

BUSHINGS AND ACCESSORIES

FOR DISTRIBUTION AND POWER TRANSFORMERS



COMPANY PROFILE

Founded by the Giorgi family in 1967, CEDASPE has been **manufacturing bushings** and **accessories for distribution and power transformers** for almost fifty years, and is one of the best known companies on the market. CEDASPE became a part of the Reinhausen Group on 1 January 2016.

CEDASPE is an Italian company, exporting more than 90% of its products across the globe. This success has been built up through long-term relationships that have led to CEDASPE becoming renowned as being a reliable manufacturer of consistently **high-quality products**.

Production and logistics are focused on the continuous improvement of effectiveness and efficiency. In particular, thanks to a long tradition consolidated by decades of experience and thanks to close cooperations with its suppliers, CEDASPE is able to **customize almost every product in order to satisfy customer requirements**.

Today, CEDASPE has operation facilities in three locations in Italy, employs more than 70 people, has several joint ventures and works in very close contact with the Reinhausen Group, sharing expertise and experiences to improve customer service.



SILICONE BUSHINGS FOR POWER TRANSFORMERS

SILICONE COMPOSITE BUSHINGS (SBC)

In 2014, CEDASPE introduced a new family of bushings in response to the ever increasing demand for a safe, efficient and reliable product that would help both OEMs and utility companies to optimize the total operational cost of the transformer: the **Silicone Composite Bushing (SBC)** range.

The CEDASPE SBC bushing is a hollow-core oil-filled composite bushing featuring a wide operational range: from 12 kV to 52 kV rated voltage and from 630 A to 4500 A rated current.

The **insulation body** is made of a fiberglass tube with an integrated aluminum flange that improves the bushing strength and reduces the risk of oil leakage; the silicone insulator is molded directly onto the fiberglass tube via a modern injection system based on liquid silicone technology (LSR).

This use of silicone technology ensures that the bushing is **safe, maintenance-free and has a longer service life**.

The **innovative** CEDASPE SBC **bushing design** has the same overall dimensions of the corresponding porcelain type bushing, either in accordance with DIN 42533 and 4 or EN 50180, allowing for replacement on site during normal transformer maintenance operations.



PORCELAIN BUSHINGS FOR POWER AND DISTRIBUTION TRANSFORMERS



POWER BUSHINGS

Porcelain bushings for power transformer applications are one of the largest parts of the **CEDASPE core business**, with a rated voltage range from 12 kV to 52 kV and a rated current range of 250 A to 12.5 kA. These bushings are manufactured in accordance with EN 50180 and EN 50243.

Thanks to their design, which has evolved through many years of experience, and to the consistent use of top quality materials, CEDASPE bushings provide excellent **performance even under very extreme applications**.

Easy handling and an almost infinite range of customization options make CEDASPE bushings one of the **best value solutions on the market**.

DISTRIBUTION BUSHINGS

Porcelain bushings for distribution transformers form a large part of the CEDASPE output, amounting to hundreds of thousands of units **manufactured each year**.

The CEDASPE ED series has been designed for a rated voltage of 1 kV and a rated current range of 250 A to 4500 A. An intelligent assembly, packaging and delivery process as well as the optimized tightening solution ensure that the ED series represents the **best value-price guarantee on the market**.

The LV and MV series, with a rated voltage of 3 kV and 24 kV / 36 kV respectively, complete the distribution bushings portfolio. A standardized design and production expertise developed over many years ensure that, as with the ED series, they also represent the best value-price guarantee on the market.

FLAGS AND CUSTOMIZATIONS

The CEDASPE design and production system enables a huge range of customization options, with **hundreds of configurations available**. Flags and bushing connections can also be sized and designed in accordance with customer specifications.

CEDASPE also manufactures highly specialized parts such as busbars for rectifier and furnace transformers.



INSTRUMENTS AND MEASUREMENT DEVICES



BUCHHOLZ RELAYS

Designed to detect faults and minimize the propagation of any damage in oil-filled transformers, the CEDASPE Buchholz relay is particularly effective in the event of short-circuited core laminations, degraded core bolt insulation, windings overheating, short circuits, ground faults and poor contacts; the relay operates via an **alarm switch** in the event of gas accumulation or via a **trip switch** in the event of an abrupt increase in the oil flow rate or loss of oil.

CEDASPE Buchholz relays are available in the **EB and EE series** with a 4- / 8-hole flange or 6 hole flange, and devices of both series are available in configurations of up to 4 contacts. The body and the cap are made of an aluminum alloy casting. The compact design, small size and low weight as well as the large inspection window ensure that this device is **easy to use and to handle**. Furthermore, with IP65 protection and appropriate surface finishing, this device is **suitable for operation under extreme environmental conditions**.

OIL LEVEL GAUGES

CEDASPE oil level gauges are available in two main design versions: the NFG series and IFG series. Both are suitable for conservator with/without rubber bag and both are available in **radial and axial versions**.

The body is made of an aluminum alloy casting and has IP65 protection. CEDASPE oil level gauges are available with a 100, 150 or 250 mm indicator dial and are suitable for indoor and outdoor applications, for multiple mounting positions (tank and OLTC level indication) and with up to 4 contacts.

Both the NFG series and the IFG series can be manufactured in 3 different sizes. The IFG series features **easy dial reading** thanks to its **inclined flanged body**.



PRESSURE RELIEF DEVICES

CEDASPE pressure relief devices are designed to prevent excessive mechanical stress caused by increases in pressure that can occur in the event of a short circuit inside an oil-filled transformer.

The **RT6 series** is designed to operate quickly in response to sudden increases in pressure inside the transformer. The **VP 150 series** has a directional oil flow design with a square flange for installation into a duct to direct oil flow in the event of an internal electrical fault.

OIL FLOW INDICATORS

The CEDASPE **SCFR2 and CCL2 series** are designed for monitoring the water/oil flow rate values in accordance with EN 50216. Available for applications using flag and lever models respectively, these devices are suitable for connection to pipes with diameters from 50 mm to 300 mm and from 2" to 12".



TANK ACCESSORIES



BUTTERFLY VALVES

The CEDASPE butterfly valve portfolio includes both **round and radiator valves**. Quality assurance, high quality finishing and several versions make these valves the perfect devices for enabling isolation of the Buchholz relay for replacement purposes as well as for enabling the disconnection of radiator circuit components. The **round valves** are available in the DN, JUZ and SUZ series, and range from 25 mm to 350 mm nominal diameter.

The **radiator valves** have a nominal bore diameter of 80 mm and are available in the SW series, with metal to metal sealing, and the TW series, featuring total sealing with O-ring (zero leakage).

Furthermore, all butterfly valves are available in an offshore version. With an AISI 316 body, they work perfectly even in very extreme environmental conditions.

BREATHERS

CEDASPE breathers are available in two main versions: the **VE series and the VC series**. Both types are suitable for replacing the earlier DIN series and are available as a traditional single body as well as a modular assembly.

The PMMA or tempered-glass cylinder is flanged, and an S/S shield is available on request. The CEDASPE breathers are available with a capacity ranging from 0.25 kg to 15 kg for single body versions, and up to 45 kg for modular assembly versions.

The **VE series** breathers have an air inlet bottom oil cup protected by an aluminum housing, while the **VC series** breathers have an air inlet that works via a spring loaded and bi-directional bottom valve.



TERMINAL AND CORE GROUND BOXES

CEDASPE terminal and core ground boxes have an innovative design that simplifies wiring connections and grounding operations while ensuring the highest level of reliability: anti-rotation and non-loosening terminals, insulation feedthroughs of cast aluminum and IP65 protection ensure that these devices are safe, reliable, easy to handle and maintain.

The **TBX series** devices are suitable for CT leads and for fiber optic sensors, and are available in **a wide variety of sizes and terminals/entries**. Thus, the CEDASPE TBX range is suitable for use in several applications. The **CGX series** devices, with 2 or 3 terminals, are designed for core/frame grounding. The **compact body design overcomes common grounding problems** and simplifies transformer diagnostics. A flexible copper connection kit is available on request.

MANUFACTURING AND FACILITIES



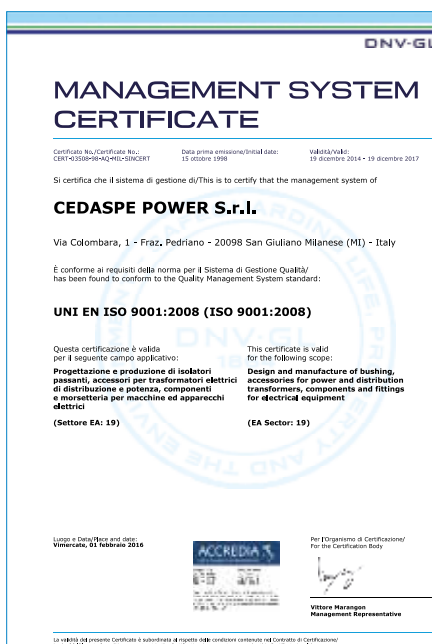
CEDASPE has always invested in new technologies. Today, the production facilities boast state-of-the-art **transfer- and CNC machines** enabling the manufacture thousands of **high quality products**.

A **new HV testing room** is dedicated to routine testing and testing new products. The expertise of suppliers and employees combined with the efficient use of the latest technology enables CEDASPE to provide **quality, value and a range of services** to its customers.



Always striving for innovation and excellence, **CEDASPE takes a proactive approach towards the future**, with the aim of improving reliability day by day and designing new products to satisfy the latest market trends.

QUALITY AND MANAGEMENT SYSTEM CERTIFICATION



ISO 9001 CERTIFIED

The CEDASPE quality management system has been ISO 9001 certified since 1998, and is regularly reviewed by an independent internationally recognized and accredited organization.

DURABLE, RELIABLE AND STANDARD-COMPLIANT

Drawing upon extensive and proven experience in the field, CEDASPE bushings and accessories are designed and manufactured to satisfy and exceed the requirements of international IEC and EN standards and regulations.

All products are tested in accordance with the latest IEC 60137 (bushings) and EN 50216 (accessories for power transformers) standards.

PARTICIPATION IN STANDARDIZATION WORK

CEDASPE is directly involved in numerous IEC and national technical committees working on the development of standards and has been for many years now.



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