

## FADIEL ITALIANA MINI MOTORS

### HANDLING CLUTCH, BRAKE AND ACCELERATOR PEDALS

Fadiel Italiana's mission has always been to research the highest performance driving devices combined with extreme versatility and safety for the customer.

The continuous evolution of vehicle manufacturers in the automotive sector (e.g. electric cars, hybrids, etc.) has pushed Fadiel Italiana to develop a whole series of drive devices designed to optimise the user's needs, with a particular focus on aesthetics, ergonomics and safety. In this area, it's becoming increasingly difficult to dialogue with the vehicle's software, and the development of mini-motors that allow the clutch, brake and accelerator pedals to be operated without any type of interface with the cars' original software has become crucial, while maintaining the highest performance guaranteed by Fadiel's electronic drive devices. These are mini-motors preferably concealed in the vehicle, which over time will become indispensable in order to continue being able to manage manual accelerators in electronic mode. These mini-motors have been designed and developed by Fadiel Italiana's research and development department, the result of thirty years' experience in the disability area, and built ENTIRELY at the Meolo site in the province of Venice. Due to their extreme compactness in terms of size, these mini-motors are preferably installed inside the vehicle, solving all the problems related to the lack of space in the engine compartment and the difficulties in passing the electrical wires and the traction cable of the pedals from the engine compartment to the passenger compartment.

The pedal movement response times are comparable to normal foot operation.



Mini Motor - Accelerator



Mini Motor actuator 2 motors



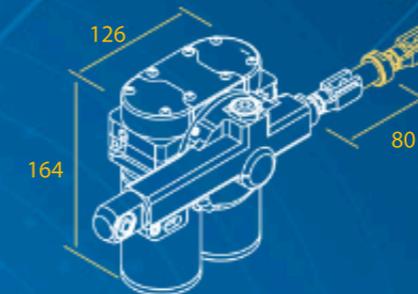
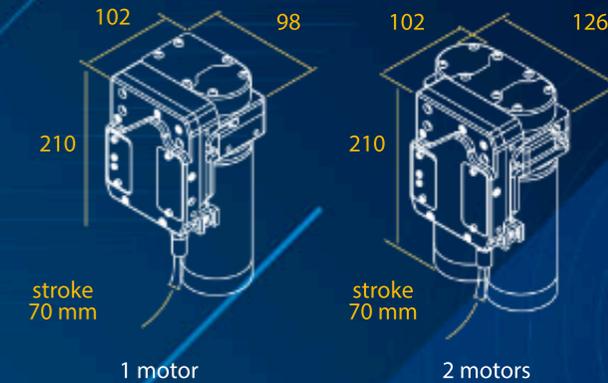
### MINI MOTOR - ACCELERATOR

Consisting of a single motor and an electronic control unit, the accelerator pedal is moved by means of a steel cable connected to the accelerator pedal. To protect the safety of the user, this device is fully reversible; in fact, the mini actuator is designed in such a way that, in the event of a malfunction, a spring inside the actuator allows the pedal to be returned to zero.

### MINI MOTOR - CLUTCH

For moving the clutch pedal, Fadiel Italiana offers two mini-motors models, i.e. a single-motor version for normal pedals, or a two-motor version for pedals with a higher operating resistance. In both cases there is an electronic control unit.

Also in this case the device is reversible, so in the event of a failure of the mini-motor, if the clutch pedal should remain crushed, and thus invalidate the use of the vehicle, it's possible to move it manually upwards, returning it to its normal operating condition, to be used with the foot.



### MINI MOTOR - BRAKE

This particular mini motor requires special attention to safety. For this purpose, it consists of two motors coupled to two different electronic control units to ensure double safety. In addition, the mini-motor is coupled directly to the brake pedal via a rack, without the interposition of cords. This solution could normally result in the mini-motor being difficult to position on the pedals, but Fadiel Italiana has studied and solved this problem by designing and building a mobile thrust head that orients the two motors, optimising the availability of space.