THIS IS *FORCE* COMMAND™

A groundbreaking innovation in electro-hydraulic linear actuator (EHA) technology

Parker

ENGINEERED FOR MOBILE, CONSTRUCTION AND AGRICULTURE

Parker *FORCE* Command™ offers unparalleled speed, durability, power density, control and lifespan

Introducing *FORCE* Command, a revolutionary innovation in electro-hydraulic linear actuator (EHA) technology. Specially engineered for the mobile construction and agriculture markets, *FORCE* Command offers unparalleled speed, durability, power density, control and lifespan; all in an easy installed 'plug-and-play' mount energized by a simple 24V or 48V DC power source.

This is *FORCE*

Fluid power density is a crucial distinguishing feature of electro-hydraulic linear actuators. *FORCE* Command is no exception. Expanding on the *FORCE* Series EHA, formerly known as the Compact EHA, *FORCE* Command has an extend force of up to 9,400 lbf (41.8 kN) and a retract force of up to 7,000 lbf (31.1 kN); nearly double the force capability of the *FORCE* Series EHA.

This is COMMAND

FORCE Command features both CANOpen and J1939 protocols providing programming capabilities to take full control of the EHA. Parameters include the speed and acceleration of the EHA, as well as full condition monitoring with parameters like the motor speed, motor temperature and voltage of the EHA.

This gives the innate ability to be able to monitor the EHA in real time while also being able to fine tune the EHA to provide the optimal power saving on energy costs.

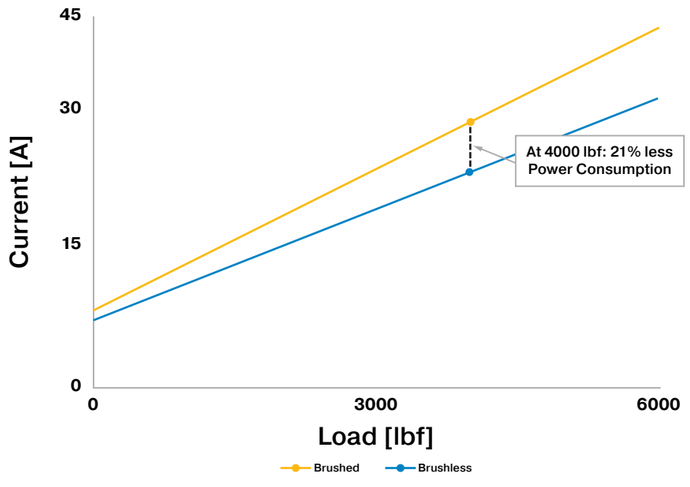
Absolute position sensing can be achieved using a new innovative non-contact position sensor. This new position sensor is easily installed onto the side of *FORCE* Command giving full closed-loop position sensing capability throughout the entire stroke of the EHA.

DEPENDABLE PERFORMANCE

In the emerging electrified world, energy savings are essential, Parker *FORCE* Command™ delivers

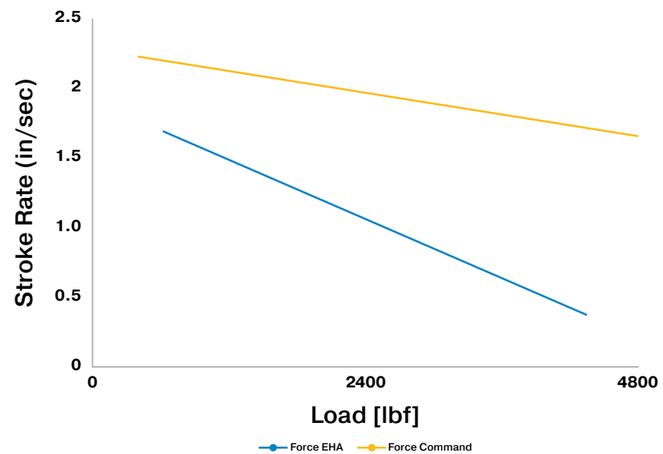
This is Efficiency

Power consumption is a critical consideration in the emerging electrified world. Increased power usage depletes batteries faster, reducing uptime and productivity. To address this, *FORCE* Command incorporates a brushless DC motor with an integrated controller. This advanced motor uses less power than traditional brushed motors, while the controller allows for complete tuning of applications to optimize performance.



This is Speed

Speed is a critical factor in selecting the appropriate actuator for a given application. The quicker the EHA can actuate, the faster tasks can be completed. With *FORCE* Command, productivity is set to enhance significantly. Equipped with larger hydraulic pumps, *FORCE* Command can extend at a rate of up to 2.2 in/s and retract at a remarkable 4.0 in/s, representing a 46.8% increase in speed compared to the *FORCE* EHA.



This is Durability

FORCE Series EHA gained recognition for its ability to endure a variety of harsh environments. *FORCE* Command™ is poised to maintain that standard by skillfully performing in the most extreme conditions. *FORCE* Command has been designed to meet military-grade vibration and shock standards, ASTM salt spray specifications and the IP67 water ingression rating, ensuring its preparedness for a diverse range of applications.

This is Simplicity

FORCE Command features Parker's Simple by Design® philosophy, incorporating a two-piece housing comprising the manifold and cylinder extrusion. This innovative design enables a versatile range of stroke lengths from 6 to 18 inches.

Additionally, the rod end and base mount are engineered to comply with NFPA standards, facilitating easy installation and interchangeability of cylinder accessories. This adaptability allows manufacturers and distributors to seamlessly integrate *FORCE* Command into a broad spectrum of applications.

SPECIFICATIONS

Actuator

Type	hydraulic, double-acting
Bore sizes	38.1 mm (1.5 in), 50.8 mm (2 in)
Standard stroke lengths	152mm (6 in), 203mm (8 in), 254 mm (10 in), 304 mm (12 in), 355 mm (14 mm), 406 mm (16 in), 457 mm (18 in)
Piston rod diameters	19.1 mm (0.75 in), 25.4 mm (1 in)

Motor

Motor types	24 VDC 1 kW Brushless J1939/CANOpen
	48 VDC 1kW Brushless J1939/CANOpen

Pump

External Gear Pump, Reversible

Fluid medium Automatic Transmission Fluid (ATF)

Circuit

Hydraulic circuits located on page 5

Certification and Testing

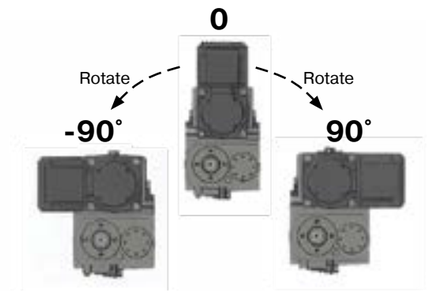
Operating Temperature	-30°F to 150°F
Storage Temperature	-40°F to 150°F
Vibration Resistance	MIL-STD-810G
Sealing	IP67
Corrosion Resistance	500-hour salt spray test per ASTM B117
	For other application-specific approvals, please consult the factory.

Performance

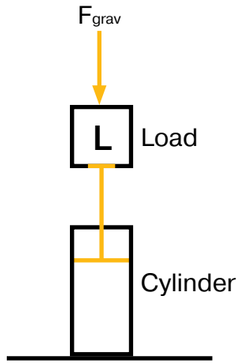
Maximum Extend Force	41.8 kN (9400 lbf)
Maximum Retract Force	31.1 kN (7000 lbf)
Maximum Extend Speed	56.6 mm/sec (2.2 in/sec)
Maximum Retract Speed	101 mm/sec (4.0 in/sec)

General

Motor Orientation	0° (Std), 90°, -90° (Angle is from rod end)
Manual release option	Standard
Weight	35 – 45 lbs

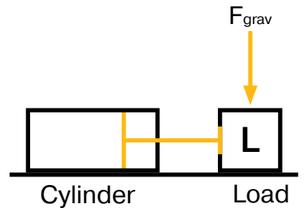


HYDRAULIC CIRCUIT DETERMINATION



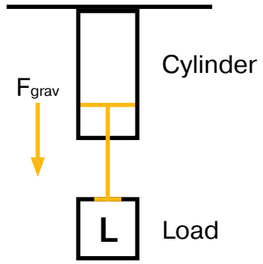
L Circuit

The L Circuit is engineered for force actuation during extension with gravity serving as the primary force in retraction. This design is particularly suited for vertical lifting applications.



B Circuit

The B Circuit is designed to provide force actuation for both extension and retraction movements.
This circuit is ideal for horizontal actuation applications where gravitational force is not a factor. The B circuit can also be used when a faster retract speed is desired.



C Circuit (Counterbalance)

The counterbalance circuit is primarily designed for applications involving tension loads when the actuator is oriented downwards. It is also applicable in scenarios where the load may shift over center, potentially leading to a runaway load situation. The counterbalance valve improves safety and stability during operations, ensuring the load remains secure.

Float Circuit

The Float Circuit is specially designed for use in agriculture, construction and snow removal applications involving vehicle attachments. This circuit allows the attached device to remain in position by absorbing the shock of any imperfections such as rocks, stumps or tree roots. This functionality ensures that the attachment maintains a consistent level relative to the ground.

Application: PARKER *FORCE* Command™ (Electro-Hydraulic Linear Actuator)

Company: _____ Date: _____

Name: _____ Phone: _____

Email: _____ Fax: _____

End Customer and Location: _____ Government/Military Customer? **Yes** or **No**: (circle one)

Application _____

What is the specific task to be performed by the EHA?: _____

In EXTEND: Operating Force: _____ **N** or **LBS:** (circle one) Operating Rate: _____ **mm/s** or **inch/s:** (circle one)

In RETRACT: Operating Force: _____ **N** or **LBS:** (circle one) Operating Rate: _____ **mm/s** or **inch/s:** (circle one)

Is the EHA pushing, pulling, or performing both actions on the load?: _____

Orientation of the EHA rod end? **UP DOWN** or **SIDEWAYS** (circle one)

DUTY CYCLE: Cycles/day: _____ Time between cycles: _____ Product life requirement: _____

Maximum Allowable Current? _____ Amperes Operating Temperature Range: _____ To _____ **C** or **F**: (circle one)

Potential for Side Loading? **Yes** or **No**: (circle one) Exposure to Vibration? **Yes** or **No**: (circle one) Shock Loading? **Yes** or **No**: (circle one)
If Yes, please explain: _____

Additional Information

Annual Usage: _____ Prototype Date: _____ Production Start Date: _____ Target Price: _____

Components Being Replaced: _____ New Design? **Yes** or **No**: (circle one)

PLEASE PROVIDE DRAWINGS/DIAGRAMS OF THE APPLICATION and ANY OTHER HELPFUL INFORMATION

PARKER *FORCE* Command™ Model Code Matrix

E	12	0	L	–	A	4	P	0	20	10	–	M	EDF	–	A	N
EHA	Stroke Length		Circuit		Manual Release	Pump Size	Integrated Brushless Motors	Motor Orientation	Extension Force	Retraction Force		Base End Configuration	Rod Configuration		Position Feedback	Options

EHA
E

Stroke Length	
06	6.00”
08	8.00”
10	10.00”
12	12.00”
14	14.00”
16	16.00”
18	18.00”

Circuit	
L	LL
B	LB
F	Float
C	Counterbalance

Manual Release	
A	Standard

Pump Size	
Code	Displacement
2	0.190
4	0.327
5	0.500
6*	0.650 **Coming 2026**

**Only with 48VDC BLDC*

Integrated Brushless Motor			
Code	Type	kW	Protocol
P	24 VDC Brushless	1	J1939
Q	24 VDC Brushless	1	CANOpen
X	48 VDC Brushless	1	J1939
Y	48 VDC Brushless	1	CANOpen

** Motors come standard with Analog Output*

Motor Orientation	
Code	Angle
0	0° Standard
1	-90°
2	90°

Angle from rod end

Extension Force (In lbf)
09
94

Retraction Force (In lbf)
09
70

Base End Configuration			
Code	Style	Hole Size	Angle
L	Male Flange	0.750”	0°
M	Male Flange	0.750”	90°
N	No Flange	--	--

Rod Configuration				
Code	Bore Dia.	Style	Rod Dia.	Rod End Thread
DCV	1.5”	#4 Short Male	0.75”	7/16-20
DDF		#4 Short Male	1.00”	3/4-16
EDF	2”	#4 Short Male	1.00”	3/4-16

Position Feedback	
A	Absolute Position Sensor
P	Prepared for Reed Switch
N	No Position Sensing

Options	
N	Standard

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