

ESZ

Electric servo cylinder

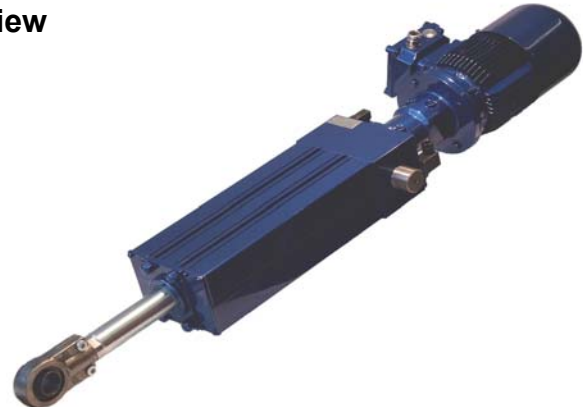
Concise data sheet

Function:	Electromechanical linear drive
Mechanical design:	Electric motor with planetary gear in a housing block
Connection:	Electrical: frequency converter; mechanical: trunnion and swivel head
Dimensions / Weight:	See separate dimensioned sheets, weight: between approx. 40 and 240kg, depending on the design

Application

The electric servo cylinder is preferably used for adjusting steering frames. Disadvantages connected with hydraulic systems (oil, leakage, etc.) are avoided. The electric servo cylinder is also suitable for other applications where a load is moved or positioned, adequate dimensioning provided.

Front view



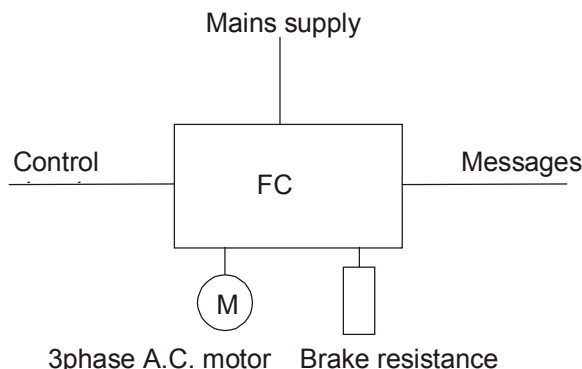
Functional description

The electric servo cylinder is an electromechanical linear drive. It comprises the following main components:

- electric motor (standard: three-phase A.C. asynchronous motor)
- spindle converter PGT (planetary gear) with piston rod
- housing block with bearing, safety clutch, trunnion
- housing made from extruded aluminium, including grease lubrication
- end position cushioning (Belleville springs)
- optional extras:
 - holding brake
 - adjustable limit switches
 - position transducers (digital or analogous)
 - separate fan

The electric motor which is activated by a vector-controlled frequency converter (FC) drives the spindle. In the spindle converter, the rotation of the spindle is converted into a linear movement. The speed of the piston rod is proportional to the effective pitch of the PGT planetary gear and the speed of the electric motor. With an analogous input voltage on the vector-controlled frequency converter, the ESZ electric servo cylinder can be continuously controlled with respect to force and direction, like a hydraulic cylinder with servo valve. The safety clutch between the electric motor and the spindle prevents the ESZ electric servo cylinder in any stroke position from being overloaded.

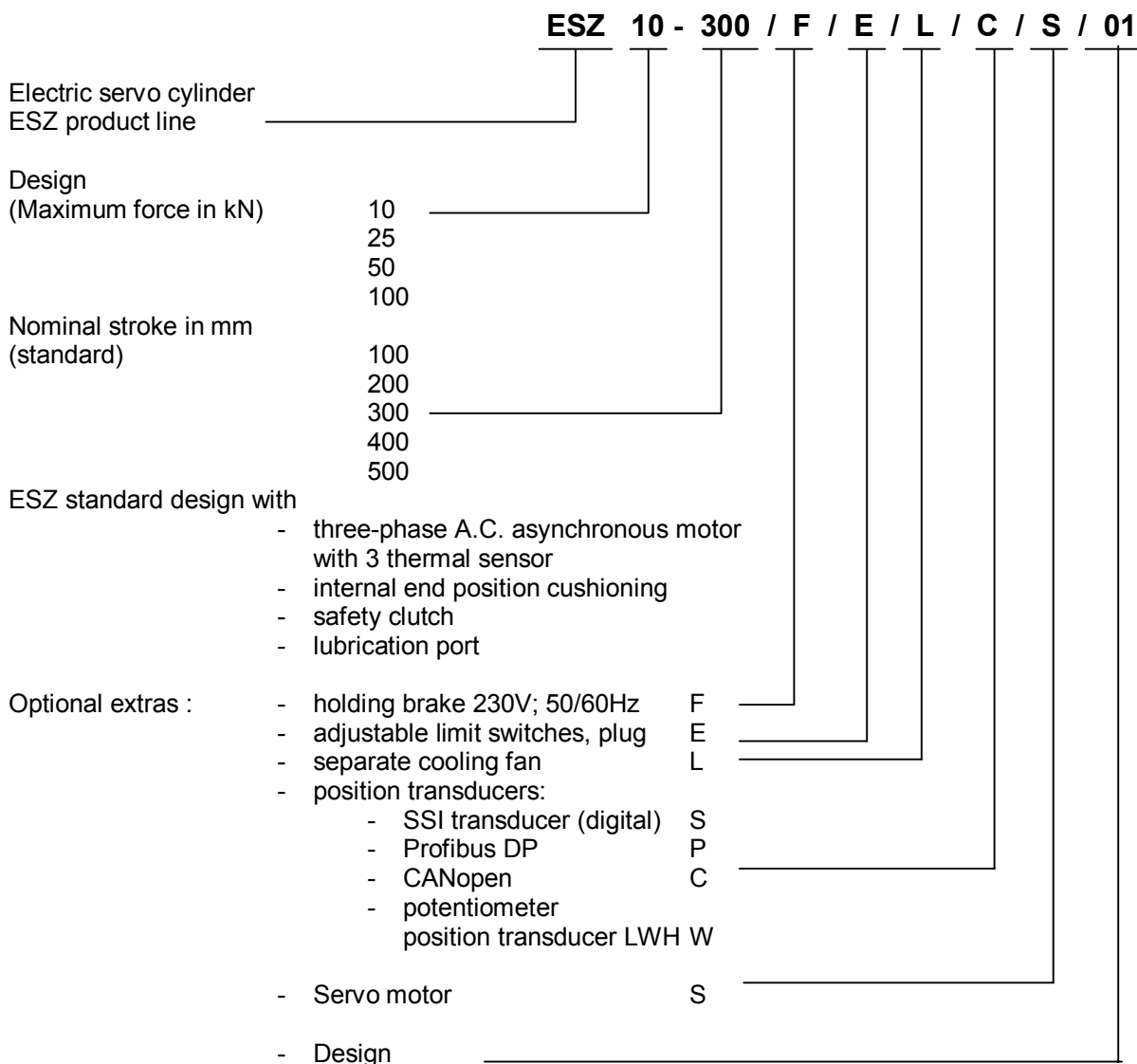
Block diagram



Technical data

ESZ product line	10	25	50	100
Maximum force	10kN	25kN	50kN	100kN
Electric motor (4 pole) (3x400V, 50Hz)	1.1kW	2.2kW	4.0kW	7.5kW
Nominal adjusting speed	50mm/s	50mm/s	50mm/s	30mm/s
Maximum speed	70mm/s	70mm/s	50mm/s	30mm/s
Nominal stroke (standard strokes)	100mm, 200mm, 300mm, 400mm, 500mm			
Ambient temperature	between 0°C and +50°C (standard)			
Protective type	IP54			
Maintenance interval (as a function of load and temperature)	between 1000h and 5000h			
Grease to be refilled (at each maintenance)	between 10cm ³ and 20cm ³ ;			
grease type: Mobiltemp SHC32 (MobilOil)	in conformity with CE			

Type code electric servo cylinder



- Accessories :
- fastening (trunnion bearing; cardanic fastening)
 - automatic grease lubrication system