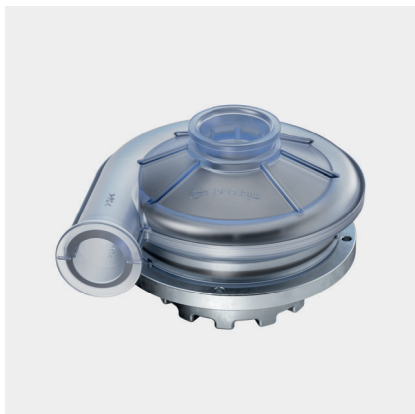


SPECIFICATION

Micronel Radial Blower

U85MX-024KX-5



GENERAL INFORMATION

Item

Product type	Radial blower, 3 phase slotted Micronel brushless direct current motor
Article no.	U85MX-024KX-5
Manufacturer	Micronel AG
Customer	N/A
Project no.	N/A
Modification	Standard product

APPLICATIONS

The versatile, high-power Micronel blower type U85MX-024KX-5 can be widely used for industrial or medical applications, where highest vacuum or pressure performance is needed, i.e. for cough therapy, dental suction, vacuum handling and many more.

FEATURES

- Pressure: 123 hPa, flow rate: 860 l/min
- 21 V_{DC} brushless motor with Hall sensors
- Highly efficient, quiet operation
- 40% oxygen resistant airway
- Mounting flange with holes
- Molex connector



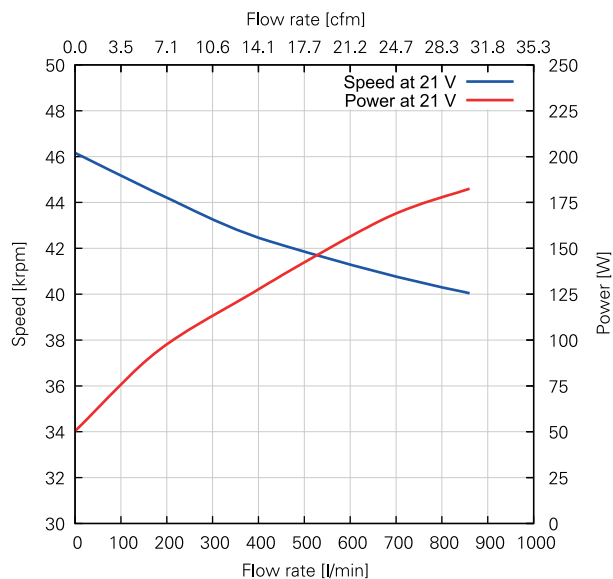
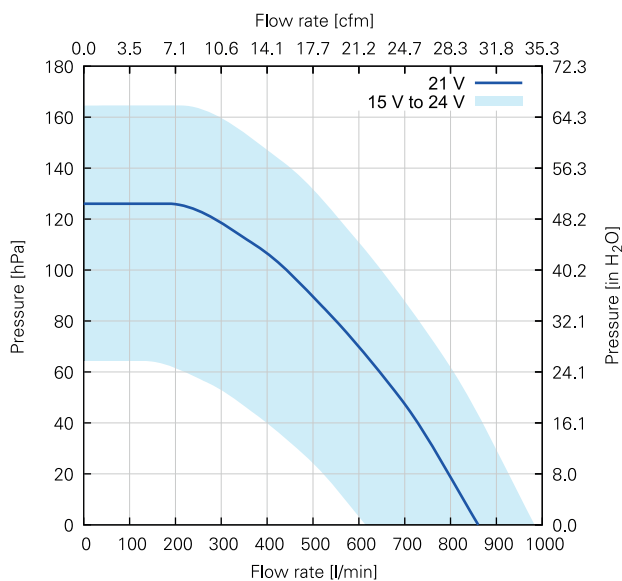
DECLARATION OF CONFORMITY
NON-USE OF
CONFLICT MINERALS

GENERAL CONDITIONS

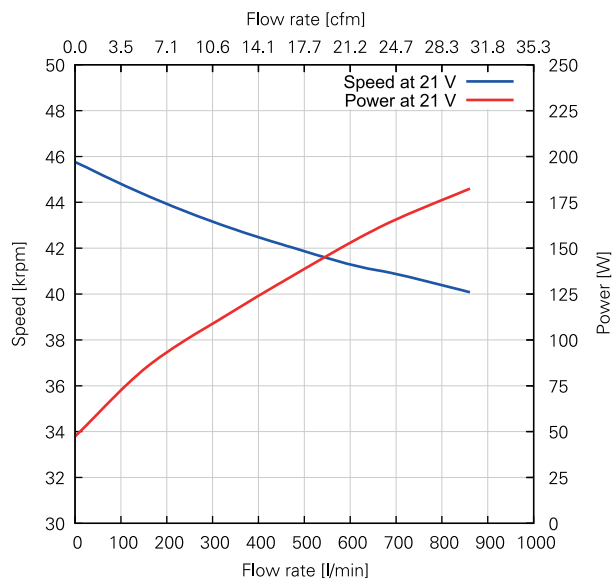
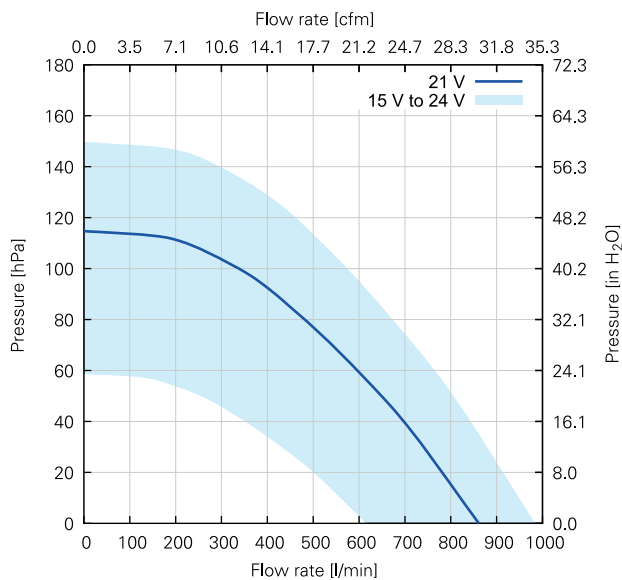
Unless otherwise stated all data are measured at nominal voltage and are valid at 20 °C ambient temperature and 1.2 kg/m³ standard air density. Values listed are nominal and can vary depending on the installation conditions and due to component tolerances. Test setup according to ISO 5801 with standardized inlet and outlet chambers. Tolerances based on specified speed data according to ISO 13348, grade 4: pressure +/-10 %, power +16 %. Tolerances based on constant voltage: speed +/-10 %, pressure +/-21 %, power +33 %. For continuous blower operation please refer to specified maximum ratings. Performance data outside normal operating range plotted for information only.

PERFORMANCE

Pressure Operation at Outlet



Vacuum Operation at Inlet



Shut-Off in Pressure Operation (Zero Flow Rate)

	Unit	Value
Static pressure	[hPa]	123
Power consumption	[W]	51
Speed	[rpm]	46 160

Shut-Off in Vacuum Operation (Zero Flow Rate)

Static pressure	[hPa]	114
Power consumption	[W]	48
Speed	[rpm]	45 760

Free-Air (Zero Static Pressure)

Flow rate	[l/min]	860
Power consumption	[W]	183
Speed	[rpm]	40 040

TECHNICAL DATA

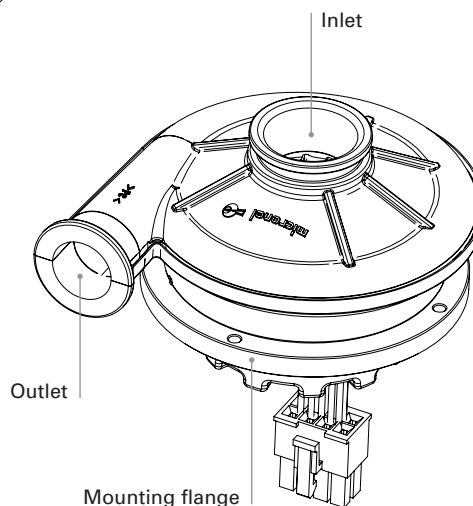
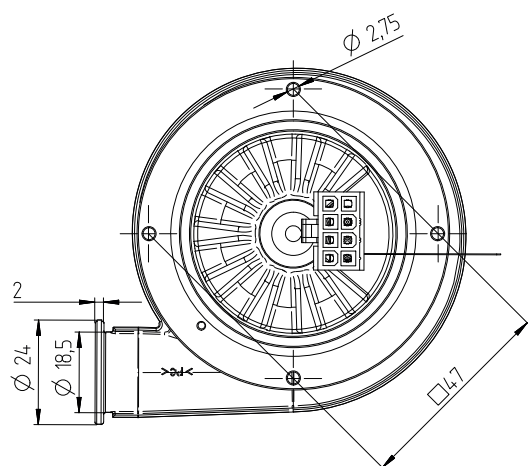
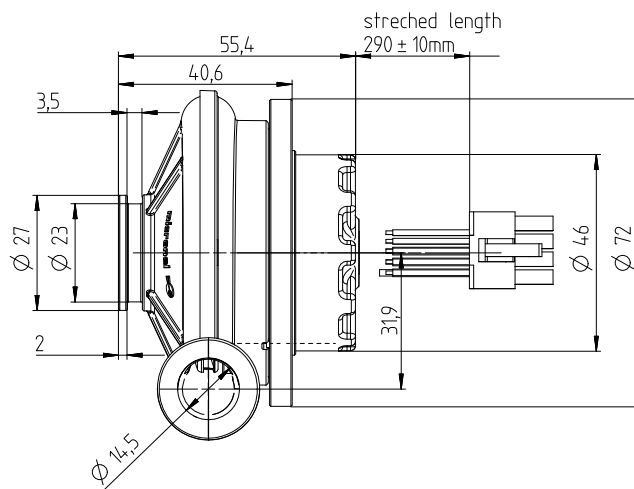
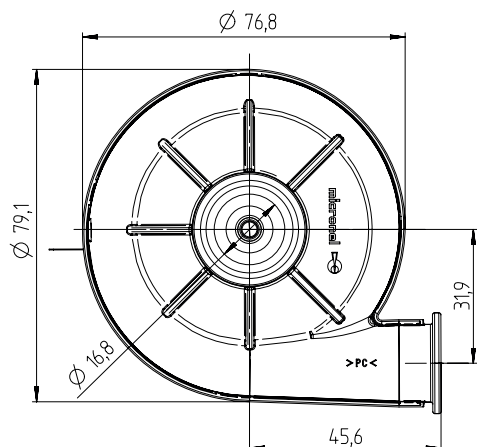
Electrical	Unit	Value
Nominal voltage	[V _{DC}]	21
Voltage range	[V _{DC}]	15 to 24
Maximum Ratings for Continuous Operation		
Minimum flow rate	[l/min]	80
Maximum speed	[rpm]	45 000
Maximum acceleration	[rpm/ms]	N/A
Maximum power consumption	[W]	160
Maximum housing surface temperature	[°C]	65
Maximum NTC temperature	[°C]	N/A
Environmental		
Ambient temperature (operating)	[°C]	-20 to 45
Ambient temperature (storage)	[°C]	-20 to 65
Relative humidity (noncondensing)	[%RH]	10 to 85
Ingress protection (EN60529)		IP40
Maximum oxygen concentration ⁽¹⁾	[%]	Up to 40
Motor		
Type		3 phase slotted Micronel brushless direct current motor
Winding insulation class		F, 155 °C
Phase to phase resistance	[Ω]	0.14
Terminal inductance	[mH]	0.14
Speed constant	[rpm/V]	2 222
Torque constant	[mNm/A]	4.30
Number of pole pairs		1
Hall sensor type		Melexis US3881 L UA
NTC type		N/A
Lifetime		
L10 at 25 °C ambient temperature ⁽²⁾	[h]	20 000
Acoustics		
Sound pressure level	[dB(A)]	N/A
Leak Tightness		
Maximum leak flow rate	[l/min]	N/A
Mechanical		
Blower weight	[g]	340
Rotor weight	[g]	29.9
Rotor moment of inertia	[g · cm ²]	N/A

⁽¹⁾ Micronel blowers are designed for various levels of oxygen compatibility. Further information available on request.

⁽²⁾ Accelerated aging test at 45 °C ambient temperature, continuous operation, flow control with 4.5 mm diameter orifice plate at outlet, normal cleanliness according to ISO 281. Temperature dependency of lifetime according to IPC-9591: factor 1.5 per 10 °C.

DRAWINGS

Dimensions in mm



Orientations

Direction of rotation

↻ Counter-clockwise (view on inlet)

Mounting position

Any direction

MATERIALS

Components

Material

Fan housing

Polycarbonate (PC)
Flammability: Glow wire flammability index 850 °C / 1 mm (IEC 60695-2-12)
Biocompatibility: USP Class VI / ISO 10993

Impeller

Polyamide (PA6)

Hub

Stainless steel

Motor housing

Zinc die cast
Aluminum, anodized, natural color

Label

Plastic

Connector

Molex Mini-Fit 39-01-2080
Flammability: UL 94V-2

Crimp terminal

Molex Mini-Fit 39-00-0038

Lead wire

Silicone insulated cable
UL 758 Style 3132

IDENTIFICATION

Label

Design

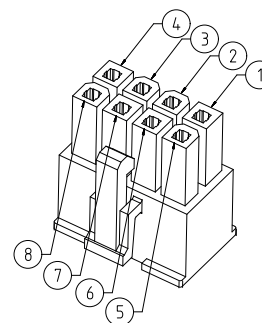
Article number
Nominal voltage



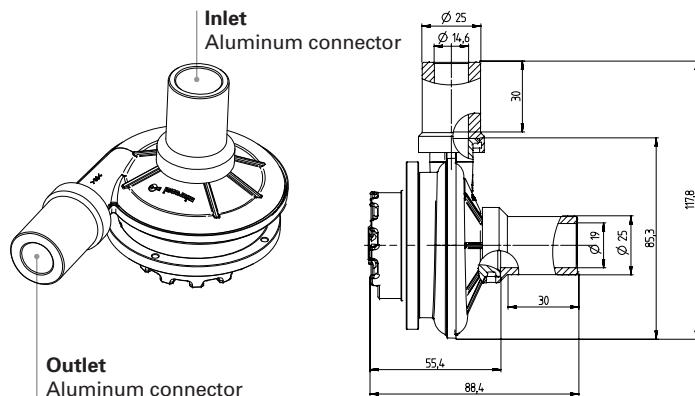
Identification number:
 • Year, calendar week (YYWW)
 • Fabrication number (6 digits)
 • Serial number (3 digits)

BLOWER PINOUT

Pin	Color	Description	AWG
1	Blue	Hall sensor 1	24
2	Black	Hall sensor 2	24
3	Yellow	V _{Hall} 2.2 to 18 VDC	24
4	Orange	Motor winding W	18
5	Grey	Hall sensor 3	24
6	Green	GND	24
7	Brown	Motor winding U	18
8	Red	Motor winding V	18



OPTIONS FOR INLET AND OUTLET CONNECTIONS*



Article no. with options	Inlet	Outlet
U85MX-024KX-5		
U85MX-024KX-51	●	
U85MX-024KX-52		●
U85MX-024KX-53	●	●

* The drawings show inlet and outlet connectors. Both options are independent of each other.

No application of forces on connectors allowed!

NOTICE



Handle in power-off conditions only!



Please see separate accessories list or contact Micronel Sales for a full list of options and accessories.

All data are subject to change without advanced notice.
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