

AUTOMATIC TUBING DRAIN

PROVIDES EXTENDED PRODUCTION LIFE BY
DRAINING TUBING DURING
SHUTDOWN



keep it moving 

The Automatic Tubing Drain is a patented and proven design that allows the use of PC pump torque to open and close this simple downhole tool.

» BENEFITS

- Prevents sand/solids from settling on top of the pump during a shutdown
- Provides a safe working environment by virtually eliminating polished rod backspin
- Activates and resets with no intervention; unlimited activations

» FEATURES

- High reliability: low operating torque to open and close
- Specialized protective coating for sour service
- No need to pressurize tubing to open tubing drain prior to workover



Artificial Lift Solutions

PRODUCT DESCRIPTION

The design involves a stationary outer sleeve attached to the tubing and a rotating inner mandrel attached to the PC pump stator. The sleeve and mandrel are separated by a synthetic fluorocarbon sealing system and the mandrel is attached to the outer sleeve by a bearing support system.

When the PC pump is in normal operation, the torque from the rotor is transferred to the stator and the inner sleeve rotates such that the drain ports are closed. When the PC pump ceases normal operation, backspin is induced and this causes the mandrel to counter-rotate and position the drain ports in the open position. When the PC pump resumes normal operation, the mandrel rotates to close the ports. This process is totally automatic and the ATD allows for many start & stop tubing drain cycles.



SPECIFICATIONS

Sizes	2" 3/8	2" 7/8	3" 1/2	THREADS	GRADE
Max. OD	3.30 in (83.8 mm)	4.00 in (101.6 mm)	4.88 in (124.0 mm)	API EUE 8 RD BOX x PIN	L80 - API 5CT / NACE MR0175
Nom. ID	1.87 in (47.5 mm)	2.441 in (62.0 mm)	2.992 in (76.0 mm)		
Mandrel OD	2.740 in (69.6 mm)	3.090 in (78.5 mm)	3.75 in (95.3 mm)		
Overall length	31.5 in (800 mm)	38.5 in (978 mm)	38.5 in (978 mm)		
Port sizes	6.20 in ² (40 cm ²)	6.28 in ² (40.5 cm ²)	8.56 in ² (55.2 cm ²)		
Open/close torque	20 ft-lbs (27 N·m)	35 ft-lbs (47.5 N·m)	50 ft-lbs (67.8 N·m)		
Working pressure	3,000 psi (207 bar)	3,000 psi (207 bar)	3,000 psi (207 bar)		
API tubing tension	102,900 lbs (458 kN)	145,000 lbs (645 kN)	207,200 lbs (922 kN)		
Fish OD	2.36 in (59.94 mm)	3.75 in (95.25 mm)	4.55 in (115.57 mm)		

Other sizes available upon request

APPLICATIONS

- Virtually eliminates uncontrolled rod rotation backspin when drive head shuts down
- Drains tubing fluid with solids to the annulus when the pump shuts down in order to avoid plugging the pump discharge
- Any PC pumping wells with any fluids, up to 400° F