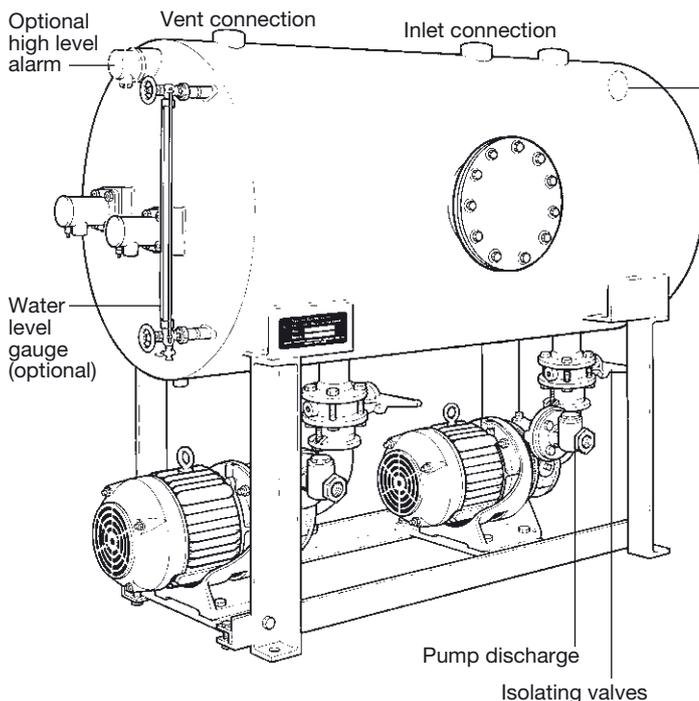


Series III Condensate Recovery Unit

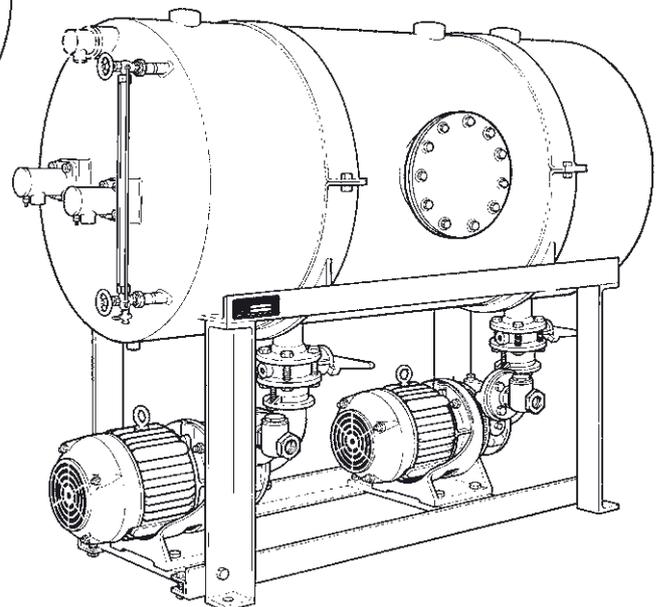
With galvanised receiver Single or duplex pumps



Overflow pipework should include a loopseal/inverted syphon close to the vessel.

Overflow connection

With copper receiver Single or duplex pumps



Description

The Spirax Sarco condensate recovery units are designed to handle hot condensate, which is commonly returned for use as boiler feedwater. They can handle quantities up to 34 000 kg/h at 98°C with pump delivery heads up to 30 - 35 metres. A unit comprises three main parts - receiver, pump/pumps and control gear.

Standards

This product fully complies with the requirements of the European Machinery Directive 98/37/EC, European Low Voltage Directive 72/73/EEC and European Electromagnetic Compatibility Devices Directive 89/336/EEC. This product is not a pressurised vessel and therefore does not need to comply with the European Pressure Vessel Directive 97/23/EC.

Certification

The product is available with material certification to EN 10204 2.1 and EN 10204 2.2. **Note:** All certification/inspection requirements must be stated at the time of order placement.

Receiver

Mild steel receivers are hot dip galvanized after manufacture and mounted in a galvanised steel frame with plated fastenings. Copper receivers are mounted in lined cradles. Both types are fitted with an inspection cover and adequately sized vent, overflow, drain and two inlet connections screwed BSPT. They are pressure tested to 2.1 bar.

Water level gauges complete with brass shut-off and drain cocks can be provided as an extra.

Pumps

Pumps are constructed of cast iron fitted with Crane mechanical seals and gunmetal impellers specially developed for operation under conditions of extremely low NPSH to handle boiling condensate with the minimum of flooded suction. They are close-coupled to TEFC motors having class F insulation (class B temperature rise) motor enclosure rating IP55 minimum and running at 2 850 rpm (50 Hz) or 3 400 (60 Hz).

Control gear

Receivers are fitted with a magnetic switch float level control. The single unit uses this to operate a single pump designed to discharge at the rate of 1.5 times the maximum condensate rate shown on the pump sizing chart.

The cascade unit uses two pumps, each rated at 1.1 times the maximum rate shown on the sizing chart.

The control panel incorporates a selector switch which allows the duty pump to take precedence in handling the load. If it is unable to cope with any peak load then the cascade method of control brings in the stand-by pump. This arrangement effectively provides automatic changeover in the event of pump electrical or mechanical failure.

Electrical equipment is suitable for 415 volt 3 phase 50 Hz or 60 Hz 4 wire supply (380 volt to special order). Control equipment is installed in a separate IP65 rated metal enclosure. Interconnecting wiring is not included.

Connection for BMS interface are provided to monitor pump run or tripped condition.

Fitting

Single or duplicate motorpumps are mounted under the receiver and have individual suction pipework, incorporating an isolating valve and resilient coupling. Pump deliveries are fitted with non-return valves screwed BSPT. With duplicate pumps, both discharges are on the same side of the unit.

Note: It is recommended that a lockshield valve should be fitted in the delivery pipework so that, in the event of the system head being substantially less than the unit head, the valve may be adjusted to increase the system head, thus reducing possible cavitation and noise.

Nomenclature

The Spirax Sarco condensate recovery unit is described by a four figure code with a prefix letter and a suffix letter.

Prefix letter - denotes nominal receiver size

- A = 100 litres
- B = 225 litres
- C = 550 litres
- D = 750 litres
- E = 1 000 litres

Two numbers indicate size of motor e.g.

- 07 = 0.75 kW
- 22 = 2.2 kW

Suffix letter indicates number of pumps e.g.

- S = Single pump
- C = Duplicate pumps with cascade control

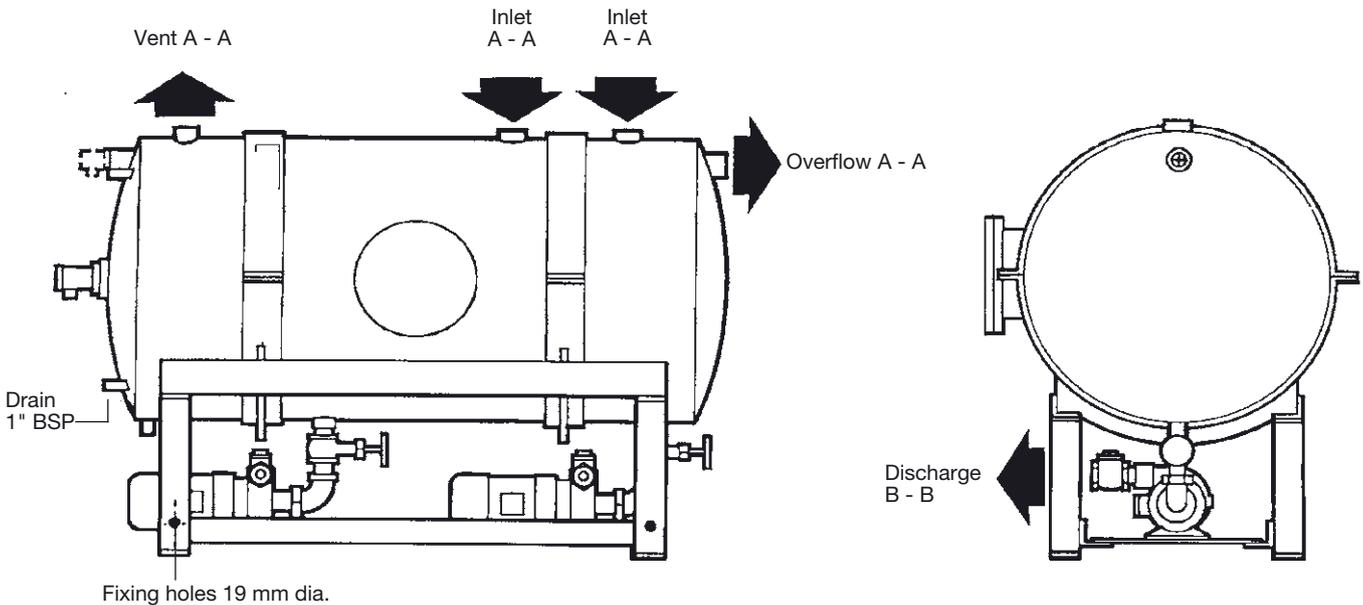
Example: E40C is therefore a unit with 1000 litre receiver and duplicate pumps, each with 4.0 kW motor.

Sizing

See TI-P089-05 and TI-P089-06

Information required for quotation or with order

1. Average rate at which condensate returns to the receiver in kg/h or lb/h.
2. Maximum temperature of condensate.
3. Total pumping delivery head, including static and friction loss in pipe and fittings. In calculating the pipe friction, it must be remembered that the pumping rate is approximately 1.1 times the rate which the condensate returns to the receiver in the case of a cascade unit and 1.5 times in the case of a unit with single pump.
4. Electric supply available and voltage.
5. Any abnormal operating conditions which may be encountered.



Pump and motor details, connections and weights

Unit	Motor kW	Connections BSP		Weight	
		A - A	B - B	Single pump	Cascade pumps
A0207	0.75	1½	1	125 kg	145 kg
A2107	0.75	1½	1	130 kg	150 kg
A2111	1.10	1½	1	135 kg	155 kg
A0507	0.75	1½	1½	140 kg	160 kg
B5511	1.10	2	1½	155 kg	190 kg
B0507	0.75	2	1½	155 kg	190 kg
B0611	1.10	2	1½	205 kg	275 kg
B0615	1.50	2	1½	215 kg	285 kg
B0622	2.20	2	1½	255 kg	295 kg
B5830	3.00	2	1½	260 kg	360 kg
B5840	4.00	2	1½	280 kg	385 kg
C5511	1.10	2½	1½	240 kg	270 kg
C0615	1.50	2½	1½	290 kg	400 kg
C0622	2.20	2½	1½	300 kg	410 kg

Unit	Motor kW	Connections BSP		Weight	
		A - A	B - B	Single pump	Cascade pumps
C5830	3.0	2½	1½	290 kg	390 kg
C5840	4.0	2½	1½	300 kg	400 kg
C5930	3.0	2½	2	320 kg	450 kg
C5940	4.0	2½	2	330 kg	460 kg
C5955	5.5	2½	2	350 kg	485 kg
D5822	2.2	3	1½	330 kg	435 kg
D5830	3.0	3	1½	340 kg	445 kg
D5840	4.0	3	1½	350 kg	455 kg
D5930	3.0	3	2	354 kg	473 kg
D5940	4.0	3	2	364 kg	483 kg
D5955	5.5	3	2	383 kg	500 kg
E5930	3.0	4	2	390 kg	530 kg
E5940	4.0	4	2	400 kg	540 kg
E5955	5.5	4	2	420 kg	560 kg