



## PRODUCTION GAMMA RAY

### DESCRIPTION

The Sondex PGR gamma tool measures gamma radiation from the formation surrounding the wellbore or for particular applications. The detector comprises a 4" NaI scintillation crystal, photomultiplier and 1.6kV high voltage power supply. All models are compact, rugged and combine excellent sensitivity with high resolution for cased hole production logging applications.

Tools can be combined for tracer work and, with the addition of a gamma source, used for gravel pack investigations.

### OPERATING PRINCIPLE

Gamma rays are detected by a high temperature sodium iodide crystal and amplified using a 10 stage photo-multiplier to a measurable level. The detector is temperature compensated to minimize photomultiplier drift. Calibration is effected by a wrap-around Sondex Calibrator with a distributed thorium source of very low radioactive content. The difference between background and calibrator levels provides a ratio between tool count rate and API units. Using the calibrator also monitors tool performance.

### APPLICATIONS

- Lithology Identification
- Depth Correlation
- Identification of Radio Active Scale
- Tracer Monitoring
- Gravel Pack Monitoring (with addition of a gamma source)

### SPECIFICATION

	PGR014	PGR017	PGR020	PGR021
Telemetry	Mbus		UW	
Pressure (max.)	15,000 psi (104Mpa)			
Temperature (max.)	350 deg F (177 deg C)			
Threshold	20keV			
Sensitivity (nominal)	1 count per API			
Deadtime	negligible			
Accuracy	<10%, depends on statistics			
Voltage (nominal)	12 VDC		18 VDC	
Current	10mA		20mA	
Length	19.7" (500mm)	23.1" (586mm)	23.1" (586mm)	19.7" (500mm)
Measure Point	4.6" (117mm)	5.3" (134mm)	5.3" (134mm)	4.6" (117mm)
Diameter	1 3/8" (35mm)	1 11/16" (43mm)	1 11/16" (43mm)	1 3/8" (35mm)
Weight	5.1lbs (2.3kg)	9.4lbs (4.3kg)	9.4lbs (4.3kg)	5.1lbs (2.3kg)
Materials	Corrosion Resistant Throughout			

