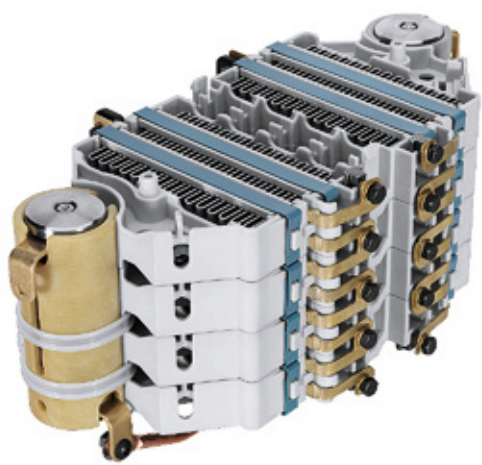


The new VACUTAP® VM.

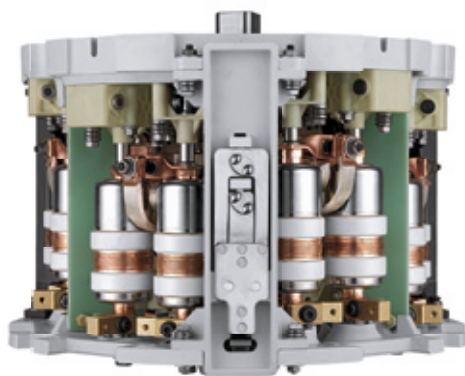
Don't compromise.

The **VACUTAP® Arc-Control System™** extinguishes the commutating arc with absolute reliability

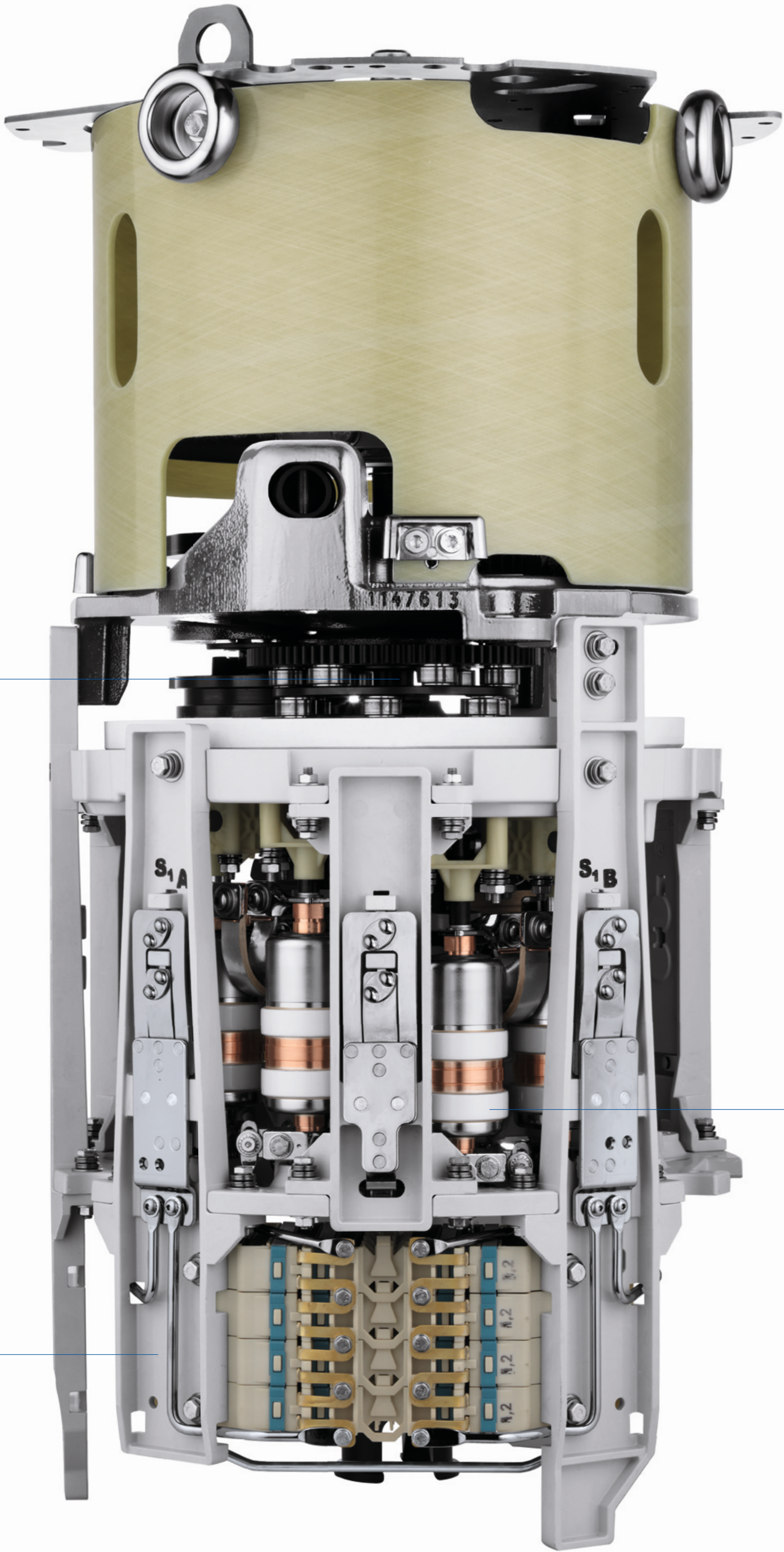


The **VACUTAP® Step Protection System™** reliably protects the new VACUTAP® VM against overvoltage on the grid

The **VACUTAP® VM diverter switch insert** is **retrofittable**, which means longer maintenance intervals and maximum cost-effectiveness



The **Interrupter Exchange Module** shortens downtimes for maintenance



Retrofittable: the VACUTAP® VM diverter switch insert

BENEFITS
VACUTAP® technology combines maximum reliability and minimum maintenance requirements. In figures, that means 300,000 tap-change operations without any maintenance. The diverter switch insert has a lifetime of 1.2 million tap-change operations. You can start enjoying these benefits right away by simply replacing an OILTAP® M with the new VACUTAP® VM.

FUNCTION
It's never been easier to convert to our tried-and-tested vacuum technology. The VACUTAP® VM is fully retrofittable and 100% connection-compatible with the OILTAP® M, of which there are over 70,000 in existence. All you have to do is dismantle the old diverter switch and fit the new VM model. The same applies to most tap changers based on earlier licenses and non-authorized competitor models that are similar to the OILTAP® M and require a reliable replacement.

Preassembled Interrupter Exchange Module

BENEFITS
For quick and easy replacement of vacuum interrupters in applications with high numbers of tap-change operations (e.g. electric arc furnaces, electrolysis, phase shifters or HVDCT), we supply a fully preassembled and preset Interrupter Exchange Module with carrier unit. This has the effect of increasing transformer availability while shortening stops in production for maintenance.

FUNCTION
While a VACUTAP® on-load tap-changer rarely requires maintenance in grid operation throughout the lifetime of the transformer, a different situation may apply in heavy-duty applications such as furnaces. In applications like these it is not unusual to have 200,000 tap-change operations per year. Every time an on-load tap-changer has to be shut down it means a temporary halt in production, which results in a financial loss for the furnace operator. To make on-load tap-changer maintenance even easier we provide service engineers with a fully assembled and preset module to replace the vacuum interrupters after 600,000 tap-change operations. This Interrupter Exchange Module ensures that the transformer is rapidly made available again while the on-load tap-changer maintains optimum functionality and reliability.

NEW VACUTAP® Arc-Control System™

BENEFITS
The unique VACUTAP® Arc-Control System™ in the new VACUTAP® VM prevents damage to the tap-changer and transformer. The perfect combination of our Advanced Interrupter Technology and patented new Dual Energy Accumulator allows the VACUTAP® VM to guarantee reliable arc extinguishing.

FUNCTION
Installing quality individual components is not enough to guarantee maximum mechanical and electrical reliability and durability of on-load tap-changers. That's why we developed a system in which the Advanced Interrupter Technology, Dual Energy Accumulator and complete tap-change process are designed to work smoothly together.

The challenge: The power fed into the tap-changer by the energy accumulator must be sufficient to ensure normal functioning at oil temperatures of minus 25°C and over 100°C. At the same time the power must be sufficiently low to minimize the mechanical loads on individual components. The electric tap-change process must also be optimally timed to ensure that the arc is extinguished even in the most unfavorable grid conditions.

In the VACUTAP® VM arc extinguishing is guaranteed by a combination of the patented additional energy accumulator and the Advanced Interrupter Technology developed specially for the VACUTAP® VM. The kinetic energy output suddenly by the main spring accumulator is stored in the additional spring and transferred with a time delay to the diverter switch insert. This allows the opening and closing speeds of the vacuum interrupters and auxiliary switches to be selectively controlled, ensuring reliable arc extinguishing under all conditions.

Advanced Interrupter Technology

BENEFITS
We are the only provider in the world that has been collaborating with a brand-name manufacturer for over 20 years to develop all our vacuum interrupters for use in tap-changers. The expertise acquired from this experience was plowed into the design of the new Advanced Interrupter Technology for the VACUTAP® VM. This technology provides reserves for transformer operation even under extreme conditions. We were able to demonstrate the overload switching capability of the vacuum interrupters even after 600,000 tap-change operations.

FUNCTION
Because the tap-change chamber is hermetically sealed, with VACUTAP® technology the arc does not come into contact with the environmental medium. As a result, the insulating capacity of the diverter switch is not affected by tap-change operations and tap-change properties are not impaired by aging of the environmental medium. This technology is already established all over the world in medium-voltage circuit breakers and high-performance contactors. However, decades of experience have shown that the requirements and loads in on-load tap changers make it necessary to use specially designed vacuum interrupters. There are now over 130,000 of our interrupters providing reliable service worldwide.

NEW VACUTAP® Step Protection System™

BENEFITS
The new VACUTAP® VM features a unique system that protects the diverter switch insert against tap short circuits in the event of overvoltage on the grid (e.g. as a result of a lightning strike or switching operations): the VACUTAP® Step Protection System™.

FUNCTION
Unlike the spark gaps normally used in this market segment, the over-voltage protection components in the VACUTAP® VM have the advantage of less scatter in their response values. This translates into optimum insulation coordination inside the diverter switch, which in turn prevents destruction of the insulation protecting the current paths, all with different potentials, in the diverter switch as a result of overvoltage on the grid.

Other benefits at a glance

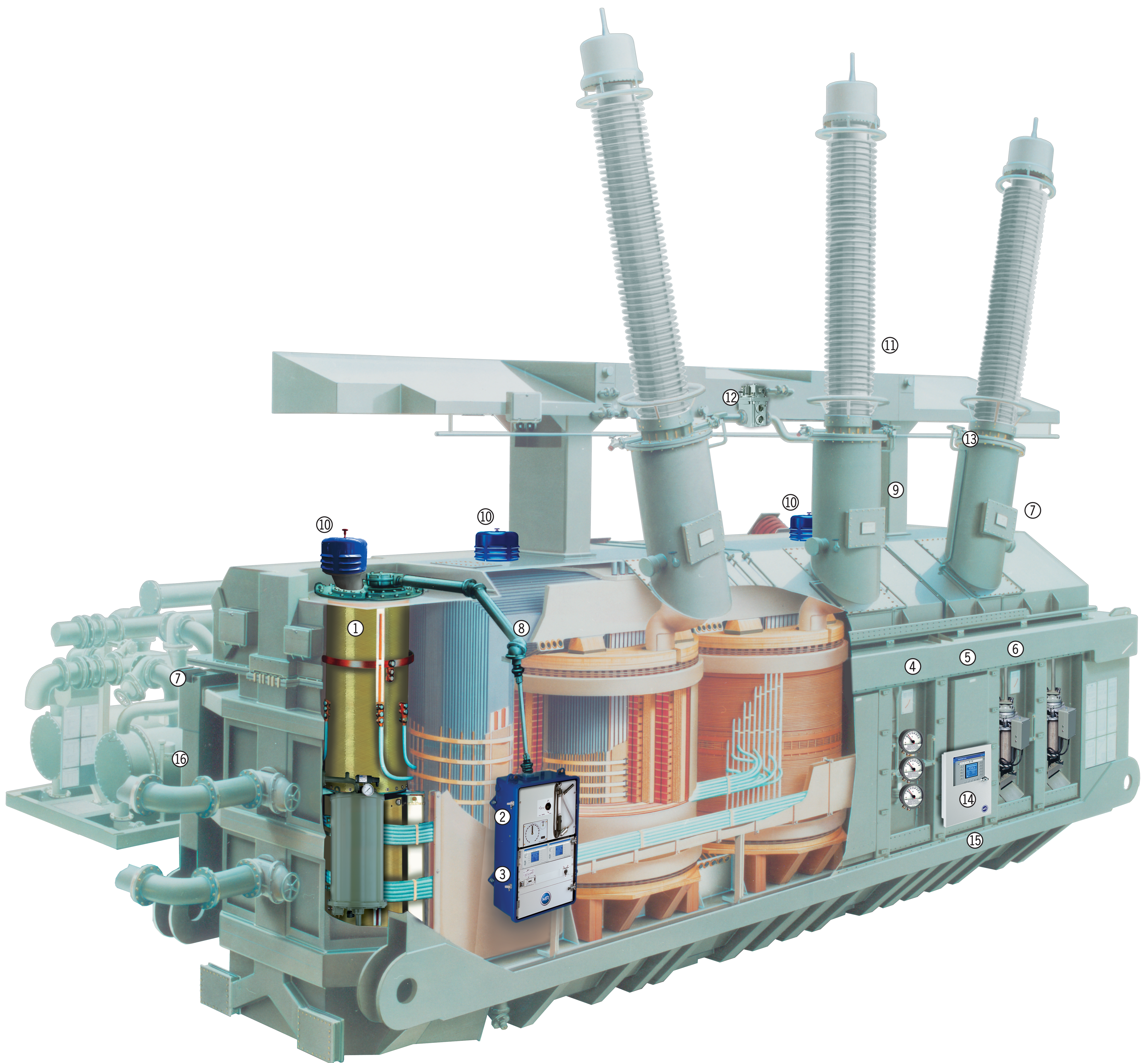
- Maintenance interval of 300,000 tap-change operations with no time component
- Lifetime of diverter switch insert: 1.2 million tap-change operations
- Suitable for both grid and generator operation as well as electrical arc furnaces, HVDCT, electrolysis, rectifiers and phase shifters
- Minimal maintenance requirements yet maximum lifetime
- Factory-built for selected alternative insulating fluids
- Also suitable for use in earthquake zones
- ATEX certification (for use in explosive atmospheres) applied for

For more information please visit
www.vacutap-vm.com



Components and Systems

for the Transformer Industry



- ① On-Load Tap-Changers
- ② Motor Drive Unit
- ③ On-Load Tap-Changer Monitoring
- ④ Winding and Oil Thermometers
- ⑤ Electronic Winding-temperature Calculation
- ⑥ Maintenance-free Dehumidifiers
- ⑦ Digital Oil Temperature Sensors
- ⑧ Drive Shafts
- ⑨ Oil Level Gauges
- ⑩ Pressure Relief Valves
- ⑪ Composite Insulators
- ⑫ Buchholz Relay
- ⑬ Voltage Measurement with Peak Detection
- ⑭ Automatic Voltage Regulation (AVR)
- ⑮ Special Application (PST, Generator)
- ⑯ Intelligent Fan Control



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