



Coiled Tubing Energizers

Overview

The double-acting, Logan Bi-Directional Coiled Tubing Energizer is an impact enhancement tool designed for slim holes (generally a well bore less than 6 inches in diameter). Its function is to supply intensified impact during the jarring operation by providing or enhancing jar impact from energy stored within its oil-filled compression chambers. It also functions as a shock absorber that prevents impact damage to the tool string at the bottom of the coil, which is often referred to as the bottom hole assembly or BHA. A Logan Bi-Directional Coiled Tubing Energizer is recommended any time a Logan Bi-Directional Coiled Tubing Jar is included in the work string.

Construction

Each size of Logan Bi-Directional Coiled Tubing Energizer is designed to match the corresponding size of Logan Bi-Directional Coiled Tubing Jar. The pull, push, torque, and lift loads are equal to or exceed those of the matching Logan Bi-Directional Coiled Tubing Jar.

Logan Bi-Directional Coiled Tubing Energizers are hydrostatically pressure balanced and have automatic oil thermal compensation. The independent push (compression) and pull (tension) oil-filled chambers are sealed and isolated from each other to prevent contamination.

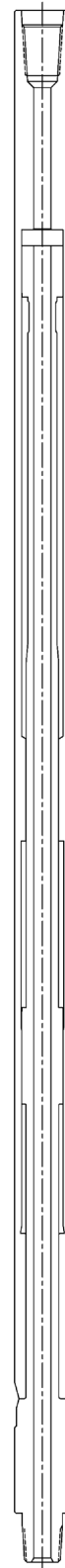
Operation

The Logan Bi-Directional Coiled Tubing Energizer is run in conjunction with a Logan Bi-Directional Coiled Tubing Jar of the same size. It operates by straight push or pull and has splines that are engaged at all times. The Bi-Directional Coiled Tubing Energizer is essentially a fluid spring, which stores energy when a strain is pulled on the fishing string. When the strain is removed by the free stroke of the Bi-Directional Coiled Tubing Jar, the stored energy is released, accelerating portions of the tool and the weight bars until a blow of high impact is struck. The Bi-Directional Coiled Tubing Energizer absorbs much of the jarring shock from the rebounding string to protect the bottom hole assembly from damage.

The Logan Bi-Directional Coiled Tubing Energizer can be run at any depth. It can be dressed with special packing to withstand temperatures above 350° F. The Bi-Directional Coiled Tubing Energizer is also capable of transmitting torque for downhole motors. (See Strength Data below.)

When ordering, please specify:

- (1) Name and number of assembly or part
- (2) Outside diameter
- (3) Connections, if other than standard
- (4) Name and number of any desired spares
- (5) Outside diameter of spare parts



SPECIFICATIONS

COMPLETE ASSEMBLY	617-169-001	617-213-001	617-288-001
OUTSIDE DIAMETER (INCHES)	1-11/16	2-1/8	2-7/8
MINIMUM INSIDE DIAMETER (INCHES)	17/32 (.530)	*	29/32 (.906)
CONNECTION	1 AM MT	*	2-3/8 PAC
LENGTH - FULLY CLOSED (FEET & INCHES)	3' - 10"	*	4' - 10"
TOTAL STROKE (INCHES)	4	*	5
PUMP OPEN AREA (SQ IN)	1.12	*	3.98

STRENGTH AND TEST DATA

COMPLETE ASSEMBLY	617-169-001	617-213-001	617-288-001
OUTSIDE DIAMETER (INCHES)	1-11/16	2-1/8	2-7/8
MAX PUSH/PULL LOAD (LBS)			
Jar with Energizer:			
No weight bars between tools	13,500	*	46,000
With at least one weight bar between tools	15,500	*	52,000
All Other Cases	15,500		52,000
MAX LIFT LOAD AFTER JARRING			
JAR FULLY EXTENDED	69,000	*	260,000
TENSILE @ YIELD (LBS)			
TORQUE @ YIELD (FT-LBS)	450	*	4,500

* Data pending