MCP-16RC, Air Purification Tower

Compact cartridge filter with pulse cleaning

Technical data

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	F63-R355 (10,0 kW) from Combifab F-series for 50 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 - 37 l / 10 gal. with wheels and bin balancing (required for W3)
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.

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EU-Versions, 50 Hz

W3 certification	Filter Material	Dust bin	Fan size	Electrical Cabinet	Frequncy inverter	Main Item number
STANDARD VERSION						
No	CA175	50 l	F63-R355 (10,0 kW) 400 V	Left filter side	No	55999302
No	CA175	50 l	F63-R355 (10,0 kW) 400 V	Right filter side	No	55999303
Yes	CA175	37 l with bin balancing	F63-R355 (10,0 kW) 400 V	Left filter side	No	55999306
Yes	CA175	37 l with bin balancing	F63-R355 (10,0 kW) 400 V	Right filter side	No	55999307
No	CA175	50 l	F63-R355 (10,0 kW) 400 V	Left filter side	Yes	55999329
No	CA175	50 l	F63-R355 (10,0 kW) 400 V	Right filter side	Yes	55999330
Yes	CA175	37 l with bin balancing	F63-R355 (10,0 kW) 400 V	Left filter side	Yes	5590753
LOW HEIGHT VERSION						
No	CA175	50 l	F63-R355 (10,0 kW) 400 V	Left filter side	No	5590697
No	CA175	50 l	F63-R355 (10,0 kW) 400 V	Left filter side	Yes	5590837
No	CA175	37 l with bin balancing	F63-R355 (10,0 kW) 400 V	Left filter side	No	5590702
Yes	CA175	37 l with bin balancing	F63-R355 (10,0 kW) 400 V	Left filter side	Yes	5590755

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	35 m / 115 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

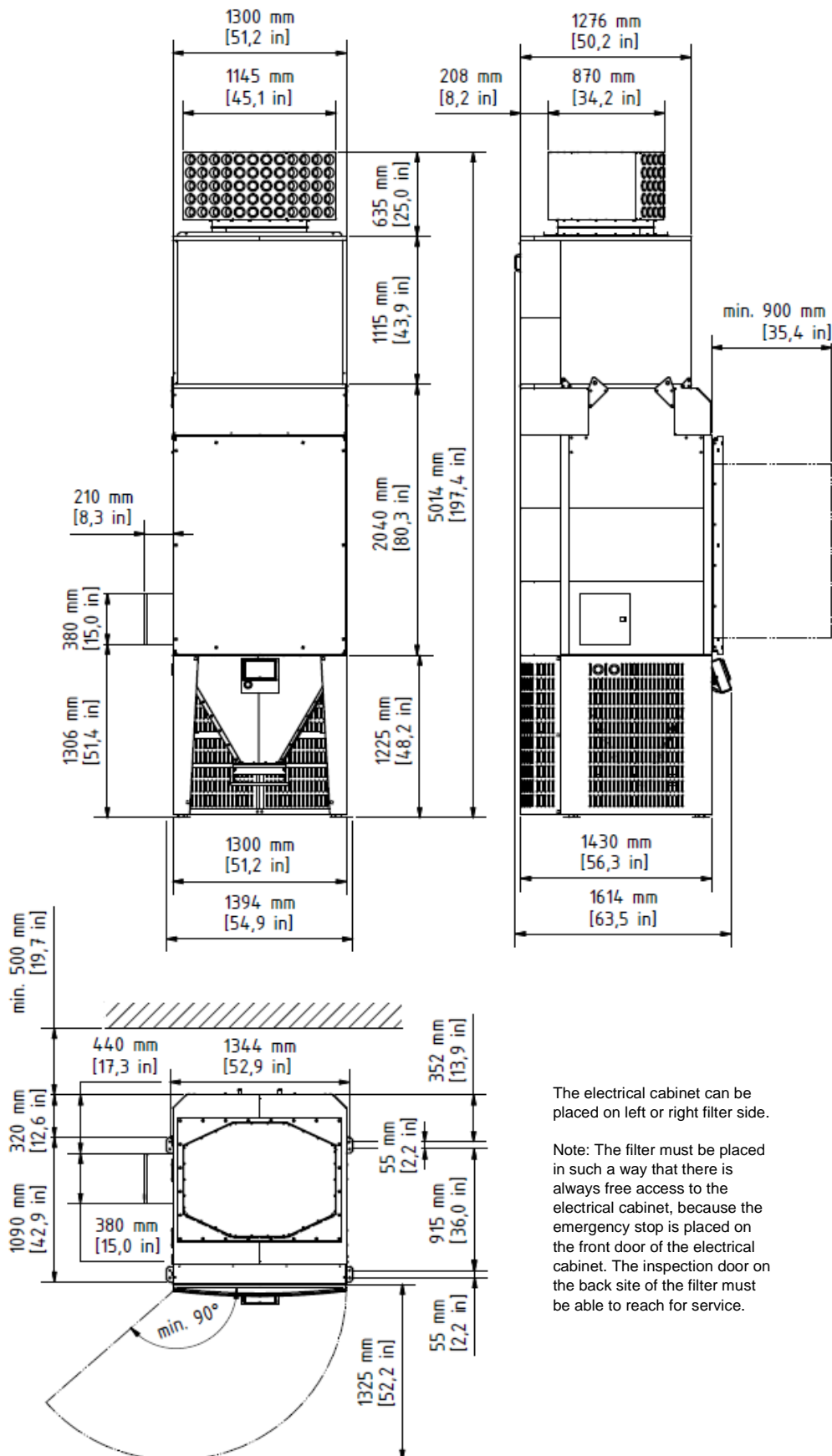|	
Compressed air consumption**	22 Nl/cleaning puls 0.8 cfm/cleaning puls 66 Nl/min at 20 s interval 2.4 cfm/min at 20 s interval 220 Nl/min at after cleaning 7.8 cfm/min at after cleaning
Controller	85 – 265 V AC / 50 – 60 Hz
Maximum vacuum (Negative Pressure)	6000 Pa / 24 inch H2O
Noise level***	70 dB(A)
Temperature	-20°C to 70 °C -4°F to 158°F
Weight for Standard version	1250 kg / 2760 lbs
Weight for Low Height version	1120 kg / 2470 lbs
Placement	Indoor
IFA-certification	W3 certification available

* Maximum airflow for complete assembled collector
** at standard parameter settings of the controller
*** Measurement in open space in 3,28 ft (1 m) distance and 5,25 ft (1,60 m) height to the unit
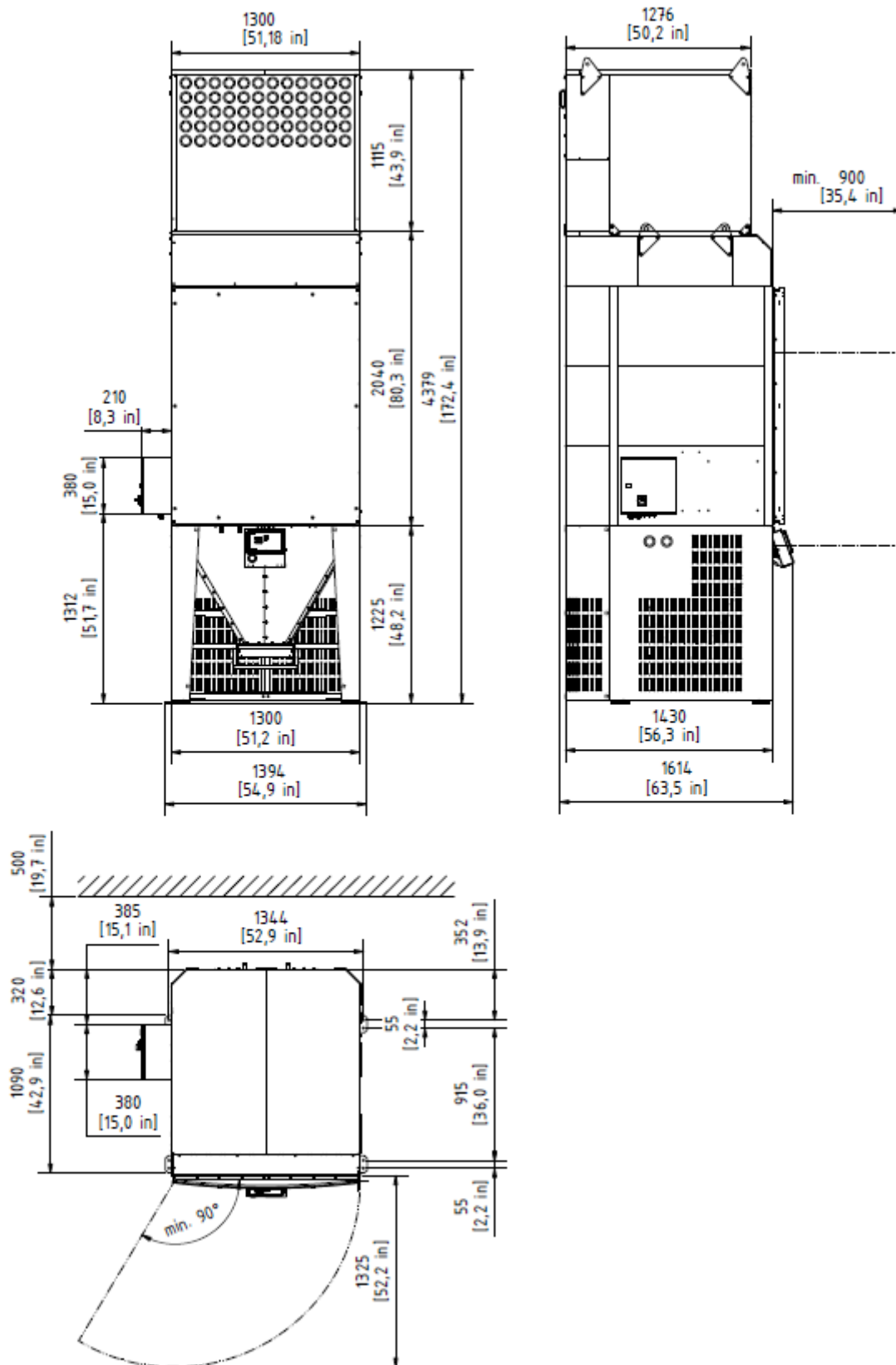
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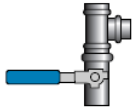
Standard version

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.

Low Height version

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	
4 m connection cable set with CEE plug (pre-mounted) Pre-mounted CEE plug 32A with 4 m connection cable at the electrical cabinet. (Can only be ordered with a complete MCP-16RC).	55999328	
Timer-Function Is used for setting the working hours of the filter according customer needs. The filters starts and stops automatically according the settled working hours. The timer is integrated into the electrical cabinet when ordered with the filter incl. a selection switch. (Can only be ordered with a complete MCP-16RC).	55999324	
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	
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	