

For natural gas, biogas and hydrogen

Complete system for combustion control

Modern and efficient heating technology plays a crucial role in the energy revolution succeeding. As part of the RadiMix HS 100 system solution, ebm-papst has a combustion control system in its range, which, thanks to perfectly coordinated components, always ensures efficient combustion, regardless of whether natural gas, biogas or hydrogen is used for heating.

The combination of gas blower, Venturi, gas valve and controller always supplies gas condensing units in the power range up to 150 kW with the optimum quantity and composition of gas and air. The combination of the BCU 110 burner controller and the smart gas valves of the G01 series results in the CleanEco Sense combustion control system, which enables a switch, for example, from natural gas to 100% hydrogen at any time without any modifications. All components are certified accordingly and are tested by DVGW.

Wide modulation range and "smart" gas valve

The modulation range of the gas blowers has also almost doubled to 1:15, which reduces supply losses. This means that the blowers can adjust the quantity of the gas/air mixture up to 1:15, while maintaining the same quality for optimum combustion. This minimizes heating and cooling losses and reduces the carbon footprint of building heating system.

Ideal for operation with hydrogen too

CleanEco Sense combustion control ensures safe and reliable operation with hydrogen. The integrated sensors allow the "smart" valve to control the ratio of gas and air (λ) even before ignition. This enables a different λ value during ignition and in operation. Before each ignition process, the system also checks whether there is a blockage in the exhaust or supply air system. If there is, the safety valve is not opened. The risk of an unsafe condition is avoided. Therefore, with the new control system, condensing technology is ready for the future and ensures an almost silent start to the burner, regardless of which gas is used for heating.

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Image: The CleanEco Sense combustion control system enables a fuel switch, for example from natural gas to 100% hydrogen, without any modifications.

Fig. 1 ebm-papst
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About ebm-papst

The ebm-papst Group, a family-run company headquartered in Mulfingen/Germany, is the world's leading manufacturer of fans and drives. Since the technology company was founded in 1963, it has continuously set the global industry standard with its core competences in motor technology, electronics, digitization and aerodynamics. With over 20,000 products in its portfolio, ebm-papst provides the best energy-efficient, intelligent solution for virtually every ventilation or drive-engineering task.

In fiscal year 2021/22, the "hidden champion" generated revenues of € 2,288 billion. The group employs roughly 15,000 people at 29 production sites (in Germany, China and the USA, to name but a few) and in 51 sales offices worldwide. ebm-papst sets the benchmark with their fan and drive solutions which are used in almost all industries, such as ventilation, air conditioning and refrigeration, heating, information technology, mechanical engineering, household appliances, intralogistics and medical engineering.

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