



DIRECT DRIVE STARTER MOTORS

APPLICATIONS

Petrol engines of up to 1.5 litre displacement for passenger cars. Small diesel engines with up to 0.5 litre displacement for marine and agricultural applications.

FEATURES

- High specific power output and efficiency.
- Excellent cold crank capability with low current drain from battery.
- Reduced weight and dimensions in comparison to starter motors with field windings.
- Highly efficient drive assembly for idle run of the pinion.

DESIGN

Excitation by high quality and high coercivity ferrite 6-pole permanent magnets for high torque output.

Magnetic shunts improve the output power and enable high stability and resistance to demagnetisation.

Pinion shift mechanism with solenoid, fork lever and helix.

Five-roller clutch and drive assembly is designed to transmit power from the starter motor to the engine.

Solenoid switch with pull-in and hold-in windings.

High quality thermal resistant materials.

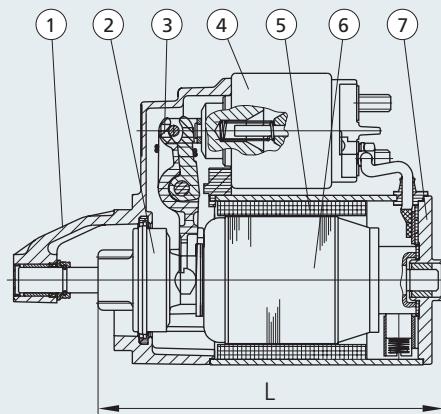
Support brackets of die cast aluminium.

Free of asbestos, cadmium, beryllium and ammonia.

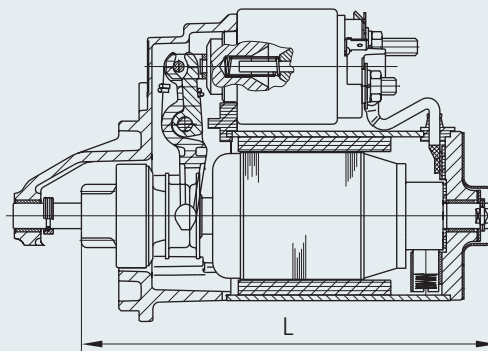
MAIN TECHNICAL DATA

Type	AZE12.. / AZE15..		
Nominal voltage (V)	12		24
Rated power (kW)	0.9	1.0	1.6
Length-AZE12../AZE15.. "L" (mm)	< 157	< 170	<157
Weight-AZE12../AZE15.. (kg)	3.8 to 4.0	3.5	3.8 to 4.0
Yoke diameter (mm)	80		
Stator	6 permanent magnets		
Drive assembly	5 rollers		
Solenoid 12V	pull-in current < 50 A hold-in current < 10 A		
24V	pull-in current < 30 A hold-in current < 7.5 A		
Terminals	30 - M8 31 - M8 50 - M5, M6, 6.3 x 0.8 15a - 6.3 x 0.8, M5 (option)		
Basic protection	Protected against ingress of dust, solid foreign objects and splashing water (IP 56)		
Ambient temperature	- 40°C to + 110°C		

CROSS SECTION



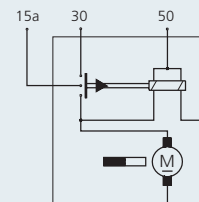
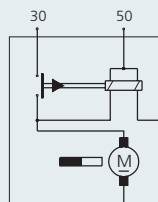
AZE12..



AZE15..

1. Drive end bracket • 2. Drive assembly • 3. Engaging lever • 4. Starter switch • 5. Stator • 6. Armature • 7. Commutator end bracket

CONNECTION DIAGRAMS



CHARACTERISTICS

