

## Winner Vacuum Packing Pvt Ltd.

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## Dry Vacuum Pump

### Features :

- **The product feature of screw rotor type vacuum pump**

Hanbell PS Series vacuum dry pump which has gear transmission is equipped with coupling rotors, so the clearance between rotors can be minimum and the pump can be operated with out extra lubrication in the chamber; therefore, it's a oil free design compare with other similar products. With the patented screw rotor profile, the sealing effect between rotors is excellent and the ultimate working pressure can reach  $7.5 \times 10^{-3}$  Torr. Because the discharge route of our design is shorter compare with other products, it can have better effect on removing dusts. Besides that all rotors have the special coating on them, so our vacuum pump can be used in some production process such as PECVD and Etching.



- **Precise temperature control**

Hanbell screw rotor vacuum dry pump is equipped with new generation screw rotor and has been improved its cooling design by using a water tank to largely reduce the chamber temperature. Therefore it can precisely control the temperature inside the chamber and reduce the possibility of having debris inside the tank to improve the life time of vacuum pump.



- **High safety by sealing motor design**

PS series vacuum dry pump use patented sealing motor design which is cooled by cooling water can not only provide a good working temperature for motor to improve motor's life, but also avoid the risk of gas leakage when operating.

- **Overall protection by micro controller**

PS series vacuum pump can also be equipped with micro controller to monitor the motor current, motor temperature, chamber temperature, cooling water flow rate, nitrogen flow rate, and oil level of gear box to provide a better protection for vacuum pump. This function is really useful for photonics industry, semi conductive industry, solar energy and TFT-LCD industry which all have very high demand on product's quality assurance.



### (TECHNICAL DATA FOR PS SERIES DRY VACUUM PUMP)

Model	Unit	PPPS 80	PS 160	PS 180
Pumping Speed (50 Hz/ 60 Hz)	L/Min	1300/1600	2100/2600	2500/3000
	M <sup>3</sup> /Hr	80/96	130/156	150/186
	cfm	47/57	77/92	88/106
	Torr	$\leq 7.5 \times 10^{-3}$		

Ultimate Pressure (50 Hz/60 Hz)		Mbar	$\leq 1 \times 10^{-2}$		
		Pa	$\leq 1$		
Canned Motor	Frequency	Hz	50/60		
	Voltage	V	220/440		
	Rated Power	Hp	4	6	6
		Kw	2.98	4.47	4.47
Connection	1. Inlet	NW-50			
	1. Outlet	NW-40			
Cooling Water	Pressure	kg/cm <sup>2</sup>	2.0 ~ 4.0		
	Min.Flow	L/min	3 L/min. 15°C ~ 7 L/min 30° c		
	Temperature	°c			
	Connection		RC 3/8"		
N <sup>2</sup>	Pressure	Mpa	0.15~0.2		
	Dilute Flow	L/min	0~60		
	Sealing Flow	L/min	0~20		
	Connection		Swagelok 1/4"		
Dim.	L xWxH	mm	814x380x66	895x410x678	920x430x650
			3		
Weight		Kg	280	300	320
Noise		db(A)	<68	<70	<70
Control			SEMI E73~0299		
System max Leak Rate		MbarL	1x10 <sup>-5</sup>		
		/S			
Operation Temp.		°c	5°C~ 40°C		
Operation Moisture		RH	90%		

### (Technical Data for PS Series DRY VACUUM PUMP)

Model	Unit	PS 302	PS 602	PS 902	PS 1302	PS 1802	
Pumping Speed (50 Hz/60 Hz)	L/Min	4167/5000	8300/10000	12500/15000	17500/21000	25000/30000	
	m <sup>3</sup> /Hr	250/300	500/600	750/900	1050/1260	1500/1800	
	cfm	147/177	294/353	441/530	618/742	883/1060	
Ultimate Pressure	Torr	$\leq 7.5 \times 10^{-4}$					
	Mbar	$\leq 1 \times 10^{-3}$					
	Pa	$\leq 0.1$					
Motor	Frequency	50 / 60					
	Voltage	220 - 440					
	Power	Hp	4+4	4+4	6+4	6+6	6+6
		Kw	2.98+2.98	2.98+2.98	4.47+2.98	4.47+4.47	4.47+4.47
Connection	Inlet	ISO 100			ISO 160		
	Outlet	NW 40					
Cooling Water	Flow	L/min					
	Temperature	°C					
	Pressure	3L/min 15°C - 7L/min 30°C					
		kg/cm <sup>2</sup>	2.0 - 4				
N <sub>2</sub>	Connection	RC 3/8"					
	Pressure	kg/cm <sup>2</sup>					
	Dilute Flow	L/min					
		0 - 60					

	Sealing Flow	L/min	0 -20					
	Connection		Swagelok ¼"					
Dimension LxWxH	mm	814x380x865	814x380x915	895x410x943	920x430x957	920x430x1030		
Weight	Kg	400	450	520	540	545		
Noise Level	db(A)	<70						
Interface		SEMI E 73-0299						
Pump leak Rate	Mbar L/S	$1 \times 10^{-5}$						
Ambient Temp.	°C	5°C- 40°C						
Operation Moisture	RH	90 %						