

# CLIBOS

Backward centrifugal plug fan type, direct driven, for recirculation of hot gases

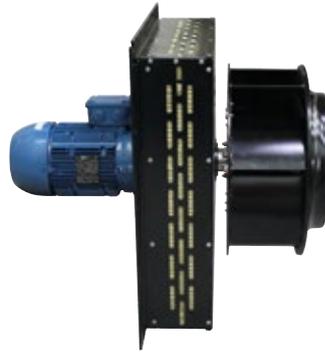
## PLUG FANS



Plug fans

# CLIBOS

Backward centrifugal plug fan type, direct driven, for recirculation of hot gases



## ◦ Manufacturing features

- Direct driven centrifugal medium pressure fan, type plug fan.
- Insulated casing made of carbon laminated steel, protected against corrosion by powder polyester coat. Finish C3.
- Thermal insulation with high density rock wool, 145Kg/m<sup>3</sup>, thickness 50mm.
- Self-cleaning and reinforced impeller with high performance backward (reaction) blades made of carbon laminated steel dynamically balanced to minimize noise and vibrations painted in black heat-resistant paint coating.
- Motor for continuous operation (S1) Squirrel cage standardized asynchronous IEC motor with IP-55 protection and Class F electrical insulation. Standard voltages 230/400V 60Hz for three phase motors up to 4kW and 400/690V 60Hz for higher powers.
- Motor with flange (B5).
- Maximum continuous working temperature ambient (motor): 60°C.
- Suitable for transferring gases from -40°C to 250°C in continuous.
- Integrated cooling impeller.

## ◦ Applications

- Plug-type installation made for the recirculation of gases in:
- Ovens.
  - Boilers.
  - Paint booths.
  - Drying of tobacco, barley, ceramic, glass and wood leaves.
  - Insulated thermal cameras subjected to temperature control.
  - Burners and incinerators.
  - Melting furnaces.

## ◦ Under request

- Fans for special voltages.
- 2 Speed motor, Inox 304 or Inox 316.
- Sparking proof construction.
- Other sizes.
- Other motors according to customer requirement.

## ◦ Range



## ◦ Accessories

	<b>INT</b> Safety switch.		<b>SFC</b> Frequency speed controller.		<b>CLBI</b> Inlet for PLUG FAN in cabinet.
	<b>LENTICHEK</b> Vibration monitoring system.		<b>LARIDIS</b> Automatic bearing lubricator.		<b>CLBC</b> Inlet for PLUG FAN in cabinet.



## ◦ Automatic bearing greaser

- Two outlets with independently adjustable lubrication intervals.
- Easy integration into machine operation.
- Simplification of the maintenance process.
- Metering quantities independent of the ambient temperature.
- Measurement of back pressure up to the lubrication point.
- Power supply: 24V DC or coil.
- Lubricant reservoir: 250 cm<sup>3</sup> cartridge.
- Wide operating temperature range: -20°C to +70°C.
- Optional activation using an external control unit.
- Monitoring of motor running and filling level.
- Good price/performance ratio.



## ◦ Vibration monitoring system

- Record and analysis of vibration measurement signals
- Record of temperature signals
- Evaluation of the input signals
- Selective permanent control as a function of frequency
- Integration of up to three signals connected simultaneously
- Output switching and status sampling via LED
- Admission inputs of additional signals for integration into a main system



## ◦ Rotation speed monitor

- 2 in 1 inductive detector: sensor and evaluation of rotation speed.
- Multiple evaluation of rotating and linear movements.
- Reliable, non-contact monitoring of low rotation speeds.
- Switching output and pulse output.
- Simple adjustment of the switching point.
- Direct connection to a PLC.
- Compact housing.
- Minimization of installation costs.



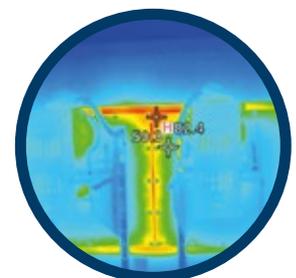
## ◦ Installation example

- One of the most typical high temperature applications for CLIBOS-TR is the paint booth. This type of installation has an oven for drying the paint once it is applied on the product.
- With the CLIBOS-TR fan, thanks to the rock wool (thicknesses of 150 and 200mm) and the thermal grooves of the casing, it is generated a thermal bridge dissipating the internal temperature of the oven.



Thermal grooves

- THERMOGRAPHIC STUDY  
From two CLIBOS-TR installed in a paint-booth oven, we perform a thermography that shows us how the internal and external temperature ranges of the oven differ substantially thanks to the insulation set.



Result of thermography in the CLIBOS-TR with an operating oven



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