

## D C Open Frame Solenoid

Rectifier for A.C. supply  
Stroke up to 25mm

# 10

Product group  
**Type 828**

- Increasing force characteristic (Fig. 2)
- For pull operation
- Long stroke design with integral clevis end
- Zinc / nickel plated iron parts
- Coil insulation to class B, for voltages up to 250 volts
- Protection classification - DIN VDE0470 / EN60529  
Tag connectors or flying leads - IP00
- UL listed materials of construction
- Suitable for operation in any attitude
- Spring return arrangement available
- Modifications and special designs on request
- General - purpose box frame solenoid for service on:



Fig. 1  
Type 828

Machine tools

Automation

Packaging and coin equipment

Office Machines

Remote control

Textile Machinery

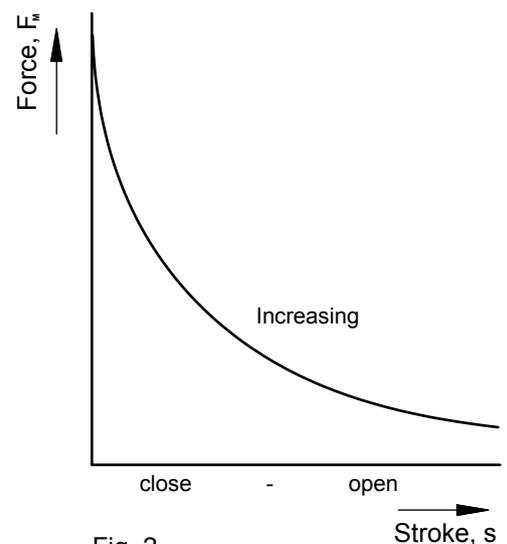


Fig. 2  
Force characteristic



QUALITY SINCE 1912

Performance and dimensional data for type 828

		828		
Duty Rating		Continuous	Intermittent	Impulse
Stroke s	(mm)	Magnetic force F <sub>M</sub> (N)		
	0	36.2	42.7	49.9
	2	10.0	21.2	37.0
	4	4.5	12.0	29.0
	8	2.1	5.5	18.0
	12	1.2	3.2	11.0
	16	0.3	1.8	6.0
	20	0.2	0.6	4.0
	25	0.18	0.19	1.5
Power Consumption P <sub>25</sub>	(Watts)	8.5	19.5	85
Armature Weight m <sub>A</sub>	(kg)	0.037		
Solenoid Weight m <sub>M</sub>	(kg)	0.165		

0 mm is completion of energised stroke

**TABLE BASIS**

24V / Impulse - intermittent - Continuous duty  
Mounted on steel plate 152 x 152 x 3mm  
Horizontal working  
Tolerance +/- 10% (inherent and manufacture)

Ambient temperature 25°C  
Free air mounted  
Pull arrangement

**Conversion Factors**

1N = 0.102 kp ≈ 0.1kp  
 1 Mcm = 0.102 kpcm ≈ 0.1 kpcm  
 1 kp = 1 kg = 2.2lbs  
 1 mm = 0.039 in  
 1 cmkp = 0.856 in. lbs

**MAGNETIC FORCE (F<sub>M</sub>)**

Is listed in HOT condition at 90% of rated voltage (increase approx. 20% at rated voltage). Adjust for armature weight.

**POWER CONSUMPTION (P<sub>25</sub>)**

Is listed with 25°C coil temperature (decrease/HOT)

**DUTY RATING**

The proportion of time that the soleoid is energised per operation cycle, shown in %

$$\text{Proportion (\%)} = \frac{t(\text{on})}{t(\text{on}) + t(\text{off})} \times 100$$

For each coil type: maximum energised (proportion) time / cycle  
 Continuous: (100%) Intermittent: (25%) 60 secs Impulse: ( 10%) 0.1 secs

**SUPPLY VOLTAGE**

Standard DC: 12V, 24V - Other voltages upon request  
 Rectifier can be provided for AC supply.

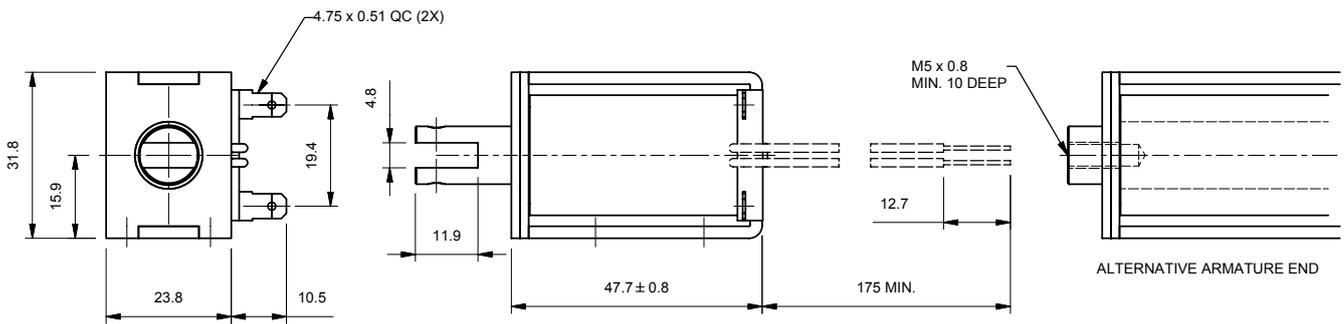
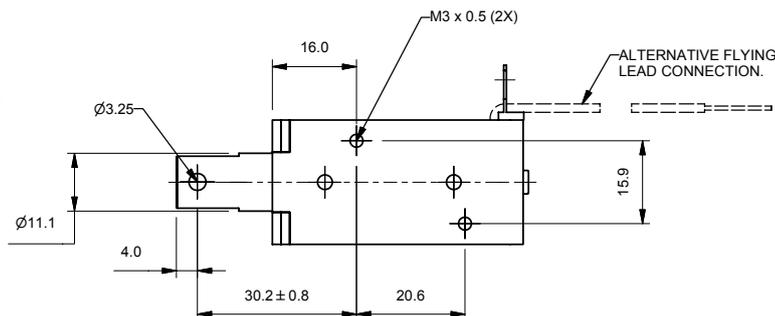


Fig.3  
Type 828  
Dimensions in inches [mm]  
Solenoid drawn in energised condition



**Order Example**

Type 828  
 Voltage 24v DC  
 Duty Rating Continuous