ENORISE
Simulate, Automate, Qualify

eCoolCon
Coolant conditioning

The eCoolCon coolant conditioning system was developed specifically for the steadily growing testing requirements in the field of eMobility. In the development of electric motors, inverters and batteries, extensive tests with precise temperature control of the coolant as well as the reproducible setting of a constant flow rate are very important.

Our Performance
Your benefits:

- Highly accurate temperature control in the range from - 40°C up to 150°C
- Highly accurate volume control
- Reproducible test results due to high temperature constancy
- Two-circuit system, temperature, pressure, and flow can be controlled in both circuits separately
- Two separate chilled water supplies to optimize energy consumption
- Automatic leak test before filling the test objects
- Automatic filling and emptying of the test objects
- Simple and fast installation
- High functional reliability through use of proven components

Technical data

General Data	
Control circuits	Two control circuits (for pressure and flow rate control independent of each other)
Medium DUT-circuits	Glycol content at least 55%, maximum 60%[1]
Temperature control	
Temperature control range when using an external low-temperature generation at the cold water connection(-40 °C in the supply)	-40 °C up to 90 °C (150 °C optional)
Temperature measurement accuracy	±0,1 K Sensor in the supply and return of each DUT-circuit
Temperature control accuracy	±0,5 K
Pressure control	
Pressure measuring range	0 bar(g) – 10 bar(g) Sensor in the supply and return of each DUT-circuit
Pressure control range	0 bar(g) – 5 bar(g)
Pressure measurement accuracy	±0,05 bar
Pressure control accuracy	±0,2 bar
Volume flow control	
Volume flow measuring range	2 l/min – 100 l/min Sensor in the inlet of each DUT-circuit
Volume flow control range	1 l/min – 70 l/min
Volume flow control accuracy	From 4 l/min to 10 l/min: ±0,5 l/min (5 s-average) ±0,2 l/min (60 s-average) Above 10 l/min: ±5 % (5 s-average) ±2 % (60 s-average)
Heating and cooling capacity	
Nominal heating capacity	86 kW (43 kW per circuit)
Nominal cooling capacity	86 kW at ≥ +15 °C feed temperature (in the low-temperature water circuit) > 5 kW at -25 °C feed temperature (in the low-temperature water circuit)
Heating rate / Cooling rate	4,5 °C/min for t^0 > -25 °C - +55 °C (linear)
Power supply	
Supply voltage	400 V / 50 Hz / 3PH-N-PE
Current	154 A
Control voltage	24 VDC / 230 V/ 50 Hz
Connection power	98,5 kW3
Mechanical data	
Dimensions (without connections)	2094 mm x 1000 mm x 2102 mm (Length x Width x Heights)
Unladen weight	Approx. 1230 kg
Max. filling quantity	Approx. 75 l
Installation conditions (during operation)	
Ambient temperature, min.	+5 °C
Ambient temperature, max	+35 °C
Humidity, max., max.	60 % r.F.

[1] Due to the possibility of water entering the glycol-containing medium in the DUT circuit, the glycol concentration of the medium must be checked after each change of the DUT. This can be done approximately one hour after start-up and mixing.

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