



CATALOGUE PRODUCTS

IWA 20 - 100

SERIES OF REVERSE OSMOSIS APPARATUSES FOR PURE WATER PRODUCTION FROM DRINK WATER



ver. 004-21/05/2009-EN

IWA 20-100

IWA 20-100 *ro, roi, roip, rot, roit*, **EDI**

Apparatuses of raw IWA is designed for very pure water production from drink water by reverse osmosis with conductivity below 1 mS/cm and producing 20 - 100 lph.

Apparatus contain four parts of treatment:

- **mechanical filtration** = removing mechanical particular parts from water
- **dechloration** = removing chlorine from water *rodstranění volného chlóru*
- **reverse osmotics modul** = removing anorganic ions with efficiency 95 - 99%, organics parts up 99% and bacteriums and microorganisms
- **finish treatment** = by ionexchange resin value of conductivity below 1 mS/cm (*apparatus series roi, roip a roit*)

or

= **electrodeionization** = A new modern technology of ultrapure water production.

Under the action of electric field, ions are continuously transferred via ion exchanger grains to the corresponding ion-selective membranes. The key benefit of this technology is obtaining output water of a constant quality over a period of time (in EDI and EDI-T type apparatuses).

Priority apparatus:

- pretreatment water before the reverse osmoses (mechanical filtration and dechloration)
- reverse osmoses modul
- automatic operation in of connection with the level switch of water in tank
- function allowing of the exit of product after reaching of quality water
- periodic automatic rinsing to obstruct production of deposits and growing of microorganism
- cleaning making possible the process to clean
- alphanumeric display showing represent measuring values, autodiagnostic parameters and other function
- finish cleaning of product (ionexchange resin od EDI module)

NEW!

**SERIES OF REVERSE OSMOSIS
APPARATUSES FOR PURE
WATER PRODUCTION FROM
DRINK WATER**



Principles of operation of individual device types

Demiwater production

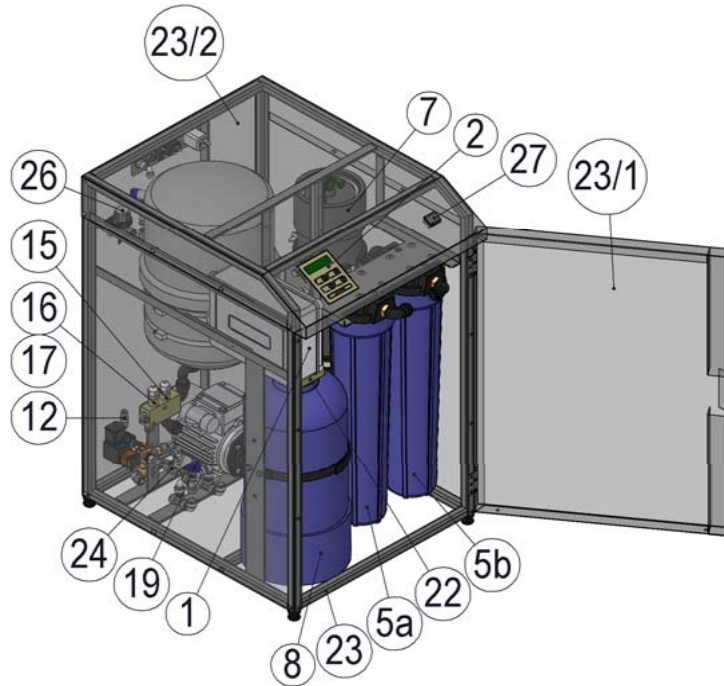
Raw water flows in through catch pit, pressure-reducing valve (adjusted entrance pressure is cca 400 kPa) and elmag. valve into column of mechanical filtering [5a], removes with gentle filtering on filter sleeve water-insoluble impurities larger than 1µm. Flow through second section of filtration [5b] - dechlorination column - removes main part of organic compounds and active chlorine. Pump [6] forces water into RO module [7]. Osmotic modulus placed here removes cca 95% of ion type compounds from water.

Demiwater further:

- **type ro** : pressureless flow from RO module [7] to drawoff spot **B** and from here flows through tube straight for use
Product = water with conductivity up to 50 µS/cm. Apparatus capacity from 20 to 100 l/h.
- **type rop** : flows out from RO module [7] into pressure reservoir [21], then to drawoff spot **B** and from here flows through tube straight for use. **Product** = pressure outlet of water with conductivity up to 50 µS/cm. Apparatus capacity from 20 to 100 l/h.
- **type roi** : flows from RO module [7] into ion exchanger column [8], conductivity is further decreased here to values from 0,2 to 5 µS/cm. Demiwater flows out pressureless from ion exchanger column [8] through coarse filter, filter serves as catch pit of loose particles of ion exchange resin that could escape from column to drawoff spot **B**. From here flows through tube for use. **Product** = water with conductivity up to 5 µS/cm. Apparatus capacity from 20 to 100 l/h.
- **type roip** : flows from RO module [7] into ion exchanger column [8], conductivity is further decreased here to values from 0,2 to 5 µS/cm. Demiwater flows out from ion exchanger column [8] through coarse filter that serves as catch pit of ion exchange resin loose particles which could escape from column into pressure reservoir [21], further to drawoff spot **B**. From here flows through tube for use. **Product** = pressure outlet of water with conductivity up to 5 µS/cm. Apparatus capacity from 20 to 100 l/h.
- **type rot** : flows from RO module [7] into gravitational reservoir [30], further to drawoff spot **B** and from here flows through tube for use. **Product** = pressure outlet of water with conductivity up to 50 µS/cm. Apparatus capacity from 20 to 100 l/h.
- **type roit** : from RO module [7] flows into ion exchange column [8] conductivity is further decreased here to values from 0,2 to 5 µS/cm. Demiwater flows out from ion exchanger column [8] through coarse filter that serves as catch pit of ion exchange resin loose particles which could escape from column into gravitational reservoir [30], further to drawoff spot **B**. From here flows through tube straight for use.
Product = pressure outlet of water with conductivity of up to 5 µS/cm. Apparatus capacity from 20 to 100 l/h.
- **type EDI** : is discharged from the RO module [7] in the absence of pressure through the flow sensor into the EDI electrodeionization unit for final treatment and conductivity reduction. From the EDI module demiwater is further discharged into drawoff spot **B** for immediate use.
Product = water of **constant quality** with conductivity of up to 5 µS/cm. Apparatus capacity from 40 to 100 l/h.



Apparatus main parts (series of ro, roi, rop, roip)

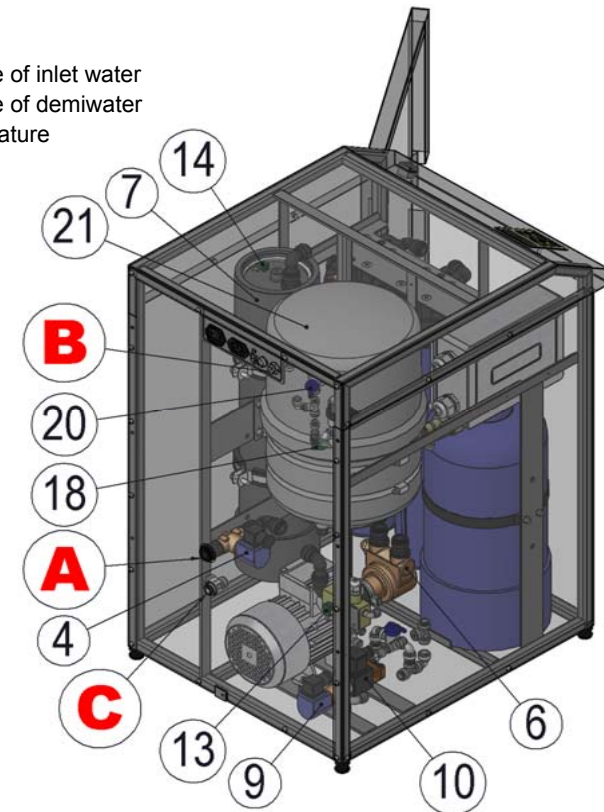


Apparatus main parts IWA ro, roi, rop, roip

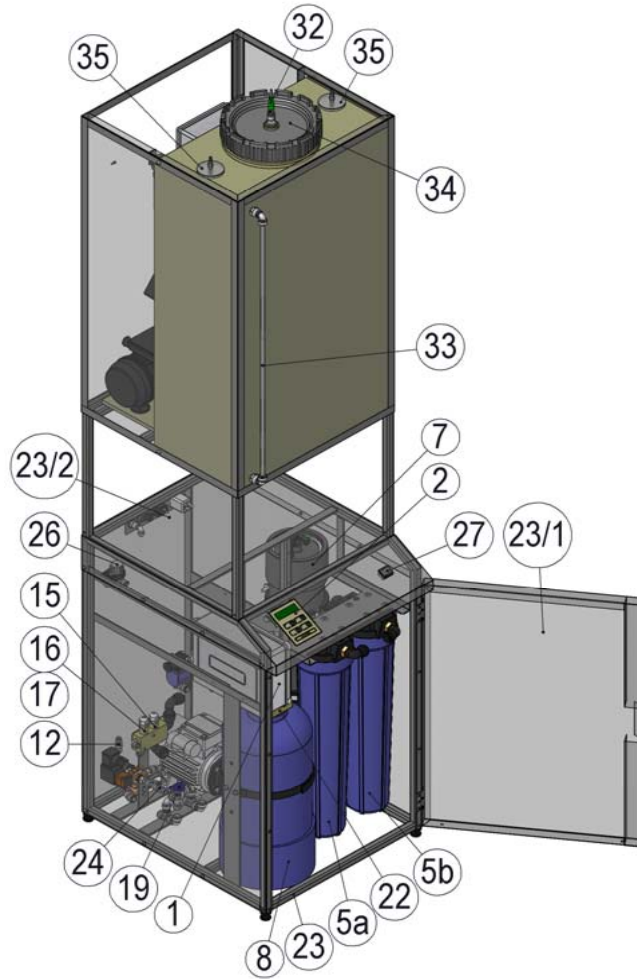
- 1 control system
- 2 keyboard
- 3 catch pit
- 4 inlet elmag. valve
- 5a mechanical filtration
- 5b dechloration column
- 6 pump
- 7 RO module
- 8 ion exch. column
- 9 elmag. Valve of quick circulation
- 10 three-way plast elmag. valve
- 11 check valve
- 12 check valve
- 13 pressure sensor
- 14 pressure sensor
- 15 conductivity measuring probe of inlet water
- 16 conductivity measuring probe of demiwater
- 17 reading of demiwater temperature
- 18 pressure sensor
- 19 restrictor R
- 20 shutoff valve
- 21 pressure reservoir
- 22 ion exch.column
- 23 housing
- 23/1 doors
- 23/2 upper cover
- 24 check valve
- 25 control valve
- 26 coarse filter
- 27 main switch
- 29 pressure regulator

Connecting and drawoff spots of demiwater

- A** – inlet of pressure raw water into apparatus
- B** – outlet of demiwater
- C** – waste water



Apparatus main parts (series of rot, roit)

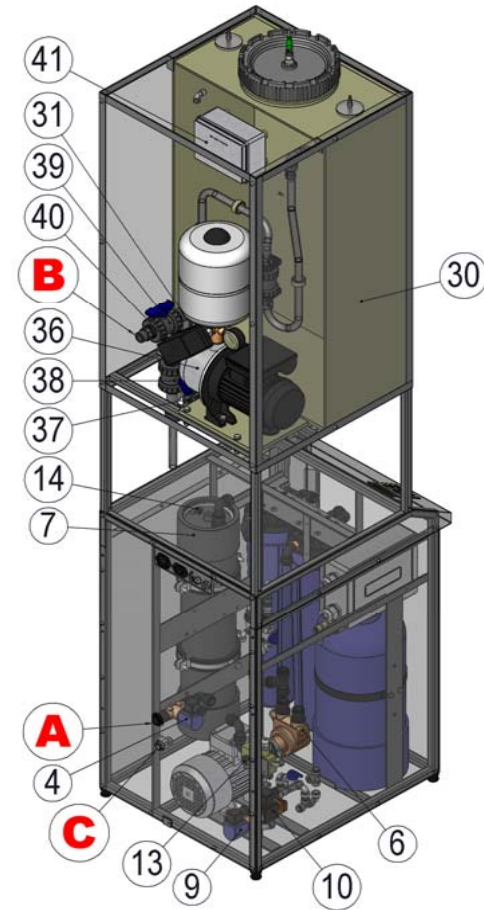


Apparatus main parts IWA rot, roit:

- 1 control system
- 2 keyboard
- 3 catch pit
- 4 inlet elmag. valve
- 5a mechanical filtration
- 5b dechloration column
- 6 pump
- 7 RO module
- 8 ion exch. column
- 9 elmag. Valve of quick circulation
- 10 three-way plast elmag. valve
- 11 check valve
- 12 check valve
- 13 pressure sensor
- 14 pressure sensor
- 15 conductivity measuring probe of inlet water
- 16 conductivity measuring probe of demiwat
- 17 reading of demiwat temperature
- 19 restrictor
- 23 housing
- 23/1 doors
- 23/2 upper cover
- 24 check valve ZK2
- 25 control valve V4
- 26 coarse filter
- 27 main switch
- 29 pressure regulator
- 30 reservoir 100 l
- 31 sensor min. level
- 32 sensor max. level
- 33 level gauge
- 34 closure reservoir
- 35 air microbial filter
- 36 pump with pressure tank
- 37 check valve
- 38 shutoff valve V9
- 39 shutoff valve V8
- 40 pressure switch of pump station
- 41 electrical instalation of tank

Connecting and drawoff spots of demiwat

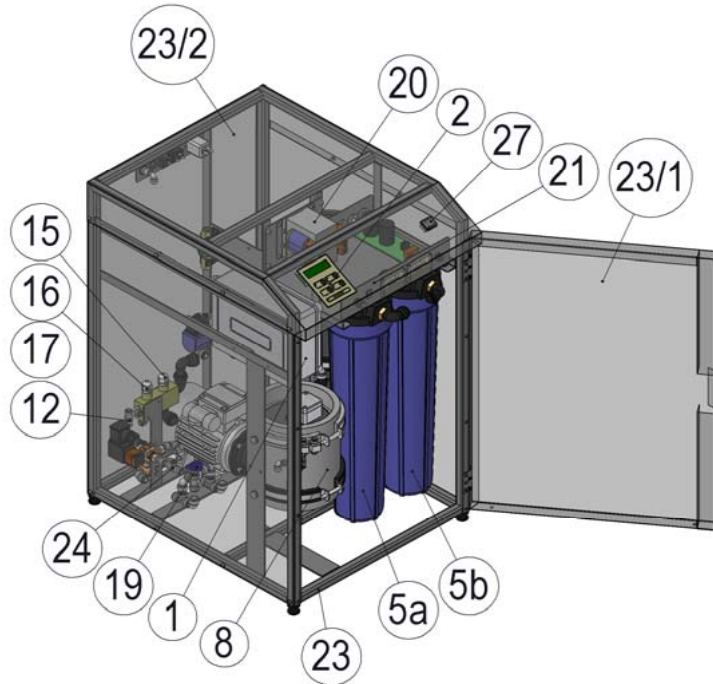
- A** – inlet of pressure raw water into apparatus
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- C** – waste water



Apparatus main parts (series of EDI)



A new modern technology of ultrapure water production.



Apparatus main parts IWA XX EDI:

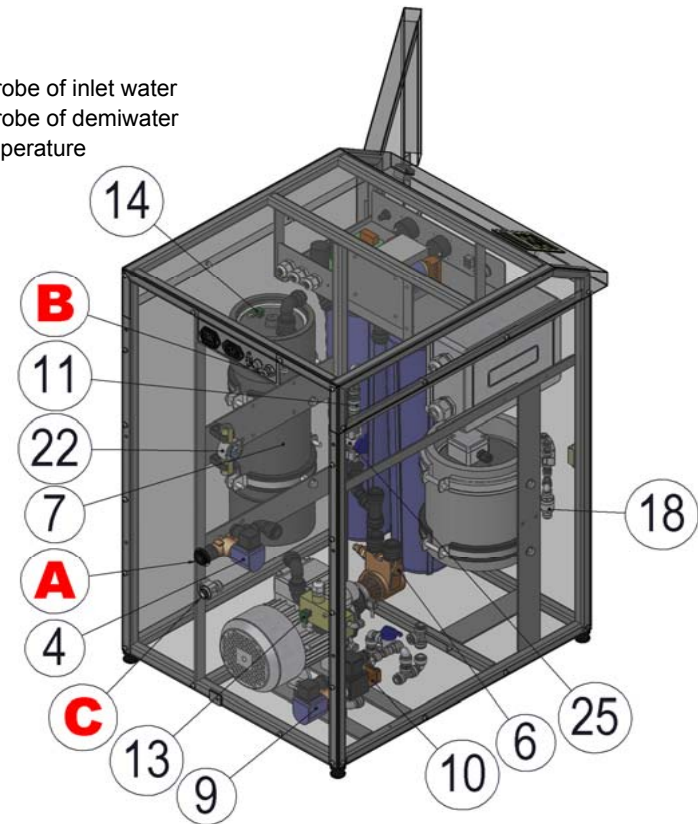
- 1 control system
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- 3 catch pit
- 4 inlet elmag. valve
- 5a mechanical filtration
- 5b dechloration column
- 6 pump
- 7 RO module
- 8 electrodeionization module EDI
- 9 elmag. valve of quick circulation
- 10 three-way plast elmag. valve
- 11 check valve
- 12 check valve
- 13 pressure sensor
- 14 pressure sensor
- 15 conductivity measuring probe of inlet water
- 16 conductivity measuring probe of demiwater
- 17 reading of demiwater temperature
- 18 restrictor
- 19 restrictor
- 20 EDI unit power supply
- 21 EDI unit control panel
- 22 flow sensor
- 23 housing
- 23/1 doors
- 23/2 upper cover
- 24 check valve ZK2
- 25 control valve V4
- 27 main switch
- 29 pressure regulator

Connecting and drawoff spots of demiwater
A – inlet of pressure raw water into apparatus
B – outlet of demiwater
C – waste water

This process utilizes exchanger resins under the action of electric field. The key benefit of this technology is the constant quality of output water over a period of time.

Compared to the conventional DI technology, EDI:

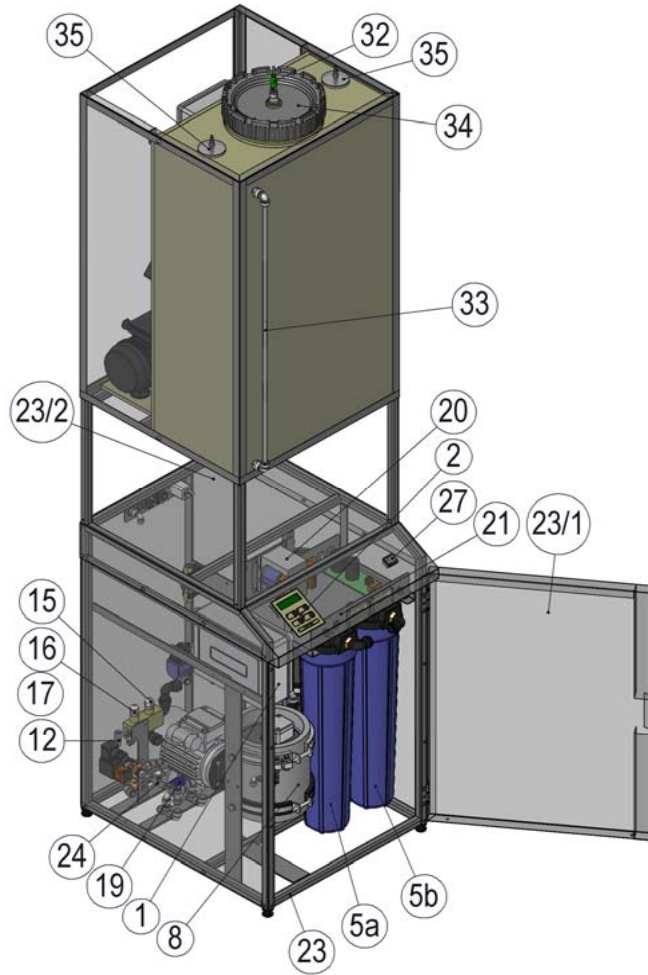
- nullifies the use of chemicals (as compared to DI resin regeneration)
- does not require shutdowns
- produces water of constant quality
- requires minimum energy
- is an economical option



Apparatus main parts (series of EDI-T)



A new modern technology of ultrapure water production.

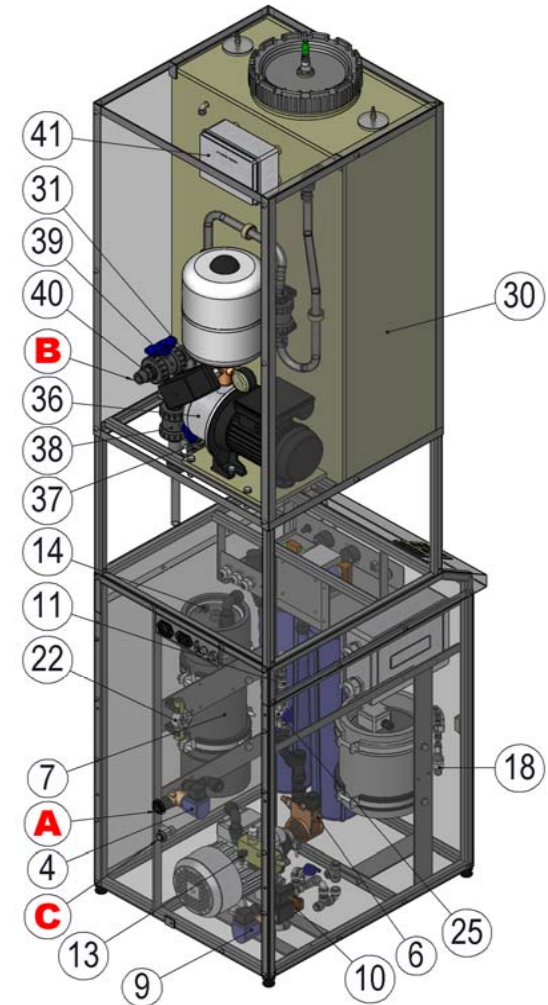


Apparatus main parts IWA XX EDI-T:



- 1 control system
- 2 keyboard
- 3 catch pit
- 4 inlet elmag. valve
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- 5b dechloration column
- 6 pump
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- 8 electrodeionization module EDI
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- 36 pump with pressure tank
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- 38 shutoff valve V9
- 39 shutoff valve V8
- 40 pressure switch of pump station
- 41 electrical instalation of tank
- 42 valve

Connecting and drawoff spots of demiwat

- A** – inlet of pressure raw water into apparatus
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- C** – waste water



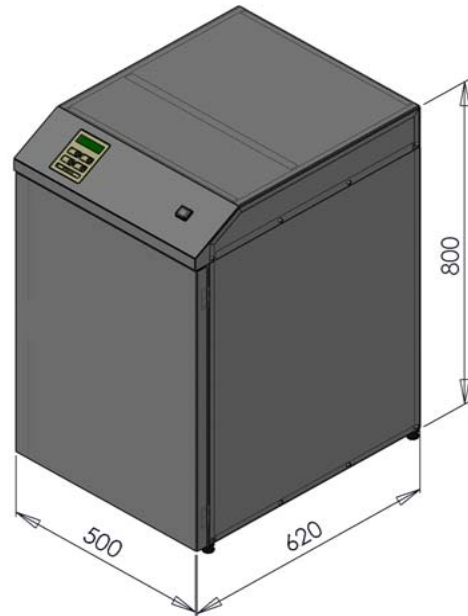
Ordering Numbers

<i>Apparatus</i>	<i>Order. No.</i>		<i>Apparatus</i>	<i>Order. No.</i>		<i>Apparatus</i>	<i>Order. No.</i>	
IWA 20 ro	D09010000		IWA 20 roi	D09060000		IWA 40 EDI	D29310000	
IWA 40 ro	D09020000		IWA 40 roi	D09070000		IWA 60 EDI	D09320000	
IWA 60 ro	D09030000		IWA 60 roi	D09080000		IWA 80 EDI	D09330000	
IWA 80 ro	D09040000		IWA 80 roi	D09090000		IWA 100 EDI	D09340000	
IWA 100 ro	D09050000		IWA 100 roi	D09100000				
IWA 20 rop	D09110000		IWA 20 roip	D09160000		IWA 40 EDI-T	D09350000	
IWA 40 rop	D09120000		IWA 40 roip	D09170000		IWA 60 EDI-T	D09360000	
IWA 60 rop	D09130000		IWA 60 roip	D09180000		IWA 80 EDI-T	D09370000	
IWA 80 rop	D09140000		IWA 80 roip	D09190000		IWA 100 EDI-T	D09380000	
IWA 100 rop	D09150000		IWA 100 roip	D09200000				
IWA 20 rot	D09210000		IWA 20 roit	D09260000				
IWA 40 rot	D09220000		IWA 40 roit	D09270000				
IWA 60 rot	D09230000		IWA 60 roit	D09280000				
IWA 80 rot	D09240000		IWA 80 roit	D09290000				
IWA 100 rot	D09250000		IWA 100 roit	D09300000				

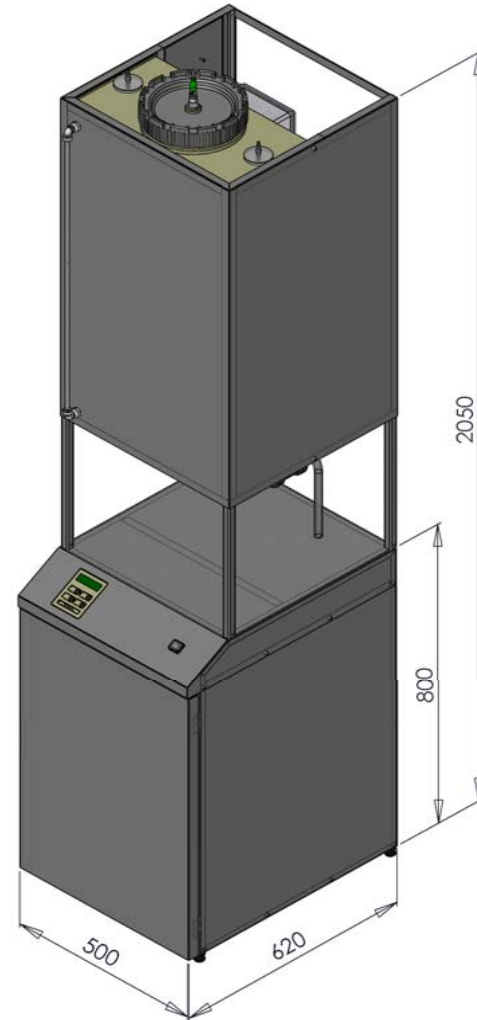
On special request can apparatuses be equipped with different demiwaterr reservoir with possibility to guard maximal level, if need be also with water house that is fed from apparatus and guarded minimal level in reservoir.

On special request can apparatuses be equipped with UV lamp and microbial filter at outlet. Service life of UV lamp is 8 000 hour run and its replacement is done by manufacturer or delegated establishment serviceman. Microbial filter is replaced when clogged, latest after one year of service. .

Dimension sketch



Apparatus series of type ro, roi, rop, roip, EDI



Apparatus series of type rot, roit, EDI-T



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