

TECHNICAL DATA SHEET

NanoPULS™



GENERAL INFORMATION

NanoPULS	
PURPOSE	<ul style="list-style-type: none"> The NanoParticle Ultrasound Sensor (NanoPULS) is an online nanoparticle counter for semiconductor grade Ultrapure water (UPW). Designed and manufactured for applications such as online UPW monitoring, polishing profiling, semiconductor yield enhancement and UP-grade filter evaluation. The NanoPULS comprises one Transmitter Unit (TU) and 1 to 4 Sensor Units (SU) connected to the Transmitter Unit. This modular design allows simultaneous measurements at different size channels or sample points.
INSTALLATION	<ul style="list-style-type: none"> Requirements: one UPW inlet and one UPW outlet. No external equipment, consumables or computer required to run the NanoPULS. See operation manual or contact Ovivo for further information.
OPERATION	<ul style="list-style-type: none"> The NanoPULS must be used exclusively indoors, in a dry environment without condensing humidity (typically in a conditioned analyzer cabinet). It is designed to operate 24/7 without intervention. In case of flow issues, the measurement stops automatically.
MAINTENANCE & CALIBRATION	<ul style="list-style-type: none"> Ovivo recommends an annual maintenance of the Sensor Units. Ovivo will provide software updates for the Transmitter Unit.



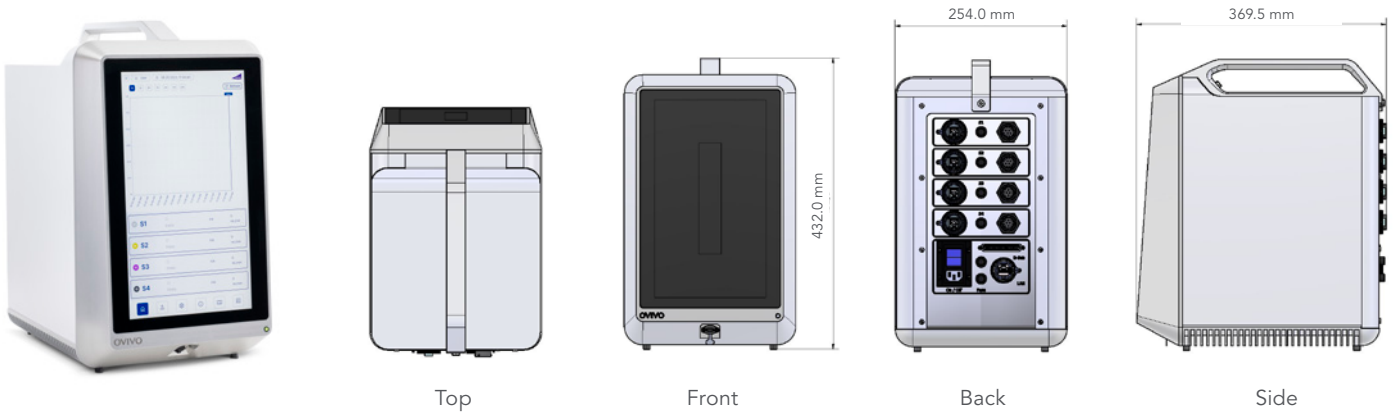
Worldwide Experts in Water Treatment

CHARACTERISTICS

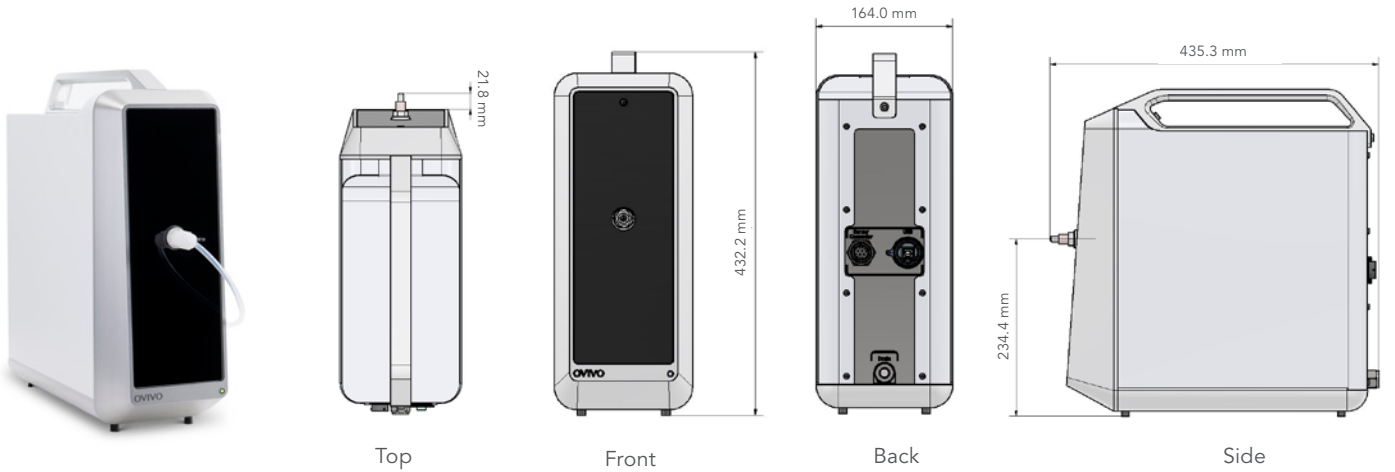
SIZE CHANNELS		≥ 5 nm, ≥ 10 nm, ≥ 20 nm or ≥ 50 nm	
COUNTING RANGE	p/mL	0 ... 3'000	
ZERO COUNT LEVEL	p/L	< 100	
MEASUREMENT FREQUENCY		1 reading per min	
SAMPLE FLOWRATE	mL/min	300 (controlled)	
MINIMUM LINE PRESSURE	bar psi	2 30	
MAXIMUM LINE PRESSURE	bar psi	7 100	
SAMPLE TEMPERATURE	°C °F	20 ... 25 68 ... 77	
MAIN WETTED PARTS		PFA (Perfluoroalkoxy) PP (Polypropylene) FKM (Fluoro-rubber)	
DIMENSIONS	Transmitter Unit	mm in	250 x 307 x 430 9 x 15 x 17
	Sensor Unit	mm in	160 x 430 x 430 6 x 17 x 17
WEIGHT	Transmitter Unit	kg lbs	13 29
	Sensor Unit	kg lbs	13 29
DATA COMMUNICATION		4 – 20 mA, Ethernet, USB-C key (data export)	
USER INTERFACE		13.3" touchscreen	
SYSTEM/SOFTWARE		OVIVO®– proprietary software	
POWER SUPPLY	VAC Hz	100 – 240 50 – 60	
LIQUID CONNECTIONS		¼" PFA flare inlet ½" SS Swagelok® outlet	
ENVIRONMENT	°C °F	10 ... 40 50 ... 104	

TECHNICAL DRAWINGS

TRANSMITTER UNIT (TU)



SENSOR UNIT (SU)



CONFIGURATIONS

MODEL	USE CASE EXAMPLE	ILLUSTRATION
NanoPULS-1X	1 size channel on 1 sample point (the user selects manually between size channels)	
NanoPULS-2X	2 size channels/sample points	
NanoPULS-3X	3 size channels/sample points	
NanoPULS-4X	4 size channels/sample points	

INTERFACE AND COMMUNICATION



The touchscreen of the Transmitter Unit has a unique design to give the customer an intuitive, practical, and user-friendly experience.

Measurements can be monitored in real-time and from distance thanks to a clear visualization of the data.



There are 3 means of communicating measurements data to an external system from the NanoPULS:

- Export via USB-C key (USB adapter included)
- 4-20 mA analogue output
- Ethernet TCP/IP

QUALITY

EU DECLARATION OF CONFORMITY

- Designed, developed, and manufactured in accordance with the EU standards for health, safety and environmental protection and is in conformity with the Low Voltage Directive - 2014/35/EU.

EMC DIRECTIVE

- The NanoPULS is designed, developed, and manufactured in accordance with the EMC Directive - 2014/30/EU.

UL CERTIFICATION

- The NanoPULS is Listed to applicable standards and requirements by UL.

ISO 9001:2015

- The manufacturing of the NanoPULS is certified according to ISO 9001:2015.

OTHER INFORMATION

DISPOSAL	<ul style="list-style-type: none">• Disposal must be in accordance with the appropriate local regulations.• See additional information in the operation manual.
SAFETY ADVICE	<ul style="list-style-type: none">• Risk of electrical and pressure hazards.• Improper operation or usage of the NanoPULS for non-intended purpose may endanger the health of the operator, damage equipment and/or prevent efficient operation of the plant.• Unauthorized modification of the NanoPULS will void warranty. We recommend using only original spare parts for maintenance.
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