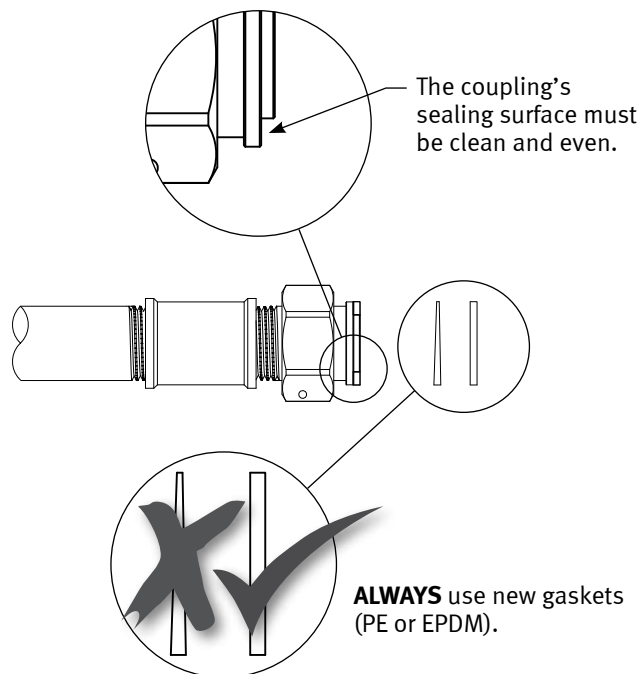


Accuracy class 2 according to OIML R 49  
 Environment class: Electrical E2 and Mechanical M1 according to MID  
 Environment class B and C according to OIML R 49 (indoors/outdoors)

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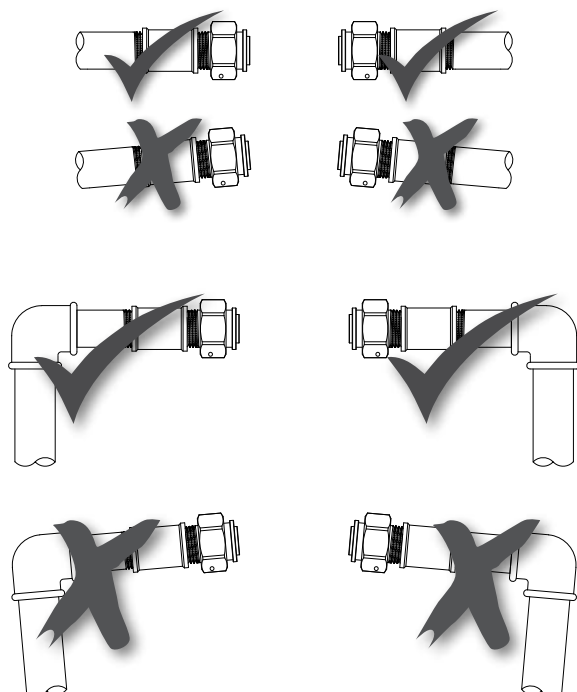
Caution: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.  
 RF Exposure compliance statement: This device may be used with no restrictions, since the source-based time-averaged output power is  $\leq 60$  f(GHz) mW.

**FCC Cautions**



With your smart phone you can enter this QR code and watch our installation film online. Or you can watch the film on <http://www.kamstrup.dk/hardlink/mc21/index.html>.

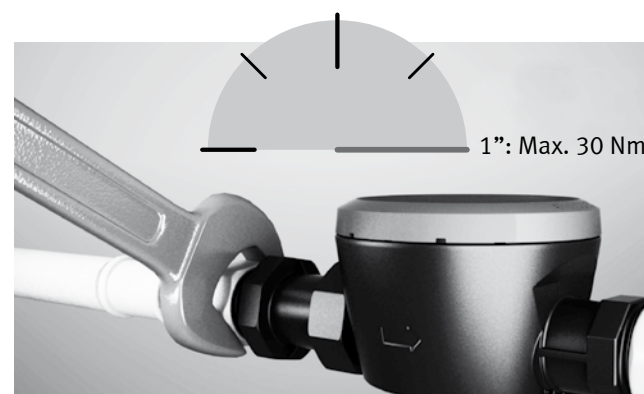
**The piping must be parallel and match the meter.**



**Torque**

If a pipe installation is skew to the effect that the prescribed tightening torques would be exceeded, a telescopic coupling ought to be installed.

**1"** Max. 30 Nm



**Installation guide for flowIQ 2100**



**Kamstrup**

[www.kamstrup.com](http://www.kamstrup.com)

# 1. General information

Read this guide before installing the water meter.

flowIQ 2100 is a compact electronic water meter used for water consumption measurement in the tap water supplies of homes, commercial and industrial buildings.

flowIQ 2100 is intended for maintenance-free operation for up to 16 years.

flowIQ 2100 is hermetically closed, and it is, therefore, impossible to service the meter without breaking the seal.

This means that all service including battery change must be carried out by an authorized Kamstrup Service Centre.

Certain changes of configuration, however, are possible via the built-in optical eye without dismounting the meter from the installation. Further details appear from data sheet and technical description.

## 1.1 Permissible operating conditions / measuring ranges

Medium temperature

cold water meter: 33°F...120°F

Pressure stage: PN16

Mechanical environment: M1 (MID) Fixed installation with minimum vibration.

Electromagnetic

environmental class: E1 and E2 (MID). Residential and commercial

Protection class: IP68

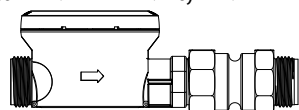
Climatic environment: 35°F...130°F. Condensing humidity. (indoors mounted in utility rooms and outdoors in meter wells). Installation in direct sunlight must be avoided. The meter must be protected from freezing.

## 1.2 Installation requirements

Prior to installation of flowIQ 2100 in a new system the system should be cleaned and flushed thoroughly. Remove the adhesive wafers from the meter's inlet and outlet and mount the meter with couplings.

If an existing install, remove all traces of old gaskets and insert new gaskets in original quality. Kamstrup A/S recommends EPDM or PE gaskets.

Install the meter according to the flow direction indicated by an arrow on the side of the meter case. An electrical grounding wire must be installed according to local electrical regulation and for safety reasons.



During installation it must be secured that the meter is mounted without mechanical tension in the connection pipes. The piping must be in line and match the meter. Do not attempt to install the meter in a misaligned pipe system or in an opening that is too long. Forcing the piping into place with the meter will seriously damage the meter.

In a properly aligned piping system with new gaskets, you should be able to mount and tighten the couplings by hand. After hand-tightening the coupling nuts, using an open-end wrench, tighten an extra ¼ to ½ turn on each coupling. Maximum allowable torque is 30 Nm.

If a tight connection cannot be obtained within these limits, the pipe installation must be corrected in order to remove strains. Alternatively a telescopic coupling must be installed.

Such couplings can be supplied by Kamstrup A/S.

For sealing you can use the sealing wire holes on the lower side of the threaded connections. Mounting the meter you must make sure that the threaded length of the couplings does not prevent proper tightening of the sealing surface and that PN10 or PN16 couplings are used.

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Mounting the meter you must make sure that the threaded length of the couplings does not prevent proper tightening of the sealing surface and that PN10 or PN16 couplings are used.



## Service

When the meter has been mounted in the system neither welding nor freezing is allowed. Dismount the meter from the system before starting such work.

In order to facilitate replacement of the meter, closing valves should be mounted on both sides of the meter.

Under normal operating conditions no pipe strainer is required in front of the meter. Non-return valves must be mounted according to local regulations.

## 1.3 Installation angle of flowIQ 2100

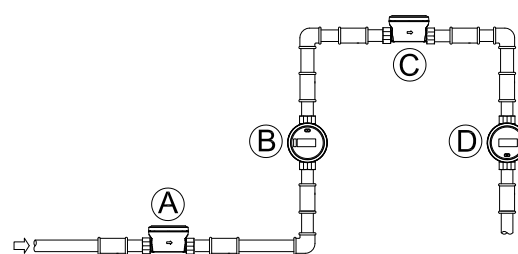
flowIQ 2100 can be mounted at all angles and positions. Kamstrup A/S recommend that the display is mounted so that it is easy to read, if possible.

Thus, the meter can be mounted in a usual horizontal installation. It can be mounted vertically in an ascending pipe, it can be mounted at any angle and it can be mounted with its display pointing downwards, e.g. under a roof.

Mounting the meter in a downpipe, you must be aware that the display will in that case be "upside down".

## 1.4 Straight inlet

flowIQ 2100 requires neither straight inlet nor straight outlet to meet OIML R49. A straight inlet section will only be necessary in case of heavy flow disturbances before the meter.



**A** Recommended water meter position.

**B** Recommended water meter position.

**C** Used for "well installation". Air build-up may occur.

**D** The meter functions optimally, but the display is "upside down".

## 1.5 Operating pressure

In order to avoid cavitation and secure correct measurement under all circumstances the operating pressure in the pipe installation must observe the test conditions of OIML R 49, which means that the static pressure immediately after the meter (downstream) must always be minimum 5 PSI (0.3 bar).

## 1.6 Info codes and display

When flowIQ 2100 leaves Kamstrup A/S, it has been tested and verified and the counter has been reset.

The number of gallons is displayed by nine big digits

A number of info codes can be displayed, of which DRY and RADIO OFF will be activated and flash upon delivery.

Furthermore, the two small squares in the bottom right-hand corner flash to indicate that the meter is active.

Info code DRY indicates that there is air in the meter, the info code disappears when the meter is water-filled.

The info code RADIO OFF indicates that the meter is still in transport mode with the built-in radio transmitter turned off. The transmitter turns on automatically when the first quarter gallon of water has run through the meter. The radio transmitter remains on, and the info code signal in the display switches off.

The small revolving symbol in the left side of the display indicate water flow through the meter. If the water is stagnant, the symbol will be off.

The table below describes the different info codes in the display.

Info code flashes in the display	Meaning
LEAK	The Water has <b>not</b> been stagnant in the meter for <b>minimum</b> one continuous hour during the latest 24 hours. This can be a sign of a leaky faucet or toilet cistern.
BURST	The water flow has exceeded a preprogrammed limit for minimum 30 minutes which is a sign of a burst pipe.
TAMPER	Attempt of fraud. The meter is no longer valid for billing purposes.
DRY	The meter is not water-filled.
REVERSE	The water flows through the meter in the wrong direction.
RADIO OFF	The meter is still in transport mode with the built-in radio transmitter turned off. The transmitter turns on automatically when the first litre of water has run through the meter.
·· (two square "dots")	Two small squares that flash alternately indicate that the meter is active.