

### • ECH 50-16 TYPE



Protection rate: **IP40**  
 Insulation class: **B (130°C)**  
 Reference cycle: **3 minutes**  
 Standard stroke (s): **16 mm**  
 Temperature rise " $\Delta V_{31}$ ": **70°C**  
 Working temperature: **-10 to 45°C**  
 Work: **Push / Pull**

**Release spring** will be incorporated by defect

Standard spring force:  
 $F_s(s=0\text{mm}) = 4.4\text{N}$   
 $F_s(s=10\text{mm}) = 2.7\text{N}$

(ED) Duty-cycle ED(%)	100	40	25	15	5
(P20) Power at 20°C (W)	19	45	68	120	325
(Fm) Solenoid force (N) 1)	13	18	26	41	72
Max time under voltage(s)	Inf	72	45	27	9
Opening time (ms) 2)	203	160	137	127	116
Release time (ms) 3)	131	106	92	86	80
Plunger weight (Kg)	0.120				
Solenoid weight (Kg)	0.750				

1) Fm Solenoid force is given according to VDE0580 without deducting the spring force or the plunger weight if vertical mounting.

2) Time is given on these conditions: Coil supplied under nominal voltage ; Stabilized in it's working temperature ; Load 70% of the solenoid force ; Horizontal assembly ; Standard stroke initial position; 20°C ambient temperature.

3) Time is given on these conditions: Standard spring ; without load on shaft ; Horizontal assembly ; Standard stroke initial position.

Duty-cycle  ED%	Standard voltages									Under demand				
	VDC								VAC		VDC		VAC	
	6	12	24	48	100	125	205	110	230	Min	Max	Min	Max	
100	o	o	o	o	o	o	o	o	o	6	250	25	230	
40	x	o	o	o	o	o	o	o	o	10	250	59	230	
25	x	o	o	o	o	o	o	o	o	12	250	90	230	
15	x	x	o	o	o	o	o	x	o	16	250	156	230	
5	x	x	o	o	o	o	o	x	x	24	250	x	x	

Layout: o = Available ; x = Unavailable

- Voltage under demand:  
 They can be manufactured at voltages between the maximum and minimum voltage values shown in the chart.

- To feed in alternating current the solenoid will have a rectifier incorporated in the connector.

- The duty cycles described in the chart are standard, they can be manufactured in any intermediate value.

- If any customization from the original is needed, please ask us.

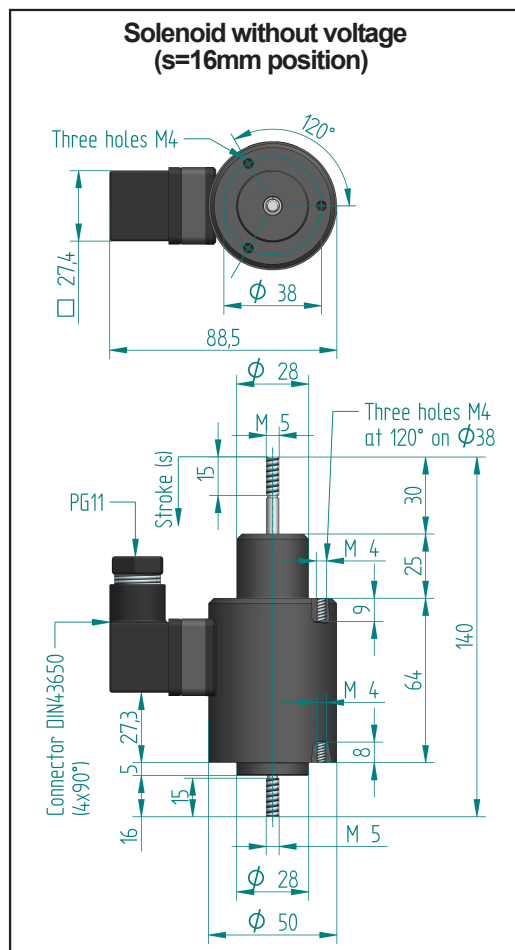
- Earthing is recommended if the metallic parts are accessible.

**Ordering code:** ECH50-16 --V ED---% - Spring

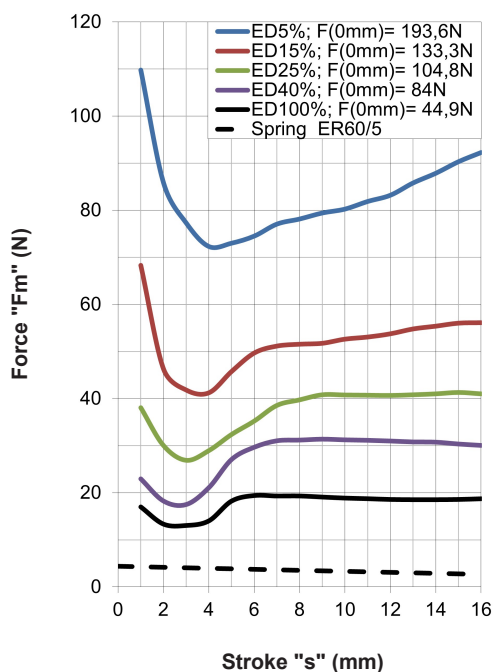
Voltage: 24Vdc; Duty cycle: ED100%; With spring:  
 ECH50-16 24Vdc ED100% RS

Voltage: 48Vdc; Duty cycle: ED15%; Without spring:  
 ECH50-16 48Vdc ED15% RN

Spring yes: **RS** ; Spring no: **RN**



**Force-stroke curve**



Calculation of the effective force:  
 see pages 1 and 42

For fixation and mounting positions: see page 42