

Liquid ring vacuum pumps 液环式真空泵

In close coupled design 机泵同轴设计



SIHI® Pumps

LEMC 25, 50, 90, 125, 150, 250, 325, 425

PRESSURE RANGE:

入口压力范围 : 33 - 1013 mbar

SUCTION VOLUME:

入口流量 : 24 - 470 m³/h

CONSTRUCTION TYPE

结构型式

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

SIHI 液环式真空泵是结构简单使用可靠的容积变化式泵，具有如下特点：

nearly isothermal compression
几乎等温压缩

oil-free, as no lubrication in the working chamber
therefore non-polluting
在工作腔内无需润滑，因而绝对无油，无污染

Capable of handling of nearly all gases and vapours
可处理几乎所有的气体和蒸汽

small quantities of entrained liquid can be handled
可处理少量的夹带液体

easy maintenance and reliable operation
易维护，高可靠性

low noise and nearly free from vibration
低噪音，几乎无振动

wide choice of materials, therefore applicable nearly everywhere
广泛的材质选择，基本上可用于所有场合

shaft not in contact with the medium
轴不接触介质

protection against cavitation as standard
气蚀保护作为标准配置

incorporated dirt drain
一体式排污

no metallic contact of the rotating parts
旋转部件没有金属接触

SIHI liquid ring vacuum pumps LEMC are single-stage
SIHI LEMC 系列液环式真空泵是单级泵。

APPLICATION

应用

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.

干气和湿气的处理和抽除；正常条件下可处理夹带的液体。此真空泵可用于所有需要33 mbar到900 mbar的场合。



NOTE

注意事项

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.

泵运转期间需连续不断地补充工作液（通常为水），以带走气体压缩而产生的热量和补充部分随气体排出的工作液。此部分工作液可在气液分离器中与气体分开（请见样本附件部分），以重新利用。

泵可按需要配备连接管线，以保证在运转条件下连续地排放被污染的工作液。

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

从泵的驱动端看，泵的旋转方向为顺时针。

GENERAL TECHNICAL DATA 常规技术数据

Pump type 泵型号	Unit 单位	LEMC 25	LEMC 50	LEMC 90	LEMC 125	LEMC 150	LEMC 250	LEMC 325	LEMC 425
Synchronous speed 同步转速	50 Hz	rpm	3000		1500				
Max. compression over atmospheric pressure 最大背压	bar	0.3							
Max. admissible pressure difference 允许最大压差	bar	1.1							
Test pressure above atmospheric pressure 水压试验 (表压)	bar	1		3					
Moment of inertia of the rotating pump parts and water filling 满水时转动部件的惯性力矩	kg•m²	0.003	0.0095	0.035	0.053	0.069	0.097	0.14	0.21
Sound pressure level at a suction pressure of 80 mbar 在80mbar 入口压力下的噪音	dB(A)	68	69	65				70	72
Max. gas temperature 最大吸气温度	Dry gas 干气	°C	200						
	Saturated gas 饱和气	°C	100						
Service liquid 工作液 max. recommended temperature for water as working liquid 工作液为水的最大推荐温度 max. admissible temperature for other suitable working liquids 对其他适合的工作液最大允许温度 max. kinematic viscosity 最大运动粘度 max. density 最大密度 volume up to shaft level 到轴中心线的容积	°C	40							
	°C	80							
	mm²/s	4							
	kg/m³	1200							
	liter	0.3	0.4	2.4	2.8	3.2	4.0	4.2	4.7

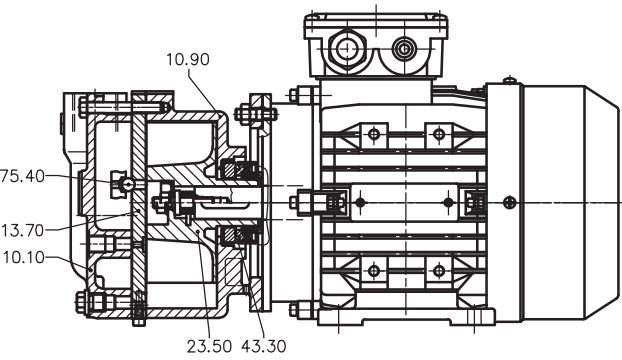
The combination of several limiting values is not admissible. 不允许将几种极限值同时选择

Material design 材料设计

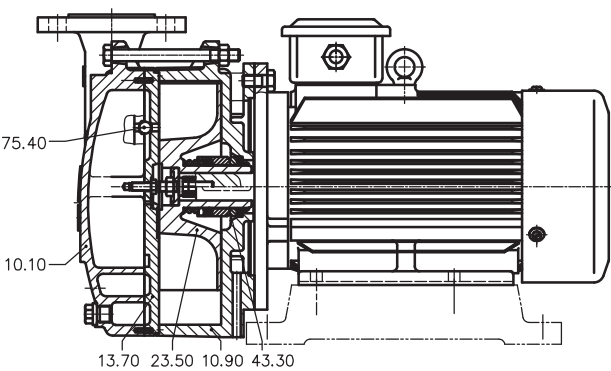
Material Design 材料设计		0K			SZ	4B
Pump Type 泵型号	LEMC 25,50	√				
	LEMC 90,125,150		√			√
	LEMC 250			√	√	√
	LEMC 325,425			√	√	√
Item 位号	Component 零件	Material 材质				
10.10	Casing 泵盖	0.6025			0.6025	1.4408
10.90	Central body 中间体					
13.70	Guide disc 导流盘				1.4408	
23.50	Vane wheel impeller 叶轮	1.4301			1.4408	
43.30	Mechanical seal 机械密封	XBPF	Q22BVGG Q22BM1GG	BFPFF, Q22BVGG GBM1GG, Q22BM1GG		Q22BM1GG GBM1GG
		X : Ceramic 陶瓷 Q22 : SiC 碳化硅 B : Carbon 石墨 V : Viton 氟橡胶 P : Perbunan 丁苯橡胶 M1 : PTFE encapsulated 氟橡胶外包裹聚四氟乙烯 F : Cr-Ni-St 铬钢 G : Cr-Ni-Mo-St 铬镍钼钢				
75.40	Valve balls 阀球	PTFE 聚四氟乙烯				

Sectional drawings 剖视图

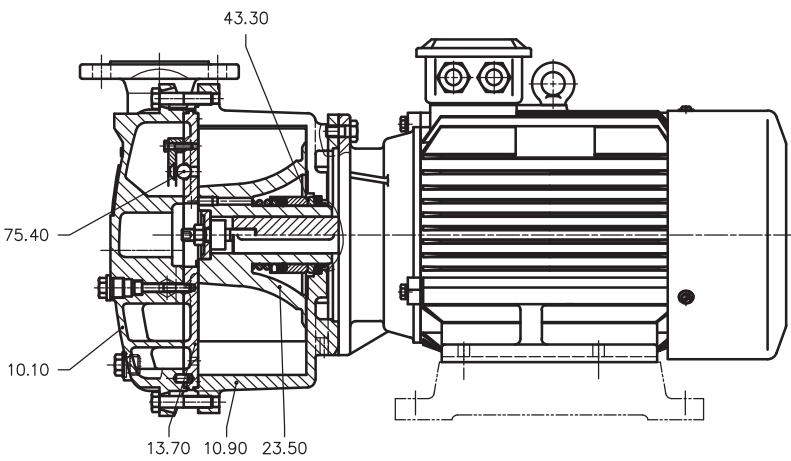
LEMC 25, LEMC 50



LEMC 90, LEMC 125, LEMC 150



LEMC 250



10.10	Casing 泵盖
10.90	Central body 中间体
13.70	Guide disc 导流盘
23.50	Vane wheel impeller 叶轮
43.30	Mechanical seal 机械密封
75.40	Valve balls 阀球

LEMC 325, LEMC 425

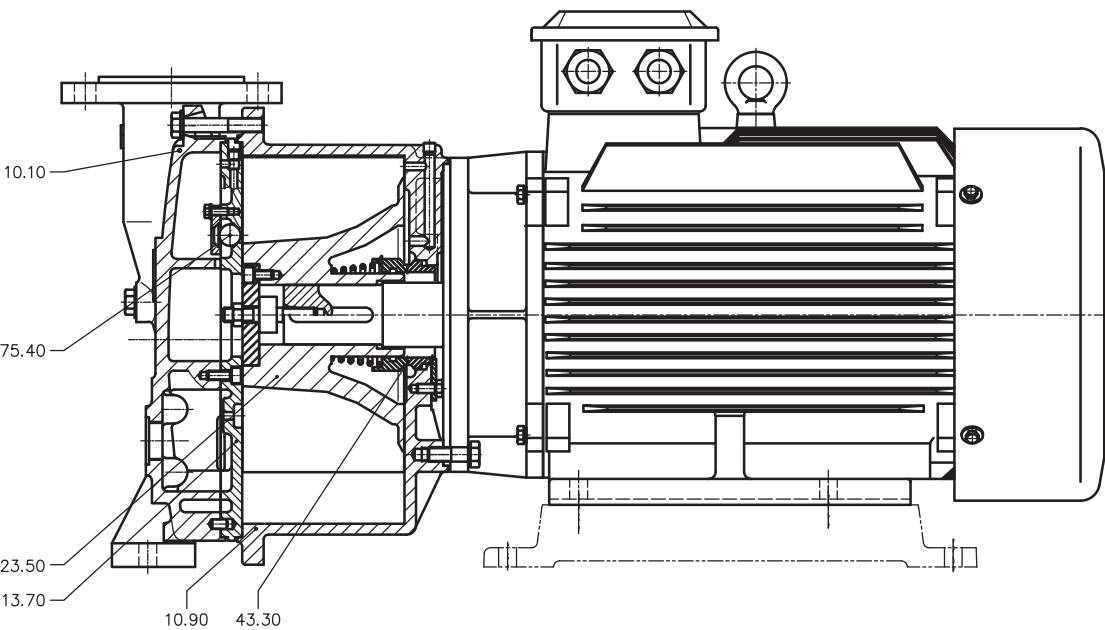
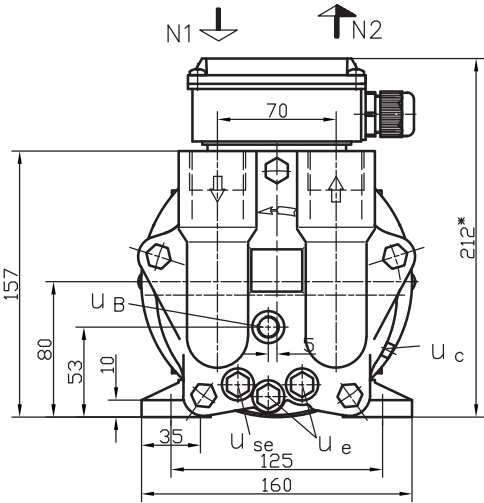
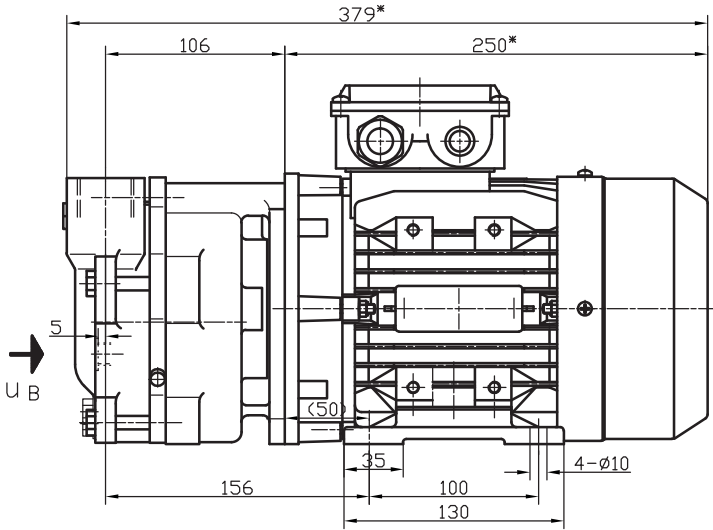


Table of Dimensions and weights外形尺寸和重量列表

* Dimensions and weights are valid for standard motors used by SIHI Pumps (Shanghai)
* 尺寸和重量对希赫泵业（上海）使用的标准电机有效

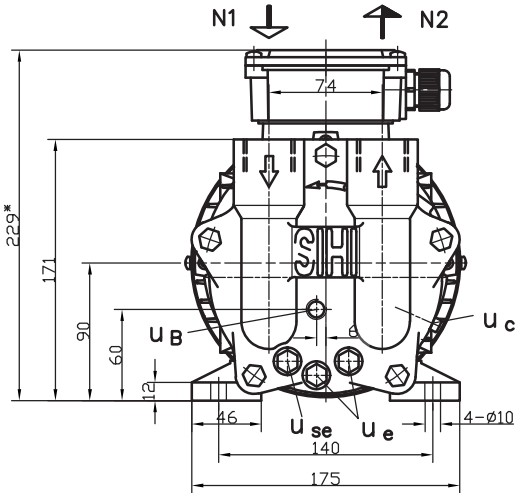
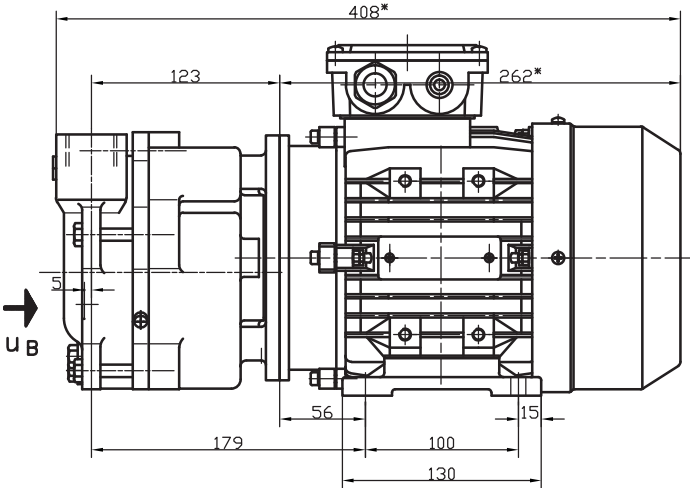
LEMC 25



Pump 泵型号	Electric motor 电机		Approx weight 重量 Kg	
	size 机座号	kW 功率	Motor 泵	Pump+ Motor 泵+电机
LEMC 25	80 ₁ -2	0.75	9.1	18.6

- N1 = gas inlet G 1 吸气口 G1
N2 = gas outlet G 1 排气口 G1
u_B = connection for service liquid G ¼
工作液连接口 G ¼
u_c = connection for protection against cavitation M5
气蚀保护管接口 M5
u_e = drain connection G ¼ 排水接口 G ¼
u_{se} = connection for dirt drain G ¼ 排污接口 G ¼

LEMC 50



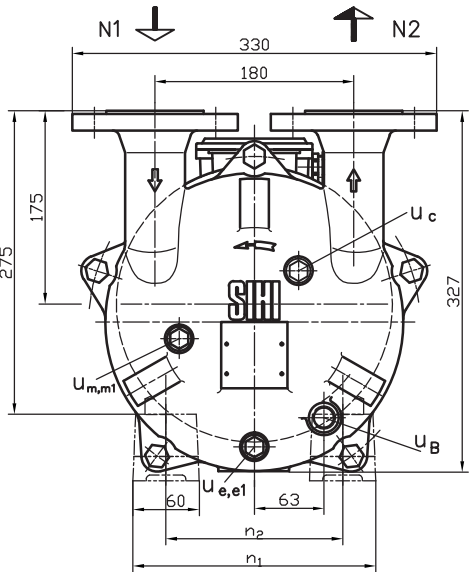
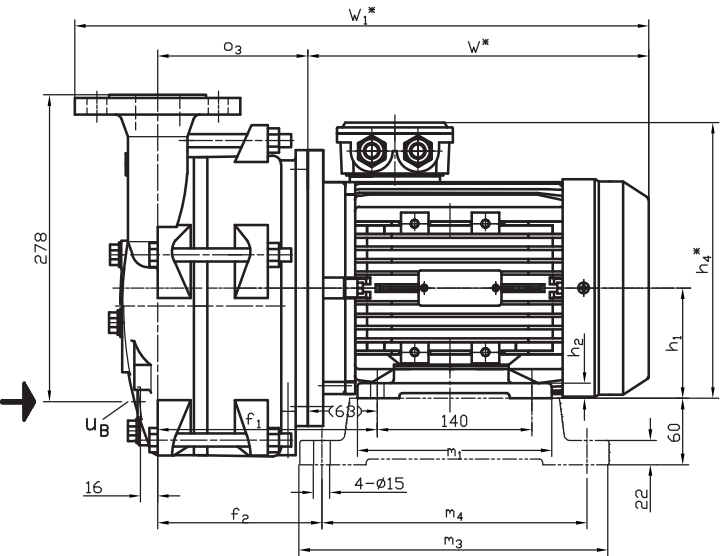
Pump 泵型号	Electric motor 电机		Approx. weight 重量 kg	
	size 机座号	kW 功率	Motor 电机	Pump+ Motor 泵+电机
LEMC 50	90S-2	1.5	13.5	23.6

- N 1 = gas inlet G 1 吸气口 G1
N 2 = gas outlet G 1 排气口 G1
u_B = connection for service liquid G ¼
工作液连接口 G ¼
u_c = connection for protection against cavitation M5
气蚀保护管接口 M5
u_e = drain connection G ¼ 排水接口 G ¼
u_{se} = connection for dirt drain G ¼ 排污接口 G ¼

Table of Dimensions and weights外形尺寸和重量列表

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* 尺寸和重量对希赫泵业（上海）使用的标准电机有效

LEMC 90, LEMC 125, LEMC150



- N1 = gas inlet DN 40
吸气口 DN 40

N2 = gas outlet DN 40
排气口 DN 40

UB = connection for service liquid G 1/2
工作液连接口 G 1/2

UC = connection for protection against cavitation G 3/8
气蚀保护管接口 G 3/8
- Ue = drain connection G 3/8
排液接口 G 3/8

Use = connection for dirt drain G 3/8
排污接口 G 3/8

Um = connection for pressure gauge G 3/8
压力表接口 G 3/8

Um1 = connection for drain valve G 3/8
排水阀接口 G 3/8

Pump 泵型号	Electric motor 电机 IP 55,50Hz		h1	h2	h4*	f1	f2	m1	m3	m4	n1	n2	O3	w*	w1*	Approx weight 重量(kg)	
	Size 机座号	kW 功率														Motor	Pump+ Motor
LEMC 90	100L1	2.2	100	14	250	199	149	176	280	240	220	160	136	309	520	22.5	61.7
	100L2	3.0	100	14	250	199	149	176	280	240	220	160	136	309	520	26	65.4
LEMC 125	100L2	3.0	100	14	250	206	156	176	280	240	220	160	145	309	529	26	68.2
	112M	4.0	112	14	295	215	165	180	280	240	250	190	145	320	540	40	82.2
LEMC 150	112M	4.0	112	14	295	232	182	180	280	240	250	190	162	320	557	40	83.8
	112M	5	112	15	300	232	182	236	320	278	250	190	162	400	637	43	86.8

Weight without feet – weight of two feet: 7.2 kg
重量不包括电机底脚 – 两个电机底脚重量7.2 kg

Motor feet are part of the standard supply of LEMC 90/125/150
电机底脚为LEMC 90/125/150标准配置

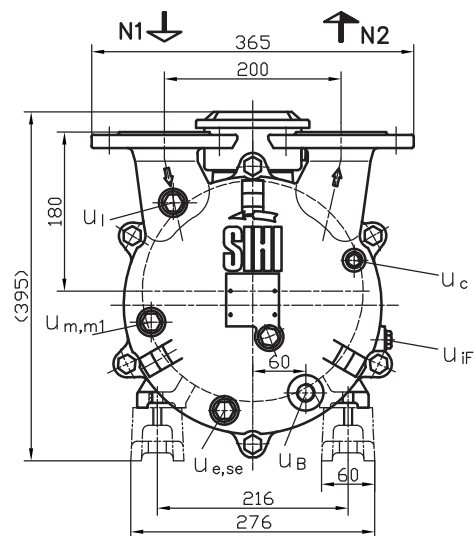
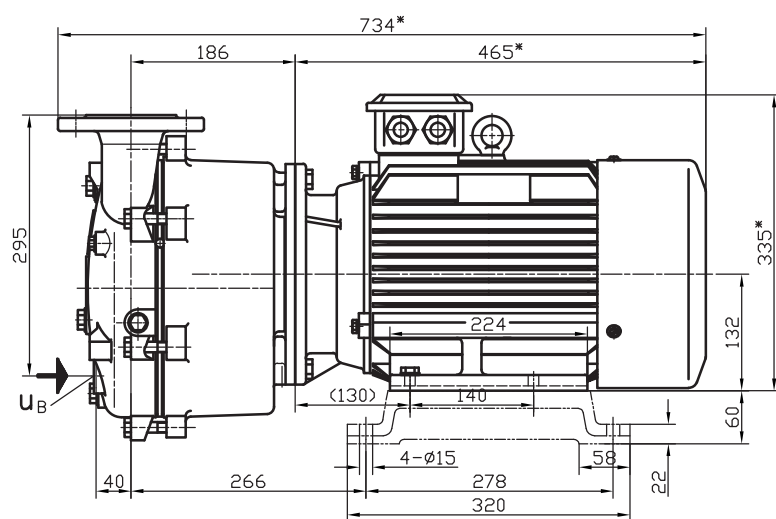
Flange connections see page 13 法兰连接请见第13页

Table of Dimensions and weights 外形尺寸和重量列表

* Dimensions and weights are valid for standard motors used by SIHI Pumps (Shanghai)

* 尺寸和重量对希赫泵业 (上海) 使用的标准电机有效

LEMC 250



N1 = gas inlet DN 50

吸气口 DN 50

N2 = gas outlet DN 50

排气口 DN 50

U_B = connection for service liquid G ½

工作液连接口 G ½

U_c = connection for protection against cavitation G ¼

气蚀保护管接口 G ¼

U_{if} = adjusting screw for internal liquid return

内循环液体调校螺丝

U_e = drain connection G ½

排液接口 G ½

U_{se} = connection for dirt drain G ½

排污接口 G ½

U_m = connection for pressure gauge G ½

压力表接口 G ½

U_{m1} = connection for drain valve G ½

排水阀接口 G ½

U_l = Connection for vent cock G ½

放气旋塞接口 G ½

Pump 泵型号	Electric motor 电机 IP55,50Hz		Approx. weight 重量 (kg)	
	size 机座号	kW 功率	Motor 电机	Pump+ Motor 泵+ 电机
			kg	kg
LEMC 250	132 S	5.5	56	120

Weight without feet – weight of two feet: 7.2 kg

重量不包括电机底脚 – 两个电机底脚重量7.2kg

Motor feet are part of the standard supply of LEMC250

电机底脚为LEMC250标准配置

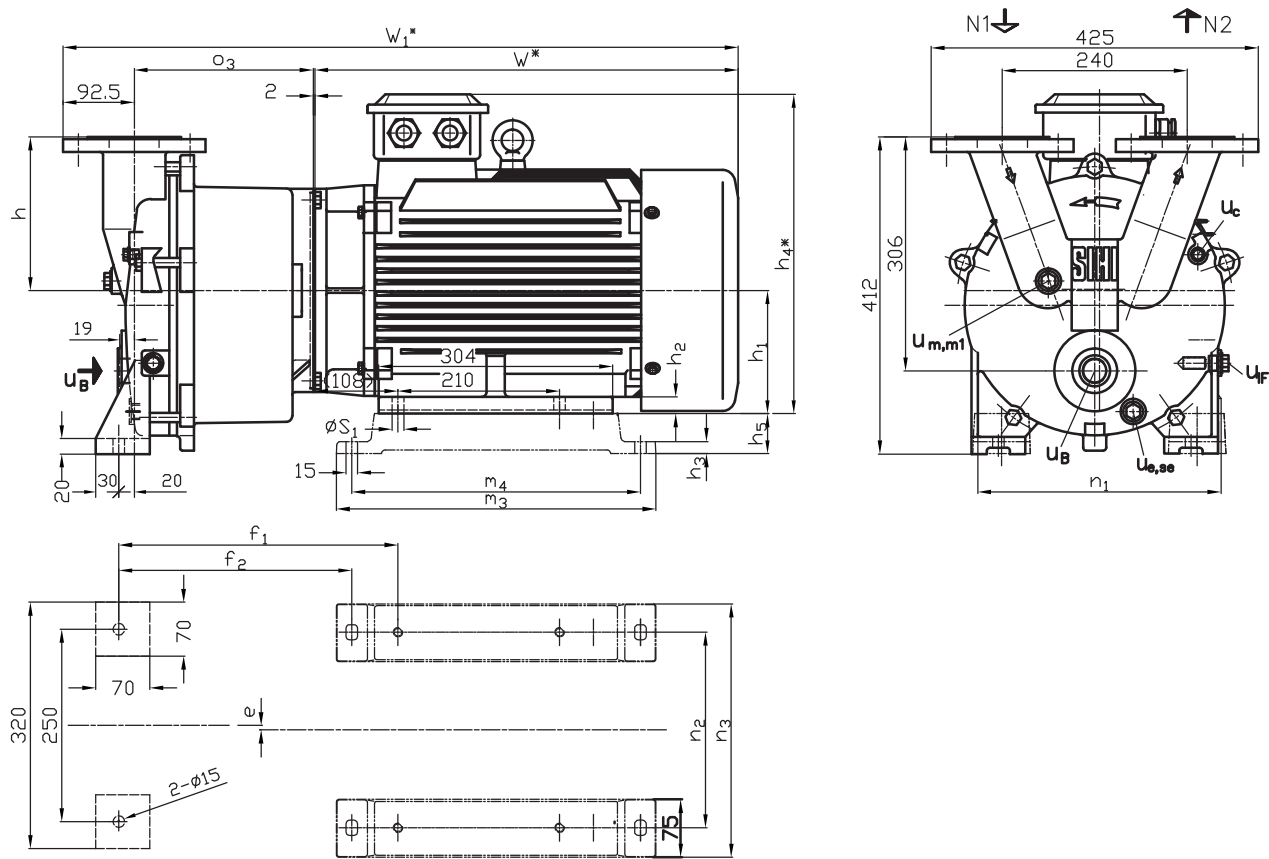
Flange connections see page 13

法兰连接请见第13页

Table of Dimensions and weights外形尺寸和重量列表

* Dimensions and weights are valid for standard motors used by SIHI Pumps (Shanghai)
* 尺寸和重量对希赫泵业（上海）使用的标准电机有效

LEMC 325, LEMC 425



- N1 = gas inlet DN 65
吸气口 DN 65

N2 = gas outlet DN 65
排气口 DN 65

UB = connection for service liquid G 1
工作液连接口 G 1

UC = connection for protection against cavitation G ¼
气蚀保护管接口 G ¼

Ue = drain connection G ½
排液接口 G ½
- use = connection for dirt drain G ½
排污接口 G ½

um = connection for pressure gauge G ½
压力表接口 G ½

um1 = connection for drain valve G ½
溢流阀接口 G ½

UF = adjusting screw for internal liquid return
内部工作液回流调节螺栓

Pump 泵型号	electric motor 电机 IP 55																				weight abt. 重量约 kg
	Size 规格	kW	e	f1	f2	h	h1	h2	h3	h4*	h5	m3	m4	n1	n2	n3	s1	o3	w*	w1*	
LEMC 325	132 M	7.5	4	335	269	202	132	18	22	335	78	380	310	270	216	291	12	219	430	743	132
LEMC 425	160 M	11	6	348	289	200	160	20	16	415	52	415	375	314	254	329	15	233	550	877	173

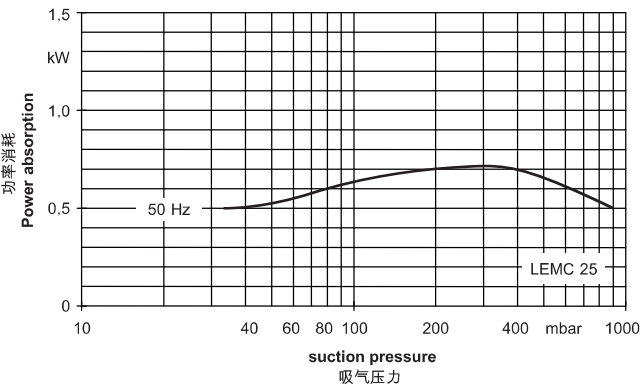
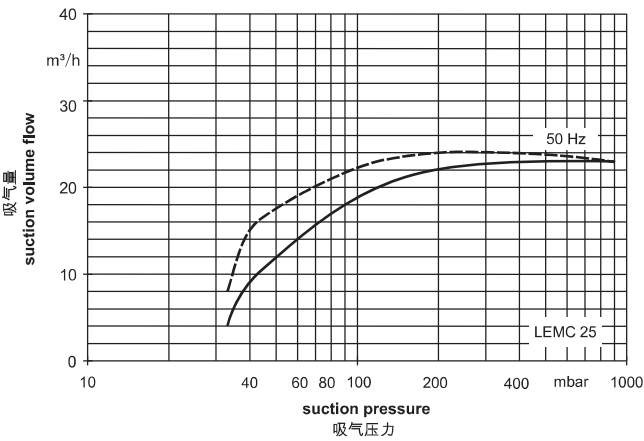
Weight without feet – weight of two feet: 10.8 kg
重量不包括电机底脚 – 两个电机底脚重量10.8kg

Motor feet are part of the standard supply of LEMC325 and LEMC425
电机底脚为LEMC325和LEMC425的标准配置

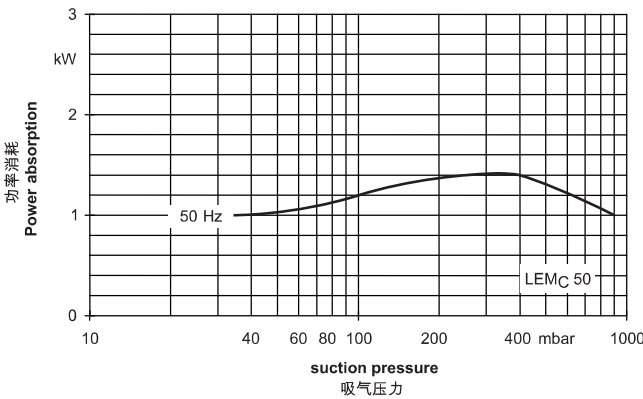
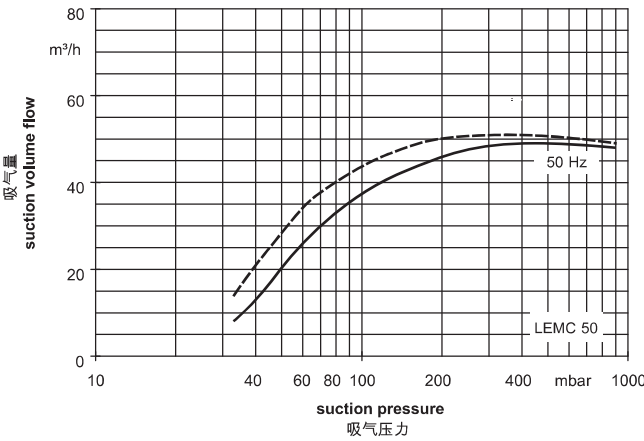
Flange connections see page 13
法兰连接请见第 13页

Performance Curves
泵的性能曲线

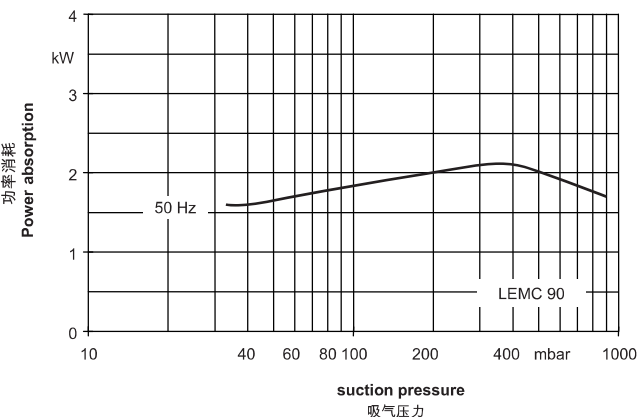
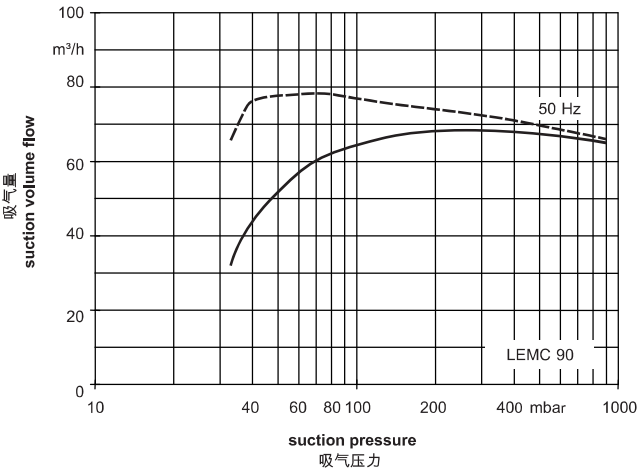
LEMC25



LEMC50



LEMC90



The operating data are applicable under the following conditions 性能曲线基于如下工况：

pumping medium 吸气介质：

- dry air 干空气 at: 20°C _____

- water vapour saturated air 饱和空气 at: 20°C -----

service liquid 工作液：

- water 水 at: 15°C

Compression pressure 排气压力：

1013 mbar (atmospheric pressure 大气压)

Tolerance of the operating data 性能允许误差：

10%

The suction volume flow is applied to the suction pressure

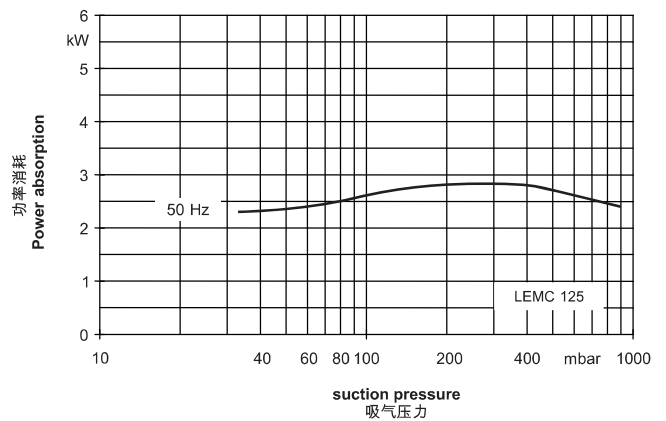
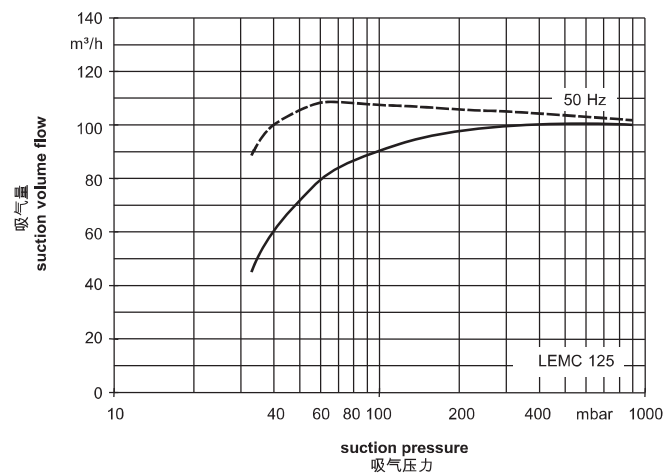
吸气量是入口压力下的流量

Max. fresh water need with lowest suction pressure

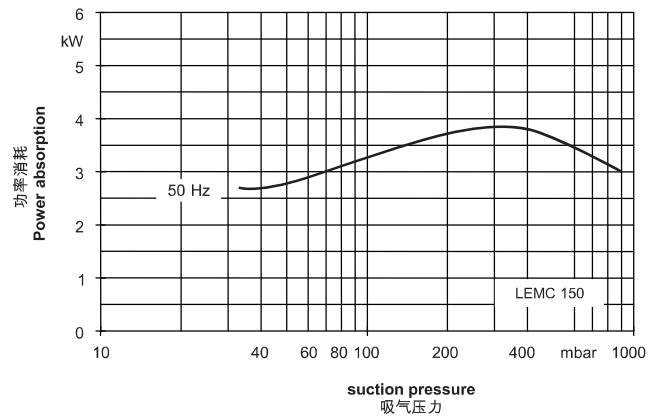
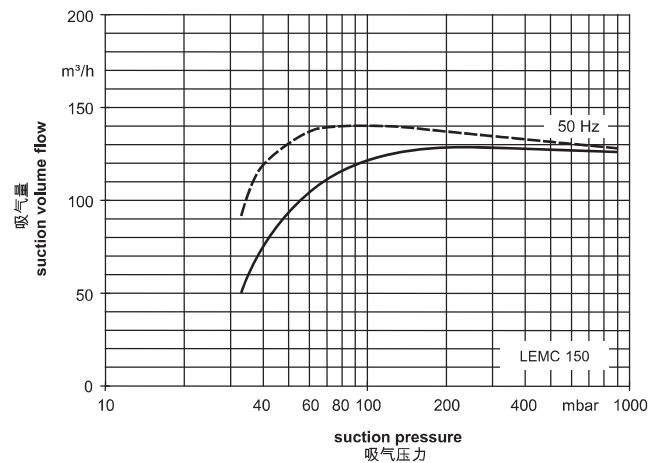
最大新鲜水用量是最低入口压力下的流量

Performance Curves
泵的性能曲线

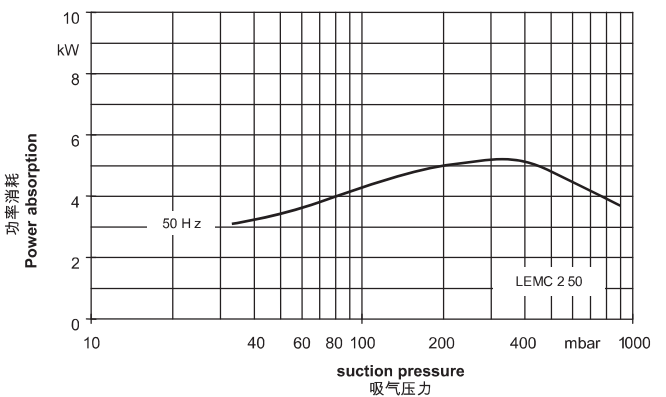
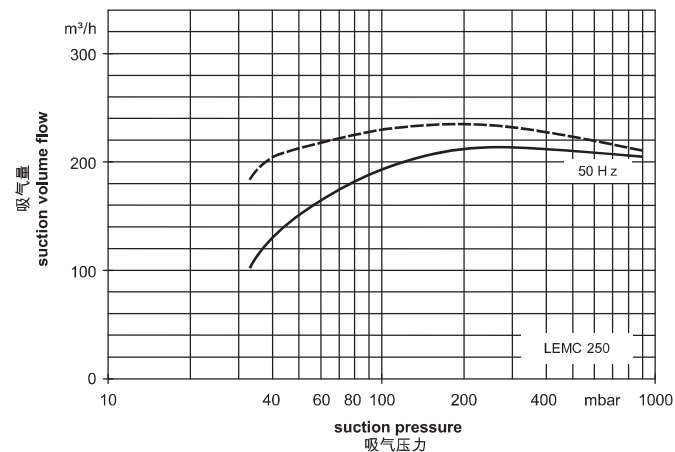
LEMC125



LEMC150



LEMC250



The operating data are applicable under the following conditions 性能曲线基于如下工况：

pumping medium 吸气介质：

- dry air 干空气 at: 20°C _____
- water vapour saturated air 饱和空气 at: 20°C -----
- water at: 15°C _____

service liquid 工作液：

Compression pressure 排气压力： 1013 mbar (atmospheric pressure 大气压)

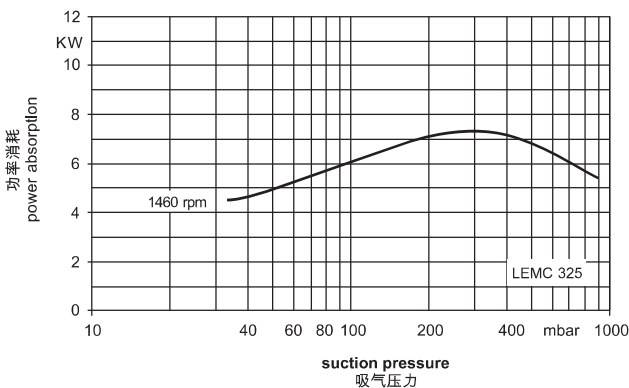
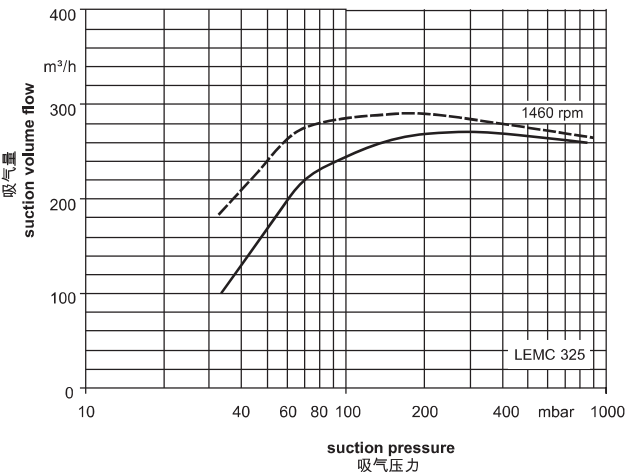
Tolerance of the operating data 性能允许误差： 10%

The suction volume flow is applied to the suction pressure 吸气量是入口压力下的流量

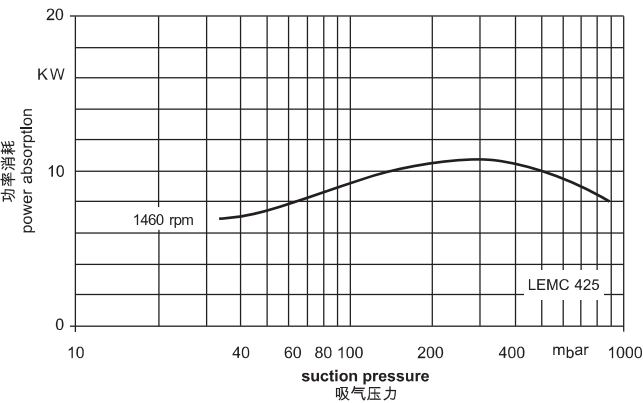
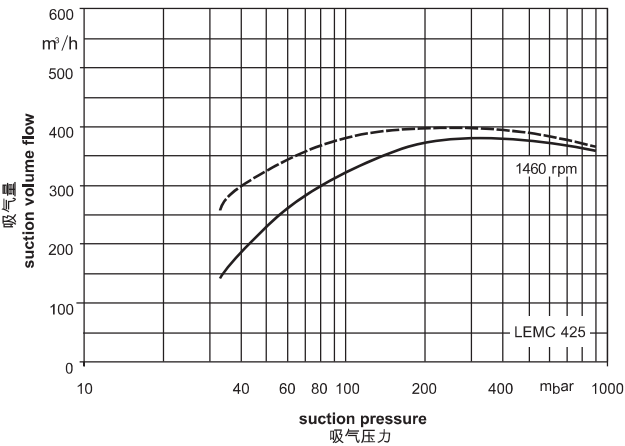
Max. fresh water need with lowest suction pressure 最大新鲜水用量是最低入口压力下的流量

Performance Curves
泵的性能曲线

LEMC325



LEMC425



The operating data are applicable under the following conditions 性能曲线基于如下工况：

pumping medium 吸气介质：

- dry air 干空气 at: 20°C _____
- water vapour saturated air 饱和空气 at: 20°C -----
- water 水 at: 15°C _____

service liquid 工作液：

Compression pressure 排气压力：

1013 mbar (atmospheric pressure 大气压)

Tolerance of the operating data 性能允许误差：

10%

The suction volume flow is applied to the suction pressure

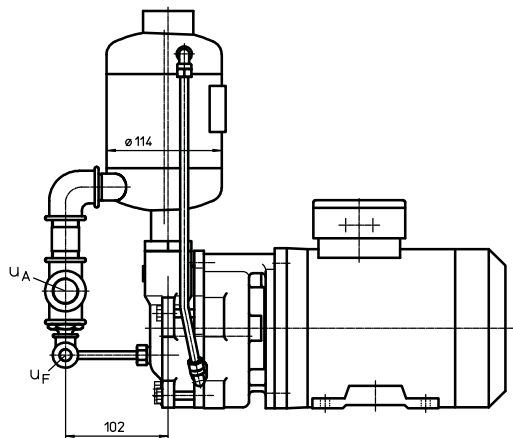
吸气量是入口压力下的流量

Max. fresh water need with lowest suction pressure

最大新鲜水用量是最低入口压力下的流量

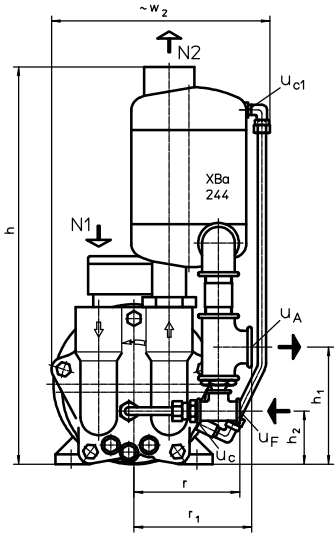
Arrangement Drawings with Accessories带附件外形图

LEMC 25, LEMC 50



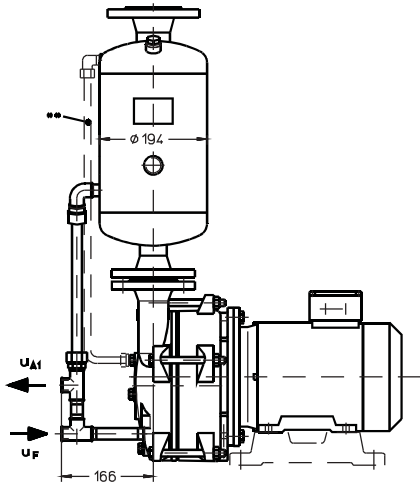
Pump 泵型号	electric motor 电机 kW IP 55, 50Hz	h	h ₁	h ₂	r	r ₁	w ₂	Approx. weight 重量约 Kg
LEMC 25	801	0.75	398	117	54	105	117	20.5
LEMC 50	90S	1.5	411	123	60	107	119	29.3

** Connection lines : see P15 list of accessories
**连接管线见 P15 附件



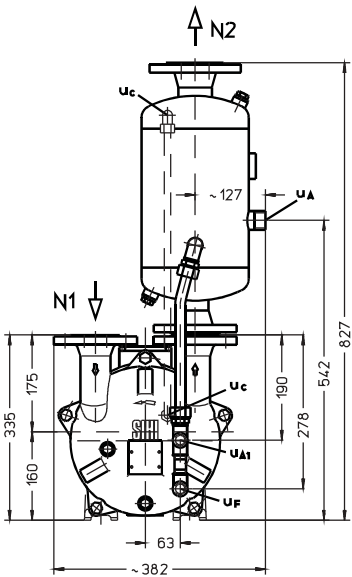
- N 1 = gas inlet G 1 吸气口 G1
N 2 = gas outlet G 1¼ 排气口G1¼
U_A = connection for dirt drain G ¾ 排污接口 G ¾
U_F = connection for fresh liquid G ¼ 补充液接口G ¼
U_C = connection for protection against cavitation M5 气蚀保护管接口 M5
U_{C1} = connection for protection against cavitation G ⅛ 气蚀保护接口 G ⅛

LEMC 90, LEMC 125, LEMC 150



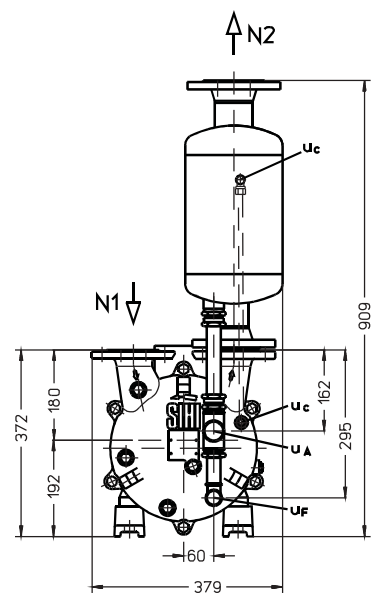
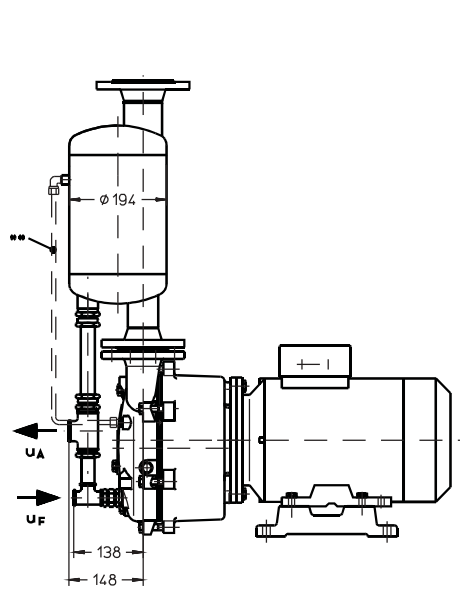
Pump 泵	electric motor 电机 kW IP 55, 50Hz	Approx. weight 重量 Kg
LEMC 90	100L1	2.2
	100L2	3
LEMC 125	100L2	3
	112M	4
LEMC 150	112M	4
	112M	5

**Connection lines : see P12 list of accessories
连接管线见P15附件



- N 1 = gas inlet DN40 吸气口DN40
N 2 = gas out DN50 排气口DN50
U_A = connection for dirt drain G 1 排污接口 G 1
U_F = connection for fresh liquid G ½ 补充液接口 G ½
U_C = connection for protection against cavitation G ¾ 气蚀保护管接口 G ¾
U_{A1} = connection for dirt drain G 1 排污接口 G 1

Arrangement Drawings with Accessories带附件外形图
LEMC 250

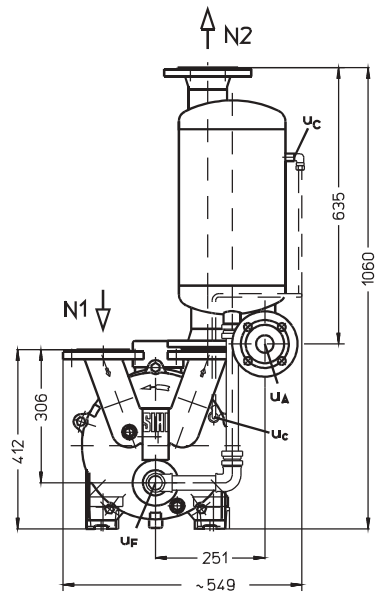
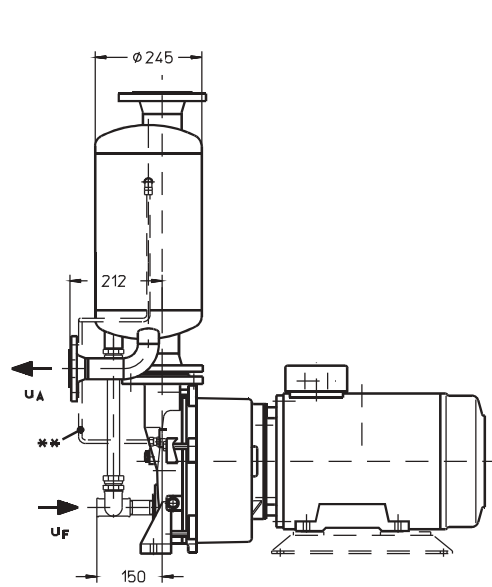


Pump 泵型号	electric motor 电机 kW IP 55, 50Hz		Approx. weight 重量约 Kg
LEMC250	132S	5.5	110

**Connection lines : see P15 list of accessories
连接管线见P15附件

- N 1 = gas inlet DN 50 吸气口 DN 50
- N 2 = gas outlet DN 65 排气口 DN 65
- U_A = connection for dirt drain G1排污接口 G 1
- U_F = connection for fresh liquid G ½补充液接口 G ½
- U_C = connection for protection against cavitation G ¼
气蚀保护管接口 G ¼

LEMC325, LEMC 425

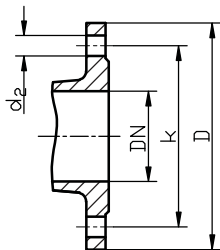


Pump 泵型号	electric motor 电机 kW IP 55,50 Hz		Weight 重量 ca. kg 约
LEMC 325	132 M	7.5	158
LEMC 425	160 M	11.0	193

**Connection lines: see P15 list of accessories
连接管线见P15附件

- N 1 = gas inlet DN 65 吸气口 DN 65
- N 2 = gas outlet DN 80 排气口 DN 80
- U_A = connection for drain DN 40 排液接口DN 40
- U_F = connection for fresh liquid G 1 补充液接口 G 1
- U_C = connection for protection against cavitation G ¼
气蚀保护管接口 G ¼

Flange Connections to DIN 2501 PN10 法兰尺寸按 DIN 2501 PN10标准



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

Water flow requirements 水流量需求

Suction pressure 入口压力[mbar]		33					120					200					400				
Pump 泵型号	Syn- speed 同步 转速	KB			FB	KB			FB	KB			FB	KB			FB				
		difference in temperature 温差 [°C]				difference in temperature 温差 [°C]				difference in temperature 温差 [°C]				difference in temperature 温差 [°C]							
	[rpm]	10	5	2		10	5	2		10	5	2		10	5	2					
LEMC25	3000	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				
LEMC50	3000	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				
LEMC90	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				
LEMC125	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				
LEMC150	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				
LEMC250	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				
LEMC325	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				
LEMC425	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
新鲜工作液

KB [m³/h] = combined liquid service with service water 10 °C, 5 °C, 2 °C warmer than the fresh water.
比新鲜水温高10 °C, 5 °C, 2 °C的混合工作液

Order notes 定单代码

Motor data 电机数据

Example for ordering 定单范例

LEMC 250 AZ YTE SZ 0 1R.

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)

标准电机为50Hz，如需其它电机电压和电机频率，请提出。

Accessories 附件

Recommended accessories 推荐附件		LEMC 25	LEMC 50	LEMC 90	LEMC 125	LEMC 150	LEMC 250	LEMC 325	LEMC 425
Overhead liquid separator 上置式 气液分离器	Type 型号	XBa 243		XBa 1042			XBa 940	XBa2040	
	Material design 材质	304 / 20 steel							
	Weight 重量 (kg)	2.94		9.7			10.5	20	
Service liquid line 工作液管路	Material design 材质	304 / 20 steel							
Cavitation protection line 气蚀保护管路	Material design 材质	304 / 20 steel							
SIHI Gas ejector 大气喷射器	Type 型号	GEVC 25A	GEVC 50A	GEVB 90A	GEVB 125A	GEVB 150A	GEV 250A	GEV 325 A/B	GEV 425 A/B
	Service liquid temp. °C 工作液温度 °C	15 - 30 °C							
	Drive nozzle 喷嘴	2.0401/ 1.4301/ PTFE							
	Venturi tube 文丘里管	2.0401/1.4301/ PTFE							
	Casing 壳体	0.6025/PTFE							
	Venturi tube holder 文丘里管撑	0.6025/1.4301							
	Insert ring 插入环	1.4301/ PTFE							
Disc type non-return valve 止回阀	Type 型号	C-NRV-G1		C-NRV-40			C-NRV-50	C-NRV-65	
	Weight (kg) incl. mating flanges, gaskets and connection bolts (mating flanges and bolts only for LEMC 25/50) 重量包括配套法兰，垫圈，连接螺栓。（配对法兰和螺栓仅用于 LEMC25/50）	2.2		2.6			3.2	4.5	
	Material design 材质	Casing: valve disc: sealing disc:		阀体 阀板 密封板	1.4301; ZG200-400 ; 0.6025 1.4301; ZG200-400 Teflon. PTFE				
Support feet 支撑脚	Material design 材质	Not available 不提供		0.6025					
	Weight 重量 (kg)			(Part of standard supply) 3.15 / foot 标准配置（底脚）			5.4 / foot (底脚)		

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