VASI

Class 1-7 API Workshop Torque Tool

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Class 1-7 API Workshop Torque Tool

Technical Description
The purpose of the tool is to perform a torque controlled torqued turn on
API CL1-4, CL5, CL6 and CL7 applications, powered by air or hydraulic pressure (pending motor alternative).

To read the torque, the kit may be supplied with an electronic read-out instrument in its own dedicated suitcase. This is packed in a case for easy storage and transportation. The tools fitted with torque transducers will read applied torque independent upon motor alternative. The transducer type is calibrated according to ISO 17025 – BS 7882 requirements class 1.0 or better (which is in comparison, within requirement of aerospace & medical industry for accuracy, repeatability and reproducibility of torque measuring devices).

There is also an option for reading both torque and angle. This is for currently only available for workshop use.

Configuration
There are 3 basic versions of this tool. The standard manual operated pneumatic tool, the remote operated pneumatic tool and the remote operated hydraulic tool. Except for the first stage of the tool the tools are identical. It consists of the motor, epicyclic gearbox, a transducer (if fitted), the API extension with an API adaptor for CL1-4, CL5, CL6 or CL7. In addition, supplied in a case, a torque read-out instrument.

The torque tool is developed for topside workshop testing / installation of subsea infrastructural equipment. The tool requires external pneumatic compressor for air tools or hydraulic HPU for the hydraulic tools. The hydraulic tool is normally supplied without hoses (Please specify type of couplers when ordering). The tool is virtually maintenance free and can take up to 30.000 cycles without service under normal running conditions. Hence, the tool is more rugged/though than average subsea tool counterparts. The tool may be equipped with a very accurate and calibrated torque transducer and read-out instrument (UKAS accredited BS 7882. maximum +/-1% of reading for full dynamic range). The tool may be configured/fitted with the torque transducer on the output axle, such that the applied torque is measured independently of power source (air or hydraulic). Hence it is actual applied torque that is constantly measured by the torque transducer in real-time.

The TTL-HE is an IP67-rated battery operated read-out instrument for real time torque readings. The T-Box 2 is a bench mounted torque measuring instrument with a user friendly color touch screen interface. This comprehensive instrument functions in 12 languages, has all common torque units, pre-loaded tool calibration templates and a large memory for storage of results. T-Box 2 features an interface to a PC where the Torque Data can be stored and managed.

Class 1-4 API Workshop Torque Tool

Pneumatic Tool	**Pneumatic Tool <u>with</u> Transducer**
	
Power Interface: ½" Quick Air Coupler (CW & CCW)	Power Interface: ½" Quick Air Coupler (CW & CCW)
N/A	3000Nm electronic torque transducer Optional: Torque, angle and turns transducer
Forward and reverse operation from 130 to 3000Nm	Forward and reverse operation from 65 to 3000Nm
API Class 1-4 nose interface with window for visual turn indicator	
API socket with adaptors for class 1-4	
Low operator fatigue – quiet, non-impacting or pulsing	
Repeatability of maximum ±1% of reading when a transducer is fitted. (±5% without transducer)	
	 TTL-HE  T-BOX 2

Class 1-4 API Workshop Torque Tool

Remote Pneumatic Tool	Remote Hydraulic Tool
	
Power Interface: 2 x ½" BSP	Power Interface: 2 x ¾" BSP + ⅜ BSP (Standard Parker F10 motor)
Forward and reverse operation from 200 to 3000Nm	
API Class 1-4 nose interface with window for visual turn indicator	
Low operator fatigue – quiet, non-impacting or pulsing	
API socket with adaptors for class 1-4	
3000Nm electronic torque transducer optional with angle and turns counter	
TTL-HE instrument for torque read-out or T-Box 2 for Torque, turns and angle read-out	
Low operator fatigue – quiet, non-impacting or pulsing.	
Repeatability of maximum ±1% of reading when a transducer is fitted. (±5% without transducer)	
Read-out Instrument	
 TTL-HE	 T-BOX 2

The Class 4 tool can also be delivered with a wing reaction and API socket.

Class 1-4 API Workshop Torque Tool

Design Rating

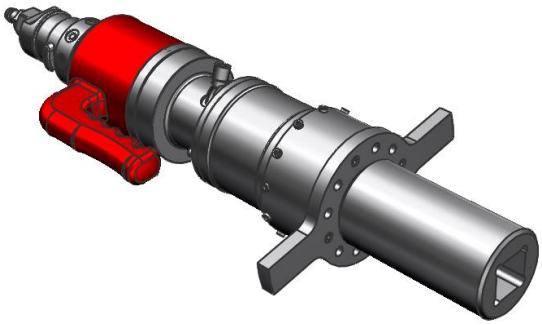
Pneumatic Tool	**Pneumatic Tool w/ TD**
Total weight: 18 Kg	Total weight: 20 Kg
Total length : 670mm	Total length: 750mm
Max output torque: 3000Nm	Max output torque: 3000Nm
Materials used: Structural components: -Stainless steel -Steel (gear train) - Aluminum alloy	Materials used: Structural components: -Stainless steel -Steel (gear train) - Aluminum alloy
Remote Pneumatic tool	**Remote Hydraulic Tool**
Total weight: 27Kg	Total weight: 27 Kg
Total length: 581mm	Total length: 608mm
Max output torque: 3000 Nm	Max output torque:3000Nm
Materials used: Structural components: -Stainless steel -Steel (gear train) - Aluminum alloy	Materials used: Structural components: -Stainless steel -Steel (gear train and motor) - Aluminum alloy

We can also provide custom made variants & kits according to customer demands.

Contact us for further information.

Class 5 API Workshop Torque Tool

Pneumatic Tool	Pneumatic Tool <u>with</u> Transducer
	
Power Interface: ½" Quick Air Coupler (CW & CCW)	Power Interface: ½" Quick Air Coupler (CW & CCW)
N/A	7000Nm electronic torque transducer Optional: Torque, angle and turns transducer
Forward and reverse operation from 600 to 7000Nm	Forward and reverse operation from 600 to 7000Nm
API Class 5 nose interface	
API socket for class 5	
Low operator fatigue – quiet, non-impacting or pulsing	
Repeatability of maximum ±1% of reading when a transducer is fitted. (±5% without transducer)	



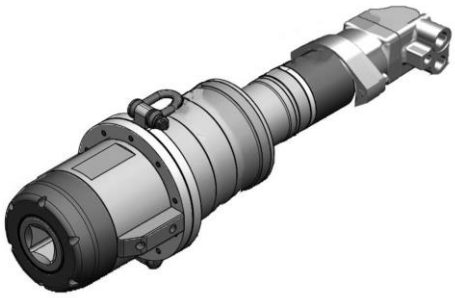
TTL-HE

T-BOX 2

We can also provide custom made variants & kits like a version with wing reaction instead of reaction nose as well as remote operated pneumatic tool and hydraulic driven according to customer demands.

Contact us for further information.

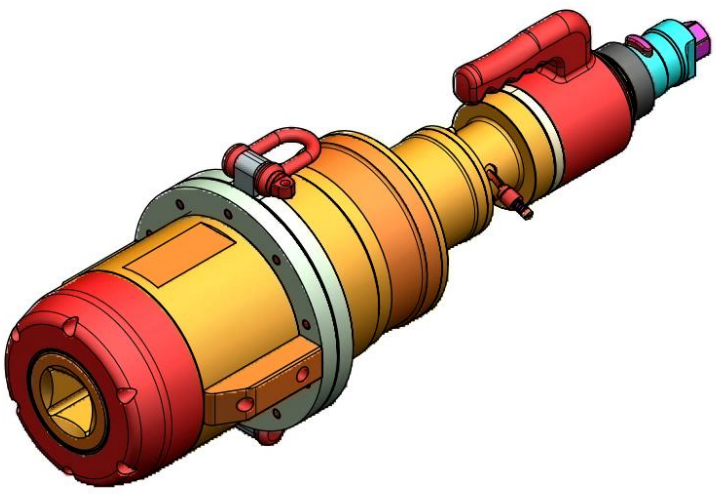
Class 5 API Workshop Torque Tool

Remote Pneumatic Tool	Remote Hydraulic Tool
	
Power Interface: 2 x ½" BSP	Power Interface: 2 x ¾" BSP + ⅜ BSP (Standard Parker F10 motor)
Forward and reverse operation from 600 to 7000Nm	
API Class 5 nose interface	
Low operator fatigue – quiet, non-impacting or pulsing	
API socket with adaptors for class 5	
7000Nm electronic torque transducer with optional angle and turns counter	
TTL-HE instrument for torque read-out or T-Box 2 for Torque, turns and angle read-out	
Low operator fatigue – quiet, non-impacting or pulsing.	
Repeatability of maximum ±1% of reading when a transducer is fitted. (±5% without transducer)	
Read-out Instrument	
 TTL-HE	 T-BOX 2

Class 5 API Workshop Torque Tool

Design Rating

Pneumatic Tool	**Pneumatic Tool w/ TD**
Total weight: 32 Kg	Total weight: 36 Kg
Total length : 995mm	Total length: 1025mm
Max output torque: 7000Nm	Max output torque: 7000Nm
Materials used: Structural components: -Stainless steel -Steel (gear train) - Aluminum alloy	Materials used: Structural components: -Stainless steel -Steel (gear train) - Aluminum alloy
Remote Pneumatic tool	**Remote Hydraulic Tool**
Total weight: 31Kg	Total weight without handle: 36 Kg
Total length: 985mm	Total length: 690mm
Max output torque: 7000 Nm	Max output torque: 7000Nm
Materials used: Structural components: -Stainless steel -Steel (gear train) - Aluminum alloy	Materials used: Structural components: -Stainless steel -Steel (gear train motor) - Aluminum alloy



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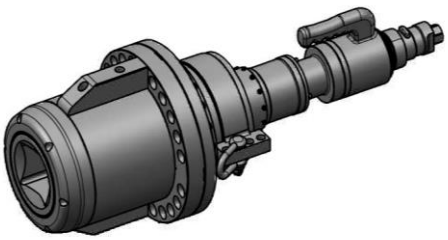
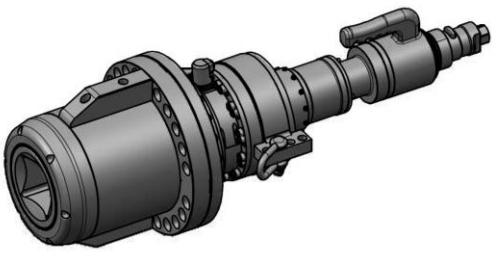
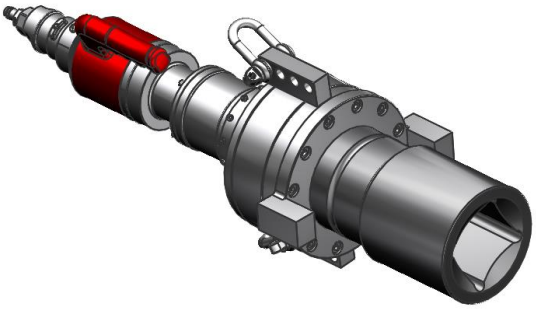
Class 6&7 API Workshop Torque Tool

Pneumatic Tool	Pneumatic Tool <u>with</u> Transducer
	
Power Interface: ½" Quick Air Coupler (CW & CCW)	Power Interface: ½" Quick Air Coupler (CW & CCW)
N/A	20KNm or 40KNm torque transducer Optional: Torque, angle and turns transducer
Forward and reverse operation from CL6: 0,9KNm – 20KNm CL7: 2,7KNm – 40KNm	Forward and reverse operation from CL6: 0,9KNm – 20KNm CL7: 2,7KNm – 40KNm
API Class 6&7 nose interface	
API socket with adaptors for Class 6 or 7	
Low operator fatigue – quiet, non-impacting or pulsing	
Repeatability of maximum ±1% of reading when a transducer is fitted. (±5% without transducer)	



TTL-HE

T-BOX 2

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Class 6&7 API Workshop Torque Tool

Design Rating

Pneumatic Tool	**Pneumatic Tool w/ TD**
Total weight: Variable depending on config.	Total weight: Variable depending on config.
Total length : Variable depending on config.	Total length: Variable depending on config.
Max output torque: CL6: 20KNm CL7: 40KNm	Max output torque: CL6: 20KNm CL7: 40KNm
Materials used: Structural components: -Stainless steel -Steel (gear train) - Aluminum alloy	Materials used: Structural components: -Stainless steel -Steel (gear train) - Aluminum alloy
Remote Pneumatic tool	**Remote Hydraulic Tool**
Total weight: Variable depending on config.	Total weight: Variable depending on config.
Total length: Variable depending on config.	Total length: Variable depending on config.
Max output torque: CL6: 20KNm CL7: 40KNm	Max output torque: CL6: 20KNm CL7: 40KNm
Materials used: Structural components: -Stainless steel -Steel (gear train) - Aluminum alloy	Materials used: Structural components: -Stainless steel -Steel (gear train motor) - Aluminum alloy

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