



C.F.R.

PRODUCTS

**C.F.R. s.r.l.** has been involved with the design, development and manufacture of electric motors, electric motorpumps and motor in wheel units for many decades. Well-proven designs, the use of specially developed materials, constant testing and sophisticated production techniques ensure products of the very high quality. We are specialized solutions provider of electric vehicle components and drive systems. C.F.R. maintains the highest industry standards including: ISO 9001, RoHS Compliant, Reach Policy, European Machinery Directive, and CE as applicable.

Many years of experience in engineering a wide variety of electric vehicles from many different manufacturers and applications, have indicated for optimum cost, performance and reliability a number of details are very important, with this in mind, we suggest you contact our friendly commercial team who will be happy to send you an enquiry form to complete and return to us, at your earliest convenience.

## Your Partner in drive solutions

### D. C. MOTORS

Built with H class insulated wire copper in conjunction with rotor winding impregnation by epoxy paints and resins. This guarantees high strength and reliability at up to 155° C winding temperature.

We can offer: series, compound, shunt and separately excited wound field motors

**Power:** 100W up to 20000W

**Voltage:** 12V up to 96V

### PERMANENT MAGNET MOTORS

We use:

- Ferrite magnet
- Rare earth magnet
- Enclosure from IP 20 up to IP65

**Power:** 100 W up to 8000 W

**Voltage:** 12 V up to 96 V

### AC 3 PHASE ASYNCHRONOUS MOTORS

This range of AC induction motors have been produced for battery-operated vehicle.

The motor program covers a wide range, can be produced open IP20 or closed up to IP65.

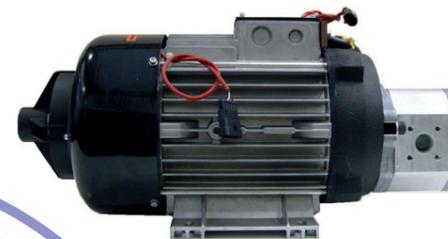
This motors can work well and can be tuned with many different electronic controllers

To optimize efficiency and performance our technical team is at your disposal for any needs.

The C.F.R. AC motors have a built in thermal sensor for monitoring motor temperature and are normally supplied with a 2-channel speed encoder.

**Power:** 100 W up to 40000 W

**Voltage:** 12 V up to 96 V



### MOTOR IN WHEEL UNITS

Produced with low operating noise gear box, minimal envelope radius, and compact design.

We can supply drive wheel with horizontal or vertical motor, with or without power steering package. The motor can be D.C. or AC. On request we can supply shaft extension for encoder application and special plates. All models can be supplied with turntable bearing.

Tire can be rubber, polyuretan, vulkollan or non marking tire.



### ELECTRO-HYDRAULIC PUMPS

The electro-hydraulic pumps consist of an electric motor + pump. The motor can be AC or DC and the pump supplied are in general gear type.

We can supply different motor windings, widely used for different applications like steering, lifting and traction.

On request we can supply different drive end side, so the customer can fit different type of pumps.

**Power:** 100 W up to 40000 W

**Voltage:** 12 V up to 96 V

### GEAR MOTORS

Made of D.C. or AC motor and a planetary gear box. Available with drive end flange and shaft of the motor for a direct mounting on the gear box or with standard IEC connecting flange of the motors

Gear box with low-noise, low gear backlash, high efficiency, grease lubricated, can be mounted in any positions. Available with 1, 2, 3, 4 stages of reduction. On request we can supply electromagnetic brake or shaft extension.

Output torque from 8Nm up to 300Nm  
Operating temperature -10°C to +70°C

## ACCESSORI - ACCESSORIES - ZUBEHÖR



Teleruttori di avviamento  
*Contactors*



Staffe di fissaggio  
*Foot mounting*



Protezioni termiche e rilevatori di usura  
*Thermal protection and detectable wear system*



Freni elettromagnetici  
*Electromagnetic brakes*



Applicazioni di dinamo, encoder  
*Generator or encoder applications*



Riduttori a vite senza fine, epicicloidali  
*Worm and planetary gearboxes*



Ventilazione forzata  
*Forced ventilation*



Protezioni speciali  
*Special enclosures*



Elettromotoruote  
*D.C. motor in wheel units*



**C.F.R. S.r.l.**  
Via Raimondo Dalla Costa, 625  
41122 Modena, Italy  
Tel. +39.059.250837  
Fax. +39.059.281655  
info@cfritaly.com  
www.cfritaly.com