MULTICOR®-R Coriolis Mass Flow Rate Measuring Devices

- **Continuous Mass Flow Rate Measurement Based on the Coriolis Principle**
- **Non-Sensitive, Highly Accurate Measuring Principle**
- **Rapid Metered Value Recording and High Control Quality**
- **Compact Construction**
- **Inexpensive, Simple Integration**
- **Dustproof Housing**

Application

The MULTICOR®-R Coriolis mass flow rate measuring device is a closed measuring system for the continuous recording of delivery volume and feed rate. The MULTICOR®-R measuring devices are suitable for:

- measuring throughput and consumption;
- the balancing, and
- batching

of moderate- to well-flowing bulk goods.

The measuring devices can also be used as feed systems if connected to an adjustable prefeeder (e.g. valve, roller or screw).

The MULTICOR®-R series offers solutions for many applications:

- MULTICOR®-R
  Gravity-driven feeding in processes

Construction

A MULTICOR®-R Coriolis mass flow rate measuring device consists of:

- Dust-proof housing of coated mild steel or of high-grade steel
- Measuring wheel with guide blades
- Weighing module with wireless data transmission
- Cable box
- AC geared motor (three-phase current)

All components which come into contact with the bulk materials can be supplied in stainless steel.

The flanged inlet connections for mounting on the on-site inlet is designed with a Jacob pipe connection, smooth pipe end and flexible connection.

The outlet cone is equipped with a flexible connection for attachment to the on-site feed line.

The weighing module can withstand bulk good temperatures of up to 60° C. For bulk good temperatures of up to 110°C the device can be equipped with a cooling fan that switches on as necessary.

Function

MULTICOR®-R measuring devices use the Coriolis force measurement principle to determine mass flow rate. The flow of bulk material to be measured impinges on a measuring wheel within the device rotating at a constant rotational speed.

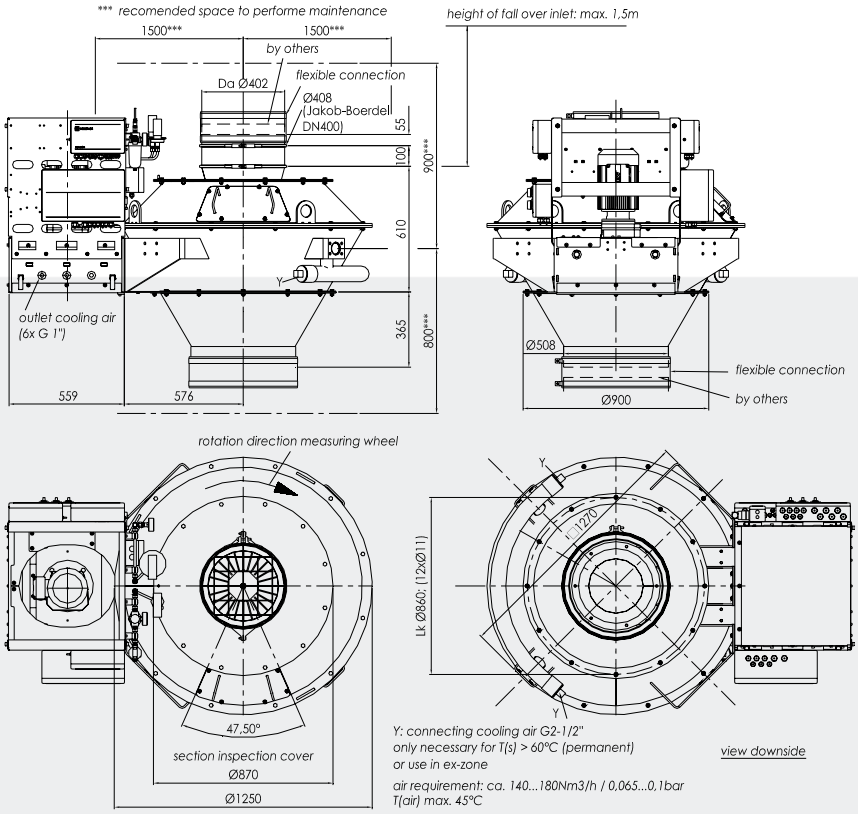
The bulk material is collected by the blades of the measuring wheel and is accelerated to its circumferential speed.

A moment of torque is required for acceleration that corresponds exactly to the feed rate. The moment of torque is measured with a measuring module integrated directly into the drive line and is converted into an electrical signal. A wireless Bluetooth module transmits the data.

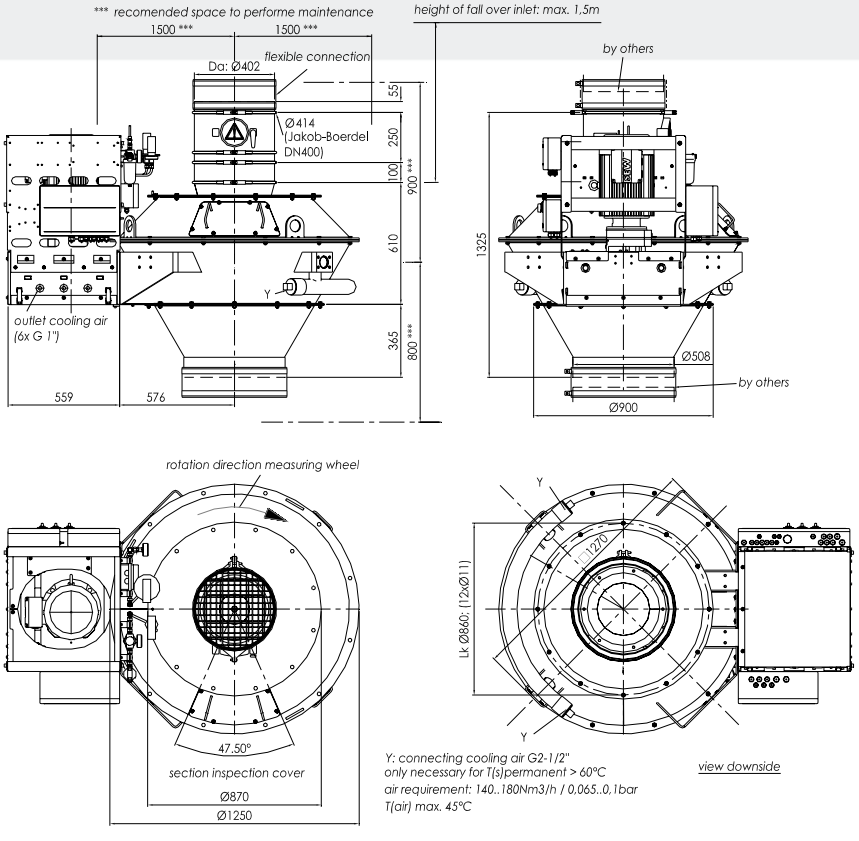
The measurement is performed independently of the mechanical characteristics of the bulk material, such as grain spectrum, flow behavior, moistness and temperature.

Bulk material friction on the measuring wheel and alterations in the speed of the bulk material flow in the measuring device have no effect on the measuring signal.

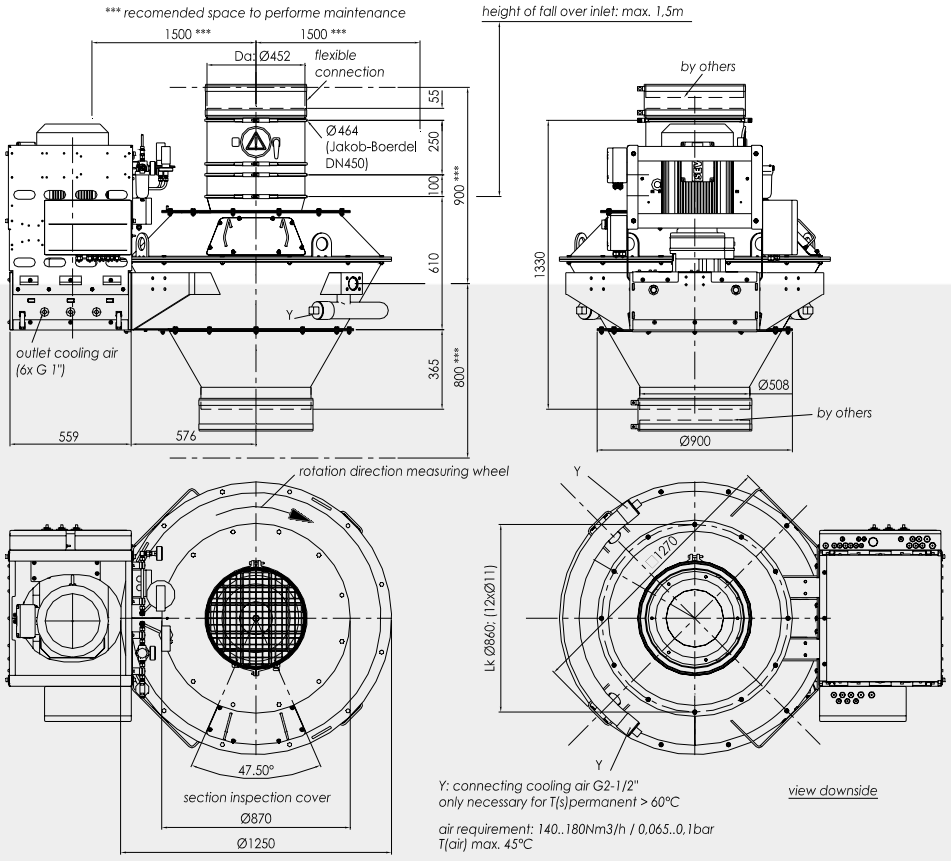
MULTICOR®-R450L Coriolis Mass Flow Rate Measuring Device



MULTICOR®-R450 Coriolis Mass Flow Rate Measuring Device



MULTICOR®-R800 Coriolis Mass Flow Rate Measuring Device



MULTICOR®-R Coriolis Mass Flow Rate Measuring Devices

schenck process

Series	R450L	R450	R800
Feed Rate	15 – 150 t/h	30 – 300 t/hr or 40 – 400 t/hr	60 – 600 t/hr
Max. Throughput Volume	400 m³/hr	450 m³/hr	800 m³/hr
Accuracy	From 0.5 % upwards (depending on the system configuration)		
Adjustment Range	1 : 10		
Operating Pressure	- 25 mbar to + 25 mbar		
ATEX	II 3 GD	---	---
Inlet Dimensions	Ø 402 mm (JACOB-pipe connection flange, nominal width 400)	Ø 402 mm (JACOB-pipe connection flange, nominal width 400)	Ø 452 mm (JACOB-pipe connection flange, nominal width 450)
Outlet Connection Dimensions	Ø 508 mm	Ø 508 mm	Ø 508 mm
Weight	700 kg	750 kg	850 kg
Permissible Ambient Temperature	-20° ... +40°C (ATEX)	-30° ... +50°C	
Max. Bulk Material Temperature with no Cooling Air Supply	not admissible in explosion hazard area	+60°C (continuous) +80°C (max. 30 min or loading systems)	+60°C (continuous) +80°C (max. 30 min or loading systems)
Max. Bulk Material Temperature with Cooling Air Supply (T_K max. 45°C)	+110°C (continuous) +130°C (max. 15 min)	+110°C (continuous) +130°C (max. 15 min)	+110°C (continuous) +130°C (max. 15 min)
Bulk Density	min. density 0.3 t/m³		
Max. Grain Size (Without / With Screen)	50 / 25 mm	30 / 25 mm	25 / 25 mm
Moisture	max. 1%		
Flow properties	free flowing to slightly sluggish, also flushing, non-sticky		
Material Properties of Components that come into Contact with Bulk Material	Housing, measuring wheel, high temperature steel 1.4404 / AISI 316 LN / 1.4571	Housing: coated mild steel Measuring wheel high temperature steel: 1.4404 / AISI 316 LN / 1.4571	

Accuracy

The accuracy given relates to the feed rate in the range 10 - 100% given the following conditions:

- The device has been installed and calibrated as per our instructions for installation and calibration.

As a result of the Coriolis principle, the accuracy is not influenced by variable material properties (flow properties, moisture, temperature, grain size).

Additional Requirements

If you should have additional requirements, such as:

- greater feed rate range,
- Use in explosion hazard areas,
- Direct feeding in pneumatic feed lines,
- Use as a feed system,

please contact us directly.

Order Info

In addition to the order number, we require the following order information in order to guarantee that the order is processed smoothly and quickly:

Material Data

Bulk density .....[t/m³]
Bulk material .....
Bulk material temperature ..... [°C]

Flow Rate Range

from .....[t/h]
to .....[t/h]

Variants
MULTICOR®-R450L Coriolis Mass Flow Rate Measuring Device for 15 – 150 t/hr with 50 / 60 Hz drive
MULTICOR® R450 Coriolis Mass Flow Rate Measuring Device for 30 – 300 t/hr with 50 / 60 Hz drive
MULTICOR® R450 Coriolis Mass Flow Rate Measuring Device for 40 – 400 t/hr with 50 / 60 Hz drive
MULTICOR® R800 Coriolis Mass Flow Rate Measuring Device for 60 – 600 t/hr with 50 / 60 Hz drive

Options
Prefeeder for MULTICOR®-R
Measuring wheel with non-stick coating
Measuring wheel with wear protection
Special measuring wheel for PE/PP powder metering
Cooling air supply unit for high bulk material temperatures

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