OPERATING AND MAINTENANCE INSTRUCTIONS WISTRO SERIES IL EXTERNAL FAN UNITS



WIS

WISTRO units of series IL are intended to be used for cooling electric motors but can also be used in similar applications. Normally, the fans are supplied ready for installation.

Using standard fans for hazardous areas is not allowed. Therefore, special fans are available.

General specifications*:

Protection acc. to EN 60529:	IP66	
Certifications:	CE, UKCA, UL	
Life time (MTTF):	40.000h	
Tolerance for power supply:		
Nominal voltage AC:	In case of voltage range +/-5% In case of single voltage +/-10%	
Nominal frequency:	+/-1%, shortly +/-2%	
Nominal voltage DC:	+/-10%	

*Deviations to the specification are forwarded to the customer and are shown on the name plate.

The touch protection of moving parts according to EN ISO 13857 is fulfilled, if the casing and protection grid is part of the fan unit delivered by Wistro. The touch protection of the open side of the tube (normally downstream of fan wheel) needs to be fulfilled by mounting the fan in the final application. While the fan operates, loose clothes, hair or the like need to be fixed such that the volume flow does not pull these objects into the turning fan wheel. To protect against injuries, also loose parts fixed to the body and close to the fan needs to be removed or fixed.

Before installation care must be taken that the fan wheel moves freely and the blades of the fan wheel are not deformed or bent. This may cause imbalance, which can have a negative effect on the operating life.

Wistro-fans can be operated and stored in a temperature range between -20°C and +60°C. Low temperature versions can be operated and stored between -40°C and +60°C.

During installation of the unit, care must be taken that the unit is securely attached to the motor housing. The attached closing cap is only intended for transportation; for use as intended, this must be replaced with a suitable cable gland. The cable gland must at least correspond to IP 66 and must be suitable for the ambient conditions in the area of use.

The electrical connection must be done by a trained specialist and is made according to the operating mode (single phase or three phase) in accordance with the connection diagram. The connection diagram is engraved or glued into the cover of the terminal box. The cables to be connected must be provided with insulated fork terminals or insulated eyelets. The nuts need to be tightened to a torque of 2Nm and protected against loosening. Fans with a power rating P>=0,5kW need to be protected with an external protection device (e.g. motor protection switch).

Please refer to the name plate for the maximum permissible current. Securing the power supply against failure needs to be done by the operator. Operating the fan with a frequency converter is not provided. If necessary, Wistro should be consulted.

After electrical connection is complete, the terminal box must be attached with screws tightened to a torque of 4.5 - 5Nm.



After installation a test run must be carried out. Care must be taken that the air flow is sucked through the fan grill and blown over the motor which is to be cooled (see the arrow indicating the direction of rotation on the inner surface of the fan grill). The fan grill must not be blocked by obstacles. Caution: The cooling effect is considerably restricted if the direction of rotation is not correct. With the low temperature versions (-40°C) starting may be more difficult at low ambient temperatures. This does not indicate that the motor is defective.



During operation care must be taken that especially in dusty atmospheres, excessive dust deposits do not accumulate on the fan blades or between the hub and the motor housing, as this causes imbalance and rotating resistances, which will reduce the service life. This also applies to atmospheres containing particles, e.g. in the wood processing industry or in coal grinding mills. A protective cover or special fan variant is recommended for these or similar applications.

A protective cover can easily be retrofitted by loosening the four (frame size 63-160) or six (frame size 204/250) flange screws (Instar screws), pushing in the fastening bracket and re-tightening the screws. When operating the motor with voltages close to the voltage range limits, the motor can become very warm.

For maintenance or repair work it is essential that the connection is disconnected and is secured against switching on again. In normal conditions, there is no need to replace the bearings because these have a maintenance free life time of 40,000h.

The disposal of the fan unit has to comply with the local waste legislation.

The EU-Declaration of Confomity can be access on www.wistro.com, Technical data→certificates.



Additional product information according to ERP327/2011

All of the product information stated in this product information has been determined under the operating conditions listed in Table 1.

Size	160/180/200	204/225/249	250/280/315	355/400/450/500/560
	ILI	ILI	ILI	IL
Phase	3~	3~	3~	3~
Rated voltage [V]	400	400	400	400
Circuit	Y	Y	Y	Y
Frequency [Hz]	50	50	50	50
Type of data	Free-blowing	Free-blowing	Free-blowing	Free-blowing
recording				_

Table 1: Measurement conditions

Size / Model	160/180/200	204/225/249	250/280/315	355/400/450/500/560
number	ILI	ILI	ILI	IL
η [%]	30,2/32,5/33,9	20,5/23,9/26,5	22,9/26,5/29,4	37,7/41,8/45,5/48,6/47,3
Measurement	А	А	А	A
category				
Efficiency	Static	Static	Static	Static
category				
Year of	from 11/2022	from 2018	from 2018	from 2018
manufacture:				
η _{max} [%]	34,8	32,1	35,9	48,7
P _e [kW] @ η _{max}	0,172	0,162	0,232	0,858
dV/dt [m³/h] @	1480	2280	3310	8350
η _{max}				
dPs [Pa] @ η _{max}	146	82	90	180
n [1/min] @ η _{max}	2866	1356	1374	1411
SFP	1	1	1	1

The fans described in these operating instructions have a modular structure. Removal of the fan can be carried out with normal tools.

For better cleaning the fan can be removed from the shaft by removing the circlip using light pressure. The force must be selected so that there is no excessive strain on the fan blades. Further disassembly results in the warranty becoming void. During cleaning care must be taken to avoid entry of dust or water through the shaft outlet.

The measurement was performed with a free-blowing fan with inlet nozzle according to ERP327/2011 and DIN EN 5801.