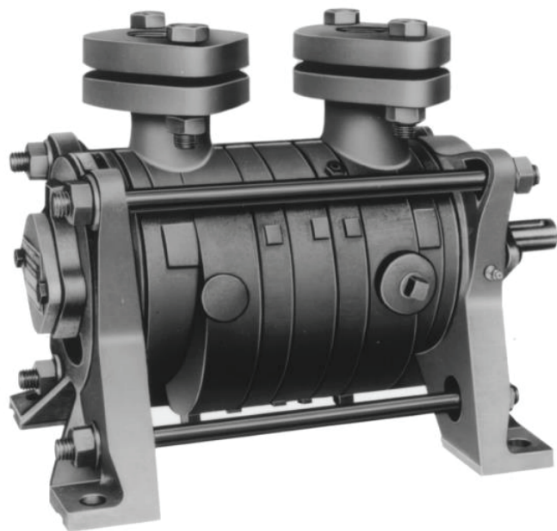


LOH, LEH, LEM, LEL series

Single-stage Liquid Ring Vacuum Pumps



**Bareshaft and close-coupled
displacement pumps.**



Contents

LOH

LOH 20103, 20107	3
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LEH

LEH 350, 450	11
LEH 600, 800, 900	20

LEM

LEM 90, 125, 150, LEL 90, 125, 150	30
LEM 25, 50	41
LEM 250, LEL 250	49
LEM 325, 425	59

LELC

LELC 90, 125, 150, 250, 325, 425	67
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LOH 20103, 20107

Single-stage Liquid Ring Vacuum Pumps



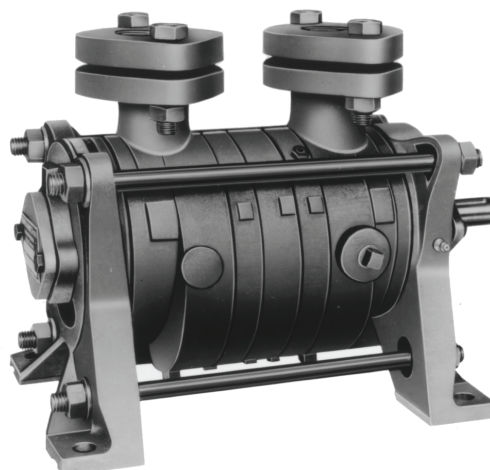
Pressure range: 150 to 1013 mbar
Suction volume flow: 7 to 58 m³/h

CONSTRUCTION TYPE

Sterling SIHI liquid ring vacuum pumps are displacement pumps of uncomplicated and robust construction with the following particular features:

- handling of nearly all gases and vapours
- non-polluting due to nearly isothermal compression
- oil-free, as no lubrication in the working chamber
- small quantities of entrained liquid can be handled
- easy maintenance and reliable
- Low noise and nearly free from vibration
- wide choice of material, therefore applicable nearly everywhere
- incorporated central drain
- no metallic contact of the rotating parts

The Sterling SIHI liquid ring vacuum pumps LOH 20103 and LOH 20107 are single-stage ones. They can be applied without modification as compressors up to a compression pressure of 1 bar (see catalogue part K).



APPLICATION

Handling and exhausting of dry and humid gases; entrained liquid can be handled during normal duty. The pumps are applied in all fields where a pressure of 150 to 900 mbar must be created by robust vacuum pumps.

Fields of application are for example:

- chemistry and pharmacy for distilling and degassing,
- electric industry for impregnation and drying
- plastics industry for degassing etc.

NOTE

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

Reuse of the service liquid is possible.

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

GENERAL TECHNICAL DATA

		Unit	LOH 20103	LOH 20107
Speed	50 Hz 60 Hz	rpm	2800 ¹⁾ 3400	2800 ¹⁾ 3400
Max. compression over pressure		bar		1
Max. admissible pressure difference		bar		1,5
Hydraulic test (over pressure)		bar		3
Moment of inertial of the rotating pump parts and of the water filling		kg · m²	0,0033	0,005
Sound pressure level at a suction pressure of 200 mbar		dB (A)		66 67
Min. pulley diameter permissible in case of V-belt drive		mm		80
Max. gas temperature	dry saturated	°C		240
		°C		120
Service liquid				
max. admissible temperature		°C		100
max. viscosity		mm²/s		90
max. density		kg/m³		1200
volume up to shaft level		liter	0,9	1,0
Max. flow resistance of heat exchanger		bar		0,2

The combination of several limiting values is not admissible.

¹⁾ normal speed

LOH 20103, 20107

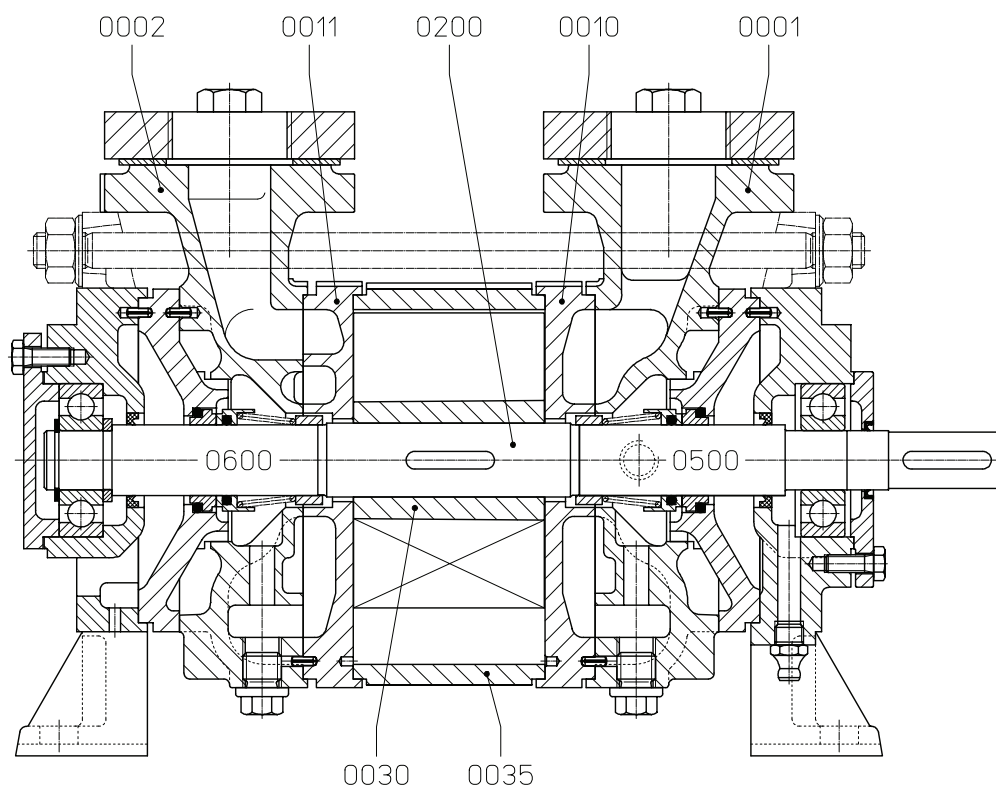
Single-stage Liquid Ring Vacuum Pumps



Material design

Item	COMPONENTS	MATERIAL DESIGN		
		01	02	42
0001, 0002	casing	0.6025		1.4408
0010, 0011	intermediate piece	0.6025		1.4408
0030	vane wheel impeller	RG 9	1.4027.05	1.4517
0035	central body	1.0570		1.4581
0200	shaft	1.4021		1.4401
0500, 0600	mechanical seal	Cr-steel / carbon / Perbunan		Cr Ni Mo-steel / carbon / Viton

Sectional drawing LOH 20103, LOH 20107

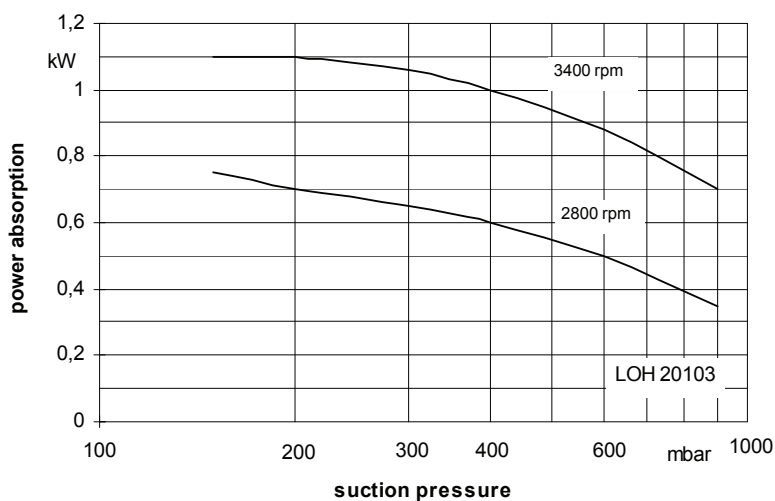
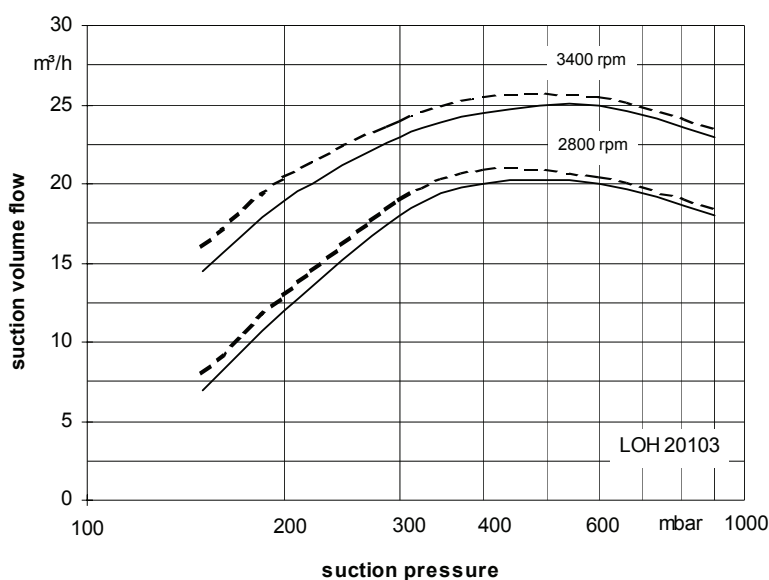


LOH 20103, 20107

Single-stage Liquid Ring Vacuum Pumps



Suction volume flow and power absorption LOH 20103



The operating data are applicable under the following conditions:

- pumping medium:
 - dry air: 20°C _____
 - water vapour saturated air: 20°C (dashed line)
- service liquid:
 - water: 15°C

Compression pressure 1013 mbar (atmospheric pressure)

The suction volume flow is applied to the suction pressure

Tolerance of the operating data 10% and of the power absorption 5%.

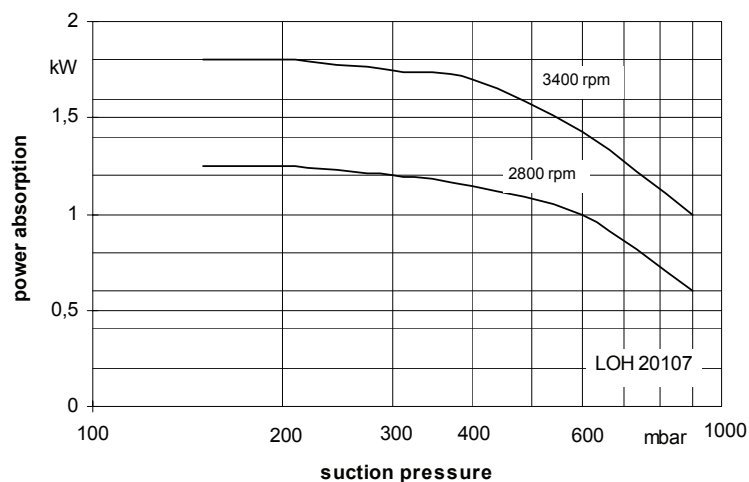
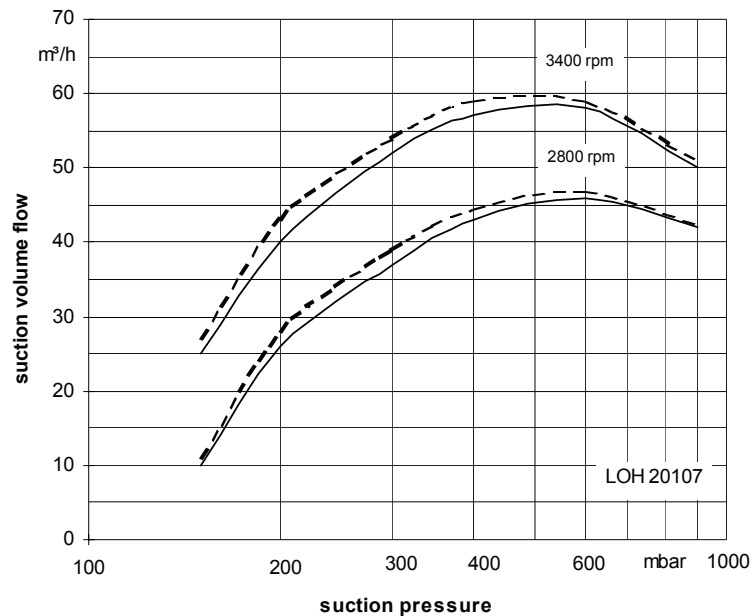
Max. fresh requirement at lowest suction pressure

LOH 20103, 20107

Single-stage Liquid Ring Vacuum Pumps



Suction volume flow and power absorption LOH 20107



The operating data are applicable under the following conditions:

- pumping medium:
 - dry air: 20°C _____
 - water vapour saturated air: 20°C -----
- service liquid:
 - water: 15°C

Compression pressure 1013 mbar (atmospheric pressure)

The suction volume flow is applied to the suction pressure.

Tolerance of the operating data 10% and of the power absorption 5%.

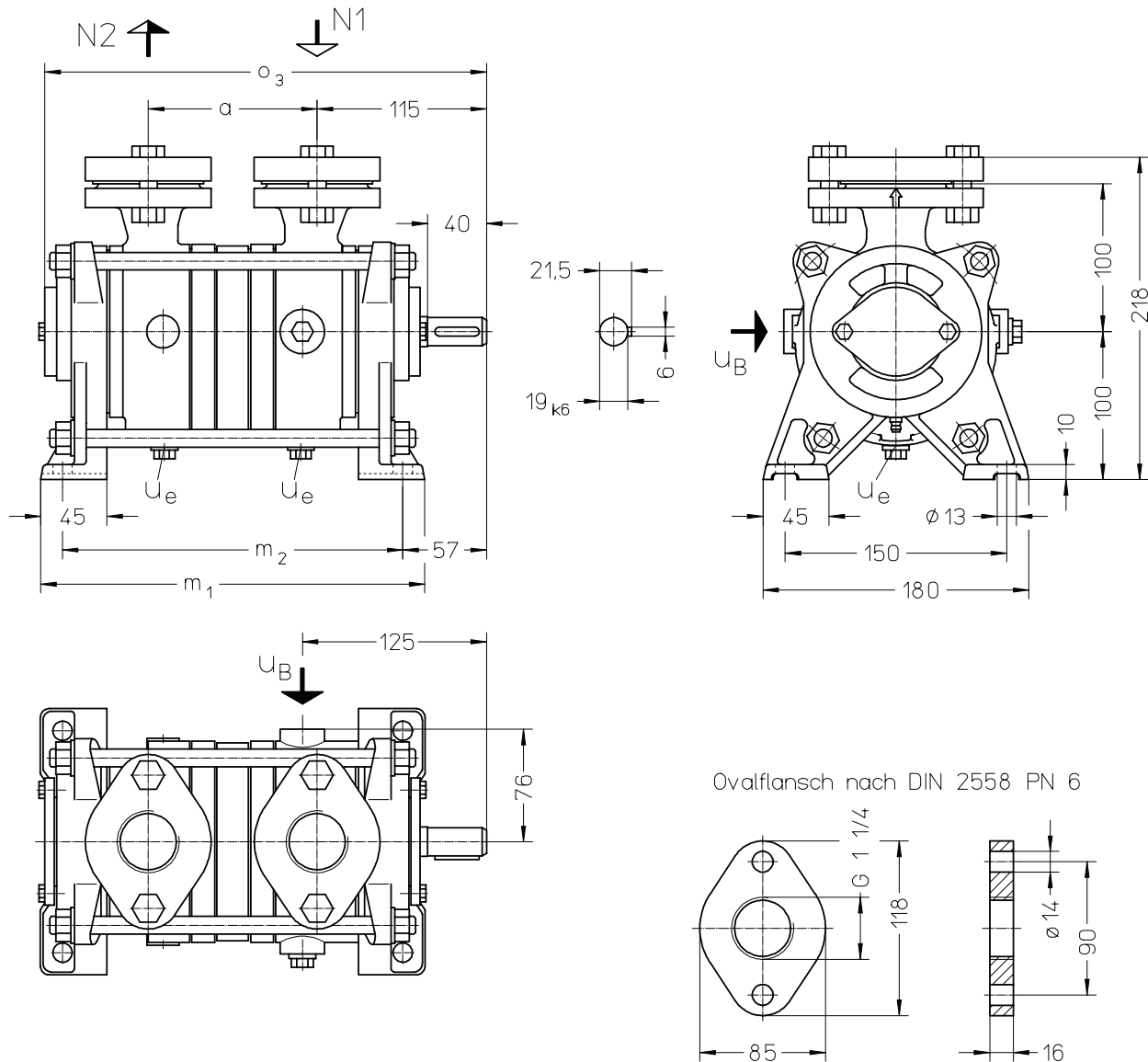
Max. fresh water requirement at lowest suction pressure.

LOH 20103, 20107

Single-stage Liquid Ring Vacuum Pumps



Dimension table LOH 20103, LOH 20107



	a	m_1	m_2	o_3	weight abt. kg
LOH 20103	114	260	230	299	20
LOH 20107	149	295	265	334	21

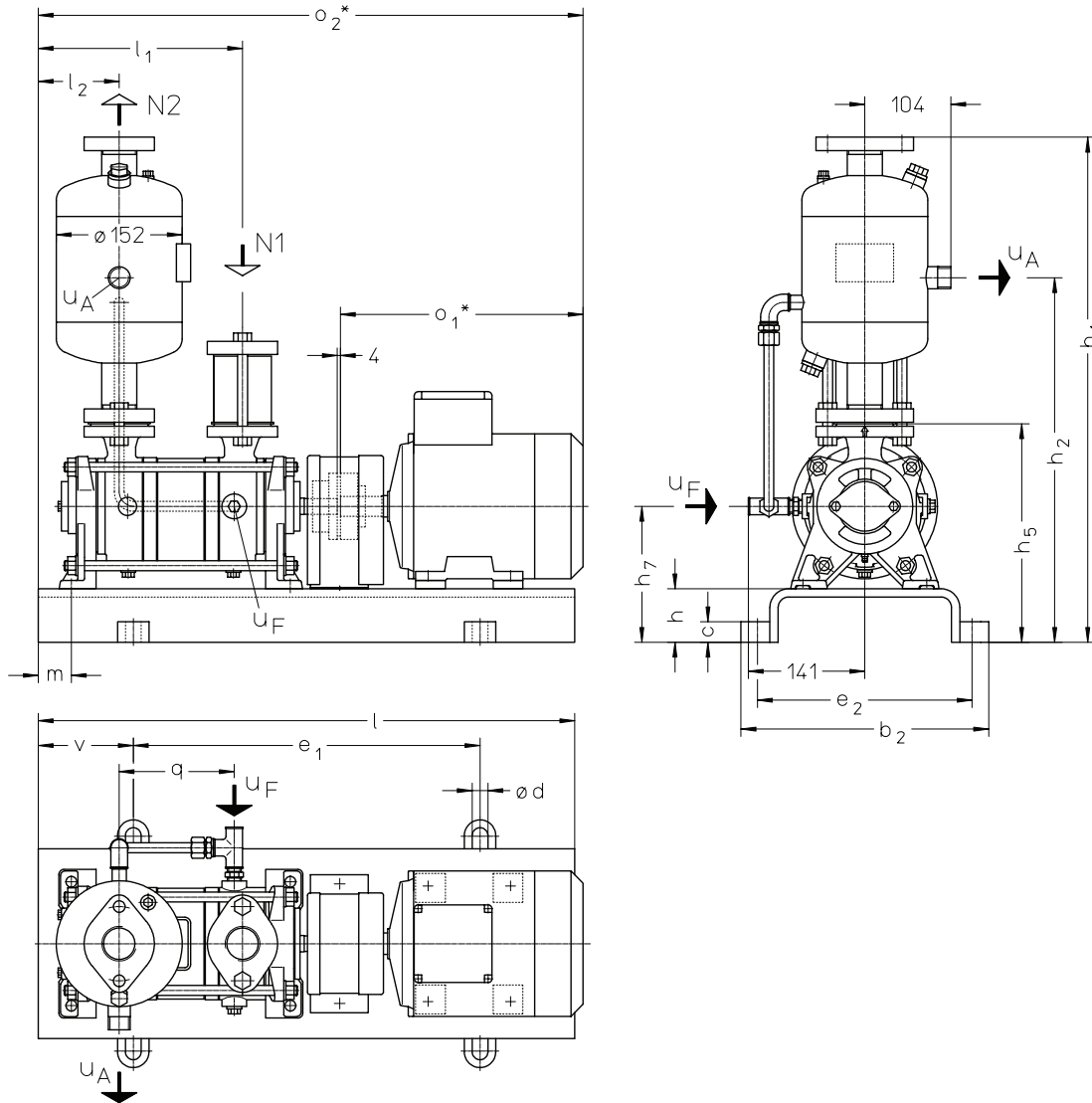
- N 1 = gas inlet G 1 1/4
- N 2 = gas outlet G 1 1/4
- u_B = connection for service liquid G 3/8
- u_e = drain connection G 1/4



LOH 20103, 20107

Single-stage Liquid Ring Vacuum Pumps

Arrangement drawing LOH 20103, LOH 20107 with overhead liquid separator



- N 1 = gas inlet G 1¼
N 2 = gas outlet G 1¼
u_A = connection for liquid drain G ¾
u_F = connection for fresh liquid G ¾

	electric motor 50 Hz			b ₂	c	d	e ₁	e ₂	h	h ₁	h ₂	h ₅	h ₇	l	l ₁	l ₂	m	o ₁ *	o ₂ *	q	v	weight abt. kg
	size	IP 55	EEExe II T3																			
LOH 20103	80a	0,75	-	317	20	15	350	285	35	612	412	235	135	570	212	98	40	274	605	104	110	45
	80b	1,1	-																			
	80a	-	0,75															272	603			
	80b	-	1,1																			
LOH 20107	80b	1,1	-	300	25	19	420	260	65	582	442	265	165	650	267	118	60	274	660	139	115	58
	80b	-	1,1															272	658			61
	90S	1,5	-															332	698			
	90S	-	1,5												247	98	40	294	660			
	90L	-	2															319	685			63

* dimensions dependent on motor make

LOH 20103, 20107

Single-stage Liquid Ring Vacuum Pumps



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

suction pressure mbar		150					400					600					900				
pump type	speed rpm	KB				FB	KB				FB	KB				FB	KB				FB
		difference in temperature °C					difference in temperature °C					difference in temperature °C					difference in temperature °C				
		20	10	5	2		20	10	5	2		20	10	5	2		20	10	5	2	
LOH 20103	2800	0,03	0,05	0,09	0,16	0,3	0,02	0,04	0,07	0,13	0,27	0,02	0,04	0,06	0,11	0,21	0,01	0,02	0,04	0,06	0,1
	3400	0,04	0,07	0,12	0,18		0,04	0,07	0,11	0,17		0,03	0,06	0,09	0,14		0,02	0,04	0,05	0,08	
LOH 20107	2800	0,05	0,08	0,13	0,21	0,35	0,04	0,07	0,11	0,17	0,27	0,04	0,06	0,09	0,14	0,21	0,02	0,03	0,05	0,07	0,1
	3400	0,06	0,11	0,16	0,24		0,06	0,09	0,14	0,20		0,05	0,08	0,11	0,16		0,03	0,05	0,06	0,08	

FB = fresh liquid service

KB = combined liquid service with service water 20 °C, 10°C, 5°C or 2°C warmer than the fresh water

Data regarding the pump size - order notes

series + size	hydraulics + bearings	shaft sealing	material design	casing seal
	B• 2 antifriction bearings •N 1 shaft end, clockwise	131 mechanical seal	01 main parts grey cast iron 02 as above, without non-ferrous parts 42 Main parts of stainless steel	0 liquid seal
LOH 20103 20107	BN	131	01. 02. 42	0

Design- Motor selection table

	designation	electric motor 50 Hz					
pump with free shaft end	01	motor enclosure IP 55			motor enclosure EEx e II T3		
pump with coupling pre-drilled at motor side	04	kW	size	designation	kW	size	designation
as above but with motor	e.g. GA	0,75	80 A	FA	0,75	80 A	FJ
for example 1,1 kW three-phase motor		1,1	80 B	GA	1,1	80 B	GJ
(50 Hz, 230 VΔ) with 2800 rpm		1,5	90 S	HA	1,5	90 S	HJ
					2	90 L	JJ

Example for ordering:

The construction size LOH 20103 BN 131 02 0 with 1,1 kW three-phase ac motor (50 Hz, 230 VΔ) 2800 rpm has the complete order number.:

LOH• 20103 BN 131 02 0 GA

If motors with the other voltage or frequency are required a special information should be given.

On delivery the point (•) in the fourth place of the type code is replaced by a letter in the factory.

LOH 20103, 20107

Single-stage Liquid Ring Vacuum Pumps



Accessories

Recommended accessories		LOH 20103	LOH 20107
Overhead liquid separator material design 130 / steel galvanized 172 / 1.4571 service liquid line material design 072 / St 37-0 172 / 1.4571	type weight SIHI part No.	XBa 342 5 kg 35 000 377 35 000 378	
	SIHI part No.	20 054 559 20 054 560	
Non-return valve material design 767 / GG-25+Perbunan 784 / 1.4408+Teflon	type/weight SIHI part No.	XCk 32 / 1,2 kg resp. 3,1 kg 20 072 744 20 029 488	
Motor in case of standard design IP 55 EEx e II T3	size power weight	80 A 0,75 kW 8 kg	80 B 1,1 kW 10 kg
	size power weight	80 B 1,1 kW 10 kg	90 S 1,5 kW 13 kg
	size power weight	80 A 0,75 kW 11 kg	80 B 1,1 kW 12 kg
	size power weight	80 B 1,1 kW 12 kg	90 S 1,5 kW 14 kg
	size power weight		90 L 2 kW 16 kg
Coupling for motor IP 55 pump side motor side (for motor 80 A and 80 B) motor side (for motor 90 S) for motor EEx e II T3 pump side motor side (for motor 80 A and 80 B) motor side (for motor 90 S and 90 L)	type / weight SIHI part No.	B 80 / 1,5 kg 43 021 409 43 021 420 43 039 231	
	type / weight SIHI part No.	BDS 88 / 2 kg 43 024 676 43 025 933 43 028 108	
contact safety device material design 076 / steel 345 / 2.0321	SIHI part No.	43 042 201 43 042 202	
base frame material design 081 / RSt 37-2	type / weight SIHI part No.	S 007 / 8 kg 43 040 647	S 210 / 19,3 kg 43 040 630

LEH 350, 450

Single-stage Liquid Ring Vacuum Pumps



Pressure range: 33 to 1013 mbar
Suction volume flow: 120 to 535 m³/h

CONSTRUCTION TYPE

SIHI liquid ring vacuum pumps are displacement pumps of uncomplicated and robust construction with the following particular features:

- non-polluting due to nearly isothermal compression
- oil-free, as no lubrication in the working chamber
- handling of nearly all gases and vapours
- small quantities of entrained liquid can be handled
- easy maintenance and reliable operation
- low noise and nearly free from vibration
- wide choice of material, therefore applicable nearly everywhere
- internal service liquid return; adjustable from outside
- protection against cavitation as standard
- incorporated dirt drain
- incorporated central drain
- no metallic contact of the rotating parts

The SIHI liquid ring vacuum pumps LEH are single-stage ones.



NOTE

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

It is possible to reuse the service liquid. The pumps are equipped with a device by which the contaminated service liquid can continuously be drained during operation (dirt drain), if necessary.

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

APPLICATION

Handling and exhausting of dry and humid gases; entrained liquid can be handled during normal duty. The pumps are applied in all fields where a pressure of 33 to 900 mbar must be created by robust vacuum pumps.

Fields of application are for example:

- chemistry and pharmacy for distilling and degassing
- electric industry for impregnation and drying
- plastics industry for degassing etc.

GENERAL TECHNICAL DATA

Pump type	unit	LEH 350	LEH 450
Speed	50 Hz 60 Hz		1450 1750
Max. compression over pressure	bar		1,5
Max. admissible pressure difference	bar		1,5
Hydraulic test (over pressure)	bar		3
Moment of inertial of the rotating pump parts and of the water filling	kg · m²	0,13	0,19
Sound pressure level at a suction pressure of 80 mbar	dB (A)	66	67
Min. Pulley diameter permissible in case of V-belt drive	mm		200
Max. gas temperature	dry °C saturated °C		200 100
Service liquid			
max. admissible temperature	°C		80
max. viscosity	mm²/s		90
max. density	kg/m³		1200
volume up to shaft level	liter	7	10
Max. flow resistance of the heat exchanger	bar		0,2

The combination of several limiting values is not admissible.

LEH 350, 450

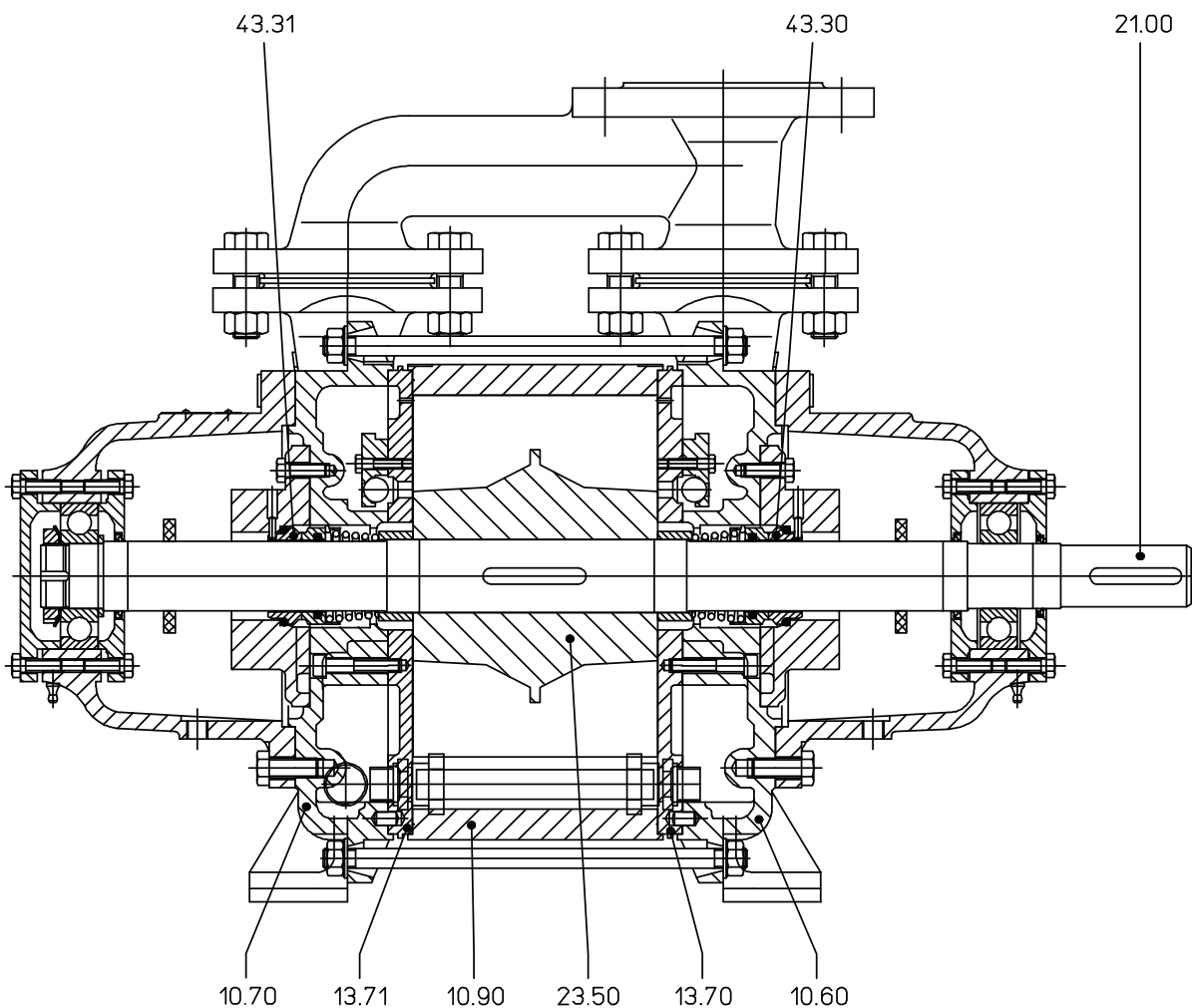
Single-stage Liquid Ring Vacuum Pumps



Material design

Item	COMPONENTS	MATERIAL DESIGN	
		0A	4B
10.60, 10.70	Casing	0.6025	1.4408
10.90	Central body		1.4581
13.70, 13.71	Guide disk		1.4408
21.00	Shaft	1.4021	1.4401
23.50	Vane wheel impeller	2.1096.01	1.4517
43.30, 43.31	Mechanical seal	Cr-steel / carbon / Perbunan	Cr Ni Mo-steel / carbon / Viton

Sectional drawing LEH 350, LEH 450

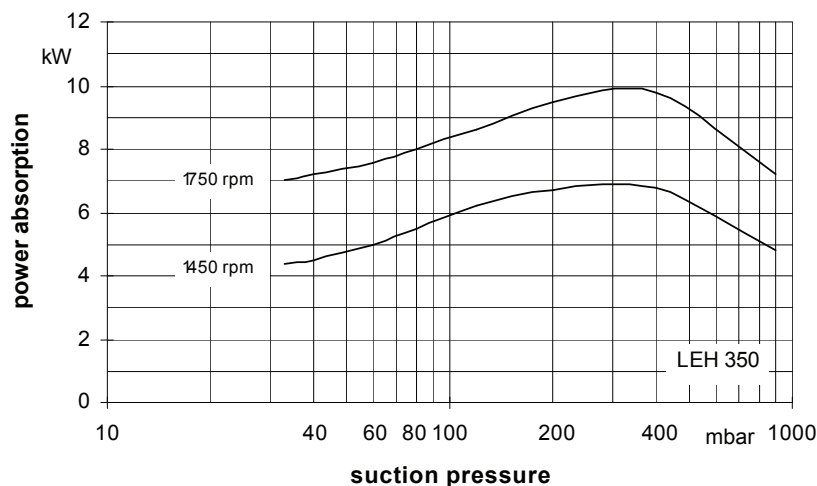
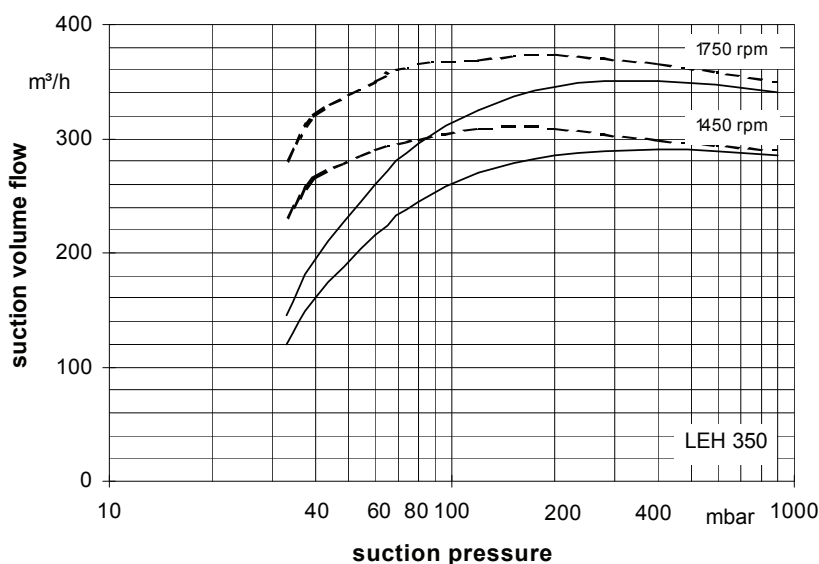


LEH 350, 450

Single-stage Liquid Ring Vacuum Pumps



Suction volume flow and power absorption LEH 350



The operating data are applicable under the following conditions:

- pumping medium:
 - dry air: 20°C _____
 - water vapour saturated air: 20°C - - - - -
- service liquid:
 - water: 15°C _____

Compression pressure 1013 mbar (atmospheric pressure)

The suction volume flow is applied to the suction pressure

Tolerance of the operating data 10%

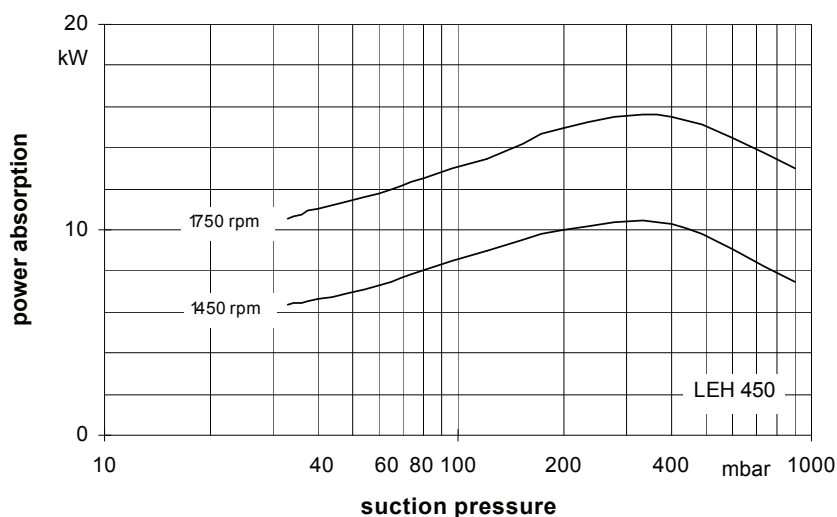
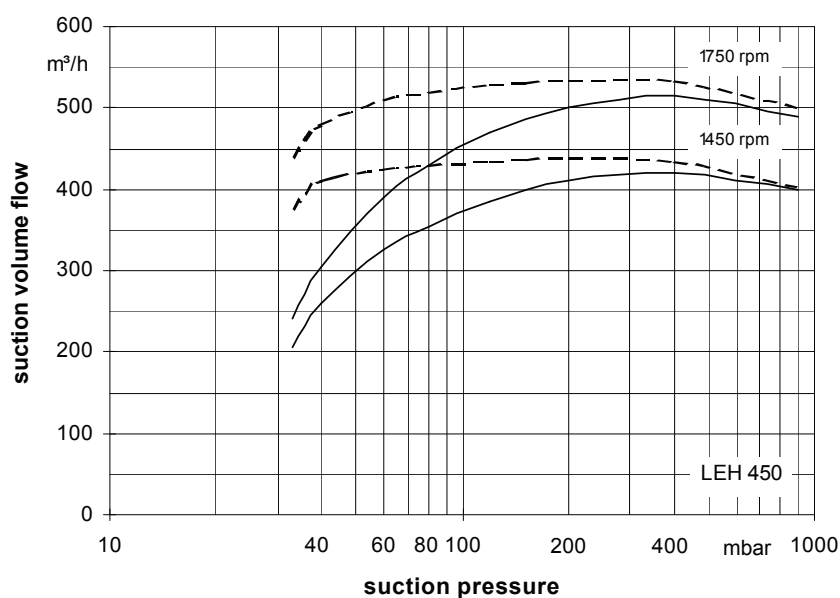
Max. fresh water need with the lowest suction pressure

LEH 350, 450

Single-stage Liquid Ring Vacuum Pumps



Suction volume flow and power absorption LEH 450



The operating data are applicable under the following conditions:

- pumping medium:
 - dry air: 20°C _____
 - water vapour saturated air: 20°C -----
- service liquid:
 - water: 15°C

Compression pressure 1013 mbar (atmospheric pressure)

The suction volume flow is applied to the suction pressure

Tolerance of the operating data 10%

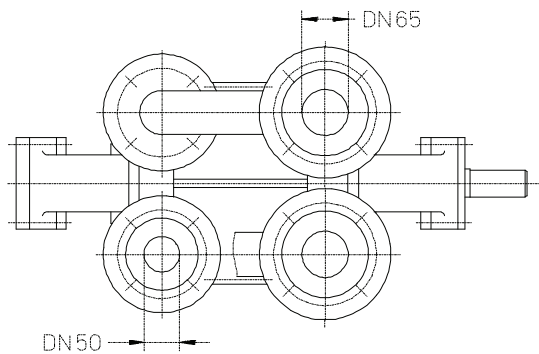
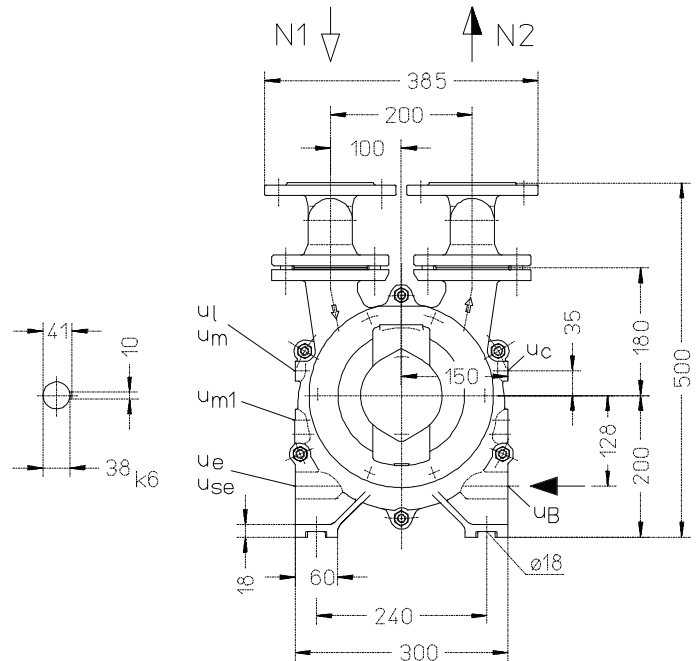
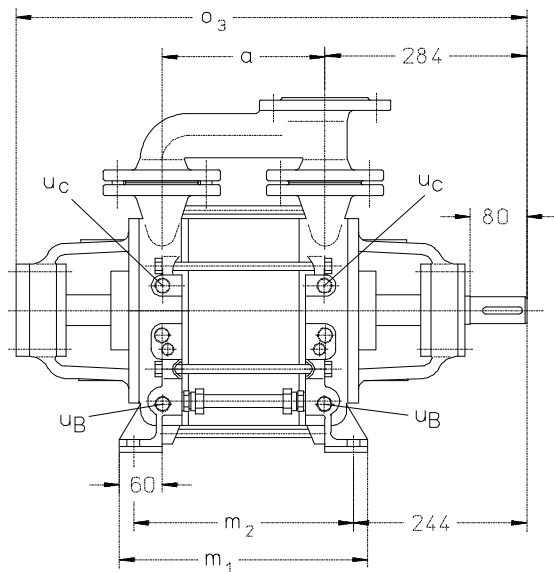
Max. fresh water need with the lowest suction pressure



LEH 350, 450

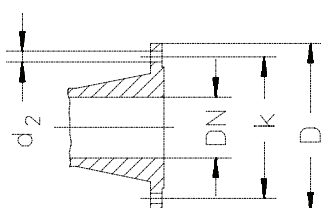
Single-stage Liquid Ring Vacuum Pumps

Dimension table LEH 350, LEH 450



- N 1 = gas inlet DN 65
- N 2 = gas outlet DN 65
- u_B = connection for service liquid G ¾
- u_C = connection for protection against cavitation G ¾
- u_e = drain connection G ½
- u_I = connection for vent cock G ½
- u_M = connection for pressure gauge G ½
- u_{M1} = connection for drain valve G ½
- u_{se} = connection for dirt drain G ½

	a	m ₁	m ₂	o ₃	weight app. kg
LEH 350	230	350	310	720	140
LEH 450	302	422	382	792	157



flange connections to DIN 2501 PN 10

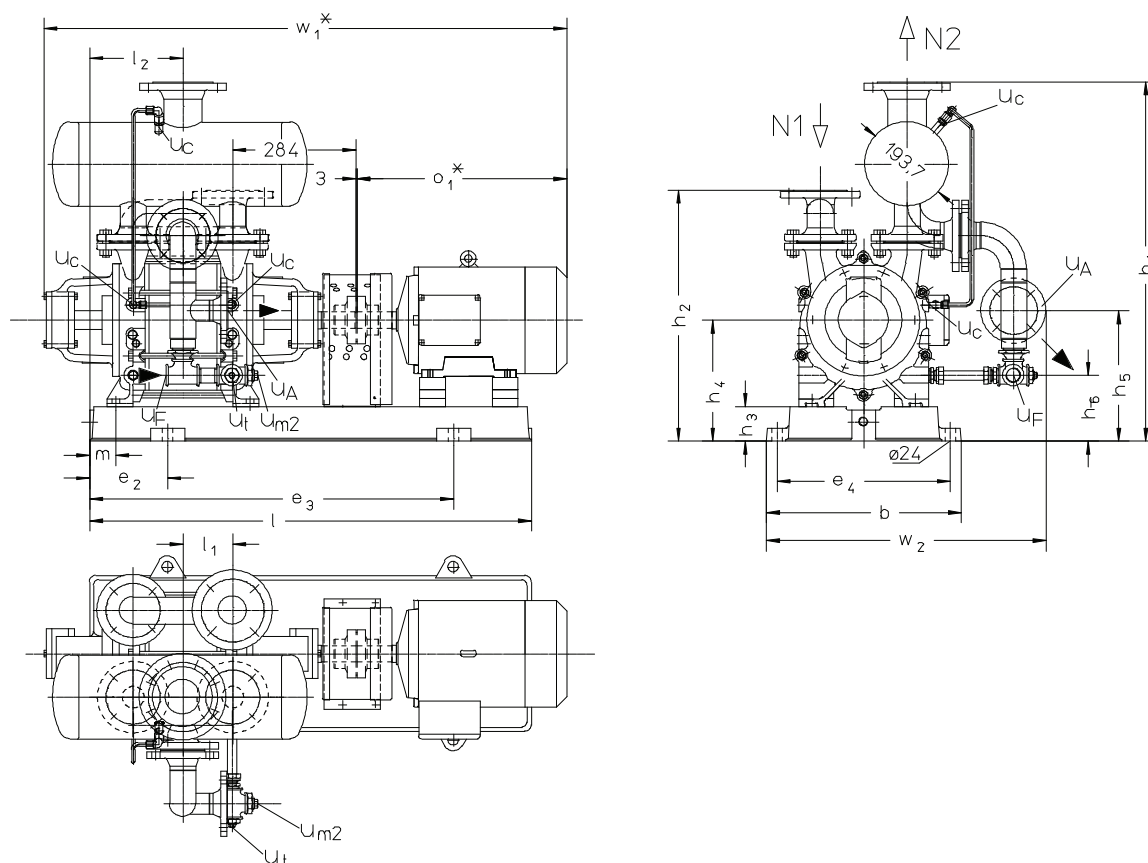
DN	50	65
k	125	145
D	165	185
number x d ₂	4 x 18	4 x 18



LEH 350, 450

Single-stage Liquid Ring Vacuum Pumps

Arrangement drawing LEH 350, LEH 450 with overhead liquid separator

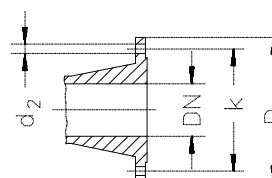


- N 1 = gas inlet DN 65
- N 2 = gas outlet DN 80
- uA = connection for liquid drain DN 40
- uc = connection for protection against cavitation G 1/4
- uF = connection for fresh liquid G 1
- um2 = connection for pressure gauge G 1/2
- ut = connection for thermometer G 1/4

	electric motor 50 Hz			b	e2	e3	e4	h1	h2	h3	h4	h5	h6	l	l1	l2	m	o1*	w1*	w2	weight app. kg
	size	IP 55	kW EEEx e II T3																		
LEH 350	132 M	7,5	-	450	180	840	400	830	580	80	280	302	152	1020	115	215	60	485	1208	646	285
	160 M	-	10		190	930								1120				583	1306		385
LEH 450	160 M	11	-	488	205	1045	440	860	610	110	310	332	182	1250	151	251		627	1422	665	374
	160 L	-	13,5																		445

flange connections to DIN 2501 PN 10			
DN	40	65	80
k	110	145	160
D	150	185	200
number x d2	4 x 18	4 x 18	8 x 18

* dimensions dependent on the motor make

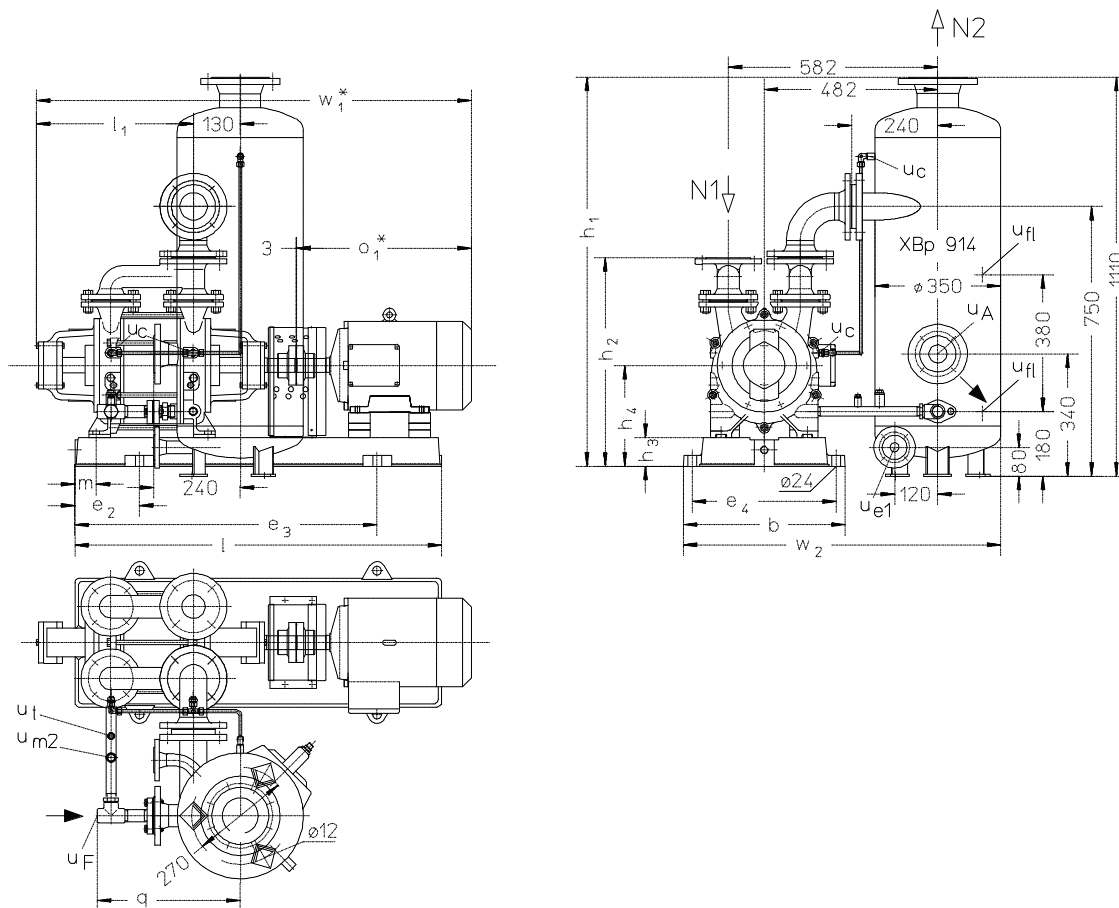




LEH 350, 450

Single-stage Liquid Ring Vacuum Pumps

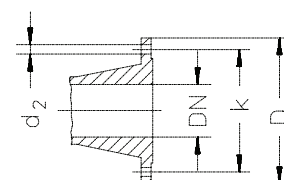
Arrangement drawing LEH 350, LEH 450 with upright liquid separator



- | | | | | | |
|-----------------|---|--|-----------------|---|---|
| N 1 | = | gas inlet DN 65 | u _F | = | connection for fresh liquid G 1 |
| N 2 | = | gas outlet DN 100 | u _{fl} | = | connection for liquid level indicator G ½ |
| u _A | = | connection for liquid drain DN 50 | u _{m2} | = | connection for pressure gauge G ½ |
| u _c | = | connection for protection against cavitation G ¼ | u _t | = | connection for thermometer G ¼ |
| u _{e1} | = | drain connection DN 25 | | | |

	electric motor 50 Hz			b	e ₂	e ₃	e ₄	h ₁	h ₂	h ₃	h ₄	l	l ₁	m	o ₁ *	q	w ₁ *	w ₂	weight app. kg
	size	IP 55	kW EEEx e II T3																
LEH 350	132 M	7,5	-	450	180	840	400	1082	580	80	280	1020	436	60	485	397	1208	882	310
	160 M	-	10		190	930											1306		410
LEH 450	160 M	11	-	488	205	1045	440	1112	610	110	310	1250	508		627	469	1422	901	400
	160 L	-	13,5																470

flange connections to DIN 2501 PN 10				
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



* dimensions dependent on the motor make

LEH 350, 450

Single-stage Liquid Ring Vacuum Pumps



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

Suction pressure in [mbar]		33				120				200				400			
pump	speed	KB			FB	KB			FB	KB			FB	KB			FB
		difference in temperature [°C]				difference in temperature [°C]				difference in temperature [°C]				difference in temperature [°C]			
	[rpm]	10	5	2	10	5	2	10	5	2	10	5	2	10	5	2	
LEH 350	1450	0,33	0,58	1,08	2,5	0,43	0,71	1,19	2,2	0,44	0,72	1,14	1,9	0,40	0,62	0,90	1,3
	1750	0,48	0,81	1,37		0,55	0,88	1,36		0,57	0,88	1,30		0,51	0,73	0,99	
LEH 450	1450	0,45	0,76	1,31		0,57	0,90	1,38		0,59	0,90	1,32		0,53	0,75	1,00	
	1750	0,67	1,05	1,61		0,75	1,12	1,57		0,77	1,09	1,47		0,66	0,87	1,09	

FB =fresh liquid service

KB =combined liquid service with service water 10 °C, 5 °C, 2 °C warmer than the fresh water.

Data regarding the pump size - order notes

series + size	hydraulics +bearings	shaft sealing	material design	casing seal
	A• hydraulic A •B two grease lubricated antifriction bearings	AAE mechanical seal O-rings Perbunan AA1 as AAE, but O-rings Viton	0A main parts of GG 4B main parts of Cr Ni Mo-cast steel	0 liquid seal
LEH 350 450	AB	AAE, AA1	0A, 4B	0

Design - Motor selection table

	designation	electric motor 50 Hz					
pump with free shaft end	01	motor enclosure IP 55			motor enclosure EEx e II T3		
pump with coupling, pre-drilled at motor side	04	kW	size	designation	kW	size	designation
as above, but with motor, for example 11 kW three-phase motor	e.g. SB	7,5	132 M	PB	10	160 M	SK
(50 Hz, 400 VΔ) at 1450 rpm		11	160 M	SB	13,5	160 L	UK

Example for ordering:

The construction size LEH 450 AB AAE 0A 0 with 11 kW three-phase motor (50 Hz, 400 VΔ) 1450 rpm has the complete order number:

LEH• 450 AB AAE 0A 0 SB

If motors with other voltage or frequency are required a special information should be given.

On delivery the point (•) in the fourth place of the type code is replaced by a letter in the factory.

LEH 350, 450

Single-stage Liquid Ring Vacuum Pumps



Accessories

Recommended accessories		LEH 350	LEH 450
Overhead liquid separator	type	XBa 2160	XBa 2460
	weight	30 kg	35 kg
	SIHI part No.	35 000 422	35 000 426
	material design	130 / galvanized 172 / 1.4571	35 000 427
	service liquid line		
	material design	072 / St 37-0 172 / 1.4571	35 009 126
Upright liquid separator	SIHI part No.	35 003 104	35 003 106
	service liquid line		
	material design	072 / St 37-0 172 / 1.4571	20 044 089
	SIHI part No.	20 044 091	20 044 090
	material design	072 / St 37-0 172 / 1.4571	
	SIHI part No.	20 044 092	
SIHI- gas ejector	type	XBp 914	
	weight	53 kg	
	SIHI part No.	35 000 540	
	material design	130 / galvanized 172 / 1.4571	
	service liquid line	35 000 541	
	SIHI part No.	35 008 807	
SIHI- ball non-return valve	material design	072 / St 37-0 172 / 1.4571	35 003 147
	suction line (bend)		35 005 772
	material design	072 / St 37-0 172 / 1.4571	
	SIHI part No.	35 003 220	
	service liquid line	35 003 221	
	material design	072 / St 37-0 172 / 1.4571	20 043 952
SIHI- gas ejector	SIHI part No.	20 043 955	20 043 953
	at service liquid temperature	15 °C	
	at service liquid temperature	30 °C	
	GEV 350 A		GEV 450 A
	GEV 350 B		GEV 450 B
Motor in case of standard design	type	XCk 65	
	weight	5,6 kg resp. 15,8 kg	
	SIHI part No.	43 016 894	
	material design	767 / GG-25 784 / 1.4408	
		43 039 285	
Coupling	size	132 M	160 M
	power	7,5 kW	11 kW
	weight	50 kg	77 kg
	size	160 M	160 L
	power	10 kW	13,5 kW
	weight	120 kg	147 kg
Coupling	type	B 95	B 110
	weight	2,6 kg	3,9 kg
	SIHI part No.	43 021 429	43 021 446
	material design	43 021 433	43 021 448
	type	BDS 118	BDS 135
	weight	4 kg	6,5 kg
contact safety device	SIHI part No.	43 025 958	43 028 122
	material design	43 000 737	43 036 564
	076 / steel		
	345 / 2.0321		
	SIHI part No.	35 004 637	35 004 639
		35 004 640	
Base frame	type	P 344	-
	weight	48 kg	
	SIHI-Teil Nr.	43 016 852	
	type	-	S 386
	weight		90 kg
	SIHI part No.		35 000 008
Base frame	for motor IP 55		
	003 / GG-25		
	081 / RSt 37-2		
	for motor EEx e II T3		
	081 / RSt 37-2		
Base frame	type	S 385	S 386
	weight	81 kg	90 kg
	SIHI part No.	35 000 006	35 000 008

LEH 600, 800, 900

Single-stage Liquid Ring Vacuum Pumps



Pressure range: 33 to 1013 mbar
Suction volume flow: 215 to 1000 m³/h

CONSTRUCTION TYPE

SIHI liquid ring vacuum pumps are displacement pumps of uncomplicated and robust construction with the following particular features:

- non-polluting due to nearly isothermal compression
- oil-free, as no lubrication in the working chamber
- handling of nearly all gases and vapours
- small quantities of entrained liquid can be handled
- easy maintenance and reliable operation
- low noise and nearly free from vibration
- wide choice of material, therefore applicable nearly everywhere
- Internal service liquid return; adjustable from the outside
- protection against cavitation as standard
- incorporated dirt drain
- incorporated central drain
- no metallic contact of the rotating parts

The SIHI liquid ring vacuum pumps LEH are single-stage ones.

APPLICATION

Handling and exhausting of dry and humid gases; entrained liquid can be handled during normal duty. The pumps are applied in all fields where a pressure of 33 to 900 mbar must be created by robust vacuum pumps.

Fields of application are for example:

- chemistry and pharmacy for distilling and degassing,
- electric industry for impregnation and drying
- plastics industry for degassing etc.



NOTE

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

It is possible to reuse the service liquid. The pumps are equipped with a device by which the contaminated service liquid can continuously be drained during operation (dirt drain), if necessary.

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

GENERAL TECHNICAL DATA

Pump type		unit	LEH 600	LEH 800	LEH 900
Speed	50 Hz 60 Hz	rpm		1450 1750	
Max. compression over pressure		bar		1,5	
Max. admissible pressure difference		bar		1,5	
Hydraulic test (over pressure)		bar		3	
Moment of inertial of the rotating pump parts and of the water filling		kg · m²	0,36	0,43	0,51
Sound pressure level at a suction pressure of 80 mbar		dB (A)	74	75	76
Min. pulley diameter permissible in case of V-belt drive		mm	300	355	355
Max. gas temperature	dry saturated	°C °C		200 100	
Service liquid					
max. admissible temperature		°C		80	
max. viscosity		mm²/s		90	
max. density		kg/m³		1200	
volume up to shaft level		liter	13	14	15,8
Max. flow resistance of the heat exchanger		bar		0,2	

The combination of several limiting values is not admissible.

LEH 600, 800, 900

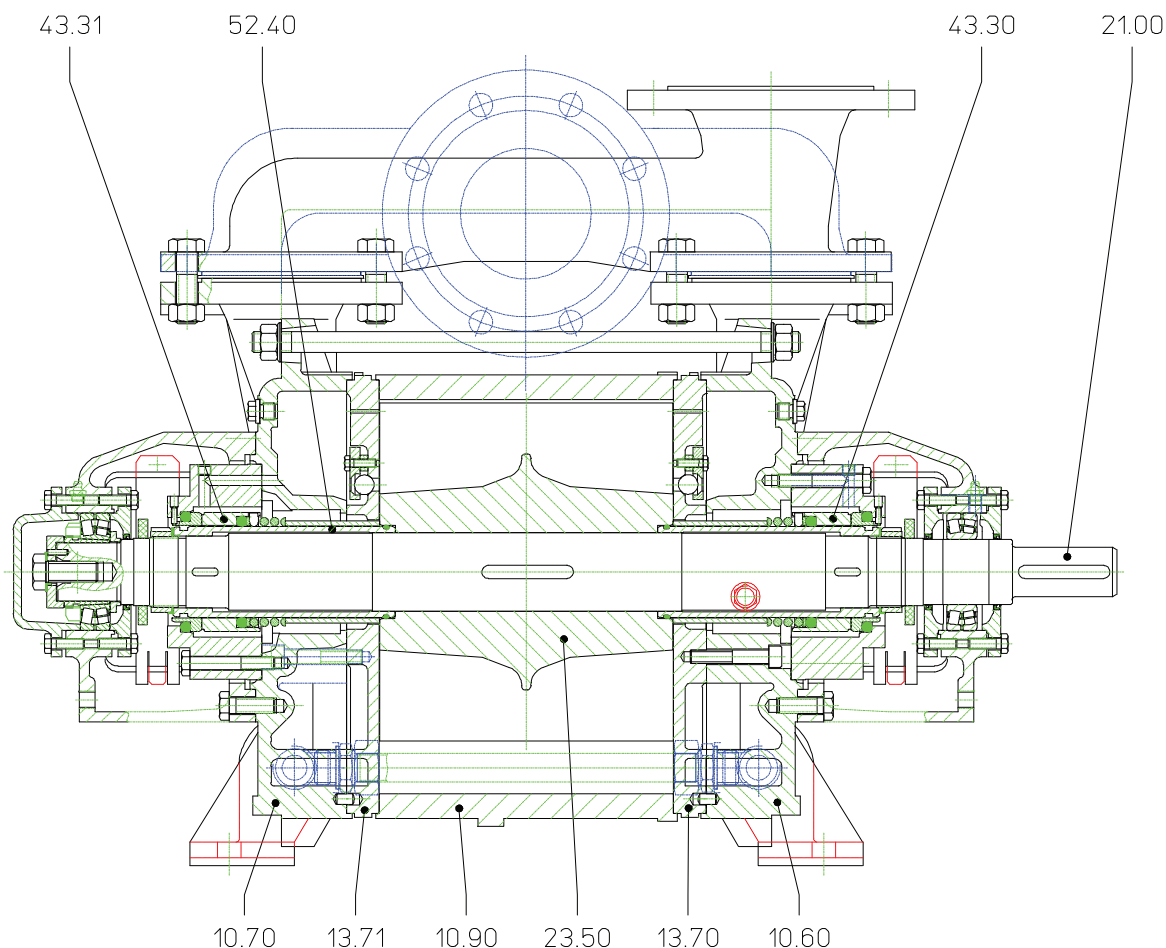
Single-stage Liquid Ring Vacuum Pumps



Material design

Item	COMPONENTS	MATERIAL DESIGN	
		0S	4S
10.60, 10.70	Casing	0.6025	1.4408
10.90	Central body		1.4581
13.70, 13.71	Guide disk		1.4408
21.00	Shaft	1.0503	
23.50	Vane wheel impeller	0.7043	1.4517
43.30, 43.31	Standard mechanical seal	Cr-steel / carbon / Perbunan	Cr Ni Mo-steel / carbon / Viton
52.40	Shaft sleeve	1.4027.05	1.4571

Sectional drawing LEH 600, LEH 800, LEH 900

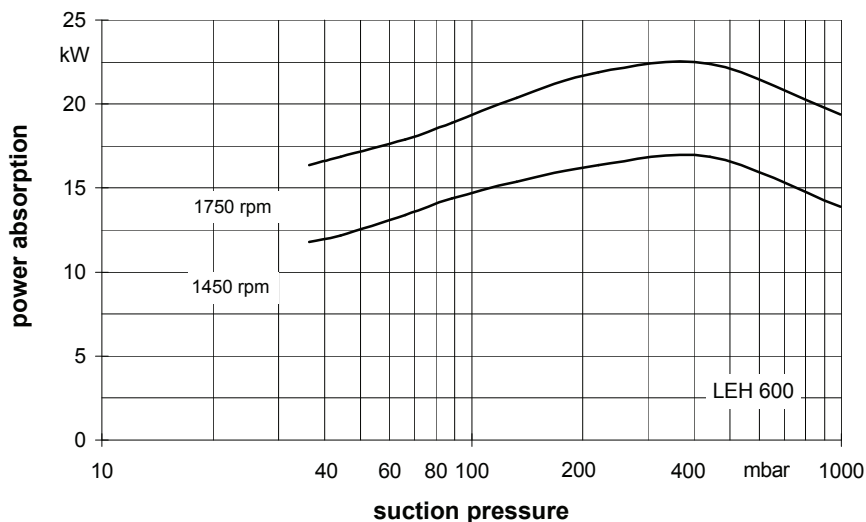
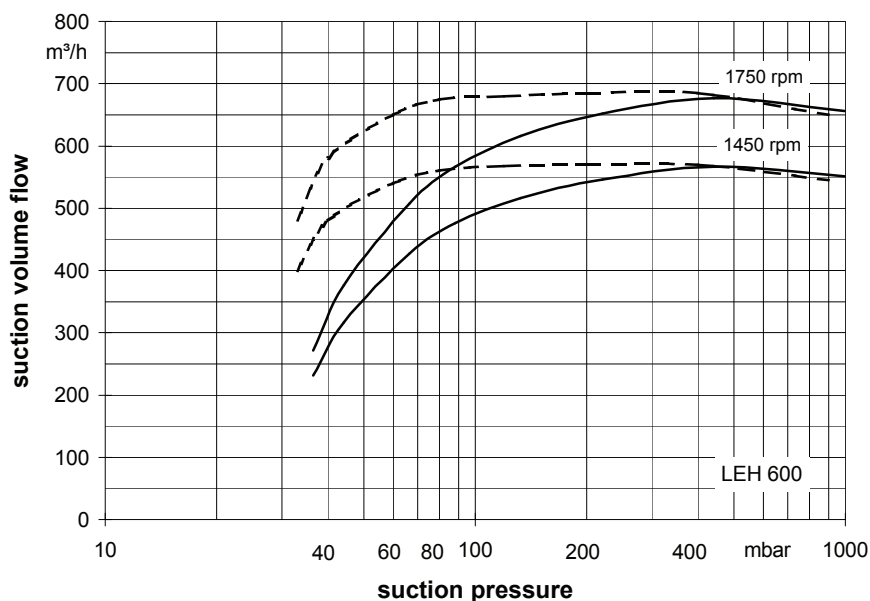


LEH 600, 800, 900

Single-stage Liquid Ring Vacuum Pumps



Suction volume flow and power absorption LEH 600



The operating data are applicable under the following conditions:

- pumping medium:
 - dry air: 20°C _____
 - water vapour saturated air: 20°C - - - - -
- service liquid:
 - water: 15°C

Compression pressure 1013 mbar (atmospheric pressure)

The suction volume flow is applied to the suction pressure

Tolerance of the operating data 10%

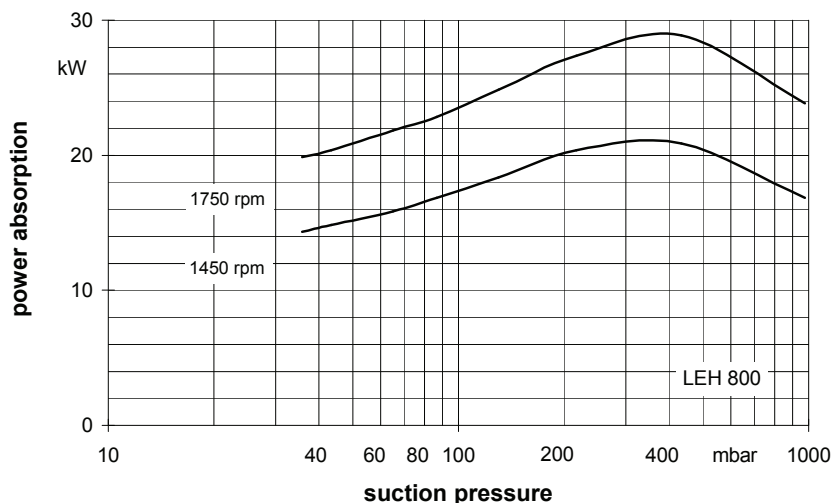
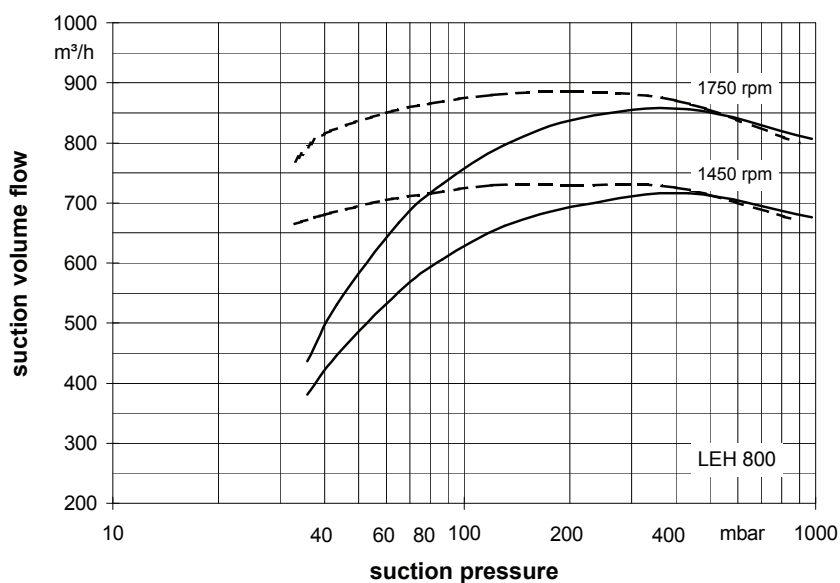
Max. fresh water need with lowest suction pressure

LEH 600, 800, 900

Single-stage Liquid Ring Vacuum Pumps



Suction volume flow and power absorption LEH 800



The operating data are applicable under the following conditions:

- pumping medium:
 - dry air: 20°C _____
 - water vapour saturated air: 20°C - - - - -
- service liquid:
 - water: 15°C

Compression pressure 1013 mbar (atmospheric pressure)

The suction volume flow is applied to the suction pressure

Tolerance of the operating data 10%

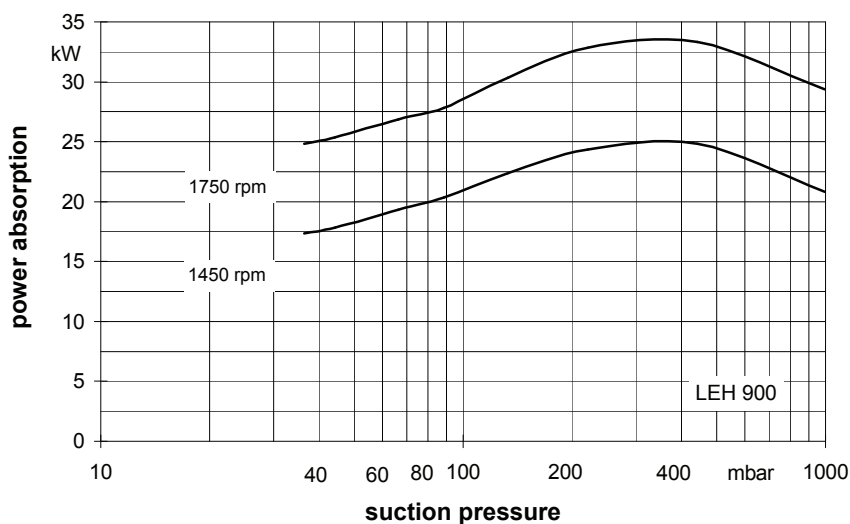
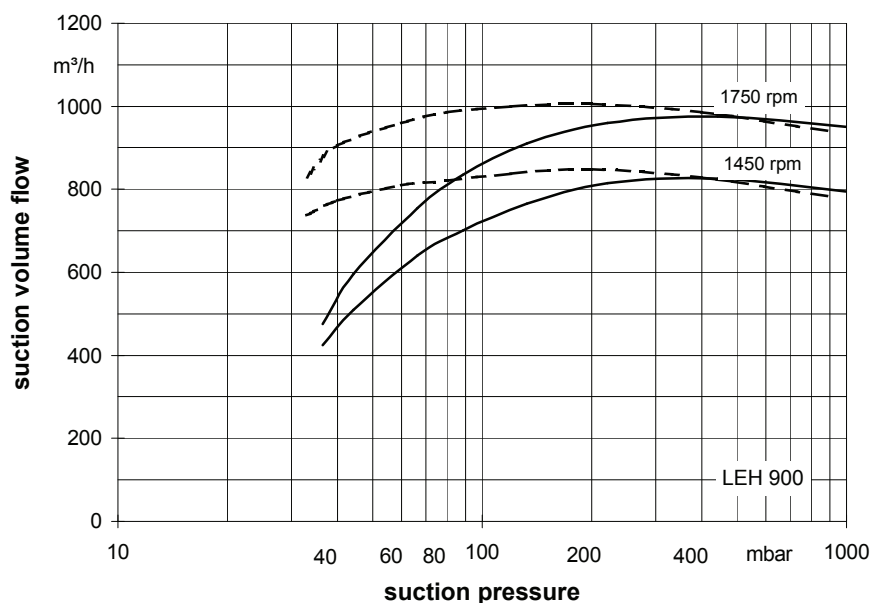
Max. fresh water need with lowest suction pressure

LEH 600, 800, 900

Single-stage Liquid Ring Vacuum Pumps



Suction volume flow and power absorption LEH 900



The operating data are applicable under the following conditions:

- pumping medium:
 - dry air: 20°C _____
 - water vapour saturated air: 20°C - - - - -
- service liquid:
 - water: 15°C

Compression pressure 1013 mbar (atmospheric pressure)

The suction volume flow is applied to the suction pressure

Tolerance of the operating data 10%

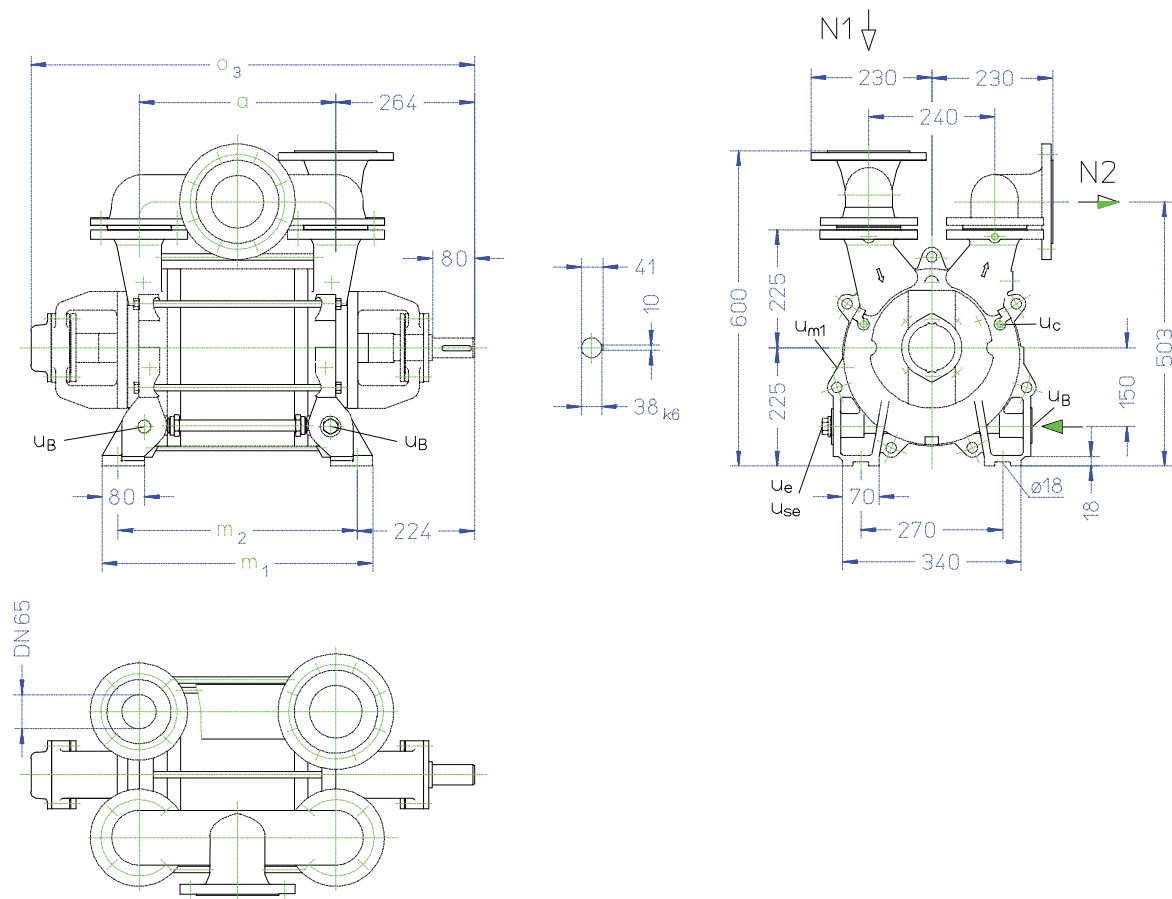
Max. fresh water need with lowest suction pressure

LEH 600, 800, 900

Single-stage Liquid Ring Vacuum Pumps



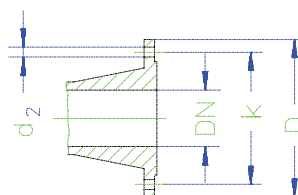
Dimension table LEH 600, LEH 800, LEH 900



	a	m ₁	m ₂	o ₃	weight app. kg
LEH 600	375	515	455	845	217
LEH 800	416	556	496	886	223
LEH 900					225

flange connections to DIN 2501 PN 10		
DN	65	100
k	145	180
D	185	220
number x d ₂	4 x 18	8 x 18

- N 1 = gas inlet DN 100
N 2 = gas outlet DN 100
u_B = connection for service liquid G 1
u_c = connection for protection against cavitation G ¼
u_e = drain connection G ½
u_{m1} = connection for drain valve G ⅜
u_{se} = connection for dirt drain G ½

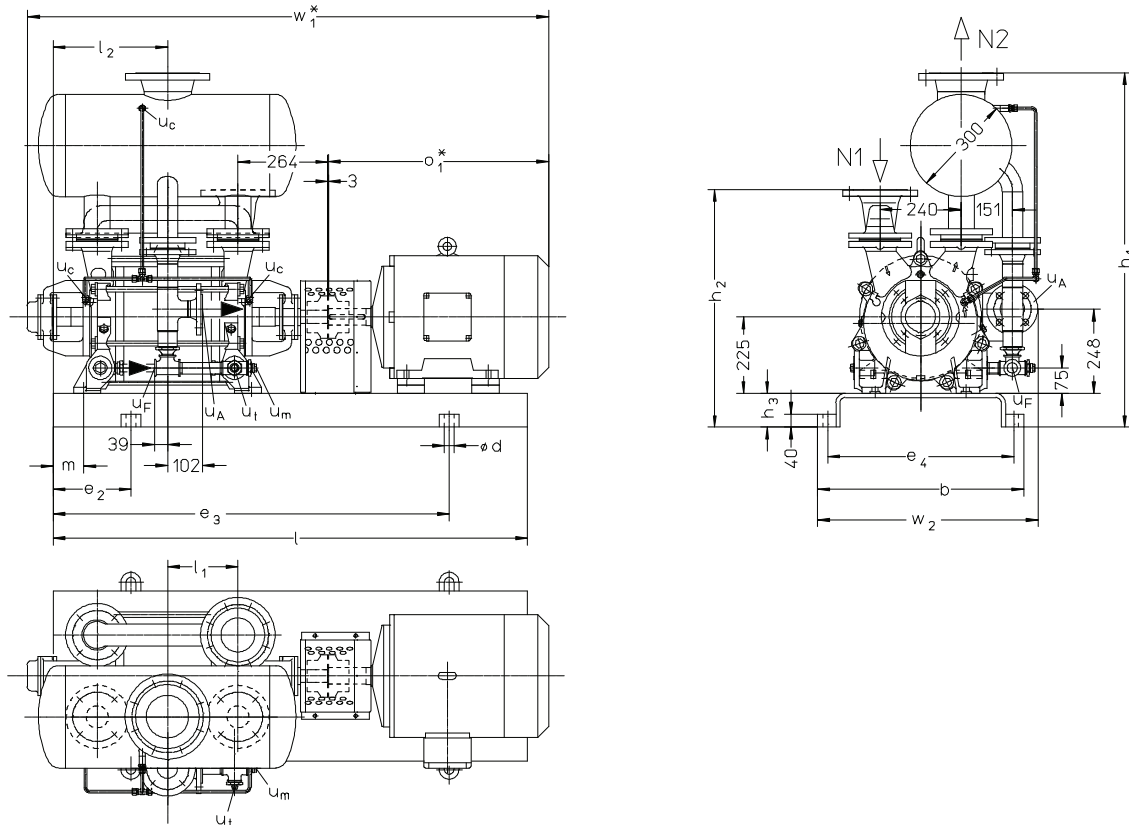




LEH 600, 800, 900

Single-stage Liquid Ring Vacuum Pumps

Arrangement drawing LEH 600, LEH 800, LEH 900 with overhead liquid separator

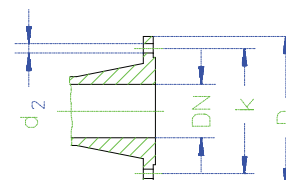


- N 1 = gas inlet DN 100
- N 2 = gas outlet DN 125
- U_A = connection for liquid drain DN 70
- U_F = connection for fresh liquid G 1
- U_C = connection for protection against cavitation G ¼
- U_m = connection for pressure gauge G ½
- U_t = connection for thermometer G ¼

	electric motor 50 Hz			b	d	e ₂	e ₃	e ₄	h ₁	h ₂	h ₃	l	l ₁	l ₂	m	o ₁ *	w ₁ *	w ₂	weight app. kg
	size	IP 55	kW EEEx e II T3																
LEH 600	160 L	15	-	488	24	205	1045	440	1053	710	110	1250	187.5	267.5	40	627	1475	590	515
	180 L	-	17,5																620
LEH 800	180 M	18,5	-	608	28	230	1170	550	1043	700	100	1400	208	338	90	650	1539	650	590
	200 L	-	24																680
LEH 900	180 L	22	-	608	28	230	1170	550	1043	700	100	1400	208	338	90	688	1577	650	600
	200 L	-	24																685

flange connections to DIN 2501 PN 10			
DN	40	100	125
k	110	180	210
D	150	220	250
number x d ₂	4 x 18	8 x 18	8 x 18

* dimensions dependent on the motor make

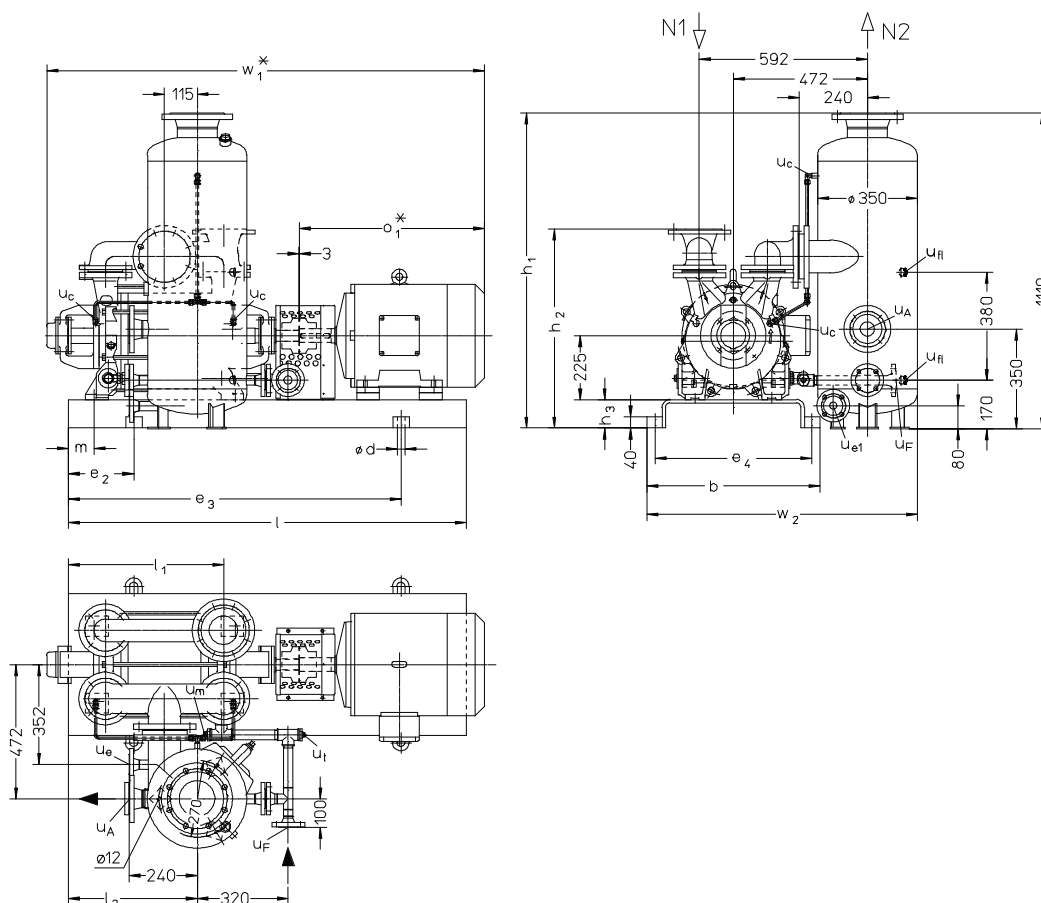


LEH 600, 800, 900

Single-stage Liquid Ring Vacuum Pumps



Arrangement drawing LEH 600, LEH 800, LEH 900 with upright liquid separator



N 1 = gas inlet DN 100

N 2 = gas outlet DN 125

UA = connection for liquid drain DN 50

UF = connection for fresh liquid DN 25

UC = connection for protection against cavitation G 1/4

Ue1 = drain connection DN 25

UR = connection for liquid level indicator G 1/2

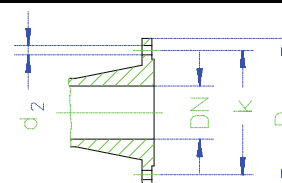
Um = connection for pressure gauge G 1/2

Ut = connection for thermometer G 1/4

	electric motor 50 Hz			b	d	e ₂	e ₃	e ₄	h ₁	h ₂	h ₃	l	l ₁	l ₂	m	o ₁ *	w ₁ *	w ₂	weight app. kg
	size	IP 55	kW EEEx II T3																
LEH 600	160 L	15	-	488	24	205	1045	440	1118	710	110	1250	455	382.5	40	627	1475	891	480
	180 L	-	17,5												30	688	1536		585
LEH 800	180 M	18,5	-	608	28	230	1170	550	1108	700	100	1400	546	453	90	650	1539	951	545
	200 L	-	24												70	738	1627		640
LEH 900	180 L	22	-												90	688	1577		565
	200 L	-	24												70	738	1627		645

flange connections to DIN 2501 PN 10				
DN	25	50	100	125
k	85	125	180	210
D	115	165	220	250
number x d ₂	4 x 14	4 x 18	8 x 18	8 x 18

* dimensions dependent on the motor make



LEH 600, 800, 900

Single-stage Liquid Ring Vacuum Pumps



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

suction pressure [mbar]		33				120				200				400			
pump	speed [rpm]	KB			FB	KB			FB	KB			FB	KB			FB
		difference in temperature [°C]				difference in temperature [°C]				difference in temperature [°C]				difference in temperature [°C]			
		10	5	2		10	5	2		10	5	2		10	5	2	
LEH 600	1450	0.64	1.06	1.75	3.1	0.80	1.25	1.89	2.9	0.82	1.25	1.82	2.6	0.75	1.08	1.46	1.9
	1750	0.87	1.35	2.05		1.00	1.48	2.08		1.02	1.46	1.98		0.90	1.22	1.56	
LEH 800	1450	0.78	1.28	2.08	3.6	0.94	1.46	2.18	3.3	1.00	1.50	2.14	3.0	0.91	1.29	1.71	2.2
	1750	1.04	1.61	2.41		1.20	1.75	2.42		1.24	1.75	2.33		1.11	1.47	1.84	
LEH 900	1450	0.94	1.54	2.51	4.3	1.16	1.80	2.68	4.0	1.21	1.83	2.62	3.7	1.11	1.59	2.15	2.8
	1750	1.29	1.99	2.93		1.47	2.15	2.97		1.50	2.14	2.86		1.34	1.81	2.30	

FB = fresh liquid service

KB = combined liquid service with service water 10 °C, 5 °C, 2 °C warmer than the fresh water.

Data regarding the pump size - order notes

series + size	hydraulics + bearings	shaft sealing	material design	casing seal
	A• hydraulic A •B two grease lubricated antifriction bearings	AAE mechanical seal O-rings Perbunan AA1 as AAE, but O-rings Viton	0S main parts of GG with shaft sleeve 4S main parts of Cr Ni Mo cast steel with shaft sleeve	0 liquid seal
LEH 600 800 900	AB	AAE, AA1	0S, 4S	0

Design - Motor selection table

	designation	electric motor 50 Hz					
pump with free shaft end	01	motor enclosure IP 55			motor enclosure EEx e II T3		
pump with coupling, pre-drilled at motor side	04	kW	size	designation	kW	size	designation
as above, but with motor, for example		15,0	160 L	UB	17,5	180 L	WK
18,5 kW three-phase motor	e.g. VB	18,5	180 M	VB	24,0	200 L	XK
(50 Hz, 400 VΔ) at 1450 rpm		22,0	180 L	WB	24,0	200 L	XK

Example for ordering:

The construction size LEH 800 AB AAE 0S 0 with 18,5 kW three-phase ac motor (50 Hz, 400 VΔ) 1450 rpm has the complete order number:

LEH- 800 AB AAE 0S 0 VB

If motors with other voltage or frequency are required a special information should be given.

LEH 600, 800, 900

Single-stage Liquid Ring Vacuum Pumps



Accessories

Recommended accessories		LEH 600	LEH 800	LEH 900
Overhead liquid separator material design 130 / galvanized 172 / 1.4571 service liquid line material design 072 / St 37-0 172 / 1.4571 cavitation protection line material design 072 / St 37-0 172 / 1.4571	type weight SIHI part No.	XBa 4460 84 kg 35 000 431 35 000 432	XBa 4660 89 kg 35 000 434 35 000 435	
	SIHI part No.	35 005 452 35 005 454	35 006 641 35 003 107	
	SIHI part No.	20 044 079 20 044 088	20 039 146 20 039 165	
Upright liquid separator material design 130 / galvanized 172 / 1.4571 service liquid line material design 072 / St 37-0 172 / 1.4571 cavitation protection line material design 072 / St 37-0 172 / 1.4571	type weight SIHI part No.	XBp 913 53 kg 35 000 537 35 000 538		
	SIHI part No.	35 003 148 35 003 149	35 003 150 35 003 151	
	SIHI part No.	20 043 839 20 043 840	20 043 841 20 043 842	
SIHI-gas ejector at service liquid temperature at service liquid temperature	15 °C 30 °C	GEV 600 A GEV 600 B	GEV 800 A GEV 800 B	GEV 900 A GEV 900 B
SIHI-ball type non-return valve material design 767 / GG-25 784 / 1.4408	type / weight SIHI part No.	XCk 100 / 16 kg resp. 17,5 kg 43 016 898 43 029 322		
Motor in case of standard design IP 55 EEx e II T3	size power weight	160 L 15 kW 96 kg	180 M 18,5 kW 154 kg	180 L 22 kW 170 kg
	size power weight	180 L 17,5 kW 200 kg	200 L 24 kW 250 kg	
Coupling for motor IP 55 pump side motor side for motor EEx e II T3 pump side motor side	type / weight SIHI part No.	B 125 / 6 kg 43 021 460 43 021 464	B 140 / 7 kg 43 021 474 43 021 478	
	type / weight SIHI part No.	BDS 135 / 6,5 kg 43 028 122 43 028 552	BDS 152 / 8,5 kg 43 025 967 43 030 019	
contact safety device material design 076 / steel 345 / 2.0321	SIHI part No.	35 004 647 35 004 650		
base plate material design 081 / RSt 37-2	type / weight SIHI part No.	S 386 / 90 kg 35 000 008	S 487 / 89 kg 35 000 020	

LEM 90, 125, 150, LEL 90, 125, 150

Single-stage Liquid Ring Vacuum Pumps



Pressure range: 33 to 1013 mbar
Suction volume flow: 32 to 170 m³/h

CONSTRUCTION TYPE

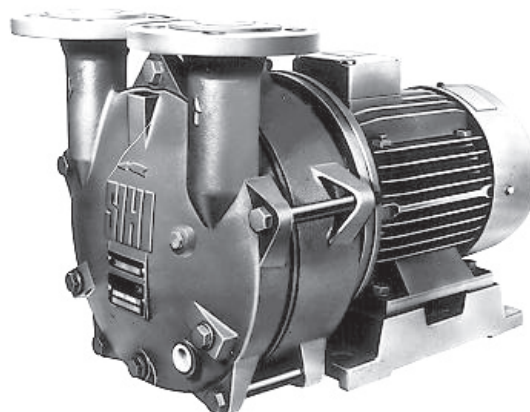
SIHI liquid ring vacuum pumps are displacement pumps of uncomplicated and robust construction with the following particular features:

- non-polluting due to nearly isothermal compression
- oil-free, as no lubrication in the working chamber
- handling of nearly all gases and vapours
- small quantities of entrained liquid can be handled
- easy maintenance and reliable operation
- low noise and nearly free from vibration
- wide choice of material, therefore applicable nearly everywhere
- shaft not contact with the medium
- protection against cavitation as standard
- incorporated dirt drain
- incorporated central drain
- no metallic contact of the rotating parts

The SIHI liquid ring vacuum pumps LEM/LEL are single-stage ones.

APPLICATION

Handling and exhausting of dry and humid gases; entrained liquid can be handled during normal duty. The pumps are applied in all fields where a pressure of 33 to 900 mbar must be created by robust vacuum pumps.



NOTE

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

It is possible to reuse the service liquid. The pumps are equipped with a device by which the contaminated service liquid can continuously be drained during operation (dirt drain), if necessary.

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

GENERAL TECHNICAL DATA

Pump type	unit	LEM 90 LEL 90	LEM 125 LEL 125	LEM 150 LEL 150
Speed	50 Hz 60 Hz		1450 1750	
Max. compression over pressure	bar		LEM 0,3 / LEL 0,5	
Max. admissible pressure difference	bar		LEM 1,1 / LEL 1,5	
Hydraulic test (over pressure)	bar		3	
Moment of inertial of the rotating pump parts and of the water filling	kg · m²	0,035	0,053	0,069
Sound pressure level at a suction pressure of 80 mbar	dB (A)		65	
Max. gas temperature	dry °C saturated °C		200 100	
Service liquid				
max. admissible temperature	°C		80	
max. viscosity	mm²/s		4	
max. density	kg/m³		1200	
volume up to shaft level	liter	2,4	2,8	3,2
Max. flow resistance of the heat exchanger	bar		0,2	

The combination of several limiting values is not admissible.



LEM 90, 125, 150, LEL 90, 125, 150

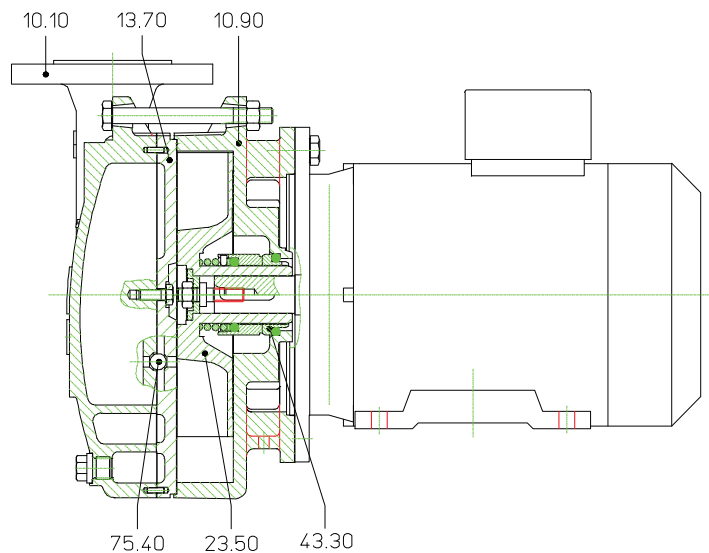
Single-stage Liquid Ring Vacuum Pumps

Material design

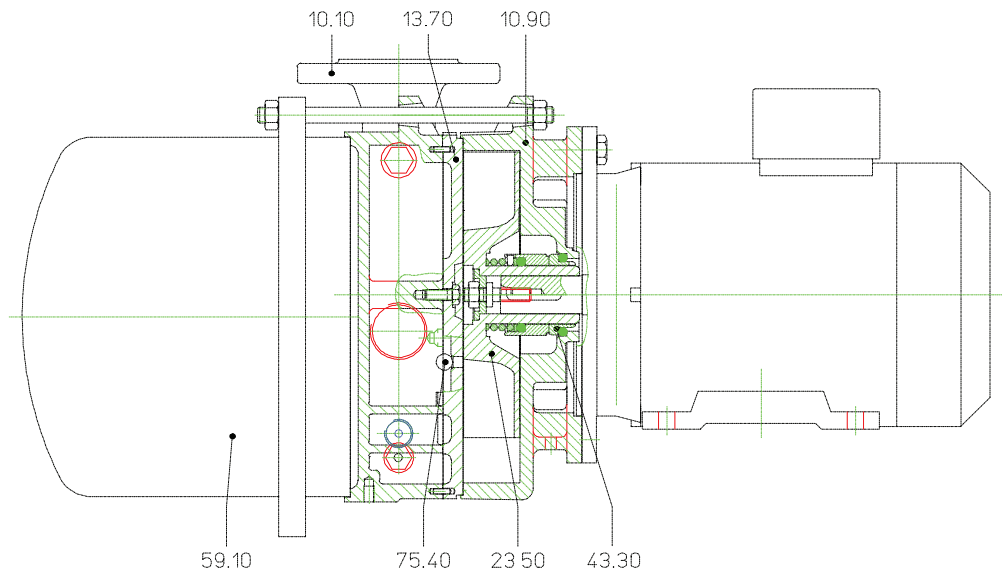
Item	COMPONENTS	MATERIAL DESIGN	
		0A	4B
10.10	Casing	0.6025	1.4408
10.90	Central body		
13.70	Guide disk		
21.00*	Shaft	1.0503	
23.50	Vane wheel impeller	2.1096.01	1.4517
34.01*	Motor carrier	0.6025	0.6025 (with annealing lacquer)
43.30	Standard mechanical seal	Cr-steel / carbon / Perbunan	Cr Ni Mo-steel / carbon / Viton
59.10	integrated pre-arranged separator	1.0038	1.4571
75.40	Valve balls	polyamide A	PTFE

* only at LEL 90, 125, 150

Sectional drawing LEM 90, LEM 125, LEM 150



Sectional drawing LEM 90, LEM 125, LEM 150 with integrated pre-arranged separator

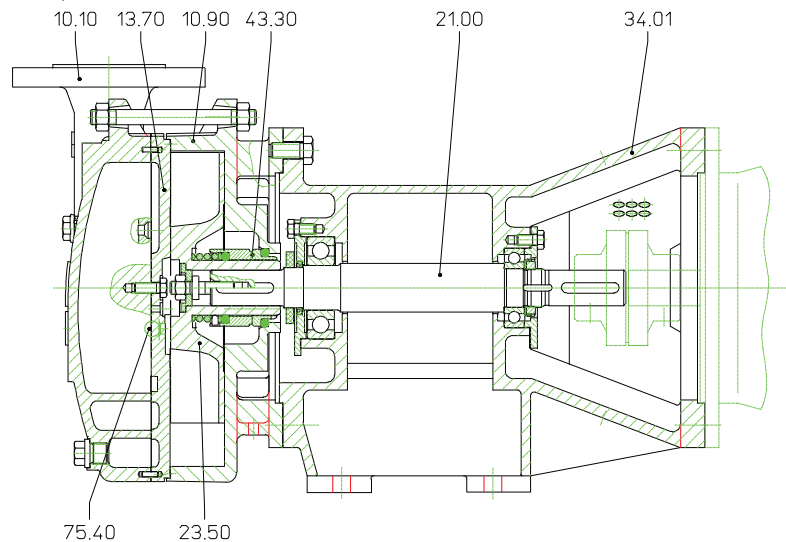


LEM 90, 125, 150, LEL 90, 125, 150

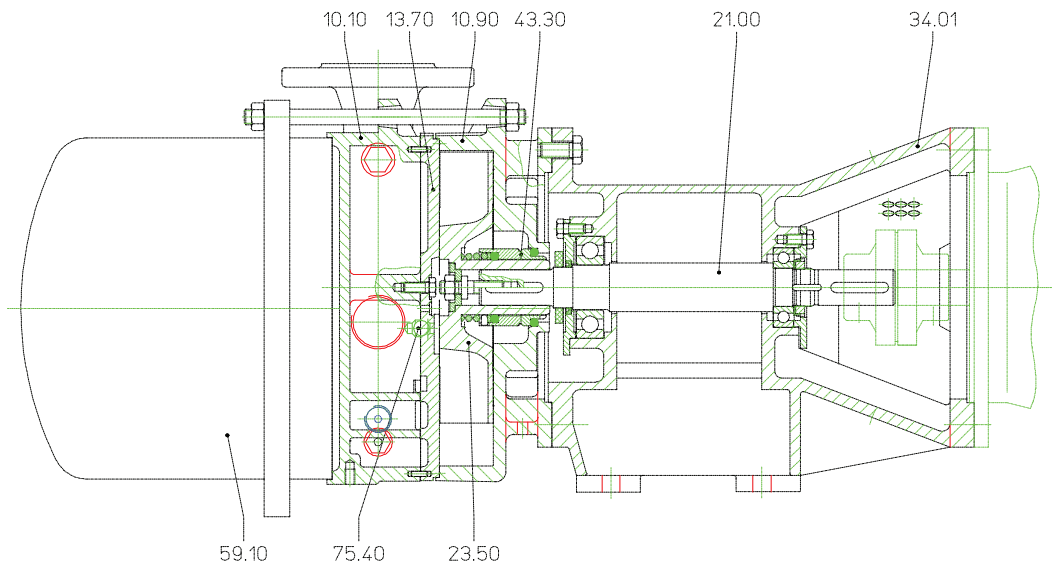
Single-stage Liquid Ring Vacuum Pumps



Sectional drawing LEL 90, LEL 125, LEL 150



Sectional drawing LEL 90, LEL 125, LEL 150 with integrated pre-arranged separator



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

suction pressure [mbar]		33					120					200					400				
pump	speed [rpm]	KB			FB	KB			FB	KB			FB	KB			FB				
		difference in temperature [°C]				difference in temperature [°C]				difference in temperature [°C]				difference in temperature [°C]							
		10	5	2		10	5	2		10	5	2		10	5	2					
LEM / LEL 90	1450	0,12	0,22	0,41	1,0	0,14	0,24	0,44	0,95	0,14	0,25	0,44	0,9	0,15	0,24	0,41	0,75				
	1750	0,18	0,30	0,52		0,19	0,32	0,53		0,20	0,33	0,53		0,19	0,31	0,47					
LEM / LEL 125	1450	0,17	0,28	0,50	1,0	0,19	0,31	0,52	0,95	0,19	0,31	0,51	0,9	0,18	0,29	0,46	0,75				
	1750	0,22	0,36	0,59		0,24	0,39	0,60		0,26	0,40	0,60		0,24	0,37	0,53					
LEM / LEL 150	1450	0,19	0,32	0,54	1,0	0,22	0,36	0,58	0,95	0,23	0,37	0,57	0,9	0,23	0,35	0,51	0,75				
	1750	0,26	0,41	0,63		0,29	0,44	0,65		0,30	0,45	0,64		0,29	0,41	0,57					

FB = fresh liquid service

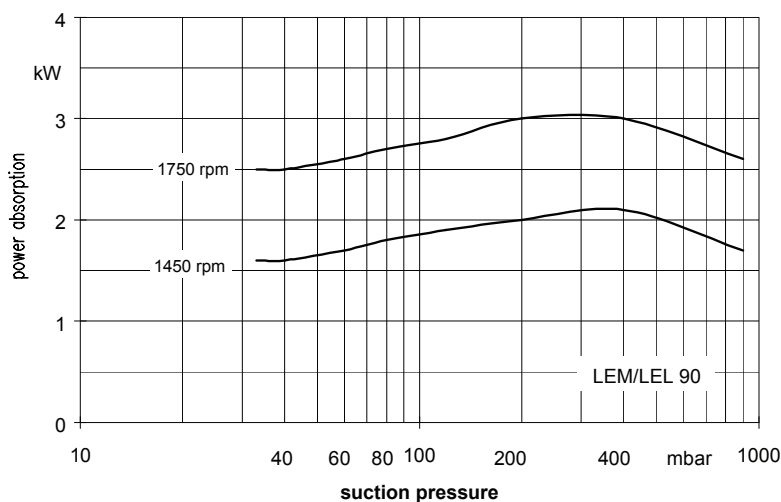
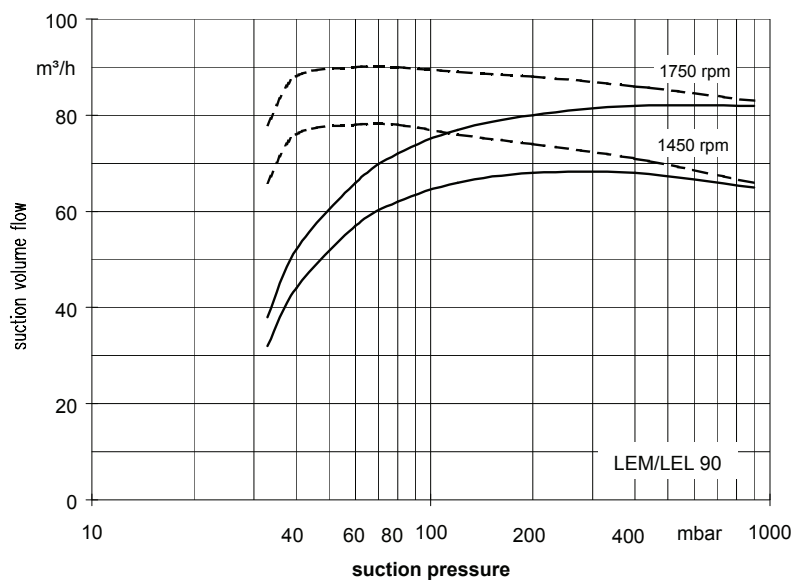
KB = combined liquid service with service water 10 °C, 5 °C, 2 °C warmer than the fresh water.

LEM 90, 125, 150, LEL 90, 125, 150

Single-stage Liquid Ring Vacuum Pumps



Suction volume flow and power absorption LEM 90 / LEL 90



The operating data are applicable under the following conditions:

- pumping medium:
 - dry air: 20°C _____
 - water vapour saturated air: 20°C - - - - -
- service liquid:
 - water: 15°C

Compression pressure 1013 mbar (atmospheric pressure)

The suction volume flow is applied to the suction pressure

Tolerance of the operating data 10%

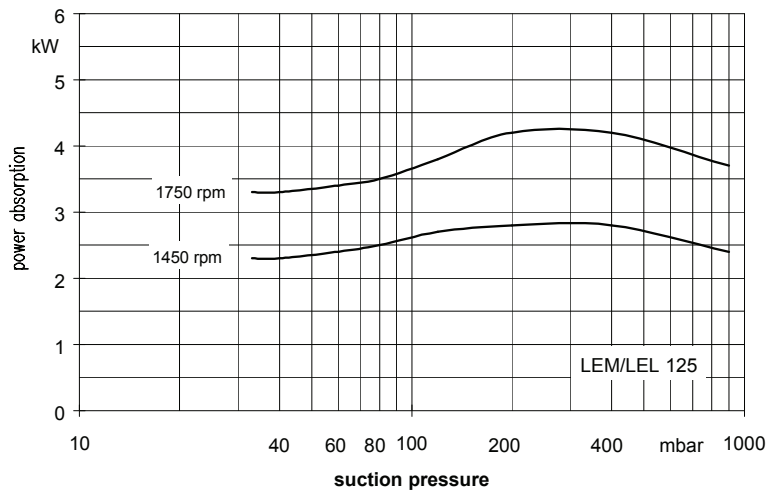
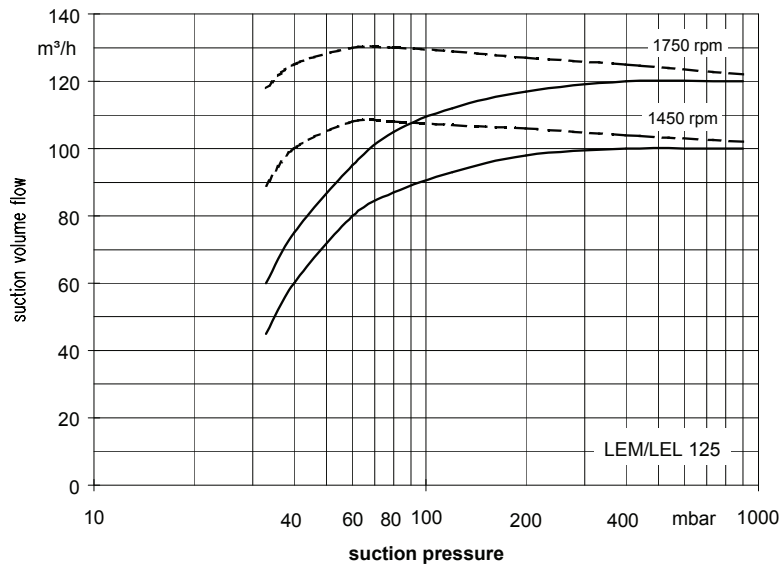
Max. fresh water need with lowest suction pressure



LEM 90, 125, 150, LEL 90, 125, 150

Single-stage Liquid Ring Vacuum Pumps

Suction volume flow and power absorption LEM 125 / LEL 125



The operating data are applicable under the following conditions:

- pumping medium:
 - dry air: 20°C _____
 - water vapour saturated air: 20°C -----
- service liquid:
 - water: 15°C _____

Compression pressure 1013 mbar (atmospheric pressure)

The suction volume flow is applied to the suction pressure

Tolerance of the operating data 10%

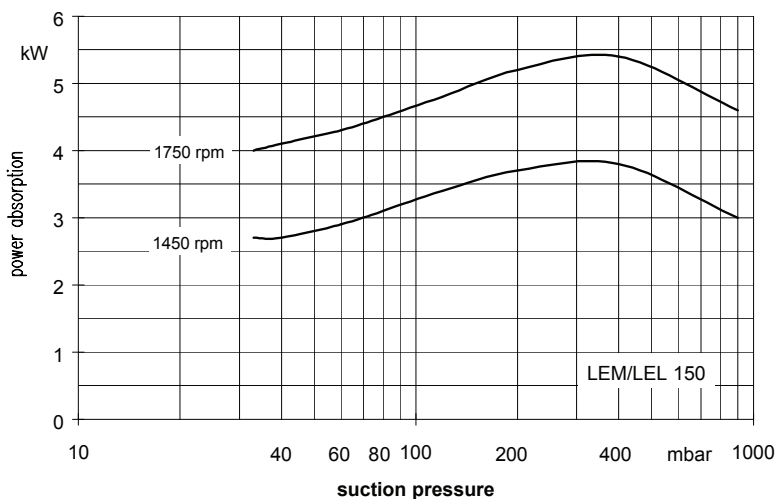
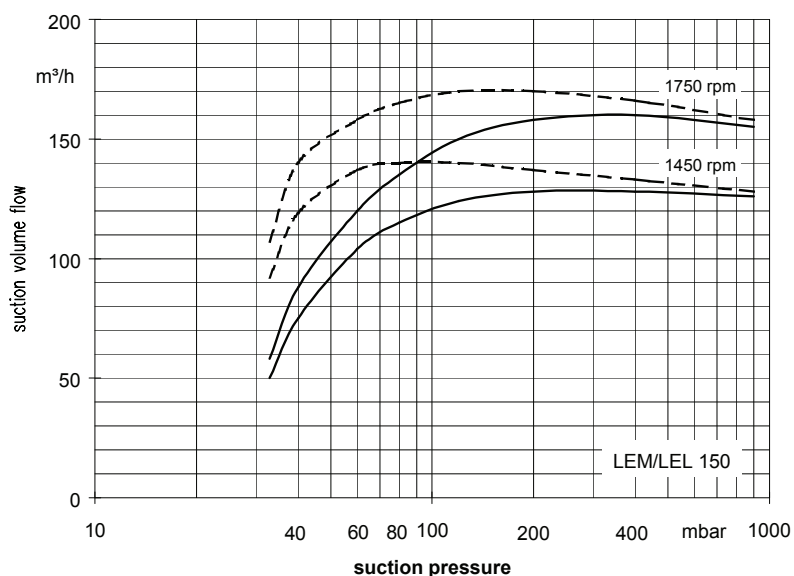
Max. fresh water need with lowest suction pressure

LEM 90, 125, 150, LEL 90, 125, 150

Single-stage Liquid Ring Vacuum Pumps



Suction volume flow and power absorption LEM 150 / LEL 150



The operating data are applicable under the following conditions:

- pumping medium:
 - dry air: 20°C _____
 - water vapour saturated air: 20°C - - - - -
- service liquid:
 - water: 15°C

Compression pressure 1013 mbar (atmospheric pressure)

The suction volume flow is applied to the suction pressure

Tolerance of the operating data 10%

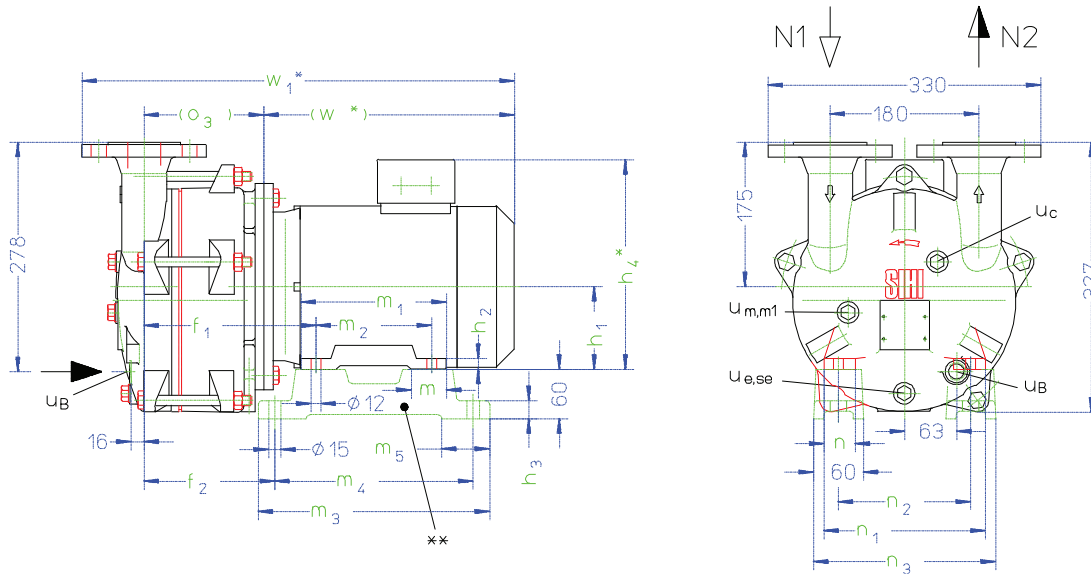
Max. fresh water need with lowest suction pressure



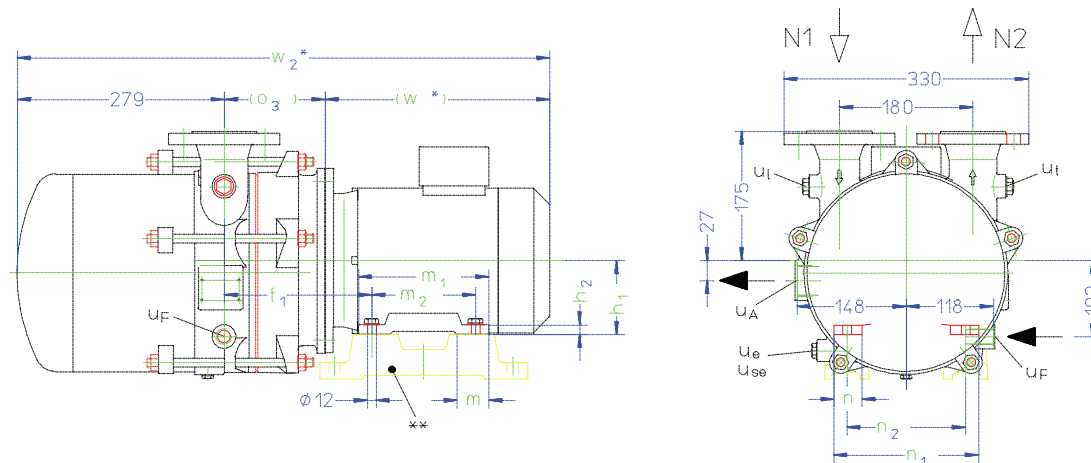
LEM 90, 125, 150, LEL 90, 125, 150

Single-stage Liquid Ring Vacuum Pumps

Dimension table LEM 90, LEM 125, LEM 150



Dimension table LEM 90, LEM 125, LEM 150 with integrated pre-arranged separator



- N 1 = gas inlet DN 40
N 2 = gas outlet DN 40
UA = connection for liquid drain G 1 1/4
UB = connection for service liquid G 1/2
Uc = connection for protection against cavitation G 3/8
Ue = drain connection G 3/8

- use = connection for dirt drain G 3/8
Ui = connection for vent cock G 1/2
Um = connection for pressure gauge G 3/8
Um1 = connection for drain valve G 3/8
Ut = connection for thermometer G 1/2

	electric motor IP 55		f ₁	f ₂	h ₁	h ₂	h ₃	h ₄ *	m	m ₁	m ₂	m ₃	m ₄	m ₅	n	n ₁	n ₂	n ₃	o ₃	w*	w ₁ *	w ₂ *	weight abt. kg	
	size	kW																					LEM	+integr. pre-arranged separator
LEM 90	100 L	2.2	3.3	199	149	100	13	254	43						38	195	160	220	136	303	514	718	55	64
LEM 125	100 L	3.0	-	208	158		22			176	140	280	240	58					145		523	727	62	71
	112 M	-	4.8	215	265	112	15	279	45						44	225	190	250	320	540	744		68	77
LEM 150	112 M	4.0	-	232	282														162	557	761		70	79
	132 M	-	6.0	272	222	132	18	320	88	218	178	320	278	-	55	256	216	276		426	663	867	95	104

* dimensions dependent on the motor make

** see list of accessories

other motors on request

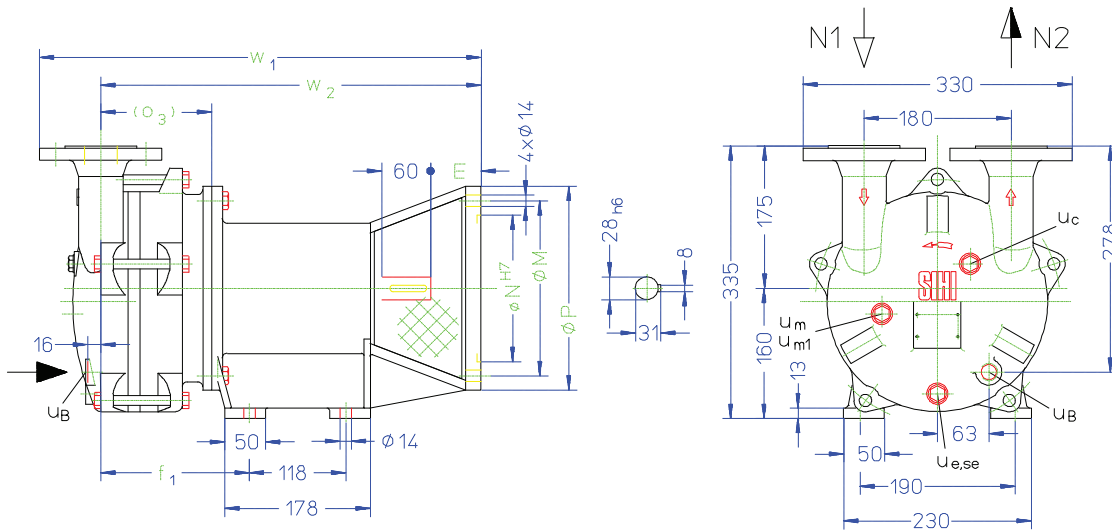
flange connections see page 10



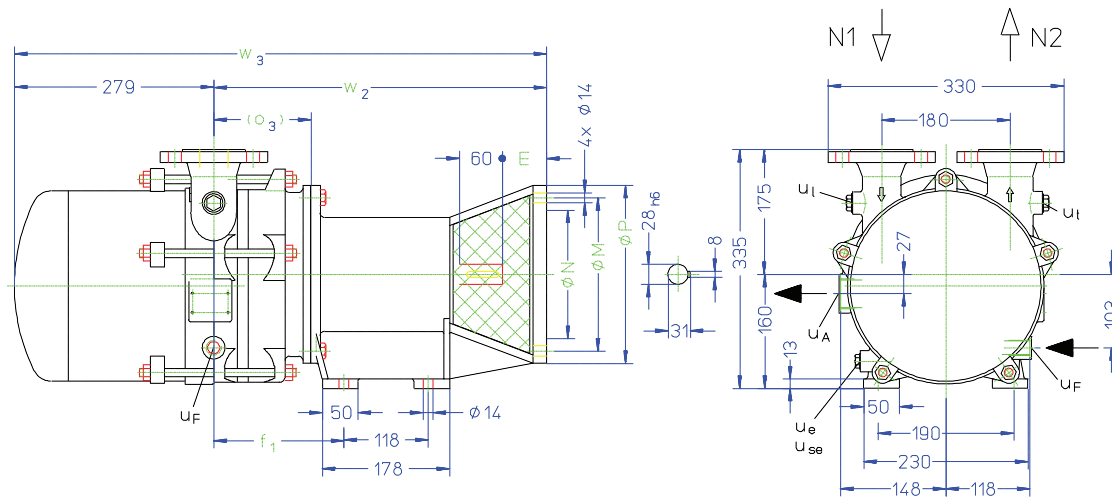
LEM 90, 125, 150, LEL 90, 125, 150

Single-stage Liquid Ring Vacuum Pumps

Dimension table LEL 90, LEL 125, LEL 150



Dimension table LEL 90, LEL 125, LEL 150 with integrated pre-arranged separator



- N 1 = gas inlet DN 40
N 2 = gas outlet DN 40
U_A = connection for liquid drain G 1/4
U_B = connection for service liquid G 1/2
U_C = connection for protection against cavitation G 3/8
U_E = drain connection G 3/8

- U_{se} = connection for dirt drain G 3/8
U_l = connection for vent cock G 1/2
U_m = connection for pressure gauge G 3/8
U_{m1} = connection for drain valve G 3/8
U_t = connection for thermometer G 1/2

	electric motor 50 Hz			f ₁	O ₃	w ₁	w ₂	w ₃	E	M	N	P	weight abt. kg	
	size	kW											LEL	+ integr. pre-arranged separator
		IP 55	EEx e II T3											
LEL 90	100 L	2,2	2,5	182	136	541	466	745	62	215	180	250	60	72
LEL 125	100 L	3,0	-	191	145	550	475	754					63	75
	112 M	-	3,6											
LEL 150	112 M	4,0	-	208	162	567	492	771	82	265	230	300	67	79
	132 S	-	5.0			587	512	791						

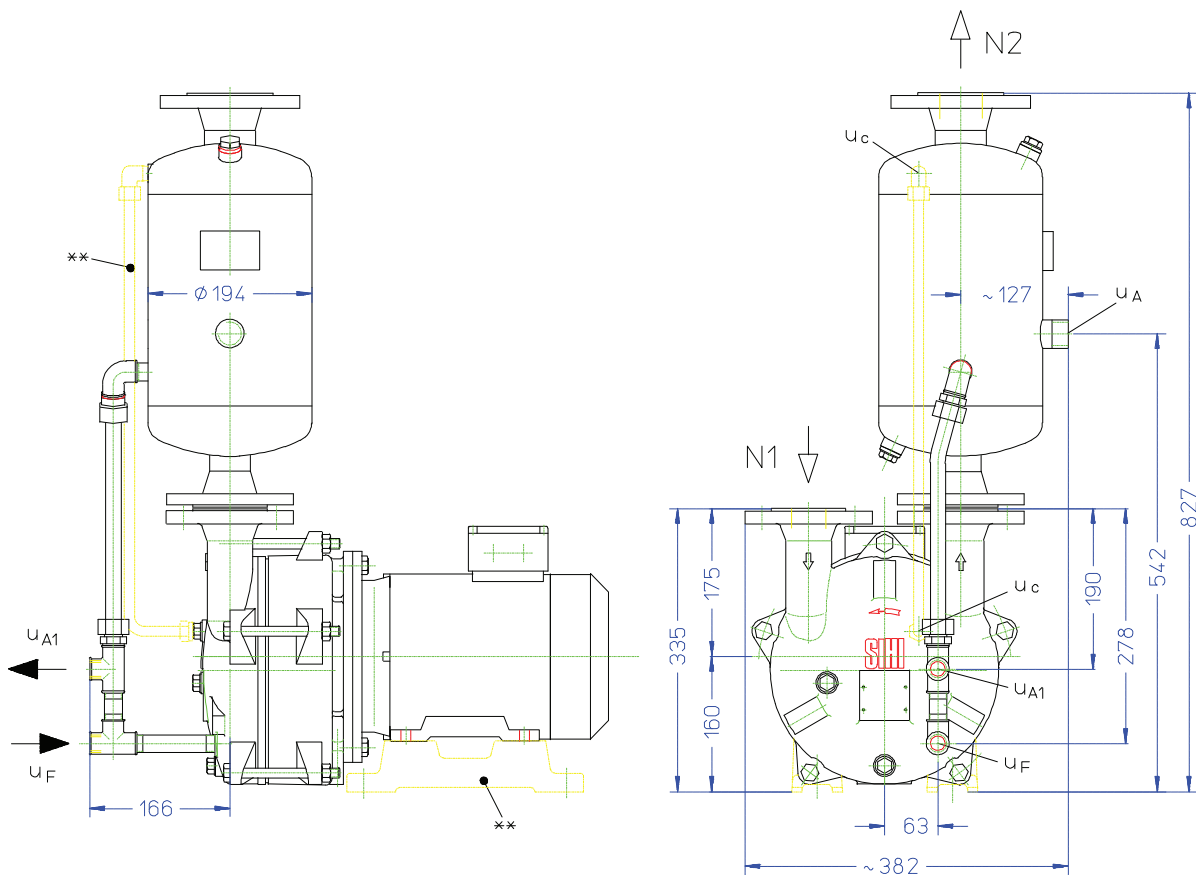
other motors on request
flange connections see page 10

LEM 90, 125, 150, LEL 90, 125, 150

Single-stage Liquid Ring Vacuum Pumps



Arrangement drawing LEM 90, LEM 125, LEM 150



	size	electric motor IP 55 kW		weight abt. kg
		50 Hz	60 Hz	
LEM 90	100 L	2,2	3,3	65
LEM 125	100 L	3,0	-	72
	112 M	-	4,8	78
LEM 150	112 M	4,0	-	80
	132 M	-	6,0	105

** see list of accessories
other motors on request
flange connections see page 10

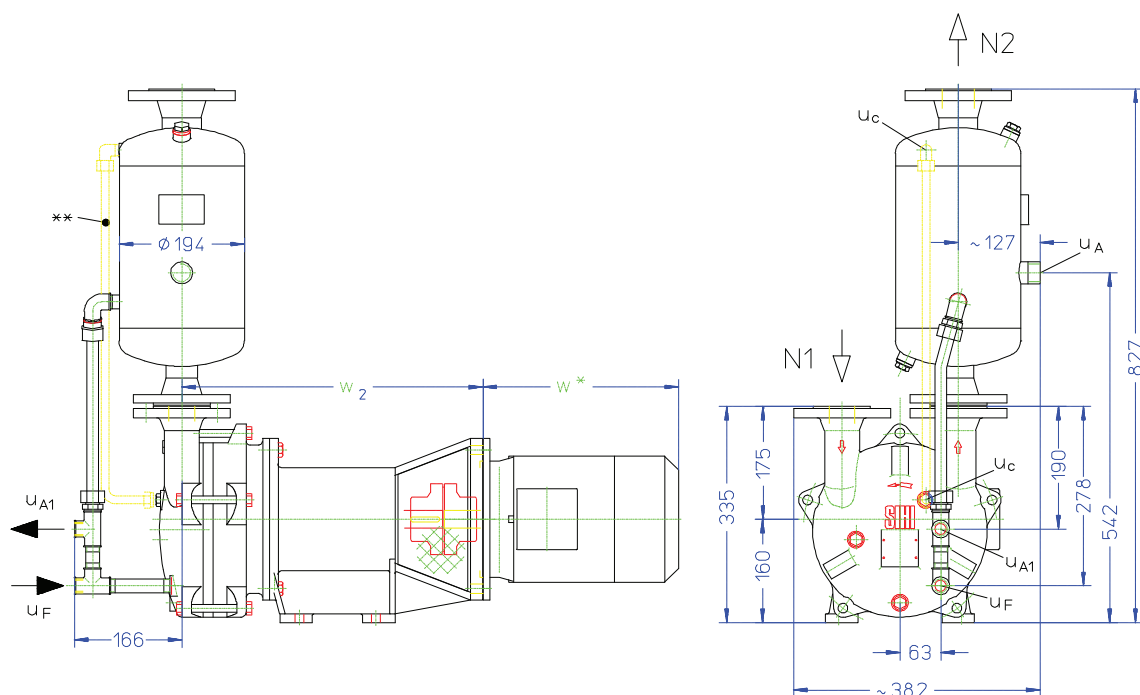
- N 1 = gas inlet DN 40
- N 2 = gas outlet DN 50
- U_A = connection for liquid drain G 1
- U_{A1} = connection for liquid drain G 1/2
- U_F = connection for fresh liquid G 1/2
- U_C = connection for protection against cavitation G 3/8

LEM 90, 125, 150, LEL 90, 125, 150

Single-stage Liquid Ring Vacuum Pumps



Arrangement drawing LEL 90, LEL 125, LEL 150



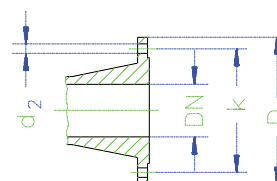
	electric motor 50 Hz			w *	w ₂	weight abt. kg
	size	IP 55	EEEx e II T3			
LEL 90	100 L	2,2	2,5	303	466	91
LEL 125	100 L	3,0	-	320	475	98
	112 M	-	3,6		492	104
LEL 150	112 M	4,0	-	405	512	106
	132 S	-	5,0		512	141

- N 1 = gas inlet DN 40
- N 2 = gas outlet DN 50
- U_A = connection for liquid drain G 1
- U_{A1} = connection for liquid drain G ½
- U_F = connection for fresh liquid G ½
- U_C = connection for protection against cavitation G ¾

flange connections to DIN 2501 PN 10		
DN	40	50
k	110	125
D	150	165
number x d ₂	4 x 18	4 x 18

* dimensions dependent on the motor make

** see list of accessories
other motors on request



LEM 90, 125, 150, LEL 90, 125, 150

Single-stage Liquid Ring Vacuum Pumps



Data regarding the pump size 关于泵规格的数据- Order notes 定单代码

Series + size 系列+规格	Hydraulics + bearings 水力性能+轴承结构	Shaft sealing 轴密封	Material design 材料设计	Casing seal 泵体密封
	hydraulic A • 水力性能 A thread connection (for LEM 25, 50) 螺纹连接 flange connection (for LEM 90, 250) 法兰连接 • motor bearing Z 电机轴承	standard mechanical seal Bellow and right angle gasket Perbunan X1L 标准机械密封 波纹管直角丁苯橡胶垫圈 standard mechanical seal O-rings Viton YTC 标准机械密封 O型圈为氟橡胶 special mechanical seal O-rings Viton encapsulated with Teflon YTD 特殊机械密封 O型圈为氟橡胶外包裹聚四氟乙烯 standard mechanical seal O-rings Perbunan YTB 标准机械密封 O型圈为丁苯橡胶 special mechanical seal O-rings Viton encapsulated with Teflon XAE 特殊机械密封 O型圈为氟橡胶外包裹聚四氟乙烯	main parts from 0.6025 OK impeller from 1.4301 主要零件材质为铸铁, 叶轮为 1.4301 不锈钢 main parts from 0.6025 OE impeller from 1.4408 主要零件材质为铸铁 叶轮为 1.4408 不锈钢 main parts from 1.4408 (only as pedestal pump LELC) 4B 主要零件材质为 1.4408 不锈钢 (只限于 LELC 泵)	liquid sealing 液封 0
LEMC 25 LEMC 50	AZ	X1L	OK	0
LEMC/LELC 90 125 150	AZ	YTC, YTD	OK / 4B	0
LEMC/LELC 250	AZ	YTB, XAE	OE / 4B	0

Material design 4B only as LELC with separate motor carrier.

4B的材料设计只应用于带电机托架的LELC泵

Motor data 电机数据

Series + size 系列+规格		Motor enclosure 电机防护等级 IP 55 50 Hz				
		Y-voltage Y-电压	Δ-voltage Δ-电压	Power 功率	Size 规格	Motor-code 电机代码
		V +/- 5%	V +/- 5%	kW		
LEMC	25	380	220	0.75	801	HX
LEMC	50	380	220	1.5	90 S	KY
LEMC	90	380	220	2.2	100 L1	GY
LEMC	125	380	220	3.0	100 L2	AZ
LEMC	150	660	380	4.0	112 M	YX
LEMC	250	660	380	5.5	132 S	YY

Example for ordering: 定单范例

The pump size LEMC 250 in cast iron with impeller in stainless steel with standard mechanical seal and 5,5kW motor has the order code:

LEMC 250 AZ YTB OE 0 YY.

Pump sizes LEMC 90-125-150-250 will be supplied as standard with motor feet. Please indicate apart the required motor voltage (choose from above table) and the required motor frequency (50 Hz is standard, 60 Hz only on special demand)

LEM 25, 50

Single-stage Liquid Ring Vacuum Pumps



Pressure range: 33 to 1013 mbar
Suction volume flow: 4 bis 60 m³/h

CONSTRUCTION TYPE

SIHI liquid ring vacuum pumps are displacement pumps of uncomplicated and robust construction with the following particular features:

- non-polluting due to nearly isothermal compression
- oil-free, as no lubrication in the working chamber
- handling of nearly all gases and vapours
- small quantities of entrained liquid can be handled
- easy maintenance and reliable operation
- low noise and nearly free from vibration
- wide choice of material, therefore applicable nearly everywhere
- shaft not contact with the medium
- protection against cavitation as standard
- incorporated dirt drain
- incorporated central drain
- no metallic contact of the rotating parts

The SIHI liquid ring vacuum pumps LEM are single-stage ones.

APPLICATION

Handling and exhausting of dry and humid gases; entrained liquid can be handled during normal duty. The pumps are applied in all fields where a pressure of 33 to 900 mbar must be created by robust vacuum pumps.



NOTE

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

It is possible to reuse the service liquid. The pumps are equipped with a device by which the contaminated service liquid can continuously be drained during operation (dirt drain), if necessary.

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

GENERAL TECHNICAL DATA

Pump type		unit	LEM 25	LEM 50
Speed	50 Hz 60 Hz	rpm		2800 3500
Max. compression over pressure		bar		0,3
Max. admissible pressure difference		bar		1,1
Moment of inertial of the rotating pump parts and of the water filling		kg · m²	0,003	0,0095
Sound pressure level at a suction pressure of 80 mbar		dB (A)	68	69
Max. gas temperature	dry saturated	°C °C		200 100
Service liquid				
max. admissible temperature		°C		80
material design: 0A, 0R, 4B		°C		40
7C		mm²/s		4
max. viscosity		kg/m³		1200
max. density		liter	0,3	0,4
volume up to shaft level				
Max. flow resistance of the heat exchanger		bar		0,2

The combination of several limiting values is not admissible.

LEM 25, 50

Single-stage Liquid Ring Vacuum Pumps

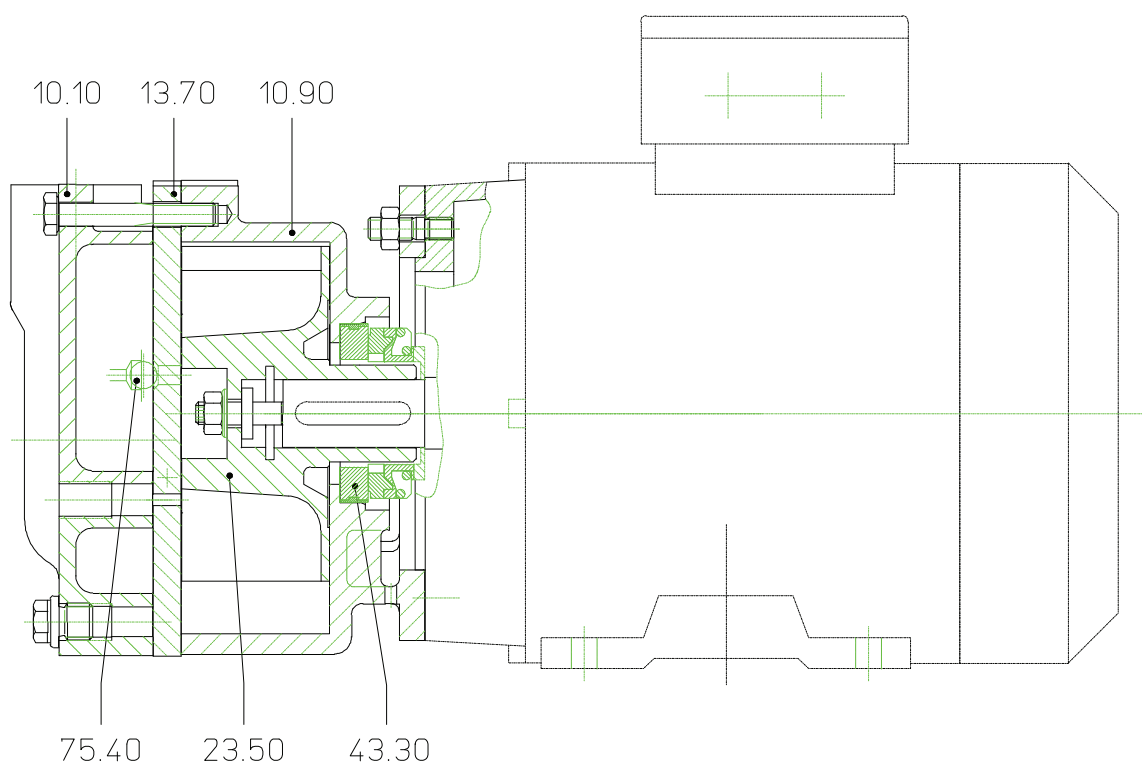


Material design

Item	COMPONENTS	MATERIAL DESIGN				
		0A	0R	4B*	7C	
10.10	Casing	0.6025		1.4408	epoxy-resin, glass-fibre reinforced	
10.90	Central body					
13.70	Guide disk	2.0596.02				
23.50	Vane wheel impeller	2.0970.02		1.4517		
-	Steel parts in contact with the medium	1.4401				
43.30	Standard mechanical seal	Cr Ni Mo-steell / carbon / Perbunan				Cr Ni Mo-steel / carbon / Viton
75.40	Valve balls	polyamide A				PTFE

* only for LEM 50

Sectional drawing LEM 25, LEM 50 material design 0A, 0R, 4B

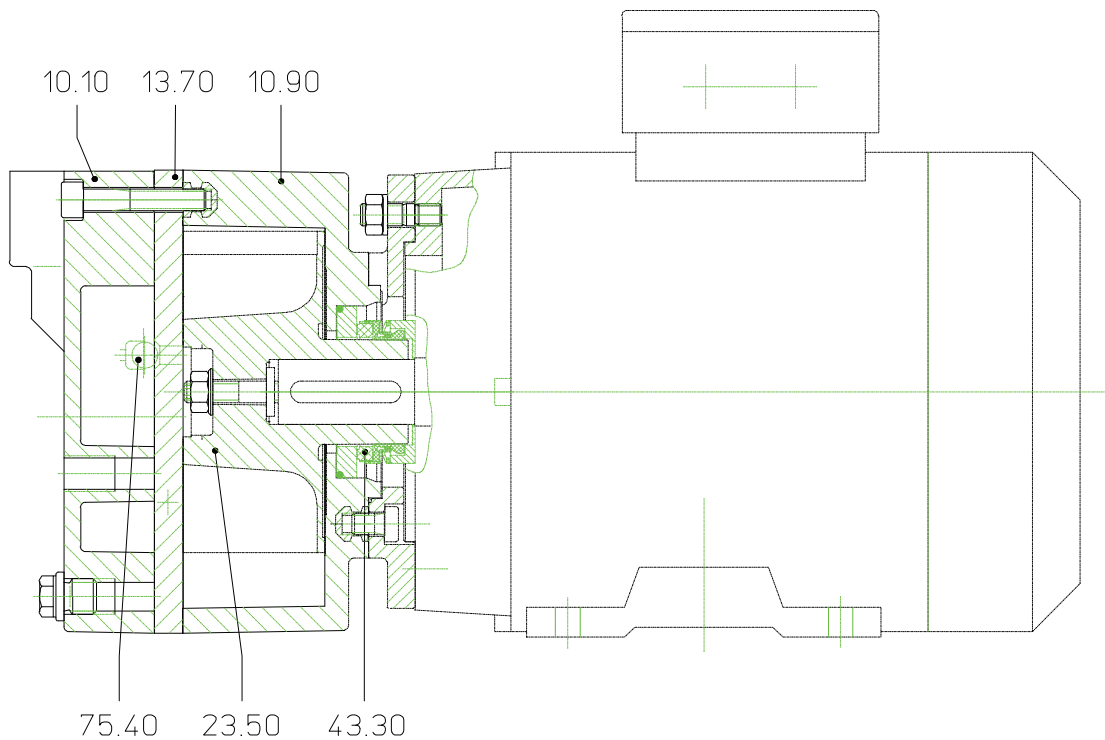


LEM 25, 50

Single-stage Liquid Ring Vacuum Pumps



Sectional drawing LEM 25, LEM 50 material design 7C



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

suction pressure [mbar]		33					120					200					400				
pump	speed [rpm]	KB			FB	KB			FB	KB			FB	KB			FB				
		difference in temperature [°C]				difference in temperature [°C]				difference in temperature [°C]				difference in temperature [°C]							
		10	5	2		10	5	2		10	5	2		10	5	2					
LEM 25	2800	0,04	0,06	0,12	0,26	0,05	0,08	0,13	0,26	0,05	0,08	0,14	0,26	0,05	0,08	0,12	0,2				
	3500	0,05	0,09	0,15		0,06	0,10	0,16		0,07	0,11	0,16		0,06	0,10	0,14					
LEM 50	2800	0,07	0,13	0,23	0,5	0,09	0,15	0,25	0,48	0,09	0,15	0,25	0,45	0,09	0,14	0,22	0,35				
	3500	0,11	0,18	0,29		0,12	0,20	0,31		0,13	0,20	0,30		0,12	0,18	0,25					

FB = fresh liquid service

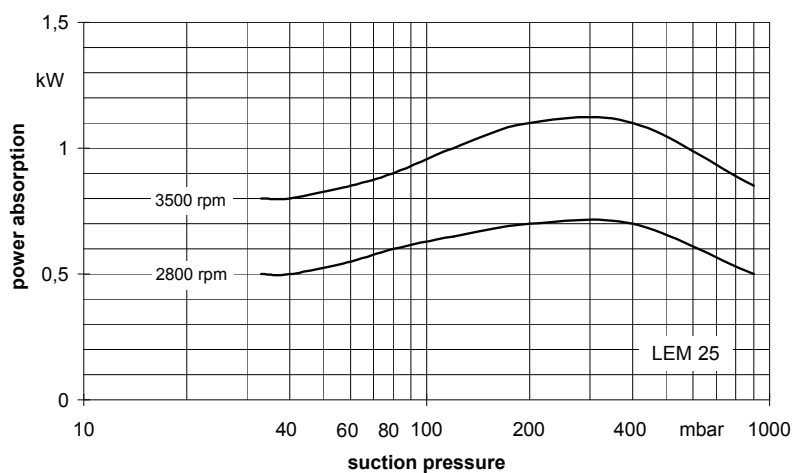
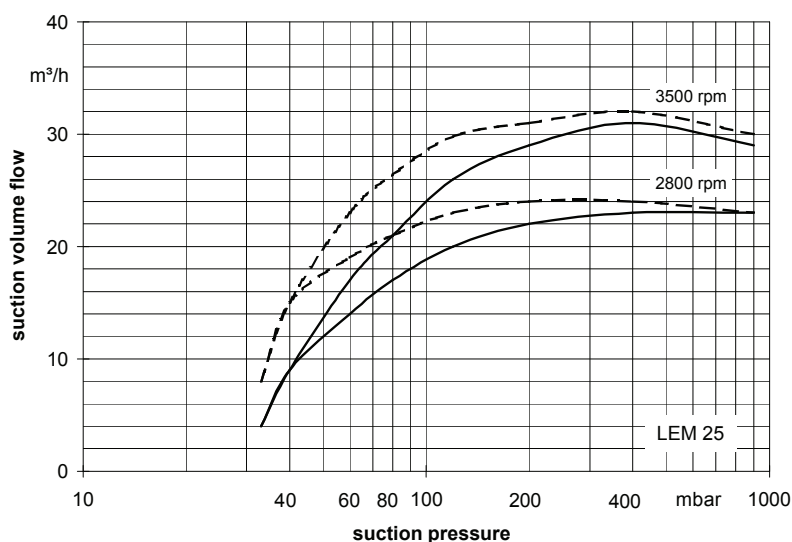
KB = combined liquid service with service water 10 °C, 5 °C, 2 °C warmer than the fresh water.

LEM 25, 50

Single-stage Liquid Ring Vacuum Pumps



Suction volume flow and power absorption LEM 25



The operating data are applicable under the following conditions:

- pumping medium:
 - dry air: 20°C _____
 - water vapour saturated air: 20°C -----
- service liquid:
 - water: 15°C

Compression pressure 1013 mbar (atmospheric pressure)

The suction volume flow is applied to the suction pressure

Tolerance of the operating data 10%

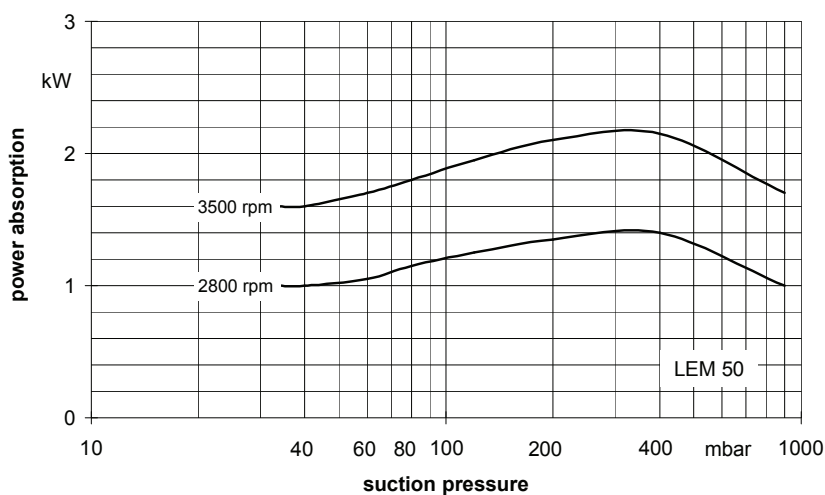
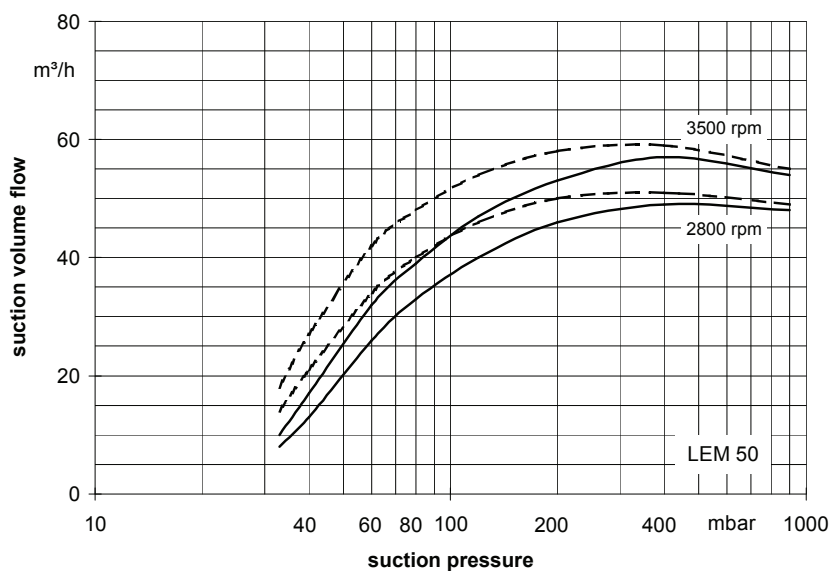
Max. fresh water need with lowest suction pressure

LEM 25, 50

Single-stage Liquid Ring Vacuum Pumps



Suction volume flow and power absorption LEM 50



The operating data are applicable under the following conditions:

- pumping medium:
 - dry air: 20°C _____
 - water vapour saturated air: 20°C - - - - -
- service liquid:
 - water: 15°C

Compression pressure 1013 mbar (atmospheric pressure)

The suction volume flow is applied to the suction pressure

Tolerance of the operating data 10%

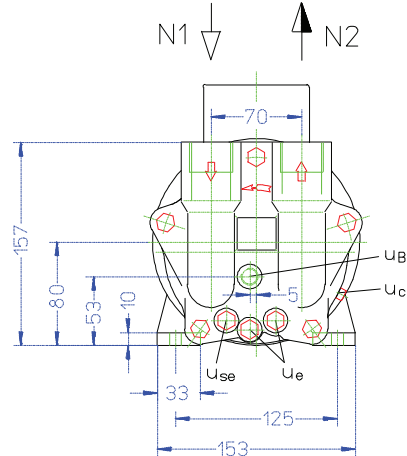
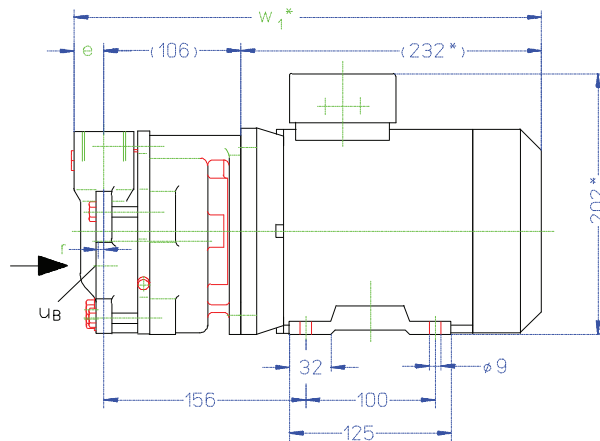
Max. fresh water need with lowest suction pressure



LEM 25, 50

Single-stage Liquid Ring Vacuum Pumps

Dimension table LEM 25

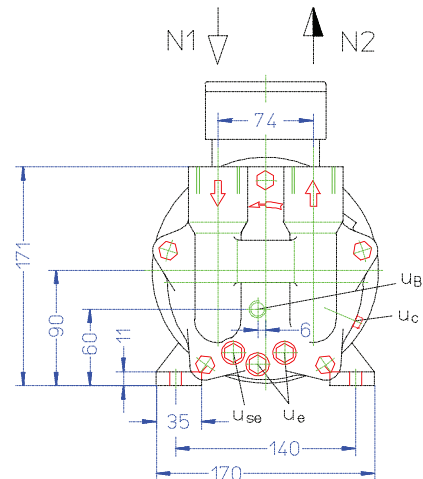
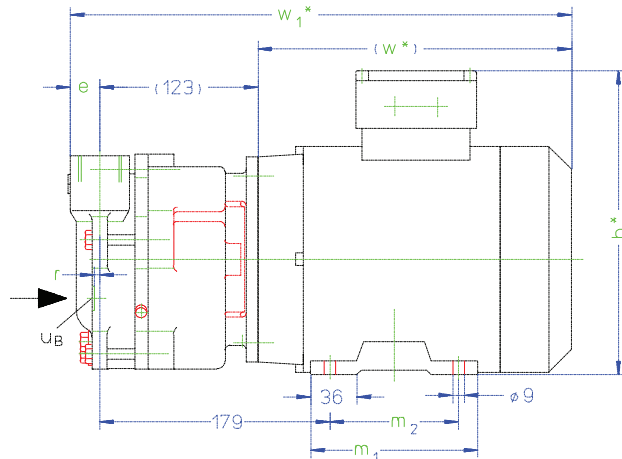


	electric motor IP 55		material	e	r	w ₁ *	weight abt. kg
	size	kW 50 Hz 60 Hz					
LEM 25	80	0,75 1,1	0A, 0R	23	5	361	19
			7C	26	6	364	14

other motors on request

- N 1 = gas inlet G 1
- N 2 = gas outlet G 1
- UB = connection for service liquid G 1/4
- UC = connection for protection against cavitation M5
- UE = drain connection G 1/4
- USE = connection for dirt drain G 1/4

Dimension table LEM 50



- N 1 = gas inlet G 1
- N 2 = gas outlet G 1
- UB = connection for service liquid G 1/4
- UC = connection for protection against cavitation M5
- UE = drain connection G 1/4
- USE = connection for dirt drain G 1/4

	electric motor IP 55		material	e	h*	m ₁	m ₂	r	w*	w ₁ *	weight abt. kg
	size	kW 50 Hz 60 Hz									
LEM 50	90 S	1.5 -	0A, 0R, 4B	23	237	130	100	5	243	390	27
			7C	26				6		393	20
	90 L	- 2.2	0A, 0R, 4B	23	229	155	125	5	268	415	30
			7C	26				6		418	23

other motors on request

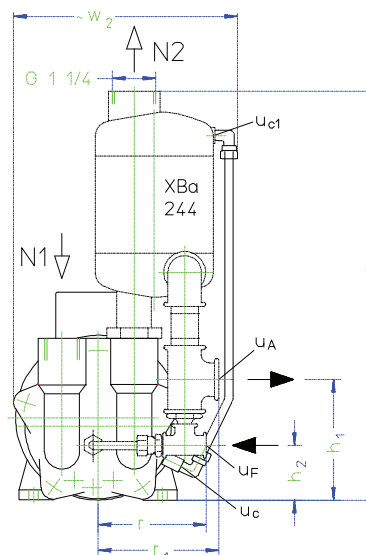
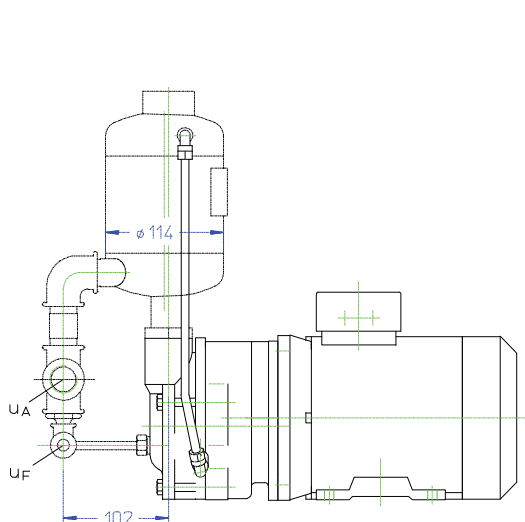
* dimensions dependent on the motor make



LEM 25, 50

Single-stage Liquid Ring Vacuum Pumps

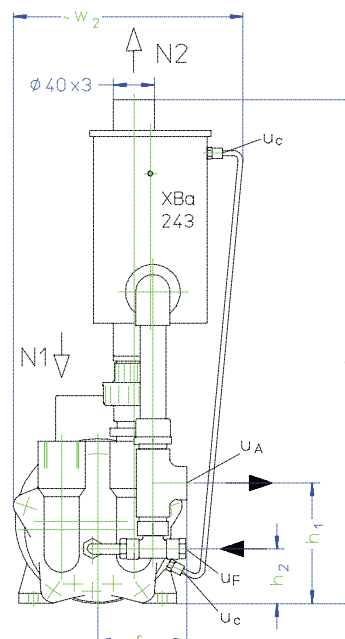
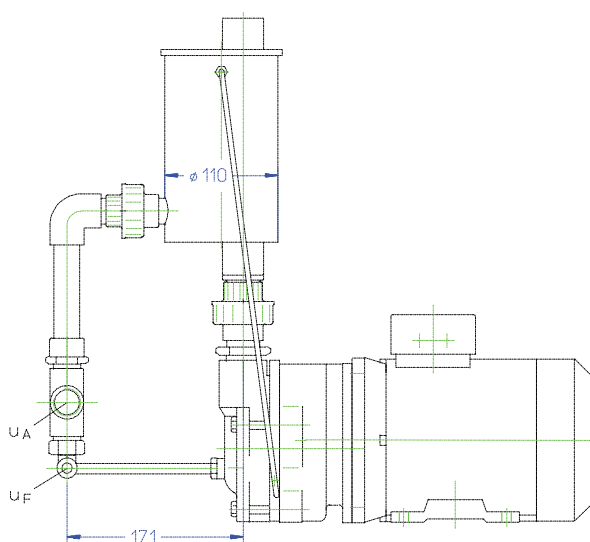
Arrangement drawing LEM 25, LEM 50 material design 0A, 0R, 4B



- N 1 = gas inlet G 1
- N 2 = gas outlet
- u_A = connection for liquid drain G 3/4
- u_F = connection for fresh liquid G 1/4
- u_c = connection for protection against cavitation M5
- u_{c1} = connection for protection against cavitation G 1/8

	h	h ₁	h ₂	r	r ₁	w ₂	weight ca. kg
LEM 25	398	117	54	105	117	217	22
LEM 50	411	123	60	107	119	225	29

Arrangement drawing LEM 25, LEM 50 material design 7C



- N 1 = gas inlet G 1
- N 2 = gas outlet
- u_A = connection for liquid drain G 3/4
- u_F = connection for fresh liquid G 1/4
- u_c = connection for protection against cavitation M5
- u_{c1} = connection for protection against cavitation G 1/8

	h	h ₁	h ₂	r	w ₂	weight ca. kg
LEM 25	490	117	54	86	223	17
LEM 50	503	123	60	88	231	23

LEM 25, 50

Single-stage Liquid Ring Vacuum Pumps



Data regarding the pump size - order notes

series + size	hydraulics + bearings	shaft sealing	material design	casing seal
	A• hydraulic A •Z two grease lubricated antifriction bearings arranged in the motor	B90 mechanical seal carbon / Viton FAA mechanical seal carbon / Perbunan GA1 mechanical seal carbon / Viton	0A main parts of GG 0R as 0A, but guide disk of non-ferrous metal 4B main parts of Cr Ni Mo cast steel 7C EP-resin	0 liquid seal
LEM 25	AZ	FAA, GA1	0A, 0R, 7C	0
LEM 50		B90, FAA, GA1	0A, 0R, 7C, 4B	

Motor selection

		motor enclosure IP 55 50 Hz					motor enclosure IP 55 60 Hz				
		Y-voltage V +/- 5%	Δ-voltage V +/- 5%	power kW	size	motor- design.	Y-voltage V +/- 5%	Δ-voltage V +/- 5%	power kW	size	motor- design.
LEM	25	346-440	200-254	0,75	80	BW	346-480	200-277	1,1	80	AW
LEM	50	346-440	200-254	1,5	90 S	HX	346-480	200-277	2,2	90 L	JX

Example for ordering:

The construction size LEM 25 AZ FAA 0A 0 with 0,75 kW three-phase ac motor (50 Hz, 230 VΔ) 2800 rpm has the complete order number:

LEM• 25 AZ FAA 0A 0 BW

If motors with the other voltage or frequency are required a special information should be given.

On delivery the point (•) in the fourth place of the type code is replaced by a letter in the factory.

Accessories LEM 25, LEM 50

Recommended accessories			LEM 25	LEM 50
Overhead liquid separator		type weight	XBa 243 0,6 kg	
material design	PVC	SIHI part no.	35 000 372	
service liquid line				
material design	Al-Pe / PVC	SIHI part no.	35 003 034	
cavitation protection line				
material design	nylon	SIHI part no.	20 027 269	
Overhead liquid separator		type weight	XBa 244 2,8 kg	
material design	130 / galvanized 172 / 1.4571	SIHI part no.	35 000 374 35 000 375	
service liquid line				
material design	072 / St 37-0 172 / 1.4571	SIHI part no.	35 003 035 35 003 036	
cavitation protection line				
material design	072 / St 37-0 172 / 1.4571	SIHI part no.	35 003 358 35 003 359	
SIHI-gas ejector				
at service liquid temperature		15 °C	GEV 25 A	GEV 50 A
at service liquid temperature		30 °C	GEV 25 A	GEV 50 A
Ball type non-return valve		size / weight	G1 / 0,7 kg	
material design	776 / brass 172 / 1.4571	SIHI part no.	20 044 637 43 038 310	

LEM 250, LEL 250

Single-stage Liquid Ring Vacuum Pumps



Pressure range: 33 to 1013 mbar
Suction volume flow: 100 to 280 m³/h

CONSTRUCTION TYPE

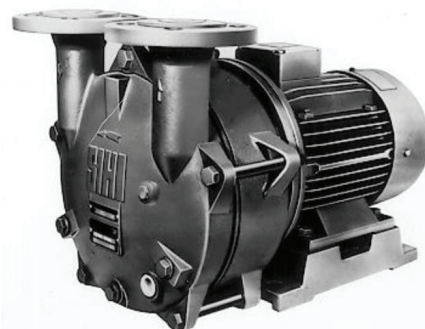
SIHI liquid ring vacuum pumps are displacement pumps of uncomplicated and robust construction with the following particular features:

- non-polluting due to nearly isothermal compression
- oil-free, as no lubrication in the working chamber
- handling of nearly all gases and vapours
- small quantities of entrained liquid can be handled
- easy maintenance and reliable operation
- low noise and nearly free from vibration
- wide choice of material, therefore applicable nearly everywhere
- shaft not contact with the medium
- protection against cavitation as standard
- incorporated dirt drain
- incorporated central drain
- no metallic contact of the rotating parts

The SIHI liquid ring vacuum pumps LEM/LEL are single-stage ones.

APPLICATION

Handling and exhausting of dry and humid gases; entrained liquid can be handled during normal duty. The pumps are applied in all fields where a pressure of 33 to 900 mbar must be created by robust vacuum pumps.



NOTE

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

It is possible to reuse the service liquid. The pumps are equipped with a device by which the contaminated service liquid can continuously be drained during operation (dirt drain), if necessary.

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

GENERAL TECHNICAL DATA

Pump type		unit	LEM 250 LEL 250
Speed	50 Hz 60 Hz	rpm	1450 1750
Max. compression over pressure		bar	LEM 0,3 / LEL 0,5
Max. admissible pressure difference		bar	LEM 1,1 / LEL 1,5
Hydraulic test (over pressure)		bar	3
Moment of inertial of the rotating pump parts and of the water filling		kg · m²	0,097
Sound pressure level at a suction pressure of 80 mbar		dB (A)	65
Max. gas temperature	dry saturated	°C °C	200 100
Service liquid			
max. admissible temperature		°C	80
max. viscosity		mm²/s	4
max. density		kg/m³	1200
volume up to shaft level		liter	4
Max. flow resistance of the heat exchanger		bar	0,2

The combination of several limiting values is not admissible.

LEM 250, LEL 250

Single-stage Liquid Ring Vacuum Pumps

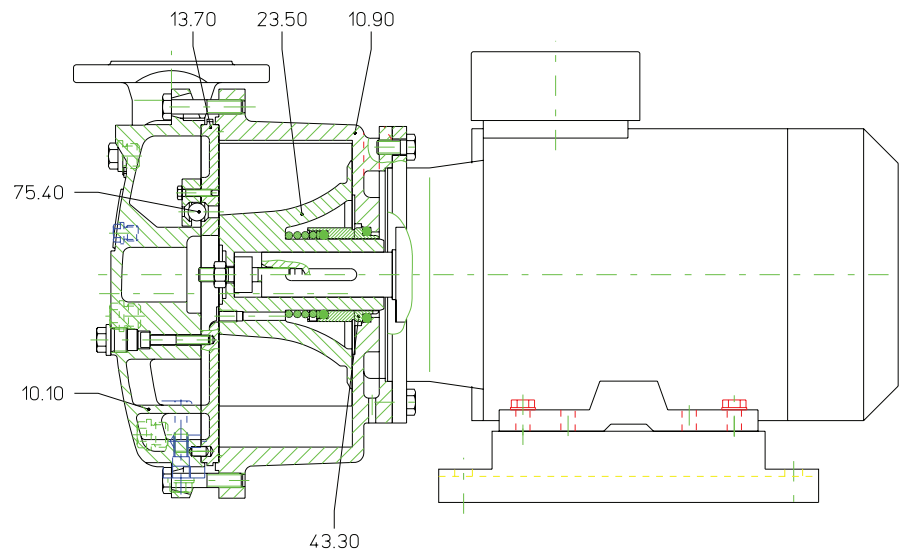


Material design

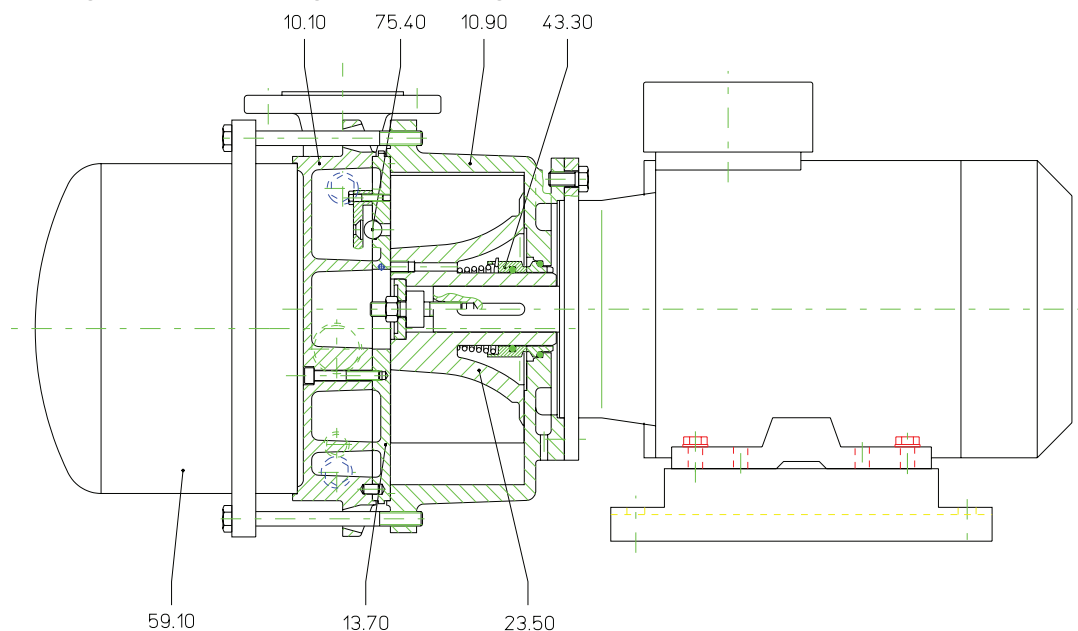
Item	COMPONENTS	MATERIAL DESIGN	
		0A	4B
10.10	Casing	0.6025	1.4408
10.90	Central body		
13.70	Guide disk		
21.00*	Shaft	1.0503	
23.50	Vane wheel impeller	2.1096.01	1.4517
34.01*	Motor carrier	0.6025	0.6025 (with annealing lacquer)
43.30	Standard mechanical seal	Cr-steel / carbon / Perbunan	Cr Ni Mo-steel / carbon / Viton
59.10	Integrated pre-arranged separator	1.0038	1.4571
75.40	Valve balls	polyamide A	PTFE

* only for LEL 250

Sectional drawing LEM 250



Sectional drawing LEM 250 with integrated pre-arranged separator

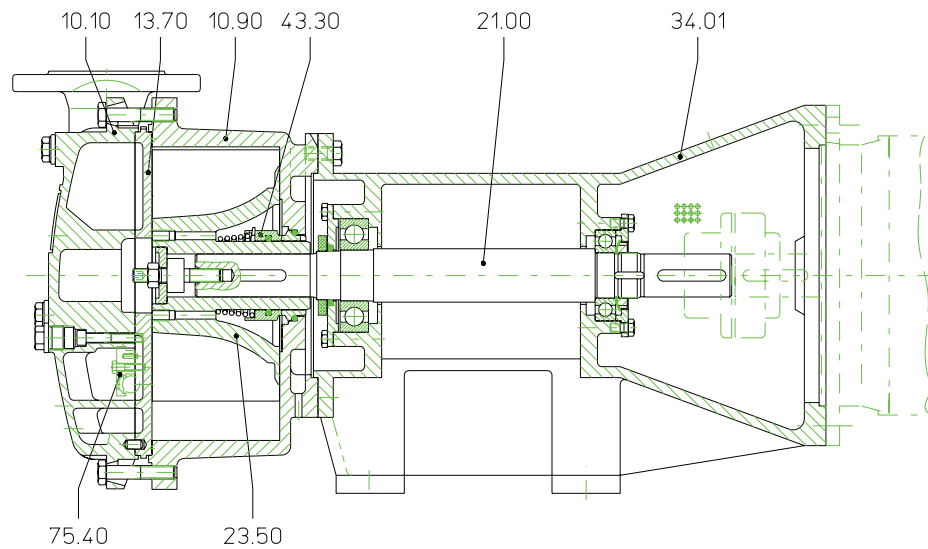




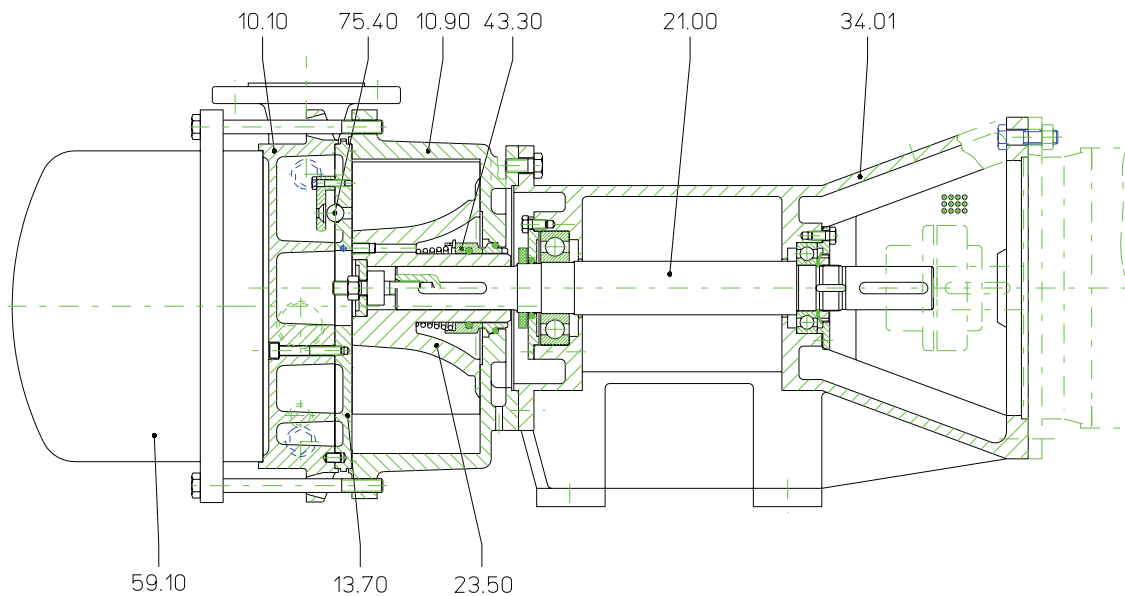
LEM 250, LEL 250

Single-stage Liquid Ring Vacuum Pumps

Sectional drawing LEL 250



Sectional drawing LEL 250 with integrated pre-arranged separator



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

suction pressure [mbar]		33				120				200				400			
pump	speed [rpm]	KB			FB	KB			FB	KB			FB	KB			FB
		difference in temperature [°C]				difference in temperature [°C]				difference in temperature [°C]				difference in temperature [°C]			
		10	5	2		10	5	2		10	5	2		10	5	2	
LEM/LEL 250	1450	0,22	0,37	0,63	1.2	0,29	0,45	0,70	1.1	0,30	0,46	0,68	1.0	0,28	0,42	0,59	0.8
	1750	0,32	0,50	0,77		0,37	0,55	0,79		0,38	0,55	0,75		0,35	0,49	0,64	

FB = fresh liquid service

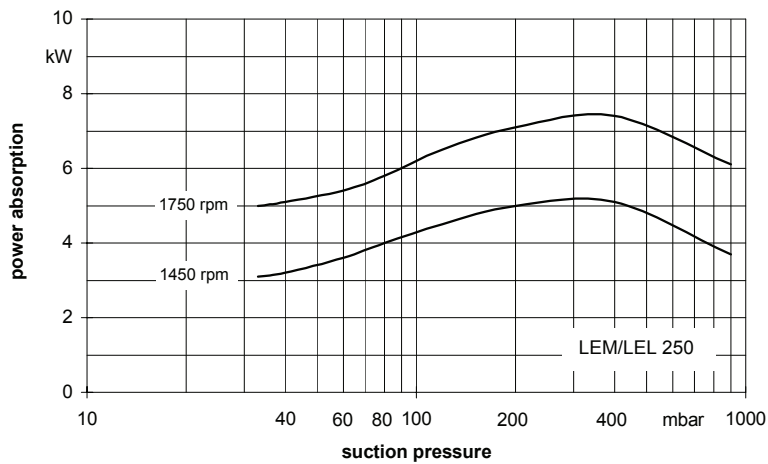
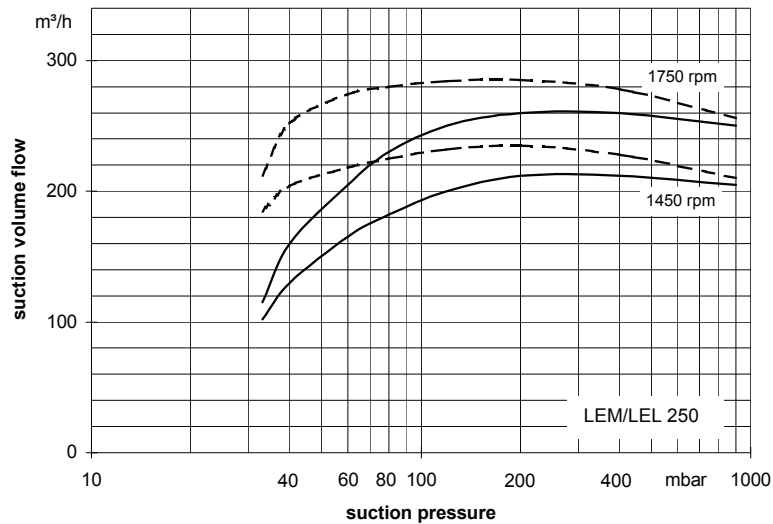
KB = combined liquid service with service water 10 °C, 5 °C, 2 °C warmer than the fresh water.

LEM 250, LEL 250

Single-stage Liquid Ring Vacuum Pumps



Suction volume flow and power absorption LEM 250 / LEL 250



The operating data are applicable under the following conditions:

- pumping medium:
 - dry air: 20°C _____
 - water vapour saturated air: 20°C
- service liquid:
 - water: 15°C

Compression pressure 1013 mbar (atmospheric pressure)

The suction volume flow is applied to the suction pressure

Tolerance of the operating data 10%

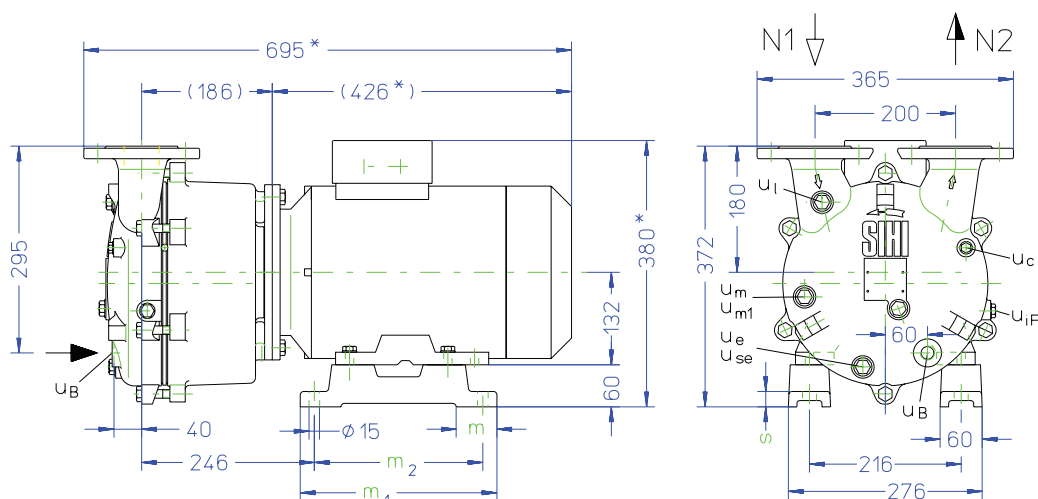
Max. fresh water need with lowest suction pressure

LEM 250, LEL 250

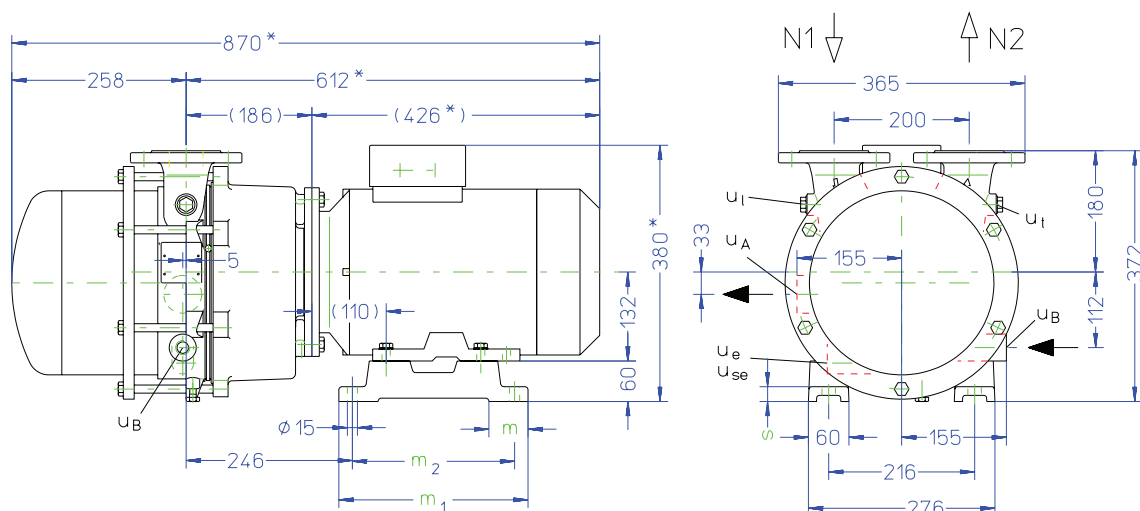
Single-stage Liquid Ring Vacuum Pumps



Dimension table LEM 250



Dimension table LEM 250 with integrated pre-arranged separator



- | | | | | | |
|----------------|---|--|-----------------|---|--|
| N 1 | = | gas inlet DN 50 | u _{se} | = | connection for dirt drain G ½ |
| N 2 | = | gas outlet DN 50 | u _l | = | connection for vent cock G ½ |
| u _A | = | connection for liquid drain G 1¼ | u _m | = | connection for pressure gauge G ½ |
| u _B | = | connection for service liquid G ½ | u _{m1} | = | connection for drain valve G ½ |
| u _C | = | connection for protection against cavitation G ¼ | u _t | = | connection for thermometer G ½ |
| u _e | = | drain connection G ½ | u _{iF} | = | adjusting screw for internal liquid return |

	electric motor IP 55							weight abt. kg	
	size	50 Hz	60 Hz	m	m ₁	m ₂	s	LEM	+ integr. pre-arranged separator
LEM 250	132 S	5,5	-	58	280	240	22	108	117
	132 M	-	8,0	-	320	278	28	114	123

other motors on request

* dimensions dependent on the motor make

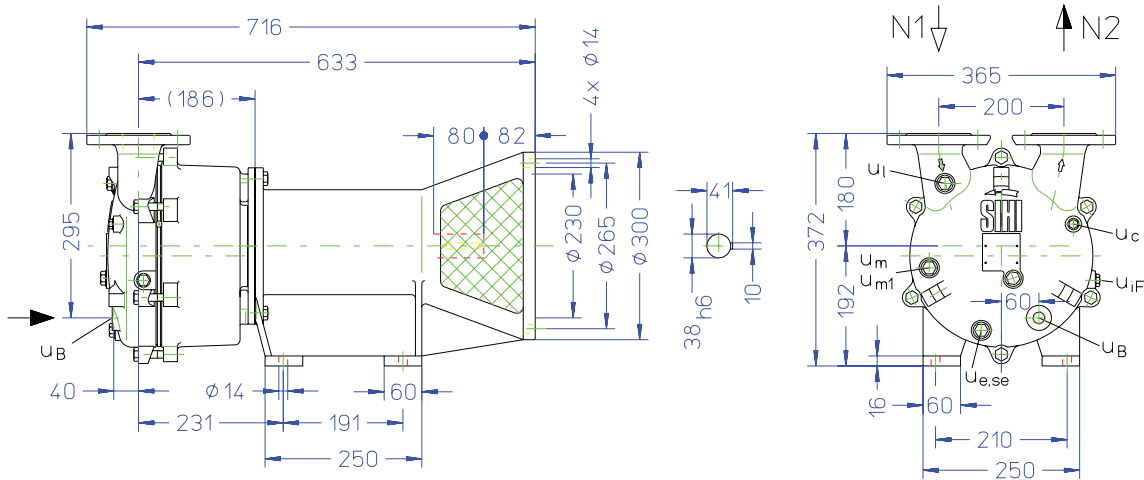
flange connections see page 8



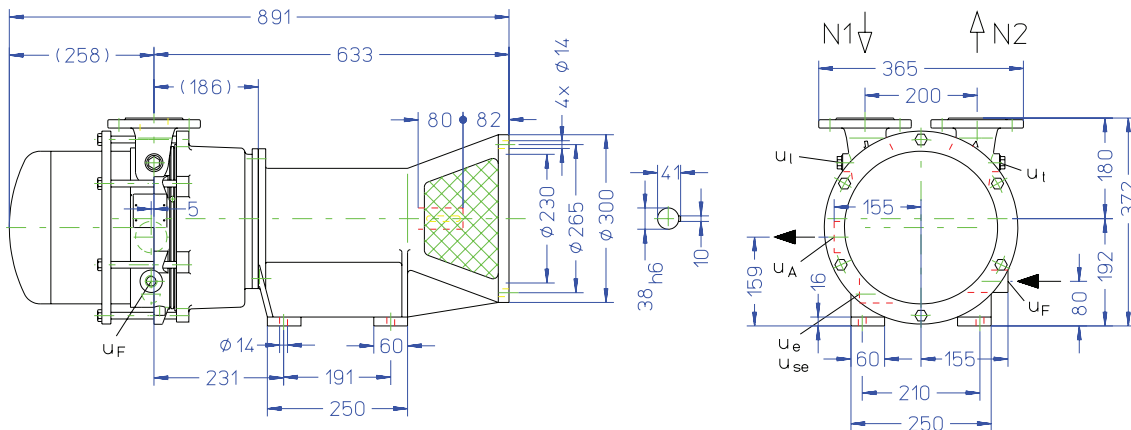
LEM 250, LEL 250

Single-stage Liquid Ring Vacuum Pumps

Dimension table LEL 250



Dimension table LEL 250 with integrated pre-arranged separator



- N 1 = gas inlet DN 50
- N 2 = gas outlet DN 50
- U_A = connection for liquid drain G 1 ¼
- U_B = connection for service liquid G ½
- U_c = connection for protection against cavitation G ¾
- U_e = drain connection G ½
- U_{se} = connection for dirt drain G ½
- U_l = connection for vent cock G ½
- U_m = connection for pressure gauge G ½
- U_{m1} = connection for drain valve G ½
- U_t = connection for thermometer G ½
- U_{iF} = adjusting screw for internal liquid return

	weight abt. kg	
	LEL	+ integr. pre-arranged separator
LEM 250	91	100

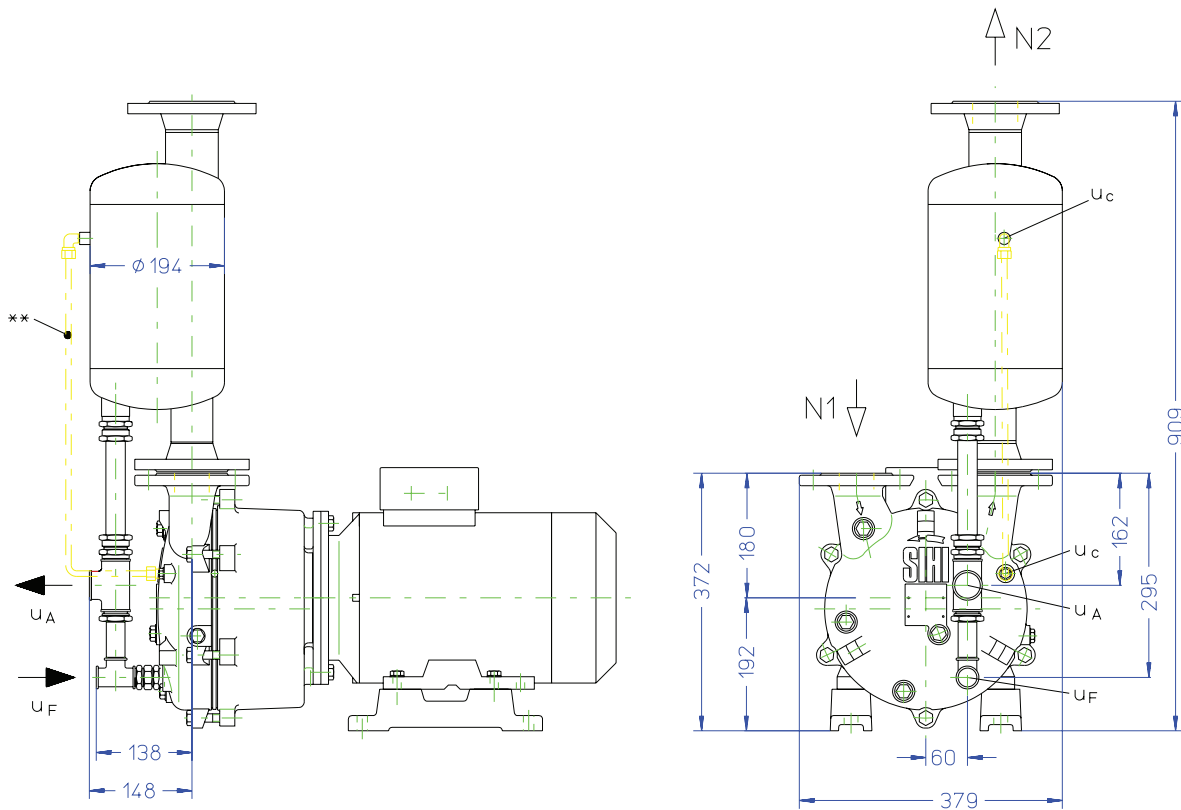
flange connections see page 8



LEM 250, LEL 250

Single-stage Liquid Ring Vacuum Pumps

Arrangement drawing LEM 250



	size	electric motor IP 55 kW		weight abt. kg
		50 Hz	60 Hz	
LEM 250	132 S	5,5	-	122
	132 M	-	8,0	128

other motors on request
** see list of accessories

flange connections see page 8

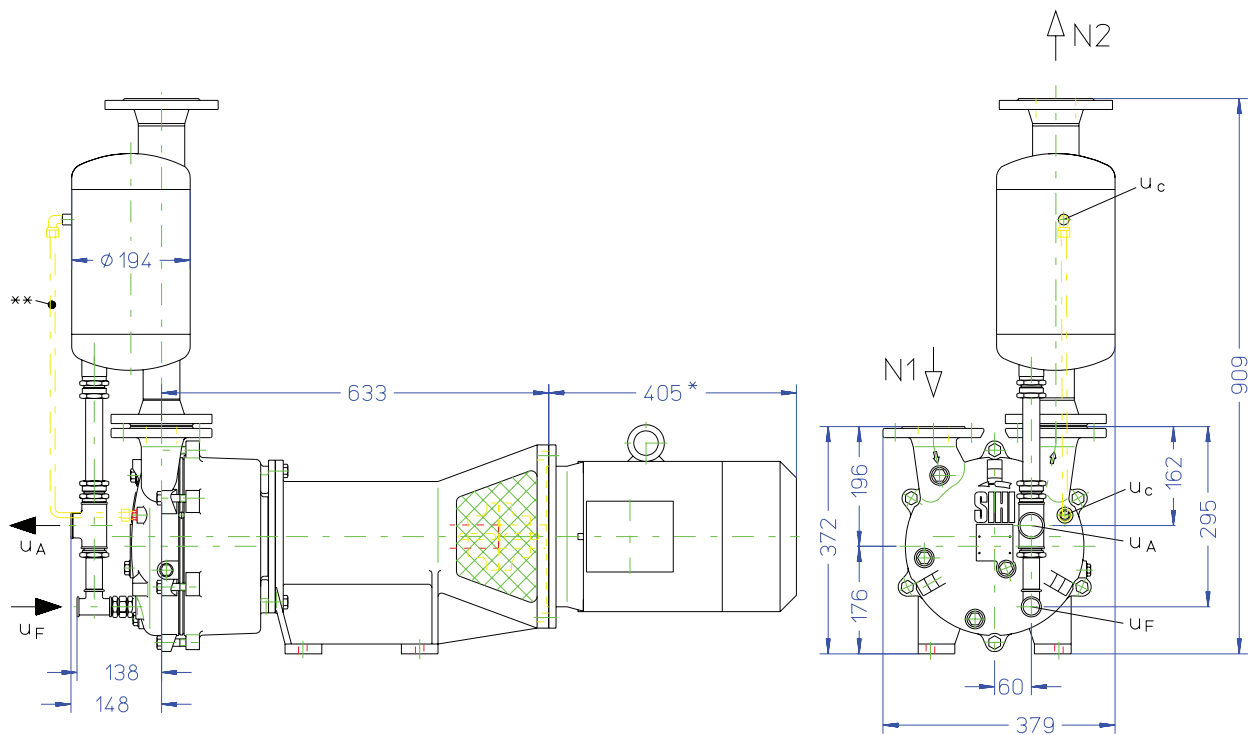
- N 1 = gas inlet DN 50
- N 2 = gas outlet DN 65
- U_A = connection for liquid drain G 1
- U_F = connection for fresh liquid G $\frac{1}{2}$
- U_C = connection for protection against cavitation G $\frac{1}{4}$



LEM 250, LEL 250

Single-stage Liquid Ring Vacuum Pumps

Arrangement drawing LEL 250



	electric motor 50 Hz			weight abt. kg
	size	kW		
		IP 55	EEx e II T3	
LEL 250	132 S	5,5	-	150
	132 M	-	6,8	185

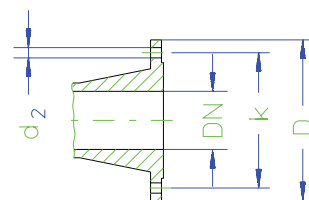
flange connections to DIN 2501 PN 10		
DN	50	65
k	125	145
D	165	185
number x d_2	4 x 18	4 x 18

other motors on request

* dimension dependent on the motor make

** see list of accessories

- N 1 = gas inlet DN 50
- N 2 = gas outlet DN 65
- u_A = connection for liquid drain G 1
- u_F = connection for fresh liquid G ½
- u_c = connection for protection against cavitation G ¼



LEM 250, LEL 250

Single-stage Liquid Ring Vacuum Pumps



Data regarding the pump size - order notes

series + size	hydraulics + bearings	shaft sealing	material design	casing seal
	- A• hydraulic A - R• with integrated pre-arranged separator •Z two grease lubricated antifriction bearings arranged in the motor •B as •Z but arranged in the motor carrier	AAE standard mechanical seal O-rings Perbunan AA1 as AAE, but O-rings Viton	0A main parts of GG 4B main parts of Cr Ni Mo-cast steel	0 liquid seal
LEM 250	AZ, RZ	AAE, AA1	0A, 4B	0
LEL 250	AB, RB			

Motor selection table LEM

	motor enclosure IP 55 50 Hz					motor enclosure IP 55 60 Hz				
	Y-voltage V +/- 5%	Δ-voltage V +/- 5%	power kW	size	motor- design.	Y-voltage V +/- 5%	Δ-voltage V +/- 5%	power kW	size	motor- design.
LEM 250	660-725	380-420	5,5	132 S	AW	---	380-480	8,0	132 M	DX

Example for ordering:

The construction size LEM 250 AZ AAE 0A 0 with 5,5 kW three-phase ac motor (50 Hz, 400 VΔ) 1450 rpm has the complete order number:

LEM• 250 AZ AAE 0A 0 AW

Design for LEL

	designation	electric motor 50 Hz					
pump with free shaft end	01	motor enclosure IP 55			motor enclosure EEx e II T3		
pump with coupling, pre-drilled at motor side	04	kW	size	motor design.	kW	size	motor design.
as above, but with motor, for example 5,5 kW three phase motor (50 Hz, 400 VΔ) at 1450 rpm	e.g. NB	5,0	132 S	NB	6,8	132 M	PK

Example for ordering:

The construction size LEL 250 AB AAE 0A 0 with 5,5 kW three-phase ac motor (50 Hz, 400 VΔ) 1450 rpm has the complete order number:
NB

LEL• 250 AB AAE 0A 0

If motors with other voltage or frequency are required a special information should be given.

On delivery the point (•) in the fourth place of the type code is replaced by a letter in the factory.

LEM 250, LEL 250

Single-stage Liquid Ring Vacuum Pumps



Accessories LEM 250, LEL 250

Recommended accessories		LEM 250 LEL 250
Overhead liquid separator	type	XBa 940
	weight	10,5 kg
	SIHI part No.	35 000 385
		35 000 386
material design	130 / galvanized 172 / 1.4571	
material design	072 / St 37-0 172 / 1.4571	SIHI part No.
		35 010 860
cavitation protection line		35 012 649
material design	072 / St 37-0 172 / 1.4571	SIHI part No.
		35 003 345
		35 003 346
Upright liquid separator	type	XBp 414
	weight	31 kg
	SIHI part No.	35 000 504
		35 000 505
material design	130 / galvanized 172 / 1.4571	
service liquid line		
material design	072 / St 37-0 172 / 1.4571	SIHI part No.
		35 003 242
discharge line (bend)		35 003 243
material design	072 / St 37-0 172 / 1.4571	SIHI part No.
		35 003 214
cavitation protection line		35 003 215
material design	072 / St 37-0 172 / 1.4571	SIHI part No.
		20 041 563
		20 041 564
SIHI-gas ejector		
at service liquid temperature	15 °C	GEV 250 A
at service liquid temperature	30 °C	GEV 250 B
SIHI-ball type non-return valve		
material design	type / weight 767 / GG-25 SIHI part No.	XCK 50 / 3,6 resp. 10,8 kg
	784 / 1.4408	43 016 892
		20 029 498
Standard motor only for LEL		
IP 55	size	132 S
	power	5,5 kW
	weight	45 kg
EEx e II T3	size	132 M
	power	6,8 kW
	weight	80 kg
Coupling only for LEL		
for motor IP 55	type / weight	B 95 / 2,6 kg
pump side	SIHI part No.	43 021 429
motor side		43 021 433
for motor EEx e II T3	type / weight	BDS 103 / 3,1 kg
pump side	SIHI part No.	43 028 126
motor side		43 025 941

LEM 325, 425

Single-stage Liquid Ring Vacuum Pumps



Pressure range: 33 to 1013 mbar
Suction volume flow: 100 to 470 m³/h

CONSTRUCTION TYPE

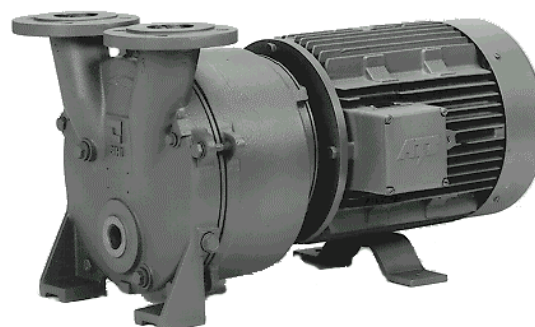
SIHI liquid ring vacuum pumps are displacement pumps of uncomplicated and robust construction with the following particular features:

- non-polluting due to nearly isothermal compression
- oil-free, as no lubrication in the working chamber
- handling of nearly all gases and vapours
- small quantities of entrained liquid can be handled
- easy maintenance and reliable operation
- low noise and nearly free from vibration
- wide choice of material, therefore applicable nearly everywhere
- shaft not contact with the medium
- protection against cavitation as standard
- incorporated dirt drain
- incorporated central drain
- no metallic contact of the rotating parts

The SIHI liquid ring vacuum pumps LEM are single-stage ones.

APPLICATION

Handling and exhausting of dry and humid gases; entrained liquid can be handled during normal duty. The pumps are applied in all fields where a pressure of 33 to 900 mbar must be created by robust vacuum pumps.



NOTE

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

It is possible to reuse the service liquid. The pumps are equipped with a device by which the contaminated service liquid can continuously be drained during operation (dirt drain), if necessary.

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

GENERAL TECHNICAL DATA

Pump type	unit	LEM 325	LEM 425
speed 50 Hz 60 Hz	rpm	1450 1750	
Max. compression over pressure	bar	0,3 (0,5*)	
Max. admissible pressure difference	bar	1,1 (1,5*)	
Hydraulic test (over pressure)	bar	3	
Moment of inertial of the rotating pump parts and of the water filling	kg · m²	0,14	0,21
Sound pressure level at a suction pressure of 80 mbar	dB (A)	70	72
Max. gas temperature dry saturated	°C °C	200 100	
Service liquid			
max. admissible temperature	°C	80	
max. viscosity	mm²/s	4	
max. density	kg/m³	1200	
volume up to shaft level	liter	4,3	4,7
Max. flow resistance of the heat exchanger	bar	0,2	

The combination of several limiting values is not admissible.

* In case of electric motors in 60 Hz design or protection type EEx e II T3

LEM 325, 425

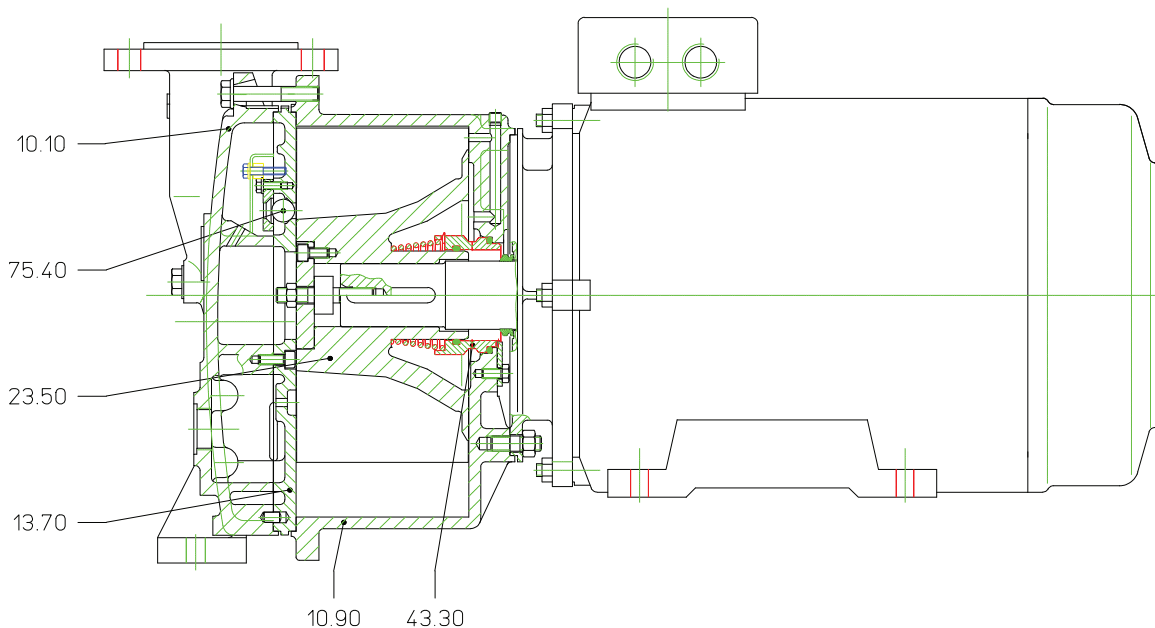
Single-stage Liquid Ring Vacuum Pumps



Material design

Item	COMPONENTS	MATERIAL DESIGN	
		0B	4B
10.10	Casing	0.6025	1.4408
10.90	Central body		
13.70	Guide disk		
23.50	Vane wheel impeller	0.7043	1.4517
43.30	Standard mechanical seal	Cr-steel / carbon/ Perbunan	Cr Ni Mo-steel / carbon / Viton
75.40	Valve balls	polyamide A	PTFE

Sectional drawing LEM 325, LEM 425



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

suction pressure [mbar]		33				120				200				400			
pump	speed [rpm]	KB			FB	KB			FB	KB			FB	KB			FB
		difference in temperature [°C]				difference in temperature [°C]				difference in temperature [°C]				difference in temperature [°C]			
		10	5	2		10	5	2		10	5	2		10	5	2	
LEM 325	1460	0,31	0,52	0,88	1,6	0,40	0,63	0,97	1,5	0,42	0,65	0,96	1,4	0,40	0,60	0,84	1,15
	1750	0,42	0,67	1,03		0,50	0,75	1,07		0,52	0,76	1,05		0,49	0,69	0,91	
LEM 425	1460	0,46	0,74	1,19	2,0	0,56	0,85	1,23	1,75	0,57	0,84	1,18	1,6	0,45	0,60	0,75	0,9
	1750	0,64	0,97	1,40		0,69	0,99	1,34		0,70	0,97	1,27		0,53	0,67	0,79	

FB = fresh liquid service

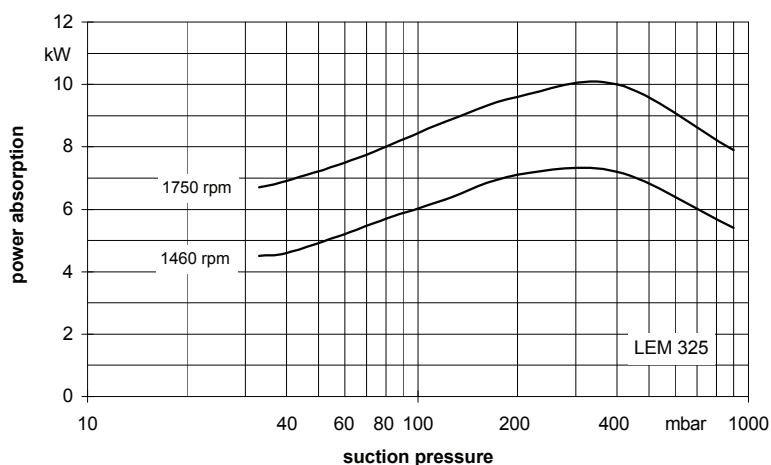
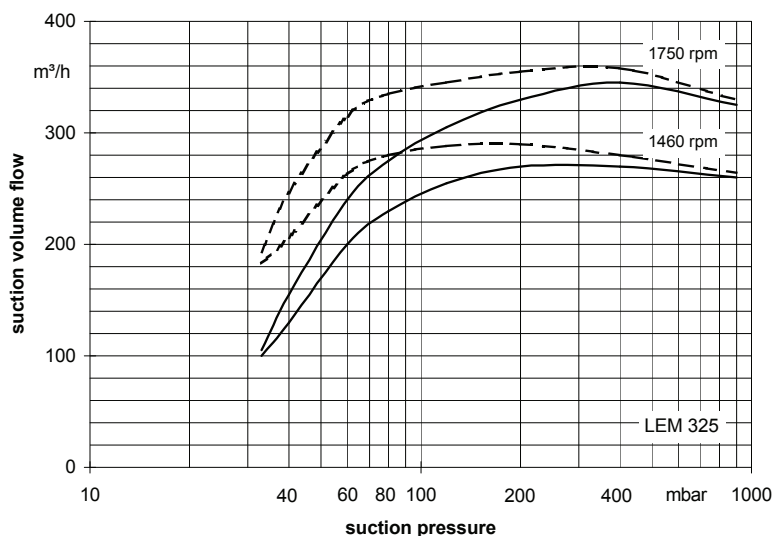
KB = combined liquid service with service water 10 °C, 5 °C, 2 °C warmer than the fresh water.

LEM 325, 425

Single-stage Liquid Ring Vacuum Pumps



Suction volume flow and power absorption LEM 325



The operating data are applicable under the following conditions:

- pumping medium: - dry air: 20°C _____
- water vapour saturated air: 20°C
- service liquid: - water: 15°C

Compression pressure 1013 mbar (atmospheric pressure)

The suction volume flow is applied to the suction pressure

Tolerance of the operating data 10%

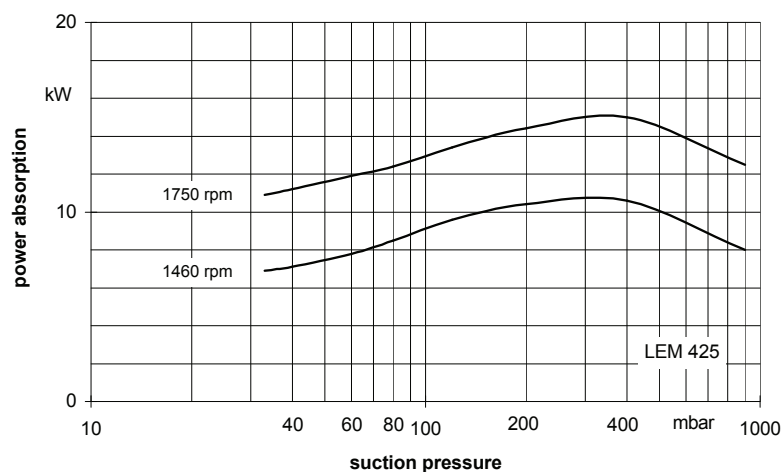
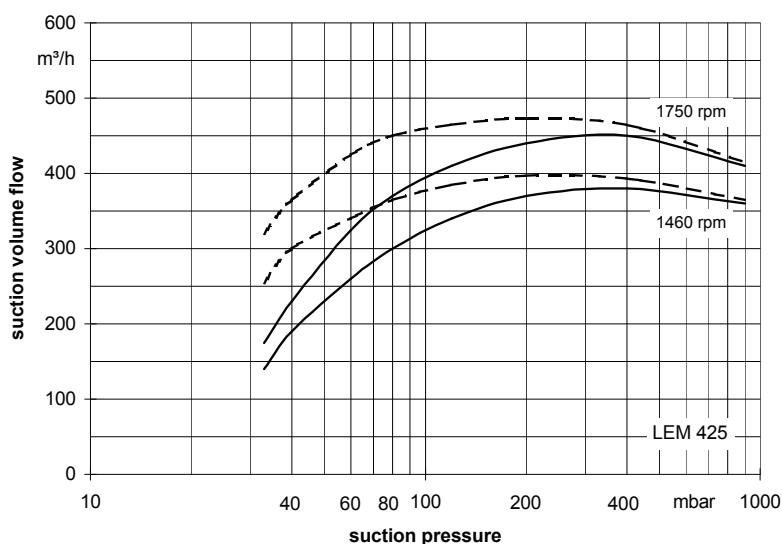
Max. fresh water need with lowest suction pressure

LEM 325, 425

Single-stage Liquid Ring Vacuum Pumps



Suction volume flow and power absorption LEM 425



The operating data are applicable under the following conditions:

- pumping medium:
 - dry air: 20°C —————
 - water vapour saturated air: 20°C
- service liquid:
 - water: 15°C

Compression pressure 1013 mbar (atmospheric pressure)

The suction volume flow is applied to the suction pressure

Tolerance of the operating data 10%

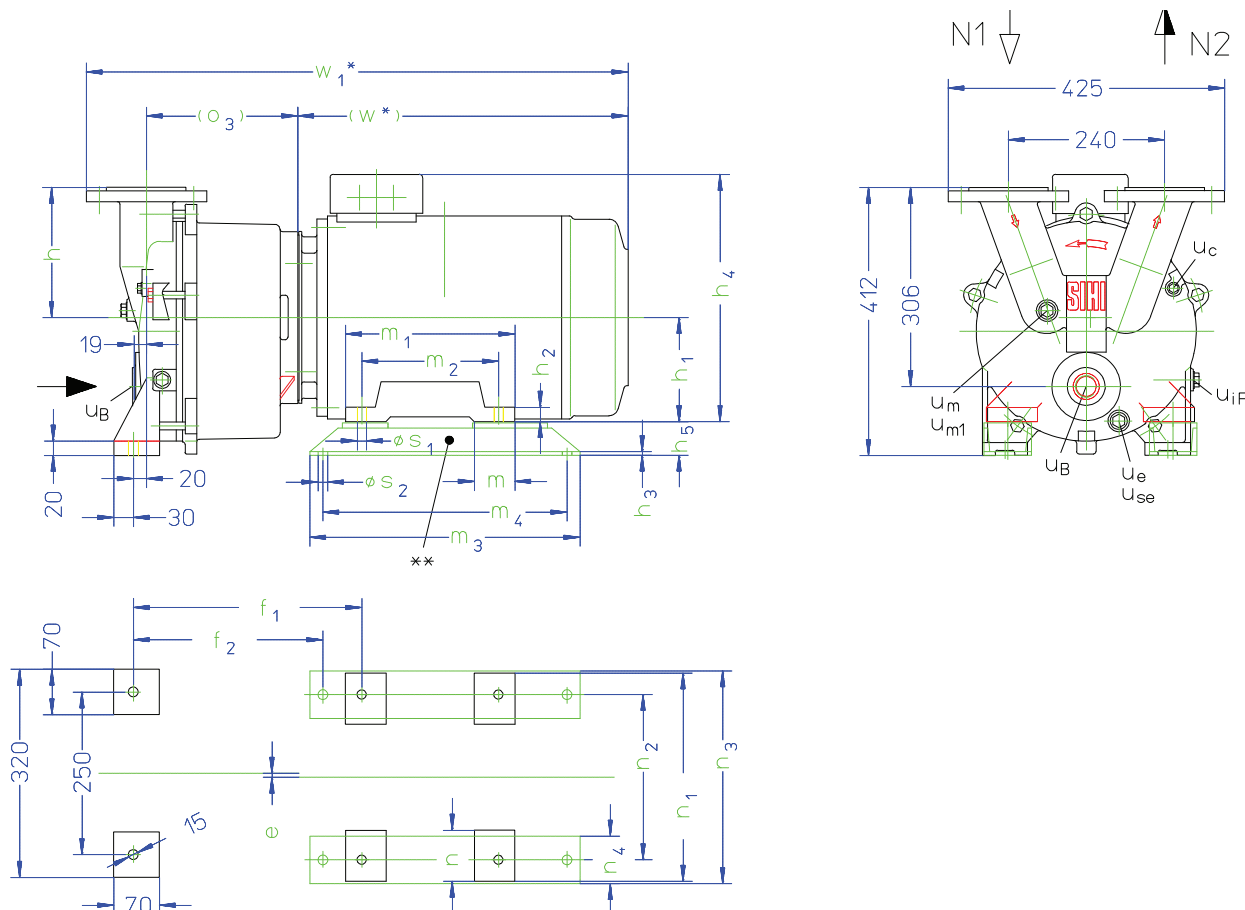
Max. fresh water need with lowest suction pressure

LEM 325, 425

Single-stage Liquid Ring Vacuum Pumps



Dimension table LEM 325, LEM 425



N 1 = gas inlet DN 65

N 2 = gas outlet DN 65

u_B = connection for service liquid G 1

u_c = connection for protection against cavitation G 1/4

u_e = drain connection G 1/2

u_{se} = connection for dirt drain G 1/2

u_m = connection for pressure gauge G 1/2

u_m = connection for drain valve G 1/2

u_{iF} = adjusting screw for internal liquid return

	electric motor IP 55			e	f ₁	f ₂	h	h ₁	h ₂	h ₃	h ₄	h ₅	m	m ₁	m ₂	m ₃	m ₄	n	n ₁	n ₂	n ₃	n ₄	O ₃	S ₁	S ₂	W*	w ₁ *	weight abt. kg
	size	kW 50 Hz	60 Hz																									
I FM 325	132 M	7,5	-	4	315	404	202	132	18	8	320	50	88	218	178	218	0	55	256	216	266	45	219	12	13	393	704	145
	160 M	-	13,2		337	277							260	210	415	375	69	320	254	319	65	819						185
I FM 425	160 M	11,0	-	6	351	291	200	160	22	6	380	52	62			415	375	69	320	254	319	65	233	14	15	508	833	190
	160 L	-	18,0		304	254																215						

other motors on request

* dimensions dependent on the motor make

** see list of accessories

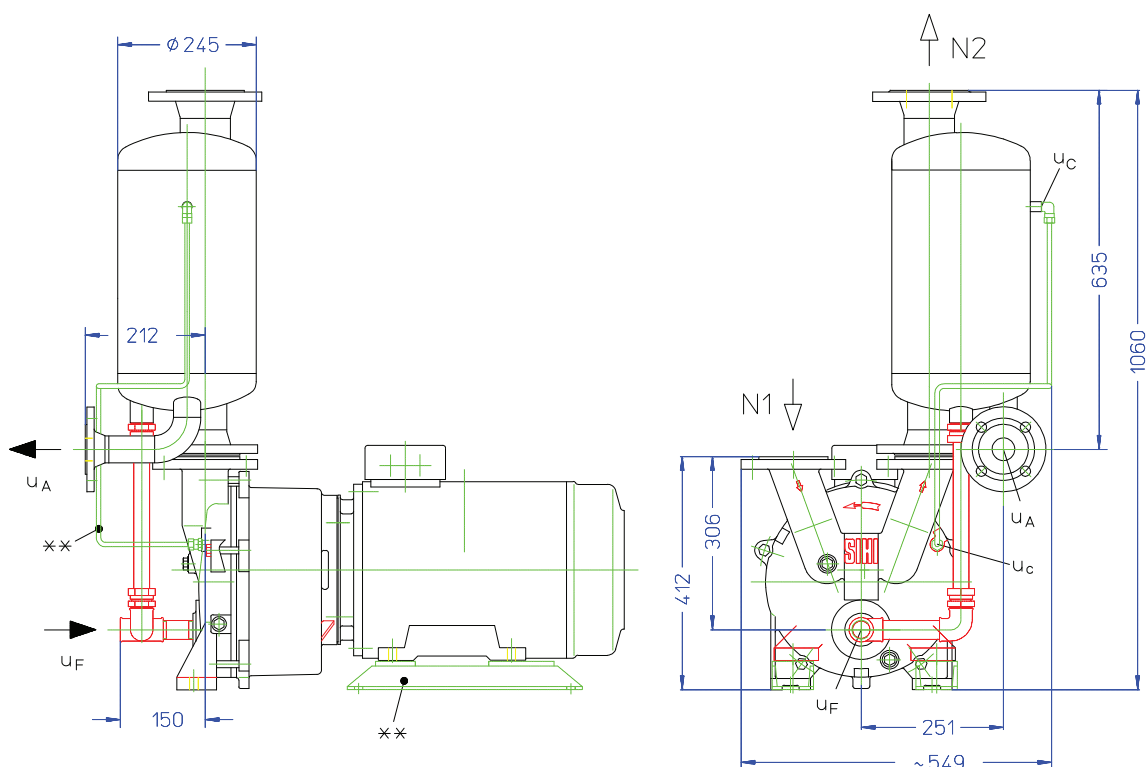
flange connections see page 6

LEM 325, 425

Single-stage Liquid Ring Vacuum Pumps



Arrangement drawing LEM 325, LEM 425



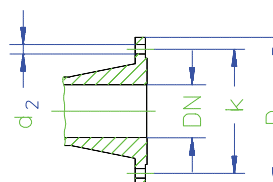
	size	electric motor IP 55 kW		weight ca. kg
		50 Hz	60 Hz	
I FM 325	132 M	7,5	-	170
	160 M	-	13,2	210
I FM 425	160 M	11,0	-	215
	160 L	-	18,0	240

other motors on request

** see list of accessories

- N 1 = gas inlet DN 65
- N 2 = gas outlet DN 80
- U_A = connection for DN 40
- U_F = connection for fresh liquid G 1
- U_C = connection for protection against cavitation G 1/4

flange connections to DIN 2501 PN 10			
DN	40	65	80
k	110	145	160
D	150	185	200
number x d ₂	4 x 18	4 x 18	8 x 18



LEM 325, 425

Single-stage Liquid Ring Vacuum Pumps



Data regarding the pump size - order notes

series + size	hydraulics + bearings	shaft sealing	material design	casing seal
	A• hydraulic A •Z two grease lubricated antifriction bearings arranged in the motor	AAE standard mechanical seal O-rings Perbunan AA1 as AAE, but O-rings Viton	0B main parts of GG without non-ferrous metal 4B main parts of Cr Ni Mo-cast steel	0 liquid seal
LEM 325	A7	AAF AA1	0B 4B	0
LEM 425				

Motor selection table

	motor enclosure IP 55 50 Hz					motor enclosure IP 55 60 Hz				
	Y-voltage V +/- 5%	Δ-voltage V +/- 5%	power kW	size	motor- design.	Y-voltage V +/- 5%	Δ-voltage V +/- 5%	power kW	size	motor- design.
LEM 325	660-725	380-420	7,5	132 M	PB	---	440-480	13,2	160 M	TW
LEM 425	---	380-420	11,0	160 M	JW	---	440-480	18,0	160 L	KW

Example for ordering:

The construction size LEM 325 AZ AAE 0B 0 with 7,5 kW three-phase ac motor (50 Hz, 400 VΔ) 1450 rpm has the complete order number:
PB

LEM• 325 AZ AAE 0B 0

If motors with other voltage or frequency are required a special information should be given.

On delivery the point (*) in the fourth place of the type code is replaced by a letter in the factory.

LEM 325, 425

Single-stage Liquid Ring Vacuum Pumps



Accessories LEM 325, LEM 425

Recommended accessories			LEM 325		LEM 425	
Overhead liquid separator			type	XBa 2040		
			weight	20 kg		
material design	130 / galvanized	SIHI part No.	35 000 416			
	172 / 1.4571		35 000 417			
service liquid line						
material design	072 / St 37-0	SIHI part No.	35 011 500			
	172 / 1.4571		35 010 697			
cavitation protection line						
material design	072 / St 37-0	SIHI part No.	20 027 915			
	172 / 1.4571		20 027 916			
Upright liquid separator			type	on request		
			weight			
material design	130 / galvanized	SIHI part No.				
	172 / 1.4571					
service liquid line						
material design	072 / St 37-0	SIHI part No.				
	172 / 1.4571					
discharge line (bend)						
material design	072 / St 37-0	SIHI part No.				
	172 / 1.4571					
cavitation protection line						
material design	072 / St 37-0	SIHI part No.				
	172 / 1.4571					
SIHI-gas ejector						
at service liquid temperature		15 °C	GEV 325 A		GEV 425 A	
at service liquid temperature		30 °C	GEV 325 B		GEV 425 B	
SIHI-ball type non-return valve			type	XCk 65		
			weight	5,6 resp. 15,8 kg		
material design	767 / GG-25	SIHI part No.	43 016 894			
	784 / 1.4408		20 029 500			
Support foot						
for motor size 132 M		SIHI part No.	20 047 013		-	
for motor size 160 M, 160 L			20 047 014		20 047 015	

LELC 90, 125, 150, 250, 325, 425

Single-stage Liquid Ring Vacuum Pumps



PRESSURE RANGE:

33 - 1013 mbar

SUCTION VOLUME:

32 - 470 m³/h

CONSTRUCTION TYPE

SIHI liquid ring vacuum pumps are displacement pumps of uncomplicated and robust construction with the following particular features:

- nearly isothermal compression
- oil-free, as no lubrication in the working chamber therefore non-polluting
- Capable of handling of nearly all gases and vapours
- small quantities of entrained liquid can be handled
- easy maintenance and reliable operation
- low noise and nearly free from vibration
- wide choice of materials, therefore applicable nearly everywhere
- shaft not in contact with the medium
- protection against cavitation as standard
- incorporated dirt drain
- no metallic contact of the rotating parts



NOTE

During operation the pump must be supplied continuously with service liquid, normally water, in order to eliminate the heat resulting from the gas compression and to replenish the liquid ring, because part of the liquid is leaving the pump together with the gas. This liquid can be separated from the gas in a liquid separator (see last page) and reused.

The pumps are equipped with a connection through which the contaminated service liquid can be drained continuously during operation (dirt drain), if necessary.

The direction of rotation is clockwise, when looking from the motor towards the pump.

SIHI liquid ring vacuum pumps LELC are single-stage SIHI LELC

APPLICATION

Handling and exhausting of dry and humid gases; entrained liquid can be handled during normal duty. The pumps are applied in all fields where a pressure of 33 to 900 mbar must be generated.

LELC 90, 125, 150, 250, 325, 425

Single-stage Liquid Ring Vacuum Pumps



GENERAL TECHNICAL DATA

Pump type		Unit	LELC 90	LELC 125	LELC 150	LELC 250	LELC325	LELC 425
Synchronous speed	50 Hz	rpm	1500					
Max. compression over atmospheric pressure		bar	0.3					
Max. admissible pressure difference		bar	1.1					
Test pressure above atmospheric pressure		bar	3					
Moment of inertia of the rotating pump parts and water filling		kg · m ²	0.035	0.053	0.069	0.097	0.14	0.21
Sound pressure level at a suction pressure of 80 mbar		dB (A)	65				70	72
Max. gas temperature	Dry gas	°C	200					
	Saturated gas	°C	100					
Service liquid max. recommended temperature for water as working liquid		°C	40					
max. admissible temperature for other suitable working liquids		°C	80					
max. kinematic viscosity		mm ² /s	4					
max. density		kg/m ³	1200					
volume up to shaft level		liter	2.4	2.8	3.2	4.0	4.2	4.7

The combination of several limiting values is not admissible.

Material design

Material Design		0K		0E	4B	
Pump Type	LEMC 90,125,150	✓			✓	
	LEMC 250		✓	✓		✓
	LEMC 325 425		✓	✓		✓
Item	Component	Material				
10.10	Casing	0.6025			1.4408	
10.90	Central body					
13.70	Guide disc					
21.00	Shaft	45				
23.50	Vane wheel impeller	1.4301		1.4408		
34.01	Motor Carrier	0.6025				
43.30	Mechanical seal	Q22BVGG Q22BM1GG	FBPFF GBM1GG	GBM1GG	Q22BM1GG	GBM1GG
		Q22 : SiC B : Carbon F : Cr-Ni-St G : Cr-Ni-Mo-St V : Viton P : Perbunan M1 : PTFE encapsulated				
75.40	Valve balls	PTFE				

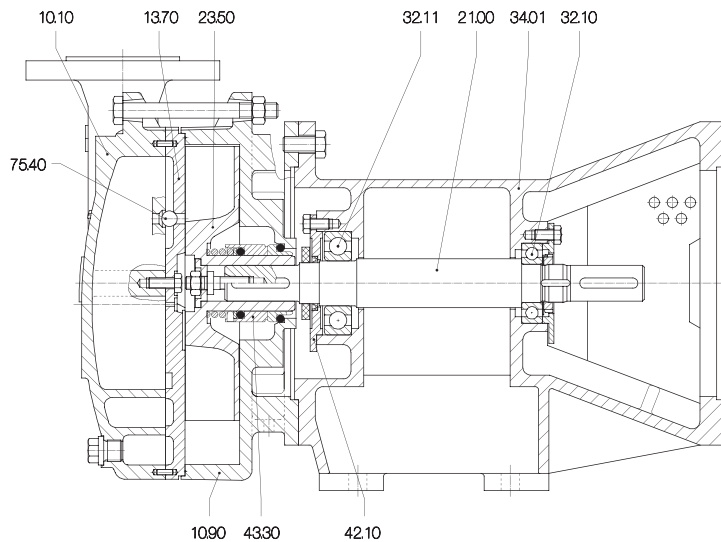


LELC 90, 125, 150, 250, 325, 425

Single-stage Liquid Ring Vacuum Pumps

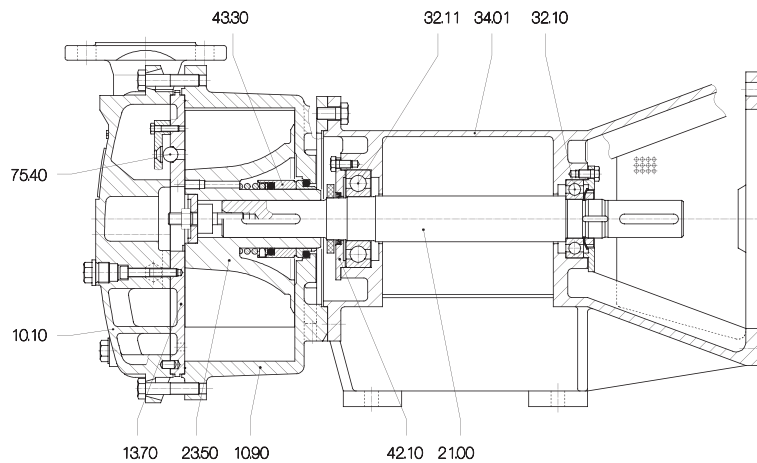
Sectional drawings

LELC 90, 125, 150

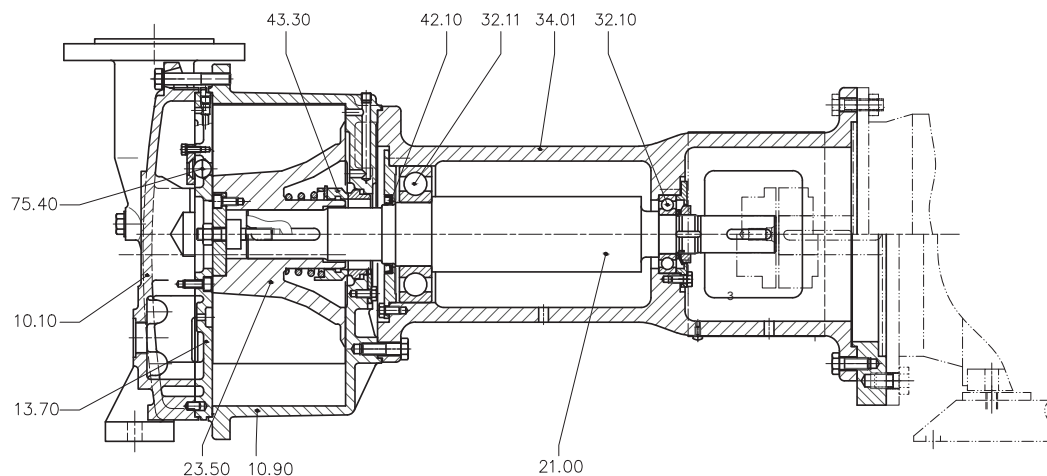


10.10	Casing
10.90	Central body
13.70	Guide disc
21.00	Shaft
23.50	Vane wheel impeller
34.01	Motor Carrier
43.30	Mechanical seal
75.40	Valve balls
32.10	Ball bearing
32.11	Ball bearing
42.10	Radial Seal

LELC 250



LELC 325, 425



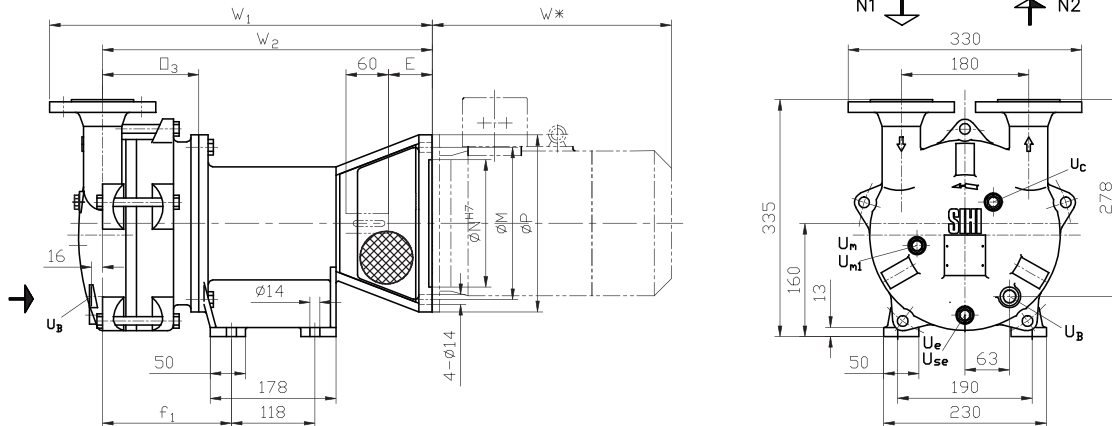


LELC 90, 125, 150, 250, 325, 425

Single-stage Liquid Ring Vacuum Pumps

Table of Dimensions and weights
Motors on request

LELC 90, LELC 125, LELC 150

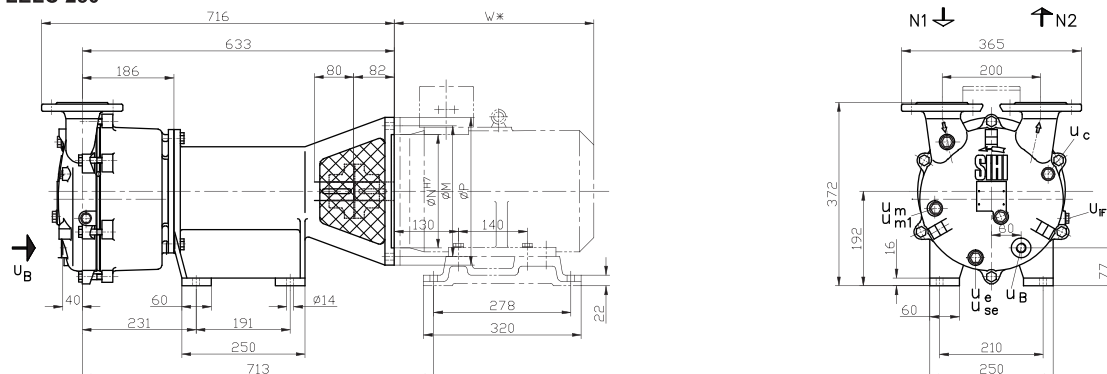


N 1 = Gas inlet DN 40
N 2 = Gas outlet DN40
U_B = Connection for service liquid G ½
U_c = Connection for protection against cavitation G ¾

U_e = Drain connection G ¾
U_{se} = connection for dirt drain G ¾
U_m = Connection for pressure gauge G ¾
U_{m1} = Connection for dirt drain ¾

Pump	Electric Motor		f ₁	Ø ₃	W ₁	W ₂	E	M	N	P	Aprox. weight w/o motor and coupling (Kg)				
	Size	Power (Kw)													
LELC 90	100 L1	2.2	182	136	541	466	62	215	180	250	62				
	100 L2	3													
LELC 125	100 L2	3	191	145	550	475					62	215	180	250	65
	112 M	4													
LELC 150	112 M	4	208	162	567	492									62
	132 S	5.5			587	512	82	265	230	300					

LELC 250



Pump	Electric Motor		M	N	P	Aprox. weight w/o motor and coupling (Kg)
	Size	Power (Kw)				
LELC250	132 S	5.5	265	230	300	94

N 1 = Gas inlet DN50
N 2 = Gas outlet DN50
U_B = Connection for service liquid G ½

U_c = Connection for protection against cavitation G ¾

U_e = Drain connection G ½
U_{se} = Connection for dirt drain G ½
U_m = Connection for pressure gauge G ½
U_{m1} = Connection for drain valve G ½
U_f = Adjusting screw for internal liquid return

Motor feet are accessories and not part of the standard supply of LELC

Flange connections see page 9



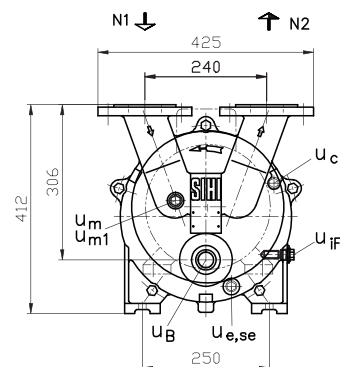
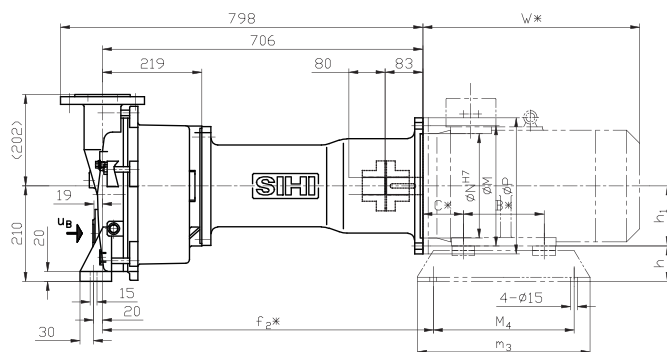
LELC 90, 125, 150, 250, 325, 425

Single-stage Liquid Ring Vacuum Pumps

Table of Dimensions and weights

Motors on request

LELC 325



Pump	Electric Motor		h	h1	m3	m4	B*	C*	f2 *	M	N	P	Aprox. weight w/o motor intermediate ring (Kg)
	Size	Power (Kw)											
LELC325	132 M	7.5	78	132	380	310	178	89	742.5	265	230	300	123
	160 M	11.0	50	160	415	375	210	96.5		300	250	350	

N 1 = Gas inlet DN65

N 2 = Gas outlet DN65

U_B = Connection for service liquid G 1

U_c = Connection for protection against cavitation G 1/4

U_e = Drain connection G 1/2

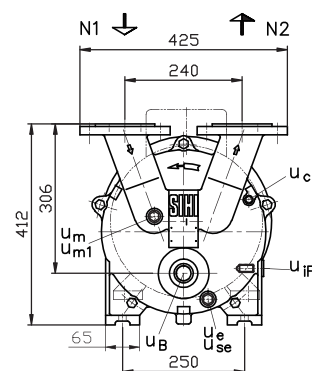
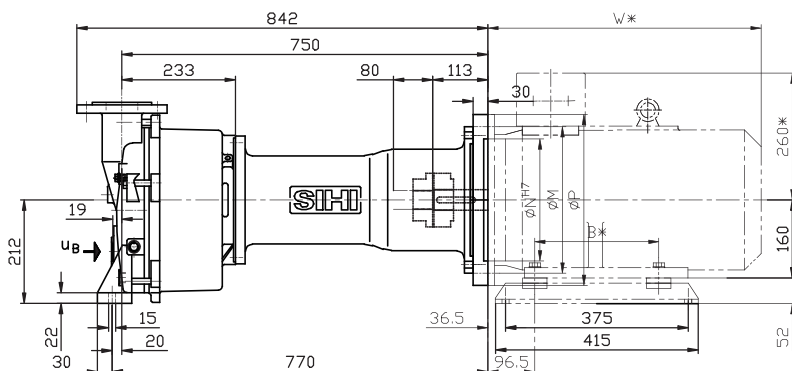
U_{se} = Connection for dirt drain G 1/2

U_m = Connection for pressure gauge G 1/2

U_{m1} = Connection for drain valve G 1/2

U_{IF} = Adjusting screw for internal liquid return

LELC 425



Pump	Electric Motor		B*	M	N	P	Aprox. weight of pump with intermediate ring but w/o motor (Kg)
	Size	Power (Kw)					
LELC425	160M	11	210	300	250	350	139
	160L	15	254				

N 1 = Gas inlet DN65

N 2 = Gas outlet DN65

U_B = Connection for service liquid G 1

U_c = Connection for protection against cavitation G 1/4

U_e = Drain connection G 1/2

U_{se} = Connection for dirt drain G 1/2

U_m = Connection for pressure gauge G 1/2

U_{m1} = Connection for drain valve G 1/2

U_{IF} = Adjusting screw for internal liquid return

Length of intermediate ring included in length of pump

Motor feet are accessories and not part of the standard supply of LELC

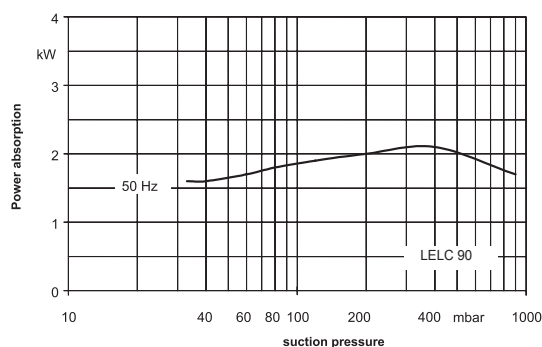
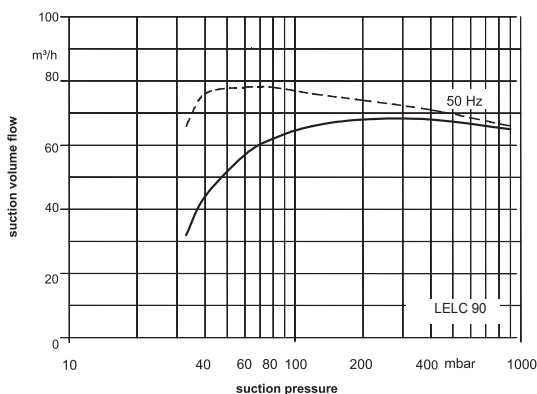


LELC 90, 125, 150, 250, 325, 425

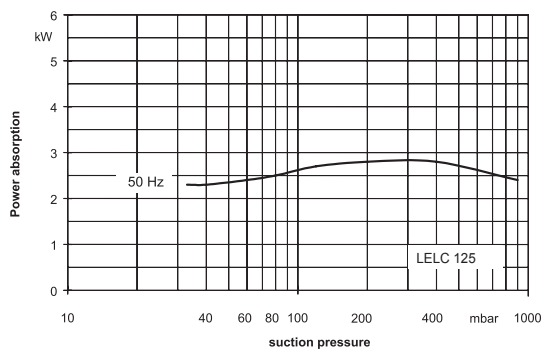
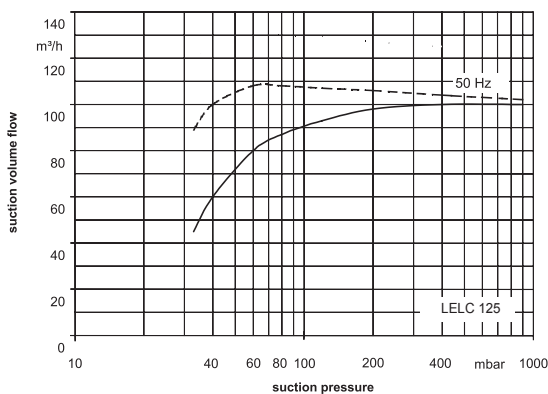
Single-stage Liquid Ring Vacuum Pumps

Performance Curves

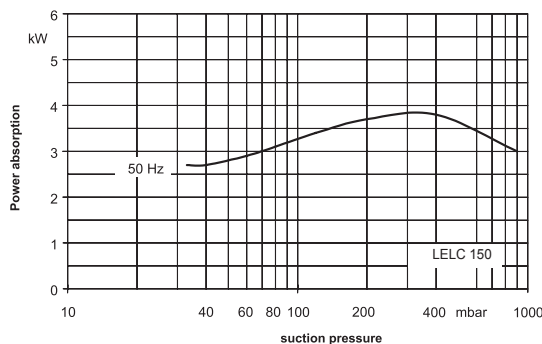
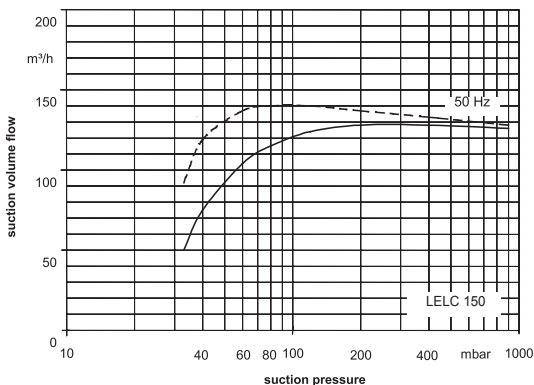
LELC 90



LELC 125



LELC150



The operating data are applicable under the following conditions

pumping medium : - dry air
- water vapour saturated air
service liquid : - water
Compression pressure 1013 mbar (atmospheric pressure)
Tolerance of the operating data 10%

at: 20°C
at: 20°C
at: 15°C

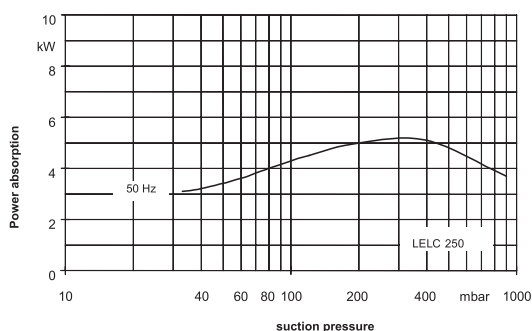
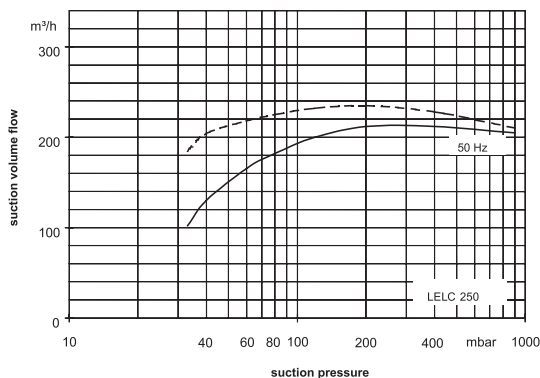


LELC 90, 125, 150, 250, 325, 425

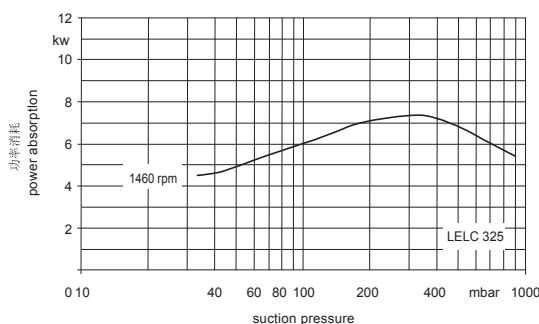
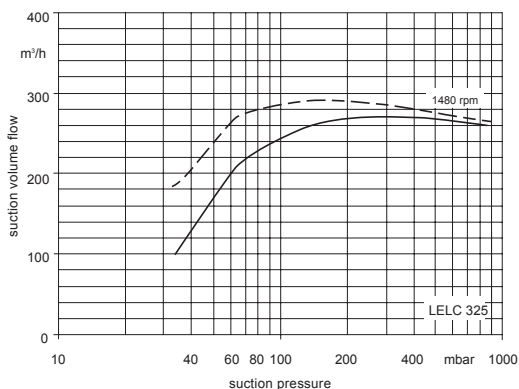
Single-stage Liquid Ring Vacuum Pumps

Performance Curves

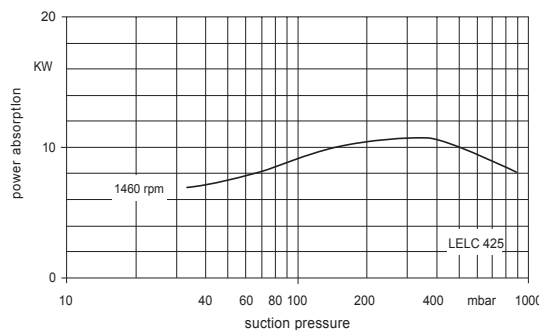
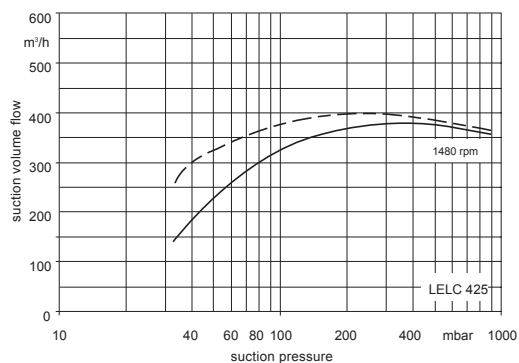
LELC 250



LELC 325



LELC 425



The operating data are applicable under the following conditions

- pumping medium
 - dry air: 20°C
 - water vapour saturated air: 20°C

- service liquid
 - water: 15°C
- Compression pressure 1013 mbar (atmospheric pressure)

The suction volume flow is applied to the suction pressure

Tolerance of the operating data 10%

Max fresh water need with lowest suction pressure

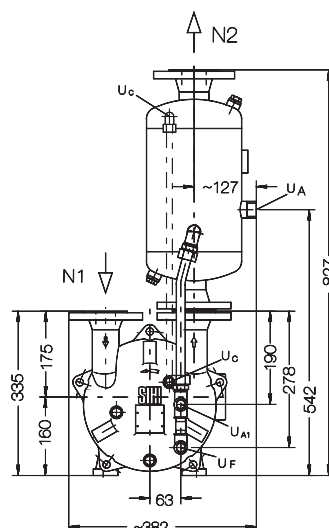
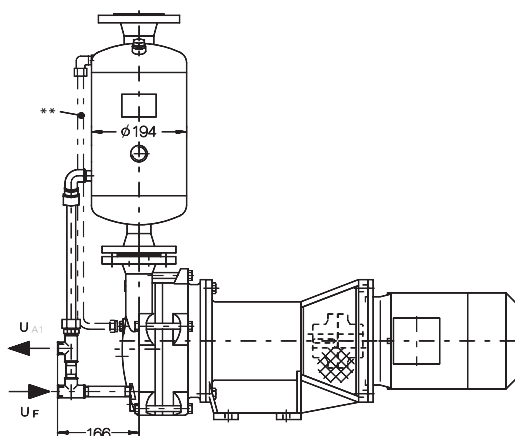


LELC 90, 125, 150, 250, 325, 425

Single-stage Liquid Ring Vacuum Pumps

Arrangement Drawings with Accessories

LELC 90, LELC 125, LELC 150



N 1=gas inlet DN 40

N 2=gas outlet DN 50

U_c =connection for protection against cavitation G ¾

U_A = connection for dirt drain G1

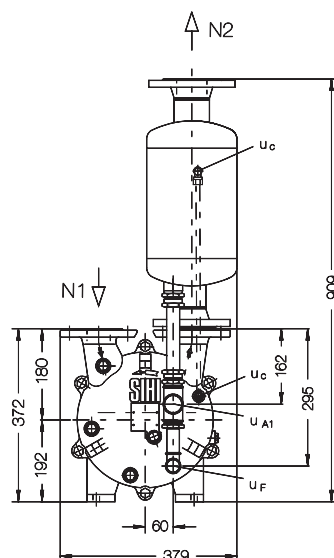
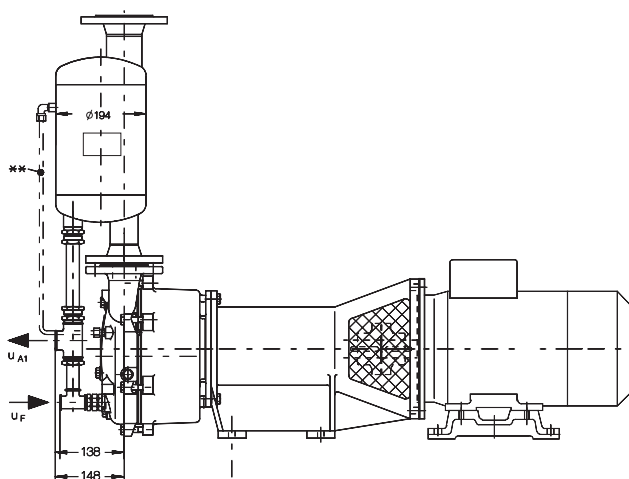
U_{A1} = connection for dirt drain G1

U_F =connection for fresh liquid G ½ G ½

Connection lines : see P11 list of accessories

Flange connections see page 9

LELC 250



N 1=gas inlet DN 50

N 2=gas outlet DN 65

U_F =connection for fresh liquid G ½

U_c =connection for protection against cavitation G ¼

U_{A1} = connection for dirt drain G1

Motor feet are accessories and not part of the standard supply

Connection lines : see P11 list of accessories

Flange connections see page 9

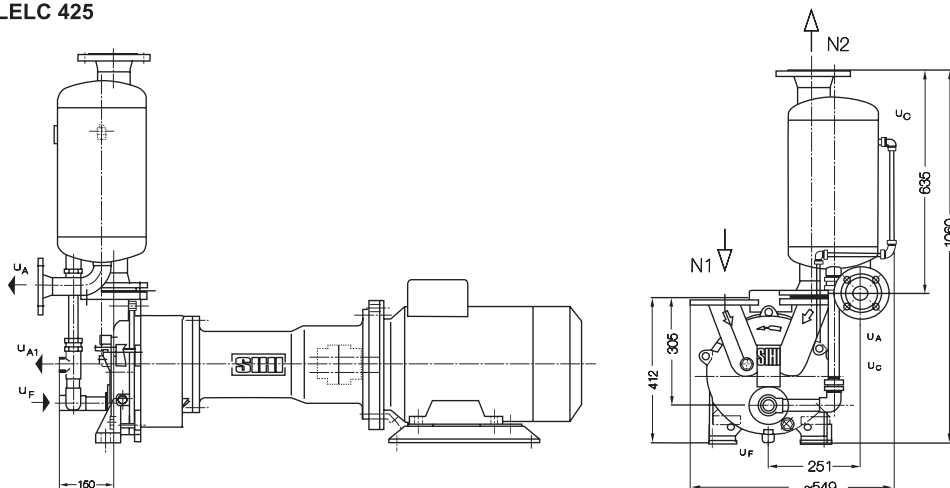
LELC 90, 125, 150, 250, 325, 425

Single-stage Liquid Ring Vacuum Pumps



Arrangement Drawings with Accessories

LELC 325, LELC 425



N 1=gas inlet DN 65

N 2=gas outlet DN 80

u_F =connection for fresh liquid G 1/2

u_C =connection for protection against cavitation G 1/2

u_{A1} = connection for dirt drain G1

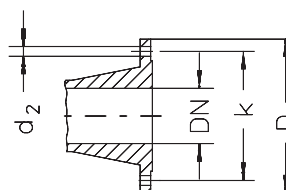
u_{A2} = connection for liquid drain G1

Motor feet are accessories and not part of the standard supply

Connection lines : see P11 list of accessories

Flange Connections to DIN 2501 PN10

Flange connections to DIN 2501 PN 10				
DN	40	50	65	80
k	110	125	145	160
D	150	165	185	200
number x d ₂	4 x 18	4 x 18	4 x 18	8 x 18



Water flow requirements

Suction pressure [mbar]		33				120				200				400			
Pump	Syn- speed	KB			FB	KB			FB	KB			FB	KB			FB
		Difference in temperature 温差 [°C]				Difference in temperature [°C]				Difference in temperature [°C]				Difference in temperature [°C]			
	[rpm]	10	5	2		10	5	2		10	5	2		10	5	2	
LELC 90	1500	0.12	0.22	0.41	1.0	0.14	0.24	0.44	0.95	0.14	0.25	0.44	0.9	0.15	0.24	0.41	0.75
LELC 125	1500	0.17	0.28	0.50	1.0	0.19	0.31	0.52	0.95	0.19	0.31	0.51	0.9	0.18	0.29	0.46	0.75
LELC 150	1500	0.19	0.32	0.54	1.0	0.22	0.36	0.58	0.95	0.23	0.37	0.57	0.9	0.23	0.35	0.51	0.75
LELC 250	1500	0.22	0.37	0.63	1.2	0.29	0.45	0.70	1.1	0.30	0.46	0.68	1.0	0.28	0.42	0.59	0.8
LELC 325	1500	0.31	0.52	0.88	1.6	0.4	0.63	0.97	1.5	0.42	0.65	0.96	1.4	0.40	0.60	0.84	1.15
LELC 425	1500	0.46	0.74	1.19	2.0	0.56	0.85	1.23	1.75	0.57	0.84	1.18	1.6	0.54	0.76	1.01	1.3

FB [m³/h] = fresh water service

KB [m³/h] = combined liquid service with service water 10 °C, 5 °C, 2 °C warmer than the fresh water.

LELC 90, 125, 150, 250, 325, 425

Single-stage Liquid Ring Vacuum Pumps



Data regarding the pump size

Order notes

Series + Size	Hydraulics + Bearings	Shaft Sealing	Material Design	Casing Seal				
	A Hydraulic A Thread Connection (for LEM 25, 50) Flange connection (for LEM 90 ... 250) B Two external bearings 1 Special execution	YTE Mechanical Seal O-rings Viton YTF Mechanical Seal O-rings Viton encapsulated with Teflon YTB Mechanical Seal O-rings Perbunan XAE Mechanical Seal O-rings Viton encapsulated with Teflon	0K Main parts from 0.6025 Impeller from 1.4301 0E Main parts from 0.6025 Impeller from 1.4408 4B Main parts from 1.4408	Liquid sealing 0				
LELC 90	AB	YTE / YTF	0K / 4B					
LELC125								
LELC150								
LELC250	AB	YTB / XAE	0K / 0E / 4B					
LELC325	A1							
LELC425								

Motor and Coupling data

Series+size	Motor						Coupling	
	Y-voltage	Power	Length	Weight	Size	Motor-design	Size	Weight
	V +/- 5%	kW	M	Kg				(Kg)
LELC 90	380/220	2.2	367	43.2	100 L1	FS	4- ϕ 28/ ϕ 28	2
		3	367	47.2	100 L2		4- ϕ 28/ ϕ 28	2
LELC 125	380/220	3	367	47.2	100 L2		4- ϕ 28/ ϕ 28	2
		4	402	60	112 M		4- ϕ 28/ ϕ 28	2
LELC 150	660/380	4	402	60	112 M		4- ϕ 28/ ϕ 28	2
		5.5	430	70	132 S		4- ϕ 28/ ϕ 38	4.2
LELC 250	660/380	5.5	430	70	132 S	GS	6- ϕ 38/ ϕ 38	4.2
LELC 325	660/380	7.5	470	90	132M		6- ϕ 38/ ϕ 38	4.2
		11	535*	124*	160 M	NS	6- ϕ 38/ ϕ 42	4.1
LELC 425	660/380	11	505	122	160 M		6- ϕ 38/ ϕ 42	4.1
		15	560	146	160 L		6- ϕ 38/ ϕ 42	4.1

Dimensions and weighs of motors are valid for standard motors used by SIHI Pumps (Shanghai)

* included intermediate ring

Example for ordering:

The pump size LELC 250 in cast iron with impeller in stainless steel with standard mechanical seal prepared to accept a 5.5kW motor has the order code: LELC 250 AB YTB 0E 0 GS. Motor, motor feet and coupling are not included in this code, and must be ordered separately.

Please indicate if you require a standard motor or other motors on request, the required voltage, the required motor frequency and if you need motor feet.

LELC 90, 125, 150, 250, 325, 425

Single-stage Liquid Ring Vacuum Pumps



Accessories

LELC 90 ~ 425

Recommended accessories		LELC 90	LELC 125	LELC 150	LELC 250	LELC325	LELC425
Overhead liquid separator	Type	XBa 1042			XBa 940	XBa 2040	
	Material design	20 / 316					
	Weight	9.7 kg			10.5 kg	20 kg	
Service liquid line	Material design	20 / 316					
Cavitation protection line	Material design	20 / 316					
SIHI Gas ejector SIHI	Type	GEVB 90A	GEVB125A	GEVB150A	GEV 250A	GEV 25A/B	GEV425A/B
	Service liquid temp. °C	15 - 30 °C					
	Drive nozzle	2.0401/1.4408					
	Venturi tube	2.0401/1.4408					
	Casing	0.6025/1.4408					
	Venturi tube holder	0.6025/1.4408					
	Insert ring	1.4408					
Disc type non-return valve	Type	C-NRV-150- OE- 0001			C-NRV-250-OE or 4B- 0001	C-NRV-425 OE or 4B- 0001	
	Weight	2.6 kg			3.2 kg	4.5 kg	
	Material design	Casing: : 1.4408 0.6025 Valve discs: 1.4401 Sealing disc: Teflon					
Support feet	Material design	0.6025			Steel (A3)钢		
	Weight	(Part of standard supply) 3.15 kg/foot			2.8kg /foot		

Any changes in the interest of the technical development are reserved.

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