



# blac inc.

BLACK LIMITED ADVANCED CONTROLS

## Pantera™ Actuators

BLAC INC. Pantera™ Series electro-hydraulic actuators are designed for both modulating and on-off applications.

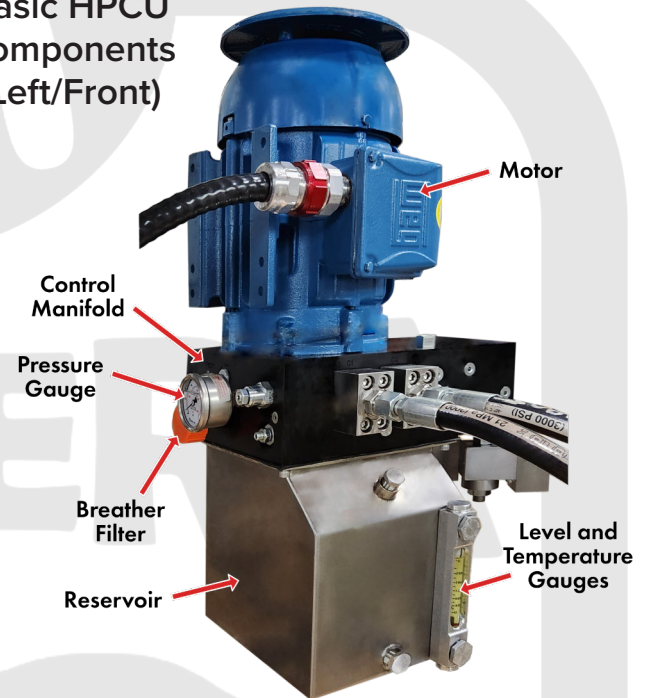
The Pantera Series self-contained hydraulic power and control unit may be mounted directly to the cylinder or located remotely with hose connections to the cylinder.

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.

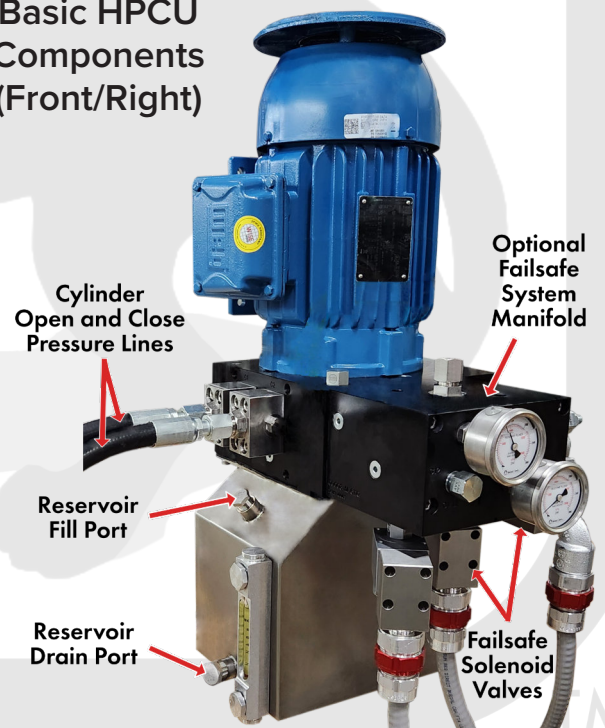
### Pantera Features

- Precise modulating control
- Positioning control, accuracy, linearity and repeatability of <math><0.1\%</math> stroke under a varying load
- Linear rising stem and quarter turn actuators
- Simple construction and hydraulic circuit
- Fail in position with zero drift
- Motor, pump, reservoir, filter and control manifold in single compact unit
- All worldwide electrical hazardous area classifications
- On-Off applications
- Can be wired to replace MOV applications
- High efficiency of 90% power delivered to valve stem compared to 40-45% for electric type gear actuator
- Corrosion free construction materials of stainless steel and anodized aluminum
- Pressure gauges for cylinder ports indicating thrust and torque
- Optional handpump and directional valve for manual operation

### Basic HPCU Components (Left/Front)

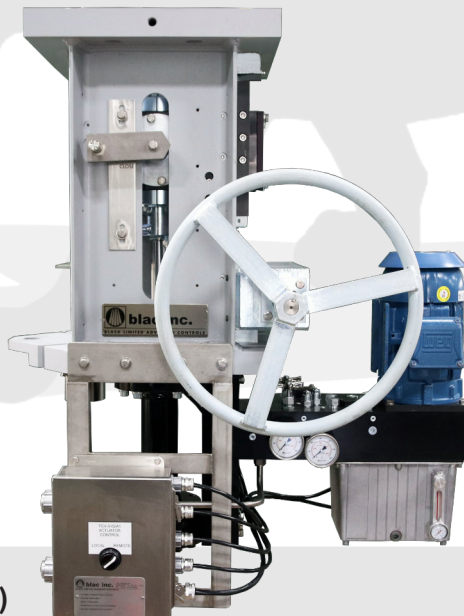


### Basic HPCU Components (Front/Right)



### Self-Contained Actuator System

(mounted below valve stem)



## Linear Thrust

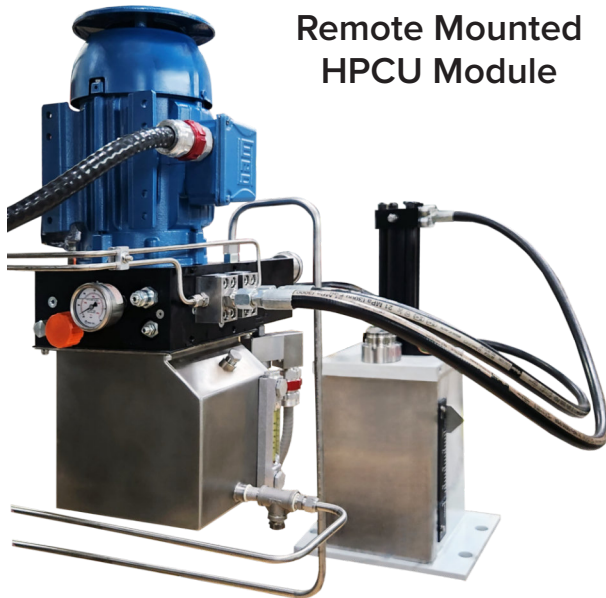
Cylinder Bore in. [mm]	Thrust Max, lb <sub>f</sub> Retracting / Extending	Thrust Max, N Retracting / Extending
2.5 [65]	10270 / 14730	45700 / 65500
3.25 [85]	19586 / 24887	87100 / 110700
4 [100]	30483 / 37699	135600 / 167700
5 [125]	49480 / 58905	220100 / 262000

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

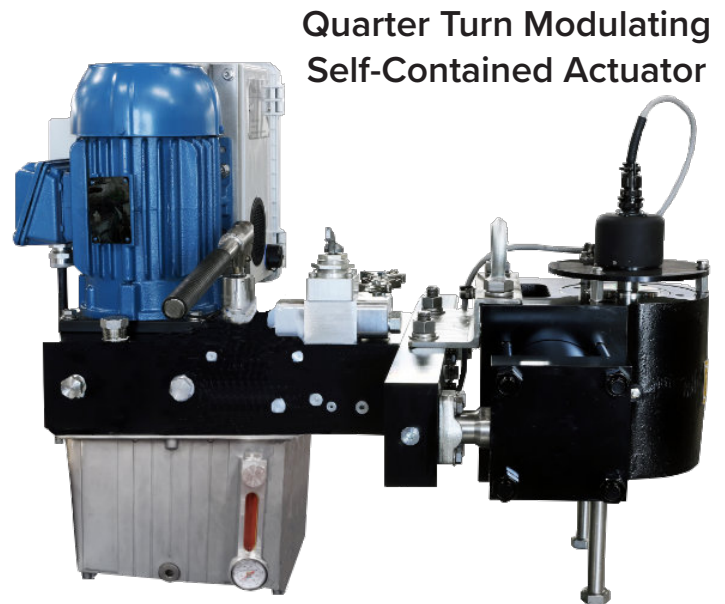
## Quarter Turn Torque

Cylinder Bore in. [mm]	Output Torque lb-in [N-m]
1.5 [40]	3300 [373]
2.5 [65]	15000 [1695]
4 [100]	50000 [5650]
6 [150]	200000 [22600]

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



Remote Mounted  
HPCU Module



Quarter Turn Modulating  
Self-Contained Actuator

## 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 125000 lb <sub>f</sub> (558670 N)
Normal Torque	1000 lb-in (115 N-m) to 750000 lb-in (84765 N-m)
Stroking Speed	Up to 1 in./sec (25 mm/sec)
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)
Pump Type	Positive Displacement
Motor Sizes Available	¼ to 2 HP [0.19 to 1.5 kW]
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

