

Neutron Detectors

Built to operate in extreme environments including high or low temperatures, high pressures and high shock and vibration

Enhanced formation evaluation

Our helium-3 (^3He) filled detectors offer the optimal combination of high efficiency and sensitivity, with excellent gamma discrimination and vibration response, all in the most compact package possible.

Time-tested reliability

Our ^3He filled neutron detectors incorporate the operational experience gained from the design and manufacture of more than 67,000 units over 50 years. This experience and the associated proprietary processing techniques that have evolved from it have resulted in detectors that are regarded by many as the industry standard for neutron detection.

Precision performance

We have developed proprietary ^3He purification techniques, gas mixtures, and manufacturing process controls to ensure precise matching of operating characteristics among large batches of detectors. This permits parallel operation of multiple detectors without need for separate power supplies or gain matching.

Custom design

Since entering this market in 1956, we have continually evolved our design and manufacturing capabilities for high-quality, custom detectors. We have built detectors up to 2.25" (57.15 mm) in diameter, and up to 12" (304.8 mm) in length, with fill pressures from 60 to 180 psia (0.4-1 MPa). We also optimize the gas mixtures using a variety of quenching gases to ensure the right balance between sensitivity and operating voltage. Finally, we offer a wide array of electrical terminations and mechanical interfaces to suit virtually any downhole application.

Benefits

- Plateau slope <2% per 100 V over a minimum 200 V range
- At least 100 V common plateau between room temperature and +175°C (347°F) with <2% count rate shift
- Patented anode suspension minimizes shock-induced false counts



Configurations

Part Number	Application	Diameter (in)	Operating Voltage Range (v)	Plateau Length @175C minimum	Resolution (%)	Sensitivity (cps/nv)	Active Length (in)	Overall Length (in)	Total Pressure (PSIA)
RS-P4-0604-225	Drilling	0.75	1050-1300	4%/100V 150V Length	17	11.5	4.0	6.5	170.0
RS-P4-0606-209	Drilling	0.75	1150-1625	4%/100V 150V Length	15	18.7	6.0	8.2	178.1
RS-P4-0803-241	Wireline	1.00	1100-1400	4%/100V 150V Length	20	10.0	3.0	4.9	66.0
RS-P4-0803-264	Drilling	1.00	1250-1700	3%/100V 150V Length	25	12.4	2.7	5.9	181.3
RS-P4-0804-250	Wireline	1.00	1000-1600	3%/100V 200V Length	10	16.9	4.0	7.6	149.0
RS-P4-0806-211	Wireline	1.00	1250-1500	3%/100V 250V Length	10	22.5	5.9	9.6	90.0
RS-P4-1004-219	Wireline	1.25	1000-1700	3%/100V 150V Length	12	17.5	4.1	5.8	60.0
RS-P4-1206-219	Wireline	1.25	1050-1300	3%/100V 150V Length	16	42.0	6.0	7.6	150.0
RS-P4-1208-204	Wireline	1.50	1200-1600	3%/100V 150V Length	15	52.0	8.0	11.5	100.3
RS-P4-1406-219	Wireline	1.75	900-1250	3%/100V 150V Length	15	49.0	6.0	8.5	147.7
RS-P4-1408-205	Wireline	1.75	1100-1600	3%/100V 200V Length	15	62.1	8.0	9.9	91.5
RS-P4-1606-219	Wireline	2.00	1000-1600	3%/100V 150V Length	15	45.0	6.0	9.4	59.6
RS-P4-1808-229	Wireline	2.25	1300-1600	2%/100V 200V Length	15	90.0	8.0	10.3	150.0
RS-P4-2012-204	Wireline	2.50	1100-1700	2%/100V 200V Length	15	130.0	12.0	15.9	61.5

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Contact us

Please chat with a Reuter-Stokes sales representative if your specifications do not match our catalog sizes and needs customization.

