Size 50–STA®-Mini Pull Tubular Solenoids — 1/2" Dia. x 1/2"

LINEAR Tubular

Part Number: 195200 - X XX

All products are RoHS Compliant

Coil AWG Number
(from performance chart below)

Plunger Configurations and anti-rotation flat on mounting
2 60° plunger without anti-rotation flat
6 60° plunger with anti-rotation flat

Battery Powered

High Speed

Long Life

Miniature Size

Performance

Maximum Duty Cycle	100%	50%	25%	10%
Maximum ON Time (sec) when pulsed continuously[1]	∞	50	5	2
Maximum ON Time (sec) for single pulse[2]	∞	140	30	8
Watts (@ 20°C)	3	6	12	30
Ampere Turns (@ 20°C)	268	379	536	847

Coil Data

awg (0XX)[3]	Resistance (@20°C)	# Turns[4]	VDC (Nom)	VDC (Nom)	VDC (Nom)	VDC (Nom)
27	0.48	108	1.2	1.7	2.4	3.8
28	0.67	123	1.5	2.1	2.9	4.6
29	1.33	184	1.9	2.7	3.9	6.1
30	1.80	204	2.4	3.3	4.7	7.5
31	3.33	290	3.1	4.4	6.2	9.7
32	4.57	325	3.8	5.3	7.5	11.9
33	7.80	432	4.8	6.8	9.7	15.3
34	13.10	567	6.2	8.8	12.4	19.6
35	17.80	630	7.6	11.0	15.0	24.0
36	29.05	808	9.6	14.0	19.0	30.0
37	45.70	1008	12.2	17.0	24.0	38.0

[1] Continuously pulsed at stated watts and duty cycle

[2] Single pulse at stated watts (with coil at ambient room temperature 20°C)

[3] Other coil awg sizes available — please consult factory

[4] Reference number of turns

Specifications

Dielectric Strength	500 VRMS
Recommended Minimum Heat Sink	Maximum watts dissipated by solenoid are based on an unrestricted flow of air at 20°C, with solenoid mounted on the equivalent of an aluminum plate measuring 2" square by 1/8" thick
Coil Resistance	±5% tolerance
Weight	0.51 oz (14.5 g)
Plunger Weight	0.088 oz (2.5 g)

How to Order

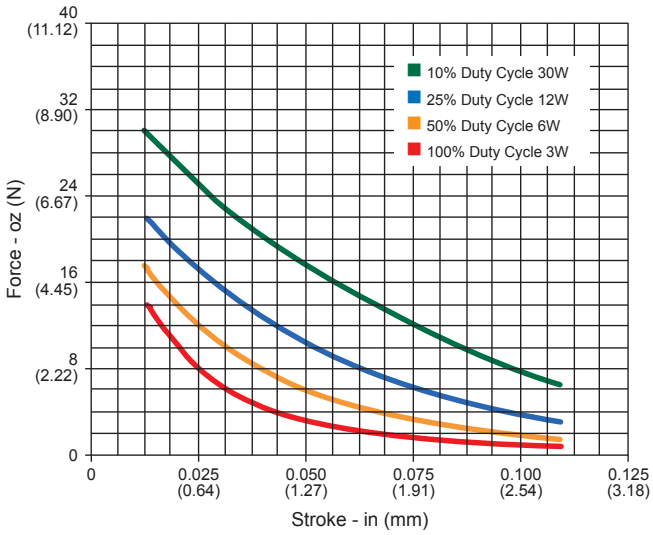
Add the plunger configuration, anti-rotation flat number, and the coil awg number to the part number (for example: to order a unit with a 60° plunger configuration without an anti-rotation flat rated for 4.7 VDC at 25% duty cycle, specify 195200-230.

Please see www.johnsonelectric.com for our list of stock products available through distribution.

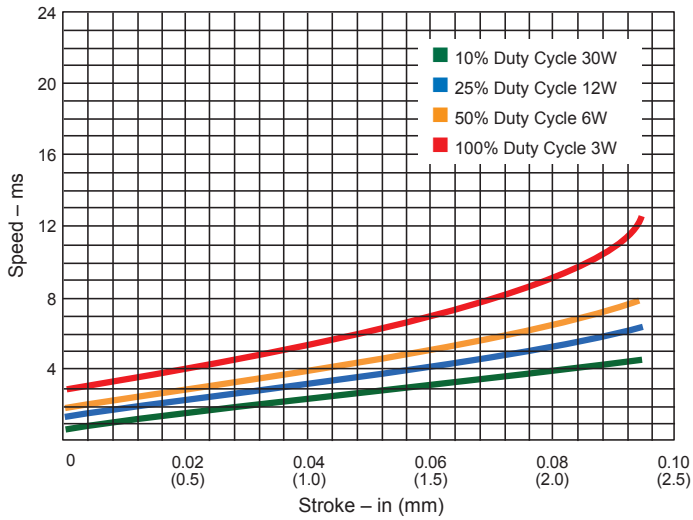
All specifications subject to change without notice.

Size 50–STA®-Mini Pull Tubular Solenoids — 1/2" Dia. x 1/2"

Typical Force @ 20°C



Typical Speed @ No Load, 20°C

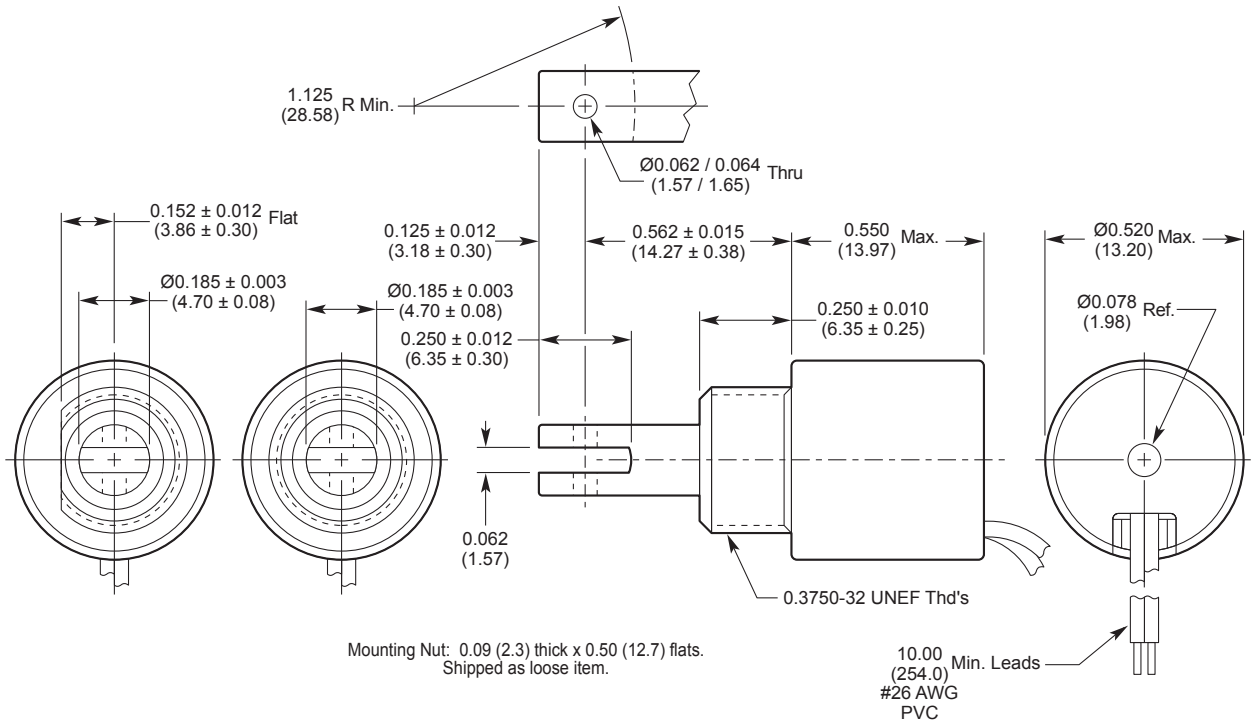


Force values for reference only.

Dimensions

Inches (mm)

All solenoids are illustrated in energized state



Size 50–STA®-Mini Pull Magnetic Latching Solenoid — 1/2" Dia. x 1/2"

LINEAR Tubular

Part Number: 151082 - X XX

All products are RoHS Compliant

Coil AWG Number
(from performance chart below)

Plunger Configurations and anti-rotation flat on mounting
1 Flat Face plunger without anti-rotation flat on mounting
2 60° plunger without anti-rotation flat on mounting
5 Flat Face plunger with anti-rotation flat on mounting
6 60° plunger with anti-rotation flat on mounting

Performance

Maximum Duty Cycle	Unlatched Voltage	50%	25%	10%
Maximum ON Time (sec) when pulsed continuously[1]	n/a	50	5	2
Watts (@ 20°C)	3	6	12	30
Ampere Turns (@ 20°C)	268	379	536	847

Coil Data

awg (0XX)[2]	Resistance (@20°C)	# Turns[3]	Unlatched VDC	VDC (Nom)	VDC (Nom)	VDC (Nom)
27	0.48	108	1.2	1.7	2.4	3.8
28	0.67	123	1.5	2.1	2.9	4.6
29	1.33	184	1.9	2.7	4.0	6.1
30	1.80	204	2.4	3.3	4.7	7.5
31	3.33	290	3.1	4.4	6.2	9.7
32	4.57	325	3.8	5.3	7.5	11.9
33	7.80	432	4.8	6.8	9.7	15.3
34	13.10	567	6.2	8.8	12.4	20.0
35	17.80	630	7.6	11.0	15.0	24.0
36	29.05	808	9.6	14.0	19.0	30.0
37	45.70	1008	12.2	17.0	24.0	38.0

[1] Continuously pulsed at stated watts and duty cycle
[2] Other coil awg sizes available — please consult factory
[3] Reference number of turns

Battery Powered
High Speed
Long Life
Miniature Size

Specifications

Operation	Pull
Dielectric Strength	500 VRMS
Recommended Minimum Heat Sink	Maximum watts dissipated by solenoid are based on an unrestricted flow of air at 20°C, with solenoid mounted on the equivalent of an aluminum plate measuring 2" square by ⅛" thick
Unlatch Voltage	See schematic and coil data
Magnet Hold Force	7.5 oz (with return spring)
Spring Force	35.2 oz/in; 4.47 oz latched position
Weight	0.52 oz (14.7 g)
Plunger Weight	0.093 oz (2.6 g)

How to Order

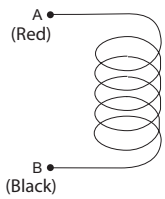
Add the plunger configuration, anti-rotation flat number, and the coil awg number to the part number (for example: to order a 60° plunger unit without an anti-rotation flat, rated for 4.7 VDC at 25% duty cycle, specify 151082-230.

Please see www.johnsonelectric.com for our list of stock products available through distribution.

Coil Polarity

Latch: A+ B-

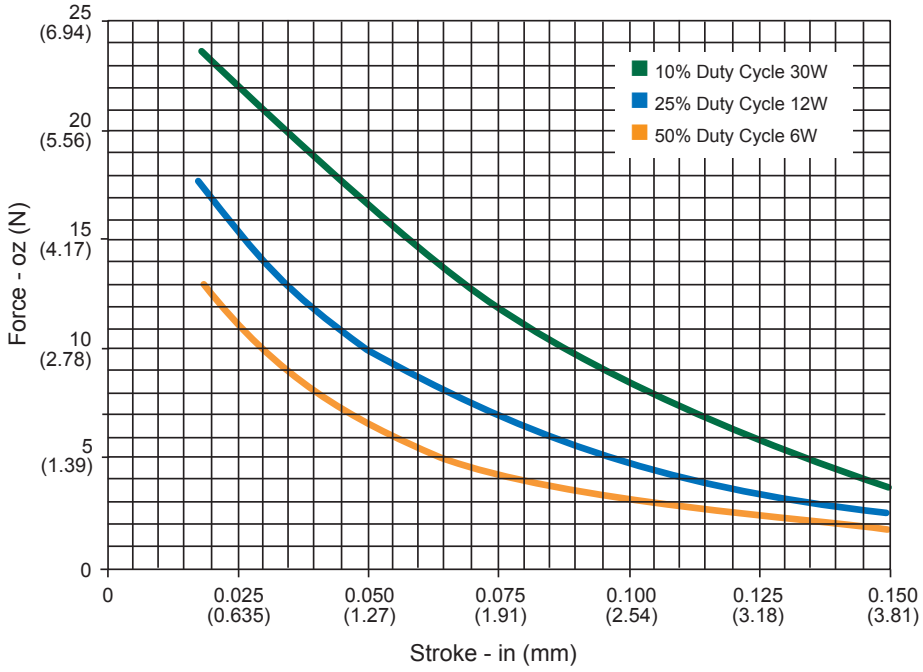
Unlatch: A- B+



All specifications subject to change without notice.

Size 50–STA®-Mini Pull Magnetic Latching Solenoid — 1/2" Dia. x 1/2"

Typical Force @ 20°C (Net, with Spring)

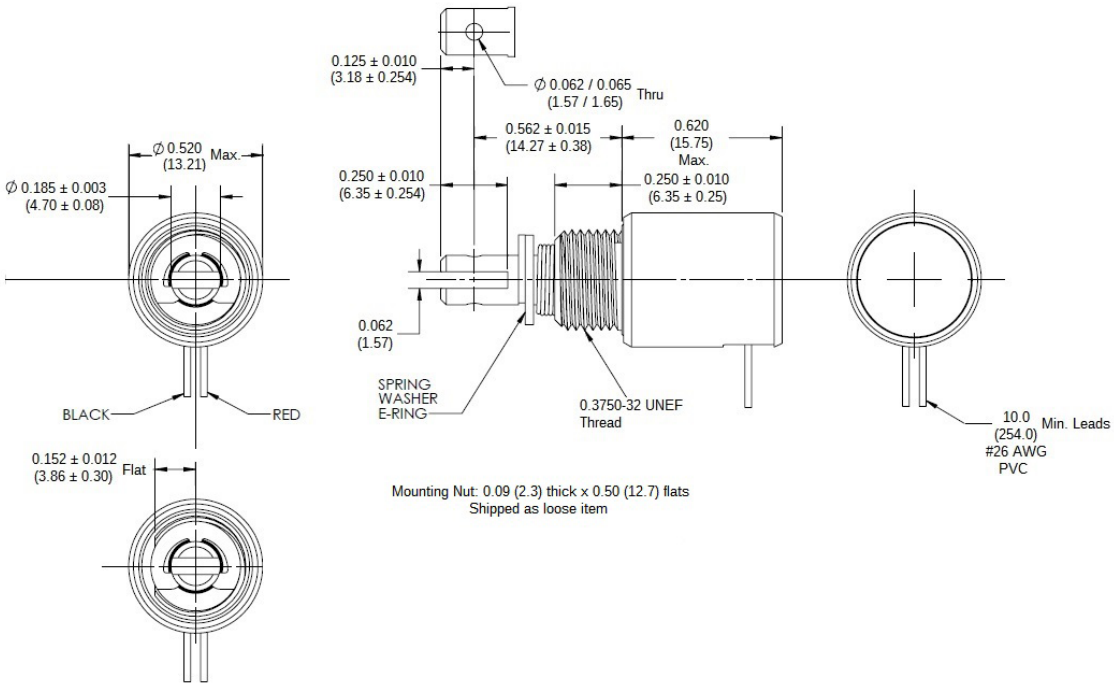


Force values for reference only.

Dimensions

Inches (mm)

All solenoids are illustrated in energized state



Size 50–STA®-Mini Push Tubular Solenoids — 1/2" Dia. x 1/2"

LINEAR Tubular

Part Number: 195201-[X][XX]

All products are RoHS Compliant

- XX — Coil AWG Number (from performance chart below)
- X — Plunger Configurations and anti-rotation flat on mounting
  - 2 60° plunger without anti-rotation flat
  - 6 60° plunger with anti-rotation flat

Performance

Maximum Duty Cycle	100%	50%	25%	10%
Maximum ON Time (sec) when pulsed continuously[1]	∞	50	5	2
Maximum ON Time (sec) for single pulse[2]	∞	140	30	8
Watts (@ 20°C)	3	6	12	30
Ampere Turns (@ 20°C)	268	379	536	847

Battery Powered

High Speed

Long Life

Miniature Size

Coil Data

awg (0XX)[3]	Resistance (@20°C)	# Turns[4]	VDC (Nom)	VDC (Nom)	VDC (Nom)	VDC (Nom)
27	0.48	108	1.2	1.7	2.4	3.8
28	0.67	123	1.5	2.1	2.9	4.6
29	1.33	184	1.9	2.7	3.9	6.1
30	1.80	204	2.4	3.3	4.7	7.5
31	3.33	290	3.1	4.4	6.2	9.7
32	4.57	325	3.8	5.3	7.5	11.9
33	7.80	432	4.8	6.8	9.7	15.3
34	13.10	567	6.2	8.8	12.4	19.6
35	17.80	630	7.6	11.0	15.0	24.0
36	29.05	808	9.6	14.0	19.0	30.0
37	45.70	1008	12.2	17.0	24.0	38.0

[1] Continuously pulsed at stated watts and duty cycle

[2] Single pulse at stated watts (with coil at ambient room temperature 20°C)

[3] Other coil awg sizes available — please consult factory

[4] Reference number of turns

Specifications

Dielectric Strength	500 VRMS
Recommended Minimum Heat Sink	Maximum watts dissipated by solenoid are based on an unrestricted flow of air at 20°C, with solenoid mounted on the equivalent of an aluminum plate measuring 2" square by 1/8" thick
Coil Resistance	±5% tolerance
Weight	0.51 oz (14.5 g)
Plunger Weight	0.04 oz (1.2 g)

How to Order

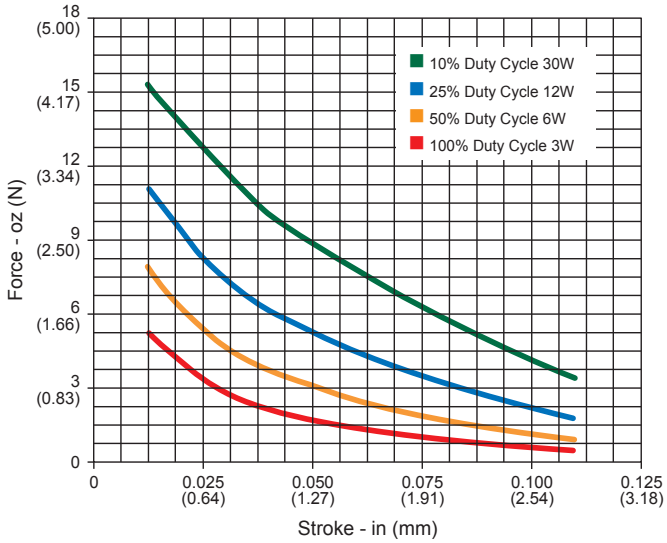
Add the plunger configuration, anti-rotation flat number, and the coil awg number to the part number (for example: to order a unit with a 60° plunger configuration without an anti-rotation flat rated for 4.7 VDC at 25% duty cycle, specify 195201-230.

Please see www.johnsonelectric.com for our list of stock products available through distribution.

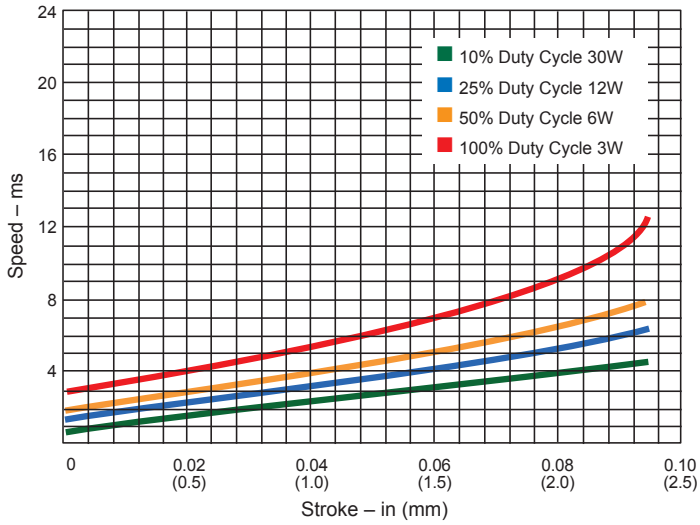
All specifications subject to change without notice.

Size 50–STA®-Mini Push Tubular Solenoids — 1/2" Dia. x 1/2"

Typical Force @ 20°C



Typical Speed @ No Load, 20°C

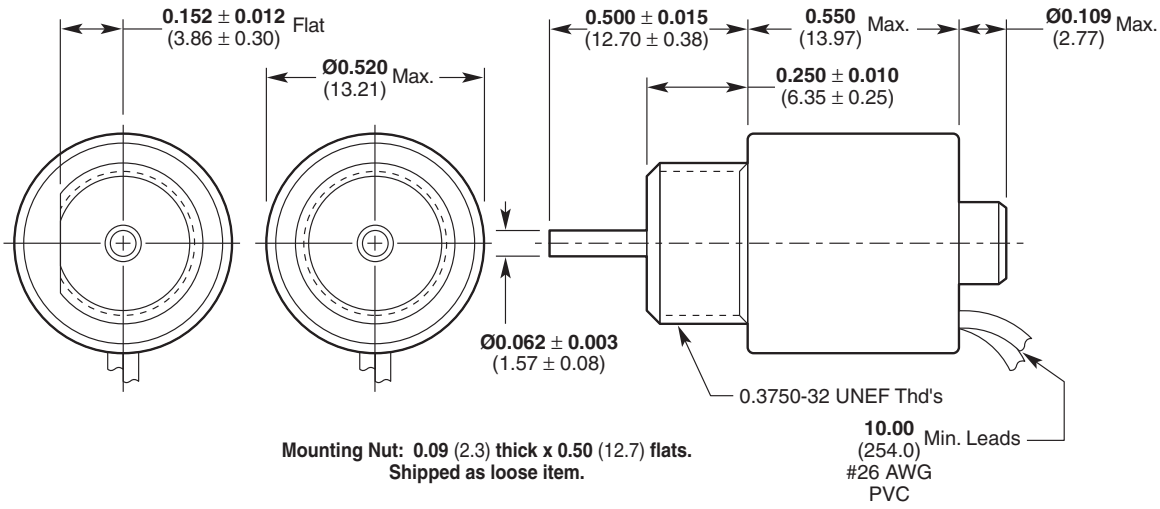


Force values for reference only.

Dimensions

Inches (mm)

All solenoids are illustrated in energized state



Mounting Nut: 0.09 (2.3) **thick x 0.50** (12.7) **flats. Shipped as loose item.**

Size 51–STA® Pull Tubular Solenoids — 1/2" Dia. x 1"

LINEAR Tubular

Part Number: 195202 - X XX

All products are RoHS Compliant

Coil AWG Number
(from performance chart below)

Plunger Configurations and anti-rotation flat on mounting
1 Flat face plunger without anti-rotation flat
2 60° plunger without anti-rotation flat
5 Flat face plunger with anti-rotation flat
6 60° plunger with anti-rotation flat

VDC
Battery Powered

High Speed

Long Life

Miniature Size

Performance

Maximum Duty Cycle	100%	50%	25%	10%
Maximum ON Time (sec) when pulsed continuously[1]	∞	50	5	2
Maximum ON Time (sec) for single pulse[2]	∞	140	30	8
Watts (@ 20°C)	4	8	16	40
Ampere Turns (@ 20°C)	497	704	994	1573

Coil Data

awg (0XX)[3]	Resistance (@20°C)	# Turns[4]	VDC (Nom)	VDC (Nom)	VDC (Nom)	VDC (Nom)
27	1.43	306	2.4	3.4	4.8	7.6
28	1.95	342	2.8	3.9	5.6	8.8
29	3.84	508	3.9	5.5	7.8	12.4
30	5.29	572	4.6	6.5	9.2	14.5
31	9.56	795	6.2	8.8	12.4	19.6
32	16.54	1068	8.1	11.5	16.3	25.7
33	22.60	1194	9.5	13.4	19.0	30.0
34	37.41	1547	12.2	17.3	24.0	39.0
35	60.71	1976	15.6	22.0	31.0	49.0
36	96.19	2475	19.6	28.0	39.0	62.0
37	141.93	3060	23.8	33.7	47.6	75.3

[1] Continuously pulsed at stated watts and duty cycle

[2] Single pulse at stated watts (with coil at ambient room temperature 20°C)

[3] Other coil awg sizes available — please consult factory

[4] Reference number of turns

Specifications

Dielectric Strength	500 VRMS
Recommended Minimum Heat Sink	Maximum watts dissipated by solenoid are based on an unrestricted flow of air at 20°C, with solenoid mounted on the equivalent of an aluminum plate measuring 2" square by 1/8" thick
Coil Resistance	±5% tolerance
Holding Force	Flat Face:1.18 lb (5.3 N) @ 20°C 60°:0.90 lb (4.0 N) @ 20°C
Weight	0.87 oz (24.7 g)
Plunger Weight	0.16 oz (4.5 g)

How to Order

Add the plunger configuration, anti-rotation flat number, and the coil awg number to the part number (for example: to order a unit with a 60° plunger configuration without an anti-rotation flat rated for 4.8 VDC at 25% duty cycle, specify 195202-227.

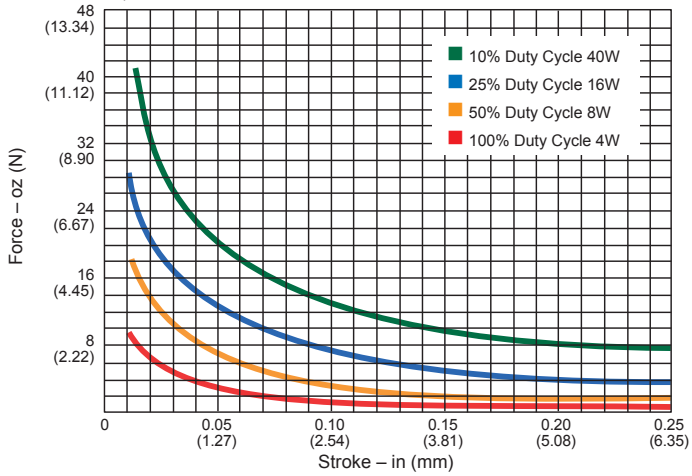
Please see www.johnsonelectric.com for our list of stock products available through distribution.

All specifications subject to change without notice.

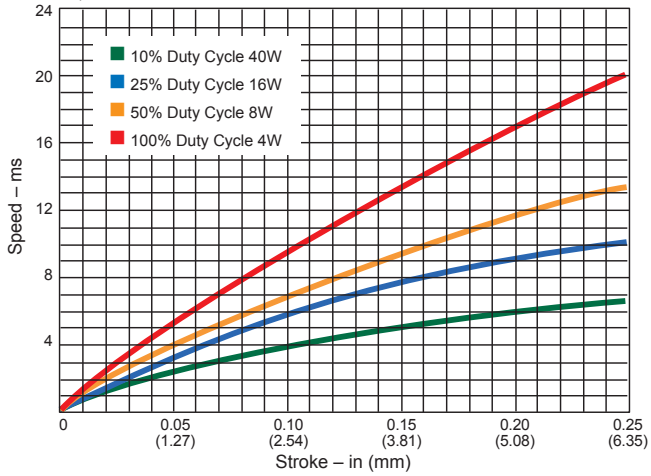
Size 51–STA® Pull Tubular Solenoids — 1/2" Dia. x 1"

Flat Face Plunger

Typical Force @ 20°C

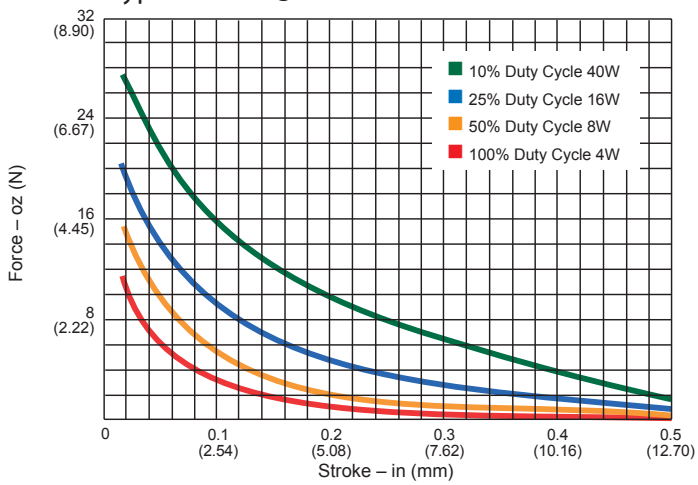


Typical Speed @ No Load, 20°C

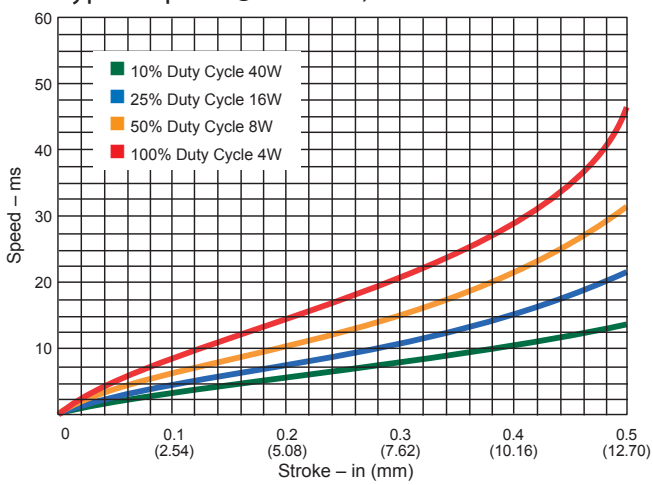


60° Plunger

Typical Force @ 20°C



Typical Speed @ No Load, 20°C

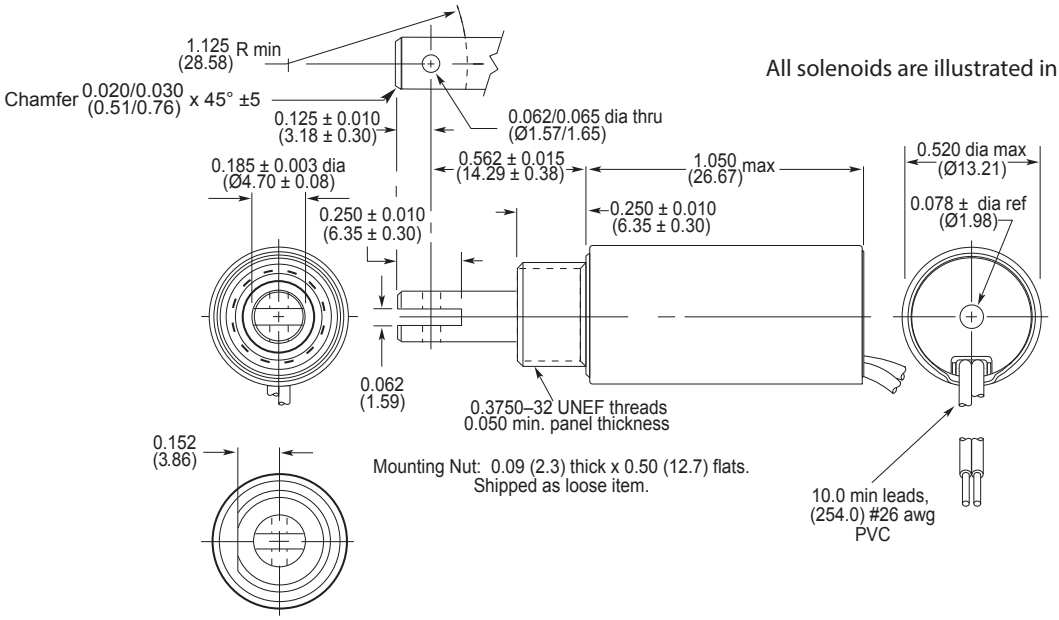


Force values for reference only.

Dimensions

Inches (mm)

All solenoids are illustrated in energized state



Size 51–STA® Push Tubular Solenoids — 1/2" Dia. x 1"

LINEAR Tubular

Part Number: 195203 - X XX

All products are RoHS Compliant

Coil AWG Number
(from performance chart below)

Plunger Configurations and anti-rotation flat on mounting
1 Flat face plunger without anti-rotation flat
2 60° plunger without anti-rotation flat
5 Flat face plunger with anti-rotation flat
6 60° plunger with anti-rotation flat

Performance

Maximum Duty Cycle	100%	50%	25%	10%
Maximum ON Time (sec) when pulsed continuously[1]	∞	50	5	2
Maximum ON Time (sec) for single pulse[2]	∞	140	30	8
Watts (@ 20°C)	4	8	16	40
Ampere Turns (@ 20°C)	497	704	994	1573

Battery Powered

High Speed

Long Life

Miniature Size

Coil Data

awg (0XX)[3]	Resistance (@20°C)	# Turns[4]	VDC (Nom)	VDC (Nom)	VDC (Nom)	VDC (Nom)
27	1.43	306	2.4	3.4	4.8	7.6
28	1.95	342	2.8	3.9	5.6	8.8
29	3.84	508	3.9	5.5	7.8	12.4
30	5.29	572	4.6	6.5	9.2	14.5
31	9.56	795	6.2	8.8	12.4	19.6
32	16.54	1068	8.1	11.5	16.3	25.7
33	22.60	1194	9.5	13.4	19.0	30.0
34	37.41	1547	12.2	17.3	24.0	39.0
35	60.71	1976	15.6	22.0	31.0	49.0
36	96.19	2475	19.6	28.0	39.0	62.0
37	141.93	3060	23.8	33.7	47.6	75.3

[1] Continuously pulsed at stated watts and duty cycle

[2] Single pulse at stated watts (with coil at ambient room temperature 20°C)

[3] Other coil awg sizes available — please consult factory

[4] Reference number of turns

Specifications

Dielectric Strength	500 VRMS
Recommended Minimum Heat Sink	Maximum watts dissipated by solenoid are based on an unrestricted flow of air at 20°C, with solenoid mounted on the equivalent of an aluminum plate measuring 2" square by 1/8" thick
Coil Resistance	±5% tolerance
Holding Force	Flat Face:1.00 lb (4.5 N) @ 20°C 60°:0.71 lb (3.2 N) @ 20°C
Weight	0.89 oz (25.2 g)
Plunger Weight	0.11 oz (3.1 g)

How to Order

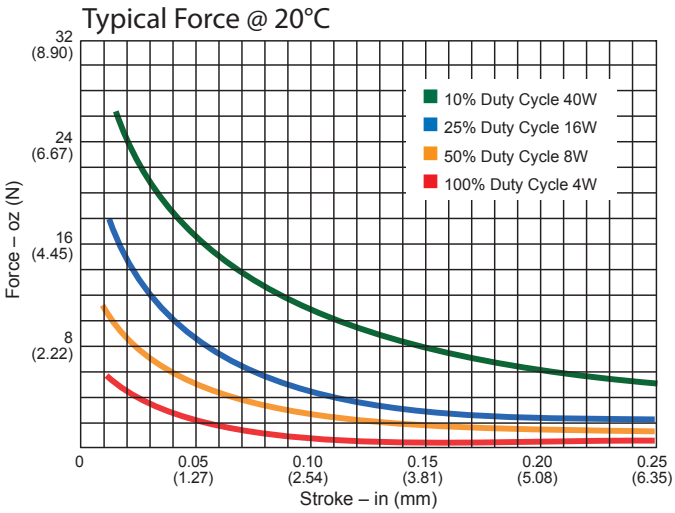
Add the plunger configuration, anti-rotation flat number and the coil awg number to the part number (for example: to order a unit with a 60° plunger configuration without anti-rotation rated for 4.8 VDC at 25% duty cycle, specify 195203-227.

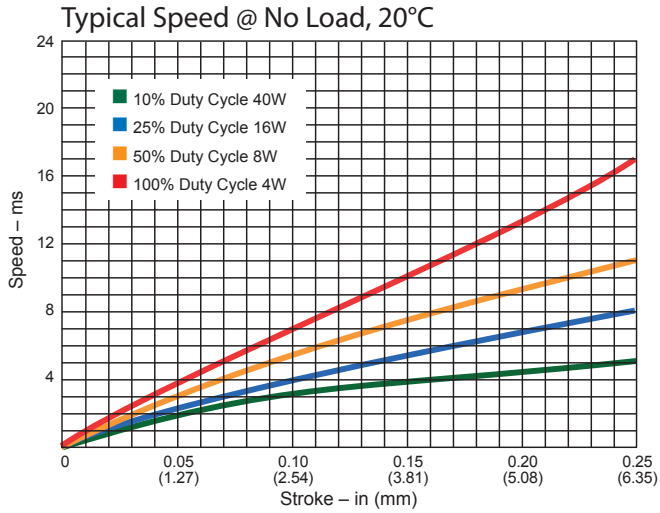
Please see www.johnsonelectric.com for our list of stock products available through distribution.

All specifications subject to change without notice.

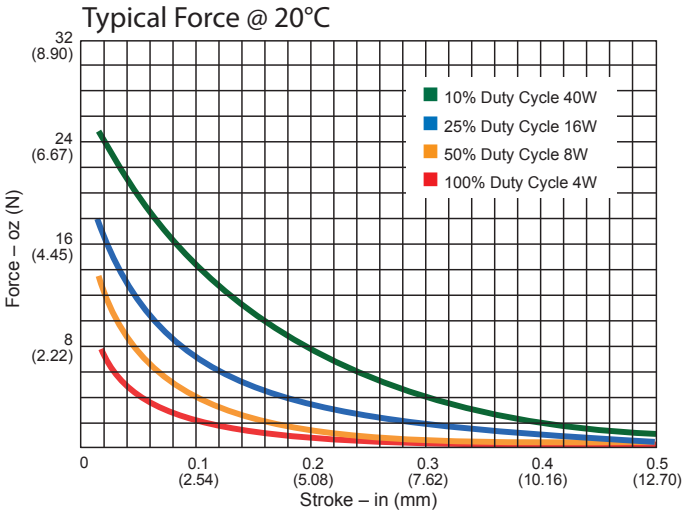
Size 51–STA® Push Tubular Solenoids — 1/2" Dia. x 1"

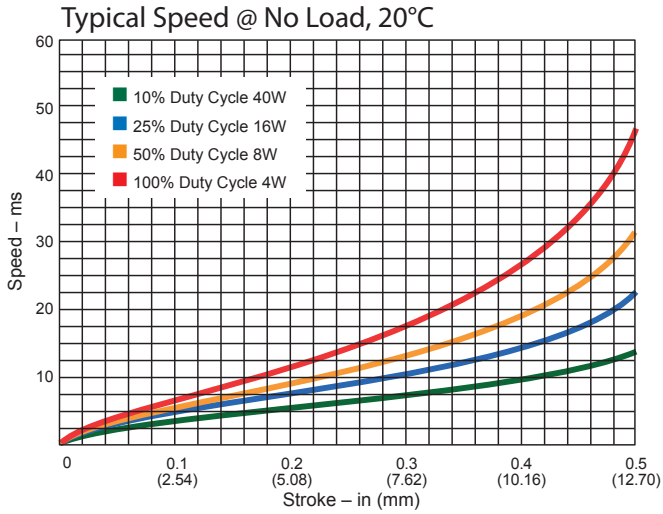
Flat Face Plunger





60° Plunger



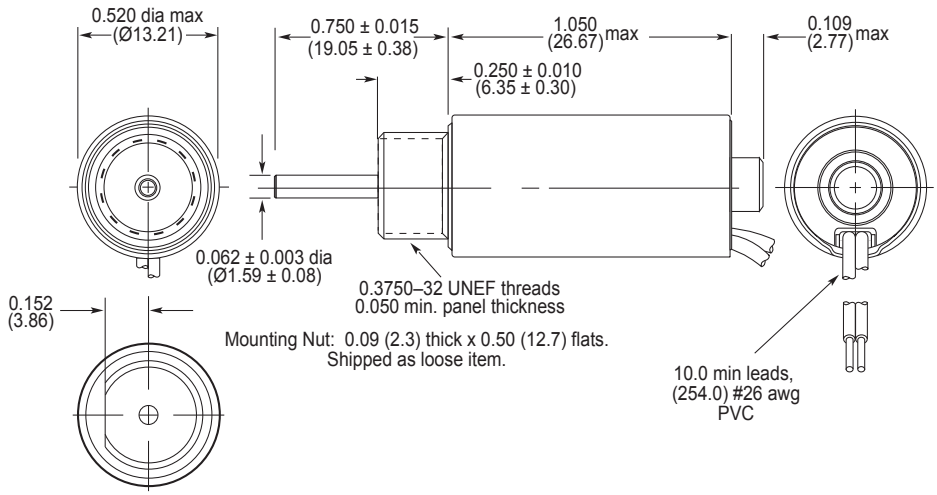


Force values for reference only.

Dimensions

Inches (mm)

All solenoids are illustrated in energized state



Size 75–STA® Pull Tubular Solenoids — 3/4" Dia. x 1-1/2"

LINEAR Tubular

Part Number: 195204 - X XX

All products are RoHS Compliant

Coil AWG Number
(from performance chart below)

Plunger Configurations and anti-rotation flat on mounting
1 Flat face plunger without anti-rotation flat
2 60° plunger without anti-rotation flat
5 Flat face plunger with anti-rotation flat
6 60° plunger with anti-rotation flat

Performance

Battery Powered

High Speed

Maximum Duty Cycle	100%	50%	25%	10%
Maximum ON Time (sec) when pulsed continuously[1]	∞	230	25	6
Maximum ON Time (sec) for single pulse[2]	∞	265	63	15
Watts (@ 20°C)	7	14	28	70
Ampere Turns (@ 20°C)	855	1200	1700	2700

Long Life

Coil Data

awg (0XX)[3]	Resistance (@20°C)	# Turns[4]	VDC (Nom)	VDC (Nom)	VDC (Nom)	VDC (Nom)
24	1.10	330	2.7	3.8	5.6	8.8
25	2.13	488	3.9	5.5	7.7	12.2
26	2.90	544	4.5	6.4	9.0	14.2
27	5.27	760	6.1	8.6	12.1	19.2
28	9.15	1026	8.0	11.3	16.0	25.0
29	12.50	1146	9.4	13.2	18.7	30.0
30	20.70	1491	12.0	17.0	24.0	38.0
31	33.60	1904	15.0	22.0	31.0	48.0
32	53.50	2394	19.4	27.0	39.0	61.0
33	83.50	2970	24.0	34.0	48.0	76.0

[1] Continuously pulsed at stated watts and duty cycle

[2] Single pulse at stated watts (with coil at ambient room temperature 20°C)

[3] Other coil awg sizes available — please consult factory

[4] Reference number of turns

Specifications

Dielectric Strength	1000 VRMS
Recommended Minimum Heat Sink	Maximum watts dissipated by solenoid are based on an unrestricted flow of air at 20°C, with solenoid mounted on the equivalent of an aluminum plate measuring 3" square by 1/8" thick
Coil Resistance	±5% tolerance
Holding Force	Flat Face:5.24 lb (23.3 N) @ 20°C 60°:2.88 lb (12.8 N) @ 20°C
Weight	2.95 oz (83.6 g)
Plunger Weight	0.71oz (20.1 g)

How to Order

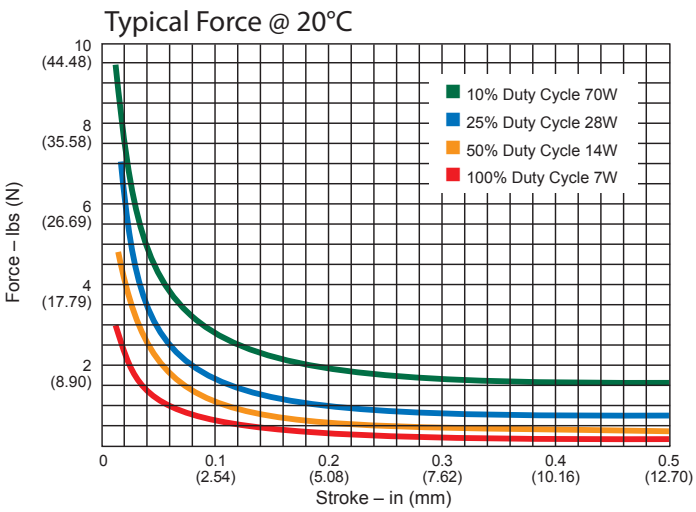
Add the plunger number and the coil awg number to the part number (for example: to order a unit with a 60° plunger configuration without an anti-rotation flat rated for 12.1 VDC at 25% duty cycle, specify 195204-227.

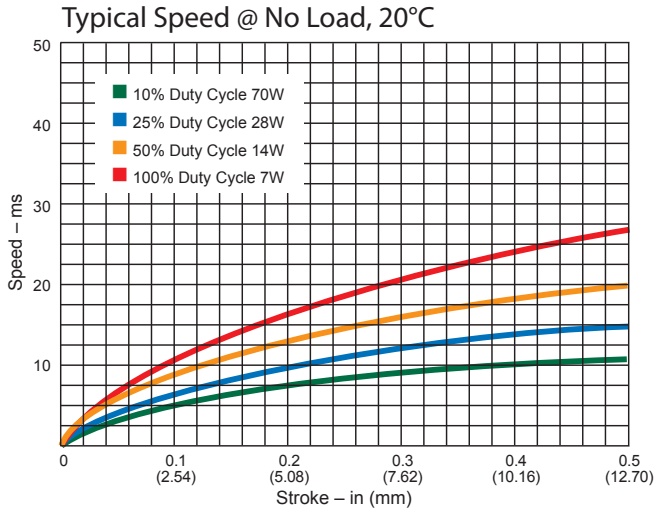
Please see www.johnsonelectric.com for our list of stock products available through distribution.

All specifications subject to change without notice.

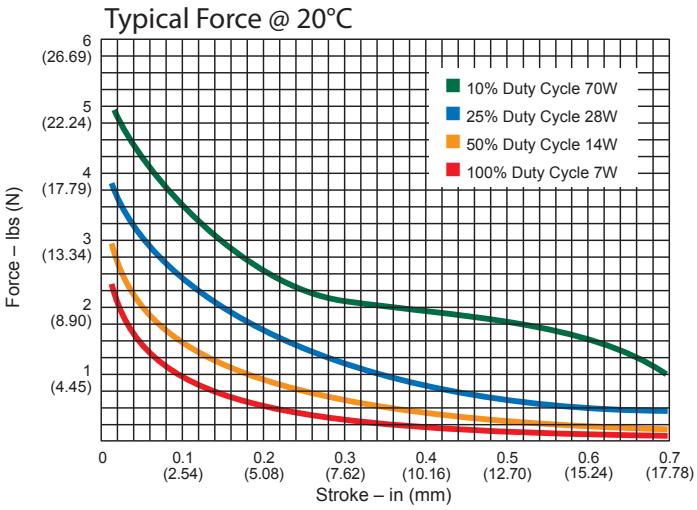
Size 75–STA® Pull Tubular Solenoids — 3/4" Dia. x 1-1/2"

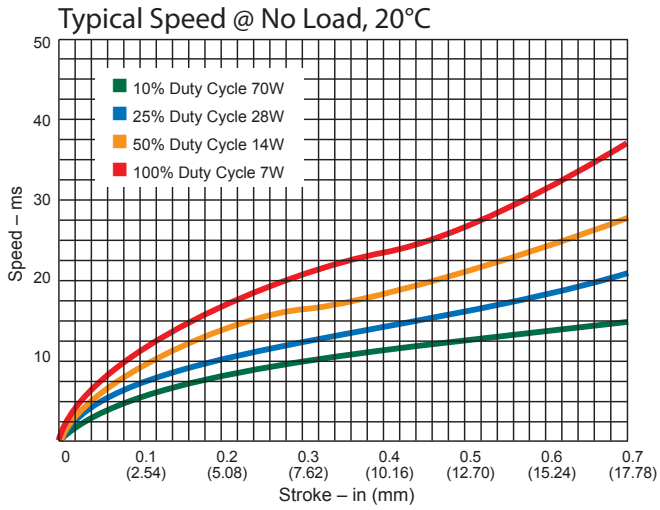
Flat Face Plunger





60° Plunger



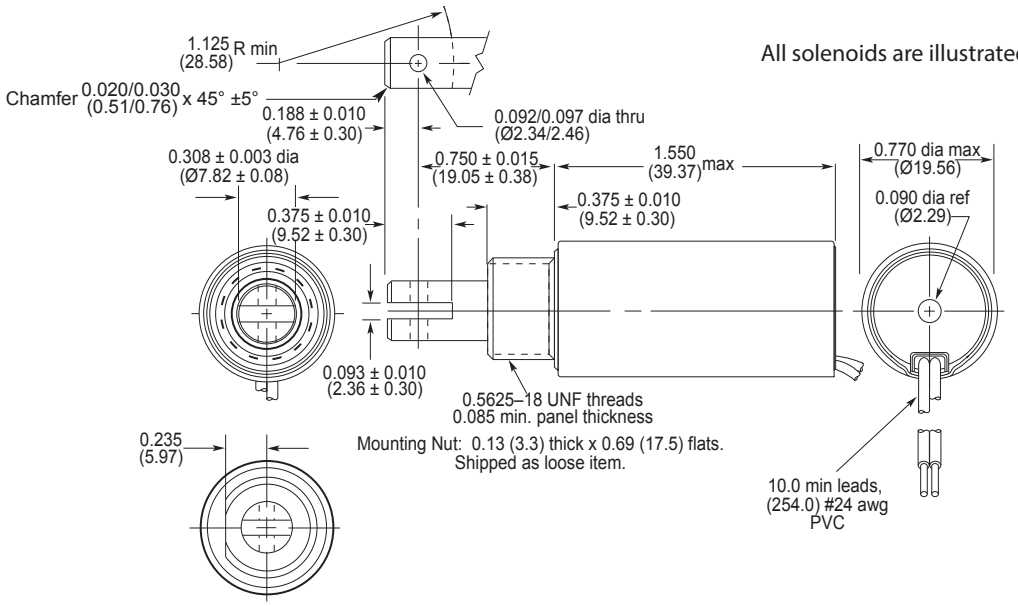


Force values for reference only.

Dimensions

Inches (mm)

All solenoids are illustrated in energized state



Size 75–STA® Push Tubular Solenoids — 3/4" Dia. x 1-1/2"

LINEAR Tubular

Part Number: 195205 - X XX

All products are RoHS Compliant

Coil AWG Number
(from performance chart below)

Plunger Configurations and anti-rotation flat on mounting
1 Flat face plunger without anti-rotation flat
2 60° plunger without anti-rotation flat
5 Flat face plunger with anti-rotation flat
6 60° plunger with anti-rotation flat

Performance

Battery Powered

Maximum Duty Cycle	100%	50%	25%	10%
Maximum ON Time (sec) when pulsed continuously[1]	∞	230	25	6
Maximum ON Time (sec) for single pulse[2]	∞	265	63	15
Watts (@ 20°C)	7	14	28	70
Ampere Turns (@ 20°C)	855	1200	1700	2700

High Speed

Long Life

Coil Data

awg (0XX)[3]	Resistance (@20°C)	# Turns[4]	VDC (Nom)	VDC (Nom)	VDC (Nom)	VDC (Nom)
24	1.10	330	2.7	3.8	5.6	8.8
25	2.13	488	3.9	5.5	7.7	12.2
26	2.90	544	4.5	6.4	9.0	14.2
27	5.27	760	6.1	8.6	12.1	19.2
28	9.15	1026	8.0	11.3	16.0	25.0
29	12.50	1146	9.4	13.2	18.7	30.0
30	20.70	1491	12.0	17.0	24.0	38.0
31	33.60	1904	15.0	22.0	31.0	48.0
32	53.50	2394	19.4	27.0	39.0	61.0
33	83.50	2970	24.0	34.0	48.0	76.0

[1] Continuously pulsed at stated watts and duty cycle

[2] Single pulse at stated watts (with coil at ambient room temperature 20°C)

[3] Other coil awg sizes available — please consult factory

[4] Reference number of turns

Specifications

Dielectric Strength	1000 VRMS
Recommended Minimum Heat Sink	Maximum watts dissipated by solenoid are based on an unrestricted flow of air at 20°C, with solenoid mounted on the equivalent of an aluminum plate measuring 3" square by 1/8" thick
Coil Resistance	±5% tolerance
Holding Force	Flat Face:4.95 lb (22.0 N) @ 20°C 60°:2.85 lb (12.7 N) @ 20°C
Weight	3.08 oz (87.3 g)
Plunger Weight	0.53 oz (15.0 g)

How to Order

Add the plunger number and the coil awg number to the part number (for example: to order a unit with a 60° plunger configuration without an anti-rotation flat rated for 12.1 VDC at 25% duty cycle, specify 195205-227.

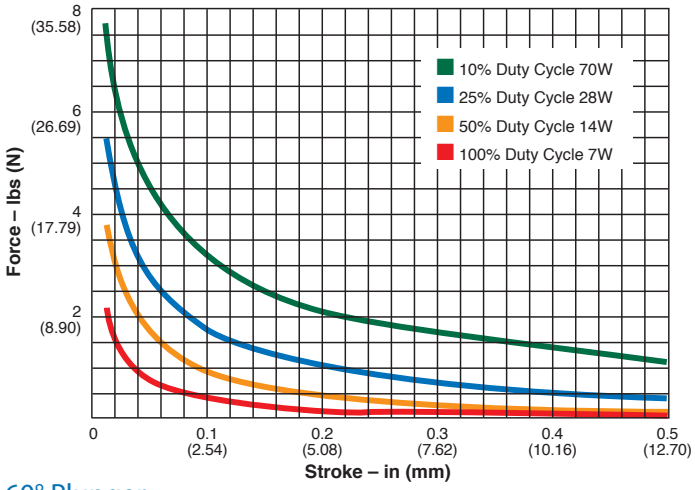
Please see www.johnsonelectric.com for our list of stock products available through distribution.

All specifications subject to change without notice.

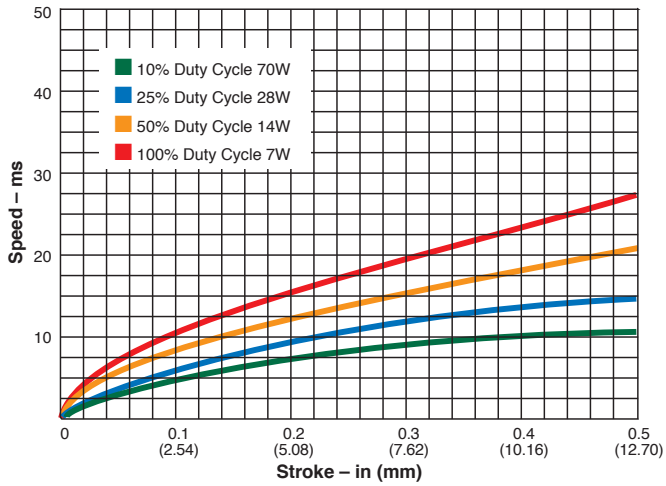
Size 75–STA® Push Tubular Solenoids — 3/4" Dia. x 1-1/2"

Flat Face Plunger

Typical Force @ 20°C

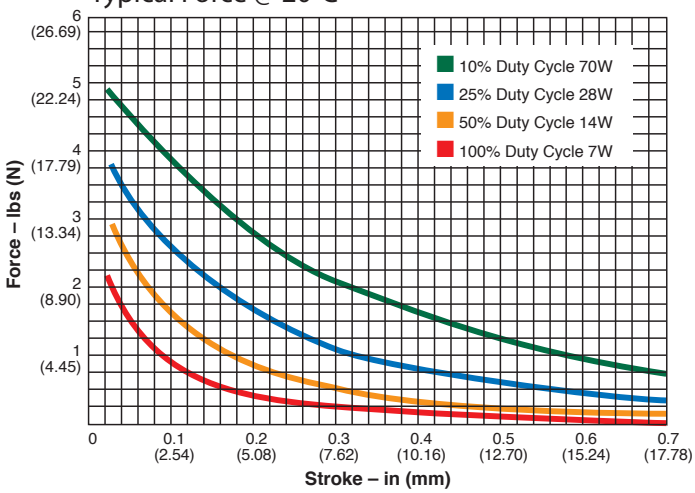


Typical Speed @ No Load, 20°C

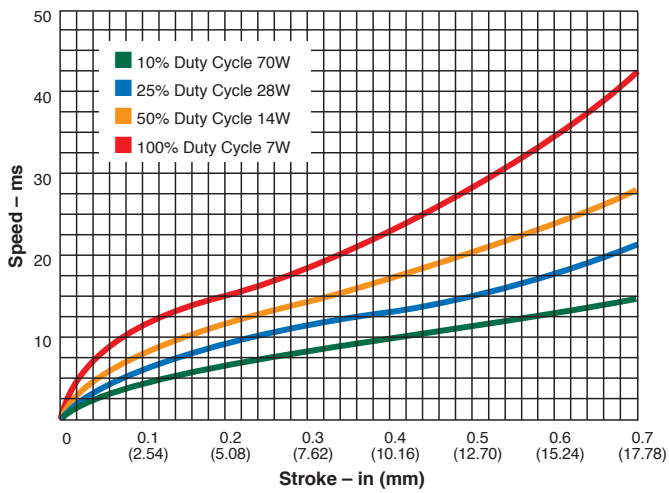


60° Plunger

Typical Force @ 20°C



Typical Speed @ No Load, 20°C

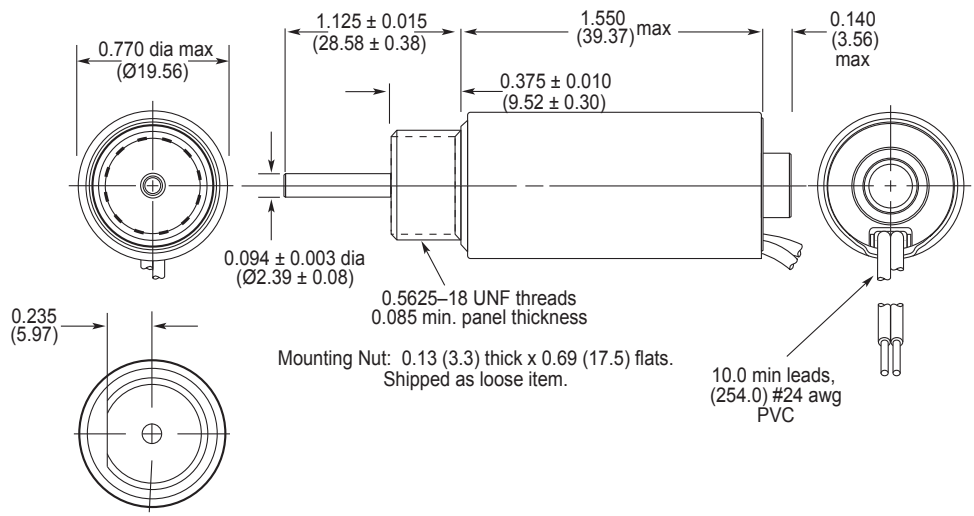


Force values for reference only.

Dimensions

Inches (mm)

All solenoids are illustrated in energized state



Size 75Q–STA®-Q Pull Tubular — 3/4" Dia. x 1-5/8"

LINEAR Tubular

Part Number: 153556 - X XX

All products are RoHS Compliant

Coil AWG Number
(from performance chart below)

Plunger Configurations and anti-rotation flat on mounting
1 Flat face plunger without anti-rotation flat
5 Flat face plunger with anti-rotation flat

Performance

Maximum Duty Cycle	100%	50%	25%	10%
Maximum ON Time (sec) when pulsed continuously[1]	∞	230	25	6
Maximum ON Time (sec) for single pulse[2]	∞	265	63	15
Watts (@ 20°C)	7	14	28	70
Ampere Turns (@ 20°C)	855	1200	1700	2700

Coil Data

awg (0XX)[3]	Resistance (@20°C)	# Turns[4]	VDC (Nom)	VDC (Nom)	VDC (Nom)	VDC (Nom)
24	1.10	330	2.7	3.8	5.6	8.8
25	2.13	488	3.9	5.5	7.7	12.2
26	2.90	544	4.5	6.4	9.0	14.2
27	5.27	760	6.1	8.6	12.1	19.2
28	9.15	1026	8.0	11.3	16.0	25.0
29	12.50	1146	9.4	13.2	18.7	30.0
30	20.70	1491	12.0	17.0	24.0	38.0
31	33.60	1904	15.0	22.0	31.0	48.0
32	53.50	2394	19.4	27.0	39.0	61.0
33	83.50	2970	24.0	34.0	48.0	76.0

[1] Continuously pulsed at stated watts and duty cycle
[2] Single pulse at stated watts (with coil at ambient room temperature 20°C)
[3] Other coil awg sizes available — please consult factory
[4] Reference number of turns

Specifications

Dielectric Strength	1000 VRMS
Recommended Minimum Heat Sink	Maximum watts dissipated by solenoid are based on an unrestricted flow of air at 20°C, with solenoid mounted on the equivalent of an aluminum plate measuring 3" square by 1/8" thick
Coil Resistance	±5% tolerance
Sound Level	< 50 dBA typical (Plunger end-of-travel – 0.70 stroke and 100% duty power – impact noise recorded with sound meter 2.0" from solenoid, suspended as a free body)
Weight	2.72 oz (77.0 g)
Plunger Weight	0.78 oz (22.0 g)

How to Order

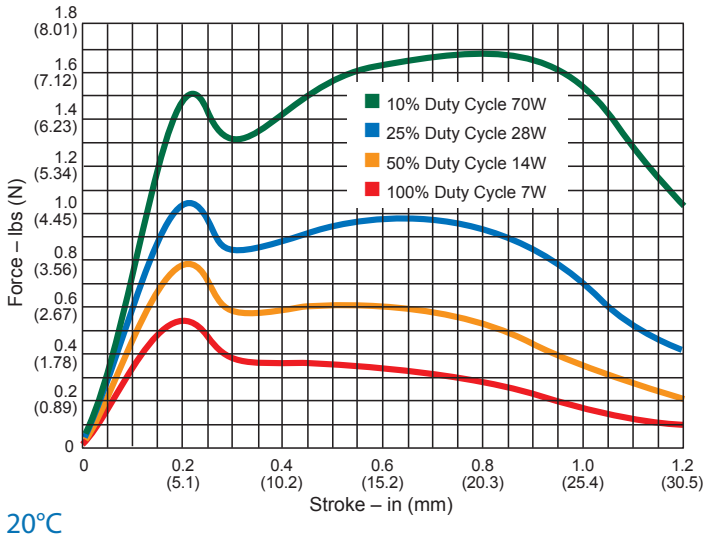
Add the plunger number and the coil awg number to the part number (for example: to order a unit with a flat face plunger configuration without an anti-rotation flat rated for 12.1 VDC at 25% duty cycle, specify 153556-127.

Please see www.johnsonelectric.com for our list of stock products available through distribution.

All specifications subject to change without notice.

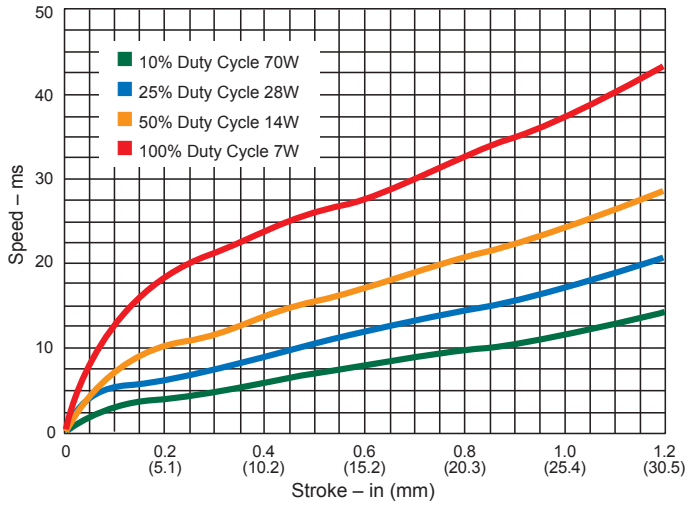
Size 75Q–STA®-Q Pull Tubular — 3/4" Dia. x 1-5/8"

Typical Force @ 20°C



Force values for reference only.

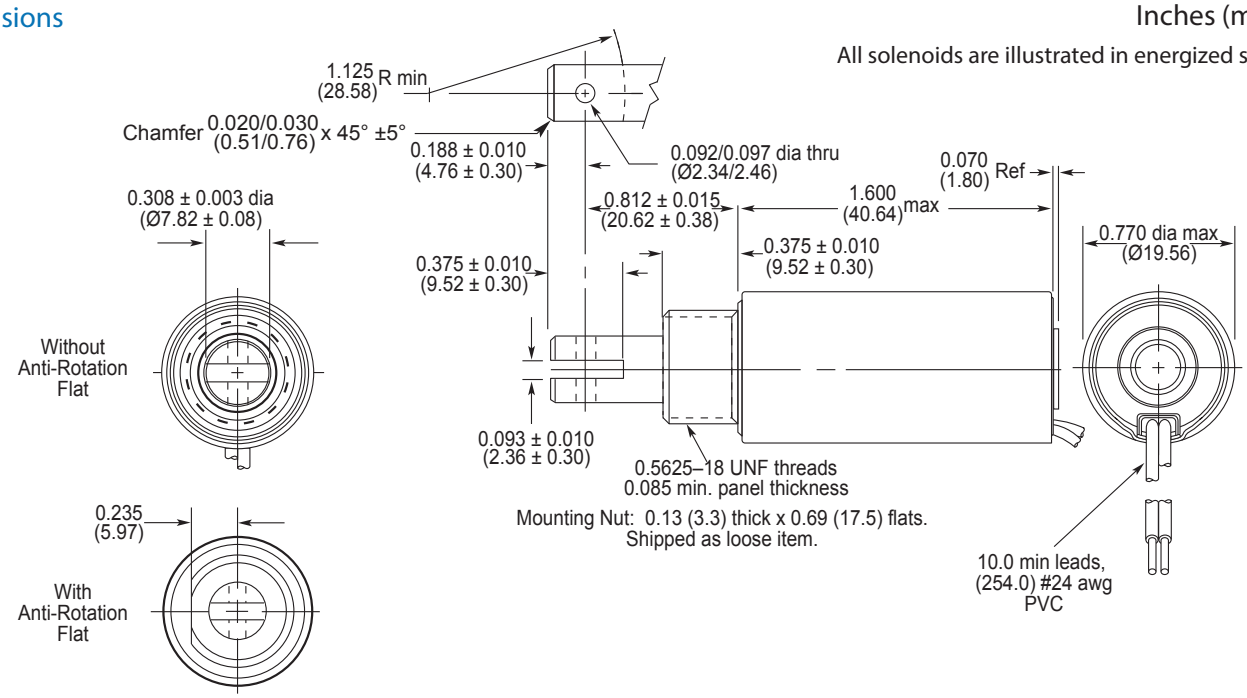
Typical Speed @ No Load, 20°C



Dimensions

Inches (mm)

All solenoids are illustrated in energized state



Size 102–STA® Pull Tubular Solenoids — 1" Dia. x 1-1/8"

LINEAR Tubular

Part Number: 152099 - X XX

All products are RoHS Compliant

Coil AWG Number
(from performance chart below)

Plunger Configurations and anti-rotation flat on mounting
2 60° plunger without anti-rotation flat
6 60° plunger with anti-rotation flat

Performance

Maximum Duty Cycle	100%	50%	25%	10%
Maximum ON Time (sec) when pulsed continuously[1]	∞	104	24	8
Maximum ON Time (sec) for single pulse[2]	∞	187	55	18
Watts (@ 20°C)	8	16	32	80
Ampere Turns (@ 20°C)	718	1015	1435	2270

Coil Data

awg (0XX)[3]	Resistance (@20°C)	# Turns[4]	VDC (Nom)	VDC (Nom)	VDC (Nom)	VDC (Nom)
23	0.88	240	2.7	3.8	5.3	8.4
24	1.23	272	3.1	4.4	6.3	9.9
25	2.23	380	4.2	6.0	8.4	13.3
26	3.85	510	5.6	7.8	11.1	17.6
27	5.32	576	6.5	9.2	13.0	20.6
28	8.83	749	8.4	11.9	16.8	26.6
29	14.35	960	10.7	15.1	21.4	33.8
30	22.78	1206	13.5	19.1	27.0	42.7
31	35.69	1500	16.9	23.9	33.8	53.4
32	54.90	1837	21.0	29.7	42.0	66.4
33	93.08	2431	27.3	38.6	54.6	86.3

[1] Continuously pulsed at stated watts and duty cycle

[2] Single pulse at stated watts (with coil at ambient room temperature 20°C)

[3] Other coil awg sizes available — please consult factory

[4] Reference number of turns

Specifications

Dielectric Strength	1000 VRMS
Recommended Minimum Heat Sink	Maximum watts dissipated by solenoid are based on an unrestricted flow of air at 20°C, with solenoid mounted on the equivalent of an aluminum plate measuring 4" square by 1/8" thick
Coil Resistance	±5% tolerance
Holding Force	4.9 lbs (21.8 N) at 20°C
Weight	3.8 oz (110 g)
Plunger Weight	1 oz (28 g)

How to Order

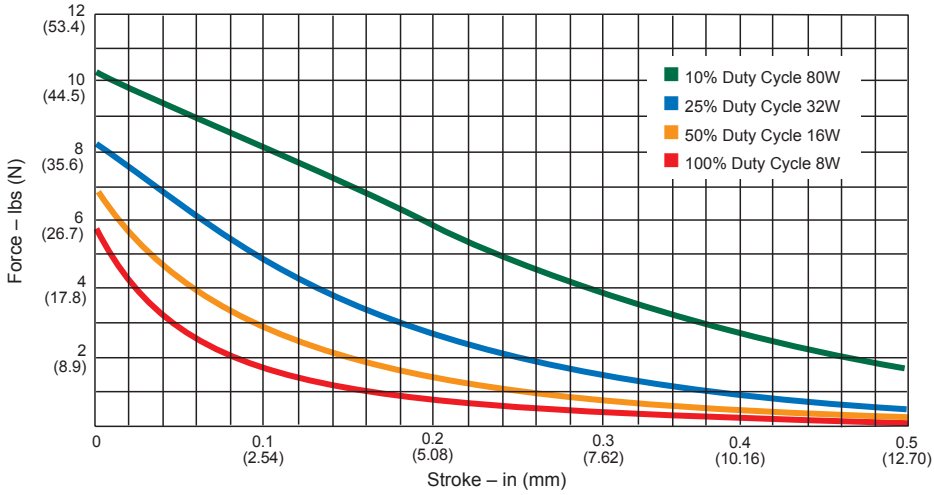
Add the plunger configuration and the coil awg number to the part number (for example: to order a unit with a 60° plunger configuration without an anti-rotation flat rated for 5.3 VDC at 25% duty cycle, specify 152099-223.

Please see www.johnsonelectric.com for our list of stock products available through distribution.

All specifications subject to change without notice.

Size 102–STA® Pull Tubular Solenoids — 1" Dia. x 1-1/8"

Typical Force @ 20°C

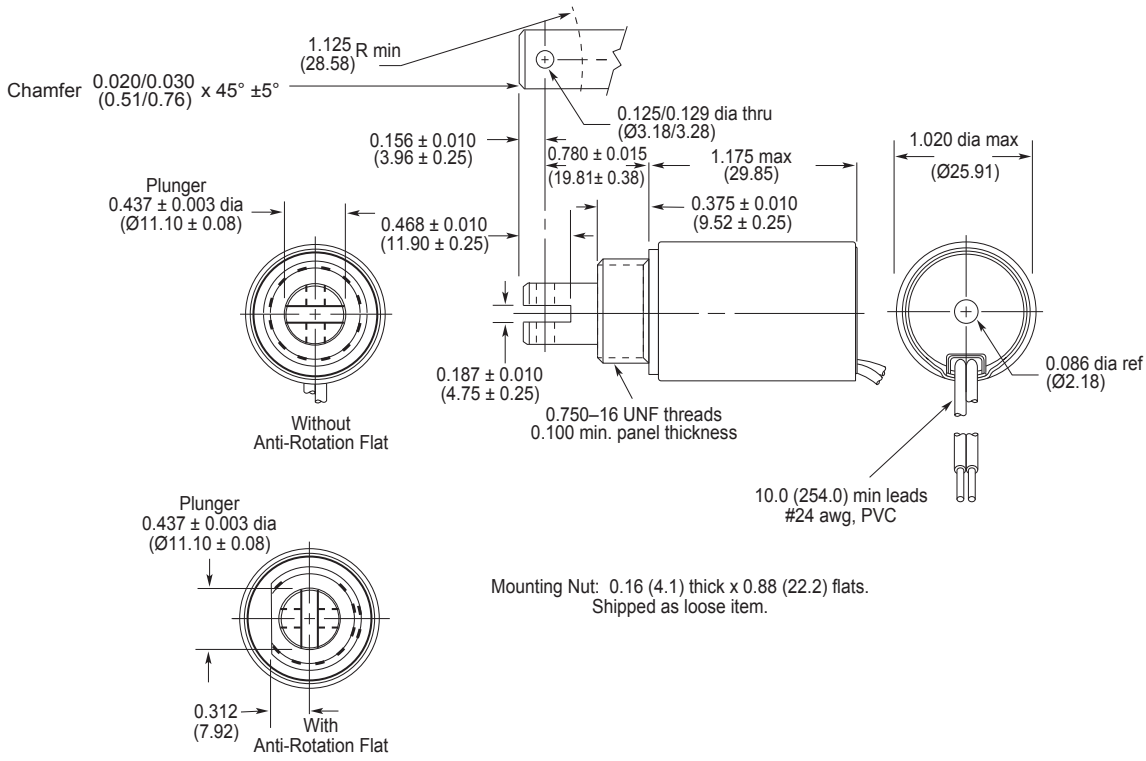


Force values for reference only.

Dimensions

Inches (mm)

All solenoids are illustrated in energized state



Size 102–STA® Push Tubular Solenoids — 1" Dia. x 1-1/8"

LINEAR Tubular

Part Number: 154650 - X XX

All products are RoHS Compliant

Coil AWG Number
(from performance chart below)

Plunger Configurations and anti-rotation flat on mounting
2 60° plunger without anti-rotation flat
6 60° plunger with anti-rotation flat

Performance

High Speed

Long Life

Maximum Duty Cycle	100%	50%	25%	10%
Maximum ON Time (sec) when pulsed continuously[1]	∞	104	24	8
Maximum ON Time (sec) for single pulse[2]	∞	187	55	18
Watts (@ 20°C)	8	16	32	80
Ampere Turns (@ 20°C)	718	1015	1435	2270

Coil Data

awg (0XX)[3]	Resistance (@20°C)	# Turns[4]	VDC (Nom)	VDC (Nom)	VDC (Nom)	VDC (Nom)
23	0.88	240	2.7	3.8	5.3	8.4
24	1.23	272	3.1	4.4	6.3	9.9
25	2.23	380	4.2	6.0	8.4	13.3
26	3.85	510	5.6	7.8	11.1	17.6
27	5.32	576	6.5	9.2	13.0	20.6
28	8.83	749	8.4	11.9	16.8	26.6
29	14.35	960	10.7	15.1	21.4	33.8
30	22.78	1206	13.5	19.1	27.0	42.7
31	35.69	1500	16.9	23.9	33.8	53.4
32	54.90	1837	21.0	29.7	42.0	66.4
33	93.08	2431	27.3	38.6	54.6	86.3

[1] Continuously pulsed at stated watts and duty cycle

[2] Single pulse at stated watts (with coil at ambient room temperature 20°C)

[3] Other coil awg sizes available — please consult factory

[4] Reference number of turns

Specifications

Dielectric Strength	1000 VRMS
Recommended Minimum Heat Sink	Maximum watts dissipated by solenoid are based on an unrestricted flow of air at 20°C, with solenoid mounted on the equivalent of an aluminum plate measuring 4" square by 1/8" thick
Coil Resistance	±5% tolerance
Holding Force	3.4 lbs (15.1 N) at 20°C
Weight	3.8 oz (110 g)
Plunger Weight	0.64 oz (18.4 g)

How to Order

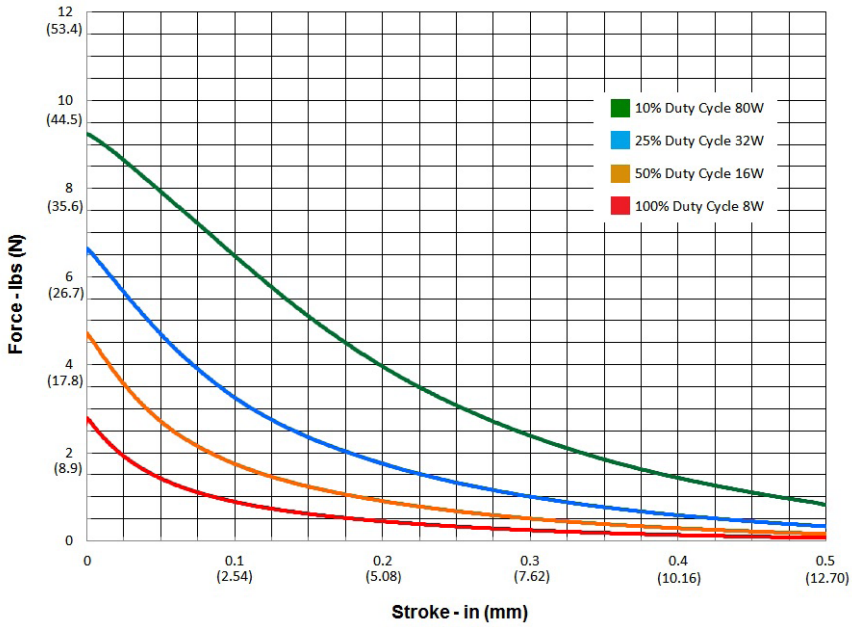
Add the plunger configuration and the coil awg number to the part number (for example: to order a unit with a 60° plunger configuration without an anti-rotation flat rated for 5.3 VDC at 25% duty cycle, specify 154650-223.

Please see www.johnsonelectric.com for our list of stock products available through distribution.

All specifications subject to change without notice.

Size 102–STA® Push Tubular Solenoids — 1" Dia. x 1-1/8"

Typical Force @ 20°C

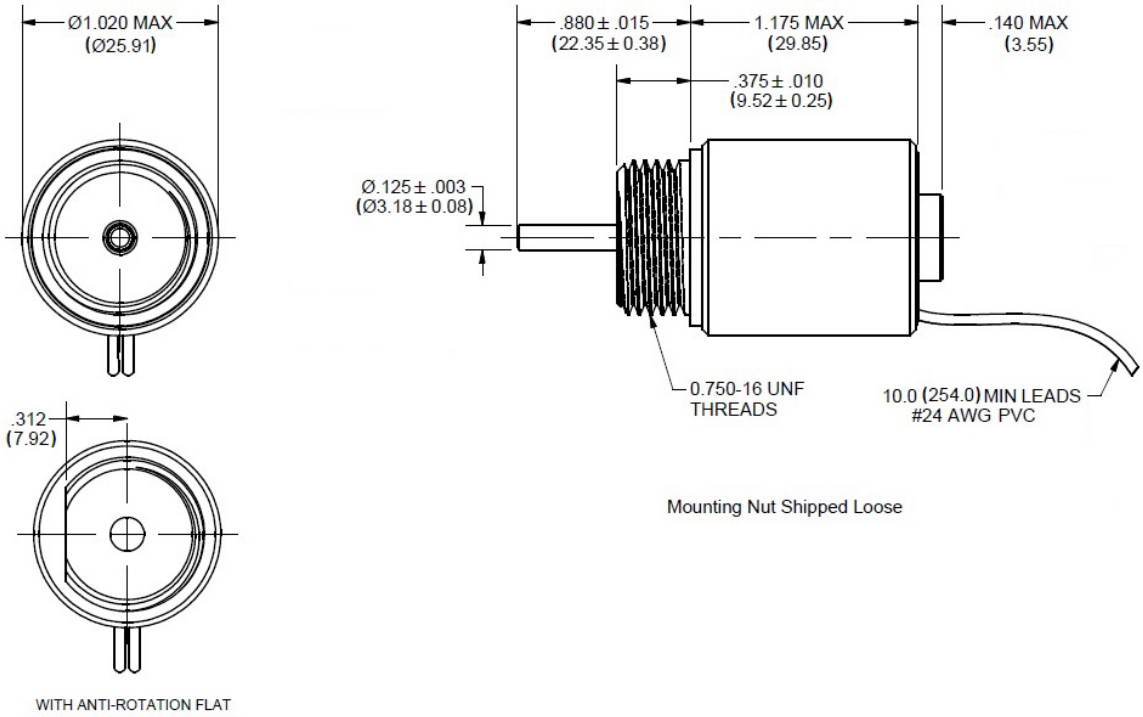


Force values for reference only.

Dimensions

Inches (mm)

All solenoids are illustrated in energized state



Mounting Nut Shipped Loose

Size 100–STA® Pull Tubular Solenoids — 1" Dia. x 2"

LINEAR Tubular

Part Number: 195206 - X XX

All products are RoHS Compliant

Coil AWG Number
(from performance chart below)

Plunger Configurations and anti-rotation flat on mounting
1 Flat face plunger without anti-rotation flat
2 60° plunger without anti-rotation flat
5 Flat face plunger with anti-rotation flat
6 60° plunger with anti-rotation flat

Performance

Maximum Duty Cycle	100%	50%	25%	10%
Maximum ON Time (sec) when pulsed continuously[1]	∞	360	32	8
Maximum ON Time (sec) for single pulse[2]	∞	470	120	32
Watts (@ 20°C)	10	20	40	100
Ampere Turns (@ 20°C)	1166	1649	2332	3688

High Speed

Long Life

Coil Data

awg (0XX)[3]	Resistance (@20°C)	# Turns[4]	VDC (Nom)	VDC (Nom)	VDC (Nom)	VDC (Nom)
23	1.96	536	4.4	6.3	8.9	14.0
24	2.69	600	5.2	7.3	10.4	16.4
25	4.89	840	7.0	9.9	14.0	22.0
26	8.70	1117	9.4	13.3	18.8	29.7
27	11.50	1260	10.7	15.2	21.0	34.0
28	19.20	1645	13.8	19.6	28.0	44.0
29	31.20	2104	17.7	25.0	35.0	56.0
30	49.60	2646	22.0	31.0	45.0	70.0
31	77.40	3280	28.0	39.0	56.0	88.0
32	119.00	4026	35.0	49.0	69.0	109.0
33	202.00	5317	45.0	64.0	90.0	142.0

[1] Continuously pulsed at stated watts and duty cycle

[2] Single pulse at stated watts (with coil at ambient room temperature 20°C)

[3] Other coil awg sizes available — please consult factory

[4] Reference number of turns

Specifications

Dielectric Strength	1000 VRMS
Recommended Minimum Heat Sink	Maximum watts dissipated by solenoid are based on an unrestricted flow of air at 20°C, with solenoid mounted on the equivalent of an aluminum plate measuring 4" square by 1/8" thick
Coil Resistance	±5% tolerance
Holding Force	Flat Face:13.83 lb (61.5 N) @ 20°C 60°:6.61 lb (29.4 N) @ 20°C
Weight	6.96 oz (197.3 g)
Plunger Weight	1.60 oz (45.4 g)

How to Order

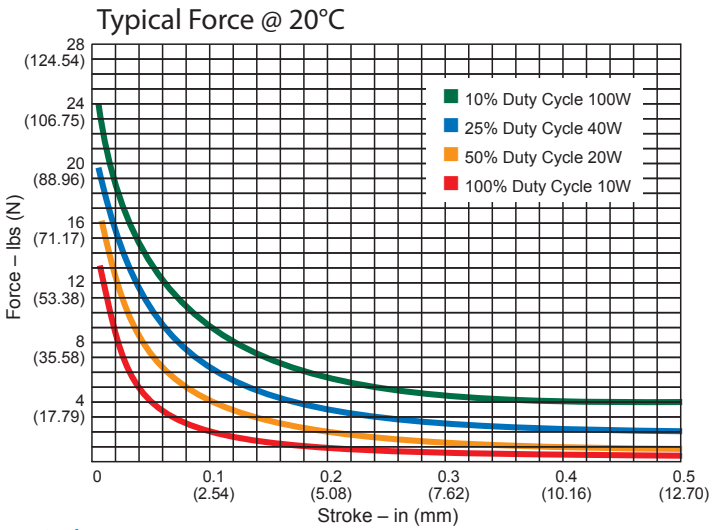
Add the plunger configuration number and the coil awg number to the part number (for example: to order a unit with a 60° plunger rated for 21 VDC at 25% duty cycle, specify 195206-227.

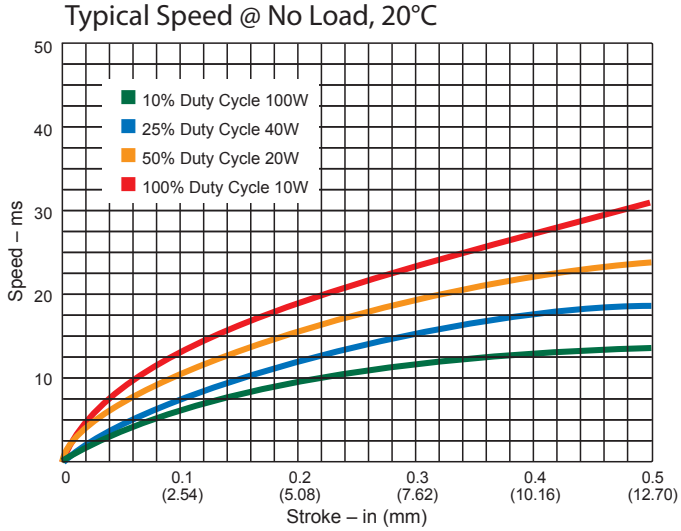
Please see www.johnsonelectric.com for our list of stock products available through distribution.

All specifications subject to change without notice.

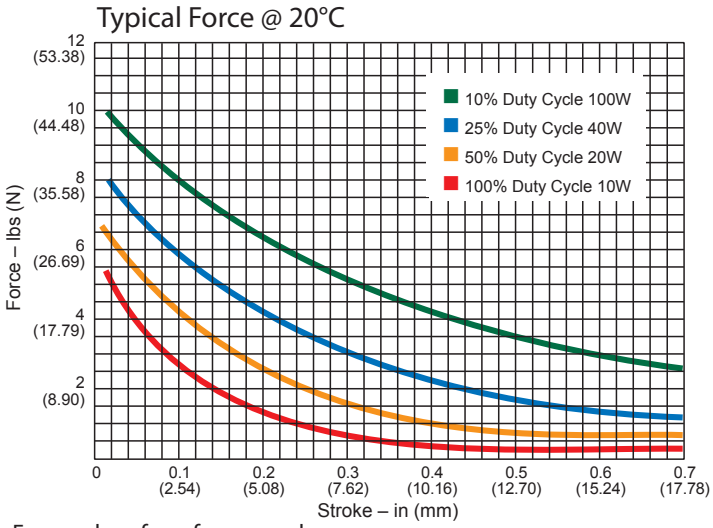
Size 100–STA® Pull Tubular Solenoids — 1" Dia. x 2"

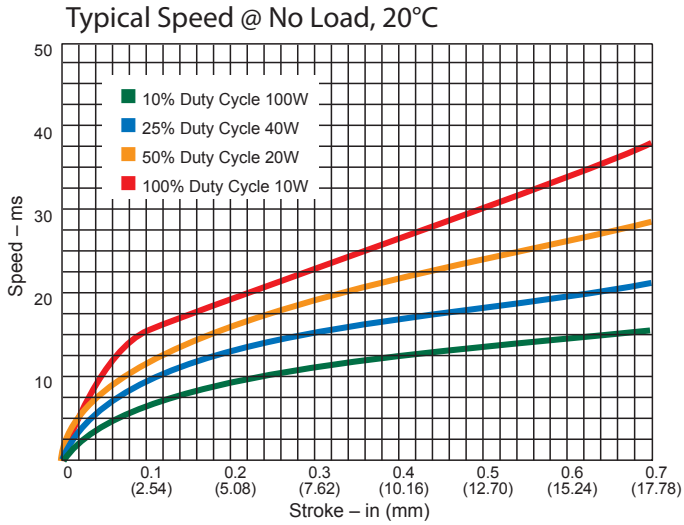
Flat Face Plunger





60° Plunger



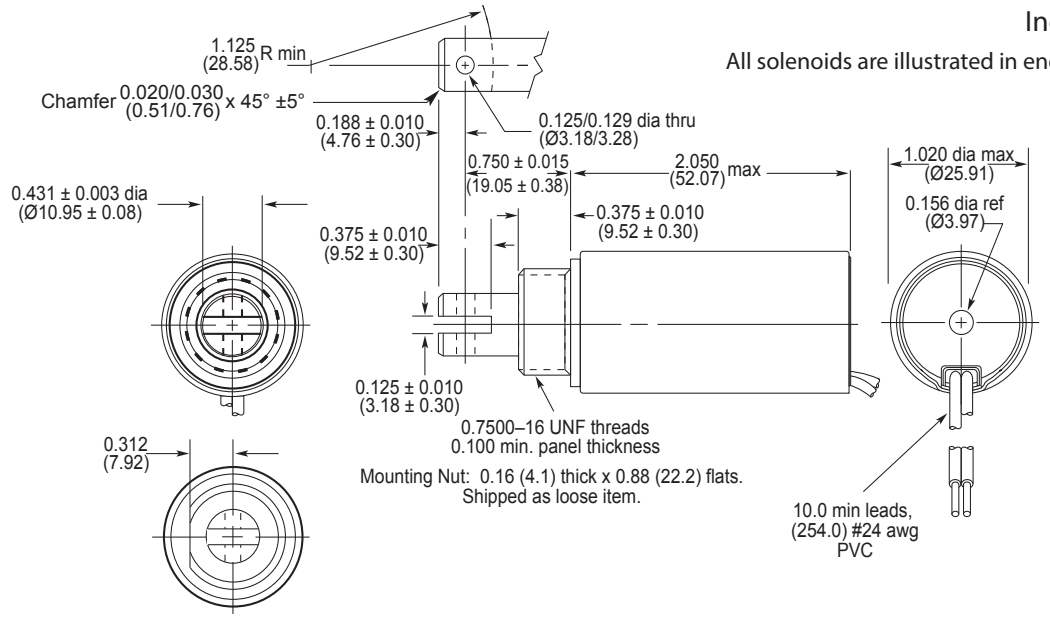


Force values for reference only.

Dimensions

Inches (mm)

All solenoids are illustrated in energized state



Size 100–STA® Push Tubular Solenoids — 1" Dia. x 2"

LINEAR Tubular

Part Number: 195207 - X XX

All products are RoHS Compliant

Coil AWG Number
(from performance chart below)

Plunger Configurations and anti-rotation flat on mounting
1 Flat face plunger without anti-rotation flat
2 60° plunger without anti-rotation flat
5 Flat face plunger with anti-rotation flat
6 60° plunger with anti-rotation flat

Performance

Maximum Duty Cycle	100%	50%	25%	10%
Maximum ON Time (sec) when pulsed continuously[1]	∞	360	32	8
Maximum ON Time (sec) for single pulse[2]	∞	470	120	32
Watts (@ 20°C)	10	20	40	100
Ampere Turns (@ 20°C)	1166	1649	2332	3688

High Speed

Long Life

Coil Data

awg (0XX)[3]	Resistance (@20°C)	# Turns[4]	VDC (Nom)	VDC (Nom)	VDC (Nom)	VDC (Nom)
23	1.96	536	4.4	6.3	8.9	14.0
24	2.69	600	5.2	7.3	10.4	16.4
25	4.89	840	7.0	9.9	14.0	22.0
26	8.70	1117	9.4	13.3	18.8	29.7
27	11.50	1260	10.7	15.2	21.0	34.0
28	19.20	1645	13.8	19.6	28.0	44.0
29	31.20	2104	17.7	25.0	35.0	56.0
30	49.60	2646	22.0	31.0	45.0	70.0
31	77.40	3280	28.0	39.0	56.0	88.0
32	119.00	4026	35.0	49.0	69.0	109.0
33	202.00	5317	45.0	64.0	90.0	142.0

[1] Continuously pulsed at stated watts and duty cycle

[2] Single pulse at stated watts (with coil at ambient room temperature 20°C)

[3] Other coil awg sizes available — please consult factory

[4] Reference number of turns

Specifications

Dielectric Strength	1000 VRMS
Recommended Minimum Heat Sink	Maximum watts dissipated by solenoid are based on an unrestricted flow of air at 20°C, with solenoid mounted on the equivalent of an aluminum plate measuring 4" square by 1/8" thick
Coil Resistance	±5% tolerance
Holding Force	Flat Face:11.82 lb (52.6 N) @ 20°C 60°:6.49 lb (28.9 N) @ 20°C
Weight	6.73 oz (190.8 g)
Plunger Weight	1.19 oz (33.7 g)

How to Order

Add the plunger configuration number and the coil awg number to the part number (for example: to order a unit with a 60° plunger rated for 21 VDC at 25% duty cycle, specify 195207-227.

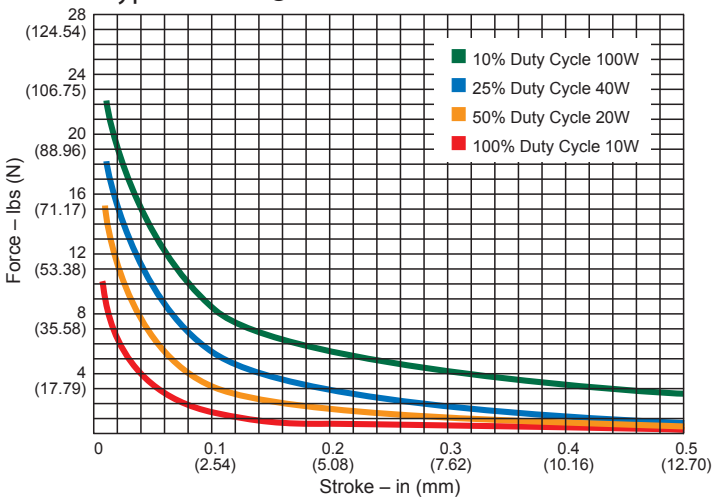
Please see www.johnsonelectric.com for our list of stock products available through distribution.

All specifications subject to change without notice.

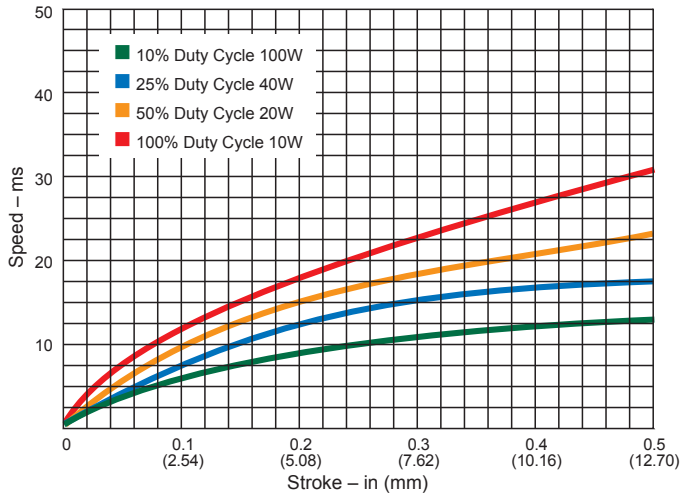
Size 100–STA® Push Tubular Solenoids — 1" Dia. x 2"

Flat Face Plunger

Typical Force @ 20°C

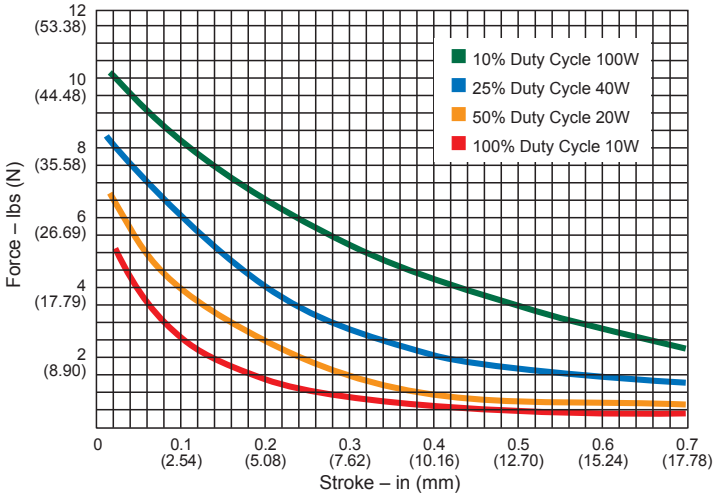


Typical Speed @ No Load, 20°C

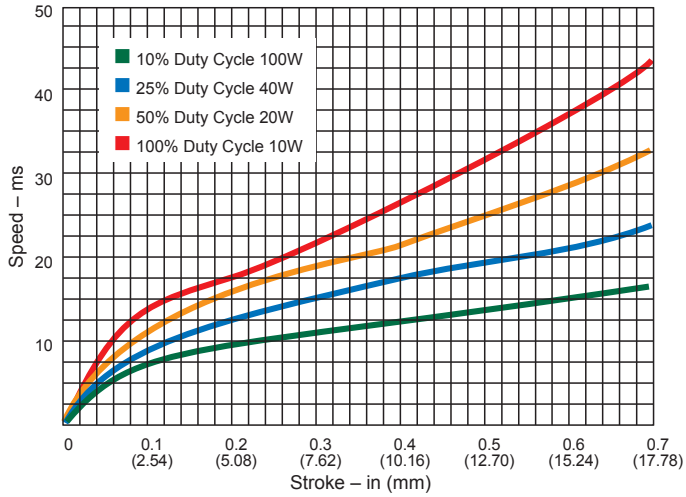


60° Plunger

Typical Force @ 20°C



Typical Speed @ No Load, 20°C

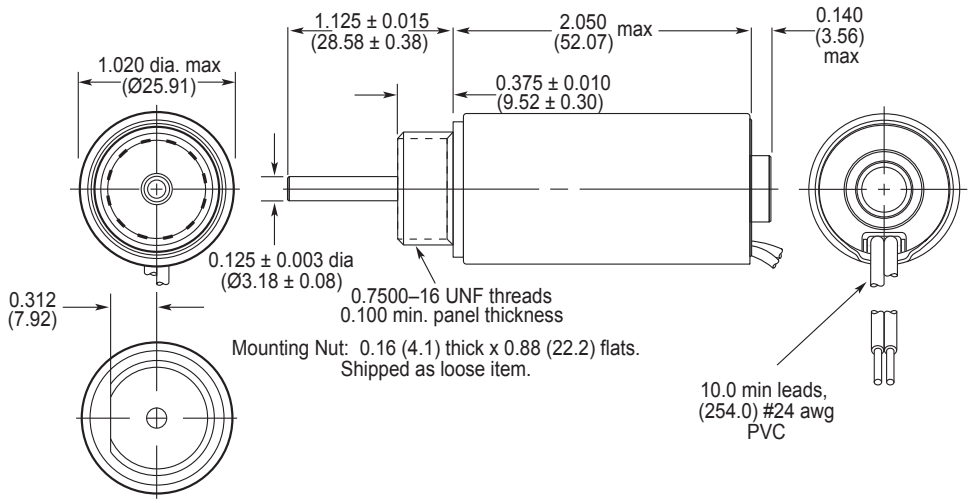


Force values for reference only.

Dimensions

Inches (mm)

All solenoids are illustrated in energized state



Size 155–STA® Pull Tubular Solenoids — 1-1/2" Dia. x 1-1/2"

Part Number: 152097 - X XX

All products are RoHS Compliant

Coil AWG Number
(from performance chart below)

Plunger Configurations and anti-rotation flat on mounting
2 60° plunger without anti-rotation flat
6 60° plunger with anti-rotation flat

Performance

Maximum Duty Cycle	100%	50%	25%	10%
Maximum ON Time (sec) when pulsed continuously[1]	∞	338	66	20
Maximum ON Time (sec) for single pulse[2]	∞	855	308	84
Watts (@ 20°C)	11	22	44	110
Ampere Turns (@ 20°C)	1339	1894	2678	4234

Coil Data

awg (0XX)[3]	Resistance (@20°C)	# Turns[4]	VDC (Nom)	VDC (Nom)	VDC (Nom)	VDC (Nom)
23	4.74	900	7.2	10.2	14.4	22.8
24	7.41	1120	9.0	12.8	18.1	28.5
25	11.49	1386	11.2	15.9	22.5	35.6
26	17.51	1692	13.9	19.6	27.8	43.9
27	29.37	2212	18.0	25.4	35.9	56.8
28	43.70	2655	21.9	31.0	43.8	69.3
29	70.28	3366	27.8	39.3	55.6	87.9
30	110.6	4199	34.9	49.3	69.8	110.3
31	183.3	5434	44.9	63.5	89.8	142.0
32	279.1	6624	55.4	78.4	110.8	175.2
33	442.1	8289	69.7	98.6	139.5	220.5

[1] Continuously pulsed at stated watts and duty cycle

[2] Single pulse at stated watts (with coil at ambient room temperature 20°C)

[3] Other coil awg sizes available — please consult factory

[4] Reference number of turns

Specifications

Dielectric Strength	1000 VRMS
Recommended Minimum Heat Sink	Maximum watts dissipated by solenoid are based on an unrestricted flow of air at 20°C, with solenoid mounted on the equivalent of an aluminum plate measuring 6" square by 1/8" thick
Coil Resistance	±5% tolerance
Holding Force	9.7 lb (43.15 N) @ 20°C
Weight	11.3 oz (320 g)
Plunger Weight	1.6 oz (46 g)

How to Order

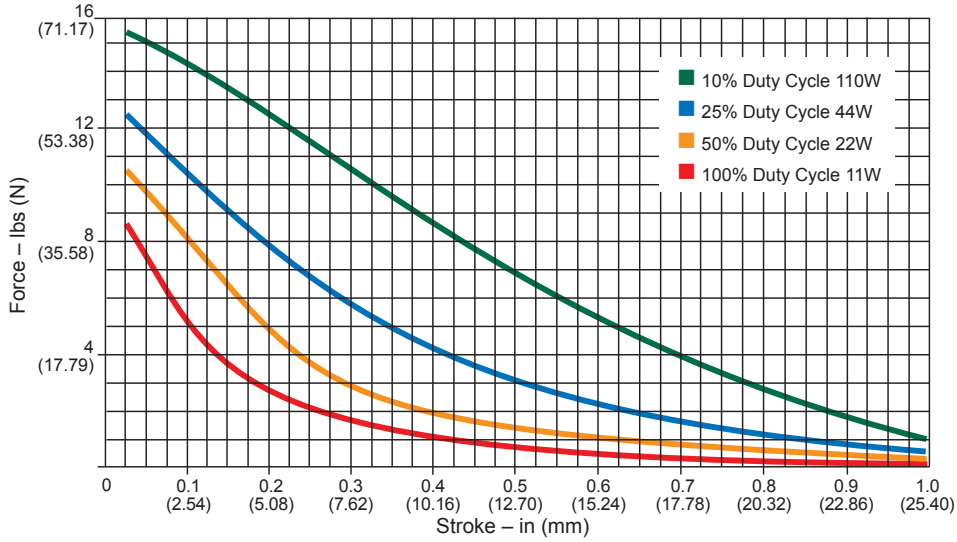
Add the plunger configuration number and the coil awg number to the part number (for example: to order a unit with a 60° plunger without an anti-rotation flat rated for 14 VDC at 25% duty cycle, specify 152097-223.

Please see www.johnsonelectric.com for our list of stock products available through distribution.

All specifications subject to change without notice.

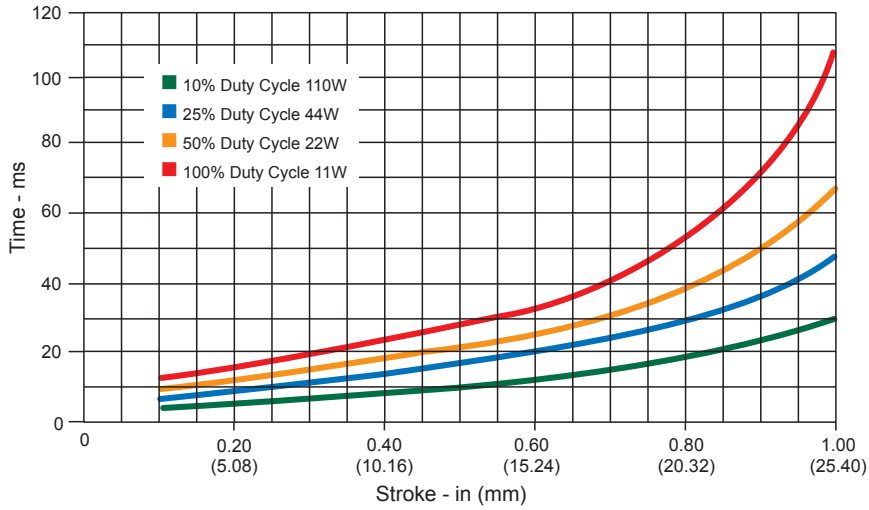
Size 155–STA® Pull Tubular Solenoids — 1-1/2" Dia. x 1-1/2"

Typical Force @ 20°C



Force values for reference only.

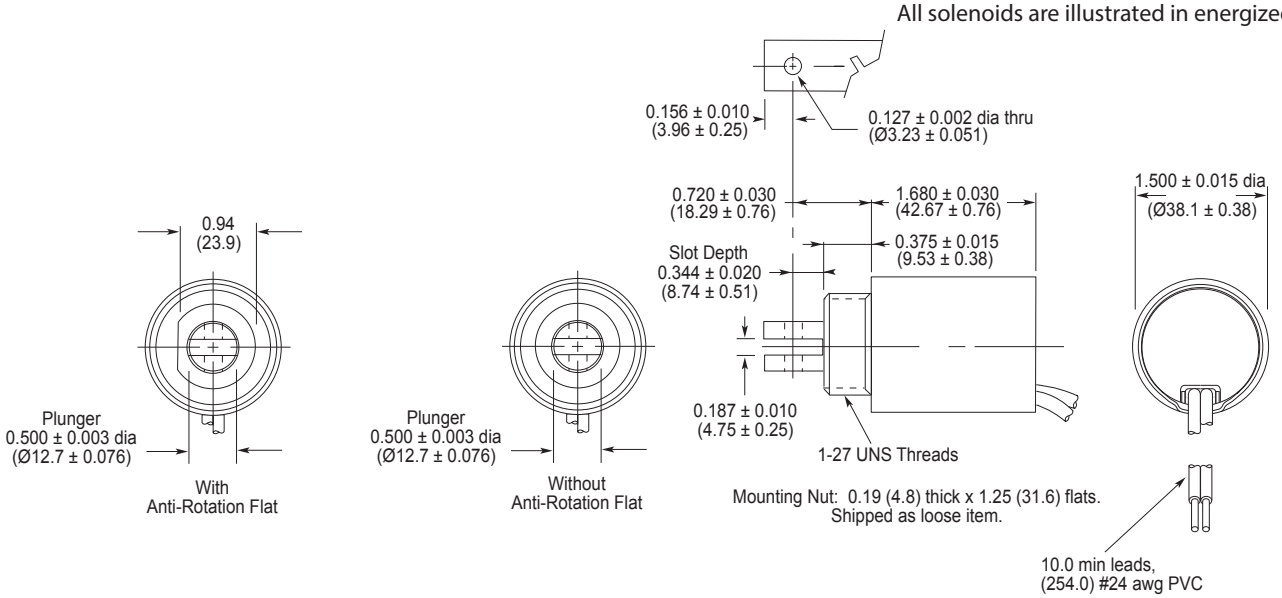
Typical Speed @ No Load, 20°C



Dimensions

Inches (mm)

All solenoids are illustrated in energized state



Size 155–STA® Push Tubular Solenoids — 1-1/2" Dia. x 1-1/2"

Part Number: 153205 - X XX

All products are RoHS Compliant

Coil AWG Number
(from performance chart below)

Plunger Configurations and anti-rotation flat on mounting
2 60° plunger without anti-rotation flat
6 60° plunger with anti-rotation flat

Performance

Maximum Duty Cycle	100%	50%	25%	10%
Maximum ON Time (sec) when pulsed continuously[1]	∞	338	66	20
Maximum ON Time (sec) for single pulse[2]	∞	855	308	84
Watts (@ 20°C)	11	22	44	110
Ampere Turns (@ 20°C)	1339	1894	2678	4234

Coil Data

awg (0XX)[3]	Resistance (@20°C)	# Turns[4]	VDC (Nom)	VDC (Nom)	VDC (Nom)	VDC (Nom)
23	4.74	900	7.2	10.2	14.4	22.8
24	7.41	1120	9.0	12.8	18.1	28.5
25	11.49	1386	11.2	15.9	22.5	35.6
26	17.51	1692	13.9	19.6	27.8	43.9
27	29.37	2212	18.0	25.4	35.9	56.8
28	43.70	2655	21.9	31.0	43.8	69.3
29	70.28	3366	27.8	39.3	55.6	87.9
30	110.6	4199	34.9	49.3	69.8	110.3
31	183.3	5434	44.9	63.5	89.8	142.0
32	279.1	6624	55.4	78.4	110.8	175.2
33	442.1	8289	69.7	98.6	139.5	220.5

[1] Continuously pulsed at stated watts and duty cycle

[2] Single pulse at stated watts (with coil at ambient room temperature 20°C)

[3] Other coil awg sizes available — please consult factory

[4] Reference number of turns

Specifications

Dielectric Strength	1000 VRMS
Recommended Minimum Heat Sink	Maximum watts dissipated by solenoid are based on an unrestricted flow of air at 20°C, with solenoid mounted on the equivalent of an aluminum plate measuring 6" square by 1/8" thick
Coil Resistance	±5% tolerance
Holding Force	8.2 lb (36.52 N) @ 20°C
Weight	11.3 oz (320 g)
Plunger Weight	1.3 oz (37 g)

How to Order

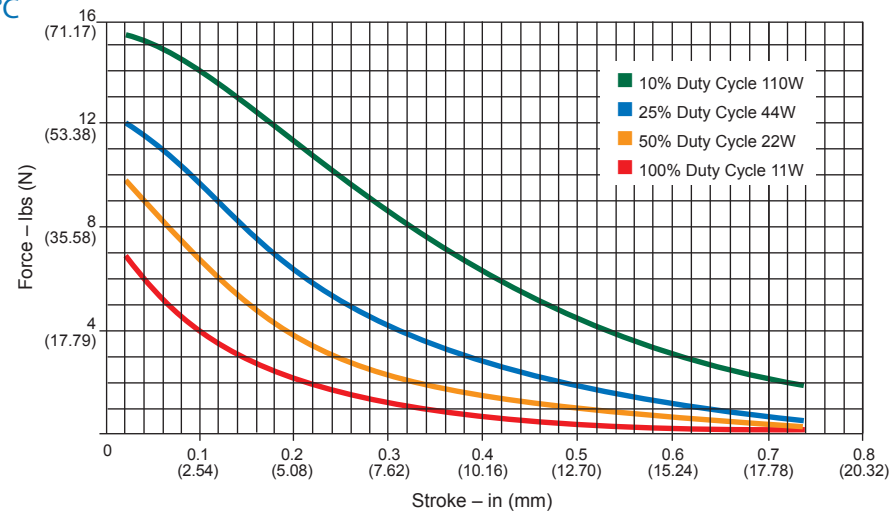
Add the plunger configuration number and the coil awg number to the part number (for example: to order a unit with a 60° plunger without an anti-rotation flat rated for 14 VDC at 25% duty cycle, specify 153205-223.

Please see www.johnsonelectric.com for our list of stock products available through distribution.

All specifications subject to change without notice.

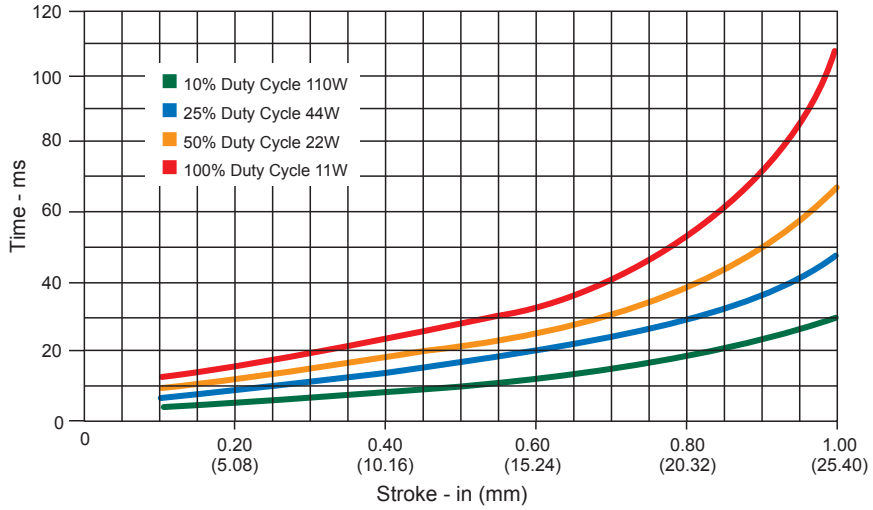
Size 155–STA® Push Tubular Solenoids — 1-1/2" Dia. x 1-1/2"

Typical Force @ 20°C



Force values for reference only.

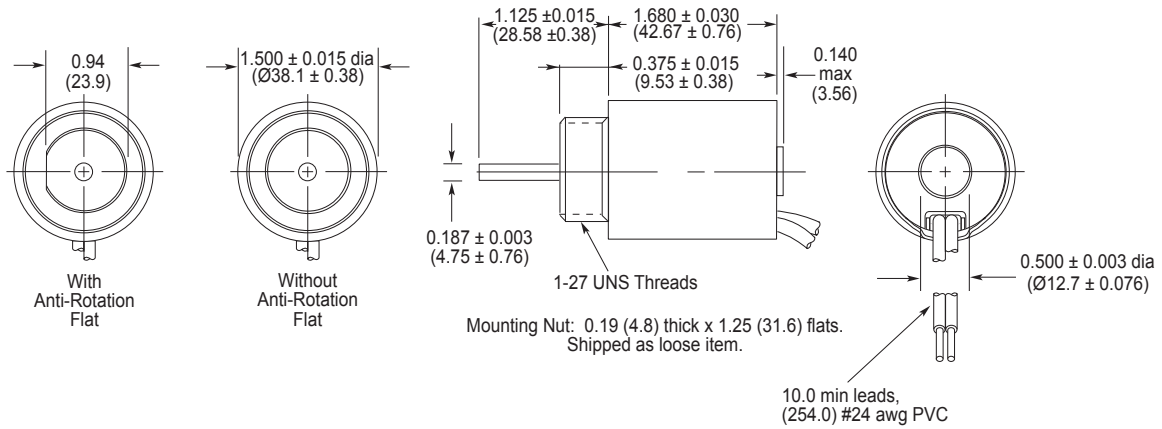
Typical Speed @ No Load, 20°C



Dimensions

Inches (mm)

All solenoids are illustrated in energized state



Size 150–STA® Pull Tubular Solenoids — 1-1/2" Dia. x 2-1/2"

LINEAR Tubular

Part Number: 154660 - X XX

- XX: Coil AWG Number (from performance chart below)
- X: Plunger Configurations and anti-rotation flat on mounting
  - 2 – 60° plunger without anti-rotation flat
  - 6 – 60° plunger with anti-rotation flat

Performance

High Speed

Long Life

Maximum Duty Cycle	100%	50%	25%	10%
Maximum ON Time (sec) when pulsed continuously[1]	∞	420	100	25
Maximum ON Time (sec) for single pulse[2]	∞	570	252	75
Watts (@ 20°C)	17	34	68	170
Ampere Turns (@ 20°C)	1800	2546	3600	5692

Coil Data

awg (0XX)[3]	Resistance (@20°C)	# Turns[4]	VDC (Nom)	VDC (Nom)	VDC (Nom)	VDC (Nom)
23	5.58	1030	9.8	13.9	19.7	31.0
24	9.30	1344	12.4	17.6	25.0	39.0
25	14.90	1712	15.7	22.0	31.0	50.0
26	24.00	2180	19.9	28.0	40.0	63.0
27	36.90	2680	25.0	35.0	50.0	79.0
28	58.40	3322	32.0	45.0	63.0	100.0
29	87.50	4008	39.0	56.0	79.0	124.0
30	148.00	5292	50.0	71.0	101.0	159.0
31	224.00	6360	63.0	90.0	127.0	200.0
32	344.00	7956	78.0	110.0	155.0	246.0
33	554.00	10070	100.0	141.0	199.0	315.0

1 Continuously pulsed at stated watts and duty cycle

2 Single pulse at stated watts (with coil at ambient room temperature 20°C)

3 Other coil awg sizes available — please consult factory

4 Reference number of turns

Specifications

Dielectric Strength	1000 VRMS
Recommended Minimum Heat Sink	Maximum watts dissipated by solenoid are based on an unrestricted flow of air at 20°C, with solenoid mounted on the equivalent of an aluminum plate measuring 6" square by 1/8" thick
Coil Resistance	±5% tolerance
Holding Force	22.6 lbs (100.4 N) at 20°C
Weight	17.2 oz (487.6 g)
Plunger Weight	4.04 oz (114.5 g)

How to Order

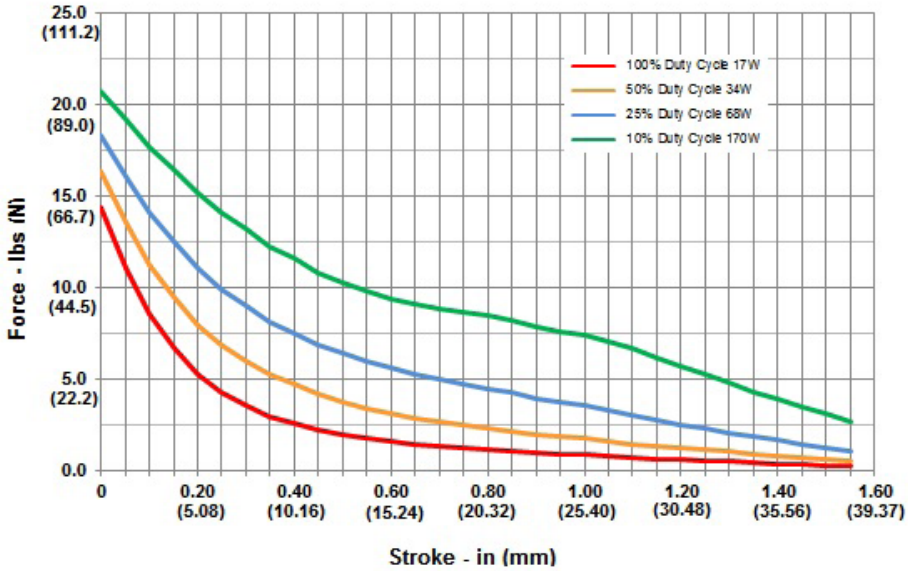
Add the plunger configuration and the coil awg number to the part number (for example: to order a unit with a 60° plunger without an anti-rotation flat rated for 25 VDC at 25% duty cycle, specify 154660-224.)

Please see www.johnsonelectric.com for our list of stock products available through distribution.

Size 150–STA® Pull Tubular Solenoids — 1-1/2" Dia. x 2-1/2"

Typical Force @ 20°C

All products are RoHS Compliant

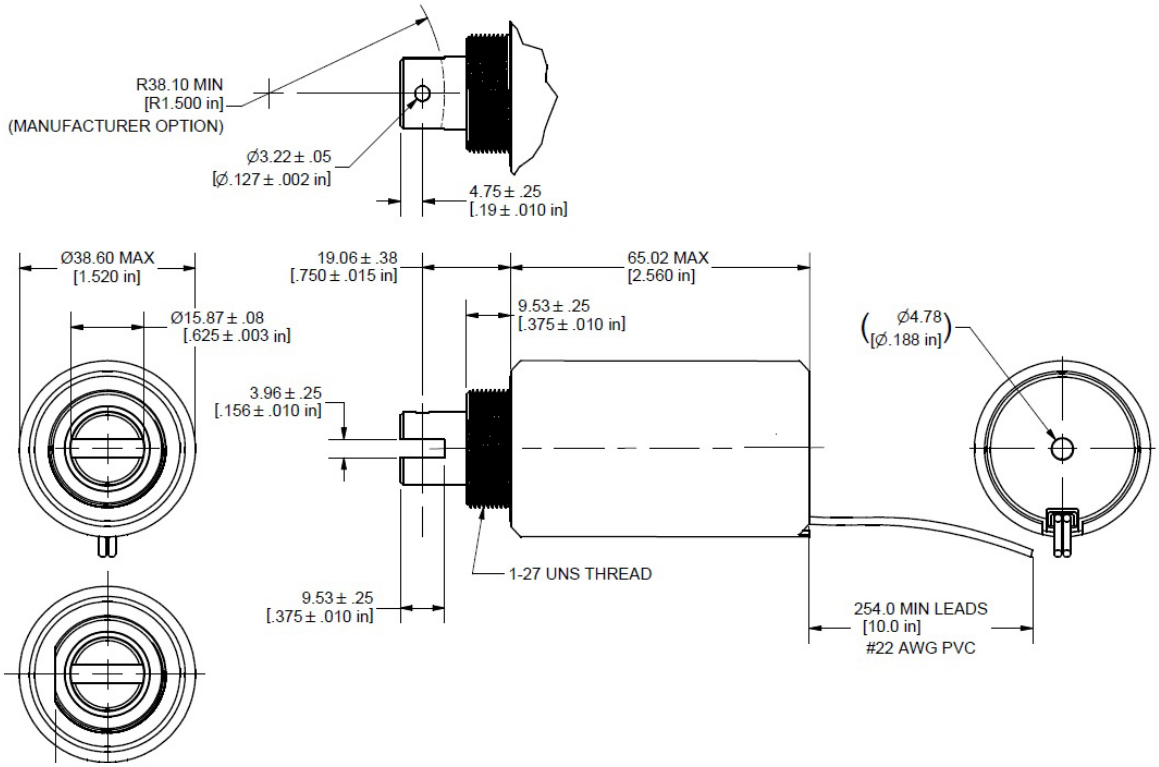


Force values for reference only.

Dimensions

Inches (mm)

All solenoids are illustrated in energized state



All specifications subject to change without notice.

Size 150–STA® Push Tubular Solenoids — 1-1/2" Dia. x 2-1/2"

LINEAR Tubular

Part Number: 154661 - X XX

- XX: Coil AWG Number (from performance chart below)
- X: Plunger Configurations and anti-rotation flat on mounting
  - 2 – 60° plunger without anti-rotation flat
  - 6 – 60° plunger with anti-rotation flat

Performance

High Speed

Long Life

Maximum Duty Cycle	100%	50%	25%	10%
Maximum ON Time (sec) when pulsed continuously[1]	∞	420	100	25
Maximum ON Time (sec) for single pulse[2]	∞	570	252	75
Watts (@ 20°C)	17	34	68	170
Ampere Turns (@ 20°C)	1800	2546	3600	5692

Coil Data

awg (0XX)[3]	Resistance (@20°C)	# Turns[4]	VDC (Nom)	VDC (Nom)	VDC (Nom)	VDC (Nom)
23	5.58	1030	9.8	13.9	19.7	31.0
24	9.30	1344	12.4	17.6	25.0	39.0
25	14.90	1712	15.7	22.0	31.0	50.0
26	24.00	2180	19.9	28.0	40.0	63.0
27	36.90	2680	25.0	35.0	50.0	79.0
28	58.40	3322	32.0	45.0	63.0	100.0
29	87.50	4008	39.0	56.0	79.0	124.0
30	148.00	5292	50.0	71.0	101.0	159.0
31	224.00	6360	63.0	90.0	127.0	200.0
32	344.00	7956	78.0	110.0	155.0	246.0
33	554.00	10070	100.0	141.0	199.0	315.0

1 Continuously pulsed at stated watts and duty cycle

2 Single pulse at stated watts (with coil at ambient room temperature 20°C)

3 Other coil awg sizes available — please consult factory

4 Reference number of turns

Specifications

Dielectric Strength	1000 VRMS
Recommended Minimum Heat Sink	Maximum watts dissipated by solenoid are based on an unrestricted flow of air at 20°C, with solenoid mounted on the equivalent of an aluminum plate measuring 6" square by 1/8" thick
Coil Resistance	±5% tolerance
Holding Force	17.7 lbs (78.9 N) at 20°C
Weight	17.1 oz (484.4 g)
Plunger Weight	3.4 oz (95.5 g)

How to Order

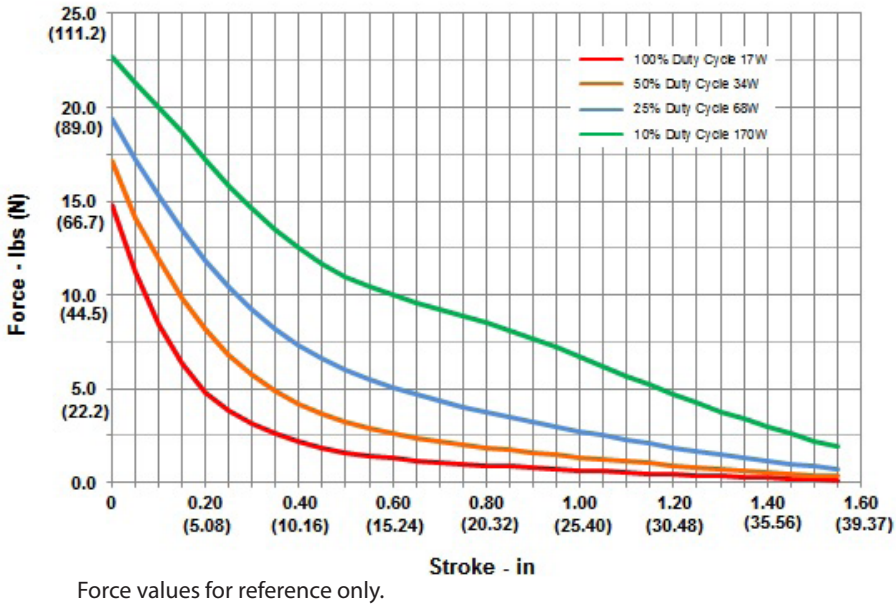
Add the plunger configuration and the coil awg number to the part number (for example: to order a unit with a 60° plunger without an anti-rotation flat rated for 25 VDC at 25% duty cycle, specify 154661-224.)

Please see www.johnsonelectric.com for our list of stock products available through distribution.

Size 150–STA® Push Tubular Solenoids — 1-1/2" Dia. x 2-1/2"

Typical Force @ 20°C

All products are RoHS Compliant

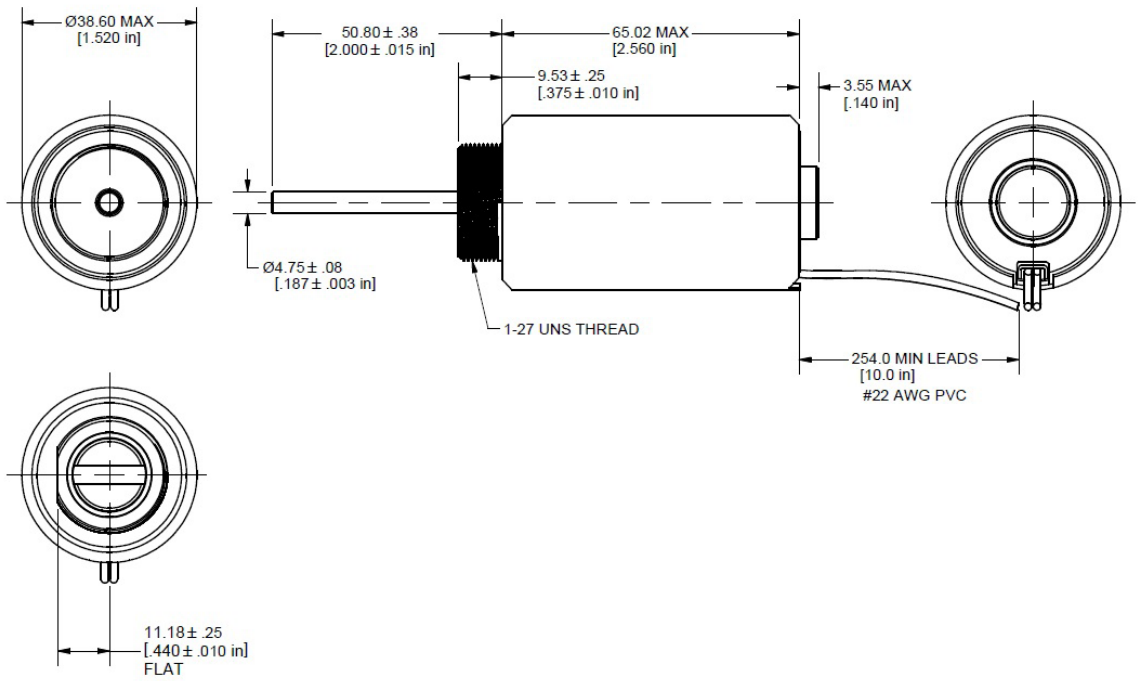


Force values for reference only.

Dimensions

Inches (mm)

All solenoids are illustrated in energized state



All specifications subject to change without notice.

Ledex® Size 125 Pull Tubular Solenoids — 1-1/4" Dia. x 2-1/4"

Part Number: 174419-0XX

Coil AWG Number
(from performance chart below)

All products are RoHS Compliant

Performance

Maximum Duty Cycle	100%	50%	25%	10%
Maximum ON Time (sec) when pulsed continuously[1]	∞	390	60	18
Maximum ON Time (sec) for single pulse[2]	∞	510	160	45
Watts (@ 20°C)	13	26	52	130
Ampere Turns (@ 20°C)	1500	2121	3000	4743

Coil Data

awg (0XX)[3]	Resistance (@20°C)	# Turns[4]	VDC (Nom)	VDC (Nom)	VDC (Nom)	VDC (Nom)
23	3.52	780	6.8	9.6	13.6	22.0
24	6.04	1056	8.6	12.2	17.2	27.0
25	8.47	1176	10.9	15.4	22.0	34.0
26	14.10	1540	13.8	19.5	28.0	44.0
27	22.50	1970	17.3	24.0	35.0	55.0
28	36.10	2484	22.0	31.0	44.0	69.0
29	55.10	3060	27.0	38.0	54.0	86.0
30	88.10	3805	35.0	49.0	70.0	110.0
31	147.00	5044	44.0	62.0	88.0	139.0
32	214.00	5992	54.0	76.0	107.0	170.0
33	354.00	7744	69.0	98.0	138.0	218.0

[1] Continuously pulsed at stated watts and duty cycle

[2] Single pulse at stated watts (with coil at ambient room temperature 20°C)

[3] Other coil awg sizes available — please consult factory

[4] Reference number of turns

Specifications

Dielectric Strength	1000 VRMS
Recommended Minimum Heat Sink	Maximum watts dissipated by solenoid are based on an unrestricted flow of air at 20°C, with solenoid mounted on the equivalent of an aluminum plate measuring 5" square by 1/8" thick
Coil Resistance	±5% tolerance
Holding Force	9 lbs (40.0 N) @ 20°C
Weight	10.41 oz (295 g)
Plunger Weight	1.87 oz (53.2 g)

How to Order

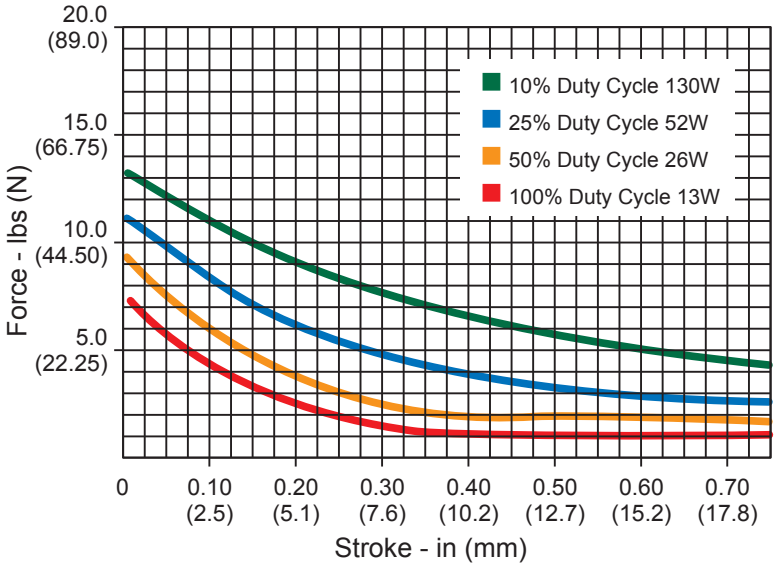
Add the coil awg number (0XX) to the part number (for example: to order a 25% duty cycle unit rated at 35 VDC, specify 174419-027).

Please see www.johnsonelectric.com for our list of stock products available through distribution.

All specifications subject to change without notice.

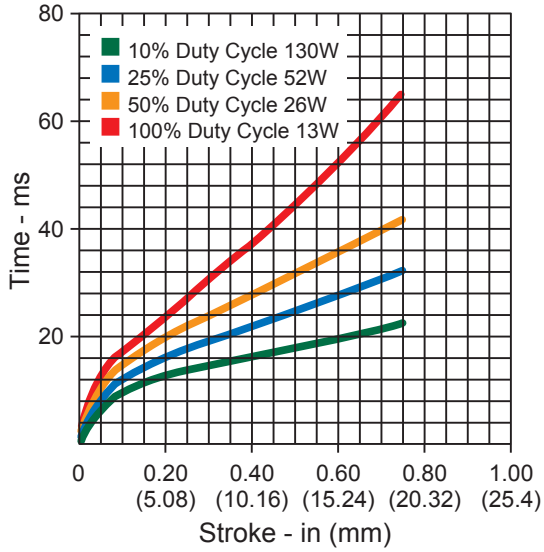
Ledex® Size 125 Pull Tubular Solenoids — 1-1/4" Dia. x 2-1/4"

Typical Force @ 20°C



Force values for reference only.

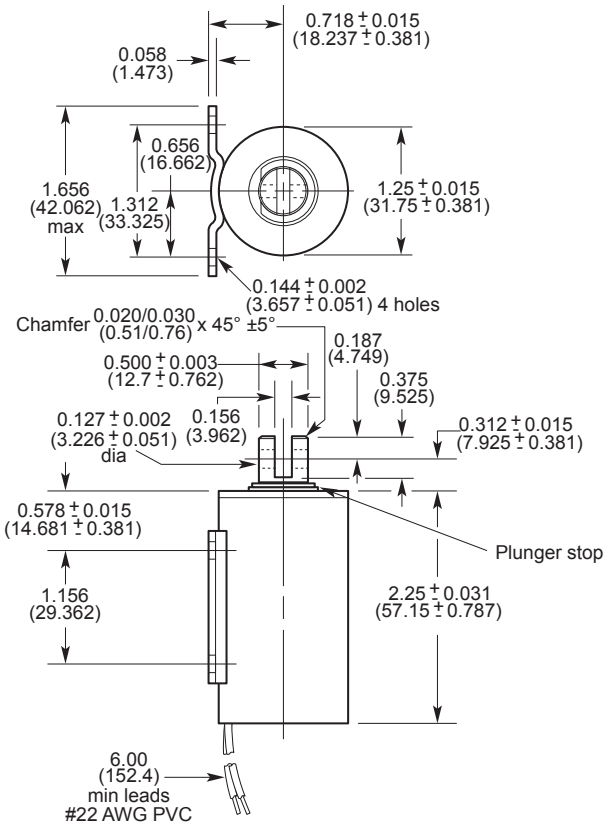
Typical Speed @ No Load, 20°C



Dimensions

Inches (mm)

All solenoids are illustrated in energized state



Ledex® Size 150 Pull Tubular Solenoids — 1-1/2" Dia. x 2-1/2"

Part Number: 174432-0XX

Coil AWG Number
(from performance chart below)

All products are RoHS Compliant

Performance

Maximum Duty Cycle	100%	50%	25%	10%
Maximum ON Time (sec) when pulsed continuously[1]	∞	420	100	25
Maximum ON Time (sec) for single pulse[2]	∞	570	252	75
Watts (@ 20°C)	17	34	68	170
Ampere Turns (@ 20°C)	1800	2546	3600	5692

Coil Data

awg (0XX)[3]	Resistance (@20°C)	# Turns[4]	VDC (Nom)	VDC (Nom)	VDC (Nom)	VDC (Nom)
23	5.58	1030	9.8	13.9	19.7	31.0
24	9.30	1344	12.4	17.6	25.0	39.0
25	14.90	1712	15.7	22.0	31.0	50.0
26	24.00	2180	19.9	28.0	40.0	63.0
27	36.90	2680	25.0	35.0	50.0	79.0
28	58.40	3322	32.0	45.0	63.0	100.0
29	87.50	4008	39.0	56.0	79.0	124.0
30	148.00	5292	50.0	71.0	101.0	159.0
31	224.00	6360	63.0	90.0	127.0	200.0
32	344.00	7956	78.0	110.0	155.0	246.0
33	554.00	10070	100.0	141.0	199.0	315.0

[1] Continuously pulsed at stated watts and duty cycle

[2] Single pulse at stated watts (with coil at ambient room temperature 20°C)

[3] Other coil awg sizes available — please consult factory

[4] Reference number of turns

Specifications

Dielectric Strength	1000 VRMS
Recommended Minimum Heat Sink	Maximum watts dissipated by solenoid are based on an unrestricted flow of air at 20°C, with solenoid mounted on the equivalent of an aluminum plate measuring 6" square by 1/8" thick
Coil Resistance	±5% tolerance
Holding Force	14.5 lbs (64.5 N) at 20°C
Weight	17 oz (481.8 g)
Plunger Weight	3.35 oz (95.0 g)

How to Order

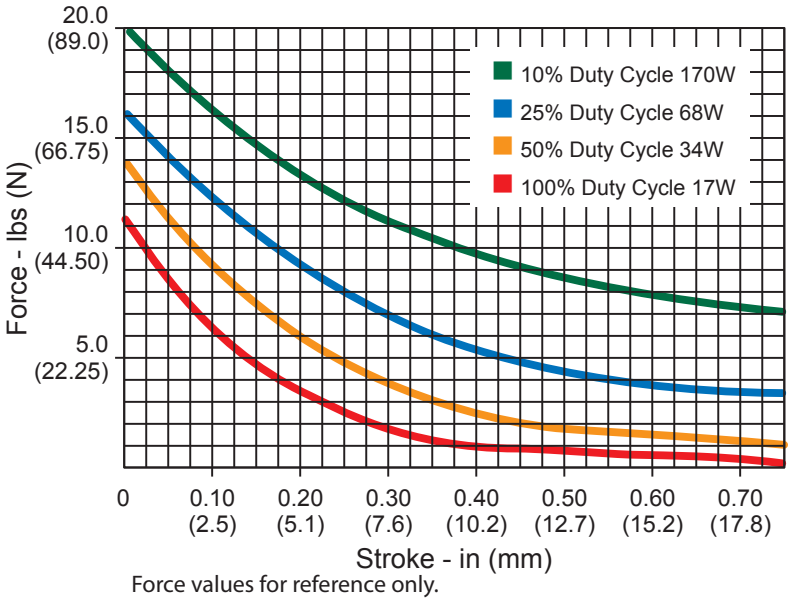
Add the coil awg number (0XX) to the part number (for example: to order a 25% duty cycle unit rated at 50 VDC, specify 174432-027).

Please see www.johnsonelectric.com for our list of stock products available through distribution.

All specifications subject to change without notice.

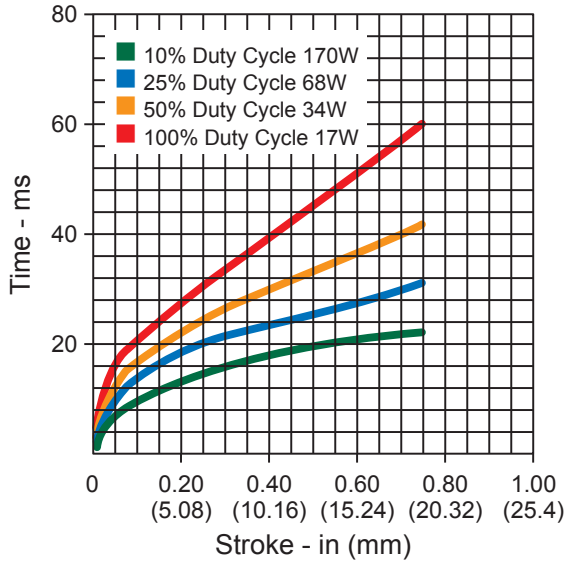
Ledex® Size 150 Pull Tubular Solenoids — 1-1/2" Dia. x 2-1/2"

Typical Force @ 20°C



Force values for reference only.

Typical Speed @ No Load, 20°C



Dimensions

Inches (mm)

All solenoids are illustrated in energized state