

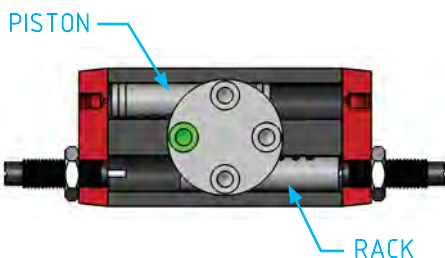
## Swiveling Rotary – RT

- Rack and pinion patented movement.
- Continuously adjustable stroke.
- Large ball bearings on the shaft.
- Thru-hole in the pinion.
- Optional rubber bumpers or hydraulic shock-absorber.
- Optional proximity magnetic sensors.

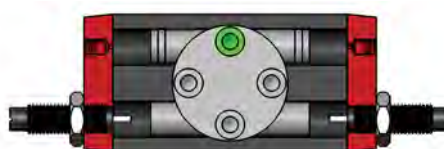


Part#	RT-10	RT-12	RT-20	RT-25	RT-35	RT-45	RT-63
Quick#	6571	6572	6573	6574	6575	6576	6577
Price	\$375.00	\$387.00	\$440.00	\$486.00	\$603.00	\$784.00	\$1,001.00
Weight	235g	560g	965g	1680g	2475g	5250g	8185g
Medium	Filtered, lubricated / non lubricated compressed air						
Pressure range	22–116 psi						
Maximum swiveling angle	190°						
Theoretical torque at 87 psi	2.5 in-lbf	5 in-lbf	17.5 in-lbf	35 in-lbf	69 in-lbf	148 in-lbf	349 in-lbf
Max. working frequency	3Hz	3Hz	2Hz	2Hz	2Hz	2Hz	1Hz
Swiveling time without load	0.05s	0.06s	0.11s	0.19s	0.08s	0.16s	0.23s
Max repeatability tolerance w/ shock-absorber	±0.02°	±0.02°	±0.02°	±0.02°	±0.02°	±0.02°	±0.02°

**Rack and Piston at 0°**



**Rack and Piston at 90°**



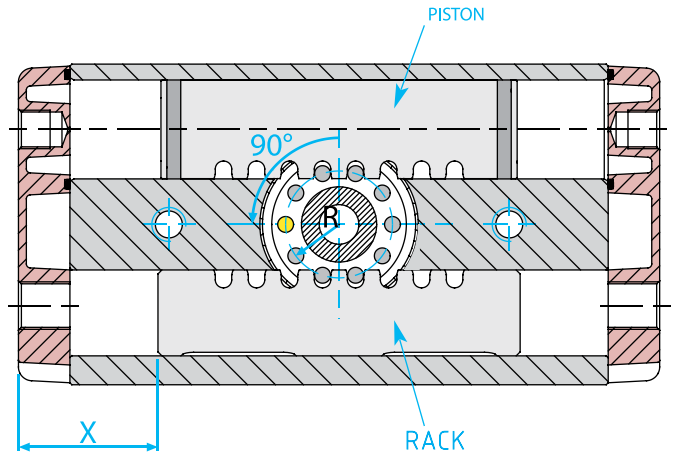
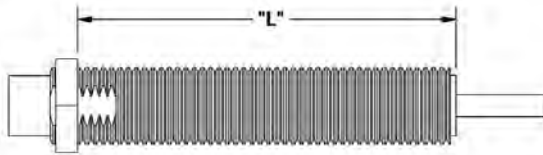
**Rack and Piston at 180°**



## Swiveling Rotary – RT

### End stroke accessories

For the stroke adjustment you can use hydraulic shock-absorbers, rubber bumpers (FGD), or only grub screws, according with the kinetic energy the unit has to bear. NEVER USE THE SWIVELING UNIT WITHOUT STROKE ADJUSTERS.



Part#	RT-10	RT-12	RT-20	RT-25	RT-35	RT-45	RT-63
Quick#	6571	6572	6573	6574	6575	6576	6577
Thread size (shock absorber / bumper)	M8x1	M10x1	M12x1	M12x1	M14x1.5	M20x1.5	M25x1.5
"X" Shock length needed to keep rack at 90° (mm)	18.5	24	27.5	35.5	37	53.5	60
Rack movement per degree of RT rotation	0.1047	0.1417	0.1802	0.2317	0.2296	0.2976	0.3571

### Ace Hydraulic Shock-Absorbers

Quick#	6619	-	6627	6627	6359	6705	Call
Part#	MC10MH	-	MC-75M3NB-111	MC-75M3NB-111	SC190-HD-M4	MC225MH2	MC600MH2
Price	\$63.60	-	\$162.89	\$162.89	\$160.00	\$135.46	Call
Shock thread length "L" (mm)	20	-	42	42	55	62	93

### Enidine Hydraulic Shock-Absorbers

Quick#	-	6621	6628	6628	6509	6624	6645
Part#	-	TK10M-1-SP18482	ECO-15MF-4	ECO-15MF-4	ECO-25-MC-4	ECO-50-MC-3	ECO-100-MF-4
Price	-	\$74.50	\$69.75	\$69.75	\$104.00	\$77.00	\$147.75
Shock thread length "L" (mm)	-	27	38	38	68	82	85

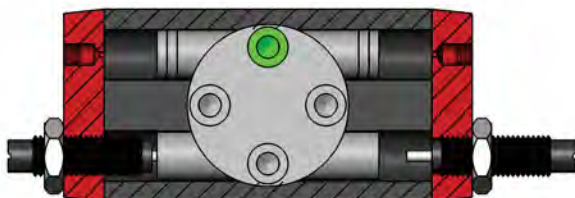
### Gimatic "FGD" Rubber Bumpers

Quick#	6620	6622	6623	-	-	-	-
Part#	FGD0830	FGD1030	FGD1235	-	-	-	-
Price	\$7.29	\$7.29	\$7.64	-	-	-	-
Bumper thread length "L" (mm)	27	27	30	-	-	-	-

**NEVER USE SWIVELING UNIT WITHOUT STROKE ADJUSTERS**

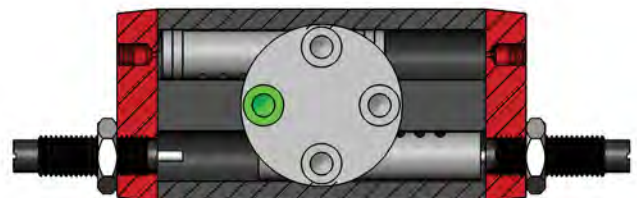
### Shock placement method #1

One shock holds rack at 90°, while the other shock can be adjusted to achieve desired rotation. This method may be necessary on some rotations below 90°.



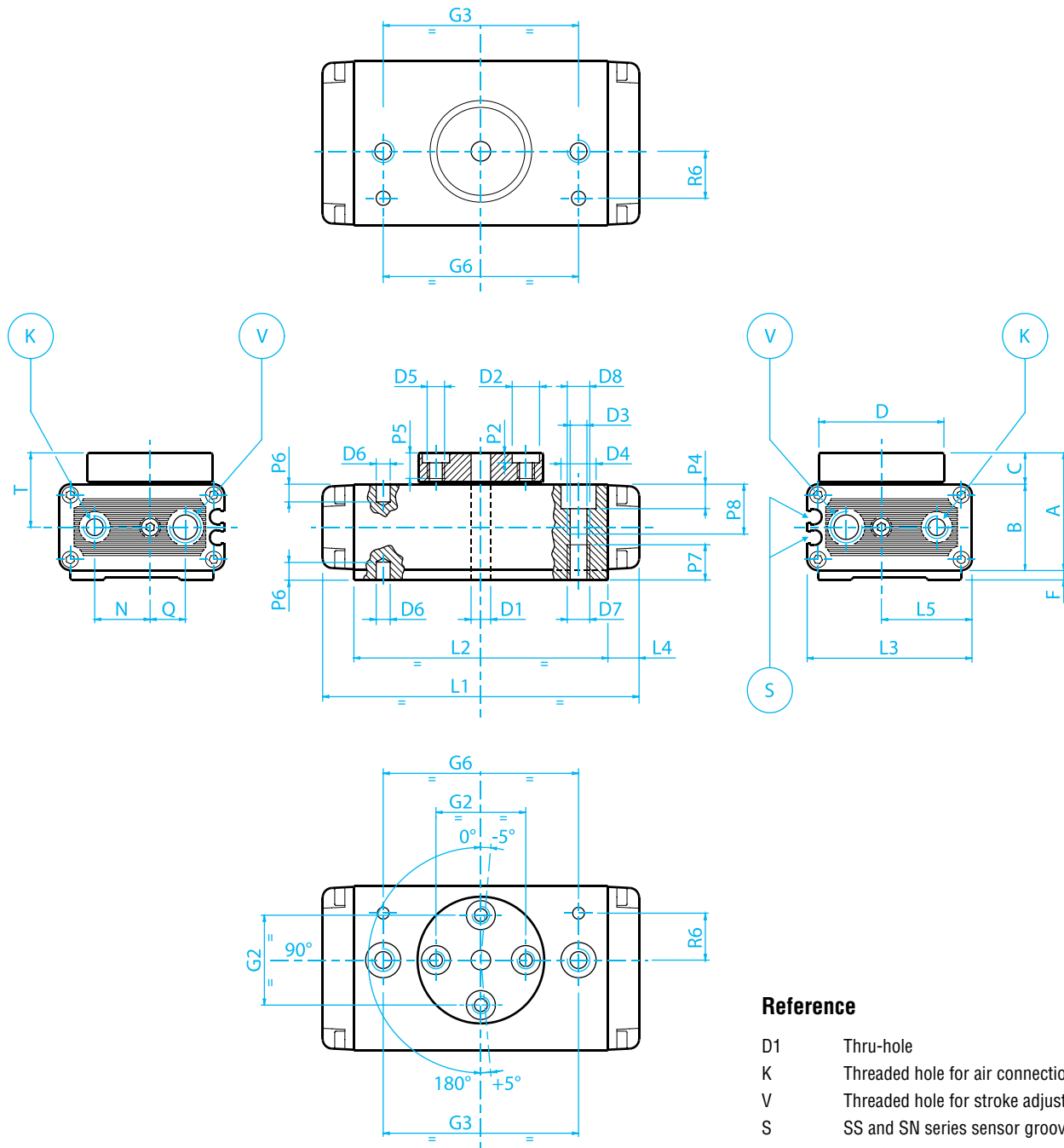
### Shock placement method #2

One shock holds rack at 0°, while the other shock can be adjusted to achieve desired rotation. This method may be necessary on some rotations above 90°.



# Swiveling Rotary – RT

RT-10, RT-12, RT-20, RT-25, RT-35, RT-45 and RT-63



### Reference

- D1 Thru-hole
- K Threaded hole for air connection
- V Threaded hole for stroke adjuster
- S SS and SN series sensor groove
- D2 Hole for centering sleeve
- D3 Thru-hole for the unit fastening
- D5 Threaded hole for fastening
- D6 Dowel pin hole
- D7 Threaded hole for the unit fastening

## Swiveling Rotary – RT

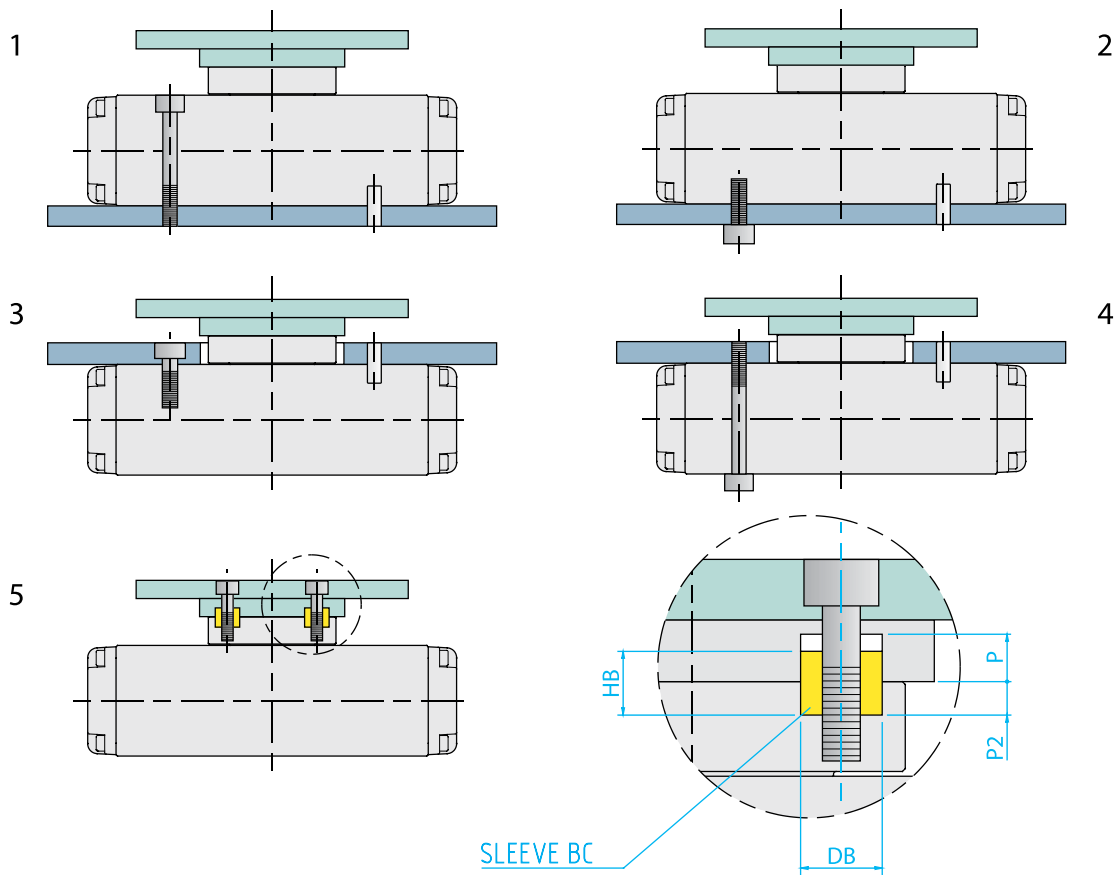
	RT-10	RT12	RT20	RT-25	Rt-35	RT-45	RT-63
	6571	6572	6573	6574	6575	6576	6577
<b>A</b>	29.75	45	49	59	71	90.5	108.5
<b>B</b>	21.75	32	39	45	57	72	90
<b>C</b>	8	10	10	14	14	18.5	18.5
<b>D</b>	∅32	∅45	∅45	∅65	∅65	∅100	∅100
<b>D1</b>	∅5	∅6	∅8	∅10	∅12	∅18	∅20
<b>D2</b>	∅7 H8	∅7 H8	∅7 H8	∅9 H8	∅9 H8	∅15 H8	∅15 H8
<b>D3</b>	∅4.3	∅5.2	∅5.2	∅6.8	∅6.8	∅10.5	∅10.5
<b>D4</b>	∅9	∅11	∅11	∅15	∅15	∅19	∅19
<b>D5</b>	M4	M4	M4	M5	M5	M8	M8
<b>D6</b>	∅3 H8	∅4 H8	∅4 H8	∅6 H8	∅6 H8	∅8 H8	∅8 H8
<b>D7</b>	M5	M6	M6	M8	M8	M12	M12
<b>D8</b>	M5	M6	M6	M8	M8	M12	M12
<b>F</b>	2.75	/	/	/	/	/	/
<b>G2</b>	23 ±0.02	31.5 ±0.02	31.5 ±0.02	50 ±0.02	50 ±0.02	76 ±0.02	76 ±0.02
<b>G3</b>	50	59	72	86	86	140	140
<b>G6</b>	50 ±0.02	59 ±0.02	72 ±0.02	86 ±0.02	86 ±0.02	140 ±0.02	140 ±0.02
<b>K</b>	M5	M5	M5	1/8	1/8	1/4	1/4
<b>L1</b>	81	108	130	162	170	230	265
<b>L2</b>	65	88	110	136	140	180	215
<b>L3</b>	38	50	65	81	100	120	150
<b>L4</b>	8	10	10	13	15	25	25
<b>L5</b>	19	25	32.5	40.5	53	64	87
<b>N</b>	10	13	16	24	28.5	37	48.5
<b>P2</b>	2.5	2.5	2.5	3	3	3.5	3.5
<b>P4</b>	6	6	6	10	10	13	13
<b>P5</b>	6.5	8	8	12	12	16	16
<b>P6</b>	3	4	4	6	6	8	8
<b>P7</b>	24.5	12	12	14	18	24	24
<b>P8</b>	24.5	12	12	14	18	24	24
<b>Q</b>	9	13	16	20.5	22	26	27
<b>R6</b>	12 ±0.02	13 ±0.02	13 ±0.02	25 ±0.02	25 ±0.02	30 ±0.02	30 ±0.02
<b>V</b>	M8x1	M10x1	M12x1	M12x1	M14x1.5	M20x1.5	M25x1.5
<b>T</b>	19	26	29.5	36.5	42.5	54.5	63.5



## Swiveling Rotary – RT

### Mounting

The swiveling unit can be fastened to a static or a moving part. When on a moving part, you must pay attention to the forces created by inertia over the unit and its load. Use the four sleeves provided in the packaging to center the rotating load on the pinion.



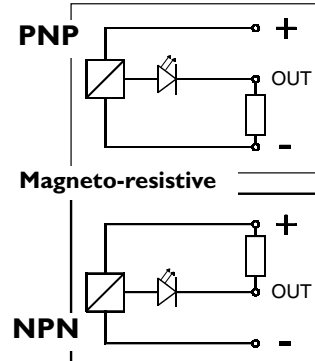
	RT-10	RT-12	RT-20	RT-25	RT-35	RT-45	RT-63
<b>BC</b>	RT-20-15		RT-35-15		RT-63-15		
<b>DB</b>	Ø7 h8	Ø7 h8	Ø7 h8	Ø9 h8	Ø9 h8	Ø15 h8	Ø15 h8
<b>HB</b>	5	5	5	6	6	7	7
<b>P</b>	3	3	3	3.5	3.5	4	4
<b>P2</b>	2.5	2.5	2.5	3	3	3.5	3.5

# Swiveling Rotary – RT

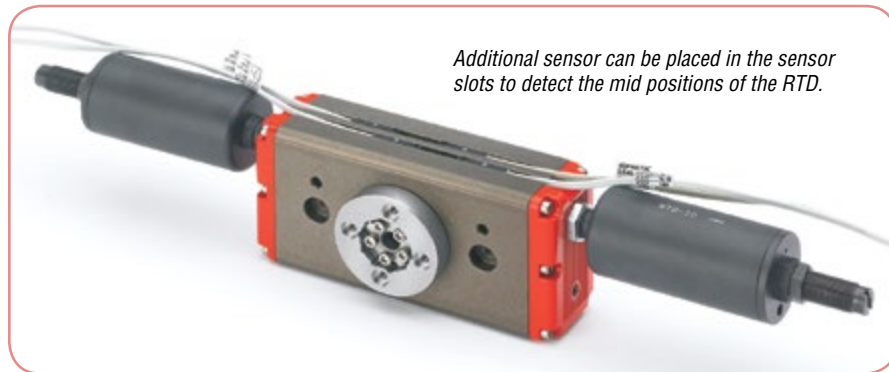
## Sensors

The operating position can be checked by magnetic sensors (optional) that detect the inner magnet. Therefore, a nearby large mass of ferromagnetic material or intense magnetic fields may cause sensing troubles.

Use Gimatic's SN or SS Type Sensors:



Quick#	Part#	Signal	Connection	Price
<b>3-wire, 90° Lead exit SN type Sensor</b>				
6278	SN4N225G	PNP	2.5m lead	\$26.14
6357	SN4M225G	NPN	2.5m lead	\$26.14
6277	SN3N203G	PNP	0.3m lead with M8 male Connector	\$29.96
6356	SN3M203G	NPN	0.3m lead with M8 male Connector	\$29.96
<b>3-wire, Straight SS type Sensor</b>				
1882	SS4N225G	PNP	2.5m lead	\$26.14
1883	SS4M225G	NPN	2.5m lead	\$26.14
6282	SS3N203G	PNP	0.3m lead with M8 male Connector	\$29.96
1884	SS3M203G	NPN	0.3m lead with M8 male Connector	\$29.96



## Swiveling Rotary – RT

### Compressed air feeding

The compressed-air feeding must be accomplished on the lateral air ports (K) with fittings and hoses (not supplied).

The compressed air must be filtered from 5 to 40µm. Maintain the medium selected at the start, lubricated or not, for the complete service life of the swiveling unit.

The pneumatic circuit must be pressurized progressively, to avoid uncontrolled movements.

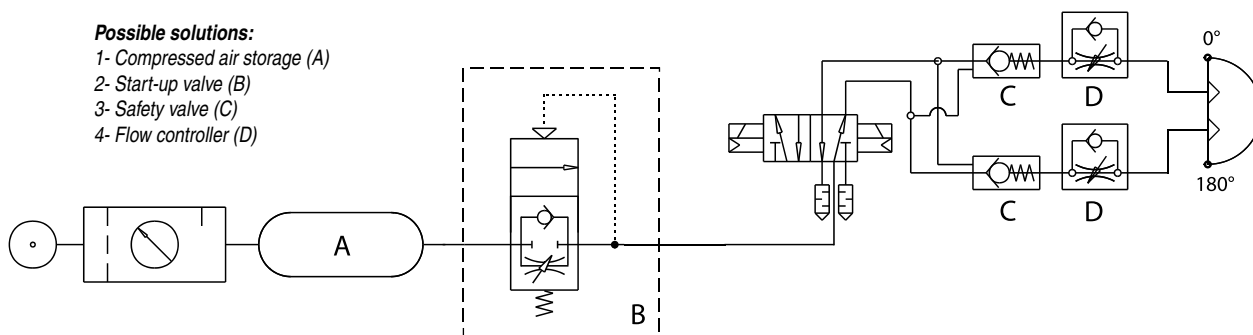
### Pneumatic circuit

**Possible problems on a compressed air circuit:**

- 1- Pressure variation
- 2- Pressurizing with empty cylinder
- 3- Sudden pressure black-out
- 4- Excessive speed

**Possible solutions:**

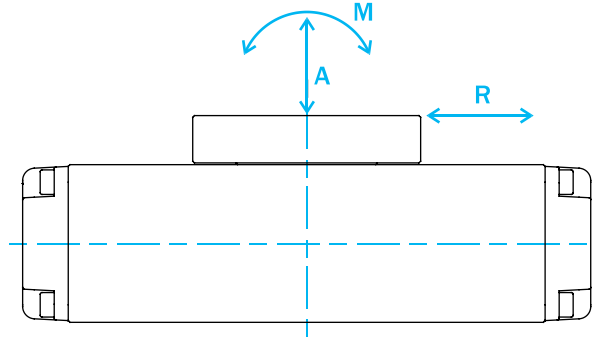
- 1- Compressed air storage (A)
- 2- Start-up valve (B)
- 3- Safety valve (C)
- 4- Flow controller (D)



## Swiveling Rotary – RT

### Safety loads

Check the table for maximum permitted loads. Excessive loads or kinetic energy can damage the unit, cause functioning troubles and endanger the safety of the operator. Use flow controllers (not supplied) to get the right speed. Periodically check the efficiency of the shock-absorbers and replace them immediately if their damping performances decrease.



**Reference:**

Force: N x 0.225=lbf

Torque: Nm x 8.850=in-lbf

Torque: Ncm x 0.089=in-lbf

Pressure: bar x 14.5=psi

See also: Sec. 21 - Engineering Design Reference

See also: Call our Engineering Department for assistance

	RT-10	RT-12	RT-20	RT-25	RT-35	RT-45	RT-63
A	232N	375N	650N	800N	800N	1075N	1550N
R	279N	450N	780N	960N	960N	1290N	1860N
M	4.7Nm	9.7Nm	22Nm	34Nm	42Nm	84Nm	143Nm

### Caution

Avoid exposing the unit to corrosive coolants, emery powder, or glowing sparks. Make sure that nobody can place his/her hand in the area of the rotating load and there are no objects on its path. The swiveling unit must not run before the whole machine, on which it is mounted, complies with the laws or safety norms of your country.

