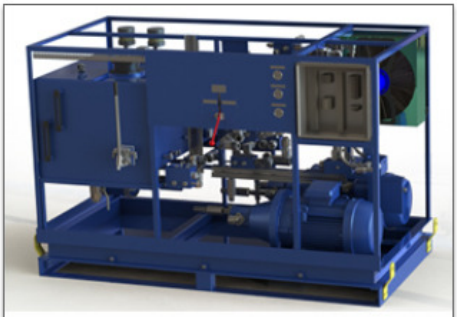
Hydraulic Systems

Pls contact AAL@unitconcept.com for more details and pricing

Hydraulic power units

Advanced Actuators offer a wide range of bespoke Hydraulic Power Units custom built to meet our customers specific requirements.



Key product features

- Standard robust industrial Weatherproof applications
- Hazardous Area applications
- Range of units upto 110 Kw
- 25 to 4000 litres
- 1.5 to 100 litres per minute
- Stainless Steel Power units for Off-shore/Hazardous environment applications

Additional information

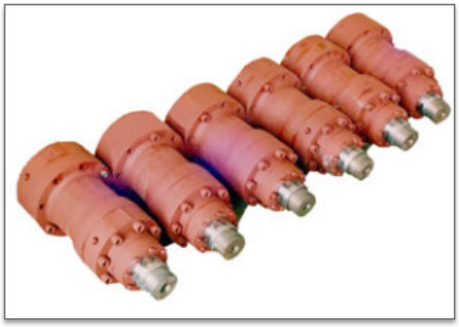
Standard units incorporate filler/breathers, level gauge,inspection cover, flange mounted electric motor, fixed displacement gear pump, filter, adjustable pressure relief valve, pressure gauge and isolator, baffle plate and drain plugs.

Other Options include :

Level switches, Thermostats, Heaters, Coolers, Variable Displacement Piston Pumps, Control Valves, Accumulators and various Electrical Control Gear.

Hydraulic cylinders

We offer a complete range of Heavy duty high quality fully serviceable metric hydraulic cylinders to CETOP/R10H



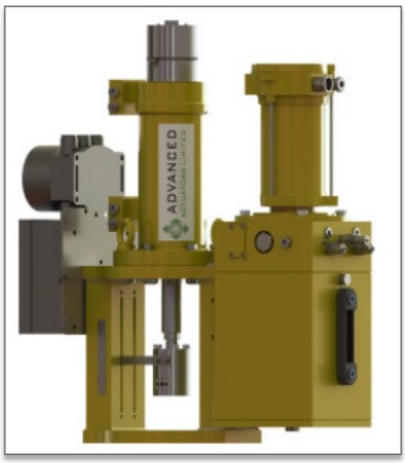
Key product features

- Cylinder Bore diameter 20 to 750mm
- Working Pressure upto 400 Bar
- Maximum stroke up to 7.5 mtr
- Maximum speed upto 1200 mm/sec
- Hydraulic Fluids – Standard Mineral Oils, Water Glycol, Oil emulsions (95/5, 60/40 etc) and water.
- Options include – various mountings, adjustable cushioning, double ended piston rods & Stainless Steel Piston Rods

Additional information

This design of Hydraulic Cylinder has become the industry standard for heavy industrial applications throughout Europe.

Ultra Low Power Electro-Hydraulic Actuators



These special Ultra Low Power Electro-Hydraulic Actuators and designed for linear choke valve control with modulating duty generally in remote locations where mains power is unavailable. Operating from a solar array.

- no standard mains power supply (solar power only)
- minimum power consumption of 30 watts
- thrust required to operate choke valve: 2500kgf
- installation in an explosion-proof enclosure (Zone 1 EExd)

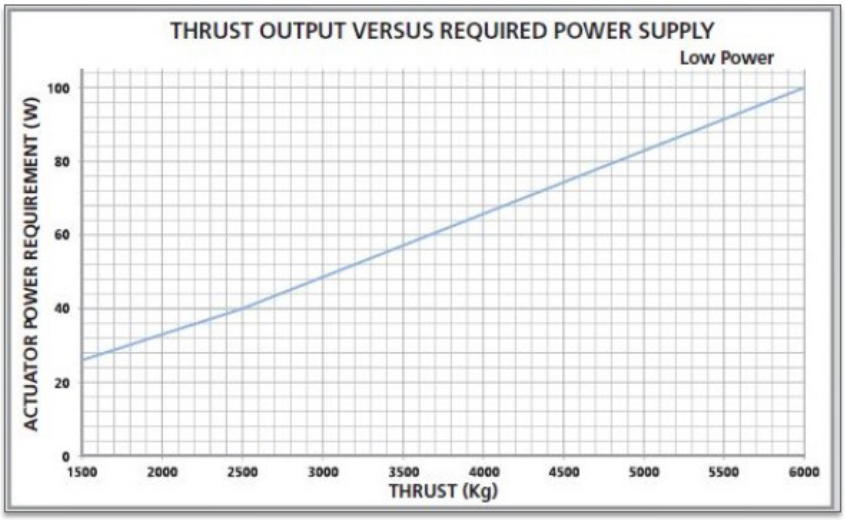
When most electric motors are switched on a surge of power is required to initiate them. The potential risk is that such a surge could potentially trip the power supply and hence disrupt the actuator operation. The project therefore required an actuator that would consume as little power as possible. It also required an EExd rated 24vdc electric motor with a power consumption of less than 50 watts.

Since hydraulic actuators and systems are generally about 80% efficient a hydraulic actuator was selected due to its higher efficiency over pneumatic and electric actuators.

Modifications to standard pump: It was found that all standard pumps investigated could not provide the flow or reduced friction required. Modifications to a standard pump met the requirements.

Solenoid valve: Most hydraulic systems use solenoid valves to select the direction of the linear actuator for extend or retract motion. Since solenoids consume power they were designed out of the actuator.

Electric motor: After some detailed searching the a manufacturer of electric motors was found who, through their own development and some modifications, produced a motor that was both fit for purpose and at an acceptable price point. To overcome the in-rush problem on the electric motor, a current limiter was fitted which gave the motor a “soft start” and protected the system from tripping out. The prototype was thoroughly bench-tested with power consumption data being analysed against hydraulic pressure.



Intelligent System Control

Utilising a combination of automation products we can deliver a reliable control package to operate our Hydraulic Power units and Actuator control systems. Developed to control Steam Turbine Bypass and Start-up valves this equipment provides innovative leading edge technology for use in the Power Generation industry.

- HMI soft control Electronics.
- Dedicated intelligent Hydraulic Power Unit software.
- Complete packaged Hydraulic Power Units with real time monitoring.
- All system variables accessed via HMI Screen.
  - No programming by user needed.
  - Fully adjustable on site.
  - Multi User level access as standard.
- Local HPU & Actuator Control via HMI Screen.
  - Full variable motor control for precise pressure control.
- The latest screen technology with LED backlight for clear screens with wide viewing angles.