

ECO DRAIN Series

for compressor capacities
up to 1000 m³/min

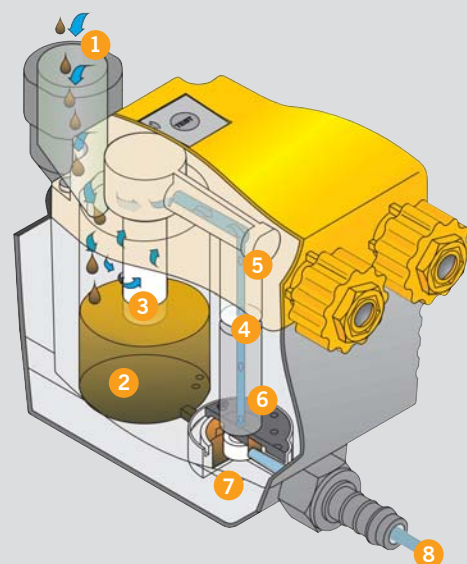


Why remove condensate?

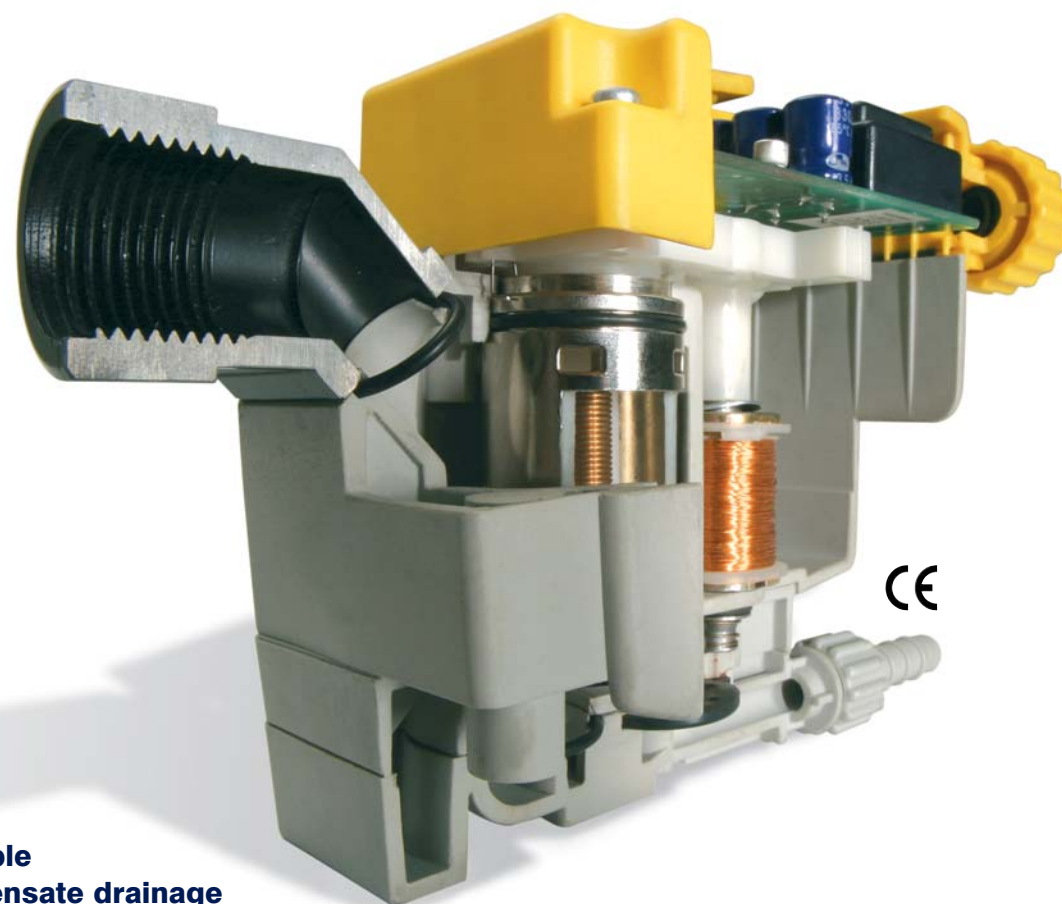
Condensate is an unavoidable result of air compression. It is a chemically aggressive fluid that mainly consists of water, but also contains oil and dirt particles (e.g. rust). If not reliably drained off at all collection points, it can cause operational disruption and severely damage the compressed air system through corrosion. Experience has shown that float-controlled drains become unreliable over time and that time-controlled drains can be a source of considerable air loss. The electronic level-sensing controlled ECO DRAIN provides the perfect solution.

How the ECO DRAIN works

The condensate passes through the condensate inlet (1) into the collection chamber (2). The level sensor (3) detects the presence of condensate and sends a signal to the control system when a preset condensate level is reached. A command impulse is then sent to the solenoid valve (4), which opens the pressure balance line (5) to equalise pressure with the discharge line (8). This causes the valve diaphragm (6) to lift off its seat (7) allowing condensate to flow out of the discharge line (8) and the level in the collection chamber (2) falls. The control electronics sense the rate of discharge and hold the solenoid valve open just long enough for almost all of the condensate to be discharged, but close the valve before any compressed air is lost.



ECO DRAIN – Reliable condensate drainage without air loss



Reliable condensate drainage without air loss

ECO DRAIN condensate drains ensure safe, reliable condensate drainage without air loss, even under conditions with widely fluctuating accumulation and high particle / oil content.

- 1 Condensate inlet
- 2 Collection chamber
- 3 Level sensor
- 4 Solenoid valve
- 5 Balance line
- 6 Valve diaphragm
- 7 Valve seat
- 8 Discharge line



All collection points must be fitted with a reliable means of draining condensate. Best results are achieved with an electronically controlled condensate drain.

ECO DRAIN - Setting the standard

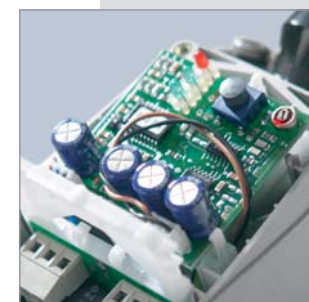
Quality combined with safe operation and reliability are essential features of any industrial machinery or equipment. The ECO DRAIN meets all of these requirements. Versions are also available to suit even the most hostile operating conditions, for example: highly aggressive condensate, freezing temperatures, high pressure or vacuum.

Level sensor



The non-wearing level sensor forms the basis for safe, reliable condensate drainage. The drain also works perfectly under conditions with high levels of contamination, even when filled with pure oil.

Intelligent control electronics



The control electronics operate the discharge valve with such precision that all collected condensate is discharged without any loss of compressed air: No air loss = no energy loss = savings. All electrical components are protected from water ingress to IP 65 standards.

Self-monitoring



Should an alarm situation occur (e.g. a blocked discharge line), the unit waits 60 seconds before switching to alarm mode which then allows operation on a timer basis: the solenoid valve opens for 7.5 seconds every 4 minutes. A flashing LED indicates the fault and a volt-free contact enables alarm signals to be sent to a control centre or compressor controller.

Simple installation and maintenance



Connection to the air distribution network could not be simpler and a qualified electrician is needed only to carry out initial installation work. Modular design means that a 24-volt control unit provides the electrical supply to the electronics via a mains-connected power pack. Simply unplug the unit to carry out maintenance work.

Specifications

Model	ECO DRAIN		ECO DRAIN		ECO DRAIN		ECO DRAIN		ECO DRAIN		ECO DRAIN For high pressure applications	
	21 Plus	12	12 CO	13	13 CO	14	14 CO	16 CO	12 CO PN 63	13 CO PN 25		
Pressure min./max.	bar _(g) 0.8 / 16		0.8 / 16 1.2 / 16		0.8 / 16 1.2 / 16		0.8 / 16 1.2 / 16		1.2 / 16		1.2 / 63 1.2 / 25	
Climatic zone ¹⁾	1 / 2 / 3		1 / 2 / 3		1 / 2 / 3		1 / 2 / 3		1 / 2 / 3		1 / 2 / 3	
Compressor capacity max.	m ³ /min 5 / 4 / 2.5		8 / 6.5 / 4		35 / 30 / 20		150 / 130 / 90		1700 / 1400 / 1000		8 / 6.5 / 4 35 / 30 / 20	
Dryer capacity max.	m ³ /min 10 / 8 / 5		16 / 13 / 8		70 / 60 / 40		70 / 60 / 40		3400 / 2800 / 2000		16 / 13 / 8 70 / 60 / 40	
Filter capacity max. ²⁾	m ³ /min 50 / 40 / 25		80 / 65 / 40		350 / 300 / 200		300 / 260 / 180		—		80 / 65 / 40 350 / 300 / 200	
Condensate type ³⁾	a/b		a a/b		a a/b		a a/b		a/b		a/b a/b	
Temperature min./max.	°C +1 / +60		+1 / +60		+1 / +60		+1 / +60		+1 / +60		+1 / +60 +1 / +60	
Volt-free contact	•		•		•		•		•		• •	
Weight	kg 0.7		0.8		2.0		2.9		5.9		0.9 2.2	

¹⁾ Climatic zone: **1 = Dry/cool** (Northern Europe, Canada, Northern USA, Central Asia), **2 = Temperate** (Central and Southern Europe, some parts of South America, North Africa), **3 = Humid** (South-East Asian coastal regions, Central America, oceanic, Amazon and Congo regions)

²⁾ Installed downstream of dryer

³⁾ a = Condensate from fluid-cooled compressors, b = Aggressive condensate from oil-free compressors

ECO DRAIN for vacuum applications	Condensate volume l/h	Pressure min. / max. bar _(a)	Control pressure bar _(g)	Reverse flow volume (normal volume) l
3 V	20	0.1	4 – 8	2 – 3
6 V	200	1.8	4 – 8	15

Electrical specifications

Power supply	230 V / 1 Ph / 50 – 60 Hz
Max. power consumption	2 VA
Recommended cable diameter	3 × 0.75 mm ²
Recommended fusing	0.5 A

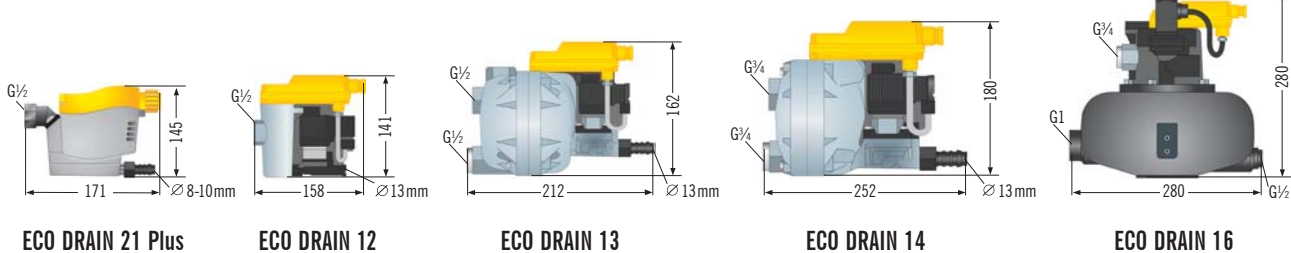
Volt-free contact

Alternating current	max. 250 V/0.5 A
Direct current	min 12 V/50 mA – max. 30 V/500 mA

Options

Heating "HZ":	Thermostatically controlled to prevent freezing in ambient temperatures down to - 20 °C (not suitable for 63 bar high pressure version). Power supply 230V, 1-ph, 50/60Hz, max. 125W. Scope of delivery: heating rod, adapter, gasket.
Pipe heating:	To be installed by the user to protect the inlet and discharge lines from freezing, temperature range - 25 °C to + 60 °C. Capacity 10 W/band metre, on-site installation. Scope of delivery: terminal box, heating band.

Dimensions



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