



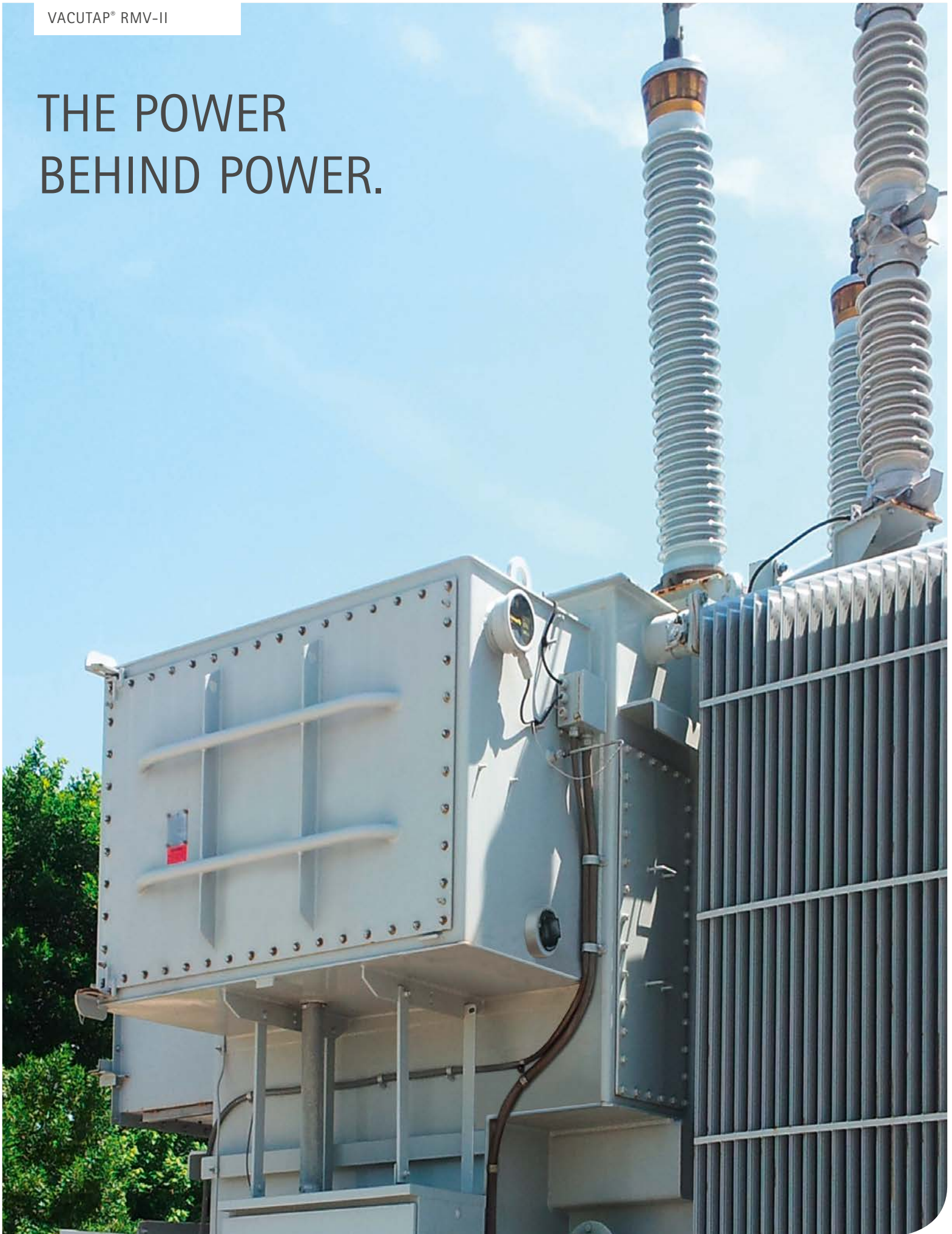
VACUTAP® RMV-II

HIGHEST STANDARD IN
ON-LOAD TAP-CHANGERS.
IMPRESSIVE BY DESIGN.

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THE POWER BEHIND POWER.



VACUTAP[®] RMV-II

For over 25 years, we have been testing and improving North America's most popular OLTC – the VACUTAP[®] RMV-II. Our engineers have compiled years of research and field testing to even further improve the impressive track record of the 10,000+ units already in operation.

- New variants built on the experience gathered with the RMV-II line for more than 25 years and more than 10,000 units in operation in the field
- These new variants complement the RMV-II line providing new alternatives for the bottom end of the applications range:
 - 600 A for 15 kV and 25 kV applications
 - 1,000 A for 15 kV and 25 kV applications
- By offering now the entire line of OLTCs based on the RMV-II platform, customers can optimize their inventory of spare parts
 - 15 kV design for 600 A, 1,000 A, 1,500 A and 2,000 A
 - 26,4 kV design for 600 A, 1,000 A, 1,500 A and 2,000 A
 - 72,5 kV design for 1,500 A, 2,000 A and 2,500 A
- All RMV-II OLTCs are suited for industrial applications
- All RMV-II OLTCs are suitable for arctic operation with the following parameters:
 - Limited to an oil temperature of -25 degC for applications with a switching capacity >1000 kVA (oil heaters can be installed to maintain the temperature above -25 degC)
 - Limited to an oil temperature of -40 degC for applications with a switching capacity <1000 kVA (oil heaters can be installed to maintain the temperature above -40 degC)Switching capacity is calculated as the product of maximum rated through current x tap-to-tap voltage
- 500,000 maintenance-free interval without time-based maintenance requirements
- Vacuum interrupters rated for 1,000,000 operations
- Suitable for alternative fluids (natural and synthetic esters, consult with Reinhausen Manufacturing for limitations)



Advantages of the vacuum technology

The RMV-II LTC is used in conjunction with oil-filled power transformers, regulators and phase-shifting transformers to change taps under load, thereby controlling voltage magnitude or phase angle. The tap changer works on the preventive autotransformer (reactor) switching principle with vacuum interrupters to accomplish the arcing operation.

Vacuum interrupters are used to interrupt the circuit within a half cycle. The interruption of the arc takes place in a vacuum of approximately 10⁻⁶ torr instead of the usual arcing under oil. Thus, oil contamination and need of an on-line filter is eliminated.

Your benefits at a glance

- Compact design
- Maintenance-free for up to 500,000 tap-change operations without time component
- Quick switching times
- Internal oil heating system for use in arctic conditions
- Intended as a replacement for reactor switches
- Field experience: Over 10,000 in use worldwide



On-load tap-changer	VACUTAP® RMV-II 72.5 kV design
Dimensions (W x D x H)	66" x 32" x 50"
Weight (including oil)	5,500 lbs
Oil filling quantity	345 gals / 2,590 lbs

On-load tap-changer	VACUTAP® RMV-II 15 kV and 26.4 kV design
Dimensions (W x D x H)	66" x 29" x 43"
Weight (including oil)	4,440 lbs
Oil filling quantity	270 gals / 2,025 lbs

Technical Data	VACUTAP® RMV-II
Max. rated through-current	2,500 A
Max. rated voltage tap-to-tap	2,000 V
Max. rated voltage per step	1,000 V
Max. rated switching capacity	2,500 kVA
Max. voltage for operational equipment U_m	72.5 kV
Application: At any selectable winding position	
Operating positions without change-over selector	max. 17
Operating positions with change-over selector	max. 33
Time per operation	approximately 2 seconds

VACUTAP[®] RMV-II

The most popular OLTC ever designed in North American history.



Operation

The tap changer operation is divided into three major functions:

- Arc interruption and reclosing by use of the vacuum interrupters in conjunction with the associated bypass switches
- Selection of the next position by the tap selector assemblies in proper sequence with the operation of vacuum interrupters and bypass switches
- Operation of reversing or coarse step selector in order to double the number of tap positions



Design

Three-phase design (with full insulation between phases and to ground) consists of an oil compartment containing:

- Tap and change-over selectors (reversing or coarse step)
- Vacuum interrupters
- Bypass switches:

All switching elements involved in the tap change operation, tap and change-over selectors, vacuum interrupters and bypass switches of all phases are driven by one main shaft from the drive mechanism.



Minimum maintenance requirement with maximum lifetime

Operation-count maintenance interval of 500,000 switching operations means that the RMV-II does not have to undergo unnecessary time-based maintenance throughout the transformer's lifetime.

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