The installation GUIDE

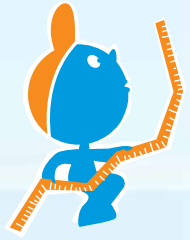
The installation GUIDE

www.sauermannpumps.co.uk

sauermann®

CONTENTS

GENERAL INFORMATION



HOW TO CHOOSE YOUR CONDENSATE REMOVAL PUMP

HOW TO INSTALL YOUR CONDENSATE REMOVAL PUMP

This guide has been produced with the generous support of Messrs. Maurice Perez, Paul Henri Blanc and Jean-Pierre Benoist.

GENERAL INFORMATION

WHY, how?

Condensates (drops of water caused by warm, humid air passing over a cold surface) are formed in air conditioning, refrigeration and condensing boiler units.

There are **2 ways** of removing them

Gravity evacuation 1

*Evacuate the condensates by **gravity**, which means dealing with **technical and aesthetic problems** (distant drainage outlet, not enough fall, damage to walls and unsightly pipework).*

The removal pump 2

*Or, install a condensate **removal pump** (smaller dimensions, the **appearance of the installation is preserved, simple and quick to install**, safer as equipped with alarm and non return valve).*

WHAT IS a condensate removal pump?

It is a system which consists of a pump unit and a detection unit allowing condensates to be evacuated to a water drainage outlet where there is no gravity fall.

This technology has **3 advantages**:

❶ **It protects the appearance** of the customer's installation (no unsightly pipework).

❷ **Easy, simple and safe** to install.

❸ **Reduction of the risk of bacterial contamination** by waste water (no stagnation or back-flow of water due to non return valves)

There are **3 types** of condensate removal pumps:

	PISTON	CENTRIFUGAL	PERISTALTIC
Air conditioning			
Refrigeration			
Heating			

WHICH operating mode?

Whether monoblock or compound type, condensate removal pumps operate in **3 different ways**:

❶ Reciprocating piston method
These pumps are fitted with a piston which first draws in, then evacuates the condensate.

❷ Centrifugal impeller method
A turbine evacuates the condensation water. These pumps are intended for high flow rate requirements and are particularly suitable for contaminated condensates

❸ Peristaltic pumps
A roller compresses a pipe which drives out the condensates (containing contaminates or not). These pumps are self-priming and can operate dry.

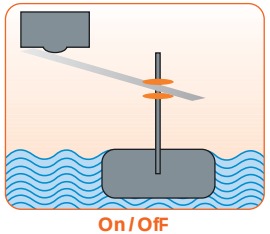
WHICH detection system?

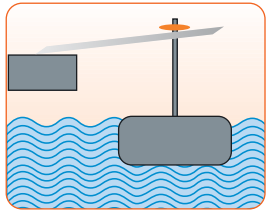
SAUERMANN has developed

3 detection systems:

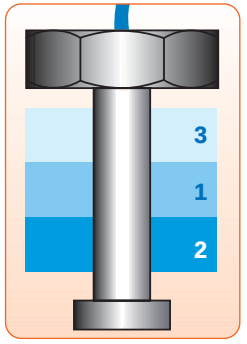
The first is based on two mechanical float switches one of which controls the **On/Off** levels and the other the **Alarm**.

➜ Fitted on impeller pumps.


On/OfF


Alarm

The second is based on a float switch controlling 3 levels:



1. On,
2. Off,
3. Alarm.

➜ Fitted on piston pumps.

As it is largely unaffected by the nature of the condensates (oil or grease on the surface, deposits of scale, dust or algae formation) **float switch detection is very reliable.**

The presence of an alarm level leads to increased safety.
As soon as a problem is detected (abnormally high water level leading to a risk of overflow), the pump **automatically cuts** off the air conditioning system compressor or **triggers an audible or visual alarm**.
Problems may be caused by different reasons:

- power cut
- pump stoppage
- pinched pipe

The third operates by detecting a temperature difference across the cooling coil of more than 6°C between two temperature sensors.

➜ Fitted on PE 5100 peristaltic pumps.

HOW TO CHOOSE YOUR CONDENSATE REMOVAL PUMP

SELECTING pumps

Piston pumps for air conditioners up to 10 kW and up to 30 kW

YOU NEED TO KNOW THE FOLLOWING CHARACTERISTICS:

❶ The volume of condensates produced or the refrigerating capacity of your installation will give you an indication of the volume of condensates to be removed.

❷ The type of appliance which you are fitting it to.

*Choose **your pump** based on these characteristics. Check that the model you choose has a sufficient **flow rate / pressure ratio**.*

WHICH PUMP FOR WHICH SYSTEM?


Multi Cassette systems


Wall-mounted air conditioners


Ducted


Air conditioning units


Ceiling suspended DX / Chilled water fan-coil units consoles

APPLICATIONS	SI 1082 DELTA PACK D: 8 l/h R: 6 m	SI 3080 D: 8 l/h A: 1 m R: 6 m	SI 3100 SI 2750 D: 10 l/h A: 2 m R: 6 m	SI 3200 D: 20 l/h A: 2 m R: 6 m	SI 1730 D: 30 l/h A: 2,50 m R: 10 m	EE 1650 D: 30 l/h R: 13 m
AIR CONDITIONING Max cooling capacity	10 kW	10 kW	10 kW	20 kW	30 kW	30 kW
WALL OR FLOOR MOUNTED						
Wall	DELTA PACK					
Consoles						
Fan-coil units						
Air conditioning units						
CEILING MOUNTED						
Ceiling suspended						
Ducted units						
Cassette or multi cassette systems						

D: Flow rate - A: Suction - R: Discharge

SELECTING pumps

Centrifugal impeller method

Multi Cassette systems

Air conditioning units

Peristaltic pumps

Wall-mounted air conditioners

WHICH PUMP FOR WHICH SYSTEM?

Ceiling suspended DX / Chilled water fan-coil units

Ducted

Refrigerated display cabinets

Condensing boilers

APPLICATIONS	SI 1800 D: 500 l/h R: 4,70 m	SI 1805 - SI 1820 D: 500 l/h R: 5,40 m	SI 1822 D: 380 l/h R: 6,20 m	SI 1850 D: 1100 l/h R: 11 m	PE 5000 - PE 5100 - PE 5200 D: 6 l/h A: 2 m R: 12 m	PE 6250 D: 25 l/h A: 2 m R: 10 m	PE 6000 D: 1,5 l/h A: 2 m R: 15 m
AIR CONDITIONING Max cooling capacity					8 kW		
WALL OR FLOOR MOUNTED							
Wall							
Consoles							
Fan-coil units							
Air conditioning units							
CEILING MOUNTED							
Ceiling suspended							
Ducted units							
Cassette or multi cassette systems							
Evaporators							
Display cabinets							
Humidifiers/ dehumidifiers							
Gas condensing boilers							
AIR COOLING TOWERS							

D: Flow rate - A: Suction - R: Discharge

Please contact us should you require any assistance in selecting a pump.

Cooling capacity and examples of actual flow rates

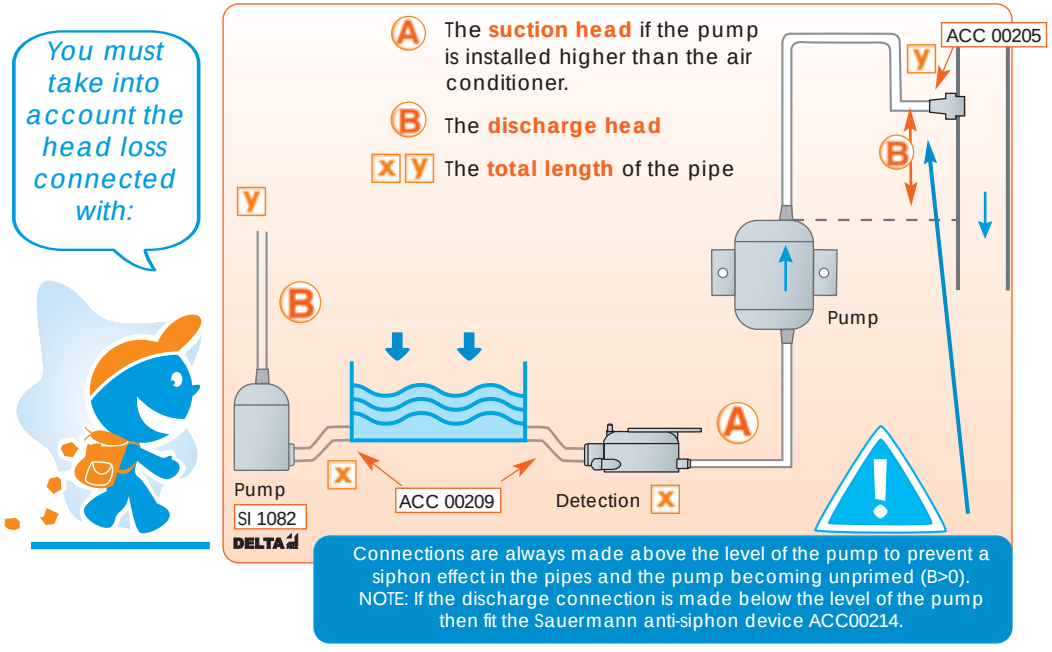
THE REFRIGERATING CAPACITY GIVES YOU THE VOLUME OF CONDENSATES TO BE REMOVED

Use the cooling capacity information supplied by the manufacturer of the air conditioner. It is generally estimated that, for normal usage conditions, the volume of condensates to be removed varies from **0.5 to 0.8 l/hr per kW of cooling capacity.** This value may be doubled in very humid areas.

For example: a cooling capacity of 3 kW will produce from 1.5 to 2.4 l/hr of condensates to be removed.

Installation Overview

For pumps SI 1082, DELTA, SI 3080, SI 3100, SI 3200, SI 2750, SI 1730, PE 5000, PE 5100, PE 5200, PE 6250



Connections are always made above the level of the pump to prevent a siphon effect in the pipes and the pump becoming unprimed (B>0).
NOTE: If the discharge connection is made below the level of the pump then fit the Sauermann anti-siphon device ACC00214.

Actual flow rates for the pumps

SI 1082 - DELTA

The head losses defined in this table are calculated with 6mm (1/4") ID flexible pipework	Discharge head B	x y Total pipe length 5 m (in l/h)	10 m (in l/h)	20 m (in l/h)	30 m (in l/h)
	1 m	6.8	6.3	5.3	4.3
	2 m	5.5	5	4.1	3.2
	3 m	4.2	3.8	3	2.5
	4 m	3	2.6	2.2	2
	5 m	2.2	2	1.8	1.5
	6 m		1.4	1.2	1

SI 3080

The head losses defined in this table are calculated with 6mm (1/4") ID flexible pipework	Discharge head B	x y Total pipe length 5 m (in l/h)	10 m (in l/h)	20 m (in l/h)	30 m (in l/h)
SUCTION HEAD 0 m A	1 m	6.8	6.3	5.3	4.3
	2 m	5.5	5	4.1	3.2
	3 m	4.2	3.8	3	2.5
	4 m	3	2.6	2.2	2
	5 m	2.2	2	1.8	1.5
	6 m		1.4	1.2	
MAX SUCTION HEAD 1 m	1 m	5.6	5.2	4.3	3.4
	2 m	4.3	3.9	3.1	2.3
	3 m	3	2.7	2	1.6
	4 m	1.8	1.5	1.2	1.1
	5 m	1	0.9	0.8	0.6
	6 m		0.2	0.2	0.1

Actual flow rates for the pumps

SI 3100 - SI 2750

The head losses defined in this table are calculated with 6mm (1/4") ID flexible pipework	Discharge head (B)	x y Total pipe length 5 m (in l/h)	10 m (in l/h)	20 m (in l/h)	30 m (in l/h)
SUCTION HEAD (A) 0 m	1 m	9.5	9	8.2	7.4
	2 m	7	6.5	5.7	4.9
	3 m	5	4.6	3.9	3.4
	4 m	4	3.6	3.1	2.8
	5 m	3.2	2.7	2.5	2.3
	6 m		2.2	2	1.8
MAX SUCTION HEAD 1 m	1 m	7.5	7	6.2	5.4
	2 m	6	5	4.2	3.4
	3 m	4.8	3.5	2.9	2.5
	4 m	3.6	2.6	2.1	1.8
	5 m	2.2	1.7	1.5	1.3
	6 m		1.2	1	0.8
MAX SUCTION HEAD 2m	1 m	6.2	5.7	4.9	4.1
	2 m	5	4.5	3.7	2.9
	3 m	3.8	3.4	2.7	2.2
	4 m	2.4	2	1.5	1.2
	5 m	1	0.5	0.3	0
	6 m		0	0	0

Actual flow rates for the pumps

SI 3200

The head losses defined in this table are calculated with 6mm (1/4") ID flexible pipework	Discharge head (B)	x y Total pipe length 5 m (in l/h)	10 m (in l/h)	20 m (in l/h)	30 m (in l/h)
SUCTION HEAD (A) 0 m	1 m	19	17.5	15.5	13.5
	2 m	17.5	16	14	12
	3 m	16	14	12	10
	4 m	14	12	10	8.5
	5 m	11.5	10	8.5	7
	6 m		8	7	6
SUCTION HEAD 1 m	1 m	16.5	15.5	13.5	12
	2 m	14.5	13.5	11.5	11
	3 m	12.5	11.5	10.5	10
	4 m	10	9	8.5	8
	5 m	8.5	7.5	6.5	5.5
	6 m		5	4	3
MAX SUCTION HEAD 2 m	1 m	13	12.5	12	11
	2 m	12	11.5	11	10
	3 m	11	10.5	10	9
	4 m	8	7.5	7	6
	5 m	6	5.5	5	5
	6 m		3.5	3	3

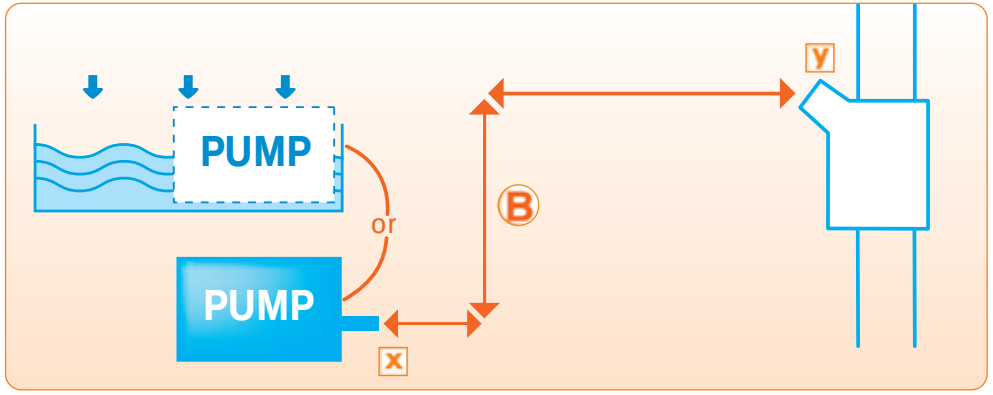
Actual flow rates for the pumps

SI 1730

The head losses defined in this table are calculated with 6mm (1/4") ID flexible pipework	Discharge head (B)	Total pipe length (x y) 5 m (in l/h)	10 m (in l/h)	20 m (in l/h)	30 m (in l/h)
SUCTION HEAD (A) 0 m	1 m	29	27	25	23
	2 m	27.5	25.5	24	22
	3 m	25.5	24	22	20.5
	4 m	23.5	22	20	19
	5 m	21	19.5	18	16.5
	6 m		16.5	15	14
	7 m		14	12.5	11.5
	8 m		11.5	10	9
	9 m		9	7.5	6.5
	10 m		6	5	4
SUCTION HEAD 1 m	1 m	24	22	20	20
	2 m	22	21	20	19
	3 m	20	19	18	17.5
	4 m	17	16.5	16	15.5
	5 m	14.5	14	13.5	13.5
	6 m		11.5	11	11
	7 m		10	9.5	9
	8 m		8	7.5	7
	9 m		6	5.5	5
	10 m		4	3.5	3
MAX SUCTION HEAD 2 m	1 m	20	19	18	17.5
	2 m	17	16.5	16	15.5
	3 m	14.5	14	13.5	13.5
	4 m	12	11.5	11	11
	5 m	10.5	10	9.5	9
	6 m		8	7.5	7
	7 m		6	5.5	5
	8 m		4	3.5	3
	9 m		2	1.5	1

Installation overview

For pumps EE1650, SI1800, SI1805, SI1820, SI1822, SI1850



B Discharge head

x y Total pipe length

Actual flow rates for the pumps

EE 1650

The head losses defined in this table are calculated with 6mm (1/4") ID flexible pipework	Discharge head (B)	Total pipe length (x y) 5 m (in l/h)	10 m (in l/h)	20 m (in l/h)	30 m (in l/h)
	1 m	29	27	25	23
	2 m	27.5	25.5	24	22
	3 m	25.5	24	22	20.5
	4 m	23.5	22	20	19
	5 m	21	19.5	18	16.5
	6 m		16.5	15	14
	7 m		14	12.5	11.5
	8 m		11.5	10	9
	9 m		9	7.5	6.5
	10 m		6	5	4

Actual flow rates for the pumps

SI 1800

The head losses defined in this table are calculated with 10mm (3/8") ID flexible pipework	Discharge head (B)	x y Total pipe length 5 m (in l/h)	10 m (in l/h)	20 m (in l/h)	30 m (in l/h)
	1 m	380	300	240	190
	2 m	310	260	200	150
	3 m	240	200	145	110
	4 m	150	130	80	60
	5 m	30	20	0	0

SI 1805 - SI 1820

The head losses defined in this table are calculated with 10mm (3/8") ID flexible pipework	Discharge head (B)	x y Total pipe length 5 m (in l/h)	10 m (in l/h)	20 m (in l/h)	30 m (in l/h)
	1 m	460	380	280	200
	2 m	390	320	240	180
	3 m	300	250	190	150
	4 m	200	180	130	100
	5 m	90	80	60	50

SI 1822

The head losses defined in this table are calculated with 10mm (3/8") ID flexible pipework	Discharge head (B)	x y Total pipe length 5 m (in l/h)	10 m (in l/h)	20 m (in l/h)	30 m (in l/h)
	1 m	330	260	220	190
	2 m	275	220	190	160
	3 m	220	175	155	135
	4 m	160	130	120	100
	5 m	100	80	70	60
	6 m		15	10	10

SI 1850

The head losses defined in this table are calculated with 10mm (3/8") ID flexible pipework	Discharge head (B)	x y Total pipe length 5 m (in l/h)	10 m (in l/h)	20 m (in l/h)	30 m (in l/h)
	1 m	750	590	375	285
	2 m	675	545	345	270
	3 m	600	500	310	255
	4 m	520	460	285	235
	5 m	450	410	255	215
	6 m		355	225	190
	7 m		300	185	160
	8 m		240	145	125
	9 m		170	100	85
	10 m		85	60	45

Actual flow rates for the pumps

PE 5000 - PE 5100 - PE 5200

Flow rate	6 l/h	Max suction head A	2 m	Max vertical discharge B	12 m

PE 6000

Flow rate	1,5 l/h	Max suction head A	2 m	Max vertical discharge B	15 m

PE 6250

Flow rate	25 l/h	Max suction head A	2 m	Max vertical discharge B	10 m

Technical specifications

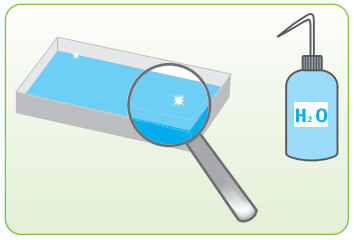
	DETECTION LEVELS +/- 2mm						DIMENSIONS l x w x h in mm	
Pumps	**On**	**Off**	**Alarm**	**Sound level**	**Alarm contact at 250V**		**Pump unit**	**Detection unit**
SI 1082	18	12	21	21,5 dB(A)	NC	8 A resistive	**66 x 44 x 77**	—
SI 2750	16	11	19	32 dB(A)	NO/NC	8 A resistive	**61 x 38 x 76**	**55 x 38 x 36**
SI 3080				20,2 dB(A)	NC	8 A resistive	**66 x 44 x 59**	**55 x 38 x 36**
SI 3100				25,1 dB(A)	NC	8 A resistive	**66 x 44 x 59**	**55 x 38 x 36**
SI 3200				32,4 dB(A)	NC	8 A resistive	**66 x 44 x 59**	**55 x 38 x 36**
SI 1730	17	11	21	42 dB(A)	NO/NC	8 A resistive	**74 x 52 x 95**	**55 x 38 x 36**
PE 5000	—	—	—	30 dB(A)	—	—	**109 x 110 x 91**	—
PE 5100	—	—	—	30 dB(A)	NC	8 A resistive	**109 x 110 x 91**	—
PE 5200	16	11	19	30 dB(A)	—	—	**109 x 110 x 91**	**55 x 38 x 36**

CENTRIFUGAL PUMPS WITH TANK

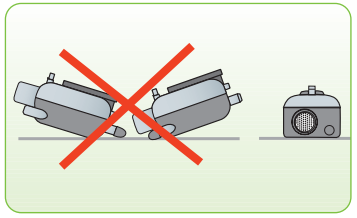
Pumps	**On**	**Off**	**Alarm**	**Sound level**	**Alarm contact at 250V**		**Pump unit**	**Tank**
EE 1650 Under the tank	16	10	21	52 dB(A)	NC	8 A resistive	**160 x 85 x 88**	**0,5 l**
In the tank	21	15	26	52 dB(A)	NC	8 A resistive	**160 x 85 x 88**	**0,5 l**
SI 1800	43	27	67	45 dB(A)	NC	4 A resistive	**279 x 130 x 171**	**2 l**
SI 1805	32	25	39	47 dB(A)	NC	4 A resistive	**195 x 130 x 122**	**0,5 l**
SI 1820	43	27	67	47 dB(A)	NC	4 A resistive	**195 x 130 x 170**	**2 l**
SI 1822	75	20	90	47 dB(A)	NC	4 A resistive	**305 x 152 x 235**	**3,8 l**
SI 1850	70	20	95	66 dB(A)	NC	4 A resistive	**305 x 152 x 257**	**3,8 l**

HOW TO INSTALL YOUR CONDENSATE REMOVAL PUMP

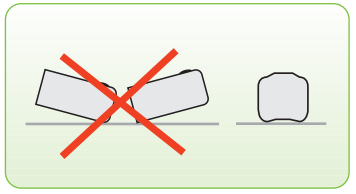
A few Basic Rules



Before installation, thoroughly rinse the coil and the condensates collection tank to remove any foreign bodies and metal particles.



When the pump has a separate detection unit, it must be fixed horizontally on a support.



Monoblock tank pumps must always be fitted horizontally on a support.

Failure to observe these rules can lead to poor results (tank overflow, high noise level, abnormal overheating etc.) which are both inconvenient for the end user and costly for the installer.

YOU ARE STRONGLY ADVISED TO AVOID THE USE OF DETERGENT OR AGGRESSIVE PRODUCTS WHEN CLEANING THE TANK OF MONOBLOCK PUMPS

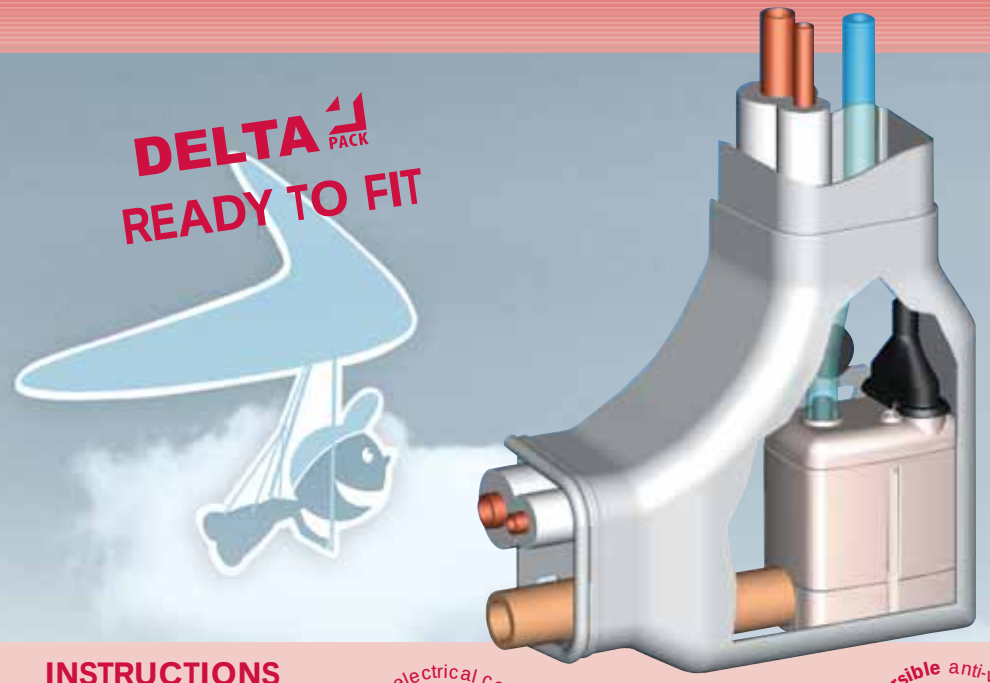
IMPORTANT NOTE ON COMMISSIONING PUMPS WITH REMOTE DETECTION

Before carrying out any operation on the pump, make sure the installation is disconnected from the power supply.

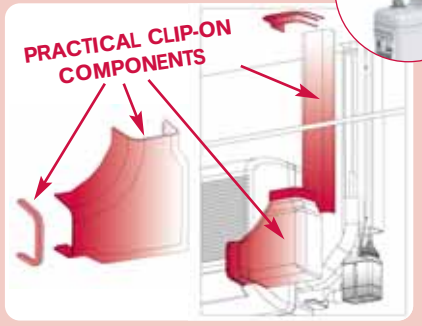
To ensure that the pumps function correctly in the future, ensure that when you first commission them (and after each maintenance operation) the pumps are properly primed.

Check that the suction pipe (between the detection unit and the pump) and part of the discharge pipe are filled with water.

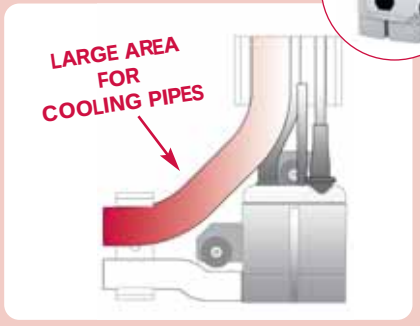
You can use the priming squeezie bottle **ACC 00401**.



INSTRUCTIONS



Clip-on pipe, elbow and ceiling duct



Can be used for routing cooling pipes up to diameter 5/8" - 3/8"

RECOMMENDED ACCESSORIES

ACC 00105 / ACC 00150 / ACC 00151

Clear tubing 6 mm
ACC 00105: 5m in blister pack
ACC 00150: in 50m roll
ACC 00151: reinforced, 50m roll

ACC 00205

6 self-sealing fitting for condensate removal.

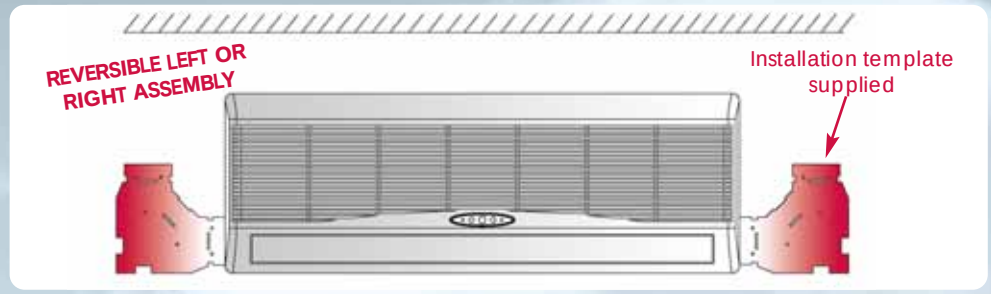
DELTA PACK

Ready to fit assembly for wall-mounted air conditioners up to 10 kW

AIR CONDITIONING

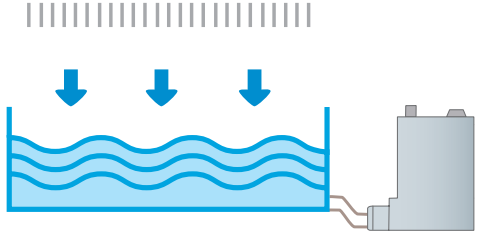
Delta Pack comprises:

- a mini pump with integral detection SI 1082
- a complete assembly kit containing:
  - a clip-on cover,
  - 75 cm of 80 x 60 mm duct,
  - all assembly accessories.



Allows the pump to be assembled on the left or right of the air conditioner.

INSTALLATION SI 1082



For an SI 1082 pump sold individually, the connection should be made directly at the tank outlet.
You can use connector **ACC 00209**

Carry out an in situ test and prime the pump.
To do this, gently fill with water using the priming squeezie bottle **(ACC 00401)**.

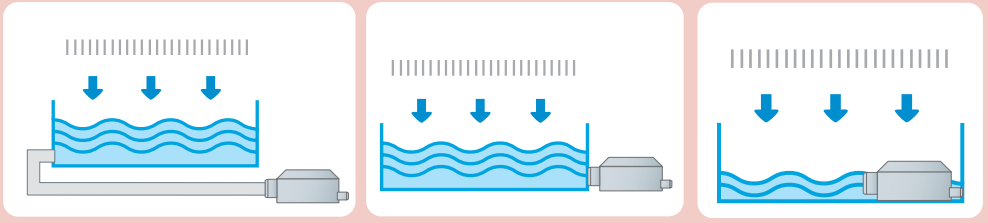
SI 3080, SI 3100 up to 10 kW /
SI 3200 up to 20 kW

DETECTION UNIT INSTALLATION

The vent pipe allows the air to be bled from the detection unit. You are advised to use the 4 mm clear tube supplied. Its length allows the upper level of the tube to be slightly above the maximum level of the condensates drain tank. In the event of a fault, this avoids overspill (principle of communicating vessels). When commissioning, ensure that this breather tube does not contain any water.

Do not use a longer tube than the one supplied.

The detection unit can be **connected in 3 ways:**



At the outlet of the condensate evacuation tube

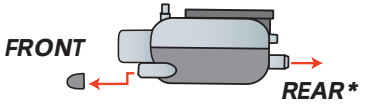
At the tank outlet

Directly inside the tank

SI 2750
up to 10 kW

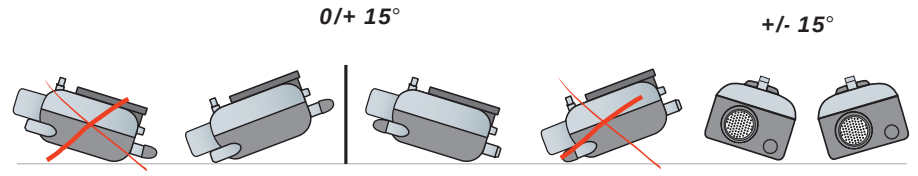
SI 1730
up to 30 kW

The detection unit can be **connected** either at the **front** or the **rear**.



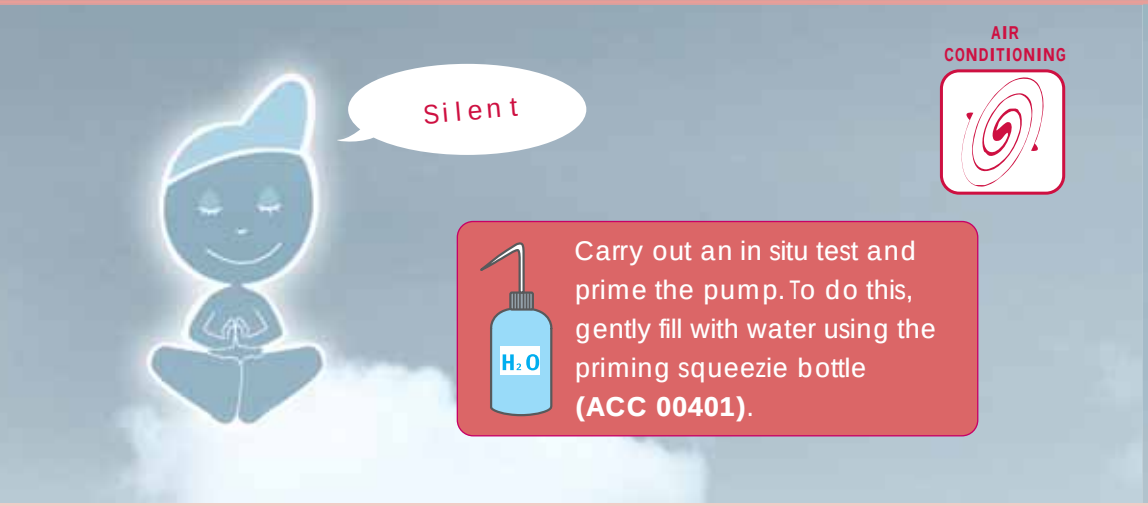
*Supplied as standard: outlet at back. Blank the unused outlet with the plug supplied.

Assembly position of the detection unit



Piston pumps with remote detection

SI 3080 / SI 3100 / SI 3200 / SI 2750/ SI 1730



Carry out an in situ test and prime the pump. To do this, gently fill with water using the priming squeezie bottle **(ACC 00401)**.

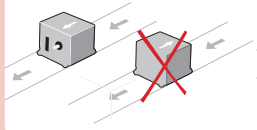
PUMP UNIT INSTALLATION

The recommended fitting positions for the pump are: (avoid all other positions)

Acceptable position

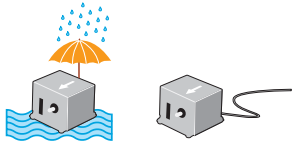
Recommended position

Vertical discharge guarantees that the non return valve is watertight.
The electrical connection must always be above the water inlet/outlet.



Ensure that the condensates pass through the pump in the correct direction (see arrow on unit)

The pump must not **be splashed** nor located in a damp environment.



Water may accumulate from condensation in the tube or due to a leak from the clear tube/pump end piece connection.

RECOMMENDED ACCESSORIES

ACC 00105 / ACC 00150 / ACC 00151
Clear tubing 6 mm
ACC 00105: 5m in blister pack
ACC 00150: in 50m roll
ACC 00151: reinforced, 50m roll

ACC 00205
6 self-sealing fittings for condensate removal.

ACC 17010
In-line filter for SI 1730.

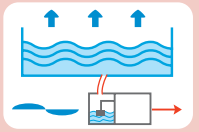
Monoblock pump with tank

EE 1650 Monoblock pump with integrated tank for air conditioners up to 30 kW

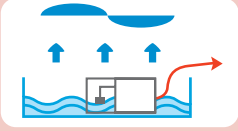
INSTALLATION

The pump can be **connected in 2 ways:**

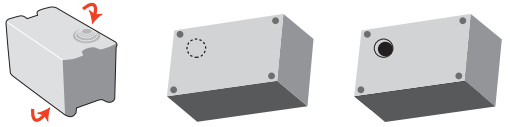
the pump collects the condensates via the **gravity inlet (in the top)**



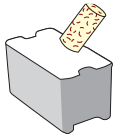
The pump is placed directly **in the condensate collecting tank**



To use an EE 1650 in a condensate collecting tank, where the condensates are fed **from below**, follow the procedure outlined below.



CAUTION
irreversible procedure



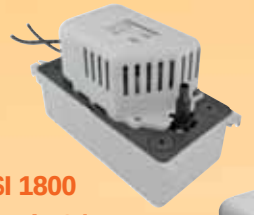
Clean the filter every time the air conditioner is inspected

RECOMMENDED ACCESSORIES

ACC 00205
6 self-sealing fittings for condensate removal.

ACC 00105/ACC 00150/ACC 00151
ACC 00105: 5 m in blister pack
ACC 00150: in 50 m roll
ACC 00151: reinforced, 50m roll

Dynamic



SI 1800
tank: 2 l

SI 1805
tank: 0.5 l

Centrifugal pumps with tank
SI 1800 / SI 1805 / SI 1820 / SI 1822 / SI 1850

AIR CONDITIONING

HEATING

REFRIGERATION

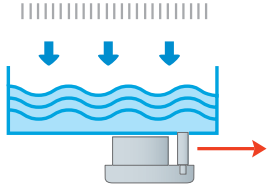
SI 1820
tank: 2 l

SI 1822
tank: 3.8 l

SI 1850
tank: 3.8 l

INSTALLATION

The transport **tear-off strip** must be removed before starting.



Inlet adaptor

ACC 00225
ACC 00230
ACC 00240

The pump collects the condensates via the inlet **in the top.**

MECHANICAL ASSEMBLY

All monoblock impeller pumps have a reversible tank.

Condensate inlet
on left

Condensate inlet
on right

MAINTENANCE

The inside of the pump must be **regularly cleaned**. For this we recommend that you use a solution containing 5% bleach. Ensure that the float switches remain clean.

REMOVING THE VALVE

RECOMMENDED ACCESSORIES

ACC 00110
Installation kit::
1 x ACC 00225,
1 X ACC 00230,
1 X ACC 00240.

ACC 00801
for SI 1805, SI 1820
Non return valve
Ø 10 mm

ACC 00601
Control switch.
Used to control an additional alarm.

ACC 00125 / ACC 00126
Clear tubing
Ø10 mm, length 25 m
ACC 00125: non-reinforced tube
ACC 00126: reinforced tube

ACC 00225/ACC 00230/ACC 00240
Condensate inlet adapters
ACC 00225: 1", Ø 32 mm
ACC 00230: 1" 1/4, Ø 32 mm
ACC 00240: 1" 1/2, Ø 40 mm

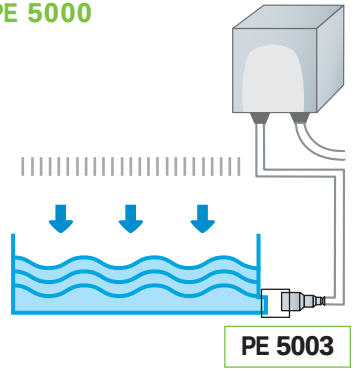
AIR CONDITIONING

REFRIGERATION

PE 5000

There are 3 different models and therefore **3 possible installations:**

PE 5000



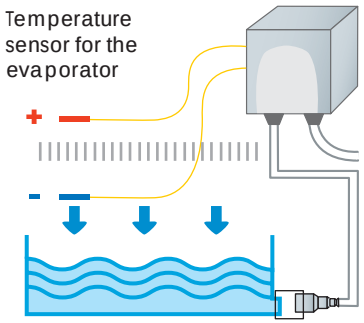
INSTALLATION PE 5000

Condensates are removed from the air conditioning unit **at the tank outlet** via a 6 x 9 mm tube and the **PE 5003** connector supplied with the pump.

OPERATION

Pump operation is dependent on the operation of the air conditioning compressor or whenever the system provides cooling. The pump will continue to run for three minutes after the compressor has stopped.

PE 5100
Temperature sensor for the evaporator

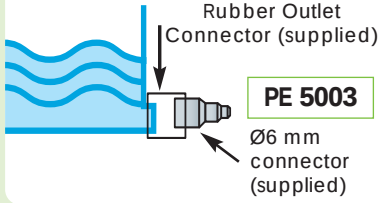


AIR CONDITIONING

REFRIGERATION

PE 5100

Installation example for **PE 5000** and **PE 5100** pumps



INSTALLATION PE 5100

Condensates are removed from the air conditioning unit **at the tank outlet** via a 6 x 9 mm tube and the **PE 5003** connector supplied with the pump.

OPERATION

The pump switches on when the temperature difference across the coil as measured by the two sensors is more than 6°C. The pump stops 3 minutes after the temperature difference falls below 6° C.

Replacement head
PE 5001

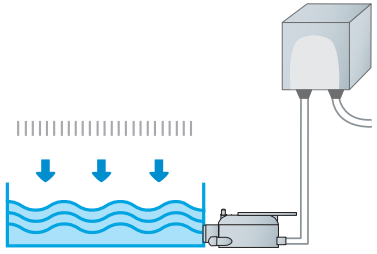
Replacement head available for peristaltic pumps
PE 5000 / PE 5100 / PE 5200

AIR CONDITIONING

REFRIGERATION

PE 5200

PE 5200



Carry out an in situ test and prime the pump. To do this, gently fill with water using the priming squeezie bottle (ACC00401). Press the test button on the PE 5000 & PE 5100 to operate the pump for three minutes.

INSTALLATION PE 5200

The detection unit is connected to the condensate evacuation **tube outlet** or directly **to the tank outlet**. The pump is connected to the detection unit by a 6 x 9 mm tube.

OPERATION

The pump operates when condensates enter the detection unit. In this configuration, a 230 V / 8 A NC alarm contact is available.

MAINTENANCE PE 5000 / PE 5100 PE 5200

Replace the tube (PE 5002) at least every year and the pump head (PE 5001) every two years or as required. (Remove the 4 screws, disconnect the connector and fit the new head).

Peristaltic pumps
PE 5000 / PE 5100 / PE 5200 / PE 6250

AIR CONDITIONING

REFRIGERATION

PE 6250
Ø 10 mm tube

Very heavily contaminated condensates can be evacuated with this high flow rate pump and its 10 mm evacuation pipe.
The accessory supplied **(ACC 00601)**, to be secured in the condensate tank, switches the pump on and off. It can also be used as an alarm contact in the event of a tank overflow.

RECOMMENDED ACCESSORIES for PE 6250

ACC 00125 / ACC 00126
Clear tubing
Ø 10 mm, length 25 m
ACC 00125: non-reinforced tube
ACC 00126: reinforced tube

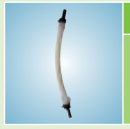
ACCESSORY SUPPLIED for PE 6250

ACC 00601
Float control switch. Used to control the pump or an alarm.

RECOMMENDED ACCESSORIES for all peristaltic pumps

ACC 00205
6 self-sealing fittings condensate removal

ACC 00601
Control switch.
Used to control an additional alarm



PE 5002
Replacement tube for pumps PE 5000, PE 5100 and PE 5200

PE 5001
Replacement head for pumps PE 5000, PE 5100 and PE 5200

PE 5003
Ø 6 mm / Ø 17 mm adaptor with rubber tube

DOSING peristaltic pump

PE 6000

AIR CONDITIONING

PE 6000

EFFECTIVE AND PREVENTATIVE

Injecting disinfectant and anti-bacterial products* can sanitise air cooling towers and prevent the transmission of bacteria (Legionnaire's disease) and the formation of algae.

(*products not supplied, usage frequency, concentration and dosage in accordance with product manufacturers' recommendations).

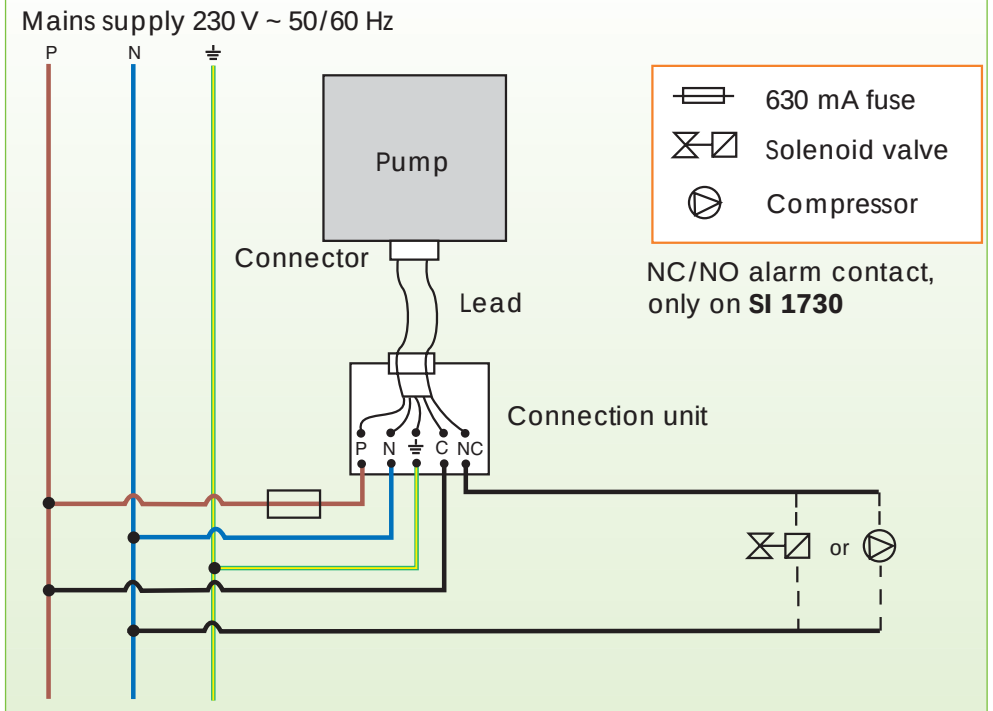
PROGRAMMABLE

- In 15 minute intervals on a front-mounted time clock.
- Timer-controlled programmable injection duration of 2 - 18 minutes.

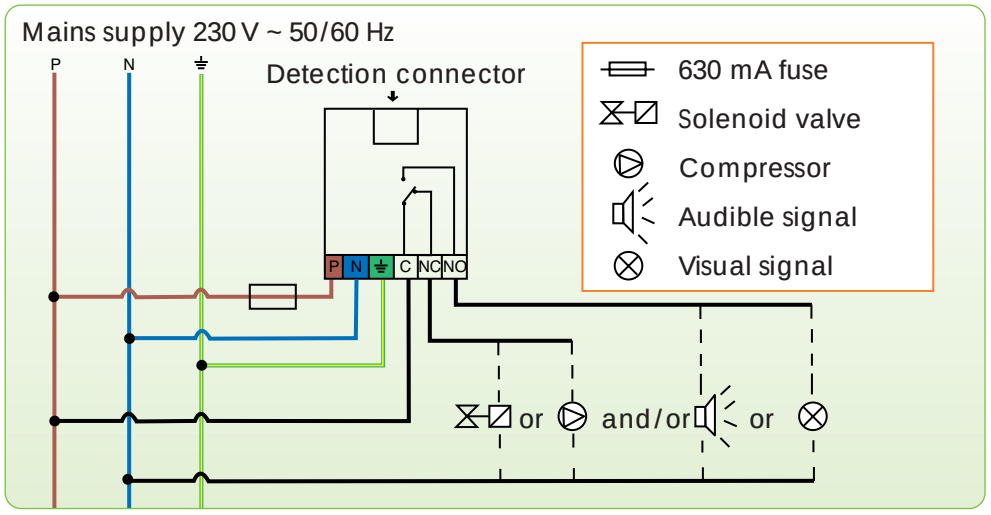
ACCESSORIES SUPPLIED

Accessory supplied	Accessory supplied		Accessory supplied		Accessory supplied
Ø 4 mm suction tube (length 3m)	Ø 4 mm discharge tube (length 3m)		Suction strainer		Injection connector with valve

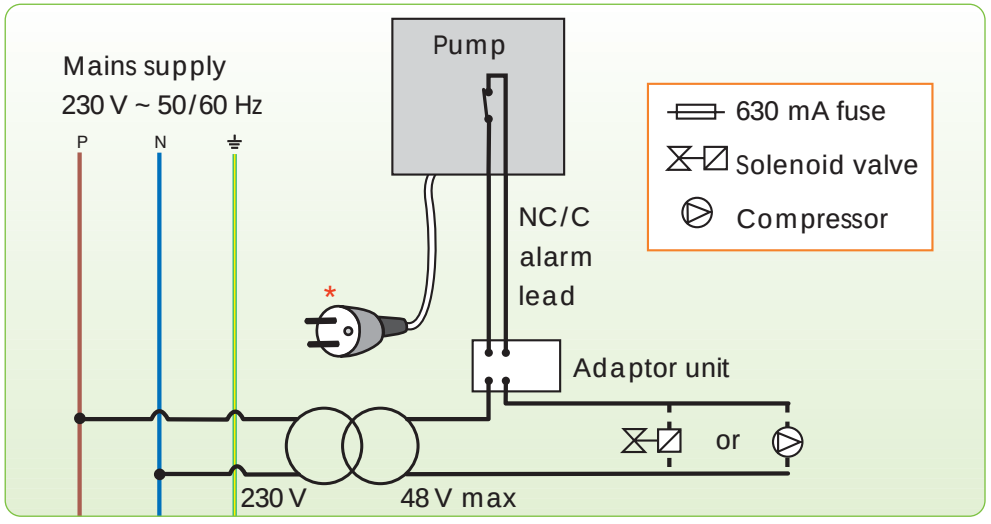
Wiring DIAGRAM for pumps SI 1082, DELTA PACK, SI 3080, SI 3100, SI 3200, EE 1650, SI 1730



Wiring DIAGRAM for pumps SI 2750

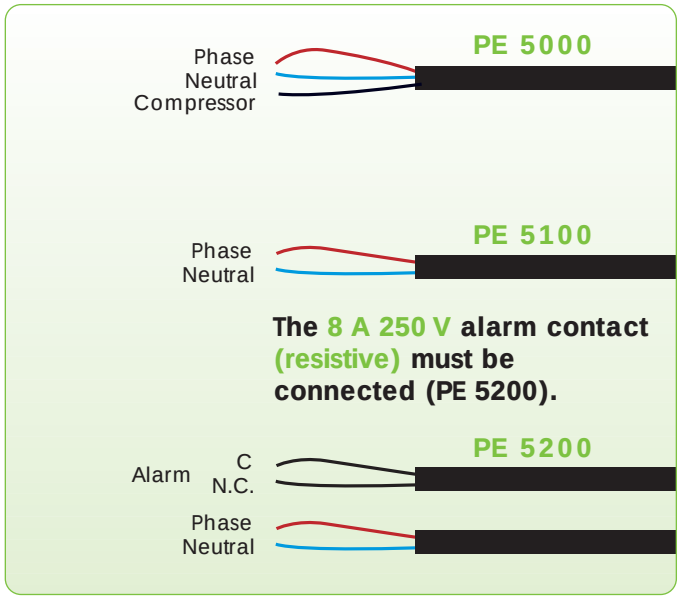


Wiring DIAGRAM for pumps SI 1800, SI 1805, SI 1820, SI 1822, SI 1850



* plug not supplied on SI 1800, SI 1822 and SI 1850

Wiring DIAGRAM for pumps PE 5000, PE 5100 and PE 5200



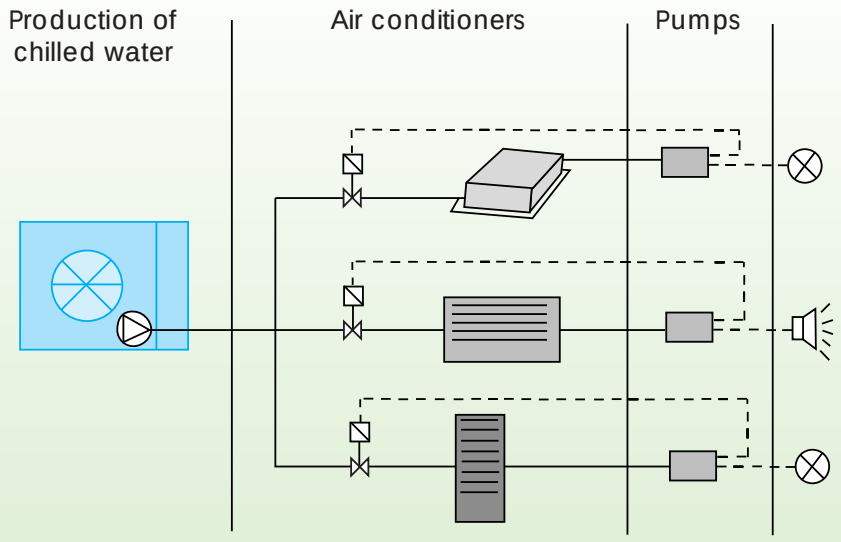
IMPORTANT

The pumps must have a power supply that is independent to that of the air conditioner to ensure that they continue to operate if the refrigerating appliance breaks down.

Alarm operating

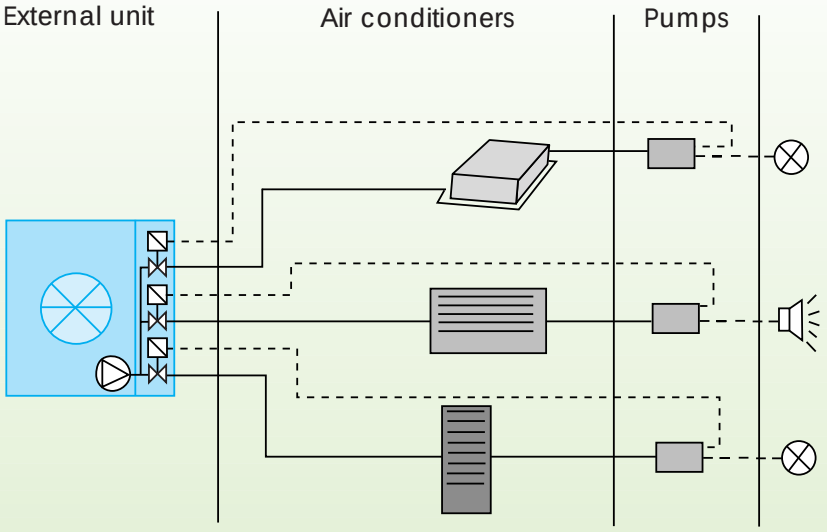
EXAMPLES

Chilled water Monosplit and Multisplit



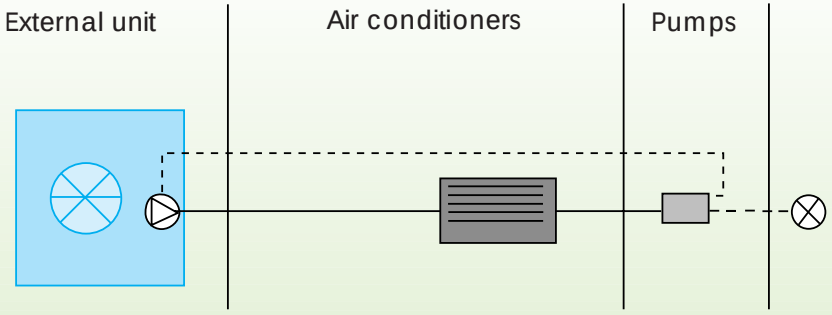
When the alarm is triggered, the pump solenoid valve is cut off and/or an audible or visual alarm is operated

Direct expansion Multisplit



When the alarm is triggered, the pump solenoid valve is cut off and/or an audible or visual alarm is operated

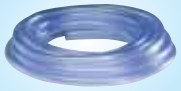
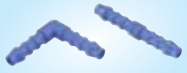
Direct expansion Monosplit



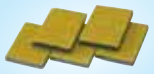
When the alarm is triggered, the pump compressor is cut off and/or an audible or visual alarm is operated.

ACCESSORIES*: ESSENTIALS

- Piston pumps for air conditioners up to 10 kW and up to 30 kW
- Centrifugal impeller method
- Peristaltic pumps

	ACC 00100	Installation kit SI 2750
	ACC 00105 ACC 00150 ACC 00151	ACC 00105: 5m in blister pack ACC 00150: in 50m roll ACC 00151: reinforced, 50m roll
	ACC 00106	Blond rubber 50 cm for SI 1082 / SI 2750 / SI 3080 / SI 3100 / SI 3200 / SI 1730
	ACC 00110	Installation kit comprising the following components: 1 X ACC 00225, 1 X ACC 00230, 1 X ACC 00240.
	ACC 00125 ACC 00126	Clear tube, 10 mm int. On 25 m coil ACC 00125: non-reinforced tube ACC 00126: reinforced tube
	ACC 00201	Ø 17 / Ø 22 mm adaptor kit
	ACC 00202	Ø 17 / Ø 32 mm adaptor kit
	ACC 00203	Ø 17 / Ø 32 mm reduction for reducing flow
	ACC 00204	5 Ø 6 mm straight connectors + 5 Ø 6 mm elbow connectors.
	ACC 00205	6 condensate self-sealing evacuation connectors.
	ACC 00208	90° elbow, 15 x 15 mm

* Accessories are only guaranteed for the applications for which they are recommended.

	ACC 00209	15 x 15 mm flexible connector used to drain the tank completely.
	ACC 00210	90° elbow, 17 x 15 mm
	ACC 00211	Ø 6 mm Tee connector
	ACC 00214	To prevent siphoning when the discharge point is lower than the detector level
	ACC 00225 ACC 00230 ACC 00240	Condensate inlet adaptors.
	ACC 00401	Squeezie bottle: used to test the pump without removing the unit.
	ACC 00501	10 double-sided stickers.
	ACC 00601	Float control switch. Used to control the pump or an alarm SI 1800 / SI 1805 / SI 1820 / SI 1822 / SI 1850 / PE 5000 / PE 5100 / PE 6250.
	ACC 00703	3 m extension for SI 2750 / SI 3080 SI 3100 / SI 3200 / SI 1730 / PE 5200.
	ACC 00705	5 m extension for SI 2750 / SI 3080 SI 3100 / SI 3100 / SI 3200 / SI 1730 / PE 5200.
	ACC 00801	10 mm non return valves for SI 1805 / SI 1820.
	ACC 00805	5 non return valves for Ø 6 mm tube.
	ACC 17010	In-line filter for SI 1730.
	PE 5001	Replacement head For pumps PE 5000 / PE 5100 / PE 5200
	PE 5002	Replacement tube For pumps PE 5000 / PE 5100 / PE 5200
	PE 5003	Ø 17 mm - Ø 6 mm reduction for pumps PE 5000 / PE 5100 / PE 5200

QUALITY, GUARANTEE, SERVICE

Our priorities

To anticipate your requirements, meet your expectations in full and provide total satisfaction:

In 1997, Sauermann committed itself to implementing a quality policy in accordance with standard ISO 9002.
In 2003, Sauermann applied to obtain standard ISO 9001 version 2000 and was successful in obtaining it.

Through regular internal audits, standard ISO 9001 version 2000 shows the total involvement at all levels of the company to ensure we constantly work towards:

- ➜ Complying with our lead-times
- ➜ Controlling our products
- ➜ And improving our services.

Our quality requirement continues through developing our products which are subject to certification with the main independent laboratories, in order to obtain the CE, VDE and ETL labels.

All Sauermann pumps mentioned in this guide comply with the RoHS and WEEE European Directives.

At your service

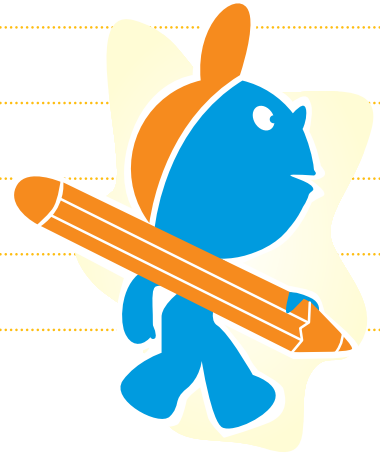
In practice, our quality policy continues in day to day life through the implementation of customer services:

- ➜ **Technical assistance** which, with just one phone call, can provide you with advice and offer the best **tips and information.**
  Office open times (8.30am – 5pm Monday to Friday)
  Contact 0870 950 6378
  Out of hours service line 24/7 Contact 07730 435 790

- ➜ **Products guaranteed for 24 months.**

- ➜ **An effective after sales department.**
  (Products returned to the after sales department are analysed, thus helping to improve our products on a permanent basis).

NOTES



sauermann®

SAUERMANN INDUSTRIE S.A
Parc d'activités de l'orée de Chevry
Route de Férolles
77173 Chevry Cossigny / France
Tel.: (+33) 01 60 62 06 06
Fax: (+33) 01 60 62 09 09
E-mail: info@sauermann.fr

SAUERMANN ITALIA S.R.L.
Via G.Golini 61/11
40024 Castel S.Pietro Terme (Bo) / Italy
Tel.: (+39)-051-6951033
Fax: (+39)-051-942254
E-mail: info@sauermann.it

SAUERMANN UK Ltd.
Units 7 – 9, Trident Business Park
Amy Johnson Way
Blackpool - Lancashire FY4 2RP
United Kingdom
Tel.: + 44 (0) 870 950 6378
Fax: + 44 (0) 870 950 6379
E-mail: sales@sauermann-uk.com

SAUERMANN GmbH
Kernerstrasse 18
D-74223 Flein / Germany
Tel: (+49) 07131/399990
Fax: (+49) 07131/399992
E-mail: Sauermann-Flein@t-online.de

DIVISION PENINSULA IBERICA
C/ribera del Sena, s/n-Edificio APOT-3°
28042 Madrid / Spain
Tel.:(+34) 91 701 02 53
Fax: (+34) 91 532 87 37
E-mail: juliocastelao@sauermann.es

DIVISION SCANDINAVIA, BALTIC COUNTRIES, RUSSIA
Parkgade 8
6440 Augustenborg / Denmark
Tel.: (+45) 74 47 10 78
mobil: (+45) 40 59 10 78
E-mail: peter.remontius@get2net.dk

SAUERMANN N.A. Corp.
415 Oser Avenue
Suite P, Hauppauge, NY 11788 / USA
Tel.: (+1) 631-234-7600
Fax: (+1) 631-234-7605
E-mail: sales@sauermann.us

SAUERMANN Shanghaï Co. Ltd.
1, Chang xu Road, Ju Yuan new park,
201808, Jiading District , Shanghai
R.P. China
Tel.: (+ 86) 21 69 16 89 61
Fax: (+ 86) 21 69 16 89 62
E-mail: info@sauermann.com.cn

SAUERMANN Hong Kong Ltd
Room C, 5th floor, Sing-Ho Finance Building,
166-68 Gloucester road, Hong Kong SAR
E-mail: sales@sauermannpumps.hk

www.sauermannpumps.co.uk

Doc UK LIV/9 01/09 2000EX GASOLINE