INFORMATION & TECHNICAL SPECIFICATION DOCUMENT

Halcyan Water Conditioners

2019

Function

Halcyan Water Conditioners prevent the accumulation of mineral scale created by hard water, remove existing scale and deliver softer water properties. Halcyan protect calorifiers, water heaters, fixtures, fittings and outlets in commercial, domestic and industrial water systems, including their use in agricultural, mining, manufacturing and process settings.

Halcyan units are compact, effective, robust, easy fit, long-lived, sustainable and economical.

Operating Parameters

Halcyan is an inline conditioner with a 316 stainless steel body and a solid state, metallic alloy anode core.

Maximum working pressure 10.0 bar (on units up to H2o900).

Maximum working temperature 80'C.

It is not recommended that units are installed in evaporative systems.

Units should be operated within the tolerances set out in the table below or performance cannot be assured. British standard parallel female thread headers or Table E Flanges, at both ends, come as standard. Other header/flange fittings can be provided as required.

Warranty

30 year manufacturers warranty on domestic units and 10 year manufacturers warranty on commercial/industrial units.

12 month consumer efficacy guarantee on domestic units

Approvals

WRAS approval 1210337

WRAS APPROVED PRODUCT

Specification Requirements

Calculation of the average flow rate at the point of installation will identify the optimum unit(s) for that system, or part thereof.

Calculation of the peak flow demand, including the buffering provided by tanks and cylinders, will ensure that the unit(s) do not limit essential provision of water supply. The table above indicates the minimum flow rate for each unit to operate at it's optimum performance level. Repeated or frequent operation below this level can lead to underperformance of the unit.

The table above indicates the maximum flow rate for each unit. Above this level, it is likely that a restriction in pressure and flow may be experienced.
Due to the operational requirements of the units, it is essential that the smallest unit(s) that won't restrict essential flow are specified. Larger, or oversized unit(s) are not advantageous and may lead to underperformance.

A minimum pressure of 1.5 bar is required for effective performance of the units.

Pipe size is not relevant to the specification of the unit, which is based solely on flow rates. Appropriate connectors/reducers should be used.

No power source is required for the unit's ongoing operation.

Units can be installed in interior and exterior locations, including underground, but should be protected in the same way as the surrounding pipework from temperature extremes and any corrosive surrounding atmosphere.

Units can be installed at any point in the system but the primary suggested fitting location is as close to the inbound water source as practical, and before any spurs in the pipework, to ensure maximum protection.

Alternatively, where cold water storage tanks are in use, fitting the unit(s) on the supply to the tank, with delayed action ball valve(s), provides optimum control of the flow rate. This location is highly recommended.

Model	Header/Flange	weight (kg)	length +/- 5mm	Average Flow rate-litres per min	Average Flow rate-litres per sec	Min Flow Rate L/mm	Min Flow Rate L/Sec	Pressure Drop (PSI)	Max Flow Rate L/Min	Max Flow Rate L/Sec	Pressure Drop (PSI)
H2oShower	1/2", BSP Thread	0.50	125	5.00	0.08	5.00	0.01	neg.	6.50	0.11	neg.
H2o5	1/2", BSP Thread	0.40	125	5.00	0.08	5.00	0.01	neg.	6.50	0.11	neg.
H2o9	1/2", BSP Thread	0.45	155	9.00	0.15	6.30	0.11	neg.	16.00	0.27	neg.
H2o18	3/4", 20mm BSP Thread	0.60	187	18.00	0.30	12.60	0.21	0.42	23.40	0.39	3.27
H2o34	3/4"/ 20mm BSP Thread	0.70	250	34.00	0.57	23.80	0.40	2.45	44.20	0.74	6.19
H2o56	1"/25mm BSP Thread	1.40	297	56.00	0.93	39.20	0.65	1.81	72.80	1.21	2.44
H2o100	2"/50mm BSP Thread	2.56	444	100.00	1.67	85.40	1.42	5.80	158.60	2.64	14.00
H2o100DR	2"/50mm BSP Thread	3.40	485	100.00	1.67	85.40	1.42	5.80	158.60	2.64	14.00
H2o220	2"/50mm BSP Thread	4.20	456	220.00	3.67	154.00	2.57	4.96	286.00	4.77	10.66
H2o335HF	2"/50mm Table E Flange	5.00	456	335.00	5.58	234.50	3.91	2.54	435.50	7.26	10.52
H2o335	2.5"/65mm Table E Flange	15.00	480	335.00	5.58	234.50	3.91	2.54	435.50	7.26	10.52
H2o500HF	2.5"/65mm Table E Flange	15.00	480	500.00	8.33	350.00	5.83	2.48	650.00	10.83	13.98
H2o500	3"/80mm Table E Flange	17.50	480	500.00	8.33	350.00	5.83	2.48	650.00	10.83	13.98
H2o900HF	3"/80mm Table E Flange	17.50	502	900.00	15.00	630.00	10.50	1.81	1170.00	19.50	14.08
H2o900	4"/100mm Table E Flange	25.00	502	900.00	15.00	630.00	10.50	1.81	1170.00	19.50	14.08
H2o1600HF	4"/100mm Table E Flange	25.00	554	1600.00	26.67	1120.00	18.67	1.09	2080.00	34.67	8.38
H2o1600	5"/125mm Table E Flange	33.00	554	1600.00	26.67	1120.00	18.67	1.09	2080.00	34.67	8.38
H2o2840HF	5"/125mm Table E Flange	33.00	580	2840.00	47.33	1988.00	33.13	3.12	3692.00	61.53	14.85
H2o2840	6"/150mm Table E Flange	56.50	580	2840.00	47.33	1988.00	33.13	3.12	3692.00	61.53	14.85
H2o4000HF	6"/150mm Table E Flange	56.50	604	4000.00	66.67	2800.00	46.67	5.71	5200.00	86.67	16.98
H2o4000	8"/200mm Table E Flange	80.00	604	4000.00	66.67	2800.00	46.67	5.71	5200.00	86.67	16.98
H2o5400HF	8"/200mm Table E Flange	80.00	706	5400.00	90.00	3780.00	63.00	4.86	7020.00	117.00	12.82
H2o5400	10"/250mm Table E Flange	123.50	706	5400.00	90.00	3780.00	63.00	4.86	7020.00	117.00	12.82
H2o7000HF	10"/250mm Table E Flange	123.50	864	7000.00	116.67	4900.00	81.67	5.66	9100.00	151.67	12.41
H2o7000	12"/300mm Table E Flange	150.00	864	7000.00	116.67	4900.00	81.67	5.66	9100.00	151.67	12.41

Required and Related Products

When installing the unit(s) you will require:

- WRAS approved single check valve, fitted before the unit(s) in the direction of flow.
- WRAS approved, quality compression fittings (connectors or reducers) for smaller threaded units.
- Copper/brass is recommended but plastic is an acceptable alternative. Pressfit fittings can be used for larger threaded units. Pushfit fittings are not recommended.

Installation Requirements

Each unit should be fitted in accordance with the WRAS Installation Requirement Notes.

IRN R120: the fitting is to be installed as to be readily accessible for examination, test, maintenance replacement or operation.

IRN R150: An 'Approved" single check valve or some other no less effective backflow prevention device providing backflow prevention protection to at least fluid category 2, shall be fitted at, or prior to, the point of connection between the water supply and the unit.

Installation Process: A length of pipe, after the ingress point, long enough for the unit and its connectors must be identified. Turn off the water. Measure the length of pipe to be removed. Cut and remove the section of pipework. Insert the Halcyan unit into the gap and secure its connectors.Turn on the water and test for leaks.

- Units must not be installed less than 2metres prior to a pump, to avoid potential cavitation.
- Units must not be installed less than 2metres after a pump, to ensure the necessary turbulence pattern is not disrupted.
- No power source is required for the ongoing operation of the unit.
- Units do not require earthing.
- Units can be installed in any orientation.
- Units do not have a specified ingress and egress so can be fitted from either direction.
- Units can be installed at any point in the system but the primary suggested fitting location is as close to the inward source as practical, and before any spurs in the pipework, to ensure maximum protection.
- Alternatively, where cold water storage tanks are in use, fitting the unit(s) just before the tank inlet(s), with delayed action ball valve(s), provides optimum control of the flow rate.

Operating and Maintenance Requirements

No maintenance is required for the duration of the installed period.

Regular checks to ensure the flow rates through the unit are as per the original specification will avoid unpredictable underperformance due to low flow.

Delayed action ball valves, where used, should be checked regularly to ensure optimal performance.

Regular cleaning of exposed surfaces is necessary to remove the evaporative 'soft scale' residue that is observed, before the minerals revert to their pre-treated form and create 'hard' scale. This revertion normally occurs at around 21 days but can vary with water chemistry.

Cleaning of 'soft' scale is far easier and quicker and uses notably fewer toxic chemicals than removing 'hard' scale.

In areas with high TDS, there may be a gradual accumulation of 'soft' scale particles settle in the lower parts of the system. These can be removed easily by regular flushing.

Features

No maintenance is required at any stage during the period of installation.

No salts or chemicals are required at any stage for its operation.

Potable water is supplied.

Works effectively on mains water supply or bore hole supply.

Units treat the typical total hardness levels found in mains and borehole supplied water.

Minerals remain in their treated state for approximately 21 days after contact with the alloy.

Heating and hot water systems are supported in achieving their operational efficiencies due to scale not insulating the elements, or blocking and collecting in vital areas of the system.

Removes existing scale deposits from systems over a period of time (duration for removal is not predicatable).

30 year proven track record across a broad range of industry settings.

Notes

Water chemistry and composition remain the same before and after treatment with most basic industry water tests.

Regular low flow through the unit(s) will impede their performance.

Soft' scale will often form on surfaces where water evaporates after leaving the main system. This 'soft' scale is not chemically bonded to the surface and is easy to remove. It should be regularly removed through cleaning to avoid the reversion of the minerals to their original, pre-treated state. This period can vary from supply to supply but the maximum period of treatment is 21 days.

Where no evaporation is possible, the minerals will remain in solution, for around 21 days before starting to revert to their original pre-treated state. The treated period can be shorter particularly in areas with very hard water.

In some areas, due to unpredictable water composition, units may not be able to achieve results with 100% effectiveness, but the unit will still significantly retard the accumulation of scale and significantly enhance the protection and efficiency of the treated systems.

We're here to help

To find out more please don't hesitate to contact us on

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Halcyan WATER CONDITIONERS

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