

Dry Vacuum Pump ER Series

ULVAC offers the optional dry pump series for all semiconductor and FPD manufacturing processes.

In addition to the LR/HR series which has excellent reliability in sublimate generating processes such as SiN-LPCVD, Metal etching, etc., ULVAC has recently introduced a new series of dry pump, the ER series, designed for use in sputtering, ashing and etching processes which require corrosion resistance. This pump series was designed to save energy. A careful distribution of swept volume in each pumping stage, and use of a brushless motor have given this dry pump series one of the lowest rates of electric power consumption in the industry.

Features

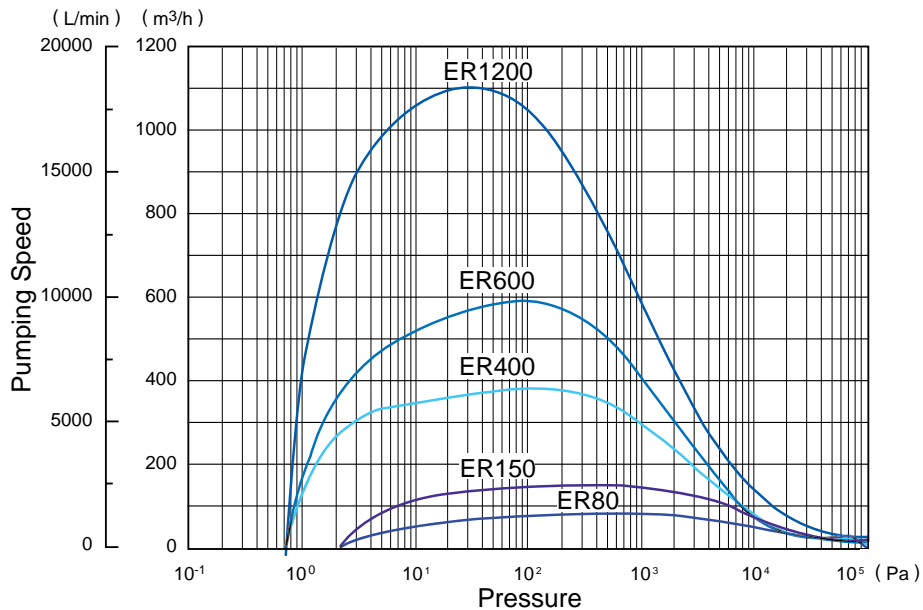
- Reduced running cost
Electricity consumption: Max. 58 % less (compared with ULVAC's PDR series pumps)
- Reduced N₂ consumption
It is possible to run with N₂ purge at 0 Pam³/s (when pumping non-corrosive gases)
- Compact design (compared with ULVAC's PDR series pumps)
Mass: Max.21%less
Foot print: Max.23%less
Volume: Max.33%less
- 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.
- Excellent corrosion resistance
The internal components are specially treated to give a high degree of surface hardness and corrosion resistance
- This helps prevent wear and corrosion of the internal parts of the pump when exposed to corrosive gases.



Applications

- Evacuation of inert gas (PVD, LL chambers, etc.)
- Evacuation of corrosive gas (etching process, etc., in which corrosion resistance is required)
- Backing pump for turbo-molecular pumps and mechanical booster pumps, etc.

Pumping Speed Curve



Specifications

Model	ER80	ER150	ER400	ER600	ER1200		
Actual maximum pumping speed	80m ³ /h	150m ³ /h	390m ³ /h	600m ³ /h	1140m ³ /h		
Ultimate pressure*1	1330L/min	2500L/min	6500L/min	10000L/min	19000L/min		
Cooling Water	Port size		Rc3/8 Female screw				
	Pressure		Differential pressure: 0.1Mpa, Pressure: 0.1 – 0.5 Mpa				
	Capacity		3L/min and greater, operate above dew point				
	Temperature		10 – 30°C				
Nitrogen	Port size		1/4" joint (equivalent to SWAGELOK)				
	Pressure		Primary pressure: 0.1 – 0.5 Mpa , Pressure at regulator: 0.05 – 0.1Mpa				
	Nitrogen purge		0 – 50 SLM				
Phase/voltage(frequency)		3 phase/AC200V (50/60Hz), AC220V (60Hz)					
Rated current (A)		7.2	10.0	16.7	19.2	24.5	
(At ultimate pressure) (A)		(4.0)	(6.0)	(6.0)	(9.4)	(11.4)	
Oil *2	Mechanical booster pump	Oil	—	—	0.7L	1.5L	1.9L
	Dry Pump	Oil	0.5L				
		Grease	23.8g				
Suction port size		NW40	NW50	NW80		NW100	
Exhaust port size		NW40					
External dimension W x D x H (unit: mm)*3		873 x 383 x 490	923 x 383 x 490	873 x 383 x 768	873 x 383 x 828	923 x 23 x 856	
Weight (unit: kg)		67	172	230	265	305	
Power consumption (At ultimate pressure) (unit: kW)		1.3	1.4	1.6	1.8	2.1	
Noise (unit: db (A))		57	57	58	59	59	
Communication function		Corresponding to the custom control software program					
Communication function		This function reduces N ₂ consumption by automatically stopping the gas ballast gas when use of gas ballast gas is not necessary.					
Power failure countermeasures		<500msec					
Standard and safety		CE, SEMI-S0200					

*1 Vacuum gauge: Pirani gauge, Measurement position :Directly above pump suction port

*2 MBP: Oil; FOMBLIN YL-VAC 14/6, BARRIERTA J60V, DRP: Oil; FOMBLIN YL-VAC 25/6, BARRIERTA J100V, Grease: BARRIERTA JFE552HV

*3 W=Width, D=Depth, H=Height

External Dimension Diagram

(unit: mm)

