

BWT PERMO



Water treatment for local authorities, communities & industry

2014 Catalogue

www.bwtpermo.fr

For You and Planet Blue.





Our business: water! Our speciality: water treatment...

BWT PERMO: 500 employees to serve you in France.

BWT PERMO headquarters are located in Saint-Denis (93). On the same site are housed the design office, industrial project engineering, the development of standard equipment for our catalogues, production and the logistics platform.

BWT PERMO is the top partner of design offices in the recommendation of solutions for sanitary and energy questions for local authority, community, and industrial establishments. This trust has been acquired over the long term and is founded both on proven technology and innovation. It also owes its strength to the quality of the advice given by our commercial teams which can also be found in the customer services provided by our technicians throughout our network. BWT PERMO's greatest strength

is its human resources, the organisation of which changes as its experience increases in order to meet its customers' needs ever more effectively. Spread over 12 branches in continental France, this organisation can provide availability and proximity that are unequalled in our business. Today our web site (www.bwtpermo.fr) completes the service we provide, especially with its specific professional sections.

As the European leader in water treatment, BWT group puts its know-how **at your disposal** (For You...), whether you are an industrial sector professional, in charge of community level infrastructure, or simply a private individual. Our technology and innovations provide you with the water treatment suited to your needs at the same time as improving hygiene, safety and energy control, **at the service of public health and of our environment** (... and Planet Blue).

BWT, For You and Planet Blue.

BWT PERMO has been the main entity in the BWT group for over 20 years and has been the French national leader for almost a century, it designs and manufactures reference water treatment solutions in France for local authorities, community facilities and industry. Discover our sites, our expertise and our product lines in this catalogue.



SOFTENING

THE ALCYO LINES	p.8
WATER SOFTENER PERMO 500	p.10
WATER SOFTENER PERMO 6000 ALCYO	p.11
WATER SOFTENER PERMO 7000 ALCYO	p.12
WATER SOFTENER PERMO 9000 CC ALCYO	p.13
WATER SOFTENER PERMO 8000 CC ALCYO	p.14
WATER SOFTENER PERMO EC	p.15

ANTISCALE

PERMO AQA total	p.18
-----------------------	------

FILTRATION

PERMO CRISTAL WF/PERMO CELSIUS	p.21
PERMO FLASH MANUAL /AUTOMATIC	p.22
PERMO FTPAC	p.23
CARTRIDGE FILTRATION	p.24
PERMO 1500	p.28
PERMO 2000 VINYLESTER BODY	p.29
PERMO 2000 STEEL BODY	p.30
PERMO FPM	p.31
PERMO ECOFILDEB EVOLUTION	p.32
PERMO FPM CYCLONIC	p.33
BWT NETWORK PROTECTION PACK	p.34
PERMOBOY AUTO	p.35
PERMOBOY PRESTIGE MANUAL	p.36
PERMO AZUR	p.37
POOL FILTRATION	p.38

REVERSE OSMOSIS

PERMO PERMAQ COMPACT 14 AND 18	p.41
PERMO PERMAQ COMPACT 41 AND 51	p.42
PERMO PERMAQ COMPACT 100	p.43
PERMO PERMAQ ECO	p.44
PERMO PERMAQ PICO	p.45
PERMO PERMAQ MOBILE 350	p.46

DEMINERALISATION

PERMO LMJ	p.49
PERMO LMIR	p.50
PERMO AQA Therm	p.51

ANALYSIS

PERMO PROBOX ANALYSIS	p.55
PERMO PROBOX	p.56
PERMO MULTICONTROL	p.57
PERMO CONTROL	p.58
PERMO DIOMEDE	p.59
PERMO ARES	p.60
PERMO LOG	p.61
TRANSMITTING WATER METER	p.62

DISINFECTION

PERMO ECOREDOX	p.65
PERMO ECOBOX ECS	p.66
PERMO BIOX II	p.67
PERMO ECO-MX NANO	p.68
PERMO ECO-MX & ECO-MX+	p.69
PERMO NEUTRA	p.70
PERMO BIOSTIL UV N	p.71
PERMO ULTRASOUND	p.72

FORMULATED PRODUCTS

DOSING SYSTEM	p.77
BAG-IN-BOX	p.78
CLOSED SYSTEMS	p.80
GLYCOLS	p.81
COLD AND HOT DRINKING WATER	p.82
OTHER APPLICATIONS	p.83



BWT PERMO, solutions for community facilities and industry:

- Hospitals, clinics, retirement homes, etc.
- leisure centres, swimming pools, fountains, pools, etc.
- Nursery schools, schools, stations, etc.
- SMEs
- Office buildings, council housing, residences, etc.



1 / PROCESS WATER

- Sterilisation
- Dialysis
- Cleaning
- Steam boilers
- Foodstuff preparation
- Pharmaceutical preparation
- Effluents



2 / POOL WATER

- Public swimming pools
- Ornamental pools and fountains
- Balneotherapy



3 / DRINKING WATER

- Cold drinking water
- Hot drinking water



4/ HEATING SYSTEMS AND CHILLERS

- Heating
- Iced water
- Air-cooling towers
- Humidification
- Misting
- Drycooler

THE HEART OF OUR COMMITMENT, TO ACCOMPANY

As the holders of several quality certifications, the satisfaction of our user customers is our organisation's primary objective. From basic administrative applications to technical advice, and including the audit of your installations, our technical and sales staff will provide a permanent point of contact and high added value.

At all the phases of your project our salespeople, technicians and engineers will guide and help you in the choice and maintenance of your water treatment equipment so that you have total control over it. BWT PERMO is a recognised (French) training organisation registered under licence number: 11 93 04002 93. BWT PERMO offers: true bespoke monitoring, whether in the study and design phase, during commissioning and acceptance testing, or for the operation of a single item of equipment or a complete water treatment chain. A commitment to reactivity to provide optimum service, a guarantee of the effectiveness of the result, process reliability, and the long service life and evolution of installations.



BWT PERMO is certified

ISO 9001

Quality Management System

ISO 13485

Medical devices:
Quality Management System

CSTBat Service

Implementation of hot drinking water,
heating water and cooling water processes
subject to a technical opinion.

OHSAS 18001

Occupational health and safety
management system



ADDED QUALITY OF SERVICE

**We design your future installations.
Faultless mastery to anticipate everything.
Close to your installation to provide suitable maintenance.**



SOFTENING

The ALCYO / EC LINES

Ion exchange resin softeners

Water softeners use an ion exchange process to capture the calcium and magnesium ions that cause scaling, when they combine with carbonate ions. The hard water is put into contact (by percolation) with a polymer resin composed of 0.4 to 1.2 mm grains that have a strong affinity with the ions to be captured. As the quantity of water treated increases the resin gradually becomes saturated. When the softener needs to recover its full treatment capacity, the resin: regenerates the captured ions are flushed away by contact with regenerating salt which is added in the form of brine.

THE BWT PERMO OFFER

Simple and reliable solutions to protect piping and equipment from scale.

Multiple applications in community facilities and industry.

Robust technology proven by decades of experience.

French design and manufacture.

Electronic programming making it possible to regenerate the resin using a back-wash system depending on time, volume, or forecast volume.

There are many options available depending on the need:

- resin disinfection at each regeneration
- low salt level alarm
- parallel or alternating operation of several items of equipment
- pre-assembly on a stainless steel skid for turnkey installation
- **remote supervision**, see opposite page

6 lines:

PERMO 5000: 3 models
from 10 to 28 litres of resin
for a flow rate from 2.0 to 2.3 m³/h

PERMO 6000 ALCYO: 3 models
from 25 to 75 litres of resin
for a flow rate from 2.5 to 3.0 m³/h

PERMO 7000 ALCYO: 6 models
from 50 to 200 litres of resin
for a flow rate from 6.0 to 9.5 m³/h

PERMO 9000 ALCYO: 4 models
from 125 to 300 litres of resin
for a flow rate from 13 to 14 m³/h

PERMO 8000 ALCYO: 8 models
from 150 to 800 litres of resin
for a flow rate from 20 to 25 m³/h

PERMO EC: 4 hot water models
from 17 to 65 litres of resin
for a flow rate of 2.7 m³/h

Common specifications:

- Power supply 230V / 50 or 60 Hz
- Minimum dynamic pressure = 15 bars
- Maximum static pressure = 7.0 bars (except PERMO EC: 8.6 bars)
- Protection index (water tightness) = IP 54

Common accessories and products:

- Level / low on salt sensor Code = C0261545
- STERICLEAN 1 resin cleaning product (2 x150 ml) Code = P0004880
- STERICLEAN 2 resin cleaning product (2 x1000 ml) Code = P0004881

ALCYO COM



Local or remote softener supervision

ALCYO COM centralises functional data and informs you of events occurring on site in real time.

Functions:

- Supervision of up to 4 ALCYO softeners at the same time
- Also carries over 4 signals from other equipment
- 2 operating modes: local or remote
- Specific ALCYO COM supervision software
- Automatic printout of a periodic supervision report



Technical specifications:

- RS422 type connection of the supervised appliance to the ALCYO COM
- Remote mode: ALCYO COM + wired modem => remote PC
- Local mode: ALCYO COM + PC connection (RS485 type)
- 4 inputs using parametered dry contacts: NO or NF

Equipment	ALCYO COM	Supervision software	Interface card (one per softener)
Product code	P0024460	P0024461	P0024462



PERMO 5000

Applications

- Small community facility or apartment block: closed systems, air conditioning, catering, etc.

Operation

- Regeneration depending on time, volume, or forecast volume.
- Electrical consumption for normal operation / regen.: 6 / 25W

Standard equipment

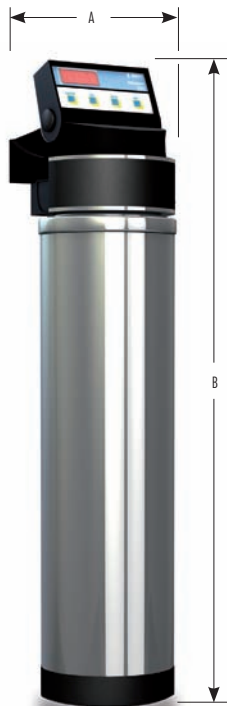
- Polymer valve (Noryl) with integrated water meter
- Coupling diameter **DN25 / 1"**
- Glass fibre reinforced polyester body
- Electronic control box
- Approved food grade resin
- Salt tank
- Available within 2 weeks on receipt of the order



Options

Resin disinfection by brine electrolysis

Model		5010	5016	5028
Resin volume	litres	10	16	28
Exchange capacity	°f.m ³	55	88	154
Flow rate at TH < 0.2°f	m ³ /h	2.0	2.2	2.3
Load on ground	Kg	105	130	150
Consignment weight	Kg	27	34	48
Product code		P0002520	P0002521	P0002522



Size		5010	5016	5028
A: Body diameter	mm	210	185	210
B: Softener height	mm	690	1140	1380
Salt tank diameter	mm	530	530	530
Salt tank height	mm	680	680	680

Accessories

	Item code
DN 25 / 1" transmitting water meter	P0005325
Pair of F/F hoses 1" stainless steel - length 800 mm	P0010134



BVCert. 6012067

PERMO 6000 ALCYO



Applications

- Small cooking units, ideal for filling low volume closed systems and industrial processes around the clock.

Operation

- Regeneration depending on time, volume, or forecast volume.
- Electrical consumption for normal operation / regen.: 10 / 50W

Standard equipment

- Polymer valve (Noryl) with integrated water meter
- Coupling diameter **DN32 / 1"1/4**
- Glass fibre reinforced polyester body
- Electronic control box
- Approved food grade resin
- Salt tank
- Available within 2 weeks on receipt of the order



Options

- Resin disinfection by brine electrolysis
- Pre-assembled on a stainless steel skid for turnkey installation
- Low level salt detection
- Supervision using the ALCYO communication system
- Parallel multiplex or alternating configuration with inter control box communications

Model		6025	6050	6075
Resin volume	litres	25	50	75
Exchange capacity	°f.m ³	140	275	412
Flow rate at TH < 0.2°f	m ³ /h	2.4	2.6	3.0
Load on ground	Kg	240	300	500
Consignment weight	Kg	52	75	125
Product code		P0002552	P0002555	PK0002519

Size		6025	6050	6075
A: Body diameter	mm	210	260	335
B: Softener height	mm	1580	1830	1830
Salt tank diameter	mm	470	530	720
Salt tank height	mm	660	780	800

Accessories	Item code
Pair of F/F hoses 1"1/4 stainless steel - length: 800 mm	PK0001107
6000 Bypass suppression kit	P0001286
6000 alternation kit	P0005716
Resin disinfection kit	P0011506
PermoCristal filter DN 32 / 1"	P0003198
PermoFlash Manual filter DN 32 / 1"1/4	P0010072
Mixing valve DN 25 / 1"	P0001920





PERMO 7000 ALCYO



Applications

- The reference to protect sanitary, heating / air conditioning and industrial process installations.

Operation

- Regeneration depending on time, volume, or forecast volume
- Electrical consumption for normal operation / regen.: 6 / 25W

Standard equipment

- Polymer valve (Noryl) with stainless steel flanges
- Coupling diameter **DN40 / 1"1/2**
- Pair of 1"1/2 hoses
- Glass fibre reinforced polyester body
- Electronic control box
- Approved food grade resin
- Model 7050 to 7125 are fitted with a fast regeneration salt tank
- *Available within 2 weeks on receipt of the order*



Options

Resin disinfection by brine electrolysis

Pre-assembled on a stainless steel skid for turnkey installation

Low level salt detection

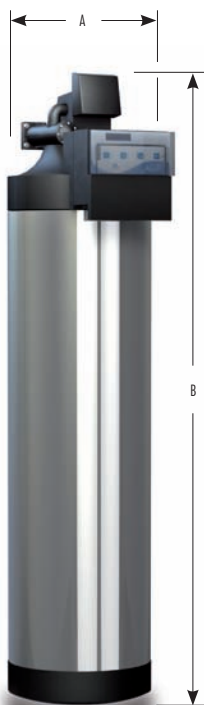
Supervision using the ALCYO communication system

Parallel multiplex or alternating configuration with inter control box communications

Model		7050	7075	7100	7125	7150	7200
Resin volume	litres	50	75	100	125	150	200
Exchange capacity	°f.m ³	275	410	550	685	825	1100
Flow rate at TH < 0.2°f	m ³ /h	7.0	7.0	7.0	7.0	9.5	9.0
Load on ground	Kg	450	500	500	550	850	950
Consignment weight	Kg	150	180	200	230	275	350
Product code		PK000	PK000	PK000	PK000	PK000	PK000
		2765	2767	2768	2770	2771	2772

Size		7050	7075	7100	7125	7150	7200
A: Body diameter	mm	375	375	375	425	460	550
B: Softener height	mm	1245	1750	1750	1790	1880	1785
Salt tank diameter	mm	720	720	720	720	715	715
Salt tank height	mm	800	800	800	800	1400	1400

Accessories	Item code
PermoFlex kit M/F 1"1/2 stainless steel	P0001107
Bypass suppression kit	P0001791
Alternation kit (excl. meter)	P0005702
Chlorination kit up to 125 litres	P0011507
Transmitting water meter DN 40 / 1"1/2	P0005318
PERMOCristal filter DN 40 / 1"1/2	P0003199
PermoFlash Manual filter DN 40 / 1"1/2	P0010073
PermoFlash Automatic filter DN 40 / 1"1/2	P0010078
Mixing valve DN 32 / 1"1/4	P0001923
Mixing valve DN 50 / 2"	P0001924



BV Cert. 6012067



PERMO 9000 CC ALCYO



Applications

- Water softening for high flow rates up to 12 to 15 m³/h, and hardness TH = 0°f

Operation

- Regeneration depending on time, volume, or forecast volume
- Electrical consumption for normal operation / regen.: 11 / 32W

Standard equipment

- Bronze valve with bypass
- Coupling diameter **DN50 / 2"**
- Pair of 2" hoses
- Glass fibre reinforced polyester body
- Electronic control box
- Approved food grade resin
- Salt tank
- Available within 3 weeks on receipt of the order



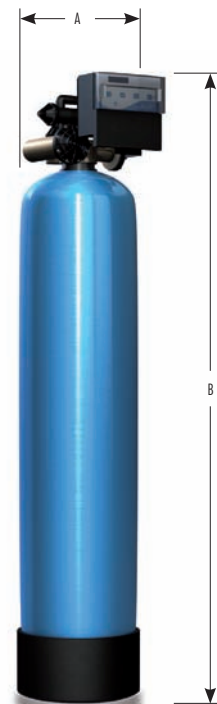
Options

- Resin disinfection by brine electrolysis
- Pre-assembled on a stainless steel skid for turnkey installation
- Low on salt detection
- Supervision using the ALCYO communication system
- Parallel multiplex or alternating configuration with inter control box communications

Model		9125	9175	9225	9300
Resin volume	litres	125	175	225	300
Exchange capacity	°f.m ³	690	960	1240	1650
Flow rate at TH < 0.2°f	m ³ /h	13	13	13	14
Load on ground	Kg	650	900	1000	1150
Consignment weight	Kg	250	300	390	460
Product code		PK000 9210	PK000 9211	PK000 9212	PK000 9213

Size		9125	9175	9225	9300
A: Body diameter	mm	425	460	550	610
B: Softener height	mm	1995	2110	1965	2205
Salt tank diameter	mm	720	720	720	720
Salt tank height	mm	1400	1400	1400	1400

Accessories	Item code
Hydro alternation kit 2 meters (meters not included)	P0001921
Hydro alternation kit 1 meter (meter not included)	P0001922
DN 50 / 2" transmitting water meter	P0005338
PermoFlash Manual filter DN 50 / 2"	P0010074
PermoFlash Automatic filter DN 50 / 2"	P0010079
Mixing valve DN 32 / 1"1/4	P0001923
Mixing valve DN 50 / 2"	P0001924





PERMO 8000 CC ALCYO



Applications

- Water softening for high flow rates (20 to 25 m³/h) and hardness TH = 0°f

Operation

- Regeneration depending on time, volume, or forecast volume
- Electrical consumption for normal operation / regen.: 6 / 25W

Standard equipment

- Steel valve
- Coupling diameter **DN65 / 2"1/2**
- Pair of 2"1/2 hoses
- Glass fibre reinforced polyester body
- Electronic control box
- Approved food grade resin
- Salt tank
- *Available within 3 weeks on receipt of the order*



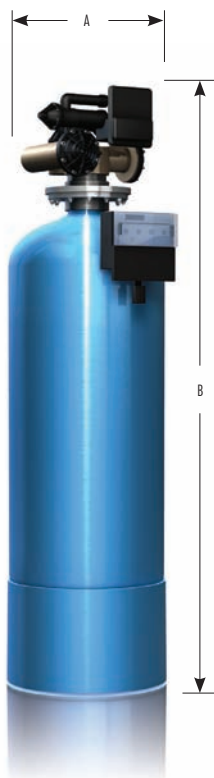
Options

- Resin disinfection by brine electrolysis
- Pre-assembled on a stainless steel skid for turnkey installation
- Salt level detection
- Supervision using the ALCYO communication system
- Parallel multiplex or alternating configuration with inter control box communications

Model		8150	8250	8350	8450	8550	8600	8700	8800
Resin volume	in litres	150	250	300	400	550	600	700	800
Exchange capacity	°f.m ³	825	1375	1650	2200	2750	3300	3850	4400
Flow rate at TH < 0.2°f	m ³ /h	20	25	22	25	23	20	20	20
Load on the ground	t/m ²	5	5	5	4	4	4	4	4
Consignment weight	Kg	0.50	0.55	0.60	0.80	1.05	1.15	1.35	1.65
Product code		PK000 2860	PK000 2861	PK000 2864	PK000 2865	PK000 8555	PK000 8556	PK000 8557	PK000 8558

Size (mm)	8150	8250	8300	8400	8550	8600	8700	8800
A: Body diameter	550	610	610	770	930	930	1075	1075
B: Softener height	2210	2250	2250	2400	2430	2430	2395	2395
Salt tank diameter	720	720	720	820	1300	1300	1300	1300
Salt tank height	1400	1400	1400	1400	1500	1500	1500	1500

Accessories	Item code
Hydro alternation kit 2 meters (not included)	P0001921
Hydro alternation kit 1 meter (not included)	P0001922
DN 50 / 2" transmitting water meter	P0005338
Transmitting water meter DN 50 with 2"1/2 flanges	P0005320
PERMO Cristal DN 65 / 2"1/2	P0003539
PermoFlash Manual filter DN 65 / 2"1/2	P0033932
PermoFlash Automatic filter DN 65 / 2"1/2	P0033936
Permo SANIRESINE	P0029527
Mixing valve DN 32 / 1"1/4	P0001923
Mixing valve DN 50 / 2"	P0001924



PERMO EC

Applications

- Softener for hot water up to 65°C

Operation

- Regeneration depending on time
- Electrical consumption: 3 W

Standard equipment

- Coupling diameter **DN25 / 1"**
- Glass fibre reinforced polyester body
- Approved food grade resin
- Salt tank
- Available within 3 weeks on receipt of the order



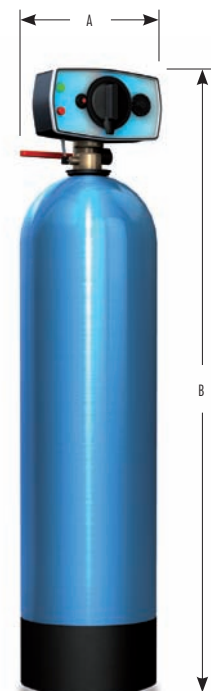
Options

Hot water filter

Model	EC 17	EC 35	EC 50	EC 65
Resin volume	17	35	50	65
Exchange capacity	100	200	275	350
Flow rate at TH < 0.2°f	2.7	2.7	2.7	2.7
Load on the ground	120	160	180	300
Consignment weight	27	45	65	79
Product code	PK000 1571	PK000 1572	PK000 1573	PK000 1574

Size		EC 17	EC 35	EC 50	EC 65
A: Body diameter	mm	254	254	257	335
B: Softener height	mm	678	1084	1568	1576
Salt tank diameter	mm	480	535	535	720
Salt tank height	mm	680	775	775	800

Accessories	Item code
Permo Celsius filter DN 25 / 1"	P0010064



INTRODUCTION TO AQUA TOTAL ANTI-SCALE

Scale is the formation of encrusted calcite crystals by combination of the calcium and carbonate ions in the water. Increased temperatures reduce the solubility of these ions and therefore increase scale deposits.

While softening tackles the cause of the phenomenon by capturing calcium ions, other processes inhibit its effects, i.e. the growth of calcite. These processes are called "physical anti-scale" because they prevent scale from forming without acting on the water's mineral content.

THE BWT PERMO OFFER

AQA Total prevents scale deposits by forcing the growth of geometric aragonite crystals, which are a non encrusting form of calcium carbonate.

This is achieved by electrolysing the water using a difference in electric potential. AQA Total is based on unique technology that modulates the electric current depending on the water flow rate and multiplies its effect using the micro-beads in its treatment module.

The aragonite nano-crystals remain in suspension in the water and are not deposited. The 50Hz polarity inversion of the electric field increases their pulverisation.

The number of modules (from 2 to 5) defines each appliance in the line, catering for flow rates from 4.5 to 14 m³/h

AQA Total is an alternative to be considered when needs such as the following are expressed:

- no water consumption or release into the drains caused by the water treatment itself
- no salt used
- reduced maintenance costs
- space savings

AQA Total is recommended for raw water with the following parameters measured on site:

- pH less than or equal to 8
- TH less than 40 °f
- TAC less than 25°f



ANTISCALE

PERMO AQA total



Applications

- Protection from cold water scale

Operation

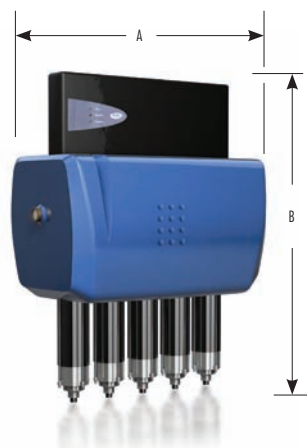
- Installation on the cold water supply of the installation to be protected
- Electrical consumption: 0.055 kW/m³
- Power supply voltage: 220 to 240 V - 50 Hz
- Water hardness: < 40 °f
- Water temperature: 5 - 30 °C
- Minimum dynamic pressure: 2 bars
- Maximum static pressure: 10 bars
- Protection type: IP 54

Standard equipment

- IQ control box
- Protective cover
- Treatment module(s)
- Cartridge change indicator
- Available within 3 weeks on receipt of the order

Model		4500	5600	8400	11200	14000
Rated flow rate with 0.8 bar head loss	m ³ /h	4.5	5.6	8.4	11.2	14.0
Treatment capacity	m ³	760	1150	1725	2300	2875
Consignment weight	Kg	39	63	70	104	111
Product code		P0005904	P0005905	P0005908	P0005911	P0005914

Size		4500	5600	8400	11200	14000
A: Width	mm	320	560	560	825	825
B: Height	mm	1105	1280	1280	1280	1280
Depth	mm	320	470	470	470	470



Accessories	Item code
PERMO Cristal filter DN 40 / 1"1/2	P0003199
PermoFlash Manual filter DN 40 / 1"1/2	P0010073
PermoFlash Manual filter DN 50 / 2"	P0010074
PermoFlash Automatic filter DN 50 / 2"	P0010079
Permo Cristal filter DN 50 / 2"	P0003200



FILTRATION

THE LINES

CRISTAL & CELSIUS
FLASH & FTPAC
CARTRIDGES AND HOUSINGS
1500 & 2000
FPM & ECOFILDEB
POOL (BOY & AZUR)

Self-cleaning / cartridge / media / bag filters

Filtration consists in passing the water through a porous environment which traps the particles in suspension of which the size is greater than the pores. Frontal filtration is when all the water to be filtered passes perpendicular to the porous environment, and surface or depth filtration depends on the zone in which the particles are trapped: at the surface of the filter or in the depths of its filtering material. The accumulation of the impurities captured by the filter causes it to clog: the paths available for the water to pass through are reduced and the flow rate lessens. To recover the filter's capacities the filtration materials are either cleaned or replaced.

THE BWT PERMO OFFER

A complete range of filters meeting all needs to protect networks from particles in suspension in water.

4 main families:

Filters for general use in community facilities

Fitted with interchangeable screen filters (PERMO CRISTAL, PERMO CELSIUS) or permanent washable screen filters (PERMO FLASH). Manual and automatic washing is available.

They also cover targeted applications: hot water (PERMO CELSIUS), heat pumps (PERMO FTPAC).

Industrial extension filters

Fitted with interchangeable (PERMO LP, PERMO PCY) PROPYL (Extruded PP) filtration cartridges, including for high flow rates in single cartridge mode (PERMO BIG BLUE and PERMO CARTER HD) and multi-cartridge mode (PERMO CMC)

Media filters

The steel or polymer body filters are filled with one or more filling materials, each with a specific role: sand and anthracite for in-depth filtration, activated carbon for dechlorination, neutralite or magno for acid elimination.

Also in this line: specific pool filters (see the end of the chapter).

Sludge removal filters:

To capture and evacuate sludge from heating, iced water or cooling circuits.

Magnetic bag filters either in base version (PERMO FPM) or fully equipped and ready to connect (PERMO ECOFILDEB) and cyclonic filters (PERMO FPM cyclonic).

PERMO CRISTAL WF

Applications

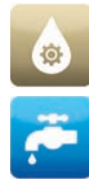
- Drinking water and industrial circuit protection from particles captured by the screen and evacuated by the low drain.

Operation

- Interchangeable screen filter
- Filtration at 90 microns except 2" 1/2 and 3" models: 25 microns
- Maximum static pressure: 16 bars
- Maximum water temperature: 30 °C

Standard equipment

- Filtering element
- Gasket or flange coupling
- Decompression screw
- Transparent bowl
- Pressure gauges included for the 2" 1/2 and 3" models
- Available within 2 weeks on receipt of the order



Model		1"	1"1/4	1"1/2	2"	2"2/1	3"
Coupling diameter		DN 25	DN 32	DN 40	DN 50	DN 50 flanges	DN 80 flanges
Flow rate with 0.2 bars head loss	m3/h	3.5	4	9	12	25	32
Consignment weight	Kg	2.0	2.2	4.8	5.0	7.0	7.5
Product code		P000 3197	P000 3198	P000 3199	P000 3200	P000 3539	P000 3540

Size		1"	1"1/4	1"1/2	2"	2"2/1	3"
A: Total width	mm	184	203	254	274	304	313
B: Total height	mm	239	239	290	290	770	770

PERMO CELSIUS

Application & operation

- Identical to PERMO CRISTAL except:
maximum water temperature = 80°C
 90 micron filtration for the entire line

Standard equipment

- 90 Micron filtering element
- Gasket or flange coupling
- Decompression screw
- Transparent bowl
- Available within 2 weeks on receipt of the order



Model		3/4"	1"	1"1/4	1"1/2	2"
Coupling diameter		DN 20	DN 25	DN 32	DN 40	DN 50
Flow rate with 0.2 bars head loss	m3/h	3.0	3.5	4.0	9.0	12.0
Consignment weight	Kg	2	2	2	5	6
Product code		P0010063	P0010064	P0010065	P0010066	P0010067

Size		3/4"	1"	1"1/4	1"1/2	2"
A: Total width	mm	184	184	203	254	274
B: Total height	mm	242	242	242	300	300

PERMO FLASH MANUAL



Applications

- Drinking water and industrial circuit protection from particles captured by the media and evacuated by the low drain.
- The media can be washed without removing it.



Operation

- Permanent screen filter
- 90 Micron filtration
- Back-wash system
- Maximum static pressure: 10 bars
- Maximum water temperature: 30 °C

Standard equipment

- 90 Micron filtering element
- Gasket or flange coupling
- Pressure gauge for clogging monitoring
- Available within 2 weeks on receipt of the order except:
2" 1/2 to 5" models: 5 weeks

Model	1" 1/4	1" 1/2	2"	2" 1/2	3"	4"	5"
Coupling diameter	DN 32	DN 40	DN 50	DN 65	DN 80	DN 100	DN 125
Flow rate with 0.2 bars head loss	m ³ /h 5	9	11	22	36	85	100
Consignment weight	Kg 6	7	7	17	17	40	40
Product code	P00 10072	P00 10073	P00 10074	PK00 33932A	PK00 33933A	PK00 33934A	PK00 33935A

Size	1" 1/4	1" 1/2	2"	2" 1/2	3"	4"	5"
A: Total width	mm 218	240	260	220	220	350	350
B: Total height	mm 460	460	460	550	550	690	700

PERMO FLASH AUTOMATIC



Application & operation

- Identical to PERMO FLASH MANUAL with automatic drainage coupled to a timer or to head loss



Standard equipment

- 90 Micron filtering element
- Gasket or flange coupling
- Clogging pressure gauge
- Filter wash command
- Available within 2 weeks on receipt of the order except:
2" 1/2 to 5" models: 5 weeks

Model	1" 1/4	1" 1/2	2"	2" 1/2	3"	4"	5"
Coupling diameter	DN 32	DN 40	DN 50	DN 65	DN 80	DN 100	DN 125
Flow rate with 0.2 bars head loss	m ³ /h 5	9	11	22	36	85	100
Consignment weight	Kg 6	7	7	17	17	40	40
Product code	P00 10077	P00 10078	P00 10079	PK00 33936A	PK00 33937A	PK00 33938A	PK00 33939A

Size	1" 1/4	1" 1/2	2"	2" 1/2	3"	4"	5"
A: Total width	mm 218	240	260	220	220	350	350
B: Total height	mm 460	460	460	550	550	690	700

PERMO FTPAC

Applications

- Filter perfectly suited to heat pumps and to water loaded with sand.
- To be installed after the pump and upstream from a membrane tank.
- Easy-to-install.

Operation

- Permanent screen filter
- 150 Micron filtration
- Washing is triggered by the difference in pressure between the inlet and the outlet
- Back-wash system
- The filtered matter is evacuated through an opened solenoid.
- Maximum static pressure: 7 bars
- Maximum water temperature: 30 °C

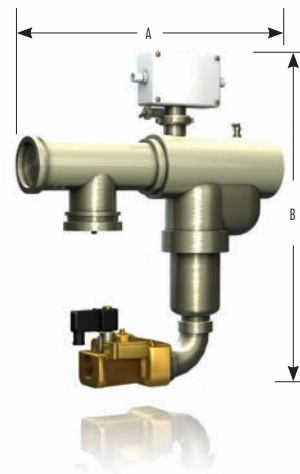
Standard equipment

- 150 Micron stainless steel filtering element
- Washing solenoid
- Filter wash command (set timer)
- Available within 2 weeks on receipt of the order



Model		FTPAC 5	FTPAC 10
Coupling diameter		1" / DN 25	1"1/2 / DN 40
Flow rate with 0.2 bar head loss	m ³ /h	5	10
Consignment weight	Kg	5	7
Product code		P0003680	P0003681

Size		FTPAC 5	FTPAC 10
A: Total width	mm	230	260
B: Total height	mm	330	370





Applications

- Single cartridge 50 to 0.2 micron filtration as pre-treatment and at the point of use for industrial processes



LP10 / LP20 cases

- Polypropylene housing
- Female tapped 3/4 " (DN20) inlet / outlet couplings
- Optional drainage function on each model

Cartridge

- 10" or 20" DOE type unit (double flat gasket)
- The PROPYL and PROPYL P cartridge lines respectively correspond to the sectors of activity indicated in the table below
- For 50 to 1 micron filtration and dechlorination
- Maximum static pressure: 8 bars
- Maximum water temperature: 50 °C
- Available within 2 weeks on receipt of the order

Housing		LP10 PP	LP10 PP + drain	LP20 PP	LP20 PP + drain
Flow rate	m ³ /h	1	1	2	2
Consignment weight	Kg	1	1	1	1
Product code		P0048324	P0048320	P0048319	P0048321

Filtration

Cartridges	Code 10"	Code 20"	Box of	Application
BWT-PROPYL 1 µm	PK0098180N	PK0098220N	6	Community facilities
BWT-PROPYL 10 µm	PK0098182N	PK0098222N	6	Community facilities
BWT-PROPYL 20 µm	PK0098183N	PK0098223N	6	Community facilities
BWT-PROPYL 50 µm	PK0098184N	PK0098224N	6	Community facilities
BWT-PROPYL P 0,2 µm	PK0094824N	PK0094825N	6	Hosp. / Pharm. / Cosm / Elect / Agro
BWT-PROPYL P 1 µm	PK0094827N	PK0094828N	6	Hosp. / Pharm. / Cosm / Elect / Agro
BWT-PROPYL P 10 µm	PK0094835N	PK0094836N	6	Hosp. / Pharm. / Cosm / Elect / Agro

Activated carbon

Cartridges	Code 10"	Code 20"	Box of	Application
BWT-CARBON	PK0093146	PK0093147	6	Dechlorination
BWT-CARBON HE	PK0093154	PK0093155	6	Dechlorination

Applications

- Multi cartridge high flow rate filtration as pre-treatment and at the point of use for industrial processes



CMC Carter

- Multi cartridge 316L grade stainless steel housing
- Coupling diameter DN 100 with PN 16 flanges
- V-Band collar fastening
- Available within 4 weeks on receipt of the order

Cartridge

- DOE type 10" and 20" or code 8 20" to 40" length cartridges
- 0.2 to 10 Particle filtration and 5 micron CA
- Possibility of DOE to CODE 8, and CODE 8 to DOE adapters
- Maximum water temperature: 50 °C
- Available within 2 weeks on receipt of the order



Housing	803 D	803	803	806	806	812	812
Number of cartridges	3	3	3	6	6	12	12
Cartridge height	20"	30"	40"	30"	40"	30"	40"
Connection type	DOE	Code 8	Code 8	Code 8	Code 8	Code 8	Code 8
Coupling diameter	DN 50	DN 50	DN 50	DN 80	DN 80	DN 80	DN 80
Product code	P00 48802N	P00 48803N	P00 48804N	P00 48808N	P00 48809N	P00 48813N	P00 48814N

Filtration

Cartridges	Code	Set of	Application
BWT-PROPYL P 0.2 µm 20" DOE	PK0094825N	6	Hosp. / Pharm. / Cosm / Elect / Agro
BWT-PROPYL P 1 µm 20" DOE	PK0094828N	6	Hosp. / Pharm. / Cosm / Elect / Agro
BWT-PROPYL P 10 µm 20" DOE	PK0094836N	6	Hosp. / Pharm. / Cosm / Elect / Agro
BWT-PROPYL P 0.2 µm 30" Code 8	PK0094840N	6	Hosp. / Pharm. / Cosm / Elect / Agro
BWT-PROPYL P 1 µm 30" Code 8	PK0094853N	6	Hosp. / Pharm. / Cosm / Elect / Agro
BWT-PROPYL P 10 µm 30" Code 8	PK0094916N	6	Hosp. / Pharm. / Cosm / Elect / Agro
BWT-PROPYL P 0.2 µm 40" Code 8	PK0094841N	6	Hosp. / Pharm. / Cosm / Elect / Agro
BWT-PROPYL P 1 µm 40" Code 8	PK0093618N	6	Hosp. / Pharm. / Cosm / Elect / Agro
BWT-PROPYL P 10 µm 40" Code 8	PK0093303N	6	Hosp. / Pharm. / Cosm / Elect / Agro

Activated carbon

Cartridges	Code	Set of	Application
BWT-CARBON 20" DOE	PK0093147	6	Dechlorination
BWT-CARBON 20" HE DOE	PK0093155	6	Dechlorination
BWT-CARBON 30" code 8	PK0093152	6	Dechlorination
BWT-CARBON 30" HE code 8	PK0093156	6	Dechlorination
BWT-CARBON 40" code 8	PK0093153	6	Dechlorination
BWT-CARBON 40" HE code 8	PK0093157	6	Dechlorination

Adapter	3x20" DOE -> code 8	3x30" code 8 -> DOE	3x40" code 8 -> DOE	6x30" code 8 -> DOE	6x40" code 8 -> DOE	12x30 code 8 -> DOE	12x40" code 8 -> DOE
Product code	P0060229	P0060233	P0060234	P0060236	P0060237	P0060239	P0060240



Applications

- Single cartridge filter for high flow rates in the production of potable water, process water and energy applications.



Carter HD

- 316L grade stainless steel housing
- 40" Vertical housing
- 60" Horizontal housing
- These housings can only house the HF X cartridges listed below
- Housing service pressure: 10 bars at 60°C
- Coupling diameter DN 100 with PN 16 flanges
- V-Band collar fastening
- Available within 6 weeks on receipt of the order

Cartridge

- HF X 40" and 60" type cartridges
- Particle filtration from 50 to 10 microns
- Available within 4 weeks on receipt of the order

Housing		HD X 40" housing	HD X 60" housing
Cartridge height	inches	40"	60"
Flow rate with 0.2 bar head loss	m ³ /h	40	60
Consignment weight	Kg	15	20
Product code		P0048848N	P0048849N

Associated cartridges	Code 40"	Code 60"	Set of
BWT-PROPYL HF X 1 µm	PK0050780N	PK0050781N	3
BWT-PROPYL HF X 10 µm	PK0050782N	PK0050783N	3
BWT-PROPYL HF X 50 µm	PK0050786N	PK0050787N	3

Applications

- High capacity filters that can be used to replace multi-cartridge filters, or serially installed single cartridges for many applications.

Big Blue Carter

- Opaque housing
- Female tapped inlet / outlet couplings 1" (DN 25) and 1 1/2" (DN40)
- Vent



Cartridge

- Service pressure 6.9 bars
- 5 Micron CA filtration
- Maximum temperature 37°C
- Available within 2 weeks on receipt of the order

Model		BIG BLUE 20"	BIG BLUE 20"
Flow rate with 0.2 bar head loss	m ³ /h	1.2	4
Coupling diameter		DN 25	DN 40
Consignment weight	Kg	1.0	1.0
Product code		P0955258	P0955229

Associated cartridges	Code	Set of	Application
Big blue CA 20"	PK0955266	4	Community facilities

Applications

- Polishing filtration of the bacteriological type at the point of use or for industrial processes
- Two grades of micro-filtration:
 - Grade E = electronics applications
 - Grade P = biological applications pharma



Carter PCY 10/20

- Glass fibre reinforced polypropylene housing
- Female tapped 1" inlet / outlet couplings

CMC Carter

- Multi-cartridge 316 L grade stainless steel housing
- Coupling diameter DN 100 with PN 16 flanges
- V-Band collar fastening

Cartridge

- 10"/20"/30"/40" cartridge type CODE 7 or 8
- 0.2 Micron filtration
- Maximum static pressure: 10 bars (20°C)
- Maximum water temperature: 60 °C (2 bars)
- Available within 2 weeks on receipt of the order

Model	PCY 10	PCY 20	803	806	812
Number of cartridges	1	1	3	6	12
Cartridge height	10"	20"	30"	30"	30"
Connection type	Code	7	7	8	8
Number of cartridges	1	1	3	6	12
Product code	P0096342	P0096341	P0048803N	P0048808N	P0048813N

Associated cartridges	Unit code	Application
BWT-PURELIFE E 0.2 µm 10" Code 7	P0096393N	Electronic grade
BWT-PURELIFE E 0.2 µm 20" Code 7	P0096395N	Electronic grade
BWT-PURELIFE E 0.2 µm 30" Code 8	P0097102N	Electronic grade
BWT-PURELIFE P 0.2 µm 10" Code 7	P0096535N	Pharma grade
BWT-PURELIFE P 0.2 µm 20" Code 7	P0096536N	Pharma grade



PERMO 1500



Applications

- Turbid water clarification (= high load of suspended matter) using quartz sand
- Can use activated carbon for dechlorination.
- Can use neutralite to eliminate acidity.

Operation

- Automatic back-wash cleaning system.
- Timer programmed cleaning.

Standard equipment

- Valve mounted at the top of the body
- Electronic block programming
- Threaded 1/1/2 gas (40x49) inlet/outlet
- Available within 4 weeks on receipt of the order

Model		1500 AC	1500 Sand	1500 Neutralite
Flow rate with head loss of 0.5 bar	m ³ /h	2.5	5.0	2.5
Consignment weight	Kg	75	100	75
Product code		PK0001790	PK0001715	PK0001791

Size		1500
Total width	mm	400
Total height	mm	1907

PERMO 2000 VINYLESTER BODY

Applications

- Clarification of turbid water (= a high load of suspended matter) with two layers of filtering material combining quartz sand and anthracite to trap suspended particles in the entire thickness of the filtering bed.
- Can use activated carbon for dechlorination.

Operation

- Back-washable filter
- Manual / automatic wash version
- Maximum water temperature: 35°C
- Maximum surrounding temperature: 40°C
- Admissible pressure: 6 bars at 15°C / 4 bars at 35°C
- Electrical consumption: 230 V - 50 Hz
- Maximum consumed power: 30 W

Standard equipment

- Polyester body
- 6 automatic or manual valves
- Control box
- Hydraulic distributor
- Available within 3 weeks on receipt of the order



Model	2053	2061	2076	2076	2091	2091
Coupling diameter	DN 40	DN 40	DN 40	DN 50	DN 40	DN 50
Flow rate for speed = 10 m/h on sand	m ³ /h 2.2	2.9	4.5	4.5	6.5	6.5
Product code Manual	PK0003900	PK0003902	PK0003904	PK0003906	PK0003908	PK0003910
Product code Automatic	PK0003901	PK0003903	PK0003905	PK0003906	PK0003909	PK0003911
Double layer filling material code	PK0003100	PK0003104	PK0003108	PK0003108	PK0003112	PK0003112
Activated carbon filling material code	PK0003102	PK0003106	PK0003110	PK0003110	PK0003114	PK0003114

Size		2053	2061	2076 DN 40	2076 DN 50	2091 DN 40	2091 DN 50
Total width	mm	1045	1100	1260	1260	1420	1420
Total height	mm	1920	2165	2235	2240	2310	2320

PERMO 2000 STEEL BODY



Applications

- Turbid water clarification (= high load of suspended matter) using sand filling material.
- For acid water neutralisation, filling material: neutralite or "magno" (= magnesia + calcium carbonate)

Operation

- Back-washable filter
- Manual / automatic wash version
- Maximum water temperature: 35°C
- Maximum surrounding temperature: 40°C
- Admissible pressure: 6 bars at 15°C / 4 bars at 35°C
- Electrical consumption: 230 V - 50 Hz
- Maximum consumed power: 30 W

Standard equipment

- Steel body
- 6 automatic or manual valves
- Control box
- Hydraulic distributor
- Available within 10 weeks on receipt of the order
- Filling material available within 3 weeks

Model		2165	2180	2195	2195	2225	2225	2225
Coupling diameter		DN 40	DN 40	DN 40	DN 50	DN 40	DN 50	DN 65
Flow rate for speed = 10 m/h on sand	m ³ /h	3.3	5.0	7.1	7.1	12.3	12.3	12.3
Product code Manual	PK000-	-3912	-3914	-3916	-3918	-3920	-3922	-3924
Product code Automatic	PK000-	-3913	-3915	-3917	-3919	-3921	-3923	-3925
Filling material code sand	PK000-	-3130	-3140	-3150	-3150	-3160	-3160	-3160
Filling material code neutralite	PK000-	-3132	-3142	-3152	-3152	-3162	-3162	-3162
Filling material code magno	PK000-	-3134	-3144	-3154	-3154	-3164	-3164	-3164

Size Manual		2165	2180	2195 DN 40	2195 DN 50	2225 DN 40	2225 DN 50
Total width	mm	950	1150	1330	1370	1260	1570
Total height	mm	1800	1930	1800	1930	1800	1870

Size Automatic		2165	2180	2195 DN 40	2195 DN 50	2225 DN 40	2225 DN 50
Total width	mm	1020	1180	1320	1320	1620	1570
Total height	mm	1930	1930	1930	1930	1930	1880

PERMO FPM

Applications

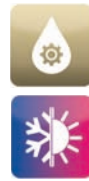
- Sludge and iron oxide capture in heating systems, chillers and cooling systems

Operation

- Installed bypass on the system to be treated
- Filter with a renewable bag
- Magnetic bar to increase the capture of iron oxides

Standard equipment

- Filter with inlet / outlet / drain
- Galvanised or stainless steel version
- Magnetic bar
- 75 micron bag
- Available within 2 weeks on receipt of the order



Model	5/9	10/20	21/50	5/9	10/20	21/50
Material	steel	steel	steel	stainless steel	stainless steel	stainless steel
Coupling diameter	DN 25	DN 50	DN 80	DN 32	DN 50	DN 80
Maximum flow rate	m ³ /h 9	20	50	9	20	50
Product code	P0003856	P0003857	P0003859	P0967942	P0968647	P0920377

Model	FPM 80	FPM 120	FPM 160	FPM 220	FPM 320
Material	steel	steel	steel	steel	steel
Coupling diameter	DN 100	DN 150	DN 150	DN 200	DN 250
Maximum flow rate	m ³ /h 80	120	160	220	320
Number of bags	2	3	4	5	7
Product code	P0003652	P0003653	P0003654	P0003655	P0003656

Model	FPM 80	FPM 120	FPM 160	FPM 220	FPM 320
Material	stainless steel	stainless steel	stainless steel	stainless steel	stainless steel
Coupling diameter	DN 100	DN 150	DN 150	DN 200	DN 250
Maximum flow rate	m ³ /h 80	120	160	220	320
Number of bags	2	3	4	5	7
Product code	P0003657	P0003658	P0003659	P0003660	P0003661

NEW



ATEC

PERMO ECOFILDEB EVOLUTION



Applications

- Sludge and iron oxide capture in heating systems, chillers and cooling systems.
- **Complete turnkey solution.**

Operation

- Installed bypass on the system to be treated
- Filter with a renewable bag
- Magnetic bar to increase the capture of iron oxides

Standard equipment

- Inlet / outlet / drain valves
- Circulation pump
- Magnetic bar
- 50 micron bag
- *Available within 2 weeks on receipt of the order*

Model	5/9	10/20	21/50
Material	steel	steel	steel
Coupling diameter	DN 32	DN 50	DN 80
Maximum flow rate	m ³ /h 9	20	50
Product code	PK0003878	PK0003879	PK0003870

PERMO FPM CYCLONIC



Applications

- Sludge and iron oxide capture in heating systems, chillers and cooling systems.
- Specifically designed for outdated circuits and those with large amounts of sludge.

Operation

- Installed bypass on the system to be treated
- Sludge is captured using the centrifuge effect: the heaviest particles are precipitated into the lower level of the filter
- Iron oxides are captured using a magnetic cylinder.
- The system is regenerated by cleaning the magnetic cylinder and flushing at the filter low point.

Standard equipment

- Steel filter
- Threaded or flanged coupling
- Available within 3 weeks on receipt of the order



Model		1	2	3	4	5	6
Material		steel	steel	steel	stainless steel	stainless steel	stainless steel
Coupling diameter		DN 25	DN 40	DN 40	DN 50	DN 65 Flanges	DN 80 Flanges
Maximum flow rate	m ³ /h	4	9	12	16	22	28
Consignment weight	Kg	48	98	146	146	158	160
Product code		P0003805	P0003806	P0003807	P0003808	P0003809	P0003810

Accessories	Item code
Cyclonic FPM filter pack FPM 1 + Accessories	PK0038005
Cyclonic FPM filter pack FPM 2 + Accessories	PK0038006
Cyclonic FPM filter pack FPM 3 + Accessories	PK0038007
Cyclonic FPM filter pack FPM 4 + Accessories	PK0038008
Cyclonic FPM filter pack FPM 5 + Accessories	PK0038009
Cyclonic FPM filter pack FPM 6 + Accessories	PK0038010
Set of accessories for / Cyclo FPM1 filter	P0003804
Set of accessories for / Cyclo FPM 2/3 filter	P0003811
Set of accessories for / Cyclo FPM4 filter	P0003812
Set of accessories for / Cyclo FPM5 filter	P0003813
Set of accessories for / Cyclo FPM6 filter	P0003814

NEW



BWT NETWORK PROTECTION PACK



Applications

- Protects your heating and iced water networks by combining BWT Permo formulated products with the sludge filter.
- This process is the subject of French Technical official certification.
- Available within 2 weeks on receipt of the order.

Operation

- Installation of an FPM filter as a bypass on the network
- Implementation of a conditioning product
- ATEC

Standard equipment

- FPM Filter
- Formulated products
- Analysis container
- Analysis
- Label

Model		PACK 5 EG	PACK 10 EG	PACK 20 EG
Circuit volume	m ³	0 to 5	5 to 10	10 to 20
Product code		PK0047006	PK0047011	PK0047021

Model		PACK 5 EC	PACK 10 EC	PACK 20 EC
Circuit volume	m ³	0 to 5	5 to 10	10 to 20
Product code		PK0047005	PK0047010	PK0047020

PERMOBOY AUTO

Applications

- Clarification of water in private swimming pools and ornamental pools
- Automatic function and reduced maintenance.

Operation

- Control box power supply voltage: 230 V / 50 or 60 Hz
- Programmable start
- Automatic filtering material wash: adjustable duration and variable frequency

Standard equipment

- Automatic valve driven by a micro-processor equipped control box
- Sand filling material
- Filament coil body



Model		610 without pump	760 without pump	920 without pump
Inner diameter	mm	610	760	920
Flow rate at 50 m/h	m ³ /h	13	20	32
Filtering surface area	m ²	0.28	0.44	0.65
Product code		PK0006046	PK0006047	PK0006049

Associated pump		610	760	920
Flow rate	m ³ /h	13	20	32
Electric power	KW	1.0	1.3	1.9
Single phased product code		P0065900	P0065902	-
Three phased product code		P0065904	P0065906	P0065908

Associated control box		CONTROL BOX N°1	CONTROL BOX N°2	CONTROL BOX N°3
Intensity	A	6 to 10	2.5 to 4	4 to 6
Electric power	KW	1.3	1.3	1.9
Type of power supply		Single phased	Three phased	Three phased
Product code		P0068703	P0068704	P0068705

NB:

- 1 Polyester IP65 / 24 MODULE control box
- Power supply 400 V / 3 PH + N + G **OR** 230 V / PH + N + G on 4² terminals.
- 1 Motor circuit breaker for pump protection
- 1 3-position switch (Man - Off - Auto) for filtration pump
- 1 Ph+N C Curve 10A circuit breaker for the **Permoboy box power supply**
- 1 Ph+N C Curve 10A circuit breaker for the **Permolog box power supply**
- 1 Ph+N C Curve 10A circuit breaker for the **Permozone box power supply**

PERMOBOY PRESTIGE MANUAL



Applications

- Clarification of water in private swimming pools and ornamental pools

Operation

- Manual filtering material wash

Standard equipment

- Manual 5-way side valve
- Sand filling material
- Filament coil body
- Available within 2 weeks on receipt of the order

Model		610 without pump	760 without pump	920 without pump
Inner diameter	mm	610	760	920
Flow rate at 50 m/h	m ³ /h	13	20	32
Filtering surface area	m ²	0.28	0.44	0.65
Product code		PK00066033	PK0066034	PK0066035

Associated pump		610	760	920
Flow rate	m ³ /h	13	20	32
Electric power	KW	1.0	1.3	1.9
Single phased product code		P0065900	P0065902	
Three phased product code		P0065904	P0065906	P0065908

Associated control box		CONTROL BOX N°1	CONTROL BOX N°2	CONTROL BOX N°3
Intensity	A	6 to 10	2.5 to 4	4 to 6
Electric power	KW	1.3	1.3	1.9
Type of power supply		Single phased	Three phased	Three phased
Product code		P0068703	P0068704	P0068705

NB:

- 1 Polyester IP65 / 24 MODULE control box
- Power supply 400 V / 3 PH + N + G **OR** 230 V / PH + N + G on 4² terminals.
- 1 Motor circuit breaker for pump protection
- 1 3-position switch (Man - Off - Auto) for filtration pump
- 1 Ph+N C Curve 10A circuit breaker for the **Permoboy box power supply**
- 1 Ph+N C Curve 10A circuit breaker for the **Permolog box power supply**
- 1 Ph+N C Curve 10A circuit breaker for the **Permozone box power supply**

PERMO AZUR

Applications

- Clarification of private and public swimming pools used for leisure, ornamental, or for therapy applications.

Operation

- Manual: set of 5 butterfly valves
- Automatic: set of 5 automatic valves driven by a control box

Standard equipment

- Coiled filters with an inside polyester and glass fibre coating.
- Polarised inlets and outlets.
- Multimedia filtering filling material: sand and *hydroanthracite*
- Available within 6 weeks on receipt of the order



Model		1200	1400	1600	1800	2000	2350
Coupling diameter	DN	100	125	125	150	200	200
Filter diameter	mm	1200	1400	1600	1800	2000	2350
Flow rate at 40 m/h	m ³ /h	46	62	81	102	126	174
Associated pump (see table below)		95/70	95/80	95/110	95/110	2 X 95/80	2 X 95/110
Product code		P006 6012	P006 6014	P006 6016	P006 6018	P006 6020	P006 6023
Associated filling material code		PK006 6062	PK006 6064	PK006 6066	PK006 6068	PK006 6072	PK006 6073
Manual set code		P006 6051	P006 6052	P006 6052	P006 6053	P006 6054	P006 6054
Automatic set code		V055 001	V055 002	V055 002	V055 003	V055 004	V055 004

Associated pump	Unit	95/70	95/70	95/110
Flow rate	m ³ /h	45	60	80
Electric power	KW	3.0	4	5.5
Product code		P0066007	P0066008	P0066010

Applications

A wide range of accessories used to equip ponds, swimming pools or balneotherapy: drains, skimmers, electric equipment, etc.



Available within 2 weeks on receipt of the order



Drain / grate	Code
Concrete 355 x 355 bottom drain outlet diameter 110	P0066131
Concrete 512 x 512 bottom drain outlet diameter 140	P0066134
Liner 355 x 355 bottom drain outlet diameter 110	P0066132
Liner 512 x 512 bottom drain outlet diameter 140	P0066135
ABS 230 x 230 mm bottom grate	P0066136
ABS 305 x 305 mm bottom grate	P0066137

Discharge	Code
2" ABS concrete discharge (sides)	P0066151
2" ABS LINER discharge (sides)	P0066153
ABS concrete bottom discharge	P0066157
ABS liner bottom discharge	P0066156
Stainless steel concrete discharge	P0066152
Stainless steel concrete bottom discharge	P0066158

Cleaning	Code
ABS 2" 250mm straight embedding sleeve	P0066172
1" 1/2 ABS brush socket for concrete	P0066141
1" 1/2 ABS brush socket for liner	P0066142
Side brush	P0066174
2.4 m x 4.8 m telescopic pole	P0066175
15 m floating hose	P0066176
Concrete brush head	P0066177
Liner brush head	P0066178

Skimmer	Code
ABS Wide slit skimmer for concrete	P0066165
ABS Wide slit skimmer for liner	P0066166
ABS Small slit skimmer for concrete	P0066161
ABS Small slit skimmer for liner	P0066162

Doser	Code
3.5 kg tablet doser	P0066173
G 10, 10 kg tablet doser	P0066111

Other	Code
300 W 12 V projector for concrete	P0065911
2 output / 1 input connection box	P0065912
Mechanical level regulator	P0065910



REVERSE OSMOSIS

THE LINES

PERMAQ COMPACT, PERMAQ ECO PERMAQ PICO, PERMAQ MOBILE

Cased reverse osmosis units, ready to install

Reverse osmosis consists in pushing water against a so-called semi-permeable membrane: it allows water molecules to pass through, but stops mineral or organic matter in suspension (100%) or dissolved (from 85% to over 99% depending on the element).

Using this process the raw water to be treated is partially converted into purified water (the permeate), and the rest into water concentrated with the elements that did not pass through the filter (the concentrate). The conversion rate is the ratio of the permeate flow rate over the raw water flow rate.

THE BWT PERMO OFFER

An extended range of osmosis units that meet the most varied production flow rates and space occupation constraints.

All models have been designed to be as compact as possible in a protective housing, and designed for direct connection using the plug & play principle.

6 PERMAQ lines:

COMPACT 14 & 18: 2 models

For production rates of up to 100 L/h in a very limited space, either horizontal or vertical.

COMPACT 41 & 51: 2 models

For production rates of up to 150 L/h in limited space, with on line operation or using a 50 litres storage tank (OFF LINE).

COMPACT 100: 6 models

For production rates from 50 to 300 L/h

ECO: 2 models

For production rates up to 130 L/h in a wall mounted architecture, an alternative that can be very useful in certain environments.

PICO: 2 x 7 models

Two series of appliances respectively on line, or on a storage tank (OFF LINE) for production rates of up to 2000 L/h.

MOBILE: 1 model

Mobile on site reverse osmosis unit for production rates of up to 350 L/h.

PERMO PERMAQ COMPACT 14 and 18

Applications

- Water purification for production rates of up to 100 l/h.
- Very useful in environments where space is restricted: small laboratory installations, kitchens, etc.

Operation

- Power supply voltage: 230 V / 50 or 60 Hz
- Maximum water temperature: 25 °C
- Minimum dynamic pressure: 2 bars
- Maximum dynamic pressure: 7 bars
- Permeate connection: diam. 8mm
- Concentrate connection: diam. 8mm
- Water supply connection 3/4" or diam. 10mm

Standard equipment

- Measurement and control unit
- High pressure pump
- Reverse osmosis membranes
- Pressure tank for on line and off line operation
- Built-in resistivity meter
- *Available within 3 weeks on receipt of the order*



Model		14	18
Permeate	l/h	100	100
Conversion rate	%	30 to 75 %	30 to 75 %
Raw water flow rate	l/h	350	350
Consignment weight	Kg	20	20
Positioning		Horizontal	Vertical
Product code		P0045562	P0045565

Size		14	18
Height	mm	150	390
Width	mm	390	150
Depth	mm	540	540

PERMO PERMAQ COMPACT 41 and 51



Applications

- Water purification for production rates of up to 130 l/h.
- By keeping the COMPACT line space occupation low, on line storage (3.5 l) or off line storage (50 l) is built in.



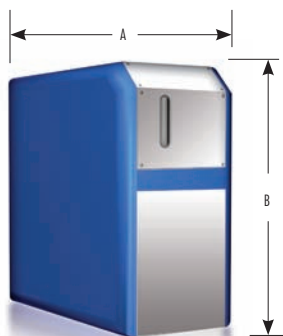
Operation

- Power supply voltage: 230 V / 50 or 60 Hz
- Maximum water temperature: 25 °C
- Minimum dynamic pressure: 2 bars
- Maximum dynamic pressure: 7 bars
- Permeate connection: 3/4"
- Concentrate connection: 3/4"
- Water supply connection: 1/2" (41) and 3/4"(51)

Standard equipment

- COMPACT 41 ON LINE: 3.5 l hydrophore tank.
- COMPACT 51 OFF LINE: return pump and 50 l tank.
- Built-in flow meter and pressure gauge to control production flow and pressure
- Available within 3 weeks on receipt of the order

Model		51	41
Permeate	l/h	150	130
Conversion rate	%	40 to 75 %	40 to 75 %
Raw water flow rate	l/h	525	450
Consignment weight	Kg	53	53
Product code		P0004051	P0004052



Size		51	41
Height	mm	750	520
Width	mm	350	260
Depth	mm	560	670

Accessories	Item code
Conductivity meter TM 9501 + 4-20 mA	P0049211
K Sensor= 0.09 to 500 microsiemens	P0049212

PERMO PERMAQ COMPACT 100

Applications

- Water purification for high quality requirement process water (for example: all types of laboratory), washing water (guaranteed free from traces), humidification water and spray water (prevention of nozzle clogging), for production rates of up to 300 l/h.



Operation

- Power supply voltage: 230 V / 50 or 60 Hz
- Maximum water temperature: 25 °C
- Minimum dynamic pressure: 2 bars
- Maximum dynamic pressure: 7 bars
- Permeate connection: 3/4"
- Concentrate connection: 10 mm
- Water supply connection 1/2"

Standard equipment

- Control unit
- High pressure pump
- Reverse osmosis membranes
- Control pressure gauge
- Built-in resistivity meter
- 100l storage included
- Available within 3 weeks on receipt of the order

Model		111	112	113	114	115	116
Permeate	l/h	50	100	150	200	250	300
Conversion rate	%	40 to 80	40 to 80	40 to 80	40 to 80	40 to 80	40 to 80
Raw water flow rate	l/h	125	250	375	500	625	750
Shipped weight	Kg	150	151	152	153	154	155
Product code		P0004911	P0004912	P0004913	P0004914	P0004915	P0004916

Size		111	112	113	114	115	116
Height	mm	810	810	810	810	810	810
Width	mm	580	580	580	580	580	580
Depth	mm	580	580	580	580	580	580

Accessories	Item code
Conductivity meter TM 9501 + 4-20 mA	P0049211
K Sensor= 0.09 to 500 microsiemens	P0049212

PERMO PERMAQ ECO



Applications

- For production rates up to 130 l/h, wall mounted configuration alternative to COMPACT 14/18 and 41/51 osmosis units

Operation

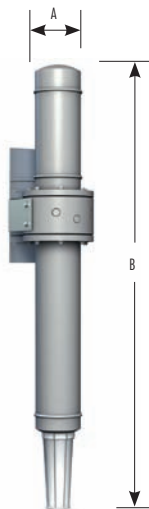
- Power supply voltage: 230 V / 50 or 60 Hz
- Maximum water temperature: 35 °C
- Minimum dynamic pressure: 2 bars
- Maximum dynamic pressure: 4 bars
- Permeate connection: 3/4"
- Water supply connection: 3/4"

Standard equipment

- Control unit
- High pressure pump
- Reverse osmosis membranes
- Built-in resistivity meter
- Available within 3 weeks on receipt of the order



Model		ECO On-line	ECO Off-line
Permeate	l/h	90	130
Conversion rate	%	30 to 80	30 to 80
Raw water flow rate	l/h	120	170
Consignment weight	Kg	59	59
Product code		PK0004576	P0004577



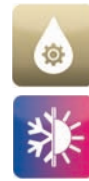
Size		ECO On-line	ECO Off-line
Height	mm	1700	1700
Width	mm	200	200
Depth	mm	200	200

Accessories	Item code
Steel flask with bladder / 35 L	P0956270
Steel flask with bladder / 50 L	P0956271
Steel flask with bladder / 80 L	P0956272
Steel flask with bladder / 140 L	P0956273
Steel flask with bladder / 300 L	P0956274

PERMO PERMAQ PICO

Applications

- Water purification for production rates of up to 2000 l/h.
- Meets industrial process requirements (cutting, washing, rinsing, water based preparations, etc.)
- hotel - restaurant needs (washing, rinsing),
- air-conditioning needs (spraying, humidification)



Operation

- Power supply voltage: 400 V / 50 or 60 Hz
- Maximum water temperature: 30 °C
- Minimum dynamic pressure: 2.5 bars
- Maximum dynamic pressure: 6 bars
- Permeate connection: 3/4"
- Water supply connection: 3/4"

Standard equipment

- Control unit
- High pressure pump
- Reverse osmosis membranes
- Built-in resistivity meter
- Available within 5 weeks on receipt of the order

Model		10 on-line	20 on-line	30 on-line	40 on-line	50 on-line	60 on-line	70 on-line
Permeate	l/h	130	230	340	415	750	1125	1500
Conversion rate	%	80	80	80	80	80	80	80
Raw water flow rate	l/h	163	285	425	515	938	1406	1875
Consignment weight	Kg	85	100	105	130	140	160	170
Product code		P0004524	P0004525	P0004526	P0004527	P0004528	P0004529	P0004530

Model		10 off-line	20 off-line	30 off-line	40 off-line	50 off-line	60 off-line	70 off-line
Permeate	l/h	170	310	450	560	1000	1500	2000
Conversion rate	%	80	80	80	80	80	80	80
Raw water flow rate	l/h	213	385	560	685	1250	1875	2500
Consignment weight	Kg	85	100	105	130	140	160	170
Product code		P0004516	P0004517	P0004518	P0004519	P0004520	P0004521	P0004523

Accessories	Item code
Multiblock connection	P0004540

Size		10	20	30	40	50	60	70
Height	mm	800	800	800	1285	1285	1285	1285
Width	mm	475	475	475	475	475	475	475
Depth	mm	450	590	590	590	590	730	730

PERMO PERMAQ MOBILE 350



Applications

- Supply of purified water on site thanks to the appliance's mobility.
- For washing, cleaning, filling up water systems, etc.



Operation

- Power supply voltage: 230 V / 50 or 60 Hz
- Maximum water temperature: 35 °C
- Minimum dynamic pressure: 2 bars
- Maximum dynamic pressure: 4 bars
- Permeate connection: 3/4"
- Water supply connection: 3/4"

Standard equipment

- Control unit
- High pressure pump
- Reverse osmosis membranes
- Control pressure gauge
- Built-in resistivity meter
- Available within 2 weeks on receipt of the order

Model		MOBILE 350
Permeate	l/h	350
Conversion rate	%	30 to 40
Raw water flow rate	l/h	1000
Consignment weight	Kg	50
Product code		P0004597

Size		MOBILE 350
Height	mm	1250
Width	mm	600
Depth	mm	750



DEMINERALISATION

DEMINERALISATION

THE LINES

PERMO LMJ
PERMO LMIR
PERMO AQA Therm

Similarly to water softening (see p.6), demineralisation also uses ion exchanging resins. They are composed of polymer granulates that provide favourable zones to capture the ions contained in water.

There are anion resins that capture negative ions, or anions (for example: nitrates, NO_3^-) and cation resins that capture positive ions or cations (for example: calcium Ca^{2+}).

By combining an anion resin and a cation resin in the same treatment body, mixed filtration beds are obtained that completely demineralise the water because both ion families are captured at the same time.

The use of a single resin, either cation or anion, targets the capture of certain ions.

THE BWT PERMO OFFER

For total demineralisation there is a simple choice between:

PERMO LMJ:

A bottle containing disposable, mixed, new resin beds, and for requirements for even purer resins.

PERMO LMIR:

Bottles of mixed, regenerateable resin mixes using an exchange service provided by BWT Permo.

In decarbonation, i.e. scale prevention by carbonate ion capture (which would otherwise combine with calcium to form scale):

PERMO AQA therm:

A mobile station equipped with 25 litres of resin to be renewed after exhaustion.

PERMO LMJ

Applications

- Demineralisation of tap water to obtain high quality water with its mineral content removed.
- The technology favours simple and fast implementation.

Operation

- Mixture of a cation and anion resin which respectively capture positive and negative ions.
- 3 types of resin bed mixes:
 - non regenerateable LM resin
 - nuclear grade LM resin
 - ultrapure LM resin

Standard equipment

- Glass fibre reinforced polyester body in a stainless steel skirt
- PVC valves with quick coupling using unions
- Conductivity meter socket.
- *Availability on receipt of the order:*
 - within 4 weeks for models 12 to 75*
 - within 6 weeks for models 125 and 225*



Model		12	25	50	75	125	225
Production flow rate	l/h	0.36	0.75	1.5	2.0	5.0	8.0
Coupling diameter	DN	15	15	15	15	40	40
Consignment weight	in Kg	20	35	65	90	210	335
Product code		PK0004462	PK0004463	PK0004464	PK0004467	P0004473	P0004475

Mixed resins 50 L barrel	Standard	Nuclear Grade	Ultra pure	High micro- electronic purity
Product code	P0009076	P0009072	P0097229	P0969316

Accessories	Item code
Wall panel including Filter / meter / pre-filters / filters	P0962592
MultiControl analyser 1 cond (cable and sensor not included)	P0077031
MultiControl analyser 2 cond (cable and sensor not included)	P0077032

PERMO LMIR



Applications

- Tap water demineralisation **with bottle exchange service**.
- Useful to guarantee pure water for use in autoclaves, washing machines, air conditioning, R&D processes, etc.

Operation

- Regular exchanges or in the event of an emergency.

Standard equipment

- Reinforced polyester body
- PVC valves with quick coupling using unions
- Stainless steel sensor Coef. 0.1 built onto the bottle head
- Recommended pressure: 2 to 5 bars
- Max. pressure: 10 bars
- Water temperature: 2 to 50 °C
- Available within 3 weeks on receipt of the order

Model		15	25	35	65	105
Production flow rate	l/h	0.20	0.25	0.4	0.9	1.2
Coupling diameter	DN	15	15	15	15	20
Consignment weight	Kg	17	28	29	70	110
Product code		P0096196	P0969196	P0969197	P0969198	P0973088
Exchange code Zone 1*		P0996860	P0969189	P0969190	P0969191	P0996891
Exchange code Zone 2**		P0996850	P0996851	P0996852	P0996853	P0996854

Model		140 on chassis	180 on chassis	300 on chassis	600 on chassis
Production flow rate	l/h	1.5	2.0	3.0	4.5
Coupling diameter	DN	20	20	20	2 X 20
Consignment weight	Kg	150	200	320	650
Product code		P0969199	P0969200	P0969201	P0969202
Exchange code Zone 1*		P0969192	P0969193	P0969194	P0969195
Exchange code Zone 2**		P0996855	P0996856	P0996857	P0996858

*Zone 1: départements 02 – 08 – 10 – 14 – 18 – 21 – 27 – 28 – 36 – 37 – 41 – 45 – 51 – 58 – 59 – 60 – 62 – 72 – 76 – 80 – 89, Paris region

**Zone 2: départements 05 – 26 – 38 – 73 – 74 – 01 – 03 – 07 – 42 – 43 – 63 – 69 – 71

For other zones please contact us

Accessories	Item code
Wall panel including Filter / meter / pre-filters / filters	P0962592
MultiControl analyser 1 cond (cable not included)	P0077031
MultiControl analyser 2 cond (cable not included)	P0077032

PERMO AQU Therm

Applications

- Scale prevention and pH neutralisation in any heating systems by upstream elimination of the bicarbonates present in the filling water.
- Improved protection of aluminium parts.
- Mobile, can therefore be used on any number of circuits.

Operation

- Connection to tap water supply
- Resins to be changed when saturated
- Coupling diameter: DN 20
- Service pressure: 5 bars
- Flow rate: 25 l/min
- Resin volume: 25 L

Standard equipment

- Bottle fitted with a wheeled trolley
- 25L bag of resin: decarbonation resin refill
- 25 Micron filtration cartridge
- TAC Test: water quality test kit (100 analyses)
- Available within 4 weeks on receipt of the order



Model	AQAtherm
Product code	PK0004461

Size	AQAtherm	
Height	mm	680
Width	mm	520
Depth	mm	1260





ANALYSIS

ANALYSIS

THE LINES

PERMO PROBOX, PERMO MULTICONTROL
PERMO CONTROL, PERMO DIOMEDE,
PERMO ARES, PERMO LOG

TRANSMITTER - METERS

Water analysis is based on the fluid's physical-chemical characteristics, especially:

- flow rate
- temperature
- potential hydrogen (pH)
- the hardness or degree of hardness
- the concentration of different forms of chlorine (free, active, etc.)
- conductivity, to reveal concentrations of dissolved mineral salts
- etc.

Analysis requires a sensor (such as a probe), and the transmission of a signal to a controller. The controller uses the data to trigger an alarm, to create history records, or even to send instructions to formulated product dosing systems (anti-corrosion, anti-scale, biocides, etc.), to fill water in, or to drain it.

THE BWT PERMO OFFER

Analysis equipment with many parameter combinations to adapt to the monitoring needs for each application.

The equipment:

PROBOX Analysis: 3 models

Hardness, free chlorine and active chlorine measurement.

Display, alarm, and a stop signal.

PROBOX: 9 models

A dozen parameter measurements are available.

Display, 2 output signals, 3 communications ports.

MULTICONTROL: 4 models

pH, conductivity, flow rate and potential redox measurement.

Display, 2 analogic outputs, 2 digital outputs.

CONTROL: 3 models

Conductivity and temperature measurement.

DIOMEDE: 1 model, **reserved for use on air-cooling towers (ACT)**

pH, temperature and conductivity measurement.

Display, alarms, ACT de-concentration and dosing pump control.

ARES: 2 models, **reserved for use on ACTs**

pH, conductivity, flow rate, chlorine / bromine or potential redox measurement.

Display, alarms, de-concentration and dosing pump control, history records.

LOG: 3 models, **reserved for use on swimming pools**

pH, potential redox, or free chlorine measurement. pH & chlorine regulation.

Transmitter water meters: 8 models

From DN 20 to DN 100.

PERMO PROBOX ANALYSIS

Applications

- Specific water production monitoring such as sterilisation, dialysis, industrial process, steam boiler.
- Hardness, free chlorine, active chlorine monitoring: see table below

Operation

- Measurement by on line colorimetry
- Measured value display
- Alarm displayed if the value is exceeded
- A stop signal can be sent using the 4-20 mA output
- Drop-down menus to access analysis and appliance configuration parameters

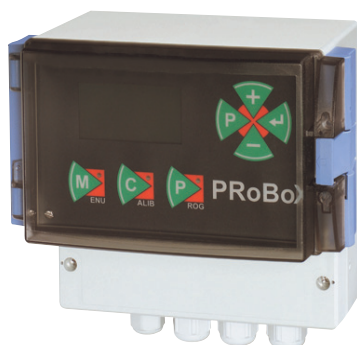
Standard equipment

- Electricity supply: 230 V AC
- Input power: 30 VA max
- Potential-free relay outputs for thresholds, alarms, and maintenance
- 0/4-20 mA analogue output on TH model
- LCD screen and touch keypad
- Available within 4 weeks on receipt of the order



Model	TH	TH/Cl	Free Cl
Analysis performed	Hardness	Hardness / free chlorine / active chlorine	Free chlorine
4-20 mA Output	Included	Option	Option
Product code	P0080505	P0960187	P0960204

Accessories	Item code
PROBOX ANALYSIS TH connection kit	P0080506
4-20 mA card option	P0920161
Hardness reagent 0.09 to 0.89°F 500 ml	P0959132
Hardness reagent 0.45 to 4.48°F 500 ml	P0959133
Hardness reagent 1.79 to 17.79°F 500 ml	P0959134
Hardness reagent 4.48 to 44.80°F 500 ml	P0959759
TESTOMAT Cooler	P0915948



PERMO PROBOX



Applications

- Measurement and regulation of a wide range of physical and chemical water parameters:
 - temperature
 - pH
 - potential redox
 - chlorine
 - chlorine dioxide
 - bromine
 - oxygen
 - ozone
 - hydrogen peroxide
 - peracetic acid

Operation

- Set of Amperometric sensors to customise the PROBOX to the selected parameters

Standard equipment

- LCD display with back lighting
- 2 programmable relays (250 V / 5A max)
- 3 4-20 mA signal inputs of which 2 can be parametered
- 2 0/4-20 mA signal outputs that can be configured for a BMS or regulation
- Communications: 2 RS 232C type outputs
1 RS 422 or 485 type output
- Available within 4 weeks on receipt of the order

Model	PROBOX T° -5 to 45° PVC	PROBOX pH	PROBOX Free chlorine 0-2 ppm
Product code	P0002957	P0002956	P0992736

Model	PROBOX Free chlorine 0-10 ppm	PROBOX Active chlorine 0-2 ppm	PROBOX Active chlorine 0-10 ppm
Product code	P0002951	P0002952	P0002953

Model	PROBOX TOTAL 0-2 ppm	PROBOX TOTAL 0-10 ppm	PROBOX ClO ₂ 0-2 ppm
Product code	P0002954	P0002955	P0002942

Accessories	Item code
Standard PROBOX system	P0029010
Measurement chamber 1 oxidant sensor	P0029114
pH unit measurement chamber	P0029112
pH and oxidant unit measurement chamber	P0029111
PVC temperature sensor	P0060057
Stainless steel 45°C temperature sensor	P0060068
Stainless steel 80°C temperature sensor	P0060069
Standard pH sensor 0.5 bar	P0060055
Standard pH sensor 6 bars	P0060056
Free chlorine sensor 0-2 ppm	P0060060
Free chlorine sensor 0-10 ppm	P0060061
Active chlorine sensor 0-2 ppm	P0060062
Active chlorine sensor 0-10 ppm	C0959553
Total chlorine sensor 0-2 ppm	P0060064
Total chlorine sensor 0-10 ppm	P0060066
Chlorine dioxide sensor 0-2 ppm	P0960515
Chlorine dioxide sensor 0-10 ppm	P0060067

PERMO MULTICONTROL

Applications

- Control and transmission of multiple data on the physical, chemical, and hydraulic water parameters
 - pH
 - conductivity
 - flow rate
 - potential redox

Operation

- Multi-parameter controller and transmitter
- 6 control functions available to be added
- Data retrieval on SD card (option)
- Electricity supply 230 V AC

Standard equipment

- Protective box
- Display and control panel
- Base unit with power supply, 2 digital inputs, 2 analogue outputs, 2 digital outputs.
- Available within 4 weeks on receipt of the order



Model	1 x pH	1 x conduct.	2 x conduct.	1 pH + 1 conduct.
Temperature compensation	Option	Yes	Yes	pH option Yes on conduct.
Product code	P0077030	P0077031	P0077032	P0077033

Options	Item code
PID regulation activation	P0048180
SD memory card activation	P0048181

pH / redox accessories	Item code
pH sensor	P0005071
Redox sensor	P0005072
PT 1000 sensor	P0005070
pH + T° sensor holder (if required)	P0005073
Connection cable for redox or pH sensor	P0079358
Connection cable for PT 1000 sensor	P0079359

Conductivity accessories	Item code
Sensor + conductivity sensor holder K=0.01 (T° included)	P0060300
Sensor + conductivity sensor holder K=1 (T° included)	P0060301

Connection accessories for PERMO MULTICONTROL	Item code
PVC DN 20 union fitting for pH or redox sensor	P0079250
PVC DN 20 union fitting for pH for cond sensor	P0079251
PVC DN 25 union fitting for pH or redox sensor	P0079252
PVC DN 25 union fitting for pH for cond sensor	P0079253
PVC DN 32 union fitting for pH or redox or cond sensor	P0079254
PVC DN 40 union fitting for pH or redox or cond sensor	P0079255
PVC DN 50 union fitting for pH or redox or cond sensor	P0079256
PVC DN 65 fitting collar for pH or redox or cond sensor	P0048178
PVC DN 80 fitting collar for pH or redox or cond sensor	P0048179
PVC DN 15 tapped stainless steel fitting for pH or redox or cond sensor	P0005068
PVC DN 20 tapped stainless steel fitting for pH or redox or cond sensor	P0005069
PVC DN 40 tapped stainless steel fitting for pH or redox or cond sensor	P0005074
PVC DN 50 tapped stainless steel fitting for pH or redox or cond sensor	P0005079



PERMO CONTROL



Applications

- Measurement and monitoring of physical and chemical water parameters:
 - model S: resistivity of demineralised water
 - model RM1: conductivity or resistivity
 - model RM2: ditto RM1 with T° compensation (CP)

Operation

- Resistivity in the 0-5 MΩ range

Standard equipment

- Protective box
- Display and control panel
- RM1 and RM2 sensor
- *Available within 4 weeks on receipt of the order*

Model	CONTROL S	Sensor for CONTROL S	CONTROL RM1 without CP	CONTROL RM 2 with CP
4-20 mA Output	No	No	Yes	Yes
Product code	P0002911	P0002912	P0002967	P0002968

PERMO DIOMEDE

Applications

- Measurement and control of cooling systems to prevent:
 - scale deposits
 - corrosion
 - biological growth
- Optimisation of filling water and treatment products consumptions

Operation

- Control of the blowdown depending on the filling water consumption and salinity of the circuit

Standard equipment

- Power supply 230 V - 50-60 Hz
- Protection index IP 54
- Available within 4 weeks on receipt of the order



Model	DIOMEDE without sensor	DIOMEDE with graphite conductivity sensor
Product code	P0074800	PK0074802

Accessories	Item code
Manual valve DN 20	P0031601
DN 20 230V Solenoid	P0040061
Manual valve DN 25	P0093667
DN 25 230V Solenoid	P0040058
Manual valve DN 32	P0040075
DN 32 230V Solenoid	P0040062
Manual valve DN 40	P0031602
DN 40 230V Solenoid	P0040064
Graphite conductivity sensor	P0060480
Inductive conductivity sensor	P0060485
Temperature sensor	P0060057
Standard pH electrode 0.5 bar	P0060055
pH converter 4-20 mA	P0060484
Inductive sensor power supply module	P0060487
Conduct. sensor Inductive 0-2 mS	P0060485
Conduct. sensor Inductive 0-10 mS	P0060486



PERMO ARES



Applications

- Measurement and control of cooling systems to prevent:
 - scale deposits
 - corrosion
 - biological growth
- Parameter recording
- Communications: reports sent on the local network

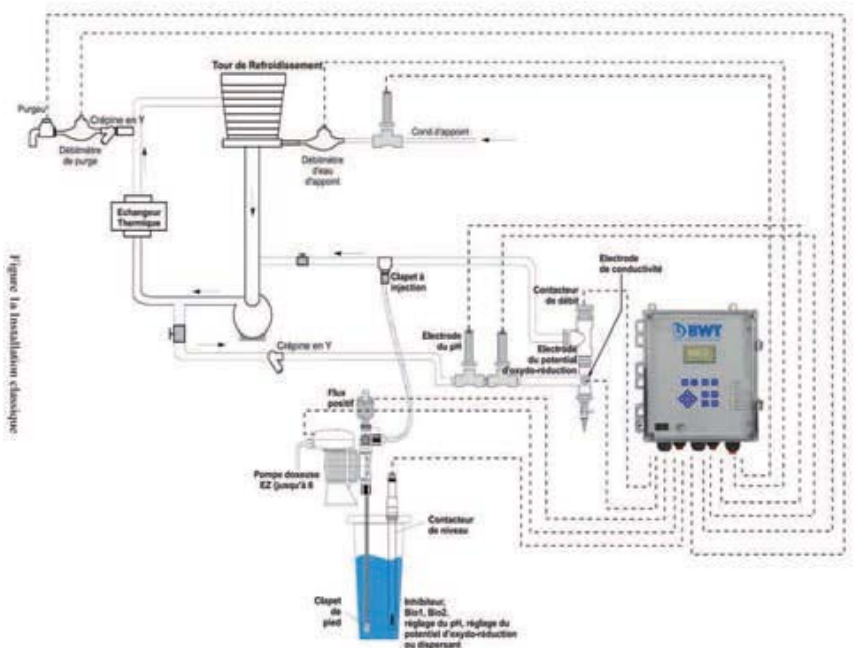
Operation

- Control the mineral concentration and trigger the blowdown
- Recording
 - pH
 - conductivity
 - biocide injection
- USB and Ethernet ports to send data
- reagent dosage optimised to the nearest ppm

Standard equipment

- Electricity supply: 230 V - 50-60 Hz
- Analogue 4/20 mA or 3-wire input signal
- Inputs 6 ON-OFF - insulated dry contacts -
- Relay outputs 8 - 230 VAC, 6 Amp - 4 supplied relays
- NO/NF - 4 dry contact relays
- Protection index IP 65
- Communications 2 outputs: USB and RJ485
- Available within 6 weeks on receipt of the order

Model	PERMO ARES AMPERO	PERMO ARES AMPERO
Coupling diameter	DN 20	DN 20
Sensors supplied	Toroid / tank conductivity Top-up water conductivity pH measurement Potential REDOX measurement Flow detector	Toroid / tank conductivity Top-up water conductivity pH measurement/Chlorine measurement/ free bromine Flow detector
Product code	P0074920	P0074900



PERMO LOG

Applications

- pH and chlorine analysis / regulation in swimming pool water for continuous recycled water quality control and permanent set point value adjustment.

Operation

- LOG 1:
pH and potential REDOX measurement
continuous analysis and correction using proportional regulation
- LOG 2:
pH and free chlorine measurement
direct display of the value in mg / l of free chlorine (DPD 1)
- Max. 15 W consumption
- Operating temperature: -5 °C to 60 °C

Standard equipment

- Analyser regulator box
- Measurement electrodes
- Fitting collar, directly on the piping
- Available within 2 weeks on receipt of the order



Model	LOG 1	LOG 2	PERMO ORP / pH
Type of analysis	pH / Redox / T°	pH / Amperometric / T°	pH / Redox
4-20 mA Output	Included	Included	-
Product code	P0002923	P0002924	P0061703

Accessories	Item code
S8ROZA ozoner + venturi	P0006218 + P0006230
G10 tablet doser	P0066111
3.5 kg tablet doser	P0066173



TRANSMITTER WATER METER

Applications

- Water consumption measurement
- Pulse in the form of a contact for a dosing pump and softener.
- Compliant with ISO 4064 standard

Operation

- Horizontal mounting, the head towards the top
- Dry dial totaliser
- Magnetic transmission
- Maximum water temperature: 30°C

Standard equipment

- Double pulse meters
- Available within 2 weeks on receipt of the order



Model		DN 20	DN 25	DN 32	DN 40	DN 50	DN 50 flanged	DN 80	DN 100
Coupling type		Threaded	Threaded	Threaded	Threaded	Threaded	Flanges	Flanges	Flanges
Water volume between 2 pulses	litres	1	1	1	5	5	50	50	50
Consignment weight	Kg	1.5	2.5	3.0	4.2	12.0	16.0	27.0	38.0
Product code		P000 5342	P000 5325	P000 5329	P000 5335	P000 5338	P000 5320	P000 5347	P008 8239

Size		DN 20	DN 25	DN 32	DN 40	DN 50	DN 50 flanged	DN 80	DN 100
Height	mm	130	140	140	160	160		Contact us	
Width	mm	190	260	260	300	300		Contact us	



DISINFECTION

THE LINES

PERMO ECOREDOX, PERMO ECOBOX
PERMO BIOX II, PERMO ECO MX
PERMO NEUTRA, PERMO BIOSTIL,
PERMO ULTRASON

Water is by definition a life giving element and therefore provides a favourable environment for the growth of micro-organisms, some of which are undesirable for water quality and even human or animal health: pathogen organisms, faecal contamination germs, moulds, algae, etc.

Disinfection reduces the presence of organic germs. It uses physical processes such as high temperature, UV radiation, or ultrasounds; ultra-filtration processes at less than or equal to 0.2 microns; or chemical processes, especially the use of oxidants such as chlorine and its compounds.

THE BWT PERMO OFFER

A wide selection of dosing systems coupled to water analysis, on site biocide production machines, and physical processes:

PERMO ECOREDOX AND ECOBOX: 3 models

Chlorine analysis and dosing control.

PERMO BIOX II: 2 models

On site batch manufacture of a biocide gas dissolved in water.

PERMO ECO MX: 8 models

On site production of a chlorine based disinfectant using salt electrolysis.

PERMO NEUTRA: 4 models

pH neutralisation before release of the treated water.

PERMO BIOSTIL: 9 models

Ultra Violet Disinfection (UVC)

BIOSTIL UV N: special potable water line

BIOSTIL EU: hot drinking water line up to 30°C

BIOSTIL HI: hot drinking water line up to 65°C

PERMO ULTRASON: 3 models

Action against the growth of algae and bacteria.

PERMO ECOREDOX

Applications

- Wall mounted analyser to control chlorine dosing in a hot drinking water loop.
 - Fight against micro-organisms (including legionella) in establishments open to the public, health establishments, leisure and hotel establishments, etc.
- This wall mounted analyser is used to control chlorine dosage on input to the hot drinking water loop and to analyse the value on the loop return.

Operation

- Chlorine analysis on the loop output
- Chlorine injection on the loop input
- REDOX regulator/controller measurement system with associated sensor
- Voltage: 230 V - 50/60 Hz
- Max. pressure: 20 bars
- Max. temperature: 110 °C

Standard equipment

- Wall box, IP66 polycarbonate box containing the electronics
- GT-ORP Redox electrode, glass body
Length: 140 mm
Diameter: 12 mm
- High pressure and temperature stainless steel electrode holder
- Alarm output: 1 dry contact
- 10 m of over-moulded cable with BNC connector for direct connection to the regulator
- *Available within 2 weeks on receipt of the order*



Model	ECOREDOX
Product code	P0074925

Size	ECOREDOX	
Height	mm	164
Width	mm	160
Depth	mm	129

Accessories	Item code
REDOX ELECTRODE GT-ORP-10M	P0060477
ADAPT. STAINLESS STEEL GT-DJ L = 10m	P0040071

PERMO ECOBOX ECS



Applications

- Complete solution for chlorine dosing in a hot drinking water network:
Analyser, regulator, and dosing pump.

Operation

- Injection controlled with a set point entered by the user.
- Timer controlled regular injections while maintaining effective regulation.
- Traceability software available as an option.
- Amperometric regulator/controller measurement system with associated sensor
- Voltage: 230 V - 50/60 Hz
- Minimum pressure: 1 bar
- Maximum admissible pressure < 6 bar
- Measurement range: 0 mg/l < C < 10 mg/l
- Minimum water temperature: 1°C
- Maximum water temperature: 70°C

Standard equipment

Wall panel including:

- An analysis chamber with a chlorine measurement probe
- A specific analyser/regulator
- A control box for the entire installation.
- An electronic dosing pump with special chlorine double doser.
- A circulation pump.
- An injection tube to connect to the hot drinking water network to inject disinfection reagents.
- *Available within 3 weeks on receipt of the order*

Model	ECOBX ECS	ECOBX ECS mobil skid
Product code	P0012310	P0973413

Size	ECOBX ECS	
Height	mm	540
Width	mm	730
depth	mm	40

Accessories	Item code
SYSCOM Software	P0012311
60 L reagent tank	P0028041
Retention tank for jerricans	P0028061
Retention tank for 60 L tank	R0028011

PERMO BIOX II

Applications

- A relevant alternative to the high constraints of thermal shocks, or to the limits of chlorine application, for the permanent protection of water networks from bacterial growth, including legionella.
- Long term bacteriostatic action which is less corrosive than bleach, dissolved chlorine dioxide (ClO₂).
- Good distribution of the gas, especially in biofilms.
- Good remanence.

Operation

- On site production of chlorine dioxide by mixing two reagents using the minimum required quantity (minimum storage)
- Electrical consumption when operating: < 50 W
- Power supply: single phased 220-240 V - 50 Hz
- Water supply temperature: 5 to 25°C
- Minimum supply flow rate: 200 l/h

Standard equipment

- Wall mounted chlorine dioxide generator
- PVDF peristaltic pump
- PERMIOBOX II PLC
- Built-in analyser (sensor option)
- Available within 3 weeks on receipt of the order



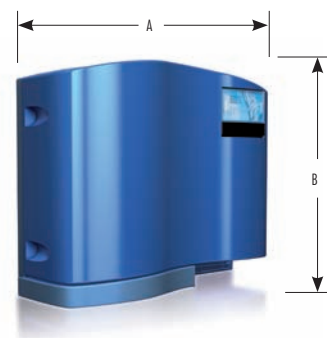
Model	BIOX II diluted with vent	BIOX II concentrated with vent
Product code	P0029782	P0029783

Size	BIOX II	
Height	mm	870
Width	mm	1020
Depth	mm	300

ANALYSER Model	Local ClO ₂ 0-2 ppm	Local ClO ₂ + chlorites 0-2 ppm	Remote ClO ₂ * 0-2 ppm	Remote ClO ₂ * + chlorites 0-2 ppm
Product code	PK0029801	PK0029802	P0002942	P0002941

* with PROBOX box

Accessories	Item code
Traceability interface	P0045419
USB Recording + base + log	P0045420
Injection pump DOS DDA 7.5 L	P0906243
Injection pump TRUEDOS 60 L/h	P0029820
Retention tank for jerricans	P0028061
Portable gas detector	P0029802
Safety instruction display panel	P0029810





PERMO ECO MX NANO

Applications

- Disinfection of water networks by **in situ** and **on demand production** of a high power disinfectant solution.
- Eliminates the inconveniences of obsolescence, storage, handling, and safety of pre-prepared disinfectant solutions.
- Highly compact system for easy installation in technical rooms.

Operation

- Operates using only salt, water, and electricity using electrolysis process.
- Sodium hypochlorite production
- Supply pressure: 1 - 5 bar
- Raw water temperature: 10 - 27 °C
- Raw water hardness: < 17 °f
- Voltage: 220 V Single phased
- Food grade salt

Standard equipment

- Stand-alone compact disinfectant generator
- Self-cleaning electrodes
- Built-in brine tank
- Unique MIX OXYDANT technology
- *Available within 3 weeks on receipt of the order*



Model		ECO MX NANO 0.1	ECO MX NANO 0.2
Daily quantity of dry chlorine produced	Kg	0.45	0.90
Daily solution production	l/d	118	245
Flow rate of the produced solution (± 15%)	l/h	4.9	10.2
Solution concentration	g/l	4.0 ± 1.0	4.0 ± 1.0
Volume of water treated per 1 g/m ³ of chlorine	m ³ /day	450	900
Consignment weight	Kg	29	29
Product code		PK0029601	PK0029602

Size		ECO MX
Height	mm	1520
Width	mm	810
Depth	mm	710

Accessories	Item code
200 litres disinfectant solution storage tank with fittings + H ₂ vent	P0029562
Retention tank for 200l Eco Mx NANO oxidant	C0970712
Dosing system see chapter	(see p.77)
Regulation system	(see Analysis / Disinfection chapter)

PERMO ECO-MX & ECO-MX+

Applications

- The same biocide replacement function as the previous line, to disinfect cooling, drinking water, pool water, waste water, etc.
- On site and on demand production of a high power disinfectant solution.

Operation

- Operates using only salt, water, and electricity using electrolysis process.
- Production of sodium hypochlorite + hydrogen peroxide
- Supply pressure: 1 to 6.8 bar
- Raw water temperature: 10 - 25 °C
- Raw water hardness: < 0.1 °f
- Temperature of the premises: 2 - 43 °C
- Voltage 220 V Single phased
- Food grade salt

Standard equipment

- Generator with one of the highest outputs on the market
- Ready to connect set
- Alarms and safety devices included
- Unique MIX OXYDANT technology (MX + model)
- Available within 6 weeks on receipt of the order



Model		MX 1	MX 2	MX 3	MX 1+	MX 2+	MX 3+
Daily dry chlorine production	Kg	4.5	9.0	18.0	1.8	4.5	9.0
Daily solution production	l/d	570	1130	2270	672	1340	2736
Solution concentration	g/l	8.0	8.0	8.0	2.7	3.35	3.35
Generated oxidant solutions		NaOCl	NaOCl	NaOCl	Mix-oxidants	Mix-oxidants	Mix-oxidants
Product code		On request					

Size		ECO MX
Height	mm	1900
Width	mm	840
Depth	mm	300

Accessories	Item code
Dosing system	(see p.77)
Regulation system	(see Analysis / Disinfection chapter)

PERMO NEUTRA



Applications

- Waste water neutralisation: pH adjustment before waste.
- Treatment capacity from 1 to 5 m³/h.

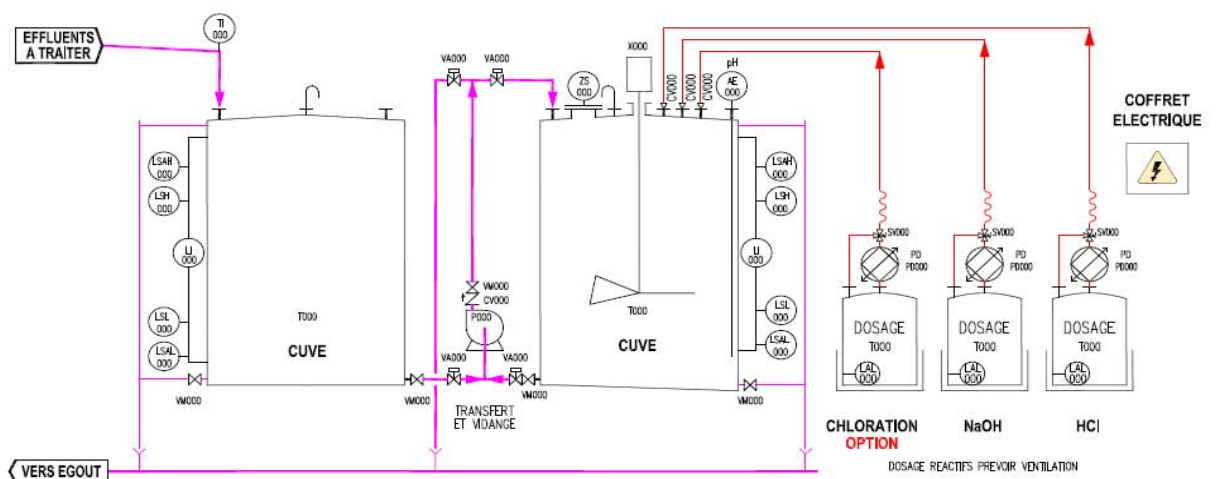
Operation

- The waste water is collected in a first tank.
- It is processed in a second tank.
- When the high level in the tank is reached, mixing and neutralisation are carried out until the set point pH is obtained.
- If disinfection is required, it takes place after the neutralisation step.

Standard equipment

- Collection tank with levels
- Treatment tanks with mixer and levels
- Transfer and dosing pumps
- pH Analyser
- Electric control box

Model	Neutra 1	Neutra 2	Neutra 3	Neutra 4
Product code			On request	



PERMO BIOSTIL UV N



Applications

- **Special drinking water line.**
- ACS certified and validated by biosimetry test.

Operation

- Water disinfection using UVC ultra violet radiation with a 254 nanometre wavelength.
- Powerful biocide effect independent of the pH
- Maximum pressure: 10 bars
- Water temperature: 5°C to 65°C
- Power supply: single phased 220-240 V - 50 Hz

Standard equipment

- UV generator
- Lamp(s)
- Available within 4 weeks on receipt of the order



Model		UV 17N	UV 27N	UV 40N
Maximum flow rate	m ³ /h	15.7	47.2	182
Coupling diameter	DN	50	80	150
Number of lamps		1	3	3
Power per lamp	W	200	130	270
Product code		P0002225	P0002226	P0002227

Size		UV 17N	UV 27N	UV 40N
Height	mm	1275	1187	1370
Width	mm	186	376	510

PERMO BIOSTIL UV EU / HI



Applications

- **Line for community hot drinking water applications.**

Operation

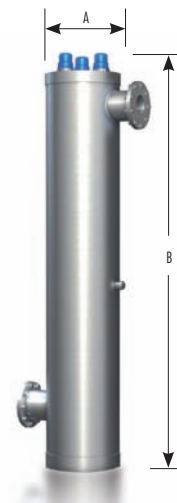
- Maximum pressure: 10 bars
- Water temperature: 5°C to 30°C for the EU line
5°C to 65°C for the HI line
- Power supply: single phased 220-240 V - 50 Hz

Standard equipment

- UV generator
- Lamp(s)
- Available within 4 weeks on receipt of the order

Model		EU 11 DN 32	EU 11 DN 50	EU 22	EU 35	HI 17	HI 22
Maximum flow rate	m ³ /h	4.3	6.8	38	88	38	68
Coupling diameter	DN	32	50	80	100	80	100
Number of lamps		1	1	3	4	2	3
Power per lamp	W	80	100	80	80	200	200
Product code		P0002205	P0002208	P0002206	P0002207	P0002209	P0002210

Size		EU 11 DN 32	EU 11 DN 50	EU 22	EU 35	HI 17	HI 22
Height	mm	1013	1310	1165	1191	1350	1380
Width	mm	128	128	420	556	308	359





PERMO ULTRASON



Applications

- Action against the growth of algae and bacteria.
- Specially adapted to ornamental ponds, bathing pools, storage tanks, cooling circuits, etc.
- Alternative solution making it possible to reduce the use of disinfectant oxidant products.
- Easy to install and maintenance-free.

Operation

- Ultrasonic emission
- Voltage: 230 V - 50/60 Hz
- Control box and emitter protection: IP 66

Standard equipment

- Emitter with its floater
- Control box.
- Connection cable between the control box and the emitter (≈ 17 metres).
- Control box electricity supply cable (≈ 3 metres).
- *Available within 3 weeks on receipt of the order*

Model	ULTRASON 70	ULTRASON 105	ULTRASON PISCINE
Wavelength	70	105	50
Product code	P0012910	P0012911	P0012912

Size		ULTRASON 70	ULTRASON 105
Height	mm	150	150
Width	mm	170	170
Length	mm	300	300



FORMULATED PRODUCTS

FORMULATIONS FOR WATER CONDITIONING BY **BWT**

Antifreezing products

- Supply of technical or sanitary antifreezing products.
- Complete formulations which also protect from corrosion and scaling.
- Cleaning program for removing old glycols.

Cooling systems

- Control of corrosion, scaling and bacteriological developments, especially legionella.
- Complete water treatment programs for reducing water consumption.
- Cleaning program: deoxidation, passivation, descaling, disinfection.
- Innovative disinfection treatments.

Industrial process

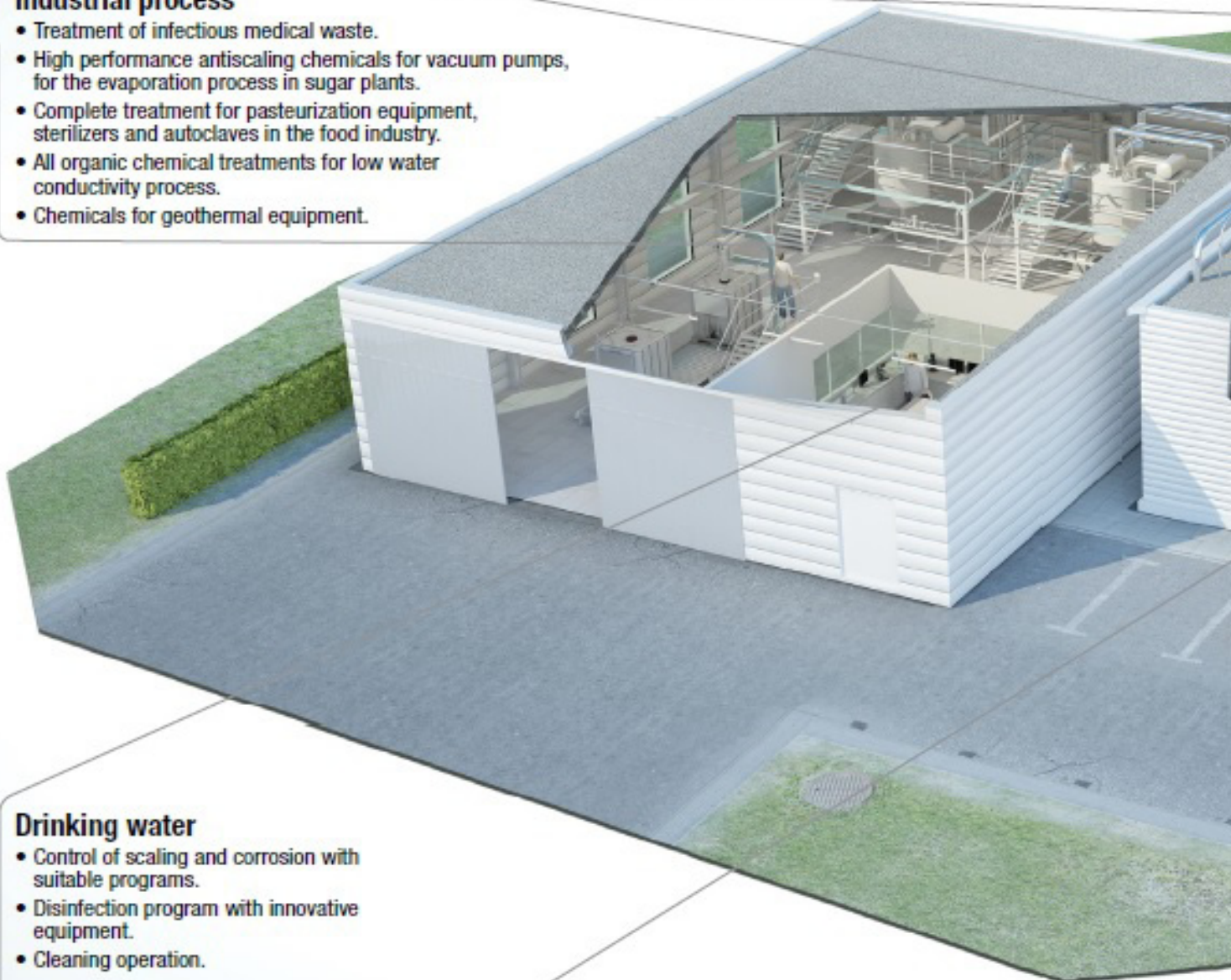
- Treatment of infectious medical waste.
- High performance antiscaling chemicals for vacuum pumps, for the evaporation process in sugar plants.
- Complete treatment for pasteurization equipment, sterilizers and autoclaves in the food industry.
- All organic chemical treatments for low water conductivity process.
- Chemicals for geothermal equipment.

Drinking water

- Control of scaling and corrosion with suitable programs.
- Disinfection program with innovative equipment.
- Cleaning operation.

Chilled closed loops and heating systems

- Innovative treatment for circuits containing aluminium.
- Dispersing and anticorrosion chemicals for all kinds of metals.
- Green chemicals.
- Desludging, degreasing and deoxidising chemicals.



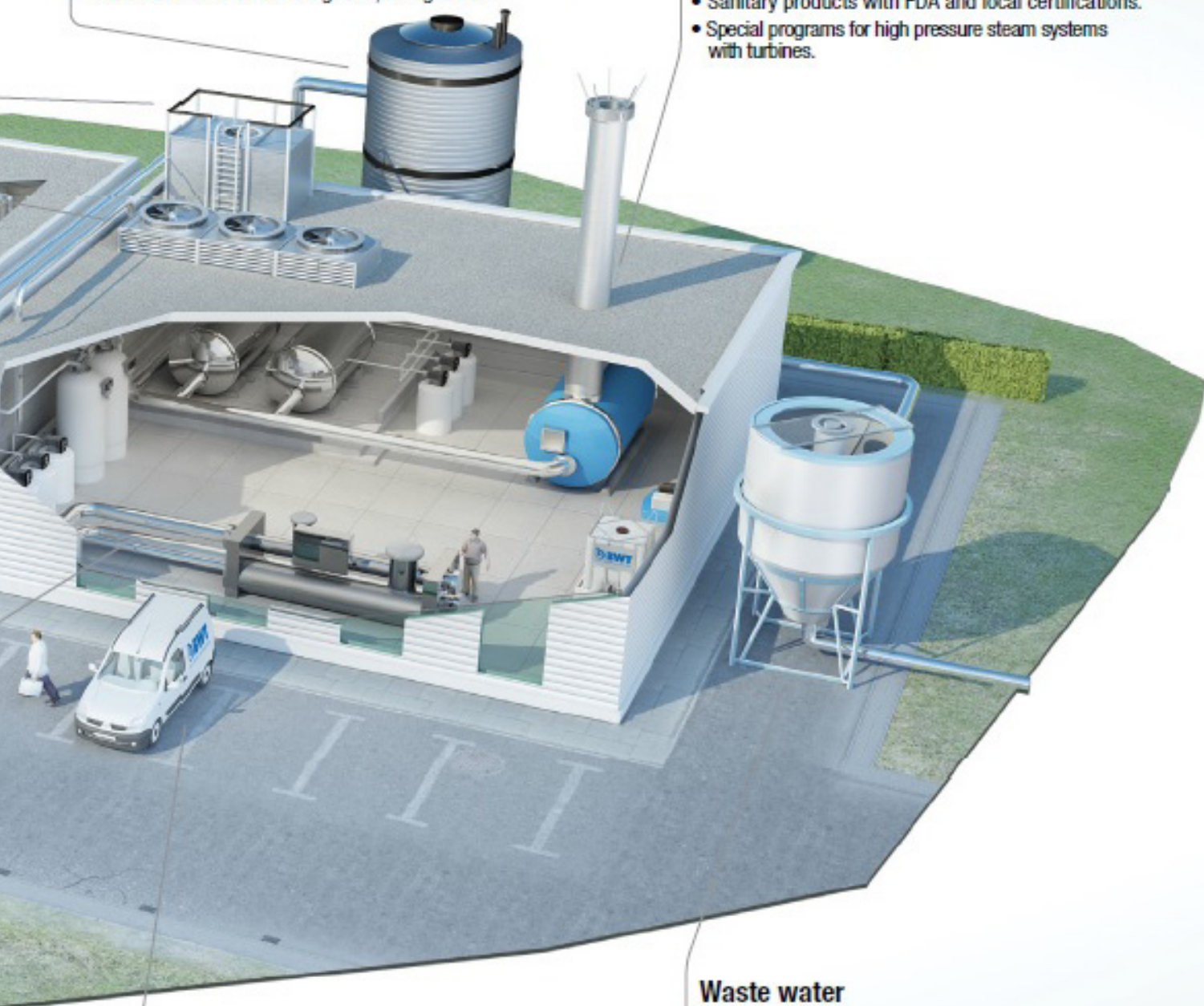
TECHNICAL EXPERTISE

Raw Water

- Control of corrosion and scaling.
- Disinfection treatment with on-site generator (chlorine dioxide, electrolysis, Ozone, UV...).
- Flocculation and coagulation for removing suspending matters.
- Metallic salts removers e.g. iron, manganese....

Steam production - Low, Medium and High pressure

- Organic or mineral oxygen scavengers.
- Dispersing, alkalizing and phosphating treatments.
- Condensates treatment.
- Sanitary products with FDA and local certifications.
- Special programs for high pressure steam systems with turbines.



Analytical Equipments and Reagents

- On-site analysers.
- Mobile and portable analytical equipment.
- Analytical reagent for most of the physical and chemical parameters measured in water treatment.
- Consulting and training.

Waste water

- Flocculants, coagulants, antifoaming agents and nutrients.
- Capture of suspended matter and colloids.
- COD reduction.
- Reduction of nitrogen and phosphorous pollutions and other industrial sub-product pollutions.
- Sludge dewatering chemicals.
- Detox treatment (heavy metals, fluoride removal...).
- Innovative chemicals with a very low environmental impact.

SERVICE



THE BWT PERMO OFFER

Associated equipment

- Supply of water treatment management systems making remote surveillance possible.
- Dosing systems, totalling meters, storage and retention tanks.
- Appliances for photometric, amperometric or Redox regulation.
- Equipment and analysis reagents.
- Optimised packaging management: small Bag-in-Box packaging, on site tank system and PERMO SYSE storage for volumes greater than 250 L.

Central technical support

- Specific Quality - Safety - Environment department: product certification, Reach compliance, Biocide Directive, CLP*, regulations watch.
- Availability of specific products.
- Definition of treatment strategies compliant with applicable regulations and standards, best practise guides and operational feedback.
- Reject laboratory support: audit and laboratory and industrial tests.
- Central laboratory support for advanced physical-chemical analyses:
 - Plasma torch
 - Deposit analysis
 - Resin analysis
 - Endoscopy video
 - Continuous low range analyses

Field support

- Bespoke management of customer files by regional branches (invoicing, orders, deliveries, interface with administration, quotes, schedules, intervention requests, etc.)
- Field laboratory support:
 - Multi-parameter spectro-photometers
 - Refractometer
 - Corratat system
- On site water quality controls: low-range analysers, endoscopy video, on line recorders.
- Corrosion speed monitoring using coupons and/or the Corratat system.
- Training in product techniques, analysis, driving water treatment equipment, chemistry, etc. under French licence number 11930400293
- Yearly technical-financial assessments and progress plans.
- Analytical monitoring inspection - Diagnosis - Recommendation - Advice.
- Commissioning - Repair - Spare parts - Maintenance contracts.
- Drawing up of intervention procedures, prevention plans, user manuals and log books.

* CLP: Classification, labelling and Packaging of substances and mixtures

DOSING SYSTEM

Applications

- Injection of chemicals (= "conditioning") depending on the measured volume of water.
- Manual mode on small heating and iced water installations using an injection pot.
- By dosing group (= pump on a tank) on larger sized networks.

Operation

- Electrical consumption: 50 W max.
- Voltage: 230 V - 50/60 Hz
- Protection type: IP 65

Standard equipment

- Dosing pump
- Suction / discharge
- Injection pipe
- graduated storage tank with drainage cap and low level controller
- *Available within 2 weeks on receipt of the order*



Model		MEDO XB3	MEDO 6 XG	METRIC 60	DDA 7,5C	DDA 7,5S
Dosing group		125 L Tank	125 L Tank	200 L Tank	120 L Tank	120 L Tank
Discharge counter-pressure	bars	10	7	10	16	16
Injection cadence	shots/min	180	180	120	190	190
Volume per shot	ml	0.41	0.66	3.8	-	-
Max. dosage (counter-p)	l/h	5(5.0)	8.4(3.5)		7.5	7.5
4-20 mA Input		No	No	Yes	Yes	Yes
Consignment weight	Kg	14	14	16	16	16
Product code		PK002 7103	PK002 7115	PK002 804	PK002 7108C	PK002 7108S

Model		SAS 15	SAS 40
Manual dosage			
Pot volume	l	15	40
Consignment weight	Kg	20	30
Product code		P0002010	P0002020

Accessories	Item code
60 L reagent tank	P0028041
125 L reagent tank	P0028042
Retention tank for jerricans	R0028061
60 and 125 L retention tank	R0028011
BIB suction	P0028148
2 barrel retention pallet	P0973265
4 barrel retention pallet	P0973264
IBS XXL station 1050 L retention	P0973266
IBC XL 1050 L retention	P0973267
Hot water injection pipe	P0028032

BAG-IN-BOX



BiB, the BAG In BOX

NEW
BWT PERMO INNOVATION

WATER CONDITIONING: A REVOLUTIONARY APPROACH

Unique and totally innovating on the European water treatment market, **BWT PERMO** now offers its customers the ideal solution to solve their environmental issues using a brand new concept:

BIB, THE BAG IN BOX.

INNOVATING:

BWT PERMO is currently the 1st European water treatment industrial to offer a **Bag in Box solution for water conditioning formulated products**. The chemical reagents packaged in **BiB** are used to treat all types of water systems (heating or cooling circuits, ...).

With **75% less plastic** than a traditional jerrican, this Bag In Box innovation is a natural part of **the BWT PERMO Eco strategy**. This new, low carbon footprint packaging is composed of a flexible and strong, low density polyethylene inside bag, 3 to 4 times thicker than what is found in a classic Bag-in-Box. An outer, reinforced and recyclable printed cardboard casing makes handling easy and makes it possible to display complete information.

UN certified for group II chemicals, **BiB** is suitable for almost all BWT PERMO's line of formulated products. With colours adapted to the different product lines. **BiB** can be used with or without a degassing cap depending on the product being transported. This entire new Bag-in-Box line is packaged by 20kg for ease of use.

This new packing is the result of 2 years of research and development by the French industrial.

ECOLOGICAL:

Instead of the especially cumbersome and difficult to recycle traditional jerricans, Bag-in-Box packaging can be flattened when empty, thus reducing the carbon footprint relative to transport and destruction by 60%.

Some current numbers:

- 50,000 plastic jerricans per year
- Over 45 metric tons of plastic
- 143 metric tons of CO₂ emitted during their service life
- Increased pressure on companies to collect used packaging

In the future using PERMO BWT Bag in Boxes:

- 90 metric tons of CO₂ saved (i.e. 60% reduction in emissions)
- 35 metric tons less plastic (i.e. 75% less)
- There is a possibility of the recovery of empty packaging being taken charge of by the company

BAG-IN-BOX

THE BWT PERMO "PLUS": THE EASY SOLUTION FOR PACKAGING RECYCLING.

With **BiB** the Bag In Box, BWT PERMO has developed a global packaging management service which includes the recovery of empty bags, the recycling of the packaging, and the issue of traceability documents on behalf of its customers.

In practise:

1. From the very first Bag in Box product delivery, BWT PERMO provides each partner with an **ingenious empty bag recovery container**, it takes up little space, is very practical, easy to handle, and of course recyclable as well.
2. As soon as the recovery container is full, the packaging is ready to be sent away for recycling accompanied by its pre-filled **Industrial Waste Management Form**. (The Industrial Waste Management Form is a mandatory administrative document (in France) which guarantees the traceability of dangerous waste and is proof of their elimination for their producer).
3. On request, BWT PERMO delivers a new recovery container
4. BWT PERMO directly manages the recycling of its partners' bags and boxes.

BiB, a complete turnkey service.

THE MAIN ADVANTAGES OF BIB FOR THE USER:

- BiB is compatible with all the traditional plastic jerrican accessories: taps, caps, nipples, degassing caps. Over 45 metric tons of plastic
- The bag empties without letting in any air.
- There is a built-in level gauge
- The label is easy to read and the instructions are in several languages
- Its resistance to frost is higher than standard packaging.
- It has exceptional chemical resistance
- When full, pallet storage and transport are optimised (packaging can be stacked on three levels compared to 2 for classic jerricans)
- Significant reduction in transport costs when the bag is empty.
- Recycling costs reduced by 75% (less volume and weight to recycle).
- Packaging UN certified

5 colours corresponding to the main BiB applications:

- Red for cleaning formulations
- Green for formulations for the protection of cooling systems
- Yellow for disinfectants
- Blue for anti-freeze and formulations to protect closed and multi-metal circuits.
- Orange for formulations to protect heating and steam production circuits

TODAY, BWT PERMO'S BAG IN BOX IS,
UNIQUE ON THE EUROPEAN INDUSTRIAL WATER
TREATMENT MARKET.





CLOSED SYSTEMS

BWT PERMO conditioning programs by adding formulated products aim to limit, or even completely eliminate, scale deposit, sludge and corrosion phenomena by:

- Preparing the surfaces (washing and passivation)
- The introduction of specific corrosion inhibitors for all types of metal
- The use of organic polymers to keep surfaces clean.

BWT Name	BWT Code	Packaging	Delivery in days
BWT SH-1004	P0007363BIB	Bag-in-Box 20 kg	31**
	P0007363BWT	Jerrican 20 kg	14
	P0007364BWT	200 kg	31**
	P0007365BWT	1000 kg	31**
BWT SH-1005	P0008320BIB	Bag-in-Box 20 kg	31**
	P0008320BWT	Jerrican 20 kg	14
	P0008321BWT	200 kg	14
	P0008322BWT	1000 kg	31**
BWT SH-1006	P0007263BIB	Bag-in-Box 20 kg	31**
	P0007263	Jerrican 25 kg	31**
	P0007264	250 kg	31**
	P0007265	1200 kg	31**
BWT SH-1007	P0007266BIB	Bag-in-Box 20 kg	31**
	P0007266	Jerrican 20 kg	31**
	P0007267	200 kg	31**
	P0007268	1000 kg	31**
BWT SH-1008	P0007269BIB	Bag-in-Box 20 kg	31**
	P0007269	Jerrican 20 kg	31**
	P0007270	200 kg	31**
	P0007271	1000 kg	31**
BWT SH-7010	P0008364BIB	Bag-in-Box 20 kg	31**
	P0008364BWT	Jerrican 25 kg	14
	P0008365BWT	250 kg	14
	P0008366BWT	1200 kg	31**
BWT CC-1004	P0007370BIB	Bag-in-Box 20 kg	31**
	P0007370BWT	Jerrican 20 kg	14
	P0007371BWT	200 kg	31**
	P0007372BWT	1000 kg	14
BWT CC-1005	P0008381	Jerrican 20 kg	14
	P0008382	200 kg	31**
	P0008383	1000 kg	31**
BWT PROTEC ALU 1	P0007935BIB	Bag-in-Box 20 kg	31**
	P0007935	Jerrican 20 kg	14
	P0007936	200 kg	31**
	P0007937	1000 kg	31**
BWT PROTEC ALU 2	P0007938BIB	Bag-in-Box 20 kg	31**
	P0007938	Jerrican 20 kg	14
	P0007939	200 kg	31**
	P0007940	1000 kg	31**

** By order, no stock

BWT Name	Previous BWT Code	New BWT Code	Packaging	Delivery in days
BWT CC-1001	P0008426BWT	P0008426BWT	Jerrican 10 kg	14
	P0008427BIB	P0008427BIB	Bag-in-Box 20 kg	31**
	P0008427BWT	P0008427BWT	Jerrican 25 kg	14
	P0008428BWT	P0008428BWT	250 kg	14
	P0008430BWT	P0008430BWT	1200 kg	31**
BWT CC-1002		B0007297BIB	Bag-in-Box 20 kg	31**
	P0008420BWT	B0007297	Jerrican 20 kg	14
	P0008421BWT	B0007298	200 kg	31**
	P0008422BWT	B0007299	1000 kg	31**
		P0007395BIB	Bag-in-Box 20 kg	31**
BWT CC-1003	P0007395BWT	P0007395BWT	Jerrican 20 kg	14
	P0007396BWT	P0007396BWT	200 kg	14
	P0007397BWT	P0007397BWT	1000 kg	31**
PERMO SANTAURE 1		P0008562BWT	Jerrican 10 kg	31**
		P0008563BIB	Bag-in-Box 20 kg	31**
	P0008563B	P0008563B	Jerrican 20 kg	14
	P0008564B	P0008564B	200 kg	14
		P0008565B	1000 kg	31**

** By order, no stock



GLYCOLS

BWT PERMO glycols guarantee:

- Effective protection from scaling and corrosion
- Easy to use and to control thanks to its colouring
- Very stable at high temperatures
- Very stable over time
- Free of Amine and nitrite

BWT Name	BWT Code	Packaging	Delivery in days
BWT GLYCOL N+	P0009645BIB	Bag-in-Box 20 kg	31**
	P0009645A	20 l	14
	P0009646A	210 l	14
	P0009647A	1000 l	14
BWT GLYCOL N30+		bulk	
	P0009691BIB	Bag-in-Box 20 kg	31**
	P0009691A	20 l	14
	P0009692A	210 l	31**
	P0009693A	1000 l	14
BWT GLYCOL SANIT+		bulk	
	P0009603A	Jerrican 5 l	31**
	P0009605BIB	Bag-in-Box 20 kg	31**
	P0009605A	20 l	14
	P0009606A	210 l	14
	P0009607A	1000 l	14
BWT GLYCOL SANIT 30+		bulk	
	P0009720BIB	Bag-in-Box 20 kg	31**
	P0009720A	20 l	14
	P0009721A	210 l	31**
	P0009722A	1000 l	31**
	bulk		

** By order, no stock



COLD AND HOT DRINKING WATER

The full conditioning of a drinking water depends on a high number of factors (quality of the fill water in, installation design, operating conditions, etc.) and uses combinations of a selection of various chemicals. Regulatory aspects must be taken into account (normes, standards, local regulation, etc.). BWT PERMO is there to help you get a clearer view



BWT Name	BWT Code	Packaging	Delivery in days
Aqasil	P0007091	Bag-in-Box 20 kg	14
	P0007093	1000 kg	14
Aqasil D	P0007094	Bag-in-Box 20 kg	14
	P0007375	Bag-in-Box 20 kg	14
PERMO FILM 105	P0009252	Jerrican 20 l	14
	P0009503	200 l	14
	P0009505	1000 l	14
PERMO SET DP4	P0007384	Bag-in-Box 20 kg	31**
	P0009272	Jerrican 20 l	14
PERMO DES-NET	P0009277	1000 l	31**
	P0007401	Jerrican 1 kg	14
PERMO SIL 101	P0007387	Bag-in-Box 20 kg	14
	P0009263	Jerrican 20 l	14
	P0009271	200 l	31**
BWT DW-3002	P0009287	1000 l	14
	P0008149BWT	Bottle 1 l	31**
	P0008143BIB	Bag-in-Box 20 kg	31**
	P0008143BWT	Jerrican 20 kg	14
	P0008144BWT	200 kg	31**
	P0008145BWT	1000 kg	31**

** By order, no stock

OTHER APPLICATIONS

Cleaning and disinfection

BWT PERMO proposes formulations adapted to all types of equipment for your de-sludging, de-oxidising, preventive and curative disinfection, and de-scaling operations. Our teams can carry out these operations for you.

Industrial processes

Process water covers many applications that require specific chemicals programmes:

- Disinfection of biohazard waste containers
- Vacuum pump and evaporation box circuits
- Pasteurisers, sterilisers and autoclaves
- Very low conductivity process circuits
- Geothermal wells, etc.

BWT PERMO proposes formulations specifically designed for these issues accompanied by the expertise of its Quality - Safety - Environment department, to meet all regulatory requirements.

Cooling systems

Due to their design and operating conditions, in the absence of certain preventive actions, cooling towers gather a certain number of conditions that are favourable to the proliferation of legionella and its release into the atmosphere. The treatment programme developed by BWT THERMO makes it possible to fight against scaling, corrosion, and bacterial development phenomena which directly or indirectly enhance the proliferation of legionella. Consult our specialists to define the best treatment strategy.

Steam boilers

Water, even when pre-treated by osmosis, is unfit to supply the boilers.

There is a risk of three pathologies:

Carry-over, incrustation/scaling, and corrosion.

The protection of the boilers and circuits therefore imposes:

- The reduction in the quantity of dissolved oxygen,
- The formation of a non soluble protective film,
- The dispersion of deposits

The BWT PERMO specialists are at your disposal to audit your installations and propose the best water pre-treatment and conditioning solutions.

GENERAL SALES TERMS AND CONDITIONS

1. General

1.1 - The present general business terms and conditions apply to all ongoing contractual and pre-contractual relations between BWT France and its customers over and above the special terms and conditions that might have been concluded between the two.

1.2 - Any derogation to the present general terms and conditions must be explicitly accepted by ourselves in writing.

1.3 - Documents, catalogues, advertising material and prices not explicitly mentioned in the special terms and conditions are provided as a guide only and cannot bind us.

2. Contract formation

2.1 - Placing an order

The formation of a contract depends wholly on the explicit, written acceptance of the order by BWT France. Acceptance of our offers or estimates by the customer implies their agreement with the present terms and conditions.

Any order of a total of less than 150 € excluding VAT will be increased by management administrative costs of the sum of 17 €.

Except where otherwise stipulated, offers and estimates remain valid for a period of one month from the date of their mailing

2.2 - Modifications to contract

The order includes precisely and only the equipment specified in the estimate.

For additional supplies, prices and new deadlines are specifically negotiated between BWT France and the Customer. In no case whatsoever can the terms and conditions for additional supplies be prejudicial to those of the main order.

Any modification of orders or contracts requested by customers is subject to our explicit and prior acceptance and must be the subject of an amendment.

2.3 - Cancellation

The order expresses the Customer's irrevocable consent they can-not therefore cancel it except in the case of our prior and explicit agreement. In that case, the Customer shall indemnify us for all costs incurred and for any direct or indirect consequences resulting therefrom. In all cases, the lump sums and payments already paid to us shall be deemed our entitlement.

3. Characteristics and status of ordered products

Products delivered comply with the technical regulations applicable to them and to those technical standards for which we have explicitly declared the compliance of the product.

We reserve the right at any time to make any modifications with respect to layout, shape, dimensions or material to our devices, machines and machine elements described in our catalogues or brochures.

Safety data sheets for chemical products are available on Internet site: www.msds-sys.net. You can consult them on line or have them forwarded to you by fax or email. The NAME is your supplier's, the search uses the product code or a part of its designation.

The customer is responsible for operating the product under the operating conditions set out in the specification sheet and in compliance with current safety and environment laws applicable at the site of operations and with acknowledged rules of technology in their activity. It is incumbent on the Customer to draw up a specification sheet appropriate to their technical requirements and if necessary to make sure of the appropriateness of the product for the planned application.

4. Intellectual ownership and know-how of products and documents

All intellectual property rights in delivered products and in performed works, along with know-how incorporated in the forwarded documents, remain our exclusive property.

5. Delivery, carriage, verification of products

5.1 - Delivery terms and conditions

Except where otherwise stated, supplies are considered to be delivered on an ex-works or ex-warehouse basis. The delivery is made, either by direct forwarding to the customer, by notice of availability for collection, by delivery in our plants or warehouses to a forwarding agent or carrier designated by the customer or failing that designation, one selected by BWT France.

Where the Customer has ordered the carriage and accepts the cost thereof, the Customer shall bear the cost of all pecuniary consequences of any direct action taken against us by the carrier.

In the event of the Customer not taking delivery, without recourse to an injunction, the latter shall bear the cost of, and accept the risks for, the storage of the supplies. In spite of that the scheduled payment dates cannot be postponed.

5.2 - Delivery deadlines

The agreed delivery deadline is an important item to be specified in the contract as well as its characteristics (availability date, acceptance submission deadline, delivery deadline, legal acceptance deadline, etc.). The stipulated deadlines are however given as a guide only and can be questioned where circumstances out of our control occur such as are defined in article 6. Delays can under no circumstances whatsoever justify the cancellation of an order or contract.

Delivery deadlines run from the latest of the following dates: the date of the acknowledgement on receipt of the order, the date on which BWT France received information, down payment or supplies that the customer had undertaken to forward.

5.3 - Carriage - customs clearance - insurance

The Customer is responsible for and bears the cost of all carriage, insurance, handling and on-site delivery operations, and it is incumbent on them to check consignments on arrival and if necessary undertake proceedings against the carrier, even if the consignment was carriage paid.

Where responsibility for carriage is ours, shipping terms are carriage due at the lowest possible rate, except where otherwise requested by the Customer, in which case any additional costs shall be passed on to the Customer.

6. Case of force majeure

Neither of the parties of the present contract can be held responsible for their lateness or failure to perform any of the obligations under which they are bound with respect to the contract if that lateness or failure results from the direct or indirect effect of any case of force majeure in the sense wider than that understood by French case-law, such as:

- occurrence of a natural disaster
- earthquake, storm, fire, floods, etc.
- conflicts, war, terrorist attacks
- labour dispute, full or partial strike at the Supplier's or Customer's
- labour dispute, full or partial strike at suppliers, service providers, hauliers, postal or public services, etc.
- mandatory injunction by public authorities (import prohibition, embargo)
- work accidents, broken machines, explosions

7. Pricing

Our prices are those applicable when the order is confirmed. They are in Euros, excluding customs duties, packed and ex-our main warehouse, except where special provisions are stipulated in the contract. They are invoiced according to the terms and conditions of the contract.

Possible discounts are set out in the special terms and conditions of sale specific to the market segment in question such as were set out or likely to be at the request of the Customer.

Prices correspond exclusively to the products and services specified in the offer.

For export orders our prices are quoted ex-works Saint-Denis.

8. Payment

8.1 - Methods of payment

Payment terms and conditions are defined in the special terms and conditions. However, payments shall be made at the latest on the 60th day following issue of our invoice.

In the case of deferred payment, only the settlement of the payment at the agreed date constitutes payment, the mere handing over of a commercial paper or cheque does not do so. The payment by cheque of a down payment of 30 % may be required of the purchaser in the case of a major order.

In the case of off-invoice discount for anticipated payment, (limited to 0.5 % per month) the amount of deductible VAT must be reduced by the sum of the VAT pertaining to the discount.

In the case of payment by draft, the latter must be returned with acceptance within 7 days of its mailing.

8.2 - Late payment

Any late payment shall generate the following from the first day late:

- application of late payment interest equal to three times the legal interest rate,
- application of a fixed indemnity for debt recovery equal to 40 euros,
- when debt recovery costs exceed the amount of this indemnity, additional compensation on presentation of proof.

8.3 - Payment compensation

The Customer undertakes not to conduct any illegal ex-officio debiting or crediting, not to invoice us any amount that would not have been explicitly recognized by BWT France by way of liability.

Any ex officio debit will constitute an unsettled account and shall give rise to the application of provisions in article 8.2 dealing with late payments. However, the parties reserve the right to have recourse to legal or contractual compensation for debt.

8.4 - Reservation of title - Risk transfer

We retain full ownership of assets forming the subject of the contract up to the effective payment of the full price plus any additional costs. Default of payment at any one of the scheduled payment dates may lead to a claim for those assets. Nevertheless, as from the delivery date, the Customer assumes the risk for the loss of, or deterioration to, those assets along with the liability for damages they could result in.

In the event of exercising that claim, the advance payments that have already been paid will be retained definitively by BWT France by way of indemnity, without prejudice to the possibility of their obtaining full compensation for the harm caused to the company.

9. Warranty and Liability

9.1 - Warranty

We undertake to correct any functional fault derived from a fault in design, materials or performance (including assembly if that operation is assigned to us), within the limits of the provisions

below. Our obligation is not applicable in the case of a fault arising either from materials supplied by the Customer, or by a design imposed by the latter.

Our warranty is limited to the repair and replacement on site or on our premises of the product or element acknowledged as being defective. Eventual carriage costs are borne by the Customer.

That commitment, except where otherwise specifically stated, only applies to faults that become apparent during a period of one year (warranty period).

Faults and deterioration caused by incorrect assembly or handling, incorrect maintenance, abnormal use or unplanned modifications are excluded from this warranty.

Replacement parts or repairs caused by the normal wear of the equipment, by deterioration or accidents caused by negligence, supervision or routine maintenance faults and incorrect use of the equipment are also excluded from warranty cover.

In order to be able to benefit from those provisions, the Customer must immediately advise us in writing of the defects they attribute to the equipment and must provide all necessary documentary support to prove those claims. They must allow us all facilities to proceed with the verification of those defects and to correct them furthermore they must refrain, except with our explicit consent, from carrying out the repair themselves or having it carried out by a third person.

The warranty period runs from the date of delivery as defined in Article 5.2 above.

9.2 - Limits to Supplier liability

Our liability shall be limited to material damage directly suffered by the Customer resulting from faults attributable to us in the performance of the contract.

Under no circumstances whatsoever shall we be bound to compensate for immaterial or indirect damage such as: operating losses, profit losses, opportunity losses, commercial harm, loss of earnings.

10. Insurance

Since risk by explicit agreement is transferred to the Customer at delivery within as defined in article 8.4, they undertake, from that time, to take out an insurance policy covering the equipment. We may at any time, request certificates for those guarantees of the Customer.

11. Dispute

The parties undertake to attempt to settle their differences out of court before referring to the competent court.

Failing out of court settlement it is explicitly agreed that any disputes relative to the contract fall within the exclusive jurisdiction of the Bobigny courts, even in the event of an appeal or multiple defendants.

**BWT PERMO
NORTH - PICARDIE BRANCH
(59-62-80)**

Z.I. - 15 A, rue du Plouvier
59175 Templemars
Tel.: 03 20 16 03 80
Fax: 03 20 16 03 89
bwtpermo.lille@bwt.fr

**BWT PERMO
NORMANDY BRANCH
(14-27-28-50-61-76)**

Z.A Écoparc 2 - allée de la
Fosse Moret
27400 Heudebouville
Tel.: 02 32 63 32 32
Fax: 02 32 63 32 30
bwtpermo.rouen@bwt.fr

**BWT PERMO
CHAMPAGNE - ARDENNES BRANCH
(02-08-10-51-60)**

3, rue Saint-Rémi
Lieu-dit Les Vianneries
51370 Les Mesneux
Tel.: 03 26 84 00 52
Fax: 03 26 84 05 04
bwtpermo.reims@bwt.fr

**BWT PERMO
EASTERN REGIONAL BRANCH
(21-25-39-52-54-55-57-67-68-70-88-90)**

Technopôle Nancy - Brabois
2, allée d'Auteuil
54500 Vandoeuvre lès Nancy
Tel.: 03 83 67 61 89
Fax: 03 83 44 65 81
bwtpermo.nancy@bwt.fr

**BWT PERMO
ILE DE FRANCE BRANCH
(75-77-78-89-91-92-93-94-95)**

191, rue du 1er mai - Hall n° 3
92000 Nanterre
Tel.: 01 46 49 01 01
Fax: 01 46 49 50 69
bwtpermo.idf@bwt.fr

**BWT PERMO
BRITANNY - PAYS DE LOIRE BRANCH
(22-29-35-44-49-53-56-85)**

Z.A. des 3 prés - 16, rue de la Plaine
35890 Laillé
Tel.: 02 23 61 48 50
Fax: 02 23 61 48 51
bwtpermo.rennes@bwt.fr

**BWT PERMO
CENTRE - WEST BRANCH
(18-23-36-37-41-45-72-79-86)**

10, rue des frères Lumière
37170 Chambray-Lès-Tours
Tel.: 02 47 74 74 48
Fax: 02 47 74 74 49
bwtpermo.tours@bwt.fr

**BWT PERMO
DAUPHINÉ - PAYS DE SAVOIE BRANCH
(05-26-38-73-74)**

3c, rue Irène Joliot Curie
38320 Eybens-Les-Ruies
Tel.: 04 76 14 77 20
Fax: 04 76 14 77 29
bwtpermo.grenoble@bwt.fr

**BWT PERMO
RHÔNE- ALPES BRANCH
(01-03-07-42-43-58-63-69-71)**

Les Jardins d'Entreprise
213, rue de Gerland - bt F1
69344 Lyon cedex 07
Tel.: 04 78 72 99 17
Fax: 04 78 72 88 07
bwtpermo.lyon@bwt.fr

**BWT PERMO
SOUTH - WEST BRANCH
(09-15-16-17-19-24-31-32-33
40-46-47-64-65-81-82-87)**

Z.A Toussaint Catros - 6 rue Ariane
33185 Le Haillan
Tel.: 05 56 13 02 18
Fax: 05 56 55 94 92
bwtpermo.bordeaux@bwt.fr

BWT PERMO
TOULOUSE SECTOR AGENT
SOUTH-WEST Branch
Tel.: 05 56 13 02 18
Fax: 05 56 55 94 92
bwtpermo.bordeaux@bwt.fr

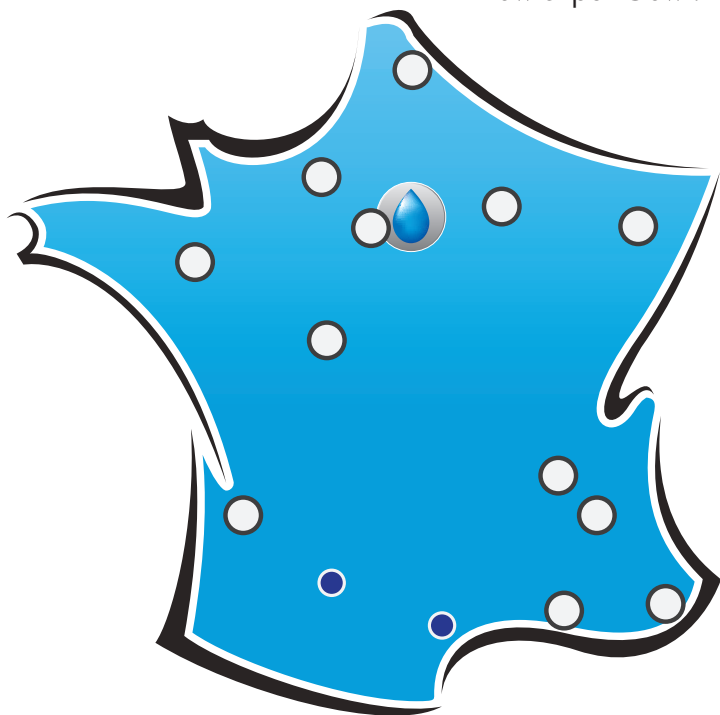
BWT PERMO
SOUTHERN REGIONAL BRANCH
(04-11-12-13-30-34-48-66-83 West-84)
112, Traverse de la Serviane
13012 Marseilles
Tel.: 04 91 44 87 86
Fax: 04 91 45 25 62
bwtpermo.marseille@bwt.fr

BWT PERMO
MONTPELLIER SECTOR AGENT
SOUTHERN REGIONAL BRANCH
Tel.: 04 91 44 87 86
Fax: 04 91 45 25 62
bwtpermo.marseille@bwt.fr

BWT PERMO
SOUTH-EAST BRANCH
(06-20-83 East)
138, chemin de l'hôpital
06580 Pegomas
Tel.: 04 93 40 59 00
Fax: 04 93 40 59 09
bwtpermo.cannes@bwt.fr

BWT PERMO
INDIAN OCEAN BRANCH
ZAC du Portail
9, rue de l'usine
97424 PITON SAINT LEU
Tel.: +262 262 32 52 77
Fax: +262 262 22 77 46

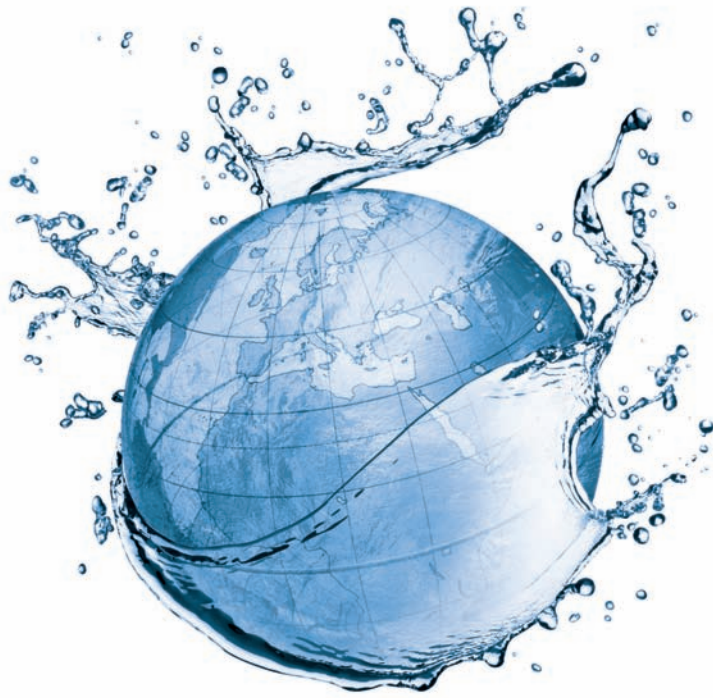
BWT PERMO
EXPORT DEPARTMENT
103, rue Charles Michels
93206 Saint-Denis Cedex
Tel.: +33 1 49 22 46 51 / 48
Fax: +33 1 49 22 45 30
bwtexport@bwt.fr



See BWT PERMO at www.pwtpermo.fr
or by calling the indigo number

N° Indigo 0 825 00 07 26

0,15 euros/min incl. VAT



For You and Planet Blue

BWT PERMO

www.bwtpermo.fr

▶ N° Indigo 0 825 00 07 26
0,15 euros/min incl. VAT

For You and Planet Blue.

BWT
BEST WATER TECHNOLOGY