

ECKERLE CONDENSATE PUMPS



eckerle



swiss drive
inside

Condensate Pumps

For air conditioning & refrigeration

Condensation is the change of the physical state of matter from a gas phase into a liquid phase and is the reverse of vaporisation. It can also be defined as the change in state of water vapour to liquid (water) when in contact with any surface such as an evaporator coil. Condensation occurs under certain conditions relating to temperature and pressure.

When gravity drainage is not possible or is impractical, condensate removal pumps are necessary to evacuate water to a drain point above the collection tray.

The following Eckerle pumps are fully-automated and are controlled using internal or external sensor technology and are impervious to blockage or contamination due to their unique valve design. The design and component features ensure a pump system with a long-life expectancy and provides a higher than average performance even at great delivery heights.

Mini-Condensate Pumps designed to fit into INOAC (NE100) duct elbow

The EE1200A is made in Germany with a Swiss drive and has been specifically designed for direct installation into the INOAC duct system. The EE1200A is fitted with a high quality made piston pump that is specially developed to deliver condensate water. It has a wide opening duck-bill-valve which is non-sensitive against water borne contaminants and runs remarkably quiet.

Micro & Mini Condensate Pumps

These float type pumps are impervious to blockage or contamination due to unique valve design and large piston bore. They are mainly used in air conditioners with limited space inside such as wall mounted mini split and ceiling units. The small sensor can easily be adapted to the air conditioner's condensate drain hose.

The Micro pump EE600 system is made in Germany with a Swiss drive and consists of a pump unit with a separate 2-level on/off function float switch sensor. It comes with mounting accessories such as pads of double-sided Scotch Tape to fix the float switch and an anti-shock mount for the pump unit.

The Mini pumps EE1000 & EE1800 systems are made in Germany with a Swiss drive and consist of a pump unit with a separate 3-level float switch sensor. Beside the on/off function the system offers a high level, potential free NO/NC alarm switch (230 V, 8 A ohmic load) These pumps also come with mounting accessories such as pads of double-sided Scotch Tape to fix the float switch and an anti-shock mount for the pump unit.

Condensate Tank Pumps

The EE150 and EE400M condensate tank pumps are designed to remove condensate water out of air conditioners, evaporator coils and high efficiency gas furnaces automatically. The pump housings and tanks are made from corrosion and impact resistant plastic.

Super silent Condensate Pump

The new patented and whisper-quiet EE900M is designed to deliver condensate in noise sensitive surroundings such as hotel rooms, meeting rooms, boardrooms and bedrooms. In contrast to conventional peristaltic pumps the new EE900M works on the same principle as a reciprocating piston pump i.e. no peristaltic tube, resulting in a maintenance free pump with no wear and tear or costly tube replacement.

The ultra-slow motion sequence of the piston ensures hyper silent sound pressure plus the pump delivers a constant flow rate depending on the delivery height.

A world first innovation, the EE900M is configured to run with 2 sensing options on a single standard pump:

Option 1: Temperature differential sensor

Option 2: Float switch

Note: see following pages for detailed technical information.

ECKERLE CONDENSATE PUMPS



Condensate Pumps - Quick Selection Guide

Note: see following pages for detailed technical information

Airefrig Part Number	Capacity (Litres/Hr)	*Head (Metres)	Technical Information (note: supplied ready to fit into INOAC NE100 duct elbow)
EE1200A	8	0	For Air Conditioners up to 7.5kw – made with Swiss Drive Pump Unit Size (mm): 78 Length x 42 Width x 46 Height Sensor Unit Size (mm): 82 Length x 39 Width x 39 Height Electrical Specs: 230V 50/60Hz 8 Watt (1 Watt standby) Alarm Switch: NO/NC, max.230V, 8A (ohmic load)
	5.5	2	
	2.5	4	
	0	6	

*Head (delivery height) is from pump outlet.



Airefrig Part Number	Capacity (Litres/Hr)	*Head (Metres)	Pump with 2-Level Float Switch Sensor Technical Information (note: no alarm switch)
EE600	6	0	For Air Conditioners up to 7.5kw – made with Swiss Drive Pump Unit Size (mm): 77 Length x 32 Width x 50 Height Sensor Unit Size (mm): 82 Length x 39 Width x 39 Height Electrical Specs: 230V 50/60Hz 13 Watt (1 Watt standby)
	4	2	
	2	4	
	0	6	

*Head (delivery height) is from pump outlet / Maximum suction height of EE600 is 1.5 metres.



Airefrig Part Number	Capacity (Litres/Hr)	*Head (Metres)	Pump with 3-Level Float Switch Sensor Technical Information
EE1000	10	0	For Air Conditioners up to 10.0kw – made with Swiss Drive Pump Unit Size (mm): 77 Length x 37.5 Width x 62 Height Sensor Unit Size (mm): 82 Length x 39 Width x 39 Height Electrical Specs: 230V 50/60Hz 8 Watt (1 Watt standby) Alarm Switch: NO/NC, max.230V, 8 Amp (ohmic load)
	8	2	
	6	4	
	4	6	

*Head (delivery height) is from pump outlet / Maximum suction height of EE1000 is 1.5 metres.



Airefrig Part Number	Capacity (Litres/Hr)	*Head (Metres)	Pump with 3-Level Float Switch Sensor Technical Information
EE1800	18	0	For Air Conditioners up to 18.0kw – made with Swiss Drive Pump Unit Size (mm): 77 Length x 37.5 Width x 62 Height Sensor Unit Size (mm): 82 Length x 39 Width x 39 Height Electrical Specs: 230V 50/60Hz 14 Watt (1 Watt standby) Alarm Switch: NO/NC, max.230V, 8 Amp (ohmic load)
	14	2	
	11	4	
	7.5	6	
	5	7	

*Head (delivery height) is from pump outlet / Maximum suction height of EE1800 is 2.5 metres.



Airefrig Part Number	Capacity (Litres/Hr)	*Head (Metres)	Pump with Tank/Reservoir and Cover Technical Information
EE150	120	0	For Air Conditioners up to 30.0kw Pump Unit Size (mm): 165 Length x 65 Width x 85 Height Electrical Specs: 230V 50/60Hz 48VA Alarm Switch: not applicable. Also includes ABS Plastic Cover ABS Plastic Tank/Reservoir Capacity: max 0.2 litres
	80	1	
		1.5	
	0		

*Head (delivery height) is from pump outlet, outlet pressure hose (not included) 8mm inside diam x 2mm thick wall.



Airefrig Part Number	Capacity (Litres/Hr)	*Head (Metres)	Pump with Tank/Reservoir Technical Information
EE400 (EE400M)	350	0	For Air Conditioners up to 50.0kw Pump Unit Size (mm): 185 Length x 85 Width x 100 Height Electrical Specs: 230V 50/60Hz 65VA Alarm Switch: NO/NC, max.230V, 8A (ohmic load) ABS Plastic Tank/Reservoir Capacity: max 0.5 litres
	280	1	
	220	2	
	100	3	
	0	4	

*Head (delivery height) is from pump outlet, outlet pressure hose (not included) 8mm inside diam x 2mm thick wall.



Airefrig Part Number	Constant Flow	*Head (Metres)	Reciprocating Pump ultra-quiet for sensitive areas Technical Information
EE900M	6 (L/Hour)	7mtr maximum discharge 2mtr maximum delivery	Constant flow independent of discharge height Two sensing options: Sensor float unit or Temperature sensor Pump Unit Size (mm): 152 Length x 85 Width x 114 Height Electrical Specs: 230V 50/60Hz 10VA Alarm Switch - float option only: N/O, 48V AC/DC, 8.0 Amp
9001301008	Water Level Detection Sensor (not supplied with EE900M – purchase separately)		
9704010011	Thermal Sensor Kit 6-8K Delta (not supplied with EE900M – purchase separately)		

*Head (max discharge= pump outlet / max delivery= pump inlet) pressure hose (not included) 6mm ID x 2mm wall.



ECKERLE CONDENSATE PUMPS - EE1200A

The EE1200A condensate pump is made in Germany with a Swiss drive & is ready to integrate into a INOAC duct elbow (part number: NE100) allowing it to be installed directly on the outlet side of the air conditioner. This pump is suitable for mini split, ceiling and wall mounted air conditioners.

Maximum flow rate: 8 l/h

Maximum delivery height: 6-metre head
(Delivery height is from pump outlet)

Voltage: 230/1/50

Power Consumption: 8 watts (standby: 1 watt)

Pump Dimensions: 78(L) x 42(W) x 46(H) mm

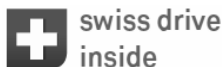
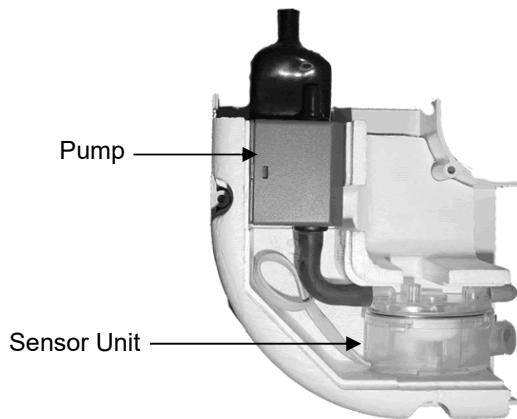
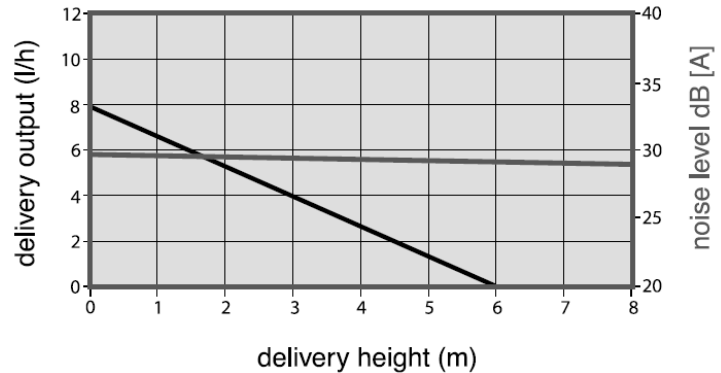
Sensor Dimensions: 82(L) x 39(W) x 39(H) mm

Alarm Switch: normally open / normally closed voltage free contacts. (Max 230V, 8A res.)
Can be wired to cut out the air conditioner and prevent any overflow using a relay or contactor.

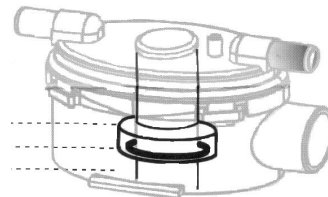
Housing Components: Manufactured from self-extinguishing materials.

Warranty Period: 12 months (parts or replacement only)

Technical Data



Max 23mm Alarm
Max 18mm Pump On
Max 14mm Pump Off



Sensor Unit
Replacement sensor unit
part # 9001301023

Electrical Connection:

- Connect pump to 230v 50Hz mains using 3 x 0.75mm² cable.
- Pump must be earthed / grounded.
- Ensure that the electrical connections to the pump are sealed fully using the insulating cap as per the manufacturer's instructions.

ECKERLE CONDENSATE PUMPS - EE1200A

Pump Installation:

- Clean all elements of the air conditioning unit's drain, in order to ensure that the condensate water to be pumped will be clean.
- The drain tank should be deep enough such that it is capable of containing the water, above the alarm level, which will continue to flow from the evaporator in the event of a power failure.
- The pump assembly can be installed on either the left or right side of the air conditioner.
- Mark and drill the holes to fix the elbow to the wall fit the elbow, polystyrene hull and the duct.
- Connect the detection sensor to the air conditioner unit's drain tank (according to instruction manual) Then fit the ventilation tube onto the sensor and position the pump and detection sensor into the elbow.
- Connect the discharge tube to the pump using a 6mm flexible tube.
- The electrical cable must be attached to the anti-wrenching support using a cable tie.
- Pre-form the refrigeration pipes and position them into the duct.
- Before closing the duct it is advised to support the cable and the discharge tube between the insulation of the refrigerant pipes, so they do not touch the walls and the lid of the duct. This will help to decrease the noise level of the installation.

Note:

- When installing a condensate pump make sure that it is installed in such a way that there is access to the pump and sensor for required maintenance.
- Clear vinyl tube 6.0mm ID x 1.5mm wall for the delivery line is available from Airefrig Australia if required. (P/No: 3220207 – sold by the metre)

Starting Procedure:

- Before start up ensure that the system is thoroughly cleaned to eliminate metal splinters and foreign bodies that may damage or impair the condensate pumps operation.
- Make sure that all hoses are connected properly.
- Pour water into the air conditioner's drain tank & check the pump switches on & off when the water rises or falls
- To check operation of the alarm switch keep adding water until the alarm function is triggered (Check that the alarm contacts work ie. air conditioner cut-out or audible/visual warning signal, etc.)

Required Preventative Maintenance:

- Maintenance is required at least every 12 months before the start of the season.
- Turn all power to the pump off. (Warning: alarm contacts may have different power source)
- Remove the lid of the elbow to access the sensor.
- Remove the sensor.
- Carefully take off the lid and remove the float.
- Using a mild commercial cleaning agent, carry out the following.
- Clean the filter, float & the inside of the sensor housing.
- Re-assemble making sure that the magnet on the float points downwards.
- Some environments may require service more frequently.



ECKERLE CONDENSATE PUMPS – EE600

The EE600 condensate pump is made in Germany with a Swiss drive & is comprised of two parts – the pump & float switch & is suitable for integration into air conditioners – mini split, ceiling and wall mounted units. The small sensor can easily be adapted to fit the air conditioners condensate drain hose. The pump assembly is supplied with 2 x adhesive cellular tape pads, breather pipe, rubber drain connection tube & instruction sheet.

Technical Data

Maximum flow rate: 6 l/h

Maximum delivery height: 6.0 metre head
(Delivery height is from pump outlet)

Maximum suction height: 1.5 metre head
(Suction height is between sensor & pump inlet)

Voltage: 230/1/50

Power Consumption: 13 watts (standby: 1 watt)

Pump Dimensions: 77(L) x 32(W) x 50(H) mm

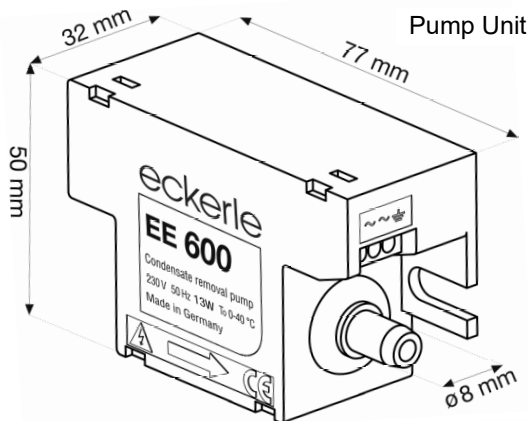
Sensor Dimensions: 82(L) x 39(W) x 39(H) mm

Alarm Switch: not applicable to this model

Thermal Protection: Pump will automatically switch off if temperature at the piston drive reaches over +100 degrees Celsius. (Auto reset after cooling period)

Housing Components: Manufactured from self-extinguishing materials.

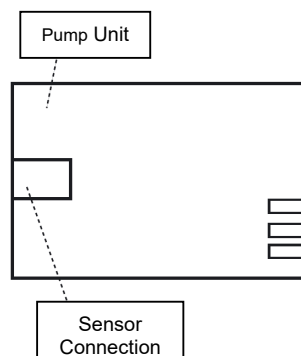
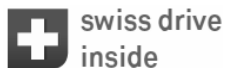
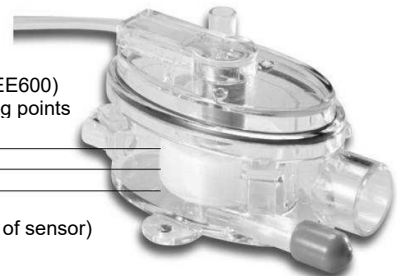
Warranty Period: 12 months (parts or replacement only)



Water Level Sensor
(P/No 9001301008 – supplied with EE600)
The water level sensor has 3 switching points

- Max 23mm Alarm
- Max 18mm Pump On
- Max 14mm Pump Off

(Measured from bottom of sensor)



Electrical Connection:

- Connect pump to 230v 50Hz mains using 3 x 0.75mm² cable.
- Pump must be earthed / grounded (PE connection)

earth connection
~ 230v Mains connection

ECKERLE CONDENSATE PUMPS - EE1000

The EE1000 condensate pump is made in Germany with a Swiss drive & is comprised of two parts – the pump & float switch & is suitable for integration into air conditioners – mini split, ceiling and wall mounted units. The small sensor can easily be adapted to fit the air conditioners condensate drain hose. The pump assembly is supplied with 2 x adhesive cellular tape pads, breather pipe, rubber drain connection tube & instruction sheet.

Technical Data

Maximum flow rate: 10 l/h

Maximum delivery height: 10.0 metre head
(Delivery height is from pump outlet)

Maximum suction height: 1.5 metre head
(Suction height is between sensor & pump inlet)

Voltage: 230/1/50

Power Consumption: 8 watts (standby: 1 watt)

Pump Dimensions: 77(L) x 37.5(W) x 62(H) mm

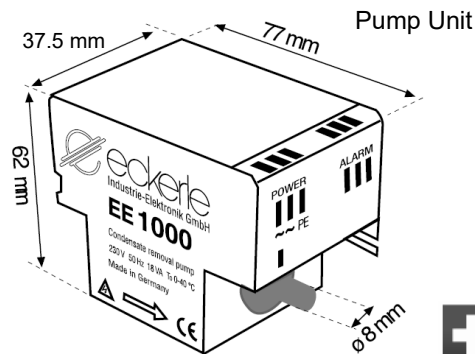
Sensor Dimensions: 82(L) x 39(W) x 39(H) mm

Alarm Switch: normally open / normally closed voltage free contacts. (Max 230V, 8A res.)
Can be wired to cut out the air conditioner and prevent any overflow using a relay or contactor.

Thermal Protection: Pump will automatically switch off if temperature at the piston drive reaches over +100 degrees Celsius. (Auto reset after cooling period)

Housing Components: Manufactured from self-extinguishing materials.

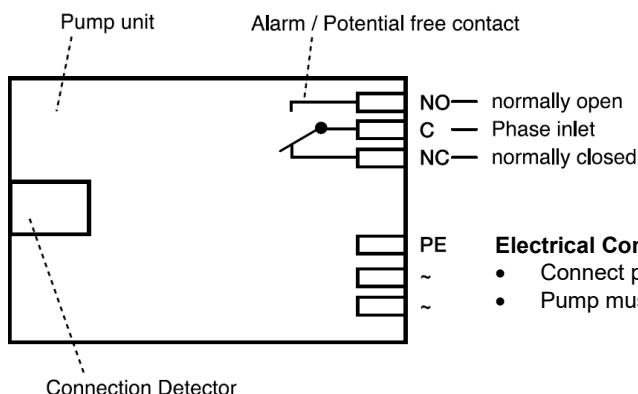
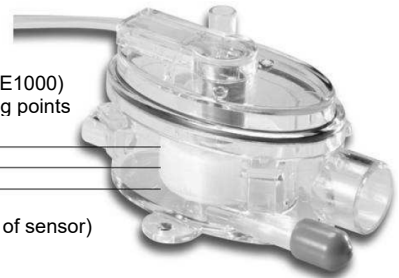
Warranty Period: 12 months (parts or replacement only)



Water Level Sensor
(P/No 9001301008 – supplied with EE1000)
The water level sensor has 3 switching points

Max 23mm Alarm
Max 18mm Pump On
Max 14mm Pump Off

(Measured from bottom of sensor)



Electrical Connection:

- Connect pump to 230v 50Hz mains using 3 x 0.75mm² cable.
- Pump must be earthed / grounded (PE connection)

ECKERLE CONDENSATE PUMPS - EE1800

The EE1800 condensate pump is made in Germany with a Swiss drive & is comprised of two parts – the pump & float switch & is suitable for integration into air conditioners – mini split, ceiling and wall mounted units. The small sensor can easily be adapted to fit the air conditioners condensate drain hose. The pump assembly is supplied with 2 x adhesive cellular tape pads, breather pipe, rubber drain connection tube & instruction sheet.

Technical Data

Maximum flow rate: 18 l/h

Maximum delivery height: 10.0 metre head
(Delivery height is from pump outlet)

Maximum suction height: 2.5 metre head
(Suction height is between sensor & pump inlet)

Voltage: 230/1/50

Power Consumption: 14 watts (standby: 1 watt)

Pump Dimensions: 77(L) x 37.5(W) x 62(H) mm

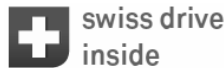
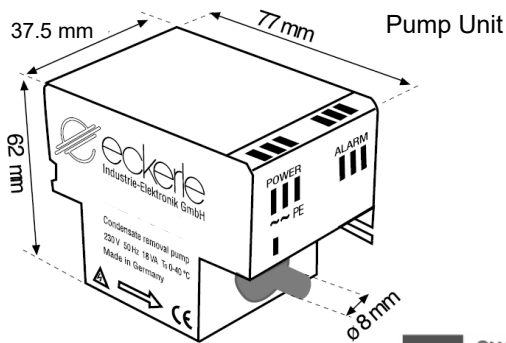
Sensor Dimensions: 82(L) x 39(W) x 39(H) mm

Alarm Switch: normally open / normally closed voltage free contacts. (Max 230V, 8A res.)
Can be wired to cut out the air conditioner and prevent any overflow using a relay or contactor.

Thermal Protection: Pump will automatically switch off if temperature at the piston drive reaches over +100 degrees Celsius. (Auto reset after cooling period)

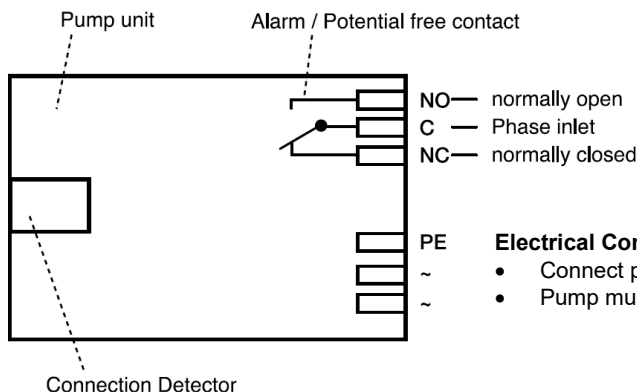
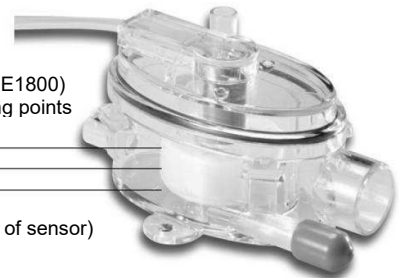
Housing Components: Manufactured from self-extinguishing materials.

Warranty Period: 12 months (parts or replacement only)



Water Level Sensor
(P/No 9001301008 – supplied with EE1800)
The water level sensor has 3 switching points

Max 23mm Alarm
Max 18mm Pump On
Max 14mm Pump Off
(Measured from bottom of sensor)



Electrical Connection:

- Connect pump to 230v 50Hz mains using 3 x 0.75mm² cable.
- Pump must be earthed / grounded (PE connection)

ECKERLE CONDENSATE PUMPS - EE600 EE1000 EE1800

Pump Installation and Mounting:

- Can be mounted Horizontally or Vertically. (DO NOT MOUNT UPSIDE DOWN)
- It is recommended to secure the pump into position to prevent contact that may transmit vibration running noise.
- Allow sufficient clearance around the pump to ensure that the pump is able to cool down after prolonged operation. (DO NOT insulate or cover the pump)
- Arrow on the pump indicates direction of flow.
- Prior to start up ensure that the system is thoroughly cleaned to eliminate metal splinters and foreign bodies that may damage or impair the condensate pumps operation.

Sensor Installation and Mounting:

- Always install the float module horizontally.
- Maximum angle the sensor can be mounted is 10 degrees.
- The sensor can be mounted directly onto metal surfaces without any detrimental effects on the magnetic float.
- Ensure the plastic bracket and adhesive tape (supplied) is used to secure the sensor.
- Drain or breather tube (150mm x 6mm diam.) should be fitted to easily dispel air.
- Sensor can be fitted to the end of the split air conditioner drain tube or on other types of air conditioners connected to the side outlet of the condensate tank.

Note:

- When installing a condensate pump make sure that it is installed in such a way that there is access to the pump and sensor for required maintenance.
- Clear vinyl tube 6.0mm ID x 1.5mm wall for the delivery & suction lines are available from Airefrig Australia if required (sold in 3M or 30M rolls)
- Sensor - pump wiring 3, 5 & 10 metre extension leads are available on request through Airefrig Australia.

Starting Procedure:

- Before start up ensure that the system is thoroughly cleaned to eliminate metal splinters and foreign bodies that may damage or impair the condensate pumps operation.
- Make sure that all hoses are connected properly.
- Pour water into the air conditioner drain and check the pump switches on and off when the water rises or drops.
- To check operation of the alarm switch keep adding water until the alarm function is triggered (Check that the alarm contacts work ie. air conditioner cut-out or audible/visual warning signal, etc.)

Required Preventative Maintenance:

- Maintenance is required at least every 12 months before the start of the season.
- Turn all power to the pump off. (Warning: alarm contacts may have different power source)
- Remove the sensor from the bracket.
- Carefully take off the lid and remove the float.
- Using a mild commercial cleaning agent, carry out the following.
- Clean the filter, float & the inside of the sensor housing.
- Re-assemble making sure that the magnet on the float points downwards.
- Some environments may require service more frequently.

ECKERLE CONDENSATE PUMPS - EE150

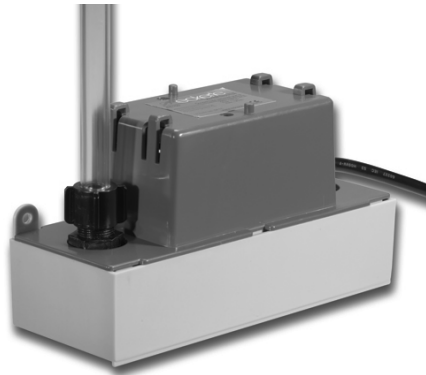
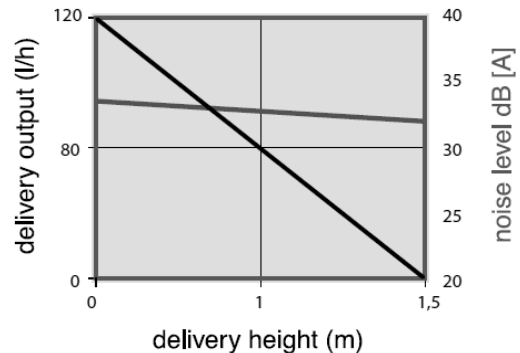
The EE150 condensate pump is designed to automatically remove water from air conditioners and evaporator coils etc. This pump has its own reservoir / tank.

Features

- Made for wall mounted air conditioners
- Silent running – centrifugal pump
- 1.5 metre 3 x core power lead
- Ball Bearing drive shaft
- Supplied with well-designed cover
- Check valve to prevent back-flow of condensate water into the pump

Technical Data

- **Maximum flow rate:** 120 l/h
- **Maximum head:** 1.5 metres
- **Voltage:** 230/1/50 **Power Consumption:** 48VA
- **Housing:** Made from tough corrosion & impact resistant ABS plastic
- **Warranty Period:** 12 months (parts or replacement only)
- **Pressure Hose:** Not supplied - 8.0mm ID x 2.0mm wall clear vinyl tube is recommended & available from Airefrig Australia if required (P/No: 3220257 - sold by the metre)
- **Tank / Reservoir Capacity:** max. 0.2 litres
- **Compact size:** 165(L) x 65(W) x 85(H) mm



Pump Installation and pipe connections

- Pump assembly must be mounted level & the inlet must be below the lowest drain point
- When installing the pump assembly, make sure that it is installed in such a way that there is access to the pump for required maintenance.
- Run flexible tubing or pipe from the condensate drain on the evaporator pan and / or drain to the inlet hole on the pump assembly. This drain line should have a continuous downward slope to allow for gravity flow. Cut the end of the line at an angle so the end does not close off on the bottom of the pump's tank.
- Connect the discharge line by hand – tighten the cap nut of the check valve in a clockwise direction. Clear vinyl tube 8.0mm ID x 2.0 wall mm is recommended. Extend the discharge line straight up from the pump to the highest point, run the discharge line to a drain with a downward slope.
- For best results, the drain should be below or approximately level with the bottom of the pump's tank. If it is not possible to slope the line downward, make an inverted "U" trap at the highest point of the discharge line above the pump.
- Make sure pump is connected to a constant power source, not a fan or other device that may run intermittently.

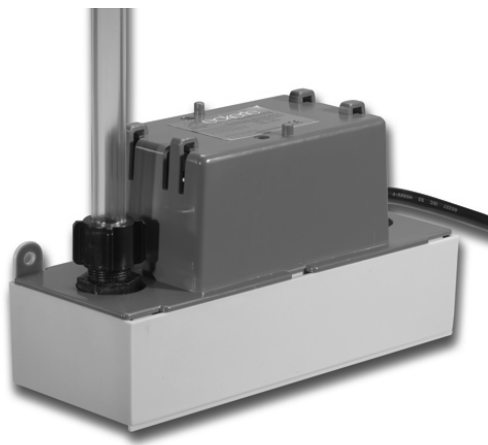
ECKERLE CONDENSATE PUMPS - EE150

Starting & Testing Procedure:

- Before start up ensure that the system is thoroughly cleaned to eliminate any foreign bodies that may damage or impair the condensate pumps operation.
- Make sure that the hose is connected properly.
- Pour water into the pump reservoir and check the pump switches on and off when the water rises or drops.
- To test the overflow alarm circuit:
 - Kink the tube coming from the pump discharge, or turn off power supply
 - Pour water into the pump reservoir, filling it completely.
 - As the water level nears the top of the unit, the overflow alarm switch will activate. (Eg. triggering alarm circuit, if used.)
- Un-kink the tube, or turn power back on and allow the pump to empty the tank, as the water level drops the overflow safety switch will de-activate.

Required Preventative Maintenance:

- Maintenance is required at least every 12 months before the start of the season.
Some environments may require service more frequently.
- Turn off all power to the pump.
- Remove the reservoir / tank cover & lift the drive / pump unit out
(The tank of the EE150 can be removed by inserting a screwdriver in one of the side slots of the tank & levering it away – do not overstress the material – then remove the 2 x Phillips screws located on top.)
- Remove the discharge line from the check valve by unscrewing the cap nut
- Unscrew the check valve from the drive / pump unit using a SW20 wrench
- Check the valve for any obstructions or damage.
To re-install valve, tighten by hand then a half turn more using the SW20 wrench.
- Check that the float mechanisms are clean & move up & down freely.
- Clean the reservoir / tank & float mechanisms using a damp cloth & mild detergent
- Do not open the drive / pump unit, as this should never require maintenance.
Note: breaking the seal on the drive / pump assembly may void warranty.
- Re-assemble unit in reverse order & check operation



ECKERLE CONDENSATE PUMPS - EE400M

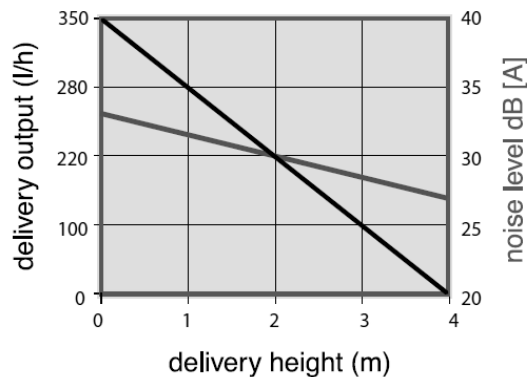
The EE400M condensate pump is designed to automatically remove water from air conditioners and evaporator coils etc. This pump has its own reservoir / tank but can be taken out of its housing and placed into an external pan if required. (pan height requirements need to be maximum height of 70mm & minimum height of 62mm).

Features

- **Silent running – centrifugal pump**
- **Pump encapsulated (IP55 rating)**
- **1.5 metre 3 x core power lead**
- **Ball Bearing drive shaft**
- **Overflow safety alarm switch** (1metre 2 x core lead)
- **Wall mounting bracket**
- **Check valve to prevent back-flow of condensate water into the pump**
- **As stated above the pump can be removed from its housing & placed into an external pan.**
(External pan height requirements need to be maximum height of 70mm & minimum height of 62mm)

Technical Data

- **Maximum flow rate:** 350 l/h
- **Maximum head:** 4 metres
- **Voltage:** 230/1/50 **Power Consumption:** 65VA
- **Alarm Switch:** normally open / normally closed voltage free contacts. (Max 230V, 8A res.)
Can be wired to cut out the air conditioner and prevent any overflow using a relay or contactor.
- **Housing:** Made from tough corrosion & impact resistant ABS plastic
- **Warranty Period:** 12 months (parts or replacement only)
- **Pressure Hose:** Not supplied - 8.0mm ID x 2.0mm wall clear vinyl tube is recommended & available from Airefrig Australia if required (P/No: 3220257 - sold by the metre)
- **Tank / Reservoir Capacity:** max. 0.5 litres
- **Compact size:** 185(L) x 85(W) x 100(H) mm **Weight:** 1600 grams



Pump Installation and pipe connections

- Pump assembly must be mounted level & the inlet must be below the lowest drain point
- When installing the pump assembly, make sure that it is installed in such a way that there is access to the pump for required maintenance.
- Run flexible tubing or pipe from the condensate drain on the evaporator pan and / or drain to the inlet hole on the pump assembly. This drain line should have a continuous downward slope to allow for gravity flow. Cut the end of the line at an angle so the end does not close off on the bottom of the pump's tank.
- Connect the discharge line by hand – tighten the cap nut of the check valve in a clockwise direction. Clear vinyl tube 8.0mm ID x 2.0 wall mm is recommended. Extend the discharge line straight up from the pump to the highest point, run the discharge line to a drain with a downward slope.
- For best results, the drain should be below or approximately level with the bottom of the pump's tank. If it is not possible to slope the line downward, make an inverted "U" trap at the highest point of the discharge line above the pump.
- Make sure pump is connected to a constant power source, not a fan or other device that may run intermittently.

ECKERLE CONDENSATE PUMPS - EE400M

Starting & Testing Procedure:

- Before start up ensure that the system is thoroughly cleaned to eliminate any foreign bodies that may damage or impair the condensate pumps operation.
- Make sure that the hose is connected properly.
- Pour water into the pump reservoir and check the pump switches on and off when the water rises or drops.
- To test the overflow alarm circuit:
 - Kink the tube coming from the pump discharge, or turn off power supply
 - Pour water into the pump reservoir, filling it completely.
 - As the water level nears the top of the unit, the overflow alarm switch will activate. (Eg. triggering alarm circuit, if used.)
- Un-kink the tube, or turn power back on and allow the pump to empty the tank, as the water level drops the overflow safety switch will de-activate.

Required Preventative Maintenance:

- Maintenance is required at least every 12 months before the start of the season. Some environments may require service more frequently.
- Turn off all power to the pump.

Warning alarm contacts may have different power source.

- Remove the reservoir / tank cover & lift the drive / pump unit out
- Remove the discharge line from the check valve by unscrewing the cap nut
- Unscrew the check valve from the drive / pump unit using a SW20 wrench
- Check the valve for any obstructions or damage.

To re-install valve, tighten by hand then a half turn more using the SW20 wrench.

- Check that the float mechanisms are clean & move up & down freely.
- Clean the reservoir / tank & float mechanisms using a damp cloth & mild detergent
- Do not open the drive / pump unit, as this should never require maintenance.

Note: breaking the seal on the drive / pump assembly may void warranty.

- Re-assemble unit in reverse order & check operation



ECKERLE CONDENSATE PUMPS – EE900M

The patented and whisper-quiet EE900M pump is designed for condensate removal in noise sensitive areas.

In contrast to conventional peristaltic pumps, the EE900M operates on the same principle as a reciprocating piston pump (i.e. no peristaltic tube resulting in a maintenance free pump, with no wear & tear or costly tube replacement).

- Low noise levels are achieved due to the slow movement of the piston.
- The pump maintains a constant flow rate independent of the discharge height.
- 6mm ID x 2mm wall flexible pipe is required for delivery & suction lines (not supplied with pump)
- A test switch located on the side of the pump will allow pump to run for approximately 3 minutes.

EE900M pumps can be configured to operate with 1 of 2 sensing options:

- Water level float detection sensor (sensor to be purchased separately).
- Temperature differential (temp sensor kit to be purchased separately).

Maximum flow rate: 6 l/h

Maximum delivery height: 7 metre head
(Delivery height is from pump outlet)

Maximum suction height: 2 metre head
(Suction height is between sensor & pump inlet)

Voltage: 230/1/50 **Power Consumption:** 10VA

Pump Weight: 700g

Pump Dimensions: 152(L) x 85(W) x 114(H) mm

Sensor Dimensions: 82(L) x 39(W) x 39(H) mm

Alarm Switch: 48V AC/DC / 8.0A (resistive load), N/O normally open
(Note: alarm switch is available only when water level float sensor option is used)

IP Rating: 20

Housing Components: Manufactured from self-extinguishing materials.

Warranty Period: 12 months (parts or replacement only)



Electrical connections:

Brown wire: Phase
Blue wire: Neutral
Green / yellow wire: PE
Red wire: Alarm contact
White wire: Alarm contact



Water sensor unit (P/No: 9001301008) is not supplied with the EE900M pump and must be purchased separately



Temp sensor kit (P/No: 9704010011) is not supplied with the EE900M pump and must be purchased separately

ECKERLE CONDENSATE PUMPS – EE900M

Water Level Sensor Installation and Mounting (P/No 9001301008 - purchase separately):

- Always install the float module horizontally.
- Maximum angle the sensor can be mounted is 10 degrees.
- The sensor can be mounted directly onto metal surfaces without any detrimental effects on the magnetic float.
- Drain or breather tube (150mm x 6mm diam.) should be fitted to easily dispel air.
- Sensor can be fitted to the end of the split air conditioner drain tube or on other types of air conditioners connected to the side outlet of the condensate tank.
- After installation activate the test switch, which will run the pump for about 3 minutes.
- Always install the pump vertically, never in a lying position. (see picture below)



Starting Procedure:

- Before start up ensure that the system is thoroughly cleaned to eliminate metal splinters and foreign bodies that may damage or impair the condensate pumps operation.
- Make sure that all hoses are connected properly.
- Pour water into the air conditioner drain & check the pump switches on and off when the water rises or drops.
- To check operation of the alarm switch keep adding water until the alarm function is triggered (Check that the alarm contacts work ie. air conditioner cut-out or audible/visual warning signal, etc.)

Required Preventative Maintenance:

- Maintenance is required at least every 12 months before the start of the season.
- Turn all power to the pump off. (Warning: alarm contacts may have different power source)
- Remove the sensor.
- Carefully take off the lid and remove the float.
- Using a mild commercial cleaning agent, carry out the following.
- Clean the filter, float & the inside of the sensor housing.
- Re-assemble making sure that the magnet on the float points downwards.
- Some environments may require service more frequently.

ECKERLE CONDENSATE PUMPS – EE900M

Option with Water level float sensor

Install the pump in the intermediate ceiling using the relevant mounting holes.

Connect the water level sensor to the pump.

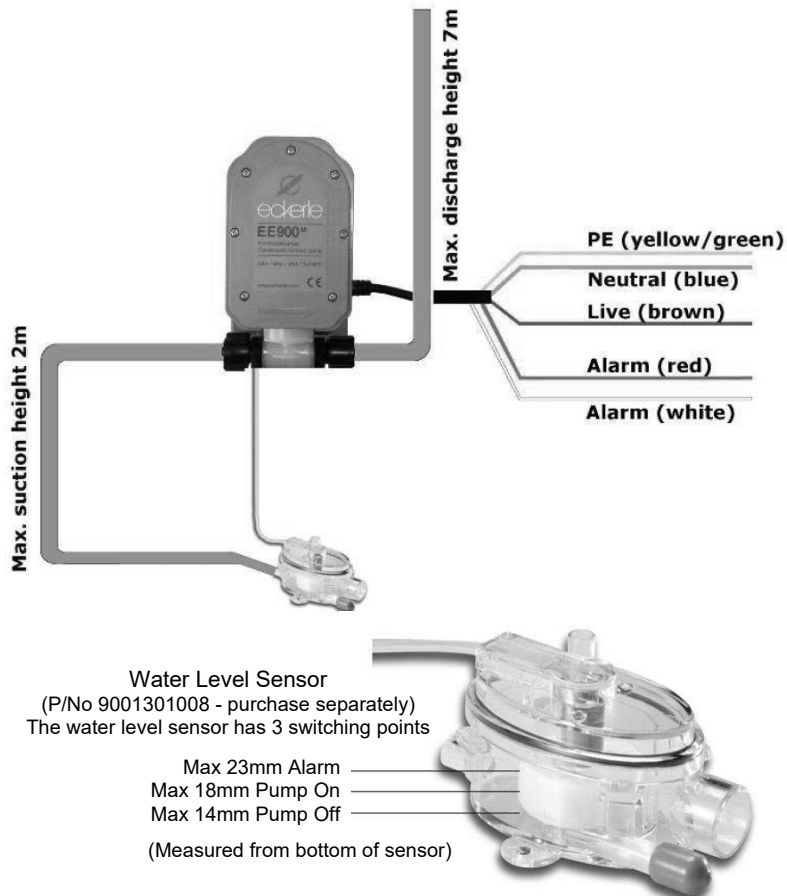
Alarm switch notes:

The integrated alarm switch (N/O, normally open) is used for overflow detection and should be wired in.

The pump has a build in alarm delay of 10s to prevent false alarms.

Maximum allowed Voltage: 48 V AC/DC

Maximum allowed Current: 8.0A (resistive load)



Option to Control by Temperature Sensors

Install the pump in the intermediate ceiling using the relevant mounting holes.

The red sensor measures the ambient temperature ("air on")

The blue sensor measures the temperature of the cold air-conditioner airflow ("air off").

The pump starts working at a temperature difference of 7°C.

Warning:

Sensors must never touch the gills of the heat exchange.

