Covimat 205 TO

Measuring bob

Depending on the viscosity range needed (2 to 35.800 mPas) measuring bobs and rotation speeds are chosen to suit the requirements.

Apart from the standard cylindrical measuring bob, other forms of measuring bob (e. g. Anchor bob) are possible.

Measuring area and resolution TO

Measuring bob Ø in mm	69,5	68	63	46	31
Min. Viscosity [mPas]	2	3	12	31	175
Max. Viscosity [mPas]	189	895	2.460	10.865	35.800
Resolution [mPas/0,1 mA]	1,169	5,575	15,30	67,71	222,7

(Viscosity calculated using a pressure less, resting Newtonian liquid.)

Included in delivery:

Metering head Covimat 205 TO
Measuring system
Measuring bob

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Covimat 205 TO

Online -Viscometer with Submersible Measuring systems

The Covimat 205 is a proven viscometer, that when integrated within the manufacturing process - can measure the viscosity of a liquid, 24 hours a day - 365 days a year. It delivers the data without wasting time, resources and any of the product itself.

The Covimat 205 TO enables you to continuously monitor the viscosity located in tanks or reservoirs used during the manufacturing process, product-mixing stage or during storage. The Covimat 205 TO is a rotational rheometer that can be submersed directly into a preassure-less tank or reservoir.

The measuring principle of a rotational rheometer can be explained as followed: A measuring bob is submerged into a product and rotates at a pre-defined speed. The force created by the liquid trying to stop the rotation of the bob is used for measuring the viscosity of a product.

Being a classical rotational rheometer, the viscosity of the product is measured without having to take the density of the product into consideration. Unlike vibrating or capillary viscometers, the Covimat is not affected by any variation in the density of the product.

A direct comparison to the data collected in a laboratory is possible, as laboratories use the same principle when measuring the viscosity of a product.

The wide choice of measuring bobs and rotation speeds mean that all pastes and liquids can be measured, as long as they can be pumped.

All Covimat 205 process viscometers are protected against explosion and deliver a signal that can be used for directly regulating the production process.

The Covimat 205 TO consists of 3 parts:

- Metering head
- Measuring cell
- Measuring bob

The Metering head

The Covimat metering head holds the electronics that have two functions:

- Controlling the motor that rotates the measuring bob with a user defined speed
- Measuring the viscosity and providing an analogue signal.

The speed of rotation can be set to one of 5 preset speeds using an internal switch. It can also be controlled by an external input signal.

A torsion element is used to measure the viscosity of a product.

The output is a 4-20mA signal proportional to the measured torque/viscosity. This signal can be recorded or utilised to control the customer's production line.

The metering head is protected against explosion according to ATEX.

new design

Technical Data:

Weight:	8,1 kg
Overall dimensions:	Height 386 mm Width 150 mm Depth 150 mm
Output signal: (analogue signal)	4 – 20 mA
Max. Torque: Torque tolerance:	4 mNm, >1% of the measured value. Other tolerances are available by special request.
Motor speed:	200 to 10 rpm

Motor speed range:
Switched
200/ 94.6/ 44.7/ 21/ 10 rpm

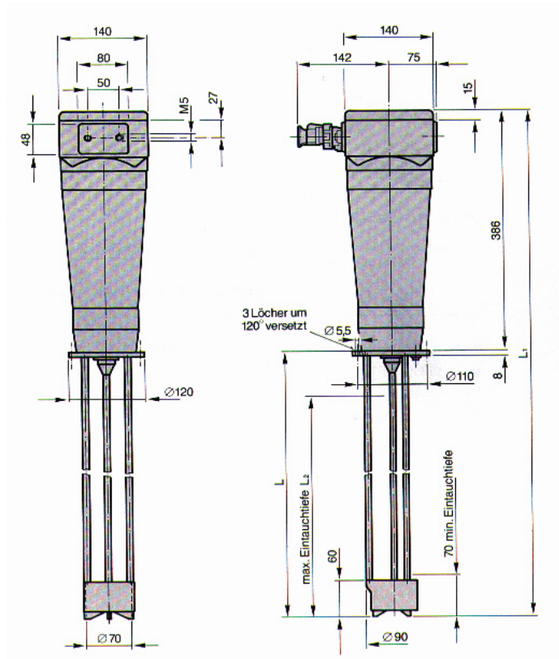
External control signal:
0 – 10 V or 4 – 20 mA
(for variable speed)

Supply voltage: 20 - 28 VDC
Supply current: <200 mA at 24 VDC)
Safety: PTB 08 ATEX 1033 X
Ex II 1/2 G Ex de IIC T6
Alternative: PTB Ex 09 19200
Ex II 1/2 G Ex de IIB T6

Operating temperature: 0 - 50 °C

Mounting position: Upright ± 3°

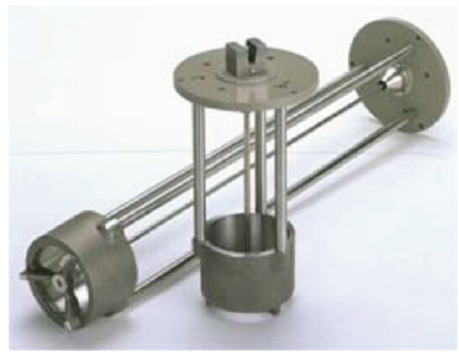
Covimat 205 TO



Standard lengths for the measuring system are: 20, 30 and 50 cm. Depending on usage, lengths of up to 130 cm can be commissioned.

TO measuring cell

The measuring cell consists of a retaining plate that is attached directly to the tank or reservoir. Attached to the retaining plate is a frame that holds the beaker firmly when immersed within the liquid.
The measuring cell itself is located at the bottom of the frame and is connected to the metering head via a magnetic coupling. The outer ring at the bottom of the frame holds the measuring bob and so, completes the measuring system.



At lengths of more than 70 cm, the frame can be cladded in stainless steel or plastic to reduce the drag caused by the measuring cell.

Technical data:

Dimensions:	200/ 300/ 500 x 90 mm
Weight:	ca. 10 kg (depending on length of frame)
Max. product temperature:	65 °C (80° up to 1 hour)
Max. pressure:	none
Measuring system material (standard)	1.4408
Measuring axle material (standard)	1.4305
Measurement system bearing:	Teflon
Immersion depth	min 70 mm
Min. distance from product to Retaining plate	40 mm