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FUGRO
CLASS V TORQUE TOOL

The class 5 torque tool is a hydraulically powered subsea torque tool capable of developing up to 6779 Nm of torque. As standard, the torque tool comes with a nose cone capable of interfacing with the class 5 ISO 13628-8 Fig 18 valve stems and buckets.

The torque tool is operable by remotely operated vehicle (ROV) manipulators and is powered by hydraulics either connected directly to the ROV or via a hot-stab. The subsea display is powered by rechargeable batteries, and is capable of displaying torque and turns count. If it is connected directly to the ROV, the torque and turns can be displayed topside on the laptop provided with the control system.

The hydraulic power is fed into a hydraulic motor via a dual port hot-stab or direct connection, which engages a reduction gearbox and outputs torque through the drive socket. The reduction gearbox incorporates a torque transducer that measures the torque output of the tool and outputs a mV/V signal that can be read by the subsea display unit or the topside control unit. Built into the tool is a turns counter that can also be read by the display unit or topside control unit.

Reaction dogs on the tool can be removed and replaced with a hydraulic latching system that is similar to our torque tool class 1-4.

BENEFITS

- Common control interface with all other Fugro torque tools, providing cost saving if multiple Fugro torque tools are utilised
- Can be integrated with any work class ROV system, or controlled by any common control platform
- Can be adapted to integrate with either 17H or 17D connections, providing greater operability
- API 17N technology readiness level 7 (TRL 7)

CLASS V TORQUE TOOL

Technical Specifications

General

Size (without handle)	800 mm x 300 mm x 280 mm (l x w x h)
Size (with handle)	800 mm x 300 mm x 468 mm (l x w x h)
Weight in air (tool)	86 kg (189.6 lb)
Weight in air (tool with hydraulic oil)	90 kg (198.4 lb)
Weight in water (tool)	69 kg (152.1 lb)
Maximum storage temperature	-30°C to +60°C
Maximum working temperature (surface)	-20°C to +60°C
Design life	10 years (with regular maintenance)
Design depth	3000 MSW

Tool Supply (from ROV)

Maximum design supply pressure	130 barg (1885 psig)
Recommended supply pressure	120 barg (1740 psig)
Maximum supply flow rate	60 l/m (15.9 g/m)
Recommended supply flow rate	20l /m (5.3 g/m)
Operating fluid	Hydraulic oil – ISO 32

Tool Output/Interfaces

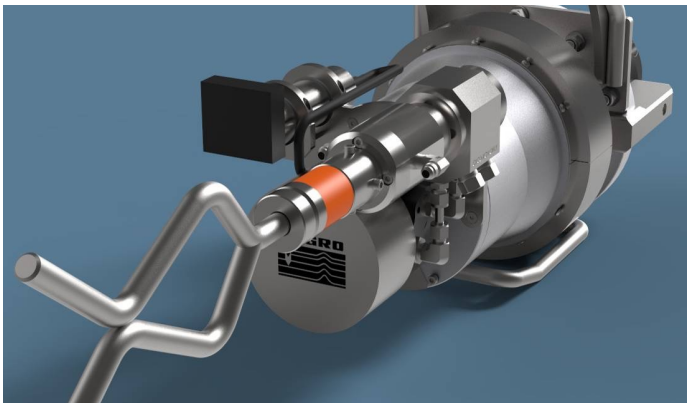
Interface	ISO 13628-8 figure 18 class 5 torque bucket
Speed - Torque Range	Maximum 6779 Nm at 5 rpm
Torque Multiplier Ratio	25:1

Key Features

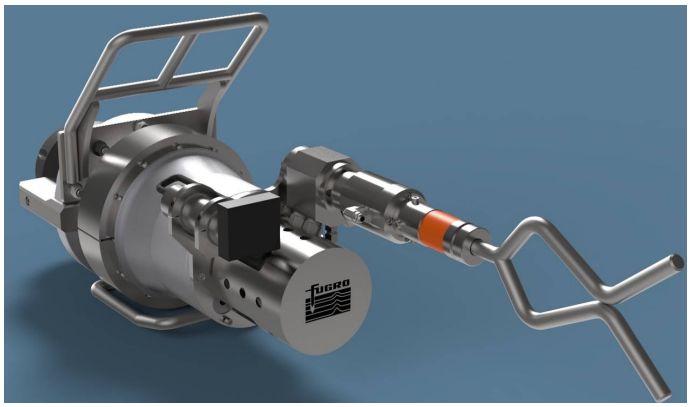
- Class 5 Torque of maximum 6779 Nm
- Built-in hotstab receptacle (optional)
- Integral turns count accurate to 1/20th of a turn in either direction.
- Manipulator operable or ROV
- Anodised aluminium and stainless steel body
- Nose cone to ISO 13628-8 figure 18 class 5
- Built-in subsea display unit for turns and torque readings (optional)
- Able to be controlled topside via subsea control unit (if required)

Associated Tools

- Class 5 Torque Analyser
- Torque Tool Control System
- Subsea Torque and Turns Display (standalone or integrated)



Tool rear view 1



Tool rear view 2

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