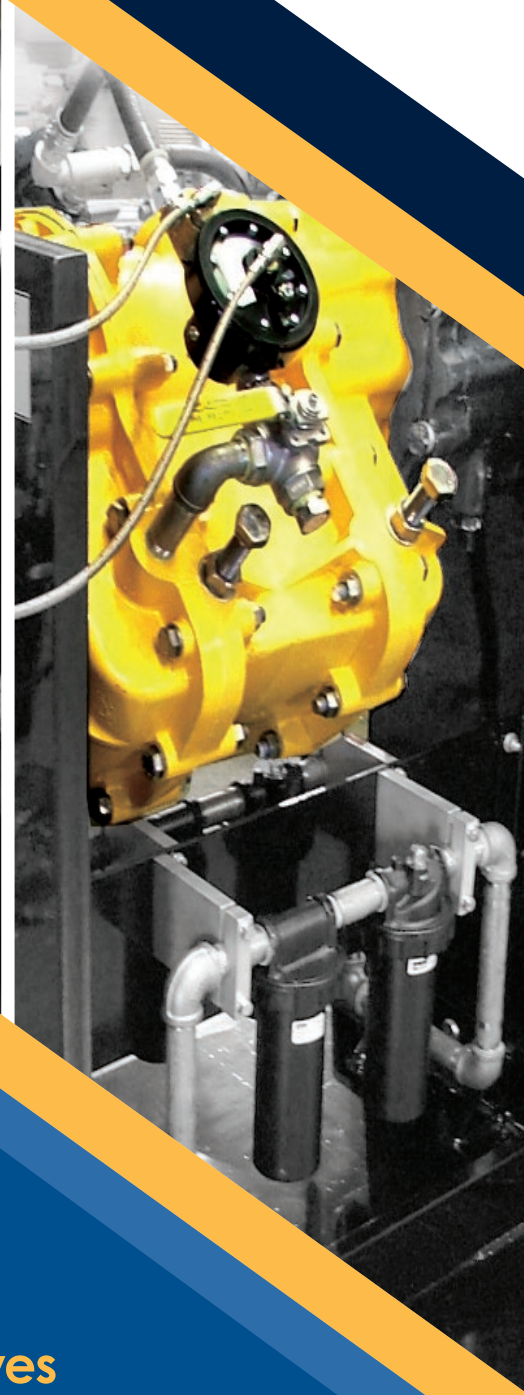
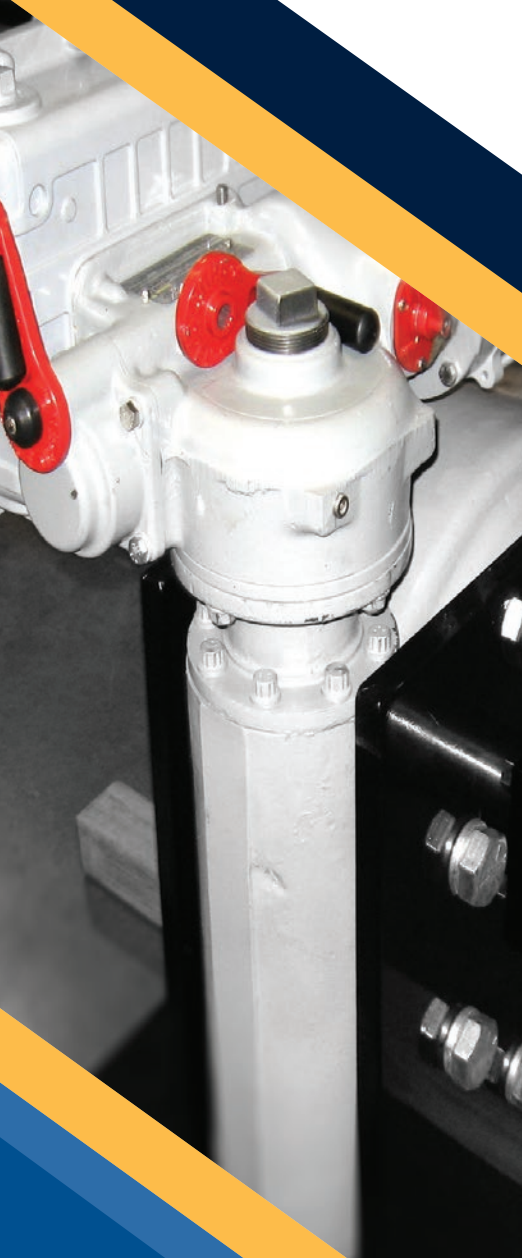




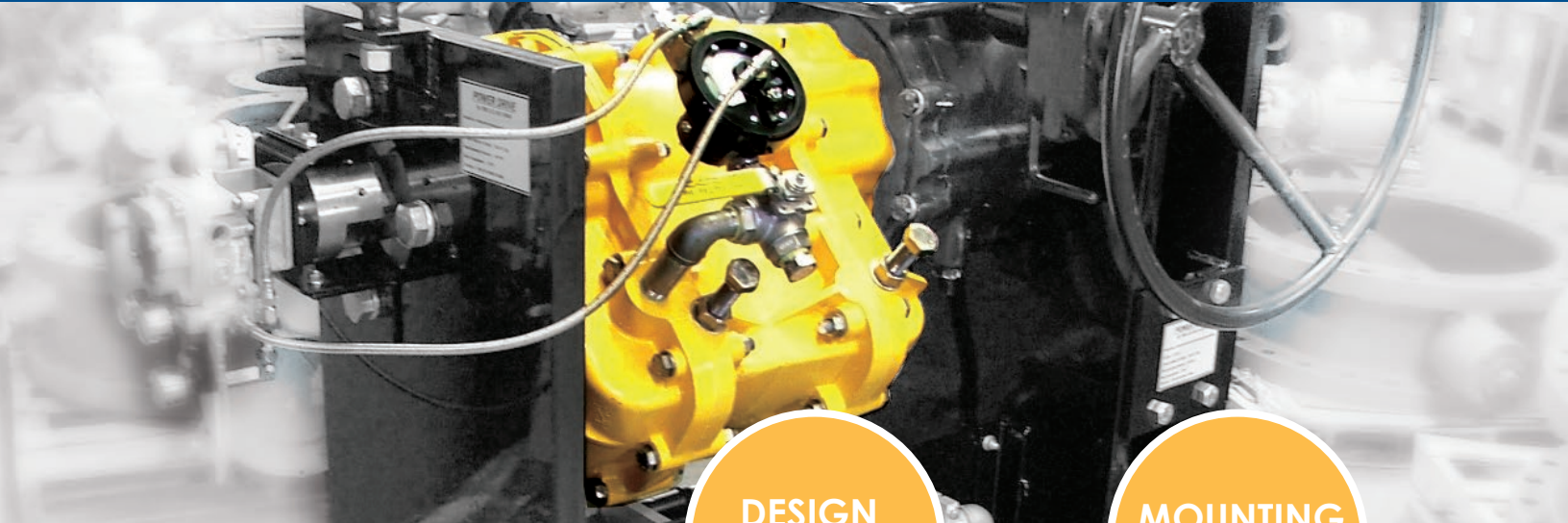
Power Drive®

Pneumatic
Electric
Electro-Hydraulic



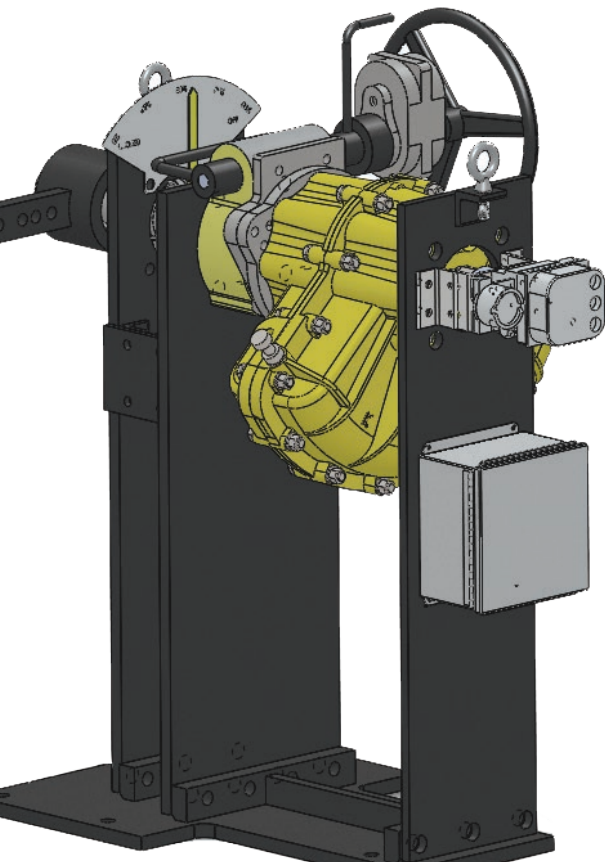
**The Solution
for Controlling
Dampers & Valves**

Power Drive® by TRIVACO



DESIGN FEATURES

The Power Drive design assures high quality and structural soundness.



- Lower torque output units utilize a stand design; large units have a frame design
- Designs completed in a 3D full-scale modeling program
- Stainless steel drive shaft is supported by a flanged bearing to eliminate actuator side loading
- Lever arm position is infinitely adjustable, both radially and axially, through the use of the taper lock device
- Field retrofits are designed to be a direct replacement of the existing drive unit, ensuring exact interchangeability. Simply remove the old unit, bolt in and connect the Power Drive
- Change out is simple: unbolt and disconnect the linkage and power of the old unit, inspect the linkage for reuse, then install the new Power Drive

MOUNTING OPTIONS

- Pedestal mount
- Frame mount (larger torque requirement)
- Direct mount
- Offset mount (smaller torque requirement)



Pedestal



Frame



Direct



Offset



BEFORE



AFTER

The design of the field retrofit unit ensures exact interchangeability with the unit being replaced.



Frame/floorstand is carbon steel powder coated; also available in stainless steel



Flanged bearings support the drive shaft



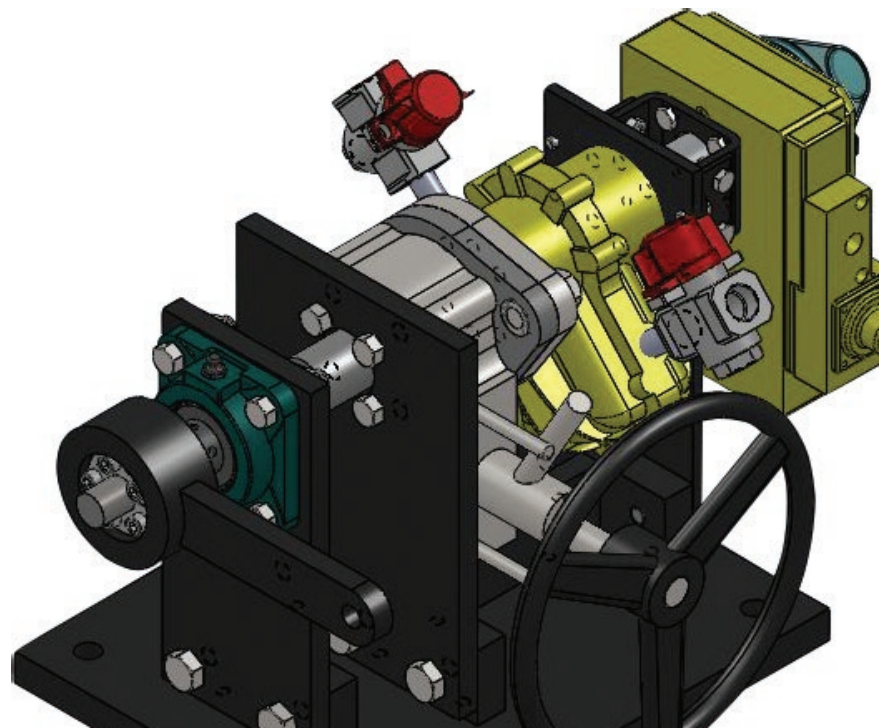
The lever arm taper lock allows infinite adjustment unlike a splined connection



The lever arm is infinitely adjustable (both radially and axially)



Teflon tubing stainless steel braided with stainless steel fittings; vent valves for manual operation







Power Drive® Testing

The Power Drive is designed, manufactured, assembled and tested in our facility. After the shop receives the design drawings the parts are machined to the required dimensions, holding the design tolerances. Once assembled the mechanical stops are adjusted, limit switches are set, and positioners and transmitters are calibrated.



Power Drive® Applications

- Combustion air distribution & control
- Primary air and secondary air
- Nitrous oxide reduction/gas proportioning
- Flue gas bypass/recirculation
- Air heater gas inlet
- Boiler feed pump speed control
- Windbox fuel air and auxiliary air drives
- FD fans
- ID fans
- Mill/Pulverizer drives
- Primary air fans
- Combustion turbine air inlet guide vane/exhaust gas dampers
- Stack dampers
- Sofa dampers
- Sofa tilts
- CCOFA
- Burner tilts

Pneumatic Damper Drive

The Pneumatic Power Drive is custom designed to provide accurate control and long life performance. It includes a variety of positioners to choose from, based on your plant standards, with standard optional features such as limit switches and manual overrides with handwheel.

Machined to required dimensions to hold design tolerances, the Pneumatic Drive provides years of maintenance free service. Field retrofits are designed to match the critical dimensions of the old drive unit for easy replacement installation. Simply remove the old unit, bolt in and connect the Power Drive.

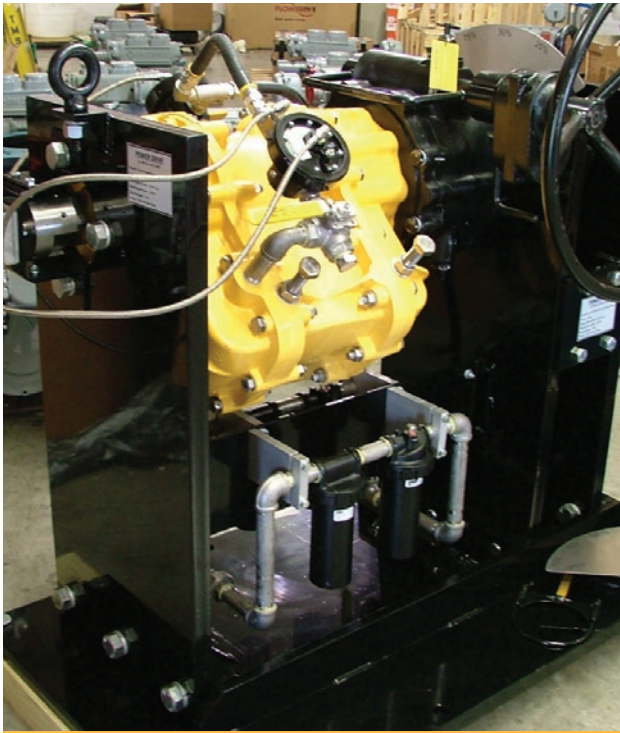
Pneumatic Power Drive® Features

- Mode of force: Kinetrol vane style actuator high performance pneumatic actuator
 - ✓ Kinetrol pneumatic vane = true rotary actuator
 - ✓ Features a single moving part for quarter-turn rotary actuation
 - ✓ Variety of models available to meet pneumatic vane actuator application needs
 - ✓ 16 Double Acting actuator models with torque outputs up to 14,000 ft-lbs
 - ✓ Durable, long-life epoxy stove enamel finish
 - ✓ Corrosion resistant alloy case, providing a long maintenance-free life
 - ✓ Easy stop adjustment at each end of the stroke
 - ✓ Double opposed lip seals
- Carbon or stainless steel mounting hardware, support columns/frame and lever arm
- Stainless steel drive shaft supported by flanged bearings
- Infinitely adjustable lever arm (both radially and axially)
- Teflon tubing shielded with braided stainless steel
- Stainless steel fittings
- Superior positioning accuracy, typically within 1/4% of supply signal
- Available in spring return mechanical 'fail' position, linear double acting or spring return

Pneumatic Power Drive® Accessories

- Linkage
- Manual override
- Fail freeze / fail last
- Local indication
- Limit switch
- Vent valves, lockable
- Volume boosters
- Spring return
- Locking plate
- Dual lever arm

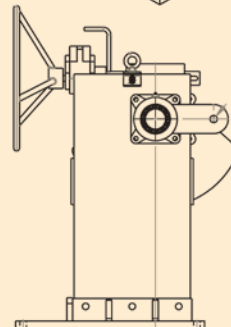
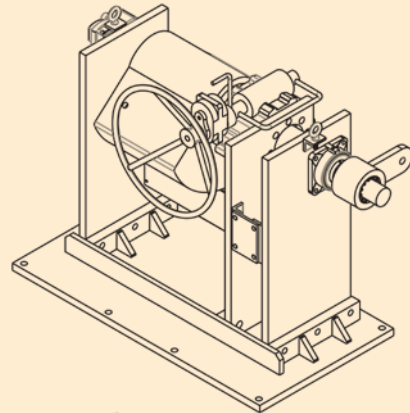
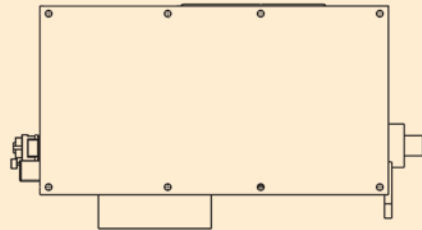
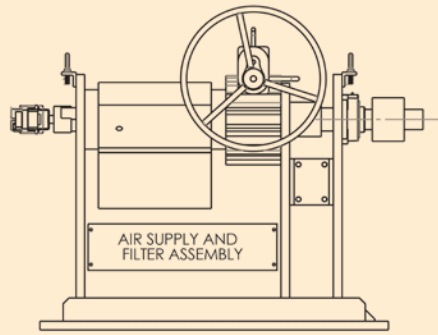
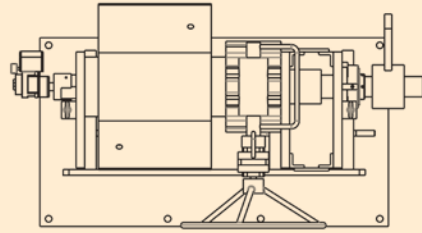
Every Drive Supplied with Detailed Drawing and Schematic. 3D Drawing Available.



FD drive that produces 9,300 ft-lbs of torque, 90° of rotation — under full load — in 6 seconds



ID bypass drive that produces 5,000 ft-lbs of torque



Electric Damper Drive

Machined to required dimensions to hold design tolerances, the Electric Power Drive is designed to provide accurate control and long life performance. Field retrofits are designed to match the critical dimensions of the old drive unit for easy replacement installation. Simply remove the old unit, bolt in and connect the Power Drive.

Electric Power Drive® Features

- Mode of force: heat treated worm and gear driven actuator
- Carbon or stainless steel mounting hardware, support columns/ frame and lever arm
- Stainless steel drive shaft supported by flanged bearings
- Infinitely adjustable lever arm (both radially and axially)
- Standard discrete controls, optional futronic analog controllers and various digital network communications
- Control compartment, hinged, o-ring sealed, with 316 stainless steel screws and hinges
- 2 train (2 position) geared limit switch
 - ✓ Close position, ISC – (3) N.O. & N.C. Contacts
 - ✓ Open position, ISO – (3) N.O. & N.C. Contacts
 - ✓ 10 amps @125/230 VAC, 3 amps @ 28 VDC inductive
 - ✓ Designs modeled in a 3D modeling program
- Open & close torque switch
 - ✓ (1) N.O. Contact each direction of travel
 - ✓ 10 amps @125/230 VAC, 3 amps @ 28 VDC
- Jumper selectable features:
 - ✓ Torque or position seating
 - ✓ 10 amps @125/230 VAC, 3 amps @ 28 VDC inductive
- TBM (terminal board) module
 - ✓ 48 Point control terminal board with transient voltage snubber circuit
 - ✓ (2) Secondary transformer fuses
 - ✓ Power-on led indicating light (internal)

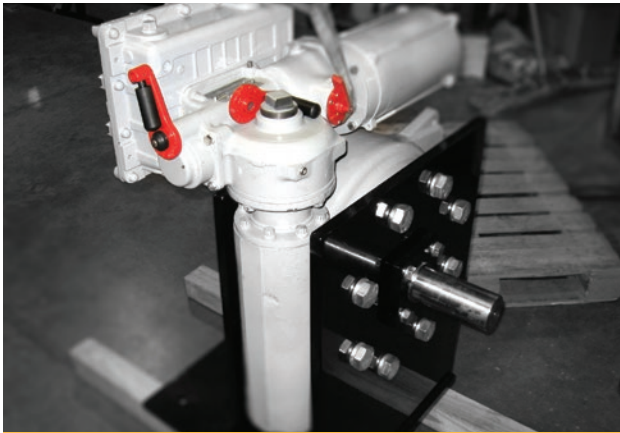
Typical Optional Extras

- Local and/or remote position indication, via potentiometer or 4-20 mA transmitter
- Motor overload relays
- Monitor relay
- Phase sentry (mis-phased or lost phase shutdown)
- Auxiliary reversing starter contacts
- Circuit breakers; integral, close coupled and remote mounted
- PBM (pushbutton modules), close coupled and remote mounted

Voltages Available

- 3-phase, 60Hz: 208, 230, 380, 440, 460, 575, 690
- 3-phase 50Hz: 220, 380, 415, 460
- 1-phase, 60Hz: 115, 208, 230
- 1-phase, 50Hz: 115, 208, 230
- DC: 12, 24, 48, 125, 250

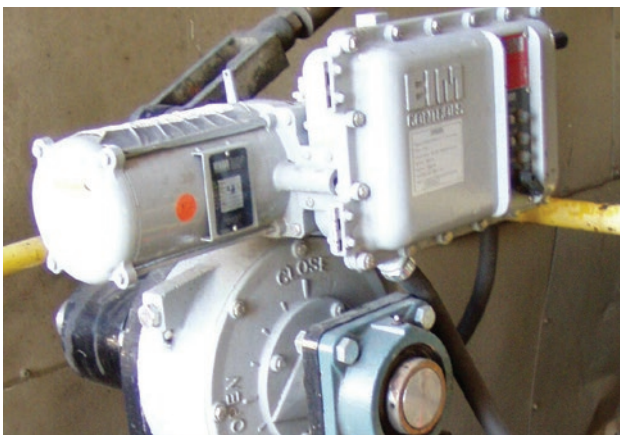
**Every Drive Supplied with Detailed Drawing and Schematic.
3D Drawing Available.**



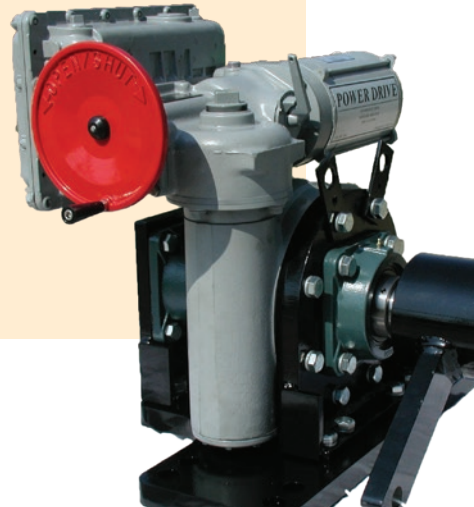
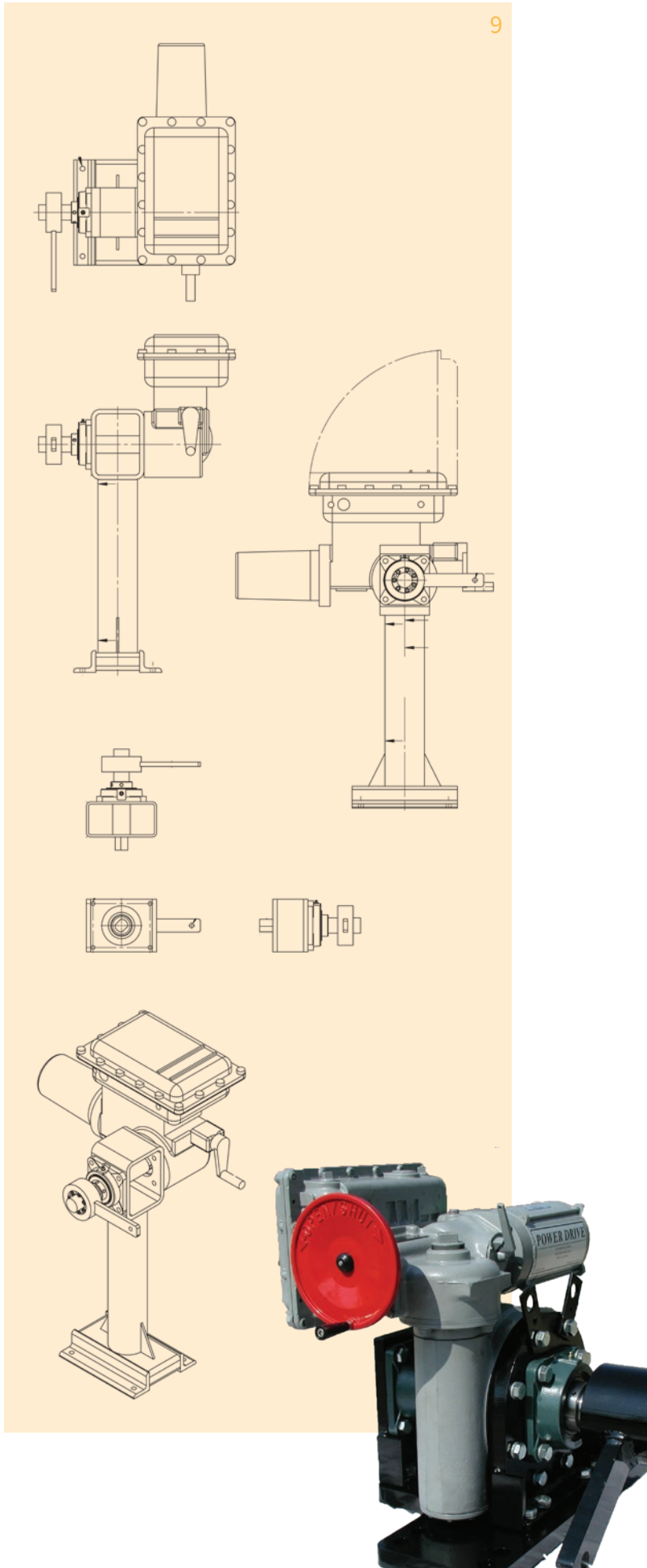
FD drive that produces 6,200 ft-lbs of torque



Bunker room, 3-position coal diverter gate drive



FD drive that produces 5,000 ft-lbs of torque



Electro-Hydraulic Damper Drive

The environmental demands for lower emissions and reduced fuel consumption have increased the control specification requirements for damper applications. REXA X2D-Series Damper Drives increase combustion efficiency and reduce operating costs by providing precise damper positioning.

The exact precision of Electraulic™ Technology guarantees that the damper is controlled by the signal and not the process.

Why Choose Electro-Hydraulic

- Self-contained electro-hydraulic technology
- Instantaneous response
- High stiffness
- Compact power to size ratio
- 100% modulating duty cycle
- No oil maintenance
- Customizable configuration

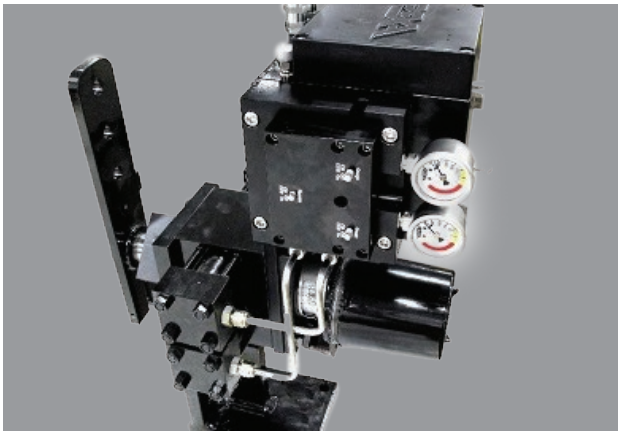
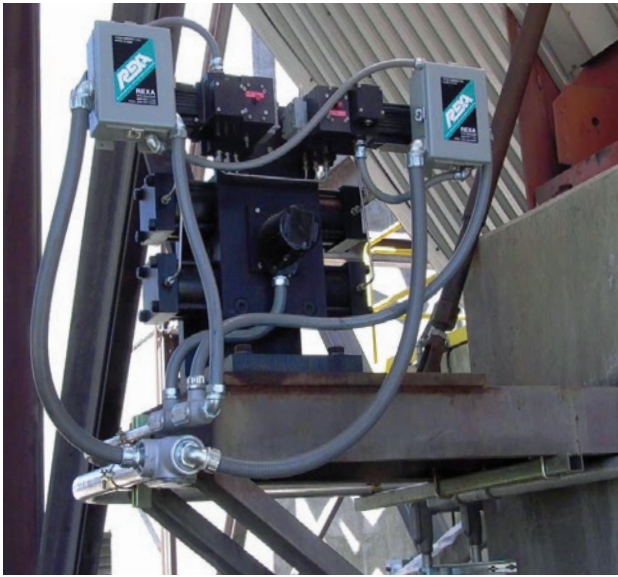
Typical Components

- Electraulic™ Power Modules
- Rotary rack-and-pinion hydraulic cylinder
- 90 or 120 degree rotation (other rotations available)
- Drive base pedestal and drive arm (custom heights/lengths available)
- Position feedback device
- REXA control enclosure

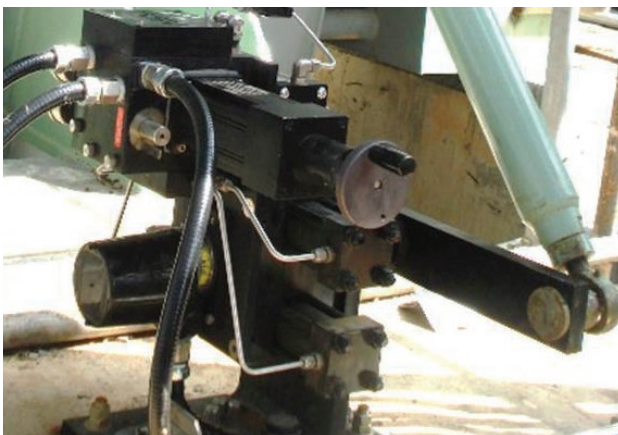
Electro-Hydraulic Power Drive® Features

- Self-contained, positive pressure hydraulic system
- 100% modulating duty cycle rated
- Fail-safe capable (spring fail or accumulator)
- Deadband adjustable from 5% to 0.1% (optional to 0.05%)
- Input signal: 4-20 mA analog
- Repeatability: < 0.1%
- Resolution adjustable to < 0.1%
- Linearity correctable to < 0.05%
- User-friendly, push-button calibration

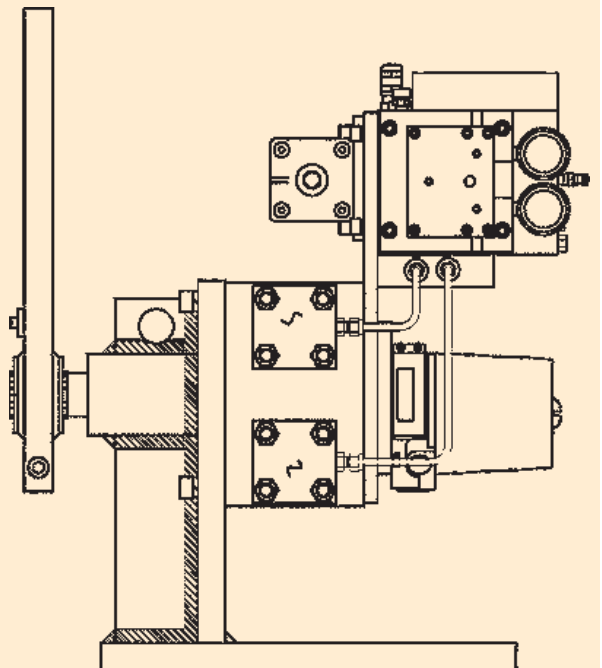
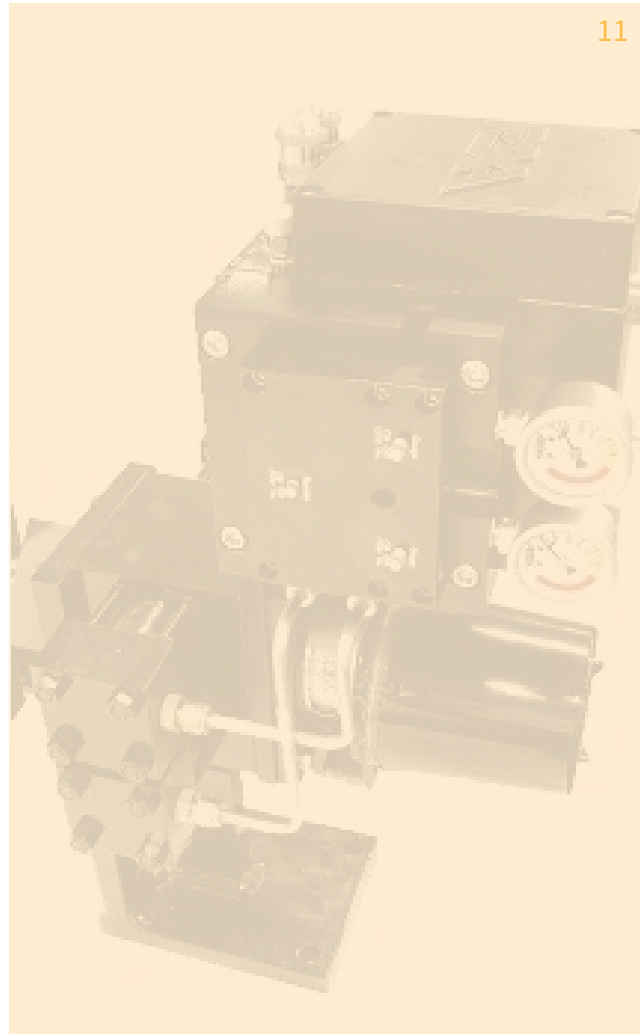
**Every Drive Supplied with Detailed Drawing and Schematic.
3D Drawing Available.**



FD drive for speed and accuracy



FD inlet drive





Contact us today to see what
TRIVACO can do for you!

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www.trivaco.com

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