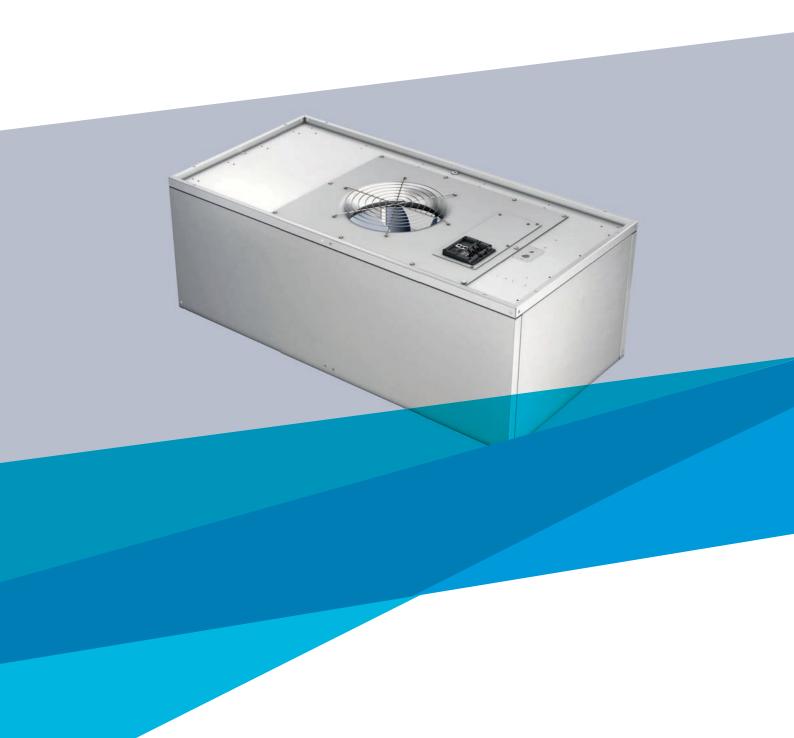


CWIC® System Type CWIC EC

Technical Concept



Product Description

The CWIC® System is a versatile system: Individual Filter Fan Units (CWIC® modules) can be connected to form different size cleanroom ceilings, e.g. for machine enclosures, clean benches or clean work cabins. The modular design enables fast and low-cost cleanroom construction that can be suspended from the ceiling or supported from the floor by pedestals. Depending on the load of additional components, a range of 4800 mm without support pedestals or suspensions is possible.

The following cleanliness classes can be achieved: ISO1 to ISO8 according to DIN EN ISO14644-1, as well as class: A, B, C or D according to EC Guide (GMP).

This product is protected by patent.

Unit Construction and Function

A CWIC® module consists of an outer, torsion-free housing 1, the installed HEPA/ULPA filter 2 and fan motor unit 3 with a common inner housing 4. The units are accurately screwed together on the sides 1a as shown. The filter cells can be exchanged from below. A gel seal 2b between the filter frame 2a and the inner housing 4 is used.

The CWIC® housing is made of powder-coated steel or stainless steel in order to meet the high hygienic requirements and

corrosion-resistance. PVC curtains 6 or acrylic panels can be used to enclose the clean work-area.

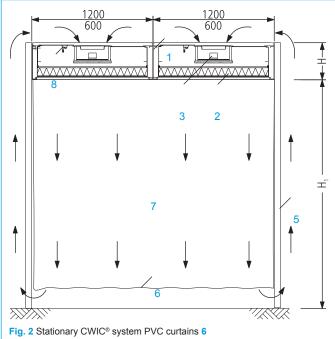
The CWIC® module with the integrated fan takes in the ambient air and presses the air through the HEPA/ULPA filter into the clean work area 7, flushing the area with clean supply air as a vertical, uni-directional airflow. Contaminations in the work area are moved out downwards (Fig. 2).

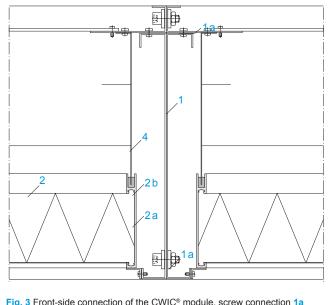
Depending on the requirements, filter class H13 to U17 can be applied.

The CWIC® AC and CWIC® AC Hygiene are driven by a specially developed single-phase external rotor AC motor with internally wired thermal contacts for overload protection.

The CWIC® EC and CWIC® Hygiene EC are driven by an electronically commutated external rotor motor.







Technical Data

Туре		EC	
Housing Length x Width	mm	1200×600	
Height H H ₁ (max.)	mm mm	434 variable (3000)	
Housing material (according to type)		Stainless steel Steel with pow- der-coating	
Weight (Steel/Stainless steel)	kg	64/67	
Motor		EC-Motor	
Type of protection		IP10	
Voltage/Phase	V/ph	208-277/1	
Frequency	Hz	50/60	
Nominal current	Α	1,8-1,4	
Operation temp. min./max.	°C	0/+40	
Air-flow velocity	m/s	0,30	0,45
Air-flow volume	m³/h	780	1 166
Power consumption 1)	W	55	110
Sound power level pressure side 1)	dB(A)	49	56
Sound pressure level 1) - 25% coverage - 50% coverage - 100% coverage	dB(A) dB(A) dB(A)	52 55 58	59 62 65
External differenti- al press. max ²	Pa	390	350

- with H14 filter cell without external differential pressure
- without installed HEPA/ULPA filter

Sound power level meassurement according to ISO 3741, tolerances according to DIN 24166

Control

CWIC® units EC and Hygiene EC

Based on LON (Local Operating Network), the CWIC® are merged to one network through a special Bus-System

Control System DC. The system allows for a simple and individual speed control and monitoring of each unit as well as for complex systems with a multitude of units.

Power Supply

A plug & play cable system is provided for the power supply. Each unit is connected through the existing terminal box 8, minimizing installation costs.

Key Features

- CWIC® units are screwed together to form a self-supporting structure that can be either suspended from the ceiling or supported from the floor
- A range of up to 4800 mm can be accomplished without additional support
- Flexible, low-cost clean workspace with simple initiation through plug and play cabling
- Airflow and acoustic design optimization provides for a low energy consumption and sound levels
- Low-cost system technology due to the utilization of standard components, short planning time, fast delivery and quick operational availability.
- Mobile design with wheel elevation
- Simple installation with suspension.



- Installed radial fan, balancing grade G= 2,5 according to DIN ISO 1940-1, motor with internal wired thermal contacts
- For CWIC® EC and Hygiene EC with electronically commutated external rotor motor, volume flow controlled with → Control System DC
- HEPA/ULPA filter classes H13 to U171)
- Pedestals made of powder-coated steel or stainless steel, available in lengths of up to 3000 mm a (castors optional) or suspension device with height adjustment.
- Cleanroom partition as PVC curtains, strip curtains or acrylic panels
- Illumination: different lighting fixtures
- Additional components: prefilter, AMC filter and air-cooler for the device arrangement on the air intake side

Legend

- Outer housing 1a Screw connection
- 2a Filter frame 2b Gel seal

- Inner housing

 - Pedestal

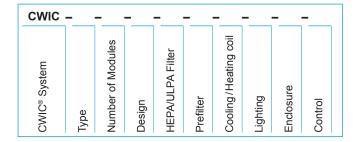
PVC curtain

Terminal box

Clean workspace

HEPA/ULPA filter 3 Fan motor unit

Type Designation



Type

1030 EC (Steel powder coated) EC Hygiene (Stainless steel) 1040

Number of Modules

1 to 32 pc.

Design

stationary (with brackets screwed to the floor)

2 mobile (with castors)

3 suspended (with suspending brackets

up to 1000 mm)

HEPA /ULPA Filter

without

H14 standard filter class

Optional

filter classes H13, U15, U16, U17

Prefilter

without

Optional

G4 filter class special design

Cooling/Heating Coil

without

Optional

LK with cooling coil LE with heating coil

Lighting

without

Optional

with batten luminaires

P with pharmaceutical luminaires т with teardrop luminaires

So

special design

Enclosure

without

Optional

V with PVC curtain/strip curtain

K with acrylic panels W with cleanroom wall Control

without

S1 Standard version

(power cable fan only)

Optional

S2 Standard version 1

(power cable and lighting)

Standard version 2 **S3**

(power cable and alarm indicator)

S4 Standard version 3

(power cable, lighting and alarm indicator)

S5 Standard version 4

(power cable and speed controller)

S6 Standard version 5

(power cable, lighting and speed controller)

S7 Standard version 6

(power cable, alarm indicator and speed

controller)

S8 Standard version 7

(power cable, lighting, alarm indicator and

speed controller)

H1 EC version 1

with Control Terminal

H2 EC version 2

with PC

Submittal Text

coa and (wit	pcs. CWIC® System f-supporting Filter Fan Unit made of steel sheet, powder- ated white (RAL 9010) with smooth outer surfaces, filter if fan, plug & play cable system and completely assembled thout filter). EC (Type 1030)
hed plug	f-supporting Filter Fan Unit with a housing made of brusd stainless steel with smooth outer surfaces, filter and fan, g & play cable system and completely assembled thout filter). Hygiene EC (Type 1040)
is n galv ped	e modules can be connected with each other lengthwise d crosswise, using a screw connection set. A ceiling grid not required. The system can either be suspended, using vanized, adjustable suspensions with adjusting lock or destal supported. The options are available for tCWIC® (powder-coated steel) and CWIC® Hygiene EC (stainless
Red CW mai ass grad the terr	commended maximum range: 4800 mm×4800 mm. /IC® module with build in high performance radial fan and intenance-free external rotor motor. The motor impeller sembly is dynamically and statically balanced (balance de G=2.5; DIN ISO 1940). The external rotor motor for EC and Hygiene EC is an electrically commutating exnal rotor motor with controller and LON interface. A PC or ad-held controller is required for monitoring and operation.
mad usir into is p clea	e CWIC® module is equipped with a HEPA or ULPA filter, de of high-quality glass fiber medium. The filter is pleated ng synthetic threads as spacers. The filter media is sealed an extruded aluminum frame with Polyurethane. The filter orotected by a white painted expanded metal screen on the annoom side. Filters are leak-free tested if required. Filter sses H13 to U17 CWIC® EC are also available.
Des	Sign Stationary (with brackets screwed to the floor) Mobile (with casters) Suspended (with suspending brackets up to 1000 mm)
HE	PA/ULPA Filter Filter class H14 (standard)
	tional H13 □ U15 □ U16 □ U17

- 1) without installed HEPA/ULPA filter
- 2) based on grid-size 1200 mm × 600 mm

Technical Data

EC and Hygiene EC Housing dimensions
Nominal Electric Data Voltage/Phase
Air-flow Velocity 2) .0.30 m/s .0.45 m/s Pressure loss H14 filter .80 Pa .120 Pa Power consumption .55 W .110 W Sound power level .49 dB (A) .56 dB (A) Sound pressure level .52 dB (A) .59 dB (A) - 25 % coverage .55 dB (A) .62 dB (A) - 50 % coverage .55 dB (A) .65 dB (A) - 100 % coverage .58 dB (A) .65 dB (A)
Optional ☐ Prefilter class G4 Filter frame made of aluminum (untreated), cleaned, weight approx. 2.0 kg V-shaped prefilter, height 100 mm Dimensions
☐ Differential pressure indicator for filters 0−250 Pa
☐ Heating coil
Cooling coil Material
 □ Enclosure □ PVC panel curtain/PVC strip curtain □ Acrylic panels □ Cleanroom wall system
Manufacturer Exyte Technology GmbH



Local Support Wherever You Need Us



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