



Brusatori

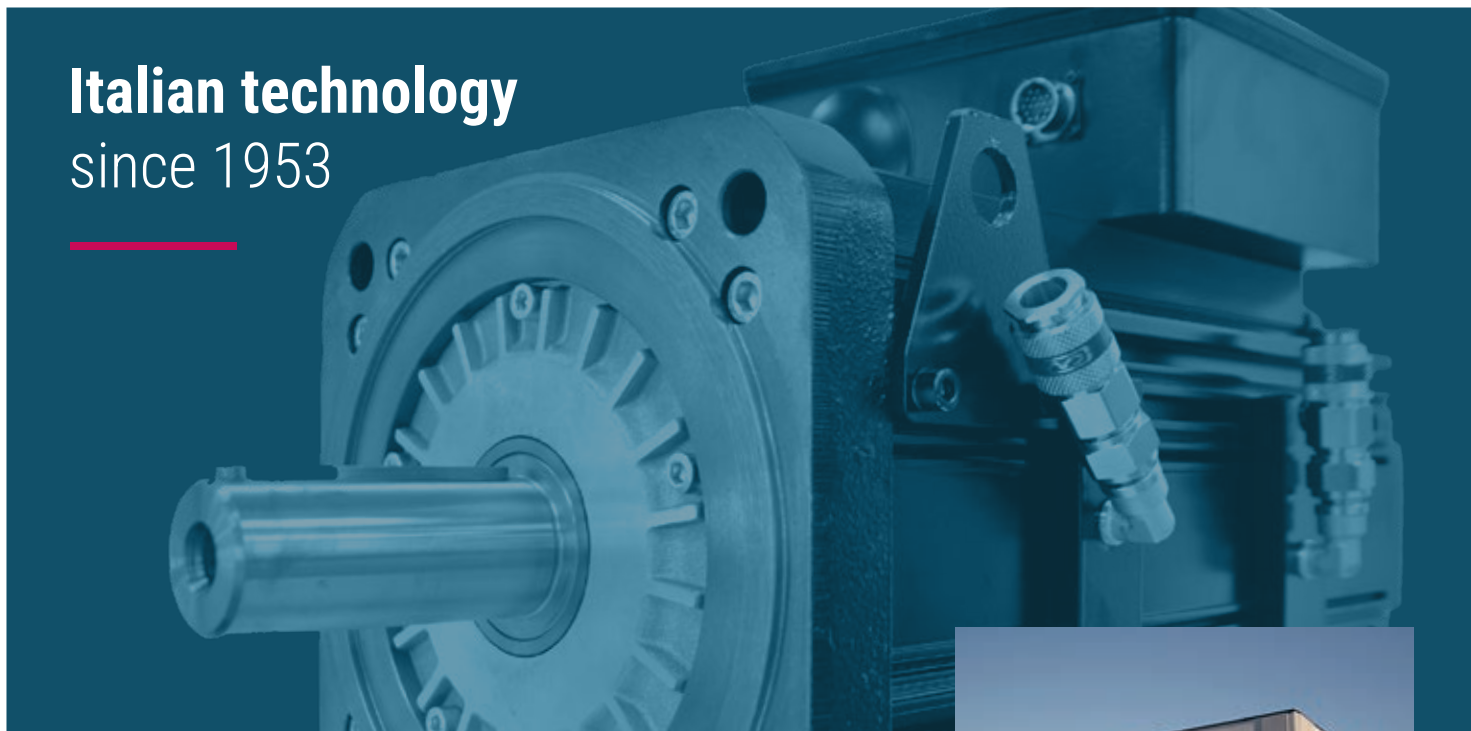


Specialists **in Electric Motors**

Company Profile

brusatori.eu

Italian technology since 1953



Brusatori, the partner for electric motors



Founded in 1953, Brusatori SRL is a reliable partner for the supply of electric motors and the development of new applications for technological improvements in the field of industrial automation.

The company, after years of growth and development of new products and technologies, is currently present in the sectors of plastic processing machines, flexographic printing machines, injection presses, extrusion, raw material processing, woodworking, food and many other sectors of high national and international interest. DC motors with permanent magnet stator, asynchronous motors suitable for vector control and brushless motors in the most varied configurations are realized.

The last few years have been characterized by continuous developments up to the realization of pitch control systems for wind towers.

The company's great flexibility has allowed to target the most different markets and applications. Currently, all known production sectors are served, from the food industry to printing machines, machine tools and finally the ever-growing wind power sector.

Often extremely short delivery times together with ISO, CE and UL certifications allow the company to meet all market demands, while maintaining extremely high-quality standards with machines built in the 1980s, that are still in working order.



Solutions for special motors

Quality Management **Brusatori** guaranteeing the best product

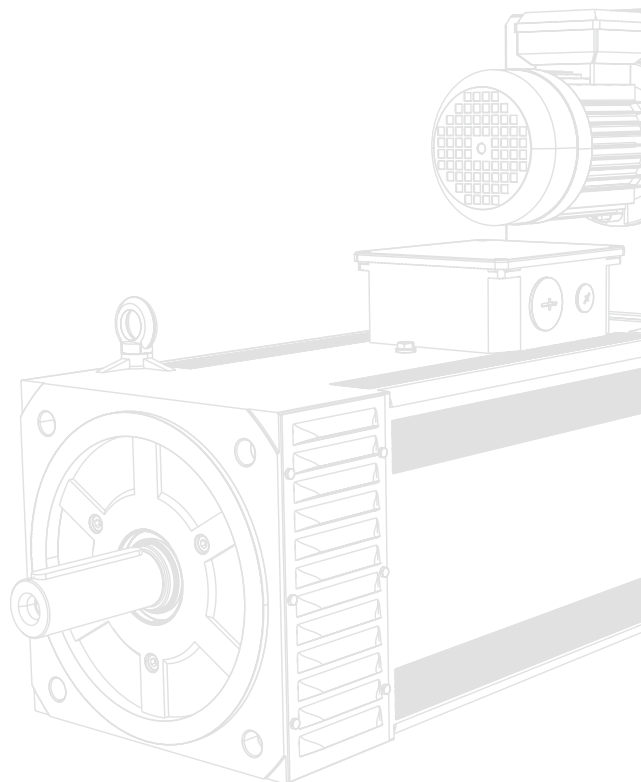
Within Brusatori, a quality management system has been adopted in accordance with UNI EN ISO 9001:2015, which links all activities that influence the development of a new product, its realization and all services related to the sale and service provided for the product.

The Quality Management System consists of an internal organizational structure that identifies customer expectations and consequently:

- describes and verifies development processes
- identifies the responsibilities of each entity
- draws up the necessary procedures and documentation
- verifies the planned processes for achieving the required results and from:
 - people being trained and acquiring skills
 - people who are trained for the realization of new products
 - people who have the equipment to make the products
 - people motivated in their work and in pursuing a common goal.

This led to a high-quality level, where the strong point remains the collection of data used by the Quality Manager to set up actions aimed at a continuous improvement.

The certification of this system is entrusted to DNV GL - Business Assurance Italia, one of the world's leading certification bodies.



Milestones

1953

From the idea, skills, knowledge and resourcefulness of brothers Carlo and Giovanni Brusatori, Officina Meccanica Fratelli Brusatori was founded in Vanzaghello, a company specializing in the production of electric motors a few kilometers from Milan.

Thus began the production of the first AC motors.



COSTRUZIONE
MOTORI
ELETTRICI

1971

Brusatori starts production of the first DC motors with round casing. The CC series motors are born.



1990

From the demand for increasingly high-performance machines, BR series motors, brushless permanent magnet motors, are born.



1995

Design of square-case DC motors begins. ML series motors are born.



2001

From the renewable energy market come the first requests for motors to control wind turbine blades. The first DC PITCH motors are born, which, over time, will be replaced by the higher-performance brushless motors.



2008

Production of VT series motors, square-case vector motors, begins. VT motors, which can be driven by inverters, are designed to be able to replace DC motors driven by AC/DC converter.

Later, VF series motors will be introduced in parallel, with the aim of increasing mechanical size and power.



2010

Operational headquarters moved to the new one in Cuggiono (MI), where the Vanzaghello and Castano Primo production facilities converge.



2018

Brusatori's cooperation with the German company KEB begins, which acquires a minority stake. A new production of motors for the wind energy sector is also launched, complementing the existing one.



2020

In order to achieve ever higher levels of quality, increasingly precise and efficient machinery is purchased, an end-of-line test bench is built, and a new test room is constructed.



2022

Work is completed on the expansion of the production facility located in Cuggiono with the addition of new spaces for production, for the painting department and with the expansion of a more structured and efficient warehouse. The German company Keb Automation acquires a corporate majority, and Mr. Marco Sala is appointed as the new managing director.



2024

Launch of the new range of BRW series brushless motors (water-cooled brushless motors), characterized by their compact size and extremely high performance.



2025

Design and manufacture of two new ranges of VA/VR motors, to compete in a market, where power requirements are increasingly high and energy consumption is increasingly low.



BR series Brushless motors



Specifications

BR Series servomotors are designed to offer the highest dynamic performance and are used in applications such as CNC lathes, servo pumps, metalworking and woodworking machines.

The use of Neodymium Iron Boron magnets with a high energy product makes it possible to obtain motors with high specific power capable of withstanding large overloads, without the risk of demagnetization.

The magnetic circuit is designed to allow the motors to produce a sinusoidal F.e.m. with low torque ripple.

Low rotor inertias guarantee the possibility of high acceleration and deceleration.

Standard features

- Winding: three-phase star without accessible neutral
- Winding insulation: class H according to IEC 2-3 (2000)
- Dimensioning: class F ($dT_{max}=105K$) according to EN 60034-1 (2000)
- Degree of protection: IP54 according to IEC EN 60034-5 (2001)
- Position sensor: 2-pole resolver
- Cooling: IC 410 (motor without servo-ventilation), IC 416 (servoventilated motor) according to IEC EN 60034-6 (1997)
- Balancing grade: G 2.5 according to ISO 1940-1 (1993) (half-key balancing for shafts with key CEI 2-23 (1993))
- Bearings: lubricated for life
- Thermal protection: thermal protector with normally closed contact. Tripping temperature $130\pm5^{\circ}C$. (Maximum voltage 250Vac, maximum current 5Aac)
- Design: IM B5 according to IEC EN 60034-7 (1993)
- Position of service: any
- Colour: black RAL 9005
- Reference conditions: ambient temperature $+40^{\circ}C$, max. altitude 1000m a.s.l.
- Storage temperature: $-10^{\circ}C$ to $+70^{\circ}C$
- Reference switching frequency: 8kHz

New Strength

Functional safety
available

Highlights

Water cooled motors (**BRW9**)

VT/VF series

Asynchronous motors

Specifications

The three-phase asynchronous motors of the VT and VF series are designed to provide the highest performance, when powered by inverters.

The high power-to-size ratio coupled with excellent dynamic response to speed variations makes these motors suitable for many different applications.

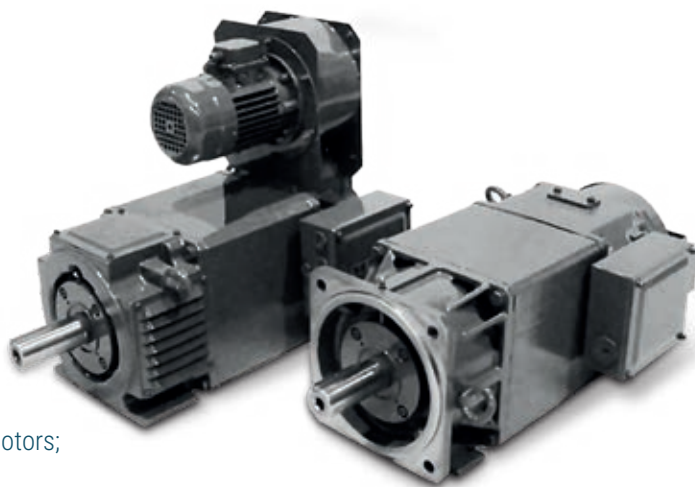
Their overall dimensions and power output make them appropriate for replacement of DC motors and they are particularly used in industrial conditions where high speed and high performance are required.

They are available in a variety of configurations on customer request.



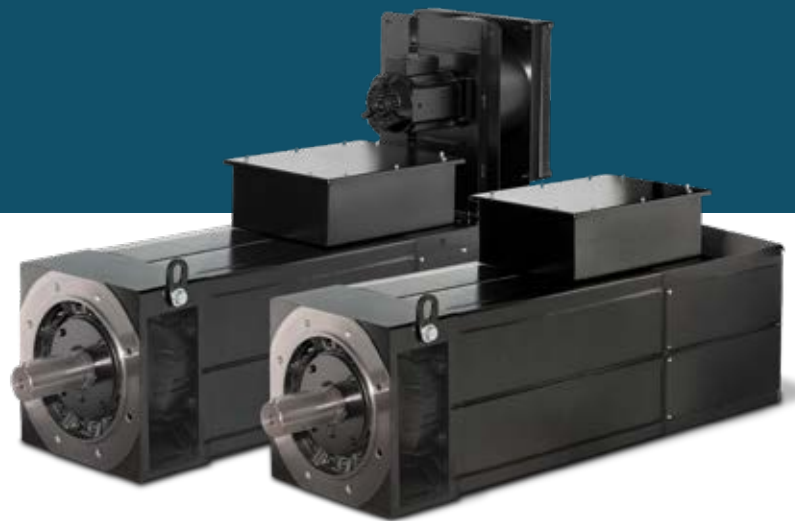
Standard features

- Winding insulation: class H
- Thermal dimensioning: class F
- Degree of protection: IP54 for motors VT71-80-90- 100, IP54 or IP23 for motors VT 132 to VF 355
- Cooling: IC 416 (for IP54 motor); IC 06 (for IP23 motor)
- Design: B5 for VT71, VT80, VT90 motors; B35 for VT100, VT132 motors; B3 or B35 for VF160 to VF 355 motors
- Ball bearings lubricated for life
- Thermal protection: thermal protector with normally closed contact. Tripping temperature $140\pm5^{\circ}\text{C}$. (Maximum voltage 250Vac , maximum current 6A)
- Colour: black RAL 9005
- Reference conditions: ambient temperature $+5^{\circ}\text{C}$ to $+40^{\circ}\text{C}$, max. altitude 1000m a.s.l.
- Storage temperature: -20°C to $+70^{\circ}\text{C}$



VA Series

Asynchronous motors



Specifications and strengths

The VA series three-phase asynchronous motors are designed to be powered by a frequency converter in accordance with IEC 60034-25 and to provide the highest performance.

The high power-to-size ratio, accompanied by excellent dynamic response to speed variations, makes these motors suitable for a wide range of applications.

Their dimensions and power output make them suitable for replacing direct current motors. They are particularly used in industrial applications where high speeds and high performance are required. They are available in a wide range of configurations and can be customized on customer request. The main strength and distinguishing feature of this type of motor is linked to the peculiar characteristic of being designed and approved for UL certification.

Standard features

- Winding insulation: class F according to IEC EN 60034-1
- Thermal rating: class F according to IEC EN 60034-1
- Degree of protection: IP54 with axial ventilation, IP54 with radial ventilation or IP23 on all sizes
- Cooling: IC 416 (for IP54 motor); IC 06 (for IP23 motor) according to IEC EN 60034-5
- Balancing class: A (with half key for shafts with EN 60034-14 key)
- Operating position: any
- Lifetime lubricated ball bearings
- Thermal protection: thermal protector with normally closed contact. Intervention temperature $150\pm 5^{\circ}\text{C}$. (Maximum voltage 250 Vac, maximum current 6 Aac)
- Color: black RAL 9005
- Reference conditions: ambient temperature from $+5^{\circ}\text{C}$ to $+40^{\circ}\text{C}$, max. altitude 1000m above sea level.
- Storage temperature: -20°C to $+70^{\circ}\text{C}$

New strength

Approved for
UL certification

Highlights

Liquid-cooled motors
(VAW)

VR Series

Reluctance motors



Specifications and strengths

Reluctance motors are high-performing, offering high energy efficiency, greater sustainability, and lower noise levels than traditional asynchronous motors.

A very important feature of VR motors is that they are developed with a square mechanical shape, which makes them much more compact for the same power compared to classic round motors, offering a very high power/size ratio and making them easily interchangeable.

These motors are used in fields where the load rotates at a fixed speed but also where variable speed control is required, in the speed control of pumps, fans, compressors, and in various industrial applications.

The main strength and distinguishing feature of this type of motors is linked to the peculiar characteristic of being designed and approved to have certified insulation on the OBJ-Y2/8 winding.

Standard features

- Winding insulation: class H according to IEC EN 60034-1
- Thermal rating: class F according to CEI EN 60034-1
- Protection rating: IP54 for the entire range
- Cooling: IC 416 with axial fan (radial fan on request)
- Construction type: B3-B35
- Mounting position: horizontal or vertical
- Lifetime lubricated ball bearings
- Thermal protection: thermal protector with normally closed contact.
Intervention temperature $150 \pm 5^{\circ}\text{C}$
- Color: black RAL 9005
- Reference conditions: ambient temperature from $+5^{\circ}\text{C}$ to $+40^{\circ}\text{C}$,
max. altitude 1000 m above sea level
- Storage temperature: -20°C to $+70^{\circ}\text{C}$

New strength

Motors approved for insulation
certified OBJ-Y2/8

Highlights

Liquid-cooled
motors **(VRW)**

BT series

Torque motors

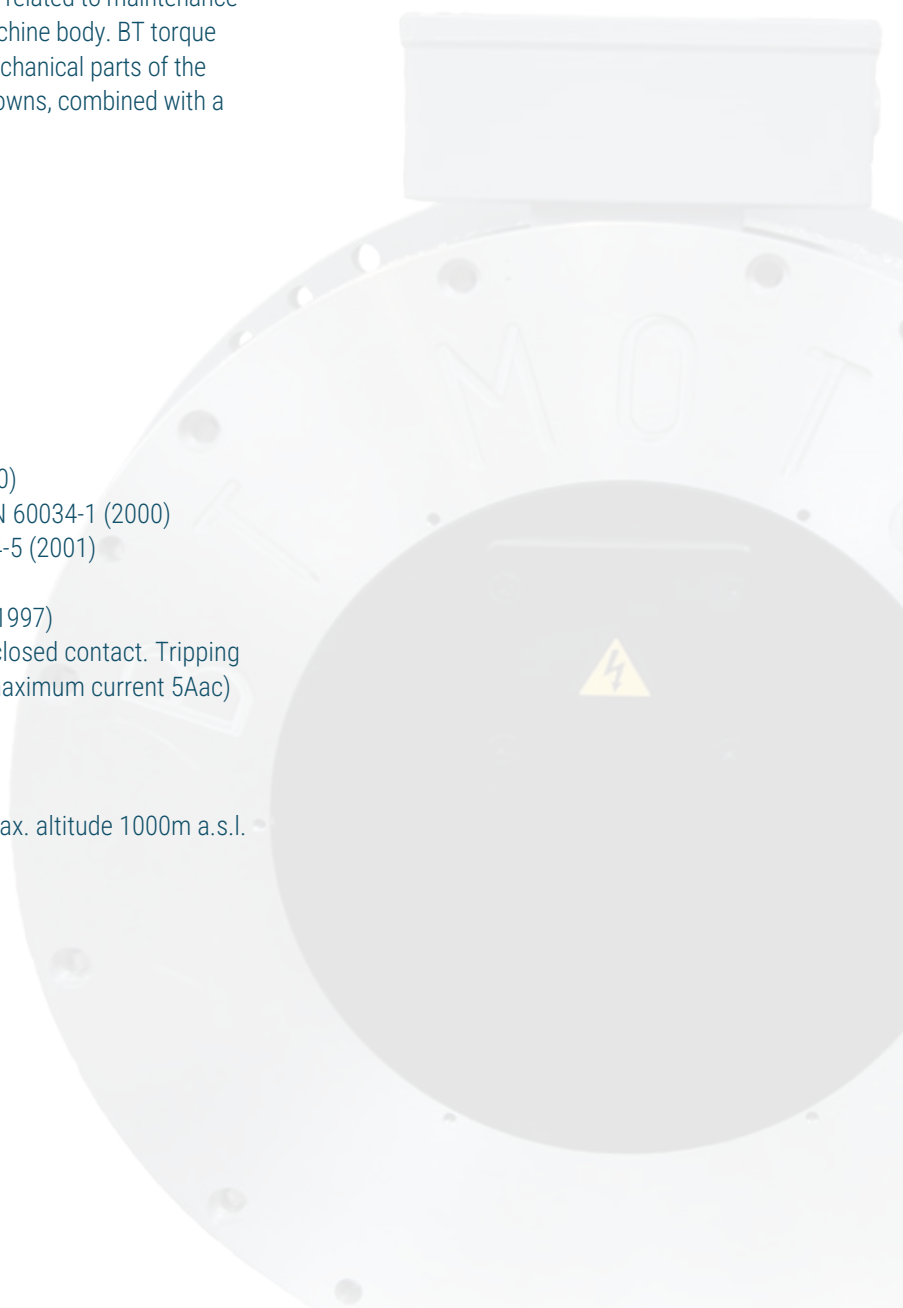
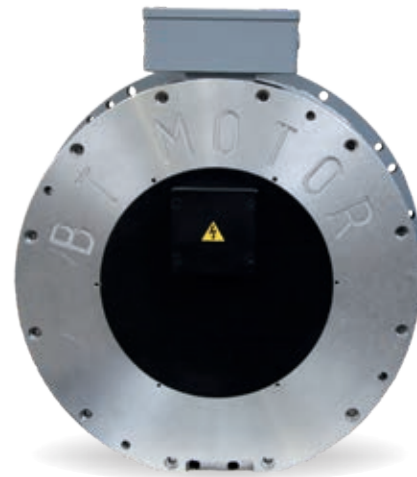
Specifications

BT series torque motors are multipole electric servomotors consisting of two main components, rotor ring and stator ring, and they are designed to offer very high torque.

They find their use in all applications, where the use of standard motors connected to a gearbox does not allow high productivity standards to be achieved, and they allow the reduction of machine costs related to maintenance and energy consumption by fully integrating into the machine body. BT torque motors offer the enormous advantage of eliminating mechanical parts of the machine and consequently a lower possibility of breakdowns, combined with a lower management of spare parts.

Standard features

- Winding: three-phase star without accessible neutral
- Winding insulation: class H according to IEC 2-3 (2000)
- Dimensioning: class F ($dT_{max}=105K$) according to EN 60034-1 (2000)
- Degree of protection: IP54 according to IEC EN 60034-5 (2001)
- Position sensor: encoder or 2-pole resolver
- Cooling: liquid cooling according to IEC EN 60034-6 (1997)
- Thermal protection: thermal protector with normally closed contact. Tripping temperature $130\pm5^{\circ}C$. (Maximum voltage 250Vac , maximum current 5Aac)
- Construction form: open frame
- Position of service: any
- Colour: black RAL 9005
- Reference conditions: ambient temperature $+40^{\circ}C$, max. altitude 1000m a.s.l.
- Storage temperature: $-10^{\circ}C$ to $+70^{\circ}C$
- Reference switching frequency: 8kHz



Special motors for wind power

Generators

The goal of zero emissions by 2050 led Brusatori to become increasingly involved in the renewable energy sector, hence the strong push for the development and production of synchronous generators for wind turbines and motors for blade pitch control, the so-called PITCH motors. In areas with a windy climate, wind farms are designed and built. By harnessing the force of the wind, which causes the turbine blades to move, mechanical energy produced turns the generator and becomes electrical energy. As was the case in the past with the use of wind to generate mechanical power for the mills 'operation, with wind turbines we can transform the mechanical energy of wind into electrical energy, with enormous advantages for private and industrial users. The development of the BR series together with the BRKS series for generators from 10kW to 100kW gives rise to technically efficient and economically attractive solutions, making them suitable for use in various environments.



Pitch motors

Also, with a view to energy savings and the use of renewable energy, Brusatori has for several years now been developing certain types of Pitch motors, starting with the first ones with DC power supply, and then moving on to those with brushless technology. These motors must guarantee strength and a long service life and are designed for the three macro types of installation: onshore, nearshore, and offshore.

Each of these requires specific features due to the environmental conditions in which the motors operate. For this reason, the choice of components produced by world-leading companies, the type of painting applied to the products, and the high level of testing during the construction and final testing phases make the products ideal for the heavy-duty use, to which they will be subjected. Brusatori products can be used in turbines above 10MW.



Metal
Machine
Tools
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Plastic
Wood
Paper
Textile
Food
Fluid
Power
Lifting

A **motor**
for **every**
application



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