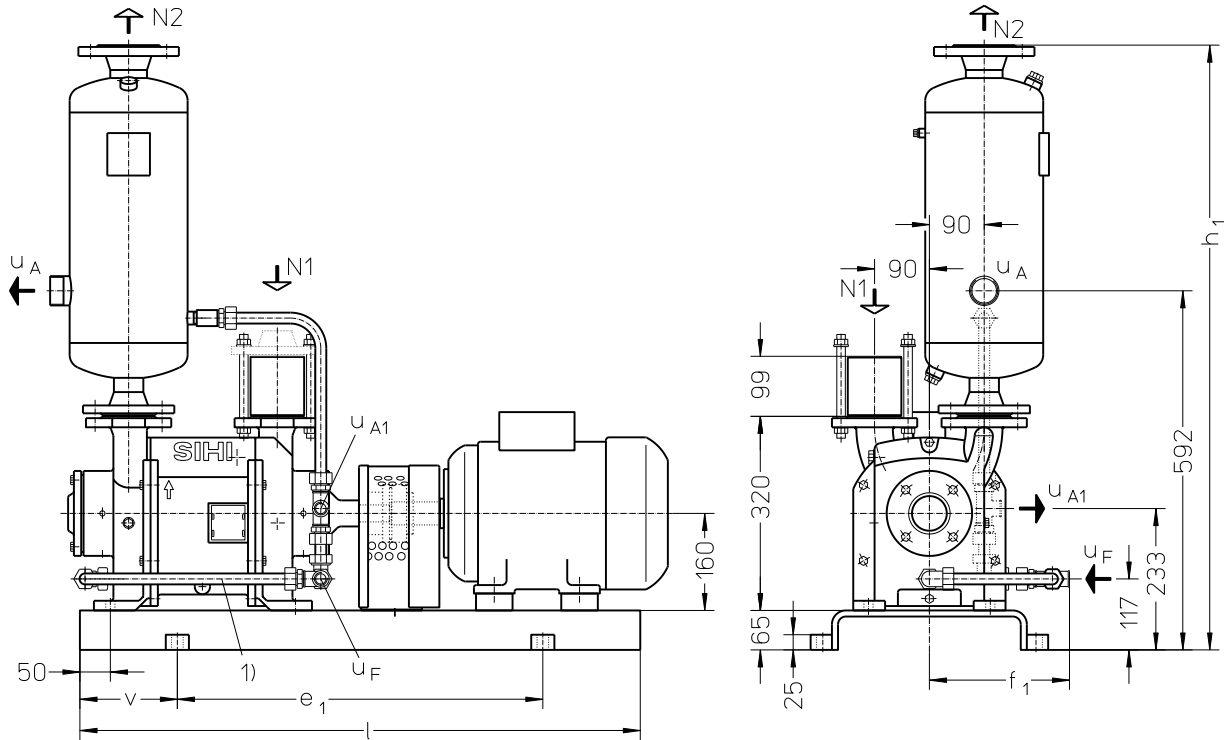
u_l = Connection for air cock G 1/2

u_m = Connection for pressure gauge G 1/4

u_{m1} = Connection for drainage valve or liquid level sensor G 1/4

	a [mm]	m_1 [mm]	m_2 [mm]	o_3 [mm]	approx. weight [kg]
LPH 40106	144	258	204	431	55
LPH 40411	194	308	254	481	60
LPH 40516	244	358	304	531	65

LPH 40106, LPH 40411, LPH 40516 with single mechanical seal and top-mounted liquid separator



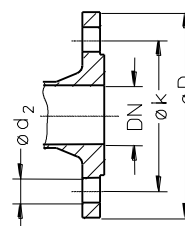
- N 1 = Gas inlet DN 40
- N 2 = Gas outlet DN 50
- U_A = Liquid drain G 1 for LPH 40106,
G 1½ for LPH 40111 and 40516
- U_{A1} = Liquid drain G ½
- U_F = Connection for make-up water G ½

1) = pipework to second side is only for LPH 40516

	electric motor 50 Hz			base-plate	a [mm]	f ₁ [mm]	f ₂ [mm]	e ₁ [mm]	h ₁ [mm]	l [mm]	l ₁ [mm]	v [mm]	o ₁ * [mm]	approx. weight [kg]
	size	IP 55	kW EEEx e II T3											
LPH 40106	100 L	2.2	-	S301	144	178	116	480	877	730	224	125	305	115
	100 L	3.0	-											120
	100 L	-	2.5											120
LPH 40411	112 M	4.0	-	S303	194	72	600	997	920	274	160	405	140	
	112 M	-	3.6										145	
	132 S	-	5.0										175	
LPH 40516	132 S	5.5	-	244	230					324			165	
	132 M	-	6.8										200	

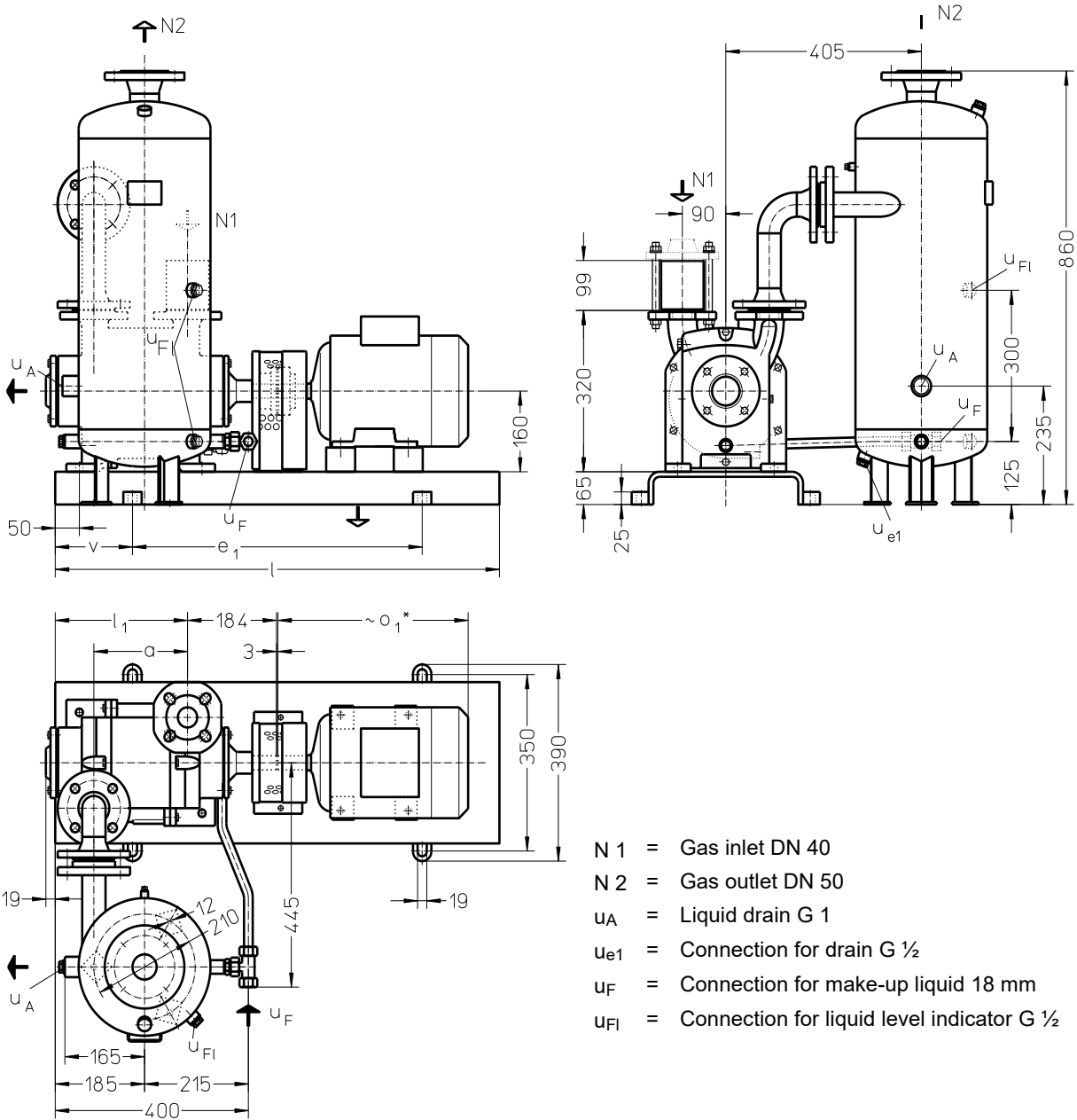
* dimensions dependent upon motor supplier

flange connections according to DIN EN 1092 PN 10 [mm]		
DN	40	50
k	110	125
D	150	165
number x d ₂	4 x 18	4 x 18



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LPH 40106, LPH 40411 with single mechanical seal and side-mounted liquid separator

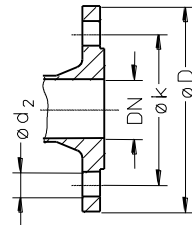


- N 1 = Gas inlet DN 40
- N 2 = Gas outlet DN 50
- u_A = Liquid drain G 1
- u_{e1} = Connection for drain G ½
- u_F = Connection for make-up liquid 18 mm
- u_{F1} = Connection for liquid level indicator G ½

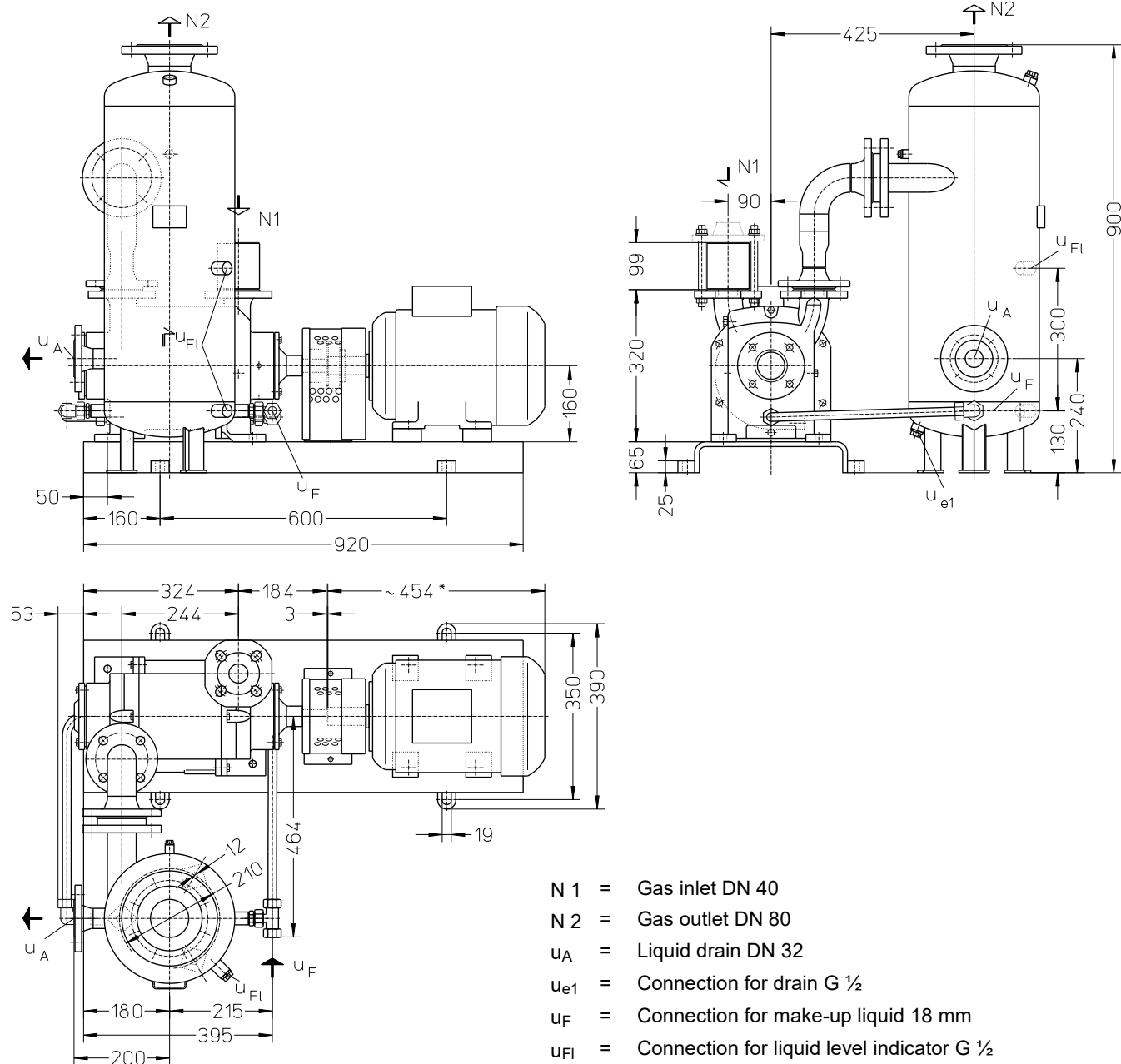
	electric motor 50 Hz			base-plate	a [mm]	e ₁ [mm]	l [mm]	l ₁ [mm]	v [mm]	o ₁ * [mm]	approx. weight [kg]
	size	IP 55	kW EEx e II T3								
LPH 40106	100 L	2.2	-	S301	144	480	730	224	125	305	135
	100 L	3.0	-								140
	100 L	-	2.5								140
LPH 40411	112 M	4.0	-	S303	194	600	920	274	160	320	160
	112 M	-	3.6								165
	132 S	-	5.0								195

* dimensions dependent upon motor supplier

flange connections according to DIN EN 1092 PN 10 [mm]		
DN	40	50
k	110	125
D	150	165
number x d ₂	4 x 18	4 x 18



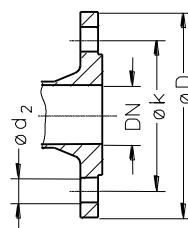
LPH 40516 with single mechanical seal and side-mounted liquid separator



	electric motor 50 Hz			base-plate	approx. weight [kg]
	size	IP 55	kW EEx e II T3		
LPH 40516	132S	5.5	-	S 303	185
	132 M	-	6.8		220

* dimensions dependent upon motor supplier

flange connections according to DIN EN 1092 PN 10 [mm]			
DN	32	40	80
k	100	110	160
D	140	150	200
number x d ₂	4 x 18	4 x 18	8 x 18



Make-up Liquid Consumption in [m³/h] dependent upon suction pressure, speed, drive type and temperature difference.

suction pressure in [mbar]		150				400				600				800							
pump type	speed [rpm]	KB				FB	KB				FB	KB				FB					
		temperature difference [°C]					temperature difference [°C]					temperature difference [°C]									
		20	10	5	2		20	10	5	2		20	10	5	2		20	10	5	2	
LPH 40106	1450	0.08	0.16	0.28	0.53	1.3	0.08	0.15	0.26	0.46	1.0	0.07	0.13	0.22	0.39	0.8	0.05	0.09	0.15	0.24	0.45
	1740	0.11	0.20	0.34	0.61		0.10	0.18	0.31	0.53		0.09	0.16	0.26	0.44		0.06	0.11	0.13	0.16	
LPH 40411	1450	0.12	0.22	0.38	0.66		0.12	0.22	0.35	0.58		0.11	0.19	0.31	0.49		0.07	0.12	0.19	0.29	
	1740	0.16	0.28	0.46	0.75		0.15	0.26	0.42	0.64		0.14	0.23	0.36	0.54		0.09	0.15	0.22	0.32	
LPH 40516	1450	0.19	0.34	0.58	1.01	2.0	0.19	0.34	0.56	0.91	1.6	0.18	0.31	0.49	0.76	1.2	0.13	0.22	0.33	0.47	0.7
	1740	0.24	0.42	0.70	1.14		0.23	0.40	0.64	1.0		0.21	0.36	0.55	0.81		0.16	0.25	0.36	0.49	

FB = Total service liquid flow rate on once-through system

KB = Flow of makeup water when combined with partial recirculation liquid at a temperature of 20°C, 10°C, 5°C, 2°C warmer than make-up water.

Data regarding the pump size - order notes

Range + Size	Hydraulic + Bearings	Shaft Seal	Materials	Casing Sealing
	<ul style="list-style-type: none"> •A 1. hydraulic •B two greased roller bearings 	AGE Mechanical seal Type SIHI FK, O-rings butadiene rubber AG1 Mechanical seal Type SIHI FK, O-rings Viton	0K Main parts out of cast iron, impeller in low alloyed steel 4B Main parts out of stainless steel	1 O-ring-sealing
LPH 40106 40411 40516	AB	AGE, AG1	0K, 4B	1

Motor Selection

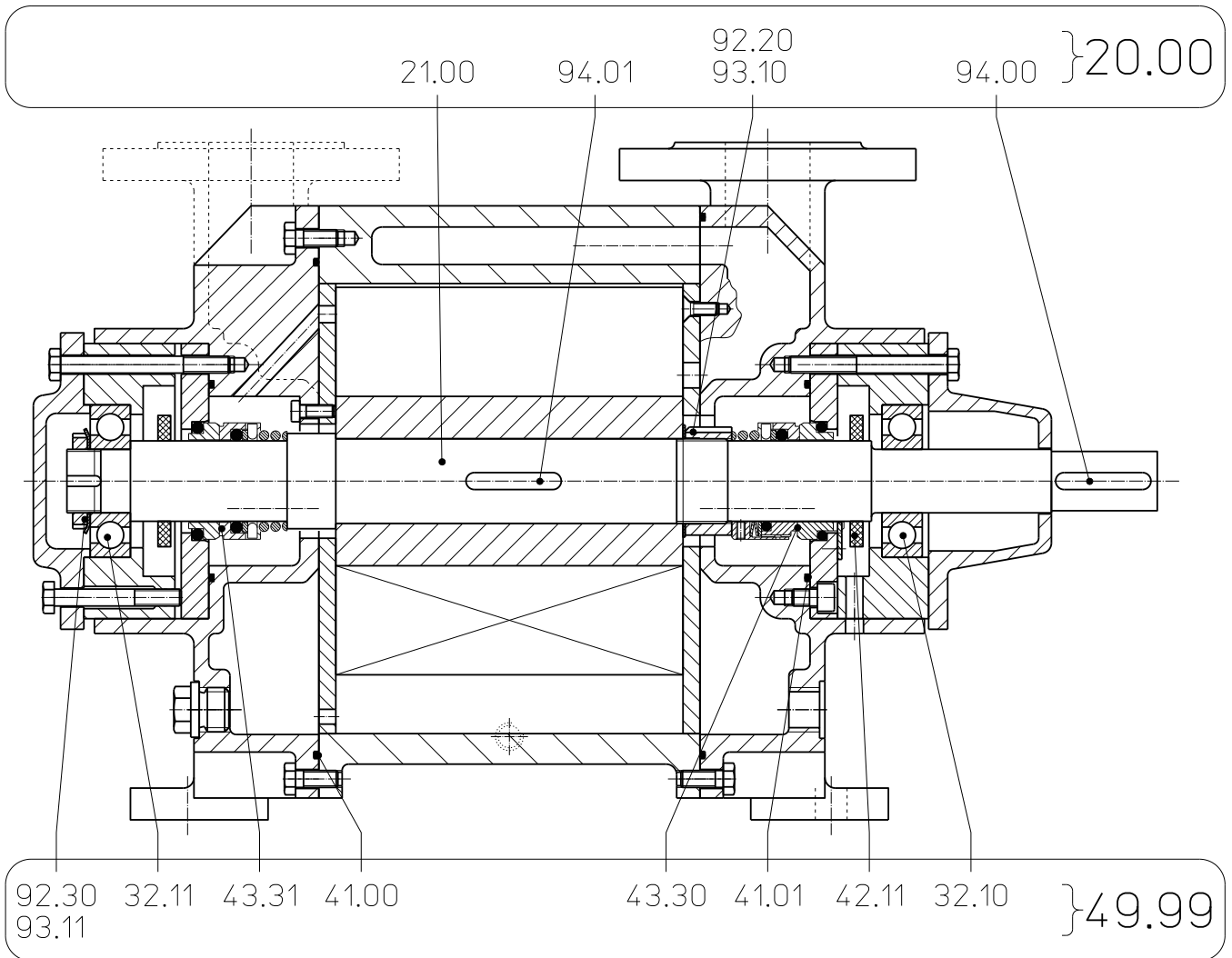
For our products we offer a lot of different motor types.

To identify the right motor please specify frequency, voltage and protection class.

Example of an Order:

LPHX 40106 AB AGE 0K 1 with 3.0 kW AC motor, 50 Hz, 400V Δ, IP55

Spare Parts Order Number



Material Design 0K				
Group	Spare parts kit	LPH 40106	LPH 40411	LPH 40516
20.00	Shaft	65 006 715	65 006 714	65 006 713
49.99	Basic Repair AGE	65 008 221		

Material Design 4B				
Group	Spare parts kit	LPH 40106	LPH 40411	LPH 40516
20.00	Shaft	65 006 754	65 006 755	65 006 756
49.99	Basic Repair AG1	65 008 223		

Accessories

Recommended Accessory	Material Execution		LPH 40106	LPH 40411	LPH 40516
Top Mounted Liquid Separator		Type / Weight	XBa 1040 / 10 kg		XBa 1340 / 14 kg
Top mounted separator	1.4571	SIHI-Part No.	43 253 089		43 253 090
Service liquid pipework, standard execution	Steel, galvanised 1.4571	SIHI-Part No.	20 054 515 20 054 517	20 058 985 20 058 993	20 058 986 20 058 995
Service liquid pipework, thermostatic control 24V	Steel, galvanised + Brass 1.4571 + Brass	SIHI-Part No.	20 059 008 20 048 978		on request
Side Mounted Liquid Separator		Type / Weight	XBp 0413 / 28 kg		XBp 0414 / 31 kg
Side mounted separator	1.4571	SIHI-Part No.	35 000 503		35 000 505
Service liquid pipework, standard execution	Steel, galvanised 1.4571	SIHI-Part No.	20 058 982 20 058 990	20 058 983 20 058 991	20 058 984 20 058 992
Service liquid pipework, thermostatic control 24V	Steel, galvanised + Brass 1.4571 + Brass	SIHI-Part No.	20 059 099 20 059 100		20 094 388 on request
Pressure pipework (bend)	1.0254 1.4571	SIHI-Part No.	35 003 165 35 003 166		35 023 751 35 023 750
Liquid level indicator	Brass / Plexiglas 1.4571 / Plexiglas	SIHI-Part No.	43 014 911 43 040 384		
Sterling SIHI - Non Return Ball Valve					
Intermediate flange execution XCK 40	0.6025 + Butadiene Rubber 0.6025 + Teflon 1.4408 + Teflon	SIHI-Part No. Weight	20 072 746 / 2.8 kg 20 072 745 / 2.8 kg 20 029 494 / 5.2 kg		
Flange execution with glass cylinder XCK 406	0.6025 + Butadiene Rubber 0.6025 + Teflon 1.4408 + Teflon	SIHI-Part No. Weight	20 072 835 / 7.0 kg 20 072 836 / 7.0 kg 20 072 834 / 7.0 kg		
Adapter Flange	Steel 1.4571	SIHI-Part No.	not necessary	1 x 20 059 826 1 x 20 060 458	1 x 20 059 827 1 x 20 060 489
Drain Valve XCg 015	Steel + Teflon 1.4571 + Teflon	SIHI-Part No.	43 166 248 43 014 547		
Double nipple 1/2"-1/4"	Steel, galvanised 1.4571	SIHI-Part No.	43 049 216 43 013 084		
Air Inlet Valve	Brass 1.4408	SIHI-Part No.	43 014 257 + 43 060 102 43 014 271		
Motor					
Motor standard execution IP 55		Size Power Weight	100 L 2.2 kW 18 kg	100 L 3.0 kW 20 kg	112 M 4.0 kW 28 kg
Coupling for motor IP 55 Pump side Motor side		Type / Weight SIHI-Part No.	B 80 / 1.5 kg 43 021 414 43 021 417		B 95 / 2.6 kg 43 021 426 43 021 433
Coupling guard	Steel	SIHI-Part No.	43 042 248		
Motor in EEx e II T3 execution		Size Power Weight	100 L 2.5 kW 22 kg	112 M 3.6 kW 30 kg	132 S 5.0 kW 65 kg
Coupling for Motor EEx e II T3 Pump side Motor side		Type / Weight SIHI-Part No.	BDS 88 / 2.0 kg 43 111 058 43 111 029		BDS 103 / 3.1 kg 43 111 051 43 111 040
Coupling guard	Brass	SIHI-Part No.	43 042 249		
Baseplate	Steel	Type / Weight SIHI-Part No.	S 301 / 27 kg 43 040 634	S 303 / 34 kg 43 040 635	

Designs subject to change without prior notice.

Flowserve SIHI Germany GmbH

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SIHI^{LPH-X} - Liquid Ring Vacuum Pump

Two Stage



LPH 55312, LPH 55316, LPH 55320

Pressure Range: 33 to 1013 mbar
Suction Volume: 130 to 560 m³/h

CONSTRUCTION

SIHI liquid ring vacuum pumps have a simple but robust construction with the following features and benefits:

- Near isothermal compression
- Oil free, with no internal lubrication
- Capable of handling almost all gases and vapours
- Able to handle quantities of liquid "carry over"
- Low maintenance and safe operation
- Low noise and almost vibration free
- Available in a wide range of materials
- Broad range of applications
- O-ring sealing as standard
- Cavitation protection as standard
- Drain hole as standard
- Built-in solids drain
- Rotating metallic parts are non contacting to minimise wear
- ATEX compliance

SIHI liquid ring vacuum pumps of the range LPH 55312, LPH 55316 and LPH 55320 are two stage pumps.

APPLICATIONS

Evacuation and pumping of dry gases and saturated vapours. The pumps can also handle liquids. These units offer pressures in the range of 33...900 mbar(a) to atmospheric. Much lower pressures are available by using ancillaries such as ejectors and lobular boosting pumps. Typical application areas include:

- Chemical and pharmaceutical industry for distillation, drying and degassing
- Food and beverage industry for low temperature cooking, and bottle filling
- Electronic industry for impregnation and drying
- Plastics & Rubber industry for degassing
- Healthcare for sterilisers and general vacuum



Note

By continuously feeding the pump with a small amount of service liquid (usually water), the heat due to gas/vapour compression is conducted away. This also replenishes the liquid ring and ensures that it does not become saturated with process media. Recharging the pump with service liquid at ambient temperature enables the unit to condense evacuated gases / vapours. It can therefore be used for solvent recovery. The condensed gas and liquid can be separated in a liquid separator. More information is provided in the accessory catalogues.

The integrated solids drain permits the removal of any entrained solids whilst the pump is operating. The service liquid can therefore, simply be re-circulated. The rotation of the pump is clockwise when viewed from the drive end.

GENERAL TECHNICAL DATA

Pump Type	Units	LPH 55312	LPH 55316	LPH 55320
Speed	50 Hz 60 Hz	rpm	1450 1740	
Maximum overpressure on compression	bar		1.8	
Permissible pressure difference between suction and discharge side	max. min.	bar	2.0 0.2	
Hydraulic test pressure (overpressure)	bar		3.0	
Moment of inertia of rotating parts of pump and water content	kg · m ²	0.137	0.162	0.205
Noise level at 80 mbar suction pressure [50Hz]	dB (A)	66	67	68
Minimum permissible pulley diameter for V belt drive	mm	200	200	not allowed
Maximum gas temperature:	dry saturated	°C °C	200 100	
Service liquid:				
Maximum permissible temperature	°C		80	
Minimum permissible temperature	°C		10	
Maximum viscosity	mm ² /s		90	
Maximum density	kg/m ³		1200	
Liquid capacity up to middle of shaft	litre	9.0	10.0	12.0
Maximum flow resistance of the heat exchanger	bar		0.2	

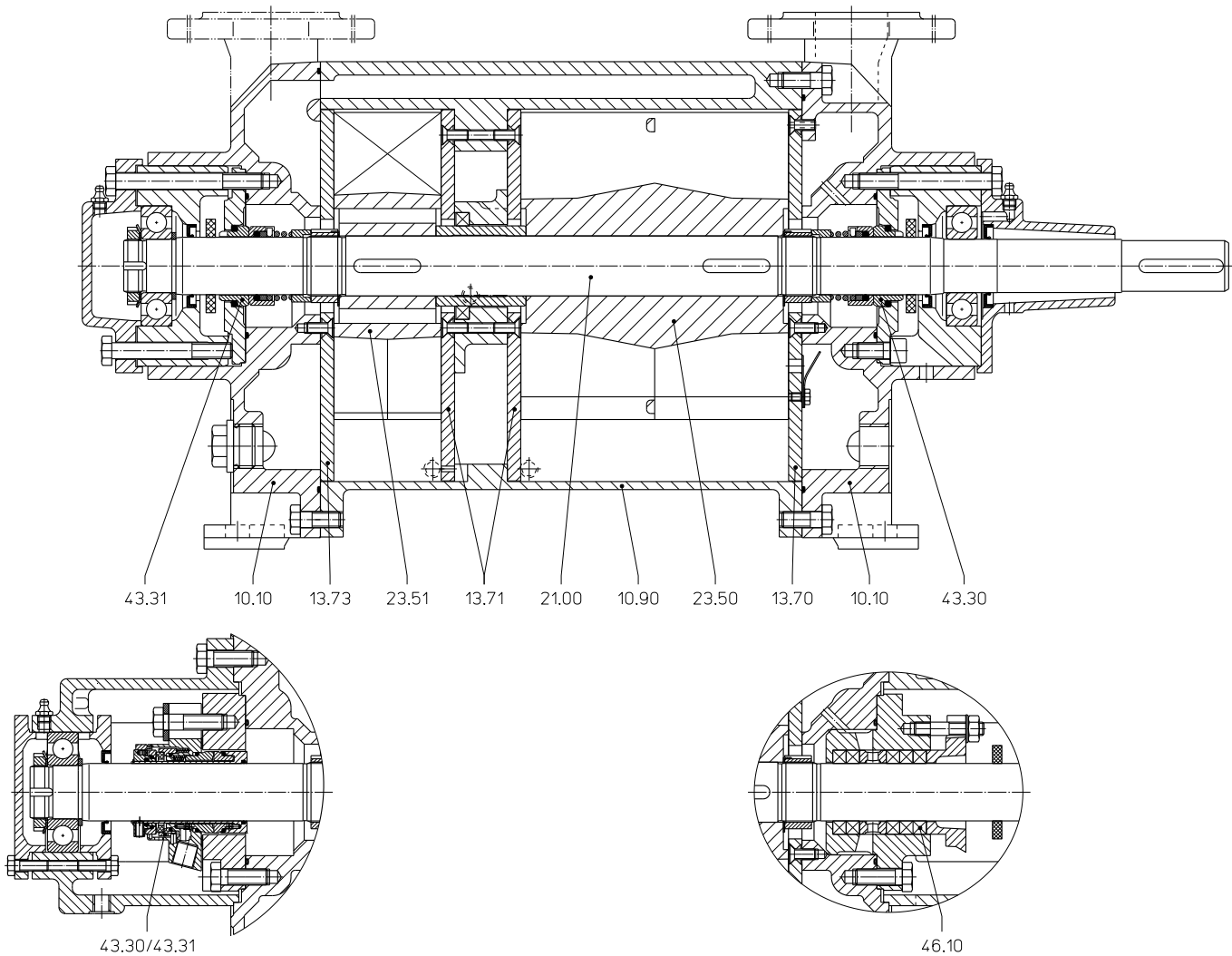
In selecting a pump, avoid choosing one which is likely to be operating at a combination of its maximum permissible limits e.g. maximum viscosity and maximum permissible pressure difference.

SIHI^{LPH-X}

Materials

Position number	Component	MATERIALS	
		0K	4B
10.10	Vacuum casing	0.6025	1.4408
10.90	Central body		
13.70, 13.71, 13.73	Guide disc		1.4404
21.00	Shaft	1.4021	
23.50, 23.51	Impeller	1.4308	1.4408
43.30, 43.31	Mechanical seal, Type SIHI FK (AG●)	Cr-Steel / Carbon / Butadiene rubber	Cr Ni Mo-Steel / Carbon / Viton
43.30, 43.31	Double mechanical seal	on request	
46.10	Gland packing	GORE	-

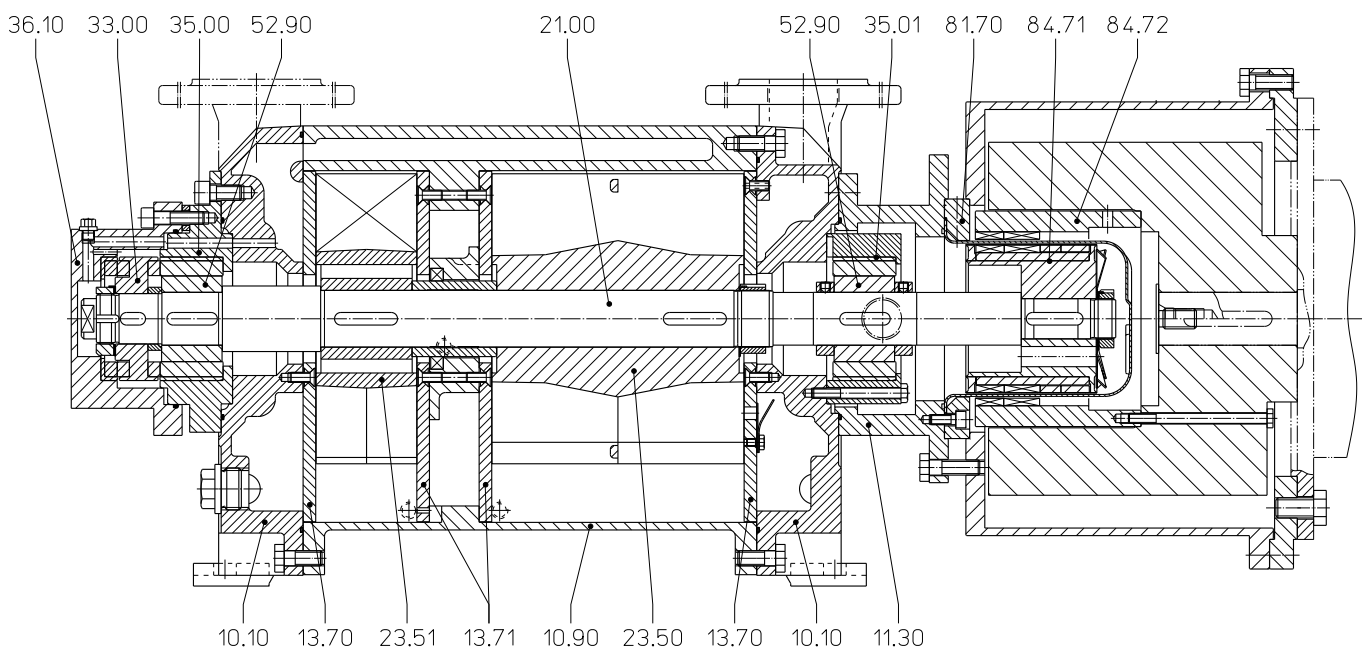
Cut-away diagram LPH 55312, LPH 55316, LPH 55320 with single, double mechanical seal and gland packing



Materials LPH 55312, LPH 55316, LPH 55320 with magnetic coupling

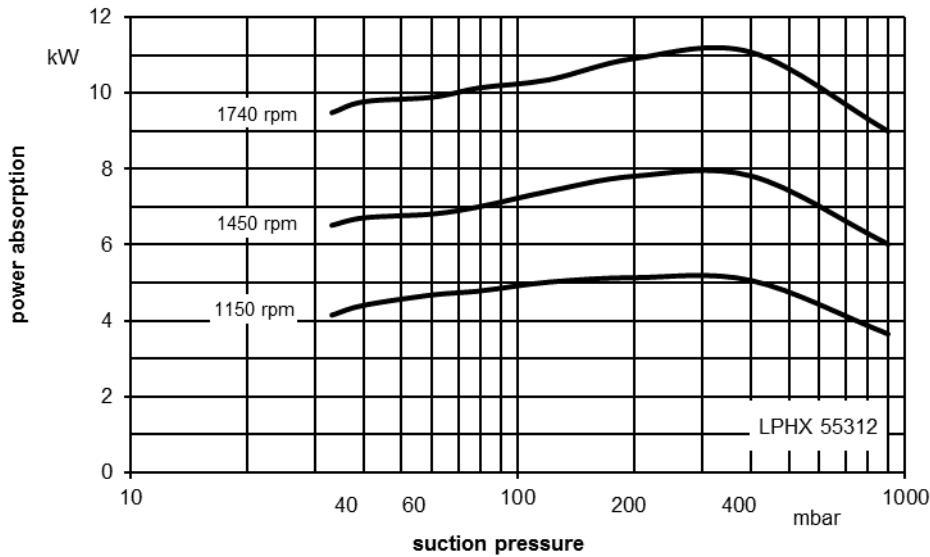
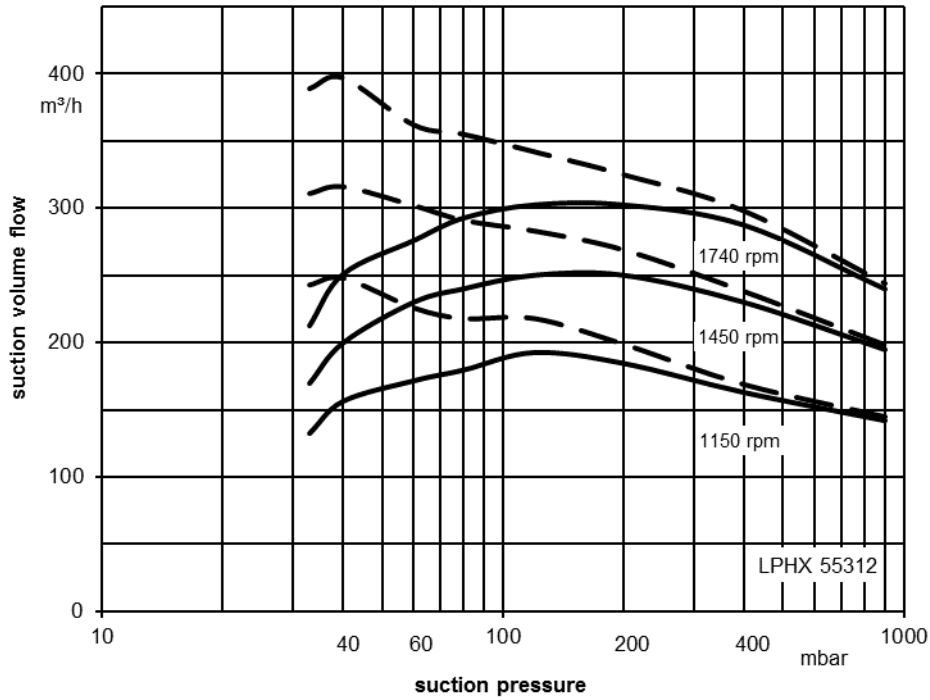
Position Number	COMPONENT	MATERIALS	
		0E	4B
10.60	Casing	0.6025	1.4408
10.90	Central body		
13.70, 13.71	Guide disc		
11.30	Intermediate casing	1.0553	1.4571
21.00	Shaft	1.4021	
23.50, 23.51	Vane wheel impeller	1.4408	
33.00	Thrust bearing	1.4462 / silicon carbide	
35.00, 35.01	Bearing housing	1.0553 / silicon carbide	1.4571 / silicon carbide
36.10	Bearing cover		
52.90, 52.91	Bushing	tungsten carbide	
81.70	Isolation shroud	1.4571 / 2.4610	
84.71	Inner magnet	1.4571 / 2.4610 / magnet	
84.72	Outer magnet	1.0553 / magnet	

Cut-away diagram LPH 55312, LPH 55316, LPH 55320 with magnetic coupling



All information in this catalogue, like general technical data, performance data, dimensions, arrangement drawings, accessories, etc. don't refer to the magnetic coupling execution. Please contact the manufacturer about more information.

Performance Characteristics LPHX 55312



The operating data is valid under the following conditions:

- Process media:
 - dry air: 20°C —————
 - steam saturated air: 20°C - - - - -
- Service liquid:
 - water: 15°C

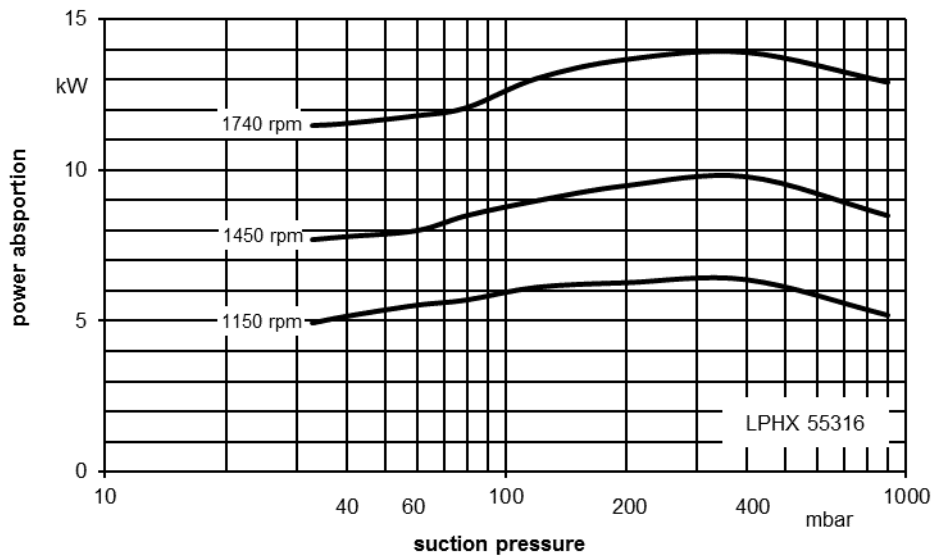
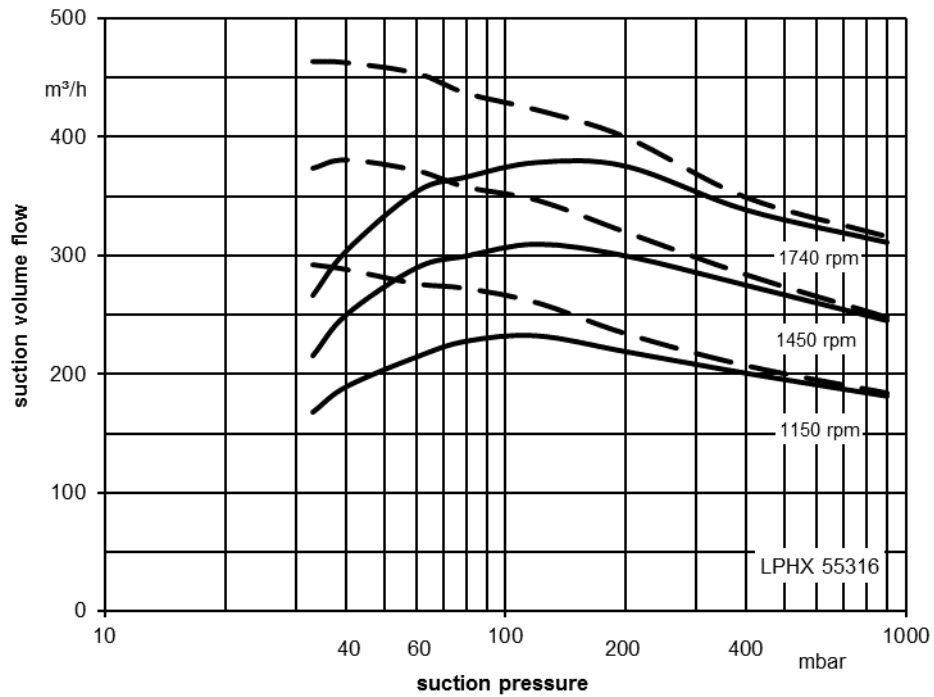
Pressure of gas to be evacuated: 1013 mbar (atmospheric pressure)

The suction volume is related to the suction pressure.

Tolerance on operating data is 10%.

The maximum consumption of make up water occurs at the lowest suction pressure.

Performance Characteristics LPHX 55316



The operating data is valid under the following conditions:

- Process media:
 - dry air: 20°C —————
 - steam saturated air: 20°C - - - - -
- Service liquid:
 - water: 15°C

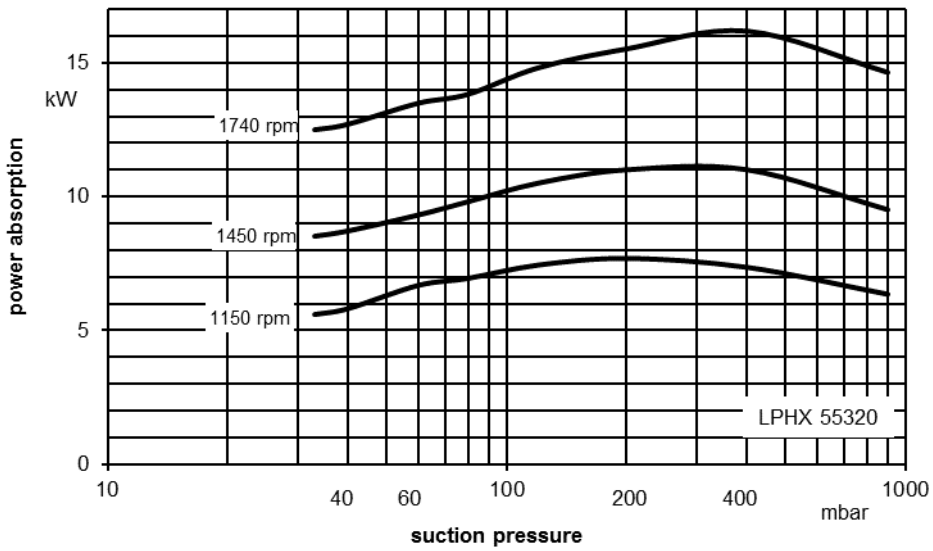
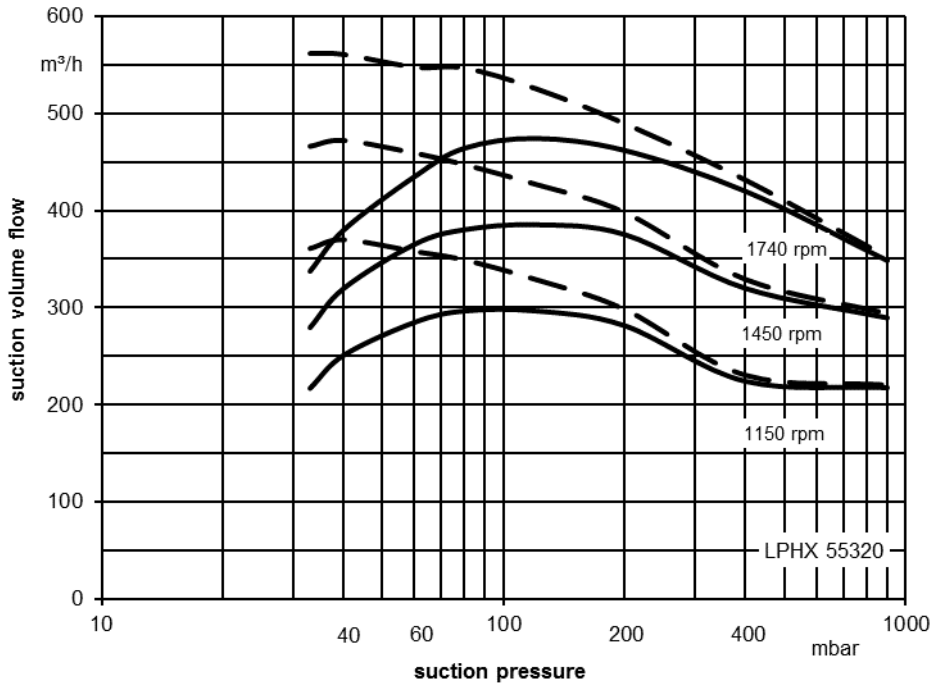
Pressure of gas to be evacuated: 1013 mbar (atmospheric pressure)

The suction volume is related to the suction pressure.

Tolerance on operating data is 10%.

Maximum consumption of make up water occurs at the lowest suction pressure.

Performance Characteristics LPHX 55320



The operating data is valid under the following conditions:

- Process media:
 - dry air: 20°C (solid line)
 - steam saturated air: 20°C (dashed line)
- Service liquid:
 - water: 15°C

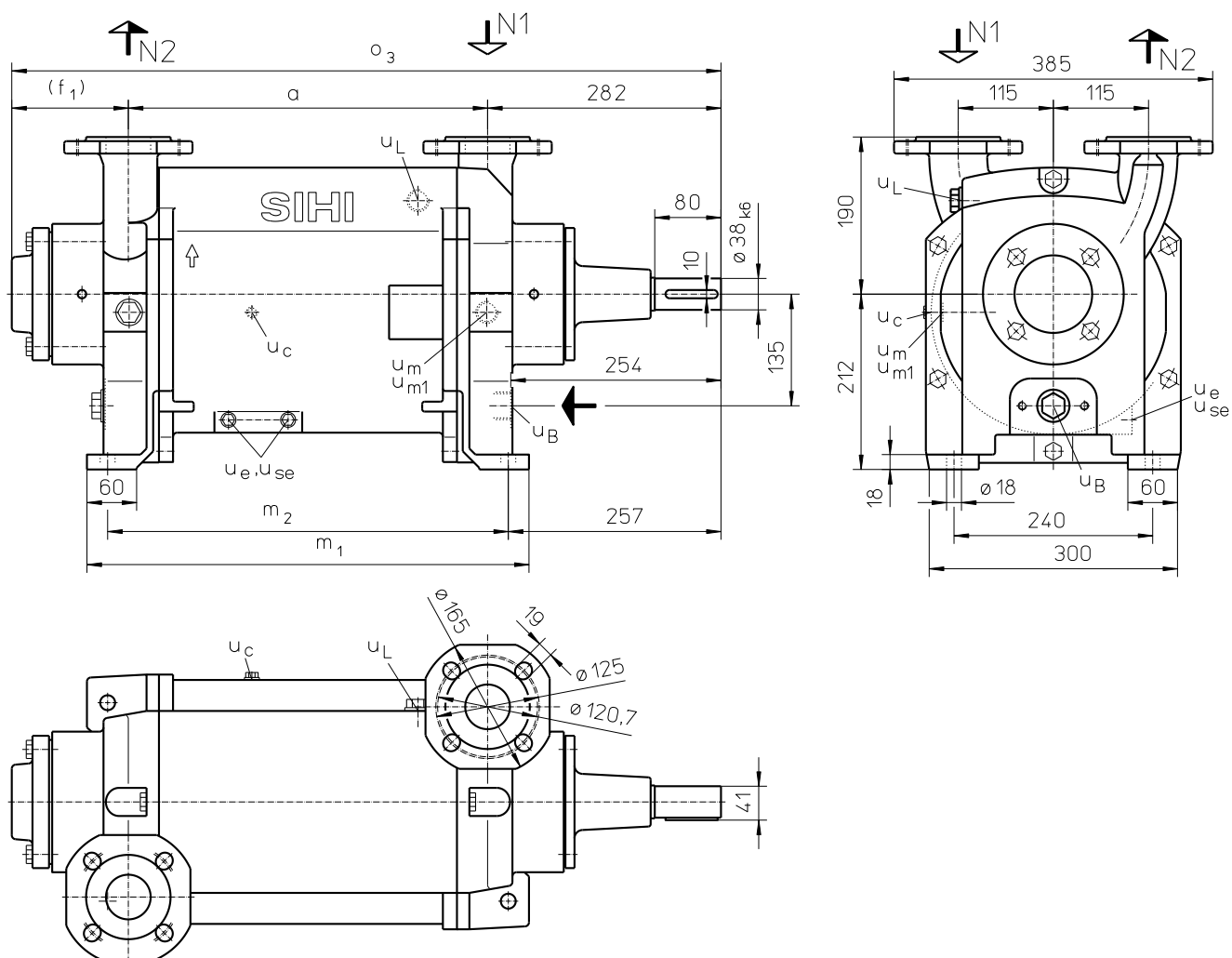
Pressure of gas to be evacuated: 1013 mbar (atmospheric pressure)

The suction volume is related to the suction pressure.

Tolerance on operating data is 10%.

Maximum consumption of make-up water occurs at the lowest suction pressure.

Dimensions LPH 55312, LPH 55316, LPH 55320 with single mechanical seal and gland packing



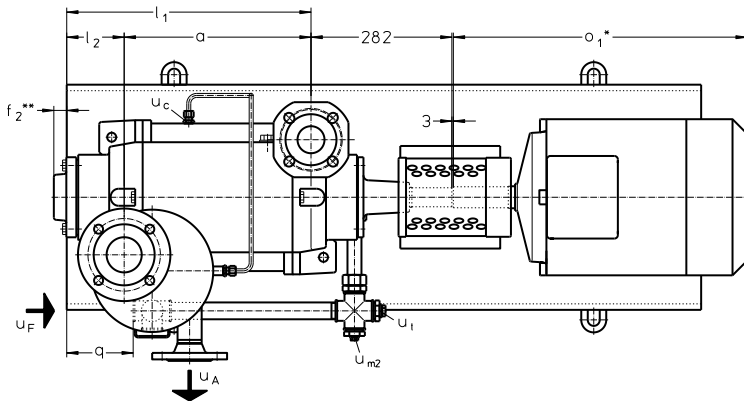
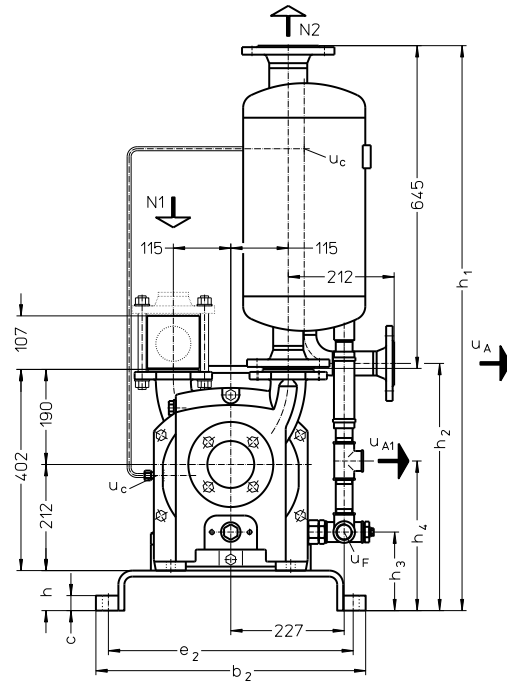
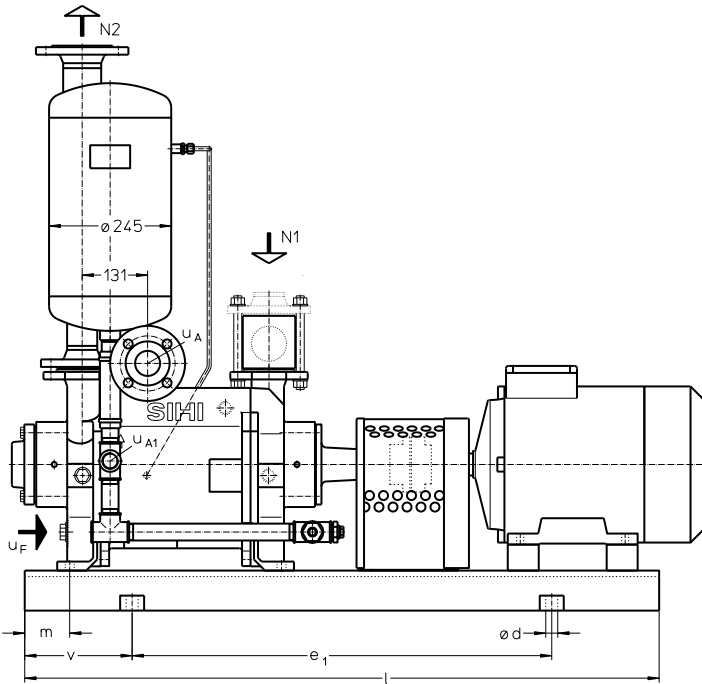
- N 1 = Gas-inlet DN 50 (according to DIN EN 1092 PN 10)
Gas-inlet 2" (according to ANSI 150 lbs)
- N 2 = Gas-outlet DN 50 (according to DIN EN 1092 PN 10)
Gas-outlet 2" (according to ANSI 150 lbs)
- u_B = Connection for service liquid G 1
- u_c = Connection for cavitation protection G $\frac{1}{4}$
- u_e = Connection for drain G $\frac{1}{4}$ (grey cast iron)
Connection for drain G $\frac{1}{2}$ (stainless steel)
- u_{se} = Connection for dirt drain G $\frac{1}{4}$ (grey cast iron)
Connection for dirt drain G $\frac{1}{2}$ (stainless steel)
- u_L = Connection for air cock G $\frac{3}{4}$
- u_m = Connection for pressure gauge G $\frac{3}{4}$
- u_{m1} = Connection for drainage valve or liquid level sensor G $\frac{3}{4}$

	execution	a [mm]	f ₁ [mm]	m ₁ [mm]	m ₂ [mm]	\varnothing_3 [mm]	approx. weight [kg]
LPH 55312	mechanical seal	334	141	434	384	757	140
	gland packing		218			834	
LPH 55316	mechanical seal	374	141	474	424	797	150
	gland packing		218			874	
LPH 55320	mechanical seal	434	141	534	484	857	180
	gland packing		218			934	

SIHI LPH-X

LPH 55312, LPH 55316, LPH 55320

with single mechanical, gland packing and with top-mounted liquid separator



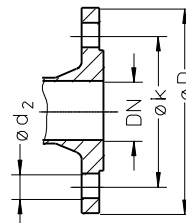
- N 1 = Gas-inlet DN 50
- N 2 = Gas-outlet DN 65 (4 bolt)
- u_A = Liquid drain DN 40
- u_{A1} = Liquid drain G1
- u_F = Connection for make-up liquid G 1
- u_c = Connection for cavitation protection G 1/4
- u_{m2} = Connection for pressure gauge G 1/4
- u_t = Connection for thermometer G 1/2

	E-Motor 50 Hz size			base-plate	a [mm]	b ₂ [mm]	c [mm]	d [mm]	e ₁ [mm]	e ₂ [mm]	f ₂ ** [mm]	h [mm]	h ₁ [mm]	h ₂ [mm]	h ₃ [mm]	h ₄ [mm]	l [mm]	l ₁ [mm]	l ₂ [mm]	m [mm]	o ₁ * [mm]	q [mm]	v [mm]	approx. weight [kg]
	IP 55	kW	EEEx e II T3																					
LPH 55312	132 M	7,5	-	S385	334	490			740	440	26						1140	449	115	90	588	133	200	286
	160 M	11,0	-																					324
	160 M	-	10,0																					321
LPH 55316	160 M	11,0	-	S436	374	540	30	24	840	490	66	80	1129	494	157	299	1270	489	75	50	628	93	215	334
	160 M	-	10,0																					331
	160 L	-	13,5																					374
LPH 55320	160 M	11,0	-	S487	434	610	35	28	940	550	26	100	1149	514	177	319	1420	549	115	90	628	133	240	364
	160 L	15,0	-																					413
	160 L	-	13,5																					438

* Dimensions dependent upon motor supplier

** Dimension +77mm at execution with gland packing

Flange dimensions according to DIN EN 1092 PN 10 [mm]			
DN	40	50	65
k	110	125	145
D	150	165	185
Number x d ₂	4 x 18	4 x 18	4 x 18



Make-up Liquid Consumption in [m³/h] dependent upon suction pressure, speed, drive type and temperature difference.

Suction pressure in [mbar]		33				120				200				400							
Pump type	Speed [rpm]	KB				FB	KB				FB	KB				FB					
		Temperature Difference [°C]					Temperature Difference [°C]					Temperature Difference [°C]									
		20	10	5	2		20	10	5	2		20	10	5	2		20	10	5	2	
LPH 55312	1150	0.17	0.32	0.58	1.13	3.0	0.20	0.37	0.66	1.23	2.9	0.21	0.38	0.67	1.22	2.7	0.20	0.37	0.63	1.10	2.2
	1450	0.26	0.47	0.81	1.45		0.29	0.52	0.88	1.52		0.30	0.54	0.90	1.5		0.29	0.51	0.83	1.33	
	1750	0.36	0.64	1.06	1.73		0.39	0.68	1.11	1.76		0.40	0.70	1.11	1.71		0.39	0.67	1.02	1.51	
LPH 55316	1150	0.20	0.37	0.66	1.24	3.0	0.24	0.44	0.77	1.38	2.9	0.25	0.45	0.77	1.35	2.7	0.24	0.44	0.73	1.22	2.2
	1450	0.30	0.54	0.92	1.57		0.34	0.61	1.01	1.66		0.35	0.63	1.02	1.62		0.35	0.61	0.95	1.44	
	1750	0.42	0.74	1.19	1.87		0.47	0.81	1.26	1.91		0.48	0.82	1.26	1.85		0.47	0.77	1.15	1.61	
LPH 55320	1150	0.22	0.41	0.73	1.34	3.0	0.29	0.53	0.89	1.53	2.9	0.29	0.53	0.89	1.49	2.7	0.28	0.49	0.81	1.30	2.2
	1450	0.33	0.59	0.98	1.65		0.39	0.69	1.11	1.77		0.40	0.70	1.11	1.72		0.39	0.66	1.02	1.5	
	1750	0.46	0.79	1.25	1.92		0.52	0.88	1.35	1.99		0.53	0.89	1.34	1.92		0.53	0.85	1.23	1.67	

FB = Total service liquid flow rate on once-through system

KB = Flow of make-up water when combined with partial recirculation liquid at a temperature of 20°C, 10°C, 5°C, 2°C, warmer than make-up water.

Product Code – order details

Range + Size	Hydraulic + Bearings	Shaft Seal		Materials		Casing Sealing	
	<ul style="list-style-type: none"> •A 1. Hydraulic •B two greased roller bearings •5 Similar to •B, however non-driving side with self-aligning roller bearing 	041	Gland packing	0K	Main parts out of cast iron (GG) and impellers in low alloyed steel	1	O-ring sealing
		AGE	Mechanical seal type SIHI FK, O-rings butadiene rubber	4B	Main parts out of stainless steel		
		AG1	Mechanical seal type SIHI FK, O-Rings Viton				
LPH	55312	041		0K		1	
	55316	AGE					
	55320	AG1		4B			
	AB / A5						

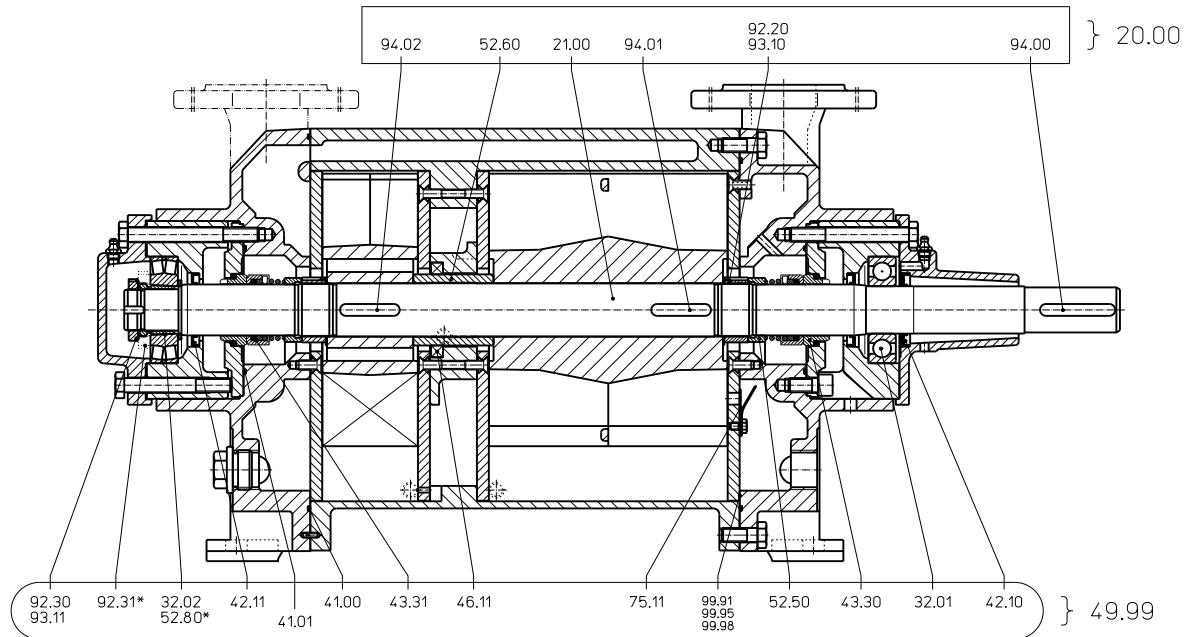
Motor Selection

For our products we offer a lot of different motor types. To identify the right motor please specify frequency, voltage and protection class.

Example of an Order:

LPHX 55316 AB AGE 0K 1 with 11.0 kW AC motor, 50 Hz, 400V Δ, IP55

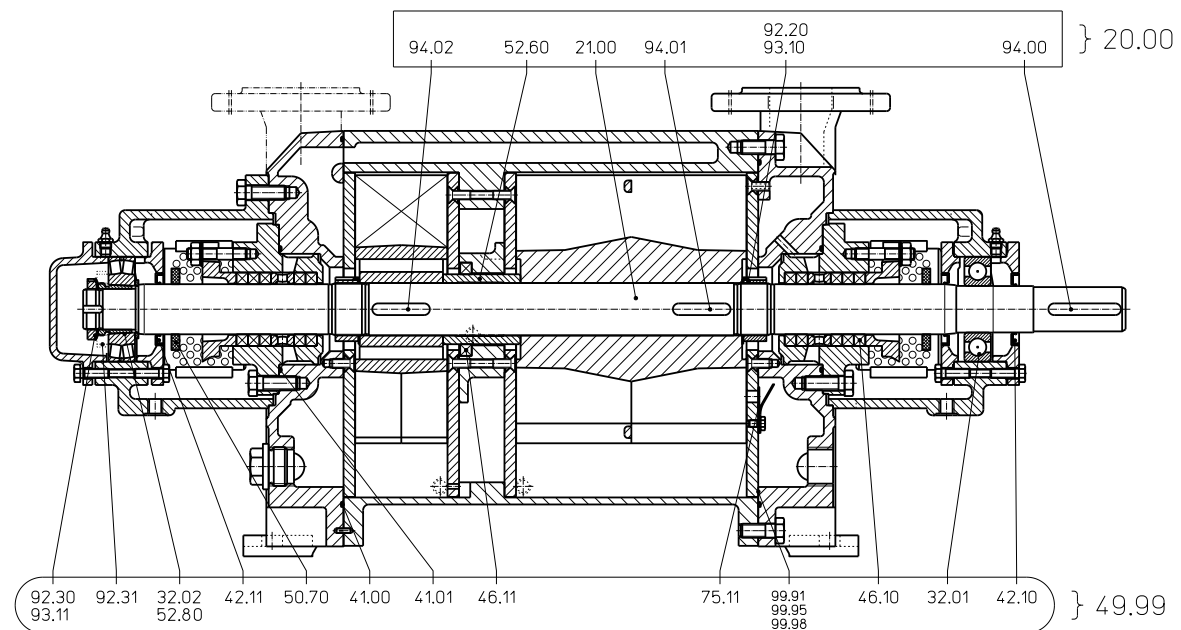
Spare Parts Order Number



* only for design 4B

Material Design 0K				
Group	Spare parts kit	LPH 55312	LPH 55316	LPH 55320
20.00	Shaft	65 007 935	65 007 937	65 007 891
49.99	Basic repair AGE	65 007 892		

Material Design 4B				
Group	Spare parts kit	LPH 55312	LPH 55316	LPH 55320
20.00	Shaft	65 008 799	65 008 782	65 008 803
49.99	Basic repair AG1	65 008 794		



Material Design 0K				
Group	Spare parts kit	LPH 55312	LPH 55316	LPH 55320
20.00	Shaft	65 008 754	65 008 755	65 008 756
49.99	Basic repair 041	65 008 796		

Accessories

Recommended Accessory	Material Execution		LPH 55312	LPH 55316	LPH 55320
Top Mounted Liquid Separator		Type / Weight	XBa 2041 / 23 kg		
Top mounted separator	1.4571	SIHI-Part No.	35 000 420		
Service liquid pipework, standard execution	Steel, galvanised 1.4571	SIHI-Part No.	20 067 931 20 067 932	20 067 933 20 067 934	20 067 935 20 067 936
Service liquid pipework, thermostatic control 24V	Steel, galvanised + Brass 1.4571 + Brass	SIHI-Part No.	20 073 164 20 073 165	20 073 166 20 073 167	
Cavitation protection pipework	Steel, galvanised 1.4571	SIHI-Part No.	20 050 621 20 042 945		
Side Mounted Liquid Separator		Type / Weight	XBp 0512 / 40 kg		
Side mounted separator	1.4571	SIHI-Part No.	35 000 519		
Service liquid pipework, standard execution	Steel 1.4571	SIHI-Part No.	35 003 137 35 003 138	35 003 146 35 011 251	35 003 139 35 003 141
Service liquid pipework, thermostatic control 24V	Steel + Brass 1.4571 + Brass	SIHI-Part No.	20 055 649 20 073 245		
Cavitation protection pipework	Steel, galvanised 1.4571	SIHI-Part No.	20 040 460 20 043 589		
Pressure pipework (bend)	1.0254 1.4571	SIHI-Part No.	35 003 203 35 003 205		
Liquid level indicator	Brass + Plexiglas 1.4571 + Plexiglas	SIHI-Part No.	43 014 912 43 040 384		
Sterling SIHI - Gas Ejector		Type / Weight	GPV 5011 / 25 kg	-	GPV 5012 / 30 kg
at service liquid temperature 15 °C		Type / Weight	GPV 5311 / 25 kg	GPV 5312 / 25 kg	GPV 5313 / 25 kg
Sterling SIHI - Non Return Ball Valve					
Intermediate flange execution XCk 50	0.6025 + Butadiene rubber 0.6025 + Teflon 1.4408 + Teflon	SIHI-Part No. Weight	20 072 792 / 3.6 kg 20 072 791 / 3.8 kg 20 029 498 / 10.8 kg		
Flange execution with glass cylinder XCk 506	0.6025 + Butadiene rubber 0.6025 + Teflon 1.4408 + Teflon	SIHI-Part No. Weight	20 072 838 / 8.5 kg 20 072 849 / 8.5 kg 20 072 837 / 8.5 kg		
Drain Valve XCg 015	Steel + Teflon 1.4571 + Teflon	SIHI-Part No.	43 166 248 43 014 547		
Double nipple ³ / ₄ " - ¹ / ₂ "	Steel, galvanised 1.4571	SIHI-Part No.	43 013 096 43 013 097		
Air Inlet Valve (+ Double nipple)	Brass 1.4408	SIHI-Part No.	43 045 945 + 43 013 090 43 053 736 + 43 013 091		
Motor standard execution IP 55	Size Power Weight		132 M 7.5 kW 49 kg	160 M 11.0 kW 73 kg	160 L 15.0 kW 85 kg
Coupling for motor IP 55 Pump side Motor side	Type / Weight SIHI-Part No.		B 95 / 2.6 kg 43 021 429 43 021 433	B 110 / 3.9 kg 43 021 446 43 021 448	B 125 / 6.2kg 43 021 460 43 021 464
Coupling guard ¹)	Steel	SIHI-Part No.	43 042 269	43 042 273	43 042 306
Coupling guard ²)	Steel	SIHI-Part No.	43 042 267	43 042 269	43 042 304
Baseplate for standard execution	Steel	Type / Weight SIHI-Part No.	S 385 / 58 kg 43 040 639	S 436 / 71 kg 43 040 641	S 487 / 105 kg 43 040 642
Motor in EEx e II T3 execution	Size Power Weight		160 M 10.0 kW 67 kg		160 L 13.5 kW 107 kg
Coupling for motor EEx e II T3 Pump side Motor side	Type / Weight SIHI-Part No.		BDS 118 / 4.0 kg 43 111 044 43 110 928		BDS 135 / 6.6 kg 43 111 062 43 111 072
Coupling guard ¹)	Brass	SIHI-Part No.	43 042 274	43 042 307	
Coupling guard ²)	Brass	SIHI-Part No.	43 042 270	43 042 305	
Baseplate for EEx e II T3 execution	Steel	Type / Weight SIHI-Part No.	S 436 / 71 kg 43 040 641		S 487 / 105 kg 43 040 642

¹) execution with mechanical seal

²) execution with gland packing

Designs subject to change without prior notice.

Flowserve SIHI Germany GmbH

Lindenstraße 170, D-25524 Itzehoe, Germany, Tel. +49 (0) 48 21 / 7 71 - 01, Fax +49 (0) 48 21 / 7 71-274

SIHI^{LPH-X} - Liquid Ring Vacuum Pump

Two Stage



SIHI® Pumps

LPH 65320, LPH 65327

Pressure Range: 33 to 1013 mbar
Suction Volume: 245 to 815 m³/h

CONSTRUCTION

SIHI liquid ring vacuum pumps have a simple but robust construction with the following features and benefits:

- Near isothermal compression
- Oil free, with no internal lubrication
- Capable of handling almost all gases and vapours
- Able to handle quantities of liquid "carry over"
- Low maintenance and safe operation
- Low noise and almost vibration free
- Available in a wide range of materials
- Broad range of applications
- O-ring sealing as standard
- Cavitation protection as standard
- Drain hole as standard
- Built-in solids drain
- Rotating metallic parts are non contacting to minimise wear
- ATEX compliance

SIHI liquid ring vacuum pumps of the range LPH 65320 and LPH 65327 are two stage pumps.

APPLICATIONS

Evacuation and pumping of dry gases and saturated vapours. The pumps can also handle liquids. These units offer pressures in the range of 33...900 mbar(a) to atmospheric. Much lower pressures are available by using ancillaries such as ejectors and lobular boosting pumps. Typical application areas include:

- Chemical and pharmaceutical industry for distillation, drying and degassing
- Food and beverage industry for low temperature cooking, and bottle filling
- Electronic industry for impregnation and drying
- Plastics & Rubber industry for degassing
- Healthcare for sterilisers and general vacuum



Note

By continuously feeding the pump with a small amount of service liquid (usually water), the heat due to gas/vapour compression is conducted away. This also replenishes the liquid ring and ensures that it does not become saturated with process media. Recharging the pump with service liquid at ambient temperature enables the unit to condense evacuated gases / vapours. It can therefore be used for solvent recovery. The condensed gas and liquid can be separated in a liquid separator. More information is provided in the accessory catalogues.

The integrated solids drain permits the removal of any entrained solids whilst the pump is operating. The service liquid can therefore, simply be re-circulated.

The rotation of the pump is clockwise when viewed from the drive end.

GENERAL TECHNICAL DATA

Pump Type	Units	LPH 65320	LPH 65327
Speed	50 Hz 60 Hz	rpm	1450 1740
Maximum overpressure on compression	bar	1.0	0.8
Permissible pressure difference between suction and discharge side	max. min.	bar	1.5 0.2
Hydraulic test pressure (overpressure)	bar	3.0	
Moment of inertia of rotating parts of pump and water content	kg · m ²	0.32	0.38
Noise level at 80 mbar suction pressure [50Hz]	dB (A)	68	72
Minimum permissible pulley diameter for V belt drive	mm	160	
Maximum gas temperature:	dry saturated	°C	200 100
Service liquid:			
Maximum permissible temperature	°C	80	
Minimum permissible temperature	°C	10	
Maximum viscosity	mm ² /s	90	
Maximum density	kg/m ³	1200	
Liquid capacity up to middle of shaft	litre	16.0	19.0
Maximum flow resistance of the heat exchanger	bar	0.2	

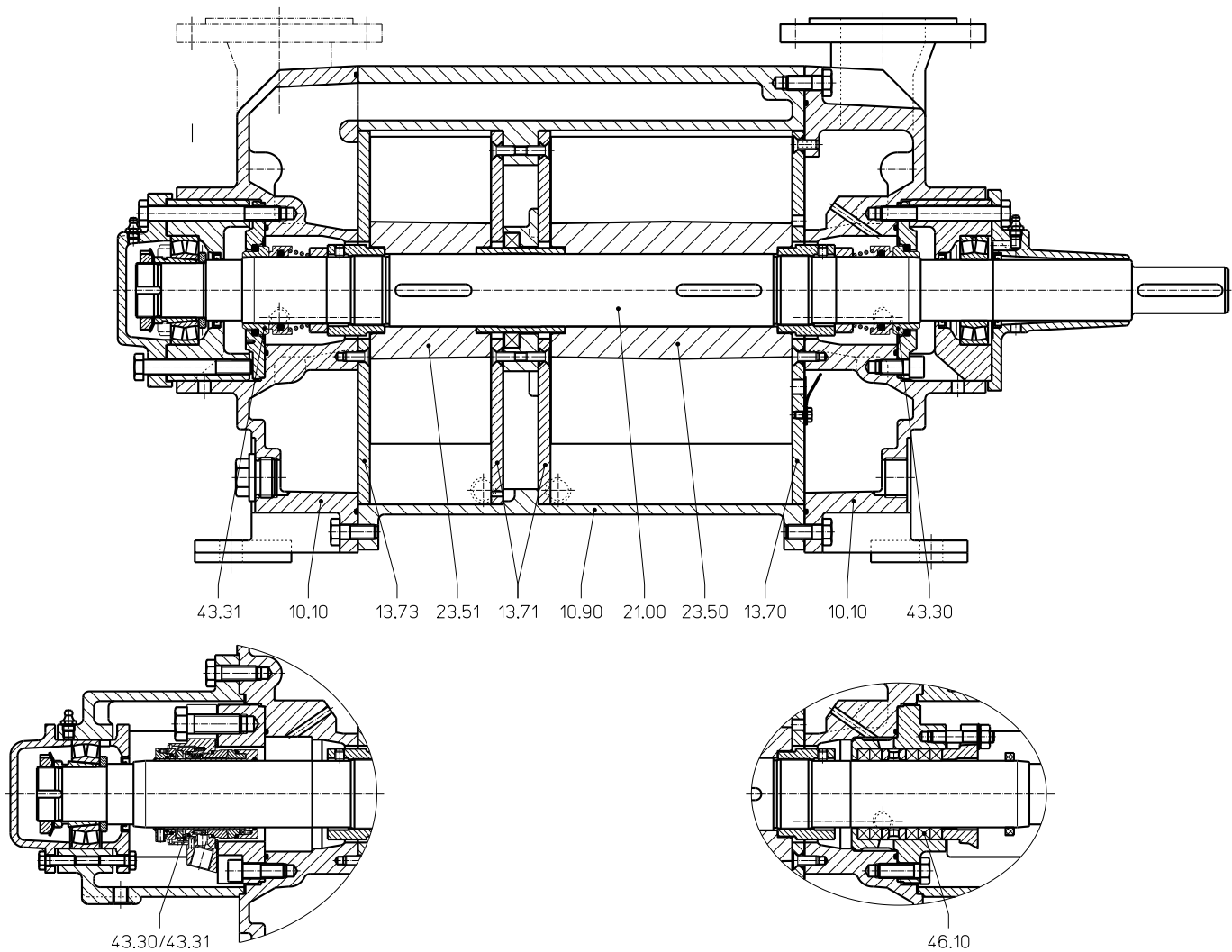
In selecting a pump, avoid choosing one which is likely to be operating at a combination of its maximum permissible limits e.g. maximum viscosity and maximum permissible pressure difference.

SIHI^{LPH-X}

Materials

Position Number	Component	MATERIALS	
		0B	4B
10.10	Vacuum casing	0.6025	1.4408
10.90	Central body		
13.70, 13.71, 13.73	Guide disc		1.4404
21.00	Shaft	1.4021	
23.50, 23.51	Impeller	1.0619	1.4408
43.30, 43.31	Mechanical seal, Type SIHI FK (AG•)	Cr-Steel / Carbon / Butadiene rubber	Cr Ni Mo-Steel / Carbon / Viton
43.30, 43.31	Double mechanical seal	on request	
46.10	Gland packing	GORE	-

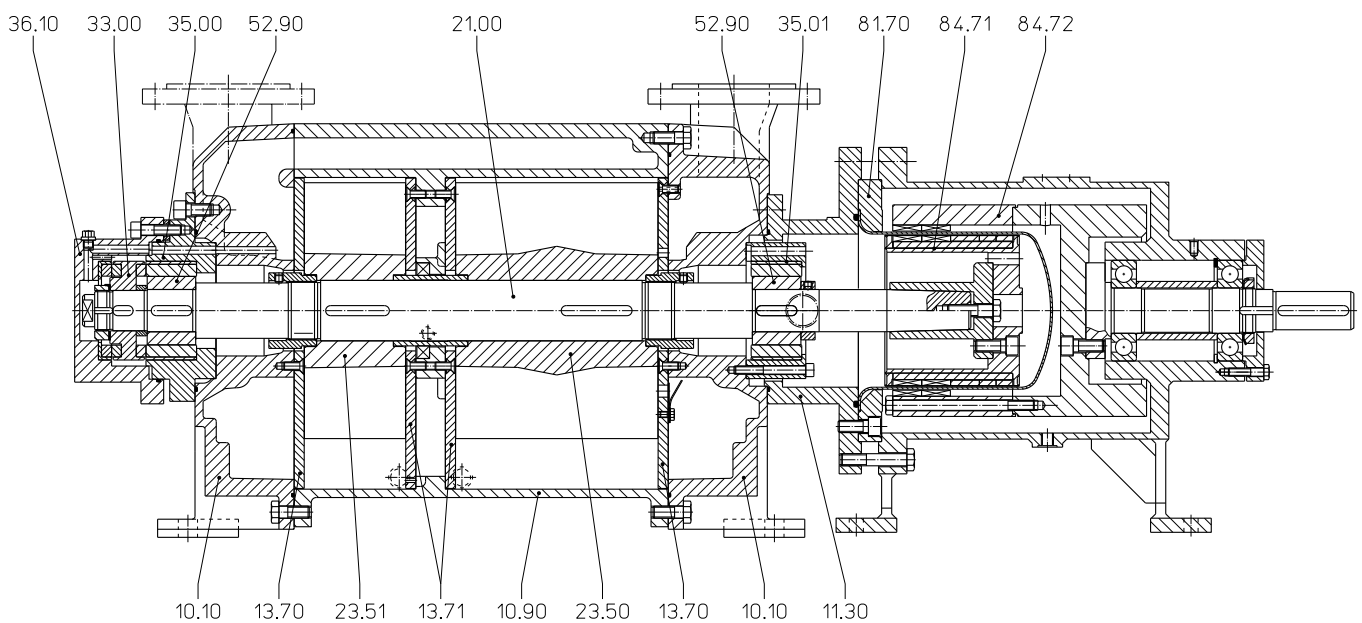
Cut-away diagram LPH 65320, LPH 65327 with single, double mechanical seal and gland packing



Materials LPH 65320, LPH 65327 with magnetic coupling

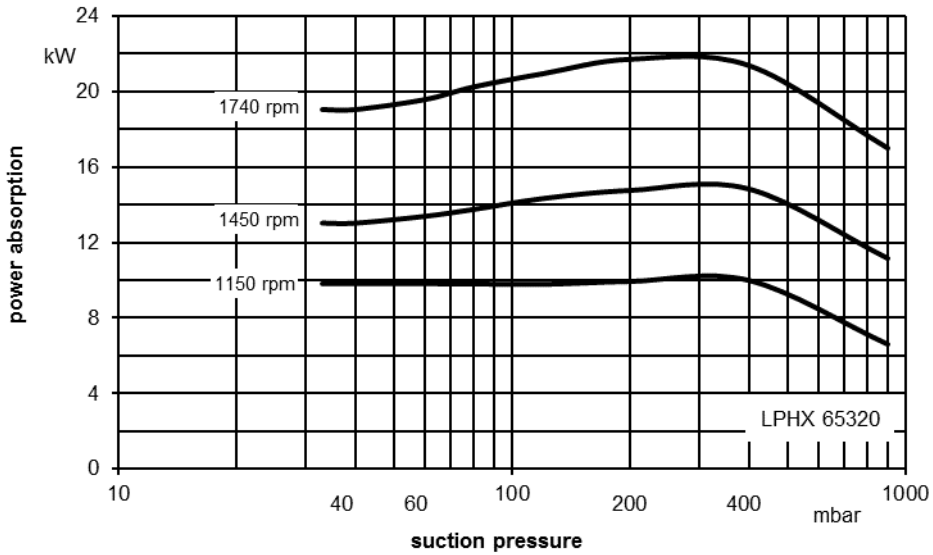
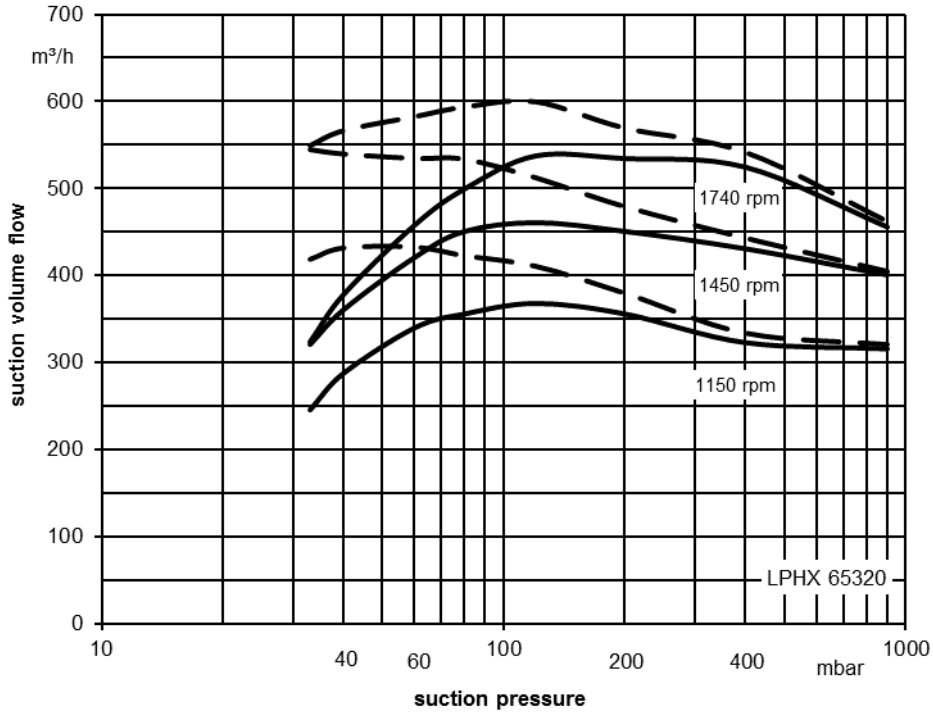
Position Number	COMPONENT	MATERIALS	
		0B	4B
10.60	Casing	0.6025	1.4408
10.90	Central body		
13.70, 13.71	Guide disc		
11.30	Intermediate casing	1.0553	1.4571
21.00	Shaft	1.4021	
23.50, 23.51	Vane wheel impeller	1.0553	1.4517
33.00	Thrust bearing	1.4462 / silicon carbide	
35.00, 35.01	Bearing housing	1.0553 / silicon carbide	1.4571 / silicon carbide
36.10	Bearing cover		
52.90, 52.91	Bushing	tungsten carbide	
81.70	Isolation shroud	1.4571 / 2.4610	
84.71	Inner magnet	1.4571 / 2.4610 / magnet	
84.72	Outer magnet	1.0553 / magnet	

Cut-away diagram LPH 65320, LPH 65327 with magnetic coupling



All information in this catalogue, like general technical data, performance data, dimensions, arrangement drawings, accessories, etc. don't refer to the magnetic coupling execution. Please contact the manufacturer about more information.

Performance Characteristics LPHX 65320



The operating data is valid under the following conditions:

- Process media:
 - dry air: 20°C —————
 - steam saturated air: 20°C - - - - -
- Service liquid:
 - water: 15°C

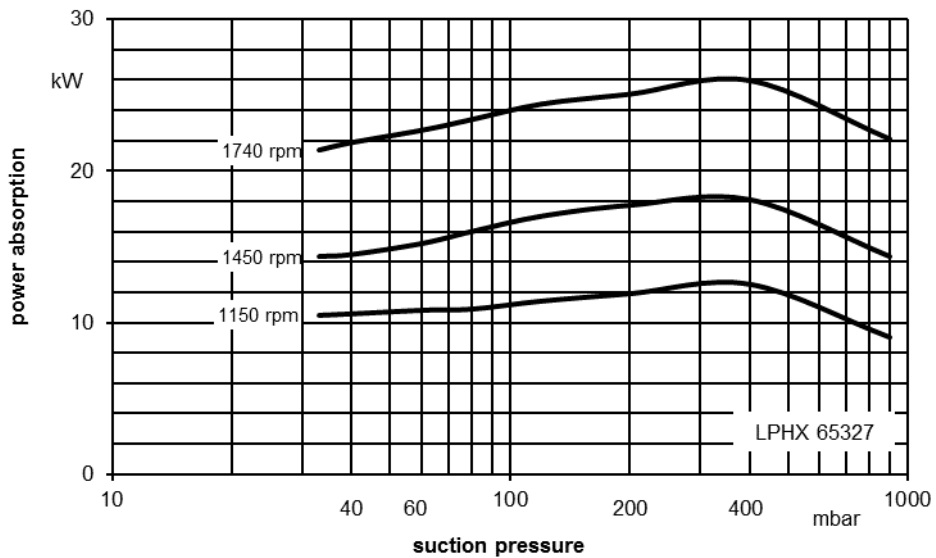
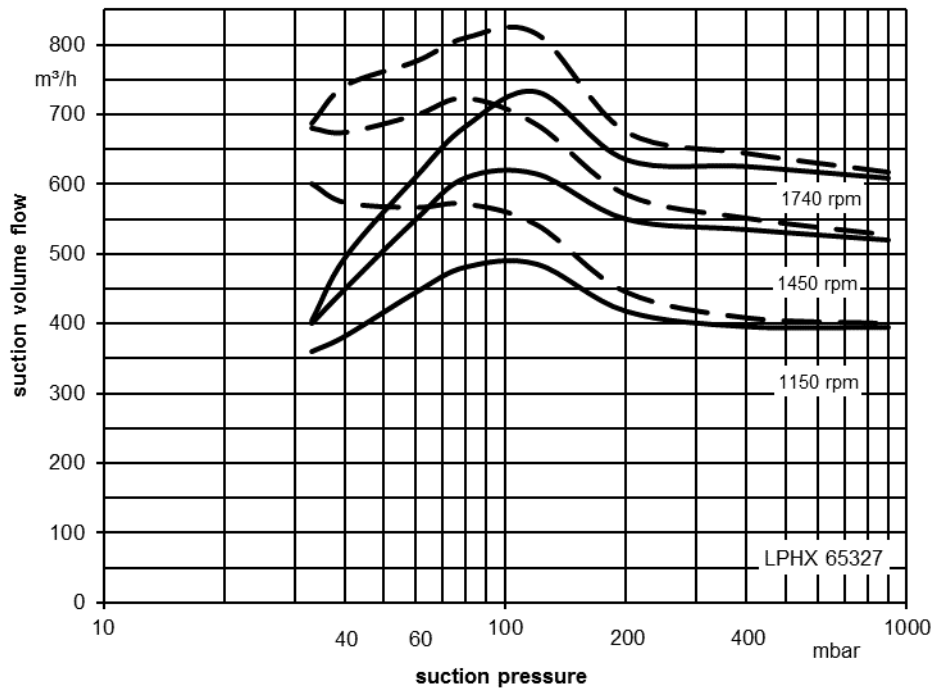
Pressure of gas to be evacuated: 1013 mbar (atmospheric pressure)

The suction volume is related to the suction pressure.

Tolerance on operating data is 10%.

The maximum consumption of make-up water occurs at the lowest suction pressure.

Performance Characteristics LPHX 65327



The operating data is valid under the following conditions:

- Process media:
 - dry air: 20°C —————
 - steam saturated air: 20°C - - - - -
- Service liquid:
 - water: 15°C

Pressure of gas to be evacuated: 1013 mbar (atmospheric pressure)

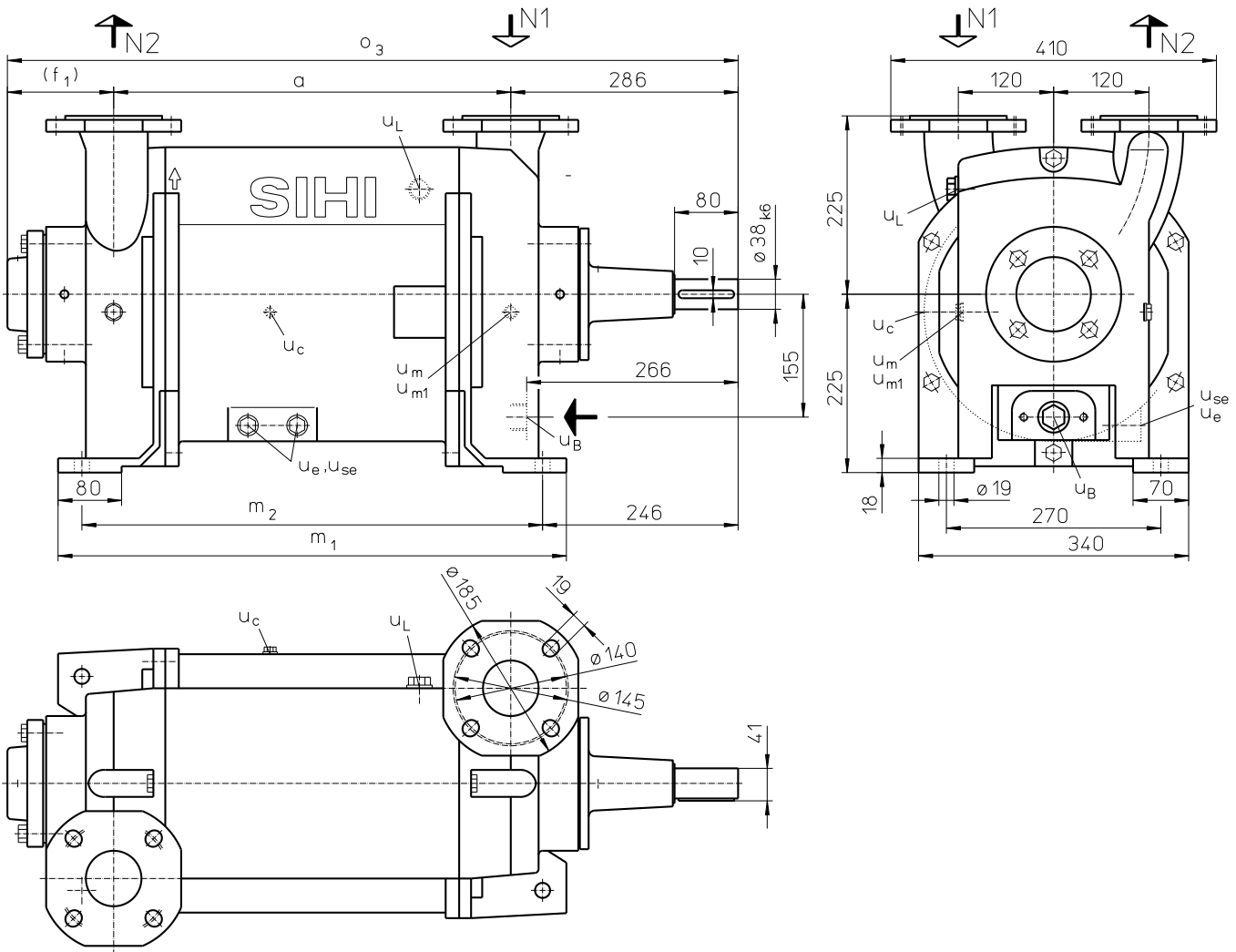
The suction volume is related to the suction pressure.

Tolerance on operating data is 10%.

Maximum consumption of make-up water occurs at the lowest suction pressure.

SIHI^{LPH-X}

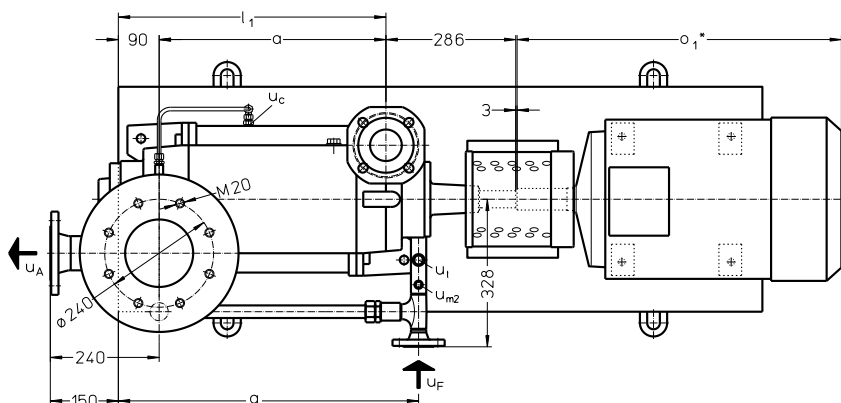
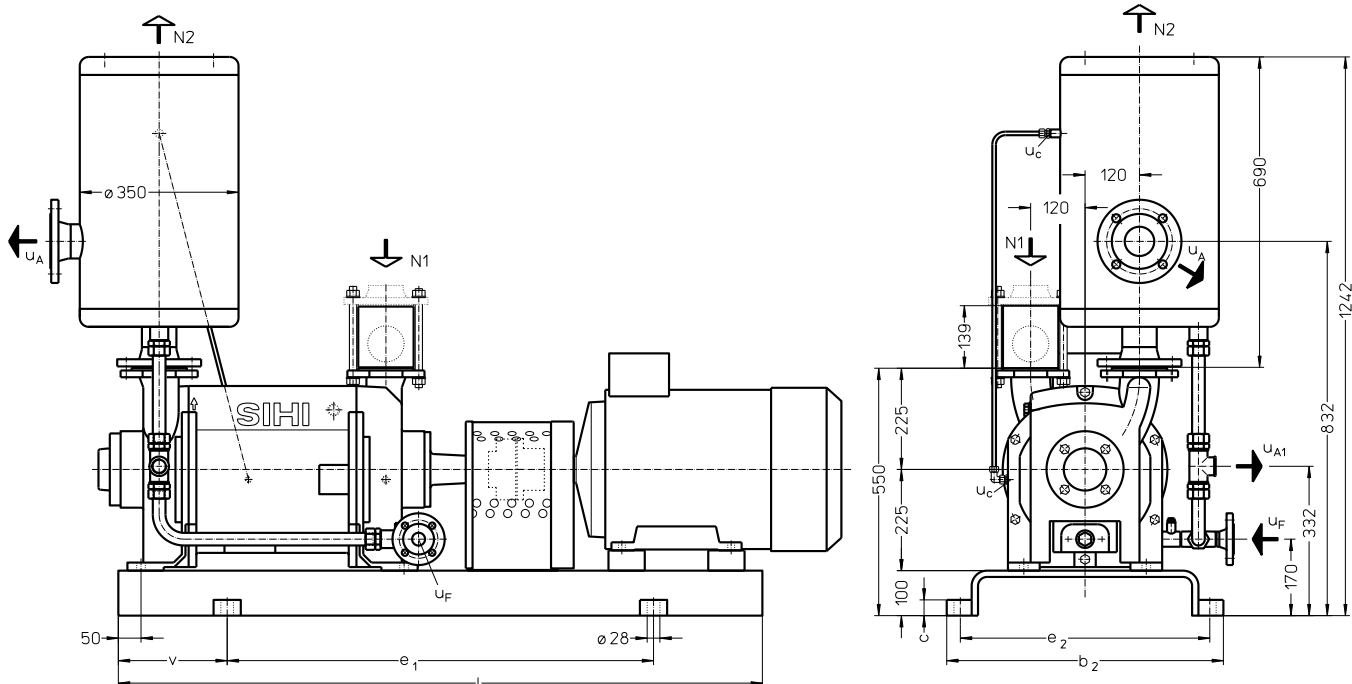
Dimensions LPH 65320, LPH 65327 with single mechanical seal and gland packing



- N 1 = Gas inlet DN 65, 4 bolt (according to DIN EN 1092 PN 10)
Gas inlet 2 1/2" (according to ANSI 150 lbs)
- N 2 = Gas outlet DN 65, 4 bolt (according to DIN EN 1092 PN 10)
Gas outlet 2 1/2" (according to ANSI 150 lbs)
- u_B = Connection for service liquid G 1
- u_c = Connection for cavitation protection G 1/4
- u_e = Connection for drain G 1/2
- u_{se} = Connection for dirt drain G 1/2
- u_L = Connection for air cock G 3/4
- u_m = Connection for pressure gauge G 3/8 (Grey cast iron)
Connection for pressure gauge G 3/4 (Stainless steel)
- u_{m1} = Connection for drainage valve or liquid level sensor G 3/8 (grey cast iron)
Connection for drainage valve or liquid level sensor G 3/4 (stainless steel)

	execution	a [mm]	f_1 [mm]	m_1 [mm]	m_2 [mm]	o_3 [mm]	approx. weight [kg]
LPH 65320	mechanical seal	500	134	640	580	920	200
	gland packing		223			1009	
LPH 65327	mechanical seal	566	134	706	646	986	215
	gland packing		223			1075	

LPH 65320, LPH 65327 with single mechanical seal, gland packing and with top-mounted liquid separator

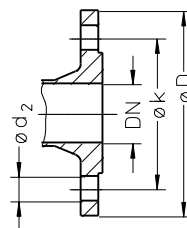


- N 1 = Gas inlet DN 65, 4 bolt
- N 2 = Gas outlet DN 150
- U_A = Liquid drain DN 65, 4 bolt
- U_{A1} = Liquid drain G 1
- U_F = Connection for make-up liquid DN 25
- U_c = Conn. for cavitation protection G 1/4
- U_{m2} = Connection for pressure gauge G 1/4
- U_t = Connection for thermometer G 1/2

	E-Motor 50 Hz			base-plate	a [mm]	b ₂ [mm]	c [mm]	e ₁ [mm]	e ₂ [mm]	l [mm]	l ₁ [mm]	o ₁ * [mm]	q [mm]	v [mm]	approx. weight [kg]
	size	IP 55	kW EEEx e II T3												
LPH 65320	160 L	15.0	-	S487	500	610	35	940	550	1420	590	588	662	240	455
	180 M	-	15.0									715			535
LPH 65327	180 M	18.5	-	S388	566	540	40	1060	490	1600	656	712	728	270	491
	180 L	-	17.5									715			555

* Dimensions dependent upon motor supplier

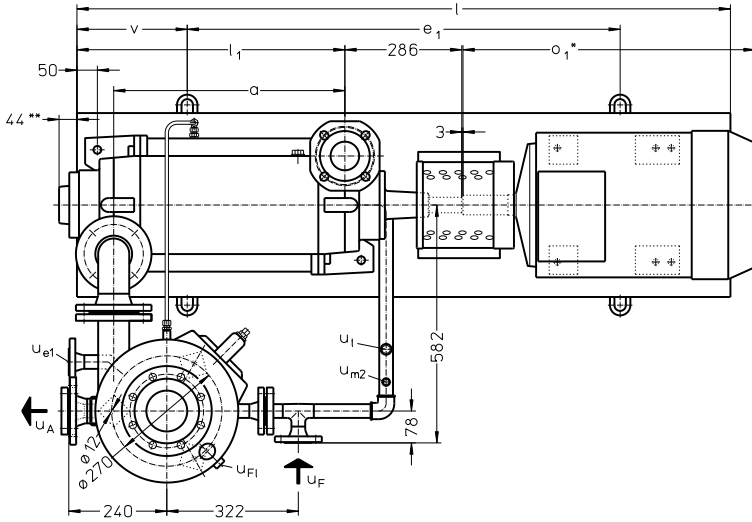
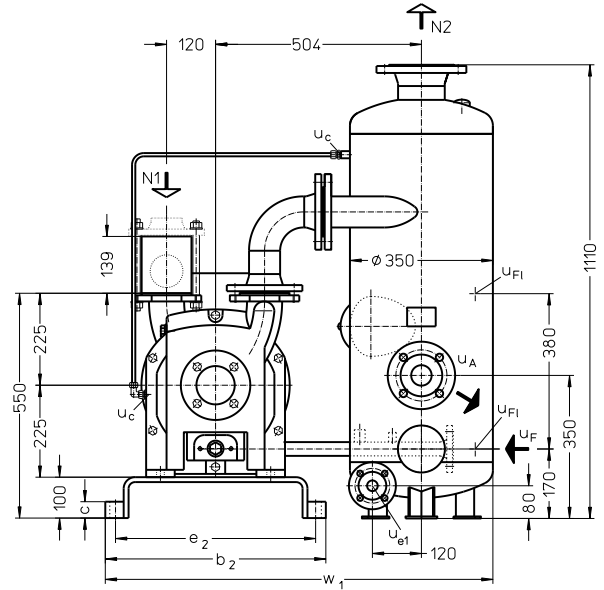
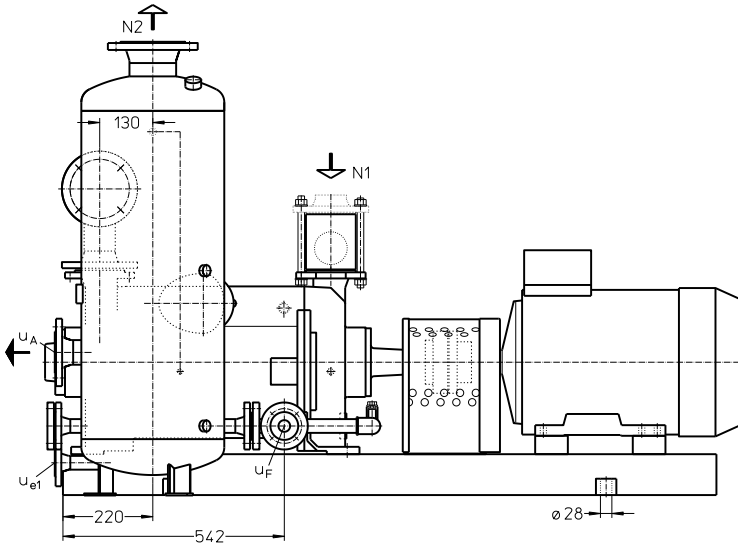
Flange dimensions according to DIN EN 1092 PN 10 [mm]		
DN	25	65
k	85	145
D	115	185
Number x d ₂	4 x 14	4 x 18



SIHI LPH-X

LPH 65320, LPH 65327

with single mechanical seal, gland packing and with side-mounted liquid separator



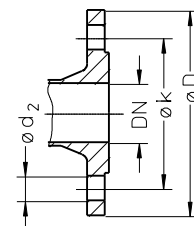
- N 1 = Gas inlet DN 65, 4 bolt
- N 2 = Gas outlet DN 100
- u_A = Liquid drain DN 50
- u_c = Connection for cavitation protection G ¼
- u_{e1} = Connection for drain DN 25
- u_F = Connection for make-up liquid DN 25
- u_{F1} = Connection for liquid level indicator G ½
- u_{m2} = Connection for pressure gauge G ¼
- u_t = Connection for thermometer G ½

	E-Motor 50 Hz			base-plate	a [mm]	b ₂ [mm]	c [mm]	e ₁ [mm]	e ₂ [mm]	l [mm]	l ₁ [mm]	o ₁ * [mm]	v [mm]	w ₁ [mm]	approx. weight [kg]
	size	kW													
LPH 65320	160 L	15.0	-	S487	500	610	35	940	550	1420	590	588	240	984	473
	180 M	-	15.0									715			553
LPH 65327	180 M	18.5	-	S388	566	540	40	1060	490	1600	656	712	270	949	512
	180 L	-	17.5									715			576

* Dimensions dependent upon motor supplier

** Dimension +89mm at execution with gland packing

Flange dimensions according to DIN EN 1092 PN 10 [mm]				
DN	25	50	65	100
k	85	125	145	180
D	115	165	185	220
Number x d ₂	4 x 14	4 x 18	4 x 18	8 x 18



Make-up Liquid Consumption in [m³/h] dependent upon suction pressure, speed, drive type and temperature difference.

Suction pressure in [mbar]		33				120				200				400							
Pump type	Speed [1/min]	KB				FB	KB				FB	KB				FB					
		Temperature Difference [°C]					Temperature Difference [°C]					Temperature Difference [°C]									
		20	10	5	2		20	10	5	2		20	10	5	2		20	10	5	2	
LPH 65320	1150	0.36	0.62	0.97	1.49	2.3	0.35	0.60	0.93	1.40	2.1	0.35	0.60	0.92	1.36	2.0	0.34	0.57	0.85	1.22	1.7
	1450	0.45	0.75	1.13	1.63		0.48	0.78	1.14	1.57		0.48	0.78	1.12	1.52		0.47	0.73	1.02	1.34	
	1750	0.60	0.95	1.35	1.79		0.63	0.97	1.33	1.70		0.64	0.96	1.3	1.65		0.60	0.88	1.16	1.43	
LPH 65327	1150	0.38	0.65	1.01	1.52	2.3	0.40	0.67	1.01	1.47	2.1	0.41	0.68	1.01	1.44	2.0	0.41	0.66	0.95	1.29	1.7
	1450	0.49	0.80	1.19	1.68		0.54	0.86	1.22	1.63		0.55	0.87	1.21	1.59		0.53	0.81	1.10	1.40	
	1750	0.66	1.02	1.41	1.84		0.70	1.05	1.4	1.75		0.70	1.04	1.36	1.69		0.67	0.97	1.23	1.48	

FB = Total service liquid flow rate on once-through system

KB = Flow of make-up water when combined with partial recirculation liquid at a temperature of 20°C, 10°C, 5°C, 2°C, warmer than make-up water.

Product Code – order details

Range + Size	Hydraulic + Bearings	Shaft Seal	Materials	Casing Sealing
	<ul style="list-style-type: none"> A• 1. Hydraulic •B two greased roller bearings 	041 Gland Packing AGE Mechanical Seal type SIHI FK, O-Rings Butadiene rubber AG1 Mechanical Seal type SIHI FK, O-Rings Viton	0B Main parts from grey cast iron and impellers in steel 4B Main parts out of stainless steel	1 O-Ring Sealing
LPH 65320 65327	AB	041, AGE AG1	0B 4B	1

Motor Selection

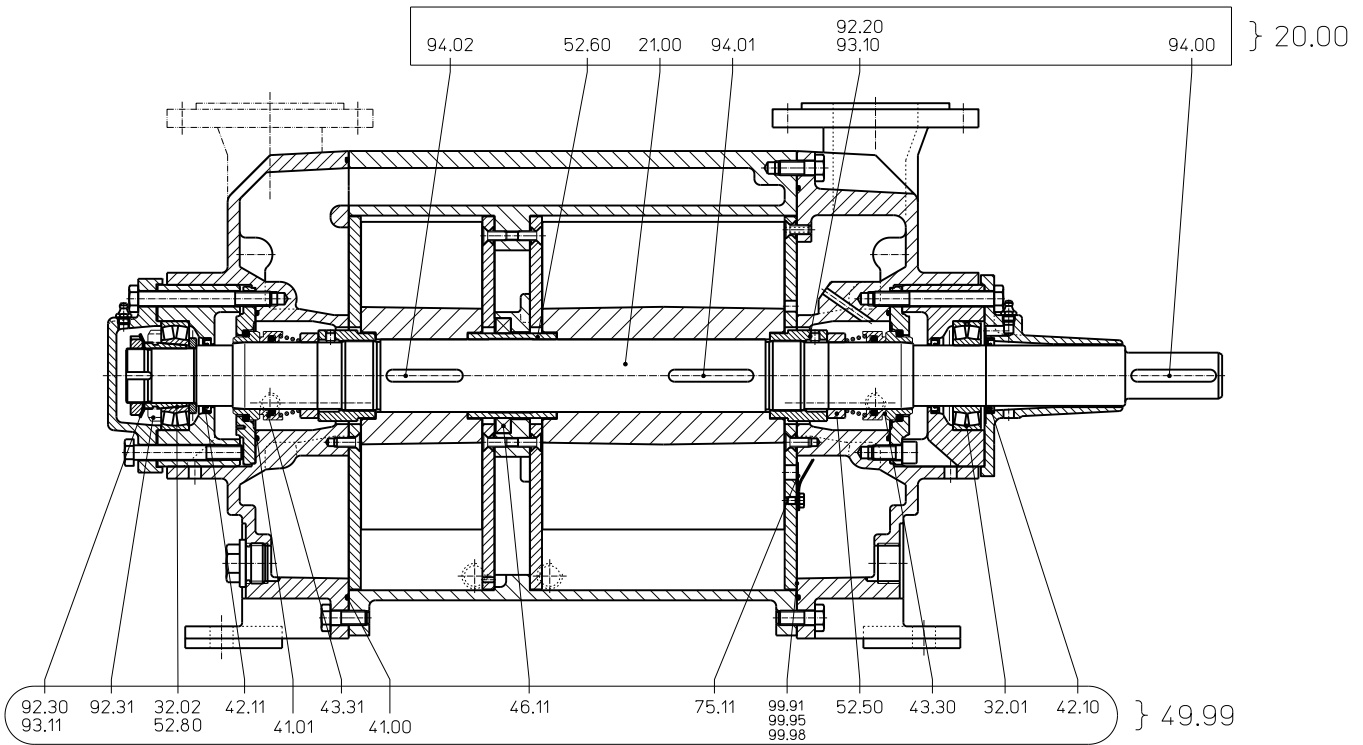
For our products we offer a lot of different motor types.
To identify the right motor please specify frequency, voltage and protection class.

Example of an Order:

LPHX 65327 AB AGE 0B 1 with 18.5 kW AC motor, 50 Hz, 400V Δ, IP55

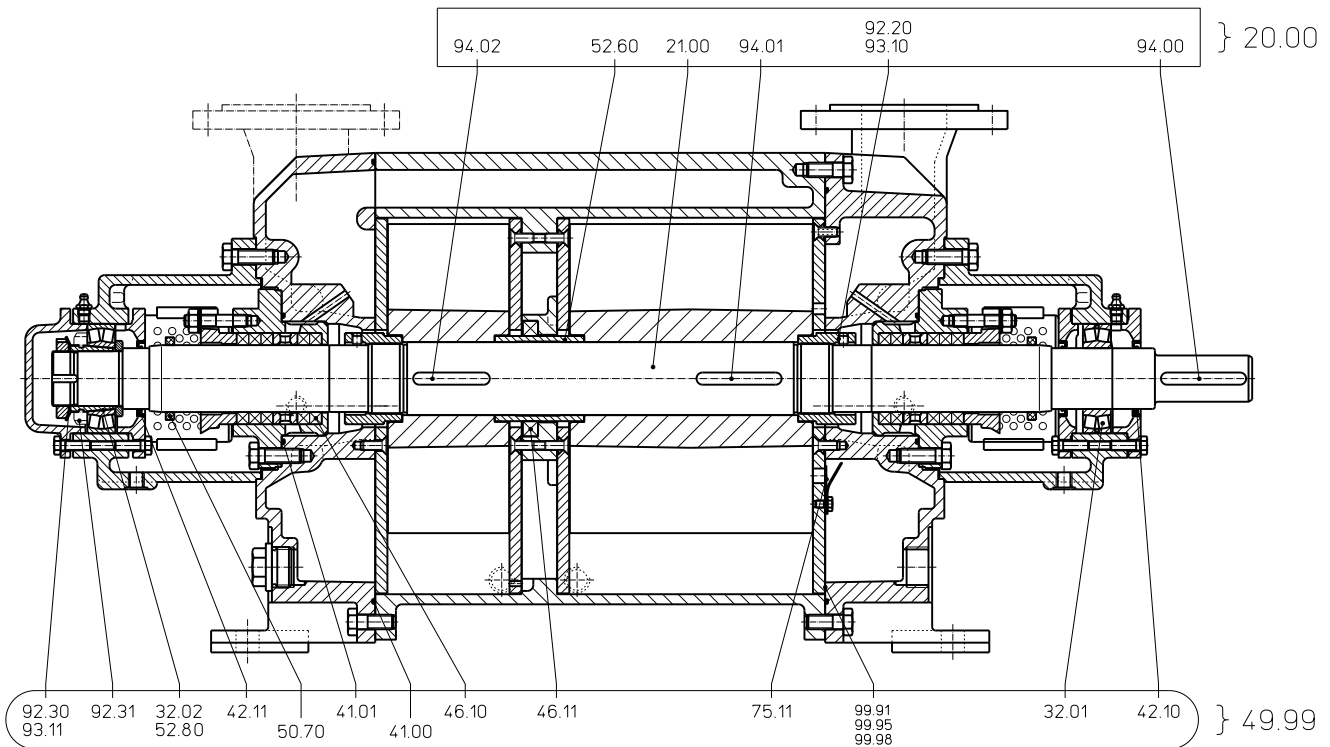
SIHI^{LPH-X}

Spare Parts Order Number



Material Design 0B			
Group	Spare parts kit	LPH 65320	LPH 65327
20.00	Shaft	65 007 930	65 007 771
49.99	Basic repair AGE	65 007 772	

Material Design 4B			
Group	Spare parts kit	LPH 65320	LPH 65327
20.00	Shaft	65 007 931	65 007 540
49.99	Basic repair AG1	65 007 886	



Material Design 0B			
Group	Spare parts kit	LPH 65320	LPH 65327
20.00	Shaft	65 007 896	65 007 932
49.99	Basic repair 041	65 007 897	

Accessories

Recommended Accessory	Material Execution		LPH 65320	LPH 65327
Top Mounted Liquid Separator		Type / Weight	XBa 5541 / 37 kg	
Top mounted separator	1.4571	SIHI-Part No.	43 253 600	
Service liquid pipework, standard execution	Steel 1.4571	SIHI-Part No.	35 003 119 35 003 120	35 003 121 35 003 122
Service liquid pipework, thermostatic control 24V	Steel + Brass 1.4571 + Brass	SIHI-Part No.	20 073 220 20 073 221	
Cavitation protection pipework	Steel, galvanised 1.4571	SIHI-Part No.	20 039 166 20 039 167	
Side Mounted Liquid Separator		Type / Weight	XBp 0912 / 51 kg	
Side mounted separator	1.4571	SIHI-Part No.	35 000 535	
Service liquid pipework, standard execution	Steel 1.4571	SIHI-Part No.	35 003 112 35 003 113	35 003 115 35 003 117
Service liquid pipework, thermostatic control 24V	Steel + Brass 1.4571 + Brass	SIHI-Part No.	20 073 312 20 073 313	
Cavitation protection pipework	Steel, galvanised 1.4571	SIHI-Part No.	20 054 090 20 036 462	
Pressure pipework (bend)	1.0254 1.4571	SIHI-Part No.	35 003 224 35 003 226	
Liquid level indicator	Brass + Plexiglas 1.4571 + Plexiglas	SIHI-Part No.	43 014 912 43 040 384	
Sterling SIHI - Gas Ejector		Type / Weight	GPV 6011 / 47 kg	GPV 6012 / 47 kg
at service liquid temperature 15 °C		Type / Weight	GPV 6311 / 48 kg	GPV 6312 / 48 kg
at service liquid temperature 30 °C				
Sterling SIHI - Non Return Ball Valve				
Intermediate flange execution XCK 65	0.6025 + Butadiene rubber 0.6025 + Teflon 1.4408 + Teflon	SIHI-Part No. Weight	20 072 794 / 5.6 kg 20 072 793 / 5.6 kg 20 029 500 / 15.8 kg	
Flange execution with glass cylinder XCK 656	0.6025 + Butadiene rubber 0.6025 + Teflon 1.4408 + Teflon	SIHI-Part No. Weight	20 072 851 / 10.0 kg 20 072 852 / 10.0 kg 20 072 850 / 10.0 kg	
Drain Valve + Double nipple				
XCg 015	Steel + Teflon	SIHI-Part No.	43 166 248 + 43 013 086	
XCg 015	1.4571 + Teflon		43 014 547 + 43 013 097	
Air Inlet Valve + Double nipple				
	Brass 1.4408	SIHI-Part No.	43 045 945 + 43 013 090 43 053 736 + 43 013 091	
Motor standard execution IP 55		Size Power Weight	160 L 15.0 kW 85 kg	180 M 18.5 kW 113 kg
Coupling for motor IP 55 Pump side Motor side		Type / Weight SIHI-Part No.	B 125 / 6.2 kg 43 021 460 43 021 464	B 125 / 6.2 kg 43 021 460 43 021 462
Coupling guard ¹⁾	Steel	SIHI-Part No.	43 042 306	
Coupling guard ²⁾	Steel	SIHI-Part No.	43 042 304	
Motor in EEx e II T3 execution		Size Power Weight	180 M 15.0 kW 165 kg	180 L 17.5 kW 177 kg
Coupling for motor EEx e II T3 Pump side Motor side		Type / Weight SIHI-Part No.	BDS 135 / 6.6 kg 43 111 062 43 090 912	
Coupling guard ¹⁾	Brass	SIHI-Part No.	43 042 307	
Coupling guard ²⁾	Brass	SIHI-Part No.	43 042 305	
Baseplate		Type / Weight SIHI-Part No.	S 487 / 105 kg 43 040 642	S 388 / 95 kg 43 040 969

¹⁾ execution with mechanical seal

²⁾ execution with gland packing

Designs subject to change without prior notice.

Flowserve SIHI Germany GmbH

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