

## ELECTRIC CONDENSATE RECOVERY UNITS ECRU

### DESCRIPTION

The ADCAMAT ECRU series electric condensate recovery units are recommended in the transfer of high-temperature water such as hot condensate, to a higher elevation or pressure. This condensate is usually used as boiler feedwater. The standard models are prepared for flows up to 20 m<sup>3</sup>/h, or higher on request. The units are composed of an horizontal condensate vessel (receiver), a metallic support frame, electric pumps, level controls, valves, prewired control panel and pipework for connections between the different elements of the units.

### OPERATION

The condensate is brought into the vessel through the inlet connections, with stainless steel sparge pipes, located on the top of the vessel. As the condensate level rises it will trigger the level control system to start the pumping process. In normal operating conditions, the pumps will work in alternating mode, which means they will alternate duty at the end of each cycle. In the event of a peak load, the level will continue rising eventually triggering the cascading switch which will make both pumps work simultaneously to relieve this peak demand.



### MAIN FEATURES

**Condensate vessel** – Completely manufactured from AISI 316 stainless steel or carbon steel, with inlet connections, overflow, air vents, drain, pump feeding outlets and a magnetic level indicator with bi-stable switches.

**Valves and ancillaries** – Includes full bore ball valves at the pump suction ports, manual regulating valves for system head regulation at the pumps discharge, seamless carbon steel pipes, strainers and pressure gauges.

**Metal frame** – Manufactured from structural steel, sandblasted and painted.

**Pumps** – Manufactured from stainless steel or cast iron, capable of handling hot condensate up to 98 °C and designed for low NPSH.

**Control panel** – Metal enclosure rated to IP 65 or higher. Features alternating and cascading (simultaneity) functions, pump fault indication for each pump, low and high-level alarms, pump dry run inhibitor, operating mode selector switch and volt-free telemetry terminals for remote stats. The unit requires a 3 phase, 380-415 V AC, 50 Hz power supply.

**OPTIONS:**

- Thermal insulation.
- Frame in stainless steel.
- Complete pipelines in stainless steel.
- Different pumping capacities.
- Alternative designs.

### AVAILABLE MODELS:

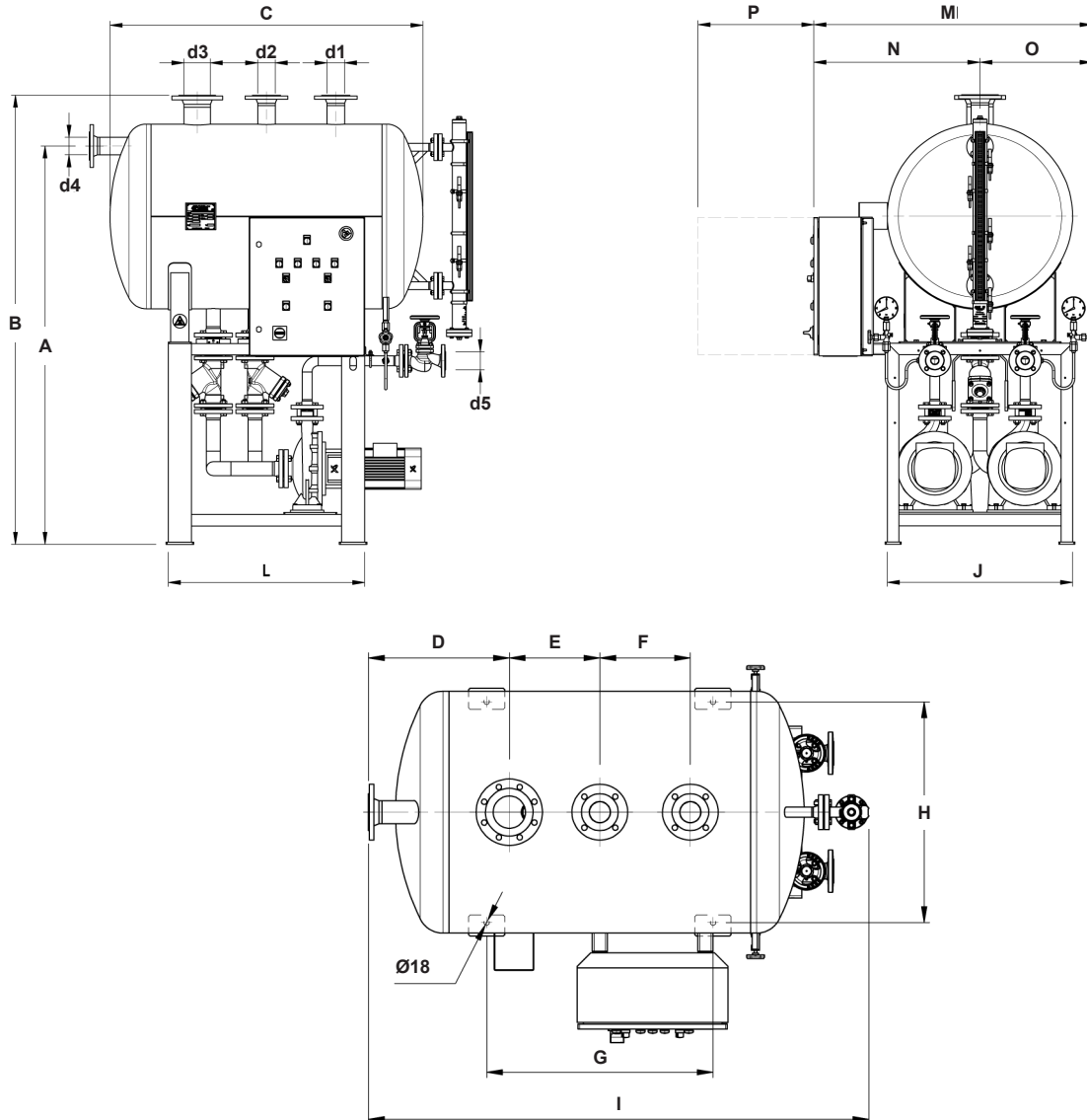
- EC225 2T10 – 225L vessel capacity, 2 m<sup>3</sup>/h flow rate and 10 m delivery head.
- EC225 4T10 – 225L vessel capacity, 4 m<sup>3</sup>/h flow rate and 10 m delivery head.
- EC600 10T10 – 600L vessel capacity, 10 m<sup>3</sup>/h flow rate and 10 m delivery head.
- EC600 10T20 – 600L vessel capacity, 10 m<sup>3</sup>/h flow rate and 20 m delivery head.
- EC600 20T10 – 600L vessel capacity, 20 m<sup>3</sup>/h flow rate and 10 m delivery head.
- EC600 20T20 – 600L vessel capacity, 20 m<sup>3</sup>/h flow rate and 20 m delivery head.
- EC850 30T10 – 850L vessel capacity, 30 m<sup>3</sup>/h flow rate and 10 m delivery head.
- EC850 30T20 – 850L vessel capacity, 30 m<sup>3</sup>/h flow rate and 20 m delivery head.

### CERTIFICATION

The ADCAMAT ECRU is designed to operate exclusively at atmospheric pressure and therefore is outside the scope of the European Pressure Equipment Directive. It complies with the European Machinery Directive and therefore carries the CE mark.

When supplied with an integrated control panel the compliance with the Low Voltage Directive and the Electromagnetic Compatibility Devices Directive is also ensured.

A declaration of conformity is delivered with the equipment according with the relevant Directives in use.



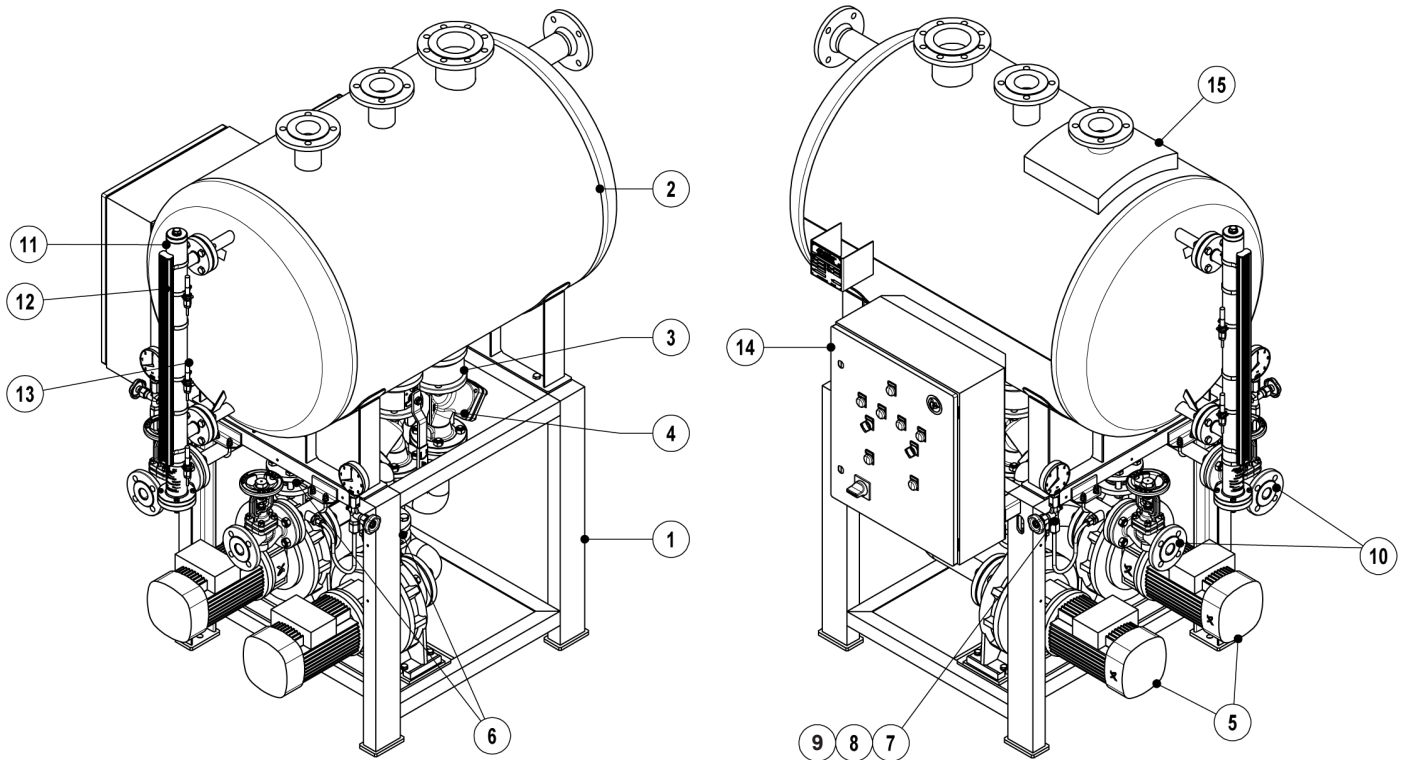
**CONNECTIONS**

MODEL	d1	d2	d3	d4	d5
EC225 2T10	DN 50	DN 50	DN 80	DN 50	1" – DN 25 *
EC225 4T10	DN 50	DN 50	DN 80	DN 50	1 1/2" – DN 40 *
EC600 10T10	DN 65	DN 65	DN 100	DN 65	DN 32
EC600 10T20	DN 65	DN 65	DN 100	DN 65	DN 32
EC600 20T10	DN 80	DN 80	DN 100	DN 80	DN 40
EC600 20T20	DN 80	DN 80	DN 100	DN 80	DN 40
EC850 30T10	DN 100	DN 100	DN 100	DN 100	DN 50
EC850 30T20	DN 100	DN 100	DN 100	DN 100	DN 50

\* Female threaded ISO 7 Rp or flanged EN 1092-1 PN 16.

**DIMENSIONS (mm)**

MODEL	A	B	C	D	E	F	G	H	I	J	L	M	N	O	P
EC225	1450	1645	1236	423	300	300	750	440	1577,5	500	830	1043	568	475	500
EC600	1725	1945	1354	467	300	300	750	730	1660,5	800	850	1200	727	473	500
EC850	1700	1945	1854	617	400	400	1000	730	2160,5	800	1100	1200	727	473	500



MATERIALS		
POS. N°	DESIGNATION	MATERIAL *
1	Metal frame	S235JR / 1.0038; AISI304 / 1.4301
2	Vessel	AISI 316 / 1.4401; P235GH / 1.0325
3	Ball valves	ADCA M31 / MWS1
4	Strainers	ADCA IS16F
5	Electric pumps	-
6	Check valves	ADCA RD40
7	Pressure gauge	ADCA MAN100
8	Siphon	ADCA GSU
9	Gauge cock	ADCA GC400
10	Globe valve	ADCA VF20; ADCA VF40; ADCA GV32
11	Magnetic level indicator	ADCA MLI
12	Indicator	ADCA MLI
13	Level switch	ADCA MS
14	Control panel	-
15	Thermal insulation **	Rock-wool / Aluminium

\* References shown are merely indicative. They can be changed without notice.

\*\* Optional.

ORDERING CODES ECRU										
Model	EC	225	S	S	2T10	S	S	X	X	E
ECRU Electric Condensate Recovery Unit	EC									
<b>Vessel capacity</b>										
225 liters		225								
600 liters		600								
850 liters		850								
<b>Vessel material</b>										
Carbon steel			S							
AISI 316 / 1.4401 stainless steel			I							
<b>Number of electric pumps</b>										
Single pump (non standard) (3~ 380 – 415 V, 50 Hz)				S						
Two pumps (3~ 380 – 415 V, 50 Hz)				D						
<b>Maximum flow rate and delivery head in meters at the mentioned flow</b>										
2 m³/h at 10 metres (with 225 L vessel)					2T10					
4 m³/h at 10 metres (with 225 L vessel)					4T10					
10 m³/h at 10 metres (with 600 L vessel)					10T10					
10 m³/h at 20 metres (with 600 L vessel)					10T20					
20 m³/h at 10 metres (with 600 L vessel)					20T10					
20 m³/h at 20 metres (with 600 L vessel)					20T20					
30 m³/h at 10 metres (with 850 L vessel)					30T10					
30 m³/h at 20 metres (with 850 L vessel)					30T20					
<b>Metal frame</b>										
Fabricated carbon steel						S				
Fabricated stainless steel						I				
<b>Piping connections</b>										
Carbon steel							S			
Stainless steel							I			
<b>Control panel</b>										
Without control panel								X		
Control panel, magnetic level indicator, bi-stable switches and wiring								E		
<b>Thermal insulation</b>										
Without thermal insulation									X	
Thermal insulation with aluminium external protection									T	
<b>Special valves / Extras</b>										
Full description or additional codes have to be added in case of a non-standard combination										E