

DESCRIPTION

The CamFFU Recirculation & Cooling – Hygienic / Compact is a local air recirculation unit with integrated air grill, HEPA filter and air cooler. It is used to supply turbulent mixed air ventilation while reducing the concentration of particles and the temperature inside of cleanroom environments such as pharmaceutical facilities or other demanding settings.

Depending on the coverage of the cleanroom ceiling, the classes 5 to 8 according to DIN ISO 14644-1 as well as B to D as per GMP guideline can be realized.

Compared to conventional air supply systems with centralized air handling units, the supply and return air ducts above the cleanroom ceiling become redundant, resulting in a considerable saving space and reducing planning cost.

The unit is working in recirculation mode by default. If needed, supply of make-up air of to 500 m³/h can be added as to maintain the overpressure of the cleanroom, as well as supply fresh air to the room.

If the unit shall work at 100% recirculation mode, make-up and exhaust air connection nozzles remain closed.

CONSTRUCTION & FUNCTION

The CamFFU RC-H/C consist of an air-tight housing with optional connection nozzles for make-up air and exhaust air, as well as built-in HEPA filter cell, prefilter, fan motor unit and air cooler.

The supply with fresh air and the collection of exhaust or return air is implemented by a special designed air grill which is located on top of the ceiling installation frame of the CamFFU RC-H/C.

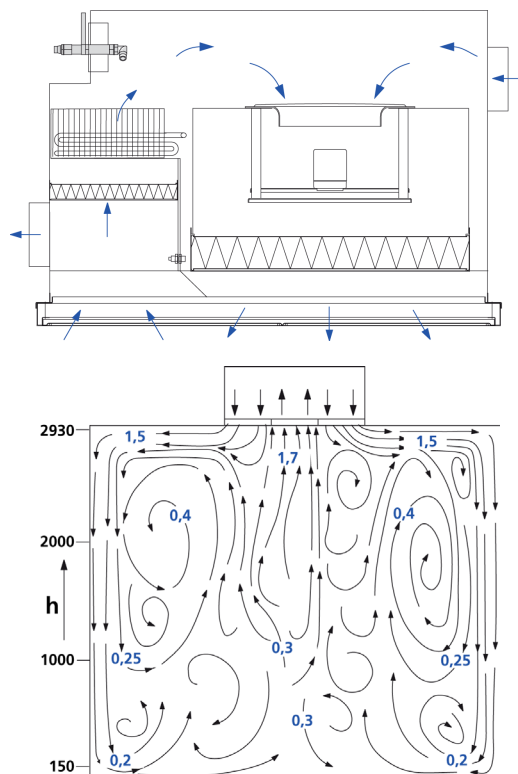
The fan motor unit sucks in the room air centrally at the return air operating of the discharge cassette and guides the air via the prefilter to the air cooler. The cooled air flows through the HEPA filter and is blown laterally along the ceiling into the cleanroom with high turbulence via the grill plate. This prevents a short-circuit flow of the supply air directly into the return air.

The distributing segments of the grill plate are arranged in such a way that the air is equally distributed to all sides of the unit.



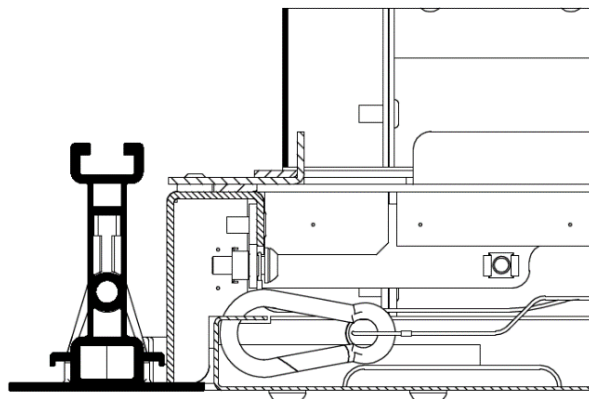
BENEFITS

- Complete plug & play unit.
- Provide with supply and return air, as well as make-up air and exhaust air connections.
- Integrated air cooling.
- Air-tight integrated plenum.
- Low sound power level.
- Filter change from below or above.

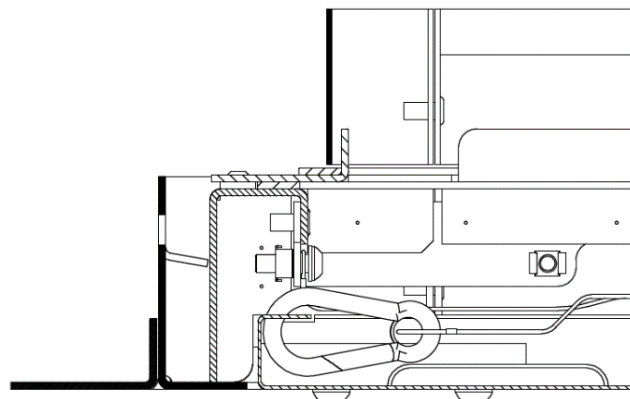


INSTALLATION

With ceiling systems from Camfil, installation of the RC-H/C is very simple.



Option 1: Installation situation with ceiling installation frame and support bracket in ceiling grid profile UFR 55/70 T/P



Option 2: Installation situation with ceiling installation frame and support bracket in a cassette ceiling.

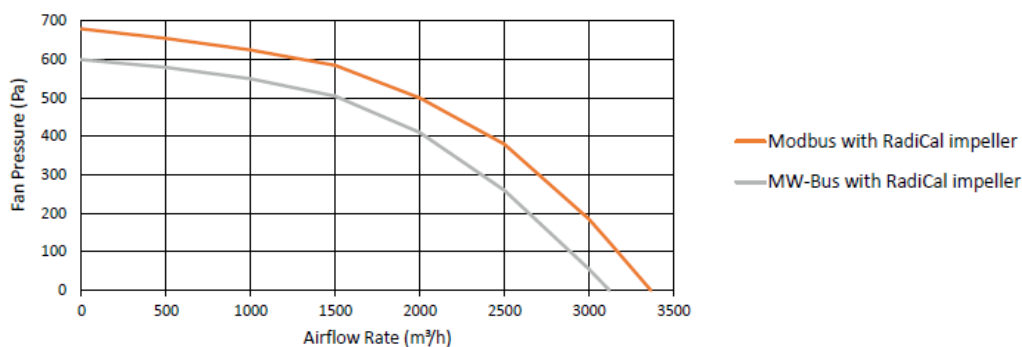
HOUSING TECHNICAL & PERFORMANCE DATA

HOUSING		CamFFU RC-H		CamFFU RC-C	
GRID SIZE L X W	mm	1200 x 1200			
HOUSING L X W X H	mm	1100 x 1100 x 750		1100 x 1100 x 590	
CEILING INSTALLATION INCLUDING AIR GRILL	mm	1173 x 1173 x 60			
HOUSING MATERIAL		Aluminium untreated, anodised or Powder-coated			
TIGHTNESS CLASS ACCORDING TO VDI 2083		Class 2			
TOTAL HEIGHT	mm	810		650	
TOTAL WEIGHT	Kg	90		80	
NOMINAL AIR FLOW	m³/h	1000			
POWER AT NOMINAL AIR FLOW	W	110			
NOISE POWER LEVEL	dB(A)	54		58	
SOUND PRESSURE LEVEL AT 25% COVERAGE	dB(A)	54		58	
SOUND PRESSURE LEVEL AT 10% COVERAGE	dB(A)	51		55	
AIR PRESSURE DROP H14 HEPA FILTER	Pa	84			

COOLING COIL & FAN

COOLING COIL		
COOLING CAPACITY	kW	1.8
MEDIA VOLUME FLOW	m ³ /h	0.3
WATER TEMPERATURE - INLET	°C	14
WATER TEMPERATURE - OUTLET	°C	20
PRESSURE DROP ON WATER SIDE MAX.	kPa	4
PRESSURE DROP ON AIR SIDE MAX.	Pa	23
AIR TEMPERATURE - INLET	°C	23
AIR TEMPERATURE - OUTLET	°C	17.5

FAN		
BUS / MOTOR TYPE		Modbus / RTU
FAN TYPE WITHOUT RIN MEASURING NOZZLE		K3G310RR05V1
FAN TYPE WITH RIN MEASURING NOZZLE		K3G310RR05V2
NOMINAL OUTPUT	W	500
NOMINAL CURRENT CONSUMPTION	A	2.2 (230 V)
ROTATIONAL SPEED RANGE		300 - 2250
MAXIMUM VOLUME FLOW WITH NEW FILTERS		2050



MEGALAM FILTER

HEPA (H14) and ULPA (U15, U16, U17) filter panels especially made for turbulent and laminar airflow applications in high-tech cleanrooms, clean benches and clean air devices.

Optimized for LifeScience and Food & Beverage industry with glass fiber media for low pressure drop and long life time.



HEPA FILTER		
FILTER CLASS DIN EN 1822-1		H14
DIMENSIONS L x W x H	mm	1000 x 700 x 105
SEPARATION EFFICIENCY IN THE MPPS	%	99.995