

DUPLEX **WATER** **SOFTENERS**



O&M MANUAL

CLACK WS1TT

QUICK INSTALLATION CHECKLIST

- The installation site should be a flat level surface in a frost-free environment.
- Water pressure required is a minimum of 2.0 bar – maximum of 8.0 bar
- Access to a drain that is open, level and accessible.



1. Vessel 2. Brine tank 3. Brine well 4. Brine grid & 4 feet 5. Overflow adaptor 6. Media 7. Riser tube 8. Clack valve 9. Clack connector kit 10. Clack distributor basket 11. Brine hose. 12. 2 port head 13. Interconnect

1.0 VESSEL ASSEMBLY

- Place the vessel on a level flat surface, in its final placement is possible or as close to.
- Take the riser tube and place inside the vessel “basket” end first.
- You will feel the basket nestle in the dip in the centre of the base of the vessel.
- The riser tube will sit level with the top of the tank
- If the tube is sitting proud then the tube is not seated correctly.

2.0 ADDING THE MEDIA

Firstly fill the vessel around 20% - 30% with water

This is to help protect the riser basket and the tank from scoring

Cap off the top opening of the riser tube, taping over the opening should be sufficient and is important so that NO media enters the tube.



Please read the Media Safety Datasheet before installing any of our water treatment systems.

Scan the QR Code or visit:

<https://pumpexpress.co.uk/media-safety-datasheets/>



Media Safety
Datasheets

Now pour the media into the gap between the riser tube and lip of the tank.

STOP pouring when the media reaches around two thirds of the tank.

Split the given media equally between the two vessels.

DO NOT FILL THE VESSEL FULLY WITH MEDIA – this will drastically reduce the efficiency

3.0 INSTALLING THE CLACK VALVE

(The valves are preset for backwashing to begin at 2am, all softeners are preset to treat water of 300 hardness)

Assemble the inlet & outlet connectors as per diagram/picture



When connectors are assembled, align each squarely, with the ring end first into the inlet or outlet ports on the valve, securely hand tighten.

(DO NOT over tighten, and take care NOT to cross thread)



Take the Clack Distributer Basket (cone shaped baskets) and attach one to the underside of the Clack Valve, inserting the wider end first. Attach the second basket to the underside of the 2 port head.

This will connect via a bayonet connection, so will need a partial twist to secure.



4.0 CONNECTING THE CLACK VALVE TO THE VESSEL

Carefully position the Clack Valve over the vessel aligning the Distributor Basket opening with the riser tube.

Ensuring alignment, gently push the valve down so the tube enters the valve basket.

Steadily rotate the completed Clack valve ensuring not to cross thread until it is hand tight (DO NOT over tighten).

Repeat this step, this time connecting the 2 port head to the second vessel.



5.0 INTERCONNECT

Attach the interconnect to the 2 port head and Clack Valve.

(DO NOT over tighten, and take care NOT to cross thread)

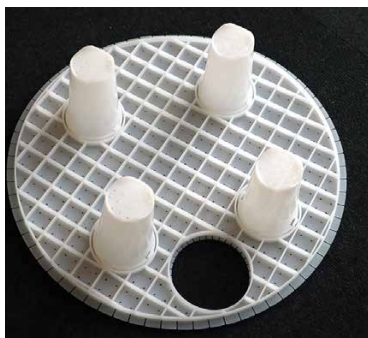


6.0 BRINE TANK ASSEMBLY

Place the Brine tank grid smooth side down on a flat clean surface.

Take the 4 feet and carefully tap into place in the 4 smaller holes in the grid. You will feel them lock into place.

Place the assembled Brine Grid feet first into the Brine Tank.



Then take the Brine Well (large diameter tube) and push into the larger hole in the grid.



Towards the top of the brine well is a Push Fit Connector that protrudes from the Brine well.

Aim the Push fit connector in the direction you wish to feed it from using the brine hose.

(it is advised to position the Brine tank so you can connect the pipe through to the Brine Well at the shortest point see pic.)

Carefully drill a hole **10mm** to enable the brine hose (**part 11**) to pass through and push the hose into the push fit connector on the brine well (**part 3**) (shown in figure 1)



FIGURE 1

An overflow adaptor is provided (**part 5**). Decide on a location on the brine tank for the overflow point to be positioned. Ideally it should be positioned closest and directed towards the drain. Carefully drill a hole of **20mm** (shown in figure 2) towards the top of the tank then connect the overflow (shown in figure 3)



FIGURE 2

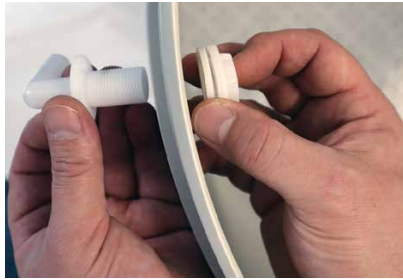


FIGURE 3

7.0 CONNECT THE TANK TO THE VESSEL

Now take the brine hose free end, and push it into the clack valve (shown in figure 4) with the fixtures facing you, insert the hose into the left hand valve.

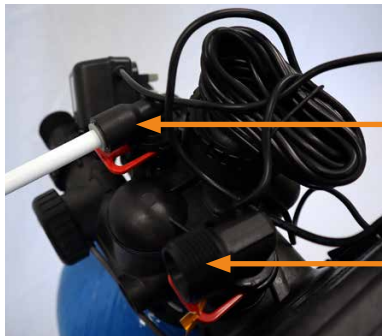


FIGURE 4

Connecting the drain line

The drain line should be plumbed in to the nearest drain. We suggest using the following items. These are not included.

- 1 x 3/4" stainless steel socket
- 1 x 3/4 to 1/2" stainless steel reducing bush
- 1/2" pipe to drain

BUILD COMPLETE! Your unit is now ready to be connected to you water supply and powered up!

MORE RESOURCES

Please scan QR codes for further helpful resources, and trouble shooting.

Please read the safety datasheet before installing any of our water treatment systems.



Media Safety
Datasheets



Pump Express
Website

WARRANTY

This product is guaranteed for the period of one year from the date of purchase against mechanical and/or electrical defects. This guarantee is only valid if the unit has been installed and used in accordance with these instructions.

SPECIFICATION

Model	Service flow rate		Vessel Size	Backwash Flow Rate		*Capacity between Regeneration @300ppm (m3)		Resin Volume
	m ³ /hr	Lpm	Inches	m ³ /hr	Lpm	m ³	L	Litres
DWS20	0.8	13	9x35	0.27	4.5	3.3	3300	20
DWS30	1.2	20	10x35	0.3	5	5	5,000	30
DWS40	1.6	27	10x44	0.3	5	6.6	6,600	40
DWS50	2.0	34	10x54	0.5	8	8.3	8,300	50
DWS60	3.0	50	12x48	0.69	12	10.0	10,000	60
DWS75	5.0	84	13x54	0.91	15	12.5	12,500	75
DWS100	6.0	100	14x65	1.13	19	16.6	16,600	100
DWS150	8.0	134	16x65	1.6	27	25.0	25,000	150

m³/hr – Cubic Metres Per Hour Lpm – litres per minute

*Calculated at 300ppm CaCO₃

SET YOUR WATER HARDNESS

Please note Duplex Softeners come pre programmed.

Press “Set Clock” button - hours will flash. Use up and down buttons to set hours

1. Press “Next” button, set minutes and press “Next”
2. Press “Next” and “Up” buttons together and hold until screen changes
3. Set hardness based on raw water hardness of water supply (from water analysis or test on site)
4. Press “Next”. Leave next setting at 2 – 0
5. Press “Next”. Set the day override (preset at 4)

Press “Next”. Set the regeneration time (preset at 2am)

FULL PROGRAMMING GUIDE

User settings (NEXT & UP together for 3 seconds)

Set hardness

Set hardness 2 (zero unless using a mixing valve)

Set day override

Set regeneration time (only for simplex)

OEM programming level 2 (NEXT & DOWN for 3 seconds then repeat)

Set valve size - 1t

Set to "OFF" the option to use ALT valve

Set to "DP OFF" (not using differential pressure switch)

Set ppm (units of hardness measurement)

Set stage 1 to BACKWASH

Set stage 2 to BRINE

Set stage 3 to RINSE

Set stage 4 to FILL

Set stage 5 to END

OEM programming level 1 (NEXT & DOWN for 3 seconds)

Set to SOFTENING

Set backwash time using above table

Set the brine time using the table above

Set rinse time using table above

Select the fill using table above (in KG)

Set the system capacity using the table above

Set the capacity to AUTO

Set the regen time to On O

Set relay 1 to OFF

Set relay 2 to OFF

Set SALT to OFF (no salt monitor being used)

Litres	Valve	System Capacity Kg/CaCo3	Backwash Time	Brine	Rinse	Fill Kg of salt or mins for WS2
20	WS1	1	4	40	4	2.8
30	WS1	1.5	4	60	4	4.2
40	WS1	2	6	60	4	5.6
50	WS1	2.5	6	60	6	7
60	WS1	3	6	60	6	8.4
75	WS1	3.7	8	60	8	10.5
100	WS1	5	8	80	8	14
150	WS1	6	8	80	8	20
200	WS1.25	7.5	10	80	8	28

