

 MONARCH WATER

MAGNESIO WATER CONDITIONER

INSTALL GUIDE
MG-1 / MG-2 / MG-3 / MG-4

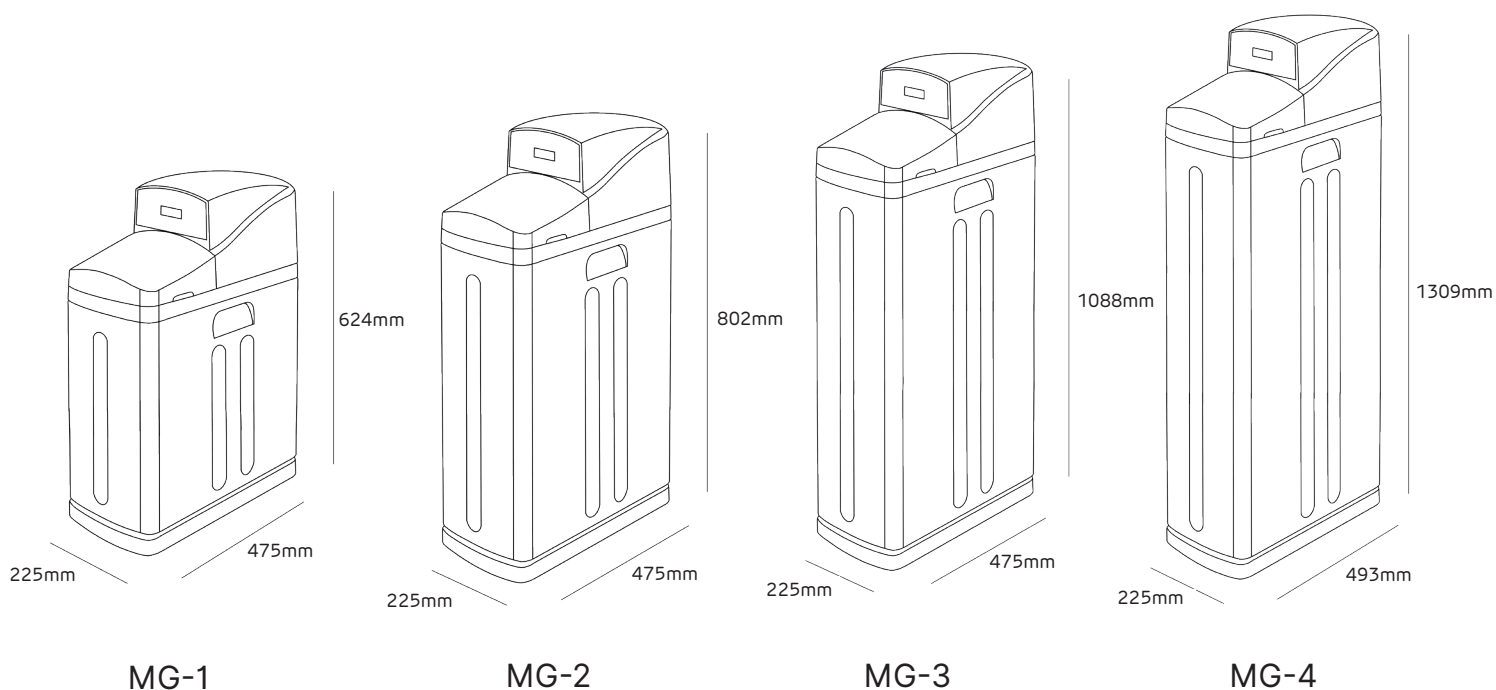
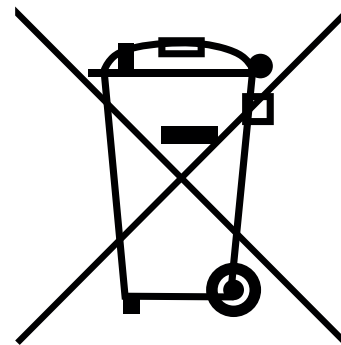
MAGNESIO



EVOLUTION SINCE 1964

The symbol opposite means that according to United Kingdom and European Union member countries laws and regulations your product and/or its battery shall be disposed of separately from household waste.

When this product reaches its end of life, take it to a collection point designated by local authorities. The separate collection and recycling of your product and/ or its battery at the time of disposal will help conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment.



Model	Dims H x W x D (mm)	Daily Capacity (litres @300 ppm)	Temperature (°C)	Water pressure (bar)
MG-1	624 x 225 x 475	1,672	2 - 49	1.5 - 5
MG-2	802 x 225 x 475	2,508	2 - 49	1.5 - 5
MG-3	1088 x 225 x 475	3,678	2 - 49	1.5 - 5
MG-4	1309 x 225 x 475	5,016	2 - 49	1.5 - 5

3/4" mbsp connections. 220v 3 pin plug with inline transformer, or suitable for fused spur outlet.

/ MONARCH MAGNESIO WATER CONDITIONER PROGRAMMING & INSTALLATION INSTRUCTIONS

Thank you for choosing our water conditioner. Please read the following carefully, which if followed correctly, should ensure the installation is trouble free.

/ A. PLANNING THE INSTALLATION

- Always observe the water byelaws.
- Ensure there is only one rising main.
- Make sure you have allowed space for access to the unit for magnesium flake filling and for any possible maintenance in the future.
- Check the water pressure and locate the rising main, a drain facility and a power supply. Be aware of condensation occurring in warm environments.

/ B. SITING THE CONDITIONER - Fig 1 (Page 6)

- Where possible, this should be close to the rising main.
- Tee off for mains water supply to outside tap if applicable.
- The distance between the Magnesio and the drain should be as short as possible, to ensure that both the drain and the overflow are not subject to freezing, or over 120°F/49°C.
- If siting the conditioner within a cupboard, loft etc. ensure that the base/floor is adequately supported.

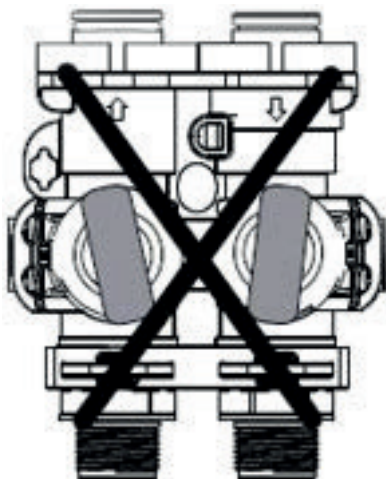
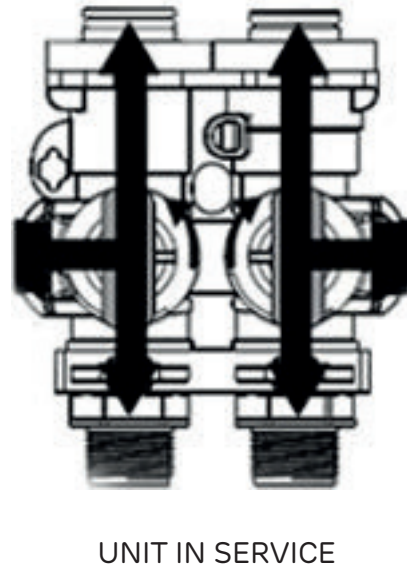
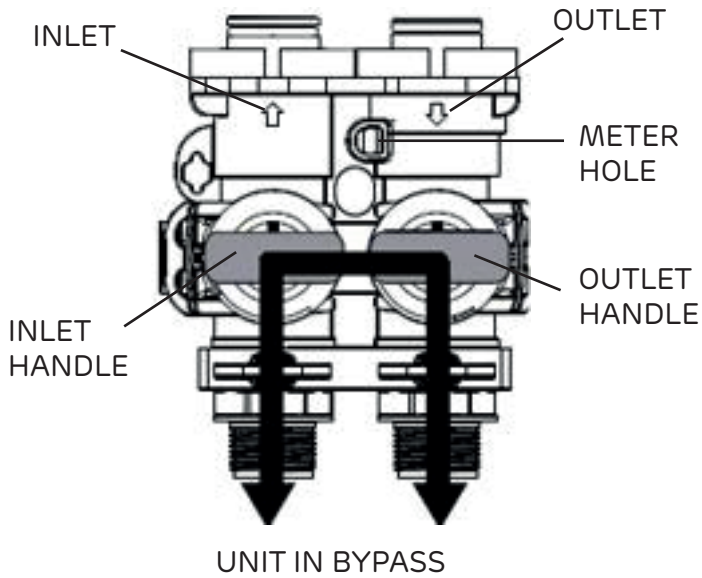
/ C. CHECK VALVE

- Conditioned water for drinking or food preparation is category 2 which requires a single check valve type EA or EB.

/ D. MATERIALS

Ensure all installation components comply with appropriate water regulations.

/ E. INTEGRATED BYPASS OPERATION



/ INSTALLATION

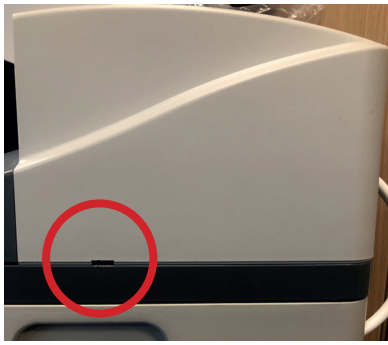
1. Rotate the handles by hand or use a bypass tool
2. The water supply will be in Bypass when the handles are horizontal
3. The unit will be in Service when the handles are in the Vertical position
4. When the unit is in the Service position, it is available to take raw water and filtered water samples for testing at the water taking port on both sides of the bypass
5. Insert the meter sensor into the meter sensor hole

/ NOTES

1. Water pressure: 1.5 - 5 bar
2. Operating temperature: is 2-49°C
3. Only use food grade silicon grease for maintenance, any other kind of grease will affect the lifetime of the bypass.
4. Do not remove the clips when the system is operating, relieve the pressure before removing the clips.

/ F. INTEGRATED BYPASS INSTALLATION (MMB063)

1. Remove the lid of the Magneso by unclipping both sides of the lid with a flat-head screwdriver, this will allow access to the inlet and outlet connections.



2. Remove the flow meter cable by unclipping it from underneath the connector assembly.

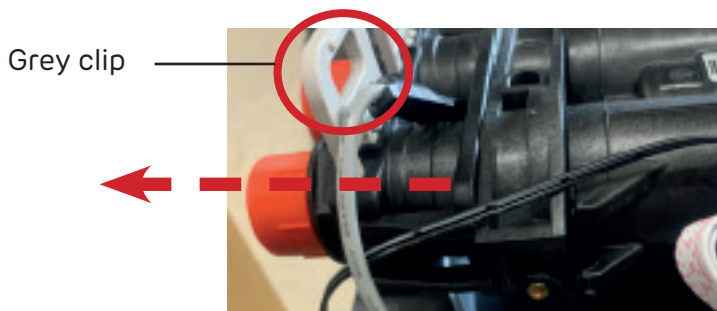


Flow meter cable

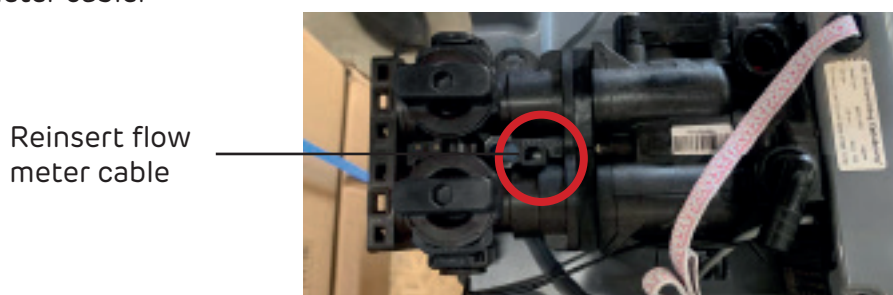
3. Unscrew the two screws and brackets.



4. Remove the 2 grey clips from the back of the Magneso. The inlet and outlet connector assembly is now ready to be removed, to do this pull it out of the inlet and outlet connections.



5. Grease the O Rings on the integrated bypass and insert the bypass in place and reconnect the flow meter cable.



6. The new integrated bypass comes with metal brackets and screws. Use these to attach the bypass to the valve body.

7. Remove the connectors from the the old connector assembly and insert them in to the new bypass connection, then reattach the grey clips back into their slots.

8. The bypass is now fitted.

/ G. WATER PRESSURE TEST

- It is **IMPORTANT** that a pressure check is carried out.
- Low and high pressure can result in either damage to, or failure of the unit.
- If daytime static water pressure* exceeds 3.5 bar (50psi) a 5 bar (70psi) pressure limiter should be fitted. *50psi daytime pressure can reach nearly 100psi at night!
- Minimum dynamic pressure must exceed 1.5 bar.
- If in any doubt please call us on +44 (0)1986 784 759

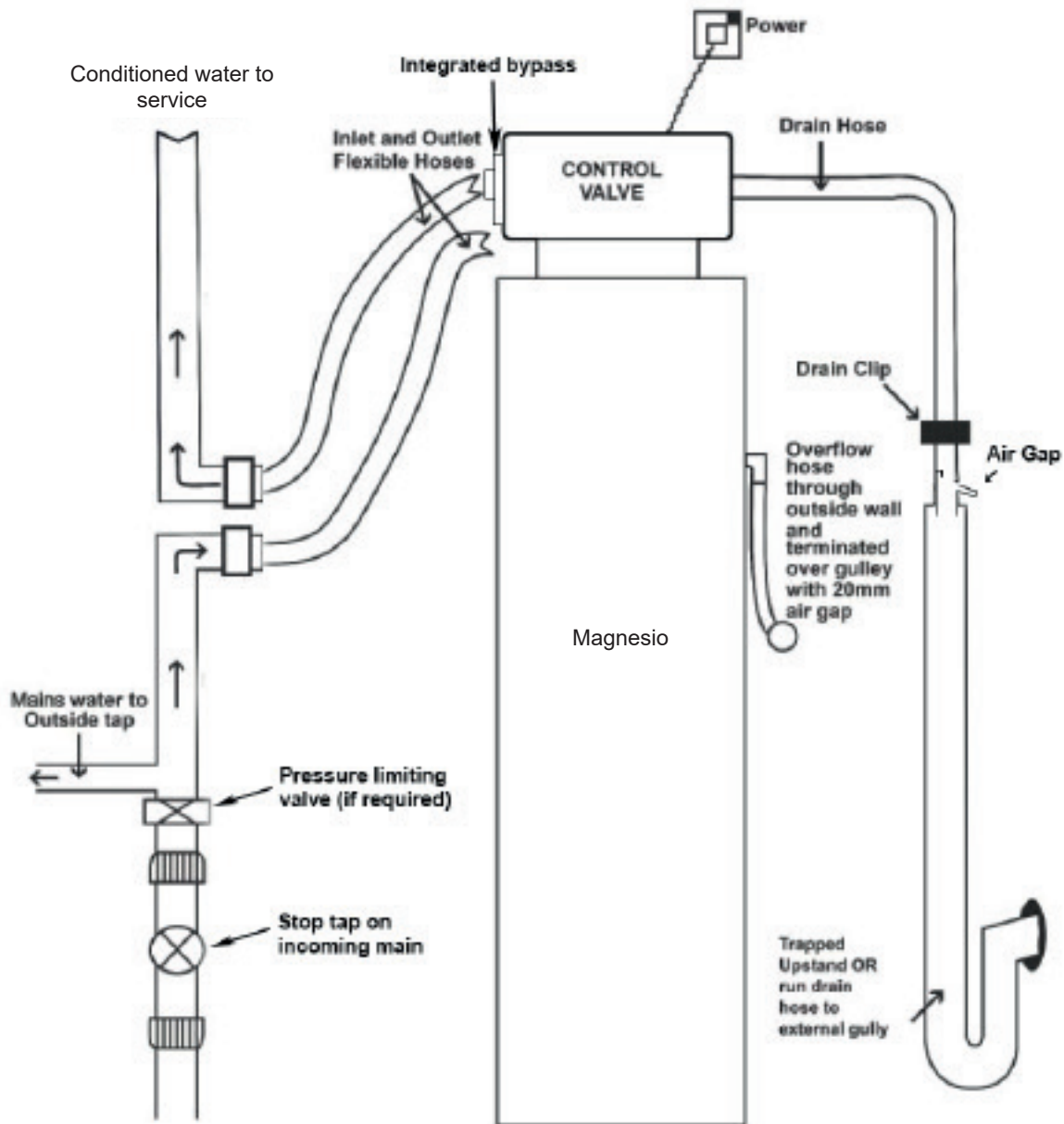


FIG 1

/ Check List

- Water pressure 1.5 – 5 bar (20 – 70psi)
- Access to incoming water supply
- Access to 3 pin socket
- Access to drain
- Installation preferably on an outside wall for the overflow
- Easy access to fill unit with magnesium flakes

/ H. INLET & OUTLET CONNECTIONS - See Fig 2

- Remove the main cover to access the inlet and outlet connections.
- Remove grey retaining clips and also BSP connection points. Connect hoses to male BSP connection points, tighten to seal, then reinsert BSP connection points back into valve body. Fit grey clips. The connection points are designed to rotate once inserted in valve body. This removes any stress/ pressure.
- We recommend you fit the elbow end of the hose to the inlet/ outlet connection points on the Magnesio.

Under no circumstances use washing machines hoses or plumb the conditioner in solid copper pipe.



FIG 2

/ I. DRAIN CONNECTION

- 2.5mtrs of white low pressure drain hose is supplied with the unit. This is to be used for both the drain and overflow. The drain connection is the black barbed elbow under the rear top cover. To remove rear top cover, simply slide forward out of fixing, and lift off. Fix drain hose to black barbed elbow with jubilee clip (supplied).
- Run the drain hose to either an upstand or an outside drain. Connect the drain hose to the spigot of the Air Gap provided to ensure a 20mm air gap exists at the end of the drain line.
- If you need to extend the drain hose, this can be done by connecting to a 15mm copper tube for a maximum run of 4 metres, with a minimum daytime pressure of 40 psi. Over 4 metres please use 22mm (or similar) copper tube.
- Ensure that the drain hose is adequately fixed to the copper pipe.
- The drain hose must not dip or be kinked in any way, as this will lead to an overflow of the machine.
- UPHILL? The white flexible drain hose can run uphill internally, for a maximum of 3 feet, with a minimum water pressure of 40 psi.
- Under no circumstances should the drain and overflow share the same pipe. This could lead to foul smells entering the cabinet from the main drain via the overflow. Also, if the common drain ever gets blocked, the water can re-enter the conditioner via the overflow pipe.

/ J. OVERFLOW CONNECTION - IMPORTANT (White elbow connection on back of cabinet)

- The hose for the overflow should be cut from the white low pressure hose supplied with the unit.
- The overflow connection is the 1/2" hose spigot on the rear right hand corner of the cabinet – no jubilee clip required.
- The overflow must be run downhill and terminate immediately through an outside wall without kinks or restriction.
- A 22mm (or similar) copper protective sleeve through the outside wall will help prevent kinking of the hose.

/ K. TEST INSTALLATION FOR LEAKS

Place the bypass handles in the horizontal Bypass position. Open mains stopcock slowly to flush the new pipe work. This can be done using a mains tap i.e. utility room cold tap or wash hand basin in a bathroom. Check all connections for leaks.

/ L. ELECTRICAL CONNECTION

With the power off, connect the transformer (supplied) to a continuous electrical supply. Push the flying lead from the transformer into the adaptor on the lead coming from the controller.




/ M. OBTAIN YOUR WATER HARDNESS

- These instructions apply to the enclosed test kit only.
- Run hard water for approx. 1 minute and rinse the test tube well.
- Fill the test tube up to the 10ml level. Add 2 drops of the dark solution and mix gently. If the water sample contains hardness it will turn red.
- Add the dark solution in batches of 5 drops, holding the dropper bottle at 45 degrees.
- Mix gently after each 5 drops.
- Count the drops needed until the colour of the sample in the test tube changes from a dark red to a dark blue/green.
- You need this figure for when SET WATER HARDNESS as per P overleaf.

/ N. SETTING THE ELECTRONIC CONTROLLER

- Turn on power and the Magnesio display will say WELCOME.
- The Display is a 2 line display showing both the Model No and also Time and Hardness. The Time and Hardness will alternate every 10 seconds.
- To finalise commissioning of the conditioner, you need to set both Time (24hr clock in hours and minutes) and the water Hardness as determined by the amount of drops in your water hardness test.


/ O. SET TIME OF DAY

- Wait until display says Time of Day. If Time of Day is correct, skip to P. SET HARDNESS.
- Press Up button to show flashing Hours. Please note it is a 24hr clock.
- Press Up or Down button to set Hours.
- Press  to confirm Hours.
- After confirming Hours with , display will show minutes flashing.
- Use Up and Down button to set Minutes.
- Press  to confirm Minutes.

Time:	8:00
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/ P. SET WATER HARDNESS

- Wait until display changes to Hardness.
- Press Up Button to show Set Hardness with no flashing.
- Use Up Button to set number as determined by your water hardness test.
- Press  to confirm setting.

Hardness: 10

UP TO 30 DROPS	ADVANCE ELECTRONIC DISPLAY TO 35 (REC MIN SETTING)
31 - 35 drops	advance electronic display to 40
36 - 40 drops	advance electronic display to 45
41 - 45 drops	advance electronic display to 50
46 - 50 drops	advance electronic display to 55

/ Q. SET DAYS OVERRIDE

- Apply water hardness drops total from the chart below as Override figure in display.
- Wait until display changes to Override.
- Press Up button to show Set Override with no flashing.
- Press Down button until number corresponds with chart below.
- Press  to confirm setting.

/ R. MAGNESIO OVERRIDE CHART

300ppm capacity

MG-1 - 1,672 MG-3 - 3,678

MG-2 - 2,508 MG-2 - 5,016

MG-1	31-35 Drops	36-40 Drops	41-45 Drops	46-50 Drops	MG-2	31-35 Drops	36-40 Drops	41-45 Drops	46-50 Drops	MG-3	31-35 Drops	36-40 Drops	41-45 Drops	46-50 Drops	MG-4	31-35 Drops	36-40 Drops	41-45 Drops	46-50 Drops
LPR	1629	1425	1257	1140		2443	2138	1900	1710		3583	3135	2787	2508		4886	4275	3800	3420
LPD					LPD					LPD					LPD				
300	4.00	4.00	3.00	3.00	400	5.00	4.00	4.00	3.00	600	5.00	4.00	3.00	3.00	800	5.00	4.00	4.00	3.00
400	3.00	2.00	2.00	2.00	500	4.00	3.00	3.00	2.00	700	4.00	3.00	3.00	2.00	900	4.00	4.00	3.00	3.00
500	2.00	2.00	MG-2	MG-2	600	3.00	2.00	2.00	2.00	800	3.00	3.00	2.00	2.00	1000	4.00	3.00	3.00	2.00
600	MG-2	MG-2	MG-2	MG-2	700	2.00	2.00	MG-3	MG-3	900	3.00	2.00	2.00	2.00	1100	3.00	3.00	2.00	2.00

- You have finished the programming.
- The display will now automatically revert back to the alternating display.
- If at any time you need to reset any figure, wait until the display changes to the relevant setting and then re-programme as required.

/ S. FLUSH CONDITIONER - IMPORTANT

- Place bypass in Service position by turning handles to vertical position (see Page 4).
- Check for leaks.
- Leave a mains tap to run for a minimum of 5 minutes to purge any air and 'resin dust' from the conditioner (resin dust may appear orange in colour).

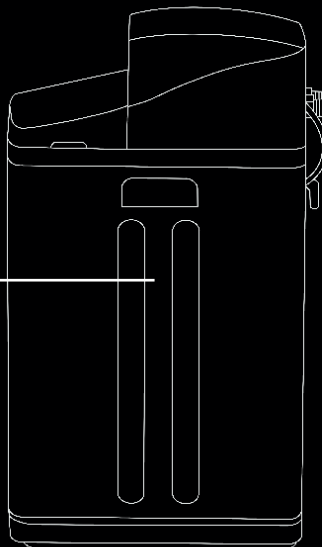
ALWAYS ENSURE THAT YOU USE MAGNESIUM FLAKES

- Always ensure that the magnesium compartment is always at least half full of magnesium flakes. The water conditioner will set its own level of water in the cabinet.
- On all MG-1/MG-2/MG-3/MG-4 models, add 1 litre of water to the magnesium compartment on initial installation only.



If at any time you see excess water in the magnesium compartment going down the overflow, please call our service team on +44 (0)1986 784759.

/ MAGNESIUM FLAKE FILL LEVEL

FILL LEVEL



/ T. EXTRA REGENERATIONS

- To start an automatic regeneration, press the left hand button  and release, the display will count down from 15 to zero. If at any time you wish to cancel the count down, simply press  again.
- An automatic regeneration will start shortly.

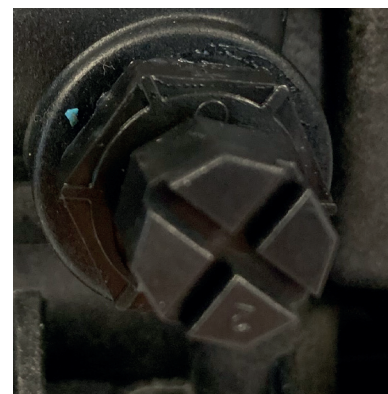
/ U. BLENDING CONTROL

- If hard mains water is ever needed you can open the blender bypass on the conditioner control valve slightly – until it takes 6/7 drops of the dark liquid to get a red to green colour change, as per the original water hardness test.

This blended water setting can only be done when the conditioner is in Service.

/ Further Information

- Do not worry if your conditioner regenerates during the day. This is the Customer Protect Programme initiating an additional mini regeneration, as the Magnesium does not have enough conditioned water to last you until the next programmed regeneration of 2am.
- A regeneration can last between 51 and 92 minutes depending on the model. During this time the conditioner goes into hard water bypass, ensuring a continuous supply of water.
- A Normal regeneration is programmed to 2am, a time when little, if any, water is being used.
- To change the regeneration time, simply offset the Time Setting i.e. to have the unit regenerate 2 hours later, set clock 2 hours slow- see O.
- To ensure the conditioners continuous operation, please do not let the magnesium flakes drop below half way down in the cabinet.



Blending control

/ MONARCH WATER MAGNESIO WARRANTY - Effective January 2023

The Magnesio is fully covered by a 12 month parts and labour warranty for installation within mainland Great Britain from date of original purchase. Installations outside of these areas are automatically covered by a 12 months parts only 'exchange' warranty.

PLEASE NOTE - This warranty has the following conditions, and is not covered by the following.

1. Damage caused by high water pressure, we strongly recommend a 5 bar water pressure limiting valve on the inlet to your water supply, where daytime water pressure exceeds a static pressure of 3.5 bar (50psi).
2. This water conditioner is suitable for a mains water supply only.
3. The majority of debris in water is caused by local authority work on the water main. If notified in advance, by your local water authority, please put your conditioner onto 'bypass', see Fig 4 on page.
4. Callouts due to incorrect installation. If you have any queries when installing your conditioner, please call us on +44 (0)1986 784759.
5. The wrong type of magnesium used and also the conditioner being allowed to run out of magnesium. NOTE: In all cases use MAGNESIUM FLAKES ONLY.
6. The use of any other hoses than those that are classified as food grade. Under no circumstances use washing machine hoses.
7. The build-up of magnesium fines in the bottom of the magnesium compartment. Although Monarch recommends Monarch Magnesium flakes, but recognises this is not always available, therefore please note it is the customers' responsibility to ensure the magnesium is of good condition and quality when used.
8. The effect of aggressive water, the degradation and/or blinding of resin and/or chlorine attack on resin.
9. Under no circumstances plumb in the conditioner in solid copper.
10. The installation kit is only covered by the OEM twelve-month parts 'exchange' warranty only.
11. Compensation as a result of cancelled appointments, damage caused by, or incorrect installation of the water conditioner. In the unlikely event of a fault, put the conditioner onto Bypass, see 3 above ref 'For Bypass' until an engineer calls.
12. Please note that any callouts within the warranty period that are due to external influences affecting the operation of the conditioner, may incur a charge.

/ THE ABOVE DOES NOT AFFECT YOUR STATUTORY RIGHTS SERVICE CARE

The manufacturer of your water conditioner includes 55+ years of manufacturing experience, to give you a water conditioner that is arguably the most reliable on the market today. One of the aspects incorporated into the manufacture of your Magnesio is 'Prevention is better than cure'.

Monarch strongly recommends a service once every 2 years to ensure optimum continued performance.

/ MONARCH NATIONAL SERVICE COVERAGE AREAS - Effective January 2023

All postcodes within mainland Great Britain are automatically covered by a parts and labour warranty as set out in the relevant brochure for the individual model/range.

/ IMPORTANT

Magnesio water conditioners sold outside of mainland Great Britain are to be strictly covered by a parts only 'exchange' warranty as determined by the model/range of conditioners i.e. Unit with 12 months parts.

All parts sent back to Monarch are at the expense of the sending parties. All repaired or replaced items will be returned to the sender on a no charge basis whilst covered by the parts exchange guarantee.

Once the parts exchange guarantee has expired, Monarch reserves the right to make a charge for any postage/delivery, labour and parts charges that is deemed necessary. Monarch will endeavour to keep these charges at the lowest cost whenever possible.



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