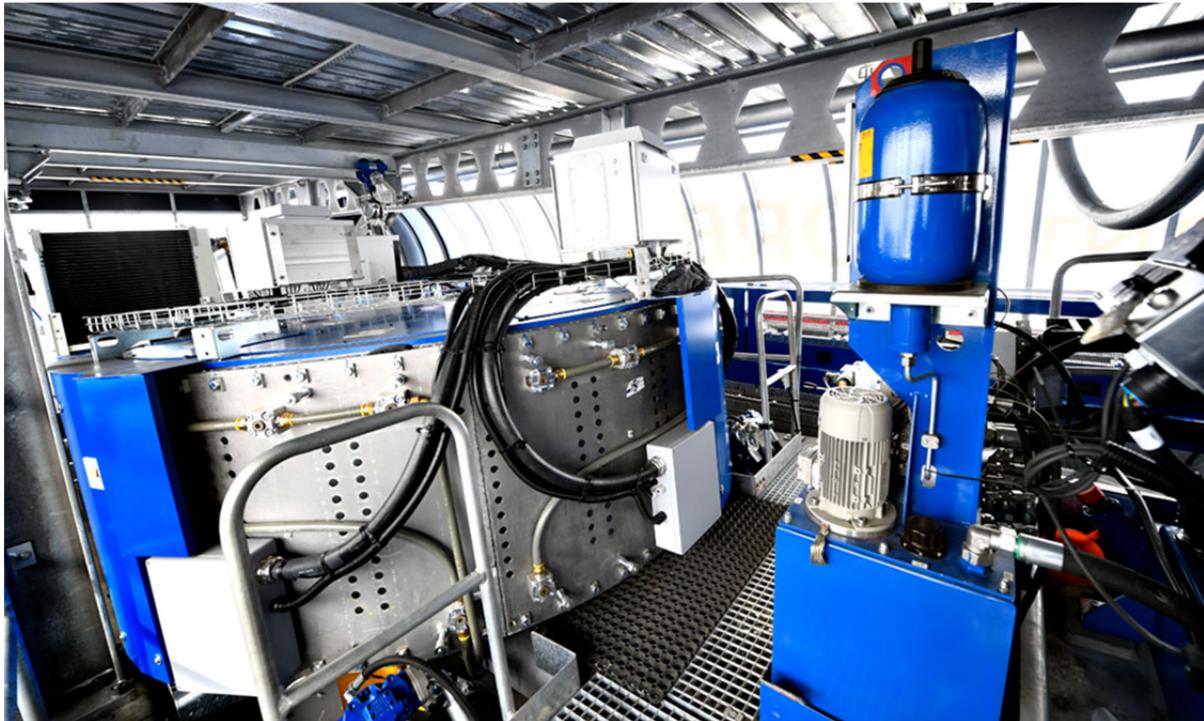


First Bartholet Direct Drive successfully in operation!

A technology with many advantages to reconcile economy and ecology. Bartholet's Direct Drive differs clearly from the direct drives already available on the market



The origin

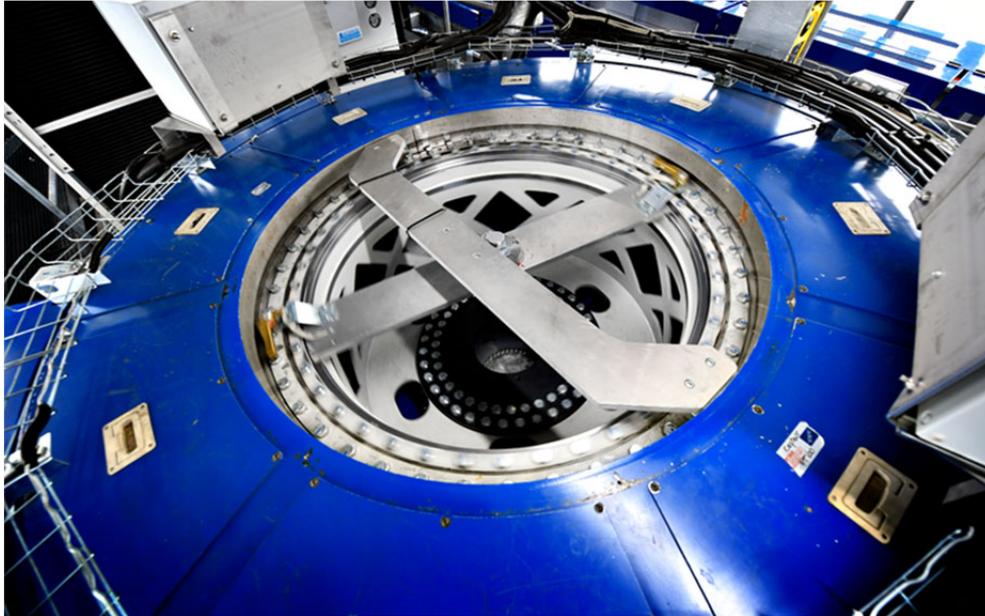
Bartholet developed the direct drive in close cooperation with Kessler Energy GmbH and Siemens AG. Both companies are specialized in electric direct drives. In addition, the feedbacks of the operators have been used to find solutions for the potential of industrial motors in ropeways. The further development of the respective products promotes the profitability for the customer, due to simpler maintenance, higher energy efficiency or optimised design.

Operational reliability

Conventional drive systems consist of a motor and a gearbox. With the Direct Drive developed by Bartholet, the power transmission goes directly to the pull wheel, the risk of a gear breakage is eliminated and maintenance-intensive components such as cardan shaft and gear are completely eliminated.

Redundancy

The modular motor can be configured according to the power output. If a stator segment fails, it is possible at any time to isolate it and to continue operating the system with a correspondingly reduced conveying capacity. The modularity of the drive allows a configuration of power reserves.



Easy maintenance

The engine was designed in such a way that helicopter transport of the individual components is guaranteed without any problems. The weight of the heaviest element of the Bartholet Direct Drive (a stator segment) is only 1.3 tons and the main bearing of the rotor is on top. Good accessibility to the individual maintenance points is ensured.



Energy efficiency

Increased efficiency and the elimination of the gear result in annual energy savings of around 20 MWh for tourist applications and up to 100 MWh for urban applications. This corresponds to an annual consumption of 5 to 30 households. The improved energy efficiency saves the operator costs and also protects the environment - an important decision criterion!

Environmentally Conscious

A conventional gearbox contains about thus 200 litres of oil. This can be released into the environment during damage or service work and cause considerable damage. The Direct Drive eliminates the need for regular oil changes and the risks mentioned are completely eliminated.

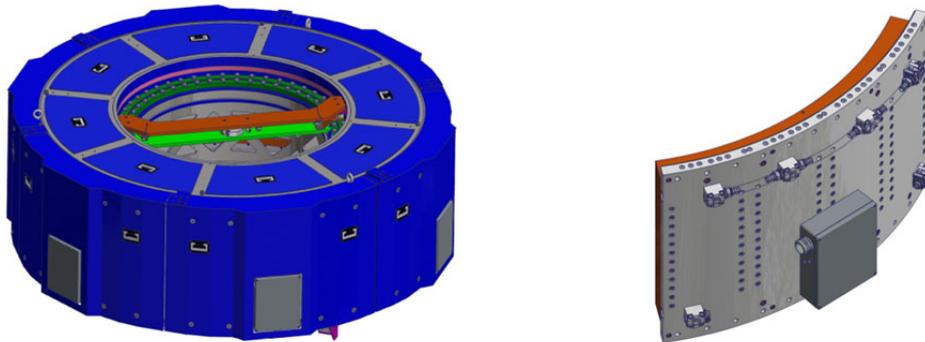
Noise emissions

Nowadays there are more and more demands on a ropeway and Bartholet does everything possible to ensure the operation of the system is as quiet as possible. The Bartholet Direct Drive has a water cooling system. This is almost noiseless compared to air cooling systems. Especially for

urban installations with operating times of up to 15 hours per day, it is important that the system can run quietly.

Limitation of heat loss

The energy derived from the coolant can be recovered by means of heat exchangers. Since the power dissipation can be several kW, the heating of station rooms could be covered, for example.



Constructive details

Permanent magnet motor with a rotor as magnet and stator as winding support. The drive shaft of the pulley engages directly in the hollow axis of the rotor and ensures the flow of force. The stator is divided into 6 segments of 115 kW per level each. On the one hand, these are winding supports and at the same time ensure heat dissipation for cooling.

The application range of the Bartholet Direct Drive can be adapted modularly from 115kW up to 1380kW to the requirements of the installation.

