



## Reliance Racktuator™ a Precision Rack Actuator

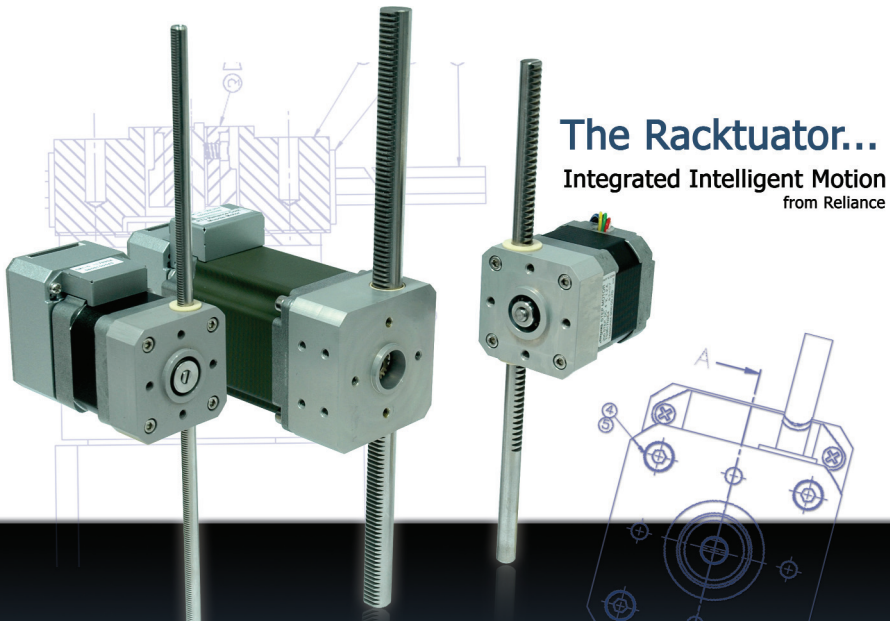
### Precision efficiency

With resolutions of greater than 1 micron and standby power consumption of less than 1.7 watts the Reliance Racktuator™ is an amazing actuation system.

Multiple variations available. Developing a peak force up to 150N and rated speeds of 300mm per second. All run closed loop with integrated 32 bit CPU, magnetic encoder and PLC. This intelligent assembly can be programmed to decide for itself where it should be at any given time and to send out continuous motion data such as speed, position and torque. The unit is fully integrated and, with the exception of the power supply, is complete. This saves space and cost, and makes system integration faster and simpler with control at the point of use. The Reliance Racktuator™ can store onboard discrete positions, speeds, accelerations, timers, torque limits and variables, all to be recalled by up to 15 separate integrated programs. It also has integrated logic banks and advance math and S curve functions for additional motion profiles.

Multiple Racktuators™ can work in sequence with each other, either to produce circles, ellipses, or complex arc motions, or in a daisy chain network such as pick-and-place machines. The Racktuator™ can be safely operated entirely on its own or communicate via RS232, RS485, Ethernet, ModBus or CanOpen; driving from its own memory banks or dynamically from a PC or HMI. It can also be integrated into a traditional stepper motor drive, being driven step and direct, or with CW/CCW pulses to bring the smoothness of an AC servo system.

Available with both solid and tubular racks, its uses are many and varied, from scientific research, to food preparation and packaging, to simple domestic installation. The assembly has a number of different mounting options for ease of mechanical installation.



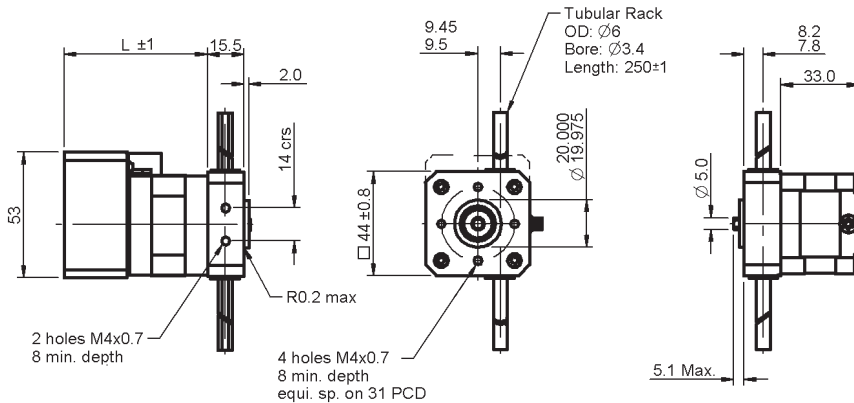
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Associated Products

Hardware: [page 13-1](#)

All dimensions in mm



Reliance Cool Muscle Motor Option

Hybrid Stepper Motor Option

## Part number selection table

Part Number	Motor	Pinion Material	L	Axial Load (N)	Momentary Load (N)	Travel Range (mm)
<a href="#">RCMRA17S-6-250-C</a>	Reliance Cool Muscle Motor <sup>1</sup>	PEEK™	60.5	3	12	200
<a href="#">RCMRA17L-6-250-C-S</a>		St Steel	76.5	15	25	
<a href="#">RRA17-6-250</a>	Hybrid Stepper Motor <sup>2</sup>	PEEK™	33.0	3	12	
<a href="#">RRA17-6-250-S</a>		St Steel	33.0	15	25	

<sup>1</sup> Reliance Cool Muscle motor option, see [pages 2-4](#) and [2-5](#) for motor details (if a pulse interface is required change -C to a -P)

<sup>2</sup> Hybrid stepper motor option, see [page 2-14](#) for motor details

## Technical information

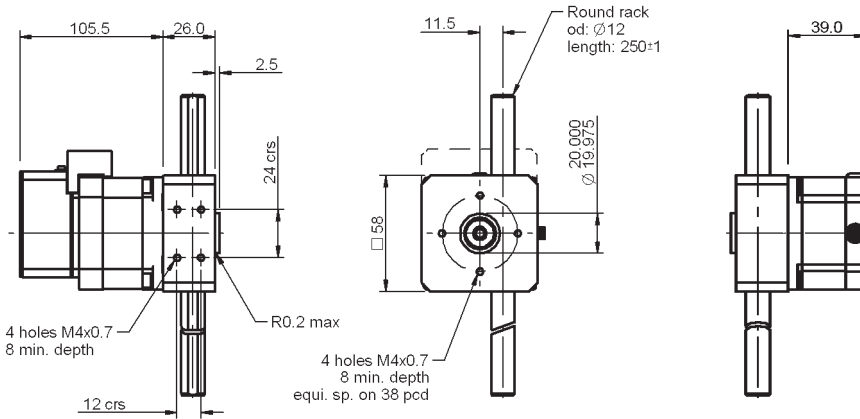
		RCMRA17 Reliance Cool Muscle	RRA17 Reliance Stepper
Resolution		0.00085mm with 50,000 steps/rev	0.21mm with 200 steps/rev
Max speed		300mm/sec	
Temperature range		Between 0°C and 40°C	Between -20°C and +50°C
Repeatability		0.025mm	
Side wobble (fully extended)		±0.2mm	
Life time		5 million cycles minimum	
Wire length		N/A	200mm
Backlash		0.08mm linear movement	
Rack material		316 grade stainless steel	
Lubrication	St Steel	PTFE based grease	
	PEEK™	Lubrication free, provides smooth quiet operation	



All dimensions in mm

Associated Products

Hardware: page 13-1



Reliance Cool Muscle Motor Option

Hybrid Stepper Motor Option

## Part number selection table

Part Number	Motor	Pinion Material	Axial Load (N)	Momentary Load (N)	Travel Range (mm)
<b>RCMRA23L-12-250-C</b>	Reliance Cool Muscle Motor <sup>1</sup>	St Steel 17-4Ph Coated	90	150	150
<b>RRA23-12-250</b>	Hybrid Stepper Motor <sup>2</sup>		90	150	

<sup>1</sup> Reliance Cool Muscle motor option, see page 2-7 for motor details (if a pulse interface is required change -C to a -P)

<sup>2</sup> Hybrid stepper motor option, please contact our sales team

## Technical information

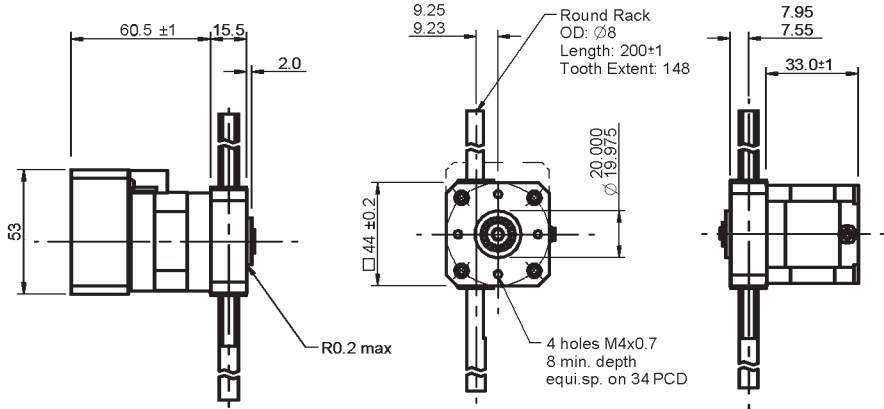
	RCMRA23 Reliance Cool Muscle	RRA23 Hybrid Stepper
Resolution	0.0008mm with 50,000steps/rev	0.2mm with 200 steps/rev
Max speed	300mm/sec	
Temperature range	Between 0°C and 40°C	Between -10°C and +50°C
Repeatability	0.012mm	
Side wobble (50mm from housing)	±0.2mm	
Life time	5 million cycles minimum (Based on 40mm stroke)	
Wire length	N/A	200mm
Backlash	0.06mm linear movement	
Rack material	440B grade stainless steel	
Lubrication	PTFE based grease	



Associated Products

Hardware: [page 13-1](#)

All dimensions in mm



Reliance Cool Muscle Motor Option

Hybrid Stepper Motor Option

## Part number selection table

Part Number	Motor	Pinion Material	Axial Load (N)	Momentary Load (N)	Travel Range (mm)
<b>RCMRAK17-8-200-C</b>	Reliance Cool Muscle Motor <sup>1</sup>	St Steel 304	25	50	100
<b>RRAK17-8-200</b>	Hybrid Stepper Motor <sup>2</sup>		25	50	

<sup>1</sup> Reliance Cool Muscle motor option, see [page 2-4](#) for motor details (if a pulse interface is required change -C to a -P)

<sup>2</sup> Hybrid stepper motor option, see [page 2-14](#) for motor details

## Technical information

	RCMRAK17 Reliance Cool Muscle	RRAK17 Reliance Stepper
Resolution	0.00075mm with 50,000steps/rev	0.19mm with 200 steps/rev
Max speed	500mm/sec	
Temperature range	Between 0°C and +40°C	Between -20°C and +50°C
Repeatability	0.025mm	
Side wobble (fully extended)	±0.29mm	
Life time	5 million cycles minimum	
Wire length	N/A	200mm
Backlash	0.08mm linear movement	
Rack material	304 grade stainless steel	
Lubrication	PTFE based grease	