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Air Liquide latest developments of turbomachines : from design to commissioning

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Strong of 60 years of innovation and design in the field of cryogenic turbomachines, Air Liquide Advanced Technologies is constantly developing new products. The first cryogenic helium pump of Air Liquide standard range of cryomachine was commissioned successfully in 2014. The compression map of the pump was measured and in very good accordance with the calculations. The same motor cartridge is used for cold compressor used on 2K refrigerators, enabling to cover a wide range of flow rates and cold powers. Reliability and efficiency being a key issue in cryogenics, the latest developments focus on oil-free turbomachines on magnetic bearings. 270 kW turbomachines are under manufacture, and will be able to cover existing needs in the 35 - 200K range. They will also address new markets like the LNG boil-off gases reliquefaction.

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