



TCP Pressure Activated Firing System

The TCP pressure activated firing system is used in TCP to detonate guns. It mainly used for highly deviated wells and horizontal wells.

Features

- ※. Could be used with time-delay firing system.
- ※. Could be connected in top end or bottom end of the guns.

Main Technical Parameters

Model	YB3-1	YB3-1A	YB3-1H	YB1-8D	YB1-7D
O.D.	φ89mm	φ93mm	φ93mm	φ93mm	φ93mm
Length	321mm	326mm	314mm	326mm	668mm
Pressure Tolerance	90MPa	90MPa	140MPa	90MPa	90MPa
Temperature Tolerance	Percussion detonator temp rating				
Min. Firing Pressure	14.7MPa				
Upper Thread	2-7/8 NUE	2-7/8 EUE	2-7/8 NUE	2-7/8 EUE	Tr65×4
Bottom Thread	3-1/16 -6Acme	3-1/16 -6Acme	3-1/16 -6Acme	Tr65×4	Tr65×4

Drop-bar Actuated Firing Head

Drop-bar actuated firing head is used in TCP to firing guns. Drop bar from well head to strike impact pin to break shear pin and detonate percussion detonator to detonate guns.

Features

- ※. Drop bar assemble actuated.
- ※. Suit for light mud and little deviated wells.

Main Technical Parameters

Model	FS-10B	FS-10C	FS-10C2	FS-10F
O.D.	φ93mm	φ93mm	φ93mm	φ114.3mm
Length	343mm	343mm	343mm	363mm
Pressure Tolerance	70MPa	70MPa	70MPa	70MPa
Temperature Tolerance	160°C/48h	160°C/48h	160°C/48h	160°C/48h
All Fire Energy	2.655kg.m	2.655kg.m	2.655kg.m	2.655kg.m
Upper Thread	2-7/8 NUE	2-7/8 EUE	2-7/8 EUE	3-1/2 EUE
Bottom Thread	3-1/16 -6Acme	3-1/16 -6Acme	3-1/16 -6Acme	3-1/16 -6Acme



Direct Pressure Vent Firing Head

The pressure activated vent firing head is used in TCP to detonate the guns and balance tubing and annulus.

Features

- ※ Can be used with time delay assembly.
- ※ Can balance tubing and annulus immediately.
- ※ Suited for vertical wells, highly deviated wells and horizontal wells.
- ※ Can be used in perforating and testing combine operations.

Main Technical Parameters

Model	YBK1-7	YBK1-3A	YBK1-4-TY
Pressure Tolerance	90MPa	90MPa	90MPa
Temperature Tolerance	160°C/48h	160°C/48h	160°C/48h
Mini. Firing Pressure	14.7MPa	14.7MPa	14.7MPa
Upper Thread	2-7/8 NUE	2-7/8 EUE	2-7/8 NUE
Bottom Thread	3-1/16 -6Acme	Tr65×4	2-7/8 -6Acme

Differential Firing Head Assembly

Differential firing head assembly is used to firing guns in TCP.

Features

- ※ Pressure balanced when run in hole for improving safety & reliability.
- ※ Could be detonated by pressurize by tube.
- ※ Could be used with annulus pressure device and detonated by pressurize by casing.

Main Technical Parameters

Model	YCE-1	YCE-3
O.D.	φ89mm	φ89mm
Length	467mm	467mm
Pressure Tolerance	90MPa	90MPa
Temperature Tolerance	160°C/48h	160°C/48h
Break Force of Shear Pin	4.0MPa	4.0MPa
Upper Thread	2-7/8 NUE(B)	2-7/8 NUE(B)
Bottom Thread	Tr65×4(P)	3-1/16 -6Acme(P)



Double Firing Head

Double firing head is used in TCP to firing guns. The product was composed with TCP safety impact assembly and TCP pressure activated firing system. It could be actuated by drop bar or pressure.

Main Technical Parameters

Model	AJY1-1	AJY1-1C	AJY1-2
O.D.	φ93mm	φ93mm	φ93mm
Length	615mm	660mm	622mm
Pressure Tolerance	90MPa	100MPa	70MPa
Temperature Tolerance	160°C/48h	160°C/48h	160°C/48h
Break Force of Shear Pin	3.67±0.18MPa each	3.67±0.18MPa each	3.67±0.18MPa each
Upper Thread	2-7/8 EUE	2-7/8 EUE	2-7/8 EUE
Bottom Thread	3-1/16 -6Acme	Tr65×4	Tr65×4

Orient Pressure Activated Firing Head

Orient pressure activated firing head is used in orient perforating job to detonate guns. It was activated by pressure as TCP pressure activated firing head, its structure and the method of connection were different form TCP pressure activated firing head. It could keep the orientation of orient key form changing. There were two orient keys at the two ends of firing head and the firing head used with orient guns. It could realize exact position.

Main Technical Parameters

Model	DYB1-1
O.D.	φ89mm
Pressure Tolerance	70MPa
Temperature Tolerance	160°C/48h
Shear Force of Shear Pin	3.88±0.2MPa/each
Upper Thread	Tr65×3
Bottom Thread	Tr65×4

Redundant Annulus Pressure Firing System

Redundant annulus pressure firing system is used to detonate guns in TCP. It could be actuated by drop bar or



pressurize.

Main Technical Parameters

Model	DFH2-1
O.D.	φ114mm
Length	987mm
Pressure Tolerance	90MPa
Pressure Drop	50MPa
Temperature Tolerance	160°C/48h
Break Force of Shear Pin	2.5±0.125MPa each
Upper Thread	2-7/8 -6Acme
Bottom Thread	2-7/8 -6Acme

Full Bore Drop Bar-actuated Firing Head

Full bore drop bar firing head is designed to detonate gun by drop bar, and generate a certain full bore.

Features

- ※ Can be used in vertical well, high deviated well or horizontal well.
- ※ Can be run with logging apparatus.

Main Technical Parameters

Model	QTJ1-1	QTJ1-2	QTJ1-3	QTJ1-4	QTJ1-4B
O.D.	φ93mm	φ93mm	φ95mm	φ114mm	φ127mm
I.D	φ45mm	φ50mm	φ55mm	φ65mm	φ65mm
Pressure Tolerance	90MPa	90MPa	90MPa	90MPa	90MPa
Temperature Tolerance	160°C/48h	160°C/48h	160°C/48h	160°C/48h	160°C/48h
Upper Thread	2-7/8 EUE	2-7/8 NUE	2-7/8 EUE	2-7/8 EUE	2-7/8 EUE
Bottom Thread	Tr65×4	Tr72×4	3-1/16 -6Acme	Tr90×4	Tr90×4

TCP Safety Impact Assembly

TCP safety impact firing assembly is used in TCP to detonate guns. The safety impact firing head require both action, drop bar action unlock and hydrostatic actuate. Without enough hydrostatic pressure acting on firing head, the impact detonator could not be detonated.

Features



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- ※ Electrical current, natural or man-made unexpected action cannot detonate the TCP safety impact firing assembly.
- ※ Drop bar action unlock and hydrostatic actuate.

Main Technical Parameters

Model	AJ-3C	AJ-3L	AJ-3H
O.D.	φ93mm	φ93mm	φ93mm
Length	387mm	387mm	387mm
Pressure Tolerance	70MPa	70MPa	140MPa
Min. Impact Energy	2.655kg · m	2.655 kg · m	2.655 kg · m
Min. All Fire Pressure	3MP	3MPa	14MPa
Safety Pressure	2MPa	2MPa	10MPa
Upper Thread	2-7/8 EUE	2-7/8 EU	2-7/8 EUE
Bottom Thread	3-1/16 -6Acme	3-1/16 -6Acme	3-1/16 -6Acme