**FAMILY E - ES 40**

**DUAL COIL SOLENOID FOR PULL ACTION OR PULL-PUSH ACTION**

**SPECIFICATIONS**
- **Rated voltage**: 12 V DC, 24 V DC
- **Pull current**: 31 A, 15.2 A
- **Hold current**: 0.53 A, 0.29 A
- **Duty service**: Continuous (100%)
- **Stroke**: 40 mm
- **Force at starting**: 1.7 Kg
- **Windings insulation class**: H (180° C)
- **Ambient temperature**: -40° C ÷ 120° C
- **Weight**: 0.76 Kg

**OPERATION**
The solenoid has two windings:
- An intermittent-service pulling winding involved in the initial phase for approximately 150 ms, with the function of moving the plunger.
- A continuous-service holding winding, with the function of maintaining the plunger in position.
For a proper operation of the solenoid, it is indispensable for the plunger to reach end of travel and to obtain the perfect adherence to the bottom.

**AVAILABLE OPTIONS**
The desired model has to be defined choosing one option in every column, building in this way the solenoid code.

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**FORCE VARIATION COEFFICIENT ACCORDING WITH AMBIENT TEMPERATURE**

1 Kg = 9.81 Newtons

**DIAGRAM OF FORCES AND STROKES**

**C O S T R U Z I O N I  E L E T T R O M A G N E T I C H E I N D U S T R I A L I**
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FAMILY E - ES 40
DUAL COIL SOLENOID FOR PULL ACTION OR PULL-PUSH ACTION

ELECTRIC CIRCUITS FOR DIESEL ENGINES

**SERIES 1**  WITH INTERNAL SWITCH

DIRECT ELECTRIC CIRCUIT
The solenoid connection is not conditioned by the polarity (+ and -)
In the version with cables these are blue.

**ELECTRICAL CONNECTIONS**
- BY FASTON
- BY CABLES F
- BY SCREWS V

**SERIES 2**  WITH INTERNAL SWITCH

ELECTRIC CIRCUIT COMBINED WITH STARTER MOTOR
The solenoid connection feeding the pull coil P and the hold coil T is marked with
the indication PULL (red cable) and HOLD (blue cable). The body is connected
to ground. The pull coil P is fed in parallel with the starter motor: the red cable
connected to the positive of the starter motor and the blue cable connected to
the positive of the key switch. The auxiliary switch K ensures disconnection of the
coil P and prevents the possible damaging “return” of parasitic currents.

**ELECTRICAL CONNECTIONS**
- BY FASTON
- BY CABLES F

**SERIES 3**  WITHOUT INTERNAL SWITCH

The connection of the solenoid is the same as for the Series 2. The pull coil P
and the hold coil T are respectively marked PULL and HOLD.
The negative common in the version with faston is at ground.
- Designed for coupling with starter motor
- Designed for external switch (Code CEI IE04 - timed static electronic switch
ideal for dusty or saline environments and in applications with repeated
accelerations).

**ELECTRICAL CONNECTIONS**
- BY FASTON SMALL AND LARGE
- BY CABLES F

ACCESSORIES WITH M6 THREAD
- P6 THREADED DOWEL L = 45 mm
- PW6 THREADED DOWEL M6 - 1/4 UNF L = 38 mm
- IM6 90° ARTICULATED JOINT
- SM6 AXIAL ARTICULATED JOINT
- CLE6 UNI CLEVIS
- SBJ SPRING SWIVEL
- AM6 90° ARTICULATED JOINT

OPTIONAL SPRINGS
- INTERNAL SPRING 4M1
  - WIREDIAMETER SPRING 1
  - WIRE DIAMETER 1
  - Kg 0.4 at 25 mm Kg 1.5
- INTERNAL SPRING 4M2
  - WIREDIAMETER SPRING 1.2
  - WIRE DIAMETER 1.2
  - Kg 0.9 at 25 mm Kg 3.0
- INTERNAL SPRING 4M3
  - WIREDIAMETER SPRING 1.3
  - WIRE DIAMETER 1.3
  - Kg 1.1 at 25 mm Kg 4.0