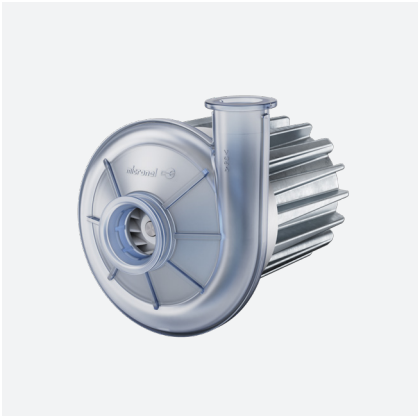


# Specification

## Radial Blower U85HL-024KH-5



### General Information

Item	
Product type	Radial blower
Part no.	U85HL-024KH-5 U85HL-024KH-51 with inlet port (option) U85HL-024KH-52 with outlet port (option) U85HL-024KH-53 with inlet and outlet port (option)
Customer	N/A
Project no.	N/A
Modification	Standard product

### Description

This versatile and powerful blower has been designed for cost sensitive applications. It is optionally available with inlet and outlet nozzles.



SWISS  
ENGINEERED



### Features

- Static pressure: 129 hPa, freeflow: 880 l/min
- 24 V<sub>DC</sub> brushless DC-motor
- Speed control and tacho frequency signal
- Aluminum heat sink
- Two different mounting possibilities

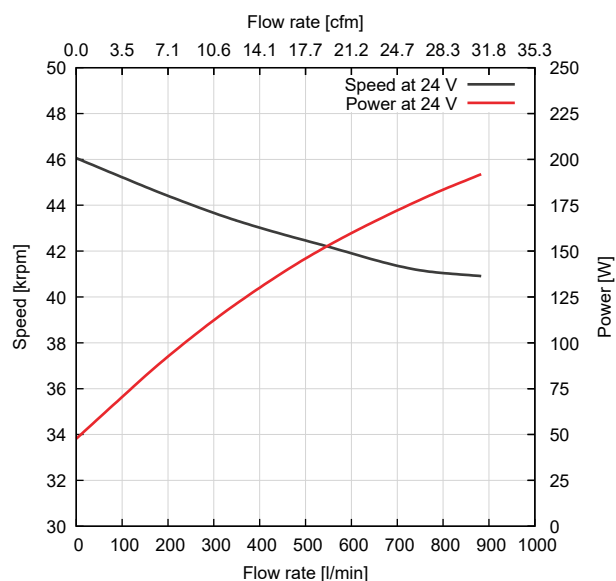
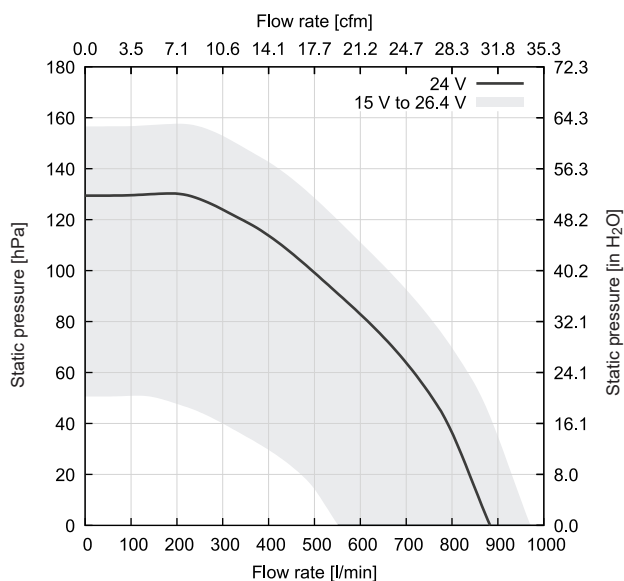


### General Conditions

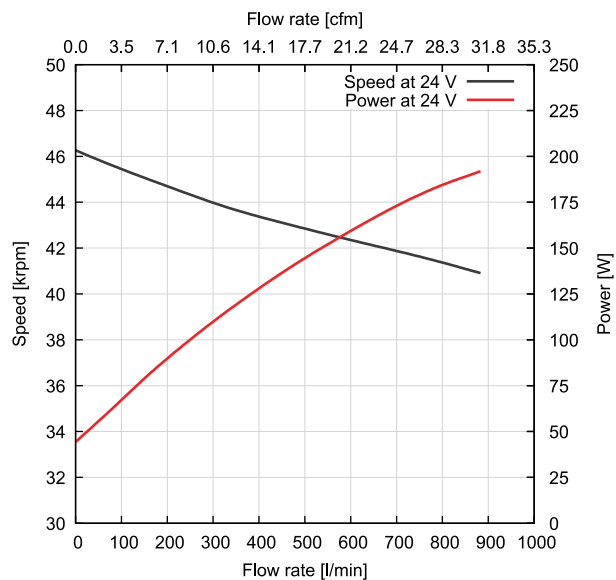
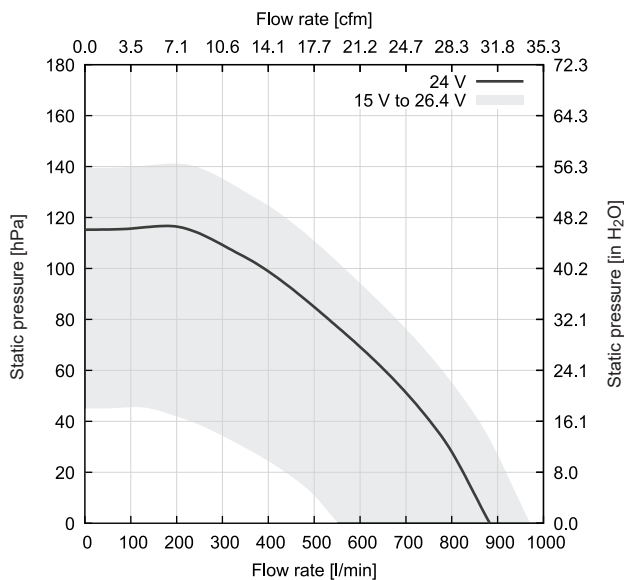
Unless otherwise stated all data are measured at nominal voltage and are valid at 20 °C ambient temperature and 1.2 kg/m<sup>3</sup> standard air density. Values listed are nominal and can vary depending on the installation conditions and due to component tolerances. Test setup according to ISO 5801 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]	129
Power consumption	[W]	48
Speed	[rpm]	46100

#### Shut-Off in Vacuum Operation (Zero Flow Rate)

Static pressure	[hPa]	115
Power consumption	[W]	44
Speed	[rpm]	46300

#### Free-Air (Zero Static Pressure)

Flow rate	[l/min]	880
Power consumption	[W]	190
Speed	[rpm]	40900

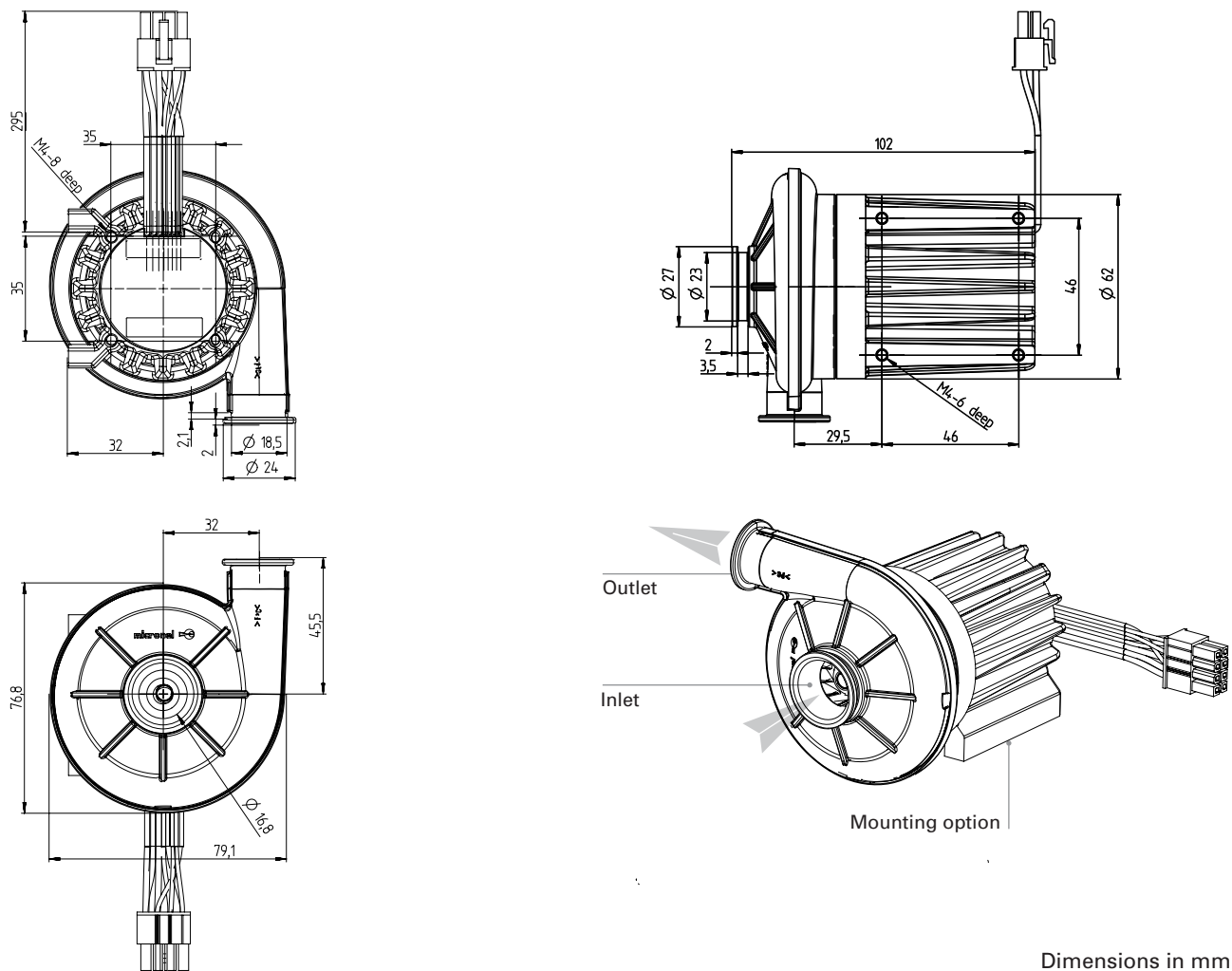
## Technical Data

Electrical	Unit	Value
Nominal supply voltage	[V <sub>DC</sub> ]	24
Supply voltage range	[V <sub>DC</sub> ]	15 to 26.4
<b>Maximum Ratings for Continuous Operation</b>		
Minimum flow rate	[l/min]	80
Maximum speed	[rpm]	46300
Maximum acceleration	[rpm/ms]	N/A
Maximum power consumption	[W]	190
Maximum housing surface temperature	[°C]	65
Maximum NTC temperature	[°C]	N/A
<b>Environmental</b>		
Ambient temperature (operating)	[°C]	0 to 45
Ambient temperature (storage)	[°C]	-20 to 65
Relative humidity (non-condensing)	[%RH]	10 to 85
Ingress protection (EN60529)		IP40
Maximum oxygen concentration	[%]	21
<b>Motor</b>		
Type		Brushless direct current motor with Hall sensors
Winding insulation class		H, 180 °C
Phase to phase resistance	[Ω]	0.261
Phase to phase inductance	[mH]	0.054
Speed constant	[rpm/V]	1897
Torque constant	[mNm/A]	5.03
Number of pole pairs		1
Hall sensor type		AKE, EW-632 2.2 - 18 V <sub>DC</sub> , 3mT
NTC type		N/A
<b>Lifetime</b>		
L10 at 25 °C ambient temperature <sup>(1)</sup>	[h]	20 000
<b>Acoustics</b>		
Sound pressure level <sup>(2)</sup>	[dB(A)]	56
<b>Leak Tightness</b>		
Maximum leak flow rate	[l/min]	N/A
<b>Mechanical</b>		
Blower weight	[g]	560

<sup>(1)</sup> Accelerated aging test at 45 °C ambient temperature, operation cycle 11.5 h ON, 0.5 h OFF, normal cleanliness according to ISO 281.  
Temperature dependency of lifetime according to IPC-9591: factor 1.5 per 10 °C.

<sup>(2)</sup> Measured at distance of 1 meter from inlet, with hose connected to inlet and outlet.

**Drawings**



Dimensions in mm

**Orientations**

Direction of rotation	↺ Counter-clockwise (view on inlet)
Mounting position	Any direction

**Materials**

Components	Material
Blower housing	Polycarbonate (PC), transparent Flammability: 850 °C / 1 mm (IEC 60695-2-12) Biocompatibility: USP Class VI / ISO 10993
Impeller	Polyamide (PA 6), white
Hub	Stainless steel
Motor housing	Aluminum
Label	Polyester, Flammability: UL 969
Connector	Molex Mini-Fit 39-01-2080 Flammability: UL 94V-2
Crimp terminal	N/A
Lead wire	High flex silicon Flammability: UL 3239

Identification

Label

Design

micronel

Micronel AG  
CH-8317 Tagelswangen

Part number

Nominal voltage

U85HL-024KH-5

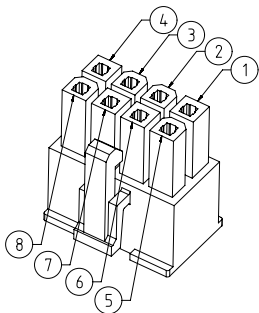
24VDC 2006 999999 001

CE

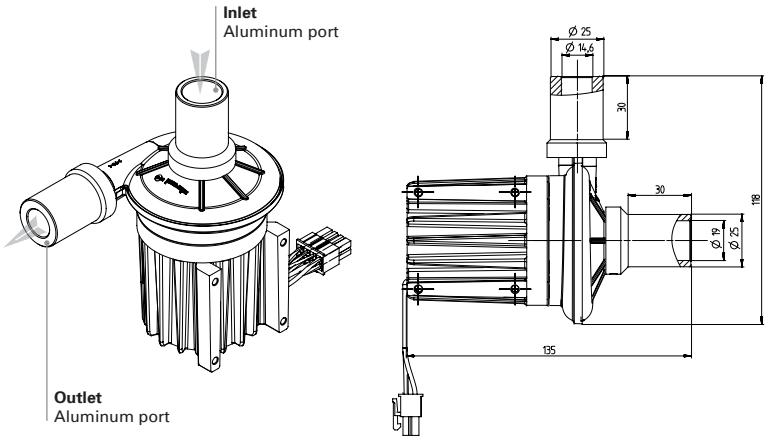
- Identification number:
- Year, calendar week (YYWW)
  - Fabrication number (6 digits)
  - Serial number (3 digits)

Blower Pinout

Pin	Color	Description	AWG
1	Blue	Hall sensor 1	26
2	Black	Hall sensor 2	26
3	Yellow	V <sub>Hall</sub>	26
4	Orange	Motor winding W	18
5	Grey	Hall sensor 3	26
6	Green	GND	26
7	Brown	Motor winding U	18
8	Red	Motor winding V	18



Options for Inlet and Outlet Ports\*



Article with options	Inlet port	Outlet port
Radial Blower U85HL-024KH-5		
Radial Blower U85HL-024KH-51	●	
Radial Blower U85HL-024KH-52		●
Radial Blower U85HL-024KH-53	●	●

\* The drawings show inlet and outlet ports.  
Both options are independent of each other.  
**No application of forces on ports allowed!**

Notice

Handle in power-off conditions only!  
Read operating manual!

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.  
© 2024 by Micronel AG. All rights reserved.