



V-FloFan

ENGLISH
Installation Instructions - Operating Instructions



IMPORTANT - READ CAREFULLY BEFORE USE

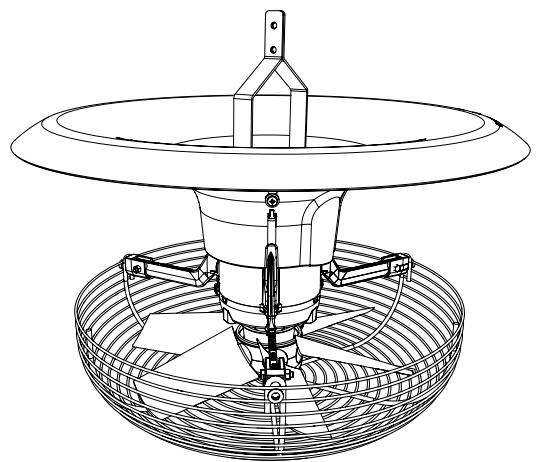


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1 Introduction


Thank you for choosing this V-FloFan.

**IMPORTANT: READ THESE INSTRUCTIONS CAREFULLY BEFORE USE
KEEP THESE INSTRUCTIONS FOR FUTURE REFERENCE**

LIRE ET CONSERVER CES INSTRUCTIONS

These instructions are a part of this fan and must be passed on to any subsequent owner and/or user.

Contact your supplier if there are parts of these instructions that you do not understand. Compliance with these instructions will ensure a safe and correct use of this fan.



NOTICE

This fan is for industrial, commercial and professional use only.

Packaging

If packaging materials are no longer required, dispose of them in accordance with regulations that apply in your area.

Modification of this fan

Modifying this fan without written permission of Vostermans Ventilation B.V. is not permitted.

Warranty will be void when this fan is modified without permission.

The EU Declaration of Conformity is no longer valid if this fan is modified without permission.

Legal notice / Disclaimer

The scope of delivery may vary from product images shown. This document was created with all due care. The information, instructions and parts listed are current on the date this document was issued.

Improper use

No liability is accepted for damages resulting from improper use.

2 Safety

Safety messages

Your safety and the safety of others are very important. Important safety messages are provided in these instructions.

READ THESE MESSAGES CAREFULLY

A safety message alerts you to potential hazards that could hurt you or others. Each safety message is preceded by a safety symbol and one of four signal words: DANGER, WARNING, CAUTION or NOTICE.

Explanation of the signal words used in this document and on the product







DANGER : You will be killed or seriously hurt if you do not follow instructions.

WARNING : You can be killed or seriously hurt if you do not follow instructions.

CAUTION : You can be hurt if you do not follow instructions.


NOTICE : Is used to address practices not related to physical injury.

Explanation of the safety symbols used in this document and on the product

	General warning symbol
	Warning for electricity
	Warning for hot surfaces
	Warning for automatic activation
	Warning for explosive materials
	General mandatory action sign

Remark: not all of the listed symbols may be used in this document or on the product.

Safety instructions



WARNING

To reduce the risk of fire, electric shock, or injury to persons, observe the following:

- Use this unit only in the manner intended by the manufacturer. If you have questions, contact the manufacturer.

- Before servicing or cleaning unit, switch power off at service panel and lock the service disconnecting means to prevent power from being switched on accidentally. When the service disconnecting means cannot be locked, securely fasten a prominent warning device such as a tag, to the service panel.

Follow the following general safety instructions:

- Rotating parts can cause severe injury. Keep arms, legs, hair and loose clothing away from rotating parts.
- Refer to the maintenance section for more information about the maintenance of the fan. No maintenance may decrease the safety of the fan.
- If the safety devices, such as guards, are damaged, do not use the fan.
- When a fan is damaged, do not operate the fan. Repair the damaged fan, before putting the fan in operation again.
- In the event of a malfunction, an accident, a breakdown or excessive vibration or noise, switch off the fan immediately.

There can be safety labels on the fan. It is not permitted to remove the safety labels. Put new safety labels on the fan if:

- You cannot read the text or symbols clearly.
- A safety label is damaged.

Contact your supplier to order new safety labels.

Users

These instructions address different target groups of users who have the qualifications and skills needed for their job. Each target group has different tasks and responsibilities. All target groups must know and follow these instructions. These instructions only give all necessary information about the fan itself. All target groups must know and follow the national, regional and in-house applicable regulations.

The target groups are:

- Installers.
- Operators.
- Maintenance personnel.

Installers

The installer must know the risks of the tasks. Installers are permitted to

- install the fan.

Installers are allowed to assemble the fan.

Operators

No special education is necessary to operate the fan. Operators must know the risks of the tasks. Operators are permitted to

- operate the fan.
- monitor the correct operation of the fan.


Maintenance personnel

Maintenance personnel must know the risks of the tasks. Maintenance personnel can perform the tasks of an operator. Maintenance personnel is permitted to

- assemble the fan.
- maintain the fan.

- troubleshoot the fan.
- repair the fan.

Personal Protective Equipment



CAUTION

Wear safety gloves and safety glasses during maintenance of the fan.

3 Information

3.1 Overview

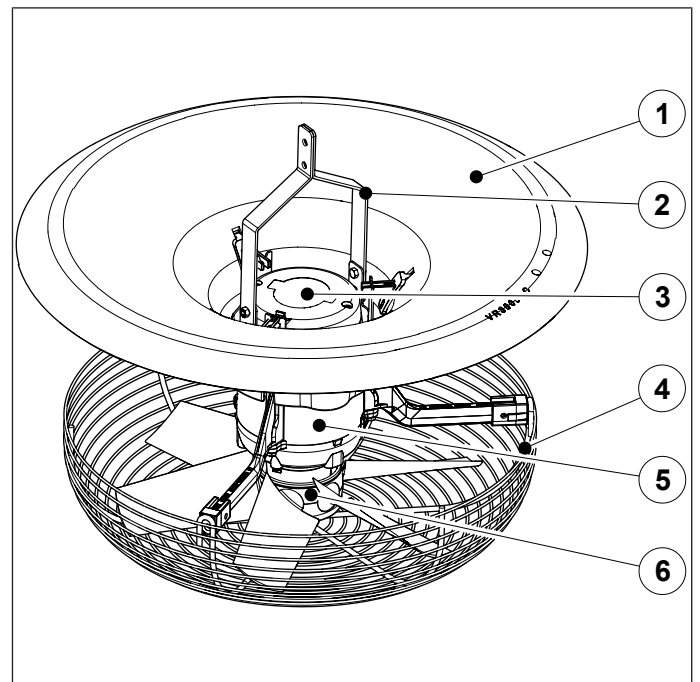


Illustration 1: V-FloFan overview

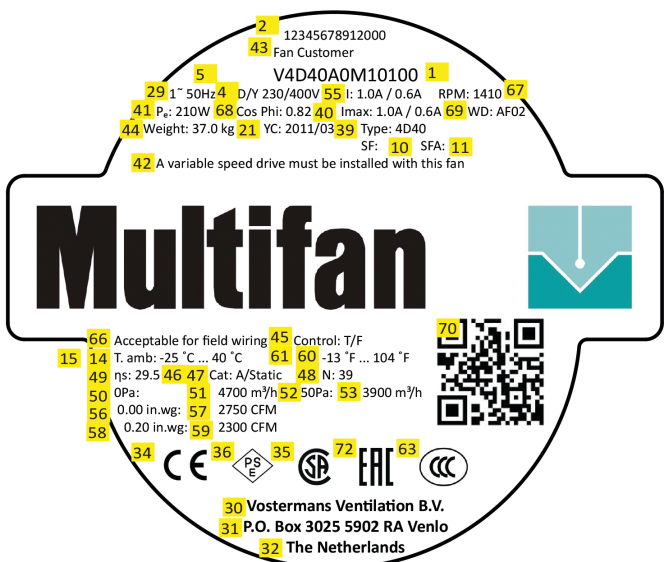
1	Air deflector
2	Bracket
3	Fan rating plate and terminal housing cover
4	Guard
5	Fan motor
6	Impeller

3.2 Identification of the product

A rating plate is permanently attached to the V-FloFan. Do not remove the rating plate.

The rating plate displays electrical, mechanical and identification information.

Each fan has a unique 14-digit numerical serial number which is listed on the rating plate. The serial number must be provided in any future correspondence regarding this fan, as the serial number is the unique information used for identifying the fan in question.



Multifan

12345678912000
Fan Customer


V4D40A0M10100

29 1~ 50Hz 4 D/Y 230/400V 55 I: 1.0A / 0.6A RPM: 1410 67
 41 P.: 210W 68 Cos Phi: 0.82 40 I_{max}: 1.0A / 0.6A 69 WD: AF02
 44 Weight: 37.0 kg 21 YC: 2011/03 39 Type: 4D40
 SF: 10 SFA: 11
 42 A variable speed drive must be installed with this fan

66 Acceptable for field wiring 45 Control: T/F
 14 T. amb: -25 °C ... 40 °C 61 60 -13 °F ... 104 °F
 49 I_{ns}: 29.5 46 47 Cat: A/Static 48 N: 39
 50 OPa: 51 4700 m³/h 52 50Pa: 53 3900 m³/h
 56 0.00 in.wg: 57 2750 CFM
 58 0.20 in.wg: 59 2300 CFM

34 CE 36 PS 35 72 EAC 63 CCC




30 Vostermans Ventilation B.V.
 31 P.O. Box 3025 5902 RA Venlo
 32 The Netherlands

Multifan 

70 

1 Art: FM0114M1G0007
 2 123456789012 000
 30 Vostermans
 31 Ventilation B.V.
 32 The Netherlands

23 ST043022 71 RP1310X30 65 H1500

V	Hz	A/FLA	min ⁻¹	P ₀ :kW / Hp	Cos Phi	C μF/V	30 Vostermans Ventilation B.V.		33
230 D	50	5.2	1410	1.1 / 1.48	0.82	13	31 P.O. Box 3025 5902 RA Venlo		35
400 Y	5	3.0	7	8	9	32 The Netherlands		34	36

29 3~ 21 YC: 2011/03 20 Thermally Protected 26 IP55 28 TEAO 27 CL.F
 T. amb: -25 °C ... 40 °C -13 °F ... 104 °F 23 043022 / .. 13 62 WE12345678

64 Motor data. For application data see sticker on motor cap 2 12345678912 000

Explanation type plates					
1.	Article number VV	25.	Drip proof	49.	μ At optimum
2.	Serial number	26.	IP class	50.	Static pressure (0 Pa)
3.	Wiring diagram	27.	Insulation class	51.	Air volume at 0 Pa (m ³ /h)
4.	Voltage (V)	28.	TEAO (Totally Enclosed Air Over)	52.	Static pressure (x Pa)
5.	Frequency (Hz)	29.	Number of phases	53.	Air volume at x Pa (m ³ /h)
6.	Nominal current (A)	30.	Manufacturers name	54.	PSE-logo
7.	Rotation speed (RPM)	31.	Manufacturers address	55.	Fan current (A)
8.	Power (kW or PK)	32.	Manufacturers country	56.	Pressure at 0 inwg.
9.	Cos phi	33.	cURrus logo	57.	Air volume at 0 inwg.CFM
10.	Service factor	34.	CE-logo	58.	Pressure at -x- inwg.
11.	Service factor ampere	35.	CSA-logo	59.	Air volume at -x- inwg.
12.	Full load ampere	36.	W333 bin	60.	Max. ambient temperature °F
13.	Capacitor (μF/V)	37.	Tester code	61.	Min. ambient temperature °F
14.	Max. ambient temperature °C	38.	Work order date	62.	Order
15.	Min. ambient temperature °C	39.	Fan type	63.	CCC-logo
16.	IE2	40.	I _{max} (A)	64.	Motor data. For.....

Explanation type plates					
17.	μ 100%	41.	P	65.	House code
18.	μ 75%	42.	VSD used	66.	Acceptable for field wiring
19.	μ 50%	43.	Part number customer	67.	Min ⁻¹ application
20.	Thermal protection (*)	44.	Weight (kg)	68.	Cos phi application
21.	Year of construction	45.	Controllability (**)	69.	Wiring diagram application
22.	Bar code	46.	Energy efficiency category	70.	QR code
23.	Winding diagram	47.	Energy efficiency static or total	71.	Rotor code
24.	Weather proof	48.	μ Overall	72.	EAC logo

*) Thermal protection (NC) (for single phase: 250V 10A cos Φ =1 / for 3-phase: 250V 2.5A cos Φ =1)

**) E = suitable for electronic voltage control (TRIAC / phase cutting).

**) T = suitable for transformer voltage control.

**) F = suitable for frequency control / VFD (Variable Frequency Drive).

A frequency controller in combination with a single phase motor is possible.

A QR-code is displayed on the rating plate. This QR-code contains a link to an information page about this product. Here you can find a digital copy of these instructions as well as other information about this product.



<http://productselector.vostermans.com>

3.3 Intended use

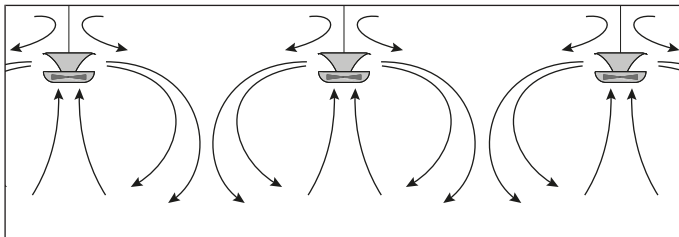


Illustration 2: VFloFan operating principle

This V-FloFan is intended for the destratification of air or the circulation of air. This V-FloFan creates vertical air movement with a very low air speed. This fan is specially designed for use in greenhouses. This fan can also be used in poultry barns or in other applications where destratification with low air speeds is required.



NOTICE

This fan is intended for moving air only.



DANGER

Do not use this fan in explosive or potentially explosive atmospheres.

3.4 Technical information

A-weighted sound pressure levels are generally less than 70 dB(A) at 50Hz / 60Hz. For detailed technical information please visit our website from which technical datasheets can be viewed and downloaded.

Sound pressure levels are measured at a distance of 2 meters and corrected for the human ear (A-weighting) in dB(A). The technical datasheet contains calculated sound pressure levels in dB(A) at a distance of 7 meters assuming free field conditions.

For detailed technical information please visit our website from which technical datasheets can be viewed and downloaded.

4 Installation



WARNING

Installation must be carried out by skilled persons only!

► Before commencing installation

1. Check the fan after you have received it and make sure it has not been damaged during transport.
2. Briefly rotate the impeller and/or motor shaft by hand to make sure they rotate freely.
3. Check all the information on the rating plate and verify that this fan is suitable for the intended application.



WARNING

Never install a damaged or incomplete fan.

- It is the responsibility of the installer that the installation is done in accordance with applicable directives, regulations and standards.
- When installing the fan, always follow the installation instructions.

The bracket is tilted downwards for shipping purposes. Upright the bracket and fasten the bolts and nuts.

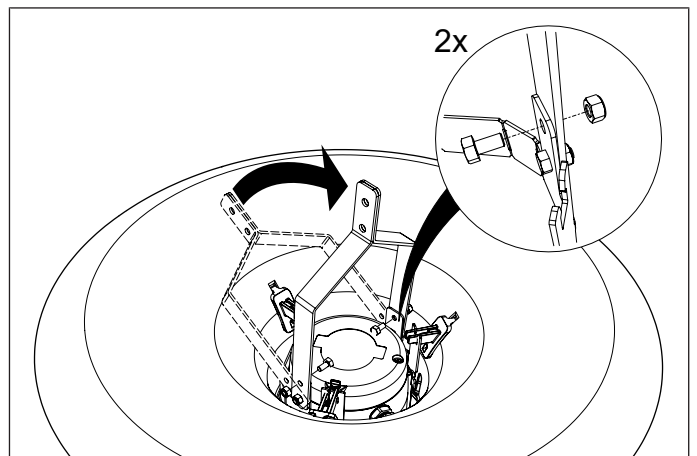


Illustration 3: Uprighting the bracket

CAUTION

In case of speed regulation, the fan may vibrate when incorrectly mounted / installed. Check this before completing the installation.

CAUTION

The fan must always be installed or mounted in a stable way before taking in operation.

For US only

WARNING

To reduce the risk of fire, electric shock, or injury to persons, observe the following:

- Installation work and electrical wiring must be done by qualified person(s) in accordance with all applicable codes and Standards, including fire-rated construction.
- Sufficient air is needed for proper combustion and exhausting of gases through the flue (chimney) of fuel burning equipment to prevent back drafting. Follow the heating equipment manufacturer's guideline and safety Standards such as those published by the National Fire Protection Association (NFPA), and the American Society for Heating, Refrigeration and Air Conditioning Engineers (ASHRAE), and the local code authorities.
- When cutting or drilling into wall or ceiling, do not damage electrical wiring and other hidden utilities.
- Ducted fans must always be vented to the outdoors.

Hose down

This fan is IP55 and can be hosed down with water. The installer is to use rigid conduit or electrical metallic tubing with rain-tight fittings, or liquid-tight flexible metal or non-metallic conduit with acceptable fitting.

4.1 Mechanical

Installation position

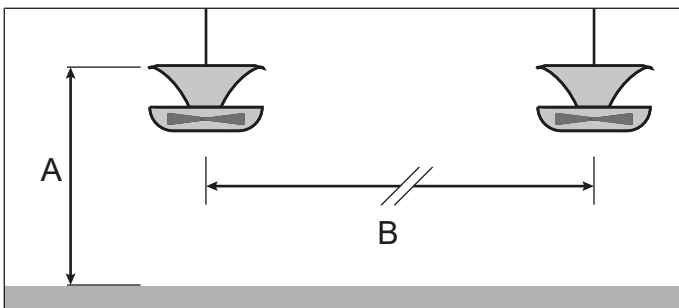


Illustration 4: V-FloFan installation position

A	maximum 5m (16ft) for best results
B	± 18m (59ft) for best results

Obstacles

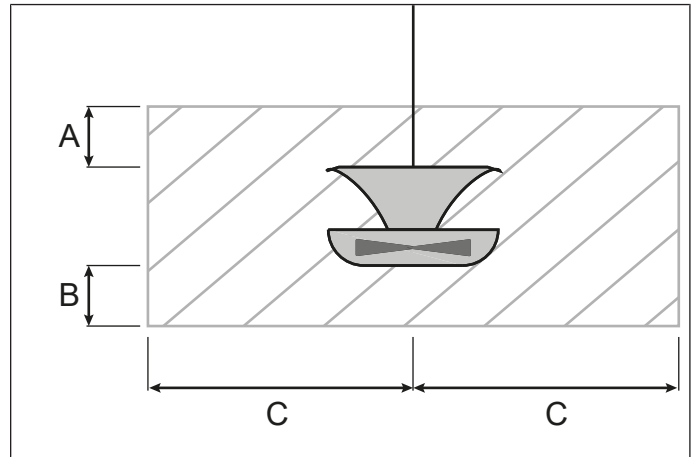


Illustration 5: V-FloFan obstacle free area

A	>0,5m (2ft)
B	>0,5m (2ft)
C	>2m (7ft)

It is very important that there are no obstacles within the indicated area. Obstacles within this area will disrupt the airflow and may cause the fan to vibrate.

Mounting

The fan must be mounted on a rigid structure. In greenhouses, the fan should preferably be mounted directly on the truss of the greenhouse. A special bracket kit is available as an optional accessory. This bracket kit will fit the most commonly used greenhouse trusses. Contact your supplier for more information.

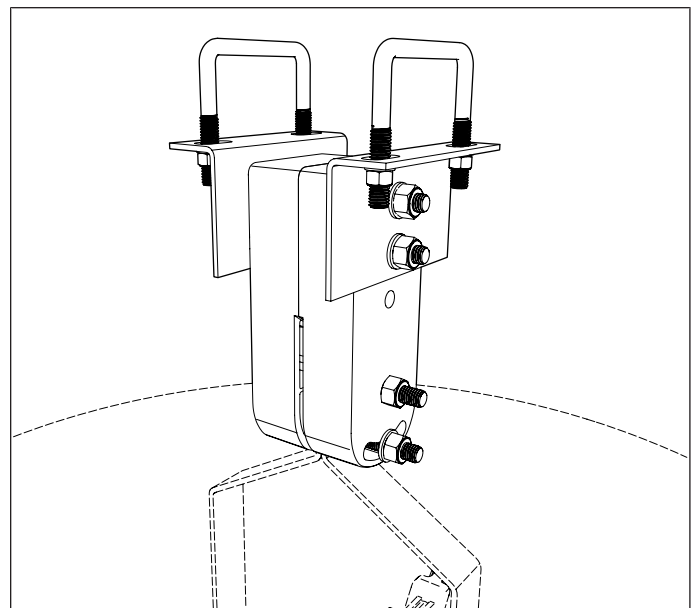


Illustration 6: V-FloFan optional bracket for greenhouses

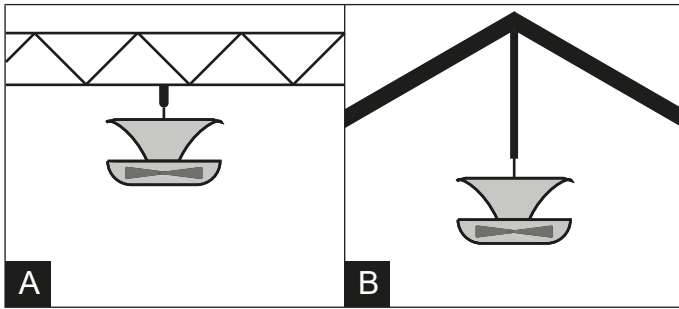


Illustration 7: V-FloFan mounting examples

A	in a greenhouse with the special truss bracket
B	lowered from the ridge of a building using a profile

Always observe the following:

- The fan must be mounted on a rigid structure.
- If the fan cannot be mounted directly on e.g. a truss or purlin, use rigid angle iron or tubular profiles to mount the fan.



WARNING

The profile must be rigid enough so that it will not flex in any direction. This will prevent resonance as a result of the forces generated by the fan.



WARNING

Do not mount the fan using chains, rope, steel cable or similar. The V-FloFan will spin and/or sway.

Guarding

This fan is default supplied with a guard at the bottom (intake) side. This fan is intended to be installed at such a height where a guard at the top (exhaust) side is usually not required.



NOTICE

The fan must be guarded according to local regulations.

Condensate drain holes

The fan motor has drain holes to allow condensation that may form inside the motor to leave the motor. After installation, the drain hole at the lowest point of the motor must be open, the other drain holes must be closed.

Spare condensate drain plugs are supplied with the fan. Keep all the drain plugs as they must be temporarily reinserted in the open drain holes during wet cleaning.

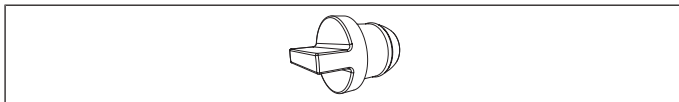


Illustration 8: Condensate drain plug

4.2 Electrical

Wiring diagrams



NOTICE

Electrical connection must be carried out by a qualified electrician. Electrical connections must be made in accordance with local regulations.

Check the rating plate and verify that this fan is suitable for the available power supply.

For 3~ fan motors: check that STAR / DELTA is properly configured on the terminal block.

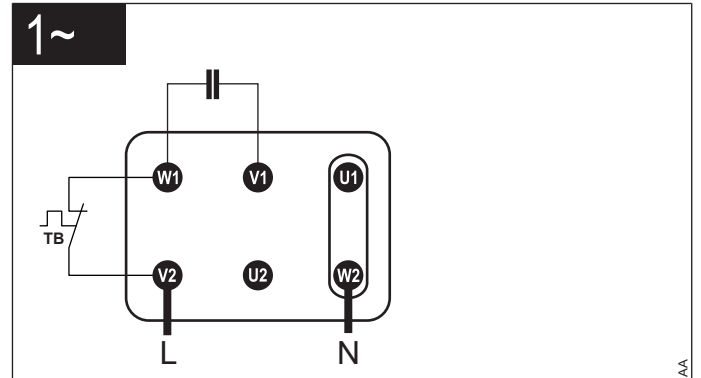


Illustration 9: 1~

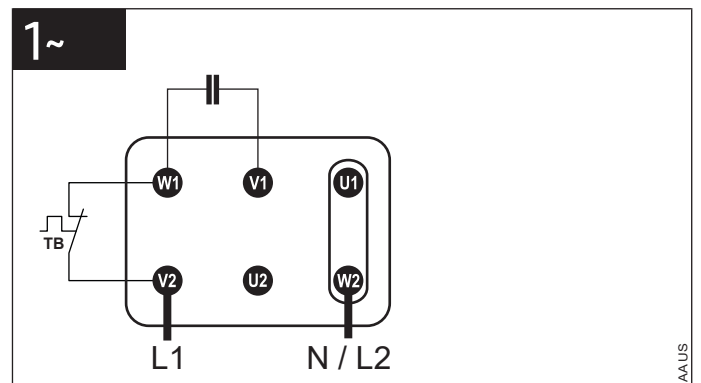


Illustration 10: 1~ (North America)

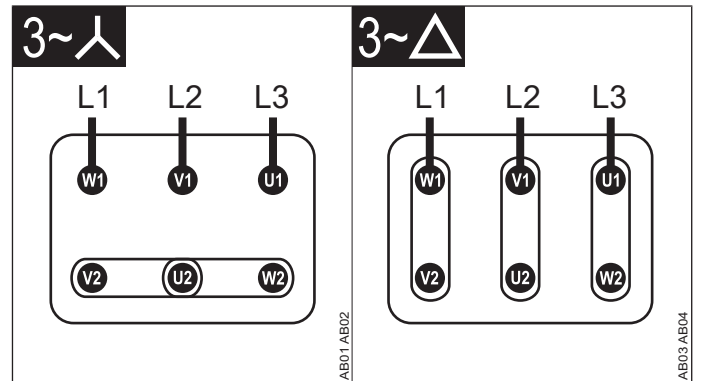


Illustration 11: 3~ STAR / DELTA (standard terminal block)

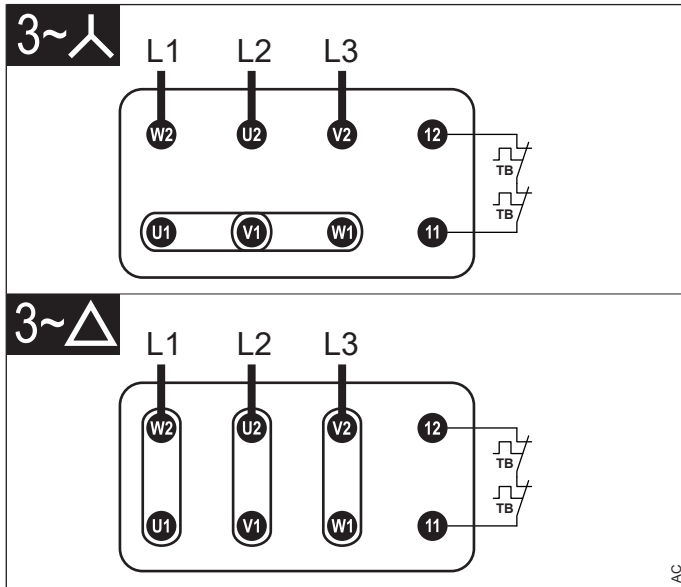


Illustration 12: 3~STAR / DELTA with optional thermal detectors (thermostats)


Control


This fan is supplied without a control or control system. A control or a control system must be provided for operation of the fan.


Isolator

This fan is supplied without an electrical isolator (power supply disconnecting (isolating) device). An electrical isolator must be provided to facilitate safe maintenance and troubleshooting.

Grounding

 The fan must be grounded. Ground the fan according to local regulations.

 **NOTICE**
Overcurrent protection
 The use of an individual separate overcurrent protective device per fan is highly recommended.

 **NOTICE**
Overload protection
 The use of an individual separate overload protective device (Motor Protective Circuit Breaker) per fan is highly recommended.

4.2.1 Thermal protection

1~ fan motor thermal protection

Thermal protectors are built-in standard in 1~ fan motors. Thermal protectors are of the thermostat type TB: thermostat opening on increase of temperature.

In 1~ fan motors, the thermostat (TB) is by default wired in series with the phase (L) of the supply. The motor is as such self-resetting: when the motor overheats, the thermostat will switch off the motor automatically and once the motor has cooled down, the motor will start automatically again.

The presence of the text "Thermally Protected" on the rating plate and/or datasheet indicates that thermal protection is built-in the 1~ fan motor and that it is wired in series with the phase (L) of the supply.

 **WARNING**

If the unexpected start of the motor by the thermostat can cause a hazard or is prohibited by local regulations, the thermostat must be connected into a control circuit that will not allow the motor to restart until the circuit is manually reset.

3~ fan motor thermal detection (optionally available)

Thermal detectors are optionally available in 3~ fan motors. Thermal detectors are of the thermostat type TB: thermostat opening on increase of temperature.

In 3~ fan motors, the thermostats (TB) are by default wired to separate terminals on the terminal block. An external control circuit can be connected here. **NOTICE! The thermostats in 3~ fan motors cannot be wired in series with the power supply.**

Maximum load for the thermostat (TB)


- V_{AC}: maximum 500 V
- I_{AC}: maximum 1.6 A
- Cos Φ: minimum 0.6
- Maximum number of switching cycles: 1000

- V_{DC}: maximum 12 V
- I_{DC}: maximum 40 A
- Maximum number of switching cycles: 1000

4.2.2 Speed control


Verify that this fan is suitable for speed control. On the datasheet and rating plate the following (combination of) codes can be found:

- FC = suitable for frequency control / VFD (Variable Frequency Drive)
- E = suitable for electronic voltage control (TRIAC / phase cutting)
- T = suitable for transformer voltage control

 **WARNING**
 If none of these codes is listed, this fan cannot be speed controlled!

Variable Frequency Drive (FC / frequency control)

- Do not reduce the frequency to less than 20% of the nominal frequency as listed on the rating plate.
- When using a variable frequency drive, the wiring instructions of the variable frequency drive manufacturer must be followed.

 **WARNING**
 Do not increase the frequency beyond the nominal value as listed on the rating plate.

Electronic Voltage Control (TRIAC / SOLID-STATE / phase cutting)

- Do not reduce the voltage to less than 40% of the nominal voltage as listed on the rating plate.
- Motor noise (humming) can occur due to this type of control

Transformer voltage control

- Do not reduce the voltage to less than 40% of the nominal voltage as listed on the rating plate.

For US only:

For 3~ fans only:



WARNING

To Reduce The Risk of Fire or Electric Shock, Do Not Use This Fan With Any Solid-State Speed Control Device

For Canada only:

For 3~ fans only:



WARNING

NOT SUITABLE FOR USE WITH SOLID-STATE SPEED CONTROLS
 AVERTISSEMENT: NE CONVENIENT PAS À DES REGULATEURS DE VITESSE A SEMI-CONDUCTEURS.

5 Commissioning

Before initial start-up verify that:

1. Installation and electrical connection have been properly completed.
2. No foreign material is present within the fan and fan housing.
3. All necessary safety devices such as guards are in place.

Initial start-up

1. Briefly switch on the power supply and check if the impeller rotates in the correct direction. Correct if necessary:
 - For 3~ fans interchange any 2 of the 3 phases of the power supply.
 - For 1~ fans contact your supplier.
2. Run the fan and check for quiet (no unusual noises), low vibration operation. Check that the current draw is within the full load limits as listed on the rating plate and datasheet.
3. Refer to the troubleshooting section of these instructions if anything seems out of the ordinary.

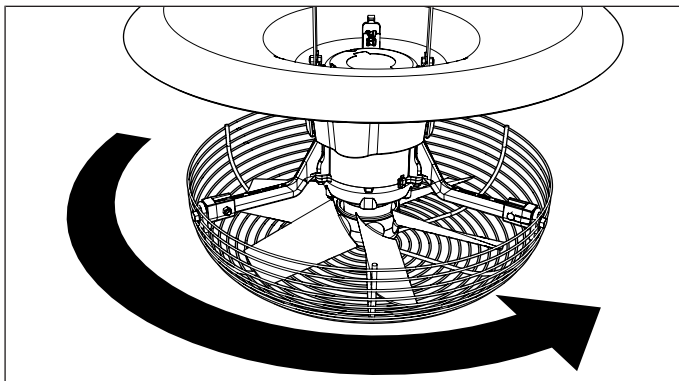


Illustration 13: V-FloFan impeller rotation direction

6 Operation

Always be alert when the fan is in operation. Immediately switch off and isolate the fan from the power supply if anything seems out of the ordinary. Refer to the troubleshooting section of these instructions if anything seems out of the ordinary.

NOTICE

The V-FloFan is very susceptible to other airflows that can disrupt a good functioning:
 Do not use horizontal airflow fans at the same time as when the V-FloFan is in operation.
 In greenhouses, do not operate the V-FloFan when the window vents are open.

Infrequent use

If the fan is used less frequently than once per month, run the fan each month at least 2 hours at full speed to avoid buildup of moisture in the fan motor and to keep the bearing lubricant in good condition.

DANGER

If the built-in thermal protection is in series with the power supply and is activated, the fan motor will automatically re-start after cooling down.
 Risk of injury due to unexpected start.

CAUTION

The fan motor can get hot during operation.
 Do not touch the fan motor to prevent burns.

7 Maintenance

DANGER

Switch off and completely isolate the fan from the power supply before commencing maintenance.

WARNING

All moving parts must be at a complete standstill before commencing maintenance.

- All safety and work regulations have to comply with the applicable standards.
- All maintenance has to be carried out by maintenance personnel.
- When it is necessary for maintenance to remove safety devices such as guards, install these safety devices again after maintenance and before operating the fan.

7.1 Maintenance schedule

► **Maintenance tasks – TO BE CARRIED OUT EVERY MONTH**

1. Examine the fan housing for defects and remove any dirt that has accumulated.
2. Examine the motor and remove any dirt that has accumulated on the motor and between the motor cooling fins.
3. Examine the impeller for defects and remove any dirt that has accumulated.
4. Examine the condition of the guards (if fitted) and remove any dirt that has accumulated.

► **Maintenance tasks – TO BE CARRIED OUT EVERY 3 MONTHS**

1. Check the condition of the bearings.
2. Check the tightness of fasteners and fixings.

► **Maintenance tasks – TO BE CARRIED OUT ANNUALLY**

1. Only for 1~ fan motors: check the capacitor capacitance.

7.2 Maintenance subjects

Cleaning

In areas of application where high levels of contamination are present, cleaning intervals should be adjusted accordingly.

Cleaning is preferably done using a soft brush. Do not use any aggressive detergents, solvents or chemicals for cleaning.

Wet cleaning

Wet cleaning is allowed using low pressure clean water spray. Avoid directing water jets at bearings and electrical connections as much as possible.

When wet cleaning is planned, close any open condensate drain holes before commencing wet cleaning.



WARNING

Do not use a high pressure cleaner.

Water may penetrate electrical connections and bearings.

► **After wet cleaning**

1. Open the condensate drain hole at the lowest point of the fan motor.
2. Run the fan for 2 hours at full speed to remove any moisture that may have entered the fan motor.

Bearings

The bearings used in the fan and/or fan motor are maintenance free and greased for life. Average lifespan during normal operation is >30.000 hours.

Defects in the bearings can usually be detected by listening. When the shaft / impeller is rotated by hand, it should move freely with a smooth uniform sound. Squeaking or grinding noises indicate the bearings may require replacement.

Impeller

Cleaning the impeller is very important. A dirty impeller will suffer from imbalance resulting in vibrations. A dirty impeller will also result in reduced fan performance and reduced fan efficiency.

Capacitor (1~ fan motor)

Capacitor capacitance decreases slowly over time. Average lifespan is ± 30.000 hours. Replace the capacitor when the capacitance has dropped below the value as listed on the capacitor.

8 Troubleshooting and repairs



WARNING

Troubleshooting and repairs must be performed by skilled persons only!

Fault	Possible cause	Possible remedy
Excessive vibration	Impeller imbalance -> impeller damaged	Replace impeller
	Impeller imbalance -> impeller dirty	Clean impeller
	Bearings damaged or worn	Replace bearings
Fan does not start	No power supplied to fan	Check all power supplies Check fuse/circuit breaker Check the cabling Switch on controller
	(If present) VFD (Variable Frequency Drive) defective	Check VFD (refer to VFD manufacturers' instructions)
Fan does not start (supply voltage at fan motor terminals is present)	Thermal protection activated (Fan motor has overheated)	Clean motor Check for overloading of fan system (intake or exhaust blocked?) Check if supply voltage is not too high or too low
	Impeller blocked	Remove blockage
	Only for 1~ fan motors: wrong or defective capacitor	Replace capacitor
	Temperature too low for bearing grease	Do not operate fan outside ambient temperature range as specified on rating plate and technical data sheet
Fan motor overheats while running	Fan overloaded	Check for overloading of fan system (intake or exhaust blocked?)
	Fan motor overheated due to dirt in cooling fins.	Clean fan motor
	Supply voltage too high or too low	Check power supply
	Incorrect supply frequency	Check power supply
	Bearings damaged or worn	Replace bearings
	Only for 3~ motors: phase voltage imbalance	Check power supply
	Only for 3~ motors: STAR instead of DELTA connected or DELTA instead of STAR connected	Check wiring diagram Connect correctly

Fault	Possible cause	Possible remedy
	Only for 1~ motors: wrong or defective capacitor	Replace capacitor
Fan rotates in wrong direction	1~ fan motors: capacitor incorrectly connected	Connect according to wiring diagram (contact supplier)
	3~ fan motors: power supply incorrectly connected	Swap any 2 of the 3 phases of the power supply
Fan speed (rpm) is too low	Supply voltage too low	Check power supply
	Incorrect supply frequency	Check power supply
	Only for 1~ fans: wrong or defective capacitor	Replace capacitor
	Only for 3~ fans: STAR instead of DELTA connected	Connect as DELTA Check wiring diagram!
	3~fan motors: Phase failure	Restore all 3 phases
High power consumption	Fan overloaded	Check for overloading of fan system (intake or exhaust blocked?)
	Fan speed too high	Check supply voltage and frequency
	Bearings damaged or worn	Replace bearings
Unusual or excessive noises	Impeller hits fan housing	Check installation and fixings and alignment
	Fan is operating in stall point	Lower system resistance (Intake or exhaust blocked)
	Bearings damaged or worn	Replace bearings
The desired airflow pattern is not obtained	Other air currents influence the airflow pattern	Check if all windows and doors are closed Check if other air currents affect the operation of the V-FloFan, optionally by means of a smoke generator.

Use original spare parts only.

9 End of life

Disposal

At the end of the life of this fan, dispose of it properly in accordance with regulations that apply in your area.

NOTICE








Always sort and recycle waste.

Recycling

The main materials used in the electric motor are copper, steel and aluminium.

Most of the fan parts have the recycling symbol with material code listed on them to facilitate proper recycling. Some parts are made of easy to identify materials such as steel, and have no recycling symbol on them.

Symbol	Material
	Polypropylene
	ABS (Acrylonitrile butadiene styrene)
	Polyamide

Symbol	Material
	Glass fibre reinforced polypropylene
	Aluminium

10 EU Declaration of Conformity

EU Declaration of Conformity

(according to Annex II.1.A. of the machinery directive 2006/42/EC)

The manufacturer: **Vostermans Ventilation B.V.**

Visiting address:	Industrial Zone Venlo 5082 Parlevinkerweg 54 NL-5928 NV Venlo The Netherlands
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Postal address:	P.O. Box 3025 NL-5902 RA Venlo The Netherlands
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Telephone:	+31 (0) 77 389 32 32
Fax:	+31 (0) 77 382 08 93
Internet:	www.vostermans.com
E-mail:	ventilation@vostermans.com

declares under sole responsibility that the following machineries:

Name / description: V-FloFan

Article numbers starting with:

T4D40, T6D40

T4E40, T6E40

and ending with: 60

are in conformity with the relevant Union harmonisation legislation and fulfil all the relevant provisions of the following directives and regulations:

2006/42/EC (including modifications)	2012/19/EU (including modifications)
2014/30/EU (including modifications)	(EU) No 327/2011
2011/65/EU (including modifications)	

on which the following harmonised standards were used:

EN ISO 12100:2010	EN 61800-3:2004/A1:2012
EN 60204-1:2018	EN 50581:2012
EN ISO 13857:2008	EN ISO 11201:2010
EN 349:1993/A1:2008	EN ISO 11203:2009
EN ISO 14120:2015	EN ISO 11204:2010
EN 61000-6-2:2005/AC:2005	EN ISO 13732-1:2008
EN 61000-6-4:2007/A1:2011	

and on which the following other technical standards and specifications were used:

ISO/TR 14121-2:2012	EN 61800-3:2018
EN 60204-1:2006/AC:2010	EN 63000:2018
EN ISO 13857:2019	EN ISO 5801:2017
EN ISO 13854:2019	EN ISO 12499:2008
EN 61000-6-2:2019	ISO 13348:2007
EN 61000-6-4:2019	ISO 9001:2015

Signed for and on behalf of: **Vostermans Ventilation B.V.**

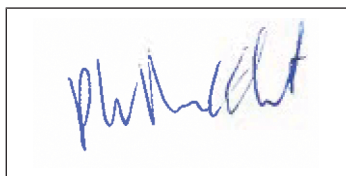
Place: Venlo – The Netherlands

Date: 2020/06/30

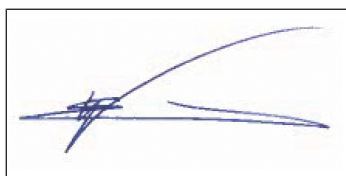
Identities and signatures:

P.W. Provó Kluit, R&D Manager

(authorised to compile the technical file)



H.L.J. Vostermans, C.E.O.



Original EU Declaration of Conformity

(Fan pro – DoC 2006_42_EC – v2.5 en)

Glossary

Destratification

The mixing of air to eliminate layers and achieve temperature equalization.

Explosive atmosphere

A mixture of air, under atmospheric conditions, with flammable substances in the form of gases, vapours, mists or dusts in which, after ignition has occurred, combustion spreads to the entire unburned mixture.

Multifan



is a brand of Vostermans Ventilation B.V.



VOSTERMANS
VENTILATION

YOUR SPECIALIST IN AIR

Venlo - The Netherlands
Tel. +31 (0)77 389 32 32
ventilation@vostermans.com

Bloomington, IL- USA
Tel. +1 309 827-9798
ventilation@vostermansusa.com

Tmn Klang Jaya - Malaysia
Tel. +60 (0)3 3324 3638
ventilation@vostermansasia.com

Shanghai - China
Tel. +86 21 5290 2889/2899
ventilation@vostermanschina.com

www.vostermans.com

DocumentID: INS00003-B
Created: 02/07/2020

