

PROTON – filtration of welding dust and oil mist



Purpose

PROTON filtering unit is designed for cleaning the air from dust contamination and oil mist. The appliance is irreplaceable for extraction of mist and fumes arising at stands of metal processing, emulsion mists applied for tool cooling by means of water-oil emulsion, as well as for welding – especially during welding of oil-laden steel sheet and welding with use of high amounts of anti-spattering preparations. The appliance is not designed for extraction of electrical conductivity dust particles. The device can work with a system of local exhausts that extract the dust contamination from several points, whereby the air stream is cleaned centrally and distributed back to the process hall as clean air, afterwards. Maximum temperature of the conveyed air should not exceed +60°C. The appliance can be installed both, inside and outside the building.

Structure

PROTON consists of subsequent elements:

- steel housing,
- radial fan – at the side of clean air,
- net filter – at the device outlet,
- ionizer section,
- capture section,
- silencer – at the fan outlet,
- control unit – start of the device and control of its function. The unit is installed on the device housing. It can be installed in another place as convenient for User.

The appliance is manufactured in a stationary version, in three sizes varying in volume flow: 2000 m³/h, 4000 m³/h and 8000 m³/h. It is equipped with a set of legs to be screwed up to the floor.

Operational Use

After the device start, the automation unit provides continuous work of the fan and cleaning of the forwarded air. As first step, the polluted air flows through the net filter for coarse particle separation. Subsequently, the air passes the ioniser section to load the particles positively, next in the capture section, the particles build up on the negatively charged plates. Having left the capture section, the clean air returns to the process room, forced through the fan. The filtration efficiency is approx. 97%.

In case of dust extraction during the welding, the maintenance consists in periodical cleaning of the ioniser- and capture section – the viscous impurities (adhering on the elements) ought to be removed and this is performed by rinsing them in a container with the water with detergent.

In application for oil mist-, water-oil emulsion extraction, etc., the impurities flow onto the drip tray under the filtration sections, whereby the condensed oil can be discharged through a drainage valve.

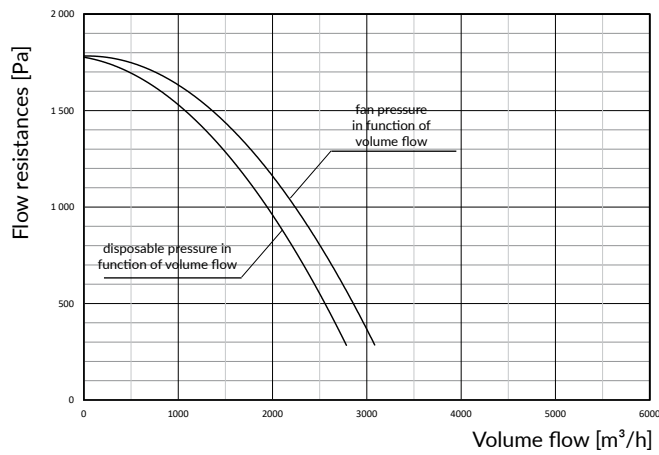
PROTON

Technical Data

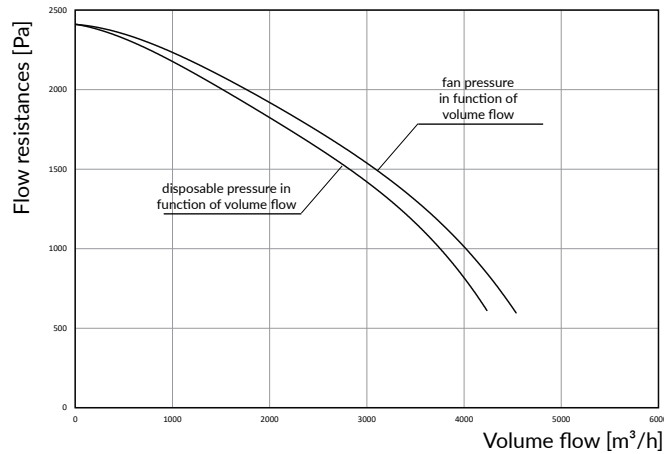
Type	Part No.	Maximum volume flow [m ³ /h]	Maximum vacuum [Pa]	Supply voltage [V]	Motor rate [kW]	Acoustic pressure level [dB(A)] from distance		Weight [kg]
						1 m	5 m	
PROTON 2000	800E00	2500	1800	3x400	1,1	74	60	198
PROTON 4000	800E01	4000	2400	3x400	2,2	82	68	218
PROTON 8000	800E02	8000	2950	3x400	5,5	87	74	397

Flow charts

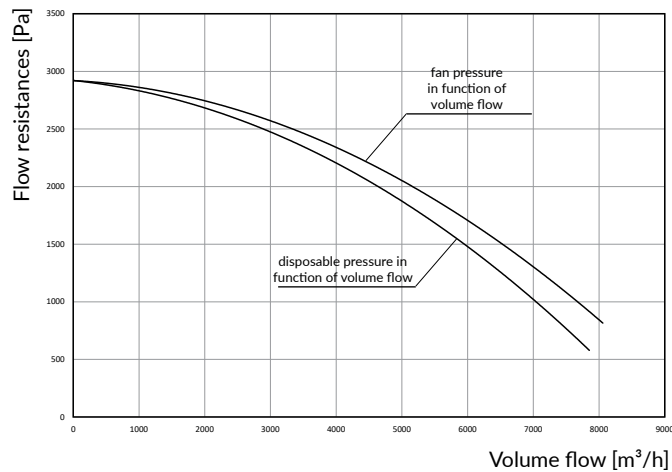
PROTON-2000



PROTON-4000

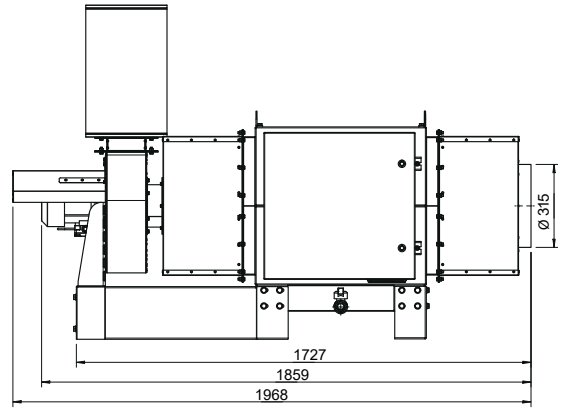
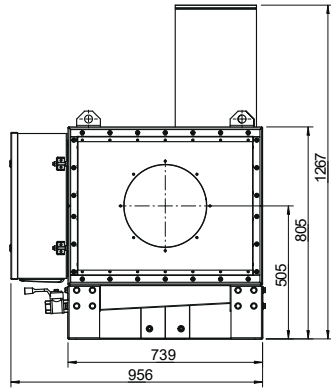


PROTON-8000

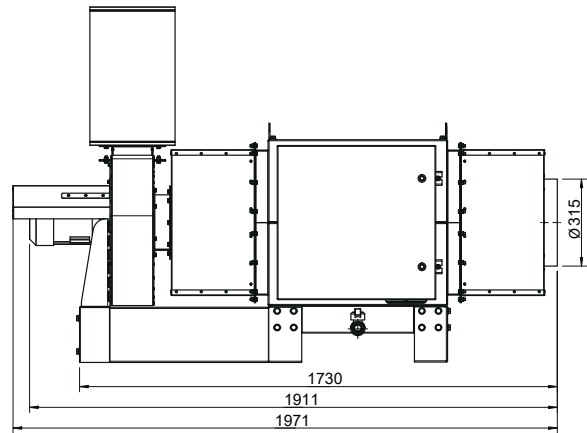
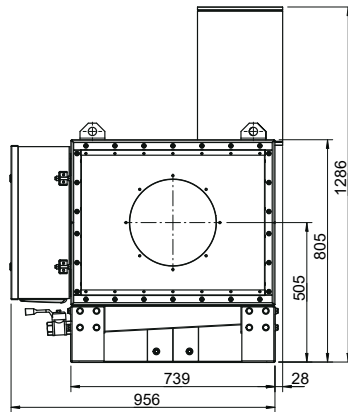


PROTON

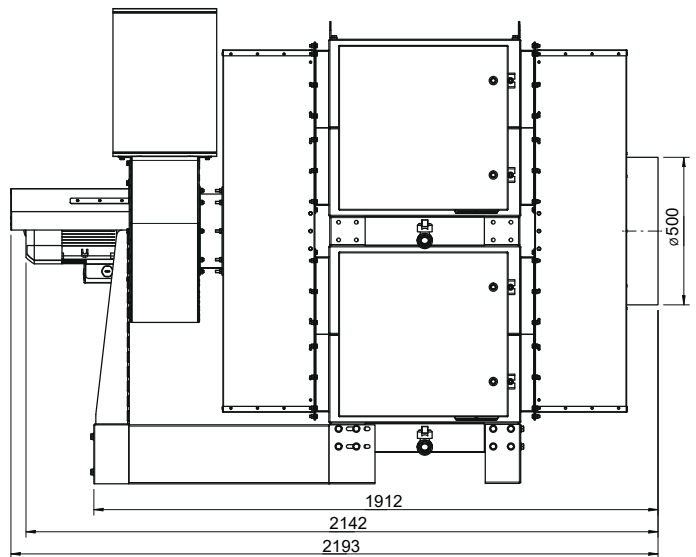
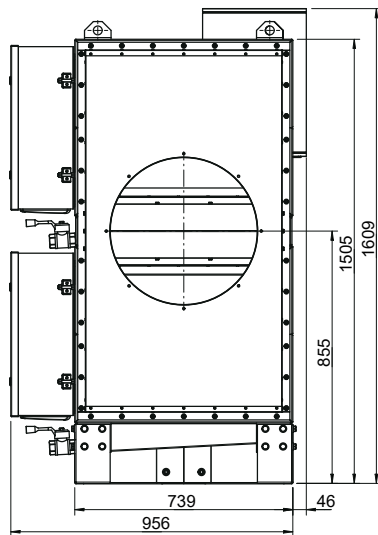
PROTON-2000



PROTON-4000



PROTON-8000



Additional equipment

Washing container



Type

Part No.

Remarks

P-PROTON

800E10

To wash the capture section;
equipped with a drainage valve.