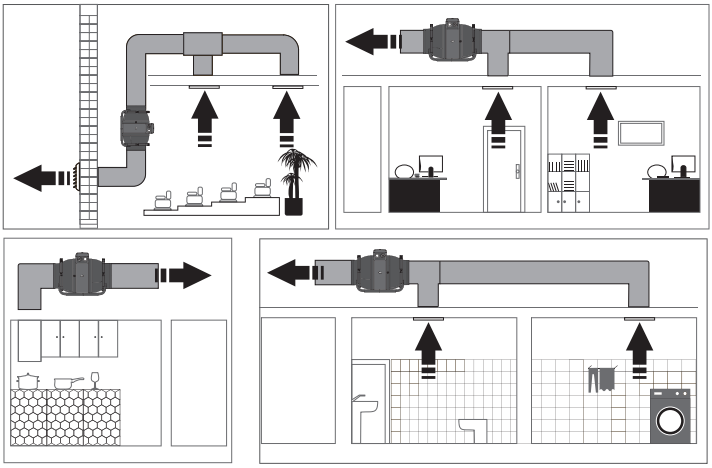
EN **Axial-flow duct electric fans of the combined type**
Passport/Service instruction

VZ-TYPHOON-MFF

CE

Installation example



Duct fans (inline mixed flow fans) of the combined type

Purpose

VZ-TYPHOON-MFF Duct fans (inline mixed flow fans) are intended for use in ventilation systems of industrial, public, and residential buildings. The duct funs are connected to round ducts.

Electric fans are designed to remove air and other non-explosive gas-air mixtures that do not contain sticky substances and fibrous materials, with a dust and other solid impurities content of no more than 10mg/m^3, at a temperature of transported air not lower than -20 °C and not above +40 °C.

Safety requirements

The fans are designed to be connected to an alternating current with a voltage of 220-240V and a frequency of 50Hz. According to the shock-hazard protection type, the fans refer to Class II devices (for models 100-200, 135), Class I (for models 250). The climate category «moderately cold» Type «4».The degree of the fan protection against access to hazardous parts and water ingress is IP44 and the degree of the motor protection is IP44.

ATTENTION!

The fan should not be operated outside the specified temperature range (from +1 °C to +40 °C). It is forbidden to install the fan in the same ventilation line with the smoke injector pipe from devices with fuel burners

ATTENTION!

• All work on installation and connection of fans should be carried out only with the mains voltage removed.

• The fans shall be connected by electricians who have a special permit for the work performed. Means for disconnecting from the mains supply should be built into the fixed wiring, in accordance with the installation regulations. The disconnecting device should disconnect all poles. The grounding conductor should not break.

• The device is not intended for use by persons (including children) with reduced physical, mental capacity, or mental abilities or lack of experience or knowledge, unless they are supervised or instructed to use the device by a person responsible for their safety. Children should be supervised to ensure that they do not play with the device.

Main specifications

Model	Speed	Voltage / Frequency	Power (W)	Speed (RPM)	Performance (m^3/h)	Air pressure (Pa)	Noise level (dBA)
VZ100-TYPHOON-MFF	L2 L1	220~240V/50Hz	25 23	2500 1850	250 180	190 110	40 31
VZ125-TYPHOON-MFF	L2 L1	220~240V/50Hz	29 25	2450 1800	355 240	190 110	39 30
VZ150-TYPHOON-MFF	L2 L1	220~240V/50Hz	50 42	2600 2000	570 415	305 225	49 40
VZ160-TYPHOON-MFF	L2 L1	220~240V/50Hz	50 42	2600 2000	570 415	305 225	49 40
VZ200-TYPHOON-MFF	L2 L1	220~240V/50Hz	105 75	2600 2250	1100 850	350 300	58 50

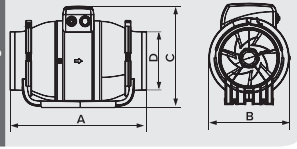
Type of current – alternating, single-phase.

- L1 Low Speed
- L2 High Speed

Main dimensional characteristics

The fans are manufactured by Company in accordance with current norms and standards. The fans are designed to be connected to an alternating current with a voltage of 220-240V and a frequency of 50Hz. They have a motor on ball bearings (rolling bearings). VZ-TYPHOON-MFF fan is available in seven standard sizes, depending on the installation diameter of the casing. Fan designation, their appearance, overall and mounting dimensions are shown in Figure 1.

Figure 1



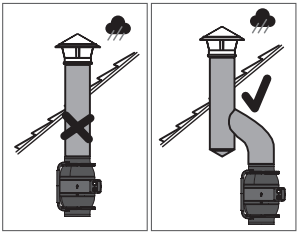
Type	Dimensions, m				Weight, kg.
	A	B	C	D	
VZ100-TYPHOON-MFF	371	173	216	99	1,84
VZ125-TYPHOON-MFF	291	173	216	124	1,72
VZ150-TYPHOON-MFF	323	190	238	149	2,3
VZ160-TYPHOON-MFF	340	190	238	159	2,4
VZ200-TYPHOON-MFF	376	250	267	198,5	4,0

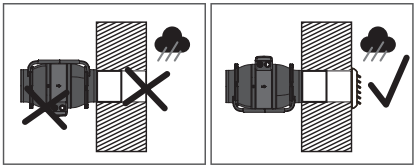
Table 1.

Fan installation

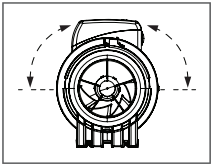
Installation

VZ100-TYPHOON-MFF fan is suitable for the following types of installation: - on a wall, a ceiling, or a floor; - for self-assembly or as a part of air ducts; - for horizontal and vertical installation. For horizontal installation, the length of the air duct should be at least 0.5m; for vertical installation, a ventilation hood should be installed to prevent moisture from entering the device.





In case of non-compliance with these requirements, the IP44 degree will not be provided.

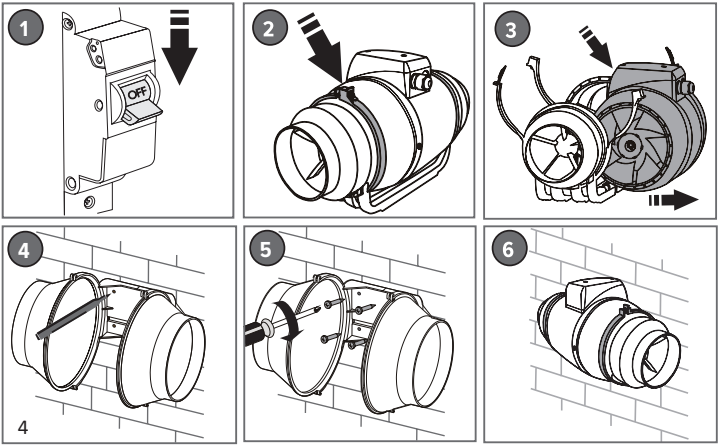


It is prohibited to install and to use VZ100-TYPHOON-MFF fan with the terminal box facing down.

The level of inclination of the VZ100-TYPHOON-MFF fan terminal box should not be lower than the central axis.

Fan installation instructions:

1. Disconnect power supply.
2. Open the clamp by pulling the tab upwards.
3. Remove the fan casing from the base.
4. Attach the base to the mounting surface and mark the screw hole.
5. Drill holes; fix the fan base to the mounting surface with screws.
6. Install the body by tightly connecting the clamp.



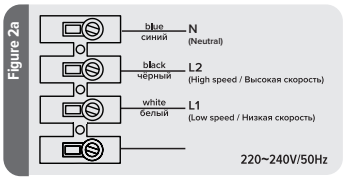
Installation instructions for the speed switch button:

1. Remove the cover with a wide flat screwdriver. To do this, insert a screwdriver into the groove of the plug on the terminal box casing and knock out the plug with a sharp blow.
2. Install the button in the drilled hole.
3. Connect, according to the diagram using RPI-M(n) 1.5-6.3 connectors (3 pcs., not included). To connect, it is necessary to bring the wires into flat connectors and clamp them with a crimping tool. You can also connect the contacts in other safe ways: by twisting, soldering, and welding.

ATTENTION! By installing the speed switch button, the protection level is reduced to IP42.

Wiring connection diagram

Wiring connection diagram for models with flange diameter 100-200 (for fans without speed switch button)



Wiring connection diagram for models with flange diameter 100-200 (for fans with speed switch button)

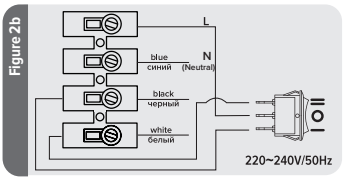


Figure 2.

Connecting the fan to the mains

The fan has two speeds. Depending on the required fan performance, the phase of the power supply is switched between the terminals:

For models with flange diameter from 100 mm to 200 mm

- L1 Low Speed
- L2 High Speed

When setting a high fan speed, depending on the model, it is necessary to connect the fan as follows: L2 (phase of the supply network), N (neutral of the supply network).

When setting a low fan speed, it is necessary to switch the phase of the supply network from terminal blocks L2 (phase) to terminal blocks L1 (phase), connection N (neutral of the supply network).

ATTENTION! In order to avoid damage to the fan, do not simultaneously connect a phase of the supply mains to terminals L1 and L2.

ATTENTION! All work on installation and connection of fans should be carried out only with the mains voltage removed.

The fans shall be connected by electricians who have a special permit for the work performed.

Means for disconnecting from the mains supply should be built into the fixed wiring, in accordance with the installation regulations. The disconnecting device should disconnect all poles. The grounding conductor should not break.

The fan and auxiliary control equipment should be isolated from the power supply during installation and/or maintenance.

Please remove the cover from the terminal box, study the wiring diagram (Fig. 2), and make the necessary connections.

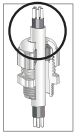
After finishing the connection work and checking the connections to the terminal box, move the cover and make sure it is

Installation: The length of the well-established pipeline from the fan should be at least 1000 mm. A shorter pipeline should be equipped with a rigid lid/grid that complies with EN ISO 13857.

When connecting fan with IP44, it is required to pass a network cable with a diameter of at least 4 mm through a cable gland.

The cable gland is designed for sealed input-output of cables from wires in switchboard enclosures.

The compression nut design has special locking notches to prevent self-loosening. A protective diaphragm prevents dust from entering the enclosure and achieves a degree of protection IP44 and above.



Maintenance

- Disconnect the fan from the mains;
- Dismantle the fan by disconnecting the middle unit and removing it from the installation site;
- Remove dust from impeller blades using a soft dry brush or cloth;
- Clean the fan impeller blades using a detergent solution;
- Wipe all plastic parts with a soft cloth dampened with soapy water;
- Wipe all surfaces dry;
- Assemble the fan and reinstall;
- Cleaning is recommended every 6 months.

ATTENTION! Do not get the cleaning solution on the electric motor! Water entering the fan is not allowed!

Maintenance

Malfunction	Probable cause	Troubleshooting method
When connected to the mains, the fan does not rotate, it does not respond to controls.	Power supply is not connected.	It was necessary to address a specialist.
	Malfunction in the internal connection	
Low air consumption.	Clogged ventilation system.	Clean the ventilation system.
Increased noise or vibration.	Impeller is clogged.	Clean the impeller
	Fan is not secured or it is incorrectly mounted.	Eliminate the installation error.
	Clogged ventilation system.	Clean the ventilation system.
Burning odor.	The mains wire is connected to L1 and L2.	Connect the wires correctly.

ATTENTION! The fan and auxiliary control equipment should be isolated from the power supply during installation and/or maintenance.

Storage and transportation rules

It is necessary to store the fan only in the manufacturer's packaging in a ventilated room at a temperature from +5°C to +40°C and a relative humidity of no more than 70% (at T = 25°C). Shelf life is 2 years from the date of manufacture. Products shall be transported by any type of transport, provided that consumer or shipping containers are protected from the direct impact of atmospheric precipitation, from the absence of displacement of transport places during transportation, from the absence of mutual shocks during transportation and while ensuring the safety of the fans. Transportation shall be carried out, in accordance with the rules in force for this mode of transport.

Disposal

This appliance is marked, in accordance with European Directive 2012/19/EU on the disposal of old electrical and electronic equipment (waste electrical and electronic equipment – WEEE). This Directive defines the EU-wide rules for the collection and disposal of old appliances.

Decommissioning and disposal

At the end of their service life or failure of the fan or its components, they should be disposed of. Disposal shall be carried out separately, according to material groups: plastic elements, metal fasteners.

ATTENTION! Dismantling and disassembly of the fan should be carried out by qualified specialists with a complete disconnection from the power supply.

Service life The established service life is 5 years. At the end of its service life, if the fan has not lost its functionality, it is used until it fails.

Manufacturer's warranty

The manufacturer shall guarantee the normal operation of the fan for 3 years from the date of sale in a retail network, provided that the rules for transportation, storage, installation, operation, and other requirements of this instruction. In the absence of a mark on the date of sale, the warranty period shall be calculated from the date of manufacture. In case of malfunctions in the fan operation due to the manufacturer's fault during the warranty period, the consumer has the right to replace the fan at the manufacturing plant, provided that the serial numbers on the product and in the passport match.

The product meets the requirements of

Directive 2014/35/EU (Low Voltage): IEC 60335-1:2010, COR1:2010, COR2:2011, AMD1:2013, AMD2:2016 IEC 60335-2-80:2015.
Directive 2014/30/EU (Electromagnetic combability): CISPR 14-1:2020, IEC 61000-3-2:2018+AMD1:2020, IEC 61000-3-3:2013+AMD1:2017+AMD2:2021

Timer mode (AT option)

The fan is connected with three wires, the network parameters are 220 V, 50 Hz:
N - neutral (from a switchboard or box)
L - live (from a switchboard or box)
TL - control line from the auxiliary switch.
The SA switch is connected in the gap between L and TL terminals (Figure 2).
After putting the SA switch to the «ON» position, the fan starts to run. After putting the SA switch in the «OFF» position, the fan continues to run for the time set on the timer between 0 and 30 minutes, and then turns off. It is possible to connect the SB speed switch button (see Figure 3).
ATTENTION! The BUTTON is used ONLY for speeds switching . Timer operation is performed from an external switch.
The fan is connected to speed L2 by default.

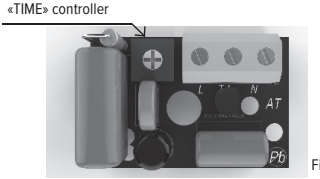


Figure 1

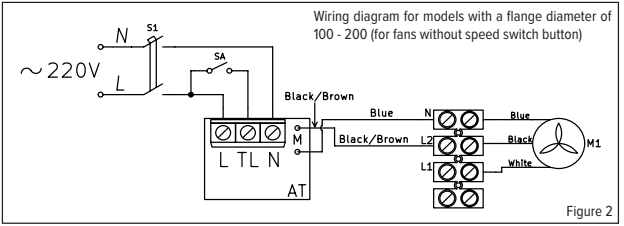


Figure 2

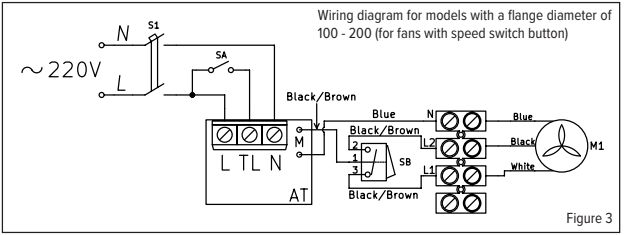


Figure 3

- L1 Low Speed
- L2 High Speed

Approval certificate

The fan is recognized suitable for operation

Sold

Name of company, shop stamp:

Sale date _____

Date manufacture: _____

Mark of Quality Department : _____

Delivery set:
1. The fan assembly;
2. Operating manual;
3. Packing box.

Manufacture / Replacement will be made at the following address

DuctStation Ltd
Unit 2-3 Brandon Business Centre,
Putney Close, Brandon.
Suffolk - United Kingdom
IP27 0PA

Tel: +44(0)33 00 430 320
Web: www.VentZone.co.uk
Email: Support@VentZone.co.uk

Manufacturer reserves the right to make changes without notification