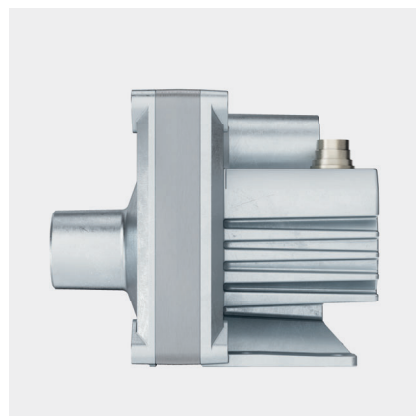
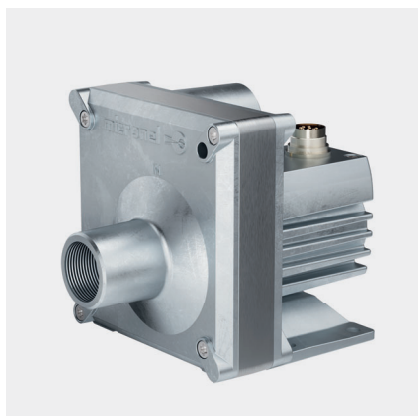


## SPECIFICATION

# Micronel Radial Blower

## U100H4-024KA-4



### GENERAL INFORMATION

#### Item

Product type	Radial blower with integrated electronic motor driver
Article no.	U100H4-024KA-4
Manufacturer	Micronel AG
Customer	N/A
Project no.	P19003
Modification	Standard product

### APPLICATIONS

The versatile, high-power Micronel blower type U100H4-024KA-4 can be used for industrial applications, where highest pressure or vacuum performance is needed, i.e. for pick and place applications, drying, cleaning and blowing off dirt and many more.

### FEATURES

- Pressure: 180 hPa, flow rate: 860 l/min
- 24 V<sub>DC</sub> brushless DC-motor
- Solid full aluminum housing
- For harsh industrial environments
- Ingress protection (EN60529) IP67
- Speed control and tacho frequency output
- G3/4 inch thread at inlet and outlet

### 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.



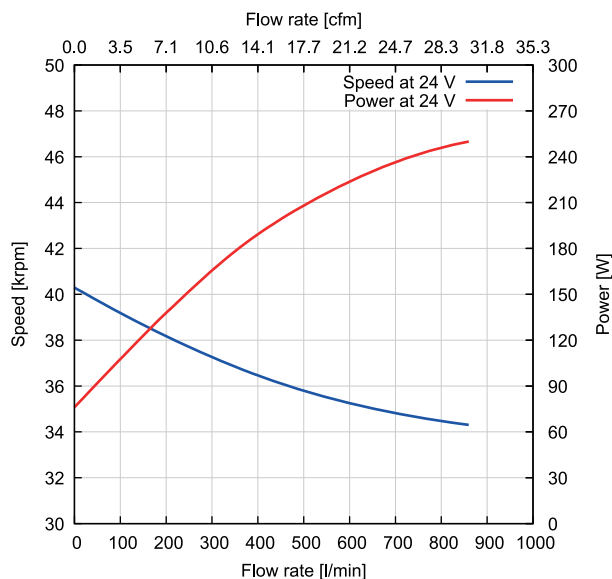
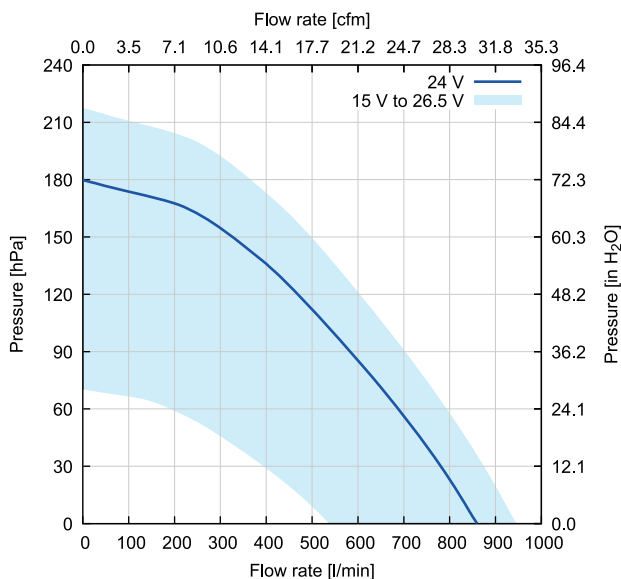
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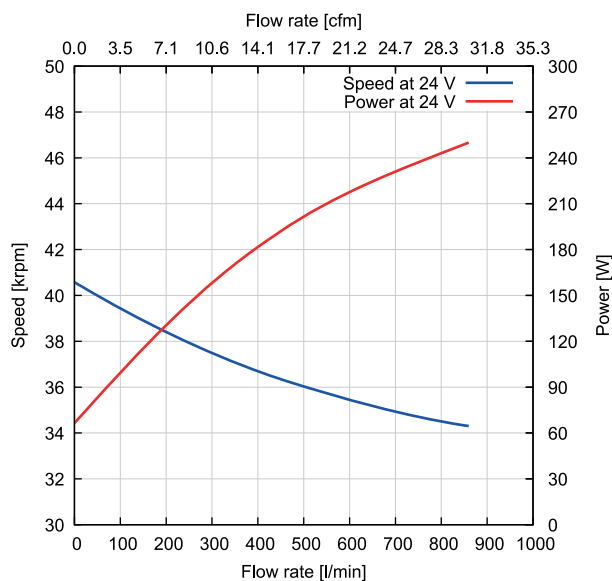
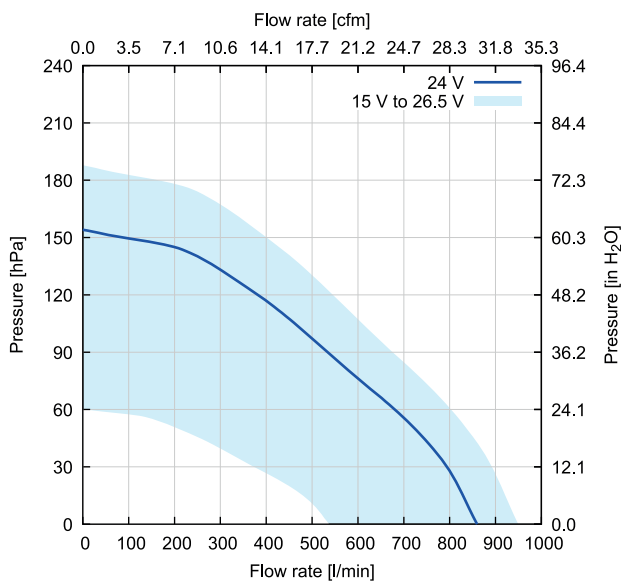
DECLARATION OF  
CONFORMITY  
NON-USE OF  
CONFLICT MINERALS

**PERFORMANCE**

**Pressure Operation at Outlet**



**Vacuum Operation at Inlet**



**Shut-Off in Pressure Operation (Zero Flow Rate)**

	Unit	Value
Static pressure	[hPa]	180
Power consumption	[W]	76
Speed	[rpm]	40 300

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

Static pressure	[hPa]	154
Power consumption	[W]	67
Speed	[rpm]	40 600

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

Flow rate	[l/min]	860
Power consumption	[W]	250
Speed	[rpm]	34 300

**TECHNICAL DATA**

<b>Electrical</b>	<b>Unit</b>	<b>Value</b>
Nominal voltage	[V <sub>DC</sub> ]	24
Voltage range	[V <sub>DC</sub> ]	15 to 26.4
Minimum power supply current <sup>(1)</sup>	[A]	12.5
Maximum start-up time	[s]	3.2
Maximum ripple voltage	[%]	5

**Maximum Ratings for Continuous Operation**

Minimum flow rate	[l/min]	170
Maximum speed	[rpm]	39500
Maximum acceleration	[rpm/ms]	N/A
Maximum power consumption	[W]	240
Maximum housing surface temperature	[°C]	75
Maximum NTC temperature	[°C]	75

**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)		IP67
Maximum oxygen concentration	[%]	N/A

**Motor**

Type		Brushless direct current motor
Winding insulation class		H, 180 °C
NTC type		TDK NTCG164KF104F -40 to 125 °C, 100 kΩ, B <sub>25/100</sub> = 4508 K

**Lifetime**

L10 at 25 °C ambient temperature <sup>(2)</sup>	[h]	20000
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**Acoustics**

Sound pressure level <sup>(3)</sup>	[dB(A)]	56
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**Leak Tightness**

Maximum leak flow rate	[l/min]	N/A
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**Mechanical**

Blower weight	[g]	1200
Housing pull off torque	[Nm]	N/A

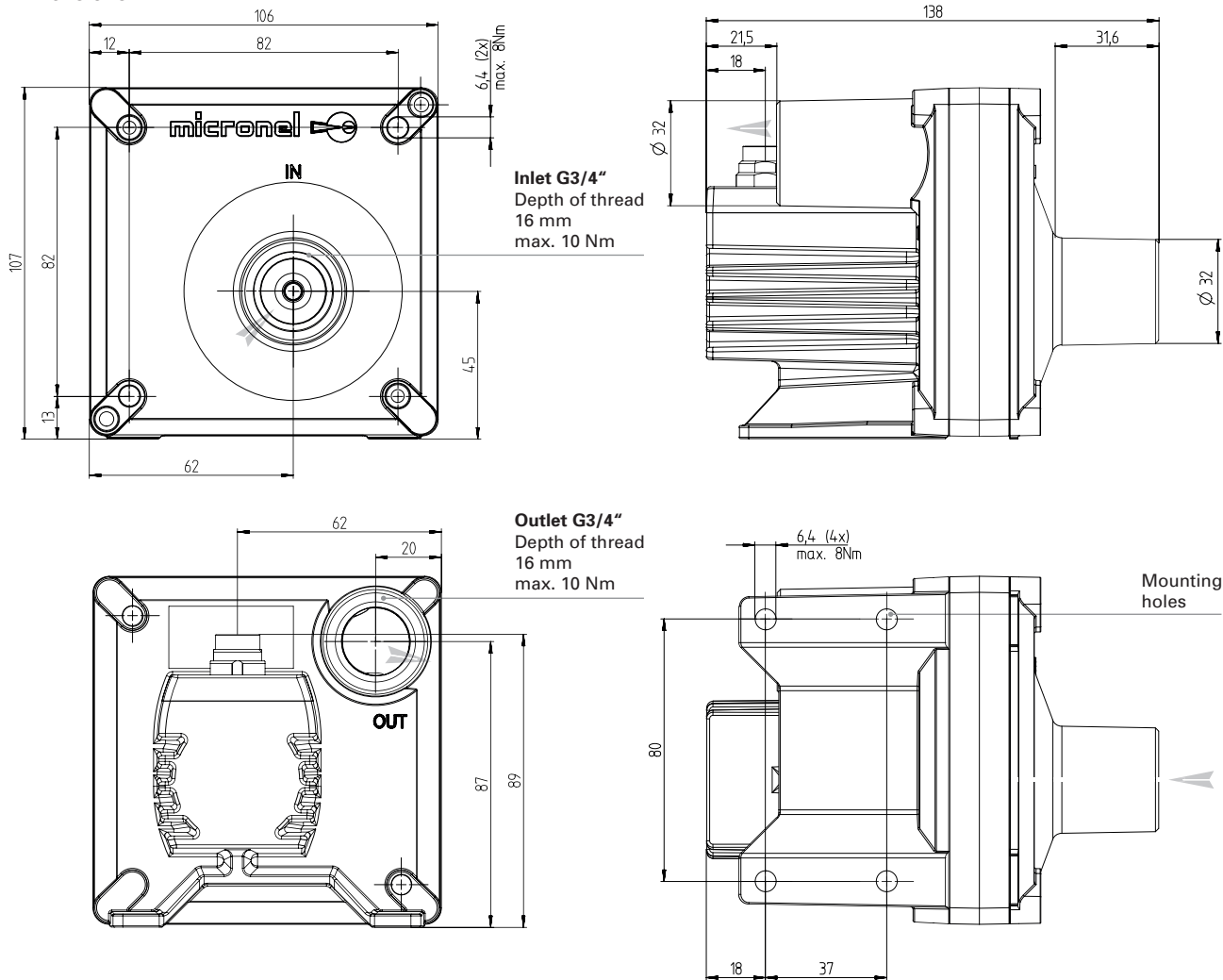
<sup>(1)</sup> Recommended minimum continuous power supply current for proper start-up behavior at nominal voltage. This is an indicative value. Power supply dimensioning, wiring, safety, setup and validation is the customer's responsibility.

<sup>(2)</sup> Continuous operation, normal cleanliness according to ISO 281.  
Temperature dependency of lifetime according to IPC-9591: factor 1.5 per 10 °C.

<sup>(3)</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
Fan housing	Aluminum
Impeller	Polyamide (PA6)
Hub	Stainless steel
Motor housing	Aluminum
Label	Polyester, Flammability: UL 969
Connector	Body: Nickel plated brass Pin contacts: Brass, gold plated Protection class: IP67
Crimp terminal	N/A
Lead wire	N/A

**IDENTIFICATION**

**Label**

Design

Article number

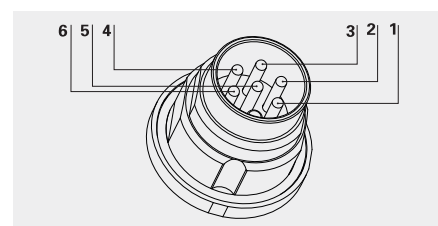
Nominal voltage

Identification number:

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

**BLOWER PINOUT**

Pin	Color	Description	AWG
1	N/A	NTC <sup>+</sup>	N/A
2	N/A	V <sub>cc</sub>	N/A
3	N/A	GND	N/A
4	N/A	Set speed input	N/A
5	N/A	Tachometer output	N/A
6	N/A	NTC <sup>-</sup>	N/A



**ELECTRONIC FUNCTIONS**

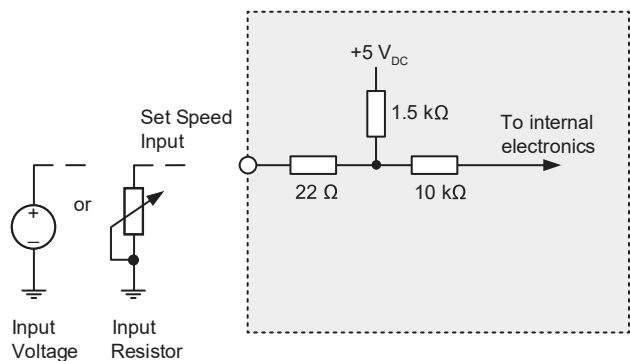
**Integrated Electronic Motor Driver**

Type

Micronel brushless direct current motor driver

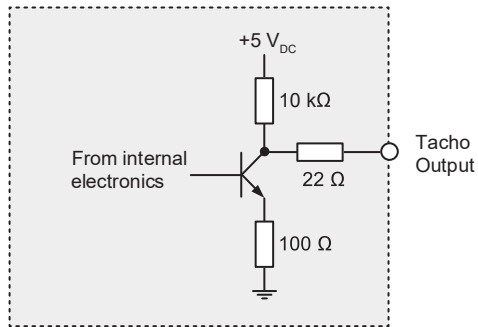
Features

- Integrated speed control (voltage/resistor)
- Tachometer frequency signal
- Locked rotor protection



**Speed Control Input**

The blower speed can be controlled either by input voltage or input resistor value. See „Set Speed Input“ tables for further details



**Tachometer Output**

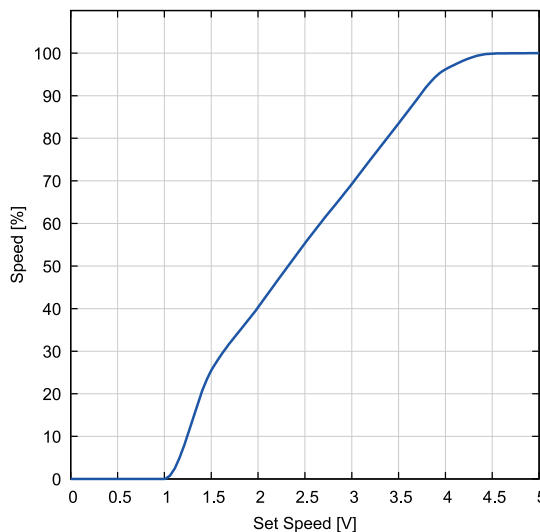
Tachometer frequency:  
3 pulses per revolution

$n = 20 \cdot f$

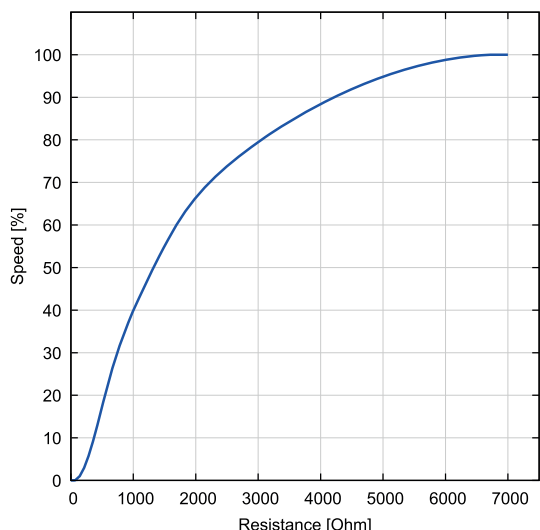
**n** Rotation speed [rpm]  
**f** Tacho frequency [Hz]

**ELECTRONIC FUNCTIONS**

Set Speed Input Voltage [V <sub>DC</sub> ]	Operation Mode
Set speed not connected	Blower speed at 100 %
Set Speed to ground	Stop
0.0	Stop
0.2 to 1.5	Not defined, blower might run or stop
2.0	Minimum start-up voltage
1.5 to 4.5	Blower speed depends on input voltage
4.5 to 5.0	Blower speed at 100 %



Set Speed Input Resistor [kΩ]	Operation Mode
Set speed not connected	Blower speed at 100 %
Set speed to ground	Stop
0.0 to 0.047	Stop
0.047 to 0.72	Not defined, blower might run or stop
1.0	Minimum start-up resistance
0.72 to 6.8	Blower speed depends on resistor value
> 6.8 or open input	Blower speed at 100 %



**ACCESSORIES**

Not included!



**Micronel Cable U100X-M16 6-Pol**

**Suitable for blower**  
Micronel Radial Blower  
U100H4-024KA-4



**Micronel Cable U100X-M16 6-Pol**

**Suitable for blower**  
Micronel Radial Blower  
U100H4-024KA-4



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.  
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