MULTICOR®-S450 / S800 Coriolis Mass Flow Rate Measuring Devices

Application
The MULTICOR®-S Coriolis mass flow rate measuring device is a closed measuring system for the continuous recording of delivery volume and feed rate. The MULTICOR®-S measuring devices are suitable for:
- measuring throughput and consumption, and
- the balancing 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®-S series offers solutions for many applications:
- MULTICOR®-R
  Gravity-driven feeding in processes

Structure
A MULTICOR®-S Coriolis mass flow rate measuring device consists of:
- Dust-proof housing of coated mild steel
- Measuring wheel with guide blades
- Exterior weighing module
- Cable box
- AC geared motor (three-phase current)

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 device can withstand bulk good temperatures of up to 100°C. For high temperatures of up to 130°C the device can be equipped with a cooling fan that switches on as necessary.

Function
MULTICOR®-S 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 located directly beneath the drive motor and is converted into an electrical signal.

The measurement is performed independently of the mechanical characteristics of the bulk material, such as grain spectrum, flow behavior, and moistness. 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®-S450 Coriolis Mass Flow Rate Measuring Device

MULTICOR®-S800 Coriolis Mass Flow Rate Measuring Device
MULTICOR®-S Coriolis Mass Flow Rate Measuring Devices

<table>
<thead>
<tr>
<th>Series</th>
<th>S450</th>
<th>S800</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feed Rate</td>
<td>40 – 400 t/hr</td>
<td>60 – 600 t/h</td>
</tr>
<tr>
<td>Max. Throughput Volume</td>
<td>450 m³/h</td>
<td>800 m³/h</td>
</tr>
<tr>
<td>Accuracy re Actual Value (depending on the system configuration)</td>
<td>150 – 400 t/hr</td>
<td>200 – 600 t/hr</td>
</tr>
<tr>
<td>Accuracy re Final Value (depending on the system configuration)</td>
<td>40 – 150 t/hr</td>
<td>60 – 200 t/hr</td>
</tr>
<tr>
<td>Adjustment Range</td>
<td>1 : 5</td>
<td></td>
</tr>
<tr>
<td>Operating Pressure</td>
<td>- 25 mbar to + 25 mbar</td>
<td></td>
</tr>
<tr>
<td>Inlet Dimensions</td>
<td>Ø 402 mm (JACOB-pipe connection flange, nominal width 400)</td>
<td>Ø 452 mm (JACOB-pipe connection flange, nominal width 450)</td>
</tr>
<tr>
<td>Outlet Connection Dimensions</td>
<td>Ø 508 mm</td>
<td>Ø 508 mm</td>
</tr>
<tr>
<td>Weight</td>
<td>910 kg</td>
<td>980 kg</td>
</tr>
<tr>
<td>Permissible Ambient Temperature</td>
<td>-30° ... +50°C</td>
<td></td>
</tr>
<tr>
<td>Max. Bulk Material Temperature with no Cooling Air Supply</td>
<td>+100°C</td>
<td>+100°C</td>
</tr>
<tr>
<td>Max. Bulk Material Temperature with Cooling Air Supply (Tk max. 45°C)</td>
<td>+130°C</td>
<td>+130°C</td>
</tr>
<tr>
<td>Bulk Density</td>
<td>min. density 0.3 t/m³</td>
<td></td>
</tr>
<tr>
<td>Max. grain size (without / with screen)</td>
<td>30 / 25 mm</td>
<td>25 / 25 mm</td>
</tr>
<tr>
<td>Moisture</td>
<td>max. 1%</td>
<td></td>
</tr>
<tr>
<td>Flow Properties</td>
<td>free flowing to slightly sluggish, also flushing, non-sticky</td>
<td></td>
</tr>
<tr>
<td>Material Properties of Components that come into Contact with Bulk Material</td>
<td>Housing: coated mild steel</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Measuring wheel high temperature steel: 1.4404 / AISI 316 LN / 1.4571</td>
<td></td>
</tr>
</tbody>
</table>

**Accuracy**

The accuracy given relates to the feed rate in the range 20 - 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 changes ≤ 10K, grain size).

**Additional Requirements**

If you should have additional requirements, such as:
- greater feed rate range,
- 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® S450 Coriolis Mass Flow Rate Measuring Device for 40 – 400 t/hr with 50 / 60 Hz drive
- MULTICOR® S450 Coriolis Mass Flow Rate Measuring Device for 60 – 600 t/hr with 50 / 60 Hz drive

**Options**

- Prefeeder for MULTICOR®-S
- Measuring wheel with non-stick coating
- Measuring wheel with wear protection
- Cooling air supply unit for high bulk material temperatures