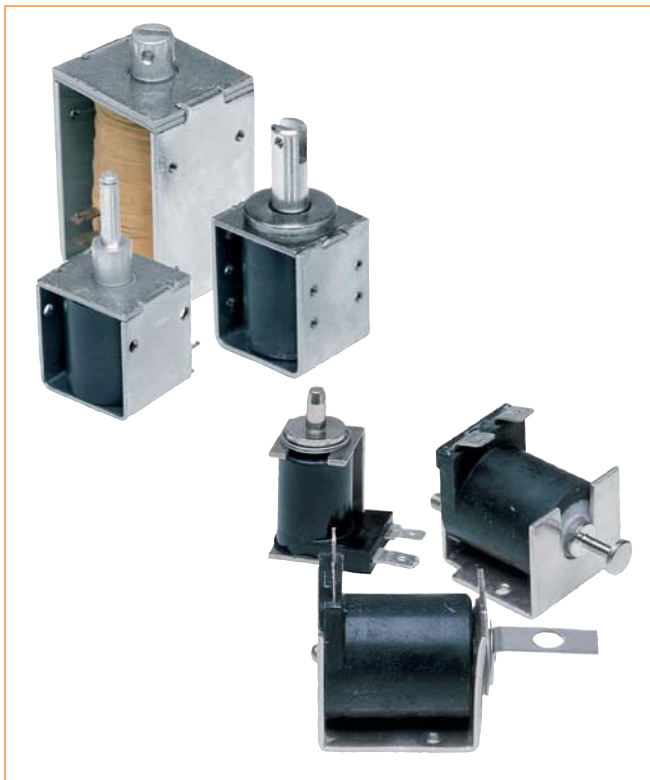


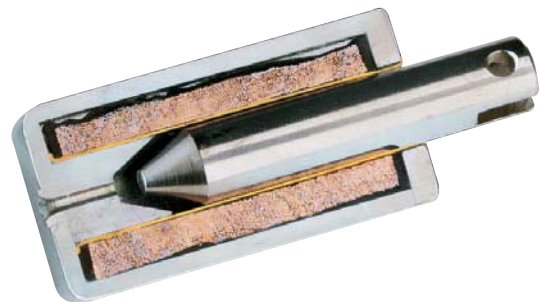
Dormeyer® Open Frame Solenoids



- Low cost, high volume products
- Strokes to 32 mm
- Custom design work is our strength

Applications

- Appliances
- Printers
- Coin dispensers
- Security door locks
- Storage/retrieval systems
- PC board insertion equipment
- Vending



All catalogue products are RoHS Compliant

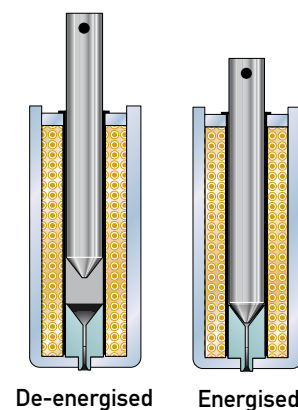
The open frame solenoid is the simplest solenoid device consisting of an open iron frame, an overmolded or taped coil, and a movable plunger in the center of the coil. Open frame solenoids are the most economical of all the solenoid types.

Applications for Dormeyer® AC open frame devices are numerous. Open frame solenoids are well suited for applications which require locking and latching functions.

Applications for Dormeyer AC open frame solenoids include residential and commercial door locks, credit card key “smart” locks, self-cleaning oven locks, front-loading washing machine and dishwasher locks, computer cartridge locks, and many more.

Principle of Operation

The open frame solenoid consists of an open iron frame, a coil, and a movable plunger in the center of the coil. When energised, the plunger is pulled into the stator which consists of the frame and coil.



Selection Overview

Use the selection charts on page 12 to determine which model offers the desired performance and mechanical specifications.

Refer to the individual frame size specification pages for complete performance and mechanical data.

Even with our many standard solenoid designs, our customers often require a product with unique features or performance capabilities. If you don't find what you're looking for in the catalogue, please give us a call and talk to one of our application engineers.

Dormeyer® Open Frame Solenoids

Design Considerations

Construction

Open frame solenoids are designed with two frame styles, the C Frame style, in which the coil is enclosed on one side, and the Box Frame style in which the coil is enclosed on two sides. The Box Frame style provides slightly higher force output and is more rugged in design.

Tapped mounting holes are used for easy installation and interchangeability.

Most models have slotted and cross drilled plungers for easy load attachment.

The plunger is plated for corrosion resistance, and provides a low coefficient of friction and long life.

Over molded coils are available in both Box Frame and C Frame solenoids and offer excellent protection from moisture and humidity. Some solenoids are UL recognised. Most have UL recognised coil insulation systems.

Life

When selecting an open frame solenoid, as with any other solenoid style, it is important to consider the effects of heat, since an increase in coil temperature reduces the work output and the life of the unit. Standard life is 50,000 to 100,000 operations. Consult the factory for longer life of 500,000 or more cycles, and other special requirements.

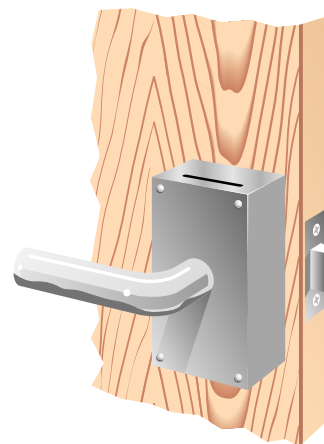
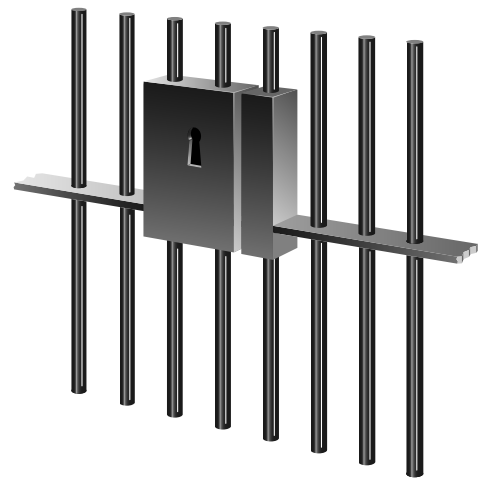
Duty Cycle

Duty cycle is determined by solenoid ON time/(ON + OFF time).

For example: a solenoid is actuated for 30 seconds, then off for 90 seconds.
 $30 \text{ sec ON} / (30 \text{ Sec ON} + 90 \text{ sec OFF}) = 30/120 = 1/4$ or *25% duty cycle.*

Performance Curves

The Force/Stroke performance curves in this section serve as guides to determine the solenoid size needed to produce a desired force at a given stroke, duty cycle, and power source. All Force/Stroke curves are performed under standard test conditions: ambient temperature of 20°C. A design safety factor of 1.3 to 1.5 is recommended. For example, when a 10 N pull force is required, select a model with a safety factor of 1.3 to 1.5 times (13 to 15 N).



Dormeyer® AC Open Frame Solenoid Selection

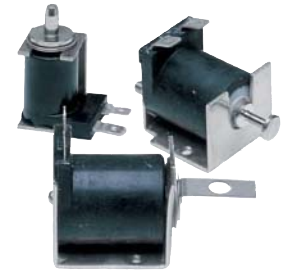
AC actuated open frame solenoids are available in box frame and C frame design styles in a variety of models and sizes.

Models are available for continuous use and intermittent duty.



Box Frame

This solenoid has a 4-sided closed box frame and solid plunger and is, therefore, more electrically efficient than the C Frame solenoid. The closed, box frame also provides improved mechanical strength.



C Frame

C Frame solenoids consist of a formed C-shaped steel frame and solid plunger. Therefore, these solenoids are less efficient and less costly than their Box Frame counterparts.

All catalogue products are RoHS Compliant

Size	Frame Type	Coil Type ⁽¹⁾	Height (mm)	Width (mm)	Length (mm)	Max. Stroke (mm)	Nominal Stroke (mm)	Typical Force (N)		Page
								Nominal Stroke and 100% Rated Voltage @ 100% Duty	20% Duty	
B4HDM	Box	OM	41.4	36.8	55.4	25.4	12.7	5.8	22.3	13
B11M	Box	OM	30.0	23.9	47.2	20.3	10.2	3.1	5.8	14
B20M	Box	T	23.9	20.6	29.0	12.7	6.4	0.9	2.2	15
B21M	Box	T	33.3	33.3	30.5	12.7	6.4	4.0	7.1	16
B22M	Box	OM	37.3	33.3	40.9	25.4	10.2	5.3	11.6	17
B75M	Box	OM	27.9	25.4	41.4	15.2	5.1	5.3	11.6	18
C8M	C	OM	20.6	19.1	28.7	12.7	6.4	0.9	1.8	22
C9M	C	T	31.8	35.1	26.9	12.7	6.4	5.8	11.1	23
C15M	C	T	25.4	26.9	29.0	12.7	6.4	2.7	3.6	24
C26M	C	OM	26.9	21.6	43.9	19.1	12.7	1.3	3.1	25
C33M	C	OM	29.0	33.3	34.5	12.7	6.4	2.7	5.3	26
C34M	C	OM	36.5	33.3	42.2	25.4	12.7	4.9	9.3	27

⁽¹⁾ OM = Overmolded; T = Taped

All specifications subject to change without notice.

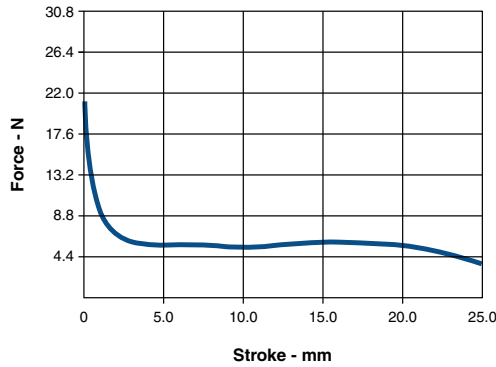
Dormeyer® Box Frame Size B4HDM — AC Operation

Specifications

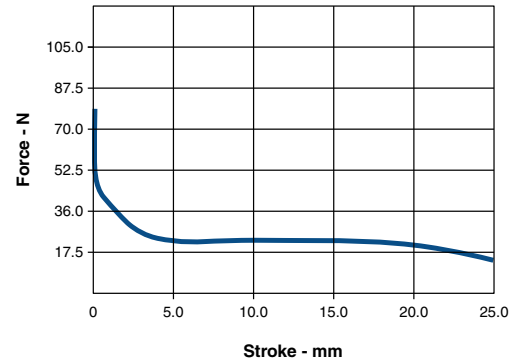
Continuous Duty Cycle	100% at 20°C ambient temperature
Intermittent Duty Cycle	20% on time, 80% off time. On time not to exceed 3 min. at 20°C ambient temperature
Direction of Load Movement	Pull
Coil Insulation	Class "A": 105°C max. temperature standard. Other temperature classes are available
Coil Termination	3/16" QC
Plunger Weight	62 g
Total Weight	354 g
Dimensions	See page 19

All catalogue products are RoHS Compliant

AC Continuous Duty



AC Intermittent Duty



Duty Cycle	Continuous – 31 VA	Intermittent – 145 VA
Model	B4HDM-50-M-36	B4HDM-550-M-36
Volts — 50 Hz (60 Hz available)	230	230

NOTES:

1. All data is typical.
2. Force testing is done with the solenoid in the horizontal position.
3. All data reflects operation with no heatsink.
4. Other coil terminations available.
5. 120 or 240V/60 Hz models are also available. Please contact us for ordering information.
6. All specifications subject to change without notice.

How to Order

Select the part number from the table provided. (For example, to order a continuous duty cycle unit rated at 230 VAC, specify B4HDM-50-M-36.

Please see www.dormeyer-solenoids.com (click on Stock Products tab) for our list of stock products available through our distributors.

All specifications subject to change without notice.

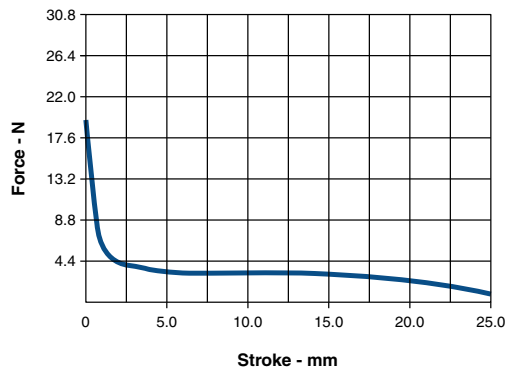
Dormeyer® Box Frame Size B11M — AC Operation

Specifications

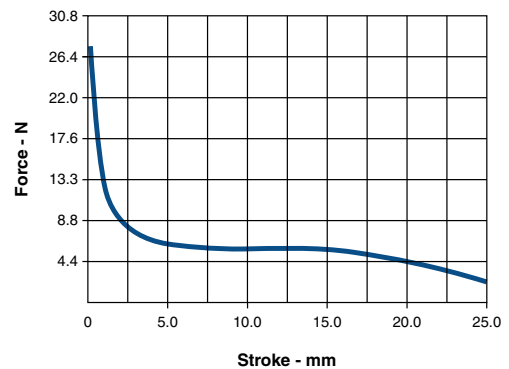
Continuous Duty Cycle	100% at 20°C ambient temperature
Intermittent Duty Cycle	20% on time, 80% off time. On time not to exceed 3 min. at 20°C ambient temperature
Direction of Load Movement	Pull
Coil Insulation	Class "A": 105°C max. temperature standard. Other temperature classes are available
Coil Termination	3/16" QC
Plunger Weight	17 g
Total Weight	144 g
Dimensions	See page 19

All catalogue products are RoHS Compliant

AC Continuous Duty



AC Intermittent Duty



Duty Cycle	Continuous – 12 VA	Intermittent – 40 VA
Model	B11M-50-M-36	B11M-550-M-36
Volts — 50 Hz (60 Hz available)	230	230

NOTES:

1. All data is typical.
2. Force testing is done with the solenoid in the horizontal position.
3. All data reflects operation with no heatsink.
4. Other coil terminations available.
5. 120 or 240V/60 Hz models are also available. Please contact us for ordering information.
6. All specifications subject to change without notice.

How to Order

Select the part number from the table provided. (For example, to order a continuous duty cycle unit rated at 230 VAC, specify B11M-50-M-36.

Please see www.dormeyer-solenoids.com (click on Stock Products tab) for our list of stock products available through our distributors.

All specifications subject to change without notice.

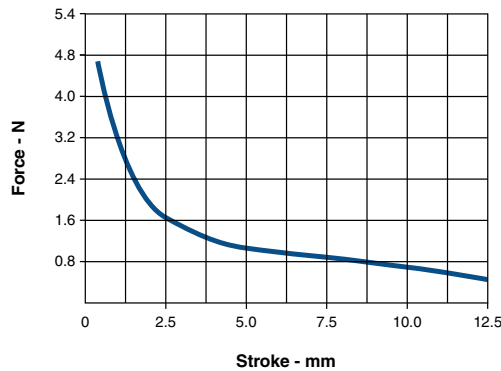
Dormeyer® Box Frame Size B20M — AC Operation

Specifications

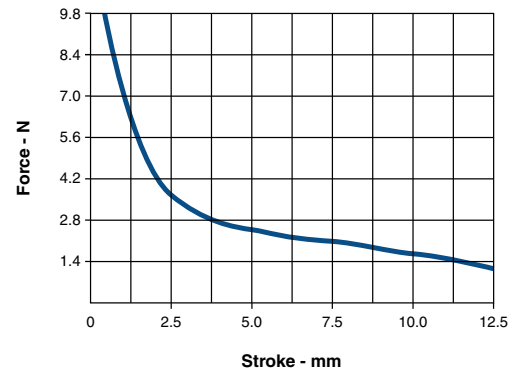
Continuous Duty Cycle	100% at 20°C ambient temperature
Intermittent Duty Cycle	20% on time, 80% off time. On time not to exceed 3 min. at 20°C ambient temperature
Direction of Load Movement	Pull
Coil Insulation	Class "A": 105°C max. temperature standard. Other temperature classes are available
Coil Termination	Lead wires
Plunger Weight	16 g
Total Weight	61 g
Dimensions	See page 20

All catalogue products are RoHS Compliant

AC Continuous Duty



AC Intermittent Duty



Duty Cycle	Continuous – 8 VA	Intermittent – 18 VA
Model	B20M-50-A-3	B20M-550-A-3
Volts — 50 Hz (60 Hz available)	230	230

NOTES:

1. All data is typical.
2. Force testing is done with the solenoid in the horizontal position.
3. All data reflects operation with no heatsink.
4. Other coil terminations available.
5. 120 or 240V/60 Hz models are also available. Please contact us for ordering information.
6. All specifications subject to change without notice.

How to Order

Select the part number from the table provided. (For example, to order a continuous duty cycle unit rated at 230 VAC, specify B20M-50-A-3.

Please see www.dormeyer-solenoids.com (click on Stock Products tab) for our list of stock products available through our distributors.

All specifications subject to change without notice.

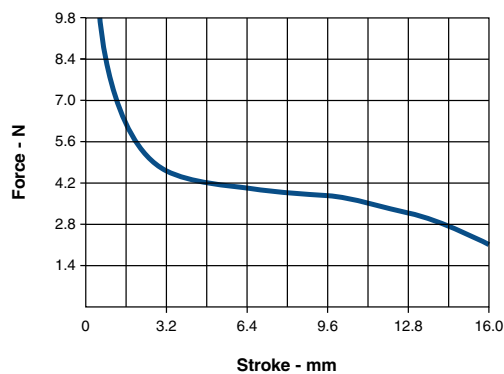
Dormeyer® Box Frame Size B21M — AC Operation

Specifications

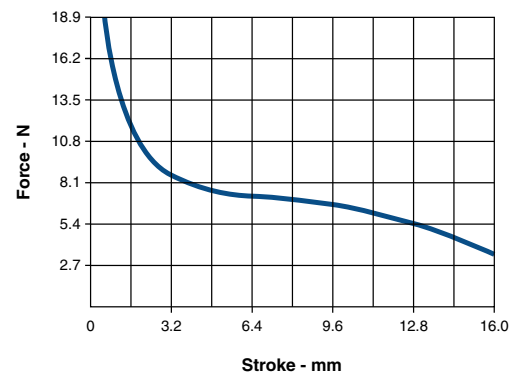
Continuous Duty Cycle	100% at 20°C ambient temperature
Intermittent Duty Cycle	20% on time, 80% off time. On time not to exceed 3 min. at 20°C ambient temperature
Direction of Load Movement	Pull
Coil Insulation	Class "A": 105°C max. temperature standard. Other temperature classes are available
Coil Termination	Lead wires
Plunger Weight	24 g
Total Weight	132 g
Dimensions	See page 20

All catalogue products are RoHS Compliant

AC Continuous Duty



AC Intermittent Duty



Duty Cycle	Continuous – 12 VA	Intermittent – 28 VA
Model	B21M-50-A-3	B21M-550-A-3
Volts — 50 Hz (60 Hz available)	230	230

NOTES:

1. All data is typical.
2. Force testing is done with the solenoid in the horizontal position.
3. All data reflects operation with no heatsink.
4. Other coil terminations available.
5. 120 or 240V/60 Hz models are also available. Please contact us for ordering information.
6. All specifications subject to change without notice.

How to Order

Select the part number from the table provided. (For example, to order a continuous duty cycle unit rated at 230 VAC, specify B21M-50-A-5.

Please see www.dormeyer-solenoids.com (click on Stock Products tab) for our list of stock products available through our distributors.

All specifications subject to change without notice.

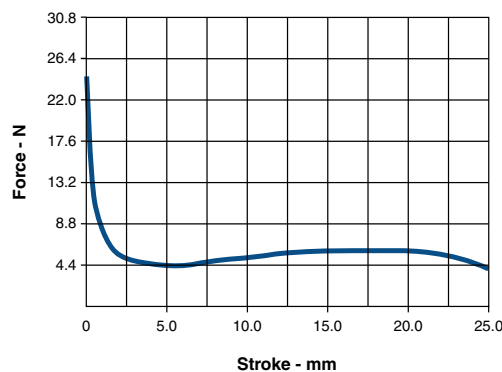
Dormeyer® Box Frame Size B22M — AC Operation

Specifications

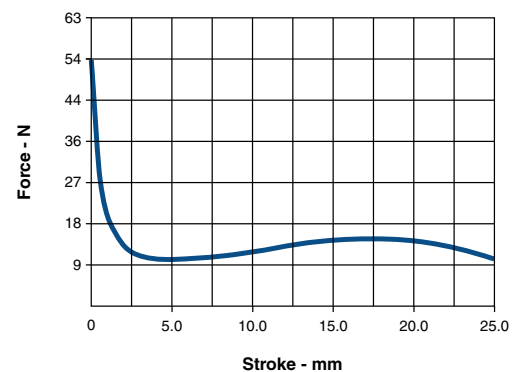
Continuous Duty Cycle	100% at 20°C ambient temperature
Intermittent Duty Cycle	20% on time, 80% off time. On time not to exceed 3 min. at 20°C ambient temperature
Direction of Load Movement	Pull
Coil Insulation	Class "A": 105°C max. temperature standard. Other temperature classes are available
Coil Termination	3/16" QC
Plunger Weight	42 g
Total Weight	227 g
Dimensions	See page 21

All catalogue products are RoHS Compliant

AC Continuous Duty



AC Intermittent Duty



Duty Cycle	Continuous – 12 VA	Intermittent – 40 VA
Model	B22M-50-M-36	B22M-550-M-36
Volts — 50 Hz (60 Hz available)	230	230

NOTES:

1. All data is typical.
2. Force testing is done with the solenoid in the horizontal position.
3. All data reflects operation with no heatsink.
4. Other coil terminations available.
5. 120 or 240V/60 Hz models are also available. Please contact us for ordering information.
6. All specifications subject to change without notice.

How to Order

Select the part number from the table provided. (For example, to order a continuous duty cycle unit rated at 230 VAC, specify B22M-50-M-36.

Please see www.dormeyer-solenoids.com (click on Stock Products tab) for our list of stock products available through our distributors.

All specifications subject to change without notice.

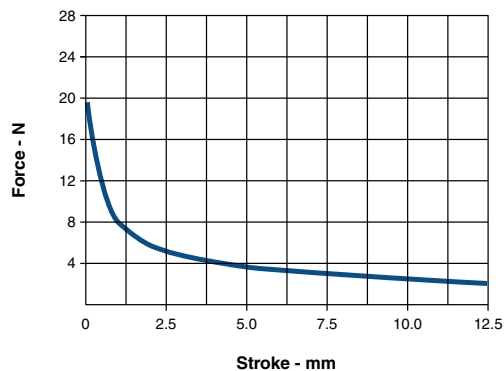
Dormeyer® Box Frame Size B75M — AC Operation

Specifications

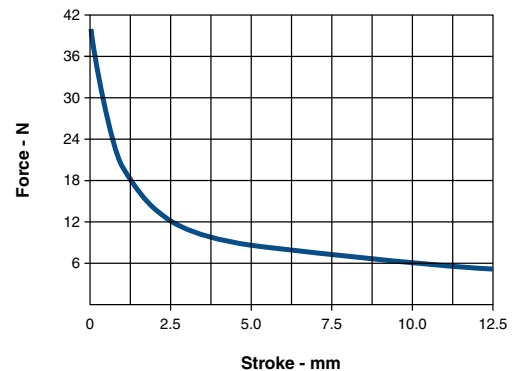
Continuous Duty Cycle	100% at 20°C ambient temperature
Intermittent Duty Cycle	25% on time, 80% off time. On time not to exceed 3 min. at 20°C ambient temperature
Direction of Load Movement	Pull-in
Thermal Protection	Built-in thermal protector available
Coil Insulation	Class "B": 130°C max. temperature standard.
Basic Insulation	EN 60335-1
Coil Termination	Lead wires
Plunger Weight	30 g
Total Weight	160 g
Dimensions	See page 21

All catalogue products are RoHS Compliant

AC Continuous Duty



AC Intermittent Duty



Duty Cycle	Continuous – 12 VA	Intermittent – 28 VA
Model	B75M-50-A-3	B75M-550-A-3
Volts — 50 Hz (60 Hz available)	230	230

NOTES:

1. All data is typical.
2. Force testing is done with the solenoid in the horizontal position.
3. All data reflects operation with no heatsink.
4. Other coil terminations available.
5. All specifications subject to change without notice.

How to Order

Select the part number from the table provided. (For example, to order a continuous duty cycle unit rated at 230 VAC, specify B75M-50-A-3.

Please see www.dormeyer-solenoids.com (click on Stock Products tab) for our list of stock products available through our distributors.

All specifications subject to change without notice.

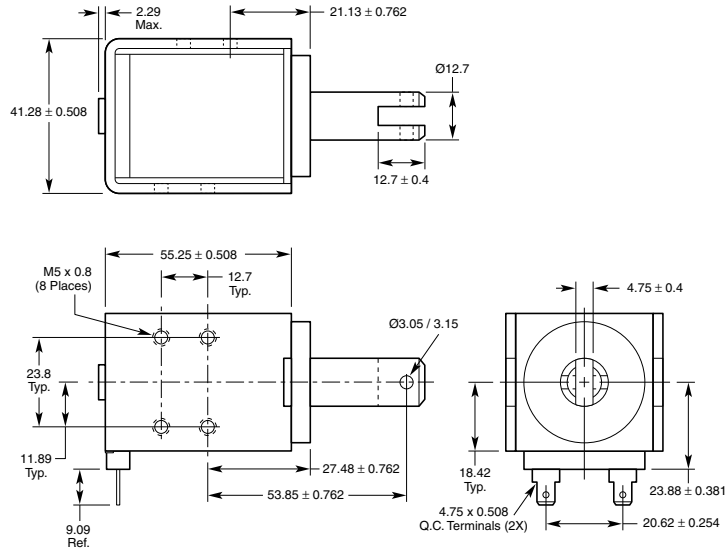
Dormeyer® Box Frame Dimensions

Inches (mm)

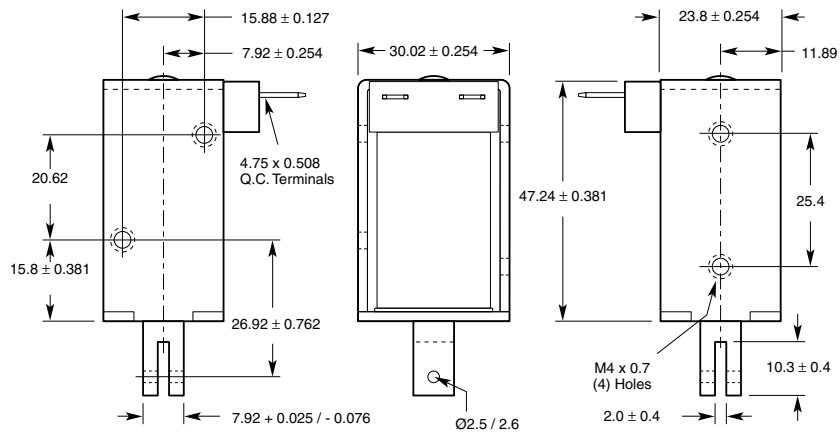
All solenoids are illustrated in energised state

All catalogue products are RoHS Compliant

B4HDM



B11M



All specifications subject to change without notice.

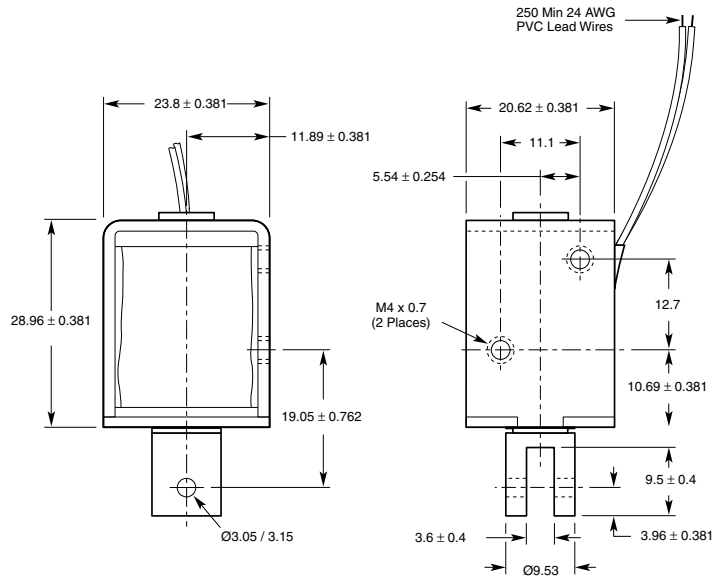
Dormeyer® Box Frame Dimensions

Inches (mm)

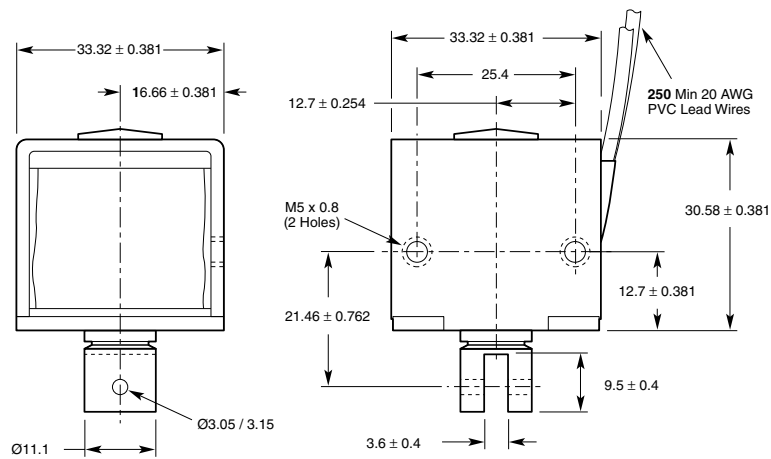
All solenoids are illustrated in energised state

All catalogue products are RoHS Compliant

B20M



B21M



All specifications subject to change without notice.

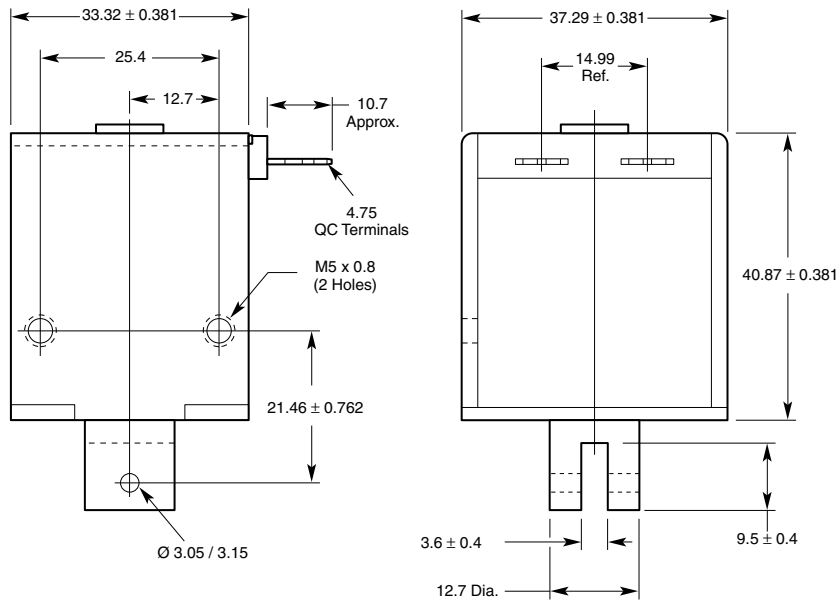
Dormeyer® Box Frame Dimensions

Inches (mm)

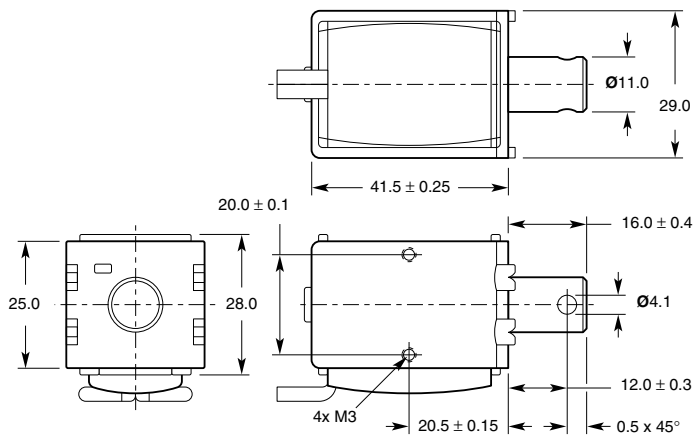
All solenoids are illustrated in energised state

All catalogue products are RoHS Compliant

B22M



B75M



All specifications subject to change without notice.

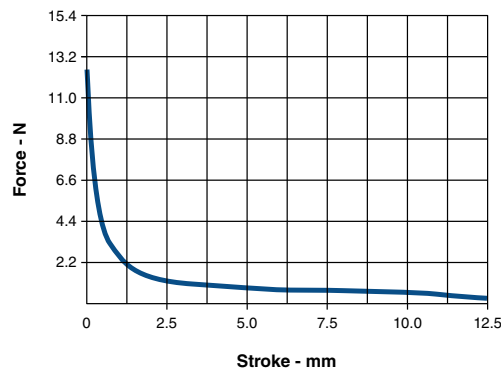
Dormeyer® C Frame Size C8M — AC Operation

Specifications

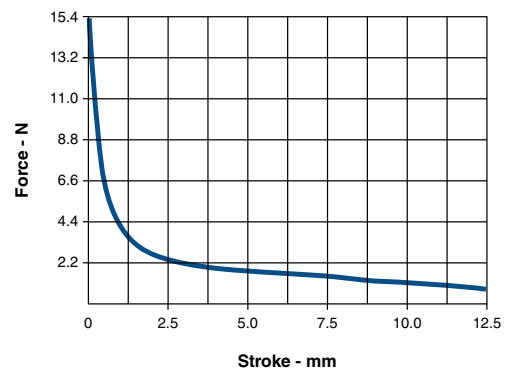
Continuous Duty Cycle	100% at 20°C ambient temperature
Intermittent Duty Cycle	20% on time, 80% off time. On time not to exceed 3 min. at 20°C ambient temperature
Direction of Load Movement	Pull
Coil Insulation	Class "A": 105°C max. temperature standard. Other temperature classes are available
Coil Termination	3/16" QC
Plunger Weight	11 g
Total Weight	48 g
Dimensions	See page 28

All catalogue products are RoHS Compliant

AC Continuous Duty



AC Intermittent Duty



Duty Cycle	Continuous – 6.5 VA	Intermittent – 19 VA
Model	C8M-50-M-36	C8M-550-M-36
Volts — 50 Hz (60 Hz available)	230	230

NOTES:

1. All data is typical.
2. Force testing is done with the solenoid in the horizontal position.
3. All data reflects operation with no heatsink.
4. Other coil terminations available.
5. 120 or 240V/60 Hz models are also available. Please contact us for ordering information.
6. All specifications subject to change without notice.

How to Order

Select the part number from the table provided. (For example, to order a continuous duty cycle unit rated at 230 VAC, specify C8M-50-M-36.

Please see www.dormeyer-solenoids.com (click on Stock Products tab) for our list of stock products available through our distributors.

All specifications subject to change without notice.

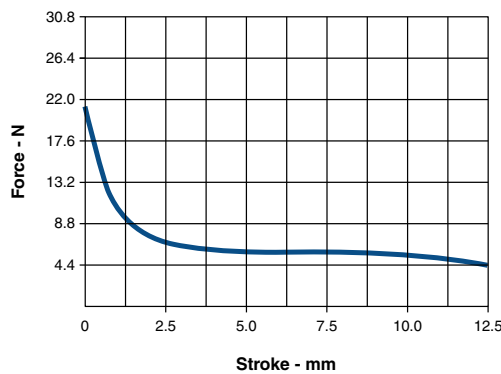
Dormeyer® C Frame Size C9M — AC Operation

Specifications

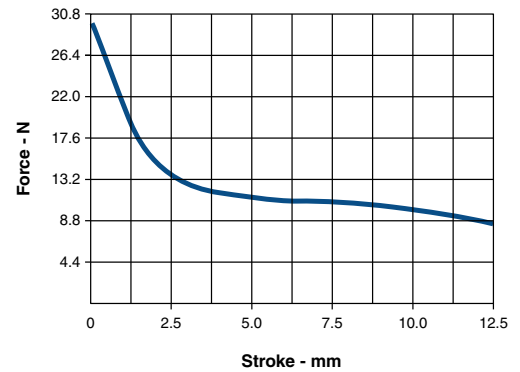
Continuous Duty Cycle	100% at 20°C ambient temperature
Intermittent Duty Cycle	20% on time, 80% off time. On time not to exceed 3 min. at 20°C ambient temperature
Direction of Load Movement	Pull
Coil Insulation	Class "A": 105°C max. temperature standard. Other temperature classes are available
Coil Termination	Leadwires
Plunger Weight	25 g
Total Weight	133 g
Dimensions	See page 28

All catalogue products are RoHS Compliant

AC Continuous Duty



AC Intermittent Duty



Duty Cycle	Continuous – 13 VA	Intermittent – 50 VA
Model	C9M-50-A-3	C9M-550-A-3
Volts — 50 Hz (60 Hz available)	230	230

NOTES:

1. All data is typical.
2. Force testing is done with the solenoid in the horizontal position.
3. All data reflects operation with no heatsink.
4. Other coil terminations available.
5. 120 or 240V/60 Hz models are also available. Please contact us for ordering information.
6. All specifications subject to change without notice.

How to Order

Select the part number from the table provided. (For example, to order a continuous duty cycle unit rated at 230 VAC, specify C9M-50-A-3.

Please see www.dormeyer-solenoids.com (click on Stock Products tab) for our list of stock products available through our distributors.

All specifications subject to change without notice.

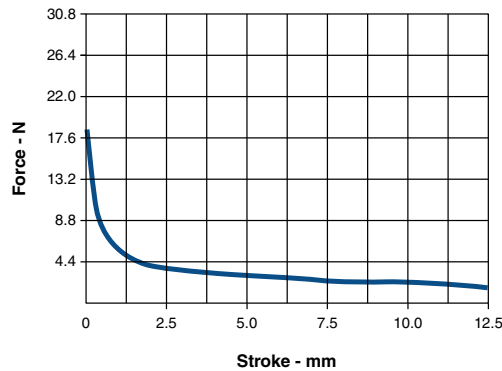
Dormeyer® C Frame Size C15M — AC Operation

Specifications

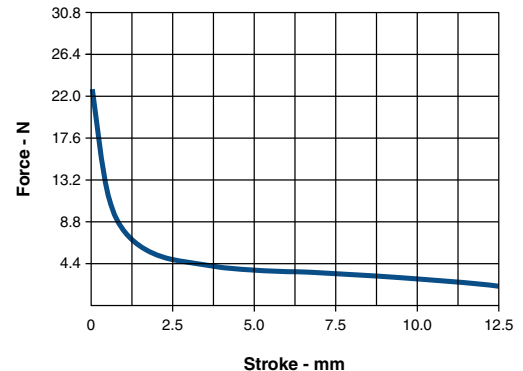
Continuous Duty Cycle	At 20°C ambient temperature
Intermittent Duty Cycle	20% on time, 80% off time. On time not to exceed 3 min. at 20°C ambient temperature
Direction of Load Movement	Pull
Coil Insulation	Class "A": 105°C max. temperature standard. Other temperature classes are available
Coil Termination	Lead wires
Plunger Weight	14 g
Total Weight	70 g
Dimensions	See page 29

All catalogue products are RoHS Compliant

AC Continuous Duty



AC Intermittent Duty



Duty Cycle	Continuous – 14 VA	Intermittent– 24 VA
Model	C15M-50-A-3	C15M-550-A-3
Volts — 50 Hz (60 Hz available)	230	230

NOTES:

1. All data is typical.
2. Force testing is done with the solenoid in the horizontal position.
3. All data reflects operation with no heatsink.
4. Other coil terminations available.
5. 120 or 240V/60 Hz models are also available. Please contact us for ordering information.
6. All specifications subject to change without notice.

How to Order

Select the part number from the table provided. (For example, to order a continuous duty cycle unit rated at 230 VAC, specify C15M-50-A-3.

Please see www.dormeyer-solenoids.com (click on Stock Products tab) for our list of stock products available through our distributors.

All specifications subject to change without notice.

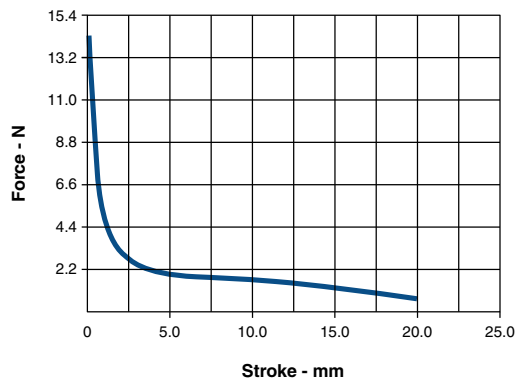
Dormeyer® C Frame Size C26M — AC Operation

Specifications

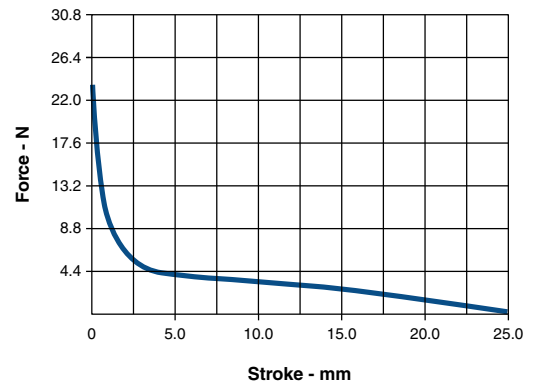
Continuous Duty Cycle	100% at 20°C ambient temperature
Intermittent Duty Cycle	20% on time, 80% off time. On time not to exceed 3 min. at 20°C ambient temperature
Direction of Load Movement	Pull
Coil Insulation	Class "A": 105°C max. temperature standard. Other temperature classes are available
Coil Termination	3/16" QC
Plunger Weight	14 g
Total Weight	85 g
Dimensions	See page 29

All catalogue products are RoHS Compliant

AC Continuous Duty



AC Intermittent Duty



Duty Cycle	Continuous – 12 VA	Intermittent – 24 VA
Model	C26M-50-M-36	C26M-550-M-36
Volts — 50 Hz (60 Hz available)	230	230

NOTES:

- All data is typical.
- Force testing is done with the solenoid in the horizontal position.
- All data reflects operation with no heatsink.
- Other coil terminations available.
- 120 or 240V/60 Hz models are also available. Please contact us for ordering information.
- All specifications subject to change without notice.

How to Order

Select the part number from the table provided. (For example, to order a continuous duty cycle unit rated at 250 VAC, specify C26M-50-M-36.

Please see www.dormeyer-solenoids.com (click on Stock Products tab) for our list of stock products available through our distributors.

All specifications subject to change without notice.

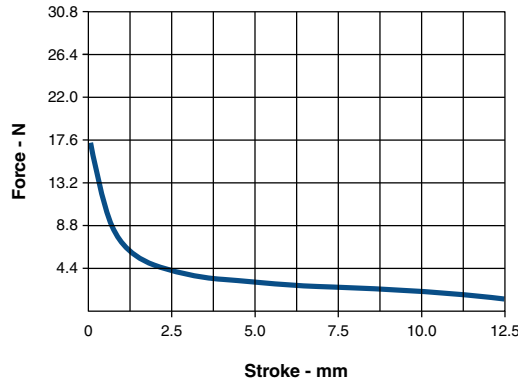
Dormeyer® C Frame Size C33M — AC Operation

Specifications

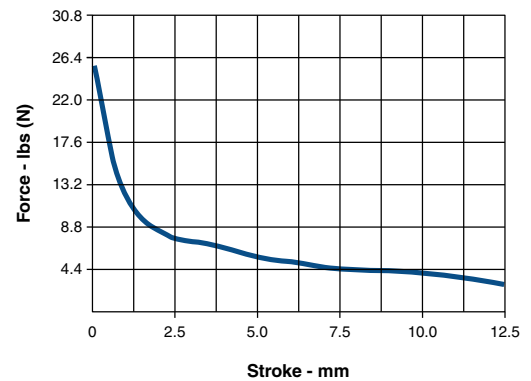
Continuous Duty Cycle	At 20°C ambient temperature
Intermittent Duty Cycle	20% on time, 80% off time. On time not to exceed 3 min. at 20°C ambient temperature
Direction of Load Movement	Pull
Coil Insulation	Class "A": 105°C max. temperature standard. Other temperature classes are available
Coil Termination	1/4" QC
Plunger Weight	14 g
Total Weight	110 g
Dimensions	See page 30

All catalogue products are RoHS Compliant

AC Continuous Duty



AC Intermittent Duty



Duty Cycle	Continuous – 17 VA	Intermittent – 24 VA
Model	C33M-50-M-33	C33M-550-M-33
Volts — 50 Hz (60 Hz available)	230	230

NOTES:

1. All data is typical.
2. Force testing is done with the solenoid in the horizontal position.
3. All data reflects operation with no heatsink.
4. Other coil terminations available.
5. 120 or 240V/60 Hz models are also available. Please contact us for ordering information.
6. All specifications subject to change without notice.

How to Order

Select the part number from the table provided. (For example, to order a continuous duty cycle unit rated at 230 VAC, specify C33M-50-M-33.

Please see www.dormeyer-solenoids.com (click on Stock Products tab) for our list of stock products available through our distributors.

All specifications subject to change without notice.

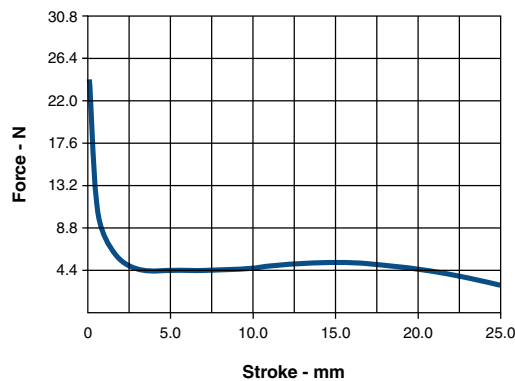
Dormeyer® C Frame Size C34M — AC Operation

Specifications

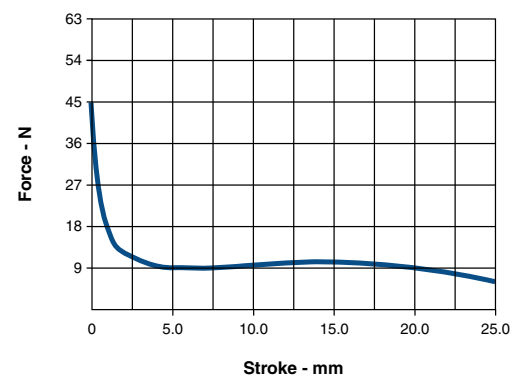
Continuous Duty Cycle	At 20°C ambient temperature
Intermittent Duty Cycle	20% on time, 80% off time. On time not to exceed 3 min. at 20°C ambient temperature
Direction of Load Movement	Pull
Coil Insulation	Class "A": 105°C max. temperature standard
Coil Termination	1/4" QC
Plunger Weight	39 g
Total Weight	164 g
Dimensions	See page 30

All catalogue products are RoHS Compliant

AC Continuous Duty



AC Intermittent Duty



Duty Cycle	Continuous – 24 VA	Intermittent – 62 VA
Model	C34-50-M-33	C34-550-M-33
Volts — 50 Hz (60 Hz available)	230	230

NOTES:

1. All data is typical.
2. Force testing is done with the solenoid in the horizontal position.
3. All data reflects operation with no heatsink.
4. Other coil terminations available.
5. 120 or 240V/60 Hz models are also available. Please contact us for ordering information.
6. All specifications subject to change without notice.

How to Order

Select the part number from the table provided. (For example, to order a continuous duty cycle unit rated at 230 VAC, specify C34M-50-M-33.

Please see www.dormeyer-solenoids.com (click on Stock Products tab) for our list of stock products available through our distributors.

All specifications subject to change without notice.

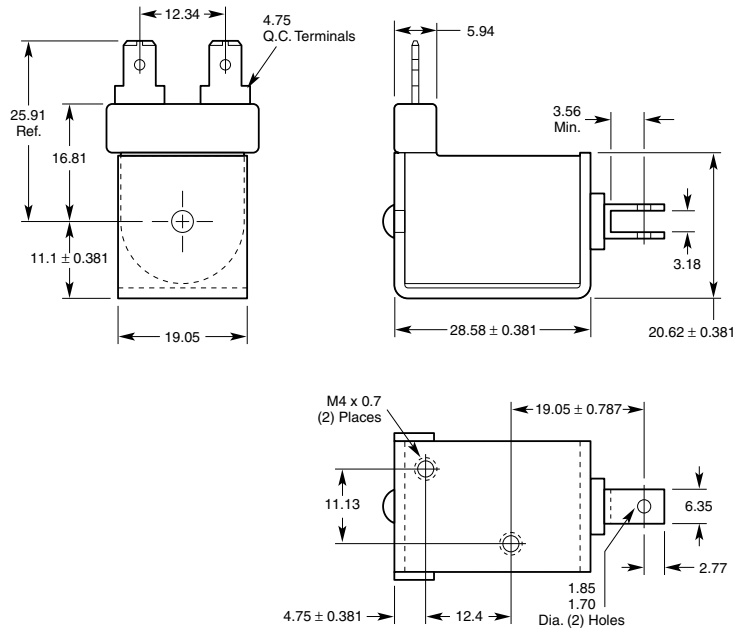
Dormeyer® C Frame Dimensions

Inches (mm)

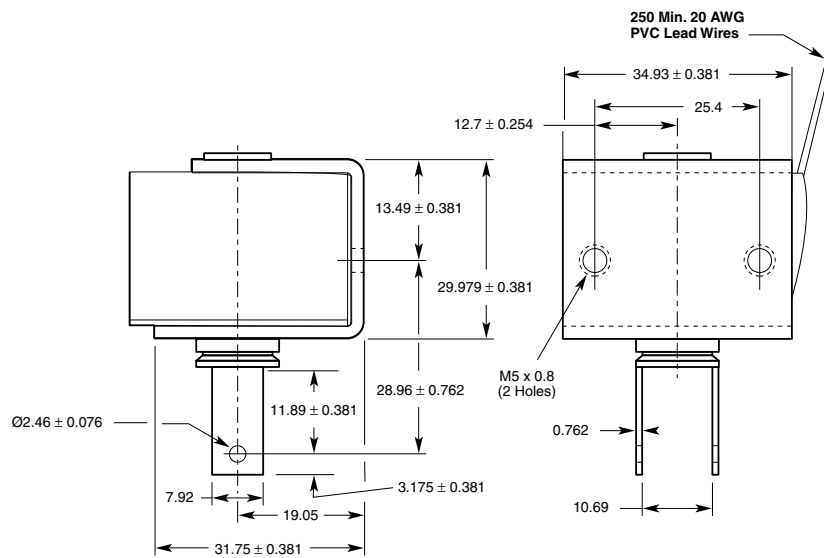
All solenoids are illustrated in energised state

All catalogue products are RoHS Compliant

C8M



C9M



All specifications subject to change without notice.

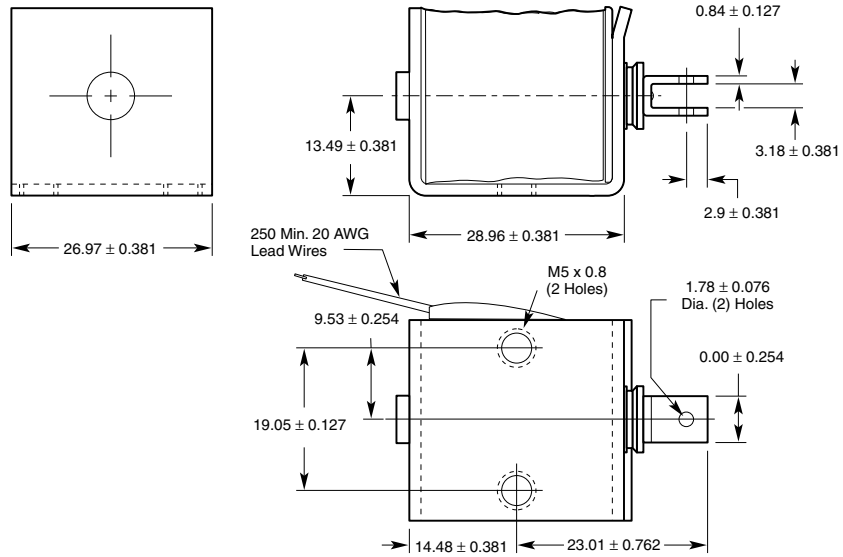
Dormeyer® C Frame Dimensions

Inches (mm)

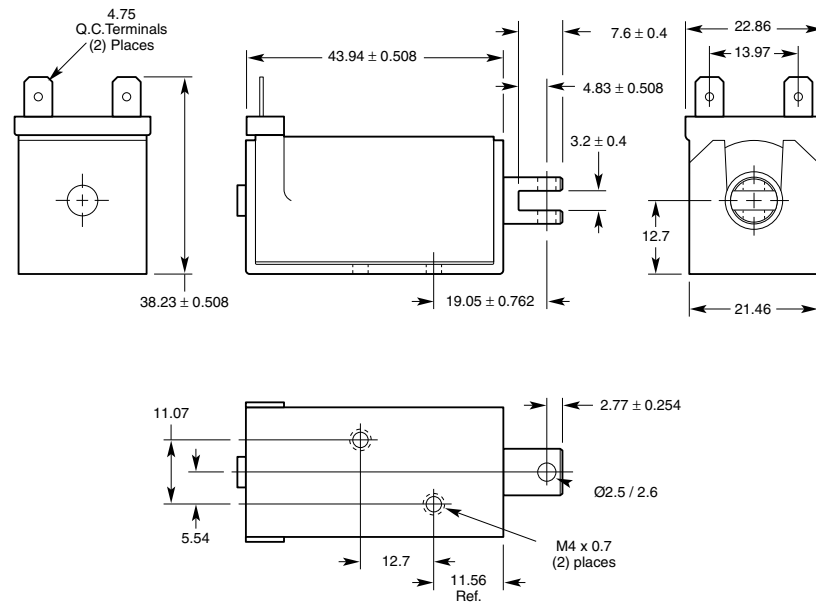
All solenoids are illustrated in energised state

All catalogue products are RoHS Compliant

C15M



C26M



All specifications subject to change without notice.

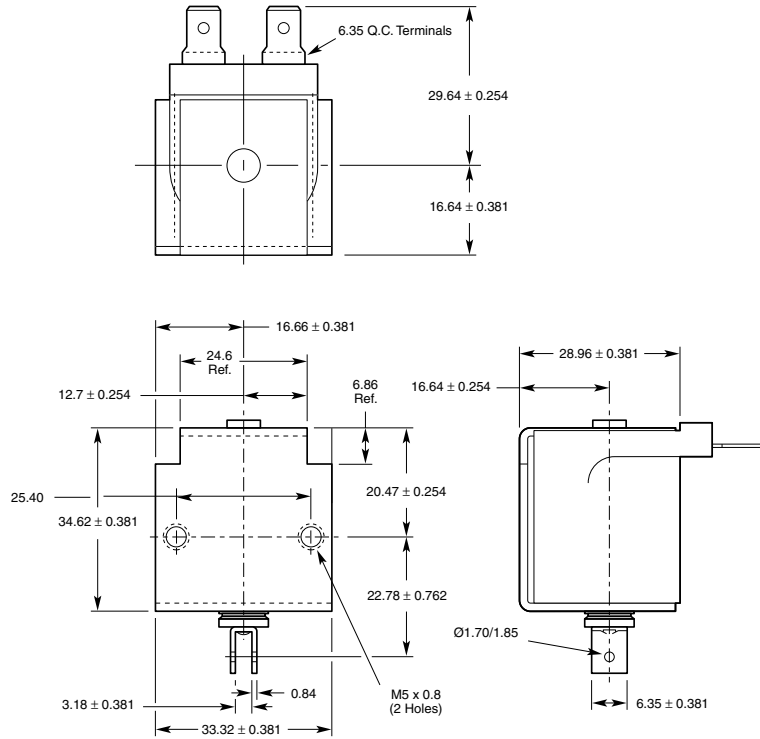
Dormeyer® C Frame Dimensions

Inches (mm)

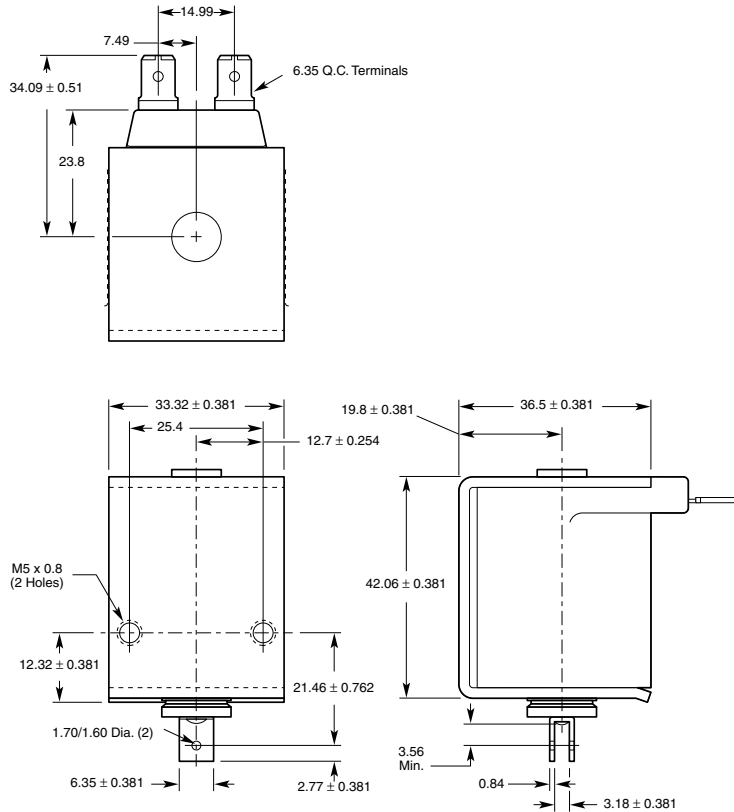
All solenoids are illustrated in energised state

All catalogue products are RoHS Compliant

C33M



C34M



All specifications subject to change without notice.