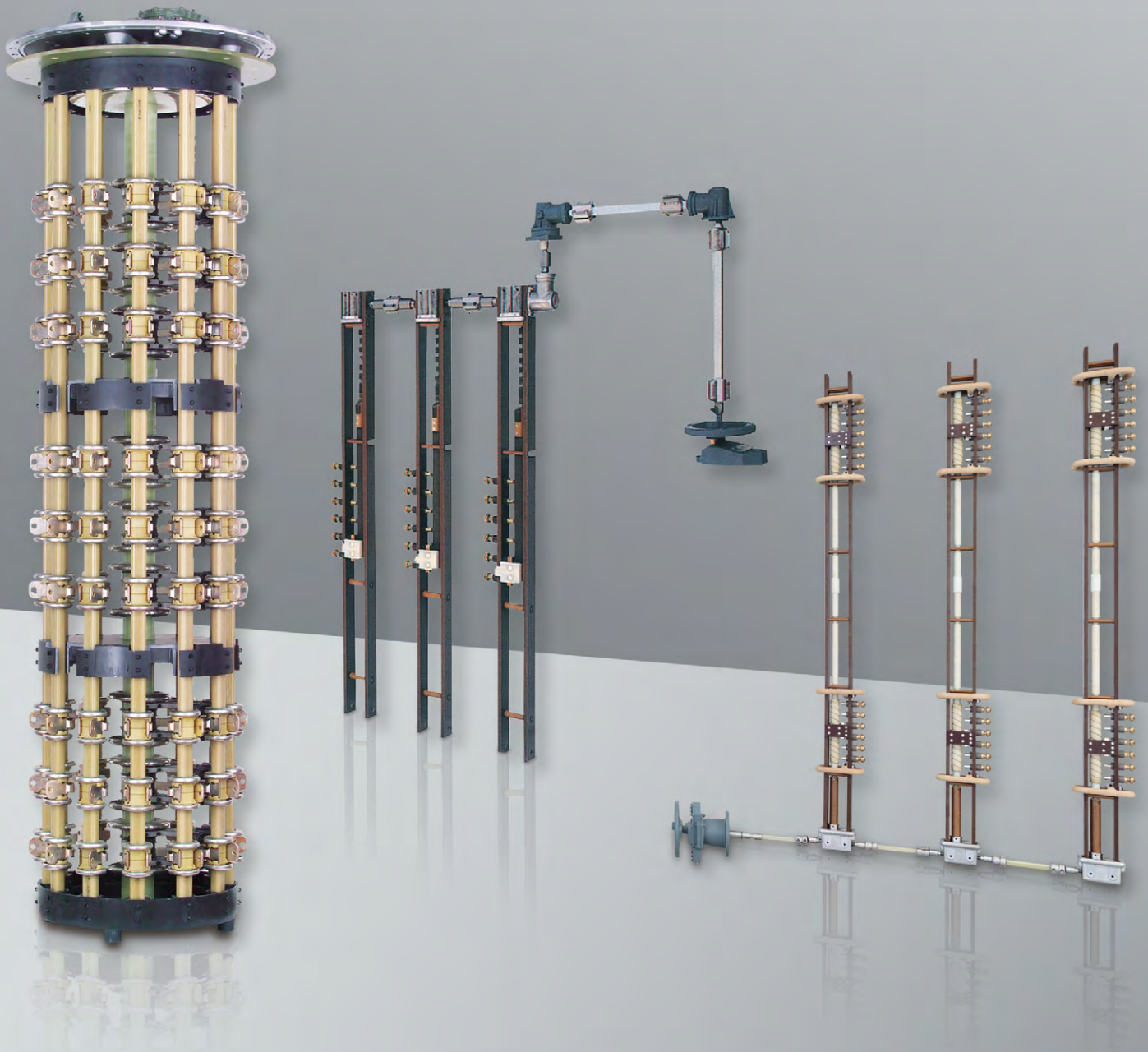




DEETAP[®]

DE-ENERGIZED TAP-CHANGERS FOR UNIVERSAL APPLICATIONS.

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DEETAP[®]

ECONOMICAL ALTERNATIVE FOR POWER TRANSFORMERS.

For more than 50 years, MR has also offered de-energized tap-changers in addition to on-load tap-changers for power transformers. Unlike on-load tap-changers, with de-energized tap-changers, the desired winding tap is adjusted without load current when the transformer is switched off. This makes de-energized tap-changers an economical alternative for all applications with a low number of tap-change operations.



Depending on the design, power rating class and application of the transformer, two product lines are available:

Rotating de-energized
tap-changer:



DEETAP[®] DU

Linear de-energized
tap-changers:



DEETAP[®] SPTM
DEETAP[®] SPTL

There are a wide range of switch and drive options for all de-energized tap-changers.

To meet any requirement, even in exceptional cases such as phase shifter transformers, the expert team of MR offers extensive expertise to aid in the selection and design of suitable products.

Like all MR products, de-energized tap-changers of the DEETAP[®] series are developed, manufactured and tested with the accustomed MR quality in accordance with current IEC standards.

DEETAP® DU

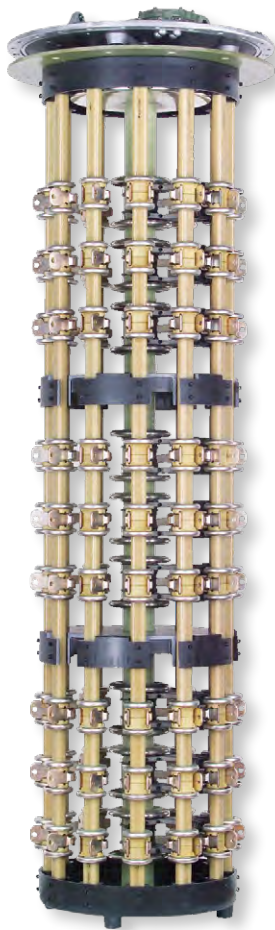
ROTATING DE-ENERGIZED TAP-CHANGER FOR MAXIMUM POWER.

DEETAP® DU is a rotating de-energized tap-changer for setting the voltage of oil-insulated transformers up to maximum power ranges.

- Single- and three-phase rotating de-energized tap-changers
- Up to 2,000 A max. rated through-current
- Up to 245 kV rated insulation level
- Higher values available as special design
- High level of safety thanks to trigger/interlocking contacts
- Compact, rugged and intelligent design
- Tube and bar material made of glass-fiber reinforced resin (GRP)
- Modular concept
- Optimized field design thanks to smooth surfaces, rounded edges and use of innovative materials

Technical data

	Contact circle diameter 400/600mm									
	Standard design									
DEETAP® DU I / DU III	200	400	600	800	1000	1222	1202	1622	1602	2022
Number of phases	1/3									
Max. rated through-current I_r [A]	200	400	600	800	1,000	1,200	1,200	1,600	1,600	2,000
Rated short-time withstand current [kA]	4	6	8	10	12	16	20	20	25	25
Rated short-circuit duration [s]	3									
Rated impulse current [kA]	10	15	20	25	30	40	50	50	63	63
Operating positions	max. 5 / max. 11									
Rated frequency [Hz]	50 60									
Highest voltage for equipment U_m [kV]	36 72.5 123 145 170 245									
Rated lightning impulse withstand voltage [kV]	200 350 550 650 750 1,050									
Rated alternating withstand voltage [kV]	80 140 230 275 325 460									
Weight (in kg)	max. 180 kg / max. 255 kg									
Drive	ETOS® / TAPMOTION® DD									



- Easy installation in the transformer tank
- Available switches:
 - Linear de-energized tap-changer for Y and delta connections
 - Single and double-bridging de-energized tap-changer
 - Series-parallel de-energized tap-changer
 - Star-delta de-energized tap-changer
 - Back-and-boost de-energized tap-changer
 - De-energized tap-changers for special applications
- Drives:
 - Hexagon shaft with operating wrench, hand wheel, manual drive and motor-drive unit

Contact circle diameter 400/600mm								Contact circle diameter 850 mm			
Special design								Standard design		Special design	
422	822	2003	2403	3033	3204	4044	4005	1000	1602	2403	3204
1/3							1	1/3		1/3	
400	800	2,000	2,400	3,000	3,200	4,000	4,000	1,000	1,600	2,400	3,200
6	10	25	30	30	32	32	40	10	16	24	32
3								3		3	
15	25	63	75	75	80	80	100	25	40	60	80
max. 5 / max. 11								max. 17		max. 17	
50 60								50 60		50 60	
300 362 420 550								72.5 170 245		300 362	
1,050 1,175 1,550 1,675								350 750 1,050		1,050 1,175	
460 510 630 680								140 325 460		460 510	
max. 220 kg / max. 290 kg								max. 450 kg		max. 500 kg	
ETOS® / TAPMOTION® DD								ETOS® /TAPMOTION® DD			

DEETAP® SPT

LINEAR DE-ENERGIZED TAP-CHANGERS FOR THE MEDIUM POWER RANGE.

DEETAP® SPT is a product family of compact linear de-energized tap-changers for small and medium power transformers. A modular drive concept with manual-drive and motor-drive units offers maximum flexibility for integrating the de-energized tap-changer into the transformer.

- Microswitches available for position indication and monitoring
- Extensive manual-drive and motor-drive options
- Various fixed-contact designs
- Available switches:
 - Linear de-energized tap-changer
 - Single-bridging de-energized tap-changer
 - Double-bridging de-energized tap-changer
 - Series-parallel de-energized tap-changer
 - Star-delta de-energized tap-changer
 - Buck-and-boost de-energized tap-changer

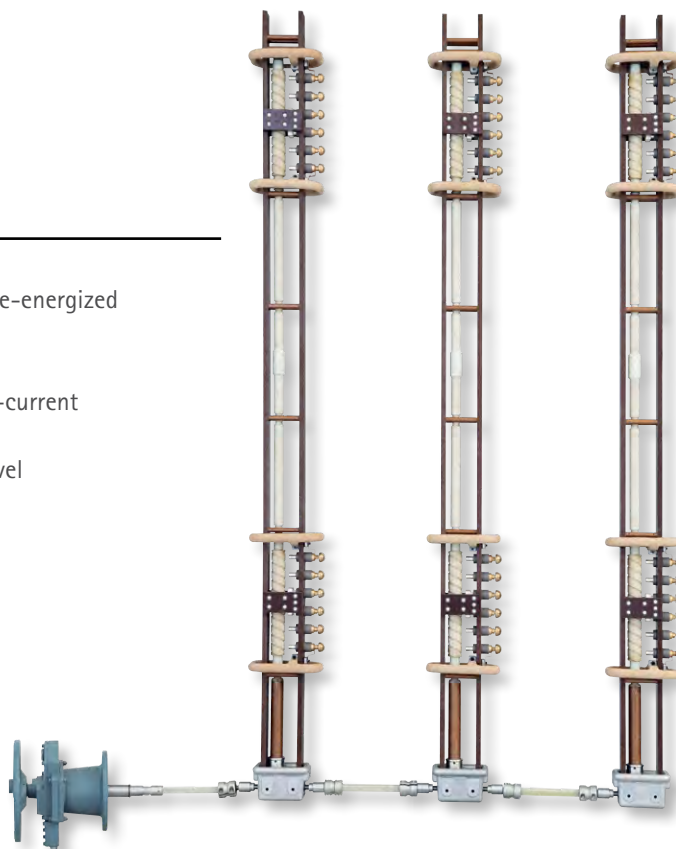
DEETAP® SPTM

- Single- and three-phase linear de-energized tap-changers
- Up to 600 A max. rated through-current
- Up to 170 kV rated insulation level
- Mounting possible on side of winding



DEETAP® SPTL

- Single- and three-phase linear de-energized tap-changers
- Up to 800 A max. rated through-current
- Up to 245 kV rated insulation level



Technical data

Type	SPTM	SPTL
Number of phases	1 3	1 3
Max. rated through-current I_r [A]	120 200 300 400 600	200 500 800
Rated short-time withstand current [kA]	2.3 3.3 4 4 6	3.3 5 8
Rated short-circuit duration [s]	2	2
Rated impulse current [kA]	5.8 8.3 10 20 15	8.3 12.5 20
Operating positions	2 to 11 (up to 23 in special applications)	2 to 9 (up to 23 in special applications)
Rated frequency [Hz]	50 60	50 60
Rated lightning impulse withstand voltage [kV]	72.5 100 123 145 170	72.5 100 123 145 170 245
Rated lightning impulse withstand voltage [kV]	350 450 550 650 750	350 450 550 650 750 1,050
Rated alternating withstand voltage [kV]	140 185 230 275 325	140 185 230 275 325 460
Weight (in kg)	ca. 60	ca. 100
Drive	Motor drive (MDU) / manual drive (070-1.xxx)	

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THE POWER BEHIND POWER.

