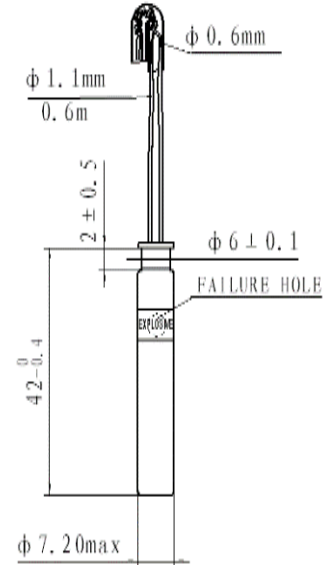


Thermostable and Fluid Disabled Oilfield Electric Detonators

TABLE OF ELECTRIC DETONATOR PART NUMBER

Disable Detonator *	Non-failure Detonator	Shell Length (mm/in)	Temperature Rate (°F/°C)
QH-140S-A-RDX	QH-140-A-RDX	36.0/1.42	284/140, 2hrs
QH-140S-A-HMX	QH-140-A-HMX	36.0/1.42	356/180, 2hrs
QH-140S-B-RDX	QH-140-B-RDX	36.0/1.42	284/140, 2hrs
QH-140S-B-HMX	QH-140-B-HMX	36.0/1.42	356/180, 2hrs
QH-140S-C-RDX	QH-140-C-RDX	36.0/1.42	284/140, 2hrs
QH-140S-C-HMX	QH-140-C-HMX	36.0/1.42	356/180, 2hrs
QH-140S-D-RDX	QH-140-D-RDX	36.0/1.42	284/140, 2hrs
QH-140S-D-HMX	QH-140-D-HMX	36.0/1.42	356/180, 2hrs

* The "S" denotes the electric detonator is fluid disabled. Fluid disabled detonators are installed with two symmetrical failure holes (D: 2 mm)



SPECIFICATIONS

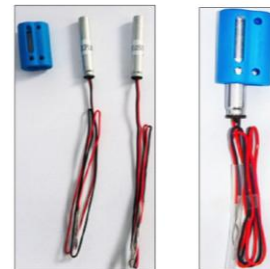
Base Charge	0.45/6.94 (gram/grain) RDX or HMX
Initiating Charge	0.18/2.78 (gram/grain)
Diameter	7.1/0.28 (mm/in)
Wire (0.6m/Cu 22 gauge)	$\phi 1.1 \pm 0.1$ (mm), Red and Black, Teflon
Resistance	54-57 (Ω)
Max. No-fire Current	0.2 (A)/5 (min)
Firing Current	0.8 (A)
Electric Fuse-head Structure	Rigid, 0.03/0.46 (gram/grain)
Electrostatic Sensitivity	781mJ
Failure Function	Immersed into the water with the pressure of 0.65MPa for 30min, base charge of detonator will fail.



Disable Electric Detonator



Non-failure Electric Detonator



Detonating Cord Adapter
Electric Detonator



NORMAN OIL TOOLS LLC

Thermostable and Fluid Disabled Oilfield Electric Detonators

QH-140S-RDX, QH-140S-HMX

PRODUCT INFORMATION BROCHURE

We provide disable and non-failure electric detonators. This family of detonators is used for wireline and perforating gun operation in the oil and gas well environment. Their design enables them to withstand a high temperature environment. They provide the fluid disabled feature and non-failure. This feature prevents an accidental low order detonation of the perforating gun.

ADVANTAGES

- Temperature rating up to: 284°F, 2hrs (QH-140S-RDX), 356°F, 2hrs (QH-140S-HMX)
- High immunity against electrostatic energy: 25kV/2,500pF
- Fluid disabled function (QH-140S-RDX, QH-140S-HMX)
- Initiating Power: Lateral Initiating Power, Axial Initiating Power
- High reliability (Electric Fuse-head rigid structure)
- Easy handling

STORAGE

Detonators must be stored in an approved magazine located to conform to state and local laws and regulations. The storage magazine should be well built, well ventilated, clean, dry humidity of less than 70%. Temperature is between -40° F ~ +140° F; -40°C ~ +60°C, fire resistant and securely locked when not in use. Detonators should never be stored with other explosives in the same magazine. Shelf life is 3 years.

HANDLING

Keep detonators away from children. For use by authorized personnel only. Always dispose of detonators using proper methods. Consult your supervisor or Norman Oil Tools representative.

PACKAGING

Classification 1.4S, UN 0456

Box size: 19.3 x 12.60 x 9.45 in (490 x 320 x 240 mm)

EX number: EX2024122598



DO NOT REMOVE TAPE UNTIL IMMEDIATELY PRIOR TO USE!