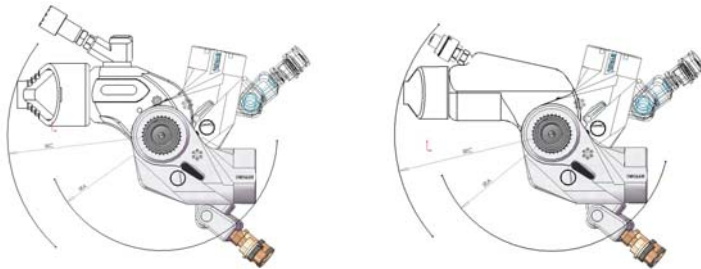




## **The multi-functional system from HYTORC<sup>®</sup>** *The universal AVANTI TorcTensioner*

- **The first system that enables safe remote and *hand-free operation*.**
- **The first system without a reaction arm.**
- **The first system with accessories conforming to ASME regulations.**
- **The first system for calibrated torque and & bolt-load (stretch to load).**
- **The first reaction arm system, which can be positioned 360° around the square drive (with or without a reaction arm).**
- **The first system with a bolt-load precision of  $\pm 5\%$**
- **The first system with a guaranteed time optimization of more than 50%.**
- **The first system with a guaranteed tight flange connection and malfunction-free start-up.**



Compact, ergonomic design and torque output of up to 190,000 Nm.

Axially positioned support arm around the square drive (HYTORC patent).

Single-piece tool housing, without teeth on the cylinder side.

360° positioning of the reaction arm around the square drive.

Hydraulic hose connection rotatable by 360° and can be folded by 120° over the rotation axis.

Safety screw and plug coupling for high output.

Indirect torsion retaining latches.

Universally deployable and pre-fitted for use with DISC™, CLAMP™, SmartDISK™ and SmartSTUD™, for bolt connections without a reaction arm.

For torque, torque-angle and yield point controlled bolting methods.

TwinTORC Dual bolting method, for quick tightening of two bolts at the same time.

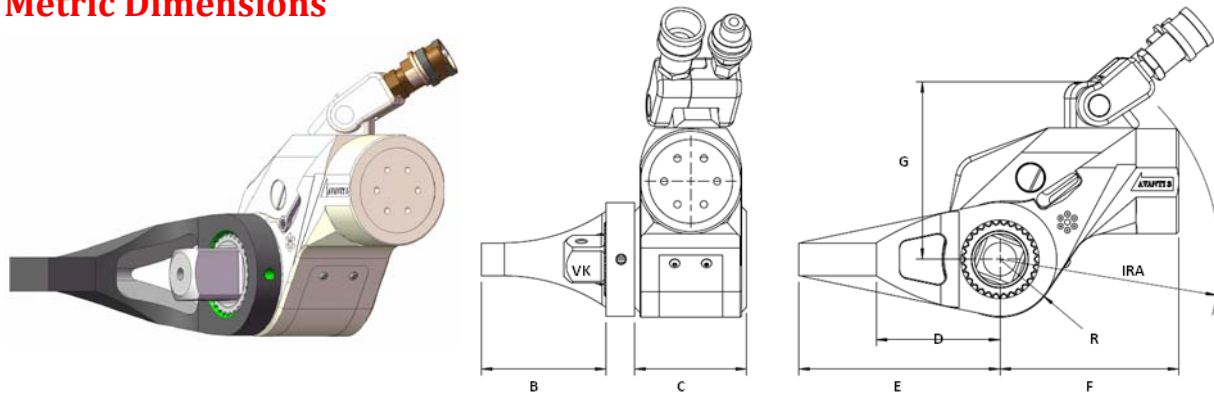
**The smallest space requirements of all hydraulic square drive torque tensioners.**

The AVANTI™-TorcTensioner hydraulic square drive torque wrenches are the newest generation from HYTORC®, which can be used for ALL assembly procedures according to VDI 2230. In addition, the new tensioning method can be used for assembly without a reaction arm, such as DISC™, CLAMP™, SmartDISK™ or SmartSTUD™, and with the AVANTI™-TorcTensioner. **One set fits all!**

The tool is unique for its kind and has a 360° adjustable bolting and rotating shaft, offering the smallest radius of all hydraulic torque tensioners.

In combination with a variety of hydraulic pump units, the AVANTI™ torque-angle control tensioning method can be used, as well as a yield-point control tensioning. All of this is available with an uninterrupted documentation of all bolting processes.

## Metric Dimensions



HYTORC	Bolt-Load <sup>1</sup> P <sub>v</sub> max. [kN]	Torque <sup>2</sup>		Square drive VK (inches)	Radius R (mm)	Space requirement IRA (mm)	Weight kg
		Nm min.	Nm max.				
AVANTI - 0.7	320	156	1,060	3/4"	25.1	93.9	1.8
AVANTI - 1	400	271	1,780	3/4"	28.7	110.7	2.0
AVANTI - 3	720	592	3,960	1"	38.1	144.8	4.1
AVANTI - 5	1,300	1,110	7,550	1-1/2"	45.7	174.4	6.6
AVANTI - 8	1,600	1,591	10,730	1-1/2"	50.0	197.5	9.0
AVANTI - 10	2,000	2,546	15,200	1-1/2"	57.2	217.7	12.2
AVANTI - 20	3,000	3,818	24,750	2-1/2"	66.0	259.5	21.2
AVANTI - 35	4,500	6,855	47,120	2-1/2"	81.0	320.8	37.4
AVANTI - 50	5,500	10,323	68,830	2-1/2"	100.3	363.0	57.8
AVANTI - 130	12,000	17,985	191,610	3-1/2"	134.9	529.4	225.0

HYTORC		Height <sup>3</sup>	Width	Radius <sup>3</sup>	Radius <sup>3</sup>	Length	Height <sup>4</sup>
		B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)
AVANTI - 0.7		60.9	45.5	96.6	146.6	77.5	80.5
AVANTI - 1		61.9	55.4	69.9	112.5	91.2	91.4
AVANTI - 3		81.9	73.7	81.5	132.5	117.9	116.8
AVANTI - 5		95.9	85.9	151.9	245.9	141.2	134.1
AVANTI - 8		117.9	98.0	152.9	256.9	160.0	157.2
AVANTI - 10		122.9	110.0	190.5	298.5	176.8	167.9
AVANTI - 20		142.0	128.8	177.5	290.5	211.8	192.5
AVANTI - 35		175.9	158.2	184.3	446.3	260.6	229.4
AVANTI - 50		206.5	178.8	294.5	465.5	294.4	255.5
AVANTI - 130		232.1	215.9	442.5	657.9	442.4	376.6

<sup>1</sup> The tensioning force refers to the strength class [10] at R<sub>p0.2</sub>, when utilizing DISC with a DISC.08 dry lube spray.

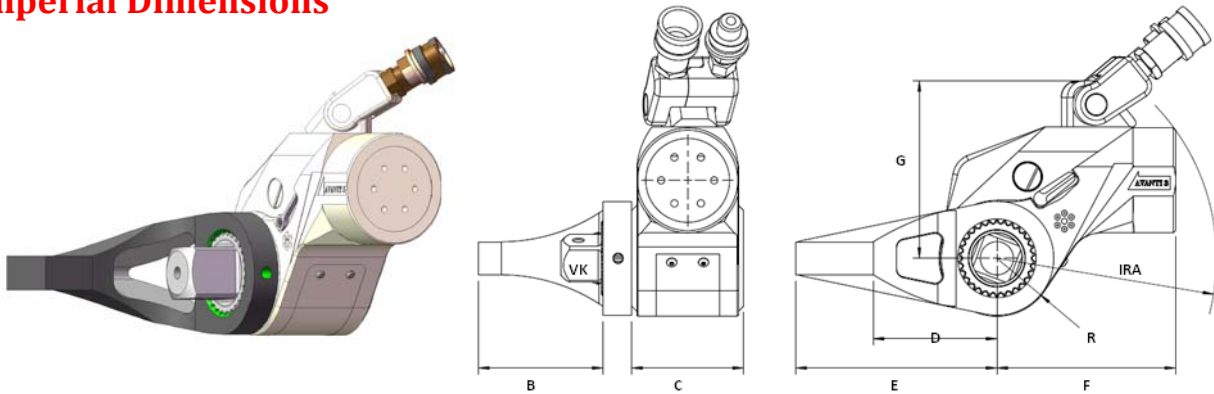
<sup>2</sup> The values for torque are indicative. A calibration will be carried out before delivery, including a certificate.

<sup>3</sup> Standard dimensions, which can be changed, depending on the application.

<sup>4</sup> Dimension in case of an applied swivel, parallel to the cylinder shaft.

We reserve the right to make technical changes.

**Imperial Dimensions**



HYTORC		Bolt-Load <sup>1</sup>		Torque <sup>2</sup>		Square drive	Radius	Space requirement	Weight
		P <sub>v</sub> max. [lbs]	Ft.lbs. min.	Ft.lbs. max.	VK (inches)	R (inches)	IRA (inches)	Lbs.	
AVANTI -	0.7	320	113	767	3/4"	25.1	93.9	1.8	
AVANTI -	1	400	196	1,284	3/4"	28.7	110.7	2.0	
AVANTI -	3	720	592	3,960	1"	38.1	144.8	4.1	
AVANTI -	5	1,300	1,110	7,550	1-1/2"	45.7	174.4	6.6	
AVANTI -	8	1,600	1,591	10,730	1-1-2"	50.0	197.5	9.0	
AVANTI -	10	2,000	2,546	15,200	1-1/2"	57.2	217.7	12.2	
AVANTI -	20	3,000	3,818	24,750	2-1/2"	66.0	259.5	21.2	
AVANTI -	35	4,500	6,855	47,120	2-1/2"	81.0	320.8	37.4	
AVANTI -	50	5,500	10,323	68,830	2-1/2"	100.3	363.0	57.8	
AVANTI -	130	12,000	17,985	191,610	3-1/2"	134.9	529.4	225.0	

HYTORC		Height <sup>3</sup>	Width	Radius <sup>3</sup>	Radius <sup>3</sup>	Length	Height <sup>4</sup>
		B (inches)	C (inches)	D (inches)	E (inches)	F (inches)	G (inches)
AVANTI -	0.7	60.9	45.5	96.6	146.6	77.5	80.5
AVANTI -	1	61.9	55.4	69.9	112.5	91.2	91.4
AVANTI -	3	81.9	73.7	81.5	132.5	117.9	116.8
AVANTI -	5	95.9	85.9	151.9	245.9	141.2	134.1
AVANTI -	8	117.9	98.0	152.9	256.9	160.0	157.2
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AVANTI -	50	206.5	178.8	294.5	465.5	294.4	255.5
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<sup>1</sup> The tensioning force refers to the strength class [10] at R<sub>p0.2</sub>, when utilizing DISC with a DISC.08 dry lube spray.

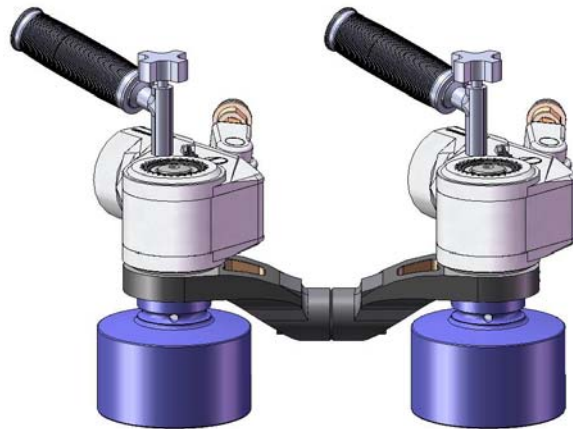
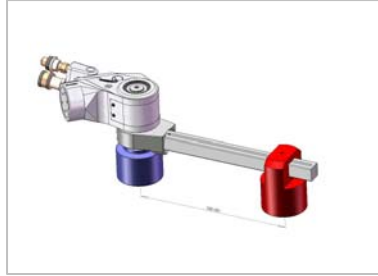
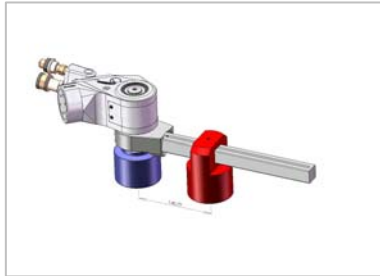
<sup>2</sup> The values for torque are indicative. A calibration will be carried out before delivery, including a certificate.

<sup>3</sup> Standard dimensions, which can be changed, depending on the application.

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We reserve the right to make technical changes.

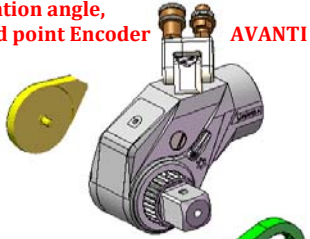
**Safety reaction fixtures**



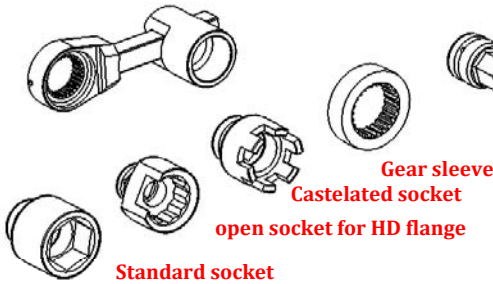
Safe tensioning and loosening of two bolts at the same time, without a reaction arm!

**Accessory possibilities**

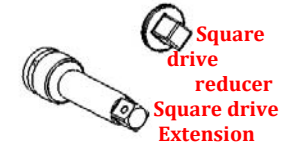
Rotation angle,  
Yield point Encoder



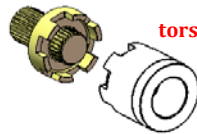
Standard reaction arm



Standard socket

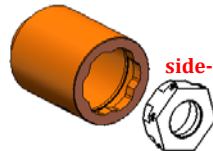


Hex adapter



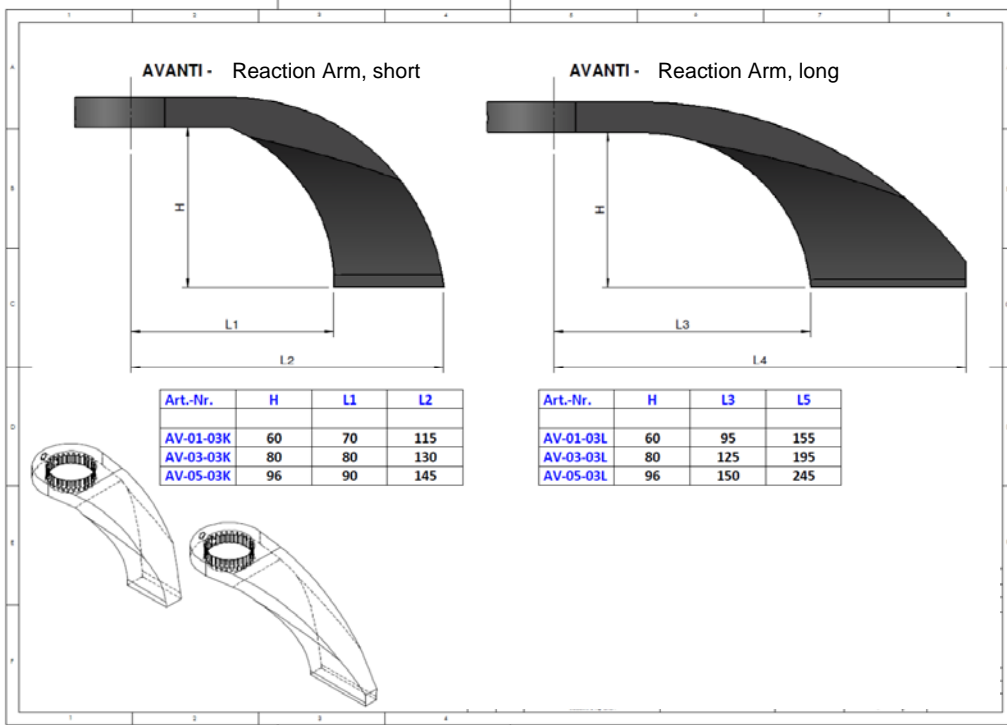
torsion and side-load free CLAMP NUT™ expansion nut drive

CLAMP expansion nut, precision of tensioning force  $\pm 5\%$



side-load free DISC socket drive

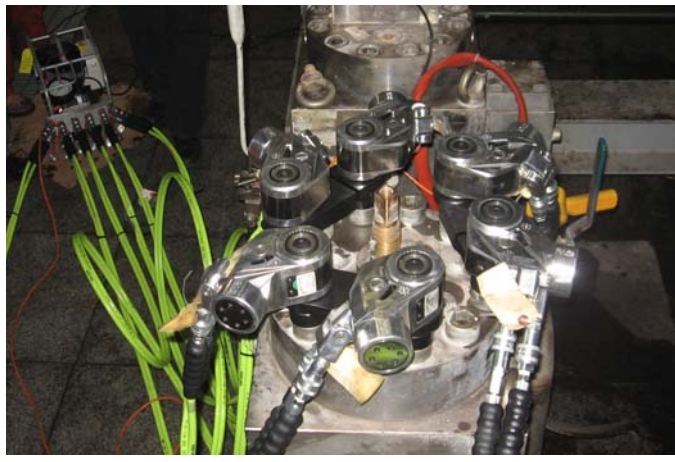
DISC reaction washer, precision of tensioning force  $\pm 10\%$



**Typical applications**



**AVANTI-1 on an excavator**



**AVANTI-SIMULTORC for hex bolt**



**AVANTI-3 with Wind Cup Reaction Fixture**



**AVANTI-5 with DISC on a LIEBHERR 256HC at BKL**



**AVANTI-3 in an amusement park**



**AVANTI-5 with side-load-free axial extension**