

UNITOR MIXING STATION

HIGH FLOW (4-14) and LOW FLOW (4-4)

Instructions and Operations Manual

Unitor Mixing Station 4-4 - WSS Part Nr. 710450
Unitor Mixing Station 4-14 - WSS Part Nr. 710451

SCOPE OF SUPPLY

LOW FLOW (4-4) – 710450

Contains following items –

1 x Accessory Pack: 4 (key, screws clips, foot filters and ties) (1, 5, 12)

1 x Eco LF Out Tube BGAP (6)

4 x Ceramic Weight (4)

1 x Spray Bottle Bracket (3)

1 x Spray Bottle Foot Plate (3)

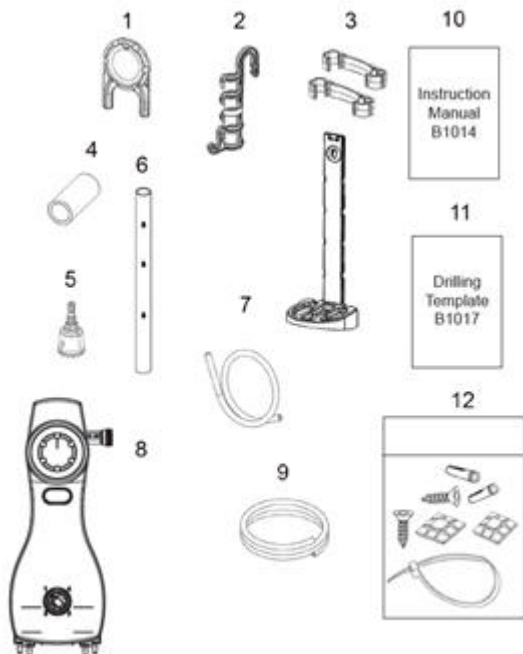
4 x Spray Bottle Tube Clip (3)

4 x PVC tubes (9)

1 x Manual (10)

1 x Drilling Template (11)

1 x Dilution Ratio Card (10)



HIGH FLOW (4-14) – 710451

Contains following items –

1 x Accessory Pack: 4 (key, screws clips, foot filters and ties) (1,5,12)

4 x Ceramic Weight (4)

1 x Bucket Hook (2)

1 x Eco HF Out Tube BGAP (7)

4 x PVC tubes (9)

1 x Manual (10)

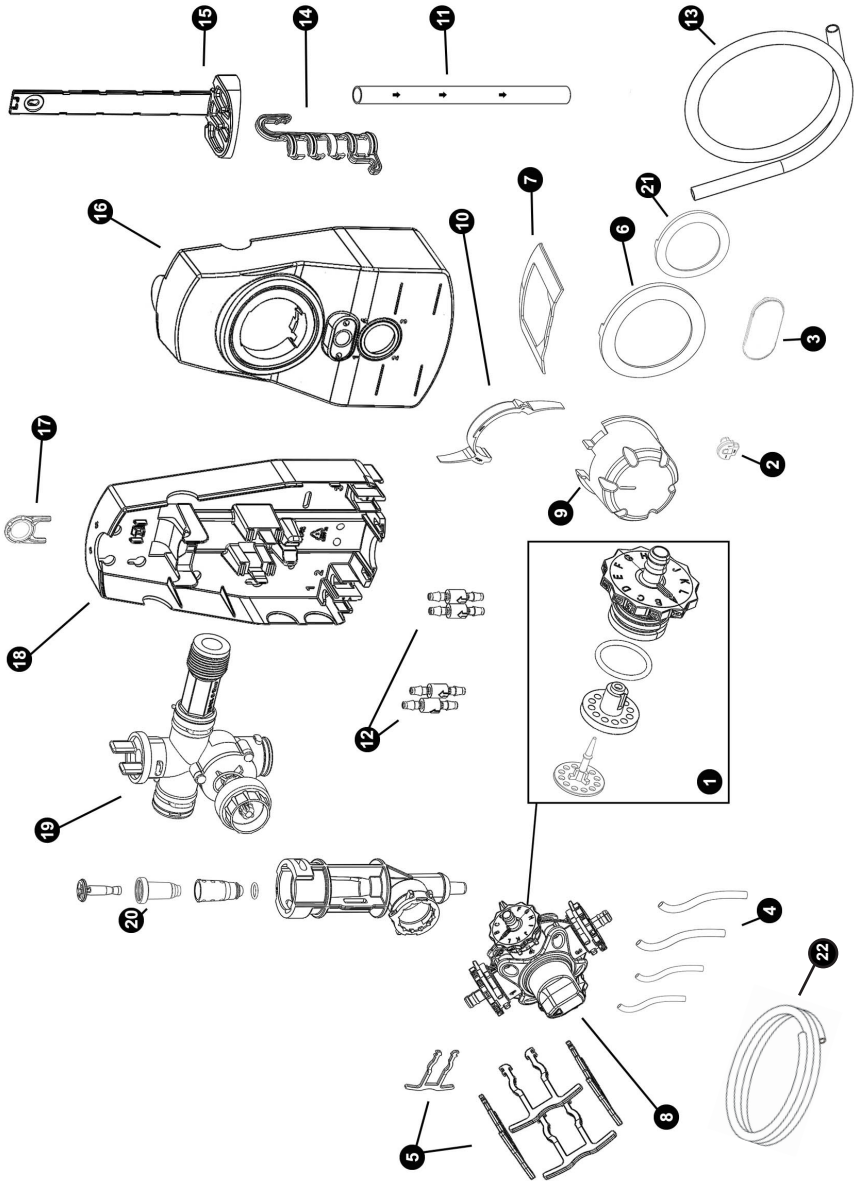
1 x Drilling Template (11)

1 x Dilution Ratio Card (10)

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Explosion Drawing



Explosion Drawing - Parts Description

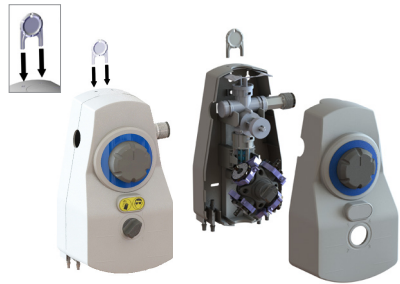
Item Number	Description	Material
1	Dilution Pin	PUDF
	Dilution Tube Connector	Polypropylene
	Proportioner Dilution Seal V2	Extreme Viton
2	Proportioner Pusher Lock	Acetal
3	Branding plaque	ABS
4	Black chemical inlet tube	EPDM
12	In-line non-return valves	
5	Venturi Dilution Clip	Acetal
6	Chemical cabinet coloured ring	ABS
7	Dilution Lock	Acetal
8	Multiway Valve Assembly	Polypropylene
9	Proportioner Pusher	ABS
10	Proportioner Pusher Spring	Acetal
11	BrightGap low flow outlet tube with flood ring	PVC
	AirGap low flow outlet tube with flood ring	PVC
13	BrightGap high flow 1.5m outlet tube with flood ring	PVC
	AirGap high flow 1.5m outlet tube with flood ring	PVC
14	Bucket Hook	Polypropylene
15	Bottle Bracket	Polypropylene
16	Proportioner Cover	Polypropylene
17	Key	Acetal
18	Proportioner Backplate	Polypropylene
19	Proportioner Valve	Acetal
20	BrightGap low flow venturi assembly	Polypropylene
	BrightGap high flow venturi assembly	Polypropylene
21	Dilution Coloured Ring. Various Colours	ABS
22	Clear PVC chemical suction tube	PVC

Step 1 - *Fix the dispenser to the wall*

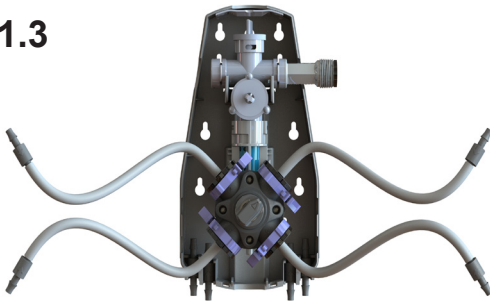
1.1



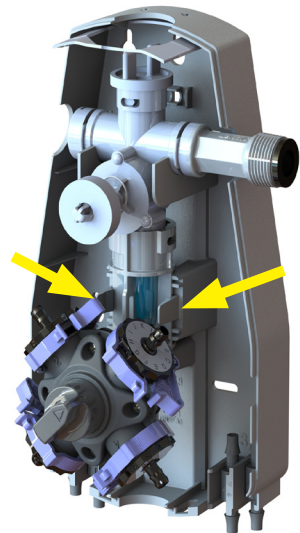
1.2



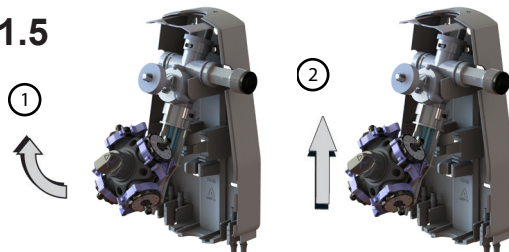
1.3



1.4

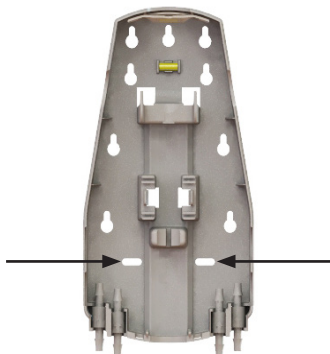


1.5



To mount the unit, first remove the cover using the key provided (1.2), then unclip the non-return valves (1.3), release the retaining clips (1.4), and remove the venturi internals (1.5).

1.6



1.7



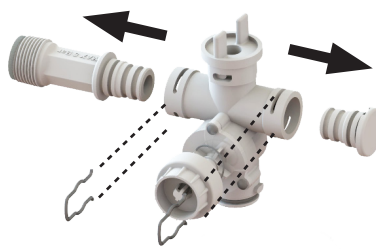
A drilling template is provided in the box for guidance on where to drill holes into the wall. The screw holes in the backplate can also be used to determine the mounting position. To secure the unit firmly to the wall, ensure to use the horizontal screw holes on the lower section (1.6). A spirit level is also included in the backplate to aid quick installation. If using a bottle bracket, set the height correctly before fixing the backplate to the wall (1.7).

Step 2 - *Adjust the water inlet direction*

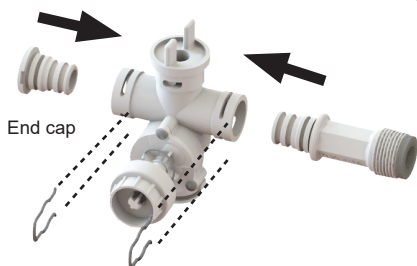
2.1



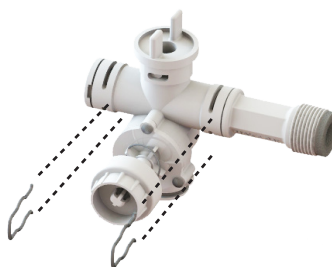
2.2



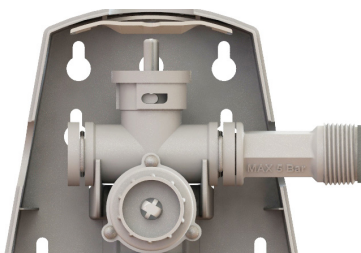
2.3



2.4



2.5

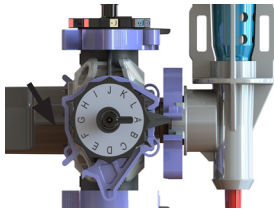


The water inlet direction must be set. This can be changed by removing the retaining pins (2.1), swapping the inlet connector with the end cap (2.2) & (2.3), replacing pins (2.4). Then attach the internal assembly securely to the backplate.

Step 3 - *Adjust the chemical dilution*

Adjust the dilution using the corresponding referencing chart (B976)

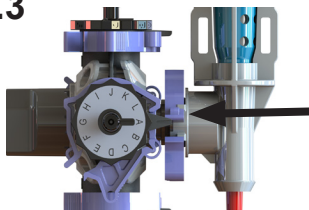
3.1 Dilution Clip



3.2

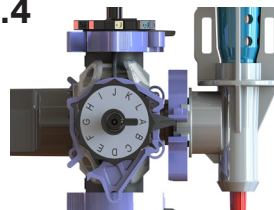


3.3



Indicator showing selected dilution

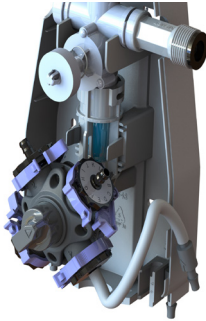
3.4



Pull each dilution clip out to the furthest position (3.1), then pull each dilution pin out to enable rotation of the letters (3.2). Dilution ratios can be set by aligning the desired letters with each of the four indicators located between the two prongs of each clip (3.3). Push the pins back in and return the clips to lock into place (3.4).

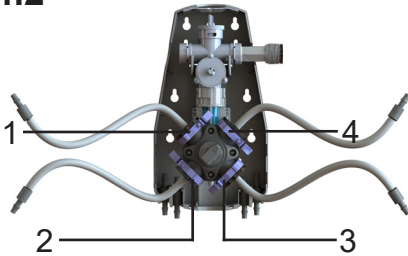
Step 4 - *Select chemical entry*

4.1

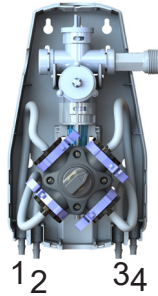


Chemical entry can be set from the bottom or sides. To deliver chemical from the bottom, ensure that the non-return valves are clipped securely into place. To select chemical entry from sides, refer to Step 8.

4.2

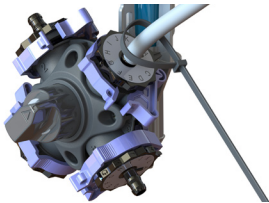


4.3



The positioning of the non-return valves should follow the numbers on the back plate (4.2) and the dial (4.3).

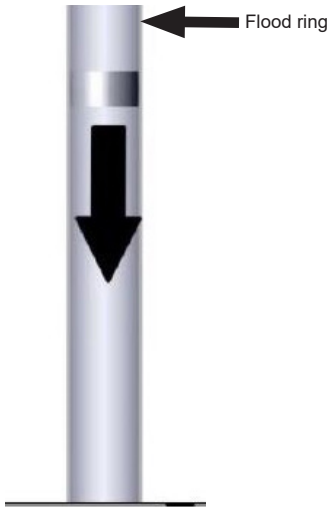
4.4



Attach clear PVC chemical suction tubes to the non-return valves to enable chemical delivery. It is recommended to cable tie both the black chemical inlet tubes and clear PVC chemical suction tubes to form a seal.

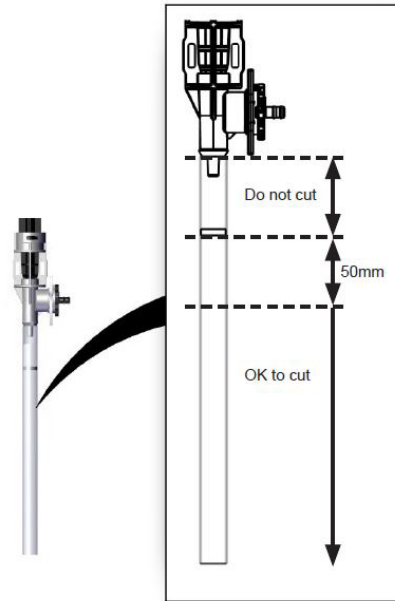
Step 5 - *Finalise Installation*

5.1 Outlet tube

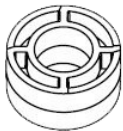



If using the system for low flow rates, fit shorter outlet tubing to outlet nozzle with arrows pointing down.

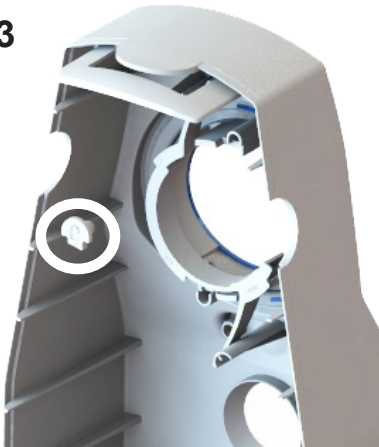
5.2 Outlet tube



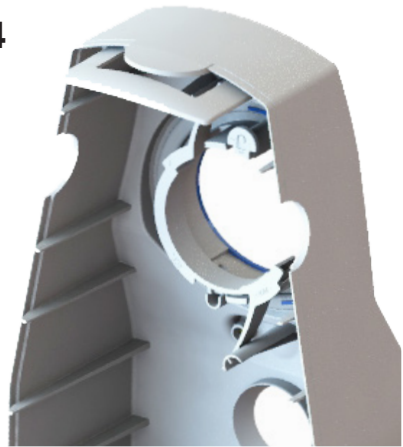
To prevent foaming, the outlet tube may need to be shortened to limit the amount of space between the bottom of the outlet tube and the bottom of the spray bottle. To do this, cut the lower section of the tube ensuring not to cut between the flood ring and outlet.

	
BrightGap Low flow	BrightGap High Flow

5.3



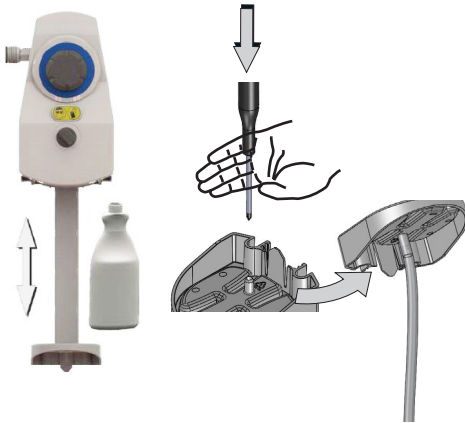
5.4



The High Flow system has an automatic locking feature to continually dispense diluted chemical. To activate the feature, remove the plug with the small lock symbol and push and turn the grey operating button clockwise. When the container is full, simply push the operating button again to deactivate. Once the system has been set up for high or low flow application, replace cover and attach the water main to inlet.

Step 6 - *Optional Configuration*

6.1 Drip Tray



If you are using the a drip tray, punch out the drainage hole with a screwdriver and attach a drainage hose.

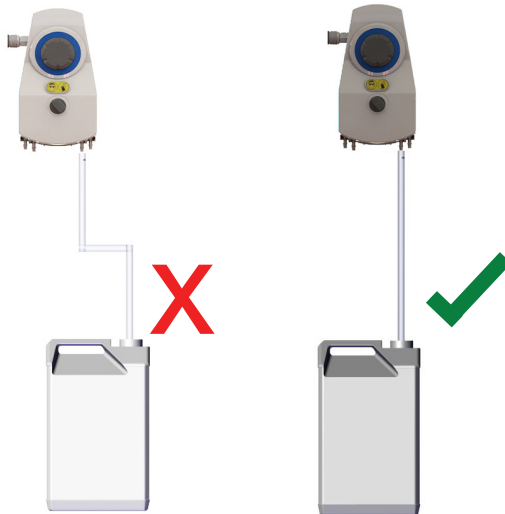
6.2 Bucket Hook



If you are using the system for high flow rates, attach the longer outlet tube to outlet nozzle. The bucket hook can then be attached to the tube.

Step 7 - Configure a 5 - 20ltr container

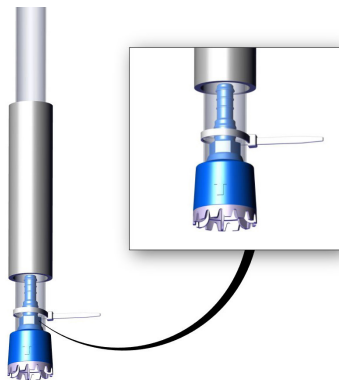
7.1



For containers, connect the chemical suction tubes to the four non-return valves.

Avoid kinking the tube. Always mount the chemical as close to the unit as possible at a max distance of 1.5m.

7.2



Cable tie the clear PVC chemical suction tubes. Once the tubes has been connected and sealed securely in place, attach the foot filter along with the ceramic weights and place in receptacle.

DILUTION RATIO GUIDE

Dilution ratios have been recorded with mains water at 40 PSI (2.76 bar). We strongly recommend you calibrate your own dilution ratios during installation. Always ensure the dispenser is primed when calibrating. Working range 30-70 PSI (2-5 bar), Minimum water flow required, HF = 8.5L p/m, LF = 3.5L p/m.

Dilution ratios are recorded with mains water at 40 PSI (2.76 bar). Please note that dilution ratios can change as a result of changes to pressure, temperature and chemical viscosity. Installers must refer to the manual for the correct installation instructions.

	Flow rate: 4 Ltrs/min			Flow rate: 14 Ltrs/min		
	Dilution Ratio	%	ml/ltr	Dilution Ratio	%	ml/ltr
None	2:1	33.3%	333	6:1	14.3%	143
A	4:1	20.0%	200	12:1	7.7%	77
B	7:1	12.5%	125	19:1	5.0%	50
C	10:1	9.1%	91	30:1	3.2%	32
D	13:1	7.1%	71	40:1	2.4%	24
E	17:1	5.6%	56	50:1	2.0%	20
F	19:1	5.0%	50	60:1	1.6%	16
G	26:1	3.7%	37	75:1	1.3%	13
H	35:1	2.8%	28	100:1	1.0%	10
I	45:1	2.2%	22	128:1	0.8%	8
J	60:1	1.6%	16	160:1	0.6%	6
K	84:1	1.2%	12	256:1	0.4%	4
L	128:1	0.8%	8	350:1	0.3%	3

Compliance

Please observe local water regulations regarding backflow prevention. Wilhelmsen Ships Service will not accept any liability for water contamination, flooding or issues caused by incorrect dilution ratios or installation. Responsibility for ensuring correct installation and dilution ratios rests solely with the installer.

Safety

Wear protective clothing, gloves and goggles when installing dispensers or handling chemicals. Observe the guidelines from the chemical manufacturer regarding dilution ratios and safety advice. Follow the instructions carefully to avoid accidents.

Recommendations

Wilhelmsen Ships Service strongly recommends calibrating your own dilution ratios during installation. Failure to do so may result in incorrect dilution ratios and lead to products not functioning correctly. Always ensure the dispenser is primed when calibrating. Working pressure range 2-5 bar (30-70 PSI), Minimum water flow required, HF = 8.5L p/m, LF = 3.5L p/m. Water temperature range 4 - 65°C (40°F - 150°F)

Maintenance

Proper and periodic maintenance is essential for continued effective performance of our products. Wilhelmsen Ships Service strongly recommends flushing out the system internals periodically with warm water. Checks should also be made periodically for kinking of tubes. Failure to maintain equipment correctly is likely to affect performance and/or the lifespan of such equipment and may also invalidate any warranties provided.

Approvals

Installing in Australia or New Zealand

All installations should be in accordance with AS/NZS 3500.1



WaterMark

Licence No. WMK25899
Specification: ATS5200.101 - 2005



ASSE Record Number: 1562

Troubleshooting

Issue	Reason	Solution
No Water Flow	Water not connected Water valve has malfunctioned Outlet is blocked Water pressure in excess of 70PSI (5 bar)	Check water connection Replace valve Unblock or replace part Fit water regulator to mains supply
Unit will not shut-off	Unit has lock on feature in use Water valve has malfunctioned	Push the operating button to deactivate Replace the water valve
No chemical suction	Low water pressure Tube kink Chemical container empty Blocked foot valve Blocked dilution valve Loose dilution valve (open atmosphere) Flood ring in outlet has moved	Minimum 30PSI running water (2 bar) Re-route tube Replenish chemical Clean or replace valve Remove and clean part Check dilution clamp Replace outlet tube assembly
Too much chemical	Dilution pin on wrong setting Chemical is stiffening	Change ratio Lower chemical below unit injection point

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