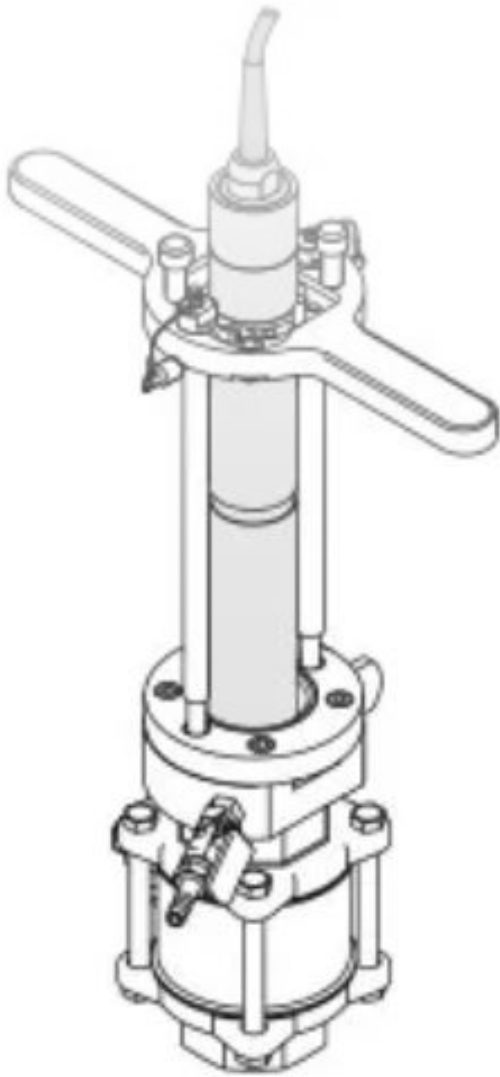




Online Measurement

Flow-thru installations for sensors



a **xylem** brand

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Note

All dimensions are quoted in mm.

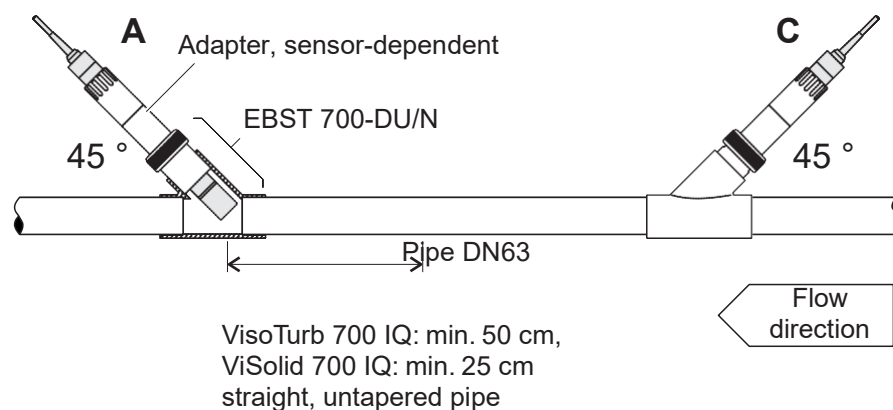
1 Measuring in pipes and containers

General installation recommendations

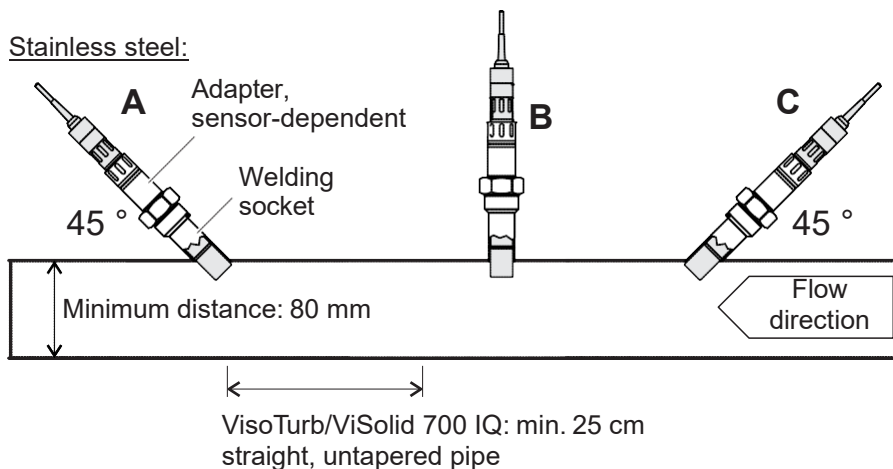
The following figures show the basic types of installation in pipes and containers. The table on the following double page contains recommendations and special characteristics of the individual sensors.

Sensor in the bypass

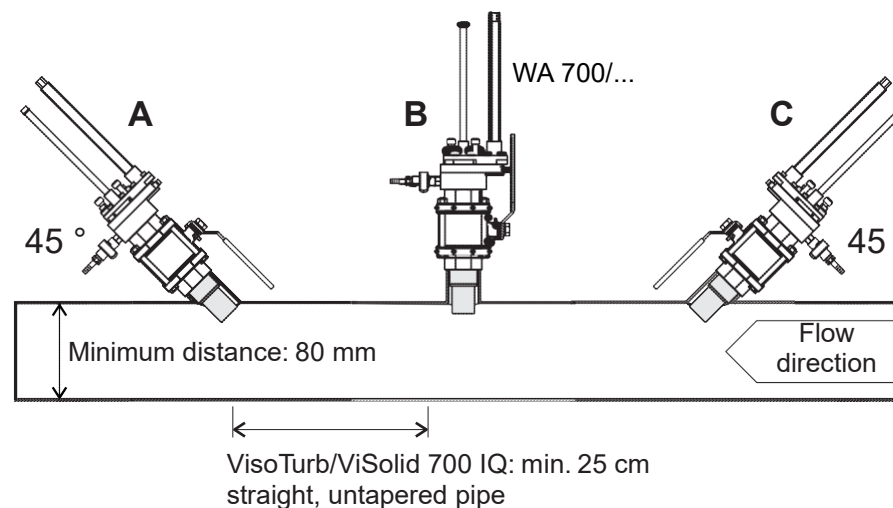
PVC:



Stainless steel:



Sensor in the process with valve assembly



Overview of the recommended installation locations



Note

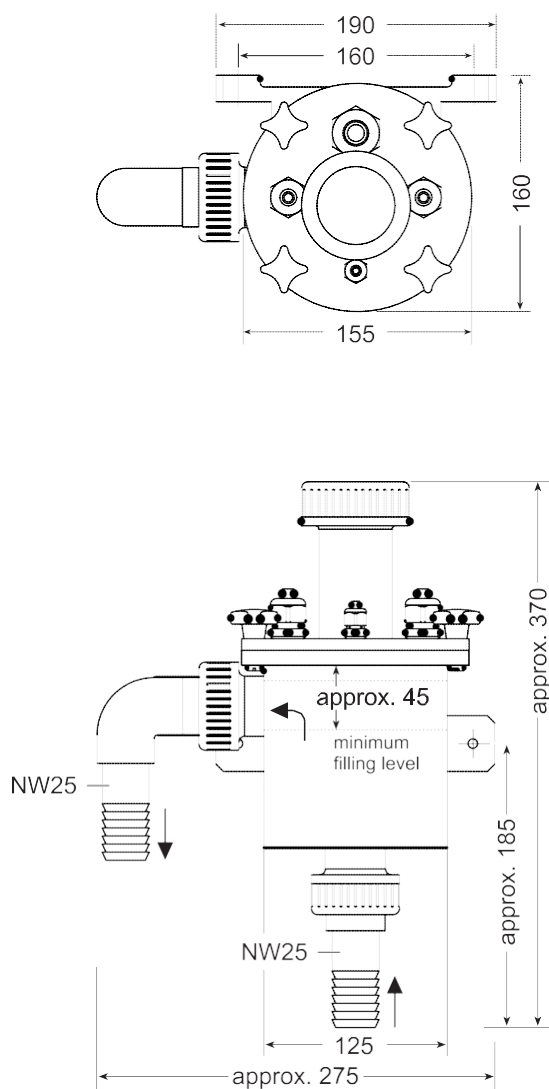
Always follow the INSTALLATION chapter of the respective sensor operating manual.

Sensor type	Installation location (see figure on page 1-5)	Advantages (+) / Disadvantages (-)	Conclusion / Comments
TriOxmatic 700 IQ, TriOxmatic 701 IQ, TriOxmatic 702 IQ, FDO® 700 IQ FDO® 701 IQ	B	+ Good incident flow + Low susceptibility to contamination + Low risk of membrane damage	
TetraCon 700 IQ	B	+ Good incident flow + Low susceptibility to contamination	Check and adjust cell constants after installation (see sensor operating manual)
SensoLyt 700 IQ	C	+ Good incident flow + Low susceptibility to contamination - Danger of small stones damaging the electrode	The enclosed fixing ring instead of the protective hood improves the incident flow. <u>Attention:</u> It is not a protection against small stones! The best incident flow is achieved when the junction points against the flow direction.

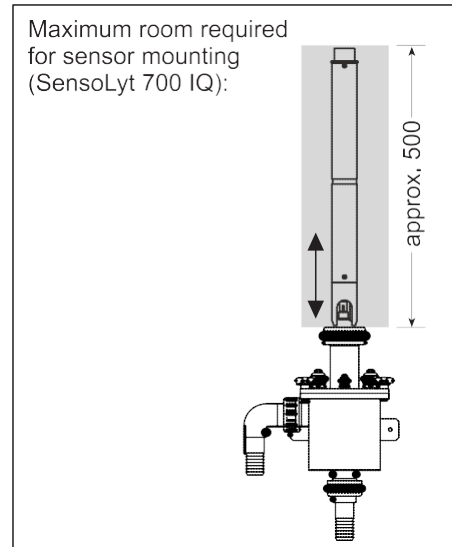
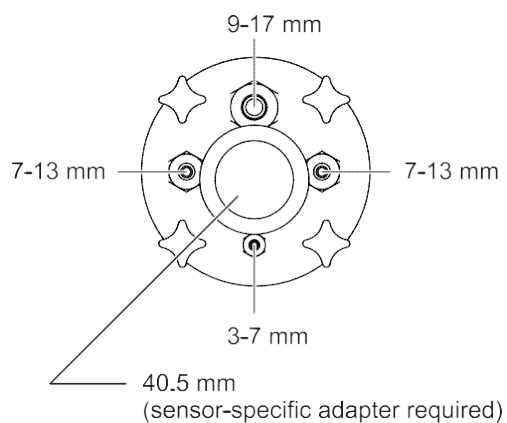
Overview of the recommended installation locations (continued)

Sensor type	Installation location (see figure on page 1-5)	Advantages (+) / Disadvantages (-)	Conclusion / Comments
VisoTurb 700 IQ, ViSolid 700 IQ	A	+ Optimum incident flow of the sapphire disc so there is no capture of air bubbles or large particles in front of the sensor - Susceptible to fibers getting caught - Risk of damage from stones and abrasive particles	Optimum installation location for measuring media without contamination from fibers, stones, or abrasive particles.
	C	+ No risk of contamination by long fibers + Low risk of damage from stones and abrasive particles - Susceptible to the capture of air bubbles or large particles in front of the sapphire disc (turbulence effect)	In the case of contamination by fibers, less prone to contamination than A.
	B	+ Good incident flow of the sapphire disc, so there is no interference from air bubbles or large particles in front of the sensor - Risk of light reflections in narrow containers	Good possibility in sufficiently large containers or high values of turbidity/ total suspended solids.

2 D 700/N flow-thru vessel



Sensor connections:



Technical data

Application

Measurement in a pressureless flow-thru vessel

Vessel volume

approx. 1100 ml

Material

PVC

Max. allowed pressure

1 bar

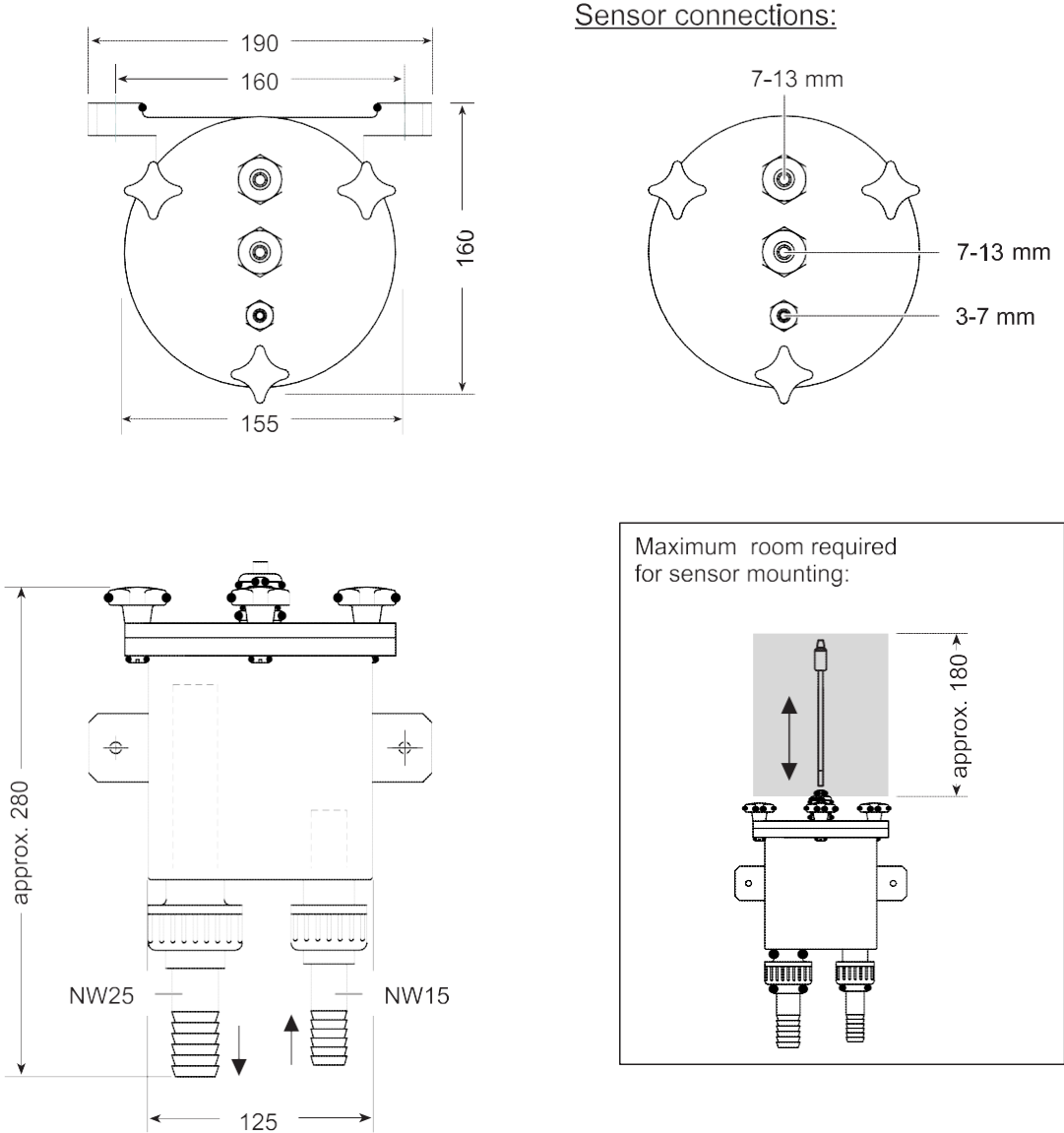
Minimum flow-thru amount

2 ... 7 l/min (sensor -dependent)

Maximum flow-thru amount

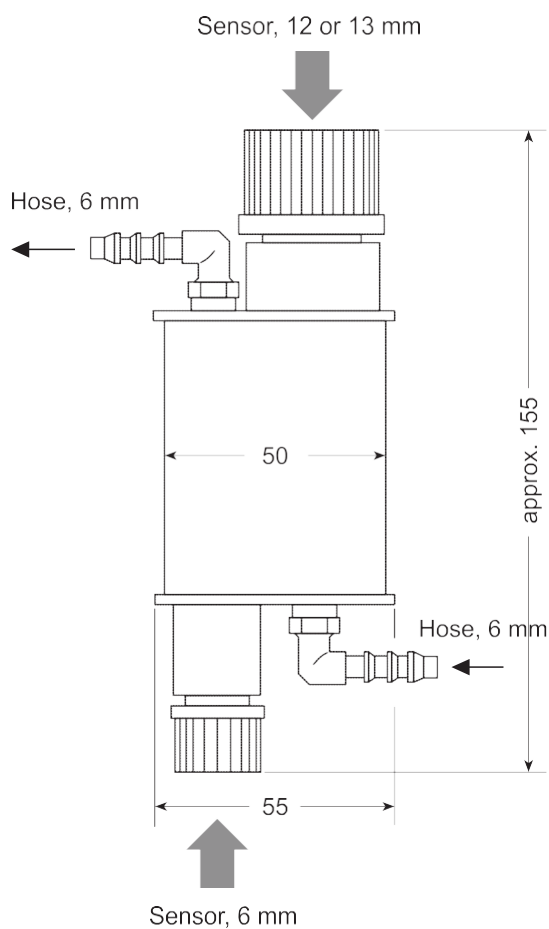
30 l/min

3 D 300/pH flow-thru vessel



Technical data	Application	Measurement in a pressureless flow-thru vessel
	Vessel volume	approx. 1200 ml
	Material	PVC
	Max. allowed pressure	1 bar
	Minimum flow-thru amount	approx. 1 l/min

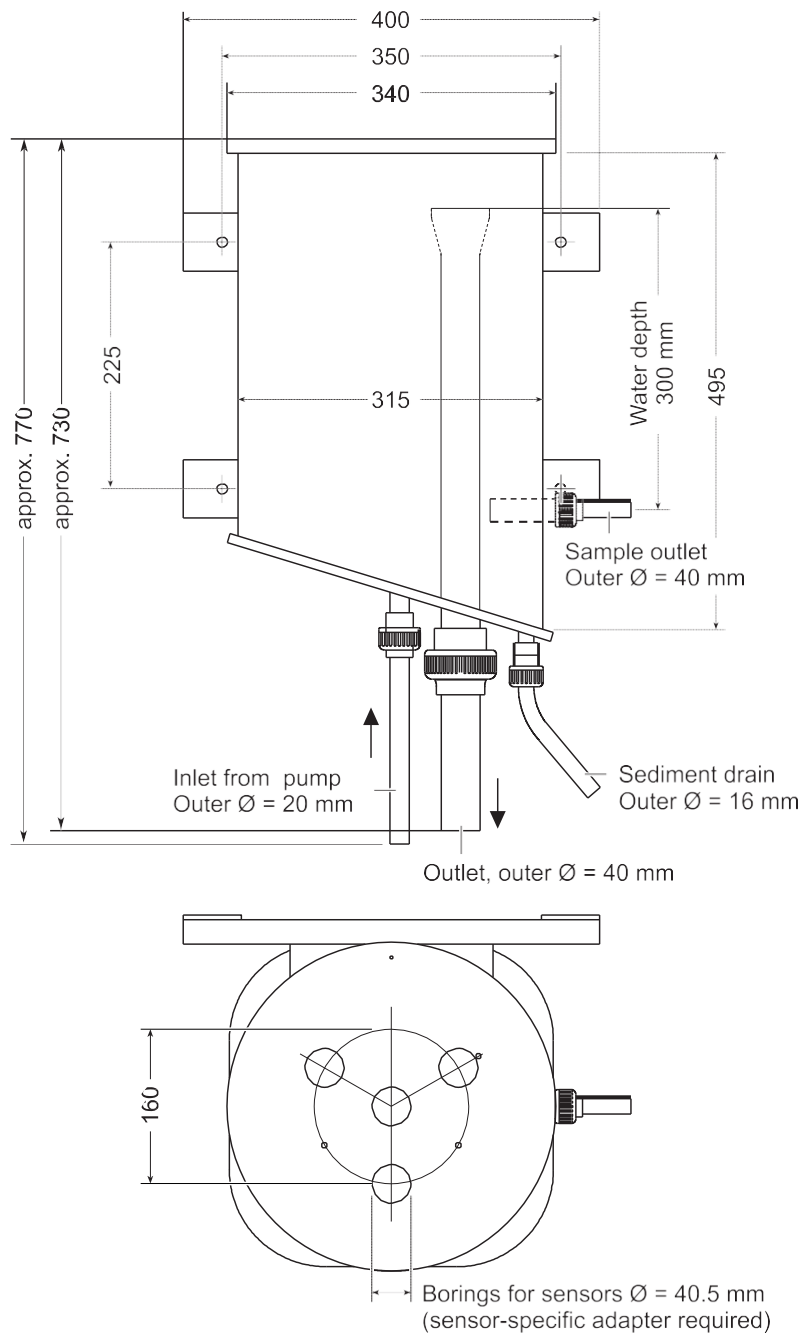
4 D 530 flow-thru vessel



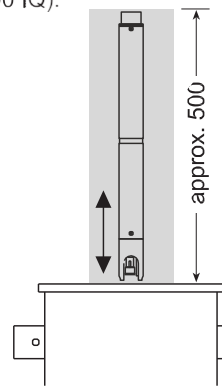
Technical data

Application	Measurement in a pressureless flow-thru vessel
Vessel volume	approx. 95 ml
Material	PVC, enclosure transparent
Max. allowed pressure	1 bar
Minimum flow-thru amount	approx. 20 ... 50 ml/min

5 DMS/N flow-thru measurement vessel

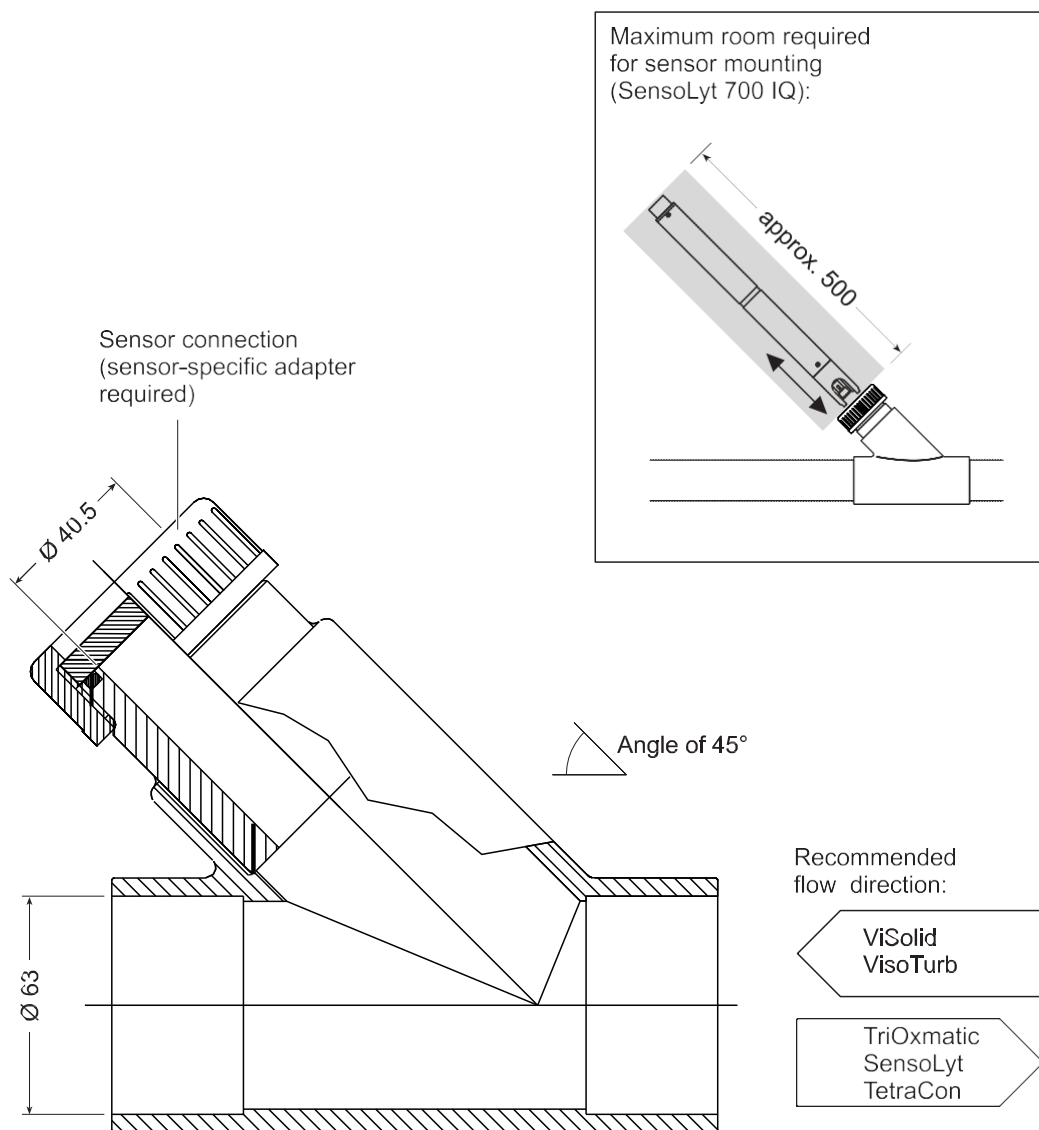


Maximum room required
for sensor mounting
(Sensolyt 700 IQ):



Application	Meas. in pressureless flow-thru vessel
Vessel volume	approx. 27 l
Material	PVC
Max. allowed pressure	1 bar
Minimum flow-thru amount	150 ... 200 l/h
Maximum flow-thru amount	approx. 1500 l/h

6 EBST 700-DU/N flow-thru armature

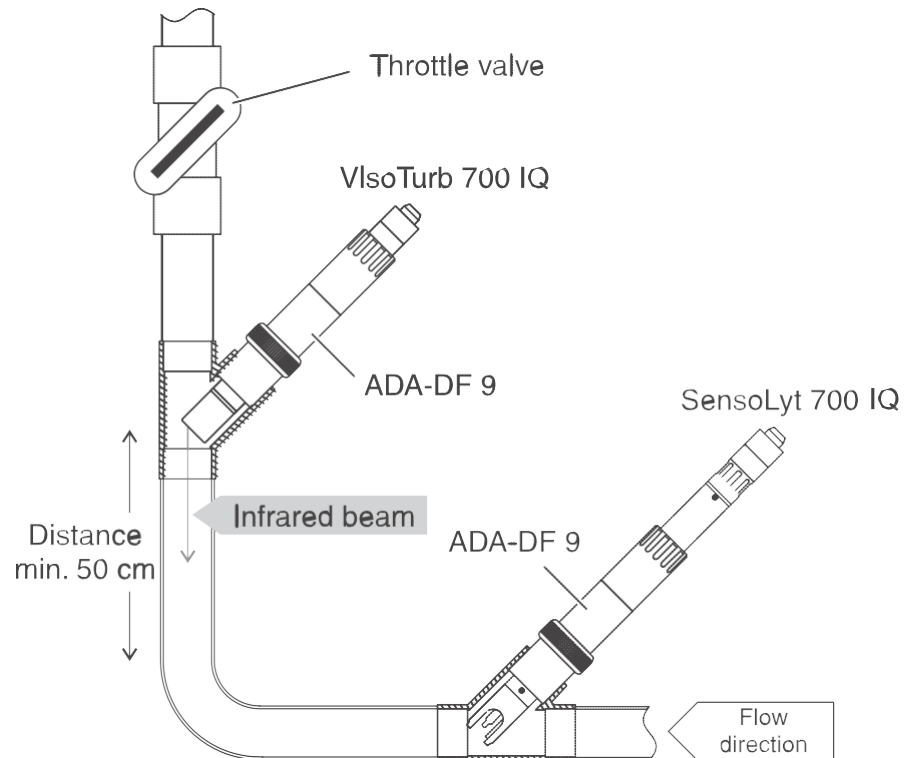


Technical data

Application	Measurement in PVC pipeline system, d 63 DN 50
Material	PVC/POM
Max. allowed pressure	3 bar
Max. allowed temperature	50 °C

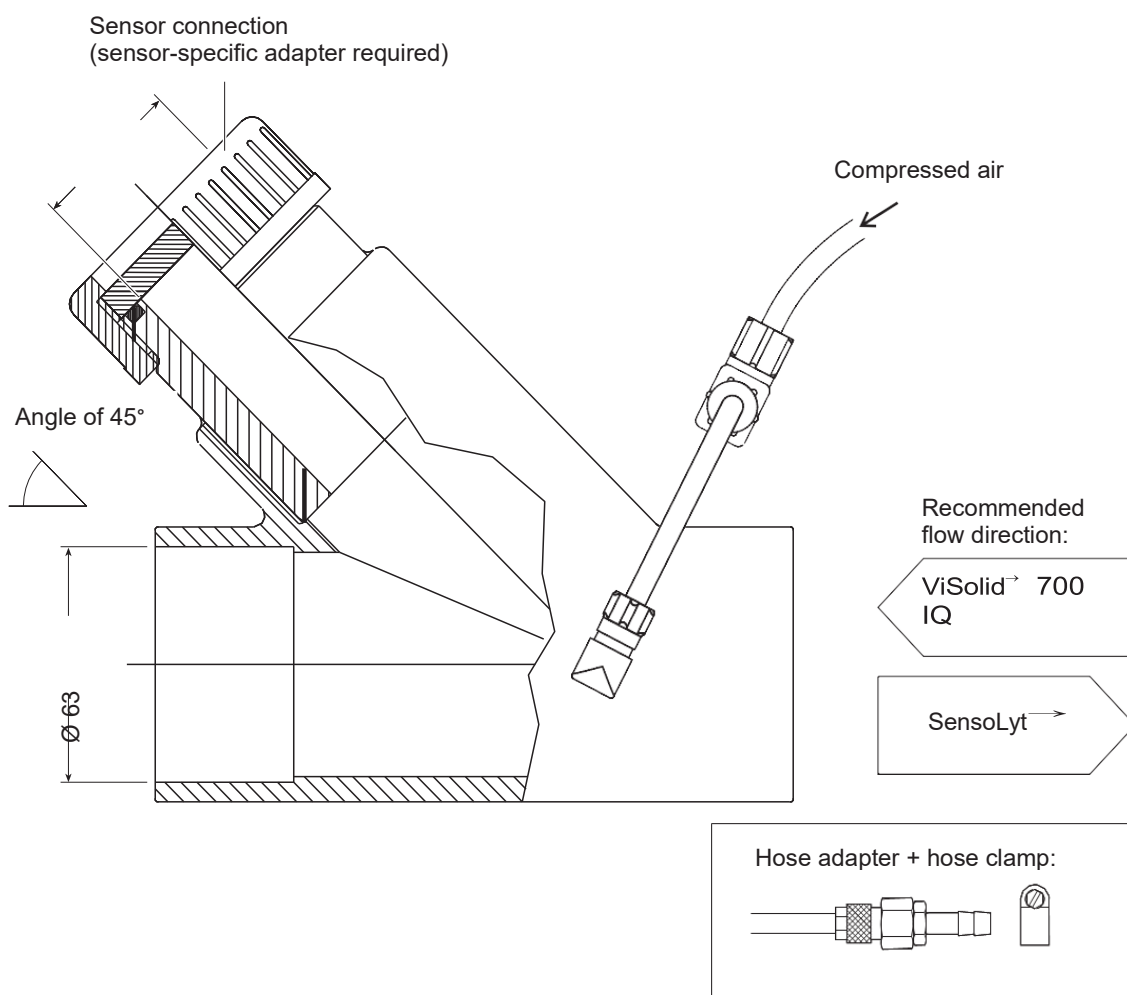
**EBST 700-DU/N
application example**

Application example of the EBST 700-DU/N in clear water (< 10 FNU):

**Notes:**

- The flow route in the area of the turbidity measurement should be installed vertically so that air bubbles can escape upwards.
- The water should flow from the bottom up through the flow route (best evacuation of air bubbles).
- If, due to the pressure decline in the configuration, the sample will probably outgas, we recommend to install a throttle valve above the measurement location.
- With a low sample flow, we recommend to regularly empty the flow route.

7 EBST 700-DU/ND flow-thru armature



Technical data Application

Measurement in PVC pipeline system d 63 DN 50. Intended for operation with automatic compressed air cleaning.

Material

Housing: PVC/POM Hose sections: PU
Fittings: POM Hose adapter: brass, nickel-plated
Hose clamp: stainless steel 1.4571

Max. allowed pressure

0,2 bar

Max. allowed temperature

50 °C

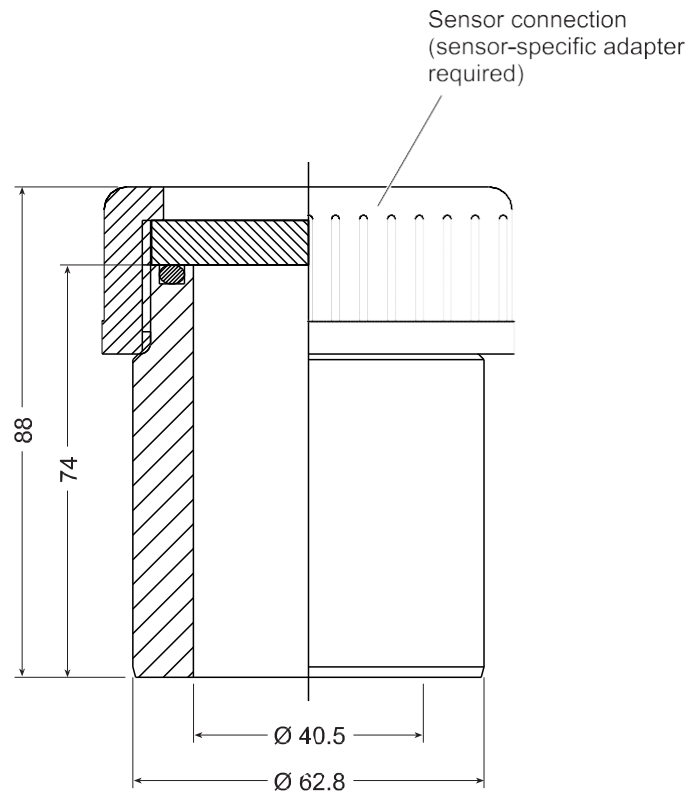
Nozzle diameter

2 mm

Schlauchanschluss

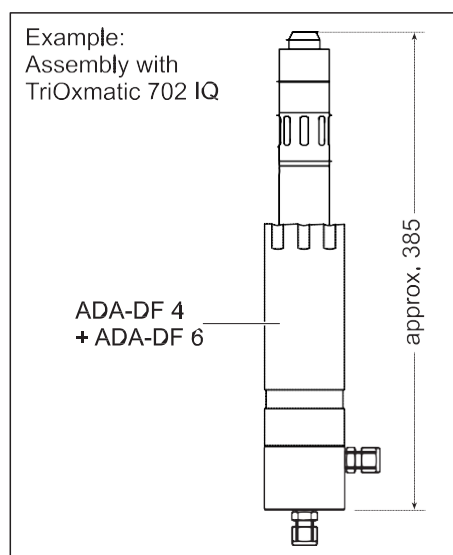
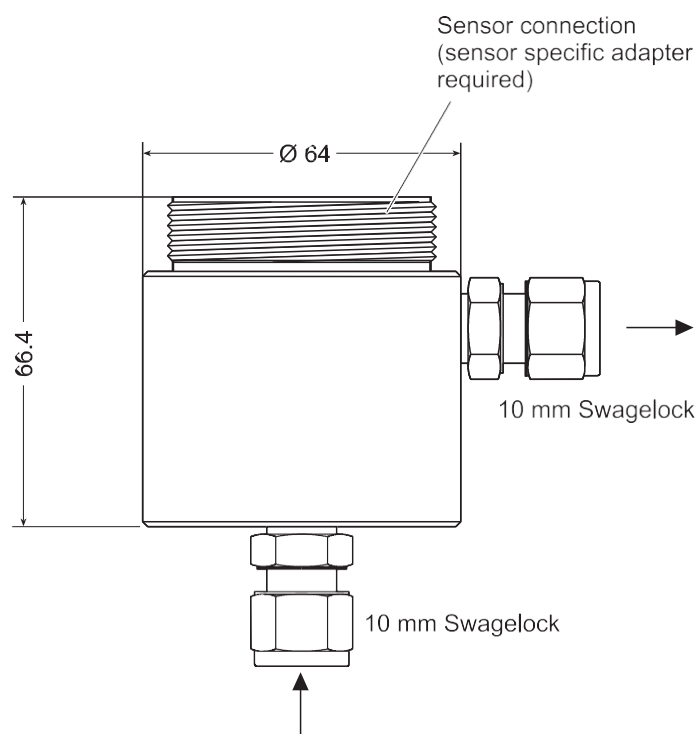
6/4 mm (10/6 mm via hose adapter)

8. EBS 700-DU/N installation set



Technical data	Application	Measurement in PVC pipeline system, d 63 DN 50
	Material	PVC/POM
	Max. allowed pressure	3 bar
	Max. allowed temperature	50 °C

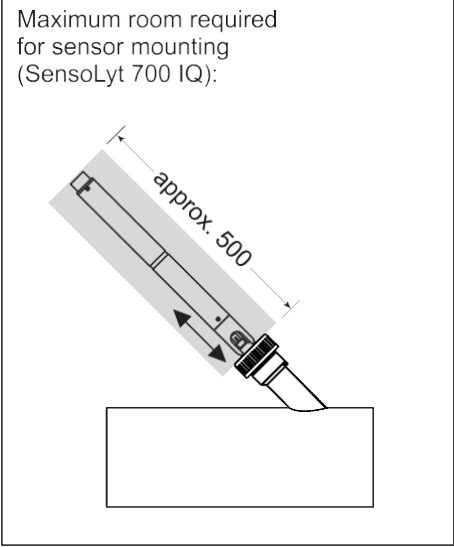
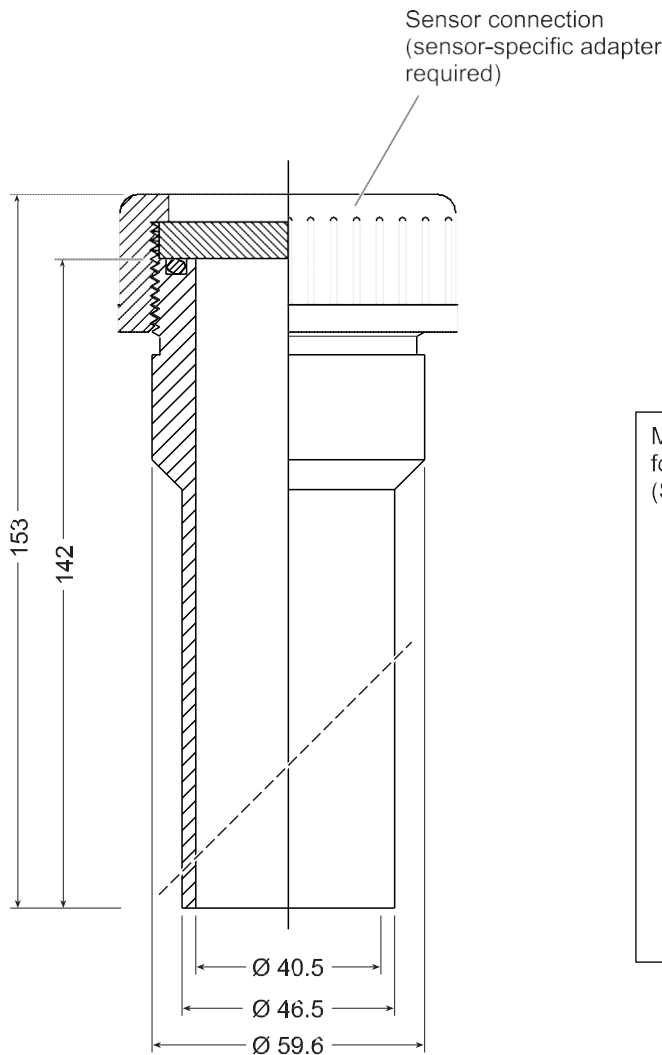
9. D 702/N flow-thru vessel



Technical data

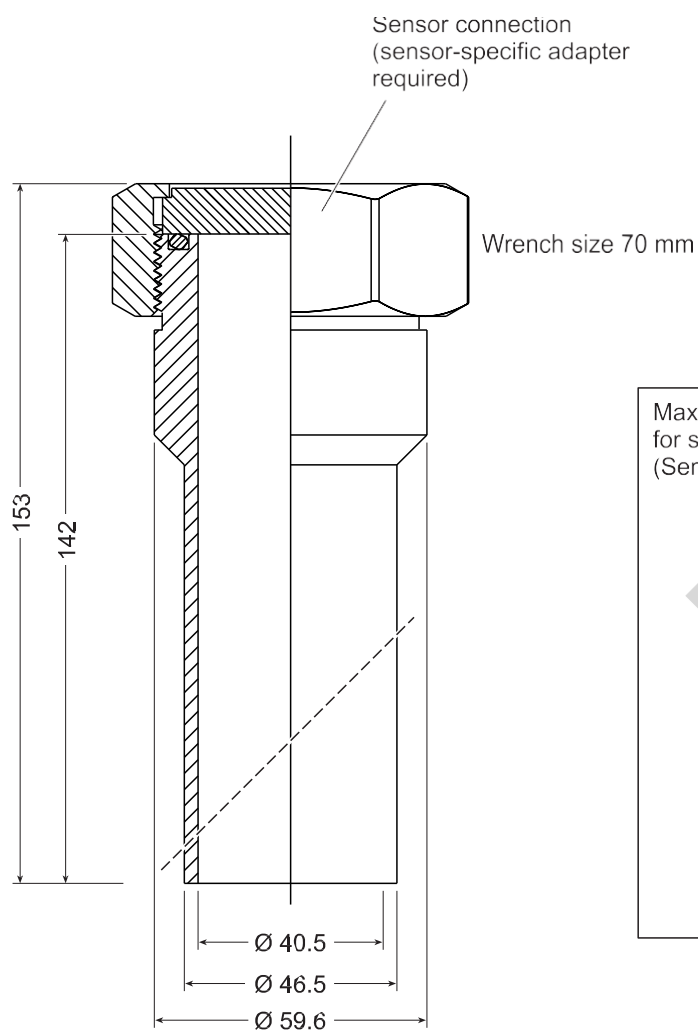
Application	D.O. measurement in a flow-thru vessel
Vessel volume	approx. 120 ml
Material	Stainless steel 1.4571 (coupling ring POM)
Max. allowed pressure	10 bar
Minimum flow-thru amount	100 ml/min

10. ESS 700 VA/N welding socket

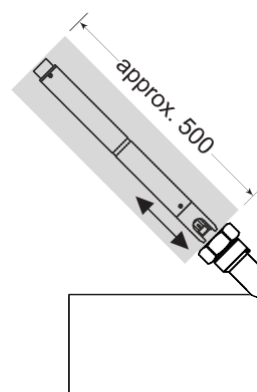


Technical data	Application	Measurement in stainless steel pipelines
	Material	Stainless steel 1.4571 (PVC coupling ring, POM blind plug)
	Max. allowed pressure	3 bar

11. ESS 700 VA/10 welding socket



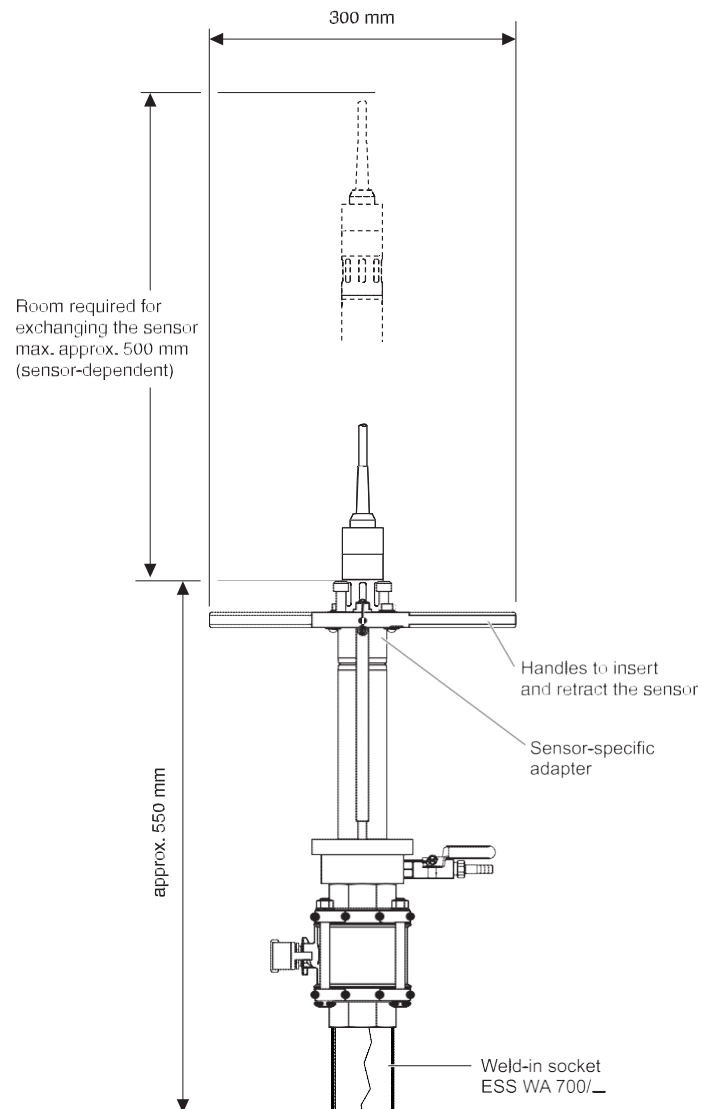
Maximum room required
for sensor mounting
(Sensolyt 700 IQ):



Technical data

Application	Measurement in stainless steel pipelines
Material	complete stainless steel 1.4571
Max. allowed pressure	10 bar

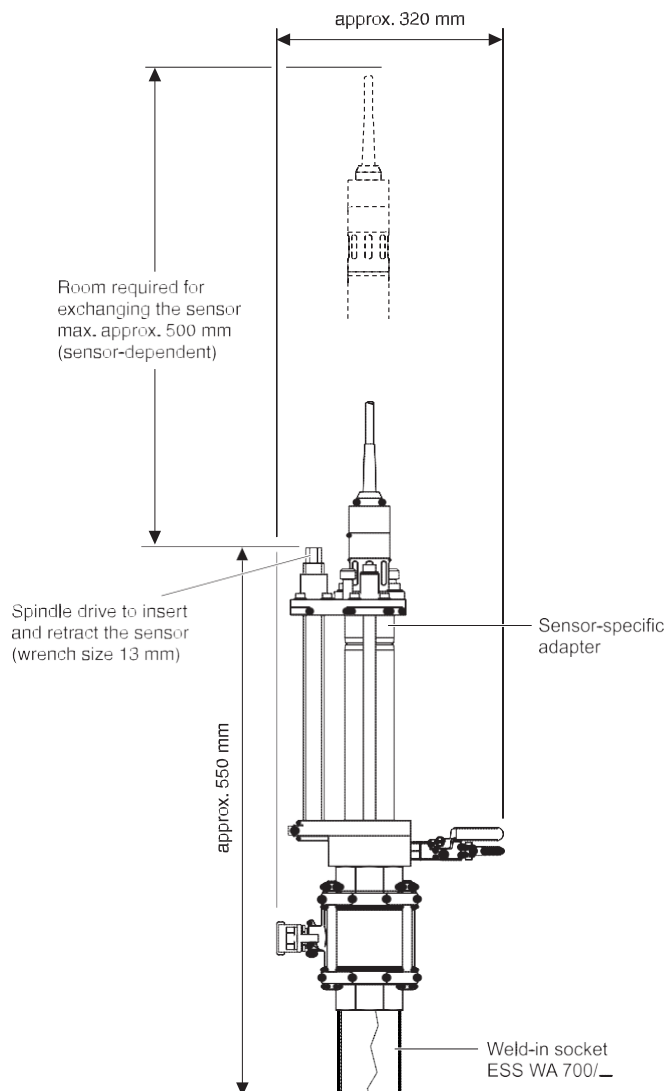
12. WA 700/2 retractable armature



Technical data

Application	Measurement in steel or stainless steel pipelines (select suitable welding socket)
Max. allowed pressure	2 bar overpressure
Max. allowed temperature	60 °C
Material	Metal parts with contact to the medium: – Stainless steel (1.4571 or 1.4408) O-rings: – FPM (Viton) Ballcock sealing: – PTFE (Teflon)

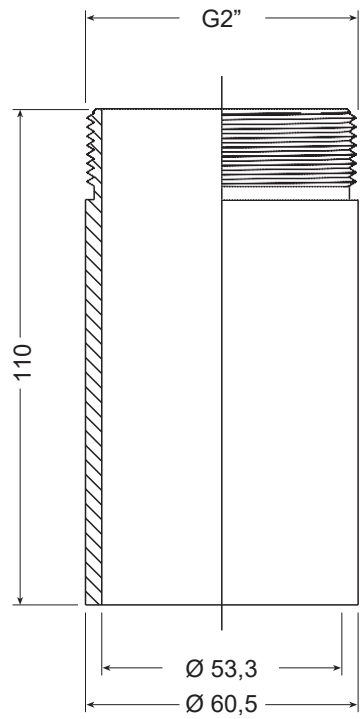
13. WA 700/10 retractable armature



Technical data

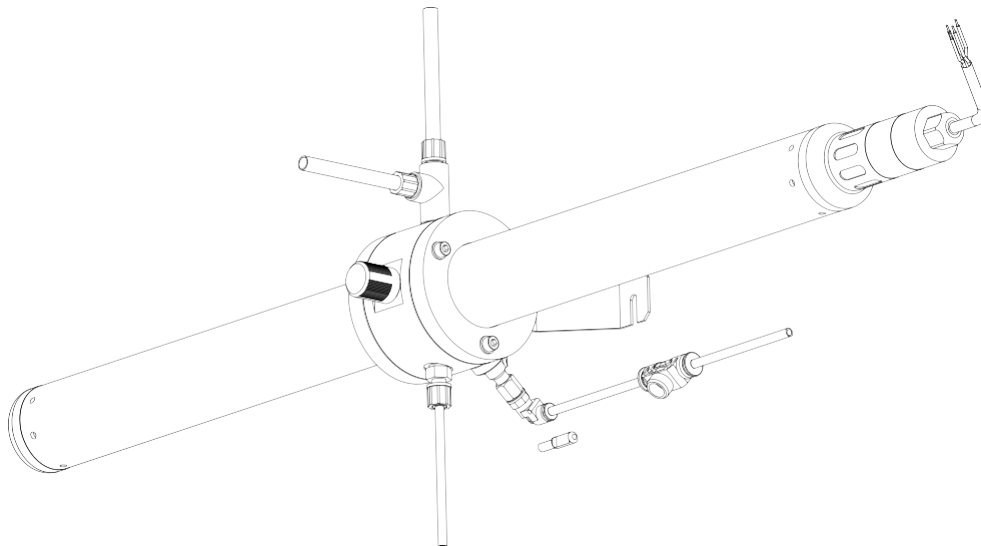
Application	Measurement in steel or stainless steel pipelines (select suitable welding socket)
Max. allowed pressure	10 bar overpressure
Max. allowed temperature	60 °C
Material	Metal parts with contact to the medium: – Stainless steel (1.4571 or 1.4408) O-rings: – FPM (Viton) Ballcock sealing: – PTFE (Teflon)

14. ESS-WA 700/... welding socket



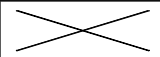
Technical data	Application	Connection of a WA 700 retractable armature to container and pipeline systems
	Material	ESS-WA 700/VA: Stainless steel 1.4571 ESS-WA 700/ST: Steel St 33
	Max. allowed pressure	10 bar

15. VIS/FT-1 measuring cell



Technical data	Application	Measurement with UV/VIS sensors in a flow-thru installation. Designed for operation with automatic compressed air cleaning.
Measuring cell volume		approx. 25 ml
Max. allowed pressure		1 bar
Minimum flow-thru amount		approx. 20 ml/min (depending on measuring interval)
Maximum flow-thru amount		approx. 500 ml/min
Material		Plastic parts that come into contact with the medium: – PVC and POM Tubes: – PU Screw couplings: – PVDF/PTFE, PA, PC O-rings: – NBR 70 Screws, wall holder: – V2A stainless steel 1.4301

16. Selection table for sensor-specific adapters

Flow-thru Adapters											
	Flow-thru Vessels										
	D 700/N Flow-thru vessel Order No. 203 745	D 702/N Flow-thru vessel Order No. 203 747	DMS/N Flow-thru vessel Order No. 203 749	EBS 700-DU/N Flow-thru adapter Order No. 203 751	EBST 700-DU/N Flow-thru adapter Order No. 203 753	EBST 700-DU/ND Flow-thru adapter Order No. 203 754	ESS 700 VA/N Welding socket Order No. 203 755	ESS 700 VA/10 * Welding socket Order No. 203 757	WA 700/2 Retractable armature Order No. 480 102	WA 700/10 * Retractable armature Order No. 480 100	
Sensor to be built in	TriOxmatic® 690/700/ 700 IN/ 701/702 **							ADA-DF12 203 783	ESS-WA 700/X 480 10X ADA-WA2 480 110	ESS-WA 700/X 480 10X ADA-WA2 480 110	
	TetraCon® 700							ADA-DF12 203 783	ESS-WA 700/X 480 10X ADA-WA2 480 110	ESS-WA 700/X 480 10X ADA-WA2 480 110	
	SensoLyt® 650/690/700			ADA-DF10 203 779	ADA-DF10 203 779	ADA-DF10 203 779	ADA-DF10 203 779		ESS-WA 700/X 480 10X ADA-WA3 480 112	ESS-WA 700/X 480 10X ADA-WA3* 480 112	
	VisoTurb® 700 IQ			ADA-DF7 203 773	ADA-DF9 203 777	ADA-DF9 203 777	ADA-DF9 203 777	ADA-DF9 203 777	ADA-DF11 203 781	ESS-WA 700/X 480 10X ADA-WA1 480 108	ESS-WA 700/X 480 10X ADA-WA1 480 108
	ViSolid® 700 IQ			ADA-DF7 203 773	ADA-DF9 203 777	ADA-DF9 203 777	ADA-DF9 203 777	ADA-DF9 203 777	ADA-DF11 203 781	ESS-WA 700/X 480 10X ADA-WA1 480 108	ESS-WA 700/X 480 10X ADA-WA1 480 108
	TetraCon® 700 IQ	ADA-DF1 203 761		ADA-DF1 203 761	ADA-DF9 203 777	ADA-DF9 203 777	ADA-DF9 203 777	ADA-DF9 203 777	ADA-DF11 203 781	ESS-WA 700/X 480 10X ADA-WA1 480 108	ESS-WA 700/X 480 10X ADA-WA1 480 108
	SensoLyt® 700 IQ	ADA-DF1 203 761		ADA-DF1 203 761	ADA-DF9 203 777	ADA-DF9 203 777	ADA-DF9 203 777	ADA-DF9 203 777	ADA-DF11* 203 781	ESS-WA 700/X 480 10X ADA-WA1 480 108	ESS-WA 700/X 480 10X ADA-WA1* 480 108
	TriOxmatic® 700 IQ/701 IQ	ADA-DF1 203 761	ADA-DF4 203 767 and ADA-DF6 203 771	ADA-DF1 203 761	ADA-DF9 203 777	ADA-DF9 203 777	ADA-DF9 203 777	ADA-DF9 203 777	ADA-DF11 203 781	ESS-WA 700/X 480 10X ADA-WA1 480 108	ESS-WA 700/X 480 10X ADA-WA1 480 108
	TriOxmatic® 702 IQ		ADA-DF4 203 767 and ADA-DF6 203 771		ADA-DF9 203 777	ADA-DF9 203 777	ADA-DF9 203 777	ADA-DF9 203 777	ADA-DF11 203 781	ESS-WA 700/X 480 10X ADA-WA1 480 108	ESS-WA 700/X 480 10X ADA-WA1 480 108
	FDO 700 IQ/701 IQ	ADA-DF14 203 787		ADA-DF1 203 761	ADA-DF15 203 789	ADA-DF15 203 789	ADA-DF15 203 789	ADA-DF15 203 789	ADA-DF11 203 781	ESS-WA 700/X 480 10X ADA-WA4 480 114	ESS-WA 700/X 480 10X ADA-WA4 480 114
	Ammolyt® Plus 700 IQ	ADA-DF1 203 761		ADA-DF1 203 761	ADA-DF9 203 777	ADA-DF9 203 777	ADA-DF9 203 777	ADA-DF9 203 777			
	NitraLyt® Plus 700 IQ	if < 0.2 bar is met		if < 0.2 bar is met	if < 0.2 bar is met	if < 0.2 bar is met	if < 0.2 bar is met	if < 0.2 bar is met			
	VARION® Plus 700 IQ										
ADA-DFX	Configuration recommended										
	Configuration basically possible (observe sensor specification, check application)										
	 Configuration not intended										
	* with electrode SensoLyt® SEA-HP										
	** only for flow-thru vessel D 702/N										

Xylem | 'zīləm|

1) The tissue in plants that carries water upwards from the roots;

2) A leading global water technology company.

We are a global team united by a common goal: to create innovative solutions to meet our world's water needs. Our work focuses on developing new technologies that improve the way water is used, treated and reused in the future. We support municipal water and wastewater, industrial, residential and commercial building customers with products and services to efficiently convey, treat, analyse, monitor and return water and wastewater to the environment. Xylem has also expanded its product portfolio to include intelligent and smart metering technologies, as well as network technologies and innovative infrastructures around data analytics in the water, electricity and gas industries. In more than 150 countries, we have solid, long-standing relationships with customers where we are known for our powerful combination of leading product brands and application expertise, supported by a tradition of innovation.

For more information on how Xylem can help you, visit:

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xylemanalytics.com

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