BWT Sales Catalogue
2012

BWT
BEST WATER TECHNOLOGY

For You and Planet Blue.

Anyone can soften water

Profitable BWT - pearlescent water business is only available from us:

BWT - Soft water units

The new generation for BWT - pearlescent water

AQA perla NEW

The success story continues. Duplex soft water unit with alternating function for soft water around the clock.

- Touch screen
- Smart metering
- Precision mineralisation
- Low energy consumption
- With the latest technology
- A branded product with first class service
- Simple commissioning

BEWAMAT 75 A / BEWAMAT 25 A

Soft water - for more hygiene, enjoyment and value retention.

- Lower energy and heating costs
- Less shower gel and skin care products
- Perfect limescale protection in the bathroom and pipework system
- Ultra-efficient technology

AQA solar Modul

The best soft water module specifically developed for use with solar heat systems!

- 2 different water hardness qualities
- High margin product for a fair price/perform-ance ratio
- Free choice of regeneration time

Important notice

We deliver in accordance with our current General Terms of Delivery and Payment.

Technical specifications and illustrations may be subject to changes without further notification.

Additional relevant technical specifications regarding our products in the pricelist should be obtained from the product data sheets and safety data sheets.

Customer Service Center

From ordering to technical advice all the way to customer service, our corresponding key account managers are happy to help.

Export e-mail address:
export@bwt.de

Partnership leads to success!

Dear customer and business friend!

Firstly, I would like to say "thank you" for the extraordinarily successful cooperation throughout 2011. With a combination of vibrant partnership and innovative products, together we have managed to expand the boundaries of the business of water treatment.

You can rest assured that we will continue on the path of success. In 2012, alongside a massive end consumer campaign, we will be introducing a new generation of filter:

BWT E1 Filter –
Hygienic, functional durable and cost-effective

In addition, we will be introducing the 2nd generation of AQA perla, with multi-info touch screen, simple assembly and screensaver for the contact details of the installer onto the market.

Join us in 2012 for a successful business year.

All of the employees of our BWT business group are looking forward to tackling the challenges ahead of us together with our partners in wholesale and the trade.

Yours
Lutz Hübner

Managing Director
BWT Wassertechnik GmbH, Schriesheim

For You and Planet Blue.

BWT
BEST WATER TECHNOLOGY

Modern products ▪ Strong management ▪ Exclusive seminars ▪ Intensive support

Our Guarantee of Quality

We generate innovation from our more than 100-strong team in the research and development department.

Our recipe for success is our constant determination to improve. This is the only way for us to reach the high level of quality our products have. BWT Wassertechnik GmbH is certified in accordance with the strict rules of ISO 9001:2008 and ISO 14001:2004, in connection with DVGW certification, our products set standards for high quality products.

Innovation and continuous further development of our products will be the guarantee for reliability and sustainability.

Reliability for our customers

The Best Water Technology Group is Europe's leading water technology company. With more than 2800 employees in 70 subsidiaries, we create long term reliability for our customers.

BWT employees

Through their technical competence and continuous work, our employees ensure our collective success. Fascination for the subject "Water" inspires us to work to the highest standard for you all the way from consultation to customer service.

Our employees respect each other's value and deal openly and honestly with one another.

Notes

BWT Filter technology

[Basic protection for the drinking water system]

For You and Planet Blue.

BWT
BEST WATER TECHNOLOGY

Selection table

Filter type
solution
(existing installation)
or prevention
(new installation)





Type of device	**BWT-E1** Single lever filter	**Infinity A/AP** Fully automatic backwash filter	**Infinity M** Manual backwash filter	**BWT-F 1 RF/HWS** Manual backwash filter	**Protector Filter** Manual backwash filter
Dimensions	3/4" – 1"	3/4" – 2"	3/4" – 2"	3/4" – 1 1/4"	3/4" – 1"
Connection method	integrated	HydroModul/ 4-hole connection	HydroModul/ 4-hole connection	HydroModul	Inline
Filter mesh	> 90 µm	> 90 µm	> 50 µm	> 90 µm	> 90 µm
Requirements					
Protection against damage of installations and household appliances by dirt particles	●	●	●	●	●
Protection against local corrosion by dirt particles	●	●	●	●	●
Configuration					
Vertical mounting possible	–	●	●	●	●
HydroModul technology	–	●	●	●	–
Nominal pressure PN (bar) (PSI)	16 232	16 232	16 232	16 232	16 232
With pressure reducer	– / ● optional	● / – optional	●	– / ●	●
Time or differential pressure controlled	–	●	–	–	–
Page number in the price list	13	15	14	16	17






Bolero RF/HWS Manual backwash filter	**Avanti RF** Cartridge filter	**Multipur M** Manual backwash filter	**RFM** Manual backwash filter	**Multipur AP** Fully automatic backwash filter	**RFA Automatic** Fully automatic backwash filter
3/4" – 2"	3/4" – 2"	DN 65 and 80	DN 100 and 125	DN 65 and 80	DN 100 and 125
HydroModul/ 4-hole connection	Inline	Flange	Flange	Flange	Flange
90 µm	90 µm	50/100µm	50/100µm	50/100/200µm	50/100/200µm
●	●	●	●	●	●
●	●	●	●	●	●
●	–	–	–	–	–
●	–	–	–	–	–
16 232	**10 145**	**10 145**	**10 145**	**10 145**	**10 145**
– / ●	–	–	–	–	●
–	–	–	–	●	●
16	**17**	**19**	**19**	**18**	**18**

BWT presents a new generation of filter with the single-lever filter

New: Functional and modern design: The BWT E1 filter

Simple shutting-off of the water and easy filter exchange. Safer, more hygienic and comfortable as ever before.

Protective filters exist in the form of "easy-change filters" and "backwash filters" – both variants are state-of-the-art; they keep particles such as rust fragments and grains of sand out of domestic installations. No question about it: They are really a "must have" for every house.

Don't let the E1 single-lever filter pass you by. The market has been waiting on an innovation like this in the field of drinking water filtration. We will explain the ingenious handling of the filter below. The filter element can really be exchanged in a matter of seconds.

1 **Disable**
the safety lock, thus automatically shutting off the water.

2 **Pull up**
the single lever, thus automatically releasing the filter cup.

3 **Insert**
the new filter element, close the lever
and that's it

With this unique single-lever filter BWT sets new standards for:

Functionality	simple and quick
Sustainability	no sewage or waste
Cost-effectiveness	one-off and long-lived

Ingenious functionality, reliability, hygiene and health

1a. Disable the safety lock

1b. Switch off water

2. Pull up the lever

No water jets, no draining of the water pipe.

Using this new development, we are able to join forces to take responsibility for fulfilling the hygienic requirements (which have recently risen) of our most important foodstuff. Use this opportunity to stand-out from the rest as a competent drinking water specialist when dealing with the end customer. The second opportunity that you have is the follow-up business with filter cartridges and an almost perfect bond with your customers. Every end customer has the following option: After commissioning, he can register with his HVAC company through the installer or directly with BWT and then he would be automatically reminded, free of charge of course, at the required interval that the filter element has to be exchanged: by email as well as by SMS or post.

Conclusion: Join in!

Once again, BWT is breaking new ground in the field of innovative drinking water filtration. In regards to functionality, the new BWT E1 filter is unsurpassable and represents a new generation of filter – the single lever filter. The potential is enormous; the introductory marketing pack is sensational. Use your opportunity! Stand at the forefront with the new BWT1 movement.

3. Insert filter element

The BWT E1 is coming

Extremely quick and with optimal hygiene

BWT E1-filter from the end of 2012

For You and Planet Blue.

BWT
BEST WATER TECHNOLOGY

BWT – E1 single-lever filter - for exchangeable filter element

New: Functional and in modern design: The BWT-E1 filter

Protective filters exist in the form of “easy-change filters” and “backwash filters” – both variants are state-of-the-art; they keep particles such as rust fragments and grains of sand out of domestic installations. Replacement is really simple: Disable the safety lock, pull up the single lever, insert the cleaned filter element, close the lever, finished.

Single-lever filter BWT-E1 [NEW]

Filter complete with brass head and high-tech materials, individually packed, including connecting technology.
Technical specifications: Nominal pressure PN 16, operating pressure, min.-max. 2.5 -16 bar (36-232 psi), water-/ ambient temperature, max. 30/40 °C (86/104 °F)

Type E1 filter without pressure reducer		**3/4″**	**1″**
Nominal connection width	DN	20	25
Flow rate at Δ 0.2 bar	m³/h	3.5	4.0
Order no.		**10382**	**10383**

Type E1 filter element six pack	
Order no.	**10386**

Single-lever filter BWT-E1 HWS [NEW]

Filter complete with brass head and high-tech materials, individually packed, including connecting technology.
Technical specifications: Nominal pressure PN 16, operating pressure, min.-max. 2.5 -16 bar (36-232 psi), water-/ ambient temperature, max. 30/40 °C (86/104 °F)

Type E1 filter with pressure reducer		**3/4″**	**1″**
Nominal connection width	DN	20	25
Flow rate at Δ 0.2 bar	m³/h	3.5	4.0
Order no.		**10384**	**10385**

Type E1 filter element six pack	
Order no.	**10386**

E1 filter HWS

- **Single-lever filter**
- **Exchanging the filter element easy than ever before**
- **Very easy shutting off of the pipes**
- **Exchange reminder via blinking LED**
- **Available with or without pressure reducer**

3/4″ - 1 1/4″

1 1/2″ - 2″

Infinity M

Infinity M HWS

- **3/4 - 1 1/4" rapid connection technology**
- **High-tech materials**
- **Low operating and investment costs**

BWT Infinity
A generation of water filters...that will last for generations

- **Made of materials used in high-tech industries, capable of withstanding extreme stresses.**
- **Safe protection from particles in domestic water piping that can prevent expensive long-term damage such as pipe burst caused by pitting.**

BWT has been active in the development and production of protective filters for over 4 decades. Our long-standing experience in this area guarantees that your water filter is efficient, effective and has an absolutely safe operation. Of course the materials used can withstand extreme stresses.

Safety has never been so long-lasting as with the BWT Infinity which offers operational perfection as a backwash filter with a pressure reducer or as a domestic water station. This backwash technology is characterised by high levels of comfort.

Backwash filter Infinity M

Filter complete with brass head and high-tech materials, incl. backwash system, waste drain connection DN 40, individually packed, including connection equipment.
Technical specifications: Nominal pressure PN 16, operating pressure, min.- max. 2.0 - 16 bar (29 - 232 psi) (during backwashing), water/ambient temperature, max. 30/40 °C (86/104°F)

Type Infinity M		**3/4″**	**1″**	**1 1/4″**	**1 1/2″**	**2″**
Nominal connection width	DN	20	25	32	40	50
Flow rate at Δp 0.2 bar/0.5 bar	m^3/h	3.5/6.0	4.5/6.5	5.5/9.0	10.0/15.5	10.0/15.5
Δp 2.9 psi/7.3 psi	gpm	15.4/26.4	19.8/28.6	24.2/39.6	44.0/68.2	44.0/68.2
Nominal pressure	bar (psi)	16 (232)			16 (232)	
Water/ambient temperature	°C (°F)	30/40 (86/104)			30/40 (86/104)	
Order no.		**10305**			**10306**	

Backwash filter Infinity A and AP

Filter complete with brass head and high-tech materials, incl. backwash system, waste drain connection DN 40, individually packed, including connection equipment.

Type A and AP: automatic backwash filter with 24V-connection, electronic control unit for controlling of the backwash interval. AP with additional differential pressure controlled backwashing (time priority) and potential free contact for optical and acoustic remote control, max. 4 filters can be installed in parallel.
Types 3/4″ - 1 1/4″, size 1, for HydroModul-connection
Types 1 1/2″ - 2″, size 2, with 4-hole-flange-connection
Technical specifications Nominal pressure PN 16, operating pressure, min. - max. 2.0 - 16 bar (29 - 232 psi) (during backwashing), water/ambient temperature, max. 30/40 °C (86/104°F).

Type Infinity A and AP		3/4″	1″	1 1/4″	1 1/2″	2″
Nominal connection width	DN	20	25	32	40	50
Flow rate at Δp 0.2 bar/0.5 bar	m³/h	4.0/7.0	5.0/7.5	5.5/9.0	10.0/16.0	10.0/16.0
Δp 2.9 psi/7.3 psi	gpm	17.6/30.8	22.0/33	24.2/39.6	44.0/70.4	44.0/70.4
Nominal pressure	bar (psi)	16 (232)			16 (232)	
Water/ambient temperature	°C (°F)	30/40 (86/104)			30/40 (86/104)	
Order no. Infinity A		**10194**			**10191**	
Order no. Infinity AP		**10258**			**10259**	

Infinity A and AP

3/4″ - 1 1/4″

1 1/2″ - 2″

Infinity A HWS and AP HWS

- **3/4" - 1 1/4" rapid connection technology**
- **Automatic backwash controlled by Infinity AP pressure differential**
- **Efficient power failure protection system**
- **Low power consumption**

Filter technology

Backwash Filter BWT-F 1

- **50 x quicker connection technology**
- **Mount-turn-secure**
- **2-phase backwash technology**
- **Fresh BWT design**

3/4″ - 1 1/4″

1 1/2″ - 2″

Bolero RF Backwash Filter

- **Durable, robust, high-performance**
- **Top price to performance ratio**
- **Completely packed with connection technology**

Backwash Filter BWT - F 1 incl. HydroModul connection equipment

The rapid backwash filter with the big filter area, with 2-phase backwash, top quality, simple to use and with modern design, for horizontal or vertical installation.
Filter complete with brass head, transparent cylinder, filter element, backwash element, connection equipment and connection threads.
Type 3/4″ + 1 1/4" with HydroModul rapid connections for high-speed installation.
Technical specifications: Nominal pressure PN 16, operating pressure min.-max. 2.0 - 16 bar (29 - 232 psi) (during backwashing) water/ambient temperature min-max. 5-30/5-40 °C (86/104 °F).

BWT-F 1 RF	**Type**	**3/4″**	**1″**	**1 1/4″**
Nominal connection width	DN	20	25	32
Flow rate				
at Δ p = 0.2 bar (psi)	m^3/h (gpm)	3.0 (13.2)	3.5 (15.4)	4.0 (17.6)
at Δ p = 0.5 bar (psi)	m^3/h (gpm)	4.0 (17.6)	5.0 (22)	6.0 (26.4)
Installation length				
with connection equipment	mm	184	184	203
Installation length				
without connection equipment	mm	100	100	105
Order no.		**10477**	**10478**	**10479**

Bolero RF Backwash Filter incl. connection equipment

The compact backwash filter with the big filter area, with 2-phase backwash, top quality, simple to use and with modern design, for horizontal or vertical installation.
Filter complete with brass head, transparent cylinder, filter element per DVGW guidelines, backwash element, connection equipment and connection threads.
Type 3/4″ + 1 1/4" with HydroModul rapid connections for high-speed installation.
Technical specifications: Nominal pressure PN 16, operating pressure min.-max. 2 - 16 bar (29 - 232 psi) (during backwashing), water/ambient temperature, min-max. 5-30/5-40 °C, (86/104 °F).

BWT Bolero RF	**Typ**	**3/4″**	**1″**	**1 1/4″**	**1 1/2″**	**2″**
Nominal connection width	DN	20	25	32	40	50
Flow rate						
at Δp = 0.2 bar (2.9 psi)	m^3/h (gpm)	3.0 (13.2)	3.5 (15.4)	4.0 (17.6)	10.5 (46.2)	11.0 (48.4)
at Δp = 0.5 bar (7.3 psi)	m^3/h (gpm)	4.0 (17.6)	5.0 (22.0)	6.0 (26.4)	15.5 (68.2)	15.5 (68.2)
Installation length						
with connection equipment	mm	184	184	198	240	260
Installation length						
without connection equipment	mm	100	100	100	125	125
Order no.		**10364**	**10365**	**10366**	**10367**	**10368**

Backwash filter Avanti RF

Filter series for drinking water purposes with flow rates up to 12 m³/h (52.38 gpm) (2nd step system) available as backwash filter (RF series) or cartridge filter (WF series) with varying micron ratings. High quality head made of red brass and cup with a nominal pressure of PN 10. Comfortable mounting with connection threads. Backwash element with easy single manual backwash system. Filter cartridge and backwash element with extremely large filter area for longer operation.

- filter size 3/4″ - 2″
- available as cartridge filter or backwash filter
- incl. connection module with threaded unions
- micron rating 100 µm

Technical specifications: Nominal pressure PN 10, operating pressure min.-max. 2 - 16 bar (29 - 232 psi) (during backwashing), water-/ambient temperature min./max. 30/40°C (86/104 °F).

Type Avanti RF		**3/4″**	**1″**	**1 1/4″**	**1 1/2**	**2″**
Nominal connection width	DN	20	25	32	40	50
Flow rate at Δp 0.2 bar/0.5 bar	m³/h	3.0/5.5	3.5/6.0	4.0/6.5	9.5/14.5	10.0/15.5
Δp 2.9 psi/7.3 psi	gpm	13.2/24.2	15.4/26.4	17.6/28.6	39.6/63.8	52.8/68.2
Installation length incl. unions	mm	184	184	203	254	274
Order no.		**10174**	**10175**	**10176**	**10204**	**10205**

Backwash filter Avanti RF

Backwash filter Protector 3/4″ - 1″ BW

Screen replacement saves you a lot of money compared to conventional cartridge filters.

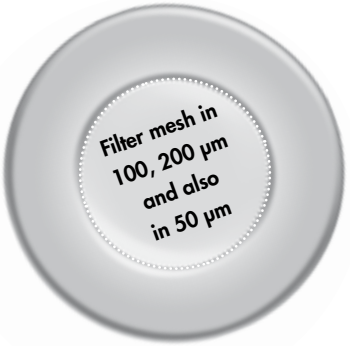
Type		**3/4″**	**1″**
Nominal connection width	DN	20	25
Flow rate at Δp 0.2 bar (2.9 psi)	m³/h (gpm)	3.0 (13.2)	3.5 (15.4)
Mesh top/bottom	µm	110/90	
Nominal pressure (PN)	bar (psi)	16 (232)	
Operating pressure min./max.	bar (psi)	2/16 (29/232)	
Water temperature min./max.	°C (°F)	5/30 (41/86)	
Order no.		**10404**	

Protector BW 3/4″ - 1″

- **Comfortable mounting with connection threads**
- **Reliable protection against foreign bodies in the water**
- **Low operating and investment costs**

Backwash filter automatic

Backwash filter Multipur AP



Backwash filter RFA automatic

Backwash filter with suction ring rinsing technology

- hygienic filter cleaning due to high rinsing speed with suction ring rinsing system,12 times faster than other systems, operates within seconds without interrupting filtration process
- economic filter cleaning due to low consumption of backwashing water
- integrated rinsing water connection according to DIN 1988

Backwash filter Multipur AP 65 – 80

Automatic backwash filter

Filter complete with red brass housing, filter and backwashing elements, flange connection PN 10 according to DIN 2501, part 1 (counter flanges built in on site), with stainless steel filter element 100 µm (200 µm on request). Backwashing is executed automatically and electronically controlled. The process is differential pressure controlled with time priority. Optical operation and fault indication, transformer plug with safe 12 V low voltage and possibility of manual rinsing. Fault signal (potential free contact) for building management system available. No additional differential manometer necessary.
Technical specifications: Nominal pressure PN 10, operating pressure pure water side min.- max. 2.5 bar (36 psi) (during backwashing) - 10 bar (145 psi), water/ambient temperature min./max. 5-30/5-40 °C (86/104 °F).

Type Multipur AP		**65**	**80**
Nominal connection width	DN	65	80
Flow rate at Δp 0.2 bar/0.5 bar	m³/h	22/35	36/55
Δp 2.9 Psi/7.3 psi	gpm	96.9/158.6	158.5/242
Nominal pressure	bar (psi)	PN 10 (145)	PN 10 (145)
Operating pressure, min./max.	bar	2.5 / 10	
Operating pressure, min./max.	psi	36 (during backwashing) /145	
Length	mm	220	220
Total height	mm	630	630
Order no.	**type 100 µm**	**10181**	**10182**
Order no.	**type 200 µm**	**10183**	**10184**

Backwash filter RFA automatic 100 - 125

Automatic backwash filter with 100 µm and 200 µm filter fabric

Filter complete with red brass housing, filter and backwashing elements, flanges PN 10 according to DIN 2501 part 1 (counter flanges built on site), filter fabric 100 µm according to DVGW guidelines (50 µm on request). Rinsing is executed automatically and electronically controlled. The process is differential pressure controlled with time priority. Optical operation and fault indication transformer plug with safe 12 V low voltage and possibility of manual rinsing. Fault signal (potential free contact) for building management system available. Waste water connection according to DIN 1988. No additional differential manometer necessary.
Type 100 µm: with stainless steel filter fabric according to DVGW guidelines
Type 200 µm: with stainless steel filter fabric
Technical specifications: nominal pressure PN 10 (145 psi), operating pressure on pure water side min.-max. 2.5 (36 psi) (during backwashing) - 10 bar (145 psi), water and ambient temperature max. 30/40 °C (86/104 °F), rinsing water flow 4 l/s at 4 bar (58.02 psi).

Type RFA Automatic		**RF 100 A**	**RF 125 A**
Test number		**R 198**	**R 199**
Nominal connection width	DN	100	125
Flow rate at Δp 0.2 bar/0.5 bar	m³/h	85/170	100/160
Δp 2.9 psi/7.3 psi	gpm	374.2/748	440.4/704
Length	mm	350	350
Total height	mm	670	700
Order no.	**type 100 µm**	**10085**	**10086**
Order no.	**type 200 µm**	**10089**	**10090**

- **Reliable modular control electronics**
- **Control of backwash with sensors**
- **Low backwash water consumption**

Backwash filter manual
for filtration of drinking and industrial water

Backwash filter Multipur M 65-80

Manual backwash filter

Filter complete with red brass housing, filter and backwashing elements, flange connection PN 16 according to DIN 2501, part 1 (counter flanges built in on site), with stainless steel filter fabric 100 µm.
Backwashing is done manually.
Technical specifications: Nominal pressure PN 10, operating pressure pure water side min./max. 2.5/10 bar (36/145 psi) (during backwashing), water/ambient temperature max. 30/40 °C (86/104 °F).

Type Multipur		65 M	80 M
Nominal connection width	DN	65	80
Flow rate at Δp 0.2 bar/0.5 bar	m³/h	22/36.0	35/58.0
Δp 2.9 Psi/7.3 psi	gpm	96.9/158.6	154.1/255.4
Nominal pressure	PN (psi)	10 (145)	10 (145)
Operating pressure, min./max.	bar	2.5 / 10	
Operating pressure, min./max.	psi	36 (during backwashing) /145	
Length	mm	220	220
Total height	mm	630	630
Order no.	**type 100 µm**	**10185**	**10186**
Order no.	**type 200 µm**	**10393**	**10394**

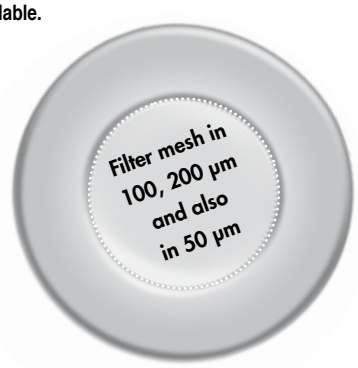
Backwash filter Multipur M

Backwash filter RFM manual 100-125

Filters complete with red brass housing, filter and backwashing element, flanges PN 10 according to DIN 2501 part 1 (counter flanges built on site), with polymer filter fabric 100 µm according to DVGW guidelines (50 µm on request).
Technical specifications: Nominal pressure PN 10, Operating pressure pure water side min.-max.2.5 bar (36 psi) (during backwashing) - 10 bar (145 psi), water/ambient temperature max. 30/40 °C (86/104 °F), rinsing water flow 4 l/sec. at 4 bar (58.02 psi).

Type		RF 100 M	RF 125 M
Nominal connection width	DN	100	125
Flow rate at Δp 0.2 bar/0.5 bar	m³/h	85/130	100/160
Δp 2.9 Psi/7.3 psi	gpm	374.2/572.0	440.4/704.0
Length	mm	350	350
Total height	mm	690	700
Order no.	**type 100 µm**	**10081**	**10082**
Order no.	**type 200 µm**	**10079**	**10080**

For other applications (e.g. cooling and surface water and well water) filter elements with filter effectivity 100 µm and 200 µm are available.



Backwash filter RFM manual

- **Durable filter material**
- **Continuous filtering**
- **Efficient cleaning**

Special accessory: differential pressure manometer

for type RFM / RFA
For connection of optical and/or acoustical remote control built on site. Overpressure proof up to 25 bar (363 psi) with 2 adjustable micro-switches and electric contact switches (potential-free), including 2 shut-off valves and connection equipment.

Type	RFM / RFA
Order no.	**10989**

Differential pressure manometer

Cartridge filter Avanti WF

BWT Cartridge filter ¾″ - 2″

Cartridge filter Avanti WF

Type Avanti WF		3/4″	1″	1 1/4″	1 1/2″	2″
Nominal connection width	DN	20	25	32	40	50
Flow rate at Δp 0.2 bar	m^3/h	3.0	3.5	4.0	9.0	12.0
Δp 2.9 psi	gpm	13.2	15.4	17.6	39.6	52.8
Installation length incl. unions	mm	184	184	203	254	274
Order no.		**50062**	**50063**	**50064**	**10199**	**10200**

Required connection technology page 30

Replacement filter element Avanti WF

Contents: 6 in a box

Type	DN	20 - 32	40 and 50
Order no.		**10932**	**10941**

Protection filter mini 1/2"

Protection filter mini 1/2"

For the use in dentist's surgeries, for protection of coffee machines, soda machines, laboratories, canteens , filling of heating systems, building machinery, ice cube makers, humidifying equipment, etc. Head made of brass, bleeding screw in the head.
Technical specifications: Nominal pressure PN 10 (145 psi), water/ambient temperature 30/40°C (86-104°F), micron rating 90 µm

Type		Protector filter Mini 1/2"
Nominal connection width	DN	15
Order no.		**10018**

Folded filter element

Folded filter element for Protection filter mini 1/2"

Only available in one box incl. 10 filter elements.

Type		fleece	fabric
Micron rating	µm	30	90
Order no.		**10995**	**10996**

BWT Protector –
All-purpose high-performance filters

The advantages:

- BWT-Protector: that's high performance, superior materials and workmanship, modern design and easy operation.
- The Protector filter series offer the right protection for any purpose and application – be it in single-story systems, at the inlet of hot water pipes or at the water main.
- The BWT-Protector series include backwash filters, easy-change filters and hot water filters with various filtration rates.
- Protector backwash filters always ensure a perfectly clean filter element by controlled backwashing.
- No matter which type of Protector filter you choose – it's always a decision for reliable protection against rust and sediment ingression into your piping!
- Protector filters – advanced filter technology – MADE IN GERMANY!

Protector C 1/2″ easy change filters

Screen replacement saves you a lot of money compared to conventional cartridge filters.

Type		1/2″
Nominal connection width	DN	15
Flow rate at Δp 0.2 bar (2.9 psi)	m³/h (gpm)	2.0 (8.8)
Mesh top/bottom	µm	110/90
Nominal pressure (PN)	bar (psi)	10 (145)
Operating pressure	bar (psi)	10 (145)
Water temperature min./max.	°C (°F)	5/30 (41/86)
Order no.		**10402**

Protector C 1/2″

Easy change filters Protector C 3/4″ - 1″

Screen replacement saves you a lot of money compared to conventional cartridge filters.

Type		3/4″	1″
Nominal connection width	DN	20	25
Flow rate at Δp 0.2 bar (2.9 psi)	m³/h (gpm)	3.0 (13.2)	3.5 (15.4)
Mesh top/bottom	µm	110/90	
Nominal pressure (PN)	bar (psi)	10 (145)	
Operating pressure	bar (psi)	16 (232)	
Water temperature min./max.	°C (°F)	5/30 (41/86)	
Order no.		**10403**	

Protector C 3/4″ - 1″

Hot water filters Protector HW 3/4″ - 1″

Screen replacement saves you a lot of money compared to conventional cartridge filters.

Type		3/4″	1″
Nominal connection width	DN	20	25
Flow rate at Δp 0.2 bar (2.9 psi)	m³/h (gpm)	3.0 (13.2)	3.5 (15.4)
Mesh top/bottom	µm	110/90	
Nominal pressure (PN)	bar (psi)	10 (145)	
Operating pressure	bar (psi)	10 (145)	
Water temperature min./max.	°C (°F)	5/80 (41/176)	
Order no.		**10405**	

Protector HW 3/4″ - 1″

Celsius 80

Hot water filter

Celsius 80 DN 20 - 50

The filters are used for filtration of drinking and industrial water up to 80 °C.
Hot water filter consists of brass head, filter housing, draining valve, flat seal, filter element.
For all types: Nominal pressure PN 10, water-/ambient temperature max. 80 °C (176 °F).
Differential pressure max. 1.5 bar.

Type		3/4″	1″	1 1/4″	1 1/2″	2″
Nominal connection width	DN	20	25	32	40	50
Flow rate at Δp 0.2 bar	m^3/h	3.0	3.5	4.0	9.0	12.0
Δp 2.9 psi	gpm	17.6	24.2	28.6	39.6	52.8
Order no.		**10063**	**10064**	**10065**	**10066**	**10067**

Filterelement for Celsius 80 DN 20 - 50

Content: 6 pieces

Typ	DN	20 - 32	40 und 50
Order no.		**10932**	**10875**

Hot water filter

Hot water filter DN 50 - 80

Filter casing made of red brass, flange connection PN 10 according to DIN 2501 part 1 (counter flanges built in on site), filter cover made of plastic coated stainless steel, clamp made of stainless steel, filter complete with filter cartridges, in- and outlet pressure gauges, automatic bleeding and draining valve. Micron rating 90 μm.
For all types: nominal pressure PN 10, water temperature max. 80 °C (176 °F).

Type		HW 50	HW 65	HW 80
Nominal connection width	DN	50	65	80
Flow rate at Δp 0.2 bar	m^3/h	20	35	50
Δp 2.9 psi	gpm	88	154	220
Filter cartridges		2	3	3
Length	mm	290	290	290
Total height	mm	525	545	565
Removal height	mm	945	965	985
Filter cover diameter	mm	168	168	168
Connection height	mm	67	76	92
Order no.		**10072**	**10073**	**10074**

Replacement filter cartridge for filter DN 65 - 80

Replacement filter cartridge for filter DN 50, 65 - 80

Delivery only in packaging unit: 12 pieces per carton. Cartridge length 290 mm.

Type	
Order no.	**10865**

Multilayer filters

BWT Multi C

Filter for the removal of dirt particles, undesired discolourations, bad odour and tastes, such as chlorine compounds etc. In Germany, not permitted for use in household installations.
Additional removal of iron. Clean water from the first litre onwards. Automatic volume controlled efficient backwash.
Technical specifications: Nominal pressure 10 bar (145 psi), operating pressure 2-8 bar (29-116 psi), water-/ambient temperature, max. 30/40 °C (86/104 °F), electrical connection 230 V/50 Hz, unit voltage 24 V.

Type multifunction filter		2000	3000
Nominal connection width	DN	25 (1 1/4 ")	
Max. flow rate	m³/h (gpm)	2.0 (8.8)	3.0 (13.2)
Nominal flow rate	m³/h (gpm)	1.0 (4.4)	1.5 (6.6)
Operating pressure	bar/ psi	2-8 / 29-116	
Capacity	l	1800	2400
Height	mm	893	1325
Order no.		**13919**	**13920**

Multi C

BWT Multi S (on request)

Provide reliable protection against dirt particles in the water. They remove dirt sediments and substances from water, contaminants such as iron (up to 1 ppm) and manganese, as well as turbidity, colouring and unpleasant odours and taste e.g. chlorine.
Technical specifications: Nominal pressure 10 bar (145 psi), operating pressure 2-8 bar (29-116 psi), water-/ambient temperature, max 30/40 °C (86/104 °F), electrical connection 230 V/50 Hz, unit voltage 24 V.

Type multifunction filter		2000	3000
Nominal connection width	DN	25 (1 1/4 ")	
Max. flow rate	m³/h (gpm)	2.0 (8.8)	3.0 (13.2)
Nominal flow rate	m³/h (gpm)	1.0 (4.4)	1.5 (6.6)
Operating pressure	bar/ psi	2-8 / 29-116	
Capacity	l	1800	2400
Height	mm	893	1325
Order no.		**13921**	**13922**

Multi S

De-ironing filter

De-ironing filter ERF

Professional consultation is required for the design of this unit.
The filter units of this range are used for the removal of iron in the building services application area. When used according to the instructions, pure water qualities of less than 0.10 mg/l iron and 0.05 mg/l manganese are achievable. Filter casing made of GFK with built in water distribution and attached central control valve. Including filter filling, iron quick-test kit.
Technical specifications: Nominal pressure 8 bar (116 psi), water-/ambient temperature, max 30/40 °C (86/104 °F), electrical connection 230 V/50 Hz, unit voltage 24 V.

Type		ERF 1	ERF 2	ERF 3	ERF 5
Nominal connection width	DN	32	32	32	32
Flow performance max (depend.	approx. m³/h	1.0	2.0	3.0	5.0
on Fe/Mn content)	gpm	4.4	8.8	13.2	22.0
Filter casing Ø/height	mm	305/1500	405/1930	545/1880	615/2135
Process 1 Order no.		**50134**	**50135**	**50136**	**50137**
Process 2					
Order no. with dosing + dosing unit for KMnO4		**50134 +50958**	**50135 +50958**	**50136 +50958**	**50137 +50958**
Process 3		**50134**	**50135**	**50136**	**50137**
Order number with oxidation air		**+50959**	**+50959**	**+50959**	**+50959**
+ compressor		**+50960**	**+50960**	**+50960**	**+50960**
+ oxidation connection 1/2" AG		**+50956**	**+50956**	**+50956**	**+50956**
+ automatic ventilation					
Locking device for ERF with trafo					
Order no.			**50953**		

De-ironing filter ERF

Filters for the removal of manganese on request

Woda-Pure perfect water for your home

Woda-Pure provides fresh and tasty water

At home, for drinking and cooking ideally suited for private water systems.

Unlike conventional reverse osmosis systems, WODA-PURE preserves all the valuable minerals contained in drinking water! Cool, clear, thoroughly hygienic drinking water can unfortunately not be taken for granted. Often potable water right from the tap has a bad odour, a strange taste or contains colourants not at all inviting to drink it.

- **Convenient:** Best drinking water automatically right from the tap
- **Healthy:** Bacteria-free – yet full of precious minerals
- **Environmentally friendly:** Replacement of bottled water and reduction of CO_2- emissions
- **Efficient:** One filter cartridge supplies healthy drinking water for up to 6 months
- **Compact:** Space saving installation under the sink
- **Very easy:** Convenient and easy filter change
- **Eco-efficient:** 99.99 % filter efficiency - no water losses

Convincing retention rates of e.g.:
pesticides/herbicides 98 %
insecticides 98 %

Open supply pipe and enjoy the taste!

WODA-Pure can be wall- or floor-mounted directly under the kitchen sink. Minimum space requirement compared to conventional cartridge filters or reverse osmosis systems. The disposable high-performance filter is easy and quick to change.

Technical data Woda-Pure

Flow	l/h	200
Pressure loss approx.	bar psi	0.5 7.3
Service life max. up to	l	10,000
Max. nominal pressure (PN)	bar psi	6 87.02

Point-of-use filter
Woda-Pure 120 UFA + Woda-Pure Energy
clear, hygienic and pure tasting drinking water

Woda-Pure: 3 Steps to safeguard perfectly fresh drinking water

Step 1: removal of dirt particles, undesired discolourations, bad odour and chlorine by a high-performance activated carbon filter in inline design.
Step 2: protection against bacteria by efficient inline microfiltration, actual filtration efficiency of 99.99 %.
Step 3: hygienic safety from contamination by special filter membrane.

Woda-Pure 120 UFA

Woda-Pure 120 UFA

Type		Woda-Pure 120 UFA
Nominal flow rate	l/h (gpm)	120 (32)
Nominal pressure	bar (psi)	8 (116)
service life	max.	6 months or 10,000 l
max. stat. pressure	bar (psi)	6 (87)
Order no.		**12534**

Woda-Pure Energy

Woda-Pure Energy removes undesirable odours or flavours (e.g. chlorine), natural colorants (e.g. humic substances) and disinfects drinking water and also helps reduce the build-up of lime in pipes. Annoying lime residue can thus be avoided to a large extent.

Type		Woda-Pure Energy
Nominal flow rate	l/h (gpm)	120 (32)
Nominal pressure	bar (psi)	8 (116)
service life	max.	6 months or 10,000 l
max. stat. pressure	bar (psi)	6 (87)
Order no.		**12535**

Connection Set

Type	Connection Set
Order no.	**10877**

For you and the Sake of the environment

BWT Quick & Clean - Cleaning at the touch of a button without chemicals

Protects glass, tiles and fittings in shower and bath from limescale deposits

No limescale deposits or soap residue, no need to wipe!
Harmless to man and his environment

1. Simple fitting:
Mount the filter between the fitting and the shower hose.

2. Simply press the button:
After showering, activate the BWT Quick and Clean at the touch of a button.

3. Simply rinse away:
Using the shower, rinse shower, tiles and fittings with soft water.

4. Simply gleaming with cleanliness:
The soft water ensures everything gleams, no need to wipe.

Quick & Clean
For you and the sake of the environment

The BWT Quick & Clean filter system has been developed to reduce limescale deposits in shower cubicles and on bathtubs by rinsing with lime-free water. The filter system is installed between the valve and the shower hose.
Operating mode: While taking a shower, water flow is by-passing the filter cartridge. Rinsing mode is activated by pressing the button. The water then passes through the filter cartridge and water hardness minerals are removed. Rinse bath, shower walls and taps with the softened water.

Type Quick & Clean		**½" incl. 2 filter cartridges**
Placement		shower, bath
Thread dimensions		1/2″
Height without outer hanger	mm	240
Width	mm	177
Depth	mm	77
Filter service time, approx.		depending on water quality
Order no.		On request

Available from June 2012

Quick & Clean filter

Rainwater backwash filter

Rainwater backwash filter
Advanced filter technology

Rainwater filter RF

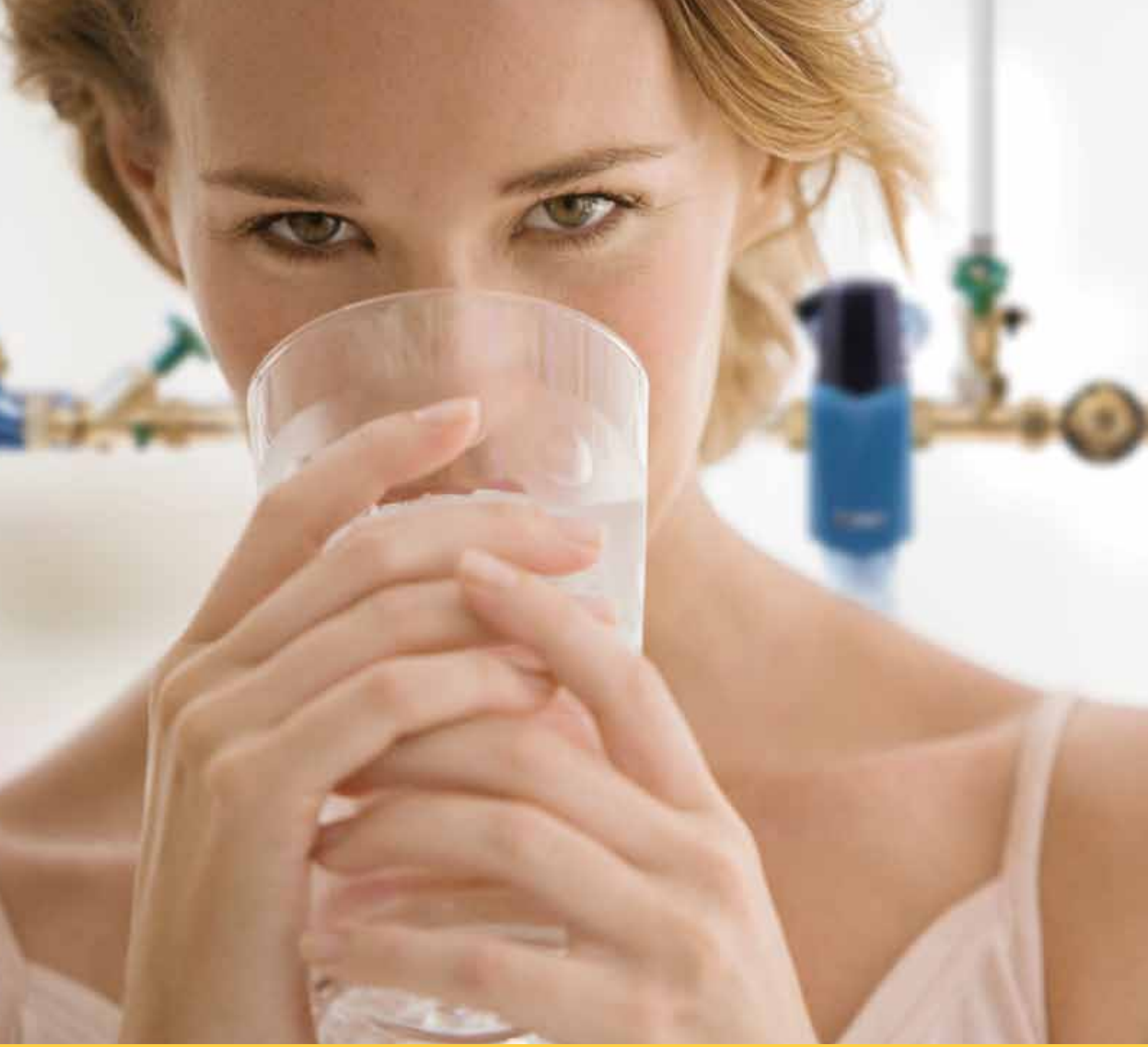
Filter for rainwater with flow rates up to 5.2 m³/h for installation after the rainwater tank and pumping system complete with high efficiency manual backwashing capability, 90 micron anti-scale screen and threaded female unions for easy connection to the rainwater piping system. Dirt particles are washed from the roof of buildings into the rainwater storage tank then are pumped to toilet flushing, washing machines, hose cocks and garden sprinklers and the like.

The consequences are discoloured water, staining of the toilet pans, failure of isolating and control valves and blockages to nozzles on the sprinkler systems and associated equipment.

Therefore: a protective rainwater filter after the pumping system is important to protect all equipment that is supplied with the harvested rainwater system.

Type Rainwater RF		**¾"**	**1"**	**1 ¼"**
Nominal connection width	DN	20	25	32
Nominal pressure	bar (psi)	6 (87)	6 (87)	6 (87)
Flow rate at 0.2 bar	m³/h	3.0	3.5	5.2
Order no.			**50218**	

- **Robust and pressure resistant**
- **Highest quality standards and materials**
- **Compact & functional**
- **Simple backwash process**



BWT - HydroModul

[Earn money in no time at all]

For You and Planet Blue.

BWT
BEST WATER TECHNOLOGY

Connection equipment for BWT filter

Connection module

Connection module

For the rapid connection of water treatment units such as filters, softeners and dosing units. Can be installed horizontally or vertically. Top quality brass part, seal, union nut, locking ring, connecting union, nominal pressure PN 16.

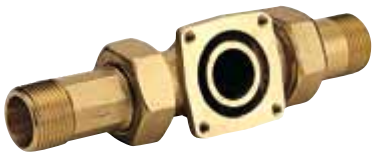
Type		3/4″	1″	1 1/4″
Nominal pressure	bar (psi)	16 (232)	16 (232)	16 (232)
Installation length incl. unions	mm	205	205	218
Order no.		**30012**	**30014**	**30020**

Connection module DR

Connection module DR / HWS

If you want a filter with pressure reducer, select the connection module DR.
DVGW-/soundproofed with integrated pressure reducer and pressure gauge. For rapid connection. The connection module DR can be installed vertically or horizontally. High-quality brass head connection equipment with spring, seal, cap nut, locking ring and connection unions.

Type		3/4″	1″	1 1/4″
Nominal pressure	bar (psi)	16 (232)	16 (232)	16 (232)
Installation length incl. unions	mm	205	205	238
Order no.		**30016**	**30018**	**30022**



Connection piece basic

Connection piece basic

For connection the filter unit Infinity size 2. The 4-hole connection piece can be mounted horizontally or vertically. High quality brass fitting with 4 screws, seals and connection threads.

Type		1 1/2″	2″
Nominal pressure	bar (psi)	16 (232)	16 (232)
Installation length incl. unions	mm	240	260
Order no.		**50961**	**50962**

Connection piece HWS

Connection piece HWS

For connection the filter unit Infinity size 2. The 4-hole connection piece can be mounted horizontally or vertically. High quality brass fitting with 4 screws, seals and connection threads. The connection piece HWS also includes an integrated pressure reducer, pressure gauge and non-return valve.

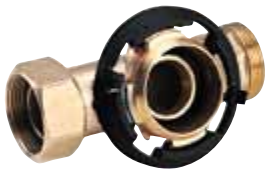
Type		1 1/2″	2″
Nominal connection width	DN	40	50
Nominal pressure	bar (psi)	16 (232)	16 (232)
Installation length incl. unions	mm	295	260
Order no.		**50954**	**50955**

Basic Modules

Basic module with locking ring

The basic module helps with the rapid connection of e.g. filters, AQA total, softeners, dosing devices. The cover HM closes the basic module when a device is not fitted straight away. The basic module can be installed vertically or horizontally.

Type		1″ (DN 25)	1 1/4″(DN 32)
Installation length	mm	122	122
Thread of the union nut		1 1/4″	1 1/2″
External thread		1 1/4″	1 1/2″
Order no.		**30002**	**30058**



Basic module with locking ring

DR module pressure reducer module with display

The DR module helps with the rapid connection of the protective filter, automatic and manual backwash filter. If a filter is not fitted immediately, the DR module is closed using a cover. The DR module can be installed vertically or horizontally.

Type		1″ (DN 25)	1 1/4″ (DN 32)
Installation length	mm	122	142
Thread of the union nut		1 1/4″	1 1/2″
External thread		1 1/4″	1 1/2″
Order no.		**30004**	**30060**

Pressure reducer module with display

HM double connection

The HydroModul double connection of two water treatment devices on one connection module or connection module DR. The HM double connection is used when a lack of space prevents the assembly of a second connection module.

Type	
Order no.	**30063**

HM double connection

HM Cover

For closing the basic or DR module until a device is fitted.

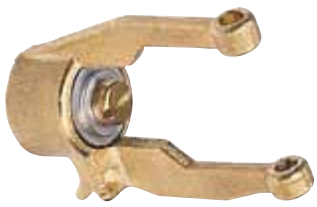
Type	
Order no.	**30996**

HM cover

HM module clamp with screw

For rapid and secure fastening of the HydroModul onto the wall.

Type	1″	1 1/4″
Order no.	**30980**	**30960**



HM Modul clamp

HM assembly key SW 36 / 46

With key size 10, 13, 17, drilling template HM.

Type	1″ (DN 25)
Order no.	**30976**

HM assembly key

Further products on request

Notes

BWT - Alternative water treatment

[AQA total Energy]

For You and Planet Blue.

BWT
BEST WATER TECHNOLOGY

Modern effective 3-phase-protection

BWT - AQA total Energy

Ensures quality drinking water

Natural: Mineral compound source in your house

Our drinking water contains dissolved trace elements and minerals, such as magnesium – an important mineral compound for our bodies. It ensures energy metabolism and osteogenesis and gives us energy for everyday life.
With AQA total Energy, all mineral compounds are retained in the water and you automatically ingest valuable minerals with your drinking water – day after day, simply with every sip of water. A vital drinking enjoyment for added health and performance. Improve your drinking habits and your well-being through conscious drinking water enjoyment – with AQA total Energy, you can make your tap into a sparkling source of energy with valuable drinking water.

Simple: New cartridge technology with disposable refill

The completely new cartridge technology ensures optimal hygiene and simple handling when exchanging cartridges:

- Standardised cartridge-based construction: always designed with HydroModul quick connection, so that the active unit can be separated quickly and easily from the device.
- Integrated disposable refill: the exchangeable functional unit has been redesigned as a compact refill. It is delivered dry (no risk of frost). A used refill can then simply be disposed of – without a deposit system.

AQA total Energy 1500: HydroModul Integration



The basic construction as a wall unit is the same.

- A simple integration into a HydroModul distributor has been made. HydroModul offers optimal connections for the assembly and lasting hygienic operation of BWT drinking water systems. AQA total Energy 1500 can now be fitted in seconds, and without washers, with the tried and tested system of flat-sealing union nuts and outside thread directly into the HydroModul distributor.
- For traditional assembly, threaded connections and screwed parts in 1″ are also supplied.

AQA total Energy with the unique 3-phase-technology

AQA total Energy offers optimum limescale and corrosion protection for your drinking water installation and valuable water full of important minerals for you.

Optimal limescale protection

Due to its revolutionary bipolar technology the limescale in the water is stabilised by forming nanocrystals. Therefore, it is unable to deposit itself in the pipes, installation or boiler.

Drinking water packed with vital ingredients

AQA total Energy leaves all the valuable minerals in the drinking water such as magnesium. In this way, you receive naturally precious drinking water.

Efficient corrosion protection

In addition, an effective corrosion protection coating is created in metallic pipes.

AQA total Energy 1500

AQA total Energy 2500

The world innovation: AQA total Energy

With the unique 3-phase-technology for vitality, limescale protection and corrosion protection

AQA total Energy

AQA total Energy, the natural and environmentally benign drinking and operation free water treatment with the 3-phase-technology provides
Vitality through retaining all valuable minerals in the drinking water and improvement of magnesium and oxygen
Limescale protection through stabilisation by forming nanocrystals; limescale remains in the water not in the pipe or boiler
Corrosion protection through the natural formation of an effective protective coating against surface corrosion.
The optimised refill system ensures constant hygiene.

AQA total Energy 1500

Scope of supply: Compact unit with integrated electronic control and cartridge/refill system.
Technical specifications: Nominal pressure PN 10 (145 psi), water/ambient temperature max. 30/40°C (86/104°F), mains connection 230 V/50 Hz, electrical power rating 60 W, power consumption 0,055 kWh/m³, enclosure type IP 54.

Type AQA total Energy		**1500**
Nominal width	DN	25
Nominal connection		1″ male
Accommodation		1
No. of unit moduls		1
Flow rate	l/h (gpm)	1500 (6.6)
Total height	mm	1100
Total width	mm	320
Total depth	mm	200
Order no.		**80007**

AQA total Energy 2500

Scope of supply: Compact unit with integrated electronic control and cartridge/refill system, with connection set DN 32/32.
Technical specifications: Nominal pressure PN 10 (145 psi), water/ambient temperature max. 30/40°C (86/104°F), mains connection 230 V/50 Hz, electrical power rating 60 W, power consumption 0,055 kWh/m³, enclosure type IP 54.

Type AQA total Energy		**2500**
Nominal width	DN	25
Nominal connection		1 1/4″ male
Accommodation		2 - 4
no. of unit moduls		1
flow rate	l/h (gpm)	2500 (11)
Total height	mm	1130
Total width	mm	310
Total depth	mm	280
Order no.		**80008**

Cartridge refill for AQA total Energy 1500 - 2500

Technical data: capacity 350 - 600 m³ about 3 years (depending on water quality and consumption).

Type	**1500 - 2500**
Order no.	**84130**

- **Optimum protection against limescale**
- **Efficient corrosion protection**
- **Drinking water rich in vital substances**

The world innovation: AQA total Energy

With the unique 3-phase-technology for vitality, limescale protection and corrosion protection

Necessary connection technology for AQA total Energy 2500

Multiblock X

Using the Multibock X made of brass, the water flow to the softener or limescale protection unit remains uninterrupted. The water supply is maintained via an integrated by-pass, so that maintenance work can be carried out without any problems.

Type	Multiblock X 1“	Multiblock X 1 ¼“
Order no.	**30999**	**31000**

Multiblock module X

Connection module

Type		3/4˝	1˝	1 1/4˝
Nominal pressure	bar (psi)	16 (232)	16 (232)	16 (232)
Installation length incl. unions	mm	205	205	218
Order no.		**30012**	**30014**	**30020**

Connection module

AQA total Energy 4500

AQA total Energy

Spoil yourself with state-of-the-art protection against lime and corrosion for your drinking water installation

AQA total Energy 4500

Scope of delivery: Wall-mounted compact unit with integrated, electronic control and cartridge / refill system. L= Flow direction from left to right, R= Flow direction from right to left.
Technical specifications: Nominal pressure PN 10 (145 psi), water/ambient temperature max. 30/40 °C (86/104 °F), mains connection 230 V/50 Hz, electrical power rating 60 W, power consumption 0,055 kWh/m³ , safety class IP 54.

Type		4500 L	4500 R
Nominal width	DN	40	40
Nominal connection		1 1/2″ male	1 1/2″ male
Accommodation		5 - 12	5 - 12
No. of unit moduls		2	2
Flow rate	l/h	4500	4500
Total height	mm	1105	1105
Total width	mm	320	320
Total depth	mm	320	320
Order no.		**80009**	**80006**

Cartridge refill for AQA total Energy 4500

Technical specifications: capacity 350 - 600 m³ (1541 - 1761 gpm) about 3 years (depends on water quality and consumption).

Type	4500
Order no.	**84130**

- **Optimum protection against limescale**
- **Efficient corrosion protection**
- **Drinking water rich in vital substances**

AQA total Energy 5600 - 8400
AQA total Energy 11200 - 14000

Wall-mounted unit (in quick mounting frame), distribution pipe system made of high-quality yellow brass casting. Modular construction with integrated shut-off set and water meter (no water shut-off in case of cartridge exchange, no by-pass necessary). The modules are connected with the patented rapid connection system.
Water connection on left or right, as required. Scope of delivery includes connection unions with male thread and cover for dust protection and water vessel.

Control system: Ready for installation in a standard control panel (safety class IP 54). Power electronic with separate fuse protection for each module; the whole system is controlled and monitored by one central processor.
Completely electrically wired, connection with safety plug 230 V/50 Hz.
Connection for building automation (pre-warning in case of cartridge exchange and fault indication)
Control lamps on the fuse cabinet door.

For all types: Nominal pressure PN 10 (145 psi), water/ambient temperature max. 30/40 °C (86/104 °F), mains connection 230 V/50 Hz, electrical power rating 60 W, power consumption 0,055 kWh/m³ , safety class IP 54.

Type AQA total Energy		5600	8400	11200	14000
Nominal width	DN	40	40	50	50
Nominal connection		1 1/2″ male	1 1/2″ male	2″ male	2″ male
Accommodation		13 - 18	19 - 24	25 - 36	30 - 50
No. of unit moduls		2	3	4	5
Flow rate	l/h (gpm)	5600 (24.6)	8400 (36.9)	11200 (49.3)	14000 (61.6)
Total height	mm	1280	1280	1280	1280
Total width	mm	560	560	825	825
Total depth	mm	470	470	470	470
Order no.		**80010**	**80011**	**80012**	**80013**

AQA total Energy 5600 - 14000

- **Optimum protection against limescale**
- **Efficient corrosion protection**
- **Drinking water rich in vital substances**

Cartridge refill for AQA total Energy 5600 - 14000

With the new generation AQA total Energy, the cartridge replacement, which is required for hygienic reasons, is simplified. From now on, only the working unit, so-called cartridge refill, must be changed. This new cartridge refill for AQA total Energy ensures permanent constant efficiency, that means:
phase 1 for limescale protection - through stabilisation of the lime particles in the water
phase 2 for corrosion protection - through the natural formation of an effective protective coating
phase 3 for vitality - through optimisation of magnesium and oxygen

Cartridge refill for AQA total Energy 5600 - 14000

Technical specifications: capacity 350 - 600 m³ (1541 - 1761 gpm) about 3 years (depends on water quality and consumption).

Type Cartridge-Refill AQA total Energy	5600 - 14000
Order no.	**84131**

Cartridge refill

AQA nano – Limescale Protection System

- **BWT safety**
  Reliable protection against limescale, blocked pipes and the unnecessary hygiene risks caused by deposits.
- **BWT drinking water guarantee**
  All valuable minerals are retained in the water.
- **BWT convenience**
  The electronic controller provides a reliable reminder of an annual service.
- **Effective limescale protection up to 20 °dH**

AQA nano – limescale protection

AQA nano

The alternative limescale protection system to prevent and avoid limescale deposits in pipes and boilers up to 20 °dH.

Scope of delivery: Connection piece with integrated backwash preventer and connection threads in 1″, packed ready for installation including mounting bracket and mounting materials (wall-plugs, screws).
Suitable for installation in horizontal and vertical pipes.
Mains connection 230 V/50 Hz, water / ambient temperature, max. 30/40 °C (86/104 °F).

Type		AQA nano
Nominal connection width	DN	25
Connection thread	male	1″
Nominal flow rate per DIN 19636 (EN 14743)	l/h (gal)	1500 (396)
Limescale protection capacity to max. 20 °dH	m^3/h (gpm)	1.5 (6.6)
PN operating pressure PN	bar (psi)	16 (232.1)
Dimensions (H x B)	mm	300 x 710
Order no.		**23301**

- **Optimum protection against limescale up to 20 °dH**
- **Efficient corrosion protection**
- **Drinking water rich in vital substances**

AQA nano limescale protection unit

Order no.	23937

1 limescale protection unit and 1 pair hygiene gloves. Used limescale protection systems can be disposed of with domestic waste or recycled with plastics.

BWT - soft water technology

[Pearlescent water technology]

For You and Planet Blue.

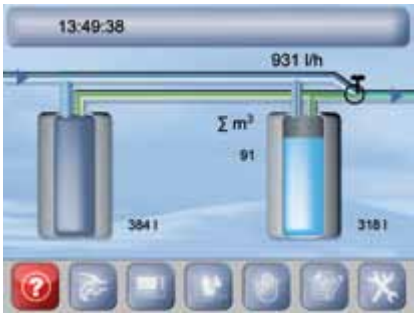
BWT
BEST WATER TECHNOLOGY

Soft water as technological perfection

NEW: BWT - AQA perla

BWT 2nd generation soft water unit

Like all BWT water softeners, the BWT AQA perla works on the classical ion exchange method and has been optimised with respect to safety, convenience, environment, economics and hygiene.



Hygiene and limescale protection

AQA perla is the new unique BWT technology for silky smooth BWT pearlescent water. Through the combination of the intelligent brine removal ("precision mineralisation") and the regeneration time adapted to the inlet pressure, AQA perla ensures optimal and resource conserving operation. That makes the enjoyment of soft water easier and more cost-effective.

Safe and natural

Of course, AQA perla also has a highly effective hygiene protection system, which disinfects the softener columns during the regeneration time.
AQA perla meets the guidelines of the German Gas and Water Industry Association (DVGW) and all relevant international standards.

Extremely easy control

It is possible to call-up all of the unit parameters on the touch panel, which is capable of showing graphics: e.g. during operation, the flow volume is displayed in l/h, the remaining capacity in litres and as a bar diagram. The AQA perla automatically carries out a self-test with all of the relevant unit functions during commissioning. An additional hygiene flush after a longer period without use is programmed, there is also a reminder to rinse the backwash filter or to change the filter insert.

Smart Metering – consumption values always in sight

Cost-economical

- Up to 50 % reduced consumption of detergents and other cleaning agents
- Reduced repairs of household appliances
- Reduced energy and heating costs
- Low operating costs due to efficient technology
- With optional solar module, also suitable for solar heating
- Multi-Info touch screen with more convenient operation

Soft water to make you feel good

BWT - AQA perla:

This is a modern symbiosis of functional limescale protection and a modern design. A product with a real sensual quality – for the skin and the eyes. Soft water pampers you, it feels pleasantly soft on the skin. Every shower, every bath becomes a real pleasure.

Soft water is also gentle to everything it touches:
Laundry washed in soft water feels fresh, clean and soft. Towels become cuddly, soft and fluffy. Cutlery and crockery are given a real shine.
It is a striking design which catches the eye. BWT always makes an impression at any bathroom exhibition or when presented in the showrooms of wholesalers or installers.

But it is more than just a pretty exterior, it is just as convincing on the inside.

New BWT pearlescent water unit

Compact, Innovative, Efficient

NEW: AQA perla 2nd generation soft water unit

AQA perla - 2nd generation

Duplex soft water system for BWT perlescent water with technical perfection. AQA perla is the new unique BWT technology for silky smooth BWT pearlescent water. Through the combination of the intelligent brine removal ("precision mineralisation") and the regeneration time adapted to the inlet pressure, AQA perla ensures optimal and resource conserving operation. That makes the enjoyment of soft water easier and more cost-effective. As far as technology is concerned: AQA perla is simply first class.

AQA life S

AQA life S is a compact Duplex soft water unit. It supplies the detached house with silky smooth BWT pearlescent water 24 hours a day. Even customers with little room to spare in the cellar or with only a utility room do not need to do without the perfect pearlescent technology. AQA life S provides soft, silky BWT pearlescent water in the smallest of spaces. Precision mineralisation saves operating costs. AQA life S operates using tried and tested AQA perla technology.

Bewamat 75 A / Bewamat 25 A

Bewamat 75 A and Bewamat 25 A operate according to the principle of intelligent regeneration. At a user-defined time (e.g. at night), the units check whether the remaining supply of softened water is sufficient for the following day. If not, the softening column is regenerated in order to refill the supply of softened water up to 100 %. A device disinfects the ion exchange resin during the regeneration. Spring-loaded non-return valves protect all water connections on the inlet side of the units (in compliance with the international standards).

AQA solar Modul

In greater numbers, energy-conscious and environmentally-conscious homeowners are using the freely available energy, the sun – solar thermal support for the heating or water heating. What is often not taken into account here: if the heat exchanger becomes calcified through hard, chalky water, then the yield of solar energy is considerably more humble. AQA solar soft water systems are the solution here. With two different water qualities, perfect BWT soft water can be provided for the efficient use of solar thermal energy, even with the highest buffer tank temperatures.

Selection table

Drinking water softeners

Type of device	**AQA perla** [NEW]	**AQA life S**	**Bewamat 75 A**	**Bewamat 25 A**
Description	Maximum hygiene with the duplex softener in alternating operating mode	Compact soft water unit with alternating operating mode	Compact softener simplex	Ecology and economy combined in one device. Precision mineralisation, intelligent regeneration
Single/dual column unit	2	2	1	1
Accommodation units*	1-4	1-2	3-4	1-2
Nominal flow rate [m^3/h] EN 14743/DIN 19636	1.4/1.7	1.0/1.4	1.8	1.4
Nominal capacity/mol	2 x 1.2	2 x 1.1	13.4	4.5
Required regeneration substance/ kg (approx. per regeneration)	0.25	0.25	3.5	1.2
Nominal pressure bar (psi)	10 (145)	10 (145)	10 (145)	10 (145)
Operating pressure bar (psi)	2-8 (29-116)	2.5-8 (36-116)	2.5-8 (36-116)	2.5-8 (36-116)
Dimensions (H/W/D)	890/500/520	410/610/505	1090/390/560	640/390/560
Order no.	11345	11349	11325	11324
Page	**48**	**49**	**54**	**54**

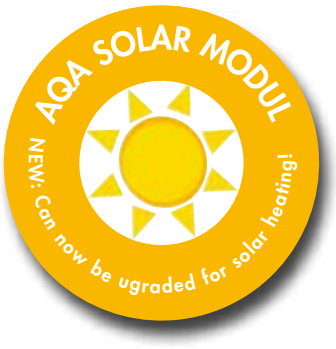
*Non-binding guiding values

	AQA solar Modul	Rondomat Duo S [NEW] 1-3	Rondomat Duo 6-10
	Energy efficiency in solar heating. Module for upgrading the softeners AQA perla and Bewamat A for operation with solar heating	The new drinking water large softener series Rondomat Duo S – first class technology in the smallest of spaces.	Reliable and low consumption large softener series in acc. with the newest DVGW guidelines. For large residential buildings and industrial applications.
		2	2
		up to 26	up to 55
		up to 3.0/5.0	up to 17
		up to 23.9	up to 2 x 64.4
		up to 3.5	1.44-12.5
		10 (145)	10 (145)
		2.5-8 (36-116)	2.5-8 (36-116)
		11346 - 11348	11153 - 11154
50		**57**	**57**

The re-invention of traditional water treatment

AQA perla

- **Duplex unit**
- **Soft Conrol T – the intelligent operating system**
- **Multi-info touch screen for more operating comfort**
- **Smart metering – keeping an eye on consumption**
- **Precision mineralisation for cost-effective regeneration**
- **Lower energy requirement (electronic mains device)**
- **Dosing unit can be retro-fitted easily at any time**



Duplex water softeners

AQA Perla – "round-the-clock" soft water

AQA perla is suitable for the softening of drinking and domestic water (DIN 1988, parts 2 and 7), for the protection of water pipes and their fixtures and connection equipment, boilers, etc. against malfunctions and damage resulting from limescale deposits.
AQA Perla is a duplex water softener based on the ion exchange principle. The system is operated with columns which permanently change at short intervals. On the one hand, this method ensures that soft water is also available during a regeneration process, while on the other hand the frequent column switches minimise stagnation times. Based on chemical and microbiological parameters, this method results in a significantly higher water quality than with conventional duplex softeners. Regeneration is triggered based on the volume of water.

AQA perla- second generation with soft control touch screen and intelligent brine suction
The second generation of AQA perla has been technically improved!
Following new features are available now:

- **The new intelligent operating system soft control 3**
- **Multi- Info touch screen with more convenient operation**
- **Screen saver with contact e.g. plumber's telephone numbers**
- **Smart metering - consumption levels always in view**
- **Aqua-Watch-Alarm function for untypical water consumption**
- **USB connection for transfer to your consumption data (available from spring 2012)**
- **Precision mineralisation for economic regeneration**
- **Low energy requirements thanks to the electronic power supply unit**

AQA Perla Duplex soft water system with

- Microprocessor controller
- Cover hood
- Brine storage tank
- Multidirectional control valves
- Power supply unit with cable and mains adapter
- DN 32/32 connection set
- 2 m rinsing water hose
- 2 m overrun hose 18 x 24
- AQUATEST hardness testing device
- incl. Multiblock X
- 1″ connection module

Technical specifications:
Mains connection 230 V/50 Hz, nominal pressure PN 10, water / ambient temperature, max. 30/40 °C (86/104 °F).

Type		AQA Perla
Nominal connection width	DN	32 (G 1 1/4″)
Nominal flow rate according to DIN 19636	l/h	1700 (1400)
(EN 14743)	gpm	7.48 (6.16)
Dimensions (H x B x T)	mm	890 x 500 x 520
Salt consumption per regeneration	kg	0.25
Order no.		**11345**

Important optional accessories

Type	Description		Order no.	Page
AQA solar Modul	Conversion model for BWT soft water units. Delivers a second water quality for solar heating		**11807**	**54**
Sole pumping unit Bewasol	Pumping unit for soft water units, which is installed under the backflow level		**11808**	**61**
Water protection System Aquastop	Electronic protection against water damage in the cellar	3/4" 1"	**11825 11826**	**61**
Hygiene regeneration salt Sanitabs	Regeneration salt with integrated hygiene cleaning components in 8 kg sack		**94241**	**62**

Duplex soft water unit – compact

AQA life S - a new technological dimension

AQA life is a Duplex soft water unit for the smallest of spaces.
AQA life operates with AQA perla technology, the heart of AQA life is the tried and tested AQA perla valve.
Regeneration takes place in continuous current. By doing this, relatively higher capacities can be achieved using less regeneration medium and the regeneration water requirement is also minimised.
The control of the operation and regeneration is carried out with the easy to operate electronic control Soft-Control.
Thanks to innovative precision mineralisation with electronic meter, an exact brine admeasurement with a high degree of reproducibility is ensured. The internal hydraulic as well as the alternating operating mode allow high flow rates.
Simultaneously, the alternating operating mode guarantees optimal levels of hygiene.
Scope of delivery: AQA life soft water unit with Multiblock X, connection set DN32/32
AQUATEST hardness tested.

Technical specifications: Mains power supply 230 V/50 Hz, nominal pressure PN 10, operating pressure 2.5-8 bar (36-116 psi), water-/ambient temperature max. 30/40 °C (86/104 °F)

Type		AQA life S
Nominal connection width	DN	32 (G 1 1/4˝)
Nominal flow (in acc. with DIN EN 14731)	m^3/h	1.0
Residential units		1 - 2
Dimensions	mm	610 x 410 x 505
Order no.		**11349**

AQA life S

- **The most compact in its class**
- **Duplex unit**
- **Round the clock soft water**
- **With the most modern technology**
- **Low salt and water requirement**
- **With optional solar module suitable for solar heating**

Important optional accessories

Type	Description		Order	Page
AQA solar Modul	Conversion model for BWT soft water units. Delivers a second water quality for solar heating		**11807**	**54**
Sole pumping unit Bewasol	Pumping unit for soft water units, which is installed under the backflow level		**11808**	**61**
Water protection System Aquastop	Electronic protection against water damage in the cellar	3/4" 1"	**11825 11826**	**61**
Hygiene regeneration salt Sanitabs	Regeneration salt with integrated hygiene cleaning components in 8 kg sack		**94241**	**62**

Regeneration salt with hygienic effect

SANITABS

Sanitabs were developed by BWT for the regeneration of water softeners in private households. SANITABS is a regeneration salt with an effective cleaning component in tablet form with impressive hygienic effect. In convenient 8 kg sacks.

Sanitabs	8 kg
Order no.	**94241**

NEW: BWT - Solar connection module

AQA solar Modul – save for the future!

A solar collector is already installed on every fourth house in Germany. But beware: if the system becomes calcified through hard water, the solar yield is considerably lower. The solution: a soft water system, which also offers many advantages for the entire house.

Normally, an "energy brake" is seen positively: anyone using less energy is saving money. And even though the "energy brake" limescale has been used as an advantage within living memory, we use the insulating effect of lime cement (exterior plaster) and plaster (interior plaster) when building a building – In the summer, it stays cool in the house and in the winter, the heat disperses less quickly. On the other hand, should the heat be led from one side of a wall to the other with as little loss as possible – any heat exchanger works in this way – then the situation is somewhat different. Then, limescale actually becomes an unwanted "energy brake".

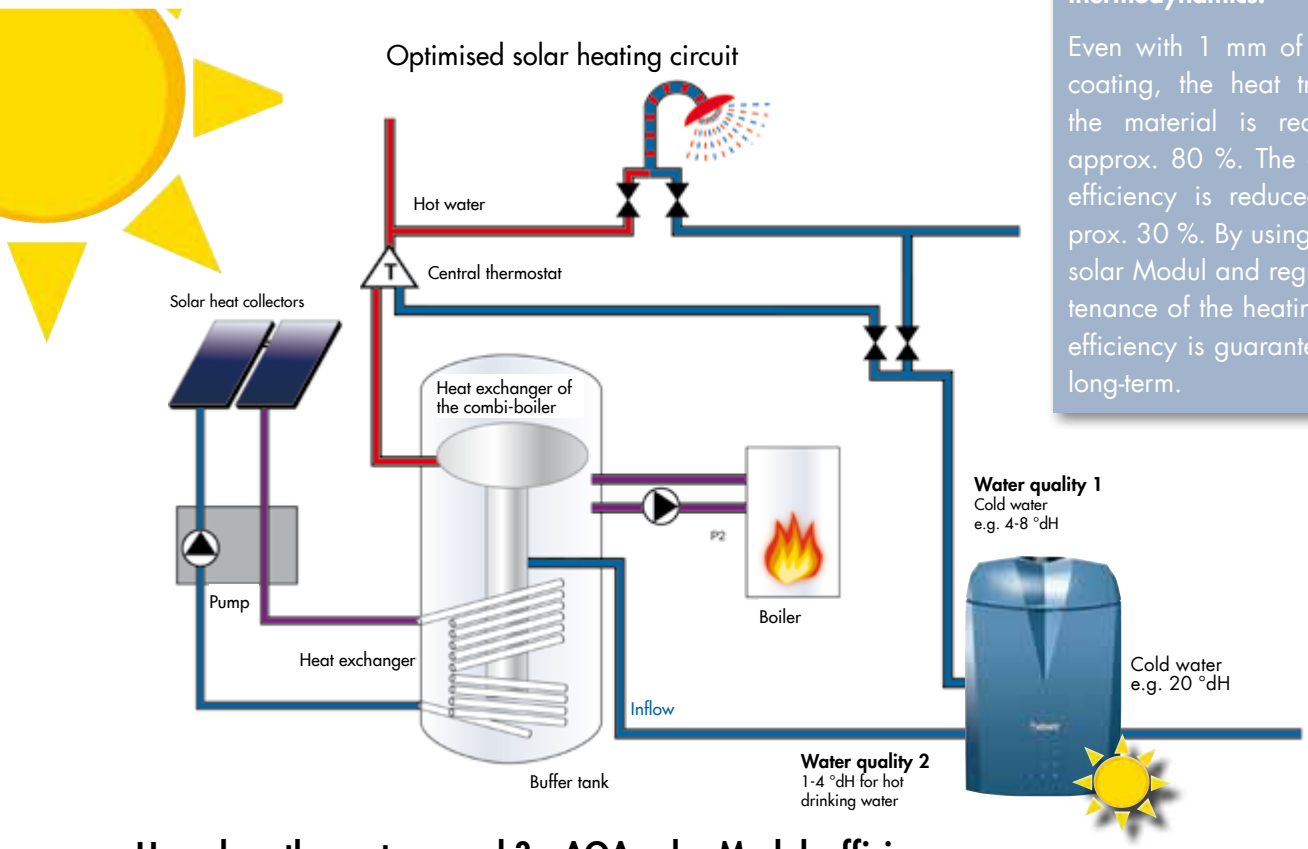
Water that is too hard - the solar heating system's worst enemy

It is precisely this which can become a problem with a classic solar heating system: the heat absorbed in the solar collector should be passed through the heat exchanger to the colder water in the buffer tank. If the wall of this heat exchanger is calcified by hard, mineral water, the solar yield is considerably lower. This is because this "heat exchanger wall insulation" inhibits efficient heat transfer. The house owner notices the calcification when he has less hot water available. What he doesn't notice so readily is that the energy balance is further damaged.

If the planned temperatures and volume flows are no longer correct due to the calcification of the heat exchanger, then unplanned mixing of the buffer tank is the result, the layering is destroyed and the effective usable heat quantity is considerably restricted. AQA solar Modul by BWT is the simple solution here. The soft water, which is low in lime, prevents a "heat exchanger wall insulation" in all operating conditions, thus ensuring efficient heat exchange and the correct return temperature.

AQA solar Modul - saves energy and heating costs

The specific BWT-solution: AQA solar Modul



Short foray into thermodynamics:

Even with 1 mm of limescale coating, the heat transfer of the material is reduced by approx. 80 %. The degree of efficiency is reduced by approx. 30 %. By using the AQA solar Modul and regular maintenance of the heating system, efficiency is guaranteed in the long-term.

How does the system work?

AQA solar Modul is a soft water system. It exchanges the hardness components, calcium and magnesium, in the water. It provides different water qualities at 2 different outlets: One water outlet provides the perfect water (1-4 °dH) for the efficient heat exchange of solar technology.

The second output offers cold drinking water (4-8 °dH) with all the advantages of soft water throughout the entire house: brilliant crockery, a high gloss in your beautiful bathroom, protection of the fittings, pipes and installations, such as washing machines, dishwashers and coffeemakers. Saving of washing up liquid and washing powder as well as the exquisite feeling of soft water when showering and bathing.

AQA solar Modul: efficiency and technology are a big issue for us

The intelligent regeneration in the AQA solar Modul sets new standards in efficiency with regeneration: precision salt dosing and free choice of the regeneration point guarantee the lowest consumption of regeneration agent and water.

AQA solar Modul

Our high-performance units for hard water areas:

Bewamat 25 A and 75 A simplex soft water systems

Soft water – for more hygiene, enjoyment and value retention

Save money with soft water:

Soft water enhances the cleaning power of washing and cleaning agents, thus saving you up to 50 % of the costs of soaps and detergents. That's a real load off the environment and your wallet.

But you also save money when you heat up the water. When operated with fossil fuels, a 2 mm thick limescale coating on heating surfaces increases energy consumption by 20 % and this of course shows up in the heating bill. Limescale deposits in electric boilers damage the heating elements and this results in high repair costs.

Bewamat 25 A and 75 A with their modern design and construction, supply your entire household with wonderfully soft water.

Perfected state-of-the-art technology will convince you too:

- Consumption-controlled with automatic disinfection
- Individually adjustable water hardness level – completely in line with your needs
- With intelligent automatic regeneration that adapts to your wishes
- Our valves and electronic components offer you state-of-the-art technology – that you can only get from BWT, Europe's leading water treatment company
- Our products are developed in accordance with European quality and authorisation standards, which are the strictest in the world and exceed the usual international standards

You save:
- Energy and heating costs
- Up to 50 % of washing powder and detergents
- Shower gel and skin care products
- The time previously required for elaborate cleaning work in the bathroom

Enjoy, protect and save with BWT soft water

Limescale forms wherever hard water flows, drips or dries. This is because of the calcium and magnesium ions dissolved in it, which are responsible for the water hardness. The results of this are limescale encrusted pipes and water installations and calcified household appliances and fittings. In addition to this, limescale deposits also promote the faster growth of bacteria in domestic water systems. The costs involved here can be dramatic and excessive. For this reason alone, the installation of a BWT Bewamat soft water system is recommended, because it functions in line with the latest ion exchange principle which converts calcium and magnesium ions. In this way, wonderfully soft water is produced which offers many advantages, such as enhanced wellbeing, perfect limescale protection throughout the house and money savings. Place your trust in quality products – made in Germany – from Europe's leading water treatment company.

Simple enjoyment with soft water:

BWT soft water cares for the skin and looks after the hair and body in a wonderfully gentle way. Pure luxury: turn showering and bathing into a wellness experience. Dishes remain streak-free and retain their shine with soft water. Clothes washed in soft water are fresher, cleaner and softer. Ironing is easier and the radiance of the colours lasts for longer.

Reliable protection with soft water:

BWT soft water is good for the whole bathroom and protects it permanently. Because the stains on all surfaces, glass shower partitions and fittings are significantly reduced, daily cleaning is made considerably easier, so that your bathroom can sparkle with a permanent sheen. Soft water also means reliable limescale protection for your complete pipework and all connected appliances. The service life of washing machines, dishwashers, coffee machines and kettles, as well as the maintenance intervals of aerators, are extended significantly.

The re-invention of traditional water treatment

Bewamat 75 A

Water softeners

Hardness regulation and automatic disinfection

Bewamat 75 A and 25 A
Intelligent quantity-dependent regeneration
Automatic regeneration activation

The unit is equipped with a device that disinfects the ion exchange resin during the regeneration. Spring-loaded non-return valves protect all water connections on the inlet side of the unit.
Bewamat 75 A has two capacity levels that can be set on the controller, making the unit suitable for larger applications.
The system complies with all relevant national and international standards.

Type		25 A	75 A
Nominal connection width	DN	32 (G 1 1/4″)	
Nominal pressure	bar	10	
	psi	145.0	
Nominal flow rate according to EN 14743	m³/h	1.4	1.8
Nominal capacity according to EN 14743	m³ x °d (mol)	25 (4.5)	75 (13.4)
Dimensions (H/W/D)	mm	640/390/560	1090/390/560
Regenerative consumption per regeneration	kg	1.2	3.5
Regenerative water requirement ca.	litres	55	128
Order no.		**11324**	**11325**

Bewamat 25 A

AQA perla and Bewamat A - now able to be upgraded with the AQA solar Modul for a long-term efficient solar heat!

Anyone who already owns an AQA perla or Bewamat water softener can now easily upgrade it with the AQA solar Modul.

The module, which is directly connected to the soft water system, offers two different water qualities: on the one hand, it offers perfect water (1-4 °dH) for efficient solar heating.
AQA perla or Bewamat also provides soft water in drinking water quality, water softened to 4-8 °dH, from a second outlet.

Solar connection module

AQA solar, connection module retro-fitting kit for AQA perla, Bewamat 75 A, Bewamat 25 A

Module for upgrading the soft water systems AQA perla and Bewamat for operation with solar heating.

Solar connection module	
Order no.	**11807**

AQA SOLAR MODUL
NEW: Can now be ugraded for solar heating!

Water softeners

BWT AQUADIAL softlife - SOFT WATER HEAVEN - A blissful world for a perfect lifestyle

BWT AQUADIAL softlife – The perfect feeling of wellness, protection and comfort.

BWT AQUADIAL softlife – Series

Perfect softened water is great for the whole family. Tough on scale and scum, kitchen and bathroom cleaning limes are reduced, leaving more free time for you and the family. Luxuriously silky water will bring a new dimension to washing, bathing and showering. Used shampoo, soaps and detergents wash away more easily leaving your hair clean ond shiny and clothes soft to the touch. The BWT AQUADIAL softlife also protects your home and all your equipment from the damaging effects of limescale. Washing-machines, dishwashers ond other similar appliances will be protected and continue to operate for many years.

Technical features and special characteristics

- Compact design
- Standard connection and hardness analysis kits included
- Fully automatic & easy to use
- Proportional brining (more capacity, less salt consumption)
- Pre-assembled and factory-set for easy installation and set-up
- Advanced digital control system for maximum performance and efficiency
- Rotary valve for greater reliability
- Tested and fully compliant with the European quality Norm EN 14743
- Automatic resin disinfection during regeneration (Bio cell option)

AQUADIAL softlife

Type		10 Bio	15 Bio	25 Bio
Nominal connection width	DN		20 (G 3/4˝)	
Nominal pressure	bar		8.0	
	psi		116	
Nominal flow rate according to EN 14743	l/h	1.4	1.56	1.68
Nominal capacity according to EN 14743	m^3 x °d (mol)	26 (4.66)	43 (7.7)	75 (13.4)
Dimensions (W/D/H)	mm	270/480/532	270/480/602	270/480/804
Salt consumption per regeneration	kg	1.5	2.0	3.0
Water consumption per regeneration	litres	85	105	145
Order no.		**11360**	**11361**	**11362**

Soft water against the limescale energy brake

NEW: Rondomat Duo S

From autumn of 2012

The new heavy-duty softener series Rondomat Duo S – cutting-edge technology that takes up hardly any space

Rondomat Duo S –
the compact design permits its installation in the smallest space

With the new generation of officially certified heavy-duty softeners, the Rondomat Duo S series, BWT continues to define the state of the art with regard to high-performance systems.

The Rondomat Duo series was tested and certified by the German Gas and Water Association (DVGW) in 1994 as the first heavy-duty softener series with a performance between 3.5 and 35 m³/h. All requirements such as

- head loss < 0.8 bar
- low consumption of salt and rinsing water
- disinfection test at every regeneration
- superimposition of a time-priority switch on water volume control
- tested materials and much else

were fulfilled and/or over fulfilled. The very short regeneration times and a special salt-dissolving technique enabled high flow rates at low capacity (small resin volume) to be achieved.

Rondomat Duo softener

Depending on the operator's actual consumption, however, there are frequent too long periods of disuse, which must be avoided for hygienic reasons. The problem is that in order to master a short-lived peak flow, certain resin volumes (capacities) are kept in reserve, which, in periods of low water use (e.g. weekends, holidays, etc.) just get too large, thus causing unnecessary consumption of salt and rinsing water by the regeneration triggered by the time-priority switch, which in turn can lead to hygienic problems (stagnation).

The new Rondomat Duo S meets these requirements through its adapted (consumption-adjusted) operation mode. The core of this technique is the "Smart Meter" – the intelligent water meter – and the new Soft Control T (with touch panel). They enable an automatically flow rate-controlled switchover to the differential pressure-optimised softener column, precision mineralisation with intelligent brine suction for consumption-related salt and rinsing water consumption (efficient operation), and the adjustment of capacity to actual consumption (optimum capacity). In addition, the operator can programme in a hygienic rinse of the water meter upon expiry of an adjustable down time. In this way he can actively counter a possible stagnation in the resin bed.

If necessary an optional Aqua Watch function can be activated – i.e. a water flow of less than 60 l/h within 10 minutes can activate an alarm. Dosing pumps for a quantity-based extra dosage (e.g. corrosion control) and a hygiene set (during the brine suction a dosing pump can pump extra chlorine dioxide) can be connected directly to the electronics. Particularly noteworthy is the simple electric connection via colour-coded plug connections instead of the complicated use of terminal screws. Automatic blending, electronic power pack with low energy consumption and optional connection to any facility management system are a matter of course for the Rondomat Duo S. A new design and the space-saving compact structure show that sustainable technology.

Duplex soft water units

Rondomat Duo S - DVGW (awaiting DVGW approval) [NEW]

Quantity dependent controlled soft water Duplex unit, energy efficient touch screen panel control with smart metering function: Consumption log can be read on the device and via USB interface on a PC, connections for ZLT and network integration; automatic volume adapted pillar change and mixing; efficiency optimised regeneration. Scope of delivery: complete unit, hardness testing device.

Rondomat Duo S	S1	S2	S3
Best.-Nr.	11346	11347	11348

Connection technology DVGW see pages 60 and 61.

Technical data: Rondomat Duo S DVGW

Nominal pressure 10 bar, operating pressure 2.5 - 8.0 bar (36-116 psi), mains power supply 230 V/50-60 Hz, protection class IP 54, water/ambient temperature max. 5/25 °C (41/77 °F)

Type		S1	S2	S3
Nominal connection width	DN		32 (1 1/4″ male thread)	
Nominal flow rate	m^3/h	2.6	3.5	5.0
Nominal flow rate during mixing to 8 °d**	bar	0.7	0.8	0.8
Total height/ width/ depth	mm	1200/900/470	880/1200/900	1550/2050/1200

**Values based on a raw water hardness of 20 °dH.

With option for a PC interface on request

**Values based on a raw water hardness of 20 °dH.

Drinking water softener with smart metering

Rondomat Duo S

- **Efficient operation: Through precision mineralisation and intelligent brine pumping**
- **Adapted flow switchover to top capacity or basic load pillar**
- **Smart metering function and evaluation software enables the optimisation of the operating conditions**
- **Integration in all BUS systems possible**

Regeneration salt with hygienic effect

SANISAL FB

Sanisal FB was developed by BWT for the regeneration of water softeners in commercial situations. It conforms with the requirements of **the food and beverage industry**. For large consumers, 20 kg bag.

Sanisal FB	20 kg
Order no.	94242

Sanisal FB

SANISAL H

Sanisal H was developed by BWT for the regeneration of water softeners in commercial situations. It conforms with the requirements for **hospitals, schools and public buildings**. For large consumers, 20 kg bag.

Sanisal H	20 kg
Order no.	94243

Sanisal H

The re-invention of traditional water treatment

Drinking water softener

Rondomat Duo 2-3

Duplex soft water units

Rondomat Duo - DVGW Type 2 - 10

Rondomat Duo - DVGW Type 1 (Registered for DVGW certification)

Quantity dependent controlled soft water pendular unit, with soft water short cycle generator, intelligent control electronics with control head and control device with ZLT-connection, individual setting of the raw water hardness at the press of a button, no additional system or pipe partition required, regeneration ends shortly before switching cycle, noticeable space-saving, integrated germ protection system, short and fast regeneration, optimal salt and flushing water consumption - independent of the prescribed water pressure. Scope of delivery: complete unit, hardness testing device.

Type Rondomat Duo-DVGW	Type 1*	Type 2	Type 3	Type 6	Type 10
Order no.	11317	11151	11152	11153	11154

*** Registered with the DVGW**

Technical specifications: Rondomat Duo - DVGW

Nominal pressure 10 bar, operating pressure 2.5 - 8.0 bar, flow pressure min. 2.5 bar, mains connection 230 V/50 - 60 Hz, safety class IP 54, water/ambient temperature, max. 25/30 °C for DVGW; 30/40 °C for industry.

Type Rondomat		Type 1	Type 2	Type 3	Type 6	Type 10
Nominal connection width	DN		32 (1 1/4″ AG)		50 (2″ IG)	
Nominal flow rate during mixing to 8 °dH**	m^3/h	2.5	3.5	5.0	10.0	17.0
Pressure loss during continuous flow	bar	0.9	0.6	0.8	0.7	0.8
Regeneration substance consumption per regeneration	kg	1.1	1.44	3.4	8.0	12.5
Electrical connection performance	Watt	40/20	50/20	70/20	95/20	120/20
Total height	mm	1200	880	1400	1650	1550
Total depth	mm	470	470	470	650	650
Total width	mm	900	1200	1200	1900	2050

Connection technology DVGW see pages 60 and 61. When installing the Rondomat Duo 6+10 the connection Set, order no. 11929, is absolutely necessary.

Industrial softener

Rondomat Duo 10 - I

Duplex soft water units

Rondomat Duo - I (industrial softener)

The ideal softener for use in the field of industrial service water.
Quantity dependent controlled duplex unit, without disinfection equipment, with soft water short cycle generator, intelligent control electronics with control head and control device with ZLT-connection, individual setting of the raw water hardness at the press of a button, regeneration ends shortly before switching cycle, noticeable space-saving, integrated germ protection system, short and fast regeneration, optimal salt and flushing water consumption - irrespective of the prescribed water pressure.
Scope of delivery: complete unit, 5 m flushing water hose 13x2 and AQUATEST-hardness testing device.

When installing the Rondomat Duo-I 6 + 10, the connection set, order no. 11929, p. 61, is absolutely necessary.

Technical specifications: Rondomat Duo-I

Nominal pressure 10 bar, operating pressure 2.0 - 8.0 bar (29-116 psi), flow pressure min. 2.5 bar (36 psi), mains connection 230 V/50 - 60 Hz, safety class IP 54, water/ambient temperature, max. 25/30 °C for DVGW; 30/40 °C (86/104°F) for industry.

Type		Type 2	Type 3	Type 6	Type 10
Nominal connection width	DN	32 (1 1/4″ male)		50 (2″ female)	
Continuous flow at residual hardness 0.1 °dH, max.**	m^3/h	2.0	3.0	6.0	10.0
	gpm	8.8	13.2	26.4	44
Pressure loss during continuous flow	bar	0.7	1.0	1.0	1.0
	psi	10.2	14.5	14.5	14.5
Regeneration substance consumption per regeneration	kg	1.44	3.4	8.0	12.5
Electrical connection performance	Watt	20	20	20	20
Total height	mm	880	1400	1650	1550
Total depth	mm	900	900	1200	1200
Total width	mm	1200	1200	1900	2050
Order no.		**11178**	**11179**	**11180**	**11181**

Hot Water-Soft Water Systems

Time-Controlled Hot Water Systems

Rondomat HW/Z

For the softening of hot water up to 80 °C (176 °F). Individual time-controlled systems, fully automatic control with a 1-12 day timer, 5-cycle-red brass valve in hot water design with integrated residue hardness valve, ion exchange resin, hardness testing device (AQUATEST), stainless steel resin bottle, separate regeneration agent container.
Technical specifications: Pressure rating 8 bar (116 psi), operating pressure 2.7-7 bar (39.2-101.5 psi), electrical connection 230 V/50 Hz, device voltage 24 Volt, safety class IP 44, water-/ambient temperature, max. 80/40 °C (176/104 °F).

Type		A 75 HW/Z
Maximum nominal diameter	DN	25 (R 1˝ IG)
Salt spring container Ø / Height	mm	470 / 630
Resin bottle Ø / Height	mm	219 / 1135
Order no.		**11070**

Hot Water Systems Rondomat HW/Z

Accessories for water softeners, ERF, QSF, AKF

Multiblock Module GIT

Multiblock Module GIT

For rapid docking to the connection module (horizontal or vertical).

Type	Multiblock Module GIT
Maximum nominal diameter	DN 32
Order no.	**51969**

Blending valve

Blending valve

Type		Z, WZ
Maximum nominal diameter	DN	32
Order no.		**11992**

Overflow valve

Overflow valve

For installed flush valves or flood showers.

Type		Overflow valve
Connection pressure rating	DN	32
Order no.		**11802**

Salt lack indicator

Salt lack indicator

For Rondomat 50 - 300 Z / WZ /DWZ / E-DWZ

For installation into the sieve tray with indicator device for wall mounting.

Type	Salt lack indication
Maximum nominal diameter	DN 25
Order no.	**11973**

Uni-valve block

Uni-valve block

Water supply in acc. with German DWO during interruption of the flow of water to the softener.

Type	Rondomat Duo 3	Rondomat Duo 6
Maximum nominal diameter	DN 32	DN 50
Order no.	**11821**	**11822**

Multiblock X

Multiblock X

Using the Multibock X made of brass, the water flow to the softener or limescale protection unit remains uninterrupted. The water supply is maintained via an integrated by-pass, so that maintenance work can be carried out without any problems.

Type	Multiblock X 1“	Multiblock X 1 ¼“
Order no.	**30999**	**31000**

AQA test

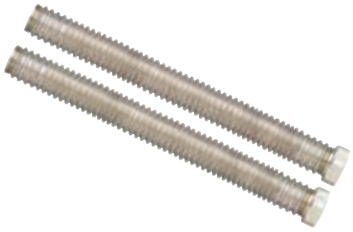
Type	
Order no.	**1-308543**

Accessories for water softeners, ERF, QSF, AKF

Connection set DN 50 - Drinking water

2 flexible armoured hoses, length 800 mm, one side with cap nut 2″, other side with male thread 2″, including seals

Type	Connection set
Nominal connection width	DN 50
Order no.	**11876**



Connection set DN 50 - Drinking water

Connection set DN 50 - Industrial use

2 flexible armoured hoses, length 800 mm, one side with cap nut 2″, other side with male thread 2″, including seals

Type	Connection set DN 50
Nominal connection width	DN 50
Order no.	**11929**

Connection set DN 50 - GIT

GIT hose set DN 32/32

2 flexible armoured hoses with formed angles and DN 32 cap nuts on both ends, TÜV tested, with 4 seals, 1 m.

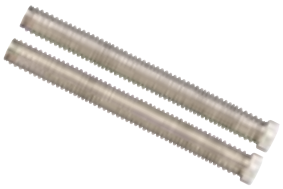
Type	GIT hose set DN 32/32
Order no.	**11974**

GIT hose set

Connection set DN 32/32

For installation of BWT water softeners with nominal connection DN 32 to the Multiblock module consisting of:
2 flexible armoured hoses with formed angles and DN 32 cap nuts on both ends, TÜV tested, with 4 seals, 0.6 m.

Type	Connection set DN 32/32
Order no.	**11994**



Connection set DN 32/32 - Drinking water

Aquastop including humidity sensor

Electronic water shut-off- for the prevention of water damage

Type		3/4″ female	1″ female
Nominal connection width	DN	20	25
Nomial pressure	bar (psi)	0.5-10 (7.3 - 145)	
Order no.		**11825**	**11826**

BWT Aquastop

Bewasol sole pumping station for building services softener

The sole pumping station Bewasol is used when the water softening system is installed below the backflow level and the flushing hose / overflow hose cannot be laid at a slope to the sewer connection. 2 inlets: OUT overflow, horizontal, pipe inside 19 mm and out softener unit, vertical hose 38 mm (1 1/4" + 3/4")

Type	BEWASOL
Order no.	**11808**

BEWASOL

The re-invention of traditional water treatment

Regeneration salt with hygienic effect

SANITABS and SANISAL are used like standard regeneration salt. The difference is made by the hygiene cleaning component integrated into the salt (patent pending).

This hygiene effect occurs in the brine container shortly after the addition of SANITABS or SANISAL. In this way, impurities and deposits in the softening system are removed alongside the regeneration.

In the last regeneration step, the flush, the impurities are removed and flushed into the waste together with the residue of the regeneration salt and cleaning component. Then the switch to drinking water operation takes place.

SANITABS

Sanitabs were developed by BWT for the regeneration of water softeners in **private households**. SANITABS is a regeneration salt with an effective cleaning component in tablet form with impressive hygienic effect. In convenient 8 kg bag.

Sanitabs	8 kg
Order no.	**94241**

SANISAL FB

Sanisal FB was developed by BWT for the regeneration of water softeners in commercial situations. It conforms with the requirements of **the food and beverage industry**. For large consumers.

Sanisal FB	20 kg
Order no.	**94242**

SANISAL H

Sanisal H was developed by BWT for the regeneration of water softeners in commercial situations. It conforms with the requirements for **hospitals, schools and public buildings**. For large consumers.

Sanisal H	20 kg
Order no.	**94243**

Regeneration tabs - Standard

Tablets in acc. DIN EN 973, 25 kg bag.

Type	**Regeneration tabs**
Pallet order size	40 bags
Order no.	**51998**

Multimat backflow preventor

- independent from initial pressure (non-return valve included)
- no external energy necessary
- no air intake to the pipe system
- approval equivalent to pipe disconnecting system. Installation type 2 and dangerous goods classification 1 - 4
- simple construction
- cheaper than pipe disconnecting system
- housing made of brass (DN 20 - 65) or grey cast iron (DN 80)
- epoxy coated (DN 80)
- spring and valve seat made of stainless steel
- lockable connection for pressure gauges
- non-return valve at water inlet
- release valve in middle chamber
- non-return valve at water outlet

Multimat DN 20 - 32

Type	DN	20	25	32
Nominal pressure	PN (psi)		10 (145)	
Nominal flow rate	m³/h (gpm)	3.5 (15.4)	3.5 (15.4)	14 (61.6)
Pressure drop	bar (psi)		1.0 (14.5)	
Temperature max.	°C (°F)		60 (140)	
Installation length	mm	260	280	370
Order no.		**11932**	**11933**	**11934**

Multimat DN 20 - 32

Multimat DN 40 - 80

Type	DN	40	50	65	80
Nominal pressure	PN (psi)		10 (145)		
Connection thread	R	1 1/2″	2″	flange connection according DIN	
Nominal pressure	m³/h (gpm)	16 (70.5)	16 (70.5)	35 (154)	56 (247)
Pressure drop	bar (psi)		1.0 (14.5)		
Temperature max.	°C (°F)		60 (140)		
Installation length	mm	370	394	460	460
Order no.		**11935**	**11936**	**11937**	**11938**

Multimat DN 40 - 50

Testomat 2000 BOB

BOB operation without monitoring for up to 72 hours. Control device for monitoring the max. permitted residual hardness acc. to soft water units through regular chemical analyses based on indicators set using limit values. With impulse release for the actuation of alarm systems or an application, additional direct connection of a solenoid valve with lock.
Technical specifications: operating pressure 0.1 - 8 bar (1.45 - 116 psi), operating temperature, max. 40 °C (104°F), automatic interval 0-99 min., indicator solution/analysis 0.09 cm³, electrical connection 230 V/50Hz, H/W/D 380/480/280 mm.

Type	2000 BOB
Order no.	**11833**

Indicator solution for Testomat 2000 BOB 500 ml

Type				
Colour change at	0.05-0.5 °dH	0.25-2.5 °dH	1.0-10.0 °dH	2.5-25.0 °dH
Order no.	**11858**	**11859**	**11860**	**11861**

Indicator solution for Testomat F BOB 500 ml

Type			
Colour change at	0.1 °dH	0.5 °dH	1.0 °dH
Order no.	**11986**	**11985**	**11984**

Testomat 2000 BOB

Bewados E3 Modul

Dosing technology for corrosion and scale protection

Internal pipe sealing by means of mineral substance dosing

Whenever water is taken off the DVGW-tested mineral dosing equipment Bewados E Modul releases less than 0.005 g (5 mg/l) per litre of the „mineral substance combinations˝ QUANTOPHOS®.The mineral substance combinations react at the inner surface of the pipes and gradually build up a protective layer which separates the water from the tube (internal pipes sealing).
Existing rust and deposits sources are sealed and neutralised. In this way corroded pipes are sanitised. In cases of formation of corrosive sludge, it is recommended that the installation is cleaned with BWT rinsing equipment first to ensure solid internal surfaces for the subsequent mineral substance dosing. QUANTOPHOS®, used for ˝internal pipe sealing", are ˝mineral substance combinations" that are specially adjusted to take the individual water and material properties into account.

Dosing unit

Electronically controlled mineral substance dosing unit with integrated diagnostic system, coding switch, optical reserve display and optical/acoustical container change indication. Mounting is possible in pipes made of all materials in horizontally or vertically.
Mineral substance container QUANTOPHOS® F / IMPULSAN is not included in the scope delivery.
Technical specifications: permanent flow rate about 50 % of the maximum flow rate, dosing starts at 30 l /h, dosing interval 0.53 l, operating pressure max. 10 bar, water and ambient temperature max. 25/30 °C, mains connection 230 V/50 Hz, power consumption 12 V/7 VA, safety class IP 41.

Bewados E 20 Modul

Bewados E 3 Modul

Type		E 3 3/4˝	E 3 1˝
Nominal connection width	DN	20	25
Flow range	m³/h (gpm)	0.03-3.5 (0.13-15.4)	
Pressure drop for max flow rate	bar (psi)	0.8 (11.6)	
Container water treated per box	m³ (gal)	30 (7920)	
Order no.		**17041**	

Bewados E 20 Modul

Type		E 20 1˝	E 20 1 1/4˝
Nominal connection width	DN	25	32
Flow range	m³/h (gpm)	0.03-5 (0.13-72.5)	
Pressure drop for max flow rate	bar (psi)	0.8 (11.6)	
Container water treated per box	m³ (gal)	200 (52 800)	
Order no.		**17042**	

Connection module

Necessary connection technology

Connection module

Type		3/4˝	1˝	11/4˝
Nominal pressure	m³/h (gpm)		16 (70.5)	
Order No.		**30012**	**30014**	**30020**

Dosing units
Dosing additives

Medotronic® F

Electronically controlled dosing unit, complete with contact water meter, electronically controlled dosing pump, dosing and suction pipe, suction lance with empty indication and run-dry protection, F30 including Y-piece and additional suction lance 20 l mineral substance container QUANTOPHOS® not included.
Technical specifications: operating pressure 10 bar (145 psi), max. permanent flow rate 100 % of max. flow rate, dosing interval 2 l, approx. 200 m³ of water can be treated per 20 l container of QUANTOPHOS®/IMPULSAN , water and ambient temperature max. 30/40 °C (86/104 °F), permissible suction height max. 1200 mm, mains connection 230 V/50 Hz, safety class IP 65.

Type		F 10	F 20	F 30
Nominal connection width	DN	25 (1″)	40 (1 1/2″)	50 (2″)
Flow range	m³/h (gpm)	0.07-10 (0.31-44)	0.1-15 (4.4-66)	0.1-30 (4.4-132)
Min. flow rate	l/h (gpm)	30 (0.13)	100 (0.44)	100 (0.44)
Length including thread	mm	378	438	flange connection
Order no.		**17010**	**17011**	**17034**

* this only applies in combination with the original BWT mineral substance combination QUANTOPHOS®

Medotronic® F

Y-piece for Medotronic® F

Additional suction lance with suction hose and Y-piece for dosing unit Medotronic® F. For connection of a second 10 l or 20 l container for high mineral substance consumption.

Type	Y-piece
Order no.	**17999**

Y-piece for Medotronic® F

Mineral substance combinations/additives for Medotronic® F Mineral substances QUANTOPHOS® F, Cu2

Type	F1/H1	F2/H2	F3/H3	F4/H4	FE/HE	Cu2
Packaging unit	20-kg-bag in box	20-kg-bag in box	20-kg-bag in box	20-kg-bag in box	20-kg-bag in box	20-kg-bag in box
Pallet order size (800 x 1200 mm) pcs.	24	24	24	24	24	26
Order no.	**18027**	**18028**	**18029**	**18030**	**18031**	**18032**

Dosing unit Medotronic P

Dosing stations

Dosing unit Medotronic® P

Electronically controlled dosing unit for the dosing of mineral substance combinations QUANTOPHOS® P with disinfecting component. Complete with contact water meter, seeding point and filling equipment, electronically controlled dosing pump, dosing container, dosing and suction pipe.
Turbo mixing system (manual or electric stirrers are no longer necessary). From DN 50 onwards flange connection PN 10 according to DIN 2501 part 1 (counter flanges built in on site).
For all types: Operating pressure 10 bar (145 psi), pressure drop at max. flow rate 0.8 bar (11.6 psi), mains connection 230 V/50 Hz, water/ ambient temperature max. 30/40 °C (86/104 °F).

Type		P 20	P 30	P 110	P 180
Nominal connection width	DN	40	50	80	100
Flow range	m^3/h (gpm)	0.1-20 (0.44-88)	0.1-30 (0.44-132)	0.6-75 (2.6-330)	0.8-90 (3.5-396)
Permanent flow rate			100 % of max. flow rate		
Min. flow rate	ca. l/h (gal)	100 (0.44)	100 (0.44)	600 (2.6)	800 (3.5)
Dosing interval	l (gal)	2 (0.53)	5 (1.3)	10 (2.6)	10 (2.6)
Dosing container contents	l (gal)	60 (15.8)	100 (26.4)	100 (26.4)	200 (52.8)
Quantity of water	m^3	500	830	830	1660
to be treated per dosing	gal	1321	2192	2192	4385
Container filling	ca. m^3 (gal)	460 (121 440)	770 (203 280)	770 (203 280)	1540 (406 560)
Length	mm	438	310	225	250
Order no.		**17012**	**17013**	**17014**	**17015**

Dosing unit Medomat FP

Dosing unit Medomat® FP

Electronically controlled dosing unit for dosing of BWT additives into open and closed systems, e.g. drinking water, swimming pool water, cooling water and air-conditioning water. Parallel control via circulation pump, solenoid valve, flow meter, timer or manual control. Electronic dosing pump with optical empty indication and run-dry protection. Turbo mixing system (manual or electric stirrers are no longer necessary). Lockable dosing containers, suction pipe, 5 m dosing pipe, suction lance, seeding point (see accessories, not included).
For all types: Operating pressure 10 bar (145 psi), water/ ambient temperature max. 30/40 °C (86/104 °F), pump power can be continuously adjusted, mains connection 230 V/50 Hz.

Type		FP 60	FP 100	FP 200
Dosing performance max.	l/h (gpm)	6 (0.03)	12 (0.05)	12 (0.05)
Dosing container contents	l (gal)	60 (15.8)	100 (26.4)	200 (52.8)
Order no.		**17007**	**17008**	**17009**

Dosing units / mineral substance combinations

Corrosion protection in copper pipes

for hard acidic waters with critical quality; Pitting in cold water pipe installations (pitting type I).
BWT recommendation:

1.1 BWT protective filter
1.2 water softening to about 8 °dH with BWT water softeners
1.3 for alcalisation after softening, for waters with up to 25 mg/l free carbon dioxide acid (base capacity K_B 8.2 : 0.6 mol/m³): dosing of Quantophos® Cu 2 with Bewados E20 or Medotronic® F
1.3.1 for water with 50 mg/l free carbon dioxide acid (base capacity 8.2 K_B : 1.2 mol/m³): dosing of Quantophos® CuP with Medotronic® CuP 10 or CuP 20

For soft acidic waters with low carbonate hardness, pitting in warm water installation (pitting type II) – often in combination with mechanical erosion in cold and warm water installations.
BWT recommendations for prevention and sanitation:

2.1 BWT protective filter
2.2 for waters with up to 25 mg/l free carbonic acid (base capacity KB 8.2 : 0.6 mol/m³): dosing of Quantophos® Cu 2 with Bewados E20 module or Medotronic® F
2.2.1 for water with 50 mg/l free carbonic acid (base capacity KB 8.2 : 1.2 mol/m³): dosing of Quantophos® CuP with Medotronic® CuP 10 or CuP 20

In case of copper corrosion a water analysis and expert consultation are always necessary. Special sanitation programmes on request.

Dosing unit Medotronic® CuP

Electronic dosing unit for dosing of QUANTOPHOS® CuP solutions. Complete with contact water meter, electronically controlled dosing pump, dosing container, dosing and suction pipe. Turbo mixing system.
For all types: permanent flow rate 100 % of max. flow rate, operating pressure 10 bar (145 psi), pressure drop at max. flow rate 0.8 bar (11.6 psi), mains connection 230 V/50 Hz.

Type		CuP 10	CuP 20
Nominal connection width		DN 25	DN 40
Operating range	m³/h (gpm)	0.04-10 (0.31-44)	0.06-20 (0.44-88)
Min. flow rate approx.	l /h (gpm)	40 (0.31)	60 (0.44)
Dosing interval	l (gal)	1 (0.26)	2 (0.53)
Dosing container contents	l (gal)	60 (15.8)	100 (26.4)
Length	mm	378	438
Order no.		**17016**	**17017**

Mineral substance combination QUANTOPHOS® CuP

Portion bag for Medotronic® CuP. Only available in packaging unit: 12 x 1000 g bag in cardboard box.

Type	
Order no.	**18021**

Dosing unit Medotronic® CuP

The BWT component dosing system

How to choose your individual dosing unit:

1. When a contact water meter is used, select the model according to the flow rate and dosing performance.
2. Select the dosing pump dependent on the requirements.
3. Select the dosing container according to the quantity of water to be treated with one filling, choose between automatic or manual mixing.
4. Now select the seeding point according the area of application and pipe diameter.
5. Select the suitable dosing pipe, connection and, if necessary, suction piece, hose adapter, and telescopic suction lance.
6. Now select the dosing additives together with the necessary testing devices according to the application.

Example:

problem/situation:
An industrial water distribution system (galvanized steel) in an industrial plant with medium hard water has to be protected against scale and corrosion problems. The peak flow rate is 16 m³/h (70 gpm), the monthly water consumption 800 m³. The largest nominal connection is DN 50.

solution:
Dosing of QUANTOPHOS® P3 - solution 0.12 l/m³

1. contact water meter type Qn 15
2. Dosing pump type Medo® G
3. dose with automatic mixing
4. cold water seeding point 1/2"
5. dosing pipe 4 x 6

The right dosing pump for each specific dosing condition

		
Pump Series	**Medo® G**	**Medo® XB**
Areas of application	Universal usage for all dosing tasks	For dosing chemicals in the swimming pool and cooling water areas and for domestic applications.
Performance Range	0.00001 - 0.026 gpm @ 145 psi 4 ml - 6 l/h @ 10 bar	0.003 - 0.14 gpm @ 232-29 psi 0.74 - 32 l/h @ 16-2 bar
Drive	Stepping Motor	Magnetic Drive
Advantages	– Minimal dosage through stepping motor. – Even distribution of the metered medium. – No stroke adjustment necessary. – Perfectly suited for exhalant media tanks to a volume-maximized suction stroke. – One electronics system for all dosing applications. – Large, illuminated LCD display for all information that can be called up via the menu. The measured quantity is shown directly in the display. – Low resource consumption through energy accumulator. – Coverage of the entire performance range with only two dosing head versions.	– Different dosing head material versions enable the dosing of practically all chemicals. – Simplest possible operation through multifunction button. – Infinitely variable adjustment of the stroke length. – Optionally available as a low voltage version. – 2-stage level switch. – Constantly high process and product quality.

1. Component: contact water meters

Contact water meters for dosing pumps Medo® G

Types: Qn 2.5 - 15 m^3/h wet-dial water meter with contact mechanism and roller meter (multiple jet impeller meter).
Types: Qn 40 - 60 m^3/h dry-dial water meter with contact mechanism (Woltmann water meter).
For all types: operating pressure PN 10 (145 psi), pressure drop for peak flow rate 0.8 bar (11.6 psi) approx.
Incl. signal cable (order no. 57913).

Type		2.5	6	10	15	40	60
Nominal connection width	DN	20	25	40	50	80	100
Nominal flow rate	m^3/h	2.5	6	10	15	40	60
	(gpm)	(11)	(26.4)	(44)	(66)	(176)	(264)
Peak flow rate	m^3/h	5	12	20	30	150	250
	(gpm)	(22)	(52.8)	(88)	(132)	(660)	(1100)
Min. flow rate	l /h	30	70	100	100	600	800
	(gpm)	(0.1)	(0.3)	(0.4)	(0.4)	(2.6)	(3.5)
Dosing interval	l (gal)	2 (0.5)	2 (0.5)	2 (0.5)	5 (1.3)	10 (2.6)	10 (2.6)
Length	mm	190	260	300	270	225	250
Order no.		**17875**	**17874**	**17873**	**17872**	**17975**	**17974**

Contact water meter for dosing pumps Medo® G

Medo® XG

Specially designed for industrial use

0.003 - 0.14 gmp @
232-29 psi
0.74 - 32 l/h @16-2 bar

Magnetic Drive

- Customized to suit all industrial applications through specific electronic versions.
- Different metering head material versions enable the dosing of practically all chemicals.
- Infinitely variable adjustment of the stroke length.
- Optionally available as a low-voltage version.
- Optional PROFIBUS connection.
- 2-stage level switch.
- Programmable pressure stages.
- All information that can be called up via a menu, such as the quantity to be metered, is shown directly in the large, illuminated LCD display.

Medo® XS

For industrial applications where high dosing performance is a must

0.07-4.53 gmp @
174-58 psi
17-1030l/h @ 12-4 bar

Single phase module voltage or rotary current motor

- Two versions available: with and without electronics.
- Large, illuminated LCD display for all information that can be called up via the menu. The measured quantity is shown directly in the display.
- Customized to suit all industrial applications through specific electronic versions.
- Different dosing head material versions enable the dosing of practically all chemicals.
- Infinitely variable adjustment of the stroke length.
- Optional PROFIBUS-connection.
- 2-stage level switch.

2. Component: dosing pump

The Medo® G dosing pump NEW

provides various switching and control options (water meter, pulser, switching contact).
Membrane dosing pump with step motor and power storage, pump housing made of noryl, pump head made of PVC, PTFE - clad in elasto-membrane with material insert, O-ring EPDM, maximum volume intake stroke, due to this the problem-free dosing of gas media is possible.
Technical specifications: Temperature dosing medium max. 30 °C (86 °F), ambient temperature 5-40 °C/41-104 °F), relative humidity 10-90 %, mains connection 230 V/50 Hz, suction height max. (water) 2 m, safety class IP 65

For dosing BWT active ingredient solutions for drinking and domestic water treatment in accordance with the relevant DIN and DVGW or ÖVGW / SVGW guidelines.

For dosing BWT chemical solutions or:
- Sodium hypochloride (NaOCl)
- Sulphuric acid (H_2SO_4) up to 40 %
- Caustic soda solution (NaOH) up to 40 %
- Hydrochloric acid (HCl) up to 30 %
- Hydrogen peroxide (H_2O_2) up to 30 %
- Potassium permanganate ($KMnO_4$), at temperature of 20 °C (68 °F) for measured medium

Further chemicals on request.

The dosing pumps Medo® G are stepping motor powered membrane pumps with power storage. They offer the following programming possibilities:
- Continuous operation
- Operation with regulator or generator 0/4-20 mA
- Operation with water meter or pulser
- Dosing of a prescribed amount

Dosing pump Medo® G

- **A new, improved graphical display**
- **Better dosing in step mode and at high back pressure**
- **No motor drone at standstill**
- **Step Motor with 12V DC**
- **Immediate stop when the tank is empty**
- **No 230V- voltage inside of the pump and thus no destruction of power modules**

Medo® G

Type		G 6	G 6C
Maximum dosing performance ± 10 %	l/h	6.0 at 10 bar	6.0 at 10 bar
Dosing range	l/h	0.004 – 6.0	0.004 – 6.0
Performance during continuous operation	VA	20	20
Weight approx.	kg	3.0	3.0
Order no.		**17825**	**17826**

Dosing performance can be continuously set using keyboard and display. Optical dosing display via LED. Automatic pump shut off at operating pressure and non-permitted continuous dosing, connection for empty indication and dry run protection with optical display (LED red), potential free contact for empty indication and omnibus fault message, electronic control conforms with the industry's latest EMV guidelines.

Wall console for the dosing pump Medo® G

Type	Wall console
Order no.	**17882**

Medo® XB dosing pump

The Medo® XB dosing pumps are magnetic dosing pumps with a PTFE membrane. They provide various switching and control options (water meter, pulser, switching contact).

The following dosing head materials are available: PP, acrylic glass, PTFE, PVDF.

For dosing BWT active ingredient solutions for drinking and domestic water treatment in accordance with the relevant DIN and DVGW or ÖVGW / SVGW guidelines.

For dosing BWT chemical solutions or:

- Sodium hypochloride (NaOCl)
- Sulphuric acid (H_2SO_4) up to 40 %
- Caustic soda solution (NaOH) up to 40 %
- Hydrochloric acid (HCl) up to 40 %
- Hydrogen peroxide (H_2O_2) up to 30 %
- Potassium permanganate ($KMnO_4$), at temperature of 20 °C/68 °F for measured medium

Further chemicals on request.

Technical specifications:
Temperature of measured medium max. 30 °C/86 °F, ambient temperature 5-40 °C/41-104 °F, relative humidity 10-90 %, mains voltage 230 V/50 Hz (other voltages on request), stroke speed (strokes/min.) 180, connection size Aø x Iø (mm) 6/4, suction height (mWS) 6.

Medo® XB dosing pump

Medo® XB

Type Medo® XB		1601	1602	0713
Flow rate at max. back pressure	bar (psi)	16 (232.1)	16 (232.1)	7 (101)
	l/h (gpm)	1.10 (0.005)	2.10 (0.009)	11 (0.05)
	ml/stroke	0.10	0.19	1.02
Flow rate at average back pressure	bar (psi)	8 (116)	8 (116)	3.5 (50.7)
	l/h (gpm)	1.40 (0.006)	2.50 (0.011)	13.1 (0.058)
	ml/stroke	0.13	0.24	1.21
Approx. shipping weight in	kg		2.9 - 3.6	
Order no.		**17821**	**17822**	**17819**

Further dosing data on request.

Wall console for the dosing pump Medo® XB

Type	Wall console
Order no.	**17834**

The re-invention of traditional water treatment

Medo® XG dosing pump

Medo® XG dosing pump

The Medo® XG dosing pumps are magnetic dosing pumps with a PTFE membrane and an LCD display. They provide various switching and control options (water meter, pulser, switching contact, current regulator). There is also a version with a Profibus DP available.

The following dosing head materials are available: PP, acrylic glass, PTFE, PVDF.

For dosing BWT active ingredient solutions for drinking and domestic water treatment in accordance with the relevant DIN and DVGW or ÖVGW / SVGW guidelines.

For dosing BWT chemical solutions or:

- Sodium hypochloride (NaOCl)
- Sulphuric acid (H_2SO_4) up to 40 %
- Caustic soda solution (NaOH) up to 40 %
- Hydrochloric acid (HCl) up to 40 %
- Hydrogen peroxide (H_2O_2) up to 30 %
- Potassium permanganate ($KMnO_4$), at temperature of 20 °C/68 °F for measured medium

Further chemicals on request.

Technical specifications:
Temperature of measured medium max. 30 °C/86 °F, ambient temperature 5-40 °C/41-104 °F, relative humidity 10-90 %, mains voltage 230 V/50 Hz (other voltages on request), safety class IP 65, stroke speed (strokes/min.) 180, connection size Aø x Iø (mm) 6/4, suction height (mWS) 6.

Medo® XG

Type Medo® XG		1601	1602
Flow rate at max. back pressure	bar (psi)	16 (232.1)	16 (232.1)
	l/h (gpm)	1.10 (0.0048)	2.10 (0.0090)
	ml/stroke	0.10	0.19
Flow rate at average back pressure	bar (psi)	8 (116)	8 (116)
	l/h (gpm)	1.40 (0.0062)	2.50 (0.011)
	ml/stroke	0.13	0.24
Approx. shipping weight in	kg	2.9 - 3.6	
Order no.		**17824**	**17830**

Further dosing data on request.

Medo® XS dosing pump

The Medo® XS dosing pumps are motor-driven dosing pumps with an LCD display. They offer various switching and control options (water meter, pulser, switching contact, current regulator). There is also a version with a Profibus DP available.
The following dosing head materials are available: PVDF, stainless steel.

For dosing BWT active ingredient solutions for drinking and domestic water treatment in accordance with the relevant DIN and DVGW or ÖVGW / SVGW guidelines.

For dosing BWT chemical solutions or:

- Sodium hypochloride (NaOCl)
- Sulphuric acid (H_2SO_4) up to 40 %
- Caustic soda solution (NaOH) up to 40 %
- Hydrochloric acid (HCl) up to 40 %
- Hydrogen peroxide (H_2O_2) up to 30 %
- Potassium permanganate ($KMnO_4$), at temperature of 20 °C/68 °F for measured medium

Further chemicals on request.

Technical specifications:
Temperature of measured medium max. 30 °C/86 °F, ambient temperature 5-50 °C/41-122 °F, relative humidity 10-90 %, mains voltage 230 V/50 Hz (other voltages on request), safety class IP 65, suction height (mWS) 6.

Medo® XS dosing pump

Medo® XS

Type Medo® XS 12017		PVS		SST
At 50 Hz operation:				
Flow rate at max. back pressure	bar (psi)		12 (174)	
	l/h (gpm)		17 (0.075)	
	ml/stroke		4.0	
Max. stroke frequency	Strokes/min.		73	
At 60 Hz operation:				
Flow rate at max. back pressure	bar (psi)		12 (174)	
	l/h/gpm		20 (0.088)	
Max. stroke frequency	Strokes/min.		88	
Approx. shipping weight in	kg	9.0		12.0
Order no.			**on request**	

Further dosing data on request.

Dosing container

3. Component: dosing container

Dosing container for dosing pumps Medo® G, XG, XB

Made of shock-proof plastic, with lockable lid (only for versions with turbo mixing system), drain, embossed level markings, filling device, filling funnel, 2 m filling pipe PVC 15 x 3, relief valve 1/2" with hose nozzle and accessories, 3 m suction pipe, PVC suction lance. Mounting material for pump.

Type		with turbo mixing system		
Contents	l (gal)	60 (15.8)	100 (26.4)	200 (52.8)
Diameter	mm	450	470	560
Height	mm	540	790	955
Order no.		**17881**	**17880**	**17879**

Type		with manual mixing system		
Contents	l (gal)	60 (15.8)	100 (26.4)	200 (52.8)
Order no.		**17878**	**17877**	**17876**

Seeding point Medo®

4. Component: seeding points

Cold water seeding point Medo®

For dosing pumps type Medo® G , XG, XB, plastic, up to 30 °C (86 °F)

Type	1/4″	1/4″	1/2″	1/2″	3/4″
	4 x 6	6 x 8.4	4 x 6	4 x 6	4 x 6
			bleedable		cleanable
Order no.	**17998**	**17997**	**17996**	**17923**	**57991**

5. Component: accessories

Impulse distributor

To control 2 dosing pumps with just one water meter.

Type	Impulse distributor
Order no.	**57996**

Impulse cable

Necessary for connecting dosing pump Medo® G to a controller.
Length: 3 m with plug.

Type	Impulse cable
Order no.	57913

Control cable

For dosing pumps Medo® XG, XB, length 5 m.

Type	Control cable
Order no.	1-433001

Fault indicator cable

Required for the connection of the dosing pumps Medo® G to a central control and communication technology.

Type	Fault indicator cable
Order no.	57914

Suction lances

Telescopic suction lances for Medo® G

Type		Size 1	Size 2
Length	mm	485 - 680	880 - 1500
Order no.		57918	57917

Container suction piece / Suction lance Medo®

Dosing tube

For the dosing pump Medo® G, XG, made of PTFE (Teflon) 5 m

Type	4x6
Order no.	17966

Dosing tube
for the dosing pump Medo®

Container suction piece Medo®

For the dosing pump Medo® G, length 385 mm.

Type	4 x 6
Order no.	57919

Other lengths and materials on request.

The re-invention of traditional water treatment

6. Component: Dosing chemicals

Depending on the area of application, you can find the corresponding dosing active agent

Product-name	Treatment performance	Application	Container size	Order no.
Dosing Agents for Cooling and Air Conditioning Unit Water Systems				
BWT CW-CS 3	Ozone resistant hardness stabilizer, corrosion inhibitor	for open cooling systems	20 kg-canister	18124
BWT CW-CS 8	Corrosion inhibitor for steel and copper metals	for closed cooling systems	20 kg-canister	18097
BWT CW-D 50	Dispersant and hardness stabilizer, polymer based, P-free	for open cooling systems	20 kg-canister	18081
BWT CW-BIO A 2 *	Microbiocide, isothiazoline basis	for cooling systems	10 kg-canister 30 kg-canister	18131 18132
BWT CW-BIO D 2 *	Microbiocide, organo-bromine basis	for cooling systems	10 kg-canister 30 kg-canister	18133 18134
RONDOPHOS KWN-2	Corrosion inhibitor and hardness stabilizer, contains zinc and phosphate	for open cooling systems	20 litre-canister	18147
RONDOPHOS LW *	Hardness stabilizer and microbiocide for air conditioning water / air washers	for air washers	20 litres	18050
BENAMIN D *	Microbiological chlorine blast treatment	Cooling circuits	20 litres	58055
Dosing Agents for Hot Water, Boiler Water and Air Conditioning Unit Water Systems				
RONDOPHOS PIK 5	Oxygen bonding powder, non vapour volatile, catalyzed	for hot water and heating systems	10 kg-bucket	18037
RONDOPHOS PIK 5	Oxygen bonding powder, non vapour volatile, catalyzed	for hot water and heating systems	20 litre-canister	18058
RONDOPHOS PIK 9	Oxygen bonding powder, pH-boosting, reduces residual hardness	for hot water and heating systems	10 kg-bucket	18038
RONDOPHOS PIK 11	Oxygen bonding liquid, non vapour volatile, pH-reduction, reduces residual hardness	for hot water and heating systems	10 kg-bucket	18040
RONDOPHOS PIK 40	Powder product to increase pH and reduce residual hardness	for hot water and heating systems	10 kg-bucket	18043
RONDOPHOS PIK 50	Powder product to reduce pH	for hot water and heating systems	10 kg-bucket	18045
BWT BW-PL 40	Liquid product to increase pH and reduce residual hardness	for heating systems	20 litre-canister	18114
BWT BW-PL 40	Liquid product to increase pH and reduce residual hardness	for heating systems	6 x 1 litre	18130
BWT BW-ST 131	Liquid product for the bonding of residual oxygen and CO_2 in steam/condensation systems, also raises pH in in steam/waste water	for steam generators with waste water return	20 litre-canister	18108

*** Use biocides carefully. Always read the label and product information before use.**

Dosing substances for drinking water

QUANTOPHOS® F mineral, 3 l container

Minerals: Quantophos® F/H, Cu2/CS

For Bewados E 10/20 Module, Impulsor optronic T 20 module and Medotronic F.

QUANTOPHOS®	F1/H1	F2/H2	F3/H3	F4/H4	FE/HE	Cu2/CS
Packed unit in box	20-l	20-l	20-l	20-l	20-l	20-l-canister
Order no.	**18022**	**18023**	**18024**	**18025**	**18026**	**18032**

Bewatubin

Available in 20 l box.

Type Bewatubin	universal
Order no.	**58081**

Minerals: Quantophos® / Impulsan F/H, Cu2/CS

For Bewados E 10/20 Module, Impulsor optronic T 20 module and Medotronic F.

QUANTOPHOS®/IMPULSAN	F1/H1	F2/H2	F3/H3	F4/H4	FE/HE	Cu2/CS
Packing unit	20-l	20-l	20-l	20-l	20-l	20-l-canister
Order no.	**18027**	**18028**	**18029**	**18030**	**18031**	**18032**
Packaging unit	10-l	10-l	10-l	10-l	10-l	
Order no.	**18091**	**18092**	**18093**	**18094**	**18095**	

Mineral substance 20l bag in Box

Mineral substances for Impulsor Optronic Type F 4 3/4" and 1"

Type	H 1	H 2	H 3	H 4	H E
Packaging unit	2 x 4 l	2 x 4 l	2 x 4 l	2 x 4 l	2 x 4 l
Order no.	**58005**	**58006**	**58007**	**58008**	**58009**

Mineral substance combination QUANTOPHOS® P

For Medotronic® P and Medomat® FP, portion bags for 20 l solution hygienically packed, with germ protection.
Only available in packaging units: 12 x 1000g bag in cardboard box.

Type QUANTOPHOS®	P 1	P 2	P 3	P 4	P / E	CuP
Order no.	**18059**	**18060**	**18061**	**18062**	**18063**	**18021**

Mineral substance combination QUANTOPHOS® with germ protection

Germ protection component

For germ protection of solution from QUANTOPHOS® P bags. Powder in plastic bottle (including measuring spoon for 15 l solution).

Type	CC 1000 P
Order no.	**18065**

Mineral substance combination QUANTOPHOS® P

For large consumers 25 kg bags with plastic inliner.

Type QUANTOPHOS®	P 1	P 2	P 3	P 4	P / E
Order no.	**18011**	**18012**	**18013**	**18014**	**18015**

Mineral substance combination QUANTOPHOS®, sold in bags

Phosphat active Agent for Immuno

Against limescale and corrosion.
Total hardness of 14-18 °dH: Mineral substance 55 hard

Type	Mineral substance 55 hard/ 14-18 °dH
Packaging unit	4x (4x350 g)
Order no.	**58003**

The re-invention of traditional water treatment

Mineral substance combinations / additives
Quantophos® / Impulsan F / H / P / Cu2 / CuP

Area of application	Function		"Mineral substance" in the environmentally friendly Bag-in-Box
Total hardness of 1-7 °dH or 0.3 - 1.3 mol/m³ Soft water or water with aggressive characteristics. Hardness range acc. WRMG: Soft	Formation of a protective layer in galvanised and already partially corroded galvanised pipes.		Mineral substance Quantophos® F 1 / H 1 / P1
Total hardness of 7-14 °dH or 1.3 - 2.5 mol/m³ Medium hard water or water with aggressive characteristics. Hardness range acc. to WRMG: Soft to medium	Formation of a protective layer and limescale protection in galvanised and already partially corroded galvanised pipes.		Mineral substance Quantophos® F 2 / H 2 / P2
Total hardness of 14 - 21 °dH or 2.5 - 3.8 mol/m³ Hard water. Hardness range acc. to WRMG: Hard	Formation of a protective layer and limescale protection in galvanised and already partially corroded galvanised pipes.		Mineral substance Quantophos® F 3 / H 3 / P3
Total hardness of 14 -21 °dH or 2.5 - 3.8 mol/m³ Hard water. Hardness range acc. to WRMG: Hard	Protection against limescale in pipes of all materials and cleaning of pipes with limescale.		Mineral substance Quantophos® F 4 / H 4 / P4
Total hardness of 14 -21 °dH or 2.5 - 3.8 mol/m³ Hard water. Hardness range acc. to WRMG: Hard	Formation of a protective layer in galvanised pipes and stabilising of the residual hardness, with partially softened water in galvanised pipes.		Mineral substance Quantophos® FE / HE / PE
Copper installations	Formation of a protective layer in copper pipes by raising the pH-value.	for water up to 25 mg/l free carbonic acid.	Mineral substance Quantophos® Cu2 / CS / CuP

All BWT mineral substances for drinking water treatment conform to the purity requirement of the list of treatment substances and disinfection processes in acc. with § 11 German DWO 2001.
WRMG = Wasch- und Reinigungsmittelgesetz (Washing and cleaning agents law)

Drinking water

Testing device	Measuring range	Intended use	Packaging unit	Order no.
Aquatest hardness testing device	1 - 40 °dH	Determination of total hardness	10 pieces in a box	**18997**
Indicator sticks	pH 0 - 14	Various test and application areas of pH-value checking	10 x 100 pieces in a box	**18988**
pH-value testing device	pH 1 - 11	Setting the alkaline treatment	Single piece	**18987**
Nitrate testing sticks	0 - 500 mg/l NO_3	Checking the nitrate content	5 x 25 pieces in a box	**18961**

Cooling water

Aquatest hardness testing device	1 - 40 °dH	Determination of total hardness	10 pieces in a box	**18997**
Indicator sticks	pH 0 - 14	Various test and application areas of pH-value checking	10 pieces in a box	**18988**
pH-value testing device	pH 1 - 11	Setting the alkaline treatment	10 pieces in a box	**18987**
Rondophos process water testing kit	2 - 15 mg/l PO_4^{3-}	Determination of the active agent Rondophos KWN, LW, PIK 9, PIK 11, PIK 40, PIK 50	10 pieces in a box	**18964**

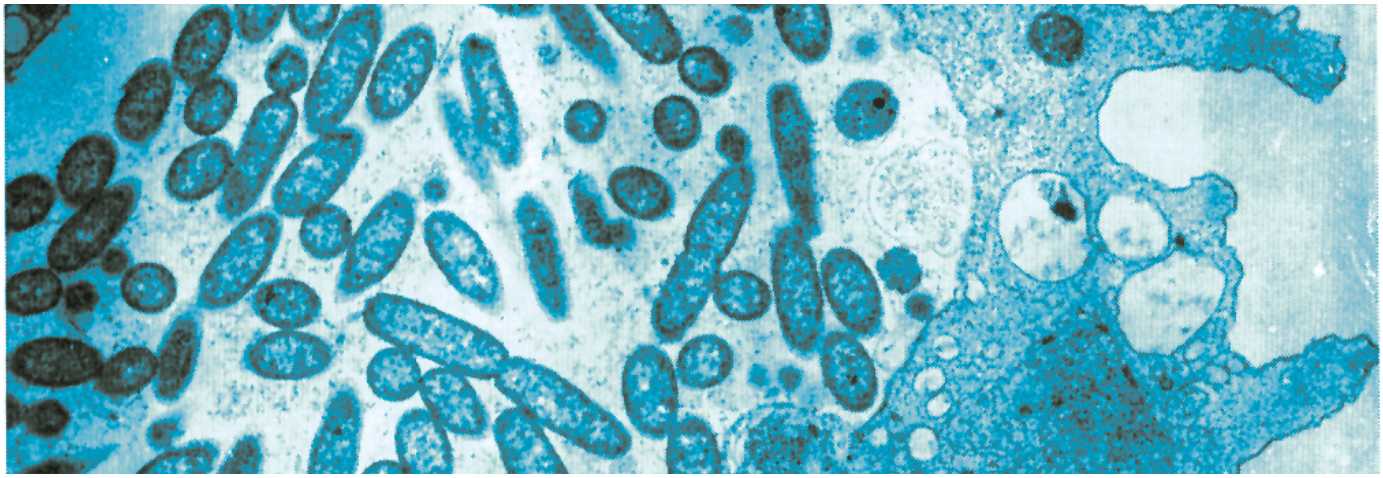
BWT - Hygiene Management

For You and Planet Blue.

BWT
BEST WATER TECHNOLOGY

BWT - safety filter

Legionella protection in showers and bathrooms



Legionella are gram-negative, aerobe rod-shaped typically flagellated bacteria. Over 40 different species with over 60 serogroups are identified. The illness caused by Legionella bacteria is attributed to Legionella pneumophila serogroup 1. Infection is caused by inhalation of Legionella contamined airborne water droplets or Legionella contamined water by-passing the natural gag-reflexes and entering the lungs instead of the stomach.

The two most common forms of illness are:

- Legionaires' desease: a bacterial pneumonia. If the infection is not treated the mortality is up to 80 %, if it is treated the mortality is approximately 20 %.
- Pontiac fever: a milder, non-pneumonic, flu-like illness that does not require hospitalization.

Legionella bacteria is not completely removed during drinking water treatment (drinking water is not sterile). At water temperature below 20 °C (68 °F) they can survive but not reproduce.

Everybody can be affected by legionellosis but some people are more likely affected:

- stressed people
- athletes
- travellers
- elderly people (> 50 years)
- patients, especially those patients with suppressed immune system (HIV-patients, bone-marrow or organ transplant patients, sufferers)
- smokers
- people who consume a lot of alcohol
- people with lung diseases

The optimum conditions for Legionella growth are:

- Water temperatures between 20 and 50 °C (68 and 122 °F) and a pH value between 5.0 and 8.5. Optimal growth occurs at water temperature between 35 and 45 °C (95 and 113 °F).
- Biofilms in water distribution systems. Legionella live and reproduce in protozoa e.g. amoeba. Other organisms living in biofilms supply Legionella with important nutrients.
- Presence of nutrients such as calcium, magnesium (limescale), iron and zinc compounds (corrosion products) and organic substances.

The **BWT safety filter B-SAFE** protects against this.
It was specially developed for showering and is mounted between the shower hose and sanitary fitting:

- It offers highly efficient protection against legionella bacteria.
- It filters even the finest particles out of the drinking water
- It is suitable for flow volumes of up to 800 l per hour.

When using the BWT safety filter B-Safe, you have the possibility to install an additional protective barrier against legionellae. This retro-installable technology is just as cost-effective as it is efficient and contributes considerably to protecting one's health.

The B-SAFE safety filter should not be employed as the only protection against legionellae in shower water in the long-term. It is necessary to employ water treatment processes for the disinfection of warm water systems in addition to the B-SAFE safety filter. This will kill legionellae in the whole water system. The B-SAFE safety filter is not suitable for installation in sterile areas in hospitals.

Safety Filtration

B-SAFE

The B-SAFE filter is used for the removal of legionella, amoeba and other germs from the water at taps in showers and also bathrooms.
With contaminated hot water circulating systems the filter at the taps is used in addition to a disinfection procedure.
After the preliminary filtration, legionella, germs and amoeba are separated in the B-SAFE filter by means of a dead-end hollow fibre micro-filtration diaphragm. The micro-filtration diaphragm has a pore diameter of 0.02 µm, so that germs and amoeba are separated safely.
A ball valve that is installed at the inflow of the filter prevents the regermination of the systems pipework.
The peak flow rate through the filter is 800 l/h (3.52 gpm) at the maximum pressure of 6 bar (87 psi). The B-SAFE filter media has to be exchanged every 3-4 weeks.

Type B-SAFE		**universal**
Placement		shower, bath
Thread dimensions		1/2″
Max. flow rate	l/h (gpm)	800 (3.52)
Max. system pressure	bar (psi)	6 (87)
Pressure drop, new filter at 800 l/h (3.52 gpm), approx.	bar (psi)	0.8 (11.6)
Max. water temperature	°C (°F)	65 (149)
Max. water temperature for short times (< 5 min.)	°C (°F)	80 (176)
Filter service time, max.		4 weeks
Order no.		**23206**

B-SAFE safety filter

* Loss of pressure increases as the operating period continues; replacement of the filter is necessary, if the loss of pressure is excessive, even when the recommended time is not exceeded.
** Generally dependent on the quality of the water; sand, rust and limescale particles, biofilm particles and other turbidity may lead to a shortening of the operational life.

B-SAFE universal shower hose, short

Connection hose for the connection of the B-SAFE universal filter directly to the shower hose.

Type		**B-SAFE universal shower hose, short**
Length	mm	250
Order no.		**23945**

Regeneration salt with hygienic effect

SANITABS and SANISAL are used like standard regeneration salt. The difference is made by the **hygiene cleaning component integrated** into the salt (patent pending).

This hygiene effect occurs in the sole container shortly after the addition of SANITABS or SANISAL. In this way, impurities and deposits in the softening system are removed alongside the regeneration.

In the last regeneration step, the flush, the impurities are removed and flushed into the waste together with the residue of the regeneration salt and cleaning component. Only then does the switch to drinking water operation take place.

SANITABS

Sanitabs were developed by BWT for the regeneration of water softeners in private households. SANITABS is a regeneration salt with an effective cleaning component in tablet form with impressive hygienic effect. In convenient 8 kg bag.

Sanitabs	8 kg
Order no.	**94241**

SANISAL FB

Sanisal FB was developed by BWT for the regeneration of water softeners in commercial situations. It conforms with the requirements of the **food and beverage industry**. For large consumers.

Sanisal FB	20 kg
Order no.	**94242**

SANISAL H

Sanisal H was developed by BWT for the regeneration of water softeners in commercial situations. It conforms with the requirements for **hospitals, schools and public buildings**. For large consumers.

Sanisal H	20 kg
Order no.	**94243**

BWT - Heating protection

Perfect water for your heating

For You and Planet Blue.

BWT
BEST WATER TECHNOLOGY

Heating protection

Salt water operation: Oxygen content < 0.02 mg/l

Materials in the heating circuit

Steel, cast metal, copper, copper alloy, diffusion-proof plastic

Rated boiler capacity

< 50 kW

- **Circulating water heater**
  - **Systems with electrical heating elements**
- **Heating buffer tank**
  - **specific unit volume 20 - 50 l / kW**
  - **specific unit volume >50 l / kW**

> 50 to < 200 kW

Prevention of stone formation

< 50 kW			> 50 to < 200 kW	
Hardness	Hardness	Hardness > 0.11°dH	Hardness > 11.2°dH	
Demineralised water			Demineralised water	
Filling	Fitting		Filling	Fitting
HBA 100 HBA junior	AQA therm HFB		HBA 100 HBA junior	AQA therm HFB

Prevention of corrosion

pH value 8.3 - 9.5
conductivity < 1500µS / cm

– properly sized and annually inspected expansion vessel or pressure retaining system

Control and documentation

– Filling and make-up water volume
– conductivity, pH-value, hardness

Inspection interval

– 8 - 12 weeks after commissioning
– then once a year

For the salt operation mode "the complete programme" for every heating filling and make up water requirement

- ✓ System separation
- ✓ Fine mesh filter
- ✓ Water meter
- ✓ Pressure reducer
- ✓ Softener incl. regeneration station for the work shop
- ✓ Chemical inlet sluice
- ✓ Connection technology
- ✓ Measuring set for water hardness

	AQA therm HRC	HBA junior	HBA 100
Capacity at 20° dH	approx. 150 l/750 l	approx. 2 m^3	approx. 5 m^3

> 200 to < 600 kW	> 600 kW
Hardness > 8.4°dH	**Hardness > 0.11°dH**
Demineralised water	**Demineralised water**
Filling	**Fitting**
HBA 100 	**Rondomat M** 
Fitting	
Rondomat M-H 	

pH value 8.3 - 9.5
conductivity < 1500 µS / cm

– properly sized and annually inspected expansion vessel or pressure retaining system

– Filling and make-up water volume
– conductivity, pH-value, hardness

– 8 - 12 weeks after commissioning
– then once a year

Rondomat M

Necessary steps!

- Installation of a water meter
- Compliance with EN1717 or DIN 1988

- Completion of a log

Type of heating unit:
Commissioning date:

1. Filling water volume

Date	Meter reading m³	Water volume m³	Total hardness °dH	Conductivity / pH Value	Signature

2. Filling water volume

Date	Meter reading m³	Water volume m³	Total hardness °dH	Conductivity / pH Value	Signature

3. Heating water

Date	Total hardness °dH	Conductivity	pH Value	Signature

This ensures you are well-placed in the case of discrepancy.

Heating protection

Low salt operation: Oxygen content < 0.1 mg/l

Materials in the heating circuit

Aluminium, aluminium alloys, steel, cast metal, copper alloy,

Rated boiler capacity

< 50 kW

> 50 to < 200 kW

Circulating water heater

Heating buffer tank

Systems with electrical heating elements

specific unit volume 20 - 50 l / kW

specific unit volume >50 l / kW

Prevention of stone formation

Hardness > 16.8°dH

Hardness > 11.2°dH

Hardness > 0.11°dH

Hardness > 11.2°dH

Demineralised water

Demineralised water

Filling

Fitting

Filling

Fitting

HBA 100 VE

HBA junior VE

MoRo 350

AQA therm VE Cartridge

HBA 100 VE

MoRo 350

AQA therm VE Cartridge

Prevention of corrosion

pH value 8.2 - 8.5 (max.9.0 aluminium alloy)
conductivity < 100 µS /cm

– properly sized and annually inspected expansion vessel or pressure retaining system

Control and documentation

– Filling and make-up water volume
– conductivity, pH-value, hardness

Inspection interval

– 8 - 12 weeks after commissioning
– then once a year

For the low salt operation mode "the complete programme" for every heating filling and make up water requirement

- ✓ System separation
- ✓ Fine mesh filter
- ✓ Water meter
- ✓ Pressure reducer
- ✓ Softener incl. regeneration station for the workshop
- ✓ Chemical inlet sluice
- ✓ Connection technology
- ✓ Measuring set for water hardness

	AQA therm SRC	HBA junior VE	HBA 100 VE	MoRo 350
Capacity at 20° dH	approx. 240 l	approx. 0.65 m³	approx. 1.65 m³	up to 370 l/h

diffusion-proof plastic

> 200 to < 600 kW	> 600 kW
Hardness > 8.4°dH	**Hardness > 0.11°dH**
Demineralised water	**Demineralised water**
Filling	**Fitting**	**Filling**	**Fitting**
HBA 100 VE  **MoRo 350** 	**VE cartridge** 	**HBA 100 VE**  **MoRo 350** 	**VE cartridge** 

pH value 8.2 - 8.5 (max.9.0 aluminium alloy)
conductivity < 100 µS /cm

– properly sized and annually inspected expansion vessel or pressure retaining system

– Filling and make-up water volume
– conductivity, pH-value, hardness

– 8 - 12 weeks after commissioning
– then once a year

Necessary steps!

- Installation of a water meter
- Compliance with EN1717 or DIN 1988

- Completion of a log

Type of heating unit:
Commissioning date:

1. Filling water volume

Date	Meter reading m³	Water volume m³	Total hardness °dH	Conductivity / pH Value	Signature

2. Filling water volume

Date	Meter reading m³	Water volume m³	Total hardness °dH	Conductivity / pH Value	Signature

3. Heating water

Date	Total hardness °dH	Conductivity	pH Value	Signature

This ensures you are well-placed in the case of discrepancy.

BWT - AQA therm

CO_2- Reduction – An important topic for us all!

For a heating installer faced with the initial filling of a heating system it is vitally important to know all the pitfalls involved in the chemistry and physics of water – and to know how to cope with them. To be on the safe side, the installer works exclusively with "perfect water", i.e. water of a quality that generates no harmful deposits.

To the heating installer water is really nothing special. But does he realise the peculiarities of the medium he deals with every day? It is worth taking a closer look.
Water is an excellent solvent for salts, gases and other fluids.
Water possesses an exceptionally high heat-absorption capacity (which is why it is used in heating and refrigeration systems for transporting heat and/or cold).
Water possesses an exceptionally high fusion and vaporization heat (these properties are used, for example in evaporative cooling and/or production of steam for technical purposes).
Water is non-toxic to human beings in its pure form and has no negative effects on the natural environment.

In addition to these general properties of water the special features of substances found in water require some explanation:
- the pH value (has a very great influence on corrosion processes)
- the limescale-carbonic acid balance (plays a crucial role in limescale generation)
- the mineral content of the water (also influences corrosion).

Depending on the region, widely varying quantities of dissolved calcium, magnesium, iron, manganese, etc. are to be found in the drinking water. In the heating cycle these materials can lead to technical malfunctions. And they reduce the efficiency of the heating.

Heating systems: Increasingly compact and complex
The fact that the quality of heating water is becoming more and more important – the water volume in modern heating systems is growing, while the metal surfaces and water spaces of the heat exchangers are becoming ever smaller and material combinations are changing – is now well known even to the consumer protection associations. Even the initial filling of the heating system can be decisive for the system's degree of efficiency throughout its service life.
Although VDI 2035 Sheet 1 (2005 edition) laid down clear specifications regarding the water hardness depending on the specific system volume, these clear specifications are missing from the compromise paper issued by the Federal German Industrial Association for Buildings, Energy and Environmental Technology (BDH) and the Central Association for Sanitation, Heating and Air Conditioning (ZVSHK). If, for example, during modernization measures an energy-efficient condensing boiler with 800 l buffer storage is used instead of a 20 kW low-temperature boiler, five times the quantity of lime will be reduced to a twelfth of the volume of the boiler's contents (primary heat exchanger – 10 l to 0.8 l). After the initial filling with in some cases an up to 13 % reduction in water space caused by lime sediment and the resulting deposits (especially at critical points), the arithmetically simple (5 x 12) 60-fold effect can substantially influence the efficiency and service life expectancy of the entire heating system. Unfortunately the lime deposits do not occur evenly in one corner of the primary heat exchanger, but are concentrated on the heat-exchange surfaces (flame/water).
The discovery that the entire quantity of limescale is often deposited only on a very small surface is connected with the fact that the calcium precipitation on a smooth, deposit-free surface is extremely restricted and that such deposits take place much more readily on a surface on which limescale has already been

deposited. Experience shows that this happens in areas where the temperature of the heating surfaces is highest.

Limescale impairs thermal conductivity
The heating surface of the new fuel boiler is not quite so large if – in order to use the smallest possible primary heat exchangers – materials with high thermal conductivity, such as aluminium alloys, have been used, as in the old boiler system. A change in thermal conductivity caused by limescale inevitably leads to strong changes in wall temperatures (Fig. 1).
Flaking deposits could be removed from

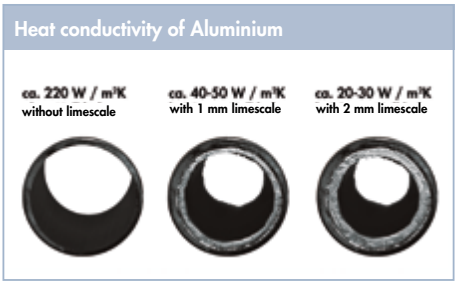


Fig. 1

the heating system with the aid of a sludge and air separator, although this would not relieve the high strains on the materials and the possibly rapid wear this would entail. In comparison to the low heat flux densities at places with still adhering deposits the high heat flux densities at newly flaking points are in some cases even audible in the form of "boiling noises".

The BWT treatment system for perfect heating water

BWT - HBA 100

Heating system filler
BWT - HBA junior

BWT - MoRo 350

BWT - AQA therm SLA
Sludge and air separator

BWT - AQA therm HFB / HES
Heating filling system
In acc. with EN 1717/VDI 2035

Perfect water ensures energy efficiency

The pH value and the question of materials

In low-temperature heating systems, steel and copper materials are generally used in the construction. In modern systems aluminium compounds are also used. It is important to know that each material has its special pH features, i.e. pH areas where the material is protected. If heating water is treated, the phenomenon concerning the pH value as represented in Fig. 2 can be observed. These changes are easily understood by chemists (in the context of hidden alkalinity, free carbonic acid, etc.) and take place in any heating water. That is the reason why VDI 2035 Part 2 requires a measurement of the pH value after about eight weeks.

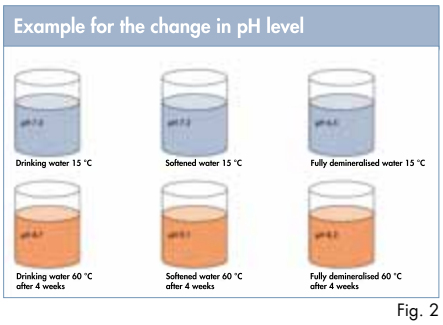


Fig. 2

pH values that are non-critical for aluminium (e.g. 6.5 to 8.5), are sometimes critical for steel and for copper components. It is well known that dissolved copper (copper ions) can cause corrosion to aluminium components and that steel components are not suited for a pH value of 6.6 (that is greater than 6.5). Thus every heating installer should, given a pH level between 6.5 and 8.5 for the boiler (e.g. BDH specifications in the case of aluminium components), get the manufacturer to give him a guarantee that at a pH level of 6.6 nothing will happen to the entire heating system with all its materials.

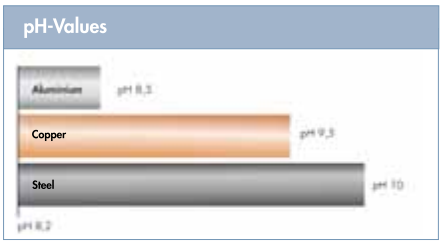


Fig. 3

Both the currently valid VDI 2035 Part 2 and the preceding version assume by definition a minimum pH value of 8.2. At this pH level there is hardly any carbonic acid in the water. This prevents transport of corrosion products (carbonic acid dissolves all metals except aluminium) from the entire heating circuit to the heating surfaces (where the dissolved products are deposited in the same way as limescale). A "perfect water" for the purposes of the entire system (including systems with aluminium components) is pure water without minerals or gases. It is important that the dissolved gases (oxygen, nitrogen and carbon dioxide) should also be removed. This happens when deaereation takes place at operating temperature (i.e. heating temperature), which goes without saying when any system is commissioned.

The mineral content also has an important influence on the corrosion and/or corrosion rate. VDI 2035 Part 2 and all the relevant preceding standards dealing with water as a heat transport medium therefore recommend low-salt water to protect the materials. In this way even low oxygen concentrations can be tolerated. If during the obligatory maintenance of modern calorific equipment steps are taken not only to clean the flue gas outlet and condensation drain, but also to professionally check the expansion tank and/or the pressure maintenance, this too is ensured.

Conclusion:
In order to avoid energy-wasting deposits and corrosion problems, "perfect water" and an annual control of the system are necessary. Low-salt water is good for all systems and essential for systems with aluminium components.

AQA therm HFB

AQA therm heating filling block - HFB

Equipment

- Maintenance and filling shut-off
- System partition BA, prevents back pressure, backflow, back suction of heating water into the drinking water in acc. with EN 1717
- Pressure reducer, pre-set at 1.5 bar (21 psi)
- Manometer for displaying the pressure in the filling pipe

Technical specifications

- Material: dezincification resistant brass alloy
- Temperature resistance: 60 °C (140 °F)
- Nominal pressure: 6 bar (87 psi), connection size: DN 15, installation length incl. unions 232 mm
- Flowing medium: drinking water
- Installation position: horizontal HT connection downwards
- HT-connection: DN 50

Type	Heating filling block
Order no.	**51955**

AQA therm HES
+ Cartridge HRC/SRC

AQA therm HES - Heating Softener Station (without Cartridge)

Type	AQA therm HES (without cartridge)
Installation length incl. unions	296 mm
Order no.	**51094**

See next page for scaled drawing

AQA therm HRC - Hardness reducing cartridge

Type		Small	Large
Nominal pressure PN	bar (psi)	6.0 (87.0)	6.0 (87.0)
Water/Ambient temperature	°C (°F)	30/40 (86/104)	30/40 (86/104)
Capacity at 20 °dH	litre	150	750
Flow volume at 0.2 bar	m^3/h	0.1	0.3
Weight with water	kg	1.5	6.2
Order no.		**12523**	**12524**

AQA therm SRC - Salt reducing cartridge

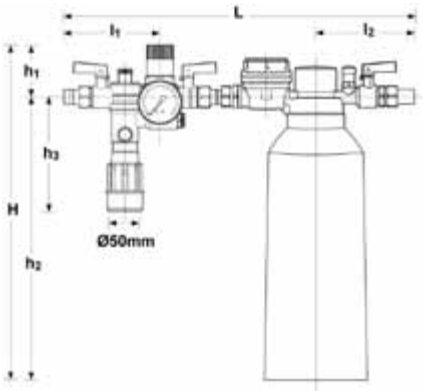
Type		Large
Nominal pressure PN	bar (psi)	6.0 (87.0)
Water/Ambient temperature	°C (°F)	30/40 (86/104)
Capacity at 20 °dH	litre	240
Flow volume at 0.2 bar	m^3/h (gpm)	0.3 (0.13)
Weight with water	kg	6.2
Order no.		**12526**

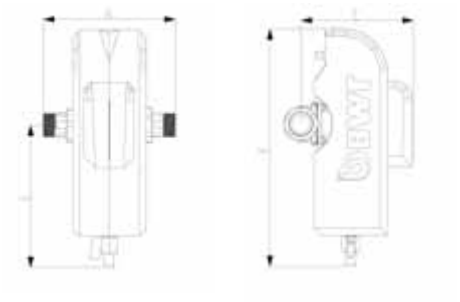
AQA therm SLA

AQA therm SLA - Sludge and air separator

- Temperature resistance: 90 °C
- Nominal pressure: 10 bar (145 psi)
- Connection size: DN 25, installation length incl. unions 184 mm
- Nominal flow at pressure loss 0.2 bar (2.9 psi): 3.6 m^3/h
- Installation: horizontal

Type	AQA therm SLA
Nominal connection width	DN 25
Order no.	**50217**





Construction dimensions			Cartridge large	Cartridge small
	H	mm	506/604*	364/462*
	h_1	mm	74	74
	h_2	mm	452	310
	h_3	mm	162	162
	L	mm	495	495
	l_1	mm	137.5	137.5
	l_2	mm	138	138

*Minimum height upper edge to floor

Installation length with union	A	mm	184
Installation length without union	B	mm	100
Distance middle pipe to ball valve	C	mm	200
Depth (middle pipe to front edge filter) without insulation	D	mm	138
Depth (middle pipe to front edge filter) with insulation	E	mm	157
Total height with insulation	F	mm	333
Distance middle pipe to middle ball valve	G	mm	70

Testing devices boiler feedwater

Testing device	Measuring range	Intended use	Order no.
AQA therm analysis case		Electronic conductivity meter, electronic pH-meter, meter for determination of total hardness	**58970**
Aquatest hardness testing device **Packaging unit:** 10 pieces in a box	1 - 40 °dH	Determination of total hardness	**18997**
AQA therm log Scope of delivery: 25 pieces		Maintenance	**24272**
Indicator sticks **Packaging unit:** 10 x 100 in a box	pH 0 - 14	Various test and application fields of the pH-values controls	**18988**
pH-value testing device	pH 1 - 11	Setting the alkalinity	**18987**
Phosphate colour scale	2 - 15 mg/l PO_4^{3-}	Determination of the phosphate level	**18966**
Phosphate reagents set		Required reagents colour scale	**18965**
Sulphite test stick, 100 pieces	0 - 400 mg/l SO_3^{2-}	Measuring of the oxygen surplus (for PIK 5)	**18986**
Analysis case hot water	For the control of the total hardness, phosphate, sulphite and pH-value in the boiler water		**18963**
Analysis cabinet	Unit and reagents for the control of the total hardness, p- and m- value, conductivity, phosphate, sulphite and pH-value		**18956**
Sample extractor cooler PN 16	For re-cooling of the boiler water during sample extraction		**18968**

HBA 100

Heating protection for all warm water heating systems according to VDI 2035

BWT HBA 100 heating filling system

Mobile system for generating softened water for filling and topping up heating systems and adding correction chemicals at the same time as recording filling and topping up volumes in accordance with VDI 2035 and in compliance with the recommendations of the VdTÜV guidelines.
Consisting of: BWT HBA 100 softening system (incl. brine container for regeneration in your workshop, chemical intake sluice, fine mesh filter, system partition, pressure reducer, water meter with roller type counter, 2 pieces of flexible stainless steel hose (UM 3/4″ x 1000 mm) for connection to the heating system, Aquatest hardness testing set. Ready for connection, mounted on sack barrow with inflatable tyres.

Type		HBA 100
Nominal pressure	bar (psi)	8 (116)
Water / Ambient temperature	max. °C (°F)	20/40 (68/104)
Connection size	R″	3/4
Performance at <0.2 bar pressure loss	m³/h (gpm)	1.5 (6.6)
Capacity at 20 °dh	m³	5
Height/Width/Depth	mm	1220/550/600
Empty weight/Operating weight	kg	34/75
Order no.		**51082**

HBA 100 VE

BWT HBA 100 VE heating filling system

Mobile system for generating demineralised water for filling and topping up heating systems and adding correction chemicals at the same time as recording filling and topping up volumes in accordance with VDI 2035 and in compliance with the recommendations of the VdTÜV guidelines.
Consisting of: BWT HBA 100 VE demineralising cartridge, chemical intake sluice, fine mesh filter, system partition, pressure reducer with pressure switch, water meter with dial gauge, 2 pieces of flexible stainless steel hose (UM 3/4“ x 1000 mm) for connection to the heating system, conductivity measurement.
Ready for connection, mounted on sack barrow with inflatable tyres.

Type		HBA 100
Nominal pressure	bar (psi)	8 (116)
Water / Ambient temperature	max. °C (°F)	20/40 (68/104)
Connection size	R″	3/4
Performance at <0.2 bar pressure loss	m³/h (gpm)	0.6 (2.6)
Capacity at 20 °dh	m³	1.65
Height/Width/Depth	mm	1220/550/600
Empty weight/Operating weight	kg	34/75
Order no.		**51087**

HBA Junior/HBA Junior VE

Heating filling station HBA Junior

Mobile system for generating softened or demineralised water for filling and topping up heating systems as a complete station. Consisting of: Softener (HBA 10) or demineralising cartridge (HBA 10 VE), chemical intake sluice, fine mesh filter, system partition, pressure reducer with pressure switch, water meter with dial gauge, inlet and outlet ball valve, hose set with 2 x 2.5 m hose with connections, ready for connection, mounted on sack barrow with inflatable tyres.

Type		HBA Junior	HBA Junior VE	Retrofittable unit*
Nominal pressure	bar (psi)	8.0 (116)	8.0 (116)	
Water / Ambient temperature	max. °C (°F)	20/40 (68/104)	20/40 (68/104)	
Connection size	R″	3/4	3/4	
Performance at <0.2 bar pressure loss	m³/h	0.5	0.5	
Capacity at 20 °dh	m³	2	0.65	
Height/Width/Depth	mm	840/550/600	840/550/600	
Empty weight/Operating weight	kg	22/32	22/32	10/–
Order no.		**51098**	**51099**	**51100**

* Connecting technology and sack barrow without HBA 10 / HB 10 VE bottle.

Mobile reverse osmosis unit MoRo 350

The mobile reverse osmosis unit is suitable for location-independent preparation of fully demineralised water, e.g. for the filling of heating units, the preparation of cold lubricants, the filling of leak-test basins etc.
The unit can be connected to the municipal water supply – no preparation is necessary.

Type		MoRo 350
Permeate capacity at 15 °C	l/h	340-370
Electrical connection	kW	0,55
Water temperature	°C	5-25
Ambient temperature	°C	5-40
Mains supply	V/Hz	230/50
Height/Width/Depth	mm	1250/600/750
Order no.		**71006**

MoRo 350

Heating filling unit HBA 10

Small demineralisation system for mobile filling of softened water to fill and top up heating systems.

Type		HBA 10
PN nominal pressure	bar (psi)	8.0 (116)
Water / Ambient temperature	°C (°F)	30/40 (86/104)
Connection size	R˝	3/4
Performance at <0.2 bar pressure loss	m^3/h (gpm)	0.5 (2.2)
Capacity at 20 °dH	ca. m^3	2
Order no.		**51083**


HBA 10

Regeneration station HBA 10 / HBA 10 Junior

Type	HBA 10/HBA 10 Junior
Order no.	**51956**

Resin for softening (3 x 10 litres)

Type	HBA 10
Order no.	**51961**

Intake sluice for heating protection chemicals

Type	Intake sluice
Order no.	**51962**

Replacement cartridge for HBA K, KK, K2

Replacement/Spare cartridge for softening (3 piece)

Type	HBA K, KK, K 2
Order no.	**51963**

Softener Rondomat M 25 - 100, on request, Dosing unit Medomat FP 60, page 66.

HBA 10 heating filling system VE

Small demineralisation system for mobile filling of softened water to fill and top up heating systems.

Type		HBA 10 VE
Nominal pressure	bar (psi)	8 (116)
Water / Ambient temperature	°C (°F)	20/40 (68/104)
Connection size	R˝	3/4
Output at 20 °dH	Litres	800
Order no.		**51091**


HBA 10 VE

Heating protection

Heating filling cartridge HBA-KK-VE

Heating filling cartridge HBA K-VE, KK-VE, K 2-VE

Small demineralisation cartridge for stationary fitting for filling demineralised water to fill and top up heating systems. (HBA KK-VE consisting of: 1 softener cartridge, 1 intake sluice).

Type		HBA K-VE	HBA KK-VE	HBA K 2-VE
Nominal pressure	bar (psi)	8.0 (116)	8.0 (116)	8.0 (116)
Water / Ambient temperature	°C (°F)	30/40 (86/104)	30/40 (86/104)	30/40 (86/104)
Connection size	R˝	3/4	3/4	3/4
Performance at <0.2 bar pressure loss	m^3/h (gpm)	0.1 (0.44)	0.1 (0.44)	0.1 (0.44)
Capacity at 20 °dh	approx. litre	60	60	2 x 60
Order no.		**51088**	**51089**	**51090**

Replacement resin for demineralisation

Type		HBA 10 VE	HBA 100 VE
contents	litre	3 x 10	1 x 60
Order no.		**51959**	**51958**

Empty barrel for the storage of ion exchange resins

Type		Empty barrel
Barrel capacity	litre	60
Order no.		**51957**

Replacement cartridge for HBA K-VE, KK-VE, K 2-VE

Replacement/spare cartridge for demineralisation (3 pieces)

Type	HBA K-VE, KK-VE, K 2-VE
Order no.	**51960**

Heating protection for all hot water heating units in accordance with VDI 2035

HS Combi 2

- Corrosion inhibitor
- Extensive prevention of malfunctions due to rust particles on fittings, pumps.
- Preservation of the operating reliability and the value of the heating system.
- Savings in heating costs through the reduction of heat retaining deposits on the heating surface.
- Use in accordance with ZVH guideline in hot water heating systems and closed cooling circuits
- Increased effectiveness in hard waters
- Professional consultation is required when working with aluminium!

HS Combi 2

HS Combi 2		20 l canister	6 x 1 l re-fill pack
Unit group		**0**	**1**
Sum of the boiler nominal performances Q	kW Gcal/h	<100 <0,086	100-350 0,086-0,30
Limit for the sum of earth alkali	mol/m³		1-3
Filling feed water total hardness	°d**		5,6-16,8
Order no.		**59998**	**59999**

** At high levels of hardness, use BWT water softener.

HS Combi 2

HS/R cleaner

For gentle, environmentally compatible cleaning of contaminated hot water heating units whilst in operation by subsequent use of HS Combi 2. Period of use up to 8 days. Dose 1 - 2 l HS/R cleaner to 200 l of heating water.

HS/R cleaner	20 l canister	6 x 1 l re-fill pack
Order no.	**59996**	**59997**

HS/R cleaner

HS frost protection 20 l canister

Combination product for prevention of frost and corrosion damage in all warm water heating systems and closed cooling circuits, heating pumps and solar heating systems. Safe protection: Min. quantity for safe corrosion and scale protection: 20 % of system content.

Frost protection: more than 20 % of the system content up to -9 °C (15.8 °F)
more than 30 % of the system content up to -15 °C (5 °F)
more than 40 % of the system content up to -25 °C (-13 °F)
more than 50 % of the system content up to -40 °C (-40 °F)

Type	HS frost protection
Order no.	**59995**

HS frost protection

HS-filling pump - HS-hand pump

(for all heating system protection additives 20 l canister or 1 litre bottles)

Pumps for filling HS additives into heating systems, directly from the transport container with polyamide armored pressure hoses and connection pieces 3/4″ and 1″

Type	filling pump	hand pump
Order no.	**59003**	**59004**

HS-filling pump

HS Combi 2-test unit

For measuring the HS Combi 2 surplus and the corrosion protection effect of HS frost protection

Type	
Order no.	**58996**

Rinsing device with compressor

Rinsing device with compressor in accordance with DIN 1988

Rinsing device for copper pipes from 15 mm to 42 mm, for galvanised steel pipes from 1/2“ to 2“, including compressor, rinsing in accordance with DIN 1988.

Technical specifications: Nominal pressure, max. 10 bar (145 psi), operating pressure, max. 7 bar (101.5 psi), water and ambient temperature, max. 30/40 °C (86/104 °F), mains connection 230 V/50 Hz, safety class IP 54, max. flow rate 5000 l/h, pressure loss 1.6 bar (23.2 psi) at 5 m³/h (22 gpm), installation length 215 mm and 175 mm without measuring unit, pressure loss, min. 0.4 bar (5.8 psi).

Type		Rinsing device with compressor
Connection	R	1 1/4″ male (DN 32)
Compressor		
Suction capacity	approx.l/min.	200
Operating pressure max. bar	bar (psi)	8 (116)
Contents of pressurised air container	l	10
Motor output	kW	1.1
Order no.		**23001**

GIT multiblock module

Connection technology

For connection module, see page 30.

Rinsing device connections

Two 1.5 m fabric-reinforced PVC hoses, with four hose connection threads to connect R 1 1/4“ male and two R 1 1/4“ /1“ male double nipples.

Type	
Order no.	**23995**

BWT - Special programme

For You and Planet Blue.

BWT
BEST WATER TECHNOLOGY

SEK 28

KalkEx-Mobil

Rapid descaling units types SEK 28 and KalkEx-Mobil 60

- for removal of scale in warm water units, boilers, flow heaters and hot water units
- intensive descaling by means of circulation of the solvent
- acid-proof version
- solvent container made of corrosion proof plastic

Rapid descaling unit SEK 28

Integrated holders for hoses and cables. Hoses with 3/4″ connection, 2 double nipple, reduction connection equipment (male thread 3/4″, female thread 1/2″ and 3/8″). On/Off-switch. With SEK test box.

Type	SEK 28
Container content	20 l (5.3 gal)
Pump head (max.)	8 mWS
Circulation rate (max.)	1500 l/h (6.6 gpm)
Temperature resistance	up to 60 °C (140 °F)
Electrical connection	230 V/50 Hz
Order no.	**60008**

KalkEx-Mobil

Portable rapid descaling unit. Complete with armoured hoses, with 3/4" connection and SEK test box incl. connection-set for KalkEx-Mobil. 2 double nipples/reduction connection equipment (male thread 3/4″, female thread 1/2 and 3/8″). Discharge for solvent container.

Type	Kalk Ex-Mobil
Container content	40 l (10.6 gal)
Pump head (max.)	15 m WS
Circulation rate (max.)	2100 l/h (9.3 gpm)
Temperature resistance	up to 60 °C (140 °F)
Electrical connection	230 V/50 Hz
Order no.	**60007**

SEK-testbox solvents

For rapid and easy determination of the descaling capacity.

Type	SEK testbox solvents
Order no.	**60003**

Tea-Pot

Baracuda

Rapid descaling units types Tea-Pot and Baracuda

The rapid descaling unit serves to remove lime and other deposits in water heaters, boilers, flow heaters, heat exchangers and pipelines using BWT solvents.
The motor-driven circulation pump of the rapid descaling unit circulates the solvent through the device to be descaled (e.g. boiler), this solves lime and rust deposits.

Type		Tea-Pot	Baracuda
Nominal connection	DN	1/2″ female + 1/2″ male	3/4″ male
Power	V/Hz	4.6	
Power in watts	W	120	
Max. pump lift	mWC	405	
Max. pump flow	l/h (gpm)	1200 (5.3)	
Max. temperature	°C (F°)	60 (140)	
Fill quantity container capacity	l/(gal)	8 (2.1)	20 (5.3)
Order no.		**20005**	**20006**

Rapid descaling
Solvents and neutralising agents

- concentrated chemicals for scale and rust removal
- rapid dissolving of scale and rust encrustations
- recommended by leading manufacturers
- complete programme

Solvents and neutralising agents

Pallet order size (800 x 1200 mm)	28
Packaging unit	20 kg container

FFW / TW

FFW / TW - for drinking water

Material resistant according to VDI 2035
Descaling capacity: 2.5 kg FFW/TW dissolve 1 kg of scale

Type	FFW/TW
Order no.	60977

ZN / I

ZN / I - for industrial use

Material resistant according to VDI 2035
Descaling capacity: 2.5 kg ZNIT dissolve 1 kg of scale

Type	ZN/I
Order no.	60976

Limescale solvent

Kalklöser - Limescale solvent

Capacity exhaustion indicated optically by changing colour.
Descaling capacity: 1 kg limescale solvent dissolves 1 kg of scale

Type	Limescale solvent
Order no.	60999

Limescale solvent VA

Kalklöser Ökosafe - Limescale solvent Ecosafe NEW

Descaling capacity: 1 kg limescale solvent dissolves 1 kg of scale

Type	Limescale solvent
Order no.	60971

Kalklöser - Limescale solvent VA

For cleaning of stainless steel installations
Descaling capacity: 1.1 kg limescale solvent VA dissolves 1 kg of scale

Type	Limescale solvent VA
Order no.	60980

NAW

NAW

For post-treatment and passivation of metal surfaces after chemical cleaning

Type	NAW
Order no.	60993

Neutra

Neutra

For neutralisation of used solvents

Type	Neutra
Order no.	60991

Rapid descaling

Limescale solvent P and Neutra P are now available in powder form

Through small portioned packages, heavy containers and difficult filling have become a thing of the past

Limescale solvent P
- **enviromentally compatible due to the new powder concept**
- **up to 50 % less work due to high processing temperatures**
- **easy handling through practical portioned bags**

Neutra P
- **for the neutralisation of limescale solvent P**
- **raises the pH-value**
- **is easy to process**
- **ensures enviromentally compatible work**

Limescale solvent in powdered form

Kalklöser - Limescale solvent P

for the reliable removal of limescale in instantaneous water heaters, heat exchangers, boilers, pipes, coffee machines, etc. 5 bags of 1 kg (powder)

Type	Limescale solvent P
Order no.	60978

Neutra P

for the neutralisation of used solvent, 5 bags of 300 g (powder)

Type	Neutra P
Order no.	60979

Selection table for solvents

Application field	solvents		solvents				passivation
Material	for the removal of scale, rust deposits and other inorganic layers				for the removal of scale and inorganic layers (except rust)		after treatment of mental surfaces
	Limescale solvent P up to 60 °C	Limescale solvent	Limescale solvent VA	Limescale solvent Ecosafe	FFW / TW	ZN / I	NAW
grey cast iron	x	x	-	x	-	x	x
steel, unalloyed and low-alloy steel	x	x	-	x	x	x	x
copper and copper alloys (brass and other nonferrous metals)	x	x	-	x	x	x	x
enamelled steel (acid-resisting)	x	x	-	x	x	x	x
tin coated materials	x	x	-	x	x	x	x
galvanized steel according to DIN	x	x	-	x	x	x	x
aluminium	x	x	-	x	-	-	-
stainless steel	x	x	x	x	-	-	x
polysulfon RO-membranes	x	-	-	-	-	-	-
UV units	x	-	-	x	-	-	-
drinking water application	x	x	x	x	x	-	x

Neutralization of used solvents by means of Neutra, resp. Neutra P.

Reverse osmosis collection

Innovative BWT technology for the third millennium

Compact installation to demineralise non-ferrous and manganese-free, clear drinking and process water. For various purposes. Completely piped and wired internally. With electrical control unit for manual and automatic operation. Optical information system consisting of: displays for operating hours and permeate quality and flow rates, fault indications and alarm signals, communication via standardised PC interface available.
Reverse osmosis module as spiral winding module with PA/d composite low-energy membranes.

Technical specifications: ambient temperature, min./max. 5/30 °C (41/86 °F). Inflow pressure for feed-in water, min./max 2.5/6 bar (36.2/87 psi) ,
Total salt content, max. 1000 ppm, colloid index, max. 3.
Consultation necessary.

BWT - PERMAQ® Pico – Reverse osmosis NEW

Ultra-compact operation through integrated dead volume-free connection technology type 10-70, suitable for „under table“ installation, „online“ operation possible as an option.

Scope of delivery:
Fine mesh filter with 5 f.lm , optional AS dosing unit for direct fitting onto the device connection set.

Recommended accessories:
When operating without the softener, a dosage system must be upstream. Together with the online connection kit, a pressure reservoir and profile, a complete system exists for online operation, including pressure measurement and emergency supply. For offline operation, a permeate reservoir and pressure increase are necessary. In accordance with DIN 1988, the system must have a system separator and protective filter connected upstream.

PERMAQ® Pico

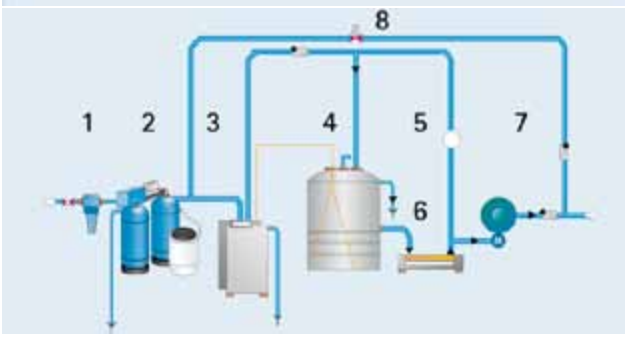
Type		10	20	30	40	50	60	70
Permeate output in l/h online (at ca. 2.5 bar counterpressure)	l/h (gal)	110 (29)	200 (52.8)	290 (76.6)	375 (99)	680 (179.6)	1020 (269.4)	1390 (367.2)
Permeate output in l/h offline (free flow)	l/h (gal)	150 (39.6)	270 (71.3)	390 (103)	500 (132)	920 (243)	1360 (359.3)	1850 (488.7)
Permeate recovery in %	%				80			
Salt retention rate in %	%				98			
Order-no. Online		**13118**	**13119**	**13120**	**13121**	**13122**	**13123**	**13124**
Order-no. Offline		**13079**	**13080**	**13081**	**13082**	**13083**	**13084**	**13085**

The values are valid under the following conditions: Water temperature 15 °C (59 °F) salt content as NaCl max. 1000 ppm - Upstream pressure 2.5 bar (36.25 psi)

BWT - PERMAQ® Pico

BWT - PERMAQ® Pico in online mode

1 Filter
2 Softener
3 Reverse osmosis
4 Pressure store with built-in bypass
5 Multiblock



BWT - PERMAQ® Pico in offline mode

1 Filter
2 Softener
3 Reverse osmosis
4 Tank
5 UV disinfection
6 Circulating pump
7 Pressure increase
8 Bypass valve

PERMAQ® – Reverse Osmosis

Required for online operation:

Online connection block

Type	Online connection block
Order no.	13959

PERMAQ® Pro S

Pressure tank

Type	35l	50 l	80 l	140 l	200 l	300 l	400 l
Order no.	13958	13957	13956	13955	13954	13953	13952

BWT - PERMAQ® Pro S

The ultra-compact unit for more performance

Type	6 S	7 S	8 S
Permeate volume in l/h	**4000**	**5500**	**6500**
Permeate recovery, approx. %		75	
Salt retention rate %		98	
Length (mm)	1200	1200	1200
Depth (mm)	720	720	720
Height (mm)	1480	2630	2630
Order no.	**13057**	**13058**	**13059**

BWT - PERMAQ® Compact

Full demineralisation with BWT PERMAQ® Compact [NEW]

Your advantages:

- Ultra-compact RO device
- Low-noise operation
- Versatile application possibilities
- User-friendly control with multi-line high definition OLED-display
- On and offline operating mode possible with just one device.

BWT - PERMAQ® Compact

Type BWT - PERMAQ® Compact		11/15	12/16	14/18
Connection thread			3/4″	
Permeate capacity at 15 °C (59 °F) water temperature	l/h	50	75	100
Electrical power consumption	W		300	
Salt retention rate	%		>95	
Order no		**On request**	**On request**	**On request**

The values are valid under the following conditions: Water temperature 15 °C (59 °F)-salt content as NaCl max 1000 ppm - Upstream pressure 4 bar (58 psi)
Large devices and other ranges in compact format on request.

Accessories

Filter element 5 µm

Type UO	40 - 80	150 - 1000 / 40 k - 80 k	PERMAQ® Pro
Order no.	13971	13999	53986

Filter element

Type	Profile, AS profile
Order no.	53985

Permeate storage container

For type A 500: sealed PE container, with screw cover, connections for pump suction line and bleeding. Incl. level adjustment. Unit ready for connection with terminal box and 3 floating switches fitted in permeate store, incl. contact for dry running protection for any feed pump connected downstream.
For type A 1100-4000: sealed rectangular container made of PE, with cleaning dome, screw lid with tension seal. Galvanised wrapping to reinforce the container, with connections for bleeding and pump suction line. Incl. level adjustment. Unit ready for connection with terminal box and 3 floating switches fitted in permeate store, incl. contact for dry running protection for any feed pump connected downstream.

Type		A 500	A 1100	A 2000	A 3000	A 4000
Usable volume	m^3 (gpm)	0.4 (1.76)	0.95 (1.76)	1.75 (7.7)	2.75 (12.1)	3.7 (16.28)
Length	mm	880	1500	2110	2330	2540
Width	mm	770	750	750	1010	1010
Total height	mm	1450	1600	1900	1860	2150
Order no.		**13966**	**13967**	**13968**	**13930**	**13931**

Permeate storage container

Removal fitting for permeate tank

Type	for A 500	for A 1100 - 4000
Order no.	13963	13964

Aquaris RM

Highly effective cleaning substance, biodegradable, 4 x 1000 ml

Type	Aquaris RM
Order no.	13940

Aquaris DES

For safe disinfection, 50 g

Type	Aquaris DES
Order no.	13939

Antiscalant AF 05

Type	2 x 3 kg
Order no.	13950

Colloid index measuring device

Measurement device complete with locking mechanism, pressure reducer and membrane filter casing for fitting into the UO inlet line, 100 membrane filter, tweezers and measuring cylinder.

Type	Colloid index measuring device
Order no.	13996

Reverse osmosis analysis set

to determine overall hardness, iron, free chlorine, pH value, temperature.

Type	Reverse osmosis analysis set
Order no.	13985

Bewades LC-type

UV water desinfection programm - BWT Bewades LC-types

The BWT Bewades LC-types disinfect

drinking, ground and rain water and are suitable for rooftank installations in the private and commercial sectors.

Unlike to other water disinfection methods, the BWT UV systems:

- offer maximal performance at low operating costs
- has no effects on smell, colour and taste of the water
- destroys (inactives) 99,99 % (4 log) of all illness-causing microorganisms
- are designed especially for waters with low UV transmittance

Integrated cooling fan to fulfill **all requirements for warm climates.**

Technical features:

- User friendly controller displaying total hours of operation and lamp performance
- Potential free contact for lamp failure connection to building control
- Compact design for easy servicing and lamp-exchange without interrupting the water flow
- High quality stainless steel chamber (316 Ti) with sophisticated turbulators ensuring optimal performance
- The units are equipped with special highly effective low pressure long-life lamps from 80 W up to 200W with a life time of min. 10.000 hours and a guaranteed performance at EOL.
- High quality quartz glass tubes ensure maximum UVC output
- Low pressure drop
- The 200 W lamps are operating using electronic ballasts to compensate voltage fluctuation

Bewades LC-types

Technical specifications: Max. operating pressure 10 bar, water temperature for 80 W lamp min./max. 5/25 °C (41/77 °F), water temperature for 200 W lamp min./max. 5/60 °C (41/140 °F).

Type Bewades LC-types		80W80/11LC	240W80/22LC	320W80/35LC	200W200/11LC	400W200/17LC
Nominal connection width	DN	1 1/4"	DN 80	DN 100	2"	DN 80
Max. flow rate 400 J/m² Transmission: 70 %/10 cm, 84 %/5 cm, 96 % /1cm	m³/h	4.7	19	31	13	38
Max. flow rate 300J/m³ Transmission: 70 %/10 cm, 84 %/5 cm, 96 % /1cm	m³/h	6.3	25.3	41.3	17.3	50.7
Lamp type	W	80	80	80	200	200
Expected service life of lamp up to approx. (one turn-on per day)	h			8000 - 10000		
Electronic ballast		-	-	-	incl.	
Dimensions (l x diameter)	mm	1013x114.3	1165x219.1	1191x355.6	1263x114.3	1350x168.3
Power supply	V/Hz	230/50	230/50	230/50	230/50(230/60)	
Protection class	IP			54		
Power supply capacity		160	500	660	220	450
Number of lamps		1	3	4	1	2
Order no.		**6-181533**	**6-180364**	**6-180359**	**6-181531**	**6-181552**

Lamp replacement

Type	Lamp replacement	
	80 W	**200 W**
Order no.	**23986**	**23972**

Aquastop

Electronic water stop - to protect against water damage.

Aquastop		3/4″ female	1″ female
Nominal width	DN	20	25
Nominal pressure	bar	0.5 - 10	
	psi	7.3 - 145.0	
Flow rate	m³/h	7.6	16.8
	gpm	33.4	73.9
Order no.		**11825**	**11826**

Aquastop

Salt Control II

Cooling water demineralising machine with inductive conductivity measurement.

For quality-dependent demineralisation from cooling systems and air washers to avoid high salt enhancements. Control unit with conductivity measuring device to continually monitor the entire salt content, with digital display, connection for external recorder.
Design with Type LM demineralisation valve. Solenoid valve 0-3 bar (delivery in components), measuring cell for inductive conductivity measurement, coupling nut, T-piece DN 32, magnetic valve.
Design with Type LA desalting ball valve. Delivery in components, measuring cell, coupling nut, T-piece DN 32, demineralisation ball valve with actuator and manual operation.

Type		LM	LA
Nominal connection width	R	DN 20 3/4″	
Demineralising volume at 2 m upstream	m³/h	2.6	2.6
pressure	gpm	11.44	11.44
Order no.		**16003**	**16004**

Salt control II

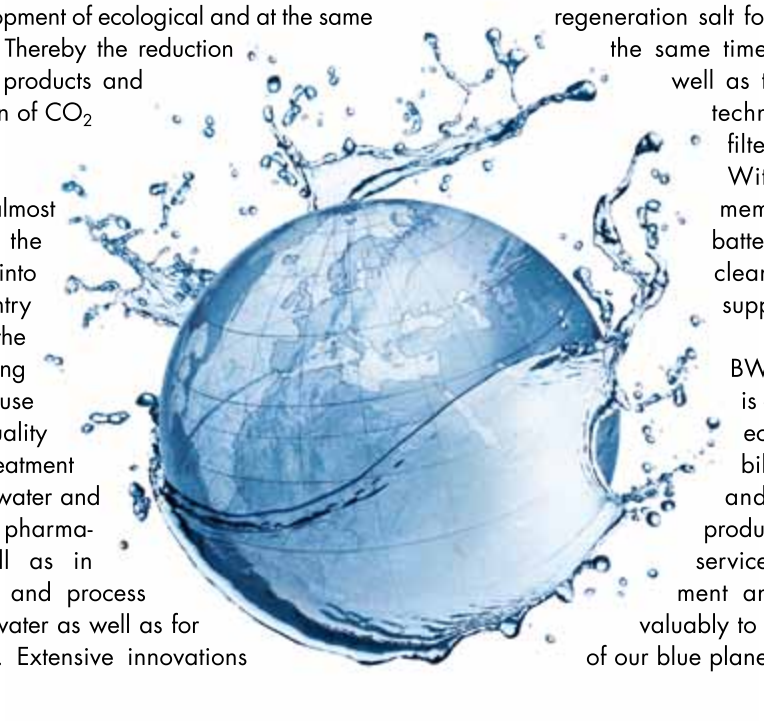
Notes

Notes

BWT – The Company

The Best Water Technology Group was formed in 1990 and is today Europe's leading water technology company. More than 2,800 employees in over 70 subsidiaries and associates together with thousands of service employees, plumbers, planners, architects and hygiene experts constitute the BWT water partner network. Employees in Research & Development work on new processes and materials using state-of-the-art methods to target the development of ecological and at the same time economical products. Thereby the reduction of energy consumption of products and the consequent minimisation of CO_2 emissions is a key issue.

When it comes to water, almost everywhere, whether at the entrance of the water pipe into a building – the Point of Entry - or at the tapping point – the Point of Use, the trend-setting products by BWT are in use and have proved their quality millions of times. For the treatment of drinking water, mineral water and ultrapure water for the pharmaceutical industry as well as in swimming pools, heating and process water, boiler and cooling water as well as for water for air-conditioning. Extensive innovations guarantee our customers maximum security, hygiene and health in the daily use of water, the precious elixir of life. These innovations, among others, include SEPTRON®, the worldwide first electrode deionisation module (EDI) with spiral wrap, the MDA (manganese oxide activation) – method for effective manganese removal, the bipolar technology AQA total for chemical-free lime protection, SANISAL – the worldwide first regeneration salt for softening systems, which at the same time works as a disinfectant as well as the new, revolutionary Mg^{2+}-technology for better taste of filtered water, coffee and tea. With unique high efficiency membranes for fuel cells and batteries, BWT is bringing about a cleaner and sustainable energy supply in the 21st century.



BWT – For You and Planet Blue is our mission to take ecological, economical and social responsibility, to provide our customers and partners with the best products, systems, technologies and services in all areas of water treatment and simultaneously contribute valuably to preserve the global resources of our blue planet.

BWT BEST WATER TECHNOLOGY | For You and Planet Blue.

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