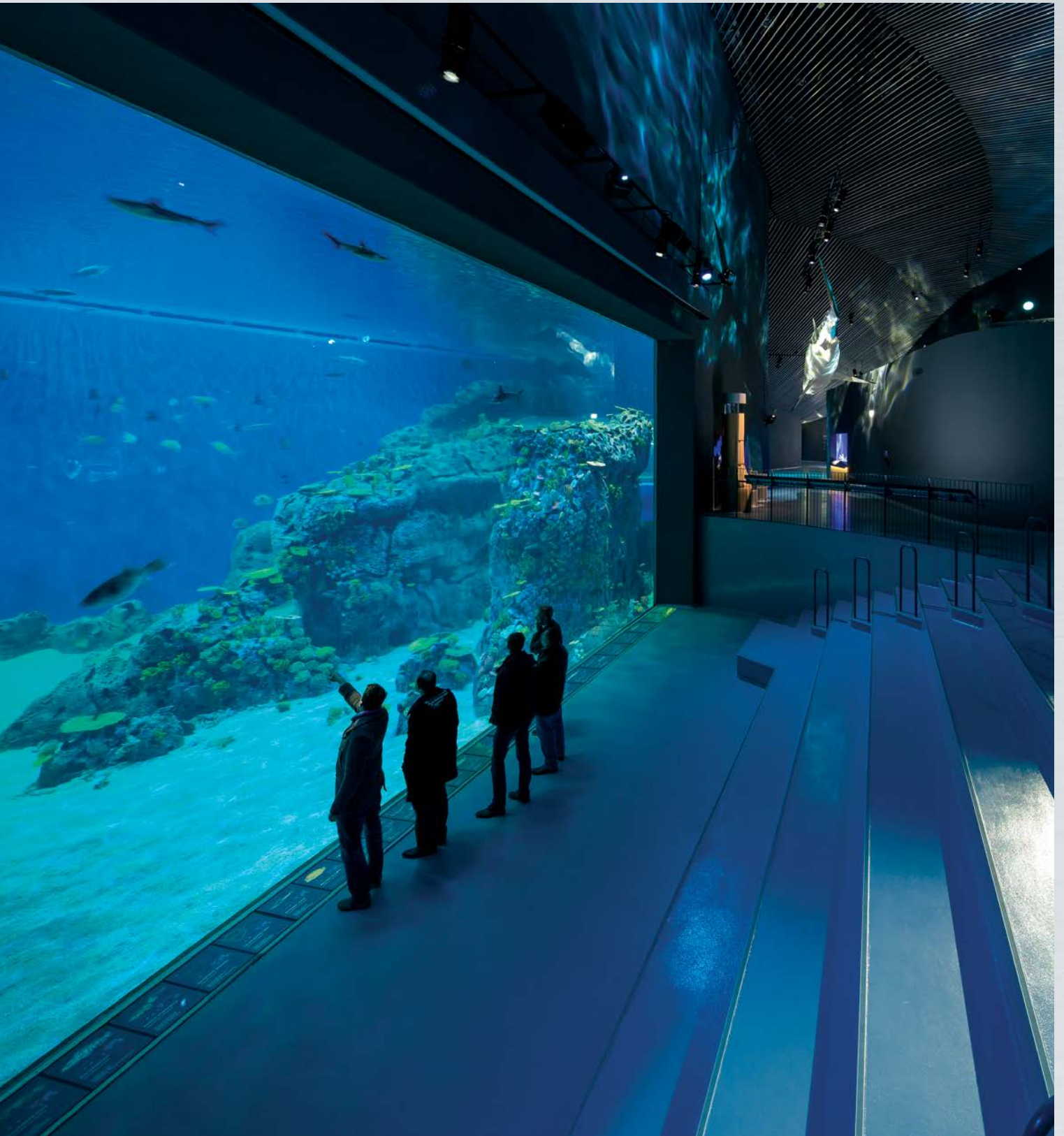


LIFE SUPPORT SYSTEMS

Product Catalogue





Global Office Locations

AUSTRALIA
HONG KONG
CHINA

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Advanced Aquarium Technologies

The aquarium Life Support System (LSS) is not just another water treatment plant, in overall design and philosophy the aquarium LSS is an inherent part of the living ecosystem and fundamentally different from a conventional pool filtration plant. Aquariums require more than just water clarity. Water chemistry, system biology, component material, turn over rate and even tank currents are all integral to the health of the system.

Many standard water treatment components are not suited to the biological nature of aquarium LSS, or the salt laden environment. For this reason AAT have for many years designed, developed and manufactured our range of LSS components. The range of LSS products include:

Foam Fractionators, Sand Filters, Multi-Function Bag Filters, Heat Exchangers and Heat Pumps, UV Filters, Ozone Generators and Skid Mounted LSS Units.

AAT's experience in the industry allows us to design aquariums that recognise and reduce the resources and operational costs required to operate such a facility.

AAT Life Support Systems may be acquired individually and installed on-site or shipped as a pre-assembled unit from the manufacturing facility in China.

John Langmead
CEO - Advanced Aquarium Technologies

AAT Product Range

WATER FILTRATION

06

Foam Fractionator

08

Sand Filter

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Bag Filter

DISINFECTION

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UV Filter

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Ozone Generator

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Air Dryer

TEMPERATURE CONTROL

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Heat Exchanger

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Heat Pump

LSS UNITS

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Skid Mounted LSS Units



WATER FILTRATION

AAT FOAM FRACTIONATORS

Purifying millions of liters of water with billions of tiny bubbles.

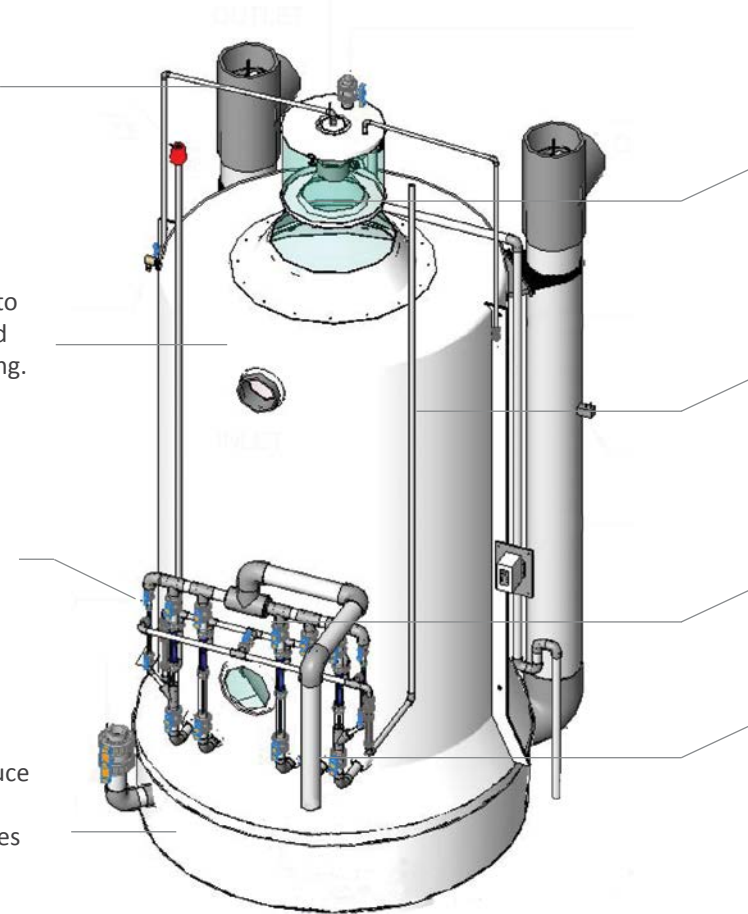
AAT Foam Fractionators effectively and efficiently remove microscopic organic compounds, protein particles, amino acids, bacteria, water tints and other waterborn detritus from salt-water aquaria.

AAT Foam fractionators are designed and manufactured by AAT engineers deeply familiar with the practical requirements of aquarium construction and operation. They are easy to manage and maintain, resistant to chemical and ozone attack, free from corrosion – vulnerable metals inside the chamber and feature Georg Fischer – quality fittings and valves as standard.



PRODUCT FEATURES

- Wash down built in, optional automation.
- Internal baffle plate to control fluid flow and ensure uniform mixing.
- Clear tubes for visually inspecting mixing.
- Tapered base to reduce water exit velocity and allow fine bubbles to break.



- Clear PVC dome and cone for simple control & diagnostic analysis.
- Vinyl ester resin used in construction for resistances to chemical and ozone attack.
- Georg Fischer quality fittings and valves used only.
- Venturi manifolds incorporating tunable Mazzei injectors.

PRODUCT DETAILS

Processing flow rates from: **Metric** 5 m³/hr to 226 m³/hr **Imperial** 180 ft³/hr to 7988 ft³/hr

Body diameters from: **Metric** 300mm to 2000mm **Imperial** 11.8" to 78.7"

Option for air only or air/ozone mixtures depending on application.

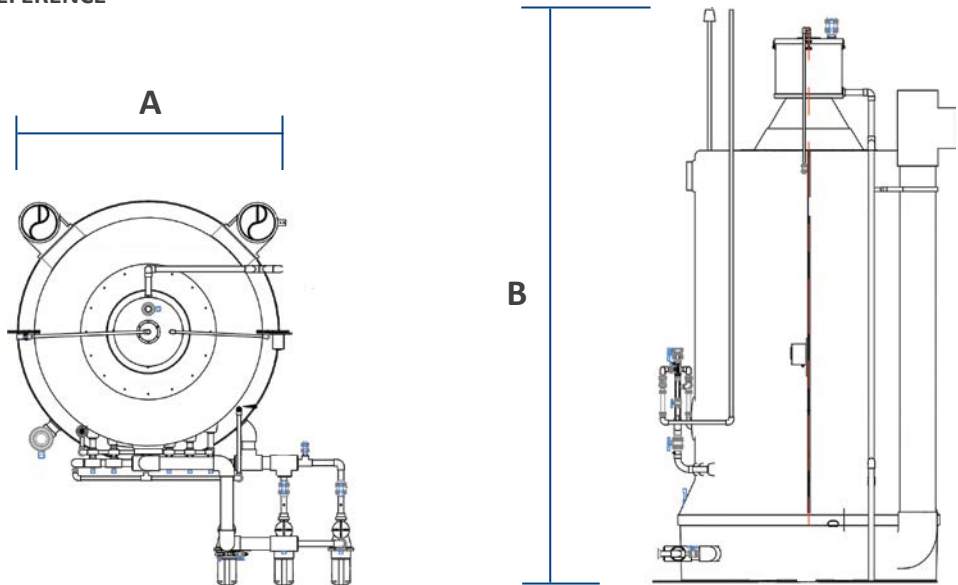
2 minute dwell time.

TECHNICAL SPECIFICATIONS

METRIC					
MODEL	CONTACT AREA	FLOW RATES (m ³ /hr)	UNIT DIM A (mm)	HEIGHT DIM B (mm)	SHIPPING WEIGHT (kg)
FF300	0.07	5.1	300	1472	22
FF400	0.13	9.0	400	1511	30
FF600	0.28	20.4	600	2878	98
FF1000	0.79	56.5	1000	3804	245
FF1150	1.04	74.8	1150	4033	292
FF1500	1.77	127.2	1500	5140	576
FF2000	3.14	226.2	2000	5140	983

IMPERIAL					
MODEL	CONTACT AREA	FLOW RATES (ft ³ /hr)	UNIT DIM A (Inch)	HEIGHT DIM B (Inch)	SHIPPING WEIGHT (lbs)
FF300	0.76	179.7	11.8	58.0	48.5
FF400	1.35	319.5	15.7	59.5	66.14
FF600	3.04	718.9	23.6	113.3	216
FF1000	8.45	1997.0	39.4	149.8	540
FF1150	11.18	2641.0	45.3	158.8	644
FF1500	19.02	4493.2	59.1	202.4	1270
FF2000	33.82	7987.9	78.7	202.4	2167

DIMENSION REFERENCE



AAT SAND FILTERS

Engineered for simplicity and ease of operation.

AAT Sand Filters provide filtration efficacy and high-quality water as effortlessly as possible day in, day out, year after year. Our proprietary design has been honed over years of R&D to create a unit that is as simple to own and operate as it is robust and durable.

Made from strong, durable, premium-grade Vinyl ester resin, AAT Sand Filters are resistant to chemical and ozone attack. They are completely free of corrosion-vulnerable metal components internally and constructed using quality fittings and valves.



PRODUCT FEATURES

Large view port included.

Full vinyl ester flow coat finish.

Flat bed plenum utilising high density Diab closed cell foam.

Vinyl ester resin used in construction for resistances to chemical and ozone attack.

Sand removal port included as a standard feature.

One piece removable septum nozzles with 0.3mm slotted pores for evenly distributed fluid flow.

PRODUCT DETAILS

Operating pressures up to 4 Bar, factory tested to 10 Bar.

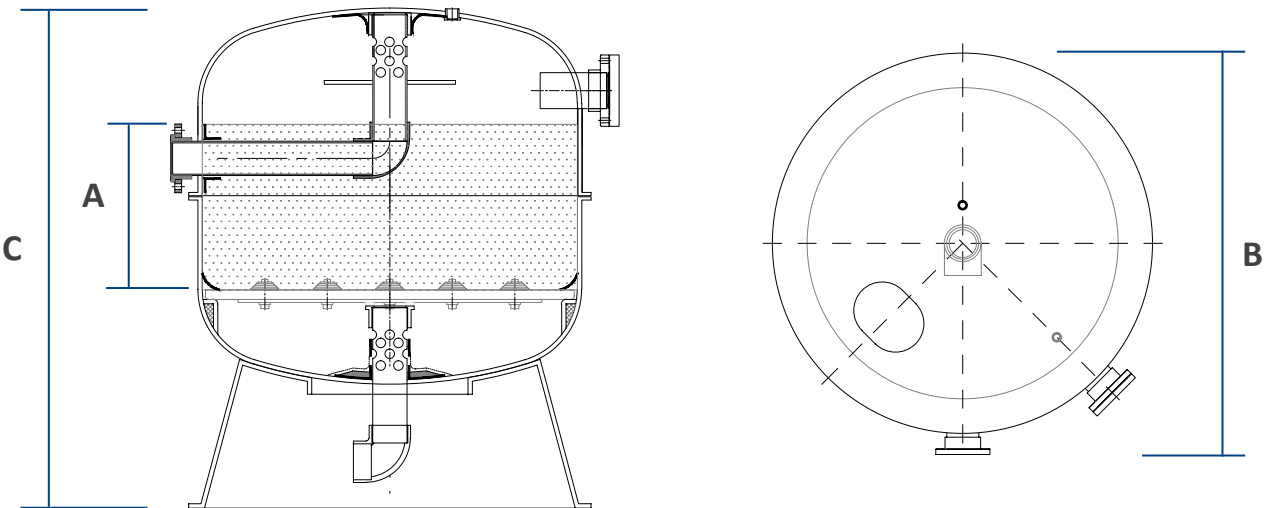
Biological flow rates:	Metric 6.0 L/sec/m2	Imperial 8.8 USg/min/ft2
Chemical flow rates:	Metric 9.0 L/sec/m2	Imperial 13.3 USg/min/ft2

TECHNICAL SPECIFICATIONS

METRIC							
MODEL	FILTER AREA (m²)	FLOW RATES (m³/hr)	CONNECTION (Inch)	DIM A (m)	DIM B (mm)	DIM C (mm)	SHIPPING WEIGHT (kg)
SF1200	1.13	24.4	4	0.53	1200	1345	345
SF1400	1.54	33.3	4	0.60	1400	1506	411
SF1600	2.01	43.4	6	0.65	1600	1706	486
SF1800	2.54	55.0	6	0.70	1800	1931	625
SF2000	3.14	67.9	6	0.75	2000	2134	705
SF2300	4.15	89.7	6	0.75	2300	2475	836

IMPERIAL							
MODEL	FILTER AREA (ft²)	FLOW RATES (ft³/hr)	CONNECTION (Inch)	DIM A (Inch)	DIM B (Inch)	DIM C (Inch)	SHIPPING WEIGHT (lbs)
SF1200	12.17	862.7	4	20.9	53.0	63.0	760.6
SF1400	16.57	1174.2	4	23.6	59.3	65.7	906.1
SF1600	21.64	1533.7	6	25.6	67.2	69.7	1071.4
SF1800	27.39	1941.1	6	27.6	76.0	86.2	1377.9
SF2000	33.82	2396.4	6	29.5	84.0	90.8	1554.2
SF2300	44.72	3169.2	6	29.5	97.5	96.1	1843.0

DIMENSION REFERENCE



AAT BAG FILTERS

Engineered for versatility and ease of installation.

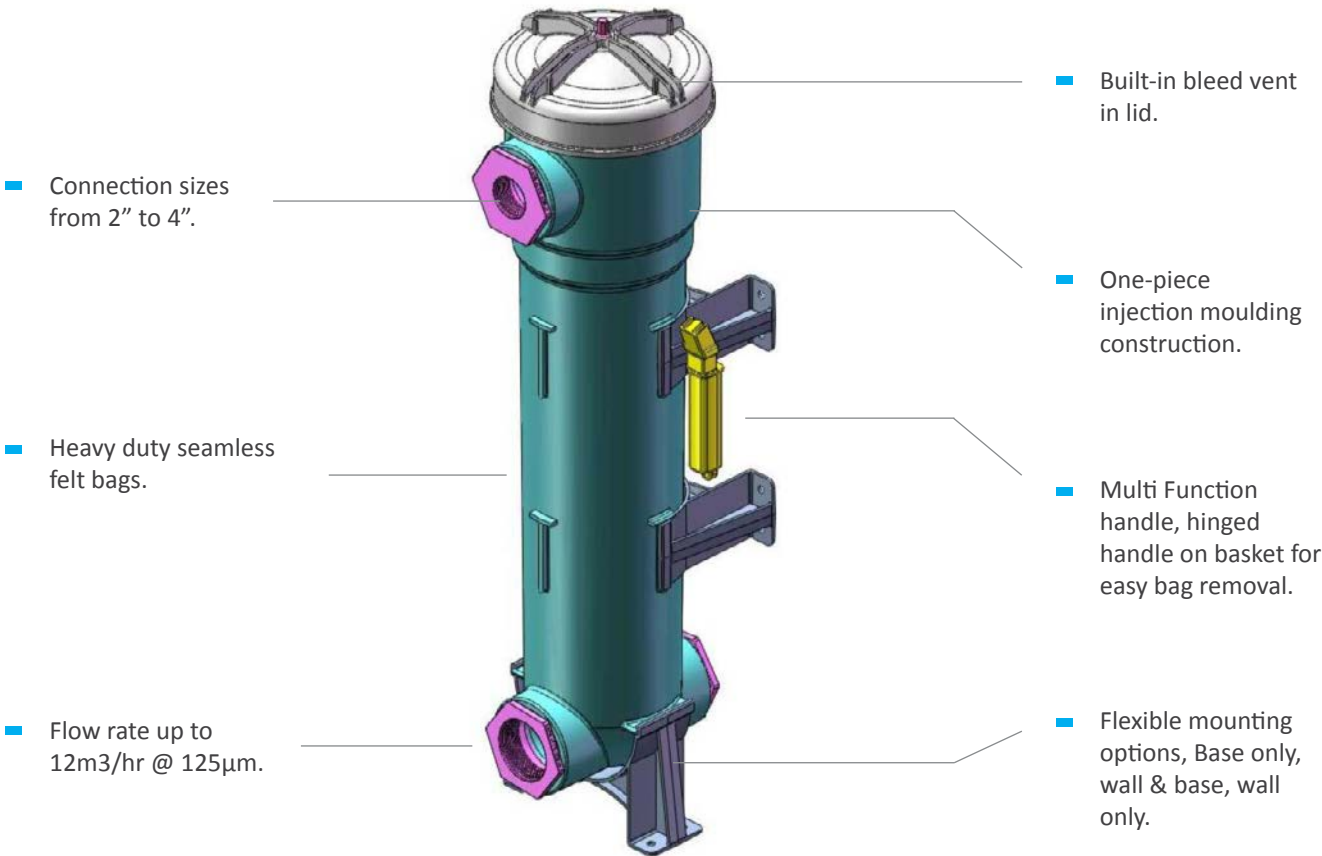
The AAT Bag Filter is a versatile vessel for a wide range of filtering and water treatment applications.

This unidirectional pressure filter (working pressure 0-100 PSI) provides particulate removal in small systems and can be used in larger-systems as a detritus-trap for exhibit-tank vacuuming.

Designed by AAT Life Support System installers for flexibility and ease of installation and particularly beneficial for systems that must fit into compact or space-challenged plant-rooms.



PRODUCT FEATURES



PRODUCT DETAILS

Simple and efficient installation due to flexible mounting options.

Less area required in plant room for mounting due to the removable handle.

Simplified bag removal from hinged basket. Reducing bushes from 4" to 2".

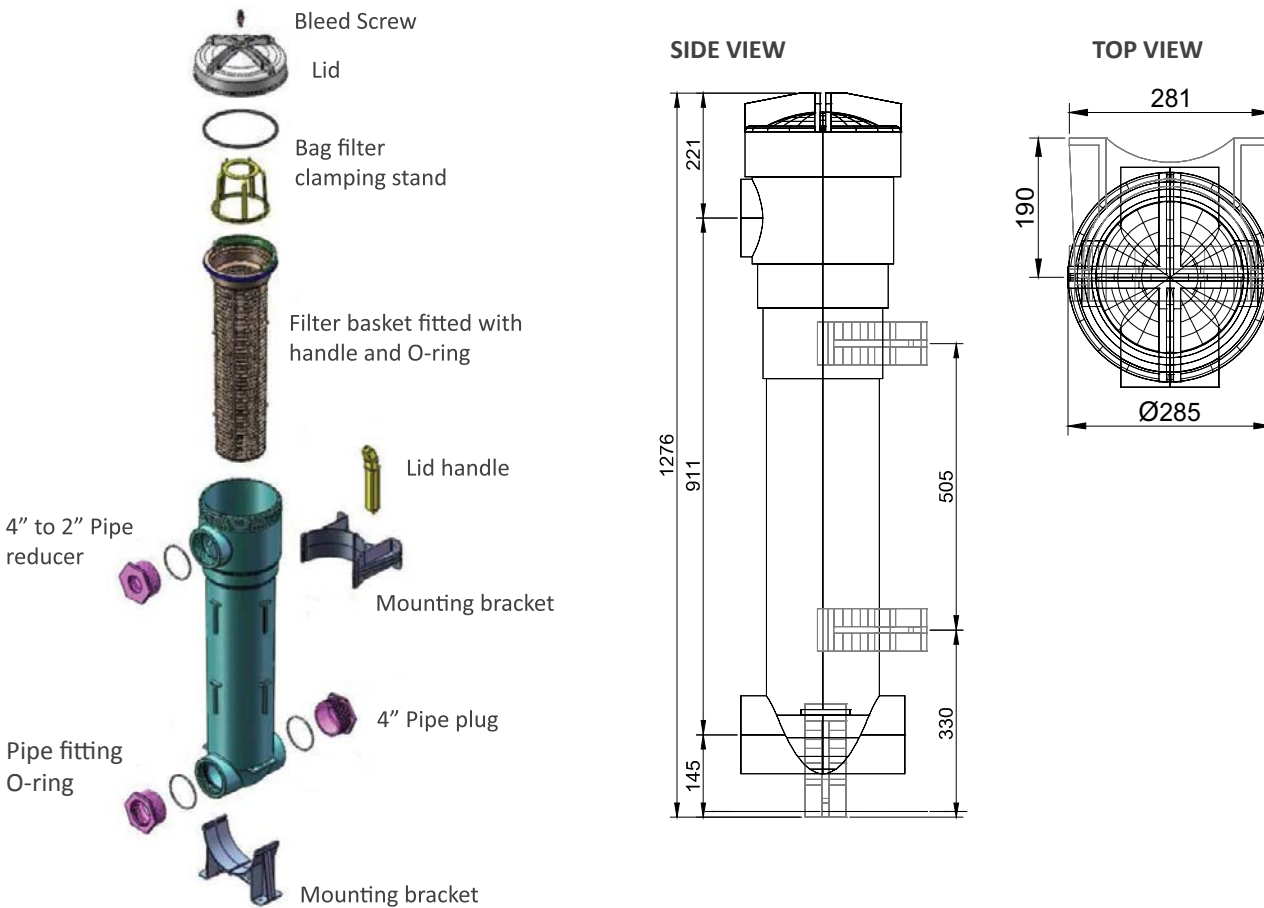
Flow rate: Metric 3L/sec Imperial 0.8 US gal/sec

TECHNICAL SPECIFICATIONS

METRIC					
BAG SIZE (mm)	FILTER AREA (m³)	FLOW RATES	WORKING PRES-SURE (PSI)	WORKING TEMP (C)	FILTER VOLUME (L)
812 x 178	0.5	3L/sec	0 - 100	4 - 70	30

IMPERIAL					
BAG SIZE (Inch)	FILTER AREA (ft³)	FLOW RATES	WORKING PRES-SURE (PSI)	WORKING TEMP (F)	FILTER VOLUME (US gal)
32 x 7	17.7	0.8 US gal/sec	0 - 100	39.2 - 158	7.9

DIMENSION REFERENCE





DISINFECTION

AAT UV FILTER

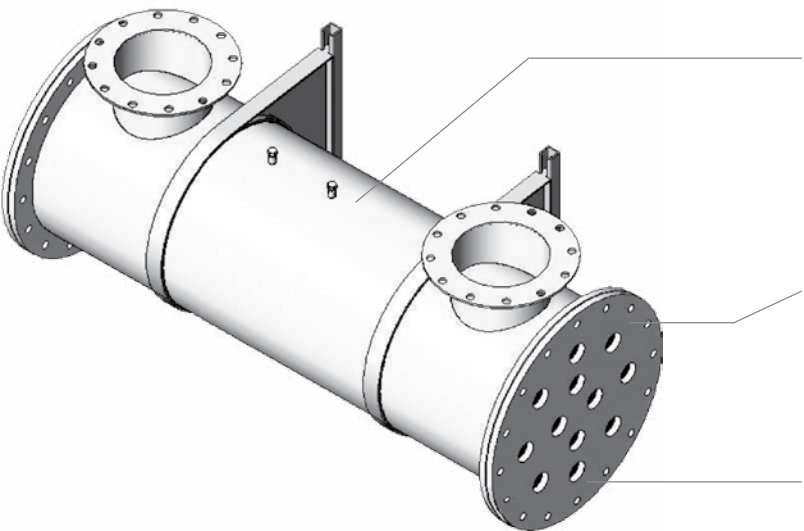
Efficient, economical and environmentally friendly

Ultraviolet germicidal irradiation (UVGI) is a disinfection method that uses short-wavelength ultraviolet (UV-C) light to kill or inactivate microorganisms by destroying nucleic acids and disrupting their DNA, leaving them unable to perform vital cellular functions.

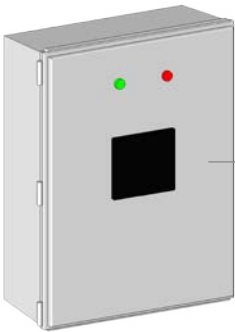
The AAT UV range comes in twelve sizes starting from 300 watts through to 3600 watts. Our experienced LSS technicians will size the best UV solution for your aquarium needs.



PRODUCT FEATURES



- Long water exposure times due to elongated unit design greatly improve the electromagnetic radiation efficiency.
- A quartz sleeve is used to isolate the UV lamps from the water allowing optimal temperature and insulation conditions for highly efficient operation.
- Housing and supporting brackets made from titanium, which has a high strength to weight ratio, high corrosion resistance to salt water plus high temperature tolerance.



- Easy Operator access for control options
- Flow, Thermal and remote interlocks as standard
- Remote Start/Stop Control options as standard
- Remote Run/Fault Output options as standard
- Remote monitoring of reactor operating temperature
- System interlocks prevent overheating by automatically shut off if a fault is detected

PRODUCT DETAILS

The UV lamps run on low input power currents of 200 to 1,500 mA.

Normal operational temperatures of the lamps ranges from 37.78 to 93.33 OC.

Estimated useful lamp life is 10,000 hrs depending on operational conditions.

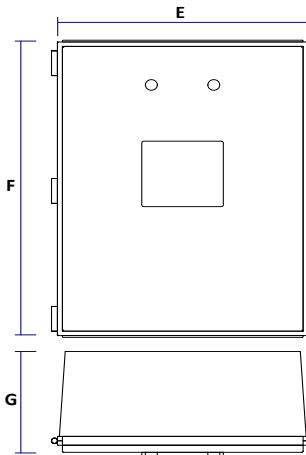
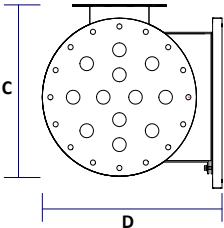
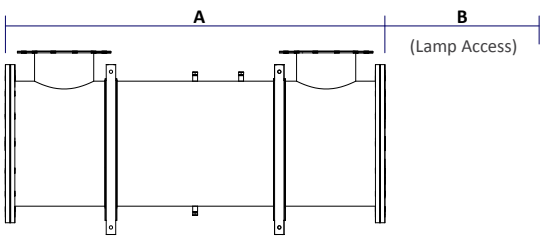
At least 40% of the electrical power input into the unit is converted into usable UV-C watts for the system.

TECHNICAL SPECIFICATIONS

METRIC										
MODEL	LAMPS	FLOW (m³/hr)	LAMP POWER (kW)	DIM A (mm)	DIM B (mm)	DIM C (mm)	DIM D (mm)	DIM E (mm)	DIM F (mm)	DIM G (mm)
300	1	22.5	0.3	1650	2159	252.4	316.3	400	500	160
600	2	45.0	0.6	1650	2159	323.8	395.3	400	500	160
900	3	67.5	0.9	1650	2159	323.8	395.3	530	730	255
1200	4	90.0	1.2	1650	2159	323.8	395.3	530	730	255
1800	6	135.0	1.8	1650	2159	413.3	472.7	530	730	255
2100	7	157.5	2.1	1650	2159	413.3	473.7	530	730	255
2400	8	180.0	2.4	1650	2159	428.3	503.7	530	730	255
3600	12	270.0	3.6	1650	2159	568.2	649.2	630	830	285

IMPERIAL										
MODEL	LAMPS	FLOW (gpm)	LAMP POWER (BTU/hr)	DIM A (Inch)	DIM B (Inch)	DIM C (Inch)	DIM D (Inch)	DIM E (Inch)	DIM F (Inch)	DIM G (Inch)
300	1	99.06	1023.64	64.96	85	9.94	12.45	15.75	19.69	6.30
600	2	198.13	2047.29	64.96	85	12.75	15.56	15.75	19.69	6.30
900	3	297.19	3070.93	64.96	85	12.75	15.56	20.87	28.74	10.04
1200	4	396.26	4094.57	64.96	85	12.75	15.56	20.87	28.74	10.04
1800	6	594.39	6141.85	64.96	85	12.75	15.56	20.87	28.74	10.04
2100	7	691.25	7165.50	64.96	85	16.27	18.65	20.87	28.74	10.04
2400	8	792.52	8189.14	64.96	85	16.86	19.83	20.87	28.74	10.04
3600	12	1188.77	12283.71	64.96	85	22.37	25.56	24.80	32.68	11.22

DIMENSION REFERENCE



(UV 3600 Model Pictured)

AAT OZONE GENERATOR

Ozone (O3) is a strong oxidizing agent.

When applied carefully ozone will remove organic pollutants and disinfect water effectively through two processes:
Flocculation – when used in conjunction with an AAT Foam Fractionator
Oxidation – when used in conjunction with an AAT Contact Chamber

As a gas, ozone is unstable and has a very short life, so it must be generated at the point of use within the aquarium. AAT Ozone Generators allow aquariums to have their own stable and constant oxidizing chemical supply. To maximise ozone production use in conjunction with a high quality, Air Dryer to remove moisture from the gas stream.

OZONE GENERATOR



PRODUCT FEATURES

- HMI touch screen control
 - Pressure gauge of reaction chamber of -1 to 1.5kgf/cm2
 - Ozone operating indicator
 - PLC for process automation
 - Automatic power-off protection in case of overheat, over current or cabinet door opening
 - Adjuster of oxygen flow rate
- Ceramic reaction chamber with wind cooling
- Standard power module of high frequency and pressure
- Air cooler
- Air intake flow regulator



(Powder coated steel model Pictured)

PRODUCT DETAILS

Ozone Concentration	60 - 80 mg/L
Power Parameter	220V, 50HZ
Ozone Generation Technology	Corona Discharge
Dielectric Substance	Titanium-Ceramic Plate
Cabinet	304 Stainless Steel or Powder Coated Steel
Gas Source	Oxygen

TECHNICAL SPECIFICATIONS

METRIC					
MODEL	OUTPUT (g/hr)	OXYGEN FLOW (L/min)	REACTION PRESSURE (Mpa)	POWER (W)	DIMENSIONS (mm)
B3-05	5	3	0.1	450	370 x 650 x 1035
B3-10	10	3	0.1	550	370 x 650 x 1035
B3-30	30	5	0.1	950	370 x 650 x 1035
B3-60	60	10	0.1	1800	650 x 750 x 1200
B3-120	120	20	0.1	3400	800 x 1000 x 1720

IMPERIAL					
MODEL	OUTPUT (g/hr)	OXYGEN FLOW (US GPM)	REACTION PRESSURE (PSI)	POWER (W)	DIMENSIONS (Inch)
B3-05	5	0.79	14.5	450	14.6 x 25.6 x 40.8
B3-10	10	0.79	14.5	550	14.6 x 25.6 x 40.8
B3-30	30	1.32	14.5	950	14.6 x 25.6 x 40.8
B3-60	60	2.64	14.5	1800	25.6 x 29.5 x 47.2
B3-120	120	5.28	14.5	3400	31.5 x 39.4 x 67.7

AAT AIR DRYER FOR AAT OZONE GENERATOR



OZONE GENERATOR MODEL	MODEL	COOLING AIR FLOW RATE	POWER (W)	DIMENSIONS (mm)
B3-05	WGO3-AD-C320	0.18m³/min	450	540 x 350 x 350
B3-10	WGO3-AD-C320	0.18m³/min	550	540 x 350 x 350
B3-30	WGO3-AD-C320	0.18m³/min	950	540 x 350 x 350
B3-60	WGO3-AD-C640	0.36m³/min	1800	540 x 350 x 700
B3-120	WGO3-AD-C960	0.72m³/min	3400	540 x 350 x 1050



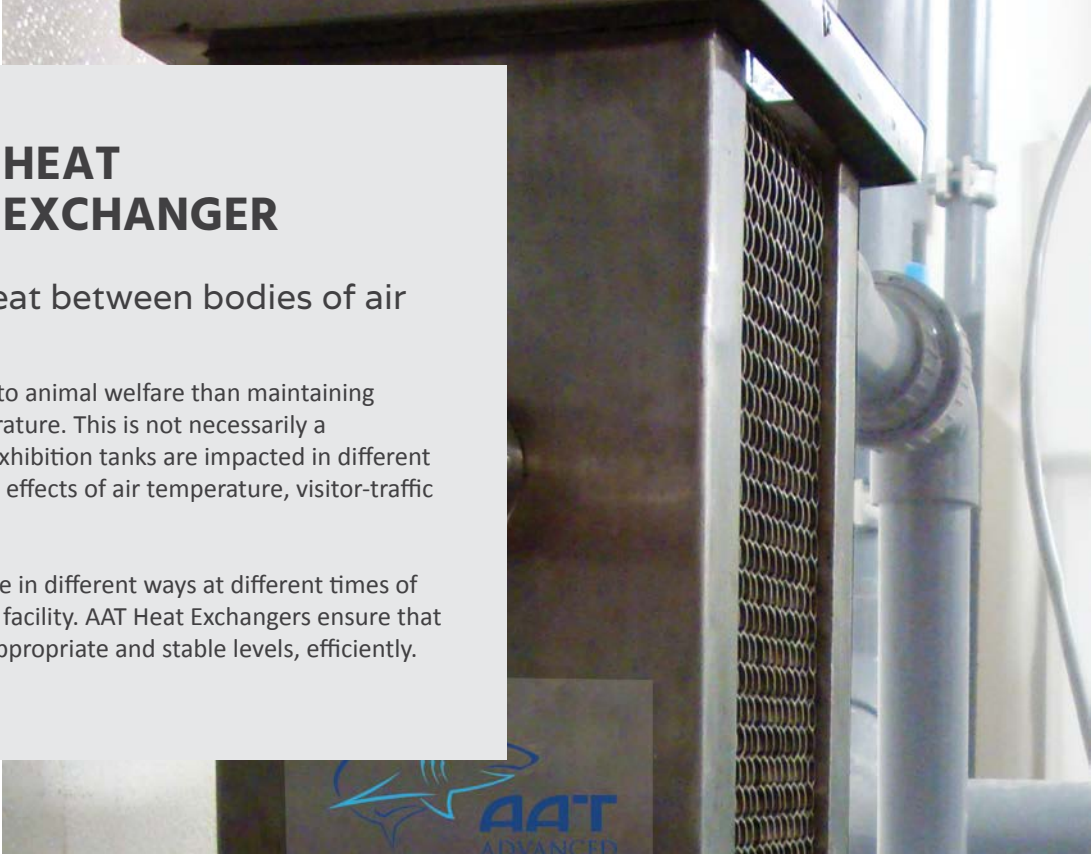
TEMPERATURE CONTROL

AAT HEAT EXCHANGER

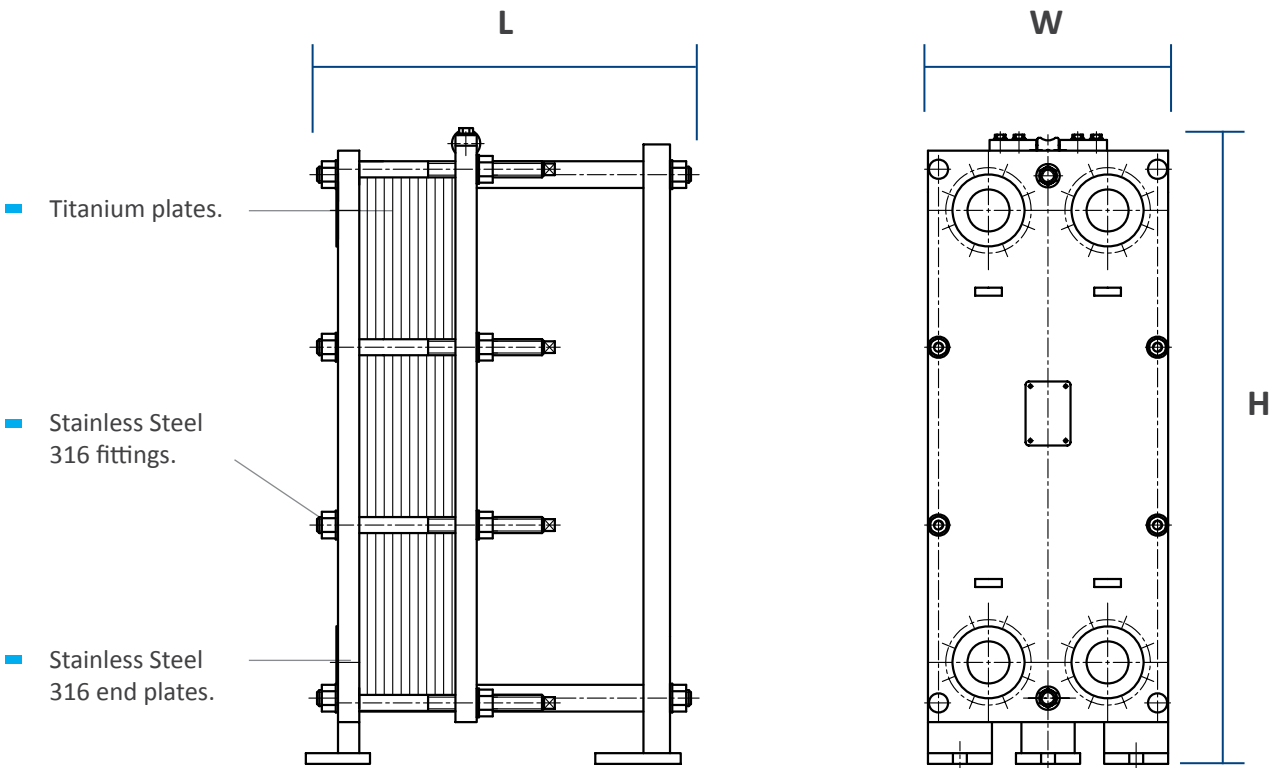
Efficiently transfer heat between bodies of air &/or water.

Few things are more important to animal welfare than maintaining correct and stable water temperature. This is not necessarily a straightforward task. Different exhibition tanks are impacted in different ways by the heating and cooling effects of air temperature, visitor-traffic and direct sunlight.

Water-temperature can fluctuate in different ways at different times of day and in different parts of the facility. AAT Heat Exchangers ensure that exhibit water is maintained at appropriate and stable levels, efficiently.



PRODUCT FEATURES



PRODUCT DETAILS

Stainless steel external casing and, titanium heat exchanger plates.

The plate is individually sealed with gaskets for both air and fluids. The flow distribution on each plate is alternated to allow counter current flow for maximum efficiency.

The specially designed plates not only reduce the level of turbulence within the gas or liquid, but also enable the unit to withstand high differential pressures.

AAT Heat Exchangers are low-cost, safe, easy to use and repair.

TECHNICAL SPECIFICATIONS

METRIC							
MODEL	POWER RATING (kW)	CONNECTION SIZE	HEAT PLATE AREA (m²)	DESIGN TEMP (C)	DESIGN PRESSURE (Mpa)	UNIT DIMENSIONS (mm)	NET WEIGHT (kg)
27HC	15	DN 20	0.4	110, 150, 180, 230	0.6, 1.0, 1.6, 2.0	200 x 115 x 416	18
36HC	30 - 75	DN 40	0.25 < 5.0	110, 150, 180, 230	0.6, 1.0, 1.6, 2.0	500 x 130 x 580	98
52HC	100 - 150	DN 50	3.0 < 25.0	110, 150, 180, 230	0.6, 1.0, 1.6, 2.0	1300 x 340 x 800	250
72HC	200 - 600	DN 100	6.0 < 20.0	110, 150, 180, 230	0.6, 1.0, 1.6, 2.0	700-900 x 460 x 1180	330 - 430

IMPERIAL							
MODEL	POWER RATING (BTU/hr)	CONNECTION SIZE	HEAT PLATE AREA (ft²)	DESIGN TEMP (F)	DESIGN PRESSURE (PSI)	UNIT DIMENSIONS (Inch)	NET WEIGHT (US lbs)
27HC	51182	DN 20	1.31	230, 302, 356, 446	87, 145, 232, 290	7.9 x 4.5 x 16.4	40
36HC	102360 - 255900	DN 40	0.82 - 16.4	230, 302, 356, 446	87, 145, 232, 290	19.7 x 5.1 x 22.8	216
52HC	341200 - 511800	DN 50	9.84 - 82.0	230, 302, 356, 446	87, 145, 232, 290	51.2 x 13.4 x 31.5	551
72HC	682400 - 2047200	DN 100	19.68 - 65.62	230, 302, 356, 446	87, 145, 232, 290	27.6 - 35.4 x 18.1 x 46.5	727.5 - 925.9

AAT HEAT PUMP

Maintain perfect water temperature, automatically.

Sensor-enabled, AAT HEAP PUMPS keep water temperatures stable by automatic cooling or heating.

Stable water temperature bodies are critical animal health therefore temperature control is critical, however heating and cooling processes can be energy intensive. Therefore AAT offers out heat exchanges in a range of sizes and refrigerants.

Installed in almost every AAT aquarium, AAT HEAT EXCHANGERS have proven robust and reliable all over the world.



PRODUCT FEATURES

Zeal/EDM fans.

Passified coil for corrosion resistance.

Stainless Steel 304 housing.



Touch control temperature to 0.1° C/F.

Hardwired Refco gauges (low/high pressure)

Adjustable gas flow for optimization.

PRODUCT DETAILS

Evaporators constructed from industrial grade titanium that prevents corrosion by seawater.

Compressors supplied by global brands resulting in greater stability and power saving features.

Highly efficient pipe-fin condensers produced by OAK.

EBM fans and motors, from Germany, offer low noise and vibration.

Digital temperature controller and simple one button operation.

TECHNICAL SPECIFICATIONS

METRIC						
MODEL	POWER (kW)	POWER SUPPLY	COOLING / HEATING (W)	COMPRESSOR POWER (kW)	FAN POWER (W)	MAX AIR DIS-CHARGE (m²/hr)
27HC	2.7	1PH-220V/50Hz	2700	0.7	36 x 2	800 x 2
36HC	3.6	1PH-220V/50Hz	3600	1.1	86 x 2	1400 x 2
52HC	5.2	1PH-220V/50Hz	5200	1.5	86 x 2	1400 x 2
72HC	7.2	1PH-220V/50Hz	7200	2.1	110 x 2	1700 x 2
148HC	14.8	3PH-380V/50Hz	14800	3.7	135 x 2	3340 x 2

REFRIGERANT	CONNECTION SIZE (mm)	AMBIENT TEMP (C)	CHILLED WATER TEMP (C)	DIMENSIONS (mm)	WEIGHT (kg)
R407C	31.75	5 - 38	5 - 25	630 x 405 x 575	34.0
R407C	31.75	5 - 38	5 - 25	728 x 420 x 670	63.5
R410A	31.75	5 - 38	5 - 25	728 x 420 x 670	66.0
R410A	31.75	5 - 38	5 - 25	748 x 440 x 725	72.0
R407C	31.75	5 - 40	5 - 20	650 x 1050 x 1280	113.0

IMPERIAL						
MODEL	POWER (BTU/hr)	POWER SUPPLY	COOLING / HEATING (BTU)	COMPRESSOR POWER (BTU)	FAN POWER (W)	MAX AIR DIS-CHARGE (ft²/hr)
27HC	9213	1PH-220V/50Hz	9213	1.0	36 x 2	28252 x 2
36HC	12284	1PH-220V/50Hz	12284	1.5	86 x 2	49440 x 2
52HC	17743	1PH-220V/50Hz	17743	2.0	86 x 2	49440 x 2
72HC	24567	1PH-220V/50Hz	24567	2.8	110 x 2	60035 x 2
148HC	50500	3PH-380V/50Hz	50500	5.0	135 x 2	117951 x 2

REFRIGERANT	CONNECTION SIZE (Inch)	AMBIENT TEMP (F)	CHILLED WATER TEMP (F)	DIMENSIONS (Inch)	WEIGHT (US lbs)
R407C	1.25	41 - 100	41 - 77	24.8 x 15.9 x 22.6	75
R407C	1.25	41 - 100	41 - 77	28.6 x 16.5 x 26.4	140
R410A	1.25	41 - 100	41 - 77	28.6 x 16.5 x 26.4	146
R410A	1.25	41 - 100	41 - 77	29.5 x 17.3 x 28.5	159
R407C	1.25	41 - 104	41 - 68	25.6 x 41.3 x 50.4	249



SKID-MOUNTED LSS UNITS

AAT SKID-MOUNTED LSS UNITS

Commercial grade, aquarium life support systems.

AAT's skid-mounted life support systems are a custom built 'plug and play' modular units that are designed to the clients specific requirements with single large skids able to support up to a 20,000 L tank.

Constructed and tested under workshop conditions in our factory allows for the skids to be installed on site with minimum disruption.

Skid-mounted systems allow for faster and cheaper installations while achieving a more reliable higher quality product.



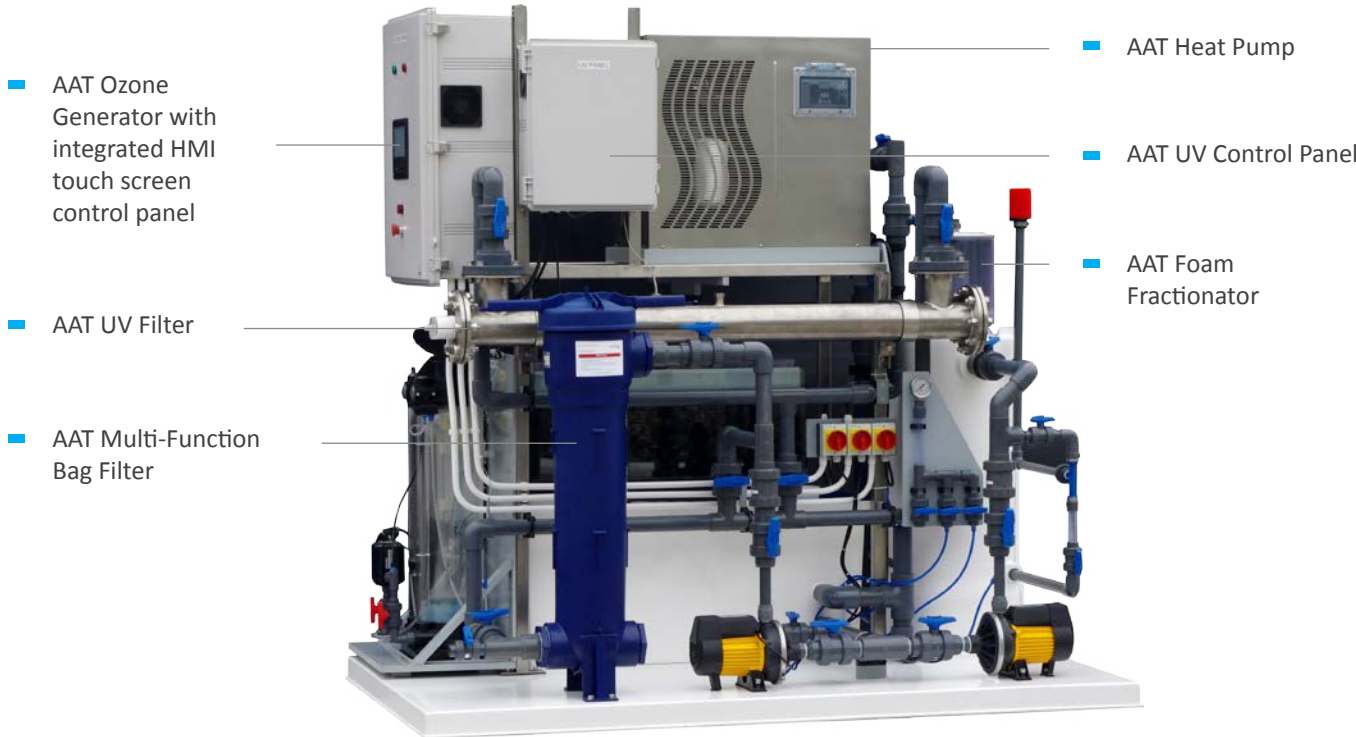
PRODUCT DETAILS

- Supports up to 20,000L tanks.
- Specifically designed for maximum efficiency.
- 'Plug and Play' modular units.
- Installation with minimal disruption.

TECHNICAL SPECIFICATIONS

METRIC / IMPERIAL					
MODEL	FILTRATION CAPACITY	AAT FOAM FRACTIONATOR	AAT UV FILTER	AAT OZONE	AAT CONTROL PANEL
SKD-10-000	2 - 20m ³ / 70 - 706 ft ³	FF600 - 1200	300 - 600	1	1

PRODUCT FEATURES



INCLUSIONS & EXTRAS

- INCLUSIONS**
- 3-4x Pumps
 - 1x Bio Tower
 - 1x Sump
 - 3x Sensor Probes (Temperature, Orp & Ozone)
- OPTIONAL EXTRAS**
- AAT Heat Exchanger
 - AAT Heat Pump
 - Splash Guards
 - Pre-Filter Screens

