

FUGRO CLASS VI TORQUE TOOL

Fugro's ISO 13628-8/API 17H and 17D (1996) class 6 subsea torque tools offer total versatility, enabling operation of all class 6 torque tools rotary actuators.

Designed to be compatible with surface operated torque tool control systems, the class 6 tools are hydraulically operated, and capable of developing 13 558 Nm (10 000 lbf-ft) of continuous torque output in accordance with the ISO 13628-8 class 6 interface maximum torque requirement.

The mineral oil hydraulic supply is connected to a rear mounted motor on the tool, which engages directly with an integral 61:1 torque multiplier. The multiplier design incorporates the tool's drive socket, fully enclosed by an acetal nose. A torque transducer provides torque measurement capability in mV/V, and a dual proximity sensor arrangement enables accurate turns count capability. Electrical connection to the remotely operated vehicle (ROV) is by a rear mounted socket.

Tools are supplied with interface hose, cable and depth compensator kits, and can also be supplied with a 2x4 digit external display for local torque and turns indication.

BENEFITS

- API 17N technology readiness level 7 (TRL7)
- Dedicated lift points to safely reduce deck handling requirements
- Reduced equipment spread costs common control interface with all other Fugro torque tools
- ROV deployable, providing efficiencies during the operations phase
- Multi-operable 17H and 17D connections providing operational efficiencies





CLASS VI TORQUE TOOL

Technical Specifications

General

Size (excluding ROV handle)	(API 17D - 1996)	789 mm (31 ‰") x 405 mm (15 1‰") x 281 mm (11 ‰")(l x w x h)
	(API 17H)	838 mm (33″) x 405 mm (15 ឃ‰″) x 281 mm (11 ‰) (l x w x h)
Weight in air	(API 17D - 1996)	107 kg (245 lb)
	(API 17H)	111 kg (245 lb)
Weight in water	(API 17D - 1996)	73.5 kg (172 lb)
	(API 17H)	78 kg (172 lb)
Design life		10 years (with regular maintenance)
Design depth		3000 MSW (9,842 ft)
Operational temperature range		-15°C to +45°C (+5°F to +113°F)
Storage temperature range		-25°C to +60°C (-13°F to +140°F)

Tool Supply (from ROV)

Required supply pressure (continuous operation)	140 barg (2030 psig)
Required supply flow	0 to 40 l/m (0 to 10.6 g/m)
Operating fluid	Hydraulic oil – ISO 32
Fluid cleanliness level	AS 4059 class 6 B - F
Operating fluid	Hydraulic oil – ISO 32

Tool Output/Interfaces

Interface	ISO 13628-8 class 6/API 17H or API 17D (1996)	
Maximum rotational speed	4 rpm	
Maximum torque output	13 558 Nm (10 000 lbf-ft)	
Torque multiplication factor	61:1	
Electrical connection	8 pin subconn micro	

Key Features

Compact design for easy integration	
Integral turns count accurate to 1/153rd of a turn in either direction	
Manipulator operable	
Anodised aluminium body	
Choice of paddle/fishtail/T-bar or ring handle (client specific handle also available at additional cost)	
Supplied in a dedicated offshore transit case	
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 6 Torque Analyser Torque Tool Control System High Flow Valve Pack Subsea Torque and Turns Display (standalone or integrated)



Rear view of the tool

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