microlene

UV

Aquashield 2.0
UV Pressure System

Model Numbers: AS20DD & AS20RB

Applications

- Pressure boosting and disinfection of rainwater
- Large home potable water supply
- School shower and toilet blocks
- Guest house potable water supply

Benefits of Microlene's Aquashield Packaged UV Pressure System

Davey's proven 3 stage water disinfection & filtration process will ensure a safe and hygienic water supply*.

Factory matched and tested package ensures the correct UV dosage is delivered with high reliability.

Suitable for both tank only and mains water back-up installations, and for bore and surface water treatment – subject to water quality.

Pump interlock detects lamp failure and locks pump out ensuring only disinfected water is delivered.

Lamp count down timer with set limit of 10,000 hours (14 months) matches lamp life and ensures only disinfected water is delivered.

Durable UV resistant cover allows for flexible, vandal resistant, exterior installation.

RainBank2 controller option

- Provides seamless automatic mains water back-up and source indication
- Automatically reverts to mains water if power fails or pump is removed

DynaDrive controller option

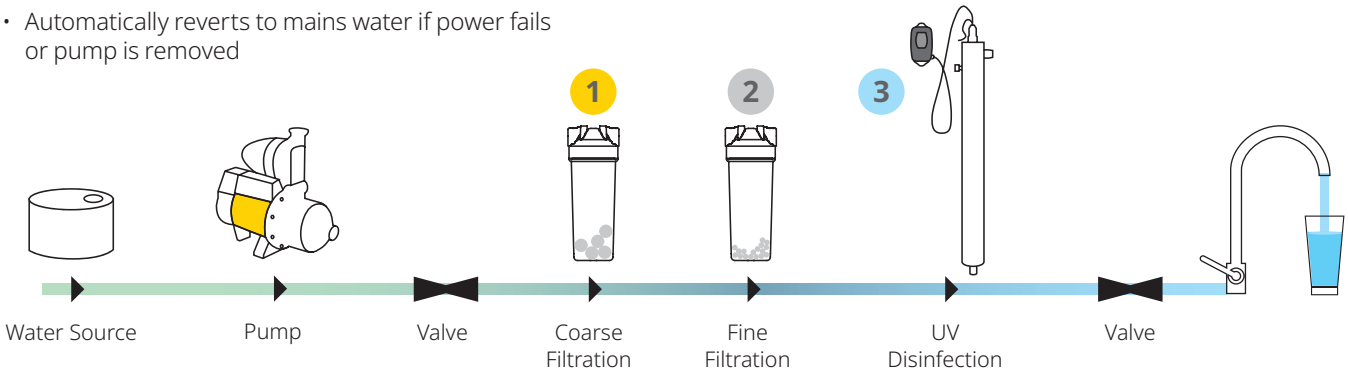
- Variable speed intelligence that provides constant water pressure at the touch of a button
- Set and forget preferred water pressure settings. Reconfiguration not necessary, even after brownouts or blackouts.

High efficiency Microlene UV disinfection system with low pressure lamp and test tube quartz sleeve for easy cleaning and high performance.

20 micron pre-filtration for long cleaning intervals with dirt, rust, sediment and debris reduction.

1 micron filtration for parasitic cyst reduction and further sediment reduction to reduce 'shadowing' of bacteria and viruses.

*Cannot treat water contaminated by metals, chemicals, algal toxins or radiation



Aquashield 2.0 UV System

KMCXS specifications

Operating Limits	
Flow Rates (subject to dosage, UVT and demand %UVT)	Recommended 56.8 l/min @ 30mJ As a general guide, most households do not exceed 50 lpm demand at the same time. For example, 3 outlets turned on at the same time at an average flow rate of 9.3 lpm creates a demand of 27.9 lpm (this flow rate through the chamber will in fact increase the mJ UV dosage rate being applied to and treating the water) at this flow rate the water will in fact be treated at 61mJ @ 95% UVT which is over double the industry recommended 30mJ rating.
Maximum system pressure	827kPa (120 PSI)
Water temperature range	0 – 40°C
Maximum ambient temperature	50°C
Lamp life	10,000 hrs (14 months)

Service Intervals	
UV lamp	Replace 14 months
UV quartz sleeve	Clean 2 – 6 months

Materials of Construction	
Part	**Material**
Chamber	Polished 316L Stainless Steel A249 pressure rated tubing
Wall mounting bracket	Powder coated steel
Chamber connections	1" Male NPT (AU supplied KMCXS has BSP adaptor included)
Filter Housing connections	1" Female NPT (AU supplied KMCXS has a 1" NPT to 1" BSP male nipple included for incoming pipework

Spare Parts & Options	
Part code	**Description**
MCS-C	Cover
KMCXS	Complete unit with filter cartridges
20PP20J	Poly pleated 20 microns rated cartridge (housing 1)
1PS20J	Poly spun 1 micron rated cartridge (housing 2)
MC-HOLP	High output UV lamp (O-ring included)
MC-HOSL	Quartz sleeve (O-ring included)
MCXS-CONT	MCXS controller
MC-CONT-PC	Controller power cord - IEC x AUS/NZ 3 Pin male
MCXS-UVS	Optional UV sensor
DM130033	Temperature Relief Valve - Thermal bleed valve activates when water temperature exceeds 32-35°C
DMMOD-SOL1	Solenoid Module
DMMOD-420	4-20 mA module
DMMOD-RAM	Remote alarm module
DM160018	Replacement Dual Cap and twin housing assembly
DM310177	Filter housing replacement O-Ring
WFH45	Replacement spanner
DM310039	Replacement sleeve spring

Electrical Data	
Supply Voltage	90-265V ~
Supply frequency	50-60Hz
Power (Total)	57W
Phase	1
Lamp	45W
Max input current	0.24A
Max output current	800mA

Water Quality	
Water quality is extremely important for optimum UV performance. Maximum recommended parameters are as follows:	
Hardness	120 mg/L – if hardness level is 120 mg/l or slightly below the quartz sleeve must be cleaned periodically in order to ensure efficient UV penetration; if above the water must be softened.
Iron (Fe)	<0.3 ppm (0.3mg/l)
Manganese (Mn)	<0.5 ppm (0.5mg/l)
Turbidity	<1 NTU
Tannins (organics)	<0.1 ppm (0.1mg/l)
UVT (transmittance)	>85% (Please contact Davey if water has a UVT that is less than 80% for pre-treatment recommendations)

UV Disinfection Systems	
Model	**MCS/MCXS**
Flow Rate (@ 16 mJ/cm² @ 95% UVT)	114 L/min
Flow Rate (@24.2 mJ/cm2 @ 95% UVT)	70 l/min
Flow Rate (@ 30 mJ/cm² @ 95% UVT)	56.8 L/min
Flow Rate (@ 40 mJ/cm² @ 95% UVT)	45.4 L/min
NOTE: Flow rates are based on flow velocity of 8.2 ft/sec (2.5 m/sec), flow rate limited to 84 L/min for 1" port before significant pressure drop is realised.	

Aquashield 2.0 UV System

AS20DD

High pressure with KMCXS System and Dynadrive 90-11 for single water source (Tank Water Only)

AS20RB

High pressure with KMCXS System and HM60-08 complete with Rainbank for dual water source (Tank and Mains supply)

Aquashield 2.0 UV System

RainBank (KRB3) specifications

Operating Limits	
Maximum flow rate (mains)	100 lpm
Maximum flow rate (pump)	100 lpm
Maximum mains water pressure	600 kPa
Maximum pump pressure	600 kPa
Maximum pump amps	10 amps
Level switch voltage	12 volts DC
Maximum water temperature continuous	50ºC
Minimum water temperature	1ºC
Maximum ambient temperature	50ºC
Mains water inlet size	¾" BSP(M)
Rainwater inlet size	1" BSP(M)
Outlet size	¾" BSP(M)

Note: RainBank/S model specifically designed for submersible pumps fitted with auto float switch.

Materials of Construction	
Part	**Material**
Dual check valve	
Body	D.R. brass
Valves	Acetal
Springs	304 stainless steel
Source control valve	
Body	Nylon
Valves	Acetal
Plunger	Grivory
Diaphragm	Santoprene
Springs	316 stainless steel
Seal	Nitrile
Sensor plate	316 stainless steel
Enclosure	A.B.S.

Electrical Data	
Supply voltage	220-250V
Supply frequency	50Hz
Max. full load current	10A
Enclosure class	IP23
Power supply lead – incoming	2m
Level switch lead length: Side entry Top entry	 5m 9m

Note: Refer to relevant pump datasheets for technical pump data

Approvals

Complies with electrical standards: **AS/NZS60335.2.41: 2004 Clause 24**

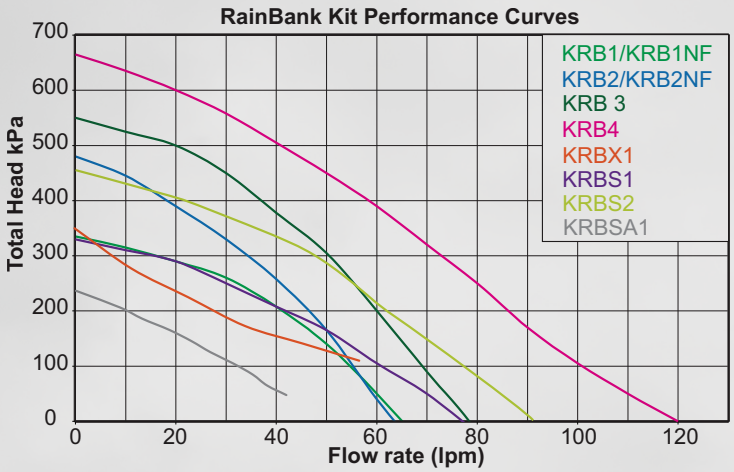
Certificate of electrical suitability: **A/10E**

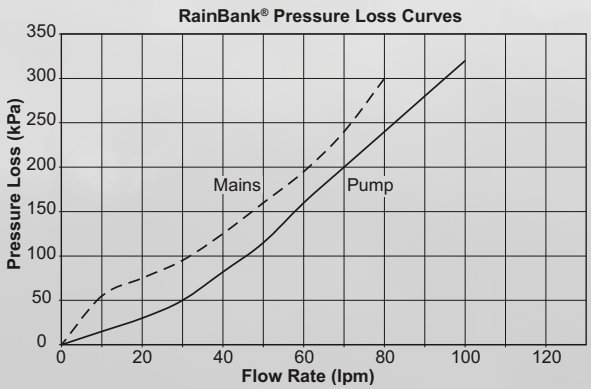
Complies with plumbing standards: **AS/NZS3500-1-2003** including provision of backflow protection when installed in compliance with product Installation & Operating Instructions.

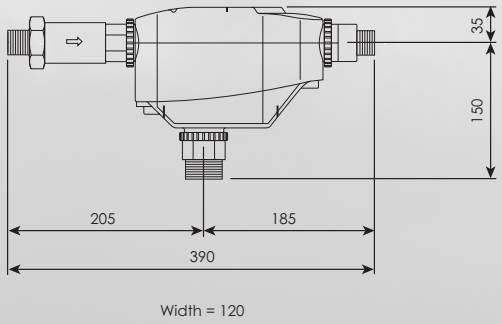
Watermark License **WMKA22042**.

Must be installed by a licensed plumber.

Hydraulic Performance & Dimensions (mm)







Note: Optional bracket available on request. P/N 32556

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DynaDrive (DD90-11) specifications

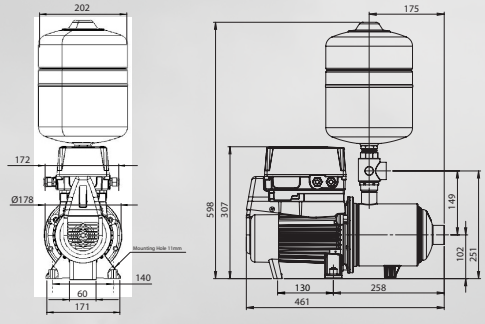
Operating Limits	
Max. flow rate @ 300kPa	92L/min
Max. flow rate @ 400kPa	72L/min
Max. flow rate @ 500kPa	35L/min
Max. casing pressure	1,000kPa
Max. set pressure	600kPa
Min. cut-in pressure	10kPa (gauge pressure)
Default cut-in pressure	50kPa less than set pressure
Max. cut-in pressure	20kPa less than set pressure
Operating water temp range	0 – 80°C
Operating ambient/ air temp range	0 – 50°C
Nature of fluids	Clean, clear, non-corrosive, non-flammable liquids with no fibers and little sand/silica or abrasives (maximum concentration 40g/m^3)
Applicable approvals	UNE-EN 55014-1:2017; UNE-EN 61000-3-2:2014; UNE-EN 61000-3-3:2013; UNE-EN 55014-2:2015; IEC 60335-2-41; IEC 60335-1 + A1:2013 + A2:2016; AS/NZS 60335.2.41:2013; ASNZS 60335.1:2011+ A1:2012 + A2:2014 + A3:2015 + A4:2017; AS4020

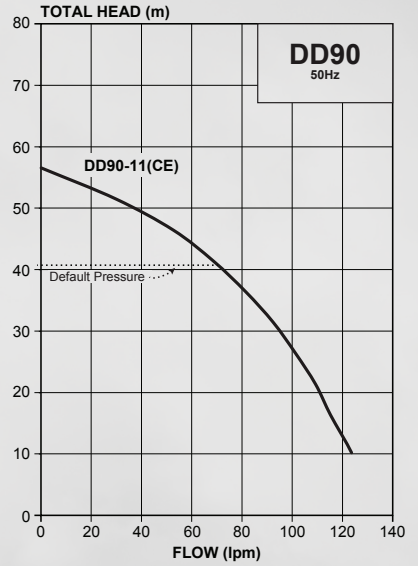
Materials of Construction	
Part	**Material**
Casing	304 stainless steel
Impellers	304 stainless steel
Stages (casing)	304 stainless steel
Pump shaft	316 stainless steel
Stage centring device	304 stainless steel
Mechanical seal	Carbon/ceramic
O-rings	EPDM
Plugs	316 stainless steel
Motor shell and lantern bracket	Aluminium with baked polyester powder coat finish
Motor feet	Xenoy
Fan cowl/rear foot (DD60-08, DD60-10, DD90-11)	Polypropylene
Adaptor VSD	Polypropylene
5-way tee piece	304 stainless steel
Pump coupling to 5-way tee piece	Brass

Electrical Data	
Voltage	220 – 240V ~
Max motor speed	2,900rpm
Frequency (incoming power)	50 – 60Hz
Input power P_1	1.3kW
Output power P_2	0.9kW
Running current	8.6A
Insulation class	F
IP rating	55

Hydraulic Performance	
Inlet (BSP F)	1¼"
Discharge outlet (BSP M)	1"
Pressure tank outlet (top) (BSP F)	1"
Default nominal operating pres	400kPa
Number of stages (impellers)	5
Maximum pump pressure	56m
Default tank pre-charge pressure (Optional extra on CE variants)	280kPa

Dimensions (mm)

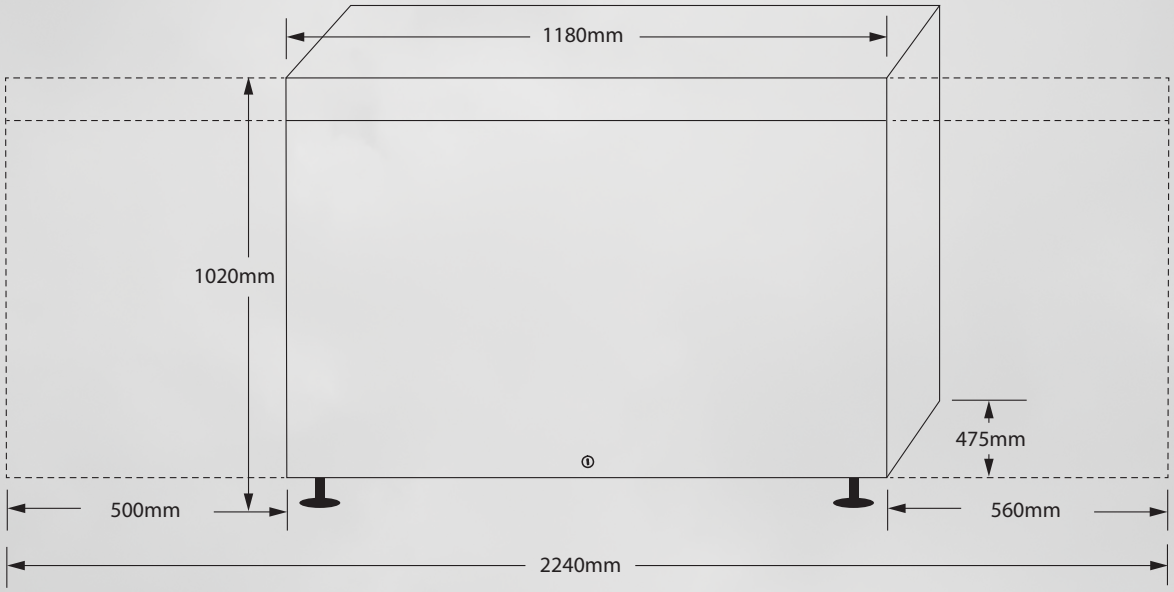




Aquashield 2.0 UV System

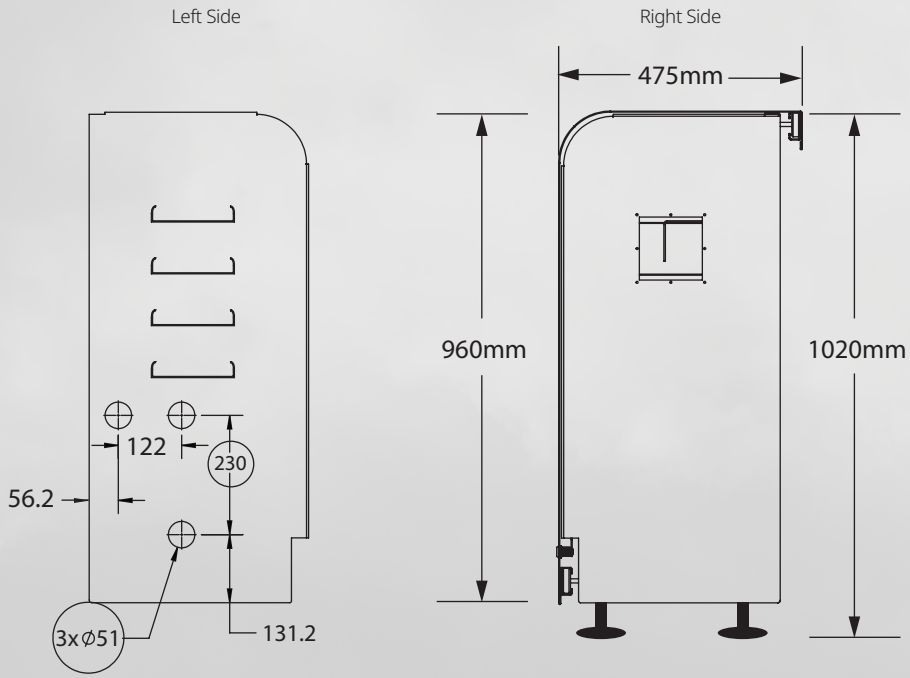
Dimensions

Weights		
Model	**Gross**	**Net**
AS20DD	85kg incl. pallet	70kg
AS20RB	80.36kg incl. pallet	65.36kg



Allow 500mm to slide door to the left to access UV System.

Allow 560mm to slide door to the right to access Pump.



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