

Installation instructions for bulk water meter series  
H5000, H4000, H4200, C4000, C4200, C3100, S2000



**1. Application**

Measurement of cold potable water up to 50°C (30°C for compound meters) in pipelines with a working pressure not exceeding 16 bar

**2. Technical data**

Refer to the leaflets available on the website [www.elster.com](http://www.elster.com)

**3. Safety notes**

- 3.1. The installation work may only be carried out by trained skilled personal and having regard for legal provisions and the acknowledged rules of technology for drinking water installation.
- 3.2. The meter must not be subjected to pressures higher than 16 bar. Excessive pressure can cause leakage or meter body burst.
- 3.3. The meter should always be handled only on the meter housing and should not be carried by the head flange, the register or a cable. Water meters are precision devices and must therefore be protected against dropping, shock and vibration.

**4. Selection of installation site**

- 4.1. The meter must be installed at a position where the pipeline is always completely filled with water. Therefore the meter should never be installed at the highest point of the pipeline.
- 4.2. The installation site must be a frost-proof location. The ambient temperature must not exceed 50°C.
- 4.3. Permitted installation positions, related to dial plate position:

	H5000	H4000	H4200	C4000	C4200	C3100
Horizontal	x	x	x	x	x	x
Vertikal	x	x	-	x	x	-
Überkopf	x	-	-	-	-	-

**4.4. Prescribed calming sections:**

The straight calming sections of pipe with the same diameter as the meter before and after the meter must not be less than the following values.

	H5000	H4000	H4200	C4000	C4200	C3100
U (upstream) n x DN	0	3	3	0 DN50: 3	3	3
D (downstream) n x DN	0	0	3	0	0	0

The pipe diameter should not be abruptly reduced or expanded directly upstream or downstream of the meter.

- 4.5. Flow regulating devices should shall always be installed downstream of the meter.
- 4.6. If the ingress of fibrous or solid objects can be expected the meter should be protected by a suitable strainer

**5. Meter installation**

- 5.1. The pipeline must be thoroughly flushed before installing the meter.
- 5.2. The meter must be installed in compliance with the permitted installation positions (see 4.3.)
- 5.3. The arrow on the meter body must correspond to the flow direction in the pipeline.
- 5.4. Protective membranes must be removed from the flanges.
- 5.5. Gaskets must not protrude into the pipeline.
- 5.6. For meters of series C4000 (DN50/270mm and DN80/300mm) the supplied fixing screws must be used.
- 5.7. The meter must be installed in the pipe without mechanical stress. The screws shall be tightened crosswise.
- 5.8. Operational start-up according to point 7.

**6. Replacement of exchangeable metrological units / measuring inserts**

- 6.1. Close shut-off valves before and after the meter
- 6.2. Loosen the screws on the head flange carefully and remove them
- 6.3. Pull out the insert vertically to the pipe axis
- 6.4. Check the inside surface of the body and the sealing areas for damages and contamination
- 6.5. Exchange the head gasket (a new one is supplied with the insert)
- 6.6. When installing the new insert into the body have regard that the flow arrow on the head flange aligns with the arrow on the meter body.
- 6.7. The bolts should be screwed in hand tight and then tightened crosswise with a spanner. Take care that the bolt with the drilled head is positioned next to the sealing hole in the top cover.
- 6.8. It is recommended to protect the insert from unauthorized access by a wire seal (see 6.7.)

**7. Operational start-up**

- 7.1. Open the downstream valve to allow free discharge
- 7.2. Very slowly open the upstream valve until all air has been expelled. Fully open the valve
- 7.3. Close downstream valve and check all connections for leaks
- 7.4. Reopen the downstream valve
- 7.5. Functional control: Check if the register progress corresponds to the instantaneous flow

**8. Maintenance and cleaning**

ELSTER bulk water meters are designed for maintenance-free operation. If required the measuring insert can be removed and cleaned. Chemicals, sharp objects or high-pressure cleaners must not be used for cleaning.