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# EDR-SURE RATE

PATENT NO: 2012101783

BY EVOLUTION DRILL RIGS



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### SPECIFICATIONS

The Evolution Drill Rigs (EDR) Penetration Rate Measuring System (EDR-Sure Rate) accurately measures and displays the relative penetration rate in real time. The system incorporates high quality instrumentation into a patented system designed to improve drilling efficiency.

### ACCURACY

The EDR-Sure Rate is incorporated within the hydraulic actuated traverse cylinder circuit. In this circuit the bit weight is controlled by the hydraulic oil pulldown pressure, holdback pressure while the microfeed flowrate can be set by the EDR-Sure Rate to control the feed rate.

Between the normal operating range of 1 inch/minute and 4 inches/minute the relative error is less than 10% and improves as the penetration rate increases towards the maximum rate of 12 inches/minute.

### EQUIPMENT

The EDR-Sure Rate can be incorporated into most hydraulic operated drill rigs, including the Evolution FH3000, as an integral part of the control panel, electrical circuit and hydraulic circuits. The EDR-Sure Rate system can be used in either 12 or 24 Volt electrical systems.

The EDR-Sure Rate includes the following equipment:

ELECTRICAL EQUIPMENT	
PN	Description
75 015578	DISPLAY - PANEL MOUNT
75 015292	RELAY - 24 V 30/20
75 015924	PLUG - SUIT FLOWMETER
HYDRAULIC EQUIPMENT	
PN	Description
34 015694	HYDRAULIC BLOCK - MICROFEED RATE
65 015324	VALVE - CHECK CART
65 015650	VALVE - PRIORITY CART
65 015692	VALVE - 3 WAY DIRECTIONAL
65 015691	VALVE - CHECK , 0.3 BAR
75 015580	METER – GEAR FLOW