

Gas valve with integrated electronic
lambda 1 control

E-LES 30 / 50 / 80 LC

DATA SHEET

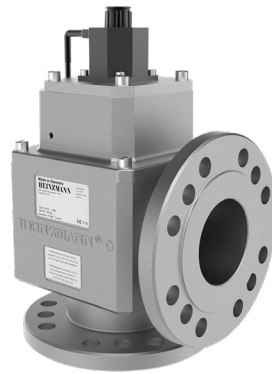
Description



E-LES 30 LC



E-LES 50 LC



E-LES 80 LC

E-LES LC are HEINZMANN's electronic gas control valves with integrated lambda 1 control for rich-burn gas engines.

Situated in the gas line after the zero pressure regulator and connected to the inlet of the gas mixer, E-LES LC gas valves provide a compact solution for closed-loop AFR control.

All sensors needed for AFR control will be read directly by the control unit of the E-LES LC. Those measurement values and further engine and gas specific data are used directly for physical calculations of the actual gas requirement. In closed-loop mode the software regulates the voltage of the lambda probe, thus ensuring a long-term stable engine operation within the lambda window. The use of a speed sensor is obsolete, as the control unit only requires a digital "engine running" signal.

Features

Integrated AFR control for rich burn gas engines

Suitable for different gas types and qualities

Precise adjustment of gas dosing over a wide range of gas flow due to its optimised V-shape design

Reliable, high resolution stepper motor

Special coating for smooth operation and improved chemical resistance

Application range

- **E-LES 30 LC**
5 up to 60 kW
- **E-LES 50 LC**
60 up to 300 kW
- **E-LES 80 LC**
300 up to 1000 kW

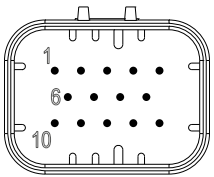
These values refer to a mechanical efficiency of 37 %, lambda 1 and a charge pressure of 1.0 bar abs. and are for guidance only. Assumed is a lower heating value (LHV) of 36 MJ/Nm³ for natural gas.

For proper statement a calculation based on actual engine data is necessary..

Technical data

Power supply	nom. 24 VDC \pm 30 %
Current consumption	max. 1.5 A
Residual ripple	max. 10 % at 100 Hz
Admissible voltage drop	max. 10 % at max. power consumption
Fuse (required externally)	6 A
Frequency stepper motor	500 Hz
Ambient temperature	-20 ... +75 °C
Storage temperature	-40 ... +85 °C
Admissible humidity	up to 98 % at 55 °C
Admissible pressure of fuel supply	max. 0.1 bar (g)
Admissible concentration of hydrogen sulphide (H ₂ S) in fuel	max. 0.1 %
Vibration	max. 2 m / s at 10 ... 20 Hz max. 0.24 m / s at 21 ... 63 Hz max. 9 g at 64 ... 2000 Hz
Shock	50g, 11 ms, half sine
Degree of protection	IP23

E-LES 30 LC	
Valve resolution	1400 steps / 7 revolutions
Response time 0 ... 100 %	2.5 s
Weight	approx. 2 kg
E-LES 50 LC	
Valve resolution	2000 steps / 10 revolutions
Response time 0 ... 100 %	4.0 s
Weight	approx. 5 kg
E-LES 80 LC	
Valve resolution	3800 steps / 19 revolutions
Response time 0 ... 100 %	8.0 s
Weight	approx. 12 kg



TYCO 14 pin,
view connector
side

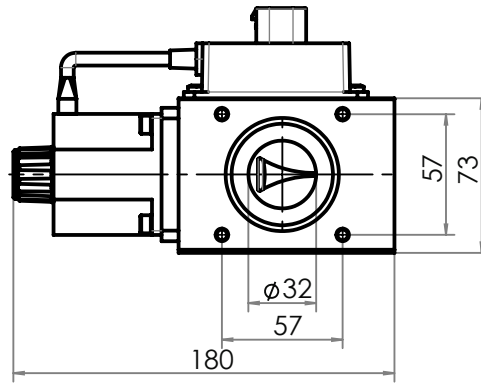
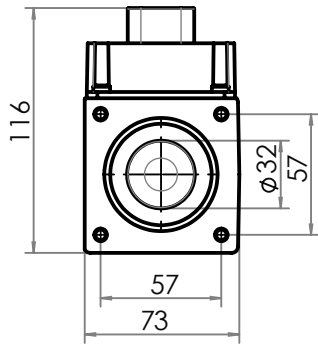
Pin	Description	
1	P5	Temperature air inlet
2	CAN-Low	CAN-Low
3	CAN-High	CAN-High
4	-	Battery -; 0 V power supply
5	+	Battery +; 24 VDC power supply
6	RXD	DcDesk HEINZMANN communication interface
7	TXD	DcDesk HEINZMANN communication interface
8	P2	DI (low side) engine running
9	P6	Signal lambda sensor
10	GND	GND
11	P1	Manifold pressure
12	+5V_Ref	+5 V reference
13	DO	DO (low side) error
14	GND	GND

12 VDC separate power supply required for lambda probe via separate line.

Certificates

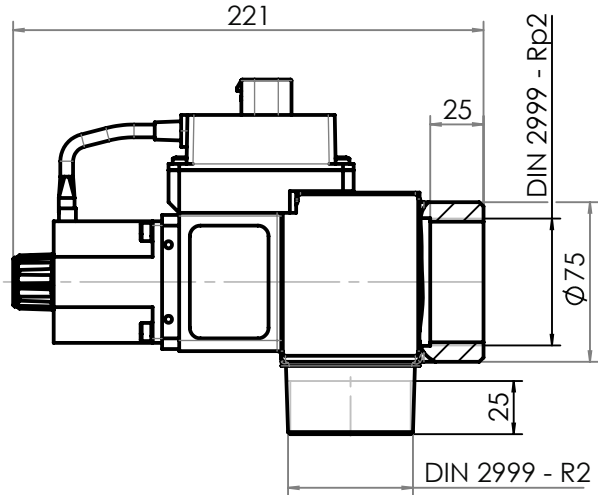
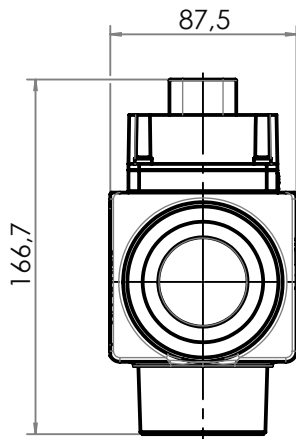
On request

Dimensions E-LES 30 LC

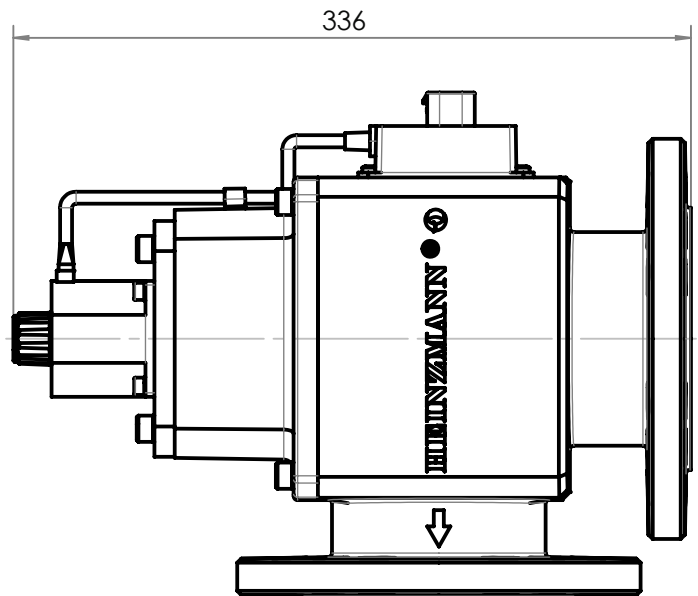
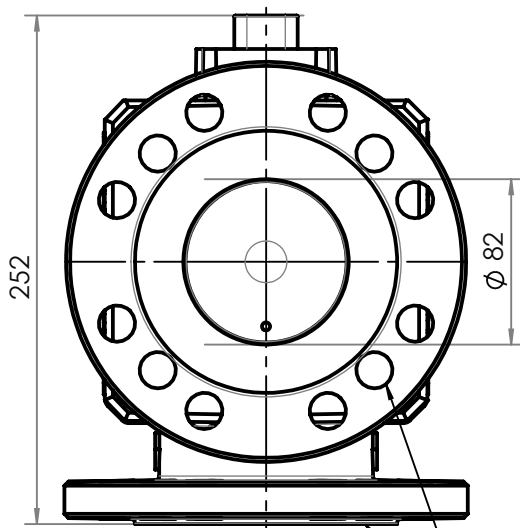


Mounting plate for $\frac{3}{4}$ ", 1", $1\frac{1}{4}$ " and $1\frac{1}{2}$ " available

Dimensions E-LES 50 LC



Dimensions E-LES 80 LC



Flange according
DIN 2633 PN16 DN80

