

Liquid ring vacuum pumps 液环式真空泵



Two stage 二级设计

VH75320,VH75330,VH75340

Pressure range:

入口压力范围 : 33 - 1013 mbar

Suction volume flow:

入口流量 : 500 - 1800 m³/h

CONSTRUCTION TYPE

结构型式

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

ABS 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：

handling of nearly all gasses and vapours

可处理几乎所有的气体和蒸汽

non polluting due to a nearly isothermal compression

oil-free, as no lubrication in the working chamber

几乎等温压缩，而且工作腔内无需润滑，因此无污染

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 material, therefore applicable nearly anywhere

广泛的材质选择，基本上可用于所有场合

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

The ABS liquid ring vacuum pumps VH75320, VH75330 and VH75340 are two stage pumps.

VH75320、VH75330和VH75340系列液环式真空泵是二级泵。

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...900 mbar must be created by robust vacuum pumps.

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粗真空的场合。

Fields of application are for example:

应用领域：

chemistry and pharmacy for distilling and degassing,

化工和制药工业的蒸馏和脱气

electric industry for impregnation and drying

电子工业的浸渍和干燥

plastics industry for degassing etc.

塑料工业的脱气



NOTE

注意事项

During the 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).

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。

It is possible to reuse the service liquid.

此部分工作液可在气液分离器中与气体分开（请见附件部分），以重新利用。

The pumps are with a device by which the contaminated service liquid can be drained during operation (dirt drain), if necessary.

泵可按需要配备连接件，以保证在运转条件下连续地排放被污染的工作液。

The direction of the rotation is clockwise, when looking from the drive on 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	VH75320	VH75330	VH75340
Speed 速度 1) normal speed 正常速度	rpm	880 975 ¹⁾ 1175	880 975 ¹⁾ 1175	880 975 ¹⁾ 1175
Max. compression over pressure 最大背压	bar	1.5		
Permissible pressure difference between suction and discharge side 进出口允许压差 2) in case of belt drive	bar	1.8 1.8 1.8 1.4 ²⁾	1.8 1.7 1.6 1.4 ²⁾	1.7 1.6 1.5 1.4 ²⁾
Hydraulic test (over pressure) 水压测试 (表压)	bar	3		
Moment of inertial of the rotating pump parts and of the water filling 满水时转动部件的惯性力矩	kg · m ²	1.57	2.23	2.65
Sound pressure level at a suction of 80 mbar 在80mbar 入口压力下的噪音	dB (A)	78 79 80	78 79 80	78 79 80
Min. pulley diameter permissible in case of V-belt drive 三角皮带驱动时的最小皮带轮直径	mm	315	355	355
Max. gas temperature Dry 最大吸气温度 干气	°C	200		
Saturated 饱和气	°C	100		
Service liquid 工作液				
max. admissible temperature 最大允许温度	°C	80		
max. viscosity 最大粘度	mm ² /s	90		
max. density 最大密度	kg/m ³	1200		
volume up to shaft 到轴中心线的容积	liter	36	47	54
Max. flow resistance of the heat exchanger 热交换器的最大管路阻力	bar	0.2		

The combination of several limiting values is not admissible.

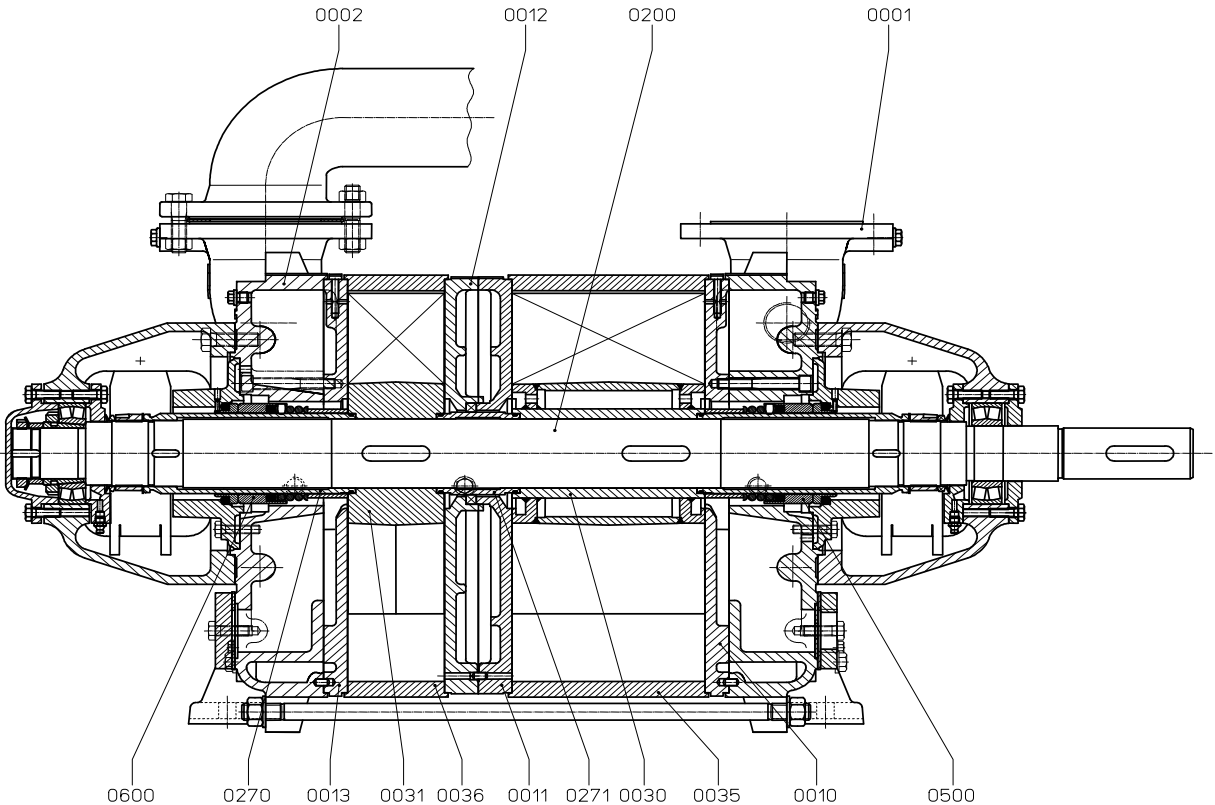
不允许将几种极限值同时选择

Material design 材料设计

Item 位号	COMPONENTS 零件	BASIC MATERIAL DESIGN 材料设计		
		OK	SZ	4B
0001, 0002	Casing 泵盖	HT250	HT250	316
0010,0011 0012,0013	Guide disk 导流盘	HT250	316	316
0030, 0031	Vane wheel impeller 叶轮	304	316	316
0035, 0036	Central body 中间体	20#	20#	316
0200	Shaft 轴	45# (2CR13/316非标可选)		
0270, 0271	Shat sleeve 轴套	304		316
0500, 0600	mechanical seal 机械密封	Q22BVGG	Q22BVGG	Q22BMGG

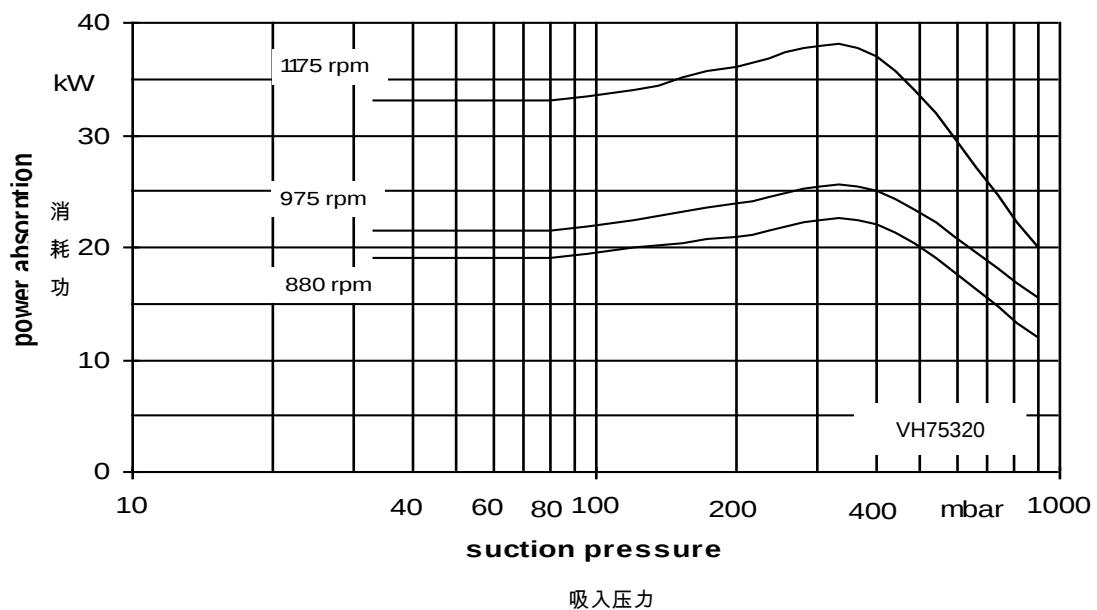
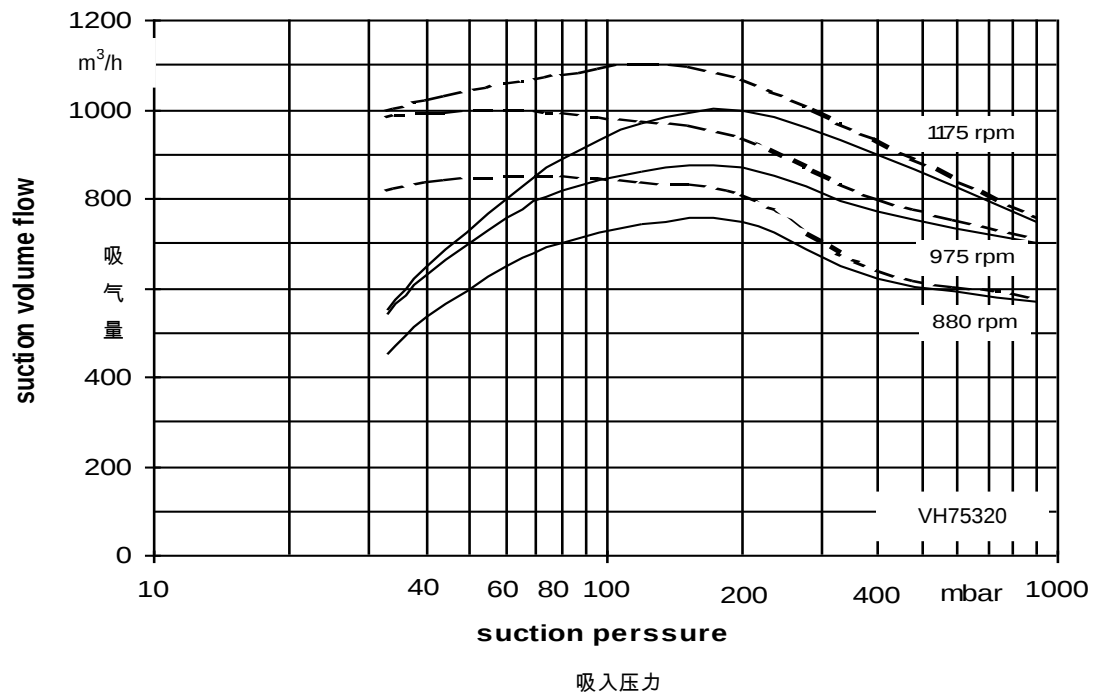
Sectional drawing VH75320, VH75330, VH75340

剖视图



Suction volume flow and power absorption VH75320

吸气量和功率消耗



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 干气：20°C
 - water vapour saturated air 饱和空气：20°C
- service liquid 工作液：
 - water 水：15°C

Compression pressure : 1013 mbar (atmospheric pressure)

排气压力：1013 mbar (大气压)

The suction volume flow is applied to the suction pressure

吸气量是入口压力下的流量

Tolerance of the operating data 10%

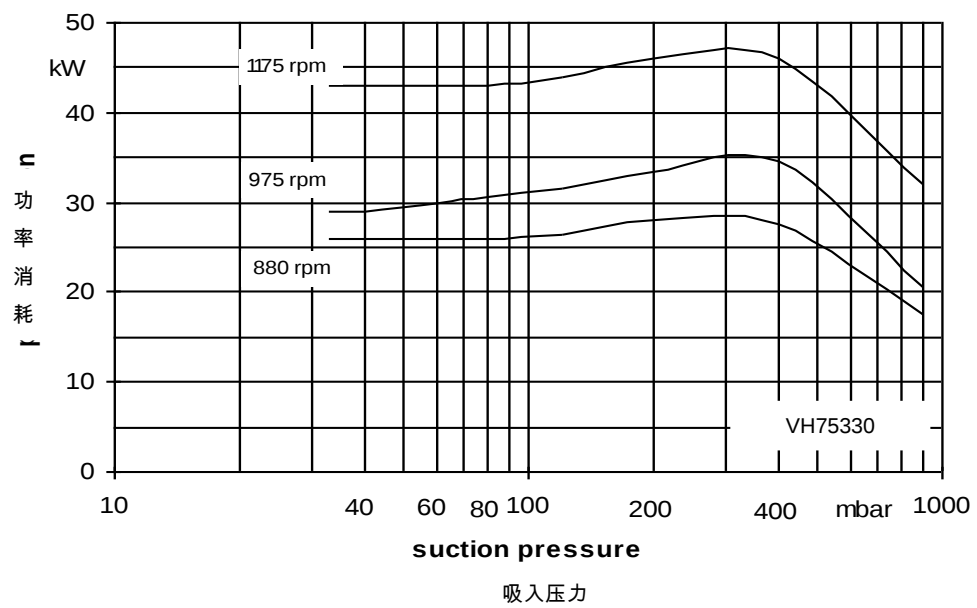
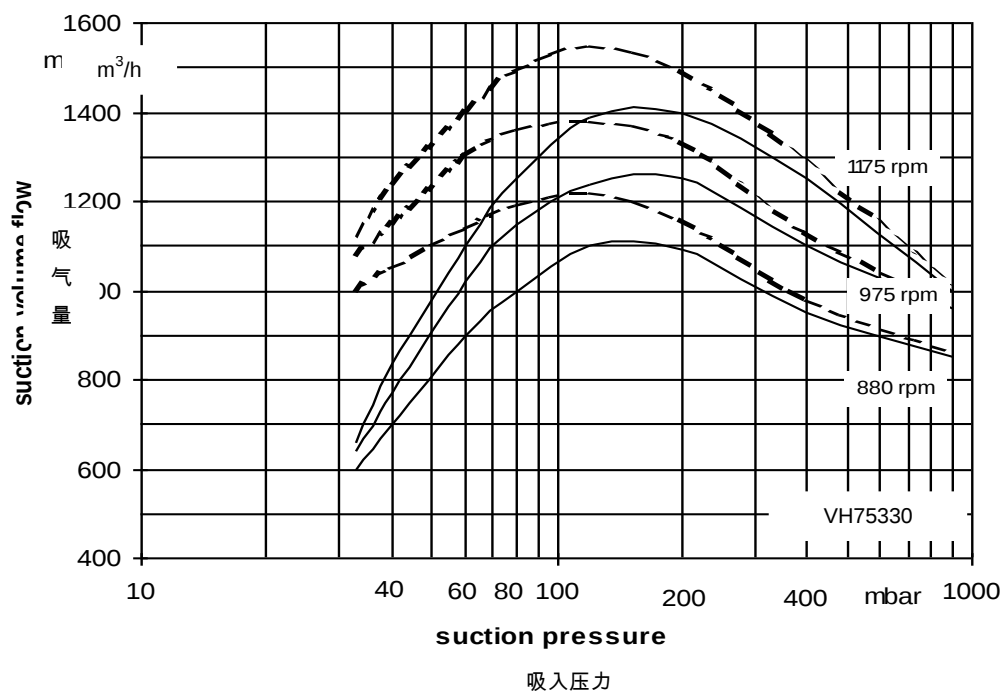
性能允许误差10%

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

Suction volume flow and power absorption VH75330

吸气量和功率消耗

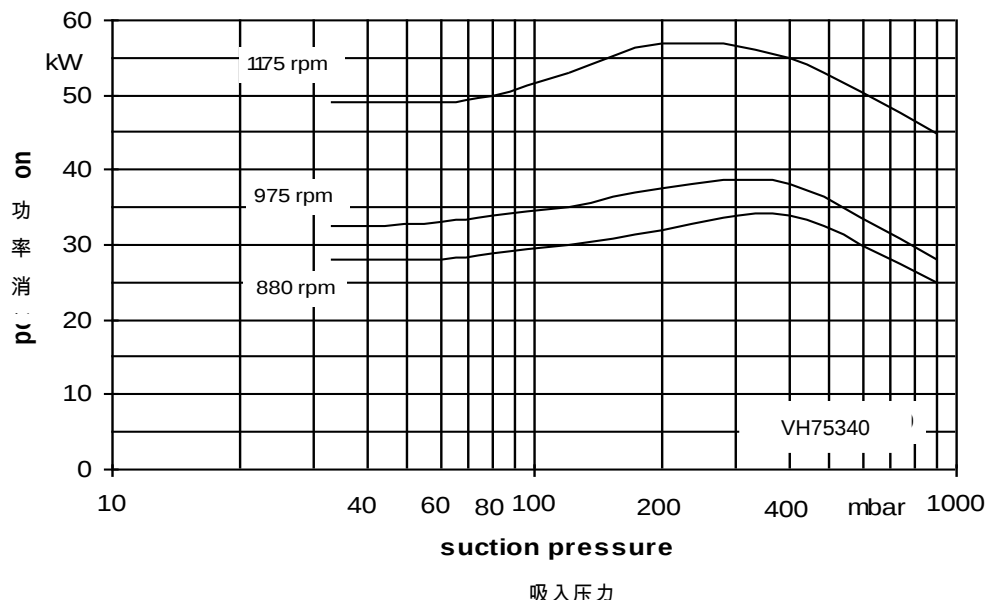


The operating data are applicable under the following conditions 性能曲线基于如下工况：

- pumping medium 吸气介质：
 - dry air 干气：20°C
 - water vapour saturated air 饱和空气：20°C
- service liquid 工作液：
 - water 水：15°C

Compression pressure : 1013 mbar (atmospheric pressure)	排气压力：1013 mbar (大气压)
The suction volume flow is applied to the suction pressure	吸气量是入口压力下的流量
Tolerance of the operating data 10%	性能允许误差10%
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

吸气量和功率消耗



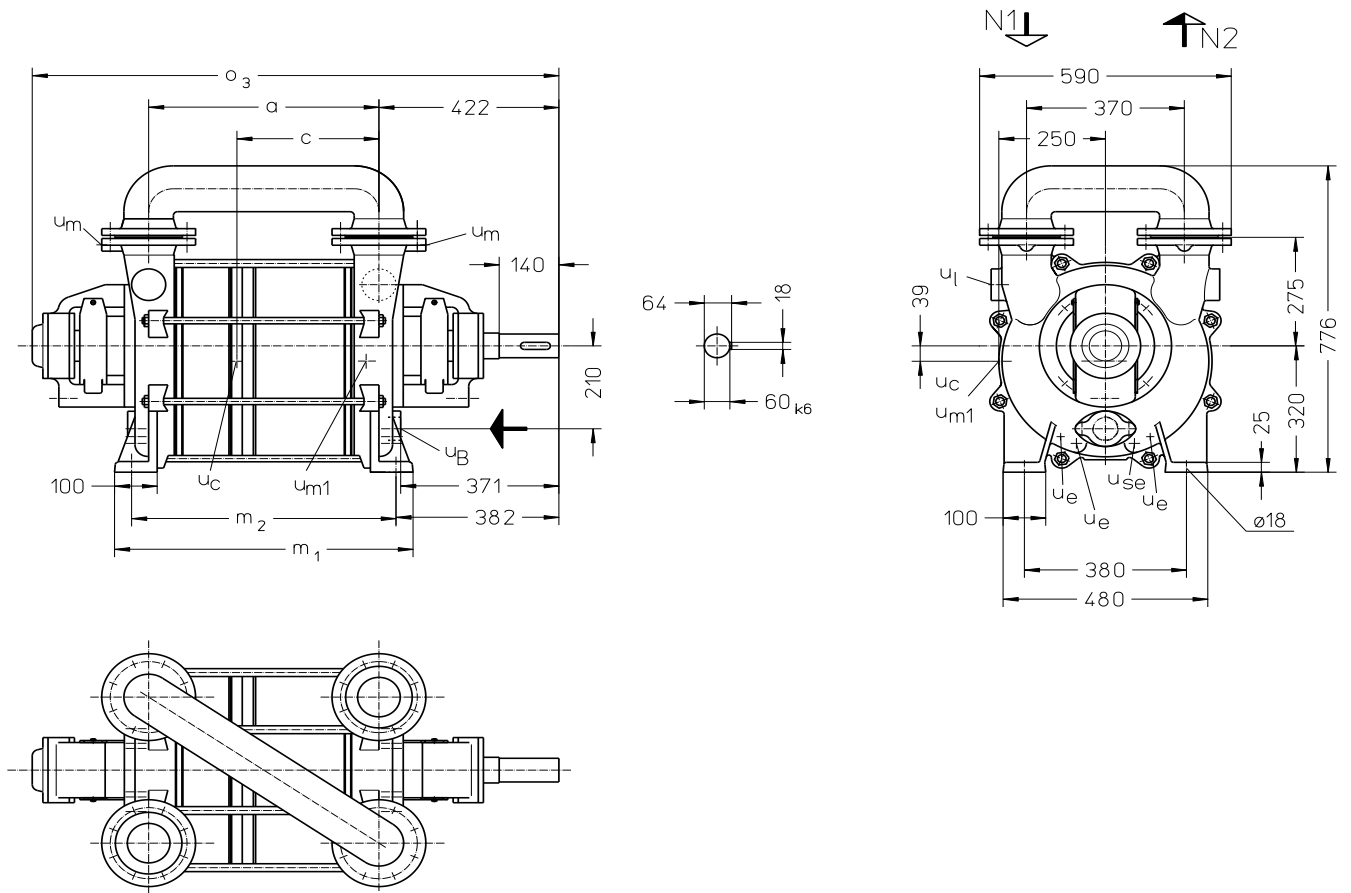
- pumping medium 吸气介质 : - dry air 干气 : 20°C
- water vapour saturated air 饱和空气 : 20°C

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

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

6

Dimension table VH75320, VH75330, VH75340
单泵尺寸表



- N 1 = gas-inlet DN 100
进气口

N 2 = gas-outlet DN 100
排气口

u_B = connection for service liquid G 2
工作液接口

u_c = connection for protection against cavitation G 3/8
气蚀保护接口

u_e = drain connection G 1/4
排液接口
- u_l = connection for vent cock G 1 1/2
放气旋塞接口

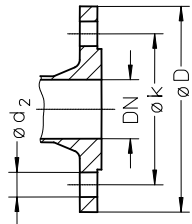
u_m = connection for pressure gauge G 3/8
压力表接口

u_{m1} = connection for drain valve G 1/2
排水阀接口

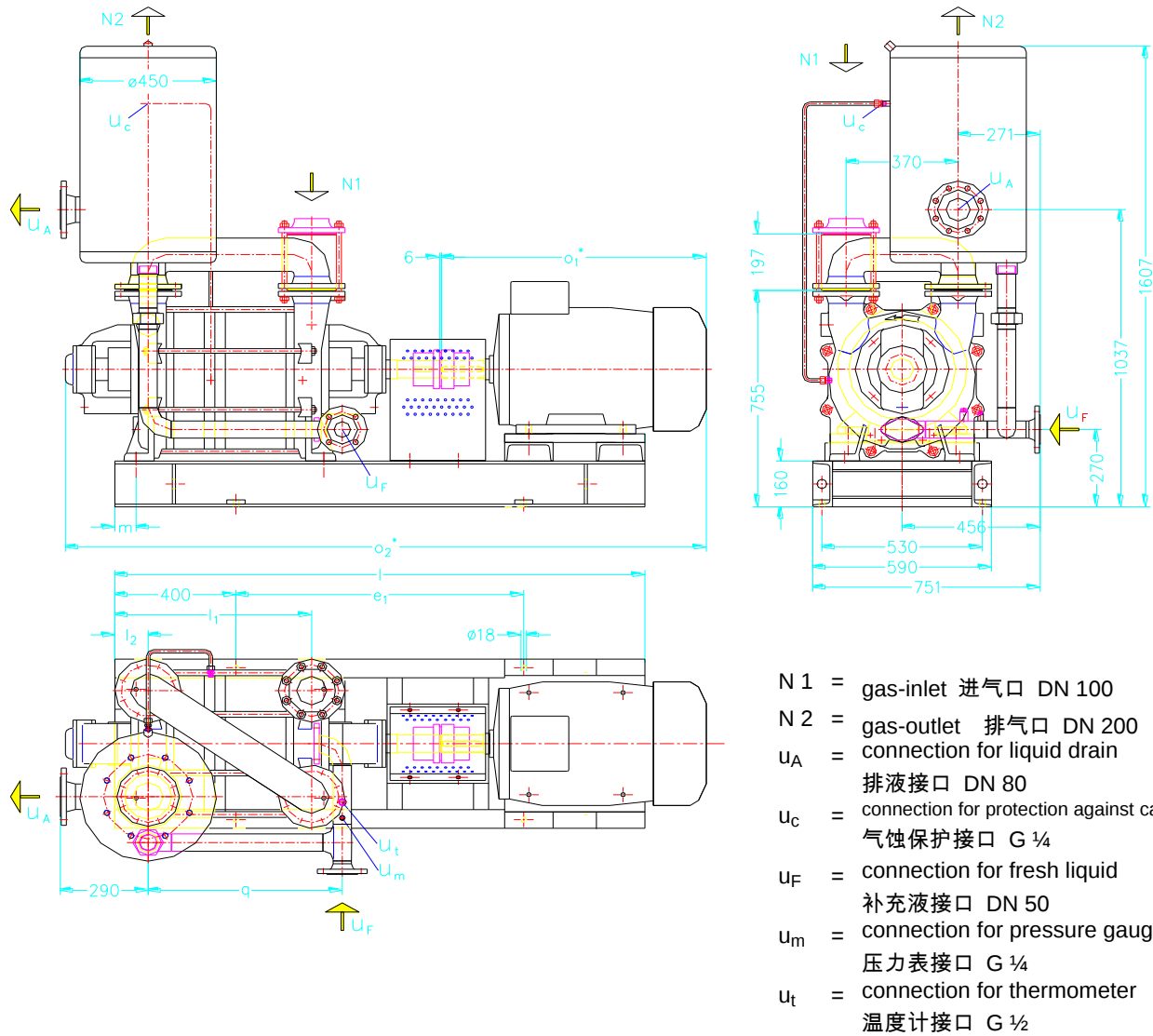
u_{se} = connection for dirt drain G 1/2
排污接口

Pump						approx. weight 重约[kg] for material design 材料		
泵型号	a [mm]	c [mm]	m_1 [mm]	m_2 [mm]	o_3 [mm]	OK	SZ	4B
VH75320	540	333	700	620	1235	450	465	485
VH75330	690	434	850	770	1385	570	590	620
VH75340	790	534	950	870	1485	640	660	690

flange connections to DIN 2501 PN 10 [mm] 法兰联接尺寸按DIN 2501 PN10标准	
DN	100
k	180
D	220
number x d_2	8 x 18

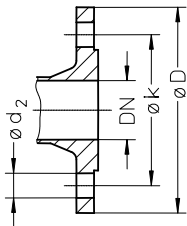


Arrangement drawing VH 75320, VH 75330, VH 75340 with overhead liquid separator
带附件外形图 VH 75320, VH 75330 , VH75340 (带上置式气液分离器)



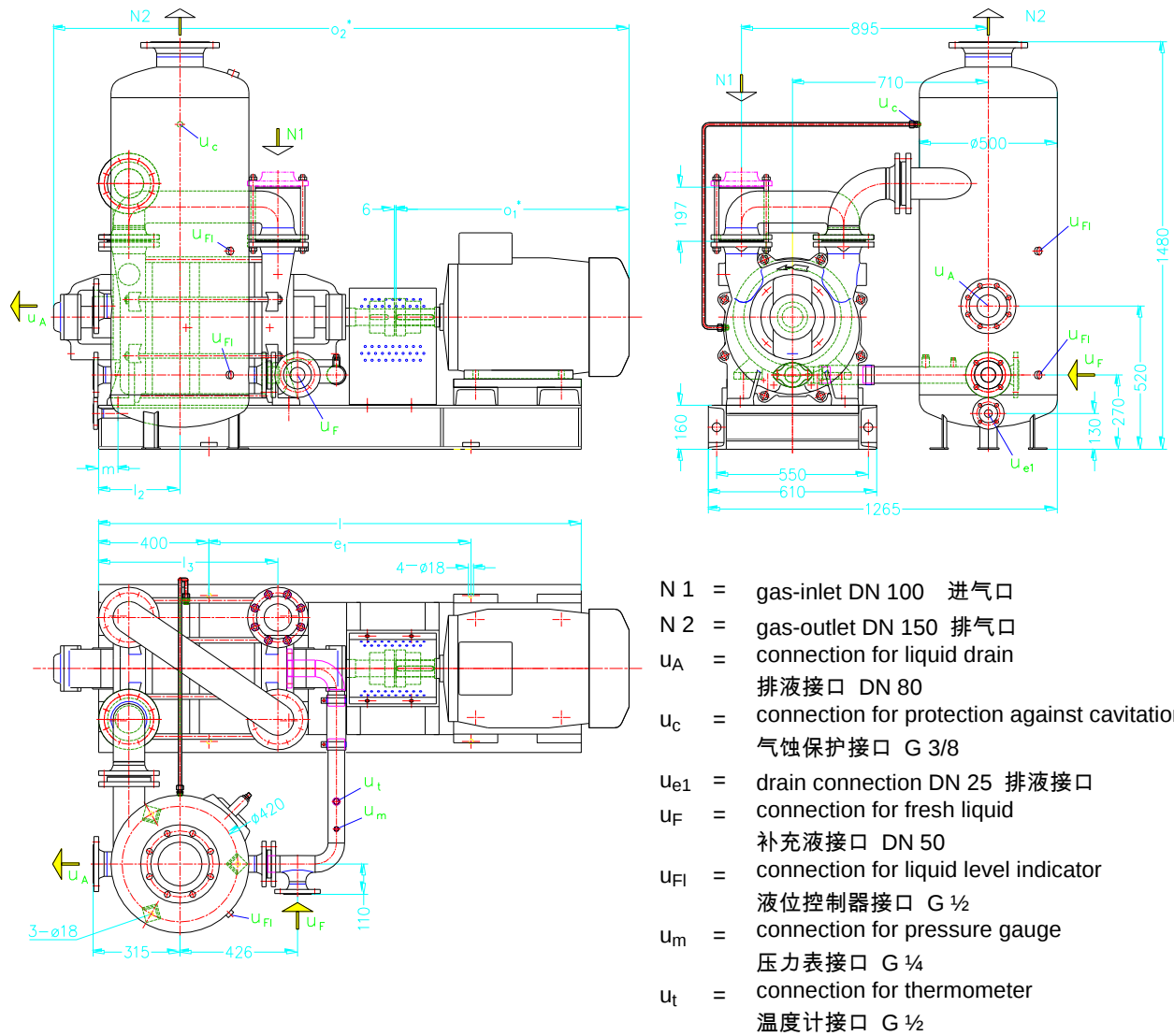
Pump 泵型号	E-Motor 50 Hz 电机			e ₁ [mm]	l [mm]	l ₁ [mm]	l ₂ [mm]	m [mm]	o ₁ [*] [mm]	o ₂ [*] [mm]	q [mm]	approx. weight 重约[kg]	
	size- 规格	kW IP 55	EXdIIBT4 Gb									IP 55	EXdIIBT4 Gb
VH 75320	225 M	30	-	950	1750	650	110	70	845	2086	641	938	-
	225 M	-	30									-	1060
	250 M	37	-									1018	-
VH 75330	250 M	37	-	1300	2200	900	210	170	910	2301	791	1260	-
	250 M	-	37									-	1420
	280 S	45	-									1400	-
VH 75340	280 S	45	-	1300	2200	900	110	70	985	2476	891	1460	-
	280 S	-	45									-	1490

flange connections to DIN 2501 PN 10 [mm] 法兰尺寸按DIN 2501 PN10标准				
DN	50	80	100	200
k	125	160	180	295
D	165	200	220	340
number x d ₂	4 x 18	8 x 18	8 x 18	8 x 22



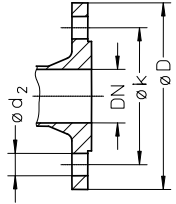
* dimensions depend on the motor make 带*的尺寸取决于电机

Arrangement drawing VH 75320, VH 75330, VH 75340 with upright liquid separator
带附件外形图 VH 75320, VH 75330, VH75340 (带侧置式气液分离器)



Pump 泵型号	E-Motor 50 Hz 电机			e ₁ [mm]	l [mm]	l ₁ [mm]	l ₂ [mm]	m [mm]	o ₁ [*] [mm]	o ₂ [*] [mm]	approx. weight [kg] at motor	
	size 规格	IP 55	EXdIIBT4 Gb								IP 55	EXdIIBT4 Gb
VH 75320	225 M	30	-	950	1750	650	295	70	845	2086	965	-
	225 M	-	30						910	2151	-	1090
	250 M	37							910	2151		
VH 75330	250 M	37	-	1300	2200	900	395	170	910	2301	1290	-
	250 M	-	37						950	2341	-	1450
	280 S	45							985	2376	1350	
VH 75340	280 S	45	-				295	70	985	2476	1490	-
	280 S	-	45						1002	2493	-	1520

flange connections to DIN 2501 PN 10 [mm] 法兰联接尺寸按DIN 2501 PN10标准					
DN	25	40	50	100	150
k	85	110	125	180	240
D	115	150	165	220	285
number x d ₂	4 x 14	4 x 18	4 x 18	8 x 18	8 x 22



* Dimensions depend on the motor 带*的尺寸取决于电机

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

水流量需求 [m³/h] (根据吸入压力、转速、运行方式和温差)

suction pressure [mbar] 入口压力		33				120				200				400							
pump type 泵型号	Speed 转速 rpm	KB				FB	KB				FB	KB				FB	KB				FB
		difference in temperature [°C] 温差					difference in temperature [°C] 温差					difference in temperature [°C] 温差					difference in temperature [°C] 温差				
		20	10	5	2		20	10	5	2		20	10	5	2		20	10	5	2	
VH 75320	880	0.7	1.3	2.2	3.8	7	0.8	1.3	2.2	3.5	6	0.8	1.3	2.1	3.2	5	0.7	1.2	1.7	2.3	3
	975	0.8	1.5	2.4	4.0		0.8	1.5	2.4	3.7		0.9	1.5	2.3	3.4		0.8	1.3	1.8	2.3	
	1175	1.2	2.0	3.1	4.7		1.2	2.0	3.0	4.3		1.2	1.9	2.8	3.8		1.0	1.5	2.0	2.5	
VH 75330	880	1.0	1.7	2.7	4.3	7	1.0	1.7	2.6	3.9	6	1.0	1.6	2.5	3.5	5	0.8	1.3	1.8	2.4	3
	975	1.1	1.8	2.9	4.5		1.1	1.9	2.8	4.2		1.1	1.8	2.7	3.7		1.0	1.5	2.0	2.5	
	1175	1.5	2.4	3.6	5.1		1.4	2.3	3.3	4.6		1.4	2.2	3.1	4.0		1.2	1.7	2.2	2.6	
VH 75340	880	1.0	1.8	2.9	4.4	7	1.1	1.8	2.8	4.1	6	1.1	1.8	2.6	3.7	5	1.0	1.5	2.0	2.5	3
	975	1.2	2.0	3.1	4.7		1.2	2.0	3.0	4.3		1.2	2.0	2.8	3.8		1.1	1.6	2.1	2.5	
	1175	1.6	2.6	3.8	5.3		1.7	2.6	3.6	4.7		1.6	2.5	3.3	4.2		1.3	1.8	2.3	2.7	

FB = fresh liquid requirements 全部采用新鲜工作液

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

比新鲜水温高20 °C, 10 °C, 5 °C, 2 °C的混合作业液

Data regarding the pump size - order hints

关于泵规格的数据 - 定单代码

Sealing material 轴封设计

QV	Standard mechanical seal	标准机械密封 Q22BVFF	O-rings Viton; O 型圈为氟橡胶	动环碳化硅， 静环石墨
QM	Standard mechanical seal	标准机械密封 Q22BMGG	O-rings Viton encapsulated with Teflon; O 型圈为氟橡胶外 包裹聚四氟乙烯	动环碳化硅， 静环石墨
QVQV	Double mechanical seal.	集装式机械密封 BQ2VGF-BQ2VGF	O-rings Viton; O 型圈为氟橡胶	动环碳化硅， 静环石墨
QKQV	Double mechanical seal.	集装式机械密封 BQ2K23GG/BQ2VGG	O-rings; 介质端全氟橡胶，非 介质 O 型圈为氟橡胶	动环碳化硅， 静环石墨

Material Code 材料代码

Material code 代码	Impeller 叶轮	guide disc 导流盘	central body 中间体	vacuum casing 泵盖
OK	304	HT250	20#	HT250
4B	316	316	316	316
1B	304	304	304	304
SZ	316	316	20#	HT250

Pump-set Design 泵组设计

Motor Selection Table 电机选择表

Pump-set construction type 泵组结构类型	electric motor 电机 50 Hz					
Pump 单泵	motor protection 保护等级 IP 55			motor protection 保护等级 EXdII BT4 Gb		
Part group and Couplings 零件组及联轴器	kW	Size 规格	Designation 代号	kW	Size 规格	Designation 代号
three phase motor (50 Hz, 380 VΔ) at 1450 rpm	30	225 M	B30	30	225 M	X30
三相电动机 , (50 Hz, 380 VΔ) 1450 rpm	37	250 M	B37	37	250 M	X37
	45	280 S	B45	45	280 S	X45

Accessories 附件

Recommended accessories 推荐附件		VH75320	VH75330	VH 75340
Overhead liquid separator 上置式气液分离器 material design Steel, galvanised 材料 AISI 304 service liquid line 工作液管线 material design 20 steel 材料 AISI 304 cavitation protection line 气蚀保护管线 material design 20 steel 材料 AISI 304 blank flange DN 100 盲法兰 material design 45 steel 材料 AISI 304	Type Weight	XBa 10040 70 kg		
	ABs part no.	50020001 50020002		
	ABs part no.	50020005 50020006	50020007 50020009	50020009 50020010
	ABs part no.	50020017 50020018		
	ABs part no.	50020021 50020022		
Upright liquid separator 侧置式气液分离器 material design Steel, galvanised 材料 304 service liquid line 工作液管路 material design 20# 材料 304 cavitation protection line 气蚀保护管路 material design 20# 材料 1304 discharge line (bend) 排出管路 material design 20# 材料 304	Type Weight	XBp 2311 96 kg		
	ABs part no.	50020003 50020004		
	ABs part no.	50020011 50020012	50020013 50020014	50020015 50020016
	ABs part no.	50020019 50020020		
	ABs part no.	50020021 50020022		
ABs non-return valve ABs 止回阀 material design 20# + Teflon 材料 304 + Teflon	type/weight	C-NRV 100		
	ABs part no.	50020025 50020026		
Motor in case of standard design 电机 标准设计 IP 55 EXdIIBT4 Gb	Size Power Weight	225 M 30 kW 225 kg	250 M 37 kW 410 kg	280 S 45 kW 540 kg
	Size Power Weight	225 M 30 kW 416 kg	280 S 37 kW 511 kg	280 M 45 kW 660 kg
Couplings 联轴器 Material design steel 钢 材料设计 Rubber 橡胶	type/weight	XL8 / 11 kg		XL9 / 18 kg
	ABs part no.	60/60 43030080	60/65 43030081	60/75 43030082
Contact safety device 联轴器罩 material design Steel 钢 材料设计 AL 铝	ABs part no.	23041050 23041051		
	ABs part no. weight	23041052 142 kg	23041053 160 kg	23041054 170 kg

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

公司保留对技术参数更改的权利。



ABsys (Shanghai) Co., Ltd
昂卜 (上海) 流体设备有限公司

Manufactory Plant 工厂

地址 : No.739, XinGe Road, SongJiang,
Shanghai, 200108, P.R. China
中国上海市松江区新格路739号

电 话 : 400 886 8302

电子邮件 : Sales@absys.cn

网 址 : www.ABsys.cn

ABsys.CH

Headquarter (瑞士总部)

Add : Grueneburg 52, CH-3213 Kleinboesingen.
Swisszerland

Tel. +41 26 424 51 74

Fax: +41 26 424 51 94

E-mail: Admin@absys.ch

Website: www.ABsys.ch