

PROTON-HV – electrostatic stand filter



Application

PROTON-HV filtering unit is an efficient solution for filtration of dusts arising during processes accompanied by emission of viscous dusts, especially for polishing of details of stainless steel, brass and other materials. PROTON-HV cooperates in a SOPEL system, as the last filtration stage. Due to its high vacuum, it overcomes the flow resistances of the cyclone separator and the pre-filter, in a configuration where these elements are placed in front of the PROTON-HV system. Maximum temperature of the conveyed air should not exceed +60°C. The device has to be installed inside the buildings (indoor application).

Structure

PROTON-HV consists of subsequent elements:

- steelsheet housing,
- radial fan – in a sound absorbing housing, placed nearby,
- net filter – at the device inlet,
- ioniser section,
- catcher section,
- control unit – to start the device and control its function; it is installed on the device housing, but it can be fastened in another place as convenient for the operator.

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

Operational use

After the start, the automation system provides continuous work of the fan and cleaning the air that flows through. As the first stage, the polluted air passes the net filter capturing larger coarse fractions. Subsequently, the air passes the ioniser section to load the particles positively. As a last stage, in the capturer, the particles are sedimenting on the negatively charged plates. After the capturer, the cleaned air is recirculated through the fan, back into the process room. The filtration efficiency is approx. 97%.

In case of application for polishing dusts, the maintenance consists in cleaning of the ioniser- and the capturer section from the deposited viscous contamination. This is carried out by washing these sections in a container with water and detergent.

PROTON-HV

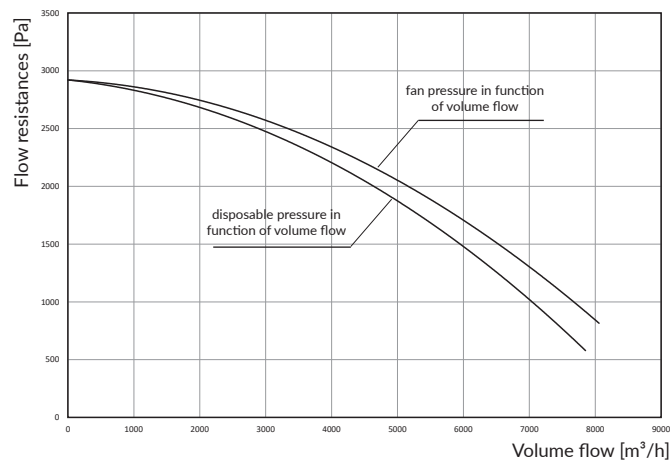
Technical Data

Type	Part No.	Volume flow in the work point [m ³ /h]	Vacuum in the work point [Pa]	Supply voltage [V]	Motor rate [kW]	Acoustic pressure level [dB(A)] measured from*:		Weight [kg]
						1 m	5 m	
PROTON-2000 HV	800E03	2000	2700	3x400	5,5	75	61	155
PROTON-4000 HV	800E04	4000	2800	3x400	7,5	77	63	156
PROTON-8000 HV	800E05	8000	3250	3x400	15	80	71	309

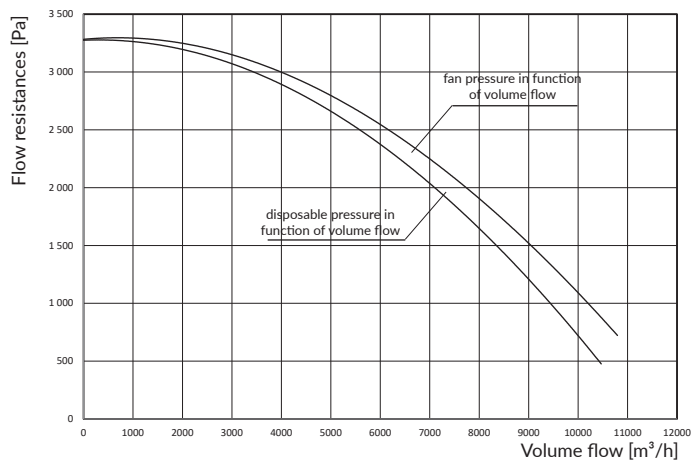
* Measuring of the acoustic pressure level has been performed within the system with silencers T-WPA-BOX at the inlet and outlet of the fan chamber.

Flow Charts

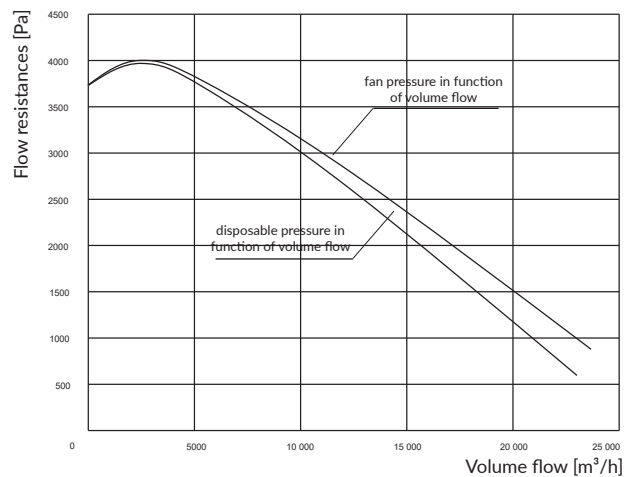
PROTON-2000 HV



PROTON-4000 HV

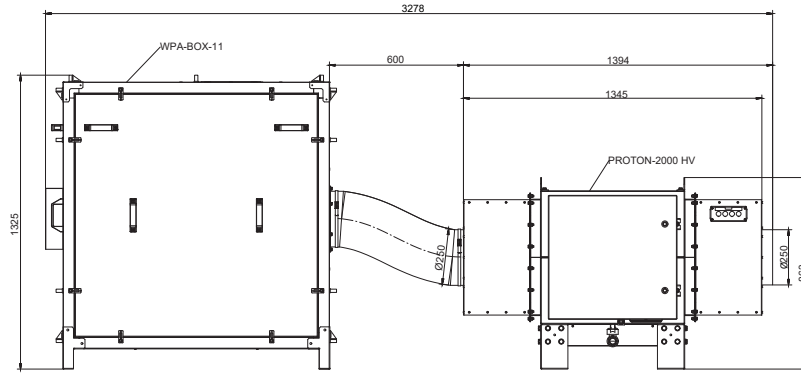


PROTON-8000 HV

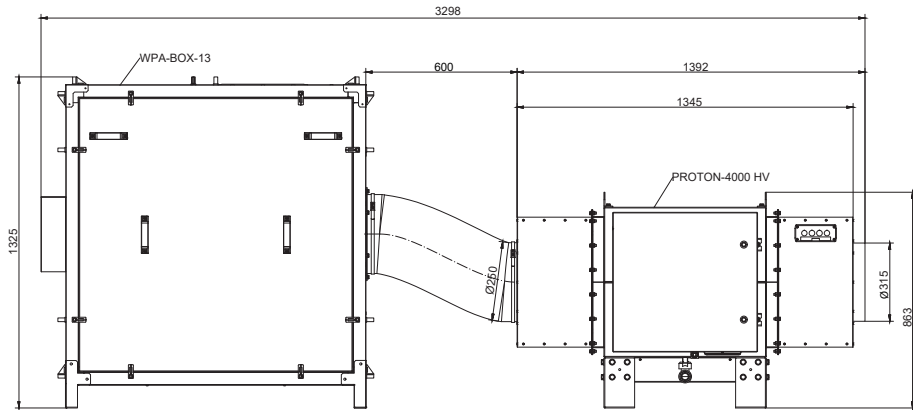


PROTON-HV

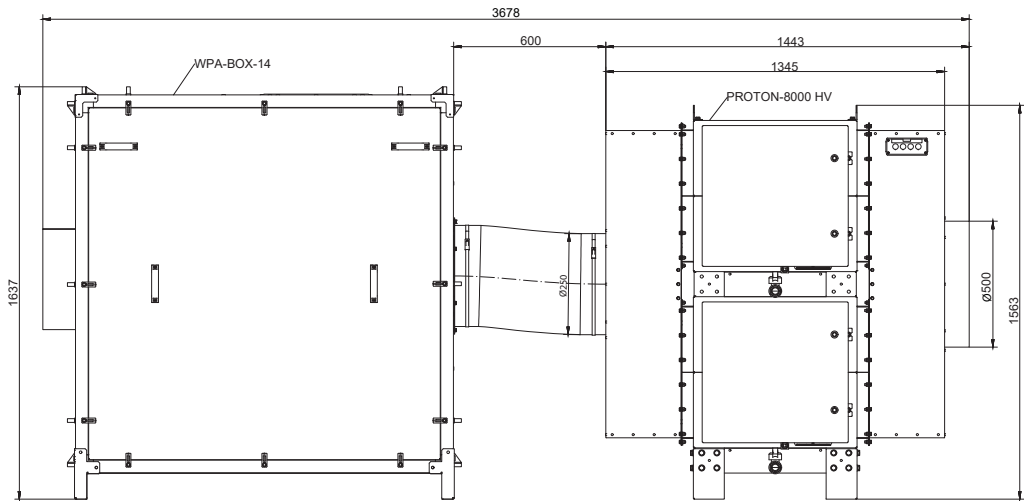
PROTON-2000 HV



PROTON-4000 HV




PROTON-8000 HV




Additional accessories

Silencer

	Type	Part no.	Inlet [mm]	Outlet [mm]	Height H [mm]	Cooperating fan chambers	Remarks
	T-315 WPA-BOX	830T28	250	315	1250	11	The set consists of: reducer, silencer, silencer bracket. Install the set on the inlet ferrule or on the outlet of the WPA-BOX fan chamber.
	T-400 WPA-BOX	830T29	315	400	1300	13	
	T-500-WPA-BOX	830T37	400	500	1300	14	

Air discharge

	Type	Part no.	Diameter inlet/outlet/height [mm]	Weight [kg]
	E-315	842W39	315/315/700	14
	E-400	842W40	400/400/900	18
	E-500	842W41	500/500/1100	24