



# blac inc.

BLACK LIMITED ADVANCED CONTROLS

## Viper Actuators

**BLAC INC. Viper Series Actuators – Electric Servo Mechanical Actuators** are designed for both modulating and on-off applications. The Viper Series actuators utilize a bi-directional motor control to operate a linear output cylinder drive with zero backlash when changing directions.

The Viper design applies the BLAC INC. patented hydraulic actuator cylinder rod seal to prevent contamination of the drive cylinder internals. The motor controller uses position feedback to indicate the controlled position while continuously maintaining the valve command position.

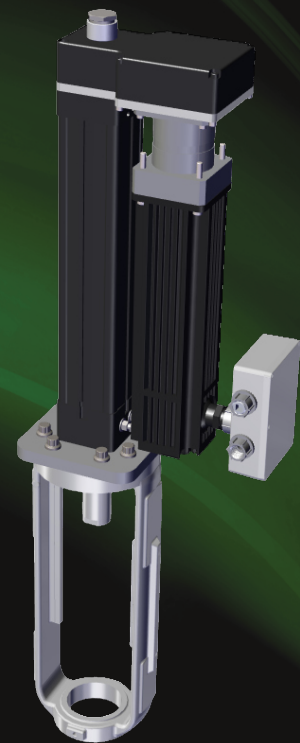
Since 1990, BLAC INC. has provided consistent reliability through product strength and durability that far surpasses the competition. Wide functionality includes the ability to be used in virtually any application or environment with considerable options and arrangements available. BLAC INC. delivers by balancing a flexible design while meeting budgetary concerns.

### Viper Features

- Precise modulating control
- Positioning control, accuracy, linearity and repeatability of <0.1% stroke under a varying load
- All-electric actuator without gears
- Linear rising stem and quarter turn actuators
- Fail in position with zero drift
- Fail to end of stroke position by spring or by UPS supplied system
- On-Off applications
- Can be wired to replace MOV applications
- All worldwide electrical hazardous area classification
- Corrosion free construction materials of stainless steel and anodized aluminum
- Mounts in place of a pneumatic or hydraulic cylinder
- Performs equivalent to electro-hydraulic actuators

### Data Sheet

Command Signals	4-20 mA, On-Off Digital
Feedback Signals	4-20 mA
Normal Thrust	2000 lb <sub>f</sub> (8896 N) to 80000 lb <sub>f</sub> (355680 N)
Normal Torque	3000 lb-in (339 N-m) to 750000 lb-in (84765 N-m)
Stroking Speed	See BLAC INC. website
Hysteresis/Linearity/Repeatability	0.1% of Span (under load)
Sensitivity/Dead Band	0.1% of Span (under load)
Ambient Conditions	-40 to 130°F [-40 to 54°C]
Area Electrical Classification	IECEX, ATEX and NEC
Actuator Travel	1½ to 48 in. (38 to 1220 mm)
Motor Voltage Primary	220-600 VAC, 3 Phase
Motor Voltage Option	115/230 VAC, 1 Phase
Instrument Power	24 VDC or 110/220 VAC, 1 Phase



**Viper Linear Drive  
for Rising Stem Valve**

## Linear Thrust

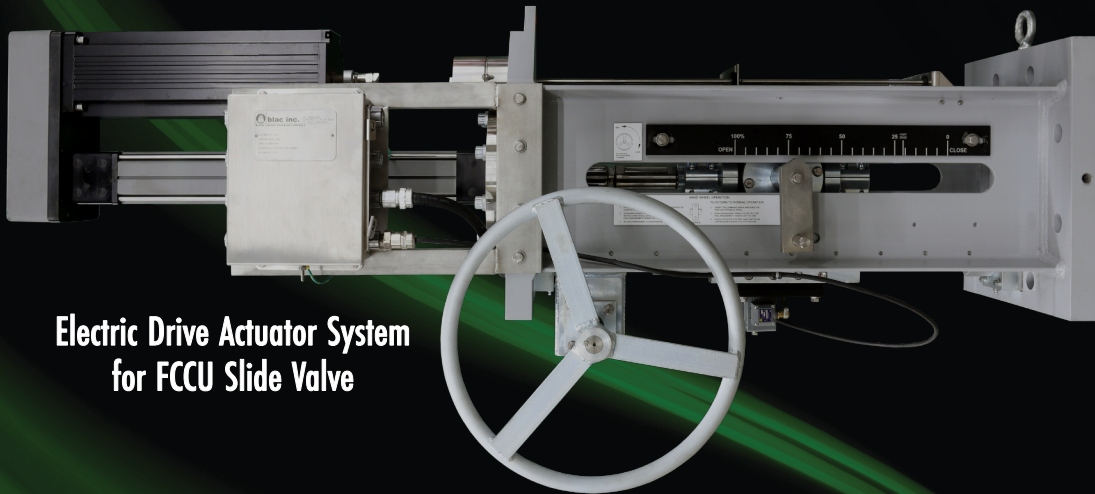
Drive Size	Thrust Max lb <sub>f</sub> [N]
30	2500 [11115]
45	5500 [24465]
60	10000 [44460]
80	30000 [133380]

See BLAC INC. website for available sizes, stroke speed and thrust

## Quarter Turn Torque

Drive Size	Output Torque lb-in [N-m]
30 R	10000 [1130]
45 R	33000 [3730]
60 R	60000 [6780]
80 R	195000 [22040]

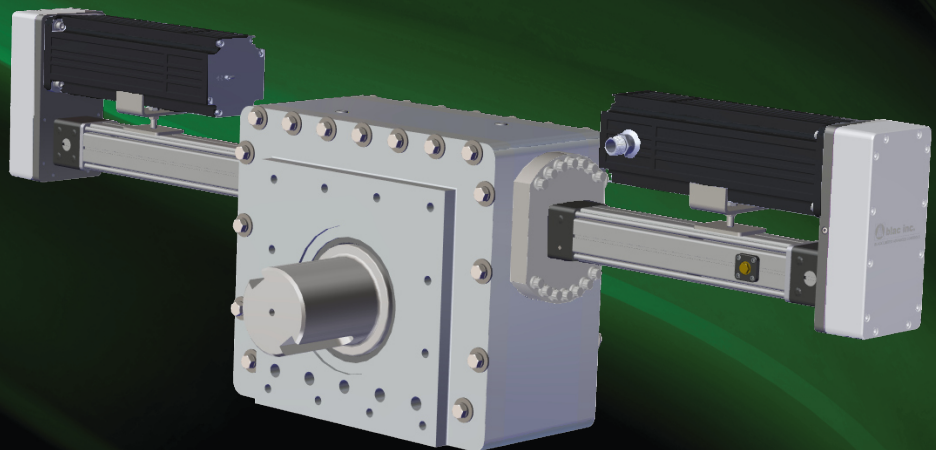
See BLAC INC. website for available sizes, stroke speed and torque



**Electric Drive Actuator System  
for FCCU Slide Valve**



**Electric Drive Actuator System  
for FCCU Catalyst Withdrawal Valve**



**Double Viper Drives  
for Quarter Turn Actuator**