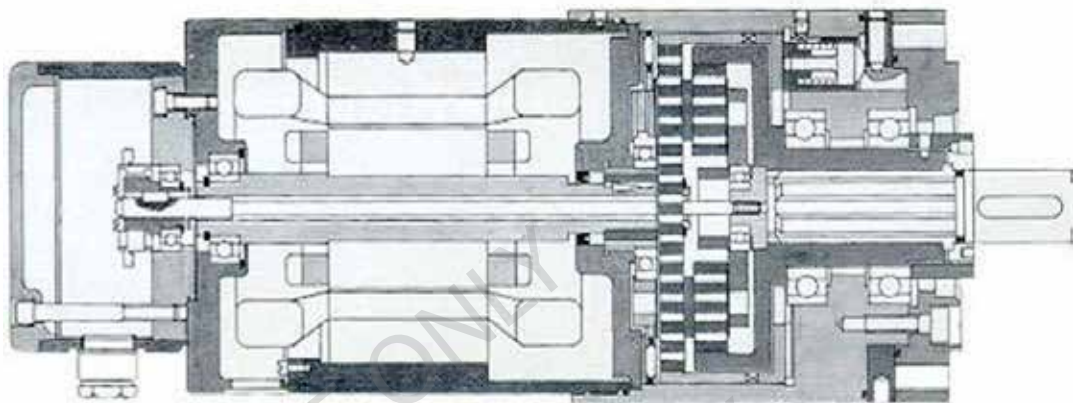




# STATIONARY ELECTRO MECHANICAL ACTUATOR WITH ROTARY OUTPUT MODEL - ST





The GMT Electro Mechanical Actuator Model-ST is available in two Sizes 120 & 150.

These Stationary Electro Mechanical Actuators are used for:

- Actuating Machine Vices used on Milling Machines (Refer Fig, 1) or on facing and centering machines.
- Clamping and Declamping of components on jigs and fixtures used on special purpose machines.
- Feed drives for drilling machines.

#### OPERATION:

Stationary Electro Mechanical Actuators are equipped with a 100% duty cycle motor.

When power is switched on, the rotor shaft rotates at the rated speed. The torque passes from the pinion fixed to the rotor shaft, via double planet gears fitted in a cage. This cage is supported at both ends on ball bearings.

The drive going through the pinion can go either through the internal notched gear or through the internal output gear.

Rotation of the notched gear is blocked by shells and springs, compressed by the face cam on the graduated collar through a radius pressure piece. The spring forces a double angled shell into the tapered slot on the slotted ring.



Fig:1

This slotted ring is coupled to the notched gear by the dogs. As this slipping clutch is blocked, the drive goes through the output gear.

This output gear provides a large ratio of reduction and consequently, delivers a large increase in the torque.



For setting the required torque in the EMA, the grub screw in the cam ring is loosened. A 6mm rod is inserted in the hole provided in the cam ring. The cam ring is rotated until the torque

indicating mark coincides with the reference line in the housing. The grub screw is tightened. The system is now set to the required torque.

#### PERFORMANCE DETAILS

Model		07-14						07-15					
Size		120						150					
Clamping Torque	Nm	100	100	70	50	40		200	200	170	130	100	
Operating Speed	RPM	37	65	100	136	174		37	65	100	136	174	
Weight	Kg	17						24					
Volt	V	415						415					
Current	A	0.8						1.4					
Motor Power	Kw	0.4 5						0.8					
Frequency	Hz	50						50					
Duty cycle	ED	100%						100%					

Shaded Sizes Are Standard

These actuator models 120 and 150 are offered with the following output shafts:

Type A: Spline output shaft.

Type C: Plain shaft with keyway.

These actuators can be offered with a 40% duty cycle motor on request. Switching cycles per hour should not exceed 250.

#### CLAMPING AND DECLAMPING RATIOS:

The clamping and declamping ratios offered in model ST are 1:2, 1:2.5 and 1:4

These ratios are achieved by maintaining the angle of the shell in the declamping direction steeper than the angle in the clamping direction.

#### CONTROLS:

GMT offers two types of controls to operate these models of EMAs:

##### 1. SIMPLE CONTROL:

When the foot switch is pressed the motor starts

rotating in clockwise direction for clamping and in anticlockwise direction for declamping. When the preset torque is reached, the actuator emits an audible 'click - click' sound. This indicates that clamping is complete.

##### 2. SWITCH OFF DEVICE: - ASSTD

The switch off device with control panel ensures:

Auto shut off when the set clamping force is reached

Reliable repetitive clamping force.

Machine starts only after job is fully clamped

Actuator/ Machines interlock

Operator safety

Low cost automation feasible

Interfacing of EMA Switch Off Device with the Machine Control Panel feasible.



### Guindy Machine Tools Limited

214, Velachery-Tambaram Main Road, Pallikaranai, Chennai-600 100, INDIA

Tel.: +91-44-22460627 / 28 / 29 Sales Dept.: +91-44-22460811 / 12

Fax. : +91-44-22460112 / +91-44-22460317

E-Mail : gmt@gmt.co.in Web : www.gmt.co.in