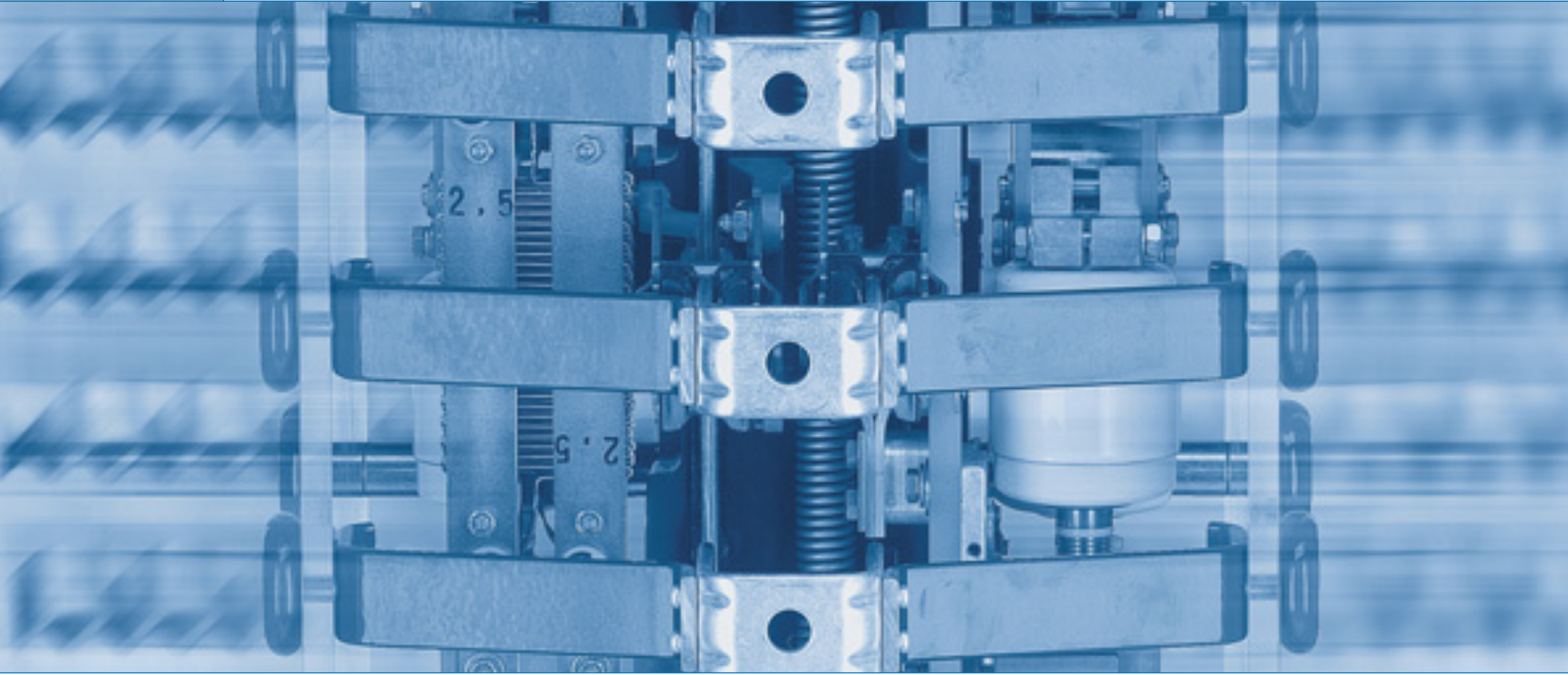
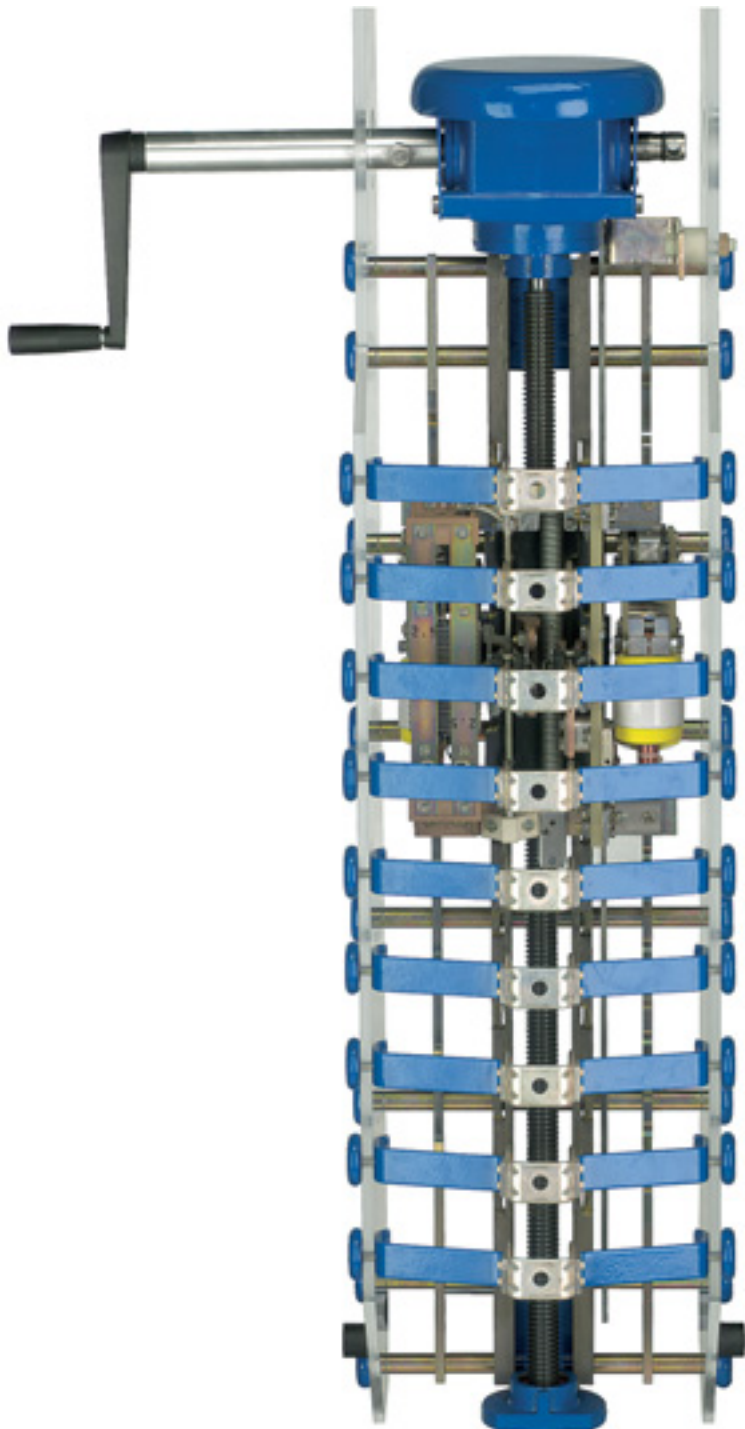
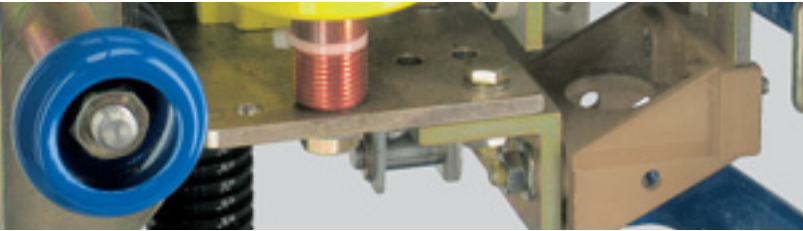


VACUTAP® VT

On-Load Tap-Changer
for Regulating Transformers

www.reinhausen.com





The Main Feature – From 1 create 3

The VACUTAP® VT on-load tap changer is one of the world's first oil-free on-load tap-changers for uninterrupted voltage adjustment on dry-type transformers under load. It is designed as a single-phase module directly assigned to the transformer limb. A motor drive unit is provided for mechanical operation. By coupling several single-pole modules, a three-pole system 3 x VT I 500 for star or delta change-over operation can easily be built.

Vacuum-interrupters function as load-switching contacts in the VT. The direct assignment of a tap-changer module to a transformer limb makes connection easy.

Compact Design

The VACUTAP® VT has a maximum rated through-current of 500 A and a max. rated step voltage of 900 V for linear voltage adjustment in nine operating positions.

Thanks to its insulation against ground of $U_m = 40.5$ kV, it can be used with dry-type transformers for indoor installation up to the highest unit powers.

Each VT module contains a tap selector and diverter switch for high-speed resistor-type tap change operation in a compact design. The movable tap selector contact system, the diverter switch and the spring-energy accumulator are incorporated in one switching element which is centrally driven by a screw spindle. Vacuum-interrupters, based on the proven MR vacuum technology, are used as load-switching contact elements. They guarantee excellent electrical and mechanical properties over an extremely long lifespan.

As standard equipment, a motor drive unit which functions according to the step-by-step switching principle is provided to mechanically operate the on-load tap-changer. It contains all the devices for local and remote control, for the remote display of operating positions as well as the electrical and mechanical end position limits. Its protective housing makes the motor drive unit suitable for outdoor installation, and in case of a dry-type transformer in encapsulated design it can be mounted outside the transformer tank.



Technical Data

The on-load tap-changers in all their specifications are subject to all relevant international and national guidelines and standards, particularly IEC 60214-1 1ED2003 and the VDE standard DIN EN 60214 (VDE 0532 Teil 30): 1998-06.

On-load tap-changer	VT I 500	3 x VT I 500
Number of poles	1	3
Max. rated through-current I_{um} (A)	500	
Rated short-time withstand current, r.m.s. value (kA)	5	
Rated short-circuit duration (s)	3	
Rated peak withstand current (kA)	12.5	
Max. rated step voltage U_{im} (V)	900	
Step capacity (P_{StN}) (kVA)	250	
Operating positions	max. 9	
Rated frequency (Hz)	50 ... 60	
Rated insulation level		
Highest voltage for equipment U_m (kV)	40.5	
Rated lightning impulse withstand voltage to ground and between phases (for VT I 500 only to ground) (kV, 1.2/50 μ s)	200	
Rated AC withstand voltage to ground and between phases (for VT I 500 only to ground) (kV, 50 Hz, 1 min)	85	
Rated lightning impulse withstand voltage between any two adjacent contacts of the tap selector (kV, 1.2/50 μ s)	20	
Rated AC withstand voltage between any two adjacent contacts of the tap selector (kV, 50 Hz, 1 min)	5	
Rated lightning impulse withstand voltage between the first and last contacts of the tap selector (kV, 1.2/50 μ s)	80	
Rated AC withstand voltage between the first and last contacts of the tap selector (kV, 50 Hz, 1 min)	20	
Installation position	vertical, attachment of the on-load tap-changer is provided on top only	
Environmental medium	air	
Operating conditions	indoor installation	
Ambient temperature	Can be operated in the rated load range at temperatures of -25 °C to +65 °C	
Weight (kg)	ca. 70	ca. 210
Drive mechanism	Motor drive unit ED, protective housing in outdoor design, motor for 3 AC 230/400 V, 50 Hz, 0.75 kW, step-by-step operation with local/remote control, electrical/mechanical end position limit, connection facility for remote position indication, hand crank for adjustment purposes and emergency operation	

