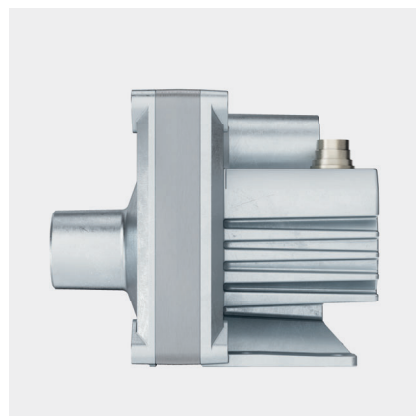
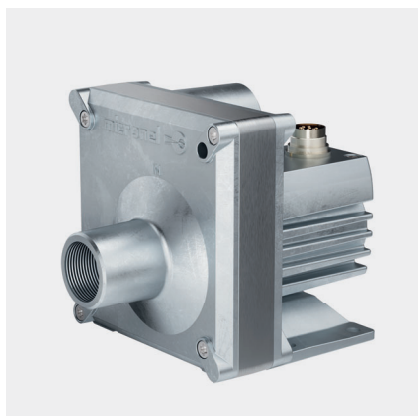


SPECIFICATION

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

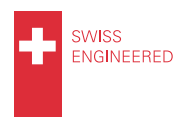
The versatile, high-power Micronel blower type U100H4-024KA-4 can be used for industrial applications, where highest pressure or vacuum performance is needed, i.e. for pick and place applications, drying, cleaning and blowing off dirt and many more.

FEATURES

- Pressure: 180 hPa, flow rate: 860 l/min
- 24 V_{DC} 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

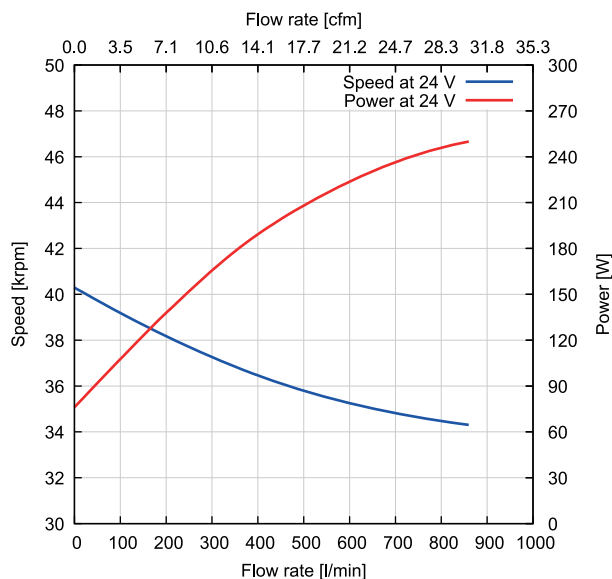
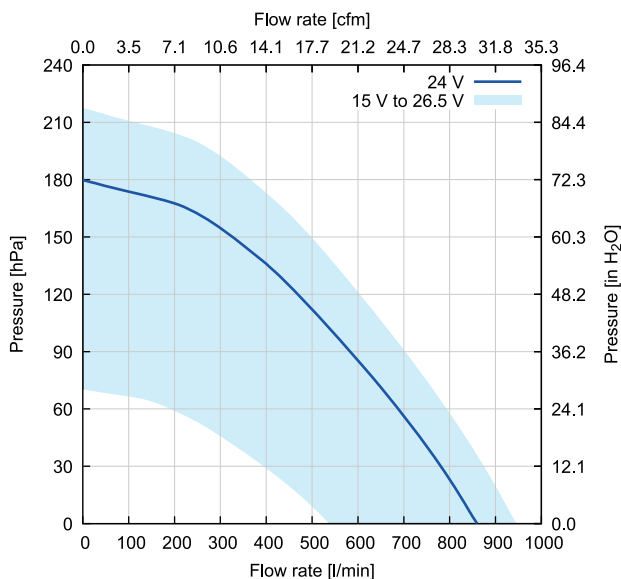
Unless otherwise stated all data are measured at nominal voltage and are valid at 20 °C ambient temperature and 1.2 kg/m³ standard air density. Values listed are nominal and can vary depending on the installation conditions and due to component tolerances. Test setup according to ISO 5801 with standardized 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.



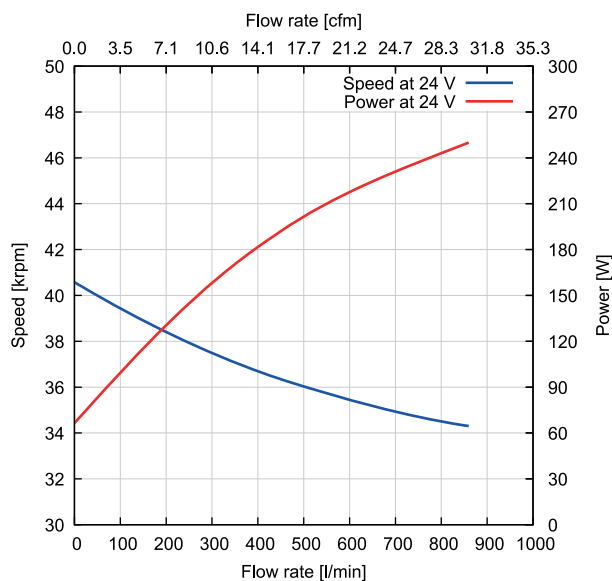
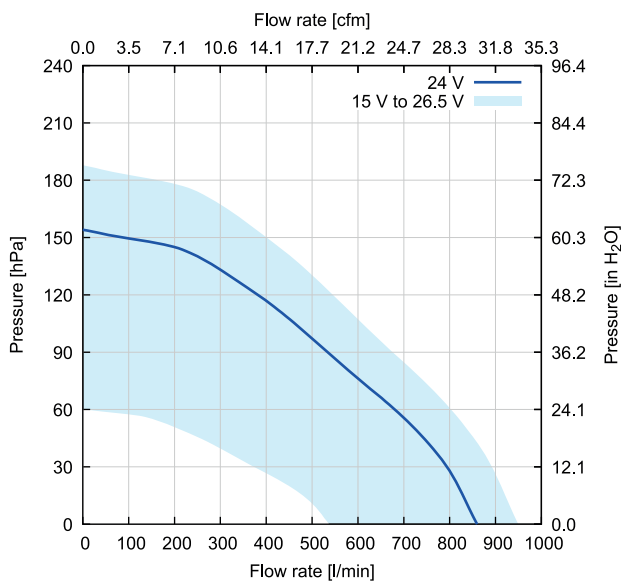
DECLARATION OF
CONFORMITY
NON-USE OF
CONFLICT MINERALS

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

Electrical	Unit	Value
Nominal voltage	[V _{DC}]	24
Voltage range	[V _{DC}]	15 to 26.4
Minimum power supply current ⁽¹⁾	[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 _{25/100} = 4508 K

Lifetime

L10 at 25 °C ambient temperature ⁽²⁾	[h]	20000
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Acoustics

Sound pressure level ⁽³⁾	[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

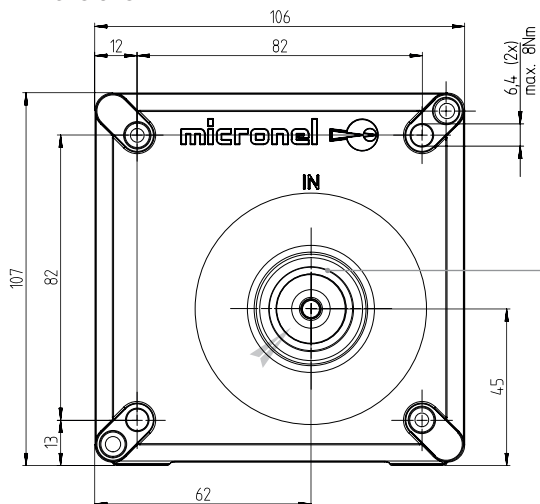
⁽¹⁾ Recommended minimum continuous power supply current for proper start-up behavior at nominal voltage. This is an indicative value. Power supply dimensioning, wiring, safety, setup and validation is the customer's responsibility.

⁽²⁾ Accelerated aging test ongoing, bearing lifetime calculated according to ISO 281, normal cleanliness. Temperature dependency of lifetime according to IPC-9591: factor 1.5 per 10 °C.

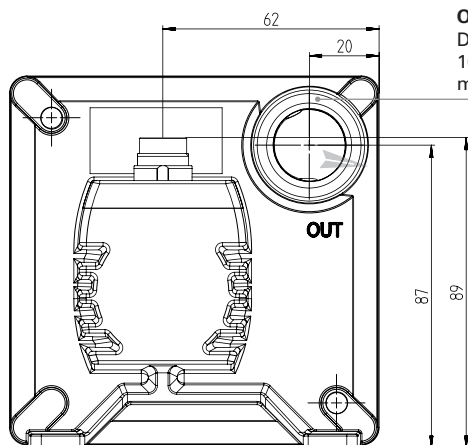
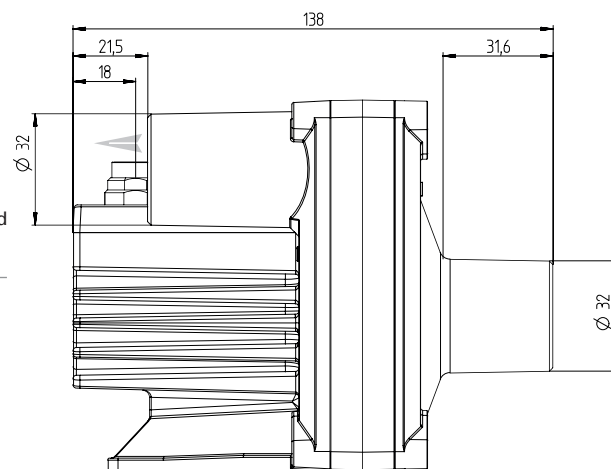
⁽³⁾ Measured at distance of 1 meter from inlet, with hose connected to inlet and outlet.

DRAWINGS

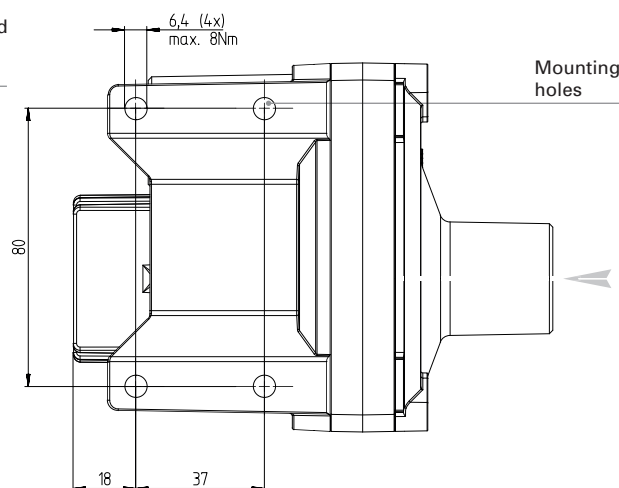
Dimensions in mm



Inlet G3/4"
Depth of thread
16 mm
max. 10 Nm



Outlet G3/4"
Depth of thread
16 mm
max. 10 Nm



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



Micronel AG
CH-8317 Tagelswangen
Micronel Radial Blower
U100H4-024KA-4
2045 508574 011
24 VDC

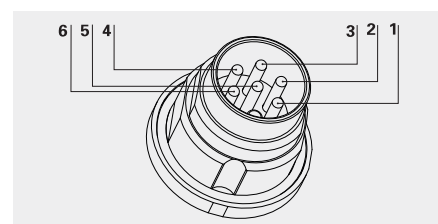


MANUFACTURED
IN SWITZERLAND

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

BLOWER PINOUT

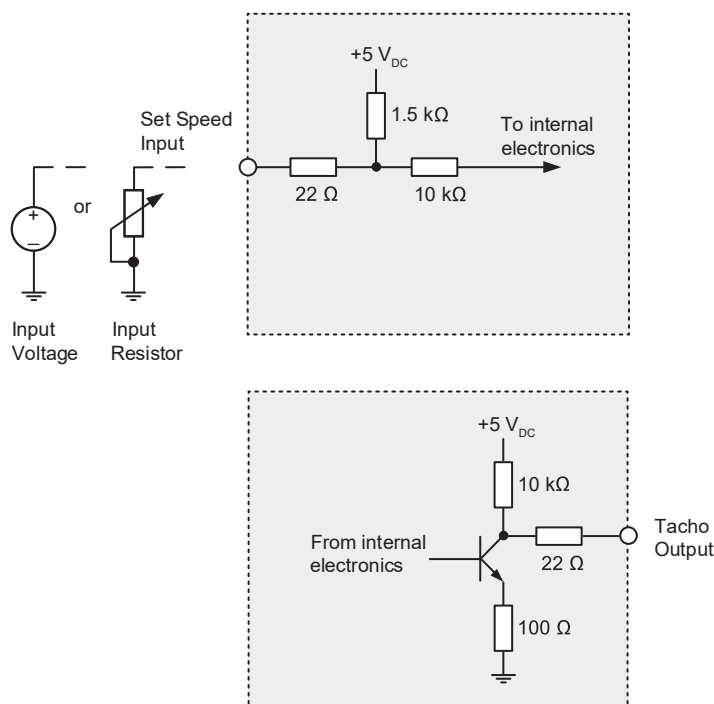
Pin	Color	Description	AWG
1	N/A	NTC ⁺	N/A
2	N/A	V _{cc}	N/A
3	N/A	GND	N/A
4	N/A	Set speed input	N/A
5	N/A	Tachometer output	N/A
6	N/A	NTC ⁻	N/A



ELECTRONIC FUNCTIONS

Integrated Electronic Motor Driver

Type	Micronel brushless direct current motor driver
Features	<ul style="list-style-type: none"> • Integrated speed control (voltage/resistor) • Tachometer frequency signal • Locked rotor protection



Speed Control Input

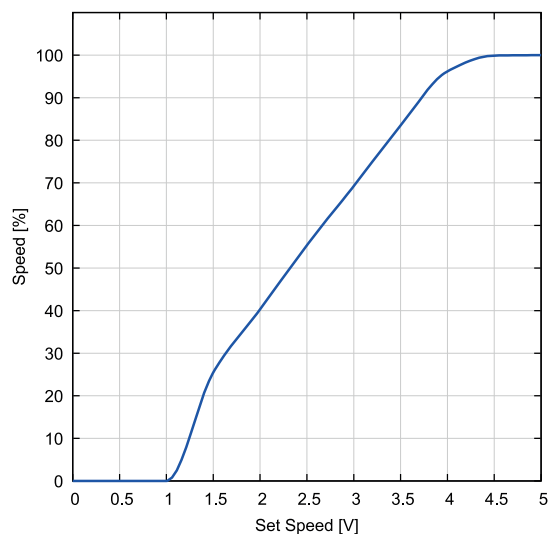
The blower speed can be controlled either by input voltage or input resistor value. See „Set Speed Input“ tables for further details

Tachometer Output

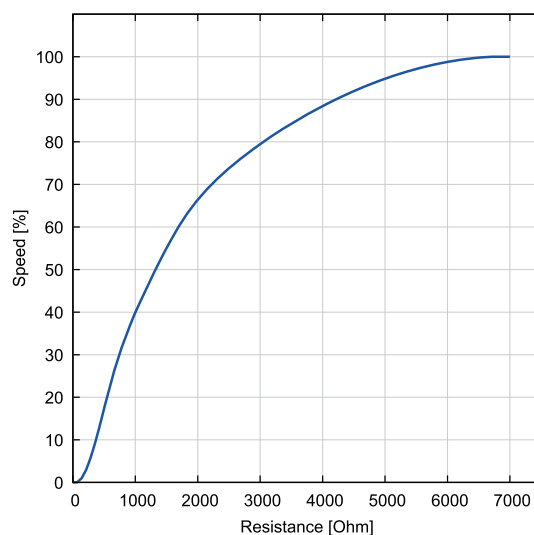
Tachometer frequency:
 3 pulses per revolution
 $n = 20 \cdot f$
 n Rotation speed [rpm]
 f Tacho frequency [Hz]

ELECTRONIC FUNCTIONS

Set Speed Input Voltage [V _{DC}]	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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