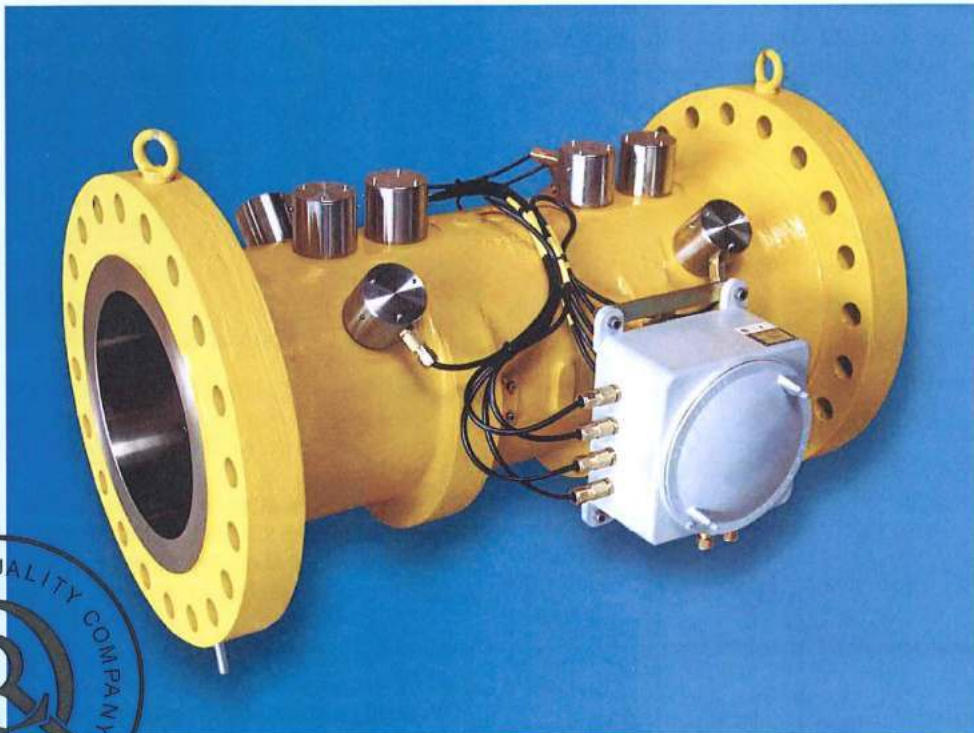




# *Instromet News*

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## **ULTRASONIC GAS FLOW METER MODEL Q.SONIC-C**



### **Highlights**

#### **LOWER CAPEX AND OPEX BY MEANS OF:**

- FULLY MAINTAINABLE UNDER PRESSURE
- LARGE TURN DOWN
- REDUCED FOOTPRINT

#### **COMPACT TRANSDUCER ASSEMBLY**

**DIAMETERS DN100/4" - DN500/20"**

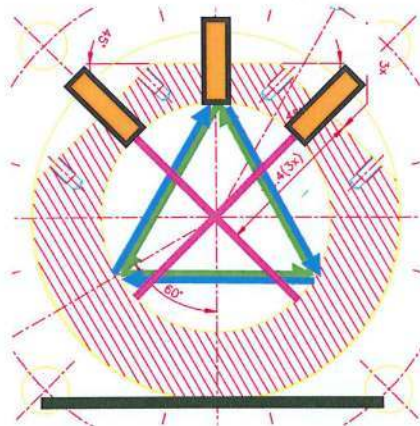
**PRESSURE RATING ANSI 150/300/600/900/1500**

The Instromet Group of companies is one of the world's leading manufacturers of gas measurement and control equipment. With over 20 manufacturing facilities and international sales offices, and with representation in more than 40 countries, Instromet can satisfy all the requirements of today's global gas sector with an extensive product range covering all areas of measurement, pressure regulation, supervisory software and control.

Since end of the year 2000 the Instromet Group is a part of Ruhrgas Industries. This Group employs over 10.000 people and is leader in total measurement on a global basis.

### Q.SONIC-C Philosophy

The increased variety of meter applications and continuous research by Instromet on Ultrasonic Flow Meters (UFM) resulted in another novel development of compact transducer assembly and combined path technology: the Q.Sonic-C. This Q.Sonic-C technology has been made available in sizes from 4" to 20" and covers the complete range of applications demanding high metering accuracy and availability.



The Instromet single- and double reflection design provide a performance equivalent to a 10 path designed conventional Ultrasonic meter



Instromet, as world market leader in custody transfer measurement, recognized the need for metering robustness in environments that not always reflect the ideal circumstances.

Wet gas with unpredictable variations in fluid composition, piping configurations with a limited straight length and ultrasonic control valve noise, all these require a meter technology with highest availability, without compromising the accuracy.

The Instromet Q.Sonic-C technology is based on 10 years of in-depth experience over an installed base exceeding 1000 meters. With design features such as diagnostics and maintainable under pressure included, this State of Art meter is fully complementary to the existing family of Instromet Ultrasonic meters.

### Ongoing Research



Research at HP test rig Lintorf (Germany)

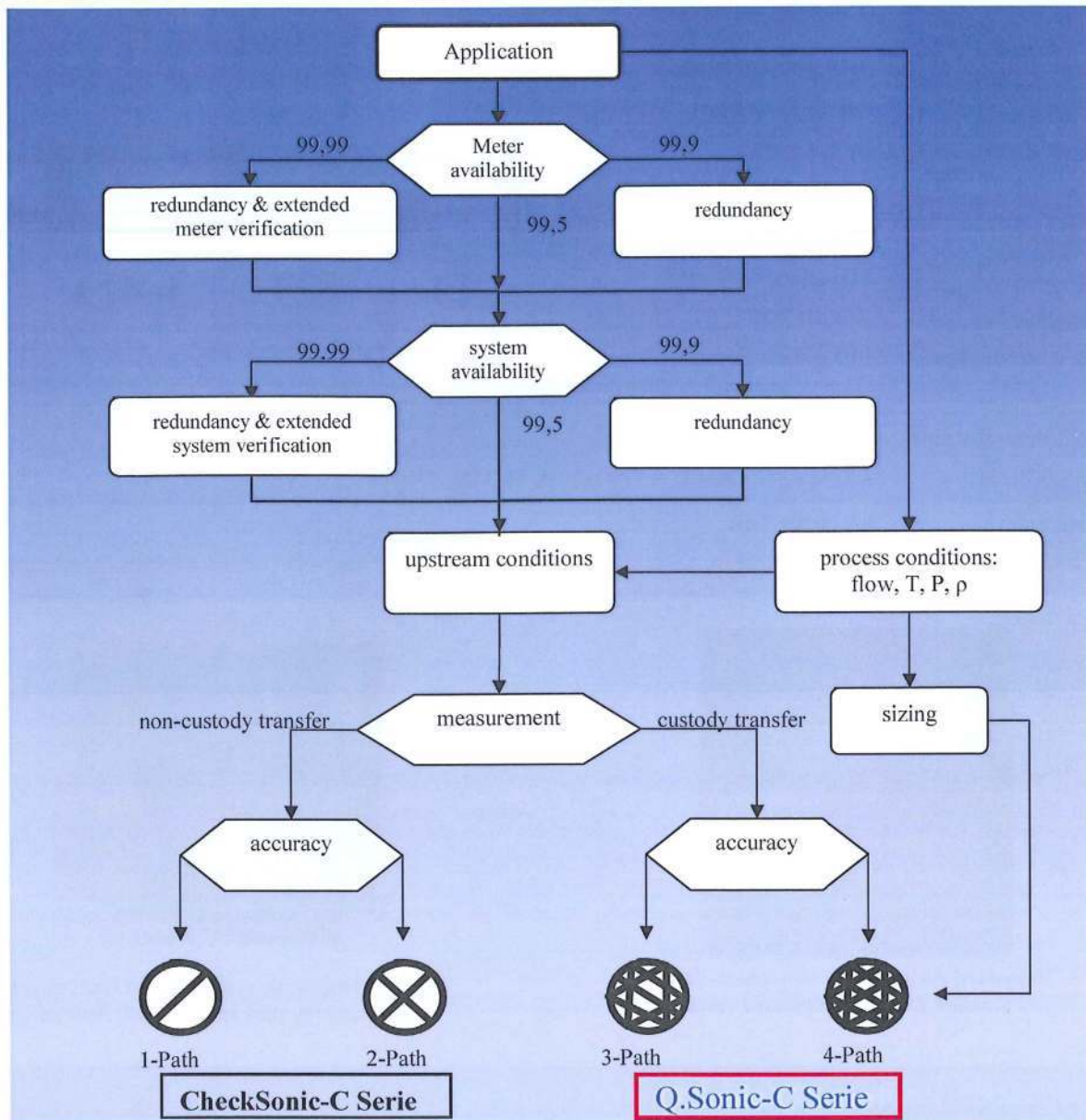
All Instromet Ultrasonic Flow meters, so also the Q.Sonic-C, are products of the outcome of CFD analysis proven by means of field tests at calibration facilities.

#### Scope of research include:

- Test under different upstream conditions:
- Pipe size reductions at different distances
- 90° bends and double bends out of plane
- Half moonplate between bends
- Test result: Measurement accuracy < 0,3% with total 5D upstream length and flow conditioner at 3D distance upstream of the UFM

A further outcome of this intensive research testing is the development of the Instromet series of novel flow straighteners.

### Ultrasonic Gas Meter Selection Chart

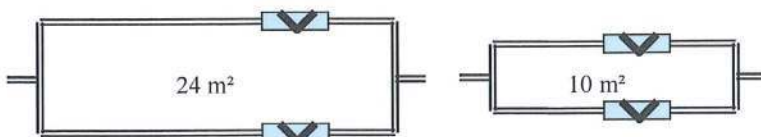


### Performance and compliance to various fluids

From 2003 onwards, the bodies of the C-series UFM are fully machined instead of the fabricated meter bodies of the already existing members of the Instromet UFM family. Machining allows for higher and repeatable tolerances increasing the overall meter performance. The bodies are either forged or casted and are available in all variations of corrosion resistance materials. All inner diameters can be accommodated without compromising on the delivery. The transducers assemblies (maximum angle 45° relative to the centerline of the pipe) are self-draining, thus, avoiding contamination of the transducer pockets or impacts created by deposits on the bottom of the pipe.

### Reduction of CAPEX and OPEX (capital & operational expenditures)

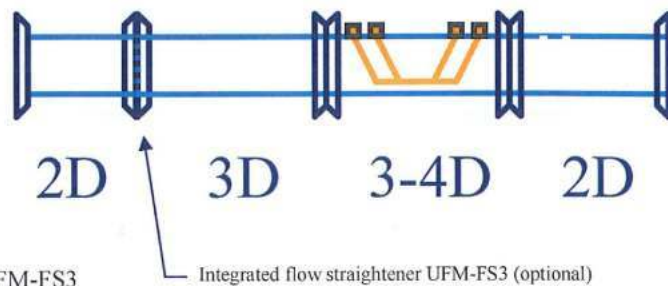
The introduction of the Instromet flow straightener in combination with the compactness and position of the transducer assembly allows a reduction of the total footprint, required to accommodate parallel meter-runs. For example the footprint area required for a 12" parallel meter-run assembly is reduced by 50%. To reduce the Mean Time to Repair (MTTR), the transducer assembly has been made compact and incorporates, as a standard feature, the facility to inspect/replace the transducers under full line pressure.



By means of one universal tool all your meters can be maintained reducing both capital and operational investments (depressurization). All meters can be equipped with full diagnostics allowing remote verification through modem, intranet or internet.

### Specification and installation

Meter type :	Q.Sonic 4C (path configuration)
Diameter:	DN100/4" – DN500/20"
Pressure range:	Acc. to ANSI Class 150/300/600/900/1500
Temperature range:	-25°C - +80°C
Accuracy:	≤0,3% with FS-3, calibrated
Turn-down ratio:	Minimal 50:1
Type approval:	PTB
Power consumption:	10W, 24VDC
Required. upstream pipe:	10D without flow conditioner 5D with integral flow straightener UFM-FS3
Required downstream pipe:	2D with integrated thermowells
UFM body material:	ASTM A352 Gr.LCC or GS-21Mn5, SS 316L, Duplex
Body certificate:	EN 10204-3.1B



**Standard** exchangeable transducers under pressure, tool with integrated valve



**Option:** Diagnostic system SuperGuard, assessing up to 4 metering runs and with full internet-access

### INSTROMET Products & Offices

#### Products

**Rotary Flow Meters - Turbine Flow Meters - Ultrasonic Flow Meters - Flow Computers  
Gas Chromatographs - Filters, Valves & Regulators - Calibration Equipment & Systems  
Metering & Regulator Stations - Supervisory Systems & Software**

#### Worldwide Sales Offices

**Argentina - Australia - Austria - Belgium - Brazil - China - Croatia - France  
Germany - Hungary - India - Italy - Korea - Malaysia - The Netherlands - Nigeria  
Poland - Portugal - Spain - Switzerland - United Kingdom - Ukraine - USA**

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