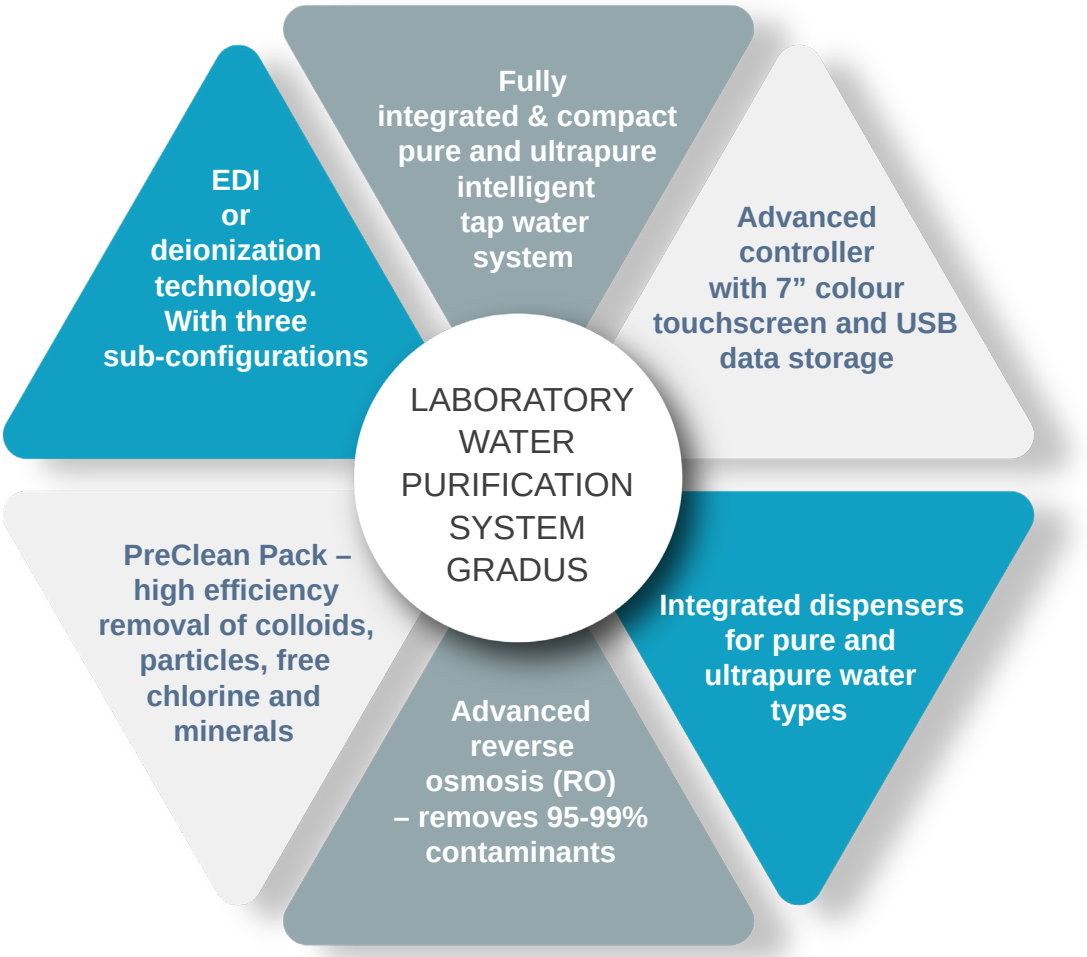
adrona
LABORATORY SYSTEMS



GRADUS

INTELLIGENT WATER SYSTEM

SMART LAB WATER SOLUTION





UNIQUE
BUILT-IN DISPENSERS

- *G1* ultrapure Type 1 (Grade I) water dispenser - delivers consistently ion free and low TOC ultrapure water.
- *G2* pure water dispenser - delivers guaranteed quality Type 2 (Grade II) pure water.

ADJUSTABLE
DISPENSE FLOW REGULATION

- Water delivered up to 2 liters per minute keeps interruptions to minimum.
- Volumetric dispense allows fast reissue of set volumes.
- Volumetric control is available from 20 ml to 20 liters.
- Drop-by-drop function.



REMOTE DISPENSER *FLOW POINT 4*

- System can be equipped with up to 4 remote dispensers.
- User-selectable water type for each remote dispenser.
- Range of operation is up to 5 m (optimally 3 m).

PRECISE DISPENSE

EASE OF USE

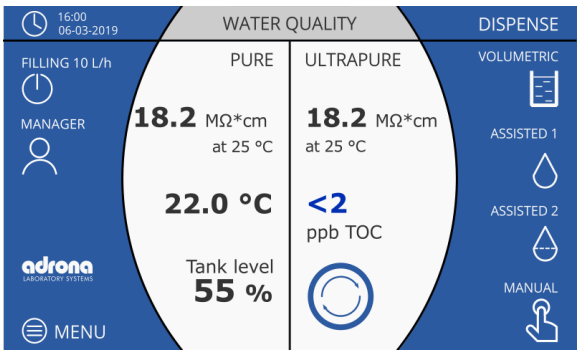


LARGE AND INTUITIVE TOUCHSCREEN DISPLAY

- New electronics and software.
- 7” colour touchscreen.
- USB and Ethernet interface.
- Data staorage on USB-C stick.
- Touchscreen is suitable for use with gloves.

DETAILED PROCEDURES

- Simplified and detailed information in multiple languages - English, German, Latvian, Russian.
- Alerts and alarms are displayed on the main screen with a complete description of actions required.
- Monitoring the operation of the system.
- Dispense report preparation.





CONVENIENT

- Installation process gives quick access to laboratory water.
- Simple and trouble-free replacement of consumables.
- Built-in calibration of conductivity sensors.

COST-EFFECTIVE

- All consumables included.
- Large volume deionization (DI) cartridge.
- Space-saving design for a more effecient laboratory setup and daily operation.



COMPACT

- Integrated dispensers for pure and ultrapure water.
- Dimensions: 50 cm wide (base 33 cm), 45 cm deep, 63 cm high.
- Integral to your bench space.

CONVENIENT & EFFECTIVE WORKFLOW

WATER STORAGE TANK

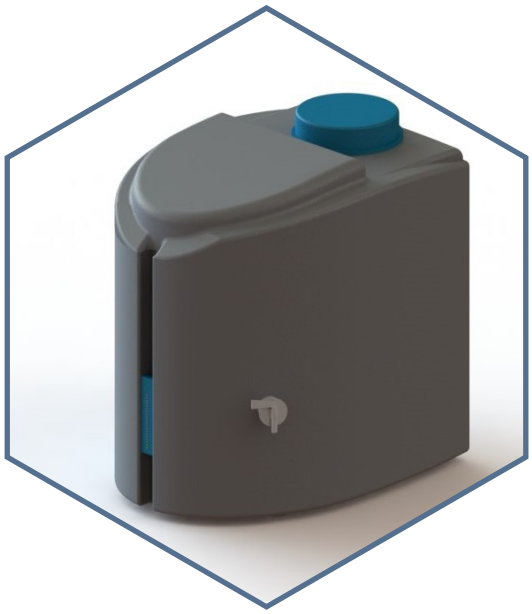


WATER STORAGE TANK *PRO*

- Capacity: 30 L
- Dimensions: 39*44*60 cm
- A pump for pressurized water delivery can be fitted in the base as an option

COMPACT WATER STORAGE TANK

- Capacity: 40 L
- Built-in water level indicator
- Product coming soon



OTHER WATER TANK VOLUMES AVAILABLE:

- Capacity: 60 L
- Capacity: 100 L

Within the tank, pure water quality is preserved by two built in features:

- **Vent filter** – provides protection against airborne contaminants
- **Automatic Sanitization Module** – with an integrated UVC regularly irradiates stored water and tank walls, preventing bacterial growth and biofilm formation.

Automatic recirculation of stored water through bacteridical UV lamp preserves water quality in the tank and ensures that high quality Type 2 (Grade II) water is always on hand and ready to use.

WATER QUALITY & DISPENSE SPECIFICATION

	TRACE (EDI)	LT (EDI)	BIO (EDI)
Type 1 water conductivity at 25 °C	0.055 µS/cm	0.055 µS/cm	0.055 µS/cm
Type 2 water conductivity at 25 °C	<0.1...0.2 µS/cm	<0.1...0.2 µS/cm	<0.1...0.2 µS/cm
Total Organic Carbon (TOC) level	<30 ppb	<2 ppb*	<2 ppb*
RNase	N/A	N/A	<0.01 ng/mL
DNase	N/A	N/A	<4 pg/µL
Bacteria	<0.01 CFU/mL	<0.01 CFU/mL	<0.01 CFU/mL
Endotoxins	<0.15 EU/mL	<0.15 EU/mL	<0.001 EU/mL
Particles >0.22 µm	<1/ per mL	<1/ per mL	<0.05/ per mL
Nominal flow, pure water (to storage tank)	10 L/h (3/5/10/15 L/h**)		
Volumetric dispense	0.01 L to 100 L		
Adjustable dispense rate	from 2 L/min to drop-by-drop		

* In appropriate operating conditions, otherwise normally <3 ppb
** EDI configuration

FEED WATER REQUIREMENTS

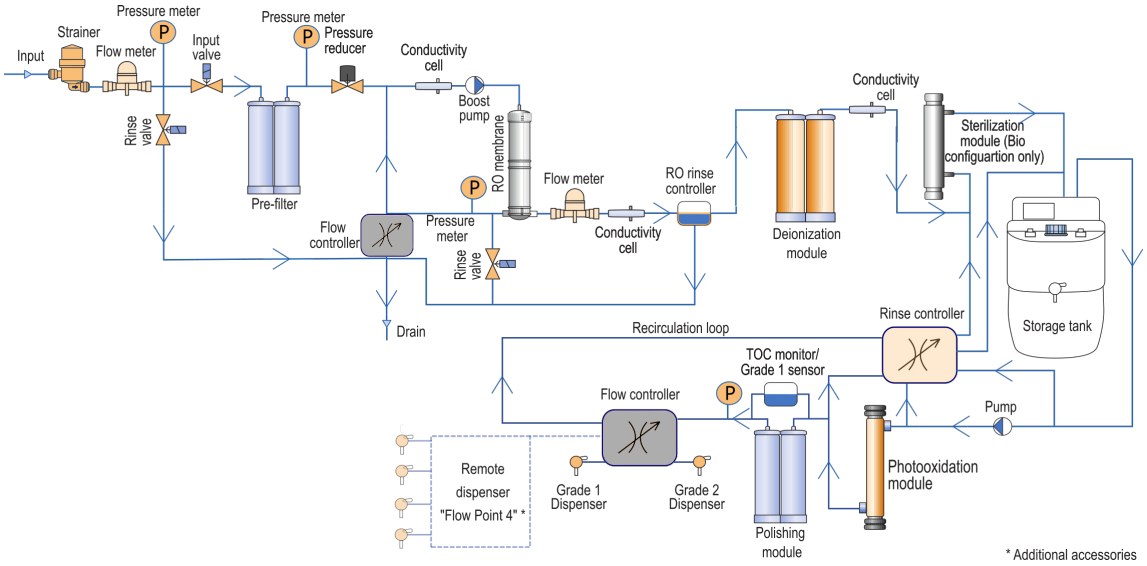
Feed water	Potable tap water
Pressure	0.4–6.0 bar
Conductivity	<2000 µS/cm
Dissolved CO_2	<30 ppm*
Temperature	5–35 °C
pH	4–10
Fouling Index	<10
Free chlorine	< 1 ppm
Langelier Saturation Index	<+0.2
Total Organic Carbon (TOC)	<2000 ppb
Hardness (as $CaCO_3$)	<160 ppm*
Silica	<30 ppm*

** EDI configuration*

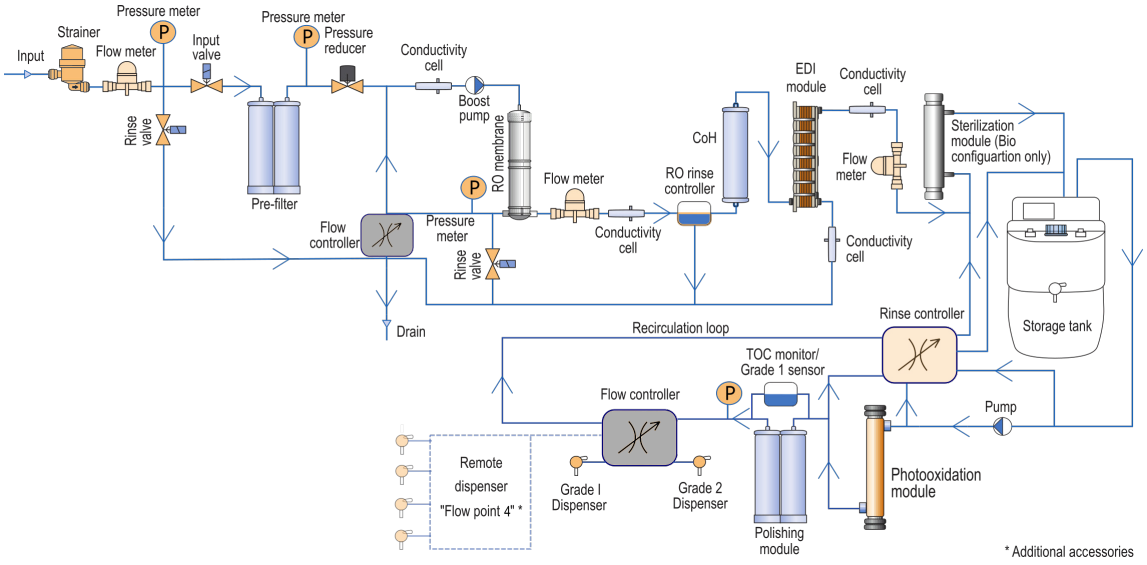
WATER SPECIFICATION

SYSTEM FLOWCHART

SYSTEM FLOWCHART FOR GRADUS SYSTEMS



SYSTEM FLOWCHART FOR GRADUS SYSTEMS WITH ELECTRODEIONIZATION



TUBING AND PORT REQUIREMENTS

Feed water piping connection	1/2” Male NPTF
Distance from feed water port	Max 5 m
Distance from purification unit to Flow Point 4 dispenser	Max 5 m
Distance from purification unit to tank	Max 5 m
Power entry	Connection IEC 13
Data interface	Ethernet, USB-C

ELECTRICAL CONNECTIONS & OTHER REQUIREMENTS

Power source voltage	100–240 VAC
Power frequency	50–60 Hz
Power used	Max 350 VA
Power required	24 VDC
Power cord length	1.8 m plug
Temperature	15–30 °C (59–86 °F)
Humidity	20–80% relative
Altitude	Up to 2000 m (6562 ft)
Tank material	Linear low density polyethylene

DIMENSIONS AND WEIGHT

	Trace	LT	Bio	EDI Trace	EDI LT	EDI Bio
Dimensions (W*D*H)	50(33)*45*63 cm					
System weight	28 kg	29 kg	30 kg	28 kg	29 kg	30 kg
Operating weight	32 kg	33 kg	34 kg	32 kg	33 kg	34 kg





TECHNICAL SPECIFICATION

ORDERING INFORMATION

GRADUS SYSTEMS

Gradus Trace	GR-1001
Gradus LT	GR-1003
Gradus Bio	GR-1005

GRADUS SYSTEMS WITH ELECTRODEIONIZATION

Gradus 3 EDI Trace	GR-2011
Gradus 5 EDI Trace	GR-2021
Gradus 10 EDI Trace	GR-2031
Gradus 15 EDI Trace	GR-2041
Gradus 3 EDI LT	GR-2013
Gradus 5 EDI LT	GR-2023
Gradus 10 EDI LT	GR-2033
Gradus 15 EDI LT	GR-2043
Gradus 3 EDI Bio	GR-2015
Gradus 5 EDI Bio	GR-2025
Gradus 10 EDI Bio	GR-2035
Gradus 15 EDI Bio	GR-2045

CONSUMABLES

Pre-filter Q w/ quick connectors	10411
Deionization Q w/ quick connectors	10311
Polishing Q w/ quick connectors	10033
Replacement sterilization UV bulb (Bio configuration)	10017
Replacement photooxidation UV bulb (LT and Bio configuration)	10018
Replacement 0.22 µm dispense filter (Trace and LT configuration)	10012
Replacement 0.22 µm dispense filter, sterile (Trace and LT configuration)	10013
Replacement ultrafilter (Bio configuration)	10120
Tank sanitization UV bulb (Bio configuration)	410175

ACCESSORIES

Water storage tank “Pro”, 30 L w/ multipoint sensor	11015
Water storage tank “Comfort”, 60 L w/ base	10007
Water storage tank “Comfort”, 100 L w/ base	10027
Water dispensing unit “Flow Point 4”	10426

FOR
NOTES

adrona
LABORATORY SYSTEMS



ABOUT THE COMPANY

With over 20 years of experience in manufacturing water purification systems, ADRONA has established itself as a trustful and reliable partner to customers and dedicated distributors worldwide. Our portfolio includes a complete range of systems for reverse osmosis, pure and ultrapure water according to the international quality standards (ISO 3696 and corresponding ASTM and CLSI standard). Scientific applications in universities and research institutions, clinical laboratories and industry – we provide the right solution for every customer.

More than 4,000 Adrona systems have been installed and their quality has been recognised by customers in 45 countries around the world.

ADRONA management system and manufacturing site operates in accordance with ISO 9001:2015. We are certified for manufacture, sale, and service of laboratory equipment.

ISO 9001
BUREAU VERITAS
Certification

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