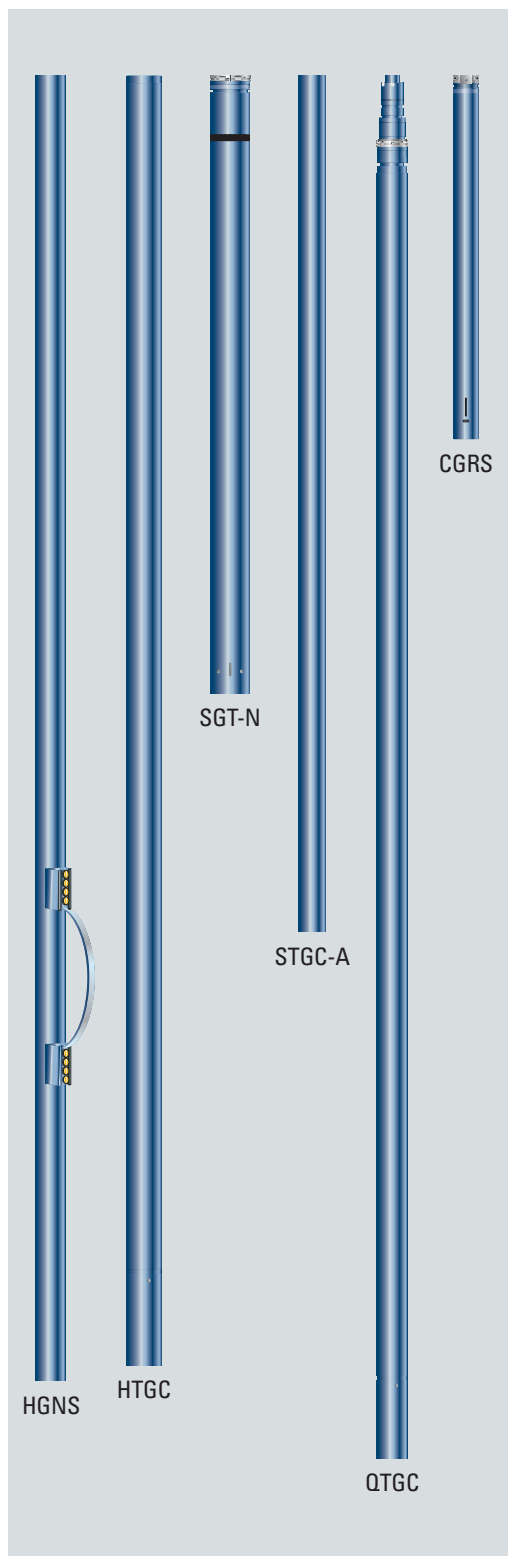


Gamma Ray Tools



Gamma ray tools record naturally occurring gamma rays in the formations adjacent to the wellbore. This nuclear measurement indicates the radioactive content of the formations. Effective in any environment, gamma ray tools are the standard device used for the correlation of logs in cased and openholes.

Applications

- Depth determination
- Depth correlation within the well and between wells
- Lithology identification
- Qualitative evaluation of shaliness
- Qualitative evaluation of radioactive mineral deposits
- Cased hole perforating depth control
- Positioning for openhole sampling tools

Measurement Specifications

	Highly Integrated Gamma Neutron Sonde (HGNS)	Hostile Environment Telemetry and Gamma Ray Cartridge (HTGC)	Scintillation Gamma Ray Tool (SGT)	Slim Telemetry and Gamma Ray Cartridge (STGC)	SlimXtreme Telemetry and Gamma Ray Cartridge (QTGC)	Combinable Gamma Ray Sonde (CGRS)
Output	Formation gamma ray	Formation gamma ray	Formation gamma ray	Formation gamma ray	Formation gamma ray	Gamma ray activity
Logging speed	3,600 ft/hr [1,097 m/h]	1,800 ft/hr [549 m/h]	3,600 ft/hr [1,097 m/h]	1,800 ft/hr [549 m/h]	1,800 ft/hr [549 m/h]	Up to 3,600 ft/hr [1,097 m/h]
Range of measurement	0 to 1,000 gAPI	0 to 2,000 gAPI	0 to 2,000 gAPI	0 to 2,000 gAPI	0 to 2,000 gAPI	0 to 2,000 gAPI
Vertical resolution	12 in. [30.48 cm]	12 in. [30.48 cm]	12 in. [30.48 cm]	12 in. [30.48 cm]	12 in. [30.48 cm]	12 in. [30.48 cm]
Accuracy	±5%	±5%	±5%	±5%	±5%	±5%
Depth of investigation	24 in. [60.96 cm]	24 in. [60.96 cm]	24 in. [60.96 cm]	24 in. [60.96 cm]	24 in. [60.96 cm]	24 in. [60.96 cm]
Mud type or weight limitations	None	None	None	None	None	None
Combinability	Part of Platform Express* system	Combinable with most tools	Combinable with most tools	Combinable with most tools	Combinable with most tools	Combinable with CPLT* tool, RSTPro* tool
Special applications						H ₂ S service

Mechanical Specifications

	HGNS	HTGC	SGT	STGC	QTGC	CGRS
Temperature rating	302°F [150°C]	500°F [260°C]	350°F [177°C]	302°F [150°C]	500°F [260°C]	350°F [177°C]
Pressure rating	15,000 psi [103 MPa]	25,000 psi [172 MPa]	20,000 psi [138 MPa]	14,000 psi [97 MPa]	30,000 psi [207 MPa]	20,000 psi [138 MPa]
Borehole size—min.	4½ in. [11.43 cm]	4¾ in. [12.07 cm]	4¾ in. [12.38 cm]	3½ in. [8.89 cm]	3¾ in. [9.84 cm]	1 ¹³ / ₁₆ in. [4.61-cm] seating nipple
Borehole size—max.	No limit for gamma ray measurement	No limit	No limit	No limit	No limit	No limit
Outer diameter	3.375 in. [8.57 cm]	3.75 in. [9.53 cm]	3.375 in. [8.57 cm]	2.5 in. [6.35 cm]	3.0 in. [7.62 cm]	1 ¹¹ / ₁₆ in. [4.29 cm]
Length	10.85 ft [3.31 m]	10.7 ft [3.26 m]	5.5 ft [1.68 m]	7.64 ft [2.33 m]	10.67 ft [3.25 m]	3.2 ft [0.97 m]
Weight	171.7 lbm [78 kg]	265 lbm [120 kg]	83 lbm [38 kg]	71 lbm [32 kg]	180 lbm [82 kg]	16 lbm [7 kg]
Tension	50,000 lbf [222,410 N]	50,000 lbf [222,410 N]	50,000 lbf [222,410 N]	50,000 lbf [222,410 N]	50,000 lbf [222,410 N]	10,000 lbf [44,480 N]
Compression	37,000 lbf [164,580 N]	20,000 lbf [88,960 N]	23,000 lbf [103,210 N]	17,000 lbf [75,620 N]	20,000 lbf [88,960 N]	1,000 lbf [4,450 N]

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