



MEMBER OF REINHAUSEN GROUP

DE-ENERGIZED TAP CHANGERS

FOR DISTRIBUTION AND POWER TRANSFORMERS



COMPANY PROFILE

Smart and customized solutions for distribution and power: C.A.P.T. is a leader in the manufacturing of **de-energized tap changers for oil-insulated transformers**, acting as a trusted partner in more than 60 countries worldwide. The company was established in 1972 by Serafini family and since 2013 is a member of Reinhausen Group.

C.A.P.T. is constantly **oriented towards the customer's needs** and offers **quality products of international reputation**: manufacturing and logistics are focused on efficiency, as well as on the satisfaction of the customers. And thanks to the expertise of C.A.P.T., tailored solutions are available on demand, so that almost any requirement can be fulfilled.

With multiple collaborations all over the world and thanks to the **special partnership with Maschinenfabrik Reinhausen**, C.A.P.T. has established its role as an international player and is constantly working to improve its **customer service and brand development**, sharing the expertise and competence of MR network worldwide.



MANUFACTURING FACILITIES



With a manufacturing area of 5000 sqm and a high-technology production chain, CAPT entirely produces its de-energized tap changers in Trissino (Vicenza), in the northern-east of Italy. From the selection of the raw materials, across the multiple processing techniques and finishings, up to a strict quality control of the finished items, **no detail is left to chance**: every moment is extremely important to achieve the best result, as a goal for the company and its customers.

Expert technicians, specialized operators and trusted suppliers are involved in a detailed production process where quality and efficiency are always the main focus. For the assembly of series-manufactured products, a **fully automated process** has been designed and tested by CAPT's engineers: it takes **only five minutes to transform 45 components into a DT tap changer** for distribution transformer.

For large distribution and small power (**LDT and SPT series**), a **specific laboratory is completely dedicated to the assembly and quality control** of the tap changers. Moreover, thanks to the expertise of CAPT team, any request for customization can be fulfilled.



QUALITY AND MANAGEMENT SYSTEM CERTIFICATION

As the result of a constant process of improvement, C.A.P.T. has achieved important certifications during the years, which contributes to make the company a reliable partner.

ISO 9001:2008 - Management quality system

CAPT management system was first developed in 1998, when the company achieved for the first time the official certification according to ISO 9002:1994 standard. During the following years, CAPT has always been determined to keep up the quality level required for all the processes - design, purchasing, manufacturing, testing and sales of the products. The company system is currently certified according to ISO 9001:2008.

OHSAS BS 18001:2007 - Health and Safety management system

CAPT has been always working on the side of the employees' team, taking care of the welfare of every person. Thanks to the great experience worldwide achieved by the company during these years, and according to the current national laws regulation, CAPT system obtained the first certification in 2017. The company keeps on working in this direction as its constant aim is to fulfill the standards in terms of best level for safe working conditions.

DT SERIES for Distribution Transformers ≤ 36 kV

C.A.P.T. tap changers from DT series are specifically designed for applications where rated current is up to 200 Amps and voltage up to 36 kV. A wide range of solutions is offered, from switches with direct drive, up to cable applications, and also rotary tap changers: this series can cover almost any requirement in the field of Distribution Transformers.



090 Series - Bridge connection



090 Series - Linear connection



095 Series



096 Series

LINEAR TYPE: 090-095-096 SERIES

Thanks to the modular design and the multiple types of connections available, linear tap changers by C.A.P.T. combine **compact size with high performances**, allowing to optimize the design of the transformer.

090 type, the most popular solution among C.A.P.T. proposals for linear switches, represent a cost-efficient solution thanks to the **easy installation and low weight**: a limited amount of components is provided to the customer, which leads to a simplified assembling procedure on site and a maximum efficiency on applications up to 65 A, 36 kV. 090 series is the result of a series-manufacturing process which has been completely designed and tested by C.a.p.t.'s engineers to guarantee the maximum reliability.

When a more **mechanically robust design** is needed on DT units, 095 ad 096 series are available for applications with rated current up to 200 A: 096 type has a modular design with fixed dimensions of the shaft - it can be either L=91 mm or L=131 mm - while 095 type offers the possibility to customize the shaft length, which is adjustable upon request. Solid bakelite bars and stainless steel accessories make 095 and 096 a definitely efficient product.



099 Series

CABLE TYPE: 099 SERIES

099 series allows extreme flexibility of installation thanks to the cable system. Not only the tap changer can be installed horizontally on the top part of the transformer with contacts towards front, but it can be also mounted with different orientations, in example horizontally with contacts turned towards ground.

The tap changer can be even mounted vertically on the side of the transformer, or in front of the windings: this allow to save space and reduce the overall dimensions of the machine, with a great advantage for applications where rated current is up to 200 A and voltage is up to 36 kV.



086 Series

ROTARY TYPE: 085-086 SERIES

Designed in accordance to the British Standard assembly, 085 and 086 series are manufactured with rotary setting of the drive equipment. Adjustable shaft length and modular layout are combined together to obtain a switch of maximum efficiency.

085 type is suitable for rated current up to 100 A, voltage up to 24 kV; it has insulating boards between phases made of polyamide and fixed to a steel bar. 086 type is designed for rated current up to 300 A, voltage up to 36 kV; insulating boards between phases are made of phenolic paper board and are fixed to an aluminum bar, which guarantees both the fastening of the entire structure and a comfortable assembly to the tank of the transformer.



085 Series

In C.A.P.T. rotary series, the moving contact is specifically ring-shaped in order to allow self-centering. On 086 series, the moving contact can be silver-plated on demand, in order to allow better conductivity and helps preventing oxidation.

LDT SERIES

for Large Distribution Transformers $\leq 72,5$ kV

Large-Distribution Transformers with a maximum rated current of 1500 A and voltage 72,5 kV: this is the target of LDT series, a selection of tap changers that combine robust design with high performances.



010 Series

010 TYPE

For applications up to 72,5 kV and 600 A, up to 9 positions, where a **basic but reliable solution** is requested, 010 type is the perfect choice: it has a direct drive – handle or wheel – always placed at one side of the switch, and the shaft length can be cut-to-size according to the customer's needs.

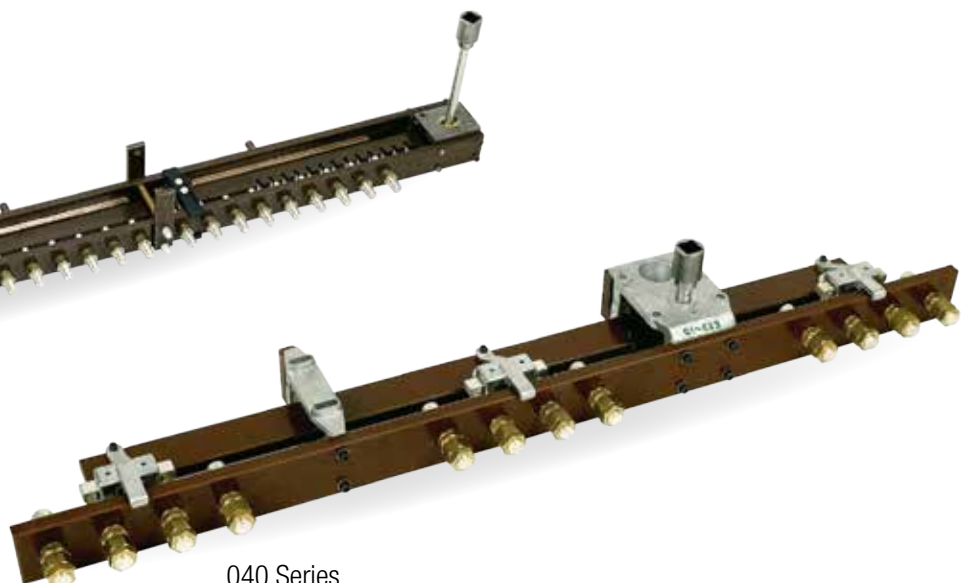
020-040 TYPE

Available in **multiple configurations of layout**, 020 and 040 series are very flexible in the customization to guarantee a high level of performance. As a matter of fact, the structure of these products is specifically designed to be solid and resistant, in order to withstand a high rating of current and voltage. The particular shape of flat contacts, for example, does withstand a **rated current of 1500 A**.

Drive equipment can be easily integrated with electrical and mechanical lock, as well as with MDU (Motor Drive Unit) in special configurations. The change of position is allowed by a **complete rotation of the shaft**, which ensure a high precision and avoids any displacement.



020 Series



040 Series

SPT SERIES

for Small Power Transformers $72,5 \leq kV \leq 245$

C.A.P.T. portfolio for medium and large power units embraces a target of tap changers for **rated voltage up to 245 kV**, specifically designed in multiple columns with **structural compactness**. These tap changers can be highly customized and, in very special applications, C.A.P.T. can provide **tailored solutions up to 20 positions**.



025 Series

025 TYPE

The tap changers from 025 series are manufactured to withstand "E" thermal class and a rated voltage **up to 170 kV**. For these switches, C.A.P.T. engineers have specifically designed a structure of multiple columns with **reduced width**: this allows the installation of the tap changer on the winding side of small-power transformers, generally from 10 up to 50 MVA.

030 TYPE

C.A.P.T. 030 series is designed to withstand "A" thermal class and rated voltage **up to 245 kV**. Reduced height thanks to the column structure and perfect insulation system complete the key features of this series, that is usually recommended for transformers with power above 50 MVA.

030 Series





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C.A.P.T. s.r.l.

Via Postale Vecchia, 17
Trissino - 36070 (VI) Italy
Tel. +39 0445 962297
Fax +39 0445 490606
e-mail: info@capt.it

www.capt.it

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