T2M & T3M Series

T2M-16 to T3M-1000

High Temperature Mold Springs

Product Value

- Engineered to withstand higher working temperatures. Can be used in applications with working temperatures up to 120°C/248°F. Ideal for plastic injection mold tooling.
- Force adjustability & increased productivity. Control the force of our Gas Springs by adjusting gas pressure through the control panel to reduce downtime and increase productivity.
- Balanced, consistent force. Our Gas Springs provide for a balanced force, resulting in higher quality parts.

Product Features

- Fully adjustable charge pressure.
- Various mounting possibilities using our standard mounts as well as bottom threaded holes.
- T2M-16 and T2M-24 have a threaded body design for easy and adjustable mounting.
- Six Gas Spring models available with initial forces from 420N/95 lbf to 9200N/2068 lbf.
- Compact rod seal design.

Advanced Safety Features

- Overpressure Protection: designed to safely vent excessive gas pressure in the event of an overpressure situation such as overcharged Gas Springs or the ingestion of large amounts of drawing or cooling fluids.
- Overstroke Protection: A patented system allows the venting of gas in a predetermined manner with deformation or knock-out plug in the event of a mechanical overload of the Gas Spring body.
- Overload Protection: In the case of blockage in the tool that causes excessive piston return speed, a specially designed rod and integral safety stops retain the piston rod in the Gas Spring and allow gas to vent safely.

Temperature Considerations

Spring Model	Max. working temp. interval	Max. strokes per minute spm	Max. charge pressure at 20°C bar	Force per temperature		
				Spring temp.	Initial force N	End force at full stroke N
T2M-16	0 - 80°C	20	150	80°C	510	810
				20°C	420	670
	80 - 100°C	15	125	100°C	450	720
				20°C	355	570
	100 - 120°C	10	115	120°C	435	700
				20°C	325	520
T2M-16	0 - 80°C	20	150	80°C	2040	3250
				20°C	1700	2700
	80 - 100°C	15	125	100°C	1800	2880
				20°C	1415	2250
	100 - 120°C	10	115	120°C	1750	2800
				20°C	1300	2080
T2M-16	0 - 80°C	20	150	80°C	3,63	5,55
				20°C	3	4,6
	80 - 100°C	15	125	100°C	3,2	4,9
				20°C	2,51	3,85
	100 - 120°C	10	115	120°C	3,1	4,75
				20°C	2,31	3,54
T2M-16	0 - 80°C	20	150	80°C	5,68	8,69
				20°C	4,7	7,2
	80 - 100°C	15	125	100°C	5	7,65
				20°C	3,93	6,01
	100 - 120°C	10	115	120°C	4,85	7,42
				20°C	3,61	5,52
T2M-16	0 - 80°C	20	150	80°C	8,87	14,1
				20°C	7,4	11,76
	80 - 100°C	15	125	100°C	7,81	12,42
				20°C	6,14	9,75
	100 - 120°C	10	115	120°C	7,57	12,05
				20°C	5,65	9
T2M-16	0 - 80°C	20	150	80°C	11,13	17,5
				20°C	9,2	14,5
	80 - 100°C	15	125	100°C	9,8	15,4
				20°C	7,7	12,1
	100 - 120°C	10	115	120°C	9,5	14,9
				20°C	7,08	11,1

Product Specifications

Pressure medium ..... Nitrogen
Min. charging pressure ..... 25 bar/365 psi
Max. charging pressure ..... 150 bar/2175 psi
Operating temperature ..... 0º to 120ºC/32º to 248ºF
Max piston rod velocity ..... 1m/second / 197 ft/min
Max utilized stroke 100%
Inlet Valve 4018112
Charge fitting T2-770-T3

Ordering Options

T2M-16	x	25
Model		**Stroke (mm)**
T2M-16 T2M-24 T3M-300 T3M-500 T3M-750 T3M-1000		See Dimensional Information Charts

All Gas Springs shipped at maximum charge pressure unless otherwise specified.

Repair Kits

Gas Spring	Repair Kit Order Number
T2M-16	NON-REPAIRABLE
T2M-24	NON-REPAIRABLE
T3M-300	3322687
T3M-500	3322688
T3M-750	3322686
T3M-1000	3322690

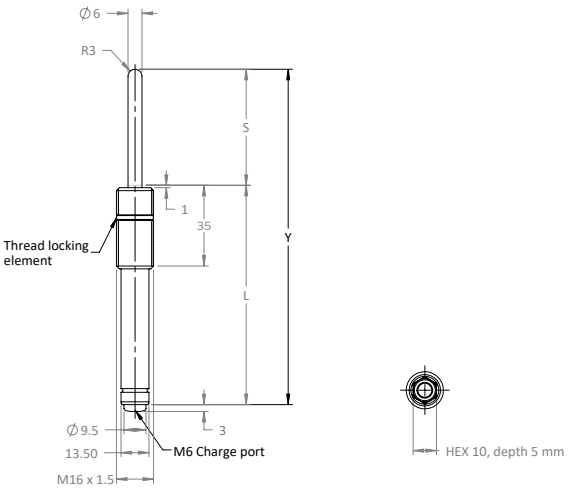
T2M-16 is available in eight stroke lengths.

Working temperature interval, maximum strokes per mine and maximum charge pressure may vary by temperature.

Basic Information

For general information see “About Gas Springs”.

Min. charging pressure (at 20ºC) ..... 25 bar
Max. charging pressure (at 20ºC) ..... 150 bar
Contact Force at max. pressure (N) 420
Contact Force at max. pressure (lbf) 95
Recommended max strokes/min (at 20ºC) 20
Cylinder diameter (mm) 16
Charge port M6
Repair kit ..... Non-repairable
Operating temperature ..... 0 to +120ºC
Max piston rod velocity ..... 1 m/s
Force increase by temperature ..... ±0.3%/ºC
Pressure medium ..... Nitrogen



Order Number Model X Stroke	Stroke		Contact Force*		Cylinder Height		Body Height		Gas vol.	Weight	
	S				Y ±0.25	Y ±0.010	L				
	mm	in	N	lbf.	mm	in	mm	in	ℓ	kg	lb
T2M-16X10	10	0.39	420	95	65	2.56	55	2.17	0.002	0.06	0.13
T2M-16X20	20	0.79			85	3.35	65	2.56	0.003	0.07	0.15
T2M-16X30	30	1.18			105	4.13	75	2.95	0.003	0.07	0.15
T2M-16X40	40	1.57			125	4.92	85	3.35	0.004	0.08	0.18
T2M-16X50	50	1.97			145	5.71	95	3.74	0.005	0.09	0.20
T2M-16X60	60	2.36			165	6.50	105	4.13	0.006	0.10	0.22
T2M-16X70	70	2.76			185	7.28	115	4.53	0.007	0.11	0.24
T2M-16X80	80	3.15			205	8.07	125	4.92	0.008	0.11	0.24

* = at full charge
Longer stroke lengths are available on request.

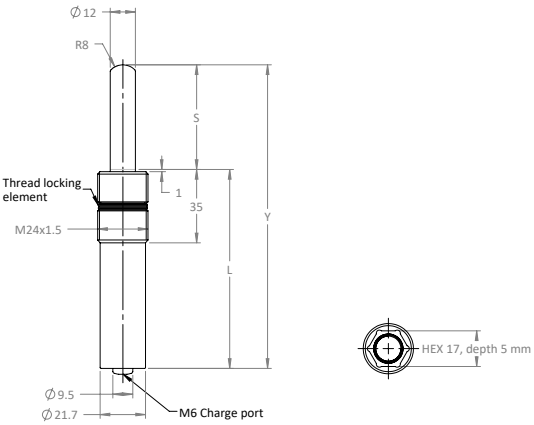
T2M-24 is available in eight stroke lengths.

Working temperature interval, maximum strokes per mine and maximum charge pressure may vary by temperature.

Basic Information

For general information see “About Gas Springs”.

Min. charging pressure (at 20°C) ..... 25 bar
Max. charging pressure (at 20°C) ..... 150 bar
Contact Force at max. pressure (N) 1700
Contact Force at max. pressure (lbf) 382
Recommended max strokes/min (at 20°C) 20
Cylinder diameter (mm) 24
Charge port M6
Repair kit ..... Non-repairable
Operating temperature ..... 0 to +120°C
Max piston rod velocity ..... 1 m/s
Force increase by temperature ..... ±0.3%/°C
Pressure medium ..... Nitrogen



Order Number Model X Stroke	Stroke		Contact Force*		Cylinder Height		Body Height		Gas vol.	Weight	
	S				Y ±0.25	Y ±0.010	L				
	mm	in	N	lbf.	mm	in	mm	in	ℓ	kg	lb
T2M-24X10	10	0.39	1,700	382	65	2.56	55	2.17	0.003	0.13	0.29
T2M-24X20	20	0.79			85	3.35	65	2.56	0.006	0.15	0.33
T2M-24X30	30	1.18			105	4.13	75	2.95	0.008	0.17	0.37
T2M-24X40	40	1.57			125	4.92	85	3.35	0.011	0.19	0.42
T2M-24X50	50	1.97			145	5.71	95	3.74	0.012	0.21	0.46
T2M-24X60	60	2.36			165	6.50	105	4.13	0.014	0.23	0.51
T2M-24X70	70	2.76			185	7.28	115	4.53	0.017	0.25	0.55
T2M-24X80	80	3.15			205	8.07	125	4.92	0.019	0.27	0.60

* = at full charge
Longer stroke lengths are available on request.

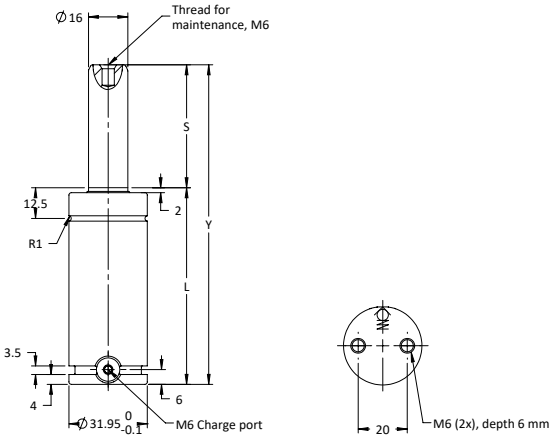
T3M-300 is available in 11 stroke lengths.

Working temperature interval, maximum strokes per mine and maximum charge pressure may vary by temperature.

Basic Information

For general information see “About Gas Springs”.

Min. charging pressure (at 20°C) ..... 25 bar
Max. charging pressure (at 20°C) ..... 150 bar
Contact Force at max. pressure (N) 3000
Contact Force at max. pressure (lbf) 675
Recommended max strokes/min (at 20°C) 20
Cylinder diameter (mm) 32
Charge port M6
Repair kit 3322687
Operating temperature ..... 0 to +120°C
Max piston rod velocity ..... 1 m/s
Force increase by temperature ..... ±0.3%/°C



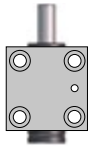
Order Number Model X Stroke	Stroke		Contact Force*		Cylinder Height		Body Height		Gas vol.	Weight	
	S				Y ±0.25	Y ±0.010	L				
	mm	in	N	lbf.	mm	in	mm	in	ℓ	kg	lb
T3M-300X10	10	0.39	3,000	675	50	1.97	40	1.57	0.01	0.17	0.37
T3M-300X13	13	0.51			56	2.20	43	1.69	0.01	0.17	0.37
T3M-300X16	16	0.63			62	2.44	46	1.81	0.01	0.19	0.42
T3M-300X19	19	0.75			68	2.68	49	1.93	0.01	0.20	0.44
T3M-300X25	25	0.98			80	3.15	55	2.17	0.02	0.21	0.46
T3M-300X32	32	1.26			94	3.70	62	2.44	0.02	0.23	0.51
T3M-300X38	38	1.50			106	4.13	68	2.68	0.03	0.25	0.55
T3M-300X50	50	1.97			130	5.12	80	3.15	0.03	0.29	0.64
T3M-300X63	63	2.48			156	6.14	93	3.66	0.04	0.33	0.73
T3M-300X75	75	2.95			180	7.09	105	4.13	0.05	0.36	0.79
T3M-300X80	80	3.15			190	7.48	110	4.33	0.05	0.38	0.84

* = at full charge
Longer stroke lengths are available on request.

Mounting Possibilities

Top mount
FC, FCS

Foot mount
FFC



Body mount
HMF, S

Recommended Flanges

FC-350

235

FCS-32

238

FFC-350

240

HMF-150

243

S-200

248

Note!

For dimensions on all mounting flanges, refer to “Flanges” in chapter 3.

T3M-500 is available in 11 stroke lengths.

Working temperature interval, maximum strokes per mine and maximum charge pressure may vary by temperature.

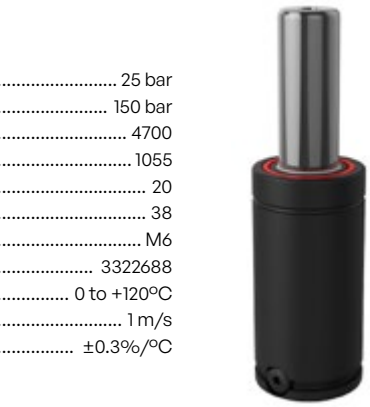


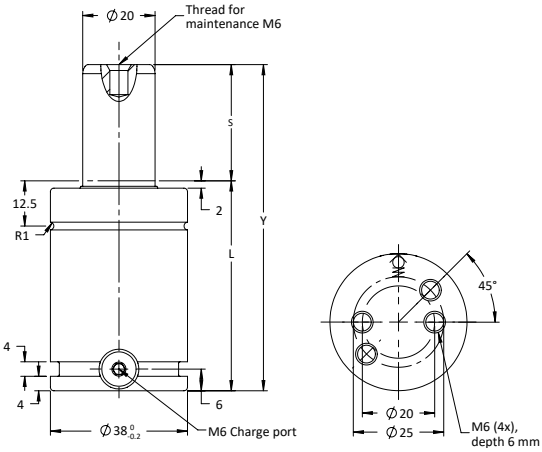



Basic Information

For general information see “About Gas Springs”.

Min. charging pressure (at 20°C) ..... 25 bar
Max. charging pressure (at 20°C) ..... 150 bar
Contact Force at max. pressure (N) 4700
Contact Force at max. pressure (lbf) 1055
Recommended max strokes/min (at 20°C) 20
Cylinder diameter (mm) 38
Charge port M6
Repair kit 3322688
Operating temperature ..... 0 to +120°C
Max piston rod velocity ..... 1 m/s
Force increase by temperature ..... ±0.3%/°C





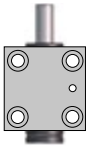
Order Number Model X Stroke	Stroke		Contact Force*		Cylinder Height		Body Height		Gas vol.	Weight	
	S				Y ±0.25	Y ±0.010	L				
	mm	in	N	lbf.	mm	in	mm	in	ℓ	kg	lb
T3M-500X10	10	0.39	4,700	1,055	50	1.97	40	1.57	0.01	0.25	0.55
T3M-500X13	13	0.51			56	2.20	43	1.69	0.01	0.26	0.57
T3M-500X16	16	0.63			62	2.44	46	1.81	0.02	0.27	0.60
T3M-500X19	19	0.75			68	2.68	49	1.93	0.02	0.28	0.62
T3M-500X25	25	0.98			80	3.15	55	2.17	0.03	0.31	0.68
T3M-500X32	32	1.26			94	3.70	62	2.44	0.03	0.34	0.75
T3M-500X38	38	1.50			106	4.13	68	2.68	0.04	0.36	0.79
T3M-500X50	50	1.97			130	5.12	80	3.15	0.05	0.40	0.88
T3M-500X63	63	2.48			156	6.14	93	3.66	0.06	0.45	0.99
T3M-500X75	75	2.95			180	7.09	105	4.13	0.07	0.50	1.10
T3M-500X80	80	3.15			190	7.48	110	4.33	0.08	0.52	1.15

* = at full charge
Longer stroke lengths are available on request.

Mounting Possibilities

Top mount
FC, FCS

Foot mount
FFC, LM-lug, L



Body mount
HMF

Recommended Flanges

FC-250

235

FCS-250

238

FFC-250

240

HMF-250

243

Additional Flanges

FCN-250

235

LM-250

242

L-250

244

Note!

For dimensions on all mounting flanges, refer to “Flanges” in chapter 3.

T3M-750 is available in 11 stroke lengths.

Working temperature interval, maximum strokes per mine and maximum charge pressure may vary by temperature.

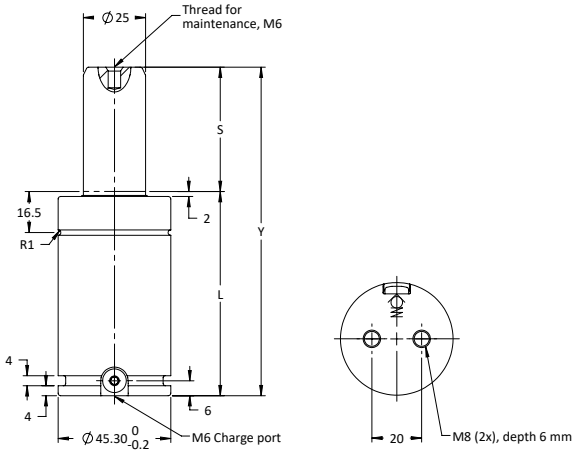





Basic Information

For general information see “About Gas Springs”.

Min. charging pressure (at 20°C) ..... 25 bar
Max. charging pressure (at 20°C) ..... 150 bar
Contact Force at max. pressure (N) 7400
Contact Force at max. pressure (lbf) 1665
Recommended max strokes/min (at 20°C) 20
Cylinder diameter (mm) 45
Charge port M6
Repair kit 3322686
Operating temperature ..... 0 to +120°C
Max piston rod velocity ..... 1 m/s
Force increase by temperature ..... ±0.3%/°C



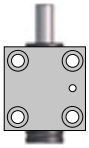
Order Number Model X Stroke	Stroke		Contact Force*		Cylinder Height		Body Height		Gas vol.	Weight	
	S				Y ±0.25	Y ±0.010	L				
	mm	in	N	lbf.	mm	in	mm	in	ℓ	kg	lb
T3M-750X10	10	0.39	7,400	1,665	52	2.05	42	1.65	0.02	0.37	0.82
T3M-750X13	13	0.51			58	2.28	45	1.77	0.02	0.39	0.86
T3M-750X16	16	0.63			64	2.52	48	1.89	0.03	0.41	0.90
T3M-750X19	19	0.75			70	2.76	51	2.01	0.03	0.41	0.90
T3M-750X25	25	0.98			82	3.23	57	2.24	0.04	0.45	0.99
T3M-750X32	32	1.26			96	3.78	64	2.52	0.05	0.50	1.10
T3M-750X38	38	1.50			108	4.25	70	2.76	0.05	0.53	1.17
T3M-750X50	50	1.97			132	5.32	82	3.23	0.07	0.61	1.34
T3M-750X63	63	2.48			158	6.22	95	3.74	0.09	0.69	1.52
T3M-750X75	75	2.95			182	7.17	107	4.21	0.10	0.77	1.70
T3M-750X80	80	3.15			192	7.56	112	4.41	0.11	0.80	1.76

* = at full charge
Longer stroke lengths are available on request.

Mounting Possibilities

Top mount
FC, FCS, FCSC

Foot mount
FFC, LM-lug, L



Body mount
HMF

Recommended Flanges

FC-500

235

FCS-500

238

FFC-500

240

HMF-500

243

Additional Flanges

FCSC-500

239

LM-500

242

L-500

244

Note!
For dimensions on all mounting flanges, refer to “Flanges” in chapter 3.

T3M-1000 is available in 10 stroke lengths.

Working temperature interval, maximum strokes per mine and maximum charge pressure may vary by temperature.

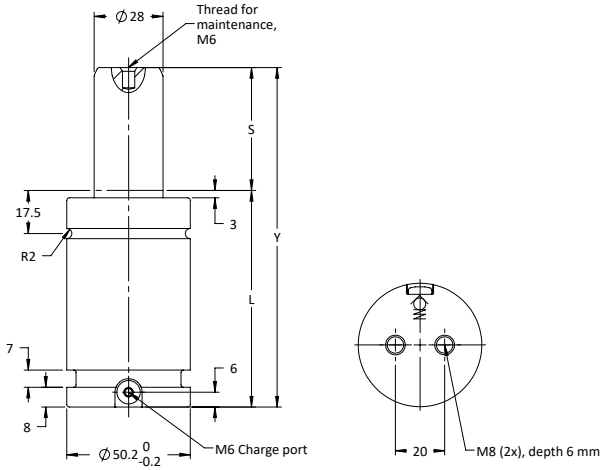





Basic Information

For general information see “About Gas Springs”.

Min. charging pressure (at 20°C) ..... 25 bar
Max. charging pressure (at 20°C) ..... 150 bar
Contact Force at max. pressure (N) 9200
Contact Force at max. pressure (lbf) 2068
Recommended max strokes/min (at 20°C) 20
Cylinder diameter (mm) 50
Charge port M6
Repair kit 3322690
Operating temperature ..... 0 to +120°C
Max piston rod velocity ..... 1 m/s
Force increase by temperature ..... ±0.3%/°C



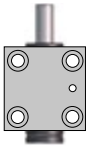
Order Number Model X Stroke	Stroke		Contact Force*		Cylinder Height		Body Height		Gas vol.	Weight	
	S				Y ±0.25	Y ±0.010	L				
	mm	in	N	lbf.	mm	in	mm	in	ℓ	kg	lb
T3M-1000X13	13	0.51	9,200	2,068	64	2.52	51	2.01	0.03	0.52	1.15
T3M-1000X16	16	0.63			70	2.76	54	2.13	0.04	0.54	1.19
T3M-1000X19	19	0.75			76	2.99	57	2.24	0.04	0.56	1.23
T3M-1000X25	25	0.98			88	3.46	63	2.48	0.05	0.61	1.34
T3M-1000X32	32	1.26			102	4.02	70	2.76	0.06	0.66	1.46
T3M-1000X38	38	1.50			114	4.49	76	2.99	0.07	0.71	1.57
T3M-1000X50	50	1.97			138	5.43	88	3.46	0.09	0.81	1.79
T3M-1000X63	63	2.48			164	6.46	101	3.98	0.11	0.91	2.01
T3M-1000X75	75	2.95			188	7.40	113	4.45	0.13	1.02	2.25
T3M-1000X80	80	3.15			198	7.80	118	4.65	0.14	1.05	2.31

* = at full charge
Longer stroke lengths are available on request.

Mounting Possibilities

Top mount
FC, FCS,
FCSC

Foot mount
FFC, LM-lug, L



Body mount
HMF, S

Base mount
MP

Recommended Flanges

FC-750

235

FCS-750

238

FFC-750

240

HMF-750

243

MP-750

246

S-750

248

Additional Flanges

FCSC-750

239

LM-750

242

L-750

244

Note!

For dimensions on all mounting flanges, refer to “Flanges” in chapter 3.