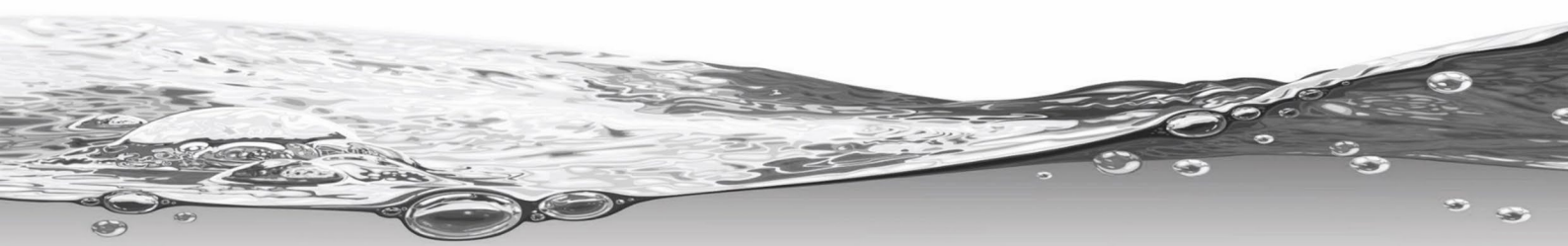




Taylex

WASTEWATER



SPECIFICATION

ADVANCED BLOWER SYSTEM 1500 -POLY
PABS1500

TAYLEX POLYETHYLENE ADVANCED BLOWER SYSTEM 1500 PABS1500

Specification

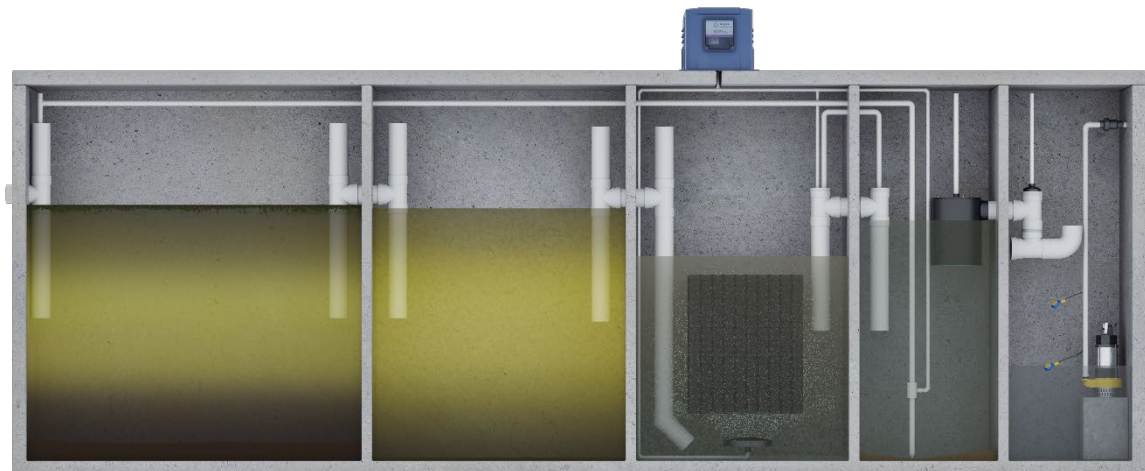
General Description

The Taylex PABS1500 (Polymer Advanced Blower System 1500) Secondary Treatment System (STS) is designed to treat the wastewater from a residential dwelling up to 1,500 Litres per day, with a daily flow of 150 Litres per person and an average daily BOD⁵ 70g per person.

The Taylex PABS1500 STS is contained in one vertical axis type cylindrical moulded polyethylene collection well with a design capacity of 7,108 Litres and an operating capacity of 6,066 Litres.

Flow path of wastewater:

1. A primary pre-treatment chamber, with a capacity of 1,708 Litres.
2. A secondary pre-treatment chamber, with a capacity of 911 Litres.
3. An aeration chamber, with a capacity of 2,067 Litres. This chamber is fitted with bio block media, 9" disk diffuser and air lift.
4. A sedimentation / clarifier chamber, with a capacity of 685 Litres, containing a Taylex Disk Filter fitted to the outlet, and a sludge return to the primary.
5. An irrigation chamber, with a capacity of 685 Litres, incorporating a capacity of 300 Litres for chlorine contact of effluent. A chlorine disinfection unit is installed on the inlet to the irrigation chamber. The system is fitted with either a Davey D25 or D42 Irrigation Pump.
6. The automatic irrigation pump transfers the treated effluent to the effluent disposal area / land application area (LAA).



Product Specification Table

Australian Standards Compliance		
Effluent Testing	AS1546.3:2017	
Tank Design and Testing	In Ground	AS1546.1:2008
	Above Ground	AS3735:2001
System Model	PABS1500	Poly
Treatment Level	Advanced Secondary	

Tank Capacity		
Total Tank Capacity	7108L	
Operating Capacity	6066L	

System Chamber Capacities		
Primary Chamber	1708L	
Secondary Chamber	911L	
Aeration Chamber	2067L	
Clarifier Chamber	685L	
Irrigation Chamber	685L	
Maximum Hydraulic Loading Capacity	1,500 litres per day	

Design Parameters		
Parameter	Total Per Day	Total Per person per day
Daily flow	1500L	150L
Maximum Organic Loading BOD ⁵	700g	70g
Total Suspended Solids (TSS)	700g	70g
Total Nitrogen (TN)	150g	15g
Total Phosphorus(TP)	25g	2.5g

Effluent Compliance: AS1546.3:2017		
Biochemical Oxygen Demand (BOD ⁵)	≤10mg/l	
Total Suspended Solids (TSS)	≤10mg/l	
E. Coli	≤10cfu/100ml	

Temperature		
	Minimum	Maximum
Operating Temperature C°	-2°C	45°C

Electricity Consumption		
Kilowatt hours per day (kWh/d)	2.21	
Kilowatt hours per 1000L (kWh/1000L)	1.62	

Servicing and Maintenance		
Servicing Frequency	Every 3 months	

COMPONENTS LIST AND REPAIR – REPLACEMENT INSTRUCTIONS

- | | | |
|----|--------------------|--|
| 1. | Primary Chamber | – 100mm inlet Junction |
| 2. | Secondary Chamber | – 100mm Junction x 2 |
| 3. | Aeration Chamber | – 100mm Junction x 2, BIO Block, Air Lift, Disk Diffuser |
| 4. | Clarifier Chamber | – 100mm Junction, Taylex Disk Filter, Sludge Return |
| 5. | Irrigation Chamber | – 100mm Junction, Chlorine Dispenser, Irrigation Pump, High Level Alarm Float, 100mm Elbow |

Component List

TANK

Polyethylene Tank and Lid

Multi-chambered monolithic poly tank made using a sandwiched, closed-cell foam polymer manufacturing method.

Repair / Replacement Details:

Replacement lids available from Taylex Industries or your local Service Agents.

Cracks can be repaired using a poly welder.



- 1) 100mm Sweep Tee With 400mm dropper pipe and 200mm riser

2)

3)

4)

Repair / Replacement Details:

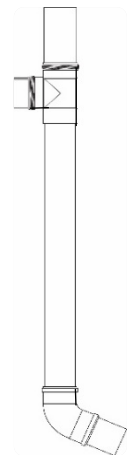
Replacement tee and pipe can be purchased from a local plumbing store. Cut 100mm pipe at wall and using a 100mm slab repair coupling install new tee.



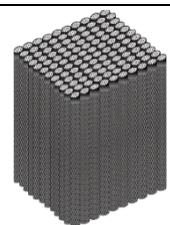
- 5) 100mm Sweep Tee With 1000mm dropper pipe and 100mm 45° M&F Bend

Repair / Replacement Details:

Replacement tee and pipe can be purchased from a local plumbing store. Cut 100mm pipe at wall and using a 100mm slab repair coupling install new tee.



- 6) **BIO Block Media**
Width - 540mm
Length - 540mm
Height - 790mm
Surface Area - 80m²



- 7) **Diffuser**
Material – EPDM
Diameter – 230mm (9inch)

Repair / Replacement Details:

Turn the system off. Replace the diffuser by making a new complete aeration pipe assembly fitted with the Diffuser. Cut the main aeration supply line, place the new diffuser in the system, weighed down with a small concrete block and rotate the diffuser under the biomass. Re fix the new aeration pipe assembly complete with a joining socket. Removing the old Diffuser is not required. Turn the system on. Purchase the complete assembly from Taylex®.

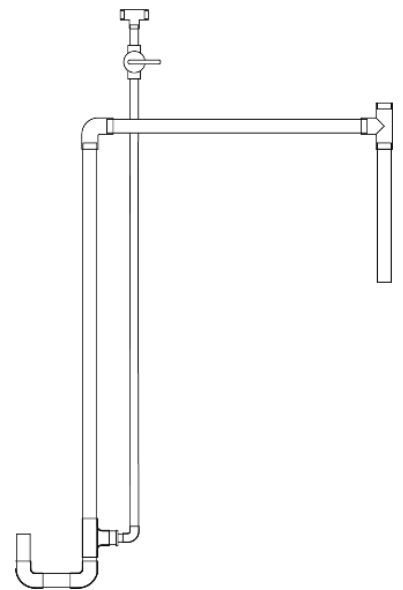


- 8) **Air Lift / Buffer with Control Valve**

The Air Lift / Buffer has been specifically designed to provide a buffer within the aeration chamber, to allow increased aeration time and to control the transfer of liquid to the Clarification Chamber. The Control Valve must be set to 55 in order for the buffer to function as designed. Using the 'Venturi Principle', air is injected into the base of the assembly to then lift and transfer the liquid. The specific design will stop when the buffer zone reaches the lower level and then restarts as the water level increases. The volume of the liquid transfer varies proportionally to the liquid level in the Aeration Chamber.

Repair / Replacement Details:

Turn the system off. Replace the Air Lift / Buffer assembly by cutting the main line and installing the new assembly with a joining socket. Turn the system on. Purchase the complete assembly from Taylex®.



- 9) **100mm Sweep Tee With 400mm dropper pipe and 200mm riser**

10) **Repair / Replacement Details:**

Replacement tee and pipe can be purchased from a local plumbing store. Cut 100mm pipe at wall and using a 100mm slab repair coupling install new tee.



- 11) **Taylex TFG Disk Filter**
Material – A.B.S and Nylon
Height – 400mm
Diameter – 300mm

Repair / Replacement Details:

Replace the TFG filter complete by removing the filter from the housing and inserting the new filter. If Filter Rods require replacement, remove the old rods, one by one, inserting the new rod each time so the filter plates remain assembled. To replace the entire housing, cut and remove the old housing in the transfer pipe, insert a slab repair coupling, re glue and fit the new housing. Ensure the glue is set before re-fitting the TFG filter. Purchase the complete assembly from Taylex®.



12) **Chlorine Dispenser**

Material – HD Polyethylene
Length – 360mm
Diameter – 90mm

The chlorine dispenser is placed in the 100mm Tee located in the irrigation chamber.

Repair / Replacement Details:

Repairing the Chlorine Dispenser is not recommended. If the Dispenser is damaged, replace it with a new unit. Purchase the complete assembly from Taylex®.



13) **Irrigation Pump**

The irrigation pump is self-controlled via a ball bearing activated float switch. When the according volume is reached in the pump chamber, the ball bearing in the float moves and creates an active connection. The treated effluent is pumped to the approved dispersal zone, as the chamber reaches minimum volume, the float drops and de-activates the pump. The type and capacity of the pump will be in accordance with the land application requirements.

Repair / Replacement Details:

Turn the system off. Replace the pump by disconnecting the barrel union, be sure not to drop the internal valve assembly. Lift the Pump Assembly out of the tank. Undo the threaded fitting connect to the outlet of the pump. Re apply thread tape and fix the threaded fitting back onto the pump. Return the assembly to the tank and re-connect the barrel union, ensuring the valve is seated correctly. Turn the system on. Purchase the correct pump from Taylex or a local outlet, ensuring the performance is identical to the pump removed.

DAVEY D25 – 9m Head

Voltage – 220 ~240 IP 68
AMPS – 1.9 Phase 1 50hZ
Max Flow – 200L/min 7m

DAVEY D42A/B3 – 32m Head

Voltage – 220 ~240 IP 68
AMPS – 4.3 Phase 1 50hZ
Max Flow – 130L/min 7m



14) **Alarm System High Water**

Material – PVC
Length – 20mm
Width - 90mm
Trigger – High Water
Code – 3
Visual – Red L.E.D - 3 Flashes
Audible – Micro Buzzer
Voltage – 12V

Repair / Replacement Details:

Turn the system off. Replace the float by disconnecting the electrical connection in the terminal block, located in the lower section of the control box. Feed the new float cable into the control box and connect to the terminal block, fixing the screws firmly. Re fix the float to the pipe assembly and loop the lead around the barrel union, to set the float height. Turn the system on. Purchase the float from Taylex®.



- 15) **ECO Control Panel**
(240v to 12V Power Supply)
Length – 160mm
Height – 100mm

The Taylex ECO is a 12V controller powered by the 240v to 12v power supply plug. As the unit is 12V all works including replacements and repairs do not need to be completed by a Licenced Electrician. All service agents can therefore complete all works within the Control Box and on the Taylex ECO Controllers.

The Taylex ECO Controller Assembly (complete with Controller, Control Panel Box, 3 x GPO Assembly and Blower Box) is classed as electrical equipment and has been certified to comply with AS/NZS 3820, meeting the Electrical Safety requirements in Australia and New Zealand

Repair / Replacement Details:

Turn the system off. Replace the Control Panel by removing the 4 screws in the control box. Disconnect the Loom plug from the rear of the panel. Connect the loom to the new panel; return the new Control Panel to the control box and re fix the 4 screws. Turn the system on. Purchase the Control Panel from Taylex®.



- 16) **Control Panel Box**
Material – HD Polyethylene
Height – 210mm
Length – 190mm
Width – 85mm

The weather proof control box is fixed to the side of the blower box using stainless steel screws. The control panel is fitted to the inside of this box and is connected to the power, high water alarm and pressure switch, via a gland at the back of the box.

Repair / Replacement Details:

Repairing boxes is not recommended. Replacements boxes be purchased from Taylex or your local service agent.



- 17) **Blower Box**
Material – HD Polyethylene
Height – 350mm
Length – 600mm
Width – 400mm

The Blower boxed is fitted to the lid of the ABS using 4 x 30mm anchors.

Repair / Replacement Details:

Repairing boxes is not recommended. Replacement boxes can be purchased from Taylex or your local service agent.



18) Weatherproof GPO's

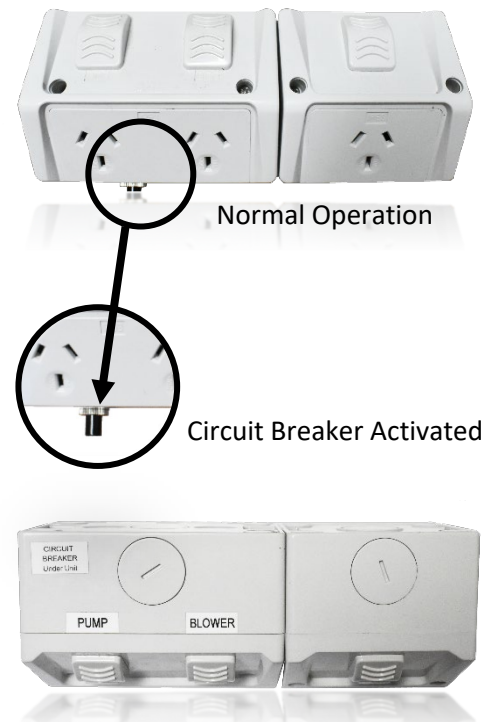
Single	Double
Height – 85mm	Height – 85mm
Length – 85mm	Length – 115mm
Width – 80mm	Width – 80mm

Mains 10amp power is connected through the 25mm coupling provided on the side of the ABS1500 and pulled up through a conduit into the Single GPO. The 12volt power pack plugs into the single GPO to power the control panel. The blower and irrigation pump are plugged into the double GPO.

The double GPO contains a 5amp circuit breaker, which will activate if either the pump or blower (or both) draw too many amps, indicating a fault with the pump or blower. The breaker can be reset by pushing in the button if activated. The systems normal operation including alarms will continue to function, if the breaker is activated.

Repair / Replacement Details:

Replacing the GPO's can only be completed by a licenced electrician, please refer to the Taylex Electrical Connection instructions for details. Replacements can be purchased from Taylex or your local service agent.


19) L.E.D Light

Height – 30mm
Length – 20mm

The LED visual alarm is constructed within the Eco Panel. This LED Red light will flash when an alarm is present. The number of flashes represent the particular code.

Repair / Replacement Details:

Replacement of the LED lights only is not possible; the complete Control Panel must be replaced. Purchase the Control Panel from Taylex®.


20) Nitto 80L Blower

Material – Alloy / Plastic
Height – 180mm
Width – 200mm
Length – 300mm
Weight – 4.9kg
Noise Rating: 40dB(A)
Capacity – 80L
Back Pressure Range – 10kpa – 20kpa
Motor Power – 86 Watts
Power Source – 240V 50hZ

Repair / Replacement Details:

Purchase replacement Blowers and parts from Taylex®.





21) Sludge Recirculation System

This is a typical set up for the transfer of fluids using the 'Venturi Principle'. Air is injected toward the base of a vertical open ended PVC conduit. Continuous displacement occurs as the air moves vertically to the liquid, drawing liquid through the bottom of the conduit. The air/liquid mixture reaches a vertical maximum where it then moves through the 90° bend into the primary chamber. The conduit is arranged in the base of the clarifier so that the residual sludge constitutes the main vacuum target.

Sludge Base Removal

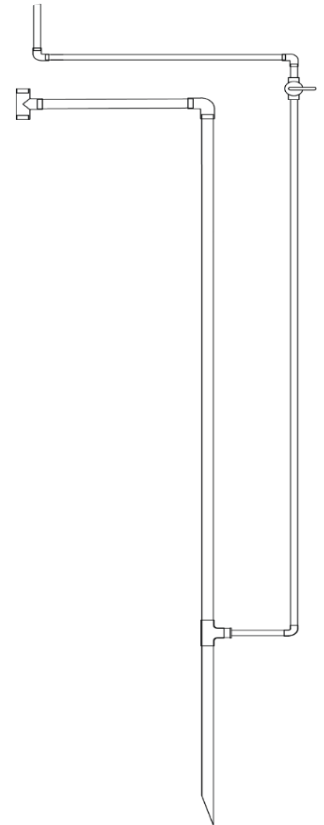
Sludge deposit removal is to be scheduled 1 time per 6 years or as determined necessary by a licenced Taylex Sales Technician or the client or due to mechanical failure.

Servicing

Routine maintenance/servicing of the Taylex ABS1500 is to be scheduled quarterly or as determined necessary by an approved Taylex Sales Technician or due to mechanical failure. Refer to Field Service Report sheet for testing requirements.

Repair / Replacement Details:

Turn the system off. Replace the Sludge Recirculation Assembly by cutting the main line and installing the new assembly with a joining socket. Turn the system on. Purchase the complete assembly from Taylex®.



22) Non- Return Valve

Height – 85mm
Length – 140mm
Width – 85mm

Repair / Replacement Details:

Turn the system off. Replace the Non- Return Valve by cutting the pipe in either side of the valve. Re-join the pipe using sockets and glue the Valve and sockets together. Ensure the glue is set before turning the system back on.

