HORI ENGINEERING CO., LTD.

OIL-FREE STATIONARY VACUUM PUMP

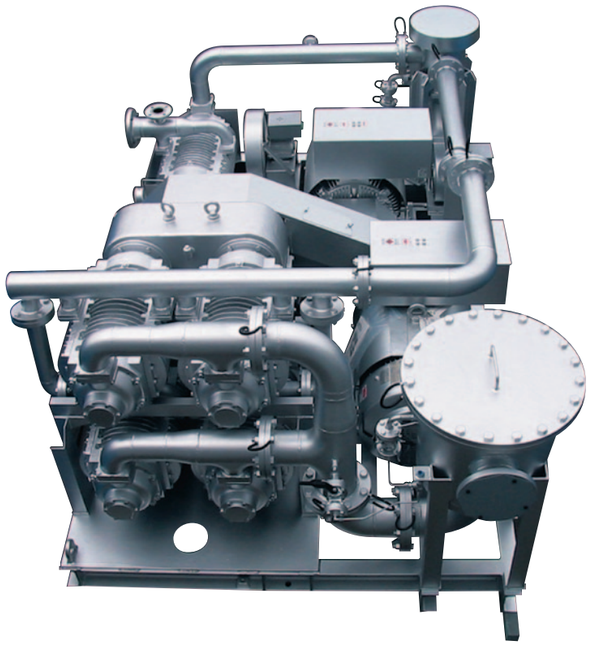
Products catalog

OIL-FREE STATIONARY VACUUM PUMP

— Hori Vacuum Pumps Boast —

- Compact Design
- Low Noise
- Low Vibration
- High Efficiency
- Low Power Consumption
- High Market Share

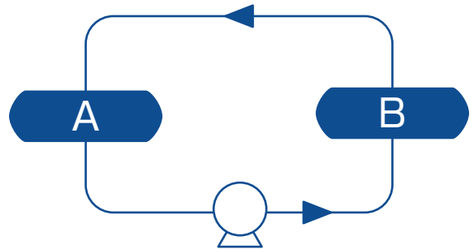
Based on the characteristic design of swing type, the Hori vacuum pumps feature compact design, low noise, low vibration, high efficiency, and low power consumption. Due to the excellent performance and high durability, the Hori vacuum pumps for hydrocarbon gas recovery apparatuses has gained a domestic market share of approx. 80%.



Applications include:

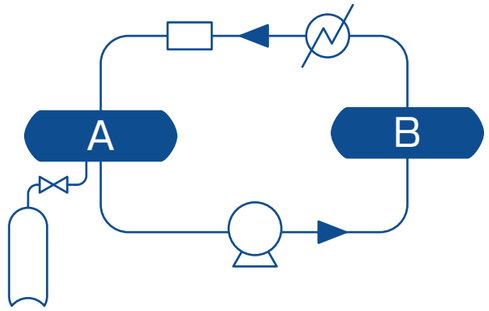
1 Vacuum degassing and recovery

As can be seen from the figure, the gas which has been sterilized in tank A or the gas which is adsorbed to an adsorbent can be recovered to tank B. The gas can be recovered without being subjected to contamination with such a substance as lubricating oil.



2 Degassing and force feed

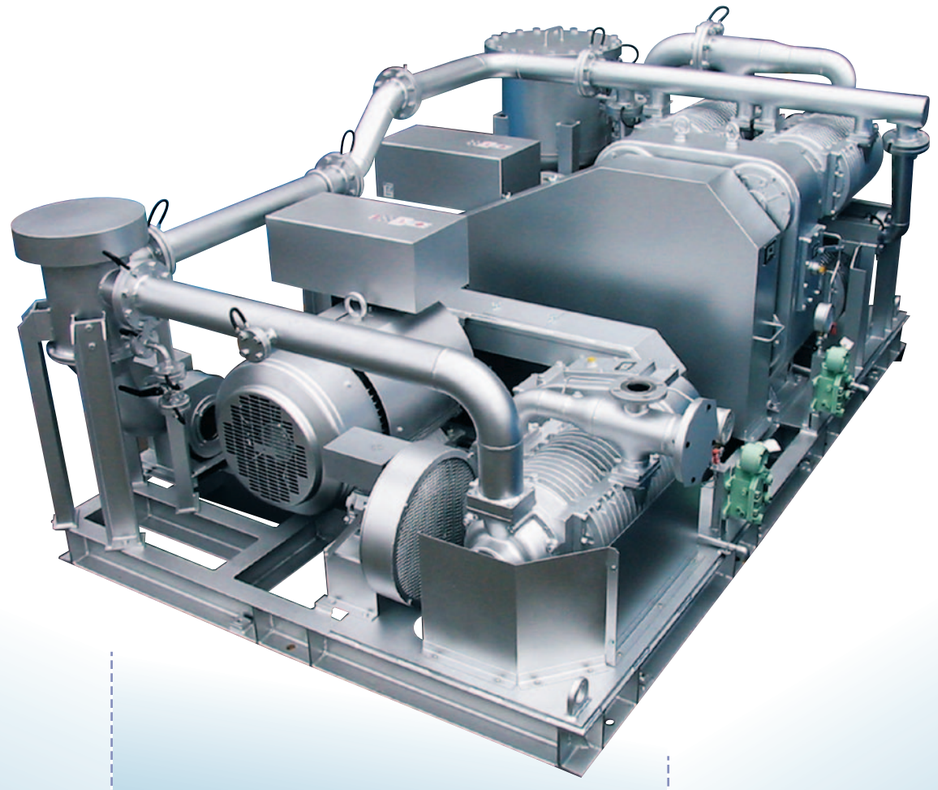
The Hori oil-free vacuum pump connected in a circulation circuit can perform vacuum degassing to recover the gas, being used as a vacuum pump, then compress the recovered gas, being used as a compressor operating on the pressure difference across the piping, thus circulating the gas in the circuit under positive pressure.



3 Recovery of hydrocarbon gas, organic solvent gas, and inert gas

When the tank in a gasoline tank lorry is to be filled with gasoline vapor at a gasoline tank location, it must be once evacuated of the residual gasoline vapor. The Hori vacuum pump can be used to recover the residual gasoline vapor for reuse without releasing it to the atmosphere.

Features of Hori Vacuum Pumps Include:



1 They are best suited for use as a process vacuum pump.

The construction of the Hori oil-free vacuum pump is basically the same as that of the Hori oil-free compressor. The gas contact part inside the cylinder is free of oil, thus the circulating gas will not be contaminated with oil.

2 Minimized power consumption

Any Hori vacuum pump is constructed so that the power consumption is theoretically zero when the suction pressure is at absolute vacuum (−760mmHg abs), with the discharge pressure being at atmospheric one, while attaining a maximum at a suction pressure of −300 to −400mmHg abs, assuming that there is no mechanical loss and the suction and discharge valves operate with no resistance. Thus, in a high vacuum, the operation is performed at an extremely low power consumption, with the valve resistance being significantly reduced.

3 Extremely low noise and vibration

In vacuum operation, the piston (the blades of the rotor) makes a rocking motion in the vacuum, with no sound being produced in the valves, thus the noise and vibration being held to an extremely low level.

4 Compact and lightweight design

The piston is moved in a rocking fashion in the cylinder, thus the volume of the cylinder is effectively used. Furthermore, the rotational speed can be set at a relatively high value, which provides the pump body with a compact and lightweight design.

5 Minimum maintenance

No need for oil lubrication inside the cylinder. Oil in the crankcase is needed to be replaced only once a year, and the seal bar for cylinder sealing enjoys an extremely low wear rate. Thus the maintenance and inspection requirement is held to a minimum.

6 Easy to install

The Hori oil-free vacuum pump is compact and lightweight, running with practically no vibration, and in addition, it is delivered together with the motor arranged on the same platform, thus the foundation working needed is relatively simple, and the unit can be installed with ease.

7 A single pump can be used for two different functions.

The same single vacuum pump can also be used under a condition which provides a negative pressure on the suction side, and a positive pressure on the discharge side.

8 Material of gas contact part

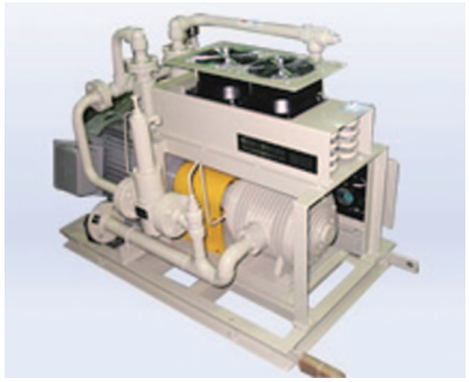
The standard gas contact part is made of a gray cast iron (FC200 or its equivalent) or its equivalent, however, a custom-made gas contact part made of a stainless steel/a stainless steel casting (SUS304/SCS13, SUS316/SCS14, or SUS316L/SCS16) is also available.

9 Shaft seal is available in a variety of types.

Shaft seal is available in a variety of types to accommodate many different gases and operating pressures. With combustible gasses, such as city gas, and gasoline vapor, Hori vacuum pumps have successfully been operated.

Lineup of Hori Vacuum Pumps classified by the type of product

Rotary type



Model	Attainable vacuum kPa abs	Displacement rate L/min	Motor kW
VMR6050A	10	55.9	0.2
VMR6466A	10	66	0.2
VMR7070A	8	77.5	0.2
VMR8260A	8	119.8	0.2
VMR1206A	7	181	0.4
VMR1206APDQ	7	240.3	0.4
VMR1208A	7	296.2	0.4
VMR1209A3PDQ	7	360.5	0.4
VMR1212APDQ	5	480.6	0.4
VMR1112A	5	526	0.75
VMR1215APDQ	5	600.8	0.75
VMR1620A4P	5	1447.8	0.75
RH1823A	5	2578.5	1.5

Swing type

Model Single-stage	Attainable vacuum kPa abs	Displacement rate m^3/min	Motor kW
1003, 1006	5.3	0.1~0.4	0.4~5.5
1408, 1414	5.3	0.5~1.5	1.5~11
2020, 2026	4.7	3.0~6.0	15~30
2426, 2626	4.0	6.0~10.0	22~45
2630, 2640	3.3	10.0~14.0	30~55
2652, 2660	3.3	14.0~20.0	30~45
2630W, 2640W	3.3	20.0~28.0	55~132
2652Z, 2660Z	3.3	56.0~80.0	30~75

Model Two-stage	Attainable vacuum kPa abs	Displacement rate m^3/min	Motor kW
1006H	0.8	0.1~0.4	0.2~1.5
1414H	0.8	0.5~1.5	1.5~7.5
2026H	0.7	3.0~6.0	7.5~11
2626H	0.6	6.0~10.0	11~22
2640H	0.5	10.0~14.0	22~37
2660H	0.5	14.0~20.0	30~45
2640WH	0.5	20.0~28.0	30~55
2660ZH	0.5	56.0~80.0	30~45

Examples of Hori vacuum pumps delivered to customers

To Japan Petroleum Exploration Co., Ltd.

Date of delivery : Nov., 2004
Model : HA-VP2652BZHDDBF
Application : Recovery of gasoline vapor

Specifications

Fluid : Gasoline vapor
Flow rate : 50.0 Am^3/min
Suction pressure : 25 mmHg abs
Discharge pressure : 1000 mmH_2O gage

To GS Caltex Corporation.

Date of delivery : July, 2008
Model : HA-VP2652BZHDDBQF
Application : Recovery of gasoline vapor

Specifications

Fluid : Gasoline vapor
Flow rate : 50.0 Am^3/min
Suction pressure : 25 mmHg abs
Discharge pressure : 1000 mmH_2O gage

To Japan Energy Corporation.

Date of delivery : Mar., 2003
Model : HA-VP2652BZHEEGF
Application : Recovery of gasoline vapor

Specifications

Fluid : Gasoline vapor
Flow rate : 50.0 Am^3/min
Suction pressure : 25 mmHg abs
Discharge pressure : 1000 mmH_2O gage

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