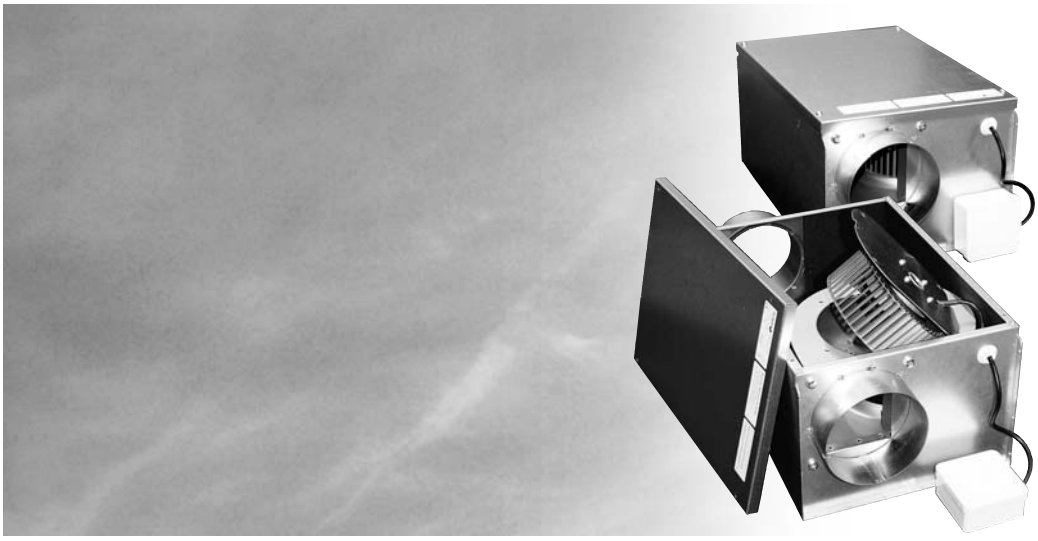
# Directions for use
# 使用指南

IRF 125 C, IRF 125 E, IRF 125 G, IRF 125 H

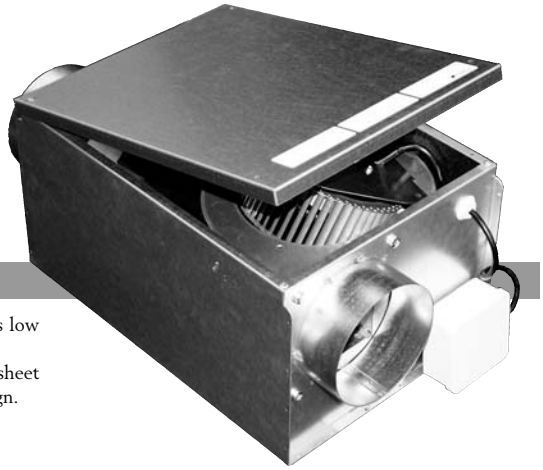


ENGLISH VERSION/ 中文版

ÖSTBERG
HEALTHY INDOOR CLIMATE
WITH ENERGY EFFICIENT VENTILATION

*Svenska som originalspråk/Swedish as original language/*瑞典作为原始语言

This directions for use contains following products:
IRF 125 C, IRF 125 E, IRF 125 G and IRF 125 H



## DESCRIPTION

IRF is a small compact in-line duct fan wich has low sound level both in duct and surrounding.

The fan is manufactured from galvanised steel sheet has forward curved impellers and swing-out design.

## APPLICATION

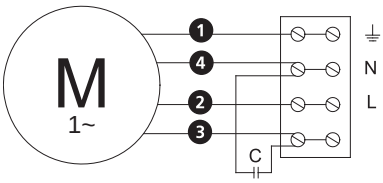
- The fan is used for transportation of "clean" air, meaning not intended for fire-dangerous substances, explosives, grinding dust, soot, etc.
- The fan is equipped with an asynchronous external rotor induction motor with maintenance-free sealed ball-bearings.
- The capacitor has finite lifetime and should be exchanged after 45.000 operation hours (about 5 years of operation) to secure maximum function. Defective capacitor can cause damage.
- The fan can be installed outside or in damp environments. Make sure that the fan-house is equipped with drainage.
- To achieve maximum life time for installations in damp or cold environments, the fan should be operating continuously.
- The fan is intended to be used at the highest voltage and frequency that's stated on the label on the fan.
- The fan can be installed in any position.

## INSTALLATION

- The fan must be installed according to the air direction label on the fan.
- The fan must be connected to duct or equipped with a safety grille.
- The fan should be installed in a safe way and make sure that no foreign objects are left behind.
- The fan should be installed in a way that makes service and maintenance easy. N.B.! Consider the weight and size of the fan.
- The fan should be installed in a way that vibrations not can be transfused to duct or building. To provide this, use for example a duct clamp.
- To regulate the speed, a transformer, a speed controller or a frequency converter can be connected.
- A wiring diagram is applied on the inside of the junction box.
- The fan is grounded, installed and connected electrically in the right way.
- The motor has a built-in thermo-contact.
- Electrical installations must be made by an authorized electrician.
- Electrical installations must be connected to a locally situated tension free switcher or by a lockable head switcher.

## WIRING DIAGRAM

**4040002**
Single phase, 230V



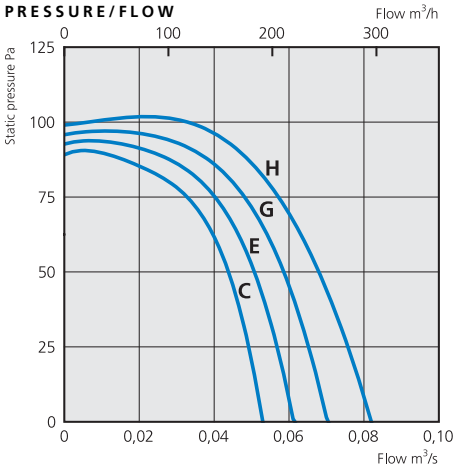

M1 = Fan Motor
1 = Yellow/Green
2 = Black
3 = Blue
4 = Brown

## TECHNICAL DATA

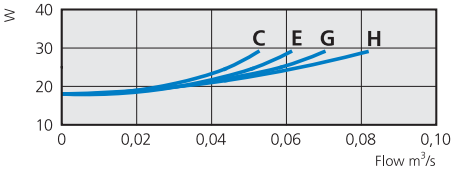
| | Voltage V/Hz | Current A | Input W | Speed rpm | Weight kg | Wiring diagram | Capacitor µF | Insulation class, motor | Motor protection |
|---|---|---|---|---|---|---|---|---|---|
| **IRF 125 C** | 230/50 | 0,13 | 29 | 700 | 6,3 | 4040002 | 1,0 | F | IP 44 |
| **IRF 125 E** | 230/50 | 0,13 | 29 | 785 | 6,3 | 4040002 | 1,5 | F | IP 44 |
| **IRF 125 G** | 230/50 | 0,13 | 29 | 895 | 6,3 | 4040002 | 2,0 | F | IP 44 |
| **IRF 125 H** | 230/50 | 0,13 | 29 | 1035 | 6,3 | 4040002 | 3,0 | F | IP 44 |

## PRESSURE AND FLOW DIAGRAMS

**PRESSURE/FLOW**




**INPUT/FLOW**



## SOUND DATA

The sound data have been compiled by means of sound measurements methods as follows:
Pressure and drop: SS-ISO 5801.
Determination of acoustic sound level in duct: SS-EN ISO 5136.
Determination of acoustic sound level in reverberation room: SS-EN ISO 3741.

**DESIGNATIONS**

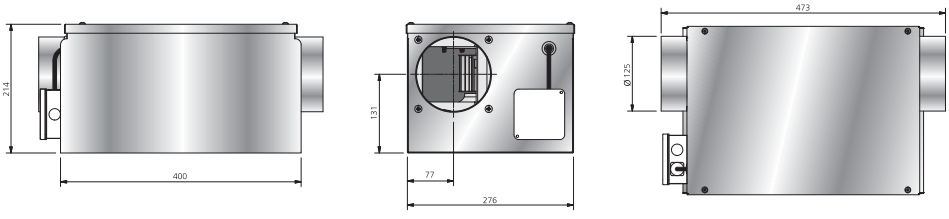
***$L_{wA}$Tot***: Total A-weighted sound power level dB(A) (ref $10^{-12}$W)= the sum of the sound power level in the octave ranges.

***$L_{wA}$***: A-weighted sound power level in octave range dB(A)(ref $10^{-12}$W).

***$L_{pA}$***: A-weighted sound pressure level in dB(A) according to normed A-weightening correction and relating to an effective absorption area of 20 $m^2$ with half spherical translation at a distance of 3 metres.

| IRF 125 C, 45 l/s 50 Pa | $L_{pA}$ | $L_{wA}$ tot dB (A) | 63 | 125 | 250 | 500 | 1K | 2K | 4K | 8K |
|---|---|---|---|---|---|---|---|---|---|---|
| Environment | 29 | 36 | 26 | 31 | 26 | 27 | 25 | 21 | 25 | 27 |
| Inlet | | 50 | 29 | 48 | 44 | 41 | 34 | 24 | 16 | 11 |
| Outlet | | 58 | 42 | 56 | 48 | 48 | 49 | 43 | 37 | 25 |
| **IRF 125 E, 47 l/s 60 Pa** | | | | | | | | | | |
| Environment | 29 | 36 | 27 | 31 | 28 | 28 | 25 | 21 | 25 | 27 |
| Inlet | | 51 | 29 | 49 | 46 | 41 | 36 | 27 | 19 | 12 |
| Outlet | | 59 | 45 | 56 | 50 | 50 | 51 | 46 | 41 | 30 |
| **IRF 125 G 52 l/s 70 Pa** | | | | | | | | | | |
| Environment | 29 | 36 | 27 | 31 | 29 | 28 | 26 | 22 | 25 | 27 |
| Inlet | | 52 | 31 | 49 | 47 | 42 | 37 | 29 | 21 | 13 |
| Outlet | | 60 | 46 | 56 | 52 | 51 | 52 | 49 | 43 | 33 |
| **IRF 125 H, 45 l/s 80 Pa** | | | | | | | | | | |
| Environment | 29 | 36 | 28 | 29 | 30 | 30 | 27 | 22 | 25 | 27 |
| Inlet | | 52 | 31 | 48 | 49 | 42 | 38 | 30 | 23 | 14 |
| Outlet | | 60 | 47 | 54 | 53 | 53 | 54 | 51 | 46 | 37 |

## DIMENSIONS (mm)



## OPERATION

Before starting, make sure that:

- the current does not exceed more than +5% of what is stated on the label.
- the connecting voltage is in between +6% to –10% of the rated voltage.
- no noise appears when starting the fan.

## HOW TO HANDLE

- The fan must be transported in its packing until installation. This prevents transport damages, scratches and the fan from getting dirty.
- Attention, look out for sharp edges and corners.

## MAINTENANCE

- Before service, maintenance or repair begins, the fan must be tension free and the impeller must have stopped.
- Consider the weight of the fan when removing or openring larger fans to avoid jamming and contusions.
- The fan must be cleaned when needed, at least once per year to maintain the capacity and to avoid unbalance which may cause unnecessary damages on the bearings.
- The fan bearings are maintenance-free and should be renewed only when necessary.
- When cleaning the fan, high-pressure cleaning or strong dissolvent must not be used.
- Cleaning should be done without dislodging or damaging the impeller.
- Make sure that there is no noise from the fan.

## FAULT DETECTION

1. Make sure that there is tension to the fan.
2. Cut the tension and verify that the impeller is not blocked.
3. Check the thermo-contact. If it is disconnected the cause of overheating must be taken care of, not to be repeated. To restore the manual thermo-contact the tension will be cut for a couple of minutes. Larger motors than 1,6 A may have manual resetting on the motor. If it has automatic thermo-contact the resetting will be done automatically when the motor is cold.
4. Make sure that the capacitor is connected according to the wiring diagram.
5. If the fan still does not work, the first thing to do is to change the capacitor.
6. If nothing of this works, contact your fan supplier.
7. If the fan is returned to the supplier, it must be cleaned, the motor cable undamaged and a detailed nonconformity report enclosed.

## WARRANTY

The warranty is only valid under condition that the fan is used according to this "Directions for use" and a regular maintenance has been record.

# EC DECLARATION OF CONFORMITY

**We hereby confirm that our products comply with the requirements in the following EU-directives and harmonised standards.**

**Manufacturer:** **OSTBERG (KUNSHAN) FAN CO., LTD**
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CE

**Products:** IRF 125 C, IRF 125 E, IRF 125 G and IRF 125 H

**Low Voltage Directive (LVD) 2006/95/EG**
Harmonised standards:
- EN 60335-1:2002 "Household and similar electrical appliances - Part 1: General requirements"
- EN 60335-2-80:2003 "Household and similar electrical appliances - Part 2-80: Particular requirements for fans"

**Directive for Electromagnetic Compatibility (EMC) 2004/108/EG**
Harmonised standards:
- SS-EN 61000-6-1:2007 "Electromagnetic compatibility (EMC). Generic standards. Immunity for residential, commercial and light-industrial environments"
- SS-EN 61000-6-2:2005 "Electromagnetic compatibility (EMC). Generic standards - Immunity for industrial environments"
- SS-EN 61000-6-3:2007 "Electromagnetic compatibility (EMC). Generic standards. Emission standard for residential, commercial and light-industrial environments"
- SS-EN 61000-6-4:2007 "Electromagnetic compatibility (EMC). Generic standards - Emission standard for industrial environments"

**Machinery Directive (MD) 2006/42/EG as defined in appendix 2A**
Risk analysis is performed.
Installation must be done in accordance with the attached "Directions for use".

Avesta 2010-05-27

Hans Östberg
*Product Development Manager*

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