Installation, Operation and Maintenance Manual

Hydroflow Oil Separator.

Stainless Steel construction.

Model	Capacity (Litres per Hour)
HYD1000S	1000
HYD3000S	3000
HYD5000S	5000

Version 1.9
April 2026

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Revision History

Version No	Date of Issue	Reason for Update	Initial
1.7	22 April 2014	Full Revision and Reformatting of Manual	AB
1.8	22 April 2021	Minor Revision to 2.1, 2.2, 2.3, 2.4, 2.5	RA
1.9	28 April 2026	Minor Revision to Footer, 6.1, 8.3, 9.0	RA

1. IMPORTANT INFORMATION

1.1. On Receipt of Equipment

Review Parts list on Page

1.1. If you discover any discrepancies

Please report any discrepancies to Eclipse Environmental on 1300 372 600

2. PARTS LIST.

The following items should have been included within the delivery of your Eclipse Environmental Oil Separator (unless otherwise ordered).

Quantity	Description	Present
1	Stainless Steel Tank and Lid	
1	Stand for Tank	
1	Coalescing Plates	
1	Float switch	
1	Installation, Operation and Maintenance Manual	
1	Set of Stickers	
1	Diaphragm Pump and Motor	

3. INTRODUCTION.

Eclipse Environmental Australia manufacture a range of coalescing plate separators suitable for the removal of unemulsified oil and solid particles as may be present in the waste stream from the following businesses:

1. Motor mechanical workshops
2. Panel beaters
3. Motor Wreckers
4. Marinas
5. Motor Vehicle Service Centres
6. Hire Companies
7. Wash bay operations
8. Car Washes
9. Storage terminals

The Eclipse range of Hydroflow oil separators are manufactured in stainless steel and are able to be installed above ground.

The plate pack is made from fibreglass with stainless steel supporting screws. The oil baffle tube and skimmer are manufactured from SS/PVC.

Each model of the Hydroflow range is supplied with a stand. The floor stand that supports the apparatus must be bolted to the floor.

The method of operation consists of two actions:

1. Solid particles sink to the bottom and are removed via the sludge hopper drain valve and into the Solids Collection drum provided. **Do not connect the sludge hopper drain back to the collection pit.**
2. Oil and grease form a floating surface layer. This layer is drained via the oil skimmer outlet.

NOTE. Only "quick break" detergents must be used with this equipment.

A suitable product is Formula 1 available from Repco.

4. APPLICATIONS.

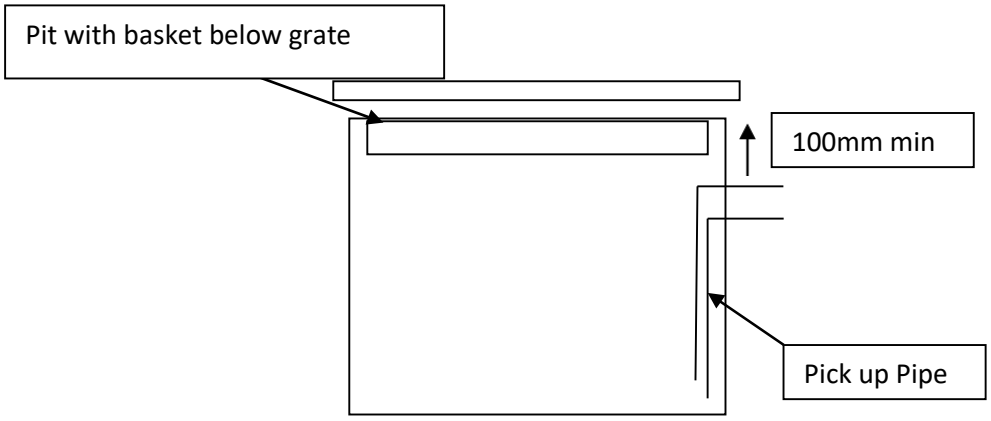
Businesses types for which the Hydroflow oil separator may be suitable for full or part pre treatment requirements include:

1. Motor mechanical workshops
2. Panel beaters
3. Motor Wreckers
4. Marinas
5. Motor Vehicle Service Centres
6. Hire Companies
7. Wash bay operations
8. Car Washes
9. Storage terminals
10. Truck terminals

4.1. Collection pit.

The capacity of the collection pit to be a minimum of 660 L or twice the size of the separator's holding capacity, whichever is the largest.

A dry basket arrestor pit upstream or a removable strainer basket under the grate of the collection pit is recommended.



5. SPECIFICATIONS.

5.1. Hydroflow oil separator.

TANK MATERIAL	Stainless steel 304 grade (as below)
LID	Stainless steel 304 grade (0.9 mm thick)

Model	Weight (Empty Tank) Kg	Weight (Lid) Kg	Thickness of Tank Material mm
HYD1000S	45	6	1.2
HYD3000S	70	10	1.6
HYD5000S	140	14	1.6

Optional hold down bolts are available for the lids.

5.2. Plumbing fittings

The Hydroflow range of oil separators are fitted with stainless steel connections of the following sizes.

Model	Inlet mm BSP	Outlet mm BSP	Oil Skimmer mm BSP
HYD1000S	25	50	50
HYD3000S	40	50	50
HYD5000S	50	65	50

5.3. Quality Control for the manufacture of the stainless steel tank

Manufactured to ASTM A240/480

The following procedures are in place to maintain the quality of the product:

- Stainless steel supplied with a certificate of conformity from the supplier.
- Stainless steel is visually examined for staining marks or inclusions.
- All welding carried out by a qualified welder.
- After welding all welds are passivated with an acidic pickling paste for 15 minutes.
- Welds are visually inspected and tested with a penetrant dye for any leaks.

5.4. Supply Pump

The Hydroflow oil separator is designed to operate with a diaphragm pump. The pump must be sized so as to supply the rated flow per hour at the separator. This flow is dependent upon many factors, including:

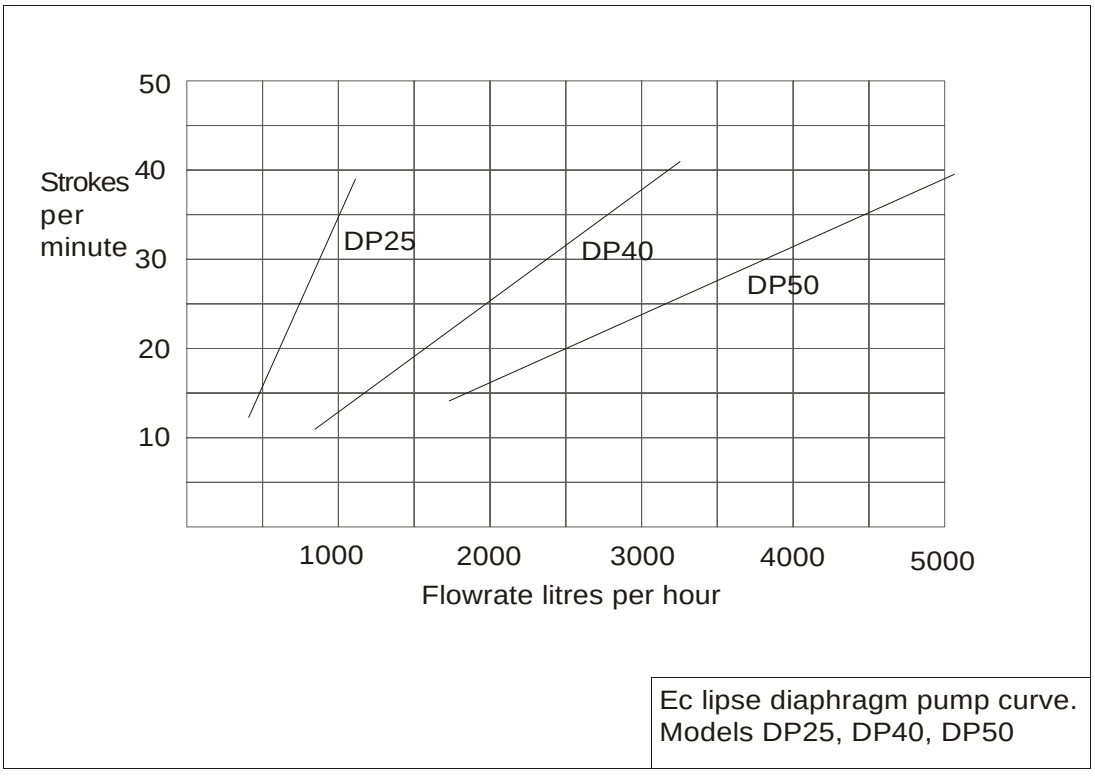
- Suction lift of pump
- Head on pump
- Density of the liquid being pumped
- Friction losses within the pipework.

Dual pumps may be used but must be alternately connected

Model	Pump Model	Pump described by inlet size	Strokes per min
HYD1000S	Eclipse DP25	25mm diaphragm pump	50
HYD3000S	Eclipse DP40	40 mm diaphragm pump	50
HYD5000S	Eclipse DP50	50 mm diaphragm pump	50

The Eclipse Hydroflow unit is supplied with a corresponding diaphragm pump.

The level of electrical protection for the zone at which the pump is installed must be to the approval of the electrical licensing authority. A licensed electrician must connect the power supply to the electric motor of the pump and any other electrical controls.



Ec lipse diaphragm pump curve. Models DP25, DP40, DP50

5.5. Plate Pack

The plate pack consists of fibreglass corrugated plates in a fibreglass frame with stainless steel bolts,

The design of the Hydroflow unit enables the unit to be cleaned out with the plate pack in situ.

Model	No of Plates	Dimensions (mm)	Surface Area of plate ($m^{2)}$	Plate Spacing (mm)
HYD1000S	13	530 x 520	0.7	12
HYD3000S	39	900 x 520	0.7	12
HYD5000S	2 Packs of 39	900 x 520	0.7	12

6. INSTALLATION INSTRUCTIONS

All installations should be carried out by a licensed plumber and comply with AS3500.

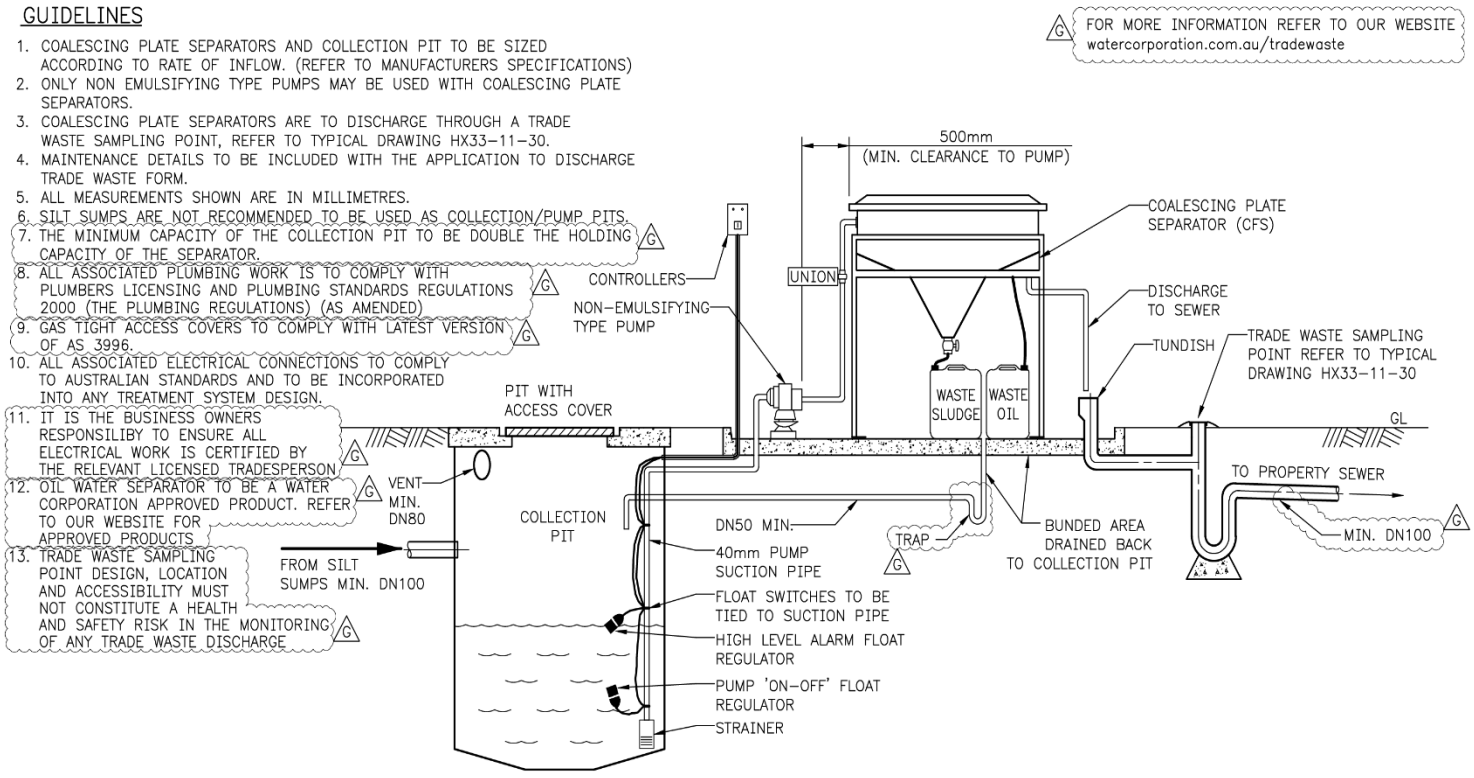
An electrician should connect all electrical pumps and controls.

The Hydroflow unit should be located so as not to impede access to personnel and consideration is given to the maintenance requirements.

6.1. Plumbing fittings and pipes.

PVC pipes or HDPE pipes are recommended. SS pipes are also suitable but must have rubber isolators fitted near the pump and separator body.

Water Corporation Typical Drawing HX33 – 12 – 10 Issue G



PLUMBING CONNECTIONS

* Use pipes equal to the size on the Hydroflow unit and minimize bends.
* All pipe work must be supported with careful attention to the pump connections which must have some flexibility and should have unions for quick release.

* Gravity feed to the sewer should have constant fall and if longer than 6 m should be vented and have expansion joints fitted.
* Discharge should be over a grate or tundish with a trade waste approved sampling point.

PUMP - The diaphragm pump must be fitted with check valves in the direction of the flow, from the pit to the Hydroflow unit.

1. Site should be level and able to support the weight of the oil separator when full.
   1.1. A 100 mm thick slab is recommended allowing 50 mm from the edges for the stand to be bolted down. Assemble the stand with the separator in position and use the baseplate as a template for the bolt holes.
2. Bolt the arrestor to the floor using 12 mm galvanised dynabolts.
3. For the HYD5000S an access platform and stairs are required as per AS 1657 Fixed platforms, walkways, stairways and ladders — Design, construction and installation..
4. The Hydroflow unit must be installed within a bunded and roofed area.

NB. The Hydroflow oil separator can be cleaned out without the removal of the plate pack. This is possible due to the non obstructive design of the plate pack allowing all sludge etc to be drained out via the sludge hopper valve. However should it be necessary to inspect or remove the plate pack a clearance of 600mm above the unit is required.

6.2. Adjusting the oil skimmer.

The oil skimmer should be adjusted to be 2 mm higher than the water level when the pump is operating. This will allow the oil to drain over the skimmer once an oil layer of more than 2 mm forms.

6.3. Protecting against accidental damage and vandalism

Steel bollards typically 100 mm dia. and 1300 mm high should be positioned so as to stop any possibility of damage from a motor vehicle.

If the chance of vandalism exists a fence or cage should be installed.

6.4. Water supply at the separator.

A hose cock must be provided within 5 m for the periodic washing of the Hydroflow unit.

An RPZ valve must be fitted to this hose cock in accordance with AS3500.

7. MAINTENANCE INSTRUCTIONS

The Hydroflow unit must be regularly maintained to meet its performance standards.

7.1. Weekly Maintenance.

Clean as necessary.

- visually inspect the collection pit for excessive buildup of debris.
- check the level of waste oil in the collection drum.
- check the system for leaks.
- check the pump for normal operation. eg motor is not straining indicating a possible blocked valve.
- visually inspect the discharge water for clear oil free appearance.

Note. Dispose of any oil or sludge via a licensed tradewaste contractor.

7.2. 3 Monthly Maintenance. (More Frequent for Heavy Usage)

The cleaning process includes:

- empty the contents of the Hydroflow unit via the sludge drain valve back to the pit, or suck out from the drain valve with a vacuum tanker
- commence emptying the collection pit (s).
- whilst the pit is being pumped out, wash the internal surfaces and the plate pack with water, ensuring all sludge is washed down through the plate pack and out through the sludge valve.

Note The plate pack does not need to be removed for this operation.

- fill the Hydroflow unit and pit with water
- check the operation of the diaphragm pump
- check for leaks around the diaphragm housing
- remove the pump check valves by unscrewing them and check for damage or obstructions
- install the valves with the arrow pointing to the Hydroflow unit
- check for oil leaks on the pump gearbox, top up with SAE50 oil

It is recommended that should the pump require servicing a trained technician be called to carry out this service. Eclipse is able to carry out all servicing of the equipment.

8. MANUFACTURER'S WARRANTY

8.1. Separator tank.

Eclipse Hydroflow units manufactured by Eclipse Environmental Aust P/L are guaranteed to be free from defects in materials and workmanship for 60 months from date of purchase.

The obligations under this warranty, statutory or otherwise, is limited to replacement or repair at our factory in Sydney or another depot designated by us, of such component that we believe to be faulty or defective.

This warranty does not include freight to and from our factory or depot.

No expressed, implied or statutory warranty other than herein is made by Eclipse Environmental Aust. P/L.

In no event shall Eclipse Environmental Aust. P/L be liable for consequential damages or contingent liabilities arising out of the failure of any component supplied by us.

8.2. Diaphragm pumps.

Eclipse diaphragm pumps manufactured by Eclipse Environmental Aust P/L are guaranteed to be free from defects in materials and workmanship for 12months from date of purchase.

This does not include the rubber diaphragm which is a wearing part and dependent upon regular maintenance for extended life.

8.3. Compliance plate.

The plate is 100 mm by 50 mm in size and is attached with polyurethane adhesive and is fitted near the inlet pipe.

HYDROFLOW OIL/WATER/SOLIDS SEPARATOR

MANUFACTURED BY ECLIPSE ENVIRONMENTAL AUST.

PH 1300 272 650

MODEL NO _____

FLOW RATE _____ l/s VOLUME _____

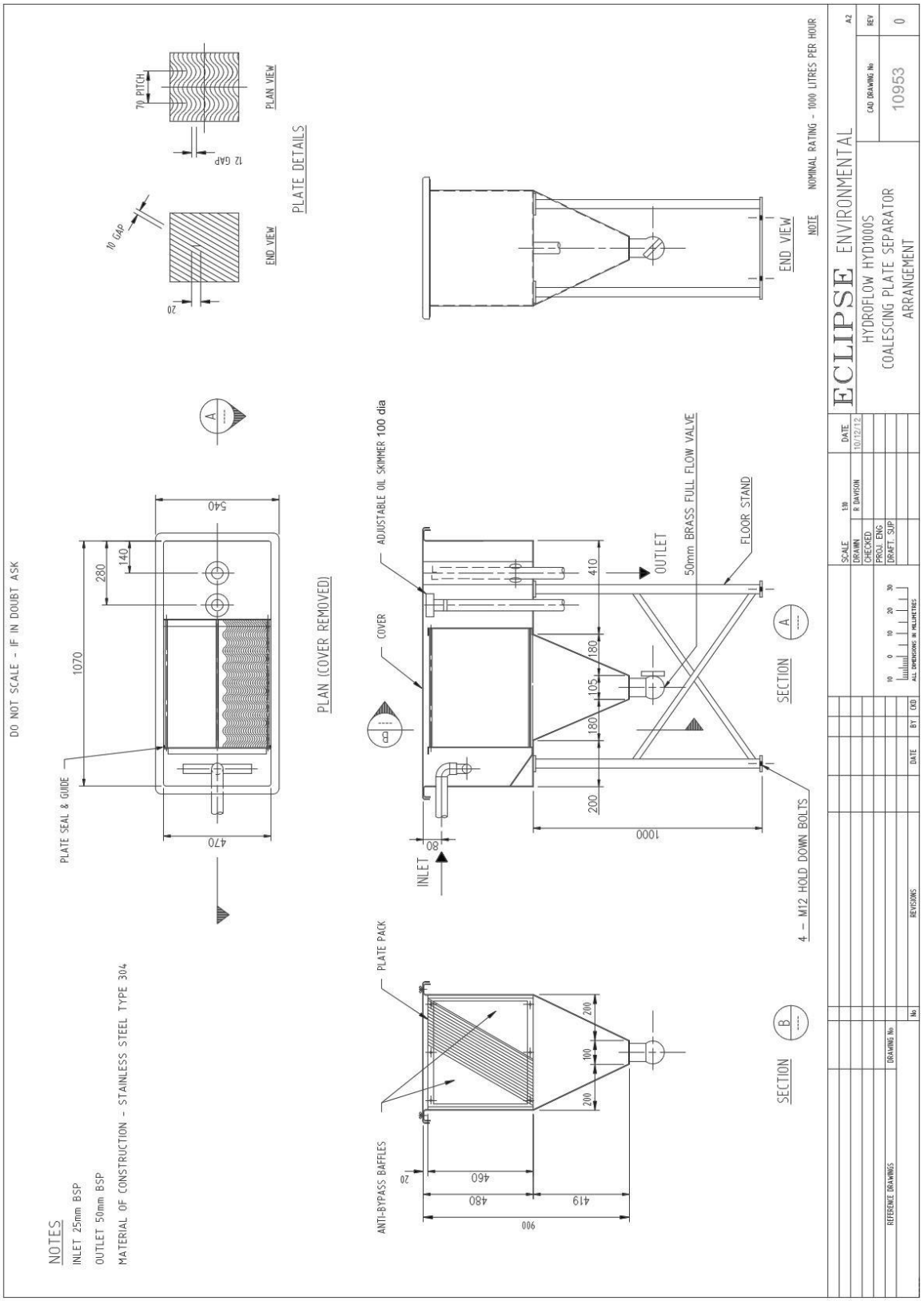
DATE OF MANUFACTURE _____

SERIAL NO _____

PUMP MODEL NO. _____ SERIAL NO. _____

Example of Oil Water Separator Compliance Label Position

9. DIMENSIONAL DRAWINGS



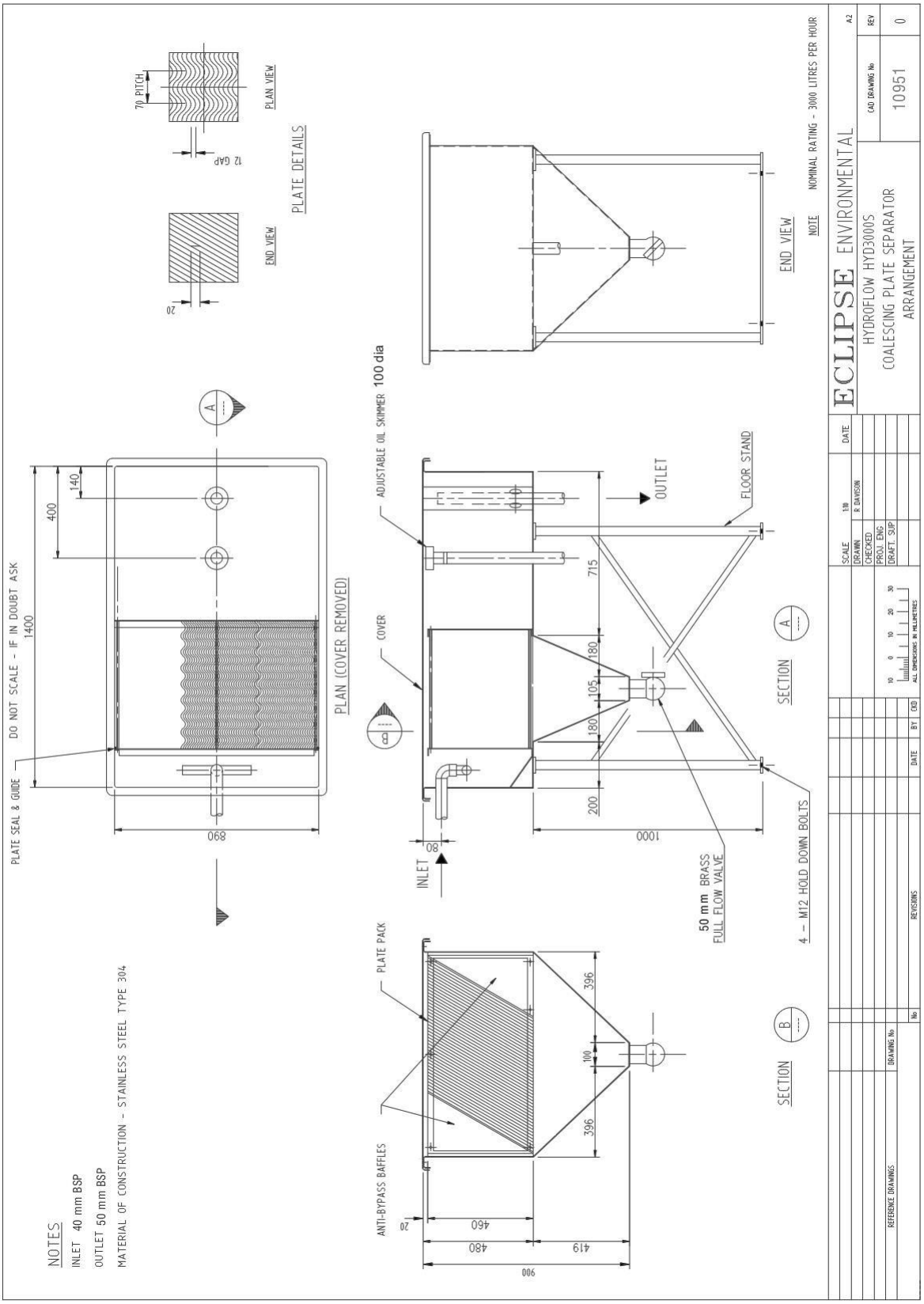


PLATE DETAILS
70 PITCH
12 GAP
PLAN VIEW
END VIEW
20
PLATE SEAL & GUIDE
DO NOT SCALE - IF IN DOUBT ASK
1400
400
140
890
PLAN (COVER REMOVED)
ADJUSTABLE OIL SKIMMER 100 dia
COVER
INLET
80
OUTLET
FLOOR STAND
715
180
105
180
200
1000
SECTION
50 mm BRASS FULL FLOW VALVE
4 – M12 HOLD DOWN BOLTS
END VIEW
NOTE NOMINAL RATING - 3000 LITRES PER HOUR
PLATE PACK
ANTI-BYPASS BAFFLES
396
100
396
20
460
480
419
900
SECTION
NOTES
INLET 40 mm BSP
OUTLET 50 mm BSP
MATERIAL OF CONSTRUCTION - STAINLESS STEEL TYPE 304
REFERENCE DRAWINGS
DRAWING No
REVISIONS
No
DATE
BY
CKD
ECLIPSE ENVIRONMENTAL
HYDROFLOW HYD3000S
COALESCING PLATE SEPARATOR
ARRANGEMENT
CAD DRAWING No
10951
REV
0
A2
SCALE 1:10
DRAWN R DAWSON
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DATE
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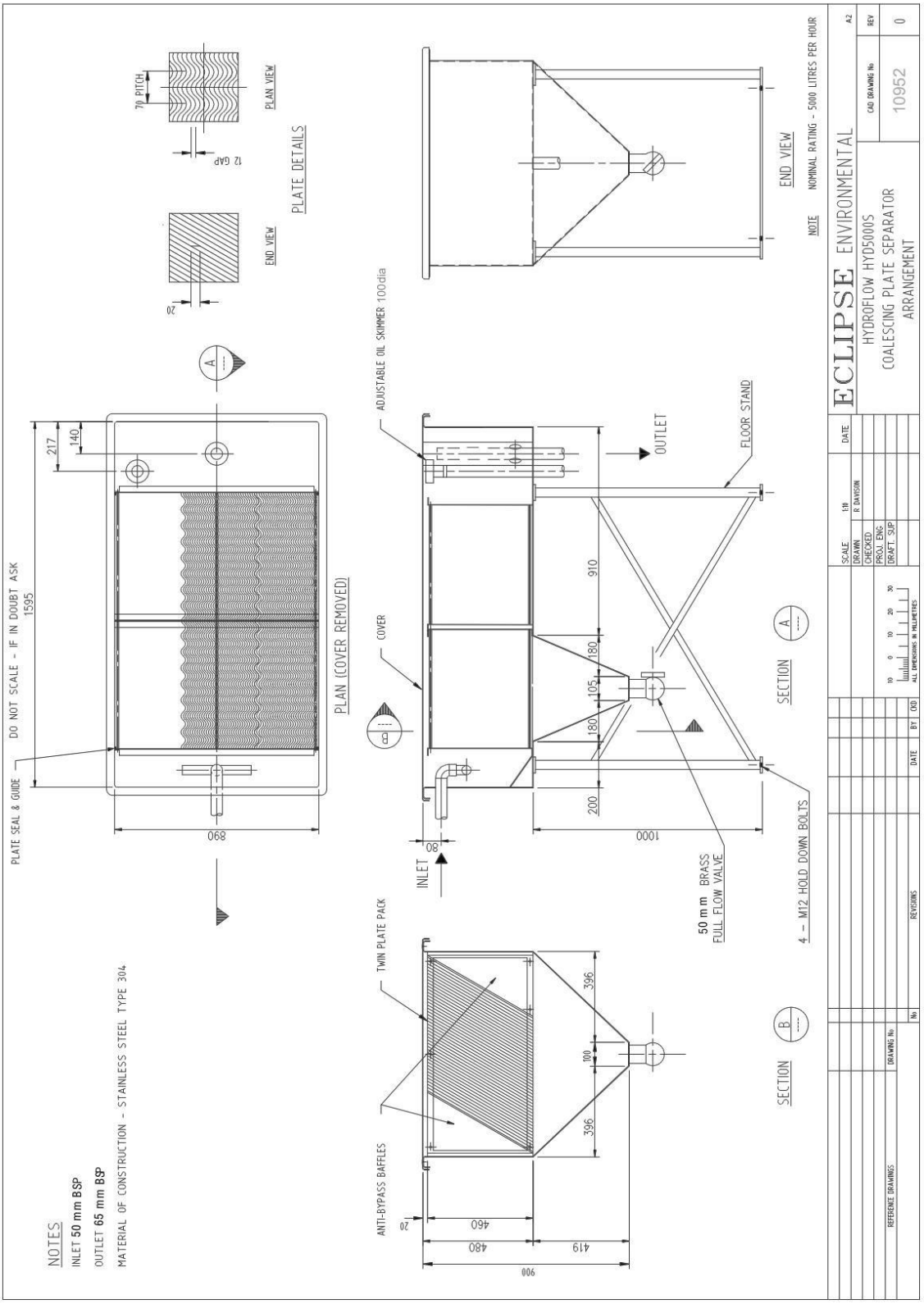
PLATE DETAILS
PLAN VIEW
END VIEW
70 PITCH
12 GAP
20
PLAN (COVER REMOVED)
PLATE SEAL & GUIDE
DO NOT SCALE - IF IN DOUBT ASK
1595
217
140
890
ADJUSTABLE OIL SKIMMER 100dia
COVER
INLET
80
OUTLET
FLOOR STAND
910
180
105
180
200
1000
50 m m BRASS
FULL FLOW VALVE
4 - M12 HOLD DOWN BOLTS
SECTION A
END VIEW
NOTE NOMINAL RATING - 5000 LITRES PER HOUR
TWIN PLATE PACK
ANTI-BYPASS BAFFLES
396
100
396
20
460
480
419
906
SECTION B
NOTES
INLET 50 mm BSP
OUTLET 65 mm BSP
MATERIAL OF CONSTRUCTION - STAINLESS STEEL TYPE 304
ECLIPSE ENVIRONMENTAL
HYDROFLOW HYD5000S
COALESCING PLATE SEPARATOR
ARRANGEMENT
CAD DRAWING No
10952
REV
0
A2
SCALE 1:10
DRAWN R DAVISON
CHECKED
PROJ. ENG
DRAFT SUP
DATE
REVISIONS
REFERENCE DRAWINGS
DRAWING No
ALL DIMENSIONS IN MILLIMETRES

10. ENGINEER'S CERTIFICATION

STRUCTURAL ENGINEERING & DESIGN

CHAPMAN HUTCHISON PTY LTD

Level 1,
155 - 161 Willoughby Rd
Naremburn NSW 2065
Australia
Phone: (02) 9922 6322
Fax: (02) 9923 1270
Email:
bah_cha@chester.com.au

3rd December 2012

Eclipse Environmental (Aust) Pty Ltd
85 Victoria Street
SMITHFIELD NSW 2164

Attention: Mr R Laferla

Dear Sir,

RE: SEPARATOR TANKS

As requested we have reviewed the structural elements for the Hydroflow HYD1000S separator tank and its support stand as shown on your Drawing No. 10953.

The review was on the basis of the tank plate being 1.2mm thick and the stand legs being 40 x 40 x 1.6 SHS with 75 x 8 plate top and bottom.

As a result of our review, we are prepared to certify that the structural elements are in accordance with the relevant SA Codes for structural adequacy, in particular AS 1170 & AS 4100.

Should there be any questions please do not hesitate to contact the undersigned on 9901 5305 (direct).

Yours faithfully
CHAPMAN HUTCHISON PTY LIMITED

B A HUTCHISON

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CHAPMAN HUTCHISON PTY. LTD. A.C.N. 096 473 111 A.B.N. 76 096 473 111
Directors: I.D. CHAPMAN, Dip Tech. B.E. (Hons), F.I.E. Aust. B.A. HUTCHISON, B.E. (Civil), M.I.E. Aust.

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3rd December 2012

Eclipse Environmental (Aust) Pty Ltd
85 Victoria Street
SMITHFIELD NSW 2164

Attention: Mr R Laferla

Dear Sir,

RE: SEPARATOR TANKS

As requested we have reviewed the structural elements for the Hydroflow HYD3000S separator tank and its support stand as shown on your Drawing No. 10951.

The review was on the basis of the tank plate being 1.6mm thick and the stand legs being 40 x 40 x 1.6 SHS with 75 x 8 plate top and bottom.

As a result of our review, we are prepared to certify that the structural elements are in accordance with the relevant SA Codes for structural adequacy, in particular AS 1170 & AS 4100.

Should there be any questions please do not hesitate to contact the undersigned on 9901 5305 (direct).

Yours faithfully
CHAPMAN HUTCHISON PTY LIMITED

B A HUTCHISON

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CHAPMAN HUTCHISON PTY. LTD. A.C.N. 096 473 111 A.B.N. 76 096 473 111
Directors: I.D. CHAPMAN, Dip Tech. B.E. (Hons), F.I.E. Aust. B.A. HUTCHISON, B.E. (Civil), M.I.E. Aust.

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bah_cha@chester.com.au

3rd December 2012

Eclipse Environmental (Aust) Pty Ltd
85 Victoria Street
SMITHFIELD NSW 2164

Attention: Mr R Laferla

Dear Sir,

RE: SEPARATOR TANKS

As requested we have reviewed the structural elements for the Hydroflow HYD5000S separator tank and its support stand as shown on your Drawing No. 10952.

The review was on the basis of the tank plate being 1.6mm thick and the stand legs being 50 x 50 x 2.0 SHS with 100 x 10 plate top and bottom.

As a result of our review, we are prepared to certify that the structural elements are in accordance with the relevant SA Codes for structural adequacy, in particular AS 1170 & AS 4100.

Should there be any questions please do not hesitate to contact the undersigned on 9901 5305 (direct).

Yours faithfully
CHAPMAN HUTCHISON PTY LIMITED

B A HUTCHISON

H:\Chat\Correspondence\6000 - 6999\6949216492_08bh.doc

CHAPMAN HUTCHISON PTY. LTD. A.C.N. 096 473 111 A.B.N. 76 096 473 111
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