

EZY-TORQ® Hydraulic Cathead

An essential part of any drill floor equipment package

Hydraulic power increases torque arc smoothly

The EZY-TORQ hydraulic cathead delivers consistent and smooth torque to makeup loads ranging from 12,000 to 160,000 ft.lbs for making up large-diameter BHA components with either premium or standard connections. When the system is used for rotary shouldered connections requiring less than 40,000 ft.lbs of makeup torque, the unit should be set up with a regularly calibrated load cell.

Application of smooth and consistent line pull to the rig tongs ensures proper makeup of all rotary shouldered connections. Maintaining proper connection makeup torque helps reduce wear on drill string connections, decreases maintenance costs, and reduces potential connection failures. *Note: In all applications, the torque rating of the rig tongs should never be exceeded.*

Two EZY-TORQ systems provide flexibility

EZY-TORQ systems are available to fit individual rig requirements and operation parameters. The EZY-TORQ hydraulic cathead is available in two power systems to suit individual rig requirements. Available systems can be self-contained or powered by the rig hydraulic power supply. The standard hydraulic power unit configuration is rated for high temperature (131 °F [55 °C]), allowing it to be used in moderate (104 °F [40 °C]) to high ambient temperature environments without any changes or upgrades required.

TYPE SC: SELF-CONTAINED SYSTEM

The SC EZY-TORQ is a fully self-contained system. It incorporates a hydraulic power source and a control console to operate the unit's hydraulic cylinder assembly, which includes a specially rated wireline for easy connection to rig tongs. The entire unit can be temporarily or permanently installed on the rig floor as a self-contained system. The hydraulic controller comes with five 25-ft [7,620-mm] remote control hoses and two 25-ft cylinder hoses.

Accurate and remote hydraulic pressure control

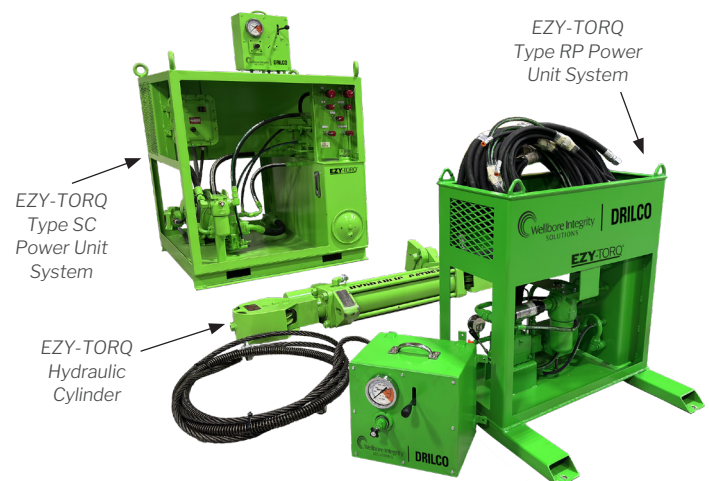
The unit is powered by a variable volume, pressure compensated piston pump that is capable of a standby condition at the desired pressure setting but at a minimal, almost zero flow output. This pump allows low standby power consumption, high-speed

cylinder movement at low force-to-work-loading and a slow, steady pull at high force-to-full-loading. When a power stroke is activated and the load requires the system pressure to rise to the desired setting, the pump automatically increases flow output to match the demand and "balances" the flow and pressure to supply high force for connection make-up.

The power unit can be controlled from a convenient location on the rig with a remote control module, which features a hydraulic lever actuated control valve, a pressure gauge, and a pilot relief valve to enable pressure operation and regulation.

Advantages

- Precise pressure control can be set for an entire drill string after setting once, eliminating variation between make-ups, making the process efficient.
- Simple hydraulic circuit ensures trouble-free performance.
- The variable volume, pressure compensated piston pump provides better efficiency, speed, control, and steady hydraulic energy from a single pump.
- Modern valve assemblies and open design make maintenance as simple as possible, with spare parts provided with the unit.
- Storage area on the HPU to store hoses and control module.
- Built-in skid with forklift pockets and lifting eyes.



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TYPE RP: CONNECTS TO EXISTING RIG HYDRAULIC SYSTEM

The Type RP EZY-TORQ system provides the same reliable performance as the Type SC system, but it has a smaller footprint. It operates with hydraulic components that connect to an existing rig hydraulic power source, such as the accumulator portion of a BOP system or positive displacement system. The RP consists of the main control unit, and two 25-ft [7.62 m] cylinder hoses. Conversion hydraulic fittings to existing rig components are supplied by the customer.

Pressure control with a minimized footprint

The Type RP system is operated by a remote-control module, featuring an adjustable relief valve and a high-pressure gauge for setting the required fluid pressure. The pilot relief valve operates a pressure-reducing valve on the main control unit that governs the maximum pressure developed on the blind end of the cylinder (makeup stroke). An additional preset relief valve limits maximum pressure on the rod side of the cylinder (retraction stroke). A lever-actuated hydraulic valve mounted on the remote-control module can extend, retract, or stop cylinder movement. The hydraulic control comes with five 25-ft [7,620-mm] remote control hoses and two 25-ft cylinder hoses.

Advantages

- Highly efficient and consistent torque process due to precise control that can stay set at the desired pressure.
- Utilizes existing rig hydraulic equipment, minimizing unit space requirements.
- Hydraulic Control console has an adjustable relief valve and a high-pressure gauge sets required fluid pressure.
- A storage basket on the unit is available to store hoses and the control module.
- Built-in skid with forklift pockets and lifting eyes.
- Designed with open concept and modern valve assemblies to make maintaining the unit as simple as possible.

Note: The Hydraulic RP Control Unit is designed with a closed center valve for connection to a hydraulic system using accumulators or a piston pump, but can be easily configured for a fixed displacement pump if desired.

EZY-TORQ Cathead Recommended Spare Parts Kits	
Description	Part Number
Type SC Spare Parts	80068224
Type SC, 1 Year Operation	80069551
Type RP Spare Parts	80068254
Type RP, 1 Year Operation	80070291
Cylinder Assembly Spare Parts Kit w/ Wireline Assembly	80070312
Cylinder Seal Kit	01756807

Shipping Weight Data		
Hydraulic Cylinder Assembly [‡] , lb	SC Unit Assembly [‡] , lb	RP Unit Assembly [‡] , lb
900	950	300
All weights are approximate. [‡] Contains remote control module with hoses		
[†] Contains wireline assembly		

System Power Design Data					
Motor Design	Cycle Frequency, hz	Amperage, amp		Cylinder Time, seconds	
		230 v	460 v	Power Stroke	Return Stroke
15hp-1,770 rpm	60	36.8	18.4	10	5

Cylinder Assembly						
Minimum Flow Rate	Maximum Flow Rate	Maximum Test Pressure	Maximum Working Pressure	Stroke Length	Maximum Line Pull	Torque Range
4 galUS/min	35 galUS/min	3,000 psi	2,200 psi	22.5 in	33,520 lbf	12,170–162,020 ft.lbf
18.9 l/min	132.5 lpm	20.68 Mpa	15.2 Mpa	571.5 mm	149,000 N	16,500–220,000 N.m

Ordering instructions, please specify:

- EZY-TORQ Type SC System (standard)
- EZY-TORQ Type RP System for rig accumulator utilization or positive displacement pump.
- Hertz (Hz) of power source: 60 Hz
 - Motor Voltage—The following are available:
 - 60 Hz–230V, 460V, 1750 RPM, 15HP
 - Motor Temperature Rating
 - 131 degF [55 degC] ambient operating temperature standard.