

# Absolute Pressure Firing Head

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The **SPEX Offshore (UK) Ltd. Absolute Pressure Firing Head (APFH)**.

(APFH) is a mechanical firing head deployed on coiled tubing and drillpipe, which negates the use of electrical initiation systems. The APFH can be used to initiate a wide range of explosive assemblies.

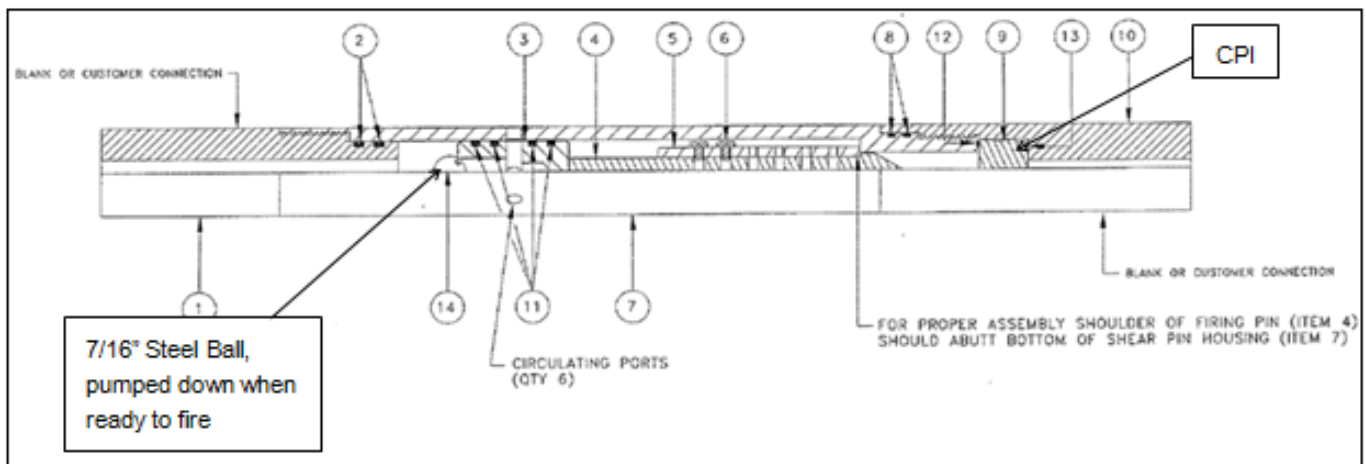
## Principle of Operation

The APFH can be run on coiled tubing or jointed pipe and employs a conventional tubing crossover to suit the connection, the top connection on the firing head is 1-1/4" AMMT box. For enhanced safety, a stainless steel ball must be circulated downhole onto the piston, before pressure can be applied to the tubing string, forcing the piston into the firing pin. This impact causes the pin to strike the explosive 'CP' initiator.

The correct number of shear pins is inserted into the firing head according to the wellbore pressure and temperature, a safety margin of at least 1500 psi is incorporated into the shear pin calculation. When the piston is forced downwards, it drops below the previously closed circulation ports in the body of the tool, allowing circulation after firing. Each port is 0.113" diameter and the flow area through the tool is 0.68 in<sup>2</sup>.



After firing, fluid flow is not permitted past seals on the CP initiator therefore preventing fluid flow to/ from the tools below the firing head. Once recovered, the APFH can be redressed and is reusable.



Qty	Part Number	Description
1	801-169-26	TOP SUB, APFH (BLANK)
2	103-213-95	O-RING SIZE 213
1	801-169-71	PISTON BALL DROP CIRCULATING APFH
1	801-169-23	FIRING PIN APFH (HP)
1	801-169-25	SHEAR HOUSING (HP)
1	801-169-14	50PK OF 053-0425-2038HT SHEAR SCREWS
1	801-169-30	PRESSURE HOUSING CIRCULATING
2	103-123-95	O-RING SIZE 123
1	51-6956-3	CP PERCUSSION DETONATOR
1	801-169-27	BOTTOM SUB APFH (BLANK)
4	103-120-95	O-RING SIZE 120
1	103-118-95	O-RING SIZE 118
1	113-95	O-RING SIZE 113
1	052-438-01	7/16" STAINLESS STEEL BALL



## Drop Ball Circulating Absolute Pressure Firing Head (APFH)

Description	Metric	Imperial
OD	42.8 mm	1-11/16" (1.687")
Maximum Operating Pressure*	827 bar	12,000 psi
Number of Ports	6	6
Ports Flow Area	438 mm <sup>2</sup>	0.68 in <sup>2</sup>
Tensile Strength	12,700 kg	28,000 lb
Burst Pressure	1,379 bar	20,000 psi
Top Connection	1.25" AMMT Box	1-1/4" AMMT Box
Bottom Connection	1.5" - 10 2G Stub Acme Pin	1-1/2" - 10 2G Stub Acme Pin

## Temperature Rating

171 °C 100 hrs	DET-3050-134A CP Initiator	340 °F 100 hrs
149 °C 200 hrs		300 °F 200 hrs
232 °C 100 hrs	DET-3050-133CP Initiator	450 °F 100 hrs
224 °C 200 hrs		435 °F 200hrs

\* APFH with 20,000 psi operating pressure available on request.

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