



Nobel Water Systems Case Study

Hotel Sanitary Water System in Zagreb, Capital of Croatia



Summary

Location
Hotel Name
Time of Installation
Key Products

Zagreb, Croatia
Palace Hotel Zagreb
December 2019
Installed Eco-Disinfectant Dosing System with Controller and Measuring Cell – Grundfos; Mechanical filtration 2" and EcoWater Systems - 2" Duplex Softener - 2x283I Ion-Exchange Resin



The facility

The Palace Hotel Zagreb ranks one of the top hotels in the city located in the centre of the palace immediately next to the old city park, opened its doors in 1907 as the first official hotel in Zagreb. Its appearance and style of construction is one of the few examples of neo-classic style. Since then, the hotel has been upgraded and adapted several times, and technically perfected so that nowadays the rooms are a blend of modern technology and an old 19th century secessionist style in which the hotel is built. The newly renovated Palace Hotel Zagreb offers 116 luxurious rooms, three suites, three semi-apartments, conference room, restaurant, bar and wellness.

After the installation of geo-thermal system and total reconstruction of heating, cooling and water installation, and the central technical rooms in the basement through the foundations three wells were drilled and got a good quality water at 32m depth. We treated it chemically, mechanically and softening so the economical result will be the paying off the System in a few years with working costs included.

Sanitary water system

The table below sets forth the pre-treatment and water softener installed.

Municipal water come into system from one side and from the other side we pump the well water which is maintained by 2 pressure vessels per 1000l controlled with solenoid valves at 2" installation.

Process

Water pressure was maintained up to 6 bars from both sources.
Big particles are removed like rust and dust
The well water is disinfected by eco-friendly chemical
The softening of both municipal and well water from 24 to 3°dH

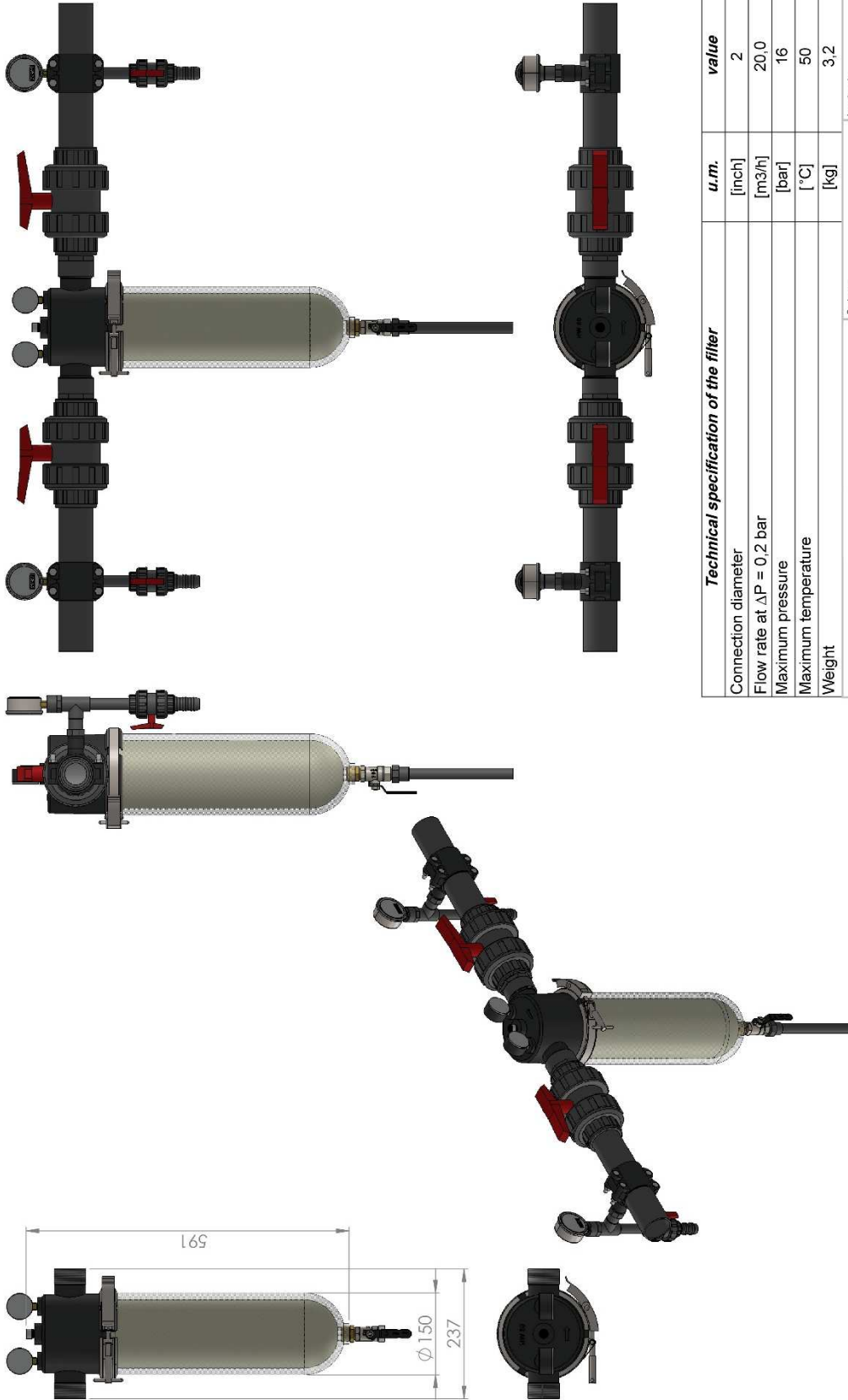
Product

Deepwell pump
two 2" sed. filters 80mic
Dosing system
2" duplex softener 286I

Brand

Pedrollo
Nobel
Grundfos
EcoWater



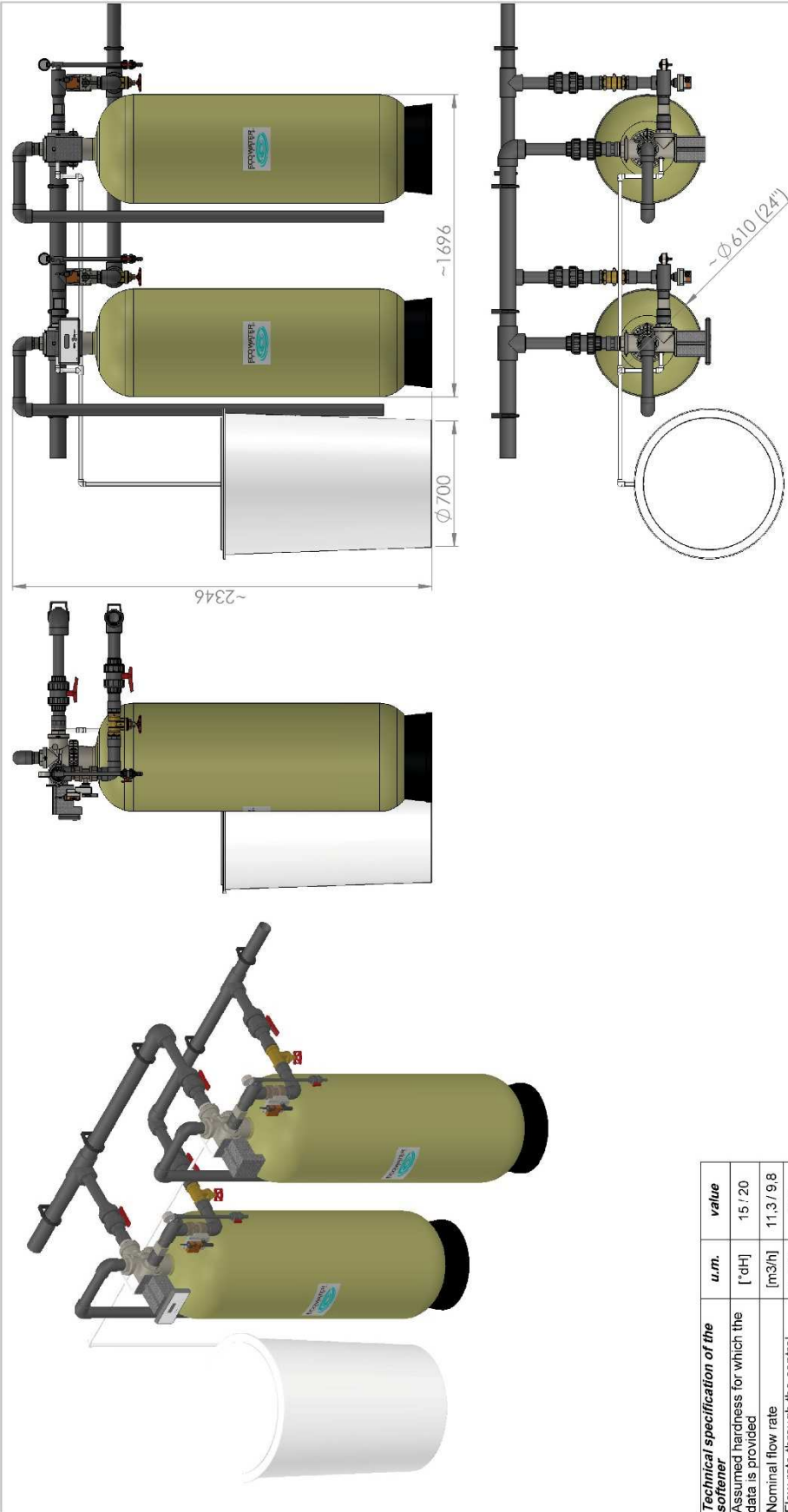


Technical specification of the filter		u.m.	value
Connection diameter		[inch]	2
Flow rate at $\Delta P = 0,2$ bar		[m ³ /h]	20,0
Maximum pressure		[bar]	16
Maximum temperature		[°C]	50
Weight		[kg]	3,2

Customer:		Investment:	
Technology:			
<p>ECOWATER SYSTEMS® NOBEL WATER SYSTEMS d.o.o. Medačka 18 10000 Zagreb, Hrvatska tel.: + 385 1 7778662 e-mail: nobel@nobelcorporation.com</p>			
Title:		Centrifuges NW 50	
draw	NAME	DATE	Drawing No:
checked	SIGNATURE		A3
approved		Offer No:	

Indicated dimensions might be slightly different in reality.
 A schematic diagram of connecting of the device.
 The unit is supplied without:

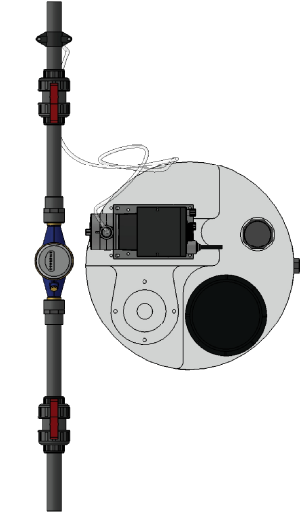
- Piping (PVC glued)
- Manual shut-off valves,
- Manual control valves,
- Valves for sampling,
- Clamp saddles,
- Manometres



Technical specification of the softener	u.m.	value
Assumed hardness for which the data is provided	[°dH]	15 / 20
Nominal flow rate	[m ³ /h]	11,3 / 9,8
Flow rate through the control valve at ΔP = 1,0 bara	[m ³ /h]	16,0
Maximum flow rate	[m ³ /h]	11,3
Volume of brine tank	[l]	460
Required flow rate during regeneration	[m ³ /h]	3,79
Average use of water for regeneration	[m ³]	1,42
Average use of salt for regeneration	[kg]	42,5
Power supply	[V]	230
Electric power	[W]	50
Feed water temperature	[°C]	4 - 30
Feed water connection	[inch]	2
Soft water connection	[inch]	2
Drain line connection	[inch]	2

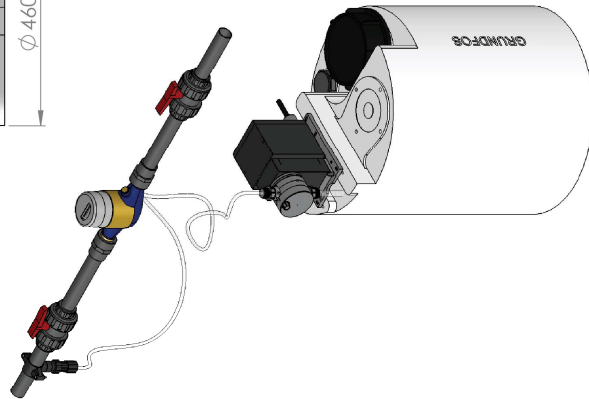
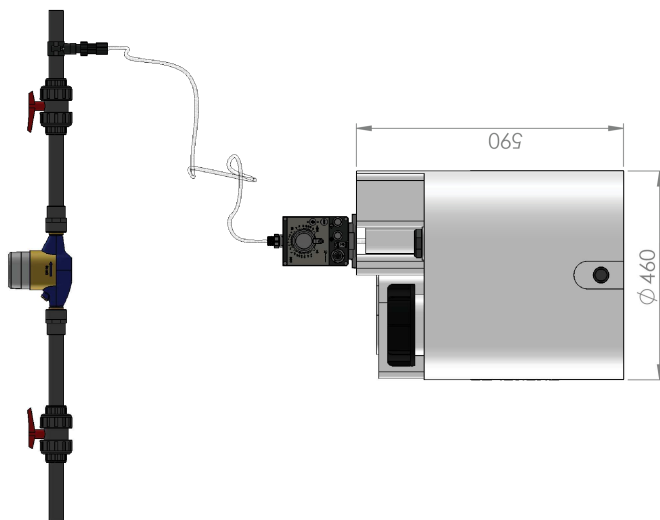
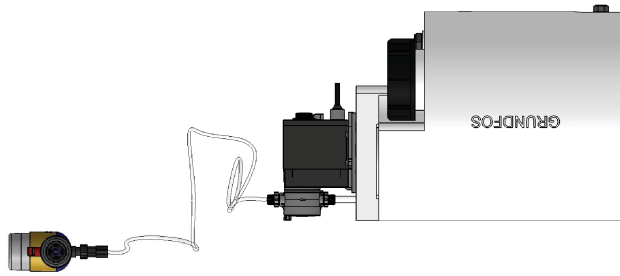
Indicated dimensions might be slightly different in reality.
 A schematic diagram of connecting of the device.
 The unit is supplied without:
 - Piping (PVC glued)
 - Manual shut-off valves,
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Customer:		Investment:	
NOBEL WATER SYSTEMS d.o.o. Medačka 18 10000 Zagreb, Hrvatska tel.: + 385 1 7778662 e-mail: nobel@nobelcorporation.com			
Technlogy:		Title:	
		EPUROTECH 52/283 DE	
draw	NAME	DATE	Offer No
checked	SIGNATURE		
approval			
			A3



Indicated dimensions might be slightly different in reality.
A schematic diagram of connecting of the device.

- Piping (PVC glued)
- Manual shut-off valves,
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Technical specification of ESPEDOS dosing system	u.m.	value
Maximum flow rate of the dosing pump	[l/h]	6,0
Maximum back pressure	[bar]	10,0
Water meter diameter	[mm]	DN20
Water meter constant	[---]	0,5
Maximum flow rate through the water meter	[m ³ /h]	4,2
Ambient temperature	[°C]	5 - 40
Maximum water temperature	[°C]	30
Maximum water temperature at the injection probe setting	[°C]	40
Injection probe connection diameter	[inch]	1/2
Chemical agent feeder capacity	[l]	60
Power supply of the dosing pump	[V]	230
Electric power of the dosing pump	[W]	19

Customer:		Investment:	
Technology:			
Title:			
ESPEDOS GZW 60-20			
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ECO WATER SYSTEMS Your Water. Perfected.	NAME draw checked approved	SIGNATURE DATE Offer No	