

Power Saving Accessory for Dry Pumps **ECO-SHOCK**

ECO-SHOCK is a revolutionary dry pump accessory that can dramatically reduce power consumption by attaching to the dry pump exhaust line.

Acting like a booster pump for the dry pump exhaust, ECO-SHOCK reduces the amount of energy required by the dry pumps that mainly pump inert gas at semiconductor and FPD plants.*

* ECO-SHOCK cannot be used when the dry pump evacuate combustible gas, poisonous gas, and gas which increase the susceptibility of substances to burn.



Features

- **Dry Pump power consumption can be reduced dramatically**
 - Reduction of dry pump power consumption up to 80% (compared with ULVAC's pumps)*¹
 - No need for nitrogen and cooling water
- **User-friendly**
 - Compatible with any positive displacement dry pump, including non-ULVAC pumps*²
 - Pumping speed of the dry pump is unchanged
 - Easy to install*³

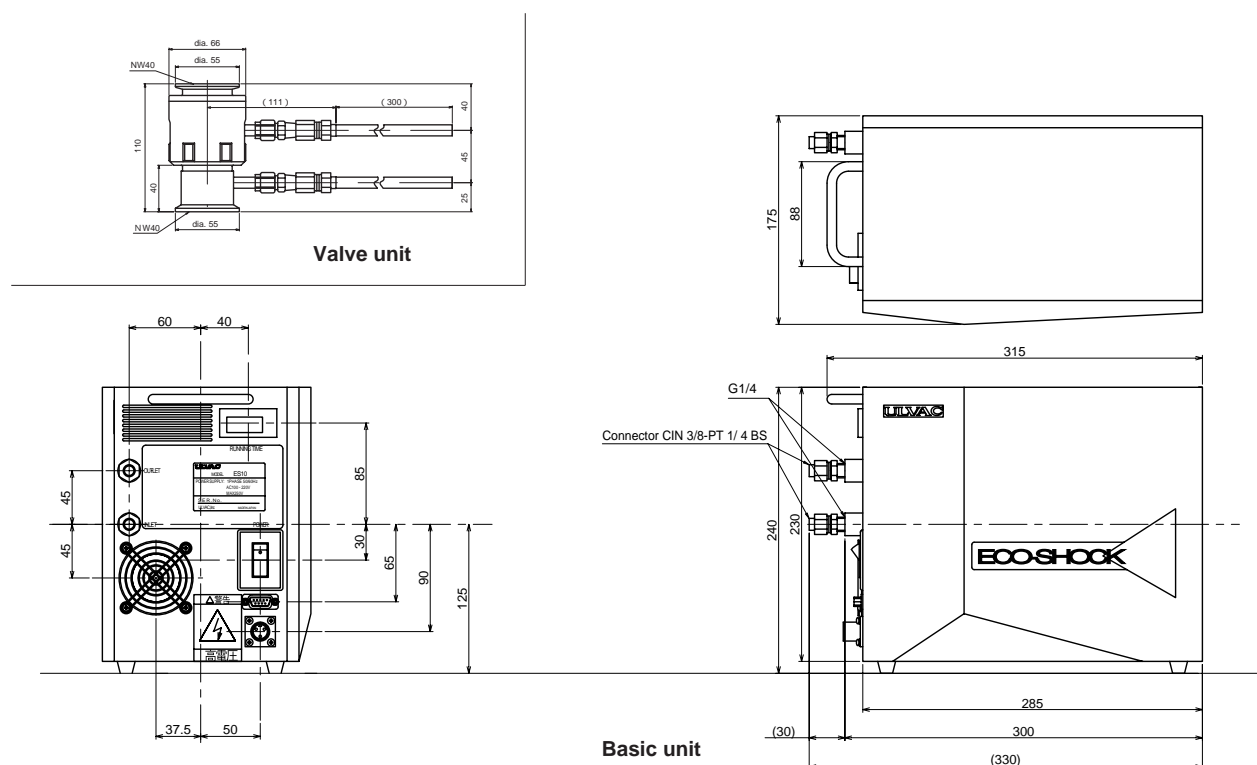
*¹ Power is saved when the inlet pressure is less than 1000Pa. Rate of power consumption reduction will vary by type of pump and the capacity of gas used (gas ballast and shaft seal).

*² Positive displacement dry pump such as roots, screw and claw type, etc. Applicable type should be referred to any ULVAC's sales or customer support center.

*³ Installation should be conducted by ULVAC customer support center.

External Dimension Diagram

(unit: mm)



Scope of warranty is only for the basic unit, ECO-SHOCK, and valve unit. ULVAC does not take any responsibility for product guarantee of periphery devices (dry pump etc). Any profit loss resulting by a fault in ECO-SHOCK is beyond the scope of warranty.

Specifications

Item/Model		ES10
Power	Requirements	AC100 - 220V 50/60Hz 1phase (Automatic change)
	Consumption	65W*
Control system	Input	Remote start/stop (contact energized 24V DC) Contact capacity: No-voltage contact with a contact capacity of 2.0A is required CLOSE: Start, OPEN: Stop
	Output	Over current output (No-voltage contact) Contact capacity: DC24V 1.0A
	Operation	start switch by Manual
	Display	Running time
Dimensions	Basic unit	175 x 330 x 240 mm
	Valve unit	dia. 66mm (66mm dia.) x 110 mm (NW40)
	Weight	Basic unit: 8.3kg Valve unit: 800g
Connection	Port size	G1/4" (INLET, OUTLET)
	Recommended piping	Over 9.52mm dia., Shorter than 3m long

* Reading when pressure is at ultimate pressure, and gas for shaft seal and gas ballast are 0 Pa·m³/s

Effects

ULVAC Pump Model	LR60	LR90	LR180	ER80	ER150
Pumping speed (L/min)* ¹	1300	2100	3980	1300	2500
Actually measured power consumption(kW)* ²	2.1	3.8	6.6	1.3	1.5
Actually measured power consumption when ECO-SHOCK is used (kW)* ^{2, *3, *4}	0.7	1.0	1.6	0.3	0.3
Power saved	67%	72%	76%	77%	80%

*1 At 60Hz power

*2 Power consumption at ultimate pressure

*3 Including power consumption of ECO-SHOCK

*4 Reading at ultimate pressure, with shaft seal and gas ballast at 0 Pa/m³/s.

These values change slightly depending on the gas flow at ballast and shaft seal.