ACTUATION | COMMON ELECTRO-HYDROSTATIC ACTUATORS

COMMON ELECTRO-HYDROSTATIC ACTUATORS (CEHA)



Electrohydrostatic Actuators (EHAs) are fully self-contained actuation systems that combine design elements from electric and electrohydraulic actuation. They receive power from an electric source and transform an input command signal into motion. The systems main components are a servomotor, hydraulic pump, accumulator and hydraulic ram.





PERFORMANCE ADVANTAGES OF EHAs FOR LAUNCH VEHICLES

- Ease of vehicle integration
- Reduced maintenance and operating costs
- Simplified pre-launch checkouts
- Low quiescent power draw





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SPECIFICATIONS		
Parameter	Type III CEHA	Type V CEHA
Mass	450 lbs	420 lbs
Supply Voltage	280 V	280 V
Supply Current (max)	400 Apk	400 Apk
Output Power	50 Hp	36 Hp
Rated Rate	7.7 in/sec no load 6.35 in/sec at 53,000 lbf	16 in/sec no load 12 in/sec at 20,300 lbf
Stall Force	70,000 lbf	34,000 lbf
Impulse Load	77,000 lbf	37,400 lbf
Ultimate Load	96,250 lbf	46,750 lbf
Infinite Frequency (>24 Hz) stiffness	345,000 lb/in at 200° fluid temperature	180,000 lb/in at 200° fluid temperature
Operating Temperature	+15° to +140° F	+15° to +140° F
Stroke – Extended	8.724 in	9.493 in
Stroke – Retracted	7.887 in	7.474 in
Null Length	56.5 +/- 0.1 in	56.5 +/- 0.1 in

LOAD RATE TABLES

Common EHA TVC Type III: Load Rated Curve



Common EHA TVC Type V: Load Rated Curve





For More Information: Chet Crone +1.818.576.6823 ccrone@moog.com





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