

# Conductivity Measuring Cells *CLS 20*

## Two-electrode measuring cells with constant $k = 1/\text{cm}$



The compact conductivity measuring cells have been designed especially for measurement in industrial water. The measuring cells are used together with conductivity measuring instruments of the Mycom and Liquisys families.

The measuring range for cells with a constant of  $k = 1/\text{cm}$  is from  $50 \mu\text{S}/\text{cm}$  to  $500 \mu\text{S}/\text{cm}$ .

### Areas of application

- Service water
- Waste water treatment

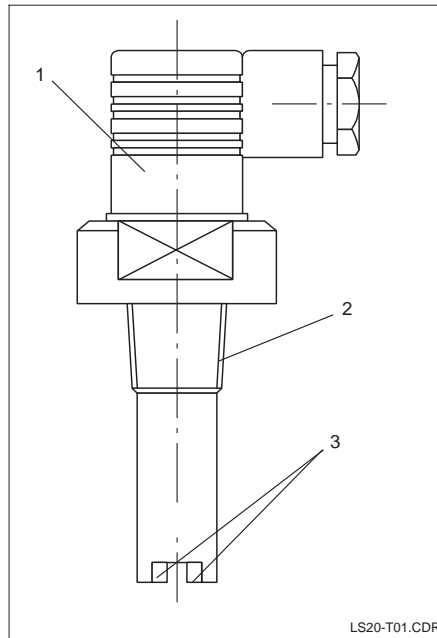
### Benefits at a glance

- High chemical, thermal and mechanical stability
- Installation in pipes or flow chambers
- Compact design



## Operating principle

- CLS 20  
1 Four-pin connector  
2 NPT thread  
3 Rod electrodes



The measuring cells can be used at temperatures up to 120 °C. The threaded PVC coupling supplied (max. temperature 60 °C) can be bonded to commercially available PVC crosses and tees (DN 25). The cell can then be easily screwed in and is pressure proof up to 6 bar.

For simple measuring cell installation in crosses or tees with DN 32, 40 or 50, specially designed adapters (made of PVC and suitable for cementing) are available.

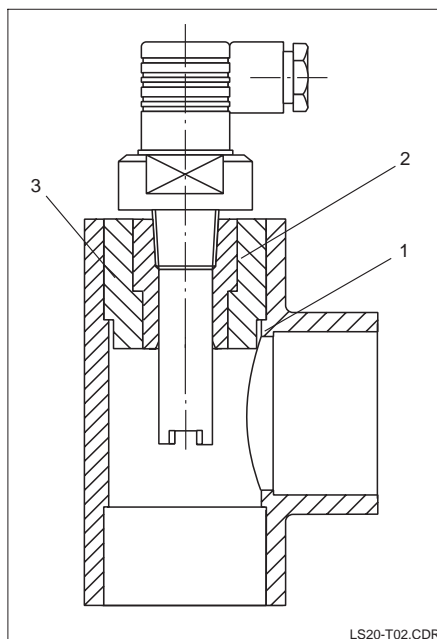
When installing the measuring cell, make sure that the rod electrodes are immersed completely into the medium during operation.

The two-electrode measuring cell CLS 20 is supplied with an alternating voltage by the conductivity measuring transmitter. The alternating current flowing through the measuring electrodes and the medium is determined by the conductivity of the medium. The rod electrodes in the measuring cell are made of stainless steel (SS 316Ti), the cell shaft of PES.

The cells are connected via a 4-pin plug connector which can be secured with a screw. The measuring cable is introduced through a Pg 9 cable gland.

## Installation

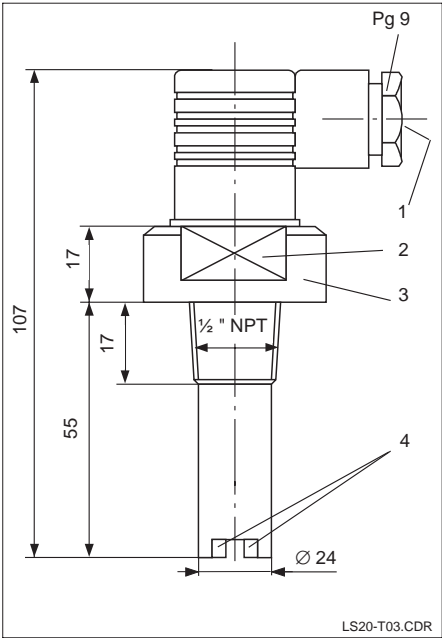
- 1 DN 32, 40 or 50  
2 Adapter for cementing (for DN 32, 40 or 50)  
3 Threaded coupling (for cementing) is supplied with the cell



Installation of the measuring cell in a standard DN 32, 40 or 50 cross or T-piece by using a bonded adapter coupling. No adapter is required for installation in DN 25 crosses or tees.

## Dimensions

Dimensions CLS 20  
with thread 1/2" NPT  
1 Cable entry  
2 36 AF  
3 PES shaft  
4 SS 316Ti



## Electrical connections

The conductivity measuring cable is connected to the plug connector terminals according to the following table:

	Terminal	SMK cabel
Inner electrode	2	Inner conductor
Outer electrode	⊕	Screen

## Accessories

- ❑ Adapter AM 32  
PVC adapter coupling for cementing.  
For installation of CLS 20 with thread  
in a commercial T 90 tee or  
DN 32 cross.
- ❑ Adapter AM 40  
As AM 32, but for DN 40
- ❑ Adapter AM 50  
As AM 32, but for DN 50

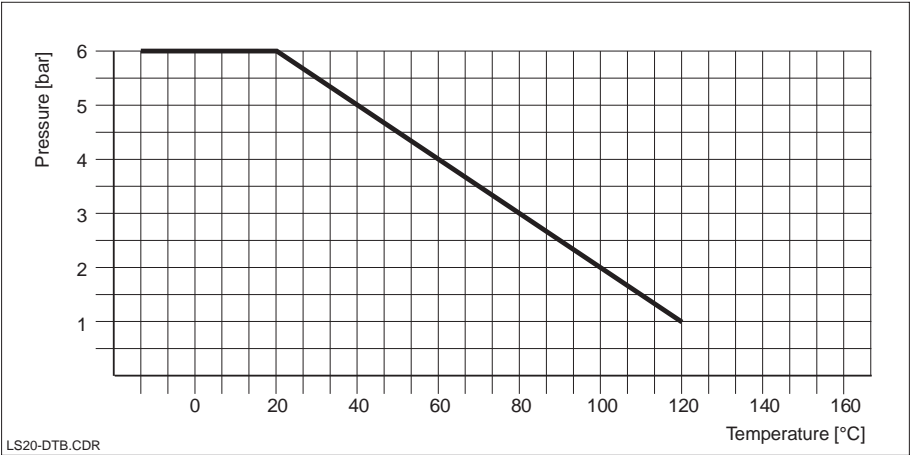
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## Pressure/temperature diagram

Pressure/temperature  
diagram



Technical data

General data	Manufacturer	Endress+Hauser
	Product designation	Measuring cell CLS 20
Material	Cell shaft	PES (polyethersulfone)
	Electrodes	stainless steel 316Ti
Conductivity measurement	Cell constant k	1/cm
	Measuring range	50 µS/cm to 500 µS/cm
Operating data	Ingress protection	IP 65
	Max. temperature	cell: 120 °C cell with threaded PVC coupling: 60 °C
	Max. pressure	6 bar (20 °C)
Process connection	Threaded coupling for cementing	PVC, max.temperature 60 °C
	Internal thread	1/2" NPT, 3/4" NPT
	Connection	four-pole plug with Pg 9 cable gland for measuring cable connection

Subject to modifications.

Product structure

Measuring cell CLS 20

Cell constant

C 50,0 µS ... 500,0 µS/cm (k = 1)

Process connection / material

1A Thread 1/2" NPT / PES-cell shaft

1B Thread 3/4" NPT / PES-cell shaft

Measuring surface / sealing

1 Stainless steel / EPDM

Temperature sensor

D Without temperature sensor

CLS 20 -

complete order code

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