
INTEGRATED TECHNOLOGIES
Innovate, Integrate, Dominate
Engineered in the USA, Built for Global Integration!

PROJECT PHILOSOPHY

Introducing a groundbreaking power supply solution for downhole MWD tools: the Turbine Generator. This innovative technology delivers enhanced cost efficiency by optimizing energy utilization, while its robust design reduces QHSE (Quality, Health, Safety, and Environmental) risks. By integrating advanced engineering and sustainability, the Turbine Generator sets a new standard in reliable and efficient downhole power supply systems.

- access to power generators for all MWD tools worldwide
- replace lithium-thionyl chloride batteries
- eliminate environmental and explosive hazards

TURBINE ALTERNATOR

Powered by the flow of drilling fluid, the alternator transforms the turbine's mechanical energy into electrical power.

01 **Enhancing Battery Efficiency**
Drastically lower battery consumption and extend logging duration in the downhole environment.

02 **Emergency Generator Retrieval**
Reduces downtime during emergencies, ensuring uninterrupted drilling operations and preventing financial losses.

03 **Built-in Monitoring System**
Enables more precise monitoring and control of drilling process metrics.

Turbine Alternator

LIGHTWEIGHT & COMPACT

Easy to transport and operate!

∞

No expiration date

>1000 hrs

Continuous operations between maintenance

<$1

Circulation per hour

SPECIFICATION

PROUDLY DESIGNED, MANUFACTURED, AND ASSEMBLED IN THE USA WITH 100% AMERICAN-OWNED INTELLECTUAL PROPERTY.

PATENTED PATENTED PATENTED US20240392656A1

Turbine Alternator

Standard rotation speed:	2 200 RPM
Max rotation speed:	4 500 RPM
Min rotation speed:	1 500 RPM
Max power:	50 W
Linear idle voltage:	5 -30 V
Housing Diameter:	1.875 / 2.03 In
Weight:	7 Lbs
Operating temperature*:	347 F°

Power Stabilizer

DC voltage output (nominal):	30 V (±5%)
Load current:	0.05 -1.6 A
Outer diameter:	1.88 In
Length In:	33.85 In
Weight Lbs:	14,33 Lbs
Operating temperature*:	347 F°

* Available on request

SENSOR SMART 2.0

Monitors & Records

- Time of Day
- Voltage
- Peak & Average Current
- Temperature
- 3 Axis Shock
- 3 Axis Vibration
- Rotation

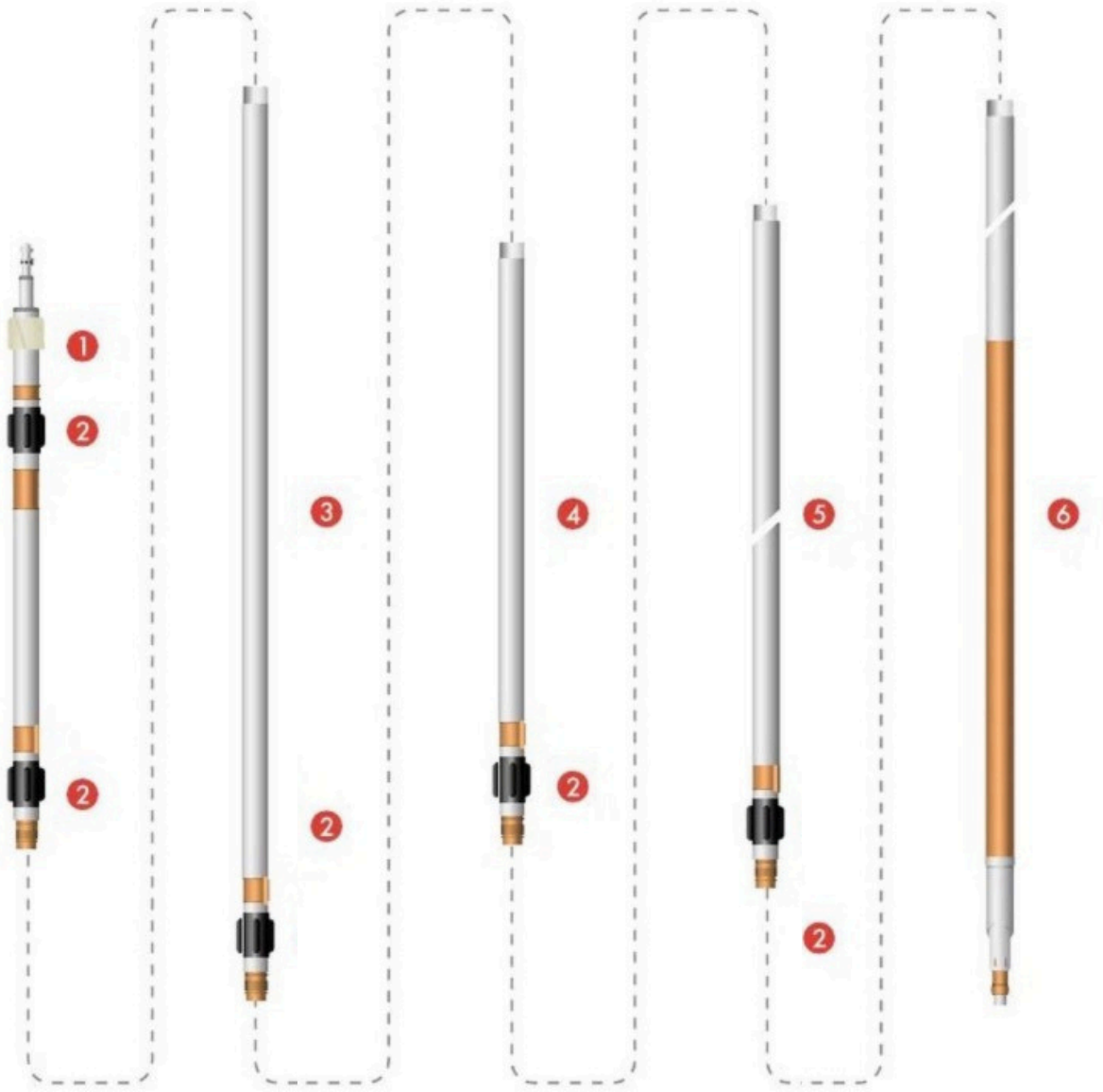
Calculates

Capacity Used

Temperature Range

–40°C –165°C

Survival temperature	-400C – 1600C
Pressure	20,000 psi
Vibration, random	30G RMS, 10 –100 HZ
Shock	500G, 1m Sec, half/sine
Operation voltage	18 –30 V
Memory	64 Mb



TOOL CONFIGURATION

1-Turbine Generator;
2-Battery;
3-DM (directional module);
4-Gamma;
5-Pulser

KEY BENEFITS OF IQ INTEGRATED'S TURBINE GENERATOR

IQ Integrated proudly offers a American-made, low-cost-to-operate turbine generator designed to redefine power supply for MWD tools. Built to withstand extreme drilling conditions, it delivers unmatched performance and versatility. IQ Integrated's turbine generator integrates advanced engineering and sustainability to deliver a dependable, adaptable, and environmentally conscious solution for modern downhole drilling operations. Key features include:

- Continuous Power Supply: Provides an unlimited downhole power source as long as the pumps are on.

- Enhanced Reliability: Engineered for improved resistance to harsh drilling environments, outperforming traditional batteries.

- Cost-Effectiveness: A single turbine generator powers the entire MLWD tool lifecycle, significantly reducing operational costs.

- Eco-Friendly Solution: Eliminates lithium battery disposal risks, reducing environmental impact.

- Adaptability: Compatible with any connector configuration and fully customizable to meet specific MWD requirements, offering superior flexibility over fixed-capacity batteries.

- Extended Run Time: Delivers up to 1,000 hours of operation before requiring servicing, minimizing downtime and maximizing efficiency.

ENVIRONMENTALLY CONSCIOUS APPROACH

Traditional batteries often pose significant disposal challenges, with improper handling leading to the release of harmful toxins into the environment. At IQ Integrated, we're proud to offer a Texas-made, American-engineered solution: our turbine-generator technology for MWD systems. This eco-friendly innovation eliminates hazardous disposal concerns associated with traditional batteries.

Our turbine-generator features repairable components to minimize waste, while irreparable parts are responsibly recycled, reflecting our commitment to sustainability. By prioritizing component reuse and advocating for environmentally responsible practices, IQ Integrated is leading the charge toward a greener future for the industry and the planet.

WEAR OF IMPELLER

Actual Wear and tear of turbine impellers for 300-1000 circulation hours

300 hours

GOOD

500 hours

GOOD

1000 hours

CHANGE

FLOW RATE CALCULATIONS

Impeller	impeller, in	outlet, in	Flow rate, gpm			
			Rated			Max
Impeller G-50K-54	⌀ 2.12	⌀ 2.24	143	...	190	222
ImpellerG-50K-61	2.40	2.48	159	...	254	317
Impeller G-50K-65	2.55	2.67	159	...	254	317
		2.79	190	...	380	380
Impeller G-50K-73	2.87	2.99	380	...	539	602
		3.11	476	...	634	713
		3.22	507	...	697	761
		3.74	713	...	919	1014
		3.97	951	...	1189	1268
Impeller G-50K-77	3.03	3.11	349	...	444	539
		3.22	476	...	634	713
		3.74	713	...	919	1014
		3.97	872	...	1110	1189

Service levels

TURBINE & STABILIZER
Every 600hr
O-rings**
Every 600hr
Impeller**

* condition basedreplacement
** Replacement Required

Circulation per hour

Products	Service interval	Q-ty, pcs per period	MSRP price	Total
TURBINE & STABILIZER				
O-rings	600	24	$65,00	$780,00
Impeller	600	2	$125,00	$250,00
			Circ hrs	$1030

Integrated Technologies

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LET'S CONNECT!