

Sorption Pump PSM-10B Series



PSM-10B

Sorption pumps use the physical adsorption occurring when a molecular sieve (artificial zeolite), which is a porous adsorption material, is cooled using liquid nitrogen. These vacuum pumps are used to create clean vacuum with no organic molecules. (The pumps have nearly no pumping capability relative to H₂, He, and Ne contained in atmospheric air)

With a sorption pump alone clean vacuum with no oil vapor can be obtained in the range from atmospheric pressure to 1Pa. When used in combination with a roughing pump, the range can be extended to 10⁻² Pa.

Features

- A clean vacuum with no oil vapor can be created in the range from atmospheric pressure to 10⁻² Pa.
- Since the activating heater for the molecular sieve adsorption material and the liquid nitrogen container are combined in a single unit, handling is easy.
- Molecular sieve replacement is easy.
- The structure allows little molecular sieve temperature increase even when the liquid nitrogen surface area is reduced.
- Breakdowns are rare and pumping is quiet since there are no moving parts.
- Backflowing oil vapor is trapped when the sorption pump is combined with an oil rotary vacuum pump.

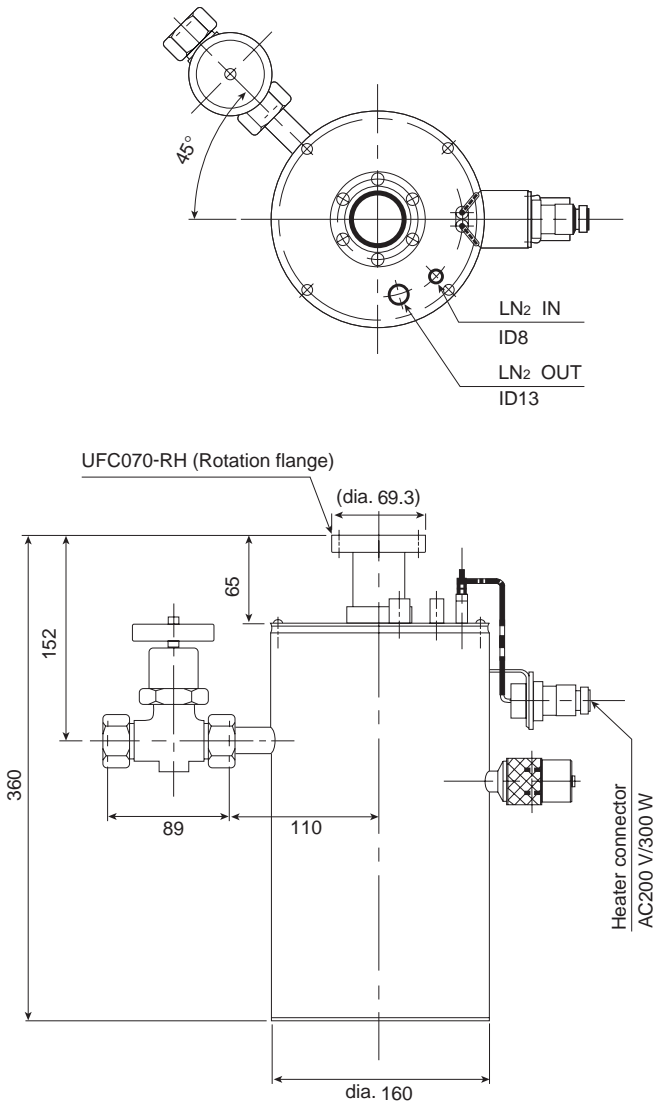
Specifications

Item	Model	PSM-10B	
Ultimate pressure	PSM alone	Pa	2.6
	PSM in combination with oil rotary vacuum pump	Pa	1.3 x 10 ⁻²
Applicable pressure range	Pa	Atmospheric pressure to 10 ⁻²	
Material		Main unit: Austenite stainless steel	
Adsorption agent method	5A	Molecular sieve	
Adsorption agent weight	kg	1	
Liquid nitrogen consumption	Initial period	L/h	5
	At equilibrium	L/h	1.1
Activating heater		Installed inside pump	
Heater specifications		Single phase AC200 V, 300 W, 50/60 Hz	
Suction port connection flange		UFC070-RH ^{*1} UVG-40 ^{*2}	
Exhaust port flange		3/4B packless valve joint	
Weight	kg	10	

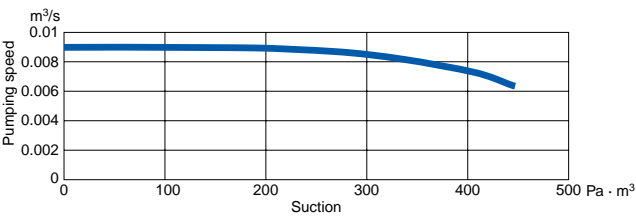
* 1 ULVAC standard stainless steel knife-edge metal flange

* 2 ULVAC standard stainless steel O-ring flange

External Dimension Diagram (unit: mm)



Suction and Pumping Speed



Pumping Speed Curve

