Nederman

MCP-16RC, Air Purification Tower

Compact cartridge filter with pulse cleaning, adapted for ducted Inlet

The MCP-16RC Air Purification Tower is a compact cartridge filter for decentralized indoor air purification.

Dirty air enters the unit at floor level into the efficient filtration compartment, clean air is blown back into the workplace through 60 individually adjustable nozzles at high speed on top of the unit.

The unit is delivered as two pre-wired components requiring minimal mechanical installation. With a built in fan it requires only power and compressed air supply to be connected to complete the installation.

Inside the unit are 16 patented Uni-Clean filter cartridges. The filter cartridges are cleaned automatically by an energy efficient compressed air reverse pulse system. Cleaning is activated by an integral electronic controller. The filter is made out of 14 gauge (2 mm) galvanized and painted sheet metals.

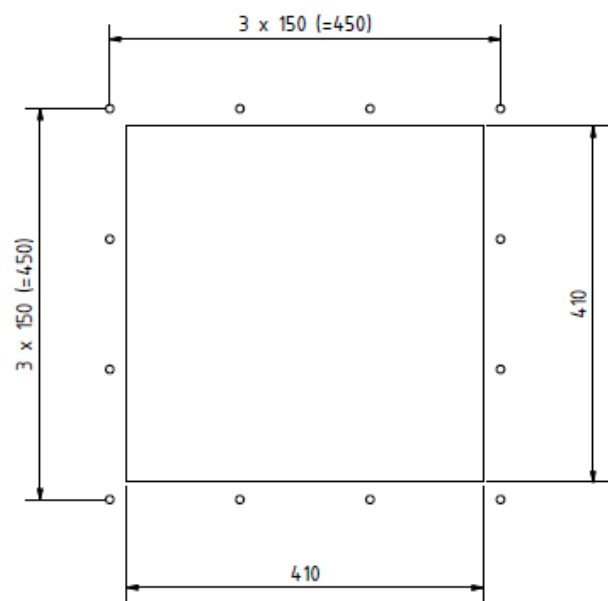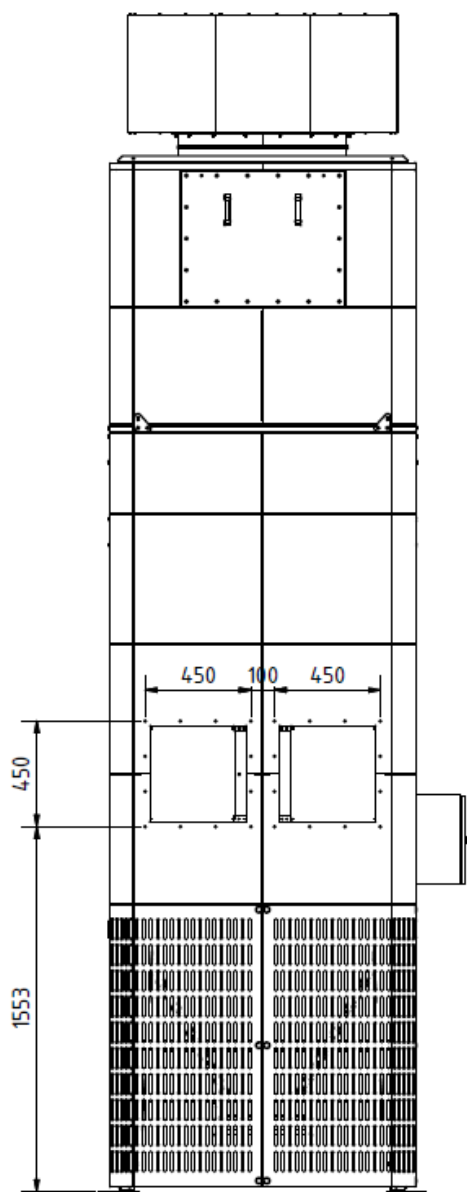The MCP-16RC is easy to maintain thanks to the following features:
- Front access allows easy inspection and service of the cleaning valves, compressed air tank and filter cartridges.
- Ergonomic and easy maintenance of the unit, due to location of controller and electrical cabinet.
- Simple emptying of the dust bin

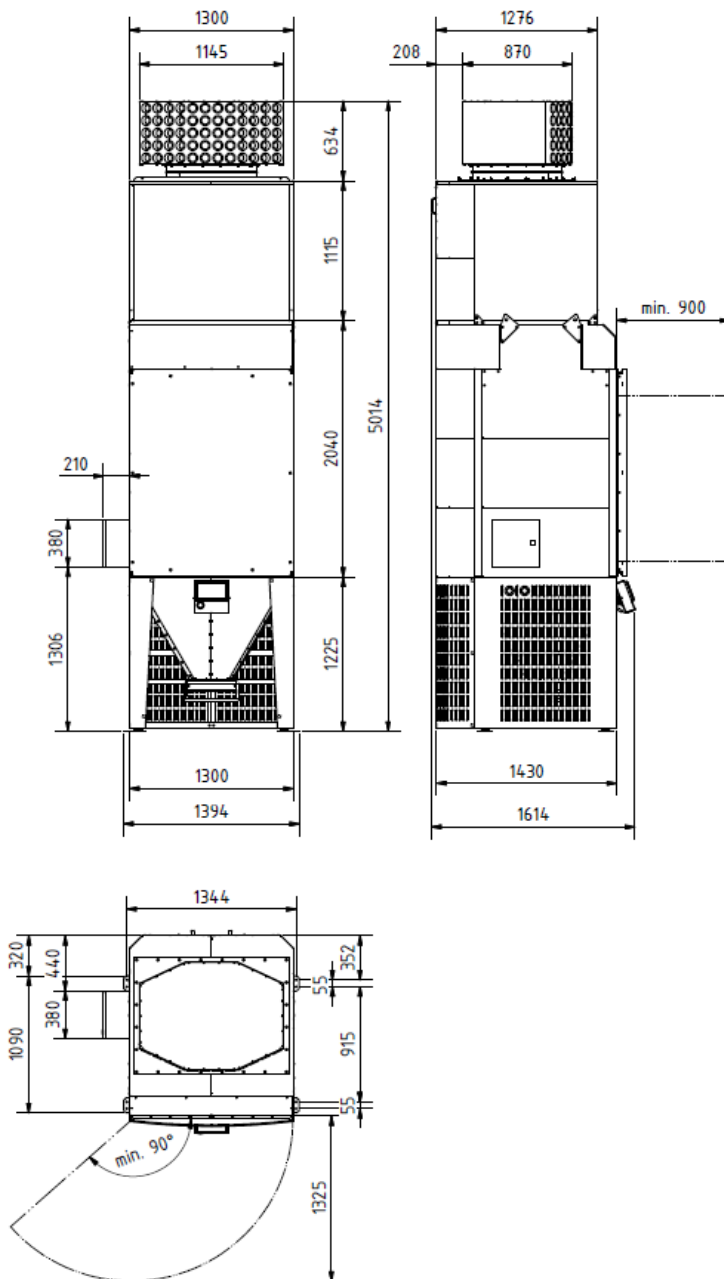| Components of the main item number	Description
Outlet / Outblow	The outlet is placed on top of the filter and equipped with 60 nozzles for high speed air flows. The outlet and the nozzles are individually adjustable for local conditions.
Dual Silencer	The fan is completely build in a special dual silencer, which decreases the noise level from fan motor and airflow.
Fan	FM835 (12,0 kW) from FM-series for 50 Hz / FM831 (20 HP) from FM-Series for Americas-version 60 Hz
Filter Cartridges	CA175: flame retardant cellulose (80% cellulose, 20% polyester), suitable for fine dust and welding fumes
Inlet	The inlet is covered and placed on the rear side for low air noise. It includes a backpressure flap, which closes when the filter is shut down for dust-free cleaning.
Dust bin	Dust bins are always equipped with wheels for easy maintenance. The following sizes are available: - 50 l / 13 gal. with wheels
Easy two step installation	The filter is delivered as two pre-wired components. Simply assemble the two components and connect to power and compressed air supply to complete installation.

EU-Versions, 50 Hz

W3 certification	Filter Material	Dust bin	Fan size	Electrical Cabinet	Main Item number
No	CA175	50 l	FM835 (12,0 kW) 400 V	Left filter side	55999320
No	CA175	50 l	FM835 (12,0 kW) 400 V	Right filter side	55999321

Inlet connection Dimensions:

The duct must be connected with M8 tatptite screws on the filter back site.

specification	standard
Number of filter cartridges	16
Total filter area	232 m² / 2498 ft²
Max. air flow*	10000 m³/h / 5900 cfm
Nozzles	60
Max. air flow per nozzle	167 m³/h / 98 cfm
Nozzle Area	0,0027 m² / 0.029 ft²
Nozzle Speed	17 m/s / 3300 FPM
Throw length**	21 m / 69 ft
Inlet area	0,24 m² / 2.58 ft²
Inlet speed	12 m/s / 2400 FPM
Pulse Cleaning	Clean & dry compressed air, 4,5 bar / 65 psi, 24V DC
Compressed air consumption***	22 Nl/cleaning puls 0.8 cfm/leaning puls 66 Nl/min at 20 s interval 2.4 cfm/min at 20 s interval 220 Nl/min at after cleaning 7.8 cfm/min at after cleaning
Controller	85 – 265 V AC / 50 – 60 Hz
Maximum vacuum (Negative Pressure)	6000 Pa / 24 inch H2O
Noise level***	72 dB(A)
Temperature	-20°C to 70 °C -4°F to 158°F
Weight	1200 kg / 2645 lbs
Placement	Indoor
IFA-certification	W3 certification available

* Maximum airflow for complete assembled collector
**The throw length is given for isothermal conditions at final speed of 0,3 m/s (59 FPM)
*** at standard parameter settings of the controller
**** Measurement in open space in 1m (3,28 ft) distance and 1,60 m (5,25 ft) height to the unit

The electrical cabinet can be placed on left or right filter side.

Note: The filter must be placed in such a way that there is always free access to the electrical cabinet, because the emergency stop is placed on the front door of the electrical cabinet. The inspection door on the back site of the filter must be able to reach for service.
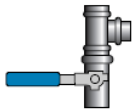
Accessory	Item Number	Illustration
Duct piece for Ø710 (28 inch) This adjustable duct piece set can be clamped with QF connection between the dual silencer and the outblow for allowing a higher outblow position. The duct length can be adjusted between 1400 mm (55 inch) and 2400 mm (94.5 inch).	55999314	
Shut off valve An air venting type. Should be installed in the compressed air pipe line. Is used to shut off the compressed air supply before any inspection or service on the system is done	12372083	
Pressure switch for compressed air Protects the filter from damage during use without compressed air.	12372142	
Filter regulator Is used for setting the correct compressed air pressure. Separates dust, oil and water in the compressed air and protecting the valves. Should be installed in the compressed air line. Must be positioned in a frost free environment.	55999315	
Level indicator for dust bin Capacitive level sensor for detection of full dust bin. Connected to the controller a warning will be shown when the dust bin is full.	55999316	
Plastic bag set (5 pcs., only for dust bins with bin balancing) Plastic bags that are placed inside the dust bin for easier handling of the dust, required at W3	55999317	
Inlet ø400 SP for adapted inlet ducting Galvanized Inlet for back site of the filter for MCP-16RC with adapted inlet ducting. Allows to have Ø400 SP connection. Two pieces must be used on MCP-16RC with adapted inlet ducting. Mounting set (screws, sealing) is included.	55999318	
Lifting device for fork lift (Outblow and Dual Silencer) Lifting device (set, 2 pieces) for Outblow and Dual Silencer for lifting them on top of the filter. This accessory should be used if there is no crane on site or a crane without necessary height. Please take care of the given dimensions for the fork lift.	55999319	