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**Condensate Drains
ECO DRAIN Series**

For compressed air deliveries up to 1700 m³/min

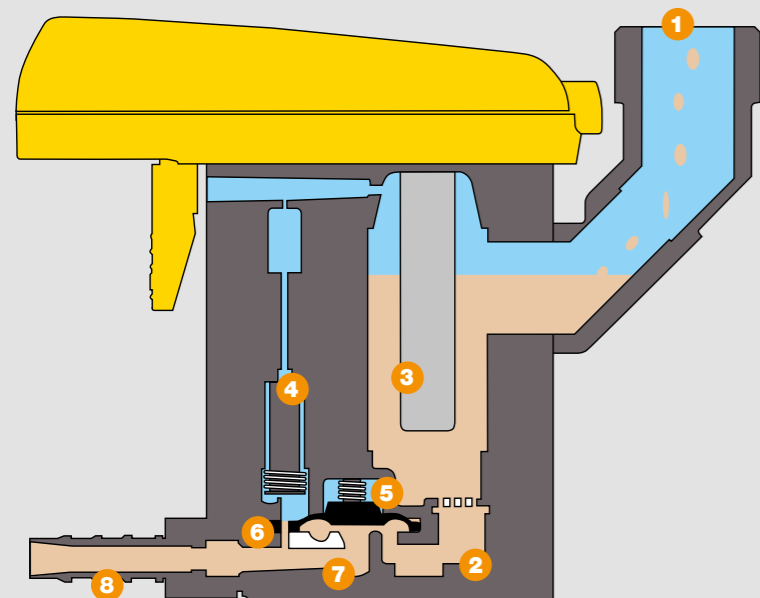


Why remove condensate?

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 drain's control system when a preset condensate level is reached. This opens the solenoid valve (4) and also therefore the pressure balance line (6). The resulting pressure equalisation causes the valve diaphragm (5) to open and the condensate subsequently flows from the collection chamber via the discharge line (8) to exit the drain. The drain's control system then closes the solenoid valve as soon as the minimum condensate level is reached in the collection chamber. This causes a change in the pressure exerted on the diaphragm which in turn is re-closed and sealed via the spring.



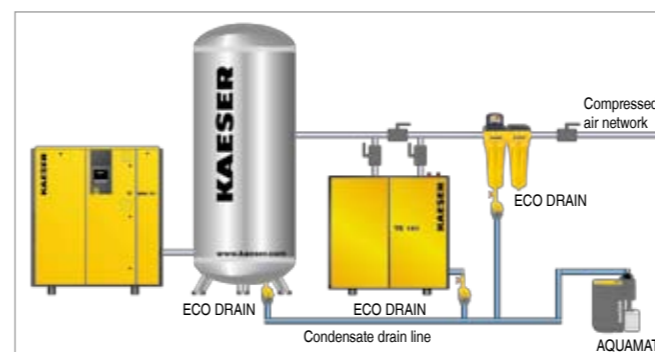
- 1 Condensate inlet
- 2 Collection chamber
- 3 Level sensor
- 4 Solenoid valve
- 5 Valve diaphragm
- 6 Balance line
- 7 Valve seat
- 8 Discharge line

ECO DRAIN – Reliable condensate drainage without pressure loss



Reliable condensate drainage

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



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

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. This not only maximises compressed air use but also leads to considerable energy savings. All electrical components are protected from water ingress (IP 65, ECO DRAIN 30/31: IP54).

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. A flashing LED indicates the alarm and a volt-free contact enables alarm signals to be sent to a control centre or compressor controller (from ECO DRAIN 31).

"Click" and go



Maintenance on the ECO DRAIN 30 and 31 couldn't be quicker or easier. A simple "click" is all that's needed to detach the service unit from the electronics module. Complicated disassembly is therefore not required to carry out maintenance work on these units.

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.

Technical Specifications

Model		ECO DRAIN		ECO DRAIN		ECO DRAIN		ECO DRAIN		ECO DRAIN		ECO DRAIN For high pressure applications		
		30	31	32	32 CO	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	0.8/16	0.8/16	1.2/16	0.8/16	0.8/16	0.8/16	0.8/16	0.8/16	0.8/16	0.8/63	0.8/25
Climatic zone ¹⁾		1/2/3	1/2/3	1/2/3	1/2/3	1/2/3	1/2/3	1/2/3	1/2/3	1/2/3	1/2/3	1/2/3	1/2/3	1/2/3
Max. compressor capacity	m ³ /min	3/2.5/1.5	6/5/3.5	12/10/7	8/6.5/4	35/30/20	150/130/90	1700/1400/1000	8/6.5/4	35/30/20				
Max. dryer capacity	m ³ /min	6/5/3	12/10/7	24/20/14	16/13/8	70/60/40	300/260/180	3400/2800/2000	16/13/8	70/60/40				
Max. filter capacity ²⁾	m ³ /min	30/25/15	60/50/35	120/100/70	80/65/40	350/300/200	1500/1300/900	–	80/65/40	350/300/200				
Condensate type ³⁾	a/b	a/b	a/b	a	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	+1/+60	+1/+60	+1/+60	+1/+60	+1/+60	+1/+60
Volt-free contact		–	•	•	•	•	•	•	•	•	•	•	•	•
Weight	kg	0.8	1	1.65	0.8	2.0	2.9	5.9	0.9	2.0				

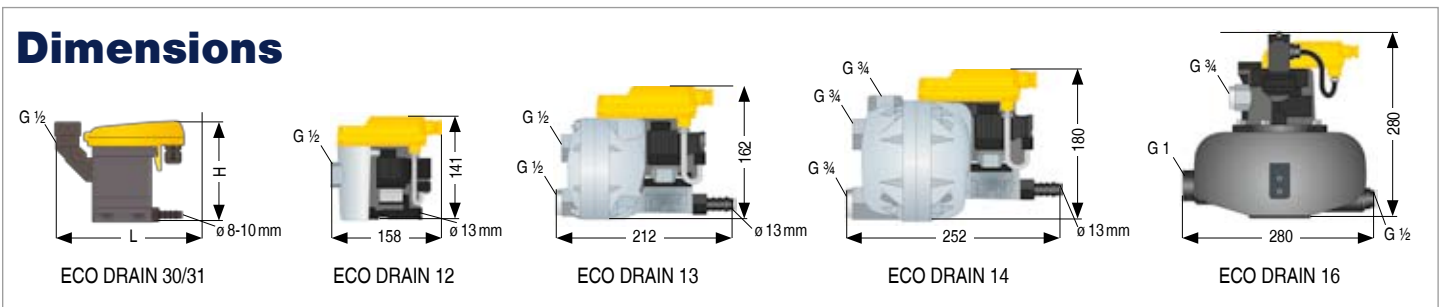
¹⁾ Climate zone: **1 = Dry/cool** (Northern Europe, Canada, Northern USA, Central Asia); **2 = Temperate** (Central and Southern Europe, some parts of South America, North Africa), **3 = Humid** (South-East Asian coastal regions, Central America, Oceania, Amazon and Congo regions)

²⁾ Installed downstream from dryer ³⁾ a = Condensate from fluid-cooled compressors, b = Aggressive condensate

ECO DRAIN for vacuum applications	Condensate volume at 8 bar External control air Ø l/h	Operating pressure min. / max. bar _(abs)	Control pressure bar _(g)	Reverse flow volume (Normal volume) l
3 CO V / 3 EV	43	0.1 - 1.8	4 - 8	2 - 3
6 CO V / 6 EV	228	0.1 - 1.8	4 - 8	15

Electrical specifications		Volt-free contact	
Connection	230 V / 1 Ph / 50-60 Hz	Alternating current	max. 250 V / 1A
Max. power consumption	2 VA	Direct current	min. 5 V / 10 mA – max. 30 V / 1A
Recommended cable diameter	3 x 0.75 mm ²		
Recommended fusing	0.5 A		

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



ECO DRAIN 30: L=149 W=118
ECO DRAIN 31: L=165 W=127