

Installation and directions for use

Low profile duct fan, 'LPK'



UL VERSION

ÖSTBERG
HEALTHY INDOOR CLIMATE
WITH ENERGY EFFICIENT VENTILATION

This directions for use contains the following product:

Low profile in line duct fan 'LPK'

Read and save these directions.

CAUTION! FOR GENERAL VENTILATION USE ONLY. DO NOT USE TO EXHAUST HAZARDOUS OR EXPLOSIVE MATERIALS AND VAPORS.

DESCRIPTION

- 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.
- To achieve maximum life length for installations in damp or cold environments, the fan should be operating continuously.
- The fan can be installed outside or in damp environments. Make sure that the fan-house is equipped with drainage.
- All 'LPK'-fans are as standard, single phase 110-127 V 60 Hz.
- The fan can be installed vertically or horizontally.

INSTALLATION

- The fan has rotating parts, therefore safety precautions should be exercised during installation, operation and maintenance. Tighten all screws before operation unit. **USE HAND PROTECTION AND STAY CLEAR OF SHARP EDGES.**
- The fan must be installed according to all local and national codes and the air direction label on the fan.
- The fan must be connected to duct or equipped with a safety grill.
- The fan should be installed in a safe way not to cause vibrations or risking the fan to fall off.
- A wiring diagram is applied on the inside of the junction box.

WARNING! TO REDUCE THE RISK OF FIRE, ELECTRICAL SHOCK OR INJURY TO PERSONS, OBSERVE THE FOLLOWING:

- Use this unit only in the manner intended by the manufacturer. If you have any questions, contact your manufacturers representative.
- Before servicing and 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 device, such as a tag, to the service panel.
- Installation work and electrical wiring must be done by qualified person(s) in accordance with all applicable codes and standards, including fire-rated construction.
- When cutting or drilling into the wall or ceiling, do not damage electrical wiring or other hidden utilities.
- Ducted fans must always be ventilated to the outdoors.
- Do not install this unit above a tub or a shower, if it's not marked as appropriate for the application.
- Never place a switch where it can be reached from a tub or shower.

OPERATION

Before starting, make sure that:

- the fan is installed and electrically connected in the correct way to ground.
- the current does not exceed more than +5% of what is stated on the label.
- No foreign object are placed in the fan and no noise appears when starting the fan.

MAINTENANCE

WARNING! TO REDUCE THE RISK OF FIRE, ELECTRICAL SHOCK OR INJURY TO PERSONS, OBSERVE THE FOLLOWING:

- Use this unit only in the manner intended by the manufacturer. If you have any questions, contact your manufacturer's representative.
- Before service and cleaning of the unit, switch off the power at the service panel and lock the service disconnecting means to prevent power from being switched on accidentally. If the service disconnecting means cannot be locked, securely fasten a prominent device, such as a tag, to the service panel.
- Consider the weight of the fan when removing 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.
- 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.

If repair must be made to the product, it has to be performed by a qualified maintenance person.

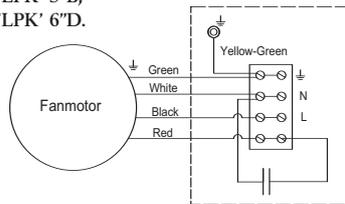
FAULT DETECTION

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/motor protector. If it is disconnected the cause of overheating must be located and taken care of.
4. 'LPK' is equipped with **automatic** thermo-protector which resets automatically when the motor is back in normal working temperature.
5. Make sure that the capacitor is connected according to the wiring diagram.
6. If the fan still does not work, the first thing to do is to change the capacitor.
7. If nothing of this works, contact your fan supplier.
8. If the fan is returned to the supplier, it must be cleaned, the motor cable undamaged and a detailed nonconformity report enclosed.

WIRING DIAGRAMS

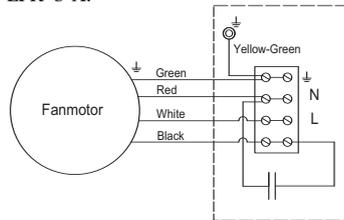
Wiring diagram no: 4040076

For 'LPK'-fans type:
'LPK' 4"B, 'LPK' 5"B,
'LPK' 6"B, 'LPK' 6"D.



Wiring diagram no: 4040077

For 'LPK'-fans type:
'LPK' 4"A, 'LPK' 5"A.

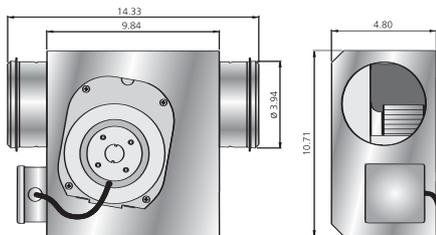


TECHNICAL DATA

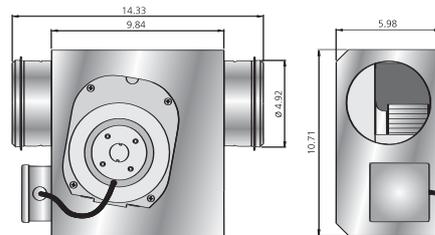
	Voltage V/Hz	Current A	Input W	Speed rpm	Weight kg	Wiring diagram	Capacitor μ F	Insulation class, motor	Motor protection
LPK 4" A	115/60	0.37	43	1185	3.5	4040077	10	F	IP 44
LPK 4" B	115/60	0.90	102	2165	3.5	4040076	8	F	IP 44
LPK 5" A	115/60	0.44	49	1015	3.8	4040077	14	F	IP 44
LPK 5" B	115/60	0.94	107	1500	3.8	4040076	8	F	IP 44
LPK 6" B	115/60	1.33	143	1895	4.4	4040076	16	F	IP 44
LPK 6" D	115/60	1.63	186	2155	4.6	4040076	16	F	IP 44

DIMENSIONS (Inch)

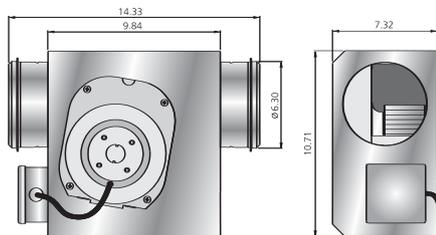
LPK 4"A/B



LPK 5"A/B



LPK 6"B/D



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.

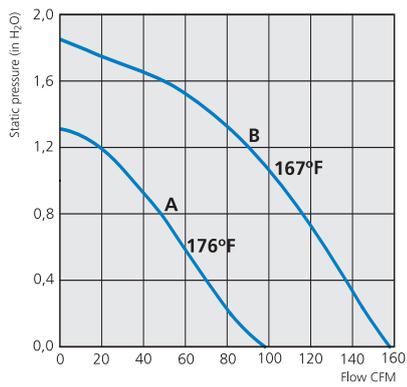
L_{wA} : A-weighted sound power level in octave range dB(A)(ref $10^{-12}W$).

L_{pA} : A-weighted sound pressure level in dB(A) according to normed A-weighting correction and relating to an effective absorption area of 20 m² with half spherical translation at a distance of 3 metres.

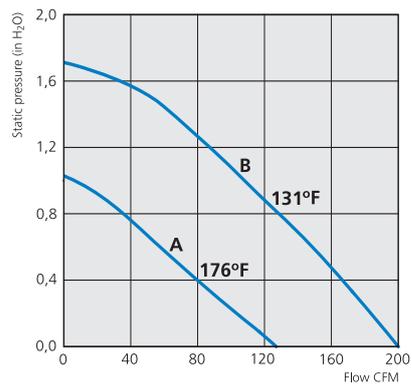
LPK 4" A, 64 CFM, 0,5 H ₂ O	L_{pA}	L_{wA} tot dB (A)	63	125	250	500	1K	2K	4K	8K
To environment	42	49	20	28	39	37	43	47	33	27
Inlet		58	38	50	46	52	52	48	46	42
Outlet		62	48	54	52	54	58	53	50	45
LPK 4" B, 131 CFM, 0,5 H ₂ O	L_{pA}	L_{wA} tot dB (A)	63	125	250	500	1K	2K	4K	8K
To environment	48	55	23	33	46	45	51	50	42	37
Inlet		67	46	59	57	63	59	56	56	55
Outlet		73	56	62	63	66	66	64	62	61
LPK 5" A, 95 CFM, 0,3 H ₂ O	L_{pA}	L_{wA} tot dB (A)	63	125	250	500	1K	2K	4K	8K
To environment	40	47	28	34	39	39	43	41	32	25
Inlet		57	41	48	50	53	50	46	47	32
Outlet		62	46	54	54	55	56	50	55	39
LPK 5" B, 144 CFM, 0,7 H ₂ O	L_{pA}	L_{wA} tot dB (A)	63	125	250	500	1K	2K	4K	8K
To environment	47	54	23	37	45	45	50	48	40	33
Inlet		66	47	56	59	62	57	54	53	49
Outlet		71	53	64	63	65	65	61	60	56
LPK 6" B, 205 CFM, 0,6 H ₂ O	L_{pA}	L_{wA} tot dB (A)	63	125	250	500	1K	2K	4K	8K
To environment	50	57	29	45	47	48	53	52	46	39
Inlet		71	56	64	67	64	58	56	58	56
Outlet		74	58	63	68	67	67	60	63	61
LPK 6" D, 220 CFM, 1,1 H ₂ O	L_{pA}	L_{wA} tot dB (A)	63	125	250	500	1K	2K	4K	8K
To environment	50	57	37	47	48	49	50	50	48	46
Inlet		74	52	64	70	69	61	60	61	61
Outlet		78	61	68	73	73	70	67	66	66

PRESSURE AND FLOW DIAGRAMS

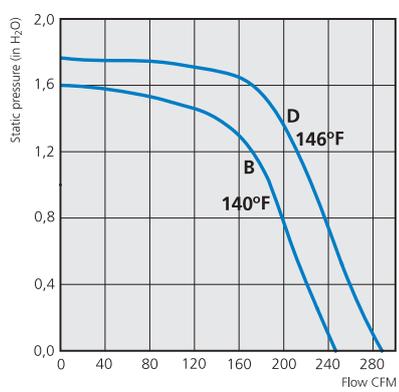
LPK 4" A/B



LPK 5" A/B

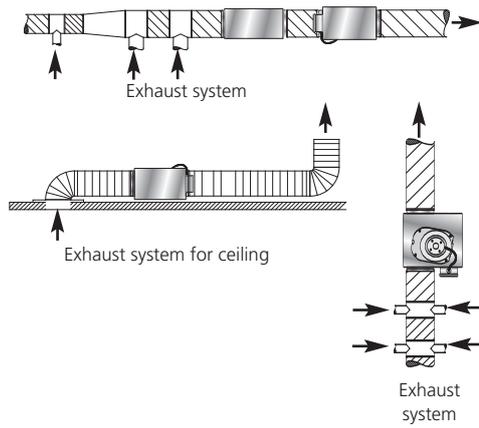


LPK 6" B/D

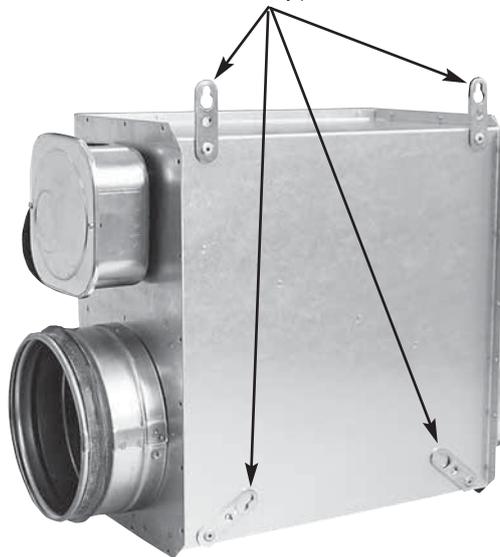


INSTALLATION INSTRUCTIONS

Installation instructions for exhaust systems for duct fan, type 'LPK'.



The 'LPK'-fan can easily be mounted with the four brackets in any position.





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