

TECHNICAL DATA SHEET

U-PUR™

General information

U-PUR	
PURPOSE	<ul style="list-style-type: none"> The U-PUR is a metal-free reactor combining multiple UPW Polishing steps for TOC and H₂O₂ traces removal. Designed and manufactured to meet the most challenging applications such as Semiconductors, Medical, Pharmaceutical, and all other industrial applications that require high quality Ultrapure Water.
INSTALLATION	<ul style="list-style-type: none"> The U-PUR is always skid mounted and shall be installed indoor on ground level. The installation and operation of the U-PUR must follow specific requirements. See operation manual or contact Ovivo for further information.
OPERATION	<p>Operation and maintenance work has to be mainly executed by trained service technicians.</p> <ul style="list-style-type: none"> Resins: lifetime depends on applications, running time, increasing Silica and/or Boron, etc. UV lamps: 12'000 hours* UV reactors: 4 to 5 years* <p><i>*This is an expected period. The effective lifetime may vary depending on the operation conditions.</i></p>

Materials

A U-PUR is metal-free on wetted parts.

VESSEL	Outside Inside	Stainless Steel 316L Halar® coating (ECTFE)
UV REACTOR		Quartz (SiO ₂)
GASKETS		e-PTFE
O-RING		FKM
SKID PIPING		PVDF HP



Characteristics

U-PUR		08	40
TREATMENT CAPACITY	m ³ /h gpm	3 ... 10 13 ... 44	15 ... 50 65 ... 220
OPTIMIZED CAPACITY	m ³ /h gpm	8 35	40 176
SERVICE PRESSURE (MAX.)	bar psi	6 87	
DESIGN TEMPERATURE	°C °F	0 – 40 32 – 104	
OPERATING TEMPERATURE	°C °F	4 – 35 39 – 95	
NITROGEN PURGING	Nm ³ /h	8.7	42
NUMBER OF UV LAMPS (185+254 nm)		3	15
UV POWER	kW	1	5
POWER SUPPLY	V	230 as standard (120 on request)	
VESSEL DIAMETER	mm inch	450 17.7	1'000 39.4
TOTAL HEIGHT (MAX.)	mm inch	2'500 98.4	3'300 130
WEIGHT*	kg lbs	1'200 2'645	4'200 9'260
OPERATING WEIGHT	kg lbs	1'600 3'527	4'930 10'869

*Water and resins weights are not included

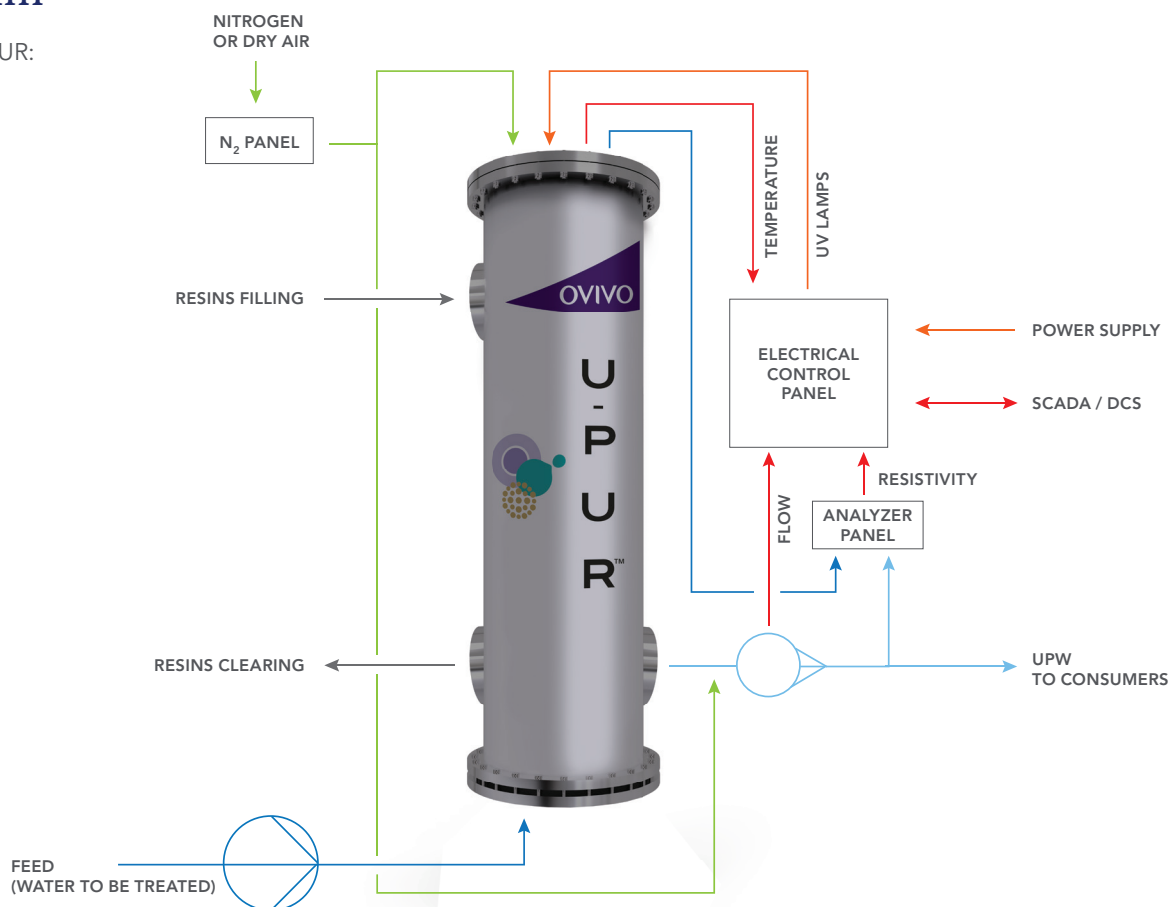
UPW quality

UPW		
H ₂ O	%	99.999
RESISTIVITY	MΩ.cm	≥ 18.1
TOC	ppb	< 1
H ₂ O ₂ *	ppb	< 1
METAL	ppb	< 0.1
IONS	ppb	< 0.1
SILICA	ppb	< 0.1
GERMS	cfu/1'000ml	< 1

*Only with the use of catalyst CatOX resin (U-PUR 3-in-1)

Flow diagram

Typical setup for U-PUR:



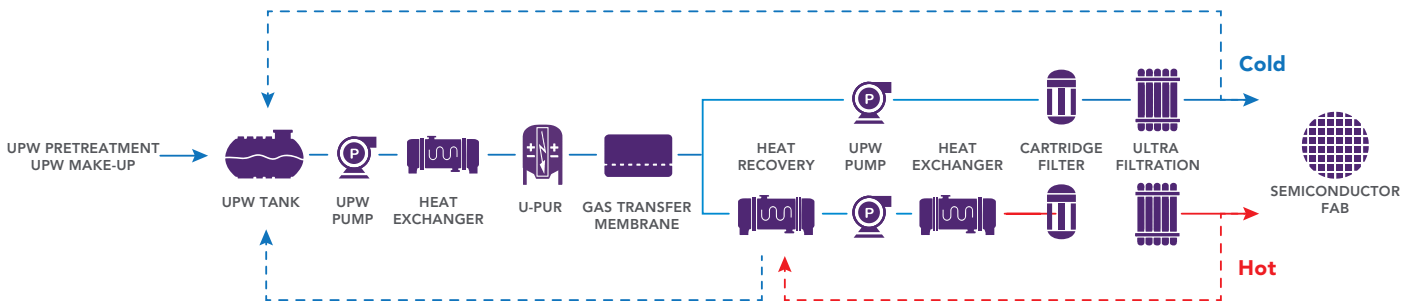
Connections

U-PUR		08	40
INLET & OUTLET CONNECTIONS	DN inch	50 2	100 4
RESIN FILLING PORTS - INLET	DN inch	65 2 ½	50 2
RESIN FILLING PORTS - OUTLET	DN inch	65 2 ½	100 4
DRAIN	DN inch	50 2	80 3
NITROGEN PURGE	DN inch	8 ¼	40 1 ½

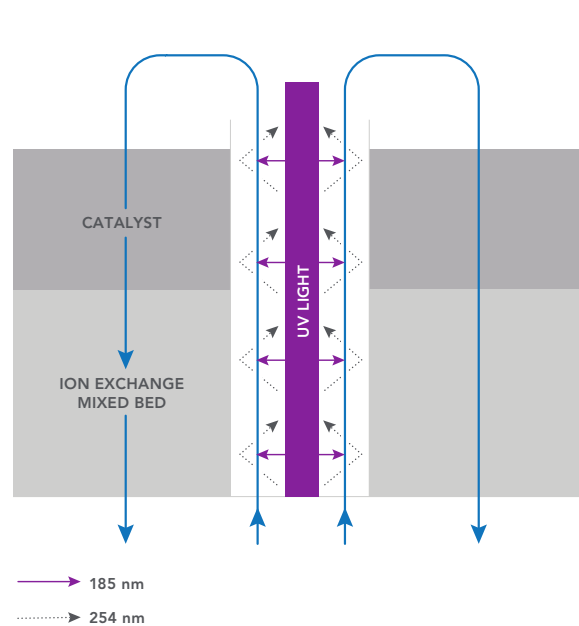
Resins

ION EXCHANGE RESINS			U-PUR 08	U-PUR 40
MIXED BED OvivUP®- M020	Volume	l gal	100 26.4	500 132
	Layer	mm inch	689 27.1	715 28.1
CATALYST CatOX™	Volume	l gal	60 15.9	300 79.2
	Layer	mm inch	413 16.3	429 16.9

Application



Operating principle



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 Machinery Directive - 2006/42/EC.

PRESSURE EQUIPMENT DIRECTIVE

- Designed, developed and manufactured in accordance with the Pressure Equipment Directive - 2014/68/EU, Article 4, paragraph 3 (Sound Engineering Practice).

LOW VOLTAGE DIRECTIVE

- Designed, developed and manufactured in accordance with the Low Voltage Directive - 2014/35/EU.

EMC DIRECTIVE

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

ASME VIII. DIV.1

- The U-PUR vessel (as standard version) is designed and manufactured in accordance with ASME VIII. DIV. 1.
- An ASME U-stamp on the pressure vessel is available in option.

OTHERS (ON REQUEST)

- UL certification
- SEMI F47 compliance

Other information

DISPOSAL	<ul style="list-style-type: none">• Disposal must be in accordance with the appropriate local regulations.• If possible, recycling is preferred to disposal or incineration.• See additional information in the operation manual.
SAFETY ADVICE	<ul style="list-style-type: none">• Risk of electric hazards, pressure hazards, and UV radiation.• Improper operation or usage of the plant for unintended purposes may endanger the health of the operator, damage equipment, and/or prevent efficient operation of the plant.• Unauthorized modification of the U-PUR will void warranty. We recommend using only original spare parts for system maintenance.
GLOBAL KNOWLEDGE CENTRE	Ovivo Switzerland AG Benkenstrasse 262 4108 Witterswil Switzerland

