



Fox River Tools

Directional Services

Pilot MWD System

The Pilot MWD system is a positive pulse measurement while drilling tool. It uses a bottom mounted pulser to transmit survey data to the surface by actuating a pilot valve which momentarily restricts mud flow through the drill string interior creating a positive pressure pulse.

FEATURES

- ✓ Rugged down-hole directional modules
- ✓ Universal pulser system
- ✓ Industry standard gamma probes and logging software
- ✓ Receiver, software and surface equipment
- ✓ Modules are connected using rotary connectors ensuring trouble-free module assembly
- ✓ Wireline retrievable and re-insertable design (minimum 2.25" I.D.)
- ✓ High operating temperature (175 °C) and pressure (20,000 psi)
- ✓ Simple operation using a wide range of flow rates and rotary speeds
- ✓ Pilot valve motor 100 lbs. of seating force providing exceptional tolerance to LCM (Loss Circulation Material)
- ✓ 400 down-hole hours on one battery



TOOL SPECIFICATIONS

TOOL LENGTH	7.62m (minimum)
SIZE	47.625mm O.D. (1.875")
PRESSURE RATING	137,895 kPa, (20,000 psi)
BATTERY CONSUMPTION	220-320 hours (medium-rate dual battery) 180-260 hours (medium-rate dual battery w/gamma) Consumption factors include resolution and pulse width settings
MAXIMUM OPERATING TEMPERATURE	150 °C (302 °F) 175 °C (347 °F) available
OPERATIONAL MODES	Operator selectable survey and steering sequences, resolution and pulse width settings
DOWNLINK CAPABILITY	Pumps ON/OFF sequences allow for mode selection, steering and survey sequences, and pulse width settings

OPERATING SPECIFICATIONS AND LIMITS

DATA TRANSMISSION TYPE	Positive Mud Pulse
COLLAR SIZES	89mm-203mm (3.5"-8") Additional sizes available
OPERATING FLOW RATE	0.28 – 4.45 m ³ /min (75-1200 gpm)
WIRELINER RETRIEVABILITY	vvv
MINIMUM I.D. FOR RETRIEVABILITY	57mm (2.25")
FLOW SWITCH	Vibration
POWER SUPPLY	Lithium 28 VDC / 3 amp (21 VDC / 5 amp available)
SHOCK LIMIT	1000g, 0.5 msec, ½ sine all axes
VIBRATION LIMIT	5 – 30 Hz @ 1" double amplitude, 30 – 500 Hz, 20g all axes
BEND RADIUS	20° / 10m
LCM TOLERANCE	40 - 50 ppb concentration, any size, premixed
OPERATING PULSE WIDTH	0.600-2.00 sec
DATA TRANSMISSION RATE	10 – 28 sec
ROTARY SENSOR	Yes (RFS available)
MEAN TIME TO SERVICE	Pulser ≈ 500 – 700 hours Electronics ≈ 1200 – 1800 hours

SENSOR SPECIFICATIONS

PARAMETER	RANGE	ACCURACY
Inclination	0 - 180°	+/- 0.10°
Azimuth	0 - 360°	+/- 0.25°
Tool Face	0 - 360°	+/- 0.50°
Dip Angle	0 - +/- 90°	+/- 0.15°
Magnetic Field	0 - 100 µT	+/- 0.075 µT
Temperature	-35 - 200°C	+/- 0.5°C