

Special Report

Rhoss Releases POKER290 Modular ATW Heat Pump with R290

Reported by *Jacques Gandini*, managing director of *Studio Gandini*, Italy

Rhoss has developed POKER290, a highly energy-efficient range of light commercial air-to-water (ATW) heat pumps that use propane (R290) refrigerant. Based in Italy, Rhoss has over 50 years of history in the heating, ventilation, and air conditioning (HVAC) industry, and in 2019 it was acquired by Nibe, a Sweden-based indoor comfort solutions provider. Rhoss' new product is one of the first to meet the future European Union (EU) regulations. For example, important regulatory decisions related to the EU F-gas Regulation are expected to be made by summer 2023.

The reporter interviewed Maurizio Marchesini, managing director of Rhoss, who has over 20 years of consolidated experience, playing valuable roles at HVAC companies, and has been one of the most renowned experts in heat pump technology in Europe since a very early stage at the beginning of 2000s.

Maurizio Marchesini gave detailed information on POKER290.

Concerning the development background of this R290 product, Mr. Marchesini commented, "Rhoss is an innovator by nature, and R290, a low global warming potential (GWP) natural refrigerant, is a widespread futureproof refrigerant in the EU heat pump industry. In addition to our products with synthetic and mildly flammable (A2L) refrigerants, now, we offer our customers a new range with natural refrigerants."

In the first place, Rhoss decided to develop a 'one size unit' that provides cooling, heating, and high-tem-



Maurizio Marchesini,
managing director of Rhoss

perature domestic hot water (DHW) production, adopting scroll technology and a modular concept so it could be rolled out on the market quickly. POKER290 is now available in one size that can be connected to up to four units, covering around 48 to 190 kW, through the Rhoss Dynamic Sequencer (SDR) integrated in the units, which also manages DHW production. POKER290 can produce hot water at a temperature of up to 75°C, and works at outdoor temperatures of down to -20°C. For example, POKER290 can provide hot water at 65°C with an outdoor temperature of -12°C. Moreover, it can produce cold water from -10 to 20°C with outdoor temperatures of up to 50°C. It also achieves a high seasonal coefficient of performance (SCOP) of up to 4.19 for low-temperature applications and up to 3.57 for medium-temperature applications. As measures required for flammable (A3) refrigerants such as R290, it has an optimized structure, a leak detector, and a ventilation system ensuring total safety. It also has a single refrigerant circuit and a double compressor configuration, with low noise operation of 76 dB(A).

Thanks to this innovation, Rhoss is confirming its leadership in heat



Rhoss POKER290
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pump technology and an even greater extent in the multi-family segment in which Nibe is also a strong player.

Finally, Mr. Marchesini talked about Rhoss' next step, "Definitely to continue to develop our R290 range of heat pump products. We are already developing new and higher capacity monobloc units with R290 and scroll technology. They will consolidate our product proposals in medium to large capacity product portfolio, which certainly remains our main focus and interest. In addition, these heat pumps will allow us to enter the broad heating application scenarios from new installation to renovation, which will be the key in Europe in the coming decades. We are now ready for the future of nearly zero energy buildings."