

# Dry Vacuum Pump LR/HR Series



## Features

### 1. Item

- Dry Vacuum Pump

### 2. Type

- LR series, HR series

### 3. Outline

- Effective utilization of compressed heat which is own high temperature uniformity technology has given this dry pump series a high durability in the hard processes of CVD, etching etc. In the light processes, approximately up to 70% of electric power consumption cuts is possible by having the ECHO-SHOCK on the pump. CE marking is available for all series (optional).

### 4. Features

- LR series: Uniformity of low temperature distribution. The optimum pump for the evacuation of LL chamber, in addition to the PVD processes, in which reduction of exhaust time is important to up the throughput.
- HR series: Uniformity of high temperature distribution. It is possible to exhaust the sublimates generated by CVD and etching processes in a gaseous state.
- Noise reduction  
PDR-180C: 74dB → LR180: 68.5dB
- Helium Tight  
Airtight structure by using canned motor makes it possible to be excellent safety.

- Power failure protection  
Pump withstands power interruptions of up to 500ms duration.
- Communication function  
It is possible to read data and the record of warning/alarm about the running condition of pump. Intensive control over pump operation with an exclusive software program is available.
- CE marking is available.  
CE marking is available upon request.
- Silencer(Optional)  
In the case of pumping at high pressure area, exhaust noise is very big. For noise reduction we prepare Silencer (Option)

## Specifications

Specifications	Model	LR/HR60	LR/HR90	LR180	LR/HR300	LR/HR600	LR/HR1200	LR1800
Booster Pump			-		PRC-003A	PRC-006A	PRC-012A	PRC-018A
Primary Pump		LR/HR60	LR/HR90	LR/HR180	LR/HR60	LR/HR90	LR/HR90	LR/HR180
Maximum pumping speed (m <sup>3</sup> /hr)/(L/min)	50Hz	62(1030)	112(1860)	183(3100)	359(5980)	653(10900)	1012(16900)	1701(28350)
	60Hz	80(1333)	126(2100)	237(3950)	365(6080)	701(11700)	1051(17500)	1784(29700)
Maximum inlet pressure (Pa)		*1) Atmospheric pressure						
Ultimate pressure (Pa)		5			0.67			
Maximum exhaust pressure		1Pa ~ Atmospheric pressure						
*2) Inlet diameter		VG50	VG 80	VG 80	VG 80	VG 80	VG100	VG150
Outlet diameter		NW40						
Supply pressure (MPa)		0.1 to 0.3						
In/out difference pressure (MPa)		0.1						
Flow rate (L/min)		5						
Supply water temperature (°C)		10 to 30 *3)						
Nitrogen gas	Supply pressure (MPa: gauge pressure)	0.1 to 0.5						
	Regulated pressure (MPa: gauge pressure)	0.05 (Regulated pressure in pump)						
Weight (kg)		170kg	240kg	343kg	251kg	371kg	403kg	553kg

1)With the HR300, HR600 and HR1200, do not allow the repeated pumping operation at the suction pressure more than 200Pa. There is the possibility pump temperature will exceed the upper limit of the setting point and the interlock will run.

2)The standard suction port flange is JIS flange. NW flange will be suction port flange in the case of CE marking. NW flange is available as the option even CE marking is not required.

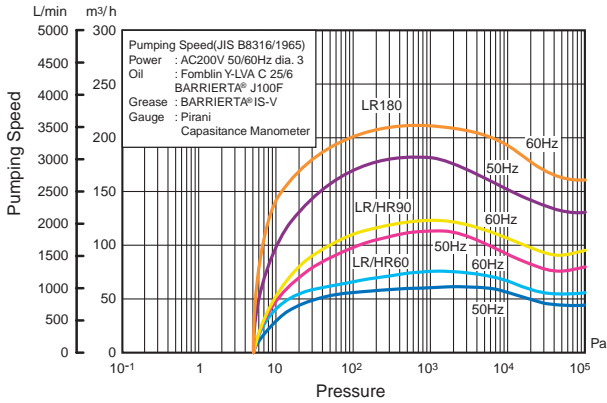
3)Not condensing.

4)Please specify a run mode when placing an order. (standard LR:2 HR:3)

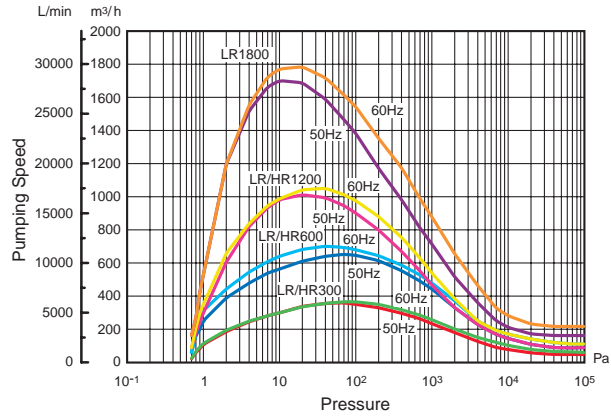
Run mode	Run mode *2)	1	2	3
	N <sub>2</sub> Flow rate (SLM)	0	5	5 ~ 50

Pumping Speed Curve

LR/HR60, 90, LR180



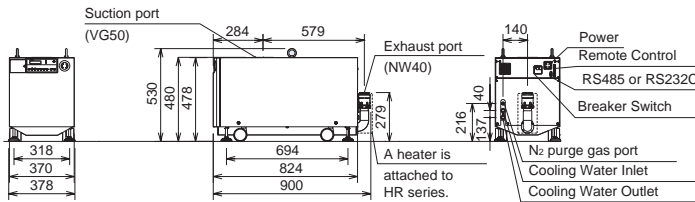
LR/HR300, 600, 1200, LR1800



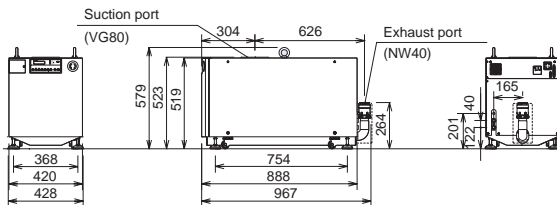
External Dimension Diagram

(unit: mm)

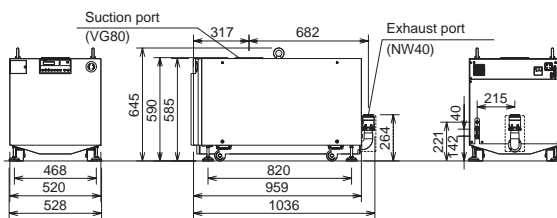
LR/HR60



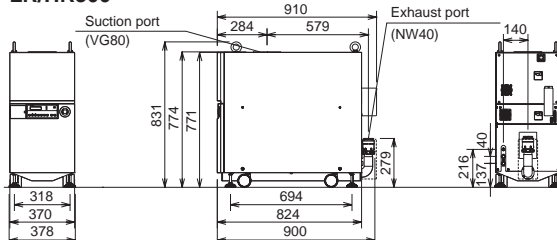
LR/HR90



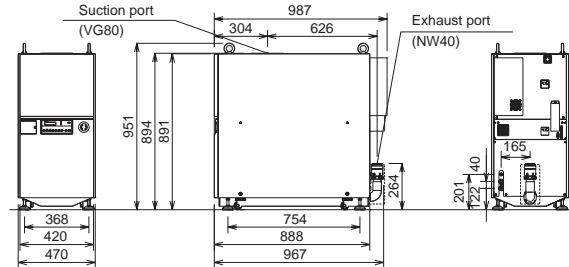
LR180



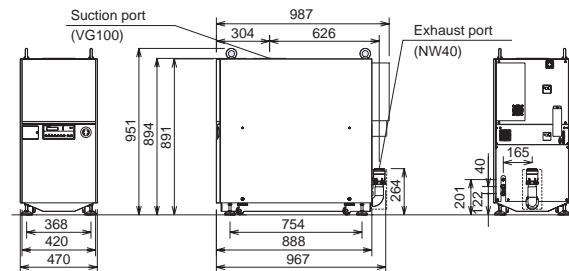
LR/HR300



LR/HR600



LR/HR1200



LR1800

