

# RESPON

## T SERIES PNEUMATIC ACTUATOR



Higher performance and reliability

Fully compliance with all the latest international standards

Wide range options in technical specification and highly cost-effective

Compact housing design, suitable for any application and working environment



SGS CE

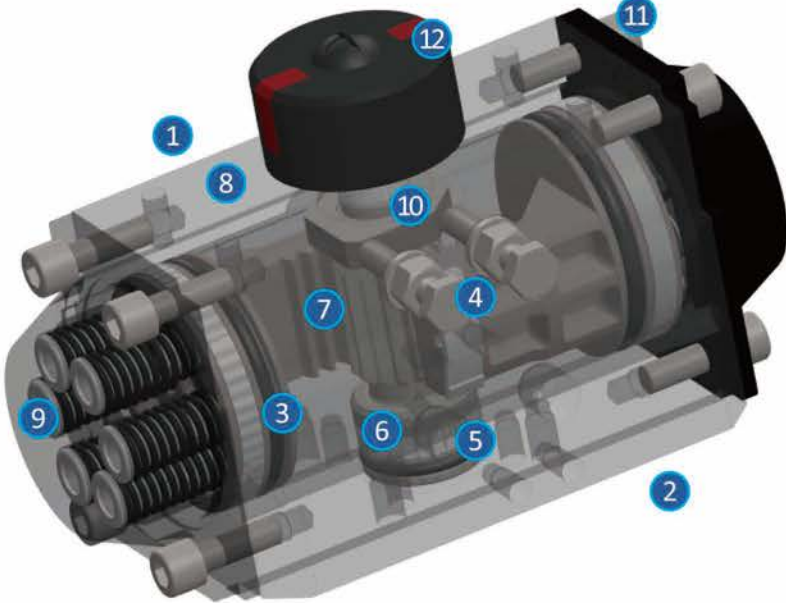


# DESIGN AND CONSTRUCTION

## DESIGN

- Reliability
- High performance
- Fully compliance with all the latest international standards
- Extensive products range allows best versatility at lower price
- Innovations and patented solutions for a universal drive shaft
- Multifunction position indicator
- Compact and light

## CONSTRUCTION

1. A single compact design utilizing identical body and end caps for both double acting and spring return models. This feature reduces inventory and allows field conversion, by adding or removing modular spring cartridges.
  2. Full conformance to following latest specifications: ISO 5211, DIN 3337 and VDI/VDE 3845 for product interchangeability and easy mounting of solenoids, limit switches and other accessories.
  3. Dual piston rack and pinion design for compact construction, symmetric mounting position, high-cycle life and fast operation. Reverse rotation can be accomplished in the field by simply inverting the pistons.
  4. Two independent external travel stop adjustments permit easy and precise adjustment of +/- 4° in both directions. This adjustment may be made in either the open or closed position and provides for accurate valve alignment.
  5. Multiple bearings and guides on pistons and racks for precise operation, low friction, high cycle life and a blowout proof pinion shaft.
  6. Electroless nickel-plated blowout resistant, bearing guided, one-piece pinion shaft for improved safety and maximum cycle life.
  7. High precision teeth on piston racks and pinion shaft for accurate positioning, low backlash, and maximum engagement resulting in overall efficient operation.
  8. Extruded aluminum body with both internal and external corrosion protections having a honed cylinder surface for longer life and a lower coefficient of friction.
  9. Modular preloaded spring cartridges designed with coated springs for simple range versatility, greater safety and corrosion resistance.
  10. Selected high quality bearings and seals that provide a wide operating temperature range, low friction, and high cycle life.
  11. Internal and external stainless steel fasteners for long term corrosion resistance.
  12. Multifunctional position indicator for visual position indication, and a direct, easy, economical way to mount popular sensors.
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## RANGE OF OPTIONS, QUALITY MANUFACTURING, AND ACCESSORIES

### RANGE OF OPTIONS

- A. Stainless steel 304 or 316 drive shafts are available on request for all sizes no matter the type of corrosion protection selected.
- B. For extremely high or low temperature applications, all models may be equipped with FPM or Silicon O rings along with an V-TORK tested and certified suitable lubricant.
- C. Other than the standard double square bottom drive shaft connection, we can supply a keyed drive connection, a flat head connection or a special personalized drive connection.

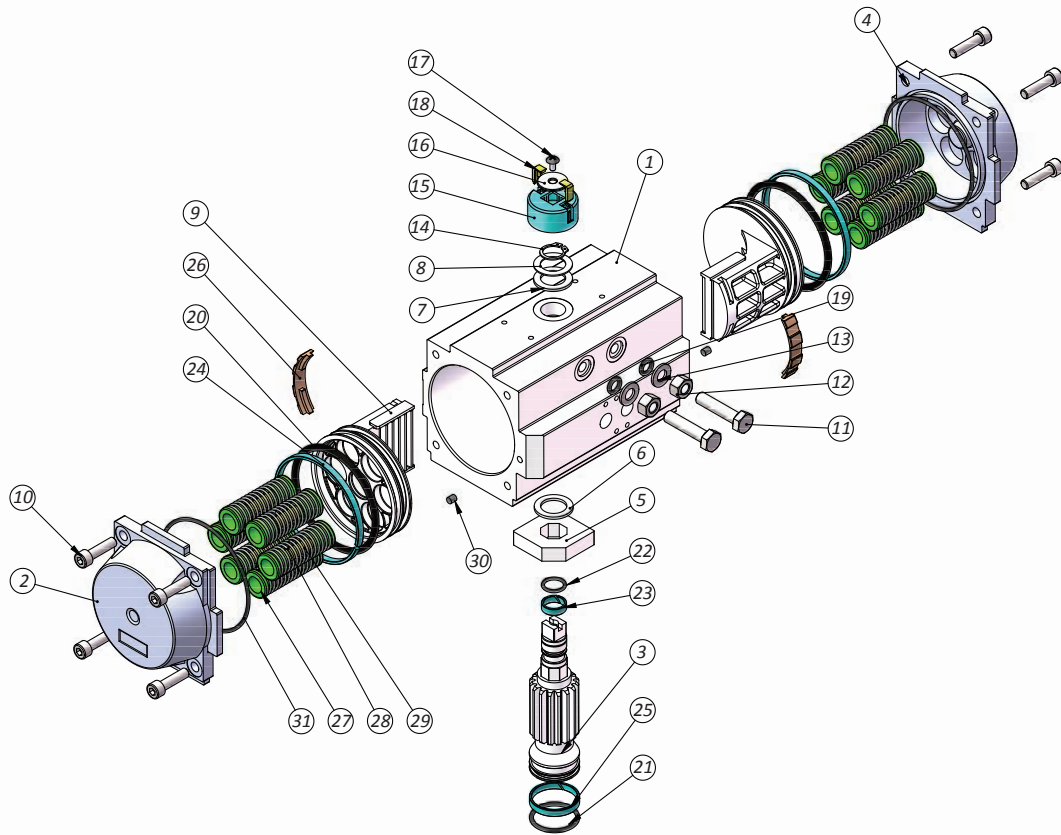
### QUALITY MANAGEMENT

- Production conforms to ISO9001.
- Each individual actuator has been factory inspected and tested and given a serial number for full traceability.
- Each individual actuator is individually packed in a special cardboard carton for protection, with a product description label for easy identification and includes installation, operation and maintenance instructions.

### ACCESSORIES AVAILABLE

- Different Square reductions suitable for drive shaft
- Centering rings for all sizes
- Brackets
- Couplings
- Solenoid valves
- Switch boxes
- Proximity switches
- Gear boxes
- Positioners

# Parts And Materials



Item Number	Part Description	Material Quality	QTY	Item Number	Part Description	Material Quality	QTY	Item Number	Part Description	Material Quality	QTY
1	Body	Aluminium alloy	1	12	Nut(stop screw)	Stainless steel	2	23	Bearing(pinion top)	Nylon	1
2	Left End cap	Aluminium alloy	1	13	Washer (stop screw)	Stainless steel	2	24	Bearing(pinion head)	Nylon	2
3	Drive shaft	Alloy Steel	1	14	Spring clip	Spring steel	1	25	Bearing(pinion bottom)	Nylon	1
4	Right end cap	Aluminium alloy	1	15	Position indicator	Nylon	1	26	Wear band	Nylon	2
5	OCTI-CAM	Alloy Steel	1	16	Indicator thrust bearing	Stainless steel	1	27	Spring seat	Nylon	24
6	Thrust bearing (pinion top)	Nylon	1	17	Cap screw	Stainless steel	1	28	Spring	Stainless steel	12
7	Thrust bearing	Nylon	1	18	Color code	Nylon	2	29	Straining beam	Copper pipe	12
8	Thrust washer	Stainless steel	1	19	*o* ring(stop screw)	NBR	2	30	Plug	NBR	2
9	Piston	Aluminium alloy	2	20	*o* ring(piston)	NBR	2	31	*o* ring(end cap)	NBR	2
10	Cap screw (end cap)	Stainless steel	8	21	*o* ring(pinion bottom)	NBR	1				
11	Stop top screw	Stainless steel	2	22	*o* ring(pinion top)	NBR	1				

## TECHNICAL DATA(METRIC UNIT)

Model TypeA	TP032		TP050		TP065		TP075		TP085		TP095		TP110		TP125		TP140		TP160		TP190		TP210		TP250		TP280		TP300		TP350		TP400	
	D	S	D	S	D	S	D	S	D	S	D	S	D	S	D	S	D	S	D	S	D	S	D	S	D	S	D	S	D	S	D	S		
Diameter (mm)	32		50		65		75		85		95		110		125		140		160		190		210		250		280		300		350		400	
Air Volume Opening(L)	0.03		0.09		0.19		0.30		0.44		0.88		0.83		1.41		1.76		2.85		4.75		6.60		10.67		15.06		19.09		27.65		42.81	
Air Volume Closing(L)	0.04		0.15		0.32		0.50		0.66		1.17		1.27		2.13		2.72		4.08		7.20		10.29		17.51		22.96		28.23		44.10		62.05	
Opening Time (sec)	0.3	0.3	0.9	0.4	0.9	0.4	0.9	0.9	1.0	0.9	1.4	0.9	1.4	1.3	2.4	1.3	2.8	2.0	4.8	2.2	2.4	2.9	3.4	4.0	4.5	4.7	5.2	5.0	6.0	6.2	7.4	7.5	9.6	
Closing Time (sec)	0.4	0.4	0.7	0.4	0.8	0.4	0.9	0.9	1.2	1.0	1.4	1.0	1.6	1.4	2.4	1.4	3.0	2.4	4.9	2.6	3.0	3.8	4.1	4.6	5.0	5.2	5.7	6.0	6.8	7.2	8.4	8.5	10.6	
Weight (Kg)hai	0.47	0.59	1.13	1.25	1.97	2.21	2.93	3.29	3.78	4.26	5.14	5.86	6.09	7.17	10.9	12.5	13.8	15.9	20.2	23.8	28.4	33.8	40	48.4	64.6	77.8	79.1	98.9	108	136	147	188	220	283

1.For model 32-160

(1)Room temperature (2)Actuator stroke 90° (3)Solenoid valve with orifice of 4 mm and a flow capacity Qn400L/min (4)Inside pipe diameter 6 mm (5)Medium clean air (6)Air supply pressure 5.5 bar (7)Actuator without external resistance load

2.For model 190-400

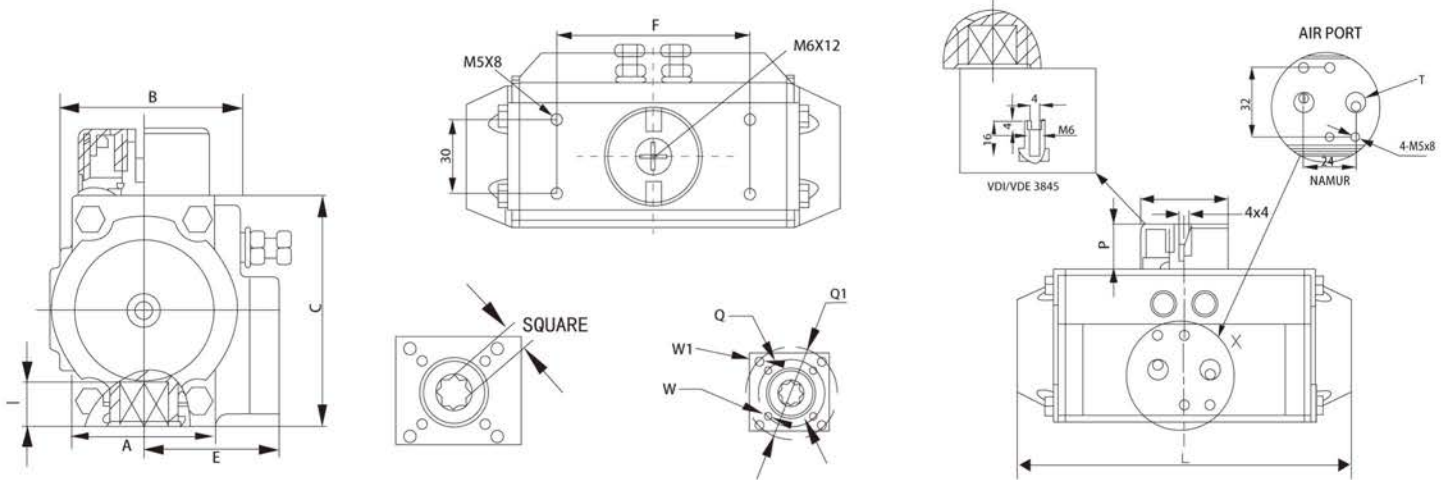
(1)Room temperature (2)Actuator stroke 90° (3)Solenoid valve with orifice of 12 mm and a flow capacity Qn5100L/min (4)Inside pipe diameter 8 mm (5)Medium clean air (6)Air supply pressure 5.5 bar (7)Actuator without external resistance load

Cautions: obviously on the field applications when one or more of the above parameter are different, the moving time will be different

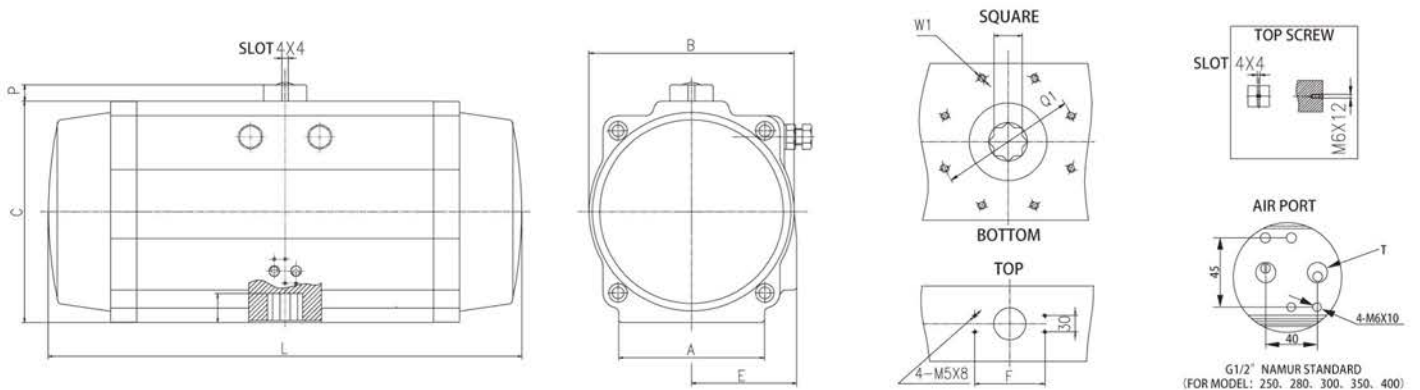




# INSTALLATION



MODEL	A	B	C	E	F	P	$\phi J$	L	I	FLANGE	Q	Q1	W	W1	SQUARE	T
T032	37	40	50	27	50	20	13	110	10	F03		36		4-M5X9	9X9	G1/8"
T050	45	59	70	41.5	80		15	154	12	F03/05	36	50	M5	M5X9	11x11	G1/8"
T065	62	73	89	51.5	80		19	189	16	F05/07	50	70	M6	M6X9	14x14	G1/8"
T075	68	85.5	100	59	80		19	210	16	F05/07	50	70	M6	M8X12	14x14	G1/8"
T085	68	96	113	63.5	80		23	225	19	F05/07	50	70	M6	M8X12	17x17	G1/8"
T095	92	108	123	71	80		23	264	19	F07/10	70	102	M8	M10X15	17x17	G1/4"
T110	93	122	136	76.5	80		23	266	19	F07/10	70	102	M8	M10X15	17x17	G1/4"
T125	96	139	161	85	80	30	30	337	24	F07/10	70	102	M8	M10X15	22x22	G1/4"
T140	110	156	178	97	80		37	346	27	F10/12	102	125	M10	M12X18	27x27	G1/4"
T160	112	172	200	106	130		37	412	27	F10/12	102	125	M10	M12X18	27x27	G1/4"



MODEL	A	B	C	E	F	P	$\phi J$	L	I	FLANGE	Q	Q1	W	W1	SQUARE	T
T190	135	201	232	112	130	30	49	510	38	F10/14	102	140	M10	M16X24	36x36	G1/4"
T210	135	227	255	117	130	30	53	584	38	F14		140		M16X24	36x36	G1/4"
T250	165	253	305	155	130	30	63	678	50	F16		165		M20X28	46x46	G1/2"
T280	165	304	330	167	130	30	63	738	50	F16		165		M20X28	46X46	G1/2"
T300	180	324	354	173	130	30	63	812	50	F16		165		M20X28	46X46	G1/2"
T350	270	380	410	195	130	30	63	877	50	F25		254		8-M16X30	46X46	G1/2"
T400	290	520	466	269	130	30	63	998	60	F25		254		8-M16X30	55X55	G1/2"

## MODEL SELECTION

MODEL	TYPE	SPRING QTY	FLANGE	SQURE	CAP COLOR	SEALING PART	
T032	D=DOUBLE ACTING  S=SPRING RETURN		F03	9×9	■ 7046 ■ 9004 ■ 5021 ■ 3020 ■ 6002 ■ 5015	STANDARD NITRILE RUBBER  HT FLUORORUBBER (FOR HIGH TEMPERATURE)  LT SILASTIC (FOR LOW TEMPERATURE)	
T050			F03/05	11×11			
T065		ONLY FOR SPRING REST		F05/07			14×14
T075				F05/07			14×14
T085			4	F05/07			17×17
T095			5	F07/10			17×17
T110			6	F07/10			17×17
T125			7	F07/10			22×22
T140			8	F10/12			27×27
T160			9	F10/12			27×27
T190			10	F10/14			36×36
T210			11	F14			36×36
T250			12	F16			46×46
T280				F16			46×46
T300			F16	46×46			
T350			F25	46×46			
T400			F25	55×55			

### Note:

- The standard rotation of double acting and spring return is clockwise to close (for double acting when port 4 is pressurised).
- The standard temperature of sealing part is -18°C to 80°C, if high temperature or low temperature required, relevant sealing parts can be used.
- All technical parameters of products please refer to this catalog. Customization for special requirement is available. Please contact the sales.
- Customization including but not limited to the items below:
  - Color combination.
  - Flange and Square custom made.
  - Higher protection level.

### Model Selection Example :

Example1: T095D F07/10 17 7046

Description: Actuator model T095, double acting, ISO flange F07&F10, 17 mm bottom square with standard indicator, cap color grey (No.7046), nitrile rubber sealing.

Example2: T190S12 F10/14 36 5021HT

Description: Actuator model T190, single acting spring return, with 12 springs, ISO flange F10&F14, 36 mm bottom square, cap color green (No.5021), fluororubber sealing.



### CONTACT:

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