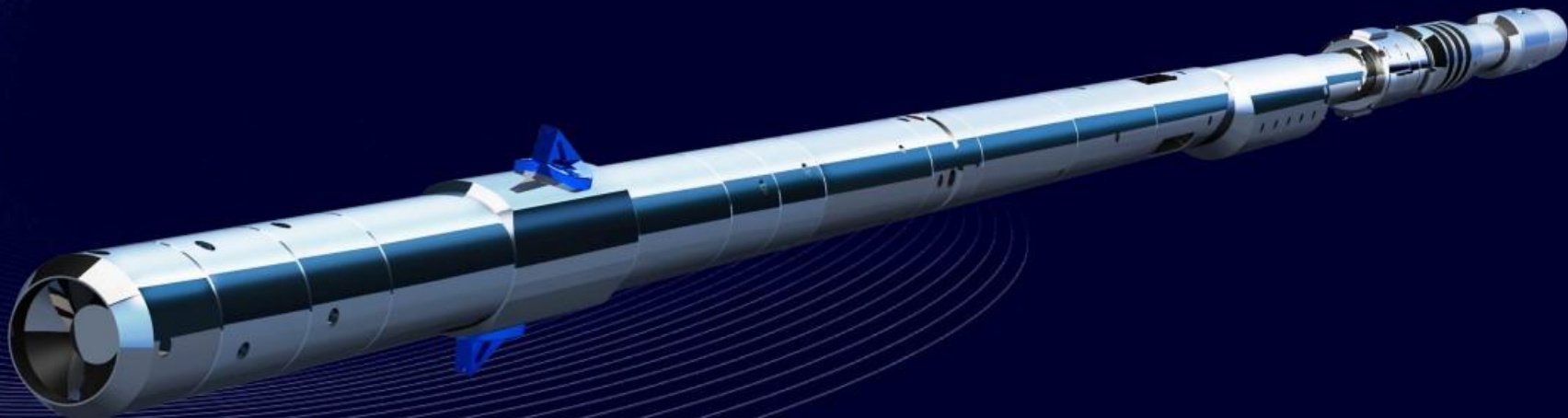


Pit Frac Jet

PERFORATION, FORMATION FRACKING/ACID
TREATMENT
& WELL KICK-OFF (starting of a well) IN 1 RUN



Pit Frac Jet Assembly

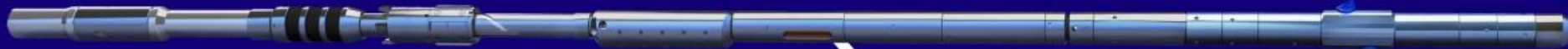
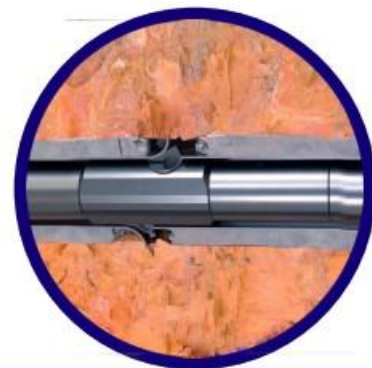
Pit Frac Jet — the field-proven technology of perforation, stimulation and well kick-off (starting a well) in one run **since 2016**

JET PUMP

PACKER

CONTAINER WITH
AUTONOMOUS
GAUGES

FRAC
PORT



The perforator design allows to carry out:

- Propagation of fractured cement and formation by jetting through hydro-monitor nozzles;
- Changing the wellbore fluid before and after perforation;



PIT PERFORATOR



Pit Frac Jet

Main technological
advantages

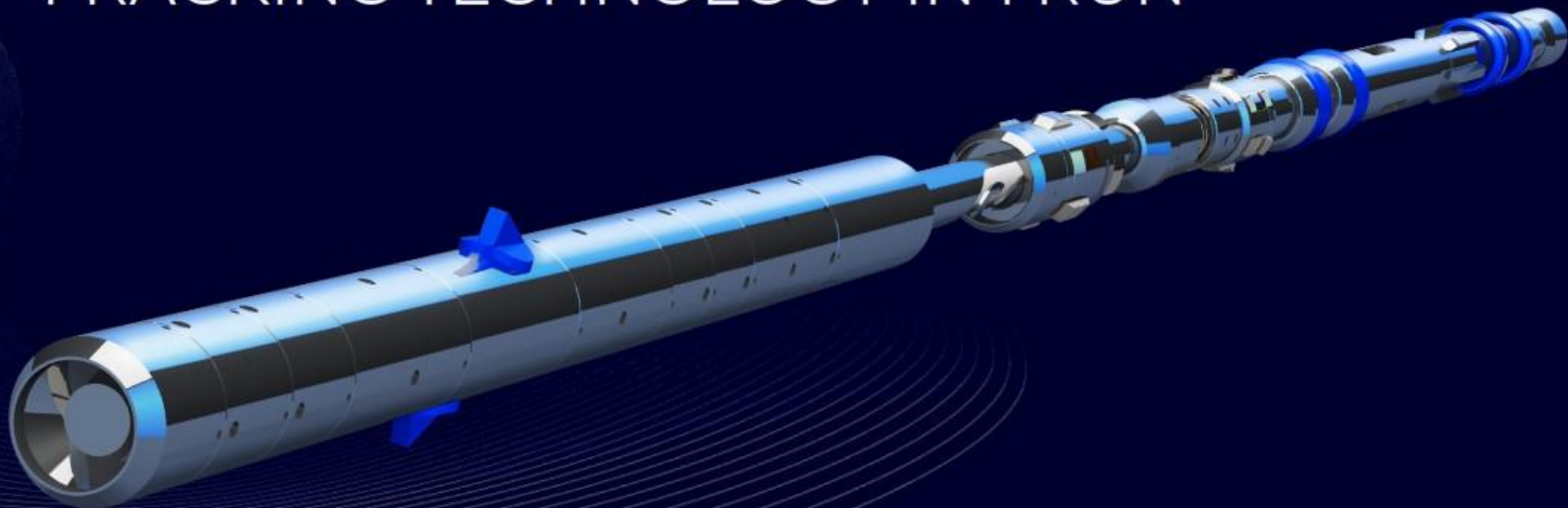
- 1 | COMPLEX TREATMENTS WITHIN 1 RUN AS PER CUSTOMER'S REQUIREMENTS
- 2 | SAFE PERFORATION WITHOUT RISK OF USING EXPLOSIVE MATERIALS
- 3 | WELL KICK-OFF (STARTING A WELL) IS FOLLOWED AFTER PERFORATION, ACID TREATMENT OR HYDRAULIC FRACKING
- 4 | TIME SAVING UP TO 3 TIMES IN COMPARISON WITH OTHER TYPES OF PERFORATION
- 5 | REDUCES THE RISK OF 'EMERGENCY' STOPS, CROSS FLOWS BEHIND THE CASING AND REDUCES REMEDIAL CEMENTING (RC) COSTS
- 6 | TIME SAVING TO SWITCH A WELL INTO PRODUCTION
- 7 | WELL CLEANING OUT OF FRACKING FLUID AFTER FRACKING OR ACID TREATMENT
- 8 | CLEANING THE FRACTURE FROM RESIDUAL GEL AND INCREASING WELL PRODUCTIVITY BY UP TO 25%

Pit Frac Jet Lab Test Results

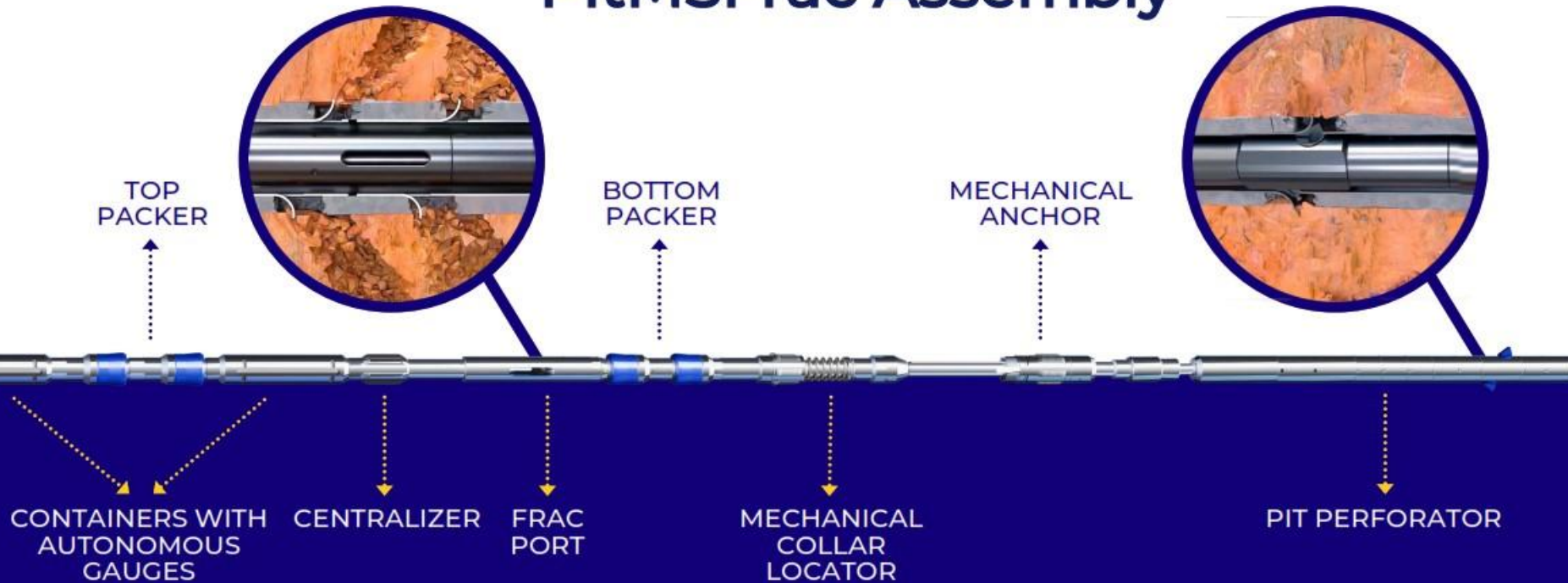


PitMSFrac

PERFORATING AND MULTISTAGE
FRACKING TECHNOLOGY IN 1 RUN



PitMSFrac Assembly



PitMSFrac — the technology which allows efficient perforation and multistage stimulation (fracking, acidization etc.) to be conducted in one run **since 2021**

Well conditions for PitMSFrac

250

Temperature
up to 250°F
(120°C)

4-7

Production casing
OD, in

200 - 400

Volume of proppant to be pumped
per 1 run:
up to 200 tones for PC OD 4-1/2"
up to 400 t for PC OD \geq 5-3/4"

10 000

Pressure up to
10 000 psi
(15K psi as per
request)



PitMSFrac

Main technological advantages

- 1 | **MORE THAN 200 HOURS** — SAVING TIME FOR SWITCHING WELL INTO PRODUCTION
- 2 | **UP TO 25%** — FLOW RATE INCREASING IN VERTICAL WELLS DUE TO EXTRA PERFORATION
- 3 | **UP TO 50%** — SAVING MONEY DUE TO USING LESS HARDNESS STEEL
- 4 | **NO NEGATIVE IMPACT** OF OVERPRESSURE DURING MULTIFRAC ON THE ENTIRE CASING AND ELIMINATION OF CIRCULATION AND CROSS FLOW BEHIND CASING
- 5 | **UP TO 10** PERFORATION AND HYDRAULIC FRACKING STAGES IN 1 RUN
- 6 | **NO NEED TO USE MULTIFRAC PORTS** FOR WELL COMPLETION

Additional Technological Advantages of PitMSFrac technology

Nekko

Cumulative perf.

1 SAFE OPERATIONS WITHOUT THE USE OF EXPLOSIVE MATERIALS

STORAGE, TRANSPORTATION, OBTAINING PERMISSIONS FOR EXPLOSIVE MATERIALS

2 SAVE PERFORATION OF THE PRODUCTION CASING AND ELIMINATION OF CIRCULATION AND CROSS FLOW BEHIND CASING

INTEGRITY OF CASING/LINER AND CEMENT BOND MAY BE COMPROMISED

3 SAVING ONE OR MORE RUNS DUE FLEXIBLE ASSEMBLY OPTIONS AS PER CUSTOMER REQUIREMENTS. SIMPLICITY OF LINER DESIGN AND PRESERVATION OF UNIFORMAL ID OF LINER

SOMETIMES MORE THAN 1 RUN IS REQUIRED FOR DIFFERENT OPERATIONS