

# Power Saving Accessory for Dry Pumps [ECO-SHOCK]

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

ECO-SHOCK is available for dry pumps that mainly pump inert gas.



## Features

- ▶ **ECO-SHOCK Contributes to Energy Savings**  
Max.80% reduction of power consumption of dry pump. \*1  
Effective in suppressing heat generation of dry pump resulting in reduction of air conditioning costs.  
ECO-SHOCK runs with only 65 Watts of power and without N<sub>2</sub> and cooling water.  
\* Unusable when pumping flammable and toxic corrosives gases.
- ▶ **Effective When Used with a Capacity Transfer Type of Dry Pump**  
Excellent results when used with a multi-stage root type. \*2  
Very effective when dry pump runs lower than 1000Pa.
- ▶ **Overall Dry Pump Performance is Improved**  
Improves ultimate pressure performance.  
Reduction in exhaust gas noise.  
No reduction in pumping speed in all pressure range.
- ▶ **User-friendly**  
Easy installation by attaching a valve unit to the exhaust pipe. \*3

- \*1 A power consumption reduction rate changes with depending on pump model and gas volume, etc.
- \*2 ECO-SHOCK is capable to use with the dry pump that exhaust port can be in vacuum condition.
- \*3 Modification could be required prior to installation of the ECO-SHOCK. Contact your nearest ULVAC service center for installation.

## Applications

- ▶ Power saving of dry pumps used as fore pumps of turbo molecular pump on sputtering and evaporation system.
- ▶ Power saving of dry pumps for load lock chambers.
- ▶ Power saving of dry pumps for vacuum laminator and vacuum packing, etc.

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## Effects

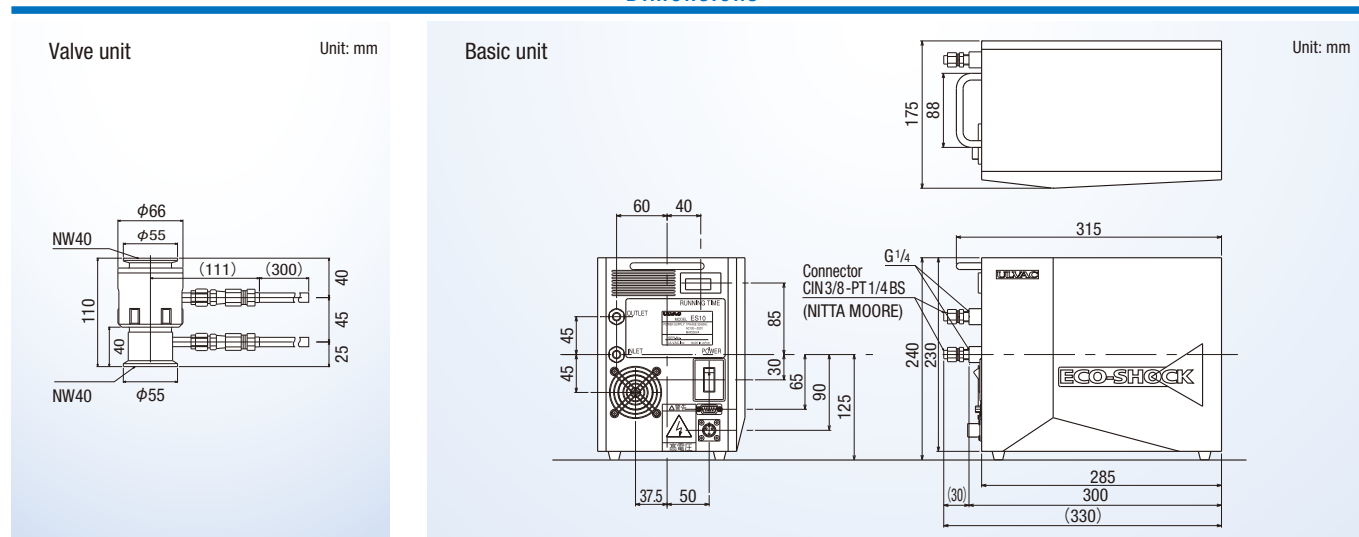
| ULVAC pump model                                                  | LR60              | LR90              | LR180              |
|-------------------------------------------------------------------|-------------------|-------------------|--------------------|
| Pumping speed *4                                                  | 1333 L/min, 47CFM | 2100 L/min, 74CFM | 3950 L/min, 139CFM |
| Actual measured power consumption *5                              | 2.1 kW            | 3.6 kW            | 6.6 kW             |
| Actual measured power consumption when ECO-SHOCK is used *5 *6 *7 | 0.7 kW            | 1.0 kW            | 1.6 kW             |
| Power saved                                                       | 67%               | 72%               | 76%                |

- \*4 At 60Hz power
- \*5 Power consumption at ultimate pressure
- \*6 Including power consumption of ECO-SHOCK
- \*7 Reading at ultimate pressure, with shaft seal and gas ballast at 0 Pa·m<sup>3</sup>/s. These values change slightly depending on the gas flow at ballast and shaft seal.

## Specifications

| Model          | ES10                               |                                                                                                                                                             |
|----------------|------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Power          | Requirements                       | AC100V-220V 50/60Hz 1phase (Automatic change)                                                                                                               |
|                | Consumption                        | 65W (Reading when pressure is at ultimate pressure, and gas for shaft seal and gas ballast are 0 Pa·m <sup>3</sup> /s)                                      |
| Control system | Input                              | Remote start / stop (contact energized 24V DC) Contact capacity: No-voltage contact with a contact capacity of 2.0A is required<br>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                         | 175mm×330mm×240mm                                                                                                                                           |
|                | Valve unit                         | φ66mm×110mm (NW40)                                                                                                                                          |
| Weight         | Basic unit: 9.2kg Valve unit: 800g |                                                                                                                                                             |
| Connection     | Port size                          | G1/4" (INLET, OUTLET) The connector has been installed.                                                                                                     |
|                | Recommended piping                 | Over 9.52mm dia, Shorter than 3m long                                                                                                                       |

## Dimensions



- ▶ 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.

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