



GUARDIAN

Safety By Design

GUARDIAN/INDUSTRY HEAD TYPES

Type:	Pins:	Dia:	PI:	I	V	Description:
MMC 1	16	1 3/8" / 1 11/16"	No	2A	500v	The original MMC fitted to PPL-A, HSTC-A et al. 16 pin non-pressure isolated. Now obsolete. It is referred to as MMC1 in both 1 3/8" and 1 11/16" format. Female 'box' connection at the top of the tool with a socketed insert. Male 'pin' at bottom of tool with protected electrical pins.
MMC 2	12	1 11/16"	Yes	4A	1000v	Current standard 1 11/16" MMC using a custom 12 pin pressure isolated, 20ksi, 350F insert. Used on PPL-L. Used on upper head of PWH-M and lower head of HSTC-D.
MMC 3	10	1 3/4"	Yes	3A	1000v	High temperature head used on PPL500. Provides 20ksi pressure isolation at up to 500F. Uses high-temp (& very expensive) insert.
MMC 4	8	1 11/16"	No	4A	500v	Also known as a Lemo connection. Used on the bottom of Nan Gall & Sx memories. Used on top of MXO's and the bottom of HSTC-M's
MMC 5	12	1 3/8"	Yes	4A	1000v	A 1 3/8" version of the MMC 2 connection. Uses the same insert as MMC 2.
MMC 6				4A	1000v	Also known as TLS connection. Developed for MWS for use on TLS, Tractor etc. Conversion kits exist to convert to GO A, SLB Heptacable and BA Universal Cable Head. Also used on VPM-E. OBSOLETE – See GMC-B, GMC-C.
GO A	1	1 3/8" / 1 11/16" / 2 1/8"	Yes	8A	1000V	Industry-standard monopin connection using a twin o'ring seal and a 1 3/16" 12TPI UN thread. Used on PPL-A and PPL-M tools as well as MPB tools. Has a female 'box' at the top of the tool with an electrical socket and a male 'pin' at the bottom with a male 4mm electrical pin. Available in a Modified (Mod'd) format which protects the electrical pin within the upper head female 'box' and the socket into the male, lower head 'pin'. Mod'd GO A is also known as GO A Reversed. GO A used extensively by Sx & HES.
GO B	1	>2 1/8"	N	10A	1000V	Industry-standard monopin head – also called 1 5/8" 6 TPI Acme head or 'Titan' head. Guardian has christened it GO B as it was designed by Gearhart-Owen but never christened. Much heavier duty than GO A and often used on perforating equipment. Upper head is a male mechanical with a spring-loaded male pin. Lower head is female mechanical with 4mm socket.
BA-A2	1	2 3/4"	Y	10A	1000V	A new Baker Atlas head designed for use on ballistics equipment. BA's version uses Kemlon feedthru's for isolation; Guardian's use standard PI head components. Uses the same spring plunger and contact screw as BA-A3. Loose threaded ring.
BA-A3	1	1 11/16"	Yes	4A	1000v	A Baker Atlas proprietary monopin head. Guardian's version has pressure isolation. Also known as OTA (Otis turned Atlas) within BA. Uses a sprung contact in the upper head 'box' and a fixed button in the lower head 'pin'. Fitted to ART-G, ART-F.
BA-10	10	1 11/16"	Yes	2A	500v	A Baker Atlas proprietary head used on their 1 11/16" PL tools. Guardian has developed its own version using the same Kemlon-sourced PI element as the BA head. Upper head 'pin' and lower head 'box'.
BA-A1 Universal	1	3 1/8"	?	?	?	A Baker Atlas proprietary monopin head used on large diameter tools such as the perforating CCL tool.
SLB Hepta	10	3 3/8"	Yes	10A	1000v	A SLB proprietary head used on their cable head for open-hole (large diameter) tools.
SLB-31	31	3 5/8"	N	6A	1000V	A SLB proprietary head used on their O/H tools and cable heads. GGT has developed various adapters to this design which uses third party pins/sockets and a custom designed insulator to hold 31 pins or sockets. The U/H is male mechanical/female electrical and the L/H is female mechanical/male electrical. Loose threaded ring.
MH21/22	1	1 11/16"	No	5A	500v	A SLB proprietary monopin head used on their cable head for cased-hole tools.
GMC-A	8	>2 1/8"	Y	2A	1000V	A 'heavy duty' 8 pin head designed initially for use on the Guardian OPS. Uses a loose threaded ring and alignment pin with 4mm banana plugs and sockets.
WFD-55	55	3 5/8"	Y	2A	1000V	A Weatherford (formerly Precision, formerly Computalog) proprietary head used on their O/H tools. Very complex and expensive. Has integral pressure isolation element (from Kemlon). We have integrated this head onto the MRT.
GMC-B	12	N/A	N	>6A	1000V	Used at the upper end of an MRT-B to enable connection of various LAH heads
GMC-C	12	N/A	N	>6A	1000V	Used at the lower end of an MRT-B (and both ends of a VPM-E) to enable connection of various LAH heads