

# FOOD & BEVERAGE



professional treatment solutions  
turning your water into benefit



**BEHA**  
Cornerstone of Confidence

with our quality, we are everywhere there is water



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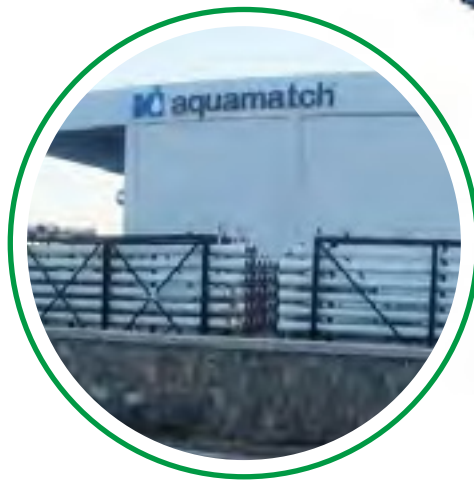
Our company, which has been serving in the treatment sector since 1989, has entered into a joint investment with Aquamatch Inc. in 1996 and started designing and producing in Turkey. Since 2003, it has been an engineering and treatment company with 100% Turkish capital.

Our company has become one of the world's leading companies of water and wastewater treatment sector by signing big references and projects in 4 continental and more than 50 countries.

## Professional treatment solutions Turning your water into benefit



- 9000 m<sup>2</sup> indoor production facilities in Aydın
- Installation of mega desalination and wastewater recovery facilities
- Over 20 years of deep knowledge and manufacturing experience in membrane technologies
- Sales and technical services with 16 dealers in 10 different cities
- Installation and operation of turnkey water & wastewater treatment systems at home and abroad
- Engineering, design, manufacturing, sales and after sales services staff of about 300 people together with our dealers





## Coca Cola / Elazığ / Turkey

**Capacity:**

2 x 95 m<sup>3</sup>/h

Ultrafiltration, Activated Carbon Filtration,  
Nanofiltration Systems

## Tuborg Brewery / İzmir / Turkey

**Capacity:**

500 m<sup>3</sup>/h Multi Media Filter and  
Steam Sterilized Activated Carbon Filter  
130 m<sup>3</sup>/h Softener ve RO Systems



## Bottling Plant / Kocaeli

**Capacity:**

120 m<sup>3</sup>/h Ultrafiltration System

2 x 60 m<sup>3</sup>/h Ozonation System

134 m<sup>3</sup>/h Bag Filter

## → Stainless Steel Multi Media & Activated Carbon Filters

Filtration systems are used to remove physical impurities such as sediment, turbidity, suspended solids, colour, odour and smell.

Filters remove particulates/sediments with various sizes and density by holding them with different media layers inside the tank. Filters are backwashed automatically in order to remove these particulates/sediments from filter bed.

### General Features

- SS304 / SS316 Stainless Steel Filter Tanks
- 4 – 6 Bar Operating Pressure
- Valves for Food & Beverage Norms
- Stainless Steel Food & Beverage Piping
- Internal Parts for Steam Sterilizing
- PLC Control Panel
- Electricity 220 V / 50 Hz / 1 pH



### Stainless Steel Multi Media & Activated Carbon Filters Technical Features

Model	Capacity m <sup>3</sup> /h	Tank Dimensions	Body/ Dome Thick- ness	Activated Carbon Filters	Multi Media Filters			Area
	Filtration Velocity			Activated Carbon & Gravel	Gravel	Sand	Anthracite	
	20 m/h			kg	kg	kg	m <sup>2</sup>	
<b>BMMF / BACF 95 SS304/316</b>	<b>14</b>	95x320	6/8	325 + 150	150	500	252	0,7
<b>BMMF / BACF 125 SS304/316</b>	<b>25</b>	125x320	8/10	575 + 300	300	850	414	1,23
<b>BMMF / BACF 160 SS304/316</b>	<b>40</b>	160x340	8/8	900 + 450	450	1350	648	2
<b>BMMF / BACF 190 SS304/316</b>	<b>57</b>	190x340	8/8	1300 + 675	675	2350	720	2,83
<b>BMMF / BACF 240 SS304/316</b>	<b>91</b>	240x360	10/10	2025 + 1050	1050	3750	1134	4,52

\* Speed for reverse rinsing capacity is 30 m/h.

\* Tank height is total height including feet, sizes vary according to the manufacturer.



## → Stainless Steel Ultrafiltrasyon Systems Horizontal Series

Ultrafiltration (UF) systems are used for filtration of especially sea water, river water, well water and spring water that have dense and variable physical impureness load by membrane technology.

Bacteria, viruses and turbidity in the water can be removed at high rates by hollow fiber membranes with a pore size of 0.02 microns.

UF systems are operated according to the vertical flow principle. The impurities that are held membranes are removed by automatic backwash. Membranes are also periodically chemically enhanced backwash with chemical. Average system recovery is % 85–90.



### General Features

- Horizontal Hollow Fiber UF Membranes
- SS 316 Stainless Steel Vessels
- Automatic Backwash & Chemical Washing Unit
- SS 316 Stainless Steel Piping
- PLC Control Panel & Operator Panel

### Spring Water Treatment UF Systems Horizontal Series Technical Features

Model	Turbidity	Capacity	Membrane Area	Flux
	NTU	m/saat	m <sup>2</sup>	lt/m <sup>2</sup> .h
CHZ UFY04 SS316	1	15,1	160	94,4
CHZ UFY08 SS316	1	30,2	320	94,4
CHZ UFY16 SS316	1	60,4	640	94,4
CHZ UFY24 SS316	1	90,6	960	94,4
CHZ UFY32 SS316	1	120,8	1280	94,4



## → Reverse Osmosis Systems

Reverse Osmosis (RO) systems are used to separate dissolved ions from water with membrane separation in order to get low conductivity fresh water.

Reverse Osmosis systems are crossflow membrane separation units without backwash. Membranes are cleaned in place with chemicals time to time.

### General Features

- TFC Spiral Wound Membranes
- SS 316 Stainless Steel High Pressure Pump
- High Pressure Piping SS 316 Stainless Steel
- Low Pressure Piping SS 316 Stainless Steel
- Cartridge Filter SS 316 Stainless Steel Body
- Stainless Steel Control Panel & Operator Panel



### TFK Series RO Systems Technical Features

Model	Capacity m <sup>3</sup> /h	Recovery %	Vessel Quantity	Membrane Quantity	Power Kw	Connection Inlet/Outlet
<b>TFK-150</b>	6	57	2	6	11	DN50/DN40
<b>TFK-200</b>	8	65	2	8	11	DN50/DN40
<b>TFK-300</b>	12,5	65	3	12	15	DN50/DN50
<b>TFK-450</b>	19	75	3	18	18,5	DN80/DN65
<b>TFK-550</b>	23	75	4	24	18,5	DN80/DN65
<b>TFK-750</b>	31	75	5	30	37	DN80/DN80
<b>TFK-900</b>	37,5	75	6	36	37	DN80/DN80

### TFM Series RO Systems Technical Features

Model	Capacity m <sup>3</sup> /h	Recovery %	Vessel Quantity	Membrane Quantity	Power Kw	Connection Inlet/Outlet
<b>TFM-42</b>	37-50	75	7	42	37	DN100/DN80
<b>TFM-60</b>	52-65	75	10	60	45	DN150/DN100
<b>TFM-72</b>	65-85	75	12	72	75	DN150/DN150
<b>TFM-90</b>	77-100	75	15	90	75	DN150/DN150
<b>TFM-108</b>	98-125	75	18	108	75	DN150/DN150

## → Ozonation Systems

Ozone is obtained by passing oxygen or air through high voltage or electrical current. Ozone is not a stable gas, that's why it can not be stored or transported for a long time. It must be produced in a place where it is used. For that purpose ozonation generators are used. Dry air and oxygen are oxygen-rich gases used in ozone production. Air should be filtered and completely dried before to be fed to the ozone generator (dew point <math>< -60^{\circ}\text{C}</math>).

### Technical Features

- Ejector
- Circulation Pump
- LiqTec Water Leakage Sensor
- S71200 – 6" OP PLC Control Panel
- SS 304 Stainless Steel Skid

### Optional Features

- Ozone Contact Tanks SS 316
- Compressor (ops. for CFS 1 and CFS 3 models)
- Dew Point Analyzer & Sensor (ops. for TOGC8X and TOGC13X models)
- Ozone Analyzer & Sensor & Panel
- Ozone Destruct Unit

### Ozonation Systems Types

Ozonation Systems		TOGC8X-2015	TOGC13X-2015	CFS1-2015	CFS3-2015
Ozone Production Capacity gr/h	Air % 3	-	-	37	112
	Oxygen % 6	8	13	53	160
Cooling Water Capacity m /h		-	-	0,09	0,27
Compressor Capacity l/m		-	-	62	124
Air Dryer Capacity l/m		-	-	84	84
Power kW		0,6	0,65	0,7	2
Skid Dimensions mm (Width x Length x Height)		990x2200x1725	990x2200x1725	1140x2200x1725	1340x2200x1725

\*The compressor and dryer are supplied with ozone generator for TOG-C8X and TOG-C13X series. There is also no need to provide extra equipments.





## → Mineral Dosing Systems

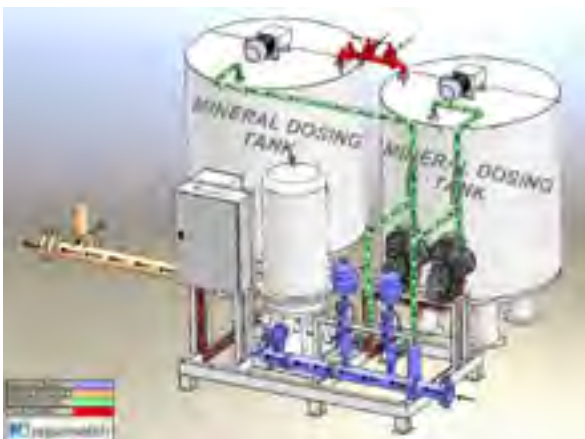
Mineral dosing systems used for automatically doses minerals to water. It may be necessary to increase the amount of the minerals and pH values for the usage of drinking water in which the water's conductivity is reduced by reverse osmosis systems. The absolute cartridge filter on the system eliminates residues that may arise from the dosage.

### General Features

- Adjustable TDS Level 10–200 mg/l
- Absolute Cartridge Filter 0,2  $\mu$
- Mixer SS 316 – Dosing Tank
- Inline Mixer SS 316 - Line
- Valves at Food Norms
- Dosing Tank Level Switch
- S71200 – 6" OP PLC Control Panel
- SS 304 Stainless Steel Skid
- Flow Analyzer & Sensor
- Conductivity Analyzer & Sensor
- pH Analyzer & Sensor
- Piping

### Mineral Dosing Systems Technical Features

Mineral Dosing Systems	CHZ MNRDZJ 30	CHZ MNRDZJ 60
Capacity m /h	30	60
Dosing Tank l	1500 (1 duty –1 stand by)	1500 (1 duty –1 stand by)
Dosing Pump	300 l/h @ 5bars (1 duty –1 stand by)	600 l/h @ 5bars (1 duty –1 stand by)



## → Ultraviolet Systems

Ultraviolet Systems (UV) are used for disinfection. Ultraviolet disinfection method is a quick and effective method to remove the microorganisms without using heat or any chemical. UV Lamps produce certain wavelength rays in order to destruct the DNA of bacteria, virus, fungus, mold spores and other microorganisms.

Water which will be disinfected via UV light, must be filtered, purified from hardness and heavy metals such as irons and manganese. Ultraviolet lamps need to be replaced after approximately 9000 hours usage.

Usage Area of Special Series;  
 Bottling filling lines  
 CIP lines  
 Ozone removal  
 Sugar syrup  
 Air disinfection

### General Features

Special Process series UV Systems;

- SS 316 Stainless Steel Body, PN10
- UV Monitor ve Sensor
- Low Pressure, Amalgam, Medium Pressure Lamps
- Hygienic Standards
- Production Capacity up to 1025 m<sup>3</sup>/h
- Optional Validated Device



### Aqua Series UV Systems Technical Features

Model	Capacity @ UV Dosage m <sup>3</sup> /h	UV Dosage microwatts/cm <sup>2</sup>	Lamp Quantity	Lamp Power kW	Connection	Weight kg
UVY AQUA 6	1,5	48.500	1	36	1"	5
UVY AQUA 12	2,4	30.000	1	36	1,25 "	10
UVY AQUA 24	4,8	30.000	2	72	1,5"	13
UVY AQUA 40	12	36.000	4	144	2"	15
UVY AQUA 65	18	48.500	6	216	2"	21
UVY AQUA 100	24	48.500	8	288	2,5" Flanşlı	23

### Amalgam Series UV Systems Technical Features

Model	Capacity @ UV Dosage m <sup>3</sup> /h	UV Dosage microwatts/cm <sup>2</sup>	Lamp Quantity	Lamp Power kW	Connection	Weight kg
UVA AQUA1	34	40.000	1	270	2,5" Flanşlı	56
UVA AQUA2	67	40.000	2	540	4" Flanşlı	60
UVA AQUA3	101	40.000	3	810	6" Flanşlı	66
UVA AQUA4	161	40.000	4	1080	6" Flanşlı	75

## → Bag and Cartridge filters

In Food & Beverage Industry, various additional treatment equipments such as bag & cartridge filters are used in depending on the water quality and process requirements.

### Usage Area

- Before and after ultraviolet systems
- After activated carbon filters
- Before filling lines
- Polishing & fine Filtration



### Stainless Steel Bag Filters

Model	Capacity	Connection	Surface Area	Dia x Height
	m <sup>3</sup> /h		cm <sup>2</sup>	cm
TF 304/316 – 716	25	2" Threaded	2250	22 x 90
TF 304/316 – 732	50	2" Threaded	4500	22 x 117



### SS 304 Stainless Steel Cartridge Filters

Model SS 304	Capacity	Connection	Surface Area	Dia x Height
	m <sup>3</sup> /h		cm <sup>2</sup>	cm
HSS 4	3,6	2" Threaded	4 x 10"	17 x 96
HSS 16	14,4	2" Threaded	4 x 40"	20 x 134

### SS 316 Stainless Steel Cartridge Filters

Model SS 316	Capacity	Connection	Surface Area	Dia x Height
	m <sup>3</sup> /h		cm <sup>2</sup>	cm
HSS 4	3,6	2" Dişli	4 x 10"	17 x 96
HSS 16	14,4	2" Dişli	4 x 40"	20 x 134
HSS 48	43,2	3" Flanşlı	12 x 40"	36 x 161
HSS 88	79,2	4" Flanşlı	22 x 40"	46 x 177
HSS 180	162	6" Flanşlı	45 x 40"	60 x 190
HSS 300	270	8" Flanşlı	75 x 40"	75 x 223
HSS 222-12	10,8	2" Dişli	4 x 30"	20 x 134
HSS 222-36	32,4	3" Flanşlı	12 x 30"	36 x 161



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