

## Gas Fracturing Perforator

### Description

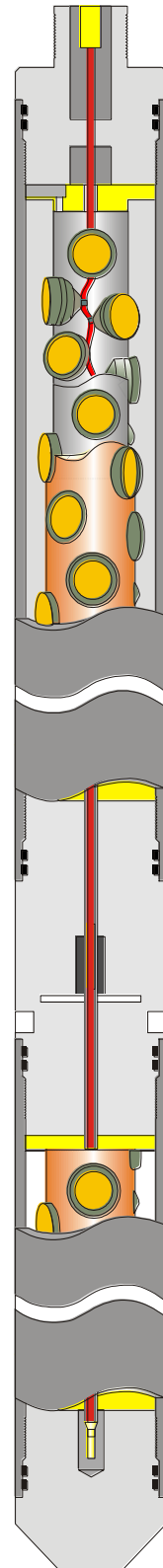
The gas fracturing perforator is composed of guns and high energy propellant. The high energy propellant is installed between gun body and carrier. The propellant is ignited when the charges explode and give off vast gas. The gas acts on the pore walls in plus pressure mode, so cracks are built around pore walls.

### Benefits/Capabilities

- Peak pressure is high, the crack around holes can generate fast.
- Can break pollution zone and increase flow area.
- Can perforate and gas fracture in one running.
- Low cost

### Specifications

<b>Gun diameter</b>	114mm, 127mm, 159mm, 178mm
<b>Hole density</b>	16,40 holes/meter
<b>Hole phase</b>	According to phase of guns
<b>Peak pressure</b>	100~130MPa
<b>Function time</b>	20-25ms
<b>Temperature rating</b>	180°C/48h
<b>Make-up length</b>	900mm, 500mm
<b>Expanding rating of gun body</b>	<4mm



## Through Tubing Swing Jet Perforator

### Description

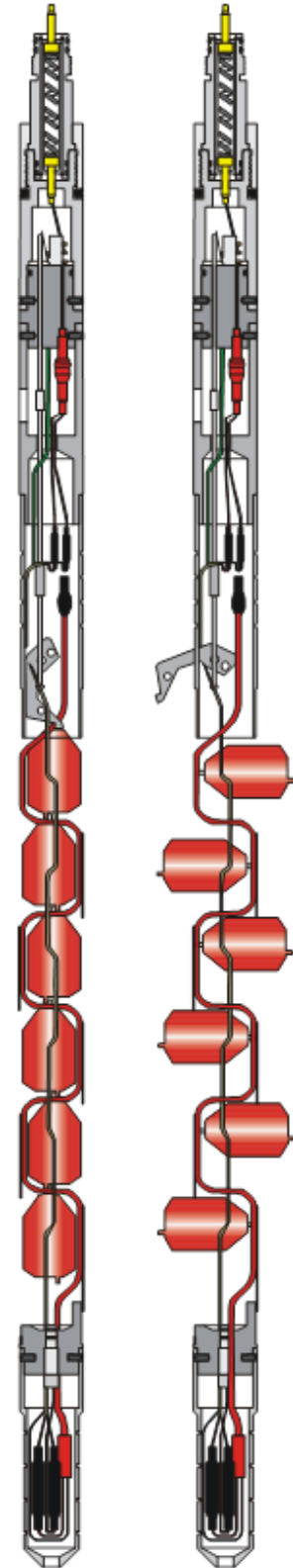
The through-tubing swing jet perforator is designed to perforate in WCP without pulling out the tubing. It can convey big charges through tubing to pay zone. Then the releasing detonator is detonated by an electric signal from surface to unlock the trigger, and charges swing out to be normal to axis of guns. In this case the oil layer can be perforated with big charges.

### Benefits / Capabilities

- Can re-perforate in old well without pulling out of tubing.
- Can be used with relative big charges to achieve deeper penetration.
- Firing circuitry is in short state before the charges are released.

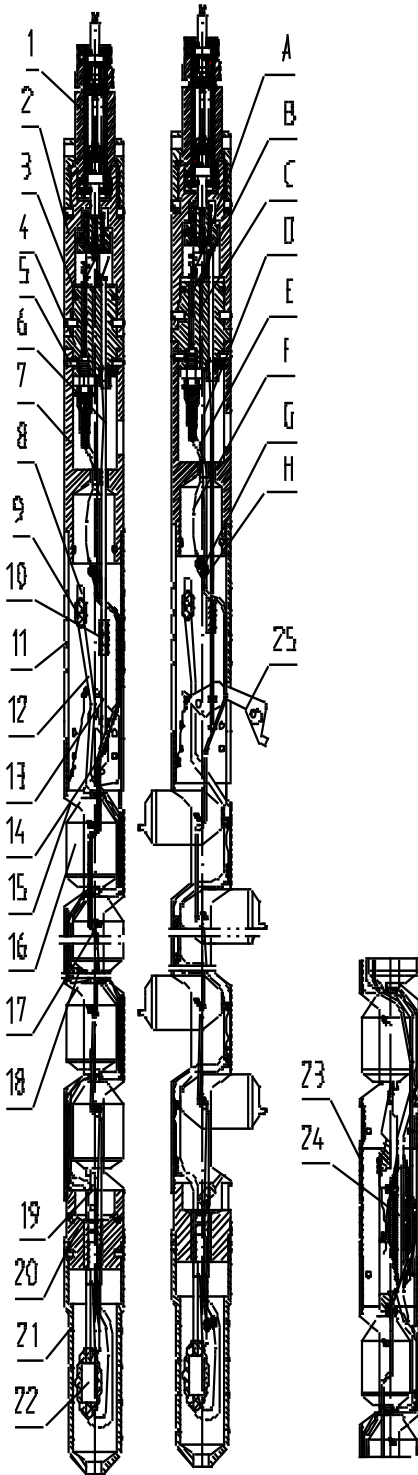
### Specification

Max. Diameter before release	φ48mm	1.90"
Max. Diameter after release	φ104mm	4.10"
Pressure rating	60MPa	8,700psi
Temperature rating	160°C/4h	



## Through Tubing Swing Jet Perforator (2)

### Specification (2)



Item	Description	Qty
1	Double male adapter	1
2	Upper sub	1
3	O-ring	4
4	Firing head assembly	1
5	Screw	32
6	On-off bar	1
7	Connecting housing	1
8	Protect cap	1
9	Hi-tem seal tap	1
10	Adjust screw	1
11	Trigger housing	1
12	Detonating cord	
13	Adjust screw	1
14	Shielded wire	1
15	Carrier	1
16	Charge	14/m
17	Shaft screw	28/m
18	Extension spring	28/m
19	Release detonator	1
20	Release housing	1
21	Bull nose	1
22	Electrical detonator	1
23	Tandem connector assembly	1
24	Bi-di booster	1
25	Trigger	1
A	White wire to contactor	
B	Red wire	
C	Red wire to fire wire	
D	Grounding wire	
E	Red wire	
F	Blue wire	
G	Blue wire to release detonator	
H	Red wire to electric detonator	