Specification
Tube Fan D801P-012KM-4



General Information

Item	
Product type	Tube fan with integrated electronic motor driver
Part no.	D801P-012KM-4 D803P-012KM-4 with flange at outlet (option) D804P-012KM-4 with flange at inlet (option)
Customer	N/A
Project no.	N/A
Modification	Standard product

Description

In contrast to the Flat Fans, the Micronel Tube Fans offer increased pressure performance while still maintaining a high volume flow. They all feature extremely quiet and efficient operation while offering extreme reliability and life expectancy.

SWISS ENGINEERED

CE

REACh Compliant

RoHS III Compliant

Features

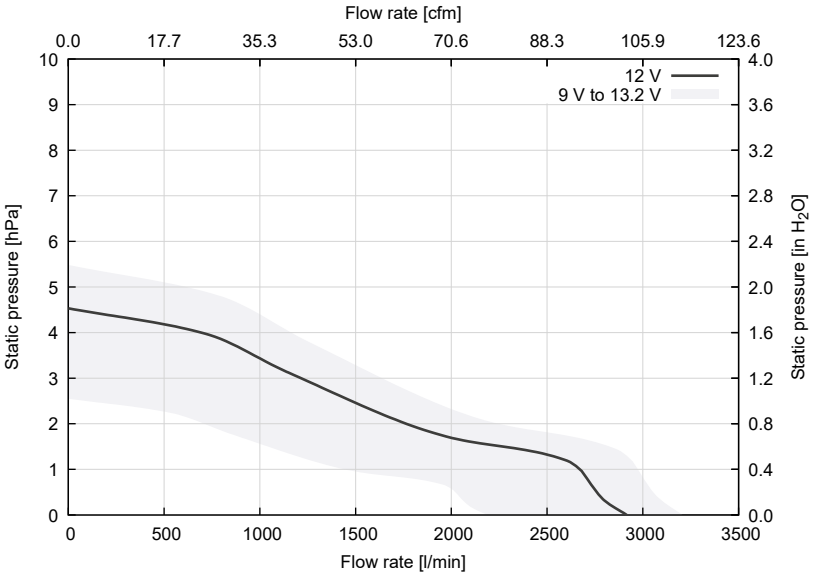
- Static pressure 4.5 hPa, freeflow 2920 l/min
- 12 V_{DC} brushless DC-motor
- Speed control and tacho frequency signal
- Small dimensions through slim design
- Options for mounting flange with holes

General Conditions

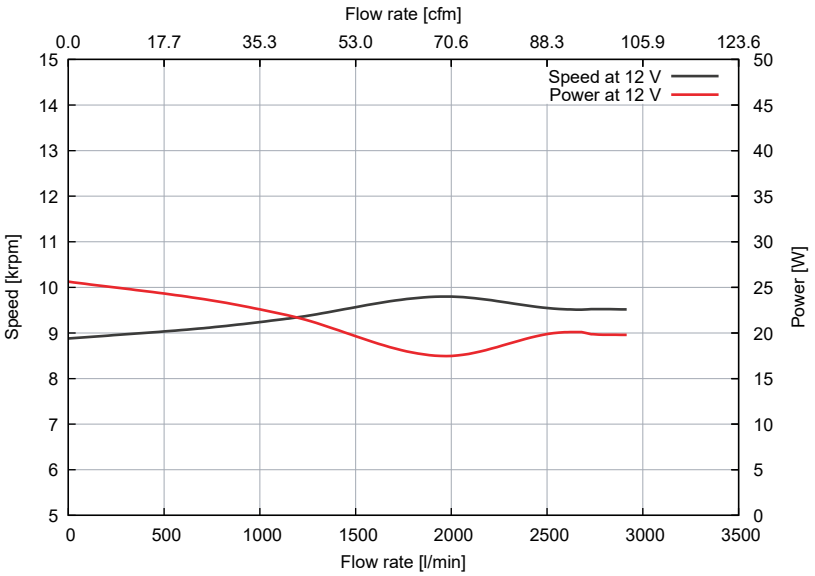
Unless otherwise stated all data are measured at nominal voltage and are valid at 20 °C ambient temperature and 1.2 kg/m³ standard air density. Values listed are nominal and can vary depending on the installation conditions and due to component tolerances. Test setup according to ISO 5801 with standardized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



Speed and Power vs. Flow Characteristics



Shut-Off in Pressure Operation (Zero Flow Rate)	Unit	Value
Static pressure	[hPa]	4.5
Power consumption	[W]	25.6
Speed	[rpm]	8890

Free-Air (Zero Static Pressure)		
Flow rate	[l/min]	2920
Power consumption	[W]	19.8
Speed	[rpm]	9517

Technical Data

Electrical	Unit	Value
Nominal supply voltage	[V_{DC}]	12
Supply voltage range	[V_{DC}]	9 to 13.2
Minimum power supply current (1)	[A]	2.8
Maximum start-up time	[s]	0.4
Maximum ripple voltage	[%]	5
Maximum Ratings for Continuous Operation		
Minimum flow rate	[l/min]	N/A
Maximum speed	[rpm]	N/A
Maximum acceleration	[rpm/ms]	N/A
Maximum power consumption	[W]	N/A
Maximum housing surface temperature	[°C]	N/A
Maximum NTC temperature	[°C]	N/A
Environmental		
Ambient temperature (operating)	[°C]	-20 to 60
Ambient temperature (storage)	[°C]	-20 to 60
Relative humidity (non-condensing)	[%RH]	10 to 85
Ingress protection (EN60529)		IP40
Maximum oxygen concentration (2)	[%]	21
Motor		
Type		Brushless direct current motor
Winding insulation class		H, 180 °C
NTC type		N/A
Lifetime		
L10 at 25 °C ambient temperature (3)	[h]	20 000
Acoustics		
Sound pressure level (4)	[dB(A)]	56.3
Leak Tightness		
Maximum leak flow rate	[l/min]	N/A
Mechanical		
Fan weight	[g]	191

(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.

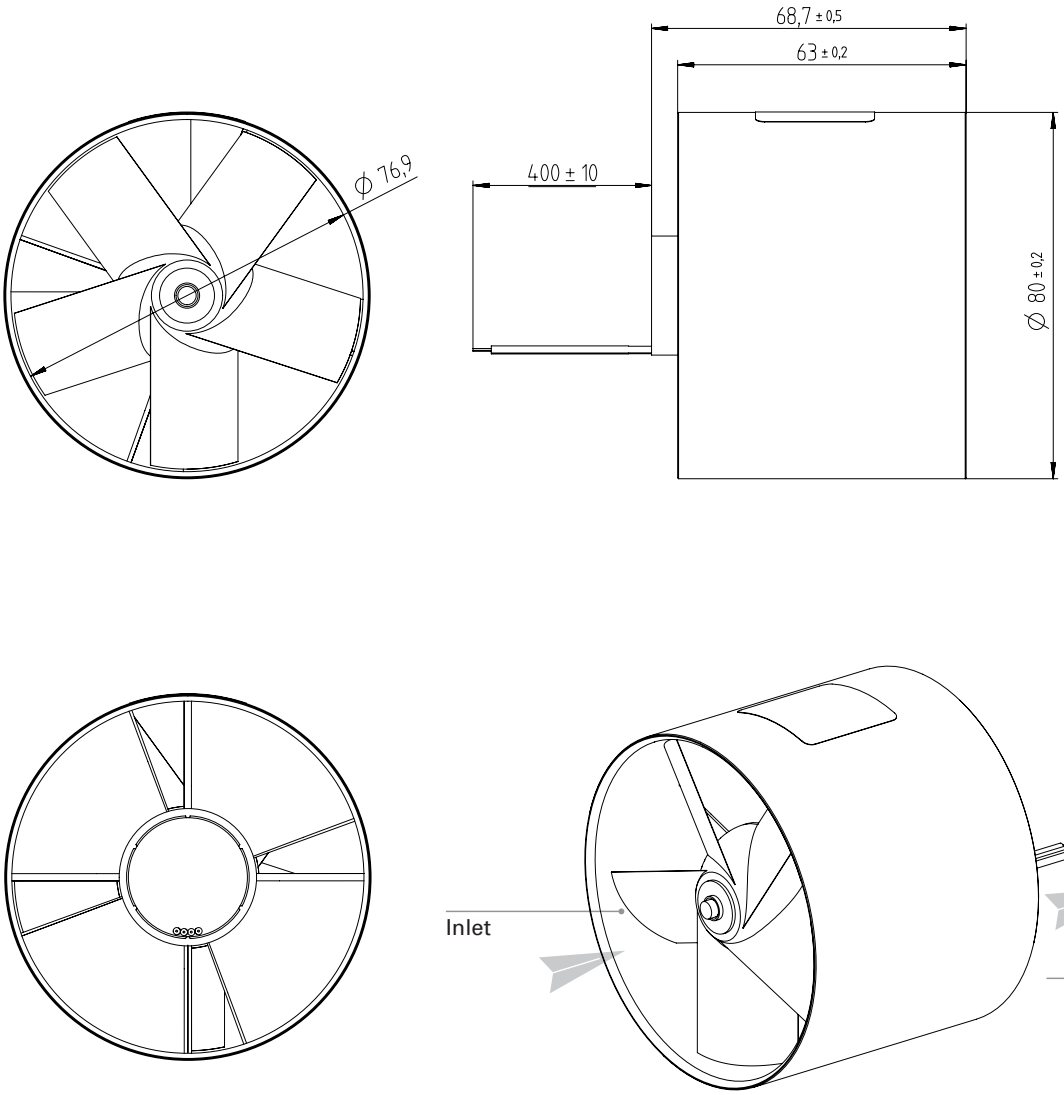
(2) Micronel fans are designed for various levels of oxygen compatibility. Further information available on request.

(3) Calculated value for normal cleanliness according to ISO 281. Accelerated aging test ongoing. Temperature dependency of lifetime according to IPC-9591: factor 1.5 per 10°C.

(4) Measured at distance of 1 meter to the fan, with hose connected to inlet and outlet.

Drawings

Dimensions in mm



Orientations	
Direction of rotation	Clockwise (view on inlet)
Mounting position	Any direction

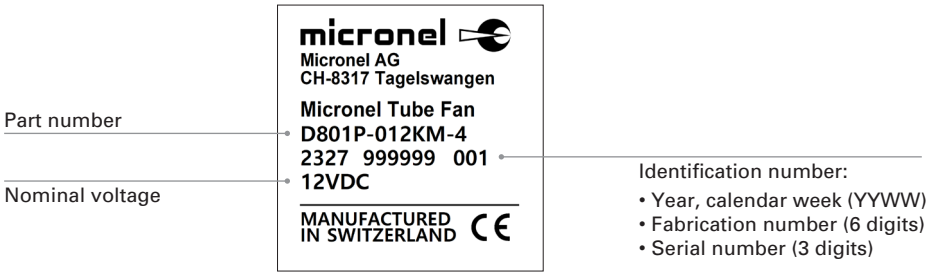
Materials

Components	Material
Fan housing	Aluminum anodized black
Impeller	Polyphenylenoxide (PPO) Flammability: UL 94V-1
Hub	Brass
Motor housing	Polysulfon (PSU)
Label	Plastic (26 x 26 mm) Flammability: UL 969
Connector	-
Crimp terminal	-
Lead wire	Silicone insulated cable Flammability: UL 3239

Identification

Label

Design



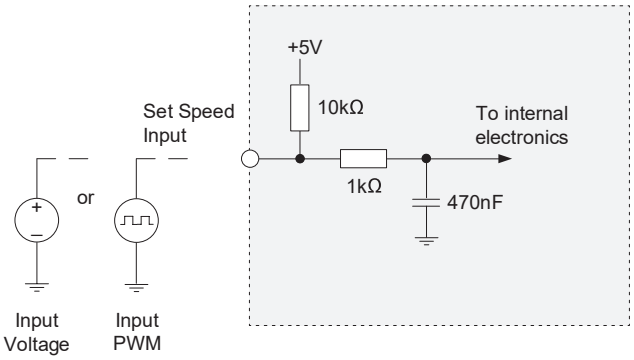
Blower Pinout

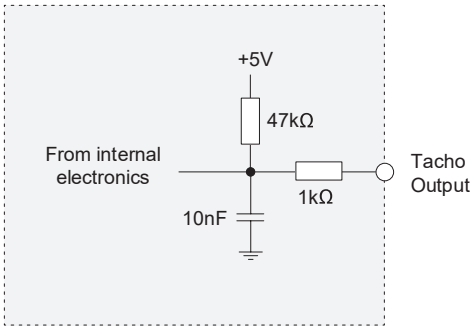
Pin	Color	Description	AWG
-	Red	V_{cc}	24
-	Black	GND	24
-	Yellow	Tachometer output	24
-	Green	Set speed input	24

Electronic Functions

Integrated Electronic Motor Driver

Type	Sensored brushless direct current motor driver
Features	• Integrated speed control (PWM / Voltage) • Tachometer frequency signal • Locked rotor protection • Over current protection





Speed Control Input

The fan speed can be controlled by either input voltage or PWM. See „Set Speed Input“ table for further details.

Tachometer Output

Tachometer frequency:
1 pulse per revolution

n = 60 • f

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

Electronic Functions

Set Speed Input Voltage [V_{DC}]	Operation Mode
Set speed not connected	Fan speed at 100 %
Set speed to ground	Stop
< 0.0	Not allowed
0.0	Stop
0.5 to 0.9	Not defined, fan might run or stop
1.0	Minimum start-up voltage
1.0 to 4.5	Fan speed depending on input voltage
4.5 to 5.0	Fan speed at 100 %
> 5.0	Not allowed

Set Speed Input PWM [%]	Operation Mode
Set speed not connected	Fan speed at 100 %
Set speed to ground	Stop
0.0	Stop
0.1 to 9.0	Not defined, fan might run or stop
10.0	Minimum start-up
10.0 to 90.0	Fan speed depending on duty cycle
90.0 to 100.0	Fan speed at 100 %

Frequency 1 kHz – 60 kHz; (TYP 20 kHz)

Options for Mounting

Product no. with options	Flange Inlet	Flange Outlet
Micronel Tube Fan D801P-012KM-4		
Micronel Tube Fan D803P-012KM-4*		●
Micronel Tube Fan D804P-012KM-4*	●	

* The drawings show versions of flange.

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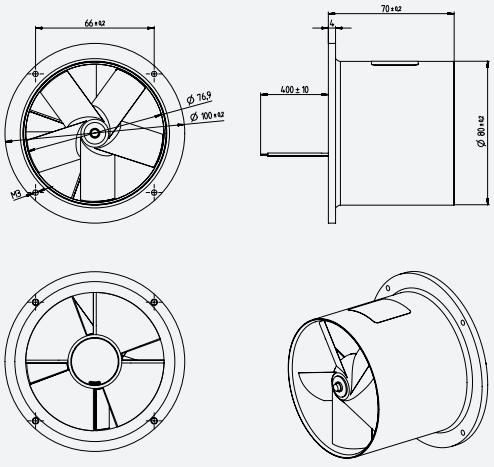

Dimensions in mm

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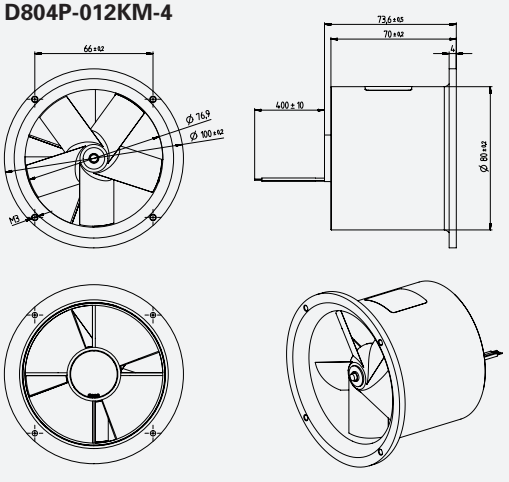

Dimensions in mm

Note

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.

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