

## DC Cylindrical Solenoid

Rectifier for AC supply  
Stroke up to 25mm  
Pull and Push versions

Product group

# 10

## Type R16 x 16 & RP 16 x 16

- Designed and manufactured in accordance with ISO 9001
- Long stroke design
- Pull version with integral clevis end
- Push version with threaded pushrod
- Increasing force characteristic (fig. 2)
- Threaded mounting nose with anti-rotation feature, locknut and shakeproof washer
- Coil with insulation to class B, for voltages up to 250 volts
- Protection classification - DIN VDE0470 / EN60529  
flying leads - IP00
- UL rated materials of construction
- Zinc / nickel plated iron parts
- Suitable for operation in any attitude
- Modifications and special designs on request
- Increased protection solenoid for arduous service on:
 

Machine tools	Office Machines
Motor vehicles	Remote control
Automation	Medical equipment
Packaging and coin equipment	Textile machinery

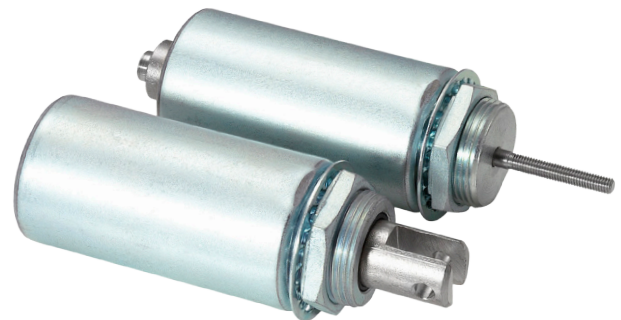


Fig.1  
R16 x 16 & RP16 x 16

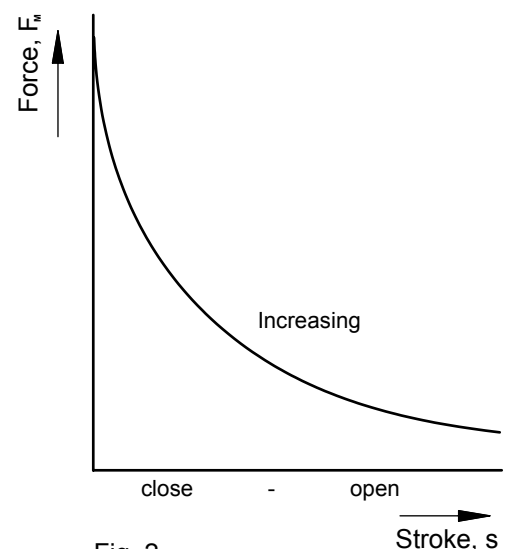


Fig. 2  
Force characteristic



QUALITY SINCE 1912

Performance and dimensional data for type R16 x 16 and RP16 x 16

		R16 x 16 - Pull			RP16 x 16 - Push		
Duty Rating		Continuous (CD) 100%	Intermittent (ID) 25%	Pulse (PD) 10%	Continuous (CD) 100%	Intermittent (ID) 25%	Pulse (PD) 10%
Stroke s	(mm)	Magnetic force $F_M$ (N)					
0mm is completion of energised stroke	0	25.3	35.6	42.3	25.2	39.0	46.4
	2	6.9	19.2	28.6	5.6	14.2	30.3
	4	3.8	13.7	23.1	2.7	7.3	21.8
	8	1.8	8.3	17.0	0.8	2.8	13.3
	12	1.1	5.6	12.9	0.2	1.8	8.3
	16	0.76	4.0	10.0			
	20	0.45	2.6	7.4			
	25	0.11	1.2	3.5			
Power Consumption $P_{25}$	(Watts)	5.5	38	96	5.5	38	96
Armature Weight $m_A$	(g)	43			38		
Solenoid Weight $m_M$	(g)	161					

**TABLE BASIS**

24V / Continuous - Intermittent - Pulse 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

**POWER CONSUMPTION ( $P_{25}$ )**

Listed with 25°C coil temperature (decrease/HOT)

**MAGNETIC FORCE ( $F_M$ )**

Listed in HOT condition at RATED voltage  
Adjust for armature weight

**RESIDUAL MAGNETISM**

With low force applications, plungers may hold in under residual magnetism when the coil is deenergised. To prevent this, anti-residual springs are available, but the force/stroke characteristic will be modified as a result

**SUPPLY VOLTAGE**

Standard DC: 24V - other voltages on request  
Rectifier can be provided for AC Supply

**DUTY RATING**

The proportion of time that the solenoid 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: (10%) 60 secs Pulse: (5%) 0.1secs

**Order Example**

Type R16 X 16  
Voltage 24v DC  
Duty rating Continuous

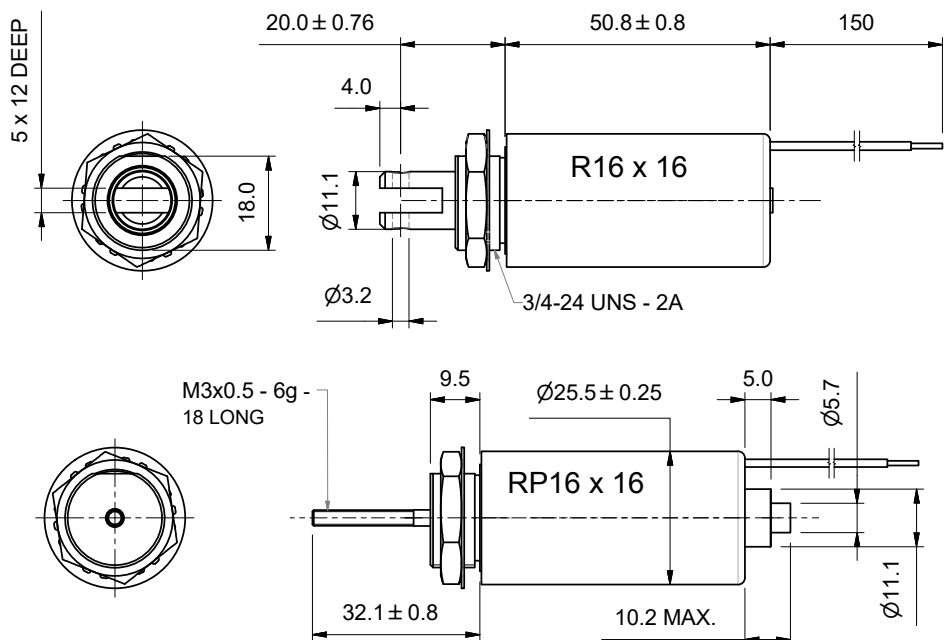


Fig 3  
R16 x 16 and RP16 x 16

Dimensions in [mm] solenoid drawn in energised condition