

ECO DRAIN series for compressor capacities
up to 1000 m³/min



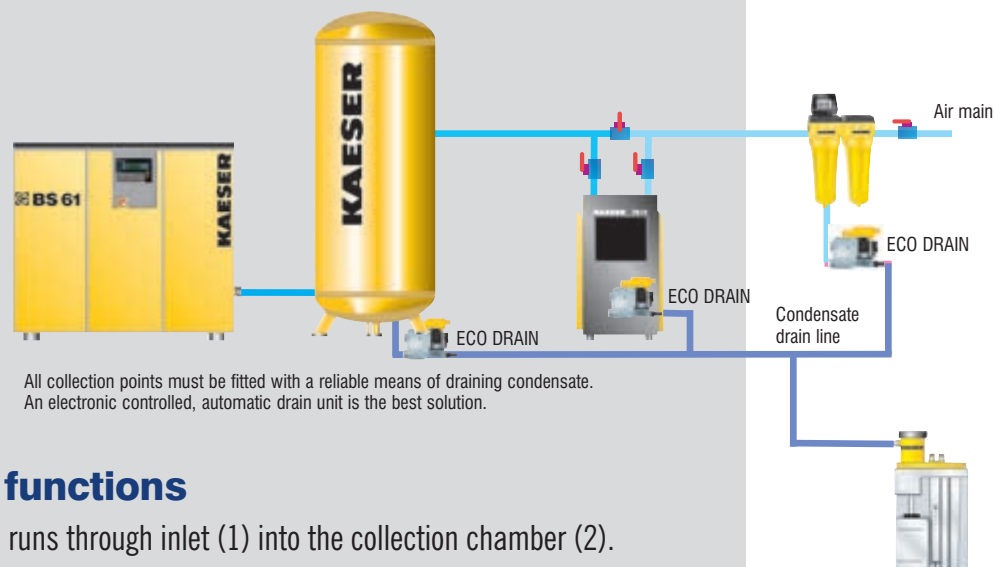
ECO DRAIN

The problem

Condensate is an unwelcome but inevitable by-product of air compression. This aggressive fluid is mostly water with a lot of oil and dirt particles, causing operational faults and corrosion in the compressed air system unless reliably drained off at all collection points. Drains with floating level sensors prove unreliable over the long term and purely time controlled valves are a source of air loss. An ideal solution, however, is the electronically controlled ECO DRAIN.

Reliable condensate drainage without air loss.

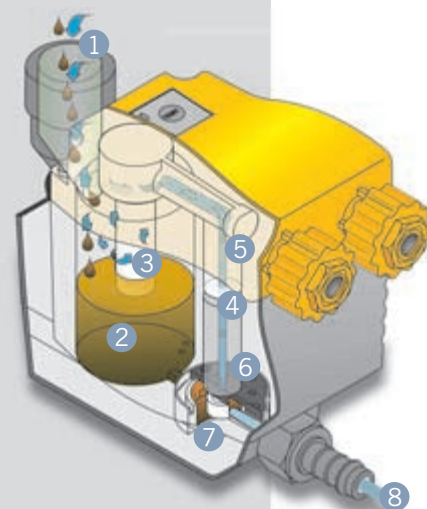
The ECO DRAIN automatic condensate drain unit guarantees sure and reliable discharge of collected condensate without loss of compressed air, regardless of pressure variations or degree of contamination of the condensate.



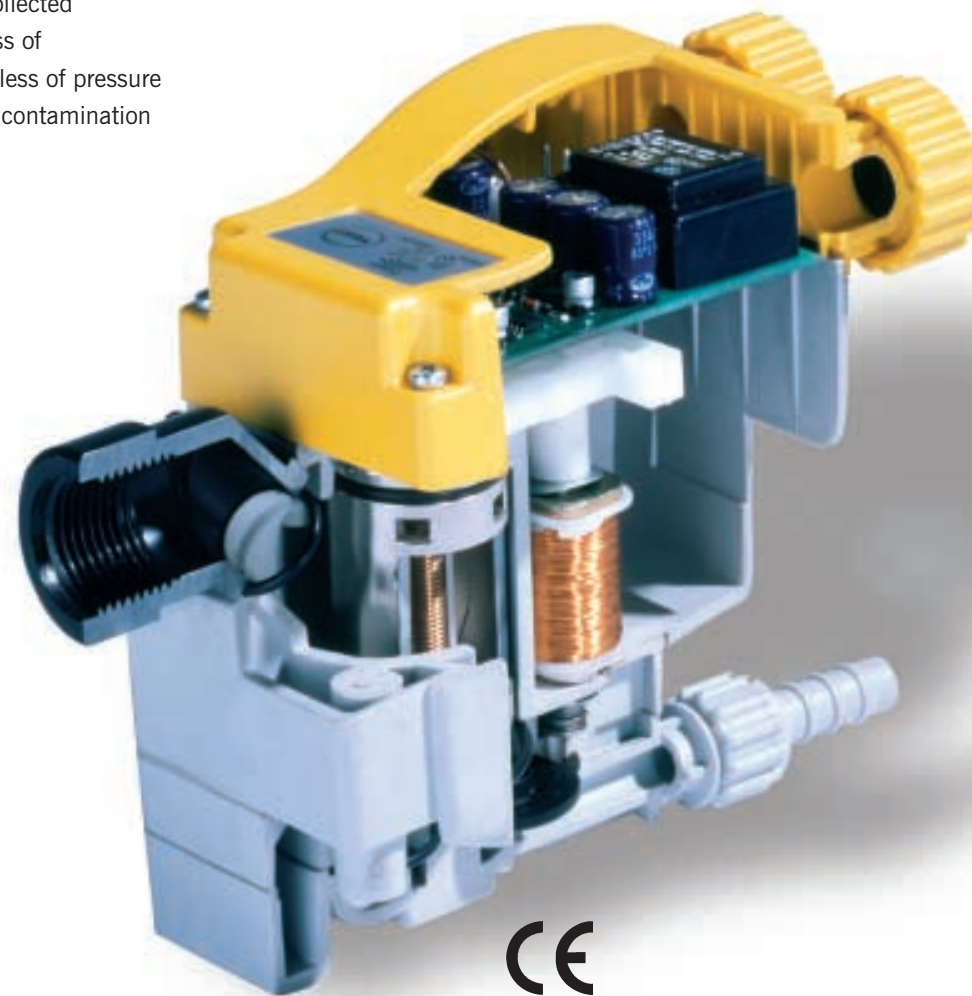
How it functions

Condensate runs through inlet (1) into the collection chamber (2). A level sensor (3) signals the control electronics when a predetermined level is reached and a command impulse is 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 port (8) and the level in the collection chamber 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.



- 1 condensate inlet
- 2 collection chamber
- 3 level sensor
- 4 solenoid valve pressure balance line
- 5 balance line
- 6 valve diaphragm
- 7 valve seat
- 8 discharge line



Level sensor



The capacitive level sensor has no wearing parts and measures all types of condensate. It is immune to contamination and deposits and works

with absolute reliability providing the basis for sure condensate drainage.

Intelligent control electronics



The control electronics operate the discharge valve with such fine precision that all collected condensate is discharged without loss of compressed air. No loss of air = no loss of energy = no loss of money! All components are sealed against water ingress to class IP 65.

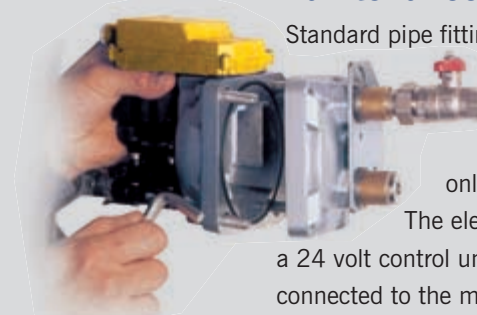
Self-monitoring



Should an alarm situation arise (e.g. a blocked discharge line) the unit waits 60 seconds before entering the alarm mode in which it continues to

operate but on a timer basis with the solenoid valve opening for 7.5 seconds every 4 minutes. A flashing LED indicates the fault and a volt-free contact is also provided by which an alarm signal can be sent to a control centre or a free input on the compressor controller.

Simple installation and maintenance











Standard pipe fittings make connection to the condensate collecting point simple and an electrician is needed only for the installation.

The electronics are modular with a 24 volt control unit and a mains power pack connected to the mains supply by a simple plug. Withdrawing the plug renders the unit safe for maintenance.

Industrial standard

Rugged, reliable and long-lasting are the qualities essential for industrial applications and these are provided in full by the ECO DRAIN series. Versions are available to suit even the most hostile operating conditions such as highly aggressive condensate, freezing temperatures, high pressure or vacuum.

Technical specifications

ECO DRAIN										for high pressure applications	
	Model	21 Plus	12	12 CO	13	13 CO	14	14 CO	16 CO	12 CO PN63	13 CO PN25
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	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		300/260/180		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		1500/1300/900		—	80/65/40	350/300/200
Condensate types ³⁾	a/b	a, b	a	a, b	a	a, b	a	a, b	a, b	a	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 = **wet** (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	3 V	6 V
Quantity of condensate	20 l/h	200 l/h
Pressure min/max bar _(a)	0.1	1.8
Control pressure bar _(g)	4 to 8	4 to 8
Reverse flow volume l (normal volume)	2-3	15

Electrical specification		Options
Power supply	230 V, 1-ph, 50/60 Hz	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 supply: heating rod, adapter, gasket.
Consumption max.	2 VA	
Recommended wire section	3 x 0.75 mm ²	Pipe heating: To be installed by the user to protect the inlet and discharge lines from freezing in ambient temperatures. Temperature range -25 °C to +60 °C. Capacity 10W/band metre. Scope of supply: terminal box, heating band.
Recommended fusing	0.5 A	
Volt-free contact load:		
Alternating current	max. 250 V / 0.5 A	
Direct current	min. 12 V / 50 mA	
	max. 30 V / 500 mA	

Dimensions

