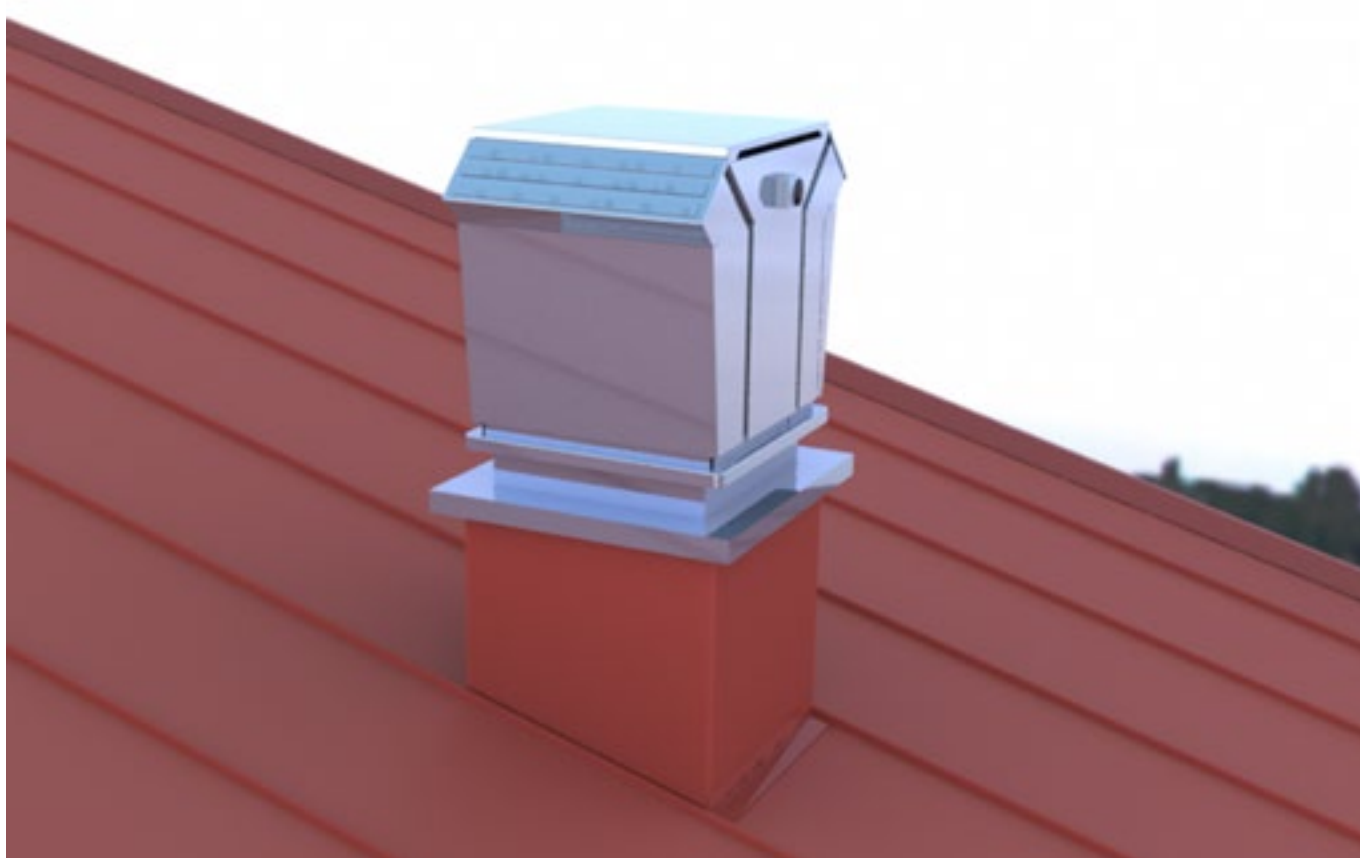


MIRUVENT®

Power roof ventilator with 27 different airflow variants up to 24,000 m³/h



General

MIRUVENT is a power roof ventilator with a casing made of corrosion-resistant aluminium.

The power roof ventilator is available in 5 physical sizes with 27 different airflow variants up to 24,000 m³/h.

Quick facts

- Several sizes and variants with fan speed control and EC motors offer energy efficient operation
- The vertical air stream prevents fouling of the roof
- Intelligent control equipment with energy measurement

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The power roof ventilator with smart solutions and intelligent control options!

- ▶ Several sizes and variants with fan speed control and EC motors offer energy efficient operation
- ▶ The vertical air stream prevents fouling of the roof
- ▶ Intelligent control equipment with energy measurement

Swegon's new MIRUVENT power roof ventilator is available in several different sizes and with several different fan impeller and motor variants. The power roof ventilator can be selected for the best possible operating economy.

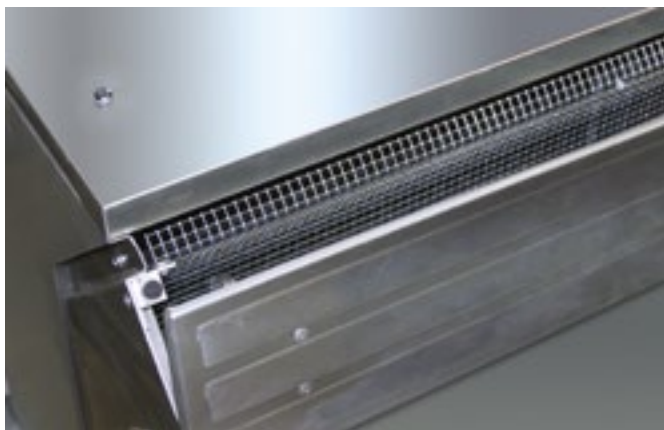
The outlet openings on both sides of the power roof ventilator are covered with self opening and self closing airstream operated dampers. This smart solution functions both as a weather guard and counteracts heat losses when the fan is stationary. The turbulence-free, vertical airflow protects the roof from fouling.

All the types of motors/motor controllers used are located outside the airflow. The AC motors cope with exhaust air temperatures of up to 120°C when operating continuously. AC motors with integrated frequency inverter and EC motors are designed for exhaust air temperatures of up to 40°C.

The casing is made of corrosion-resistant aluminium conforming to Environmental class C4.

Roof ducts and connection spigots are available as accessories.

The power roof ventilator's cover and fan impeller with motor are easy to dismantle for inspection and maintenance and the power roof ventilator is hinged for simple access.



Outlet obliquely upward via self-opening and self-closing airstream-operated dampers



Conical inlet for low pressure losses

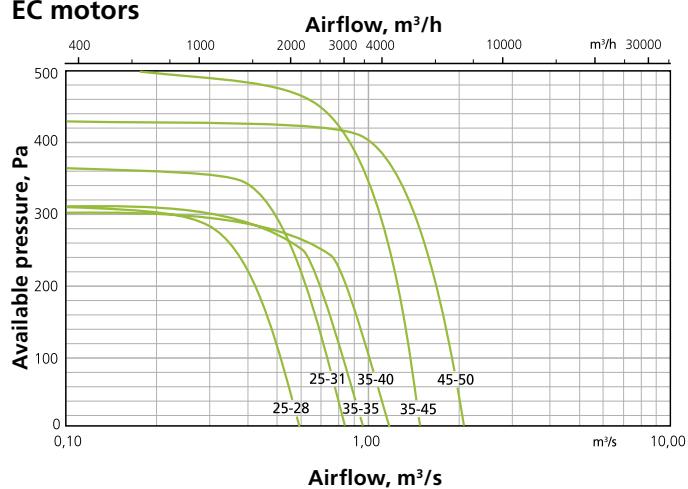
Quick Guide

Alternative	Physical size										
	25		35			45		56		71	
Fan impeller	28	31	35	40	45	50	56	63	71	80	90
EC motors	●	●	●	●	●	●					
4-pole AC motor	●	●	●	●	●	●*	●*	●			
6-pole AC motor			●	●	●	●*	●*	●*	●*	●	
8-pole AC motor							●	●	●	●*	●

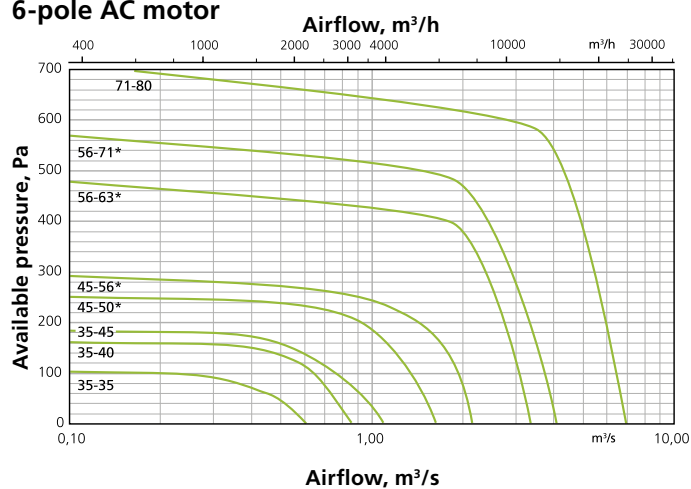
*) Available with integrated frequency inverter

Overview – Airflows

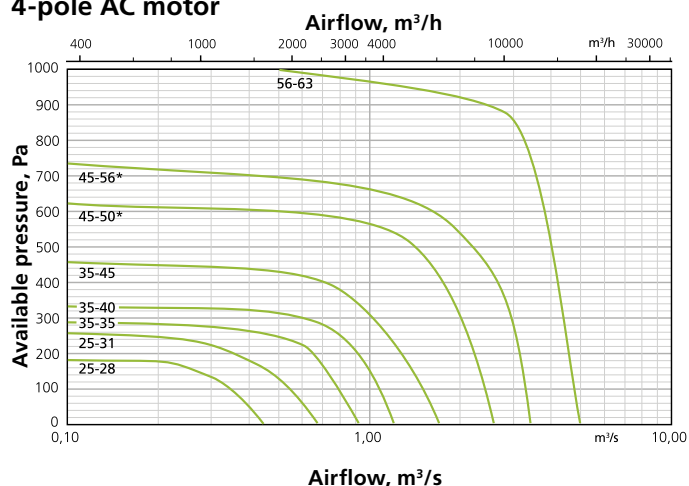
EC motors



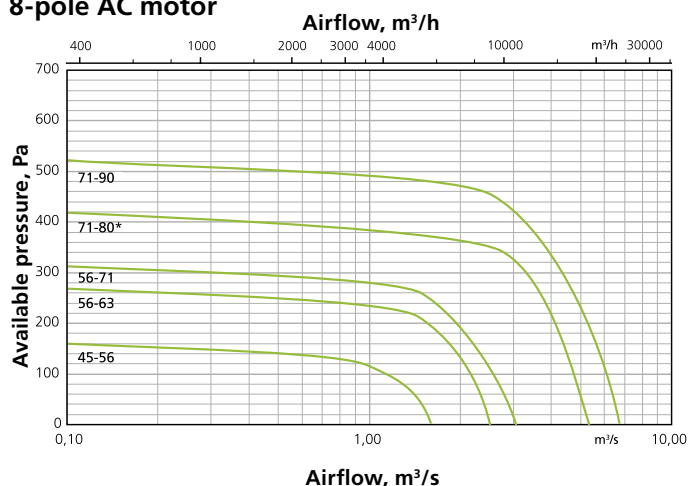
6-pole AC motor



4-pole AC motor

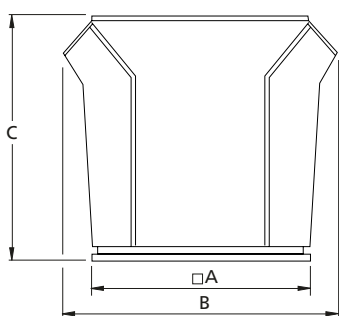


8-pole AC motor



* Available with built-in frequency inverter.

Dimensions and Weights



Size	A	B	C	kg*
25	440	600	525	28-31
35	600	770	675	45-54
45	750	985	760	76-98
56	940	1225	970	162-195
71	1270	1625	1270	330-356

*) Variation depending on the choice of fan impeller and motor

Description of the power roof ventilator

Range of Application

The MIRUVENT is an extract air fan, designed for use in most extract air systems in comfort ventilation systems, in which the air has a low content of impurities.

The power roof ventilator should preferably be mounted on an LBFT roof penetration collar. This provides a fire-resistant and sound-absorbent extraction passage through the roof and a tight connection to the extract air duct. As an alternative the power roof ventilator can be mounted on an existing roof penetration collar across a TBFS connection fitting.

Design

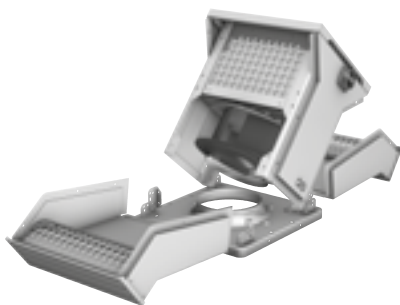
Closed, discretely designed casing made of corrosion-resistant aluminium, Environment class C4.

Base frame made of galvanised sheet steel for mounting a connection fitting, with wide overhang for accommodating the connection fitting insulation.

Outlet openings covered with self-opening and self-closing airstream-operated dampers as protection against bad weather when the fan is idle. The airstream-operated dampers also counteract heat losses.

The turbulence-free, upward air stream protects the roof from fouling.

Built-in mechanism for raising the ventilator on hinges offers good access for cleaning the duct system or cleaning the impeller, for example.



Lifting eye bolts are supplied with the ventilator.

The electric equipment conforms to the provisions of the EMC Directive and is tested according to EN 61000-6-2 and EN 61000-6-3 Standards (radiation in homes, offices, shops and similar environments as well as for immunity in industrial environments).

Motors

Fan unit with EC motor and integrated motor control system

Centrifugal impeller with backward-curved blades, mounted on the rotor of an outer rotor motor installed where it is not exposed to the extract air, statically and dynamically balanced to DIN ISO 1940. Fully maintenance-free, vibration-free mounted motor with motor controller.



The motor is cooled with a separate supply of chilled air.

Min. permissible exhaust air temperature: -20°C; max. permissible exhaust air temperature: +40°C while operating continuously.

Min. ambient temperature: -30°C, max. ambient temperature: +40°C.

Fan unit with AC motor

Centrifugal impeller with backward-curved blades, mounted on the shaft of a standard motor (Construction form B5, Degree of protection IP55), statically and dynamically balanced to DIN ISO 1940. Fully maintenance-free, vibration-free mounted motor. The motor is cooled with a separate supply of chilled air.

Selected variants are available with integrated frequency inverter. Other variants can be equipped with an optional external frequency inverter.

AC motors, without frequency inverter or with externally mounted frequency inverter, can handle exhaust air temperatures from -20°C up to +120°C while operating continuously. AC motors with integrated frequency inverter are designed for exhaust air temperatures from -20°C up to +40°C.

Min. ambient temperature: -30°C, max. ambient temperature: +40°C.

Sizes

The power roof ventilator is available in 5 physical sizes with 27 different airflow variants up to 24,000 m³/h.

Pressure/flow measurements

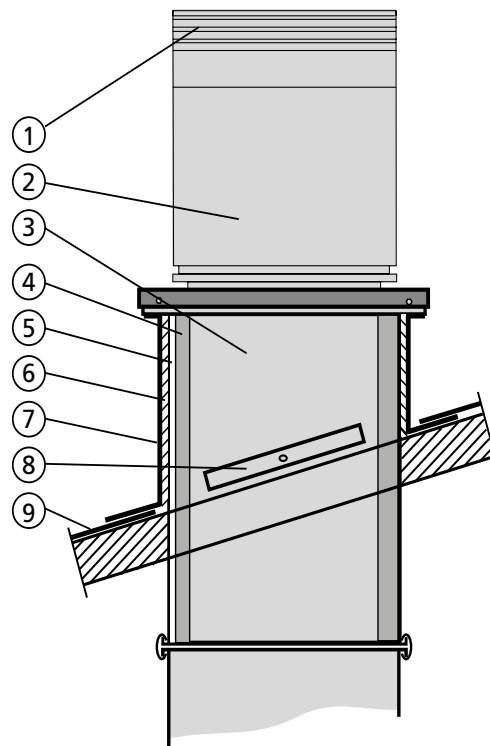
The power roof ventilator is equipped with external tapings for pressure/airflow measurement with an inaccuracy of ±5%.

Description of the power roof ventilator

Installation Examples

1. Outlet openings covered with self-opening and self-closing airstream-operated dampers (standard) as protection against bad weather when the fan is idle. The airstream-operated dampers also counteract cold down draughts and heat loss.
2. MIRUVENT power roof ventilator
3. TBFT roof penetration collar including TBFS connection fitting
4. 50 mm thick insulation conforming to the provisions of Fire-resistance Class EI 30 alt. EI 60, internally lined with perforated sheet steel.
5. Cable protection
6. Structural panel (not supplied by Swegon).
7. Roofing felt, sheet steel or similar weatherproof roofing material (not supplied by Swegon).
8. Pivotal mounting brackets (supplied as separate items).
9. Existing roofing (not supplied by Swegon)

The TBFT roof penetration collar is equipped with slip-clamp profiled sections for connection of a rectangular duct.



Description of the control equipment

Control equipment

The MIRUVENT power roof ventilator can be controlled in several different ways. All the fans are as standard equipped with safety isolating switch that can be switched from the outside of the fan. The electrical connections for the fan are also wired there. MIRUVENT is equipped with a motor for single-speed operation and can be supplemented with a control system for variable speed regulation.

External equipment

The MIRUVENT units with AC motors can be equipped with external control equipment for starting and stopping the fan consisting of a protective motor switch of contactor type or the a similar protective device.

Variable speed control

The MIRUVENT units with EC motors have an integrated motor control system that can be controlled with 0-10 Volt.

Selected variants of MIRUVENT with AC motors are available with integrated frequency inverter; the others can be equipped with an optional external frequency inverter. Control can take place with 0-10 Volt.

Intelligent control with MIRU Control

The equipment is designed for installation in connection with the power roof ventilator. MIRU Control conforms to enclosure class IP 54. Its min. permissible ambient temperature is -20°C, and its max. permissible ambient temperature is +40°C.

The control equipment uses 230 V AC supply voltage; therefore no extra transformer need be installed. Items of external equipment such as pressure sensors and temperature sensors should be wired to the control equipment.

The MIRUVENT units with EC motors have an integrated motor control system that can be controlled by means of communication via the MIRU Control equipment.

Selected variants of the MIRUVENT with AC motors are available with integrated frequency inverter. Control can take place by means of communication via the MIRU Control equipment.

Functionality:

The stop, low speed and high speed functions can be controlled via the internal time switch, which has four individually adjustable weekly schedules, or manually via the control equipment. There is also provision for an external control system via wiring terminals or ELQZ-1-406-1/TBLZ-1-47 timer.

The fan can be regulated for constant airflow or constant negative pressure in the duct system. A type TBLZ-1-23-aa pressure sensor is required for this purpose. For maintaining constant pressure, it is also possible to supplement with additional pressure sensors for reading the airflow.



MIRU Control equipment with control panel and display screen.

Provision is available for outdoor or room temperature compensation of the pressure/airflow. The control equipment can then be supplemented with the TBLZ-1-25-2 temperature sensor.

Alarms in plain text are shown on the display screen of the control equipment. Provision is available via wiring terminals for forwarding the alarm.

The operating status of the power roof ventilator is shown on the display screen. External in-operation indication can be connected to the wiring terminal of the control equipment.

MIRU Control enables the user to view energy information readings such as operating time measurement, output measurement, SFP calculations and power consumption in kWh.

Communication with an external supervisory system can take place via Modbus RTU.

All the settings/readings can easily be read on the front-mounted control panel/display.

Description of the MIRU Control functions

Time/Date, time switch clock

Time/Date

The current date and time can be set and adjusted if needed. The Time switch clock (timer) automatically takes leap years into consideration.

The system is preset for automatic changeover between summer time/winter time according to EU Standard. It is possible to block this changeover.

Weekly program/Time schedules

Times and days can be set when the power roof ventilator is to run in the high speed mode and low speed mode. Non-programmable times mean that the power roof ventilator is stopped (if the digital inputs or communication are not active).

Four different time schedules can be set. If the same in-operation times are to apply every day of the week (Mon. –Sun.), you need only program one time schedule. Various in-operation times during the days of the week should be programmed in separate time schedules (Mon. –Fri., Sat. –Sun. or Mon., Tues., Wed., etc.)

Flow/Pressure

Regulation

Flow regulation (control)

Flow regulation involves operating the power roof ventilator to keep the preset airflow constant. The power roof ventilator fan speed is automatically regulated to provide correct airflow.

Constant airflow is advantageous, since the airflow is always exactly as it has been preset from the beginning.

The flow is measured by an external pressure sensor in the power roof ventilator. Measurement tappings are also provided there for airflow measurement. The sensor must be connected to the BUS communication contact of the control unit. The setpoint required (separate for low speed and high speed) can be set in l/s, m³/s or m³/h.

It should however be noted that everything that increases the pressure drop in the ventilation system, such as the blocking of air devices and dust accumulating in the filters, automatically causes the power roof ventilator to run at a higher speed. This causes higher power consumption and may also cause comfort problems in the form of noise.

The function can be limited so that the fan speed will not exceed the preset max. permissible values.

Pressure regulation

The airflow automatically varies to provide constant pressure in the ducting. This type of control is also called VAV regulation (Variable Air Volume).

Pressure regulation is used when e.g. damper operations increase the air volume in sections of the ventilation system.

The duct pressure is measured by an external in-duct pressure sensor which is connected to the BUS communication of the control unit. The setpoint required (separate for low speed and high speed) is set in Pa.

The function can be limited so that the fan speed will not exceed the preset max. permissible values.

Readings

Used for performance checks. The current pressure can be shown depending on which pressure sensor(s) is/are connected.

Description of the MIRU Control functions

Energy status

The SFP value, current power output, energy consumption for the most recent seven or thirty days and total energy consumption since the start can be read on the screen.

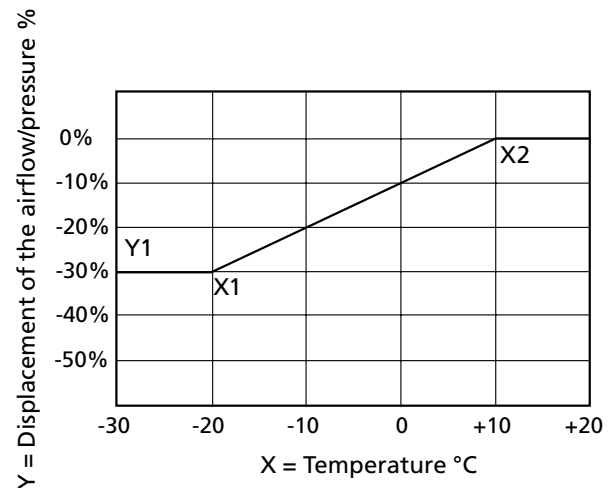
The TBLZ-1-23 flow/pressure sensor accessories must be connected and must be active before an SFP reading can be viewed.

Temperature compensation

Temperature compensation of the airflow can be activated if it is desirable to displace the airflow as a function of the outdoor air temperature or the room air temperature.

In the pressure regulation mode, the current setpoint for airflow is offset. In the pressure regulation mode, the current setpoint for pressure is offset.

The current temperature on the connected sensor is shown in °C.



Temperature compensation according to

the factory settings involves the following:

A temperature of +10 °C (Breakpoint X2): Compensation starts and gradually proceeds between 0 – 30 % down to an outdoor air temperature of -20 °C.

Initial Setting

The fan size should be set and the flow unit can be changed. The flow regulation and pressure regulation modes can be selected.

When pressure regulation and flow regulation are in the ON position, the power roof ventilator is controlled by pressure regulation and the airflow reading is shown on the screen at the same time. If pressure regulation is in the OFF position, the power roof ventilator is controlled by flow regulation.

Communication

MIRU Control also provides communication with the main system via Modus RTU.

Pressure and flow values can be read off and set, all the time channels for the different power roof ventilators can be set, and the energy status, temperature, operating status and group alarm are indicated.

It is also possible, via communication, to manually regulate stop, low speed and high speed as well as to reset the alarm.

MIRUVENT Power roof ventilator - Air handling unit GOLD



The MIRUVENT Power roof ventilator and MIRU Control can be run concurrently with GOLD.

Control via GOLD

The GOLD unit is fully prepared for controlling MIRUVENT. The only requirement is a BUS cable connection between GOLD and MIRU Control. Up to ten MIRUVENT ventilators can be connected to a GOLD unit.

The ventilators are supplied with a locally placed MIRU Control unit. Various accessories such as pressure and temperature sensors can be connected to MIRU Control depending on the functionality requirements. See the previous section, Intelligent regulation with MIRU Control.

Functionality:

The following functions can be set, regulated and monitored via the GOLD unit's hand-held micro terminal:

MIRU Control internal clock. Alternatively, ventilator(s) can be run concurrently with the GOLD unit's stop, low speed and high speed.

On an increase/decrease of the airflow through the power roof ventilators, the extract airflow or supply airflow is compensated by a corresponding volume of air in the GOLD unit. In this way the total extract airflow is kept in balance with the supply airflow of the GOLD unit.

Ventilator flow/pressure setpoints and energy status read off of current flow, pressure and group alarm values.

Communication with the main system via BACNet, Modbus, Exoline and LON Works.

Settings and read off of ventilator parameters on the GOLD unit's inbuilt website.

Description of functions, MIRUVENT - GOLD

The MIRUVENT power roof ventilator is regulated by MIRU Control, which can also be connected to a GOLD unit. The GOLD unit is fully prepared for MIRUVENT regulation; the only requirement is a BUS cable between GOLD and MIRU Control. The accessory, connection kit for GOLD TBLZ-1-64, is required.

See below for a description of the functions that can be regulated and for which information can be obtained via the GOLD unit's hand-held micro terminal or via communication with the main system. The separate functions are described in more detail in the section Description of functions, MIRU Control.

Control system

Up to ten power roof ventilators with MIRU Control can be connected to a GOLD unit using bus communication. Each ventilator has a menu group in the GOLD unit's hand-held terminal.

The hand terminal can be used to select parallel control of the ventilator and the GOLD unit, and whether or not the ventilator follows the GOLD unit's low or high speed operation.

All the time channels in MIRU Control can be set separately for each connected ventilator via the GOLD unit's hand terminal.

Balanced ventilation

When the power roof ventilators provide variable airflow, the balanced ventilation function can be used. The ventilator(s) to include in the function can be selected.

In the case of balanced extract air, all the airflows of the activated power roof ventilators are added together. The extract airflow in the GOLD unit is decreased by the corresponding volume. In this way the supply airflow will be the same as the total extract airflow and balanced ventilation will be achieved inside the building.

In the case of balanced supply air, all the airflows of the activated power roof ventilators are added together. The supply airflow in the GOLD unit is increased by the corresponding volume. In this way the supply airflow will be the same as the total extract airflow and balanced ventilation will be achieved inside the building.

For this to function, the pressure sensor, flow measurement and, if applicable, pressure regulator must be connected to MIRU Control.

Flow and pressure regulation

Depending on the function selected in MIRU Control, a setpoint for pressure or flow, and low and high speed can be set in the GOLD unit's hand terminal.

Readings

The following values for each power roof ventilator can be read off in the GOLD unit's hand terminal:

Airflow*. Duct pressure*. Current setpoint for flow/pressure*. Temperature*. SFP. Power. Power consumption in kWh. Operating level. Group alarm 0/1.

**Shown according to the sensor that is connected to MIRU Control.*



Communication

MIRU Control connection to the GOLD unit also permits communication between all the ventilators and the main system, via Modbus TCP, Modbus RTU, Exoline or BACnet IP.

Pressure and flow values can be set and read off. All the time channels for each regulator can be set. Energy consumption, temperature and group alarm can be shown.

A limited degree of communication with all the ventilators is also possible through connecting accessories for LON Works-communication to the GOLD unit.

Pressure, flow, temperature and energy status can be read off via LON.

Website

There is a tab for MIRUVENT power roof ventilators on the GOLD unit's inbuilt website. Via this any ventilator (1-10) can be selected, settings can be made and information read off.

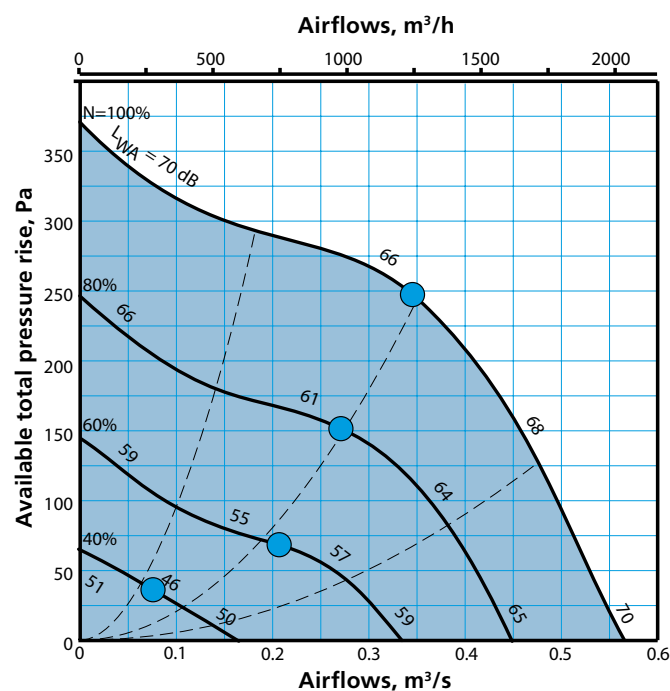
Pressure and flow values can be set and read off. All the time channels for each regulator can be set. Energy consumption, temperature and group alarm can be shown.

Stop, low speed, high speed and alarm reset can also be regulated manually via the website.

Sizing

EC motor, with motor control system

MIRUVENT-1-25-28-2/3-0



● Optimal duty point

Motor data

Rated output (kW)	Rated current, motor (A)	Rated voltage V
0.23	1.05	230

Acoustic calculations

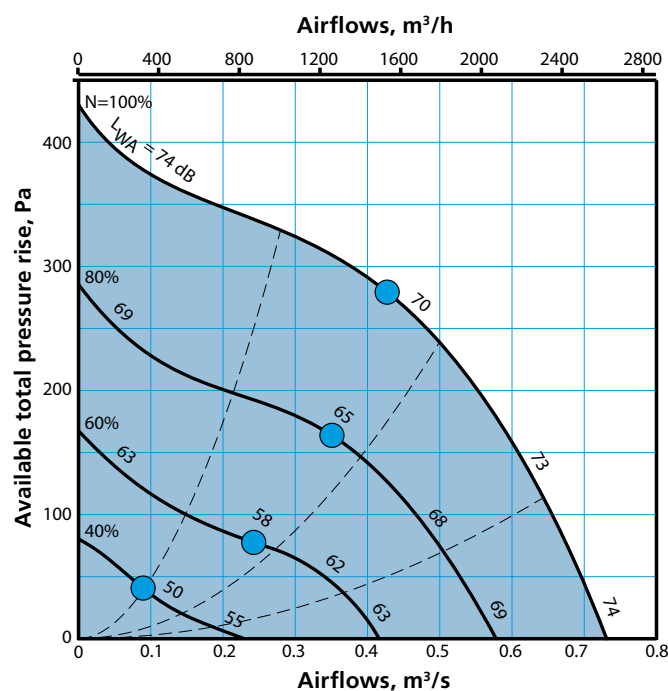
Measurement method ISO 3741 is used for measuring the sound power level emitted to the surroundings and measurement method ISO 5136 is used for measuring the sound power level emitted to the duct.

Corrected dB(A) sound power level emitted to the surroundings, L_{WA} can be read in the fan diagram. The following formula can be used for breaking down the sound power level into octave bands: $L_{W,OK} = L_{WA} + K_{OK}$. Obtain the following from the table below: K_{OK} .

Correction factor, K_{OK} for various sound paths and for calculating the sound power level in dB(A) emitted to the surroundings.

Sound path	Duty point $q_v/q_{v,MAX}$	Octave band, no./mid-frequency, Hz							
		1	2	3	4	5	6	7	8
To the surroundings	0.3	+7	+5	+4	-1	-9	-16	-19	-26
	0.6	0	+5	+3	-2	-8	-12	-14	-23
	1.0	-3	+5	+2	-2	-7	-12	-14	-20
To the ducting	0.3	+23	+16	+8	+2	-3	-7	-12	-19
	0.6	+10	+12	+8	+1	-5	-8	-11	-19
	1.0	+8	+10	+8	+1	-4	-10	-12	-16

MIRUVENT-1-25-31-2/3-0



● Optimal duty point

Motor data

Rated output (kW)	Rated current, motor (A)	Rated voltage V
0.34	1.5	230

Acoustic calculations

Measurement method ISO 3741 is used for measuring the sound power level emitted to the surroundings and measurement method ISO 5136 is used for measuring the sound power level emitted to the duct.

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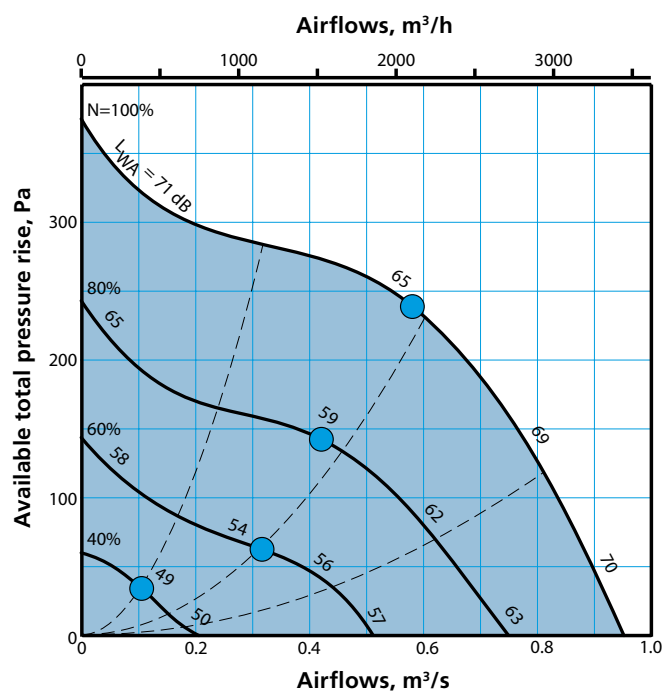
Correction factor, K_{OK} for various sound paths and for calculating the sound power level in dB(A) emitted to the surroundings.

Sound path	Duty point $q_v/q_{v,MAX}$	Octave band, no./mid-frequency, Hz							
		1	2	3	4	5	6	7	8
To the surroundings	0.3	+7	+5	+4	-1	-9	-16	-19	-26
	0.6	0	+5	+3	-2	-8	-12	-14	-23
	1.0	-3	+5	+2	-2	-7	-12	-14	-20
To the ducting	0.3	+23	+16	+8	+2	-3	-7	-12	-19
	0.6	+10	+12	+8	+1	-5	-8	-11	-19
	1.0	+8	+10	+8	+1	-4	-10	-12	-16

Sizing

EC motor, with motor control system

MIRUVENT-1-35-35-2/3-0



● Optimal duty point

Motor data

Rated output (kW)	Rated current, motor (A)	Rated voltage V
0.34	1.5	230

Acoustic calculations

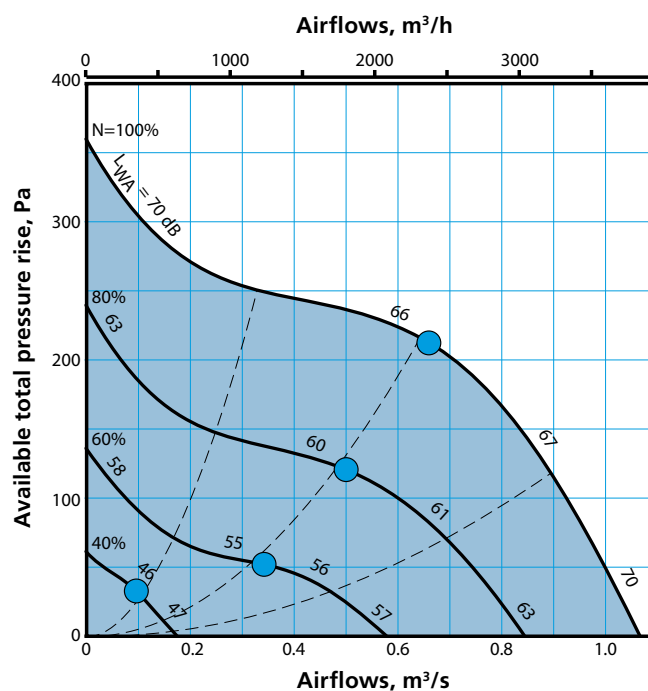
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Correction factor, K_{OK} for various sound paths and for calculating the sound power level in dB(A) emitted to the surroundings.

Sound path	Duty point $q_v/q_{v,MAX}$	Octave band, no./mid-frequency, Hz							
		1	2	3	4	5	6	7	8
To the surroundings	0.3	+14	+6	+3	-1	-10	-17	-20	-24
	0.6	+9	+5	+3	-1	-8	-14	-16	-22
	1.0	+6	+4	+2	-1	-8	-12	-15	-22
To the ducting	0.3	+24	+16	+7	+2	-5	-11	-16	-19
	0.6	+20	+14	+6	+1	-6	-12	-17	-22
	1.0	+15	+14	+5	+1	-7	-12	-18	-24

MIRUVENT-1-35-40-2/3-0



● Optimal duty point

Motor data

Rated output (kW)	Rated current, motor (A)	Rated voltage V
0.40	1.8	230

Acoustic calculations

Measurement method ISO 3741 is used for measuring the sound power level emitted to the surroundings and measurement method ISO 5136 is used for measuring the sound power level emitted to the duct.

Corrected dB(A) sound power level emitted to the surroundings, L_{WA} can be read in the fan diagram. The following formula can be used for breaking down the sound power level into octave bands: $L_{W,OK} = L_{WA} + K_{OK}$. Obtain the following from the table below: K_{OK} .

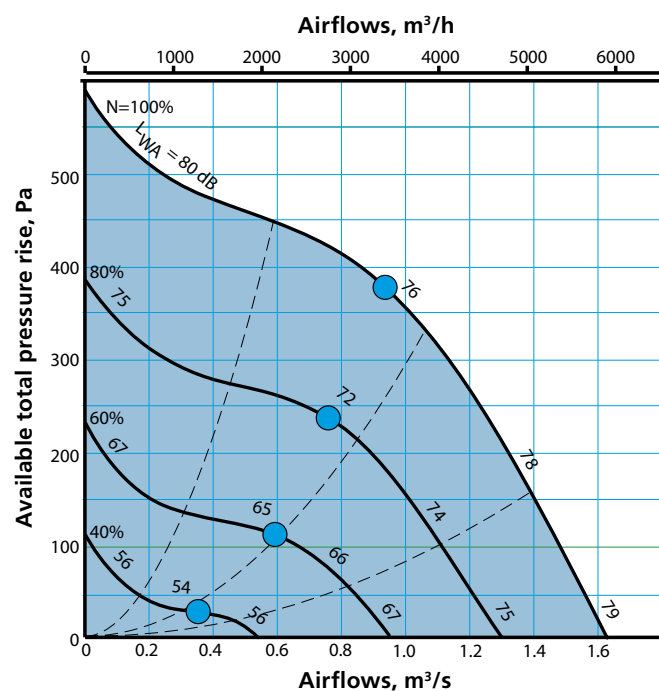
Correction factor, K_{OK} for various sound paths and for calculating the sound power level in dB(A) emitted to the surroundings.

Sound path	Duty point $q_v/q_{v,MAX}$	Octave band, no./mid-frequency, Hz							
		1	2	3	4	5	6	7	8
To the surroundings	0.3	+14	+6	+3	-1	-10	-17	-20	-24
	0.6	+9	+5	+3	-1	-8	-14	-16	-22
	1.0	+6	+4	+2	-1	-8	-12	-15	-22
Till kanal	0.3	+24	+16	+7	+2	-5	-11	-16	-19
	0.6	+20	+14	+6	+1	-6	-12	-17	-22
	1.0	+15	+14	+5	+1	-7	-12	-18	-24

Sizing

EC motor, with motor control system

MIRUVENT-1/2-35-45-2/3-0



● Optimal duty point

Motor data

Rated output (kW)	Rated current, motor (A)	Rated voltage V
1.1	4.7	230

Acoustic calculations

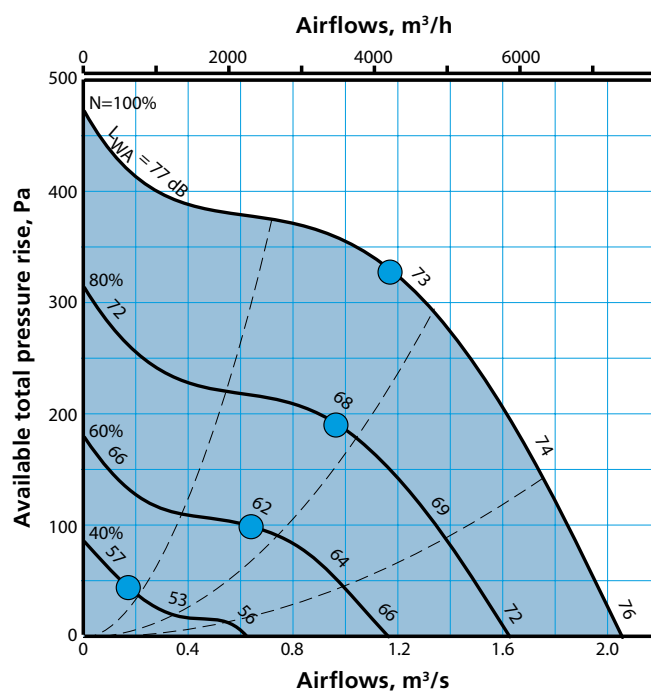
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Correction factor, K_{OK} for various sound paths and for calculating the sound power level in dB(A) emitted to the surroundings.

Sound path	Duty point $q_v/q_{v,MAX}$	Octave band, no./mid-frequency, Hz							
		1	2	3	4	5	6	7	8
To the surroundings	0.3	+14	+6	+3	-1	-10	-17	-20	-24
	0.6	+9	+5	+3	-1	-8	-14	-16	-22
	1.0	+6	+4	+2	-1	-8	-12	-15	-22
To the ducting	0.3	+24	+16	+7	+2	-5	-11	-16	-19
	0.6	+20	+14	+6	+1	-6	-12	-17	-22
	1.0	+15	+14	+5	+1	-7	-12	-18	-24

MIRUVENT-1/2-45-50-2/3-0



● Optimal duty point

Motor data

Rated output (kW)	Rated current, motor (A)	Rated voltage V
1.0	4.4	230

Acoustic calculations

Measurement method ISO 3741 is used for measuring the sound power level emitted to the surroundings and measurement method ISO 5136 is used for measuring the sound power level emitted to the duct.

Corrected dB(A) sound power level emitted to the surroundings, L_{WA} can be read in the fan diagram. The following formula can be used for breaking down the sound power level into octave bands: $L_{W,OK} = L_{WA} + K_{OK}$. Obtain the following from the table below: K_{OK} .

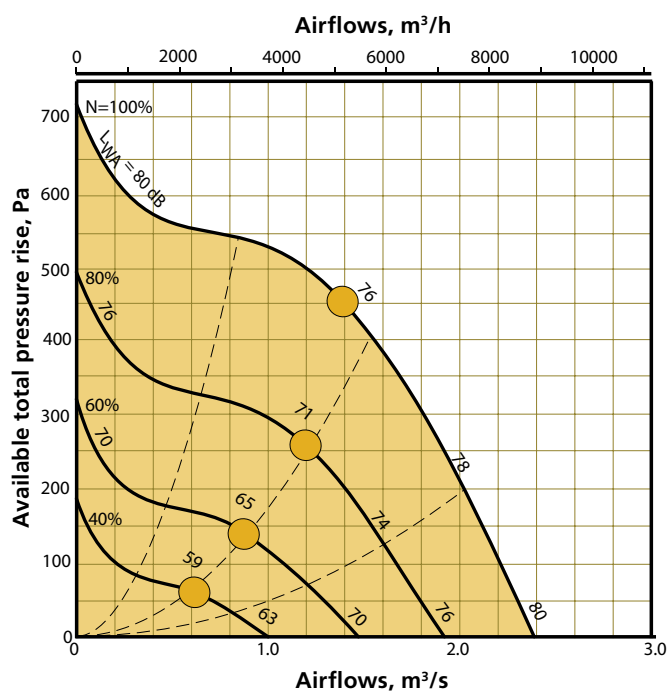
Correction factor, K_{OK} for various sound paths and for calculating the sound power level in dB(A) emitted to the surroundings.

Sound path	Duty point $q_v/q_{v,MAX}$	Octave band, no./mid-frequency, Hz							
		1	2	3	4	5	6	7	8
To the surroundings	0.3	+9	+11	+4	-3	-10	-15	-19	-26
	0.6	+5	+11	+1	-3	-9	-12	-14	-21
	1.0	+4	+4	+3	-2	-8	-11	-13	-20
To the ducting	0.3	+19	+16	+5	+1	-5	-10	-12	-16
	0.6	+12	+17	+2	-3	-7	-12	-13	-20
	1.0	+9	+17	+4	0	-6	-12	-12	-15

Sizing

AC motor with integrated frequency inverter

MIRUVENT-2-45-50-1-4 (4-poles)



● Optimal duty point

Motor data

Rated output (kW)	Rated current (A)	Rated voltage V
1.5	3.1	400

Acoustic calculations

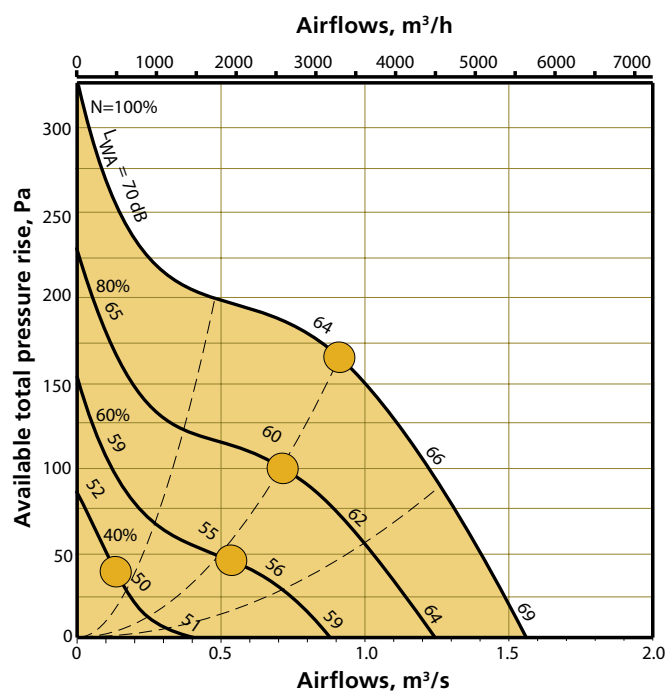
Measurement method ISO 3741 is used for measuring the sound power level emitted to the surroundings and measurement method ISO 5136 is used for measuring the sound power level emitted to the duct.

Corrected dB(A) sound power level emitted to the surroundings, L_{WA} can be read in the fan diagram. The following formula can be used for breaking down the sound power level into octave bands: $L_{W,OK} = L_{WA} + K_{OK}$. Obtain the following from the table below: K_{OK} .

Correction factor, K_{OK} for various sound paths and for calculating the sound power level in dB(A) emitted to the surroundings.

Sound path	Duty point $q_v/q_{v,MAX}$	Octave band, no./mid-frequency, Hz							
		1	2	3	4	5	6	7	8
To the surroundings	0.3	+8	+7	+4	-3	-9	-13	-16	-22
	0.6	+6	+7	+3	-4	-8	-11	-13	-18
	1.0	+2	+7	+1	-3	-8	-10	-12	-17
To the ducting	0.3	+18	+17	+7	+2	-5	-9	-12	-18
	0.6	+11	+16	+4	-2	-5	-11	-13	-18
	1.0	+5	+13	+2	-3	-7	-12	-11	-13

MIRUVENT-1-45-50-1-6 (6-poles)



● Optimal duty point

Motor data

Rated output (kW)	Rated current (A)	Rated voltage V
0.37	2.6	230

Acoustic calculations

Measurement method ISO 3741 is used for measuring the sound power level emitted to the surroundings and measurement method ISO 5136 is used for measuring the sound power level emitted to the duct.

Corrected dB(A) sound power level emitted to the surroundings, L_{WA} can be read in the fan diagram. The following formula can be used for breaking down the sound power level into octave bands: $L_{W,OK} = L_{WA} + K_{OK}$. Obtain the following from the table below: K_{OK} .

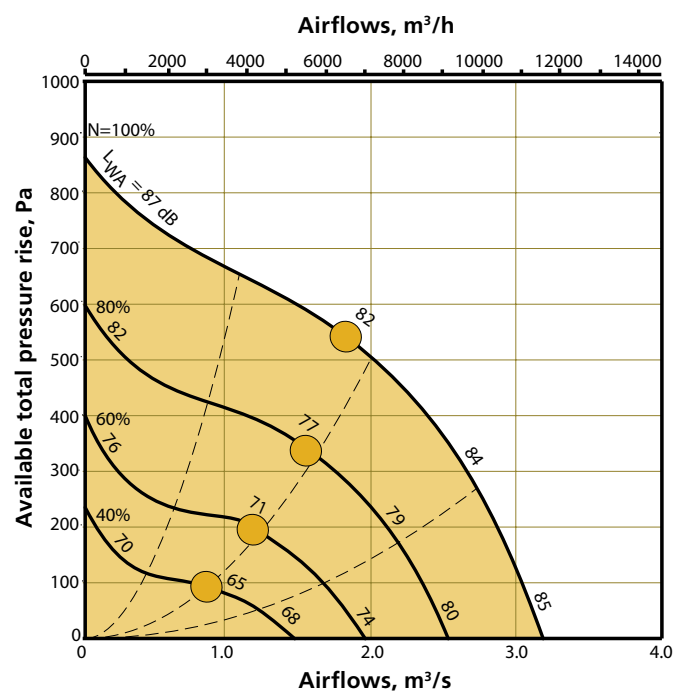
Correction factor, K_{OK} for various sound paths and for calculating the sound power level in dB(A) emitted to the surroundings.

Sound path	Duty point $q_v/q_{v,MAX}$	Octave band, no./mid-frequency, Hz							
		1	2	3	4	5	6	7	8
To the surroundings	0.3	+11	+10	+4	-3	-10	-14	-18	-24
	0.6	+8	+10	+2	-3	-8	-11	-14	-22
	1.0	+5	+7	+2	-3	-7	-10	-12	-23
To the ducting	0.3	+19	+17	+5	+1	-5	-10	-12	-16
	0.6	+16	+16	+4	-2	-6	-11	-13	-17
	1.0	+10	+16	+4	-4	-8	-10	-11	-20

Sizing

AC motor with integrated frequency inverter

MIRUVENT-2-45-56-1-4 (4-poles)



● Optimal duty point

Motor data

Rated output (kW)	Rated current (A)	Rated voltage V
3.0	4.7	400

Acoustic calculations

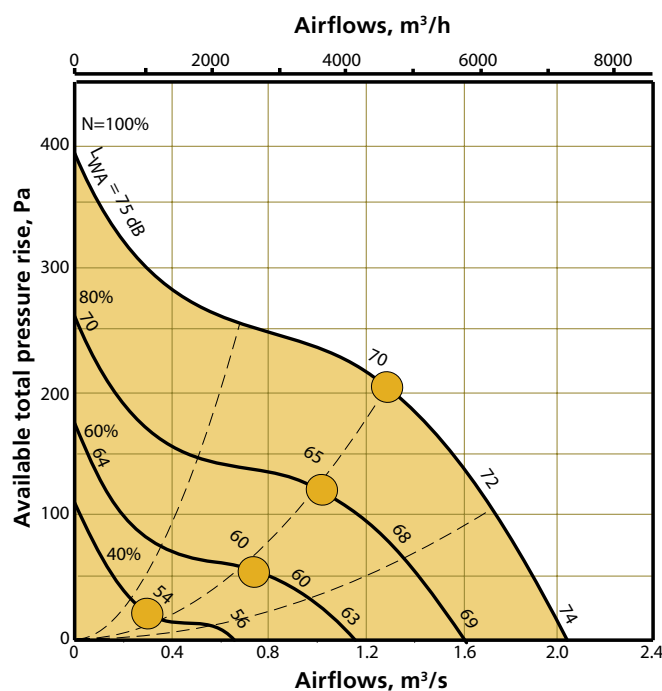
Measurement method ISO 3741 is used for measuring the sound power level emitted to the surroundings and measurement method ISO 5136 is used for measuring the sound power level emitted to the duct.

Corrected dB(A) sound power level emitted to the surroundings, L_{WA} can be read in the fan diagram. The following formula can be used for breaking down the sound power level into octave bands: $L_{W,OK} = L_{WA} + K_{OK}$. Obtain the following from the table below: K_{OK} .

Correction factor, K_{OK} for various sound paths and for calculating the sound power level in dB(A) emitted to the surroundings.

Sound path	Duty point $q_v/q_{v,MAX}$	Octave band, no./mid-frequency, Hz							
		1 63	2 125	3 250	4 500	5 1000	6 2000	7 4000	8 8000
To the surroundings	0.3	+8	+7	+4	-3	-9	-13	-16	-22
	0.6	+6	+7	+3	-4	-8	-11	-13	-18
	1.0	+2	+7	+1	-3	-8	-10	-12	-17
To the ducting	0.3	+18	+17	+7	+2	-5	-9	-12	-18
	0.6	+11	+16	+4	-2	-5	-11	-13	-18
	1.0	+5	+13	+2	-3	-7	-12	-11	-13

MIRUVENT-2-45-56-1-6 (6-poles)



● Optimal duty point

Motor data

Rated output (kW)	Rated current (A)	Rated voltage V
0.75	4.1	230

Acoustic calculations

Measurement method ISO 3741 is used for measuring the sound power level emitted to the surroundings and measurement method ISO 5136 is used for measuring the sound power level emitted to the duct.

Corrected dB(A) sound power level emitted to the surroundings, L_{WA} can be read in the fan diagram. The following formula can be used for breaking down the sound power level into octave bands: $L_{W,OK} = L_{WA} + K_{OK}$. Obtain the following from the table below: K_{OK} .

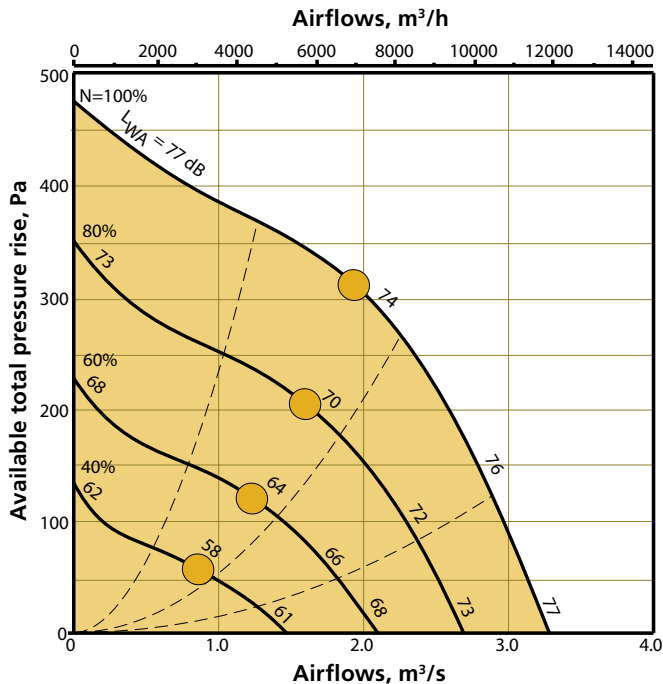
Correction factor, K_{OK} for various sound paths and for calculating the sound power level in dB(A) emitted to the surroundings.

Sound path	Duty point $q_v/q_{v,MAX}$	Octave band, no./mid-frequency, Hz							
		1 63	2 125	3 250	4 500	5 1000	6 2000	7 4000	8 8000
To the surroundings	0.3	+11	+10	+4	-3	-10	-14	-18	-24
	0.6	+8	+10	+2	-3	-8	-11	-14	-22
	1.0	+5	+7	+2	-3	-7	-10	-12	-23
To the ducting	0.3	+19	+17	+5	+1	-5	-10	-12	-16
	0.6	+16	+16	+4	-2	-6	-11	-13	-17
	1.0	+10	+16	+4	-4	-8	-10	-11	-20

Sizing

AC motor with integrated frequency inverter

MIRUVENT-2-56-63-1-6 (6-poles)



● Optimal duty point

Motor data

Rated output (kW)	Rated current (A)	Rated voltage V
1.5	2.9	400

Acoustic calculations

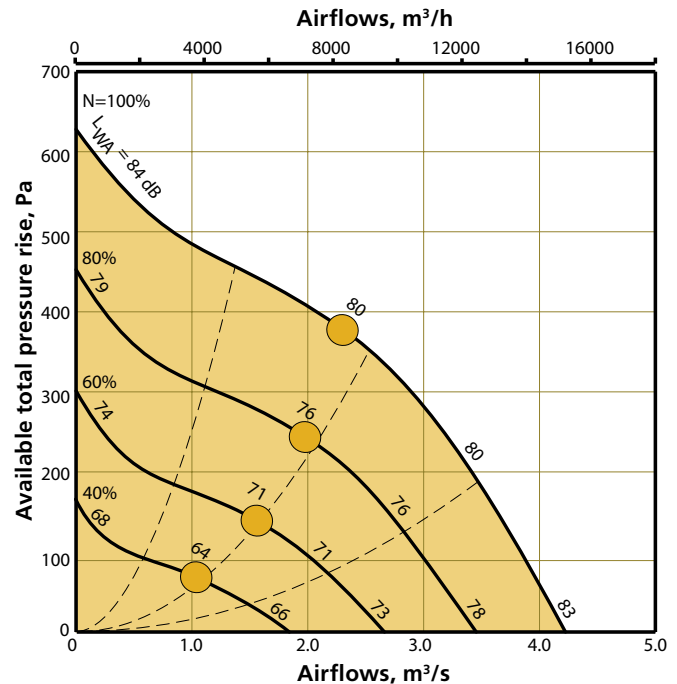
Measurement method ISO 3741 is used for measuring the sound power level emitted to the surroundings and measurement method ISO 5136 is used for measuring the sound power level emitted to the duct.

Corrected dB(A) sound power level emitted to the surroundings, L_{WA} can be read in the fan diagram. The following formula can be used for breaking down the sound power level into octave bands: $L_{W,OK} = L_{WA} + K_{OK}$. Obtain the following from the table below: K_{OK} .

Correction factor, K_{OK} for various sound paths and for calculating the sound power level in dB(A) emitted to the surroundings.

Sound path	Duty point $q_v/q_{v,MAX}$	Octave band, no./mid-frequency, Hz							
		1	2	3	4	5	6	7	8
To the surroundings	0.3	+11	+11	+4	-5	-10	-12	-18	-24
	0.6	+10	+11	+3	-5	-9	-10	-14	-20
	1.0	+5	+10	+3	-5	-9	-10	-12	-18
To the ducting	0.3	+18	+13	+6	0	-2	-8	-13	-17
	0.6	+14	+12	+4	-2	-3	-6	-10	-16
	1.0	+10	+12	+3	-2	-4	-9	-10	-16

MIRUVENT-2-56-71-1-6 (6-poles)



● Optimal duty point

Motor data

Rated output (kW)	Rated current (A)	Rated voltage V
2.2	4.5	400

Acoustic calculations

Measurement method ISO 3741 is used for measuring the sound power level emitted to the surroundings and measurement method ISO 5136 is used for measuring the sound power level emitted to the duct.

Corrected dB(A) sound power level emitted to the surroundings, L_{WA} can be read in the fan diagram. The following formula can be used for breaking down the sound power level into octave bands: $L_{W,OK} = L_{WA} + K_{OK}$. Obtain the following from the table below: K_{OK} .

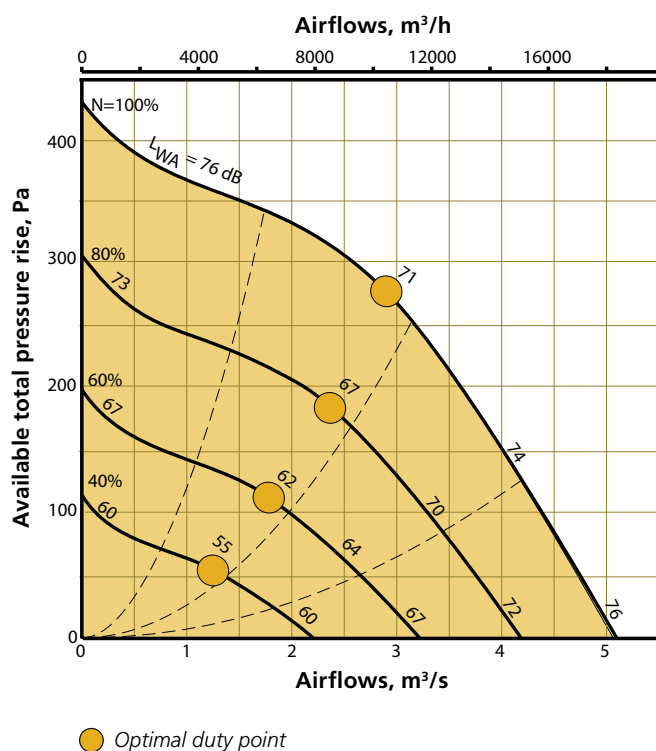
Correction factor, K_{OK} for various sound paths and for calculating the sound power level in dB(A) emitted to the surroundings.

Sound path	Duty point $q_v/q_{v,MAX}$	Octave band, no./mid-frequency, Hz							
		1	2	3	4	5	6	7	8
To the surroundings	0.3	+11	+11	+4	-5	-10	-12	-18	-24
	0.6	+10	+11	+3	-5	-9	-10	-14	-20
	1.0	+5	+10	+3	-5	-9	-10	-12	-18
To the ducting	0.3	+18	+13	+6	0	-2	-8	-13	-17
	0.6	+14	+12	+4	-2	-3	-6	-10	-16
	1.0	+10	+12	+3	-2	-4	-9	-10	-16

Sizing

AC motor with integrated frequency inverter

MIRUVENT-1-71-80-1-8 (8-poles)



Motor data

Rated output (kW)	Rated current (A)	Rated voltage V
2.2	3.5	400

Acoustic calculations

Measurement method ISO 3741 is used for measuring the sound power level emitted to the surroundings and measurement method ISO 5136 is used for measuring the sound power level emitted to the duct.

Corrected dB(A) sound power level emitted to the surroundings, L_{WA} can be read in the fan diagram. The following formula can be used for breaking down the sound power level into octave bands: $L_{W,OK} = L_{WA} + K_{OK}$. Obtain the following from the table below: K_{OK} .

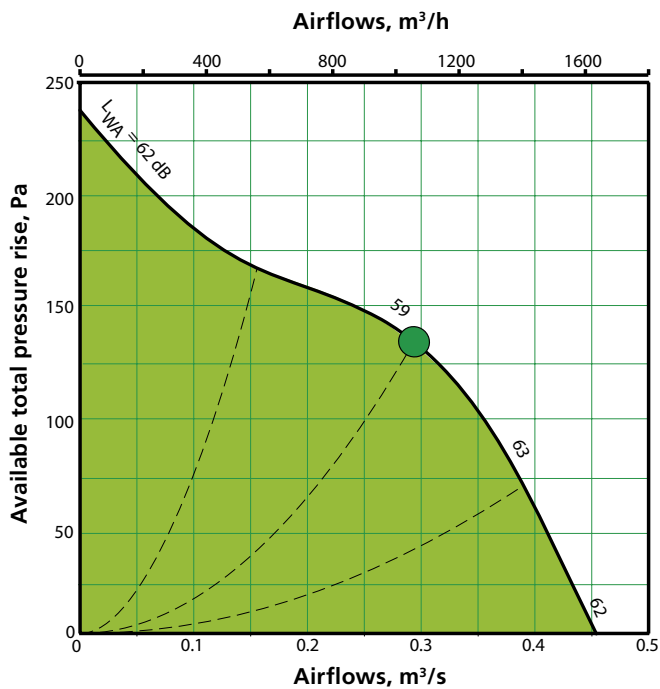
Correction factor, K_{OK} for various sound paths and for calculating the sound power level in dB(A) emitted to the surroundings.

Sound path	Duty point $q_v/q_{v,MAX}$	Octave band, no./mid-frequency, Hz							
		1 63	2 125	3 250	4 500	5 1000	6 2000	7 4000	8 8000
To the surroundings	0.3	+15	+10	+3	-5	-8	-13	-17	-24
	0.6	+15	+7	+2	-4	-6	-11	-14	-18
	1.0	+13	+8	+2	-5	-7	-11	-14	-22
To the ducting	0.3	+18	+12	+6	0	-6	-12	-16	-19
	0.6	+18	+10	+3	0	-5	-11	-14	-15
	1.0	+17	+9	+4	-1	-4	-9	-11	-17

Sizing

AC motor, single-speed motor

MIRUVENT-1-25-28-0-4 (4-poles)



● Optimal duty point

Motor data

Rated output (kW)	Rated current, motor (A)	Rated voltage V
0.12	0.73/0.42	230/400

Acoustic calculations

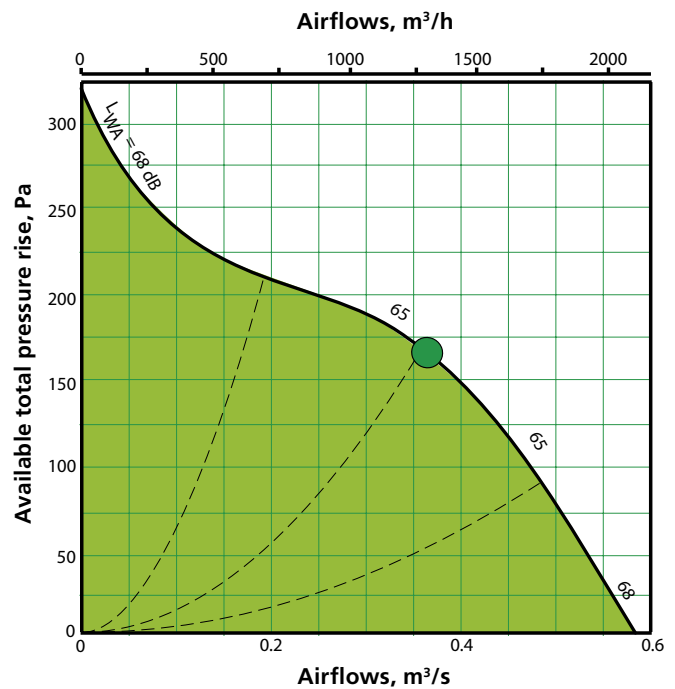
Measurement method ISO 3741 is used for measuring the sound power level emitted to the surroundings and measurement method ISO 5136 is used for measuring the sound power level emitted to the duct.

Corrected dB(A) sound power level emitted to the surroundings, L_{WA} can be read in the fan diagram. The following formula can be used for breaking down the sound power level into octave bands: $L_{W,OK} = L_{WA} + K_{OK}$. Obtain the following from the table below: K_{OK} .

Correction factor, K_{OK} for various sound paths and for calculating the sound power level in dB(A) emitted to the surroundings.

Sound path	Duty point $q_v/q_{v,MAX}$	Octave band, no./mid-frequency, Hz							
		1	2	3	4	5	6	7	8
To the surroundings	0.3	+7	+6	+3	0	-9	-15	-20	-25
	0.6	+7	+6	+2	-1	-8	-12	-16	-22
	1.0	0	+7	+1	-2	-7	-11	-14	-23
To the ducting	0.3	+20	+17	+9	+3	-2	-7	-11	-17
	0.6	+17	+17	+7	+1	-4	-7	-10	-17
	1.0	+11	+14	+6	+1	-6	-9	-10	-22

MIRUVENT-1-25-31-0-4 (4-poles)



● Optimal duty point

Motor data

Rated output (kW)	Rated current, motor (A)	Rated voltage V
0.18	1.0/0.58	230/400

Acoustic calculations

Measurement method ISO 3741 is used for measuring the sound power level emitted to the surroundings and measurement method ISO 5136 is used for measuring the sound power level emitted to the duct.

Corrected dB(A) sound power level emitted to the surroundings, L_{WA} can be read in the fan diagram. The following formula can be used for breaking down the sound power level into octave bands: $L_{W,OK} = L_{WA} + K_{OK}$. Obtain the following from the table below: K_{OK} .

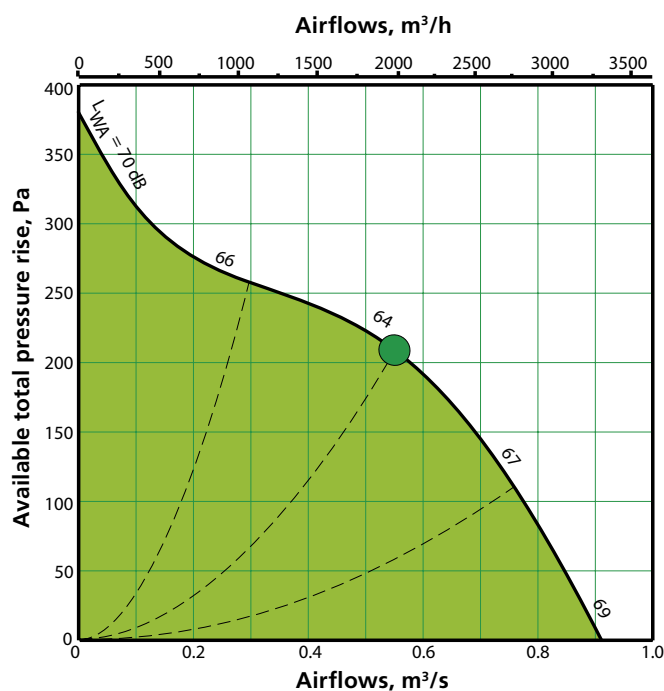
Correction factor, K_{OK} for various sound paths and for calculating the sound power level in dB(A) emitted to the surroundings.

Sound path	Duty point $q_v/q_{v,MAX}$	Octave band, no./mid-frequency, Hz							
		1	2	3	4	5	6	7	8
To the surroundings	0.3	+7	+6	+3	0	-9	-15	-20	-25
	0.6	+7	+6	+2	-1	-8	-12	-16	-22
	1.0	0	+7	+1	-2	-7	-11	-14	-23
To the ducting	0.3	+20	+17	+9	+3	-2	-7	-11	-17
	0.6	+17	+17	+7	+1	-4	-7	-10	-17
	1.0	+11	+14	+6	+1	-6	-9	-10	-22

Sizing

AC motor, single-speed motor

MIRUVENT-1-35-35-0-4 (4-poles)



● Optimal duty point

Motor data

Rated output (kW)	Rated current, motor (A)	Rated voltage V
0.25	1.34/0.77	230/400

Acoustic calculations

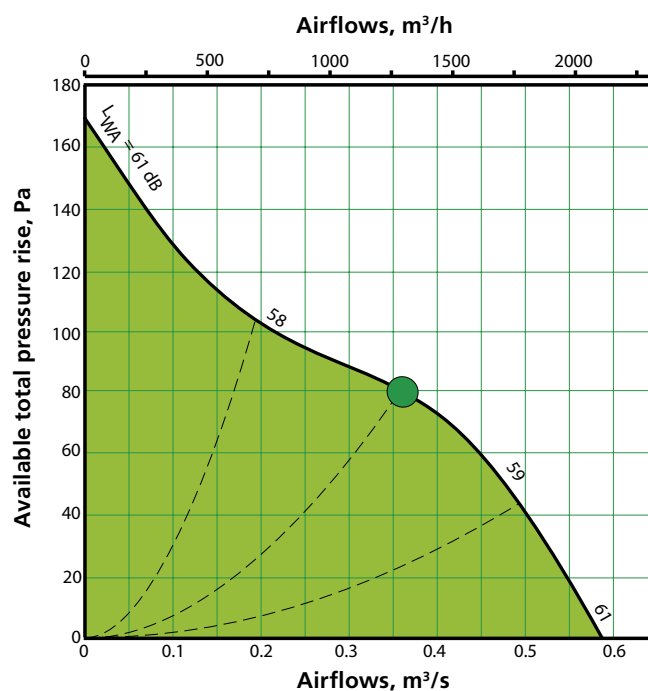
Measurement method ISO 3741 is used for measuring the sound power level emitted to the surroundings and measurement method ISO 5136 is used for measuring the sound power level emitted to the duct.

Corrected dB(A) sound power level emitted to the surroundings, L_{WA} can be read in the fan diagram. The following formula can be used for breaking down the sound power level into octave bands: $L_{W,OK} = L_{WA} + K_{OK}$. Obtain the following from the table below: K_{OK} .

Correction factor, K_{OK} for various sound paths and for calculating the sound power level in dB(A) emitted to the surroundings.

Sound path	Duty point $q_v/q_{v,MAX}$	Octave band, no./mid-frequency, Hz							
		1	2	3	4	5	6	7	8
To the surroundings	0.3	+12	+7	+4	-2	-9	-14	-19	-26
	0.6	+6	+7	+3	-3	-7	-10	-13	-21
	1.0	+2	+6	+2	-3	-7	-9	-13	-20
To the ducting	0.3	+23	+18	+8	+3	-4	-9	-14	-18
	0.6	+15	+17	+6	+1	-5	-9	-13	-19
	1.0	+10	+14	+6	+1	-7	-10	-16	-21

MIRUVENT-1-35-35-0-6 (6-poles)



● Optimal duty point

Motor data

Rated output (kW)	Rated current, motor (A)	Rated voltage V
0.18	1.25/0.72	230/400

Acoustic calculations

Measurement method ISO 3741 is used for measuring the sound power level emitted to the surroundings and measurement method ISO 5136 is used for measuring the sound power level emitted to the duct.

Corrected dB(A) sound power level emitted to the surroundings, L_{WA} can be read in the fan diagram. The following formula can be used for breaking down the sound power level into octave bands: $L_{W,OK} = L_{WA} + K_{OK}$. Obtain the following from the table below: K_{OK} .

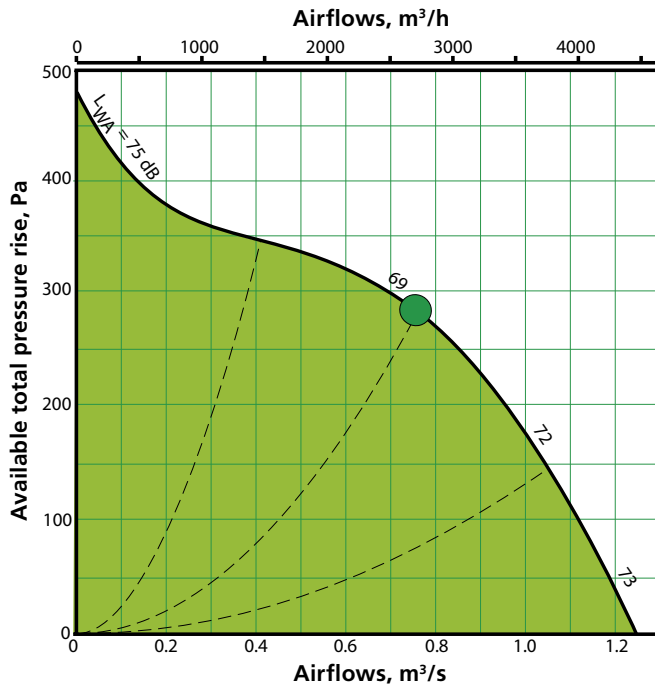
Correction factor, K_{OK} for various sound paths and for calculating the sound power level in dB(A) emitted to the surroundings.

Sound path	Duty point $q_v/q_{v,MAX}$	Octave band, no./mid-frequency, Hz							
		1	2	3	4	5	6	7	8
To the surroundings	0.3	+14	+6	+3	-2	-7	-11	-20	-23
	0.6	+9	+6	+2	-3	-6	-10	-16	-21
	1.0	+5	+7	+2	-3	-6	-10	-15	-26
To the ducting	0.3	+23	+15	+6	+2	-4	-10	-12	-14
	0.6	+18	+12	+4	0	-5	-12	-14	-17
	1.0	+14	+14	+5	0	-8	-13	-17	-27

Sizing

AC motor, single-speed motor

MIRUVENT-1-35-40-0-4 (4-poles)



● Optimal duty point

Motor data

Rated output (kW)	Rated current, motor (A)	Rated voltage V
0.55	2.54/1.46	230/400

Acoustic calculations

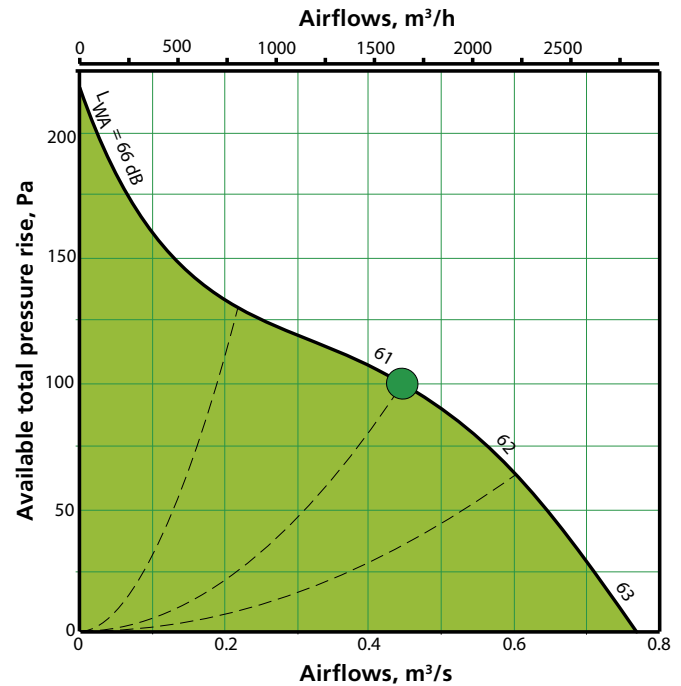
Measurement method ISO 3741 is used for measuring the sound power level emitted to the surroundings and measurement method ISO 5136 is used for measuring the sound power level emitted to the duct.

Corrected dB(A) sound power level emitted to the surroundings, L_{WA} can be read in the fan diagram. The following formula can be used for breaking down the sound power level into octave bands: $L_{W,OK} = L_{WA} + K_{OK}$. Obtain the following from the table below: K_{OK} .

Correction factor, K_{OK} for various sound paths and for calculating the sound power level in dB(A) emitted to the surroundings.

Sound path	Duty point $q_v/q_{v,MAX}$	Octave band, no./mid-frequency, Hz							
		1	2	3	4	5	6	7	8
To the surroundings	0.3	+12	+7	+4	-2	-9	-14	-19	-26
	0.6	+6	+7	+3	-3	-7	-10	-13	-21
	1.0	+2	+6	+2	-3	-7	-9	-13	-20
To the ducting	0.3	+23	+18	+8	+3	-4	-9	-14	-18
	0.6	+15	+17	+6	+1	-5	-9	-13	-19
	1.0	+10	+14	+6	+1	-7	-10	-16	-21

MIRUVENT-1-35-40-0-6 (6-poles)



● Optimal duty point

Motor data

Rated output (kW)	Rated current, motor (A)	Rated voltage V
0.18	1.25/0.72	230/400

Acoustic calculations

Measurement method ISO 3741 is used for measuring the sound power level emitted to the surroundings and measurement method ISO 5136 is used for measuring the sound power level emitted to the duct.

Corrected dB(A) sound power level emitted to the surroundings, L_{WA} can be read in the fan diagram. The following formula can be used for breaking down the sound power level into octave bands: $L_{W,OK} = L_{WA} + K_{OK}$. Obtain the following from the table below: K_{OK} .

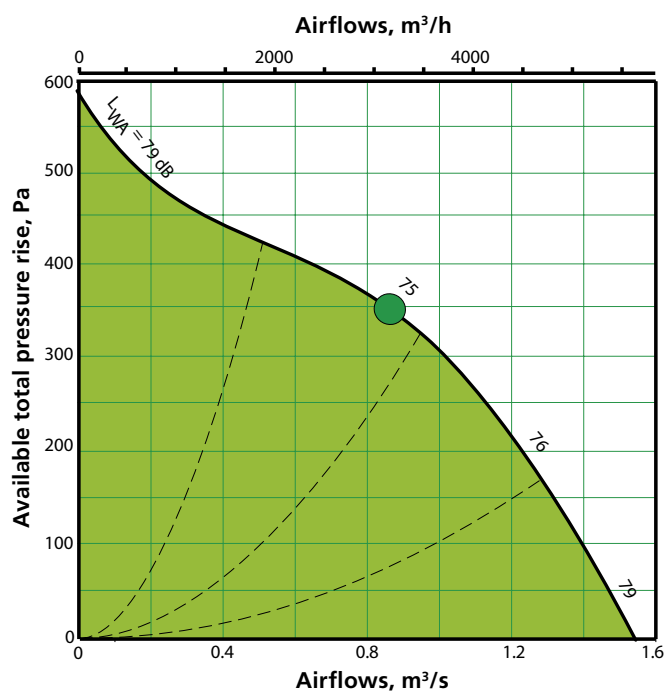
Correction factor, K_{OK} for various sound paths and for calculating the sound power level in dB(A) emitted to the surroundings.

Sound path	Duty point $q_v/q_{v,MAX}$	Octave band, no./mid-frequency, Hz							
		1	2	3	4	5	6	7	8
To the surroundings	0.3	+14	+6	+3	-2	-7	-11	-20	-23
	0.6	+9	+6	+2	-3	-6	-10	-16	-21
	1.0	+5	+7	+2	-3	-6	-10	-15	-26
To the ducting	0.3	+23	+15	+6	+2	-4	-10	-12	-14
	0.6	+18	+12	+4	0	-5	-12	-14	-17
	1.0	+14	+14	+5	0	-8	-13	-17	-27

Sizing

AC motor, single-speed motor

MIRUVENT-2-35-45-0-4 (4-poles)



● Optimal duty point

Motor data

Rated output (kW)	Rated current, motor (A)	Rated voltage V
0.75	3.01/1.74	230/400

Acoustic calculations

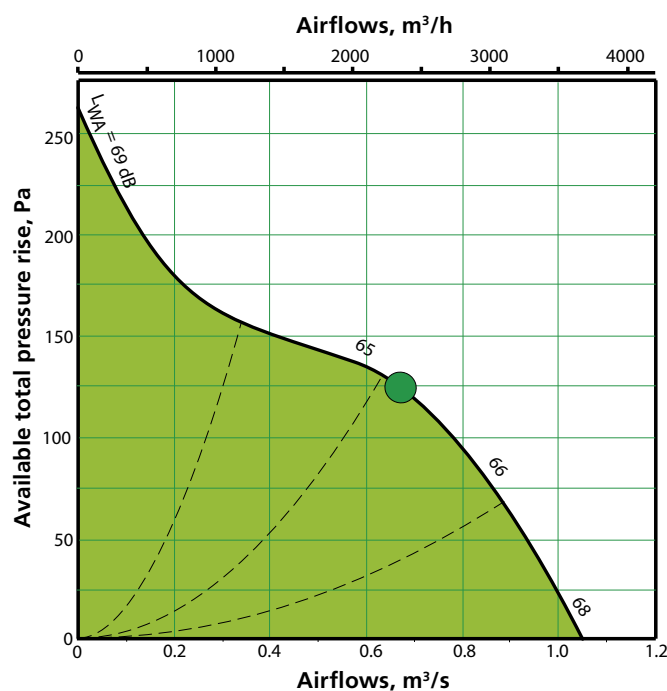
Measurement method ISO 3741 is used for measuring the sound power level emitted to the surroundings and measurement method ISO 5136 is used for measuring the sound power level emitted to the duct.

Corrected dB(A) sound power level emitted to the surroundings, L_{WA} can be read in the fan diagram. The following formula can be used for breaking down the sound power level into octave bands: $L_{W,OK} = L_{WA} + K_{OK}$. Obtain the following from the table below: K_{OK} .

Correction factor, K_{OK} for various sound paths and for calculating the sound power level in dB(A) emitted to the surroundings.

Sound path	Duty point $q_v/q_{v,MAX}$	Octave band, no./mid-frequency, Hz							
		1	2	3	4	5	6	7	8
To the surroundings	0.3	+12	+7	+4	-2	-9	-14	-19	-26
	0.6	+6	+7	+3	-3	-7	-10	-13	-21
	1.0	+2	+6	+2	-3	-7	-9	-13	-20
To the ducting	0.3	+23	+18	+8	+3	-4	-9	-14	-18
	0.6	+15	+17	+6	+1	-5	-9	-13	-19
	1.0	+10	+14	+6	+1	-7	-10	-16	-21

MIRUVENT-1-35-45-0-6 (6-poles)



● Optimal duty point

Motor data

Rated output (kW)	Rated current, motor (A)	Rated voltage V
0.25	1.37/0.79	230/400

Acoustic calculations

Measurement method ISO 3741 is used for measuring the sound power level emitted to the surroundings and measurement method ISO 5136 is used for measuring the sound power level emitted to the duct.

Corrected dB(A) sound power level emitted to the surroundings, L_{WA} can be read in the fan diagram. The following formula can be used for breaking down the sound power level into octave bands: $L_{W,OK} = L_{WA} + K_{OK}$. Obtain the following from the table below: K_{OK} .

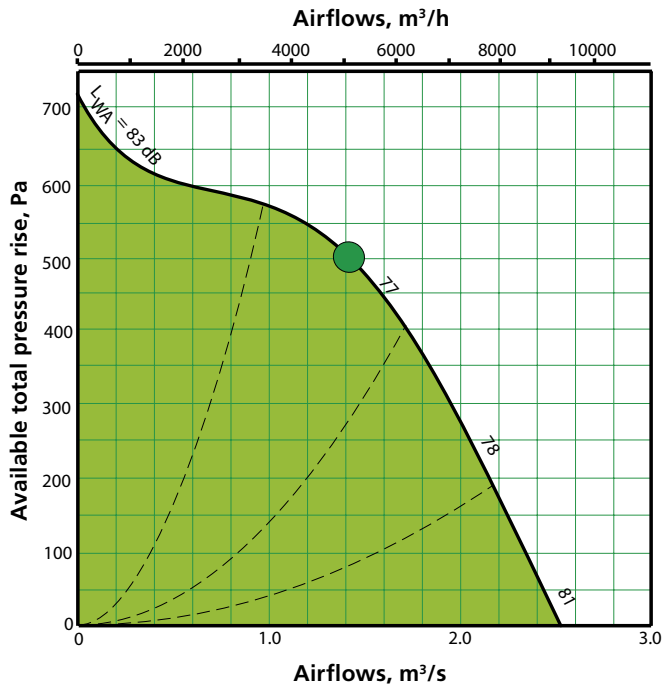
Correction factor, K_{OK} for various sound paths and for calculating the sound power level in dB(A) emitted to the surroundings.

Sound path	Duty point $q_v/q_{v,MAX}$	Octave band, no./mid-frequency, Hz							
		1	2	3	4	5	6	7	8
To the surroundings	0.3	+14	+6	+3	-2	-7	-11	-20	-23
	0.6	+9	+6	+2	-3	-6	-10	-16	-21
	1.0	+5	+7	+2	-3	-6	-10	-15	-26
To the ducting	0.3	+23	+15	+6	+2	-4	-10	-12	-14
	0.6	+18	+12	+4	0	-5	-12	-14	-17
	1.0	+14	+14	+5	0	-8	-13	-17	-27

Sizing

AC motor, single-speed motor

MIRUVENT-2-45-50-0-4 (4-poles)



● Optimal duty point

Motor data

Rated output (kW)	Rated current, motor (A)	Rated voltage V
1.5	5.72/3.3	230/400

Acoustic calculations

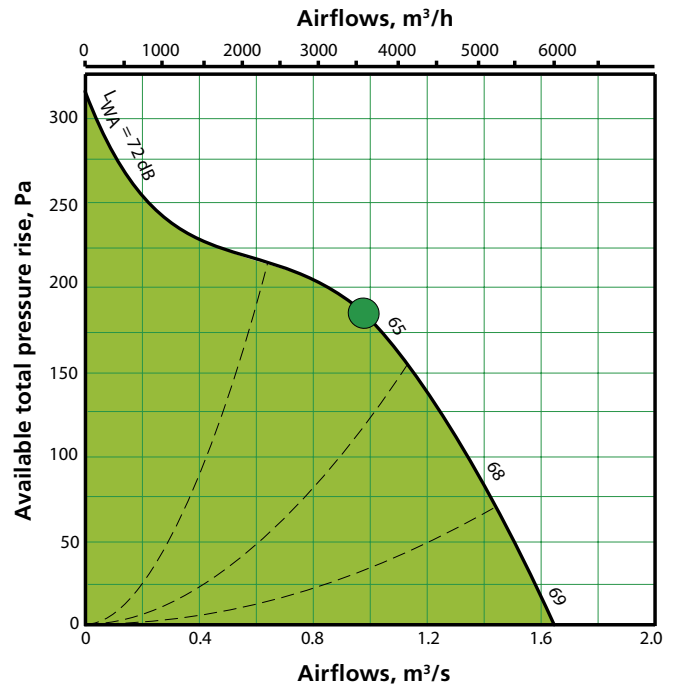
Measurement method ISO 3741 is used for measuring the sound power level emitted to the surroundings and measurement method ISO 5136 is used for measuring the sound power level emitted to the duct.

Corrected dB(A) sound power level emitted to the surroundings, L_{WA} can be read in the fan diagram. The following formula can be used for breaking down the sound power level into octave bands: $L_{W,OK} = L_{WA} + K_{OK}$. Obtain the following from the table below: K_{OK} .

Correction factor, K_{OK} for various sound paths and for calculating the sound power level in dB(A) emitted to the surroundings.

Sound path	Duty point $q_v/q_{v,MAX}$	Octave band, no./mid-frequency, Hz							
		1 63	2 125	3 250	4 500	5 1000	6 2000	7 4000	8 8000
To the surroundings	0.3	+8	+7	+4	-3	-9	-13	-16	-22
	0.6	+6	+7	+3	-4	-8	-11	-13	-18
	1.0	+2	+7	+1	-3	-8	-10	-12	-17
To the ducting	0.3	+18	+17	+7	+2	-5	-9	-12	-18
	0.6	+11	+16	+4	-2	-5	-11	-13	-18
	1.0	+5	+13	+2	-3	-7	-12	-11	-13

MIRUVENT-1-45-50-0-6 (6-poles)



● Optimal duty point

Motor data

Rated output (kW)	Rated current, motor (A)	Rated voltage V
0.37	2.1/1.2	230/400

Acoustic calculations

Measurement method ISO 3741 is used for measuring the sound power level emitted to the surroundings and measurement method ISO 5136 is used for measuring the sound power level emitted to the duct.

Corrected dB(A) sound power level emitted to the surroundings, L_{WA} can be read in the fan diagram. The following formula can be used for breaking down the sound power level into octave bands: $L_{W,OK} = L_{WA} + K_{OK}$. Obtain the following from the table below: K_{OK} .

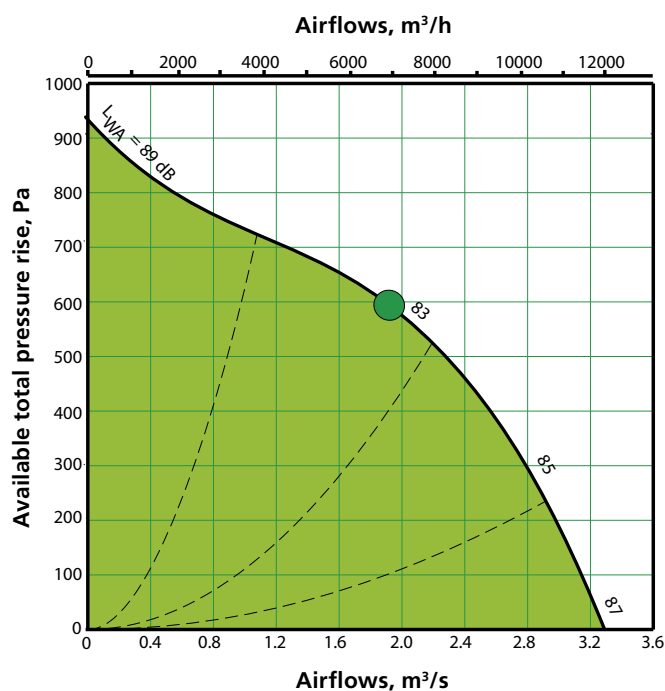
Correction factor, K_{OK} for various sound paths and for calculating the sound power level in dB(A) emitted to the surroundings.

Sound path	Duty point $q_v/q_{v,MAX}$	Octave band, no./mid-frequency, Hz							
		1 63	2 125	3 250	4 500	5 1000	6 2000	7 4000	8 8000
To the surroundings	0.3	+11	+10	+4	-3	-10	-14	-18	-24
	0.6	+8	+10	+2	-3	-8	-11	-14	-22
	1.0	+5	+7	+2	-3	-7	-10	-12	-23
To the ducting	0.3	+19	+17	+5	+1	-5	-10	-12	-16
	0.6	+16	+16	+4	-2	-6	-11	-13	-17
	1.0	+10	+16	+4	-4	-8	-10	-11	-20

Sizing

AC motor, single-speed motor

MIRUVENT-2-45-56-0-4 (4-poles)



● Optimal duty point

Motor data

Rated output (kW)	Rated current, motor (A)	Rated voltage V
3.0	10.7/6.2	230/400

Acoustic calculations

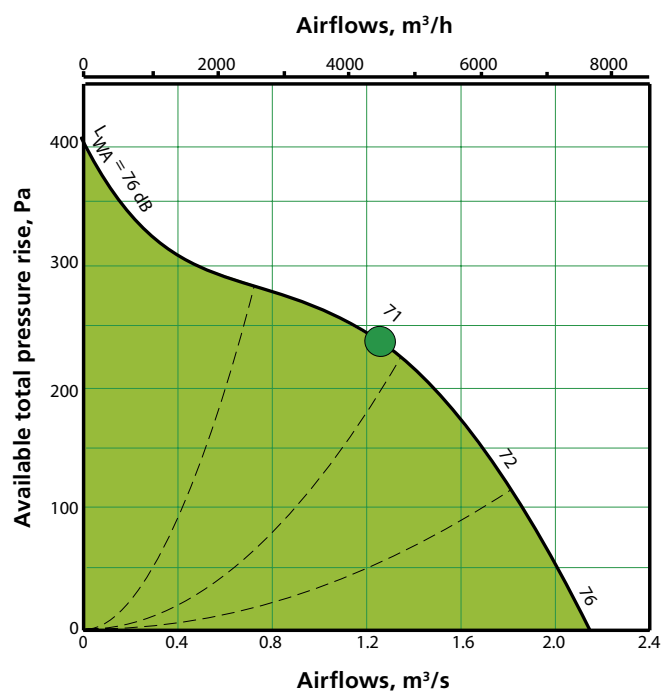
Measurement method ISO 3741 is used for measuring the sound power level emitted to the surroundings and measurement method ISO 5136 is used for measuring the sound power level emitted to the duct.

Corrected dB(A) sound power level emitted to the surroundings, L_{WA} can be read in the fan diagram. The following formula can be used for breaking down the sound power level into octave bands: $L_{W,OK} = L_{WA} + K_{OK}$. Obtain the following from the table below: K_{OK} .

Correction factor, K_{OK} for various sound paths and for calculating the sound power level in dB(A) emitted to the surroundings.

Sound path	Duty point $q_v/q_{v,MAX}$	Octave band, no./mid-frequency, Hz							
		1	2	3	4	5	6	7	8
To the surroundings	0.3	+8	+7	+4	-3	-9	-13	-16	-22
	0.6	+6	+7	+3	-4	-8	-11	-13	-18
	1.0	+2	+7	+1	-3	-8	-10	-12	-17
To the ducting	0.3	+18	+17	+7	+2	-5	-9	-12	-18
	0.6	+11	+16	+4	-2	-5	-11	-13	-18
	1.0	+5	+13	+2	-3	-7	-12	-11	-13

MIRUVENT-2-45-56-0-6 (6-poles)



● Optimal duty point

Motor data

Rated output (kW)	Rated current, motor (A)	Rated voltage V
0.75	3.43/1.98	230/400

Acoustic calculations

Measurement method ISO 3741 is used for measuring the sound power level emitted to the surroundings and measurement method ISO 5136 is used for measuring the sound power level emitted to the duct.

Corrected dB(A) sound power level emitted to the surroundings, L_{WA} can be read in the fan diagram. The following formula can be used for breaking down the sound power level into octave bands: $L_{W,OK} = L_{WA} + K_{OK}$. Obtain the following from the table below: K_{OK} .

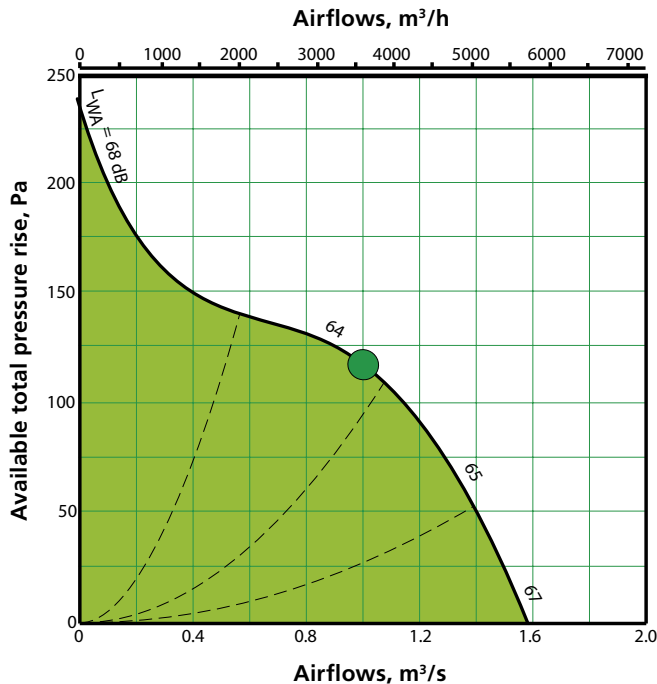
Correction factor, K_{OK} for various sound paths and for calculating the sound power level in dB(A) emitted to the surroundings.

Sound path	Duty point $q_v/q_{v,MAX}$	Octave band, no./mid-frequency, Hz							
		1	2	3	4	5	6	7	8
To the surroundings	0.3	+11	+10	+4	-3	-10	-14	-18	-24
	0.6	+8	+10	+2	-3	-8	-11	-14	-22
	1.0	+5	+7	+2	-3	-7	-10	-12	-23
To the ducting	0.3	+19	+17	+5	+1	-5	-10	-12	-16
	0.6	+16	+16	+4	-2	-6	-11	-13	-17
	1.0	+10	+16	+4	-4	-8	-10	-11	-20

Sizing

AC motor, single-speed motor

MIRUVENT-1-45-56-0-8 (8-poles)



● Optimal duty point

Motor data

Rated output (kW)	Rated current, motor (A)	Rated voltage V
0.37	1.98/1.14	230/400

Acoustic calculations

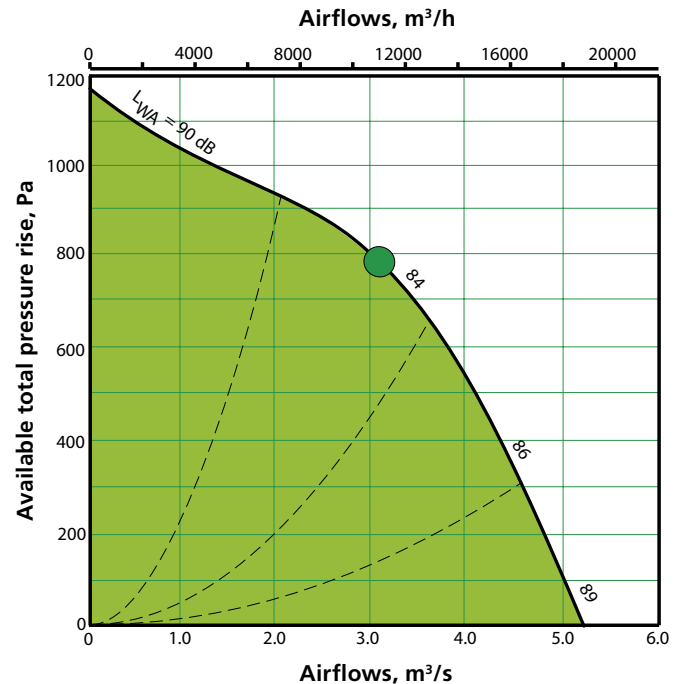
Measurement method ISO 3741 is used for measuring the sound power level emitted to the surroundings and measurement method ISO 5136 is used for measuring the sound power level emitted to the duct.

Corrected dB(A) sound power level emitted to the surroundings, L_{WA} can be read in the fan diagram. The following formula can be used for breaking down the sound power level into octave bands: $L_{W,OK} = L_{WA} + K_{OK}$. Obtain the following from the table below: K_{OK} .

Correction factor, K_{OK} for various sound paths and for calculating the sound power level in dB(A) emitted to the surroundings.

Sound path	Duty point $q_v/q_{v,MAX}$	Octave band, no./mid-frequency, Hz							
		1	2	3	4	5	6	7	8
		63	125	250	500	1000	2000	4000	8000
To the surroundings	0.3	+12	+5	+5	-2	-9	-13	-18	-26
	0.6	+12	+4	+4	-2	-8	-11	-15	-25
	1.0	+12	+4	+3	-2	-8	-10	-15	-25
To the ducting	0.3	+21	+11	+6	+1	-3	-10	-14	-16
	0.6	+18	+10	+4	0	-6	-12	-15	-19
	1.0	+16	+7	+2	-4	-7	-13	-14	-24

MIRUVENT-2-56-63-0-4 (4-poles)



● Optimal duty point

Motor data

Rated output (kW)	Rated current, motor (A)	Rated voltage V
5.0	11.4	400

Acoustic calculations

Measurement method ISO 3741 is used for measuring the sound power level emitted to the surroundings and measurement method ISO 5136 is used for measuring the sound power level emitted to the duct.

Corrected dB(A) sound power level emitted to the surroundings, L_{WA} can be read in the fan diagram. The following formula can be used for breaking down the sound power level into octave bands: $L_{W,OK} = L_{WA} + K_{OK}$. Obtain the following from the table below: K_{OK} .

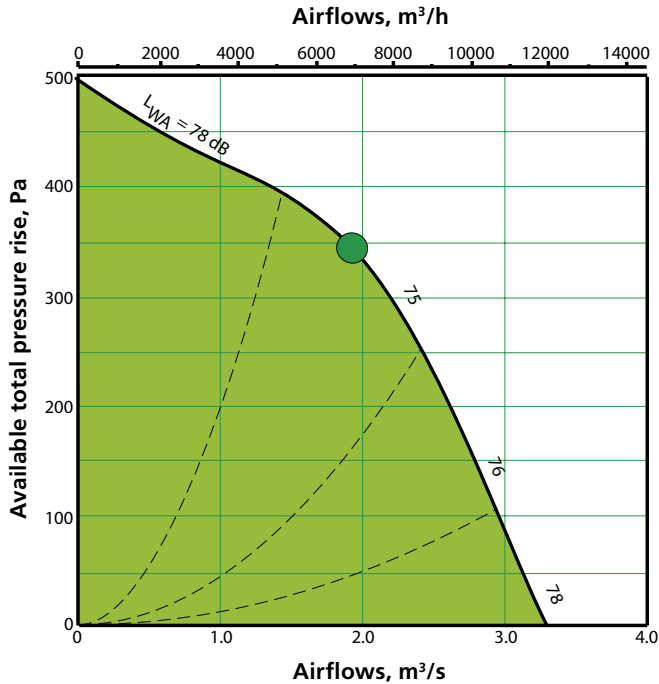
Correction factor, K_{OK} for various sound paths and for calculating the sound power level in dB(A) emitted to the surroundings.

Sound path	Duty point $q_v/q_{v,MAX}$	Octave band, no./mid-frequency, Hz							
		1	2	3	4	5	6	7	8
		63	125	250	500	1000	2000	4000	8000
To the surroundings	0.3	+11	+8	+6	-5	-10	-13	-17	-22
	0.6	+8	+7	+3	-5	-8	-10	-13	-16
	1.0	+3	+6	+1	-5	-6	-8	-13	-15
To the ducting	0.3	+16	+12	+8	-1	-4	-11	-14	-21
	0.6	+12	+10	+5	-2	-4	-9	-13	-18
	1.0	+4	+7	+2	-1	-3	-6	-11	-11

Sizing

AC motor, single-speed motor

MIRUVENT-2-56-63-0-6 (6-poles)



● Optimal duty point

Motor data

Rated output (kW)	Rated current, motor (A)	Rated voltage V
1.5	6.41/3.7	230/400

Acoustic calculations

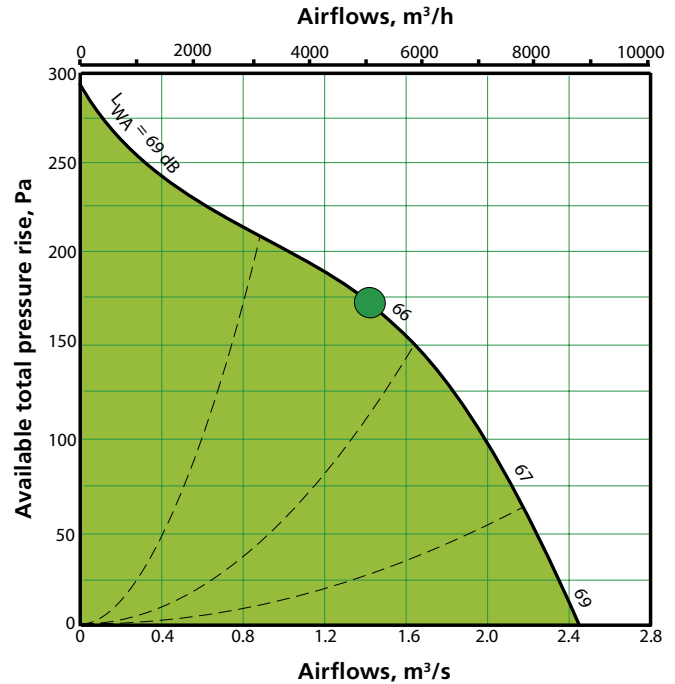
Measurement method ISO 3741 is used for measuring the sound power level emitted to the surroundings and measurement method ISO 5136 is used for measuring the sound power level emitted to the duct.

Corrected dB(A) sound power level emitted to the surroundings, L_{WA} can be read in the fan diagram. The following formula can be used for breaking down the sound power level into octave bands: $L_{W,OK} = L_{WA} + K_{OK}$. Obtain the following from the table below: K_{OK} .

Correction factor, K_{OK} for various sound paths and for calculating the sound power level in dB(A) emitted to the surroundings.

Sound path	Duty point $q_v/q_{v,MAX}$	Octave band, no./mid-frequency, Hz							
		1	2	3	4	5	6	7	8
		63	125	250	500	1000	2000	4000	8000
To the surroundings	0.3	+11	+11	+4	-5	-10	-12	-18	-24
	0.6	+10	+11	+3	-5	-9	-10	-14	-20
	1.0	+5	+10	+3	-5	-9	-10	-12	-18
To the ducting	0.3	+18	+13	+6	0	-2	-8	-13	-17
	0.6	+14	+12	+4	-2	-3	-6	-10	-16
	1.0	+10	+12	+3	-2	-4	-9	-10	-16

MIRUVENT-1-56-63-0-8 (8-poles)



● Optimal duty point

Motor data

Rated output (kW)	Rated current, motor (A)	Rated voltage V
0.55	2.75/1.58	230/400

Acoustic calculations

Measurement method ISO 3741 is used for measuring the sound power level emitted to the surroundings and measurement method ISO 5136 is used for measuring the sound power level emitted to the duct.

Corrected dB(A) sound power level emitted to the surroundings, L_{WA} can be read in the fan diagram. The following formula can be used for breaking down the sound power level into octave bands: $L_{W,OK} = L_{WA} + K_{OK}$. Obtain the following from the table below: K_{OK} .

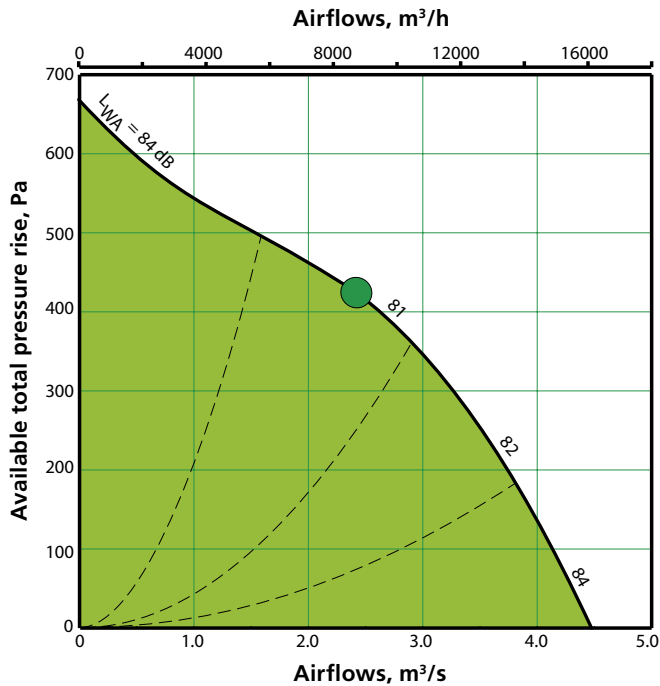
Correction factor, K_{OK} for various sound paths and for calculating the sound power level in dB(A) emitted to the surroundings.

Sound path	Duty point $q_v/q_{v,MAX}$	Octave band, no./mid-frequency, Hz							
		1	2	3	4	5	6	7	8
		63	125	250	500	1000	2000	4000	8000
To the surroundings	0.3	+13	+7	+6	-4	-10	-14	-19	-26
	0.6	+13	+5	+4	-4	-7	-10	-13	-23
	1.0	+11	+2	+3	-4	-7	-9	-12	-21
To the ducting	0.3	+20	+12	+7	+2	-3	-10	-14	-19
	0.6	+18	+10	+4	0	-4	-10	-13	-19
	1.0	+17	+7	+3	-1	-5	-11	-13	-21

Sizing

AC motor, single-speed motor

MIRUVENT-2-56-71-0-6 (6-poles)



● Optimal duty point

Motor data

Rated output (kW)	Rated current, motor (A)	Rated voltage V
2.2	9.01/5.2	230/400

Acoustic calculations

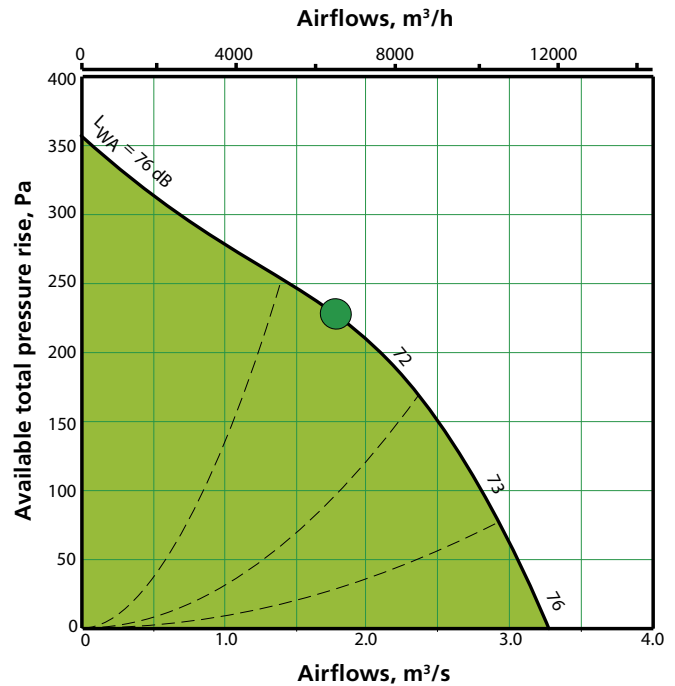
Measurement method ISO 3741 is used for measuring the sound power level emitted to the surroundings and measurement method ISO 5136 is used for measuring the sound power level emitted to the duct.

Corrected dB(A) sound power level emitted to the surroundings, L_{WA} can be read in the fan diagram. The following formula can be used for breaking down the sound power level into octave bands: $L_{W,OK} = L_{WA} + K_{OK}$. Obtain the following from the table below: K_{OK} .

Correction factor, K_{OK} for various sound paths and for calculating the sound power level in dB(A) emitted to the surroundings.

Sound path	Duty point $q_v/q_{v,MAX}$	Octave band, no./mid-frequency, Hz							
		1	2	3	4	5	6	7	8
		63	125	250	500	1000	2000	4000	8000
To the surroundings	0.3	+11	+11	+4	-5	-10	-12	-18	-24
	0.6	+10	+11	+3	-5	-9	-10	-14	-20
	1.0	+5	+10	+3	-5	-9	-10	-12	-18
To the ducting	0.3	+18	+13	+6	0	-2	-8	-13	-17
	0.6	+14	+12	+4	-2	-3	-6	-10	-16
	1.0	+10	+12	+3	-2	-4	-9	-10	-16

MIRUVENT-1-56-71-0-8 (8-poles)



● Optimal duty point

Motor data

Rated output (kW)	Rated current, motor (A)	Rated voltage V
1.1	5.0/2.9	230/400

Acoustic calculations

Measurement method ISO 3741 is used for measuring the sound power level emitted to the surroundings and measurement method ISO 5136 is used for measuring the sound power level emitted to the duct.

Corrected dB(A) sound power level emitted to the surroundings, L_{WA} can be read in the fan diagram. The following formula can be used for breaking down the sound power level into octave bands: $L_{W,OK} = L_{WA} + K_{OK}$. Obtain the following from the table below: K_{OK} .

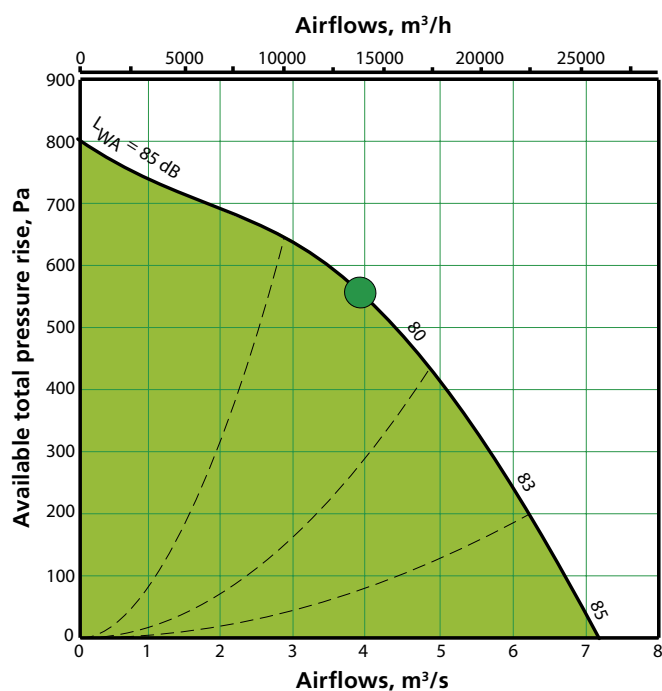
Correction factor, K_{OK} for various sound paths and for calculating the sound power level in dB(A) emitted to the surroundings.

Sound path	Duty point $q_v/q_{v,MAX}$	Octave band, no./mid-frequency, Hz							
		1	2	3	4	5	6	7	8
		63	125	250	500	1000	2000	4000	8000
To the surroundings	0.3	+13	+7	+6	-4	-10	-14	-19	-26
	0.6	+13	+5	+4	-4	-7	-10	-13	-23
	1.0	+11	+2	+3	-4	-7	-9	-12	-21
To the ducting	0.3	+20	+12	+7	+2	-3	-10	-14	-19
	0.6	+18	+10	+4	0	-4	-10	-13	-19
	1.0	+17	+7	+3	-1	-5	-11	-13	-21

Sizing

AC motor, single-speed motor

MIRUVENT-2-71-80-0-6 (6-poles)



● Optimal duty point

Motor data

Rated output (kW)	Rated current, motor (A)	Rated voltage V
4	8.7	400

Acoustic calculations

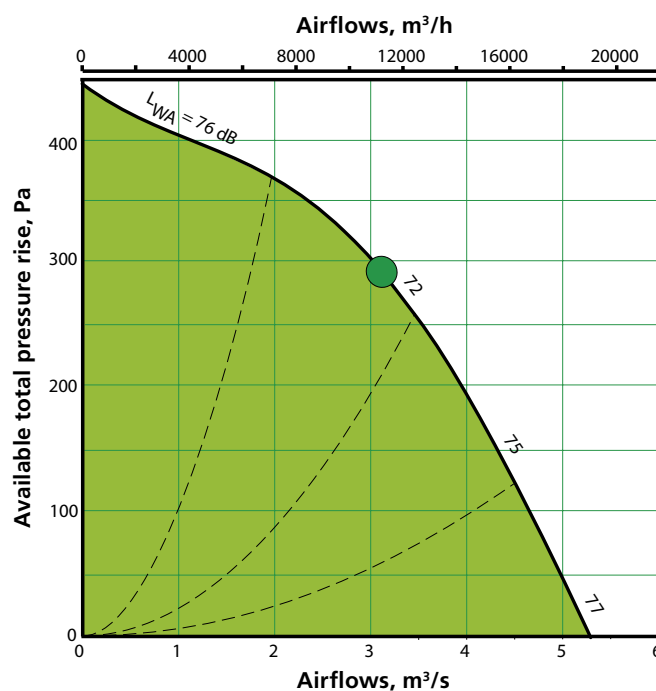
Measurement method ISO 3741 is used for measuring the sound power level emitted to the surroundings and measurement method ISO 5136 is used for measuring the sound power level emitted to the duct.

Corrected dB(A) sound power level emitted to the surroundings, L_{WA} can be read in the fan diagram. The following formula can be used for breaking down the sound power level into octave bands: $L_{W,OK} = L_{WA} + K_{OK}$. Obtain the following from the table below: K_{OK} .

Correction factor, K_{OK} for various sound paths and for calculating the sound power level in dB(A) emitted to the surroundings.

Sound path	Duty point $q_v/q_{v,MAX}$	Octave band, no./mid-frequency, Hz							
		1	2	3	4	5	6	7	8
To the surroundings	0.3	+14	+12	+3	-6	-8	-13	-18	-24
	0.6	+10	+11	+1	-5	-7	-10	-14	-19
	1.0	+5	+10	+2	-5	-6	-10	-15	-18
To the ducting	0.3	+19	+13	+7	0	-4	-10	-14	-20
	0.6	+15	+13	+3	-3	-5	-8	-13	-18
	1.0	+8	+11	+3	-3	-6	-10	-12	-10

MIRUVENT-1-71-80-0-8 (8-poles)



● Optimal duty point

Motor data

Rated output (kW)	Rated current, motor (A)	Rated voltage V
2.2	9.9/5.7	230/400

Acoustic calculations

Measurement method ISO 3741 is used for measuring the sound power level emitted to the surroundings and measurement method ISO 5136 is used for measuring the sound power level emitted to the duct.

Corrected dB(A) sound power level emitted to the surroundings, L_{WA} can be read in the fan diagram. The following formula can be used for breaking down the sound power level into octave bands: $L_{W,OK} = L_{WA} + K_{OK}$. Obtain the following from the table below: K_{OK} .

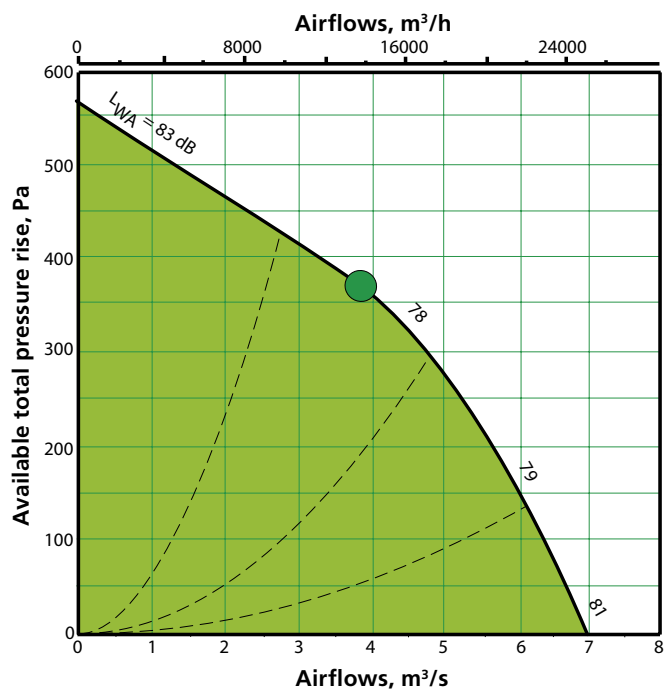
Correction factor, K_{OK} for various sound paths and for calculating the sound power level in dB(A) emitted to the surroundings.

Sound path	Duty point $q_v/q_{v,MAX}$	Octave band, no./mid-frequency, Hz							
		1	2	3	4	5	6	7	8
To the surroundings	0.3	+15	+10	+3	-5	-8	-13	-17	-24
	0.6	+15	+7	+2	-4	-6	-11	-14	-18
	1.0	+13	+8	+2	-5	-7	-11	-14	-22
To the ducting	0.3	+18	+12	+6	0	-6	-12	-16	-19
	0.6	+18	+10	+3	0	-5	-11	-14	-15
	1.0	+17	+9	+4	-1	-4	-9	-11	-17

Sizing

AC motor, single-speed motor

MIRUVENT-1-71-90-0-8 (8-poles)



● Optimal duty point

Motor data

Rated output (kW)	Rated current, motor (A)	Rated voltage V
3.0	14.2/8.1	230/400

Acoustic calculations

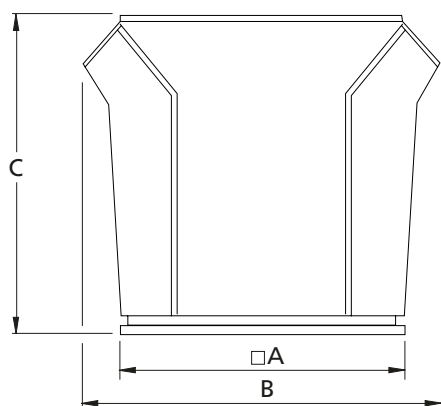
Measurement method ISO 3741 is used for measuring the sound power level emitted to the surroundings and measurement method ISO 5136 is used for measuring the sound power level emitted to the duct.

Corrected dB(A) sound power level emitted to the surroundings, L_{WA} can be read in the fan diagram. The following formula can be used for breaking down the sound power level into octave bands: $L_{W,OK} = L_{WA} + K_{OK}$. Obtain the following from the table below: K_{OK} .

Correction factor, K_{OK} for various sound paths and for calculating the sound power level in dB(A) emitted to the surroundings.

Sound path	Duty point $q_v/q_{v,MAX}$	Octave band, no./mid-frequency, Hz							
		1	2	3	4	5	6	7	8
		63	125	250	500	1000	2000	4000	8000
To the surroundings	0.3	+15	+10	+3	-5	-8	-13	-17	-24
	0.6	+15	+7	+2	-4	-6	-11	-14	-18
	1.0	+13	+8	+2	-5	-7	-11	-14	-22
To the ducting	0.3	+18	+12	+6	0	-6	-12	-16	-19
	0.6	+18	+10	+3	0	-5	-11	-14	-15
	1.0	+17	+9	+4	-1	-4	-9	-11	-17

Dimensions and Weights



MIRU	A	B	C	kg
-1-25-28-0-4	440	600	525	28
-1-25-28-2/3-0	440	600	525	30
-1-25-31-0-4	440	600	525	29
-1-25-31-2/3-0	440	600	525	31
-1-35-35-0-4	600	770	675	40
-1-35-35-0-6	600	770	675	45
-1-35-35-2/3-0	600	770	675	45
-1-35-40-0-4	600	770	675	47
-1-35-40-0-6	600	770	675	46
-1-35-40-2/3-0	600	770	675	50
-2-35-45-0-4	600	770	675	55
-1-35-45-0-6	600	770	675	48
-1/2-35-45-2/3-0	600	770	675	52
-2-45-50-0-4	750	985	760	85
-1-45-50-0-6	750	985	760	78
-2-45-50-1-4	750	985	760	90
-1-45-50-1-6	750	985	760	83
-1/2-45-50-2/3-0	750	985	760	80
-2-45-56-0-4	750	985	760	101
-2-45-56-0-6	750	985	760	82
-1-45-56-0-8	750	985	760	76
-2-45-56-1-4	750	985	760	98
-2-45-56-1-6	750	985	760	87
-2-56-63-0-4	940	1225	970	199
-2-56-63-0-6	940	1225	970	173
-1-56-63-0-8	940	1225	970	162
-2-56-63-1-6	940	1225	970	178
-2-56-71-0-6	940	1225	970	184
-1-56-71-0-8	940	1225	970	175
-2-56-71-1-6	940	1225	970	199
-2-71-80-0-6	1270	1625	1270	339
-1-71-80-0-8	1270	1625	1270	330
-1-71-80-1-8	1270	1625	1270	336
-1-71-90-0-8	1270	1625	1270	350
-1-71-90-1-8	1270	1625	1270	356

Accessories

TBFT roof penetration collar and TBFS connection fitting

Range of Application

The TBFT roof penetration duct can be used as a ventilation chimney for the MIRUVENT power roof ventilator.

It is sound-attenuating and therefore the level of sound generated by the fan is low.

The TBFS connection fitting is included if an order is placed for a roof penetration collar, but it is also available as a separate part for the replacement of existing roof penetration collars. The connection fitting is hinged for simple access for inspection and servicing.

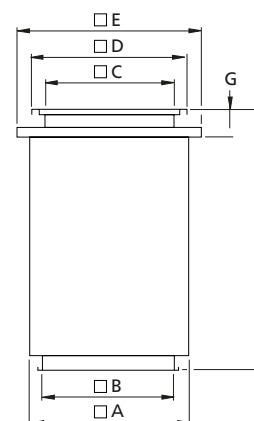
Design

The roof penetration collar consists of a galvanized sheet-steel duct, internally insulated with 50 mm thick mineral wool slabs and lined with perforated sheet steel. The insulation meets the provisions of Fire-resistance Class EI 30 or EI 60.

The duct penetration collar is equipped with pivotal mounting brackets on two sides. The angle brackets can be positioned to suit the slope of the roof.

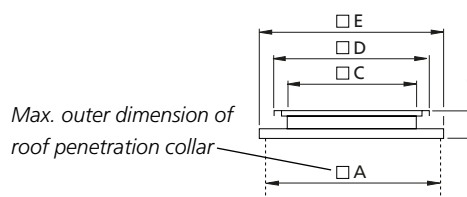
The roof penetration collar is equipped with a cable conduit.

TBFT roof penetration collar



Size	A	B	C	D	E	F	G	kg
25	505	400	360	433	600/608	1035	120	29
35	605	500	490	593	700/708	1035	120	35
45	805	700	640	743	900/908	1035	120	46
56	905	800	830	933	1000	1035	120	52
71	1105	1000	1000	1243	1200	1035	120	64

TBFS connection fitting



Size	A	C	D	E	G	kg
25	495	360	433	500	120	5
35	695	490	593	700	120	6
45	895	640	743	900	120	8
56	990	830	933	1000	120	10
71	1190	1000	1243	1280	120	12

Specification

MIRUVENT power roof ventilator

MIRU-v-aa-bb-c-d

Variant*	1				
	2				
Size	25, 35, 45, 56, 71				
Fan impeller size	For size				
280 mm	25	= 28			
310 mm	25	= 31			
350 mm	35	= 35			
400 mm	35	= 40			
450 mm	35	= 45			
500 mm	45	= 50			
560 mm	45	= 56			
630 mm	56	= 63			
710 mm	56	= 71			
800 mm	71	= 80			
900 mm	71	= 90			
Type of motor/control system:					
AC motor, single-speed motor		= 0			
AC motor with integrated frequency inverter		= 1			
EC motor with 0–10 V control system		= 2			
EC-motor with Modbus RTU, control via MIRU Control		= 3			
Number to poles for AC motors					
EC-motor (c-code = 2/3)		= 0			
4 (cannot be selected for impeller sizes 71-90)		= 4			
6 (cannot be selected for imp. sizes 28, 31 and 90)		= 6			
8 (cannot be selected for impeller sizes 28-50)		= 8			

* Variant 2 applies to MIRU-2-35-45-0-4, MIRU-2-45-50-0-4, MIRU-2-45-56-0-4, MIRU-2-45-56-0-6, MIRU-2-56-63-0-4, MIRU-2-56-63-0-6, MIRU-2-56-71-0-6, MIRU-2-71-80-0-6, MIRU-2-45-50-1-4, MIRU-2-45-56-1-4, MIRU-2-45-56-1-6, MIRU-2-56-63-1-6, MIRU-2-56-71-1-6, MIRU-2-35-45-3-0 and MIRU-2-45-50-3-0. Variant 1 applies to all others.

Roof penetration collar for power roof ventilator

TBFT-1-aa-bb

Sizes 25, 35, 45, 56, 71				
Fire-resistance class	EI30	= 30		
	EI60	= 60		

Connecting fitting

TBFS-1-aa

Sizes 25, 35, 45, 56, 71				
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MIRU Control equipment

TBMZ-1-1

Enclosure class IP 54, 230 V AC supply voltage.

Pressure sensor

TBLZ-1-23-aa

Contains pressure sensor and connection cable.

Version:	1 m	= 01	
	3 m	= 03	
	5 m	= 05	
	10 m	= 10	
	15 m	= 15	

Temperature sensor

TBLZ-1-25-2

For wall mounting, Enclosure class IP43.

Timer

ELQZ-1-406-1

0-2 hour prolonged operation, for surface mounting.

Timer, electronic

TBLZ-1-47

0-6 hour prolonged operation, for flush or surface mounting.

Connection kit for GOLD

TBLZ-1-64

Adaptor, modular/terminal block. Incl. cable, 0.25 metre for installation in the GOLD air handling unit electrical equipm. cubicle.

