

# TURBAIR® Blower

## Type RC

### Application

Dewatering under vacuum

### Features

- High reliability
- High thermal efficiency
- Wide performance & application range
- Environmentally friendly
- Low space requirements
- No seal water consumption
- High, medium and low vacuum from one blower
- Low operating costs



### Operation

The RC multi-stage blower is suitable for electric motor or steam turbine drive. The air/white-water mix aspirated from the paper machine at various vacuum levels is collected in separators where

water, particles and fiber solids are removed. Air from the highest vacuum level is compressed in the first stage of the blower and ducted via diverter channels to the second stage where it is mixed with air from the medium vacuum level. This process is repeated in the third and fourth compression stages. The design is such that four different vacuum levels can be generated in one unit.

The compressed air exits the blower at a temperature of approximately 160 °C. This thermal energy can be recuperated for processes such as water heating, heating air for the paper machine pocket ventilation system, space heating, etc. Noise emissions can be attenuated to any desired levels.

### Control system

Two fully automatic control loops ensure operational safety and reliability.

#### ■ Overload protection

Throttle valves in the suction duct close, simulating the flow resistance of the missing paper sheet, thus preventing air inrush and drive motor overload.



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#### ■ Antisurge protection

When operated below minimum flow level, the blower will surge. To avoid this, an automatic valve bleeds air into the first suction branch until stable operation is restored.

### Design

The horizontally-split casing has four integrated suction and one discharge branch, all downfacing in the lower casing half. The blower can thus be opened without disassembly of the piping. The rotor is supported by two white metal pedestal bearings bolted onto the lower casing half. One bearing is a combined axial bearing for absorbing residual axial thrust not compensated by the balance piston. The impellers are shrunk onto the rotor following overspeed and dynamic balancing. The complete rotor is then dynamically balanced.

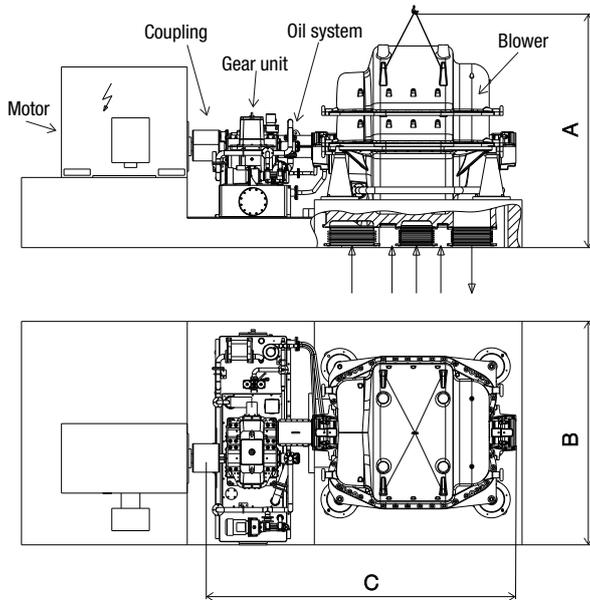
# TURBAIR® Vacuum Systems

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**MAN Diesel & Turbo**



## Dimensions

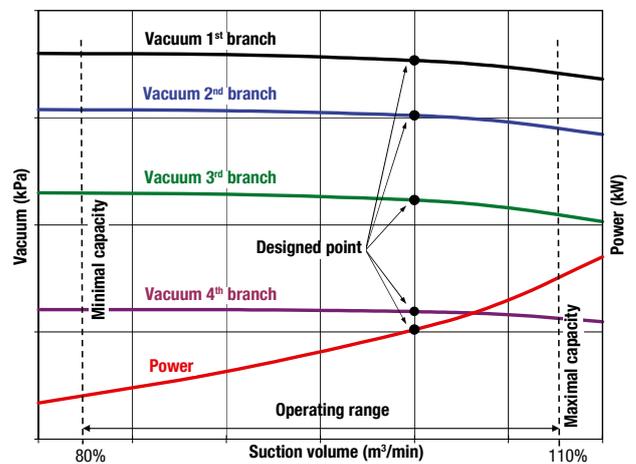


Type RC

RC Type	Height/width/length [mm]		
	A	B	C
56	3,100	2,200	3,300
67	3,300	2,700	3,800
80	3,600	3,100	4,500
95	4,200	3,600	5,000
118	4,800	4,100	5,800

## Characteristics and operating data

RC type blowers can generate up to four different vacuum levels. The blower characteristic is flat and allows suction volumes to vary widely without noticeable changes in vacuum levels. Thanks to its good part load behavior, power consumption of the blower is proportional to the suction volume.



RC Type	Air volume [m³/min]	Weight casing [kg]	
		upper	lower
56	180 – 400	1,600	2,000
67	380 – 650	2,400	3,100
80	450 – 1,200	5,500	7,000
95	750 – 1,500	7,000	10,500
118	1,000 – 3,000	12,500	18,000

## Lubricating oil system

The blower bearings, the gear and, if required, the motor bearings are oil-lubricated. An electrically driven auxiliary oil pump provides lubrication during start-up and shut-down. During operation the main mechanical lube oil pump (flange mounted to the gear unit) takes over the oil supply. This combination, whereby the electric unit acts as stand-by during normal operation, provides maximum operational security.

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