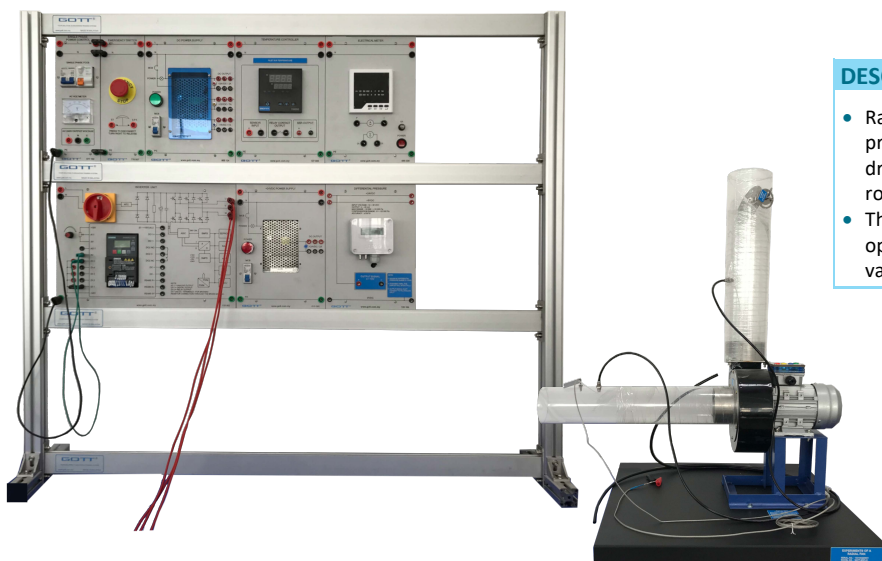


# EXPERIMENTS WITH A RADIAL FAN

Model Number : GOTT-ERF-01



## DESCRIPTION

- Radial fans are used to transport gases with non-excessive pressure differences. The medium is drawn in axially to the drive shaft of the radial fan and is deflected by 90° by the rotation of the rotor and discharged radially.
- This unit provides the basic experiments to get to know the operating behaviour and the most important characteristic variables of radial fan.

## FEATURES

- GOTT-ERF-01 has variable speed via a frequency converter, an intake pipe and a delivery pipe. The transparent intake pipe is fitted with guide plates for flow guidance and with a flow straightener to calm the air. This enables precise measurements even with heavily reduced operation. The air flow is adjusted by a throttle valve at the end of the delivery pipe.
- This unit is fitted with sensors for pressure and temperature. The flow rate is determined via differential pressure measurement on the intake nozzle.
- The microprocessor-based measuring technique is well protected in the housing. All the advantages of software-supported experiments and evaluation are offered by the GOTT software and the microprocessor. The connection to a PC is made by USB.

## TECHNICAL SPECIFICATIONS

- Functioning and operating behaviour of a radial fan
- Radial fan with 3-phase AC motor
- Variable speed via frequency converter
- Transparent intake and delivery pipes
- Throttle valve to adjust the air flow in the delivery pipe
- Interchangeable rotors: 1 rotor with forward curved blades and 1 rotor with backward curved blades
- Determination of flow rate via intake nozzle
- Display of differential pressure, flow rate, speed, electrical power consumption and hydraulic power output, temperature and efficiency
- Microprocessor-based measuring technique
- GOTT software with control functions and data acquisition via USB under Windows 7, 8.1, 10

### Intake pipe

- Inner diameter: 90mm
- Length: 430mm

### Delivery pipe

- Inner diameter: 100mm
- Length: 100mm

### Radial fan

- Power consumption: 110W
- Nominal speed: 2800min<sup>-1</sup>
- Max. volumetric flow rate: 480m<sup>3</sup>/h
- Max. pressure difference: 300Pa

### Measuring ranges

- Differential pressure: 0...1800Pa
- Flow rate: 0...1000m<sup>3</sup>/h
- Temperature: 0...100°C
- Speed: 0...3300min<sup>-1</sup>
- Electrical power consumption: 0...250W

230V, 50Hz, 1 phase  
PC with Windows

## ##-00 k@o

- Rotors x 2
- GOTT software CD + USB cable

## EXPERIMENT TOPICS

- Operating behaviour and characteristic variables of a radial fan
- Recording the fan characteristic (pressure difference as a function of the flow rate)
- Effect of the rotor speed on the pressure
- Effect of the rotor speed on the flow rate
- Effect of different blade shapes on the fan characteristic and efficiency
- Determination of hydraulic power output and efficiencies

### Manuals :

- (1) All manuals are written in English.
- (2) Model Answer
- (3) Teaching Manuals

### General Terms :

- (1) Accessories will be provided where applicable.
- (2) Manual & Training will be provided where applicable.
- (3) Design & specifications are subject to change without notice.
- (4) We reserve the right to discontinue the manufacturing of any product.

### Warranty :

2 Years

## ORDERING INFORMATION :

ITEM	MODEL NUMBER	CODE
EXPERIMENTS WITH A RADIAL FAN	GOTT-ERF-01	133-100

\*Proposed design only, subject to changes without any notice.