





OPTISONIC 4400 F

Ultrasonic liquid flowmeter for high temperature and high pressure

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Installation, assembly, start-up and maintenance may only be performed by appropriately trained personnel. Check the nameplate for correct operating conditions.
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This instrument complies with requirements of Low Voltage Directive. Instruments must not be connected to power supply before reading instructions described in the manual.
- 

This instrument complies with the requirements of Pressure Equipment Directive. Please refer to the nameplate for operating condition limits. Instruments must not be pressurised before reading instructions described in the manual.
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The responsibility as to the suitability, intended use and corrosion resistance of the used materials against the measured fluid of this device rests solely with the operator.

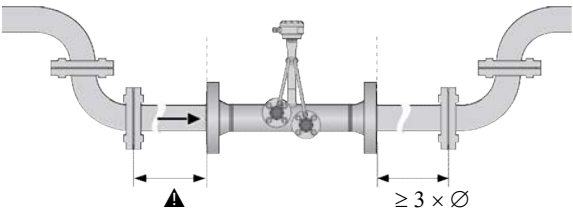
1 Installation

The actual installation depends on the version ordered. The illustrations show installation of a separate (remote) version

Inlet, outlet and T-section

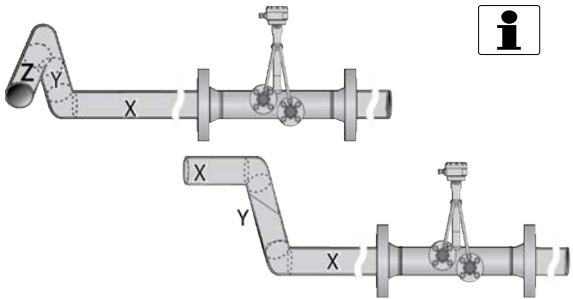
Installation instructions for $\geq \text{DN}80/ 3"$
(2 measuring paths)

Consult the manual for $\text{DN}25...65/ 1...2,5"$
(1 measuring path)



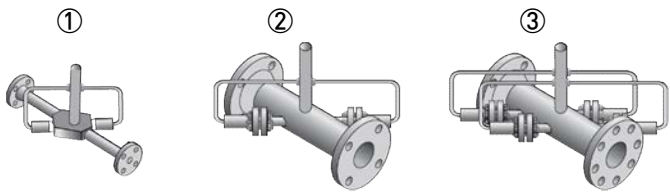
▲ see below "2D and 3D bends"

XY (2D bends upstream) : $\geq 10 \times \varnothing$
XYZ (3D bends upstream) : $\geq 15 \times \varnothing$

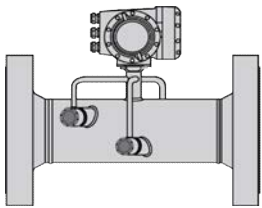


Installation: Depends on 2D/3D bends upstream

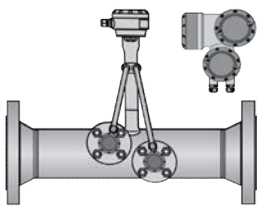
System Configuration



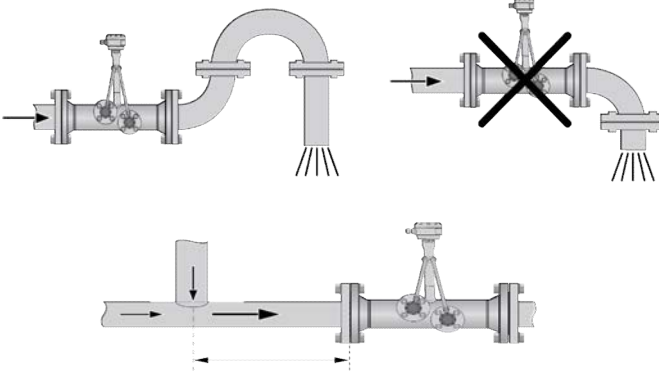
- ① Single beam HP compact version (DN25...40)
- ② Single beam version (DN50...80)
- ③ Double beam version ($\geq \text{DN}100$)



HP version
(high pressure)



HT version
(high temperature)

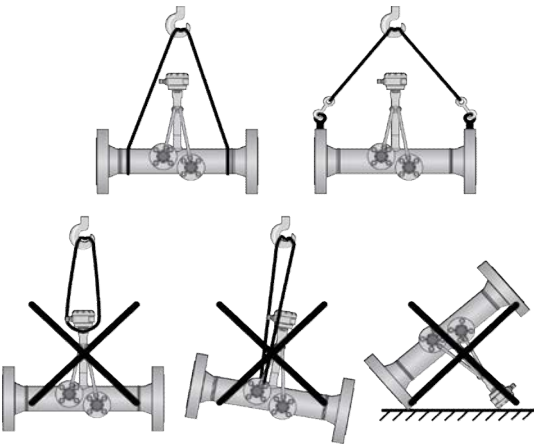


$\geq 10 \times \varnothing$



Check the manual for more details on installation options.

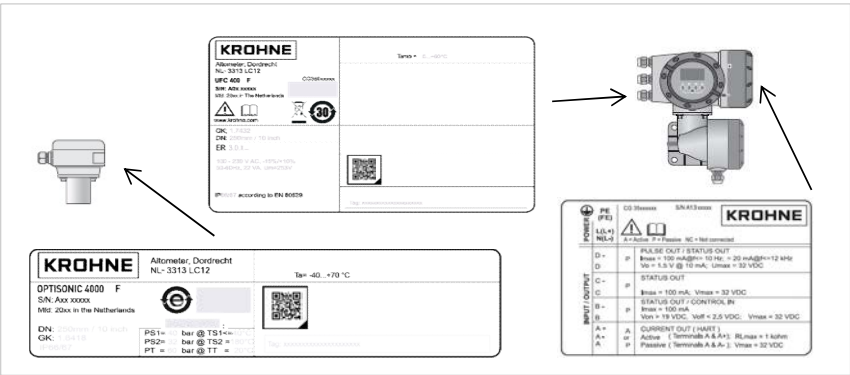
Transport



General

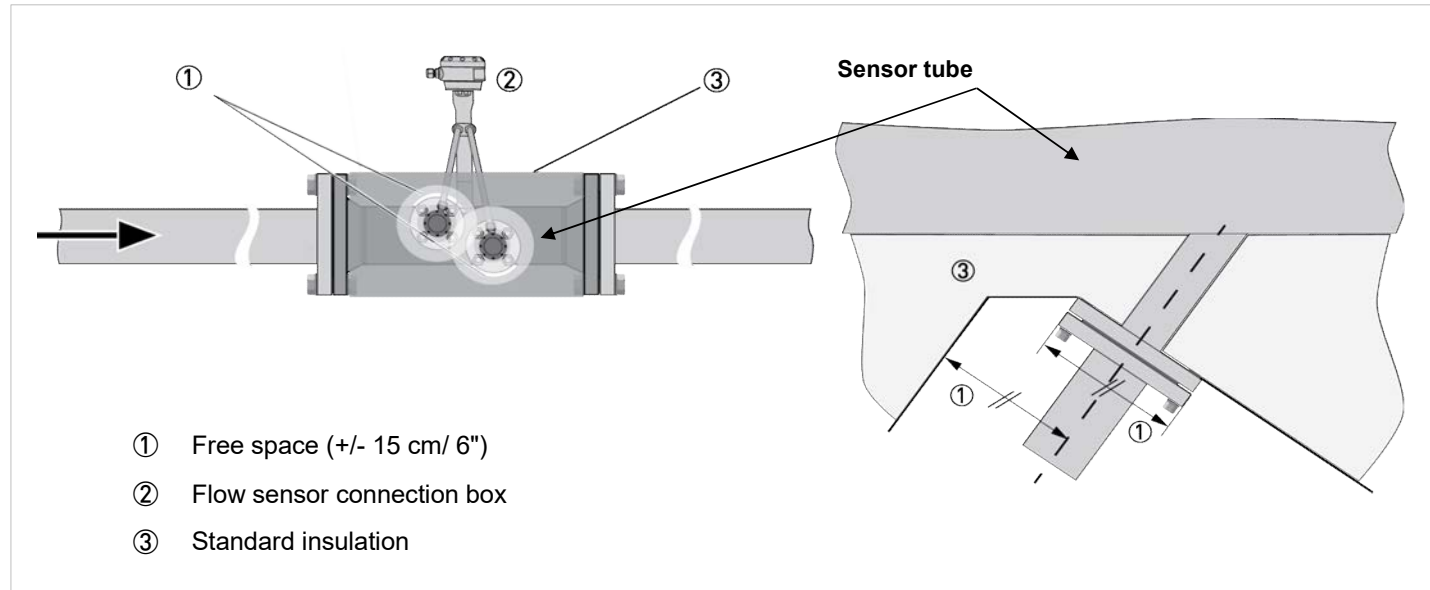
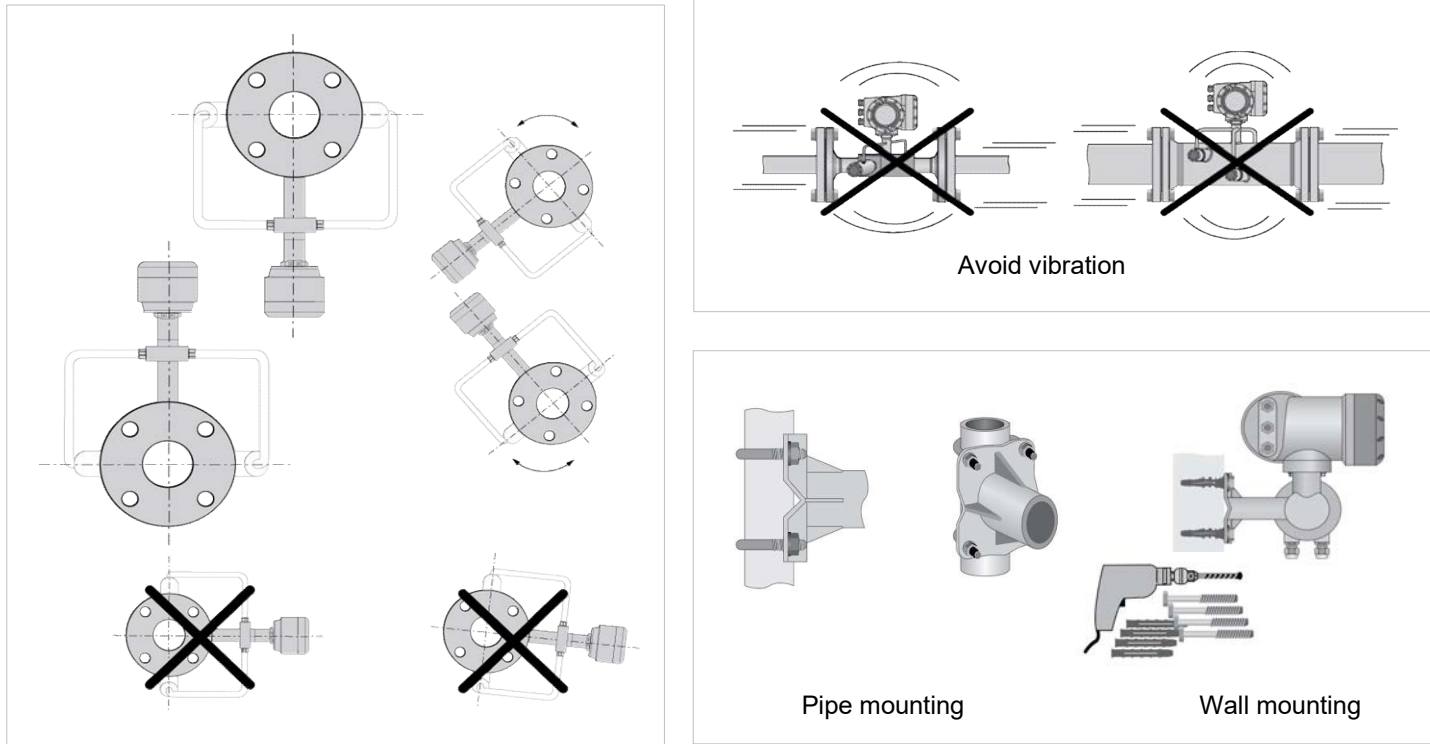
Maximum ambient and process temperatures are depending on version (e.g liner material, size), temperature and protection class and maximum surface temperature of sensor.

Device nameplate



Check the device nameplate to ensure that the device is delivered according to your order.

Installation position



Check the manual for more details on installation options.

2 Electrical connection



All work on the electrical connections may only be carried out with the power disconnected. Take note of the voltage data on the nameplate! Observe the national regulations for electrical installations!

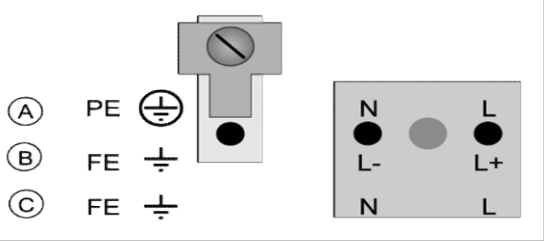


Observe without fail the local occupational health and safety regulations. Any work done on the electrical components of the measuring device may only be carried out by properly trained specialists.

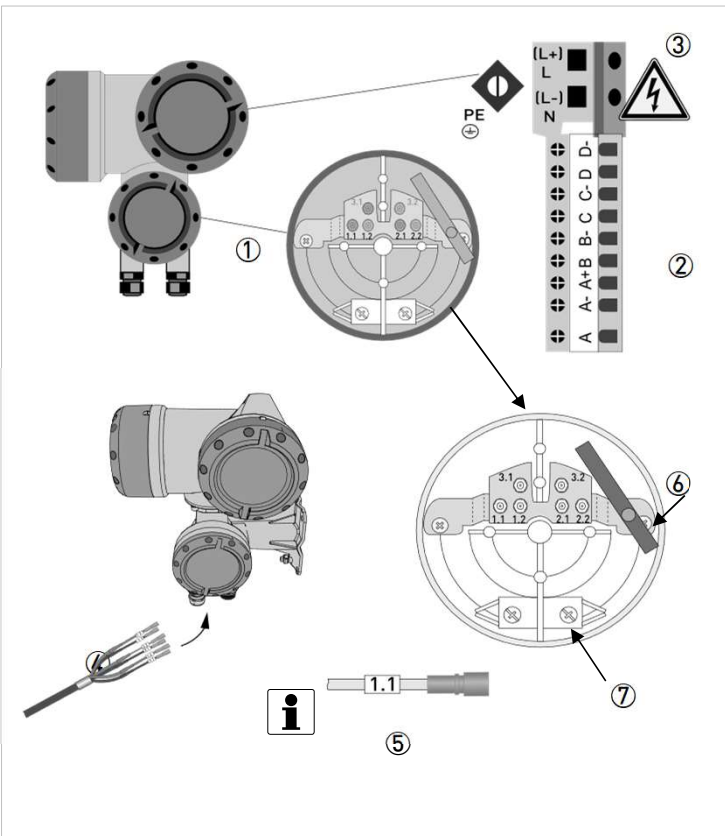


The device must be grounded in accordance with regulations in order to protect personnel against electric shocks.

Power supply - grounding



Electrical connections signal converter



- ① 100...230 VAC (-15% / +10%), 22VA
- ② 24VDC (-55% / +30%), 12W
- ③ 24VAC/DC (AC: -15% / +10%; DC: -25% / +30%), 22VA or 12W

- ① Sensor cable connections
- ② I/O connections
- ③ Mains supply connection
- ④ Insert cable(s) into terminal compartment
- ⑤ Marking on cable
- ⑥ Tool for releasing connectors
- ⑦ Grounding clamps



Connect the cable on connector with similar numeral marking

2 Electrical connection



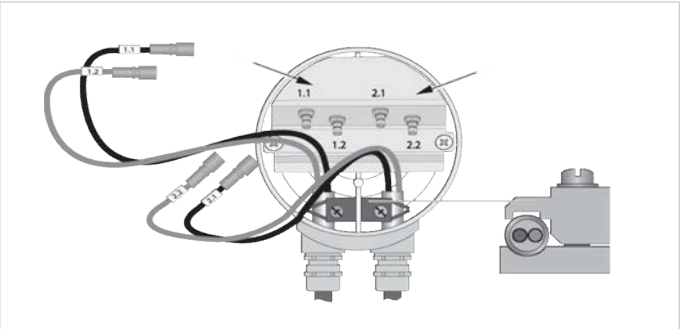
For devices used in hazardous areas, additional safety notes apply; please refer to the Ex documentation.

Refer to the manual for connection of Ex (i) acc. to NAMUR



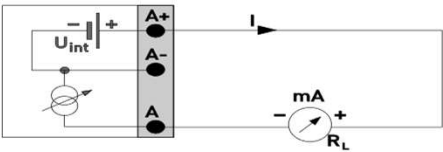
Connect the cable on connector with similar numeral marking

Signal cable to flow sensor

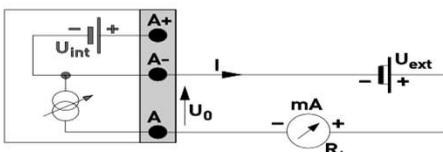


Standard version

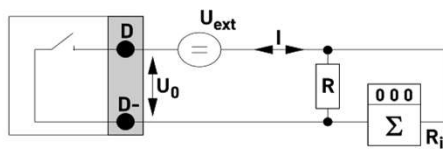
Connection diagram



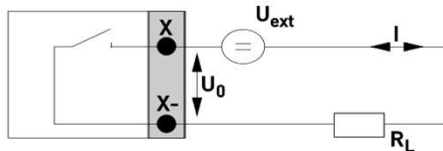
Current output active Ia (basic I/O)



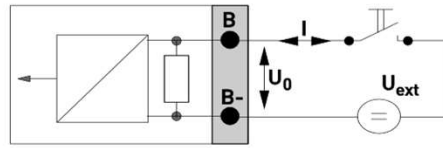
Current output passive Ip (basic I/O)



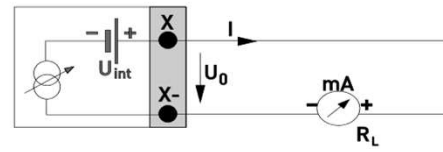
Pulse/frequency output passive Pp (basic I/O)



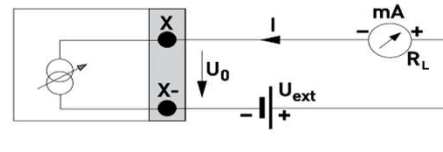
Status output/limit switch passive Sp (basic I/O)



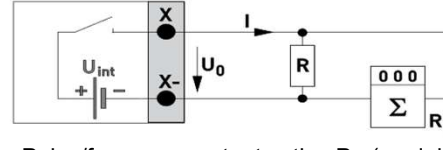
Control input passive Cp (basic I/O)



Current output active Ia (modular/Ex i I/O)



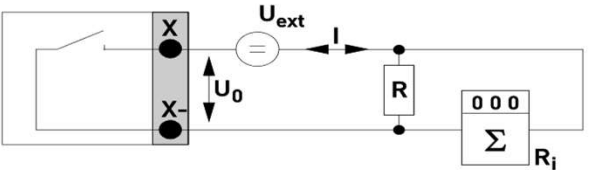
Status output/limit switch passive Sp (basic I/O)



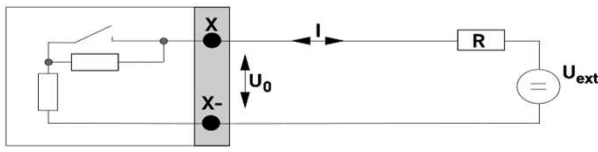
Pulse/frequency output active Pa (modular I/O)



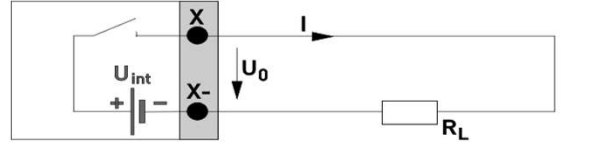
Observe connection polarity



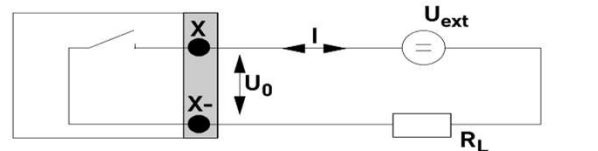
Pulse/frequency output passive Pp (modular I/O)



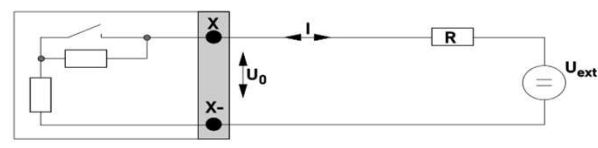
Pulse/ frequency output passive PN, NAMUR (modular I/O)



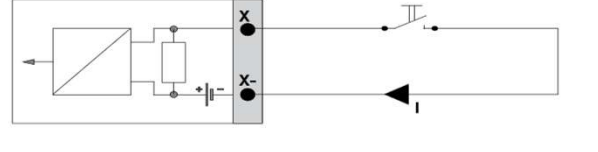
Status output/limit switch active Sa, (modular I/O)



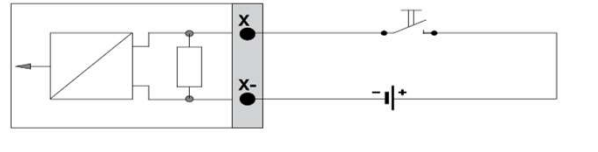
Status output/limit switch passive Sp, (modular I/O)



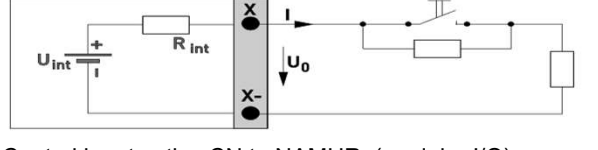
Status output/limit switch SN, NAMUR, (modular I/O)



Control input active Ca, (modular I/O)

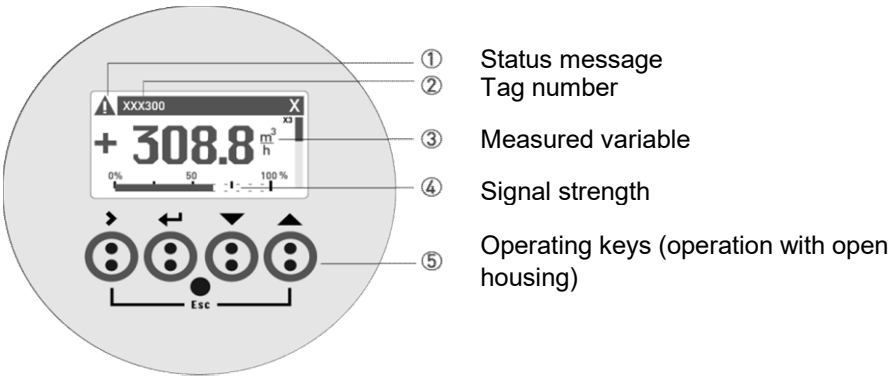


Status output/limit switch passive Sp, (modular I/O)



Control input active CN to NAMUR, (modular I/O)

3 Quick Setup



Measuring mode		Select menu		Select Submenu		Functions	
Press > 2.5 s		↑ ↓		↑ ↓		↑ ↓ >	
A Quick Setup	>	A1 language					
		A2 tag					
		A3 reset	>	A3.1 reset errors			
				A3.2 totalizer 1			
				A3.3 totalizer 2			
				A3.4 totalizer 3			
		A4 Analog Outputs	>	A4.1 measurement			
				A4.2 unit			
				A4.3 range			
				A4.4 low flow cutoff			
				A4.5 time constant			
		A5 Digital Outputs	>	A5.1 measurement			
				A5.2 pulse value unit			
				A5.3 value p. pulse			
				A5.4 low flow cutoff			
A6 GDC IR interface							

Download documents/software
 Scan the code on the nameplate or scan the following code and enter the serial number.



Contact

Select your country from the region / language selector to view your local KROHNE contact details on:

www.krohne.com