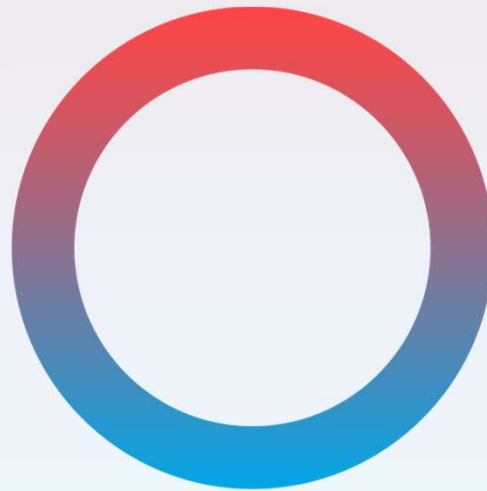


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THE NEW PRODUCT LINE - PURIDEST

Water Stills - Distillers

Volker Gehrman · 2020-06-09

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1 OVERVIEW

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1 OVERVIEW

Puridest line

Consists of:

- **Water Stills** ◦ 4 product groups ◦ 14 models ◦ 2 to 12 liters per hour



New design



Old design

OVERVIEW

Designation concept transferred to Water Stills

Product line

Hourly capacity (4 liters per hour)

PD 4 R

Characteristic

void – manual single water still, stainless steel

R – **reservoir** – single water still with built-in storage tank

G – glass single water still

D – double water still

DG – glass double water still

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²
FUNCTION

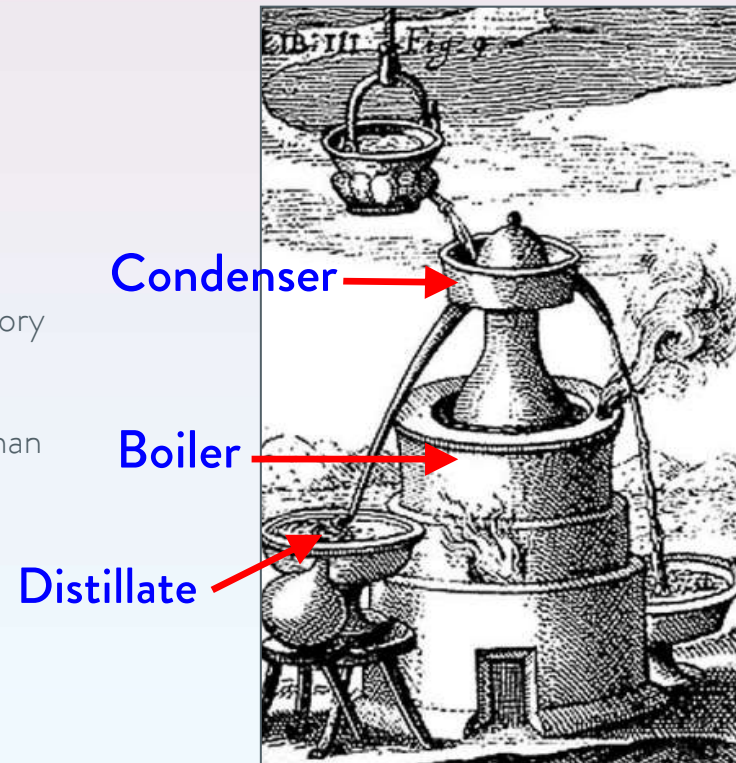
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Water Stills – the beginning

Water

- Indispensable and irreplaceable natural product
- Highest solubility of all known substances
- Found its way to the first laboratories in world history
- Since then: increased demand for clean water
- Purification of water was invented approx. more than 5,000 years ago
- Distillation = lat. destillare = to drip down
- Distillation is a **physical** separation process

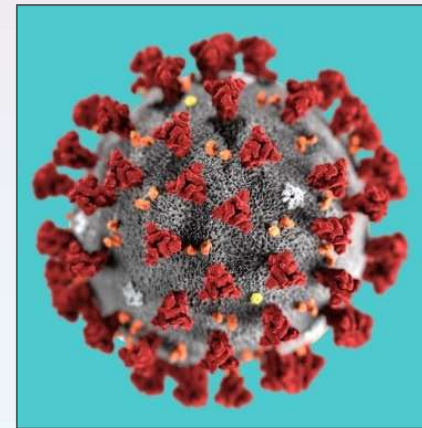


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Distillate

Water becomes Distillate - what is removed from the water:

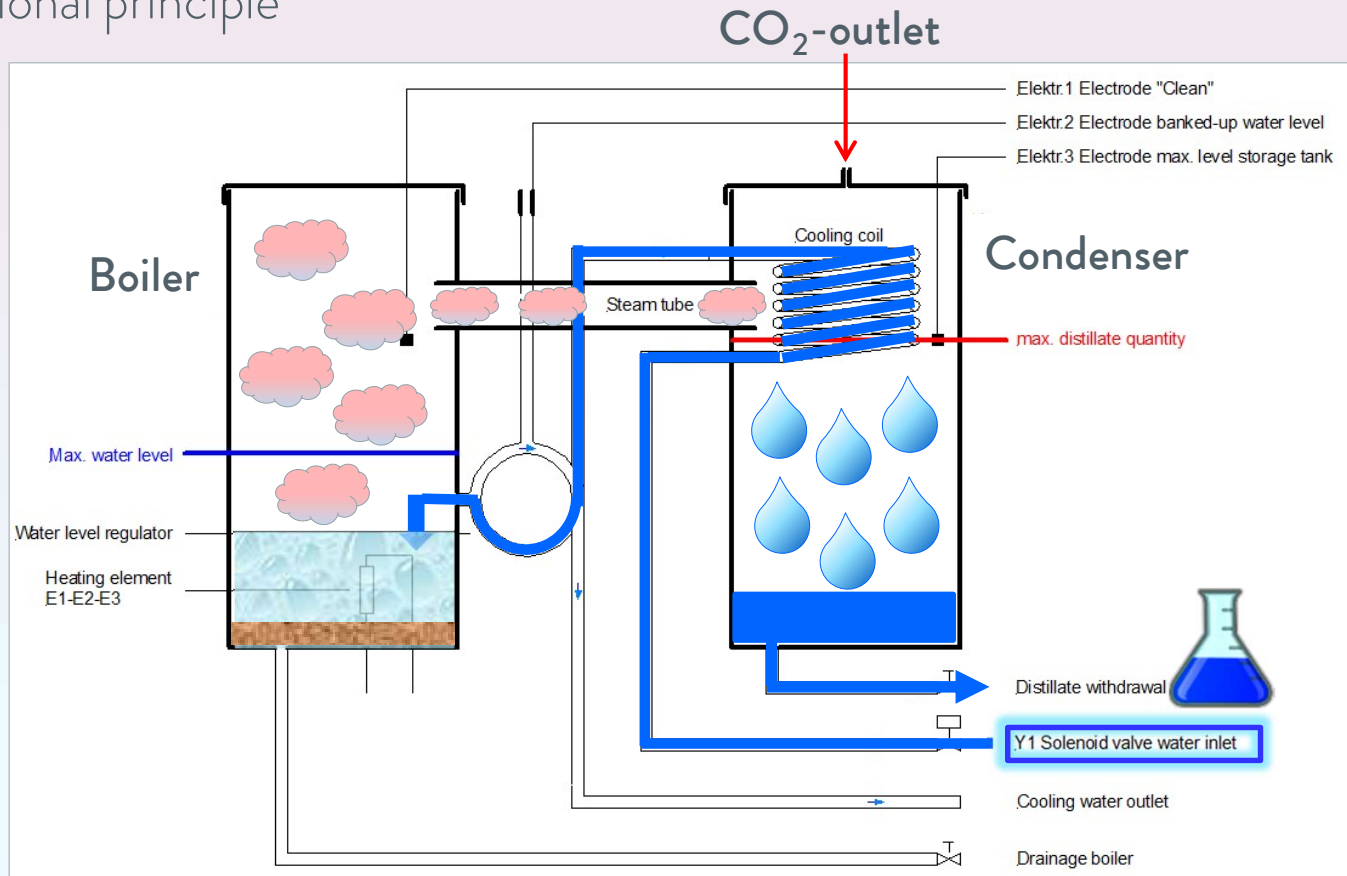
- Inorganic ions (traces from earth metals, salt, scale, etc.)
- Organic compounds (fertilizers, bio mass, pesticides, etc.)
- Bacteria
- Viruses are deactivated
- Endotoxins/pyrogenes and nucleases (remains from cells causing fever)
- Particulates (sand, mud, microorganisms, plants, etc.)
- Gases (nitrogen, carbon dioxide, oxygen, etc.)
- All impurities having a higher boiling point than water



... resulting in a purity degree of approx. 99.5%

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Functional principle



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3
APPLICATIONS

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Applications

Distillate - what is it used for:

- Bacteriological and medical preparation of samples in research and development
- Preparation of creams and unguents (in laboratory scale)
- Preparation of cell and tissue cultures
- Cleaning purposes
- Sterilization processes (f. ex. in autoclaves)
- For buffer solutions
- Microbiological and analytical applications
- Filling of batteries f. ex. for forklift trucks



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4 PRODUCT FEATURES

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Product features



PD 2
PD 4

Manual **single** Water Stills,
2 or 4 litres / h,
no storage tank

stainless steel inside
conductivity ~ 2.3 $\mu\text{S}/\text{cm}$



PD 2 R PD 4 R
PD 8 R PD 12 R

Automatic **single** Water Stills,
2, 4, 8 and 12 litres / h,
built-in storage tank with
double hourly capacity

stainless steel inside
conductivity ~ 2.3 $\mu\text{S}/\text{cm}$



PD 2 D PD 4 D
PD 8 D

Automatic **double** Water Stills,
2, 4 and 8 litres / h,
no storage tank
single or double distillate can
be withdrawn

stainless steel and glass inside
conductivity mono ~ 2.2 $\mu\text{S}/\text{cm}$
bi ~ 1.6 $\mu\text{S}/\text{cm}$



PD 2 G PD 2 DG
PD 4 G PD 4 DG
PD 8 G

Automatic
single **double**
Glass Water Stills,
2, 4 and 8 2 and 4
litres per hour,
no storage tank

glass inside
conductivity
~ 2.2 $\mu\text{S}/\text{cm}$ ~ 1.6 $\mu\text{S}/\text{cm}$

PURIDEST

99 % of the customers know what they need ...



LW0031 Water distille, 4l/h

Specification:

- Water Distillation Apparatus
- Water heater body, Boiler, Tank and stainless Steel Condenser made of stainless steel double Envelope housing with electrostatic epoxy powder coating
 - Single distilled water, quality $\pm 2.5 \mu\text{s/cm}$, suitable for both bench and wall mounting
 - Output (l/h) 4
 - Power 230 V; 50/60 Hz; 3.0 kW
 - Storage tank capacity: 8 l
 - Water consumption (l/h) : 48
 - With thermometer to check the cooling water
 - Dry run protection by thermostat
 - Energy saving by distillation of preheated cooling water
 - Dimensions WxDxH (mm) : 620x330x460

Parameter	Technical Specification /Minimum Requirement/	Quantity
1.9- Water distiller		6
Purpose	An equipment which is mainly needed for aiding some laboratory equipment's, like Autoclave, to make their own tests by purifying water through distillation process.	
Manufacturer	Shall be specified and original Brochure indicating picture and technical specification shall be attached	
Model	Shall be specified	
Features	<ul style="list-style-type: none"> • Water supply minimum requirement 1Lt/min pressure 20-700Kpa • Heater power rating should be 3Kw • Working temperature from: 25-35°C • Must be pyrogen free • PH: from 5-6.5 • Output : 2-20 Lt/Hr, single distilled 	
Power requirement	220V, 50Hz for single phase, IEC World plug type F or EEC3/7 (Schuko)	
Warranty	2 years starting from the date of acceptance testing approval	
Technical Documentation	User, installation and maintenance manuals shall be supplied in English language	

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5 DEFINITIONS and CHARACTERISTICS

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Definition and characteristics

Purity – general units:

- Conductivity – “**μS/cm at 25 °C**” = Micro-Siemens per cm at 25 °C water temperature describing the **ability of a liquid to conduct electricity**
- Resistivity – “**MΩm at 25 °C**” = Mega-ohm per meter at 25 °C water temperature describing the **resistance a liquid offers to electricity**

- $\mu\text{S/cm} = \frac{1}{\text{M}\Omega\text{m}}$ inversed $\text{M}\Omega\text{m} = \frac{1}{\mu\text{S/cm}}$

- the inversed relation between these two values mean that:
 - a **low μS/cm** value is equivalent to **good pure distillate**, whereas
 - a **high MΩm** value is equivalent to **good pure distillate**, too.

Example: $2.3 \mu\text{S/cm} = ??? \text{M}\Omega\text{m}$

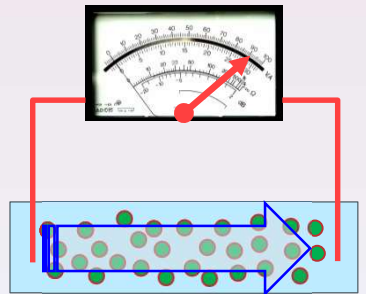
$$\frac{1}{2.3 \mu\text{S/cm}}$$
$$= 0.435 \text{M}\Omega\text{m}$$

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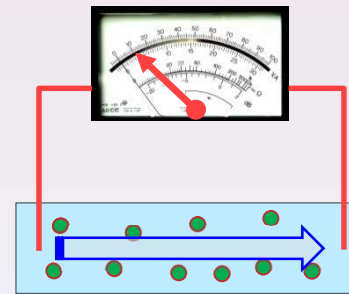
Definition and characteristics

Measurement:

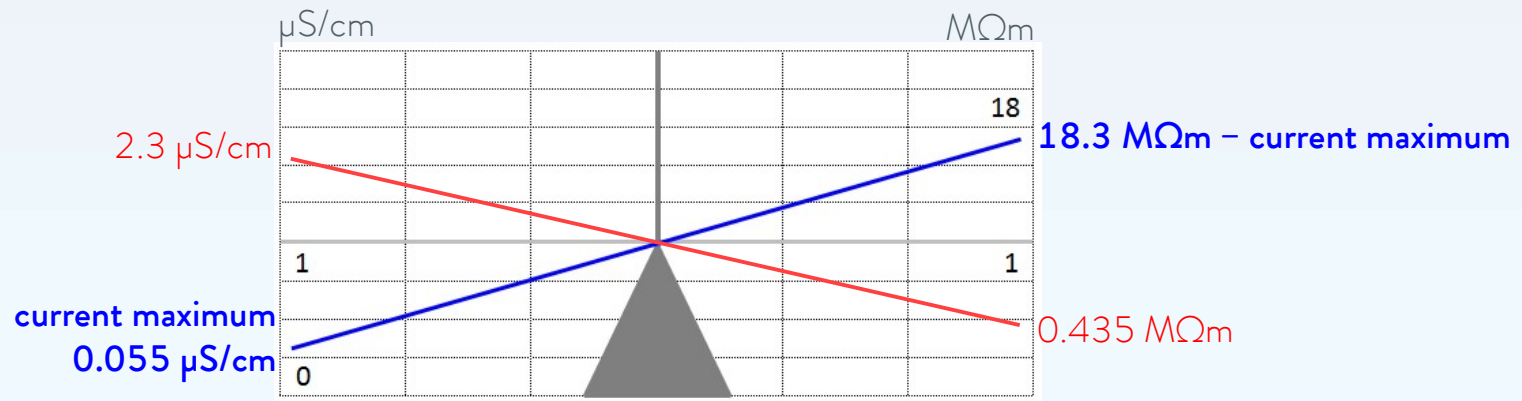
- Conductivity



a high ability to conduct
= a low resistance



a low ability to conduct
= a high resistance



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Comparison

Conductivities:

- Tap water in Germany 150 to 660 $\mu\text{S}/\text{cm}$ at 25 °C (City of Hannover: 560 $\mu\text{S}/\text{cm}$)
 - Mountain water $\sim 10 \mu\text{S}/\text{cm}$
 - Demineralized water $\sim 80 \mu\text{S}/\text{cm}$
 - Waste water $\sim 9 \text{ mS}/\text{cm} = 9,000 \mu\text{S}/\text{cm}$
 - Ocean water $\sim 53 \text{ mS}/\text{cm} = 53,000 \mu\text{S}/\text{cm}$
 - Brackish water $\sim 80 \text{ mS}/\text{cm} = 80,000 \mu\text{S}/\text{cm}$
-
- One slight touch with a finger tip inside the storage tank of a water still will increase the conductivity by $\sim 10 \mu\text{S}/\text{cm}!!$

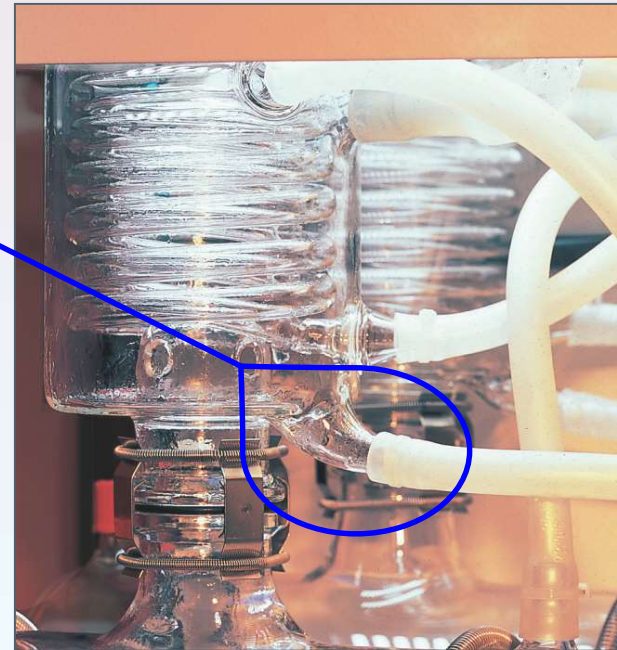


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PH-value

Freshly made distillate is **NEUTRAL** – PH-value 7 measured at the distillate outlet at the condenser

- but distillate is more than willing to absorb chemical substances from the environmental air:
- **carbon dioxide** CO_2
- resulting in a PH value of **5.5 to 6.5** – **slightly acidic**, even when exposed to air for a short time
- that is why we do not recommend to fill stainless steel vessels with distillate (e. g. water baths)
- pure water should, therefore, be used up quickly or stored under airtight conditions
- at the condenser outlet you have the purest distillate with the best conductivity / resistivity



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Storage vessels

**Storage vessels should be made of appropriate material:
distillate from a stainless steel water still should be stored**

- in a stainless steel vessel – just for a shorter period
- in a vessel made of appropriate plastic material:
 - suitable for food and beverages
 - emission-free (no emission of plasticizers or similar)
- in a glass vessel, e. g. borosilicate or quartz glass, emission-free

distillate from a glass water still is much more delicate:

- in a glass vessel, e. g. borosilicate or quartz glass, emission-free
- in a vessel made of appropriate plastic material:
 - suitable for food
 - emission-free (no emission of plasticizers)



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Improving purification

The distillate quality always followed the requirements in the labs:

- due to the ongoing development of analyzers with increased precision, the quality of water/distillate had to improve to the same extent.
- by using a double water still, respectively by using special materials in the water still (glass) the purity of the distillate can be further increased
- water stills have a limited purification ability (following physical laws), so another choice is to improve the incoming raw water - in order to improve the distillate quality, too.

„You cannot make rose water out of slurry“

- there are several accessories available to improve the purity of the distillate:

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6
ACCESSORIES

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PURIDEST Accessories



Phosphate
Cartridge –
softener



Dechlorite
Filter –
activated
charcoal

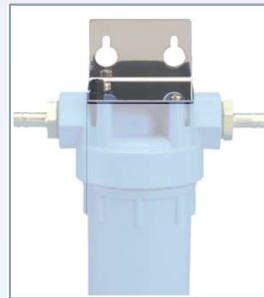


Pre-Filter
1 µm



Triple filter set with wall bracket

- pre-filter
- dechlorite filter
- phosphat cartridge
(from right to left)



Single wall bracket
for filters



Hose sets for
water inlet,
cooling water outlet and ,partly,
distillate withdrawal

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7
VARIANTS

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Variants – Separate Water Supply

In order to furthermore improve the distillate quality some units with a **Separate Water Supply** are available. That means that we separate the single water circuit into two independent circuits:

- standard units (**one circuit**) use the raw water for cooling AND for boiling. The distillate is produced from the raw water which can be tap water, rain water, well water
- these variants have **two circuits**:
 - the cooling circuit is fed by raw water (tap water, rain water, well water) which is cheap
 - the boiling circuit is fed by demineralized / pretreated / precleaned water which is much cleaner than the raw water (and therefore more expensive to produce)
- advantage: the boiler can be fed with clean water and will produce distillate with a considerably better quality / the pollution of the boiler is reduced = less cleaning
- disadvantage: due to the second circuit the unit cannot use preheated cooling water for boiling. The distillate quantity is reduced by 10 to 15 %

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Variants – Separate Water Supply

Type	Variant	Option description	230 V; 50/60 Hz (EU)	230 V; 50/60 Hz (UK)	400 V; 3/N/PE; 50/60 Hz (EU)	220 V; 3/PE; 50/60 Hz
			CEE7/7 angled, "Schuko"	BS1363 angled	IEC 60309, 5-pol, CEE, red, 16 A	cable without plug
PD 4 R	Single water still	with Separate Water Supply	L003254	n.a.	n.a.	n.a.
PD 8 R	Single water still	with Separate Water Supply	n.a.	n.a.	L003255	n.a.
PD 8 R	Single water still	with Separate Water Supply	n.a.	n.a.	n.a.	L003265
PD 12 R	Single water still	with Separate Water Supply	n.a.	n.a.	L003256	n.a.
PD 12 R	Single water still	with Separate Water Supply	n.a.	n.a.	n.a.	L003271
PD 2 D	Double water still	with Separate Water Supply	L003260	n.a.	n.a.	n.a.
PD 4 D	Double water still	with Separate Water Supply	n.a.	n.a.	L003261	n.a.
PD 4 D	Double water still	with Separate Water Supply	n.a.	n.a.	n.a.	L003267
PD 8 D	Double water still	with Separate Water Supply	n.a.	n.a.	L003262	n.a.
PD 8 D	Double water still	with Separate Water Supply	n.a.	n.a.	n.a.	L003268
PD 2 G	Single water still	with Separate Water Supply	L003257	n.a.	n.a.	n.a.
PD 2 G	Single water still	with Separate Water Supply	n.a.	L003270	n.a.	n.a.
PD 4 G	Single water still	with Separate Water Supply	L003258	n.a.	n.a.	n.a.
PD 8 G	Single water still	with Separate Water Supply	n.a.	n.a.	L003259	n.a.
PD 8 G	Single water still	with Separate Water Supply	n.a.	n.a.	n.a.	L003266
PD 2 DG	Double water still	with Separate Water Supply	L003263	n.a.	n.a.	n.a.
PD 4 DG	Double water still	with Separate Water Supply	n.a.	n.a.	L003264	n.a.
PD 4 DG	Double water still	with Separate Water Supply	n.a.	n.a.	n.a.	L003269

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Variants – External Level Switch

The External Level Switch is a float switch at a 2 m cable which is connected to the unit via a 5-pole plug. It is connected to a relay which will stop the operation of the still as soon as the float switch reaches its upper position.

The float switch is placed in an external storage tank enabling to collect distillate in an appropriate vessel.

Type	Variant	Option description	230 V; 50/60 Hz (EU)	400 V; 3/N/PE; 50/60 Hz (EU)	220 V; 3/PE; 50/60 Hz
			CEE7/7 angled, "Schuko"	IEC 60309, 5-pol, CEE, red, 16 A	cable without plug
PD 4 D	Double water still	with External level switch	n.a.	L003247	n.a.
PD 4 D	Double water still	with External level switch	n.a.	n.a.	L003251
PD 8 D	Double water still	with External level switch	n.a.	L003248	n.a.
PD 8 D	Double water still	with External level switch	n.a.	n.a.	L003252
PD 4 G	Single water still	with External level switch	L003245	n.a.	n.a.
PD 8 G	Single water still	with External level switch	n.a.	L003246	n.a.
PD 8 G	Single water still	with External level switch	n.a.	n.a.	L003250
PD 4 DG	Double water still	with External level switch	n.a.	L003249	n.a.
PD 4 DG	Double water still	with External level switch	n.a.	n.a.	L003253



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8
AVAILABILITY

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Available for different voltages

		230 V; 50/60 Hz (EU)	230 V; 50/60 Hz	400 V; 3/N/PE; 50/60 Hz (EU)	220 V; 3/PE; 50/60 Hz
Type	Description	CEE7/7 angled, "Schuko"	BS1363 angled (UK)	IEC 60309, 5-pol, CEE, red, 16 A	cable without plug
PD 2	Single water still	L003011	L003219	n.a.	n.a.
PD 4	Single water still	L003012	n.a.	n.a.	n.a.
PD 2 R	Single water still	L003013	L003220	n.a.	n.a.
PD 4 R	Single water still	L003014	n.a.	n.a.	n.a.
PD 8 R	Single water still	n.a.	n.a.	L003015	L003115
PD 12 R	Single water still	n.a.	n.a.	L003016	L003116
PD 2 G	Single water still	L003017	L003221	n.a.	n.a.
PD 4 G	Single water still	L003018	n.a.	n.a.	n.a.
PD 8 G	Single water still	n.a.	n.a.	L003019	L003117
PD 2 D	Double water still	L003020	n.a.	n.a.	n.a.
PD 4 D	Double water still	n.a.	n.a.	L003021	L003118
PD 8 D	Double water still	n.a.	n.a.	L003022	L003119
PD 2 DG	Double water still	L003023	n.a.	n.a.	n.a.
PD 4 DG	Double water still	n.a.	n.a.	L003024	L003120

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9
COMPETITIVE ENVIRONMENT

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Main competitors

- Cole-Parmer + Stuart, USA

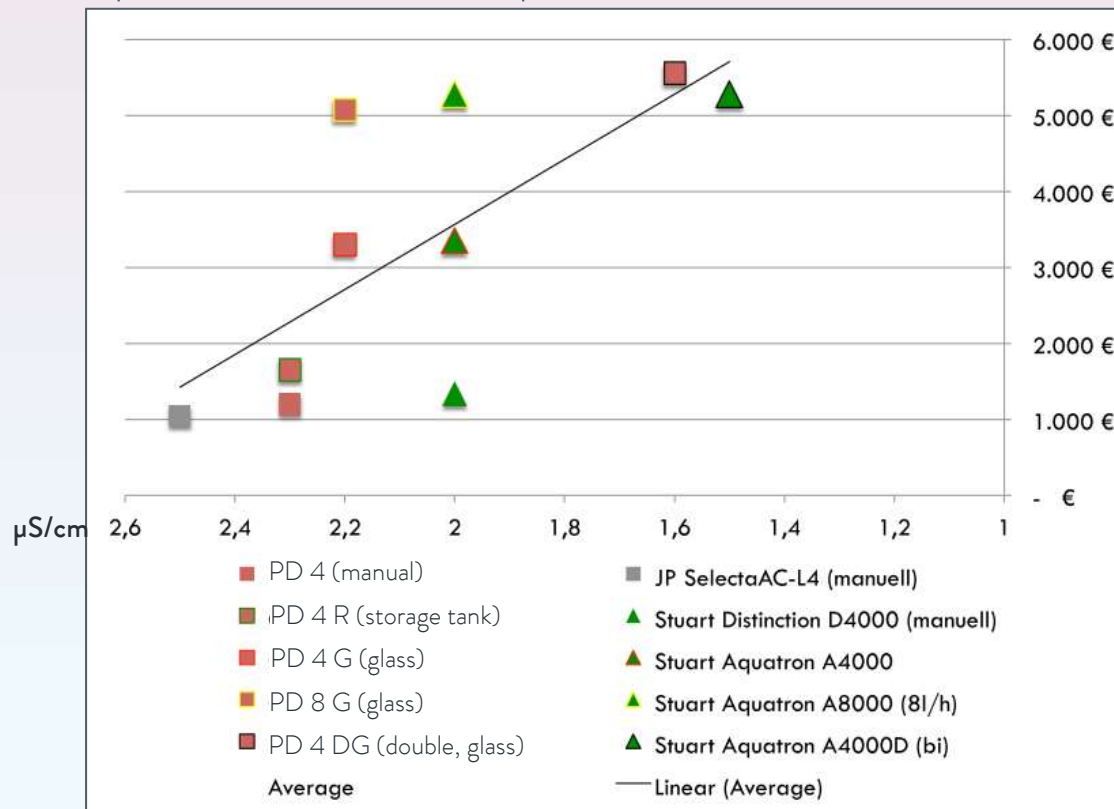


- JP Selecta, Spain
- Pobel, Spain
- Nüve, Turkey
- several small producers in India, Asia, etc.



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Well positioned and competitive



“In general, all GFL models seem to be well positioned...”
 “Of course, the accuracy of such information (conductivity) has to be questioned here, because ranges are often given, so that absolute numbers in both directions are only of limited significance.”

Excerpt from the portfolio analysis issued by Dr. Oliver Franz in April 2019

PURIDEST

Original or plagiarism - praise or harm

Like a well-known Swiss watch company (R...ex), we too have enjoyed a questionable homage:

- our water stills were copied!



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More “market companions”

In order to fulfil the requirements of high precision analysers and application f. ex. in molecular biology, clinical biochemistry etc., it was a demand to produce even purer water.

The solution: **Ultra-filtration – for ultra-pure water**

- these units are completely different from water stills and use highly technical filter systems for purification
- keywords: reverse osmosis, 254 nm UV-radiation, deionization, ion exchanger, 18.2 MΩm, type 1 water
- microprocessor-controlled measuring and recirculation in case of need
- **these filter systems enable a grade of purification a water still cannot achieve!**
- it is like comparing a normal scalpel to a computer-guided laser scalpel



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Pro's and con's

Water stills – Pro's:

- relatively cheap
- reliable purification from nearly any raw water
- just need energy to purify
- easy installation and cleaning
- can be used nearly everywhere
- rugged and durable

Water stills – Con's:

- high cooling water and power consumption
- no direct influence on water quality
- limited output and purification ability

Ultra-filtration systems – Pro's:

- best purification possible - 18.2 MΩm
- built-in measuring and recirculation
- reproducible water quality
- no cooling water consumption and less power consumption

Ultra-filtration systems – Con's:

- very expensive (up to twice as much as a still)
- sensitive technique
- complicated set up and maintenance
- require good infrastructure for the delivery of consumables and regeneration of resin fillings
- acids for resin regeneration environmentally hazardous

Both systems have their justification!

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Evaluation

“Even though filtration systems from manufacturers such as Merck Millipore, Elga Labwater or Sartorius dominate the market for water purification, stills are furthermore attractive.

Currently, the stills and glass stills are mainly sold in countries where the basic quality of the water is insufficient for filtration systems - and these are also expensive to buy, operate and maintain.

There will certainly remain a market potential for the GFL devices here, too.”

Excerpt from the portfolio analysis issued
by Dr. Oliver Franz in April 2019

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10 REGULATIONS AND LIMITS

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Regulations and limits

Description	Unit	ASTM D1193-06 Reagent Grade Water						USP 42	CLSI / CAP			ISO 3696		Ph.Eur. EP		
		I	II	III	IV	Type A	Type B		Type C	I	II	III	1		2	3
Conductivity at 25 °C	µs/cm	0,056	1	0,25	5				< 1,3	0,1	1	10	0,1	1	5	< 4,3 PW
Resistivity at 25 °C	megohms/cm	18	1	4	0,2					10	> 1	0,1	10	1	0,25	
Total Silica	µg/l / ppb	3	3	500	no limit											
Silicate	mg/l SiO ₂									0,05	0,1	1	0,01	0,02	< 1	
Total Organic Carbon	µg/l / ppb	50	50	200				< 500 PW						80	400	< 500 PW
Total Organic Carbon	mg/l / ppm							0,5	< 0,05	< 0,2	< 1					
Chlorides	µg/l / ppb	1	5	10	50											
Sodium	µg/l / ppb	1	5	10	50											
pH-value					5,0 - 8,0							5,0 - 8,0			5,0 - 7,5	
Bacteria content	KBE/100 ml					1	10	1000								< 100 PW
Heterotrophic bacteria	cfu/ml					10/1000 ml	10/100 ml	100/10 ml	100 PW 10 WFI	< 10 cfu	< 1000					< 100 PW
Endotoxin	IU/ml EU/ml					< 0,03	0,25	n/a								
Endotoxin LAL Test	IU/ml EU/ml															
Nitrate	mg/l / ppm															< 0,2 PW
Heavy metals	mg/l / ppm															< 0,1 PW
Oxidizable matter	mg/l max.													0,08	0,4	
Residue evaporation 110°C	mg/kg													1	2	
Total Solids	mg/l									0,1	1	5				

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10
MARKETING MATERIAL

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SUMMARY

Marketing material

available by now:

- Photo shooting
- Press release
- Product presentation
- Prospectus/Leaflet



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11
SUMMARY

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SUMMARY

Puridest

Water stills :

- competitive in the market
- considerably cheaper than ultra-filtration systems
- reliable purification from nearly any raw water
- just need energy to purify
- easy installation and cleaning
- can be used nearly everywhere
- they don't need a special infrastructure
- no expensive consumables necessary
- no special knowledge required for set up and operation
- rugged and durable



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APPENDIX Technical Data and Pricing

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Pricing – standard units

Single steel water stills	PD 2	PD 4
List Price EUR	1,095	1,197

Single steel water stills with storage tank	PD 2 R	PD 4 R	PD 8 R	PD 12 R
List Price EUR	1,408	1,655	2,087	2,784

Double steel / glass stills	PD 2 D	PD 4 D	PD 8 D
List Price EUR	4,234	4,791	5,577

Glass water stills	PD 2 G single	PD 4 G single	PD 8 G single	PD 2 DG double	PD 4 DG double
List Price EUR	2,938	3,304	5,076	4,789	5,552

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Pricing – unit with separate water supply

Type	Variant	Option description	List price EURO
PD 4 R	Single water still	with Separate Water Supply	1,974
PD 8 R	Single water still	with Separate Water Supply	2,406
PD 12 R	Single water still	with Separate Water Supply	3,103
PD 2 D	Double water still	with Separate Water Supply	4,620
PD 4 D	Double water still	with Separate Water Supply	5,177
PD 8 D	Double water still	with Separate Water Supply	5,963
PD 2 G	Single water still	with Separate Water Supply	3,396
PD 4 G	Single water still	with Separate Water Supply	3,762
PD 8 G	Single water still	with Separate Water Supply	5,534
PD 2 DG	Double water still	with Separate Water Supply	5,247
PD 4 DG	Double water still	with Separate Water Supply	6,010

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Pricing – unit with external level switch

Type	Variant	Option description	List price EURO
PD 4 D	Double water still	with External level switch	5,600
PD 8 D	Double water still	with External level switch	6,386
PD 4 G	Single water still	with External level switch	3,717
PD 8 G	Single water still	with External level switch	5,489
PD 4 DG	Double water still	with External level switch	5,965

PURIDEST

Technical data

	LAUDA Puridest PD 2	LAUDA Puridest PD 4
Capacity	2 l / h	4 l / h
Conductivity	approx. 2.3 $\mu\text{S} / \text{cm}$ at 25 °C	approx. 2.3 $\mu\text{S} / \text{cm}$ at 25 °C
Type of distillation	single	single
Material condenser	stainless steel	stainless steel
Control	manual	manual
Storage tank capacity	no storage tank	no storage tank
Cooling water consumption	approx. 20 l / h	approx. 40 l / h
Required water pressure	1 to 2 bar	1 to 2 bar
Outer dimensions (W x D x H)	280 x 250 x 490 mm	280 x 250 x 490 mm
Heating power	2.0 kW	3.0 kW
Net weight	7.95 kg	7.95 kg

PURIDEST

Technical data

	LAUDA Puridest PD 4 R	LAUDA Puridest PD 4 R	LAUDA Puridest PD 8 R	LAUDA Puridest PD 12 R
Capacity	2 l/h	4 l/h	8 l/h	12 l/h
Conductivity	approx. 2.3 $\mu\text{S} / \text{cm}$ at 25 °C	approx. 2.3 $\mu\text{S} / \text{cm}$ at 25 °C	approx. 2.3 $\mu\text{S} / \text{cm}$ at 25 °C	approx. 2.3 $\mu\text{S} / \text{cm}$ at 25 °C
Type of distillation	single	single	single	single
Material condenser	stainless steel	stainless steel	fully automatic	stainless steel
Control	fully automatic	fully automatic	stainless steel	fully automatic
Storage tank capacity	4 l	8 l	16 l	24 l
Cooling water consumption	approx. 30 l/h	approx. 48 l/h	approx. 72 l/h	approx. 198 l/h
Required water pressure	3 bar to max. 7 bar	3 bar to max. 7 bar	3 bar to max. 7 bar	3 bar to max. 7 bar
Outer dimensions (W x D x H)	540 x 290 x 420 mm	620 x 330 x 460 mm	780 x 410 x 540 mm	780 x 410 x 670 mm
Heating power	1.5 kW	3.0 kW	6.0 kW	9.0 kW
Net weight	approx. 15.4 kg	20.93 kg	approx. 35.3 kg	approx. 40.5 kg

PURIDEST

Technical data

	LAUDA Puridest PD 2 D	LAUDA Puridest PD 4 D	LAUDA Puridest PD 8 D
Capacity	2 l / h	4 l / h	8 l / h
Conductivity	single distillate: approx. 2.2 $\mu\text{S} / \text{cm}$ at 25 °C. double distillate: approx. 1.6 $\mu\text{S} / \text{cm}$ at 25 °C	single distillate: approx. 2.2 $\mu\text{S} / \text{cm}$ at 25 °C. double distillate: approx. 1.6 $\mu\text{S} / \text{cm}$ at 25 °C	single distillate: approx. 2.2 $\mu\text{S} / \text{cm}$ at 25 °C. double distillate: approx. 1.6 $\mu\text{S} / \text{cm}$ at 25 °C
Type of distillation	double	double	double
Material condenser	1. Stage: stainless steel 2. Stage: borosilicate glass	1. Stage: stainless steel 2. Stage: borosilicate glass	1. Stage: stainless steel 2. Stage: borosilicate glass
Control	fully automatic	fully automatic	fully automatic
Storage tank capacity	no storage tank	no storage tank	no storage tank
Additional features	single distillate withdrawable	single distillate withdrawable	single distillate withdrawable
Cooling water consumption	approx. 72 l / h	approx. 120 l / h	approx. 198 l / h
Required water pressure	3 bar to max. 7 bar	3 bar to max. 7 bar	3 bar to max. 7 bar
Outer dimensions (W x D x H)	500 x 260 x 470 mm	550 x 280 x 570 mm	700 x 390 x 700 mm
Heating power	3.5 kW	7 kW	11.5 kW
Net weight	approx. 21.0 kg	approx. 27.5 kg	approx. 45.0 kg

PURIDEST

Technical data

	LAUDA Puridest PD 2 G	LAUDA Puridest PD 4 G	LAUDA Puridest PD 8 G	LAUDA Puridest PD 2 DG	LAUDA Puridest PD 4 DG
Capacity	2 l/h	4 l/h	8 l/h	2 l/h	4 l/h
Conductivity	approx. 2.2 µS / cm at 25 °C	approx. 2.2 µS / cm at 25 °C	approx. 2.2 µS / cm at 25 °C	single distillate: approx. 2.2 µS / cm at 25 °C double distillate: approx. 1.6 µS / cm at 25 °C	single distillate: approx. 2.2 µS / cm at 25 °C double distillate: approx. 1.6 µS / cm at 25 °C
Type of distillation	single	single	single	double	double
Material condenser	borosilicate glass	borosilicate glass	borosilicate glass	borosilicate glass	borosilicate glass
Control	fully automatic	fully automatic	fully automatic	fully automatic	fully automatic
Storage tank capacity	no storage tank	no storage tank	no storage tank	no storage tank	no storage tank
Additional features	self-cleaning + sterilization	self-cleaning + sterilization	self-cleaning + sterilization	self-cleaning + sterilization	self-cleaning + sterilization
Cooling water consumption	approx. 48 l/h	approx. 72 l/h	approx. 144 l/h	approx. 72 l/h	approx. 144 l/h
Required water pressure	3 bar to max. 7 bar	3 bar to max. 7 bar	3 bar to max. 7 bar	3 bar to max. 7 bar	3 bar to max. 7 bar
Outer dimensions (W x D x H)	650 x 200 x 390 mm	650 x 200 x 390 mm	650 x 365 x 390 mm	650 x 365 x 390 mm	650 x 365 x 390 mm
Heating power	1.5 kW	3.0 kW	6.0 kW	2.9 kW	5.8 kW
Net weight	approx. 16.0 kg	approx. 17.0 kg	approx. 24.0 kg	approx. 24.0 kg	approx. 24.0 kg