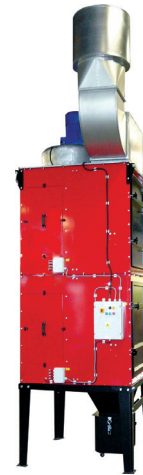


UFO-4-M/N – filtering unit with electromagnetic valves

UFO-4-M/N-1



UFO-4-M/N-2



UFO-4-M/N-3



Purpose

The UFO-4-M/N filtering unit is applied for cleaning the dust laden air from impurities arising during the manufacturing processes. It is irreplaceable in capturing the dry dust, formed during welding, grinding the non-sparking materials, gas- or plasma metal cutting and other dust-emitting processes, in chemical-, pharmaceutical-, plastic industry, and others. Maximum temperature of the forwarded air is +60°C. The appliances are equipped with cartridge filters, capturing dust on the outer filter surface. The accumulated dust (on the filters) is struck off by cyclical compressed air impulses.

Structure

The device consists of one filtration chamber (UFO-4-M/N-1), two filtration chambers (UFO-4-M/N-2) or three filtration chambers (UFO-4-M/N-3) – placed vertically one on top of another. On the filtration chamber is installed the fan-silencer assembly.

The filtering chamber is based on a four-leg-base equipped with a hopper chamber and a waste container.

- UFO-4-M/N-1 – consists of 1 filtration chamber and a fan of volume flow 5000 m³/h.
- UFO-4-M/N-2 – consists of 2 filtration chambers and a fan of volume flow 10 000 m³/h.
- UFO-4-M/N-3 – consists of 3 filtration chambers and a fan of volume flow 15 000 m³/h.

Each filtration chamber is divided vertically with a partition wall into two spaces:

- chamber of filters – there are four self-cleaning cartridge filters of polyester fabric – filtration efficiency 99,9%,
- chamber of electromagnetic valves – containing the compressed air tank, supplied from the external installation of pressure 6–8 bar and 4 electromagnetic valves for filter regeneration by impulses of compressed air. The filter regeneration (striking) proceeds automatically.

The UFO-4-M/N is equipped with subsequent connection fitting pieces:

- Inlet connection Ø500 mm – (on each filtration chamber), as standard it is located on the right side of the device when viewing at the filtration chamber. It is possible to swap the side walls so that the inlet is on the left side.
- Outlet connection 400x400 mm as outlet from the silencer.
- The outlet can be connected to the discharge installation, or – in case of direct air discharge into the process room – it is recommended to fasten on the 400x400 outlet an additional silencer with a set of connection fittings (bend and reducer).

A control unit energizing the fan and controlling the pneumatic filter regeneration system is fastened to the device. UFO-4-M/N-R filtering units are equipped with an inverter, controlling the motor function. Due to adjustment of motor rotations, User can control the device efficiency, keeping the constant vacuum within the extraction installation.

Operational use

UFO-4-M/N filtering unit is appropriate for use in closed rooms as well as outdoors. The appliance ought to be fastened firmly to the floor. The filtering unit is designed for:

- use with installation consisting of local exhausts, e.g. extraction arms connected (through inlet ferrules) to the main collecting ductwork,
- general ventilation with air filtration. In this application it is important to place a multi-jet air-supply device WNK-8, and inlet wire-mesh grids SW-500 at the inlet ferrules.

Upon the device start, the control unit provides constant function of the fan and automatic filter regeneration by means of impulses of compressed air. Cartridge filters ought to be replaced after 1–2 years of operational use. In application for plasma- or laser cutting, the filters efficiency reduces twice. In this case following volume flows should be assumed:

- for UFO-4-MN-1 – 2500 m³/h,
- for UFO-4-MN-2 – 5000 m³/h,
- for UFO-4-MN-3 – 7500 m³/h.

On demand of Customer, the filtering unit can be equipped with active carbon impregnated spunbond filter – for filtration of gaseous impurities, formed during welding processes.

On demand of Customer, the filtering unit can be equipped with fire self-extinguishing system.

UFO-4-M/N

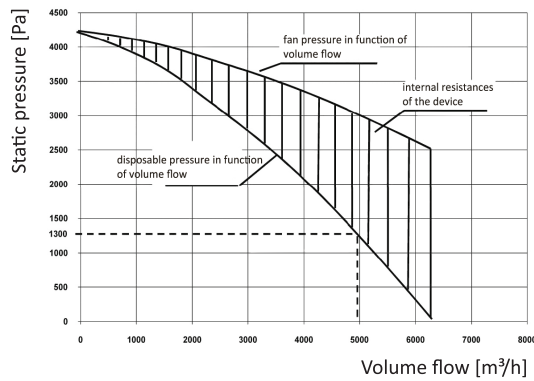
Technical data

Type	UFO-4-M/N-1	UFO-4-M/N-2	UFO-4-M/N-3	UFO-4-M/N-1/R	UFO-4-M/N-2/R	UFO-4-M/N-3/R
Remarks	-	-	-	system of volume flow control		
Part no.	804U85	804U86	804U87	804U05	804U06	804U07
Maximum volume flow [m ³ /h]	6300	12 000	16 200	6300	12 000	16 200
Maximum vacuum [Pa]	4200	4260	4800	4200	4260	4800
Motor rate [kW]	5,5	11	18	5,5	11	18
Supply voltage [V]	3x400	3x400	3x400	3x400	3x400	3x400
Acoustic pressure level [dB(A)]*	72	76	79	72	76	79
Weight [kg]	565	860	1200	565	860	1200
Inlet diameter [mm]	1xØ500	2xØ500	3xØ500	1xØ500	2xØ500	3xØ500
Outlet diameter [mm]	400x400	400x400	400x400	400x400	400x400	400x400
Required pressure of the compressed air [MPa]	0,6	0,6	0,6	0,6	0,6	0,6
Quantity of cartridge filters	4	8	12	4	8	12
Capacity of the waste container [dm ³]	72	72	72	72	72	72
Consumption of compressed air [Nm ³ /h]	2,8	5,6	8,4	2,8	5,6	8,4

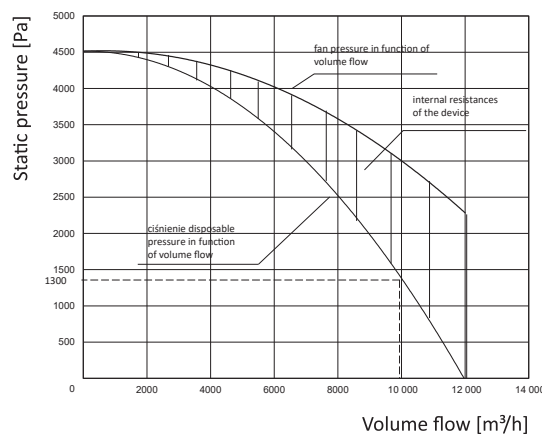
* Acoustic pressure level has been measured at distance of 1 m.

Flow charts

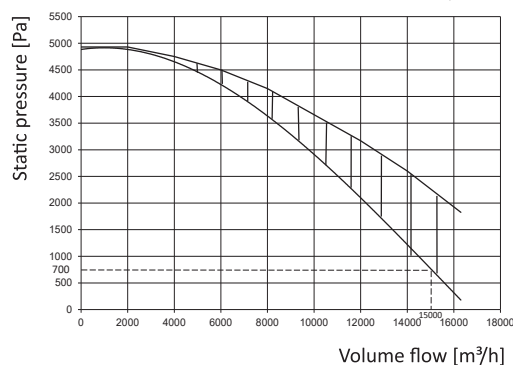
UFO-4-M/N-1



UFO-4-M/N-2



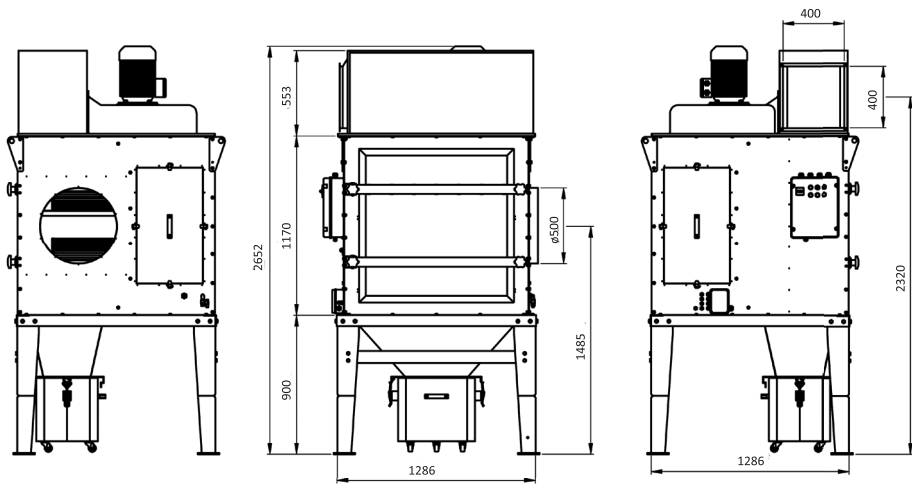
UFO-4-M/N-3



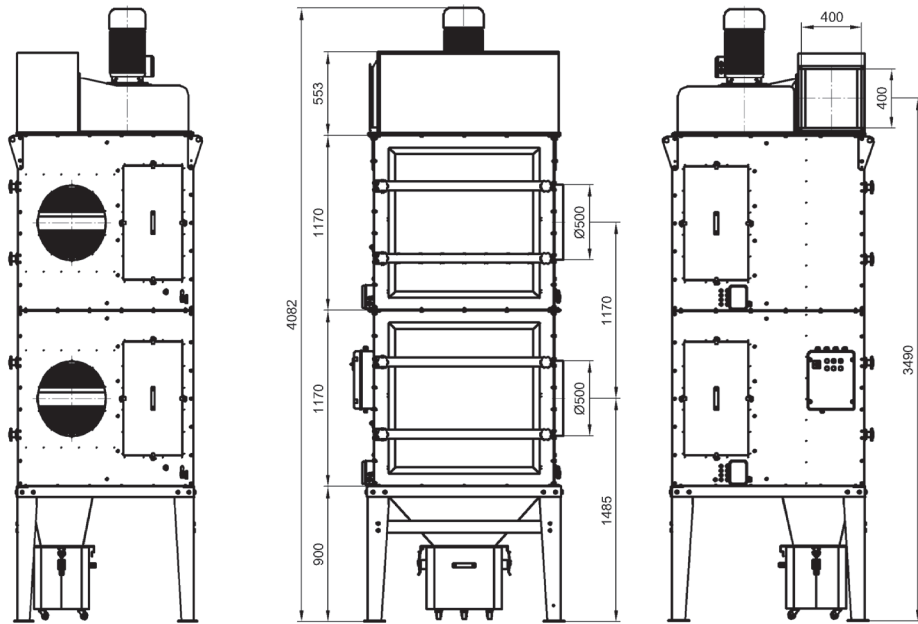
NOTE: Flow charts have been carried out for cartridge filters slightly polluted with dusts after welding out 1500 electrodes ER24.

UFO-4-M/N

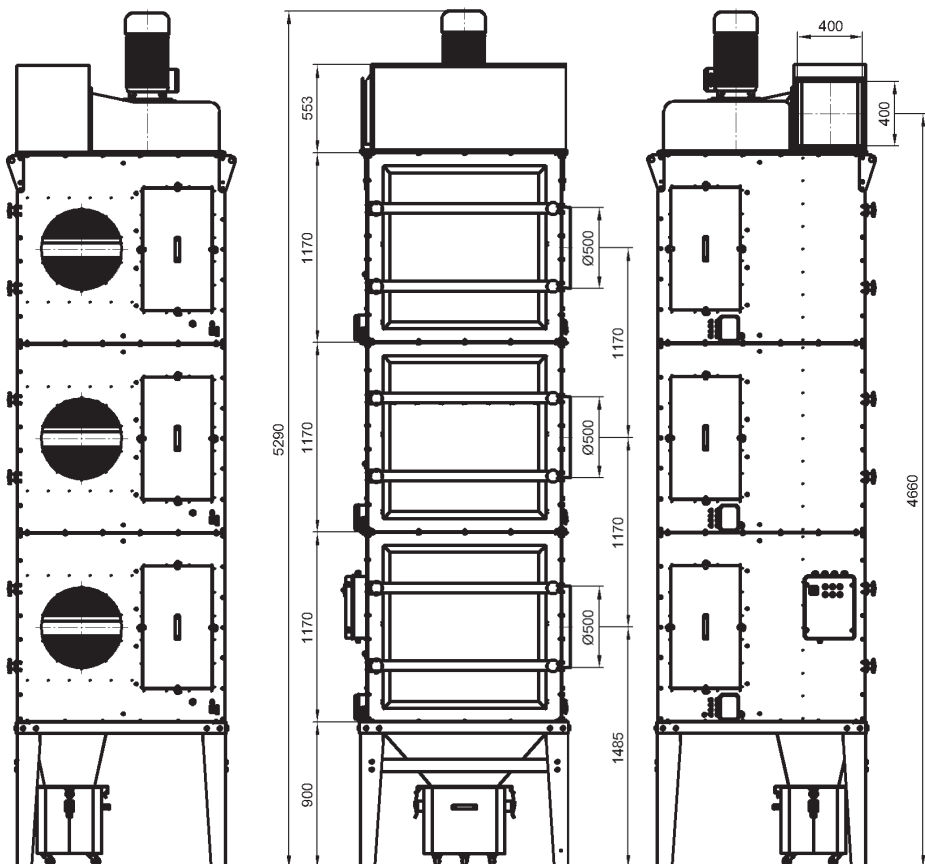
UFO-4-M/N-1



UFO-4-M/N-2




UFO-4-M/N-3



UFO-4-M/N

Replaceable equipment


Cartridge filter


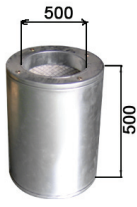
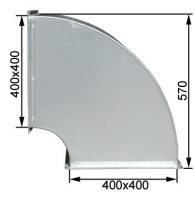
	Type	Part no.	Weight [kg]	Filtration efficiency [%]
	PN105032T	800F20	4,2	99,9

NOTE: As standard, devices are equipped with filters type PN105032T.


Additional equipment

Additional sound absorbing assembly

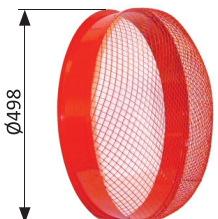
 <p>silencer reducer elbow</p>	Remarks
	The assembly can be adjusted with the silencer outlet upwards or sideways. Components are specified below.

Reducer 400x400/Ø500 mm			Silencer			Elbow 400x400 mm		
 <p>Ø500 355 400x400</p>	Type	Part no.	 <p>500 500</p>	Type	Part no.	 <p>400x400 570 400x400</p>	Type	Part no.
	ZR-UF	829R82		TK-UF	830T92		KL-UF	829K97

Multi-jet air-supply device

 <p>965 Ø500</p>	Type	Part no.	Outlet diameter of the jet [mm]	Weight [kg]	Application
	WNK-8/M-1	829W01	125	33	Fastened at the air outlet of the UFO-4-M/N unit in application of general ventilation.
	WNK-8/M-2	829W02	160	34	
	WNK-8/M-3	829W03	200	35	

Inlet grid

 <p>Ø498</p>	Type	Part no.	Weight [kg]	Application
	SW-500	834Z35	1,3	As a guard of the outlets at free air discharge.