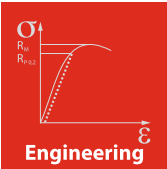
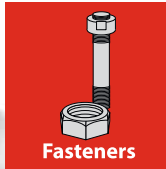


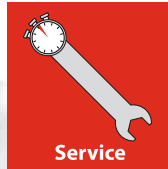
Tools



Engineering



Fasteners



Service



Hydraulic Torque Wrenches

www.ITH.com



SCAN ME

Content

Development	3
System ALPHA – angle-controlled tightening	4
Multi-Torque	6
Automatic bolting	7

Hydraulic torque wrenches

Type CX	8
Type D-Flex	20
Type DRS	34
Type DKS	40

Hydraulic pump unit

Type Hydro-DAX	46
Type Hydro-DAX V18 Battery	50
Type Aero-DAX 19	54
Type DA 16	54
Pump accessories	54

Technology

Technical information	55
Measurement	56
General information	57
Contact	58



More than 40 years of continuous development

Continuity and quality: since 1980 all hydraulic torque wrench types and corresponding pump units are developed and produced at the ITH headquarters in Germany.

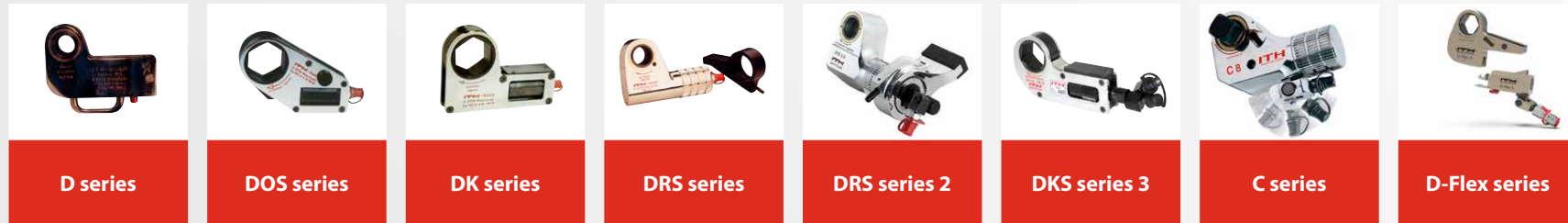
Continuous innovation also includes digital application control systems like ITH Auto-Torque and ITH System ALPHA (angle-controlled tightening) and data-logging system Docu.

All options can be selected according to your wishes. Personal contact is decisive - contact our team for individual technical advice. All contact information can be found on our website www.ith.com.

We are looking forward to working with you,

Dipl.-Ing. Frank Hohmann
Owner | CEO

Dipl.-Ing. Jörg Hohmann
Owner | CEO



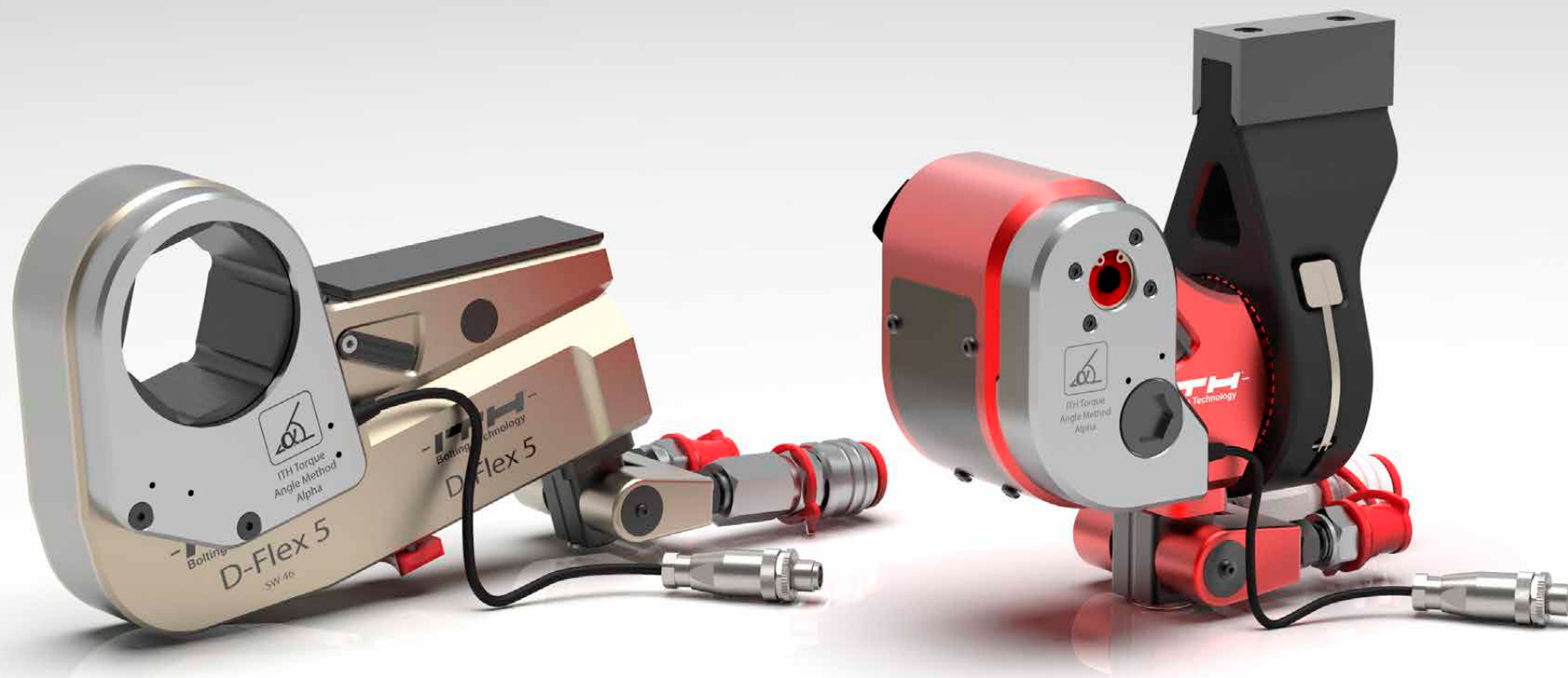
1980

Innovation and development



*ALPHA-version: angle-controlled tightening, digital control.
**Auto-Torque: automatic function, digital control.

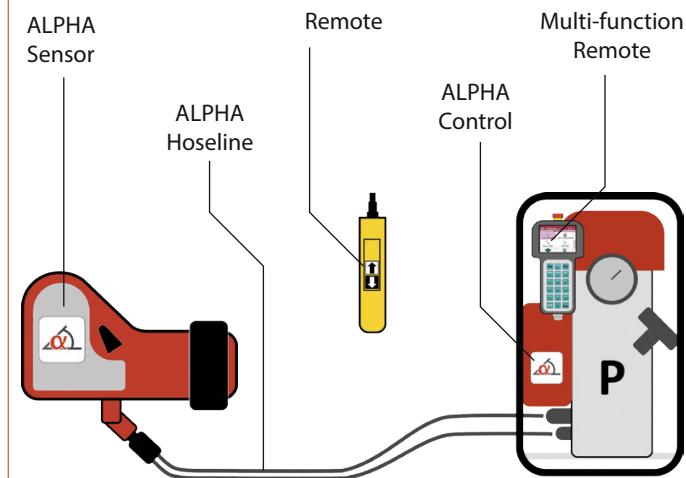
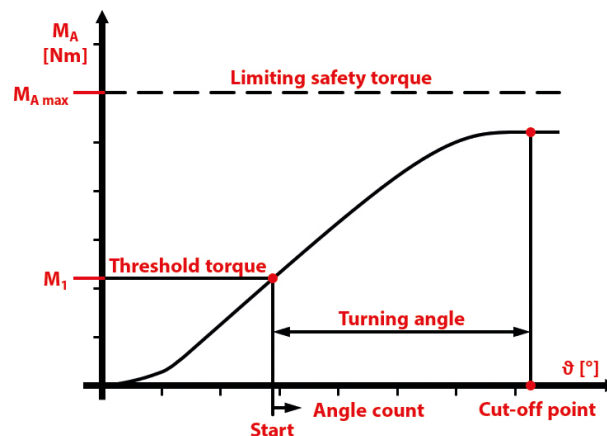
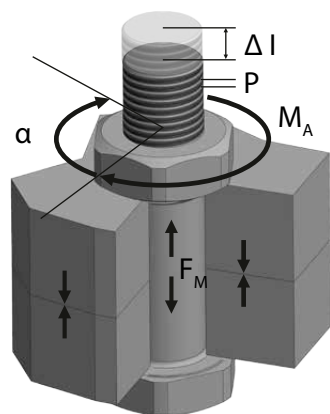
System ALPHA Angle-controlled tightening



Technology: System ALPHA

Angle-controlled tightening with hydraulic torque wrenches can be performed by ALPHA-sensors. The ALPHA housing elements can be updated for existing hydraulic torque wrenches.

System ALPHA Angle-controlled tightening



Introduction

Angle-controlled tightening is a method, where the achieved bolt elongation Δl is measured indirectly.

Δl is calculated from the relation between bolt pitch P of the thread and rotation angle α (turning angle).

$$\text{Simplistic: } \Delta l = \text{bolt pitch } P \cdot \frac{\text{rotation angle } \alpha}{360^\circ}$$

From achieved bolt elongation Δl you can gain insights about the reached assembly preload F_M , which is your target value when tightening bolt connections (cf. VDI 2230).

Process

- 1. Torque range:** one pre-defined torque M_1 is applied on the bolt connection until all gaps between all components are closed. That is the point where the threshold torque is reached.
- 2. Angle range:** after threshold torque the angle range begins. An angle of rotation α is applied on the bolt connection.
- 3. ITH ALPHA sensor controls** torque M_1 and α .
- 4. Tightening process ends** after reaching α .
- 5. ITH ALPHA software** offers process evaluation, for example automatically generated Excel-or PDF-protocols.

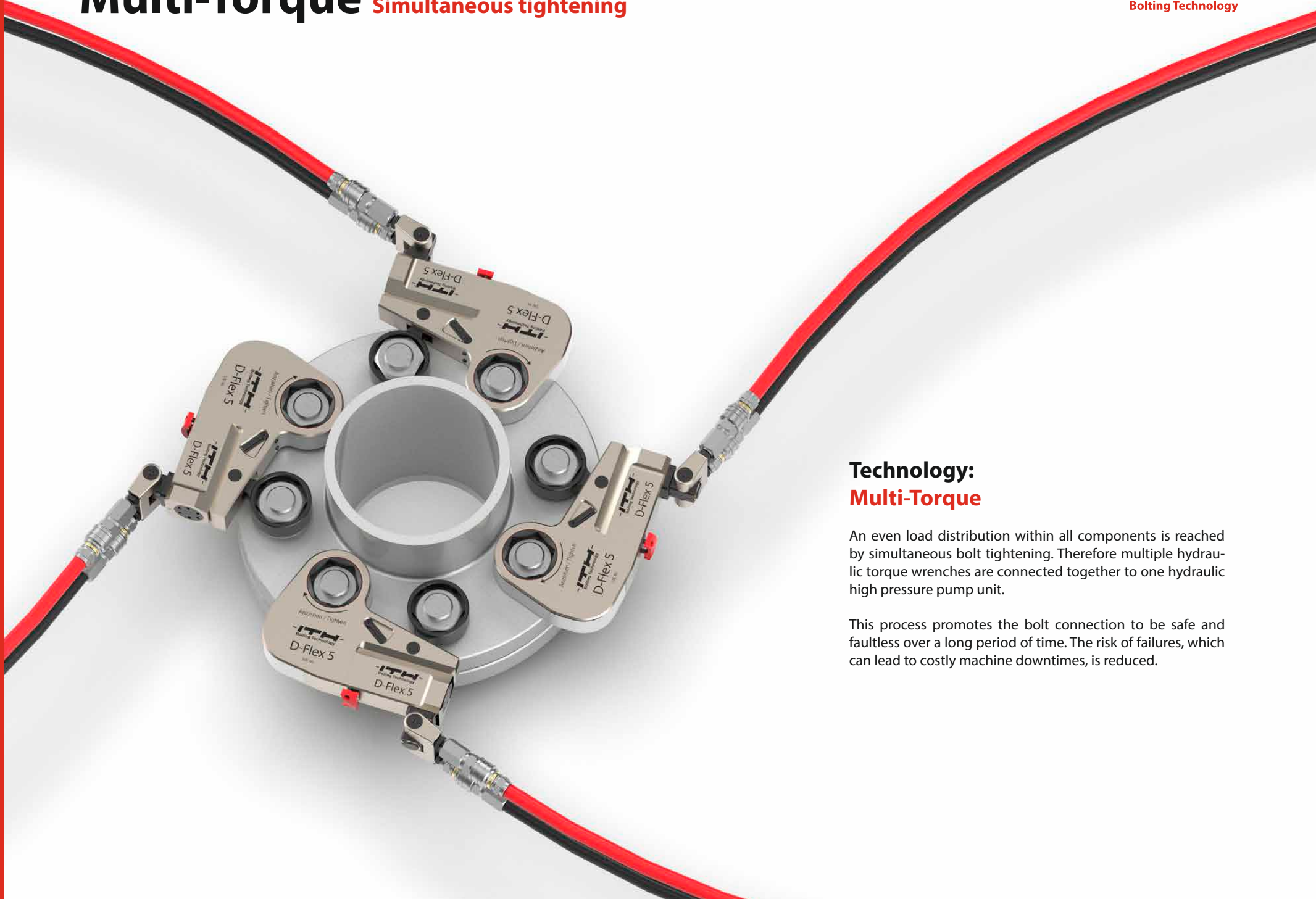
Advantage of less affection by friction: higher precision

- ✓ **Angle range is not affected by friction values:** the angle range is not affected from friction variables, which could be occurring. This leads to higher precision and higher repeatability of the bolting procedure.
- ✓ **Digital ITH application software:** easy set-up and management of all relevant application parameters.
- ✓ **Low tightening factors α_A :** when designing bolted joints, it can be calculated with small tightening factors from 1.2 to 1.4 in most cases (cf. VDI 2230).

$$*\alpha_A = \frac{F_{M \max}}{F_{M \min}}$$

Multi-Torque

Simultaneous tightening



Technology: Multi-Torque

An even load distribution within all components is reached by simultaneous bolt tightening. Therefore multiple hydraulic torque wrenches are connected together to one hydraulic high pressure pump unit.

This process promotes the bolt connection to be safe and faultless over a long period of time. The risk of failures, which can lead to costly machine downtimes, is reduced.

Automatic bolting

ITH Auto-Torque

- ✓ **Pre-setting** of the target values torque and turning angle α (only with optional system ALPHA) via the multifunction display
- ✓ **The required pressure** is applied automatically and gradually by the hydraulic unit
- ✓ **Work safety by „Dead man’s switch“**: the system only works if the user activates the „Dead man’s switch“
- ✓ **Easy control for the user**: when reaching the pre-set target values the system stops automatically and signals „Bolt ready“ by a green light on the remote
- ✓ **Compatibility**:
 - ITH-Auto-Torque can be used and upgraded on any existing ITH Hydraulic Torque Wrench systems
 - Auto-Torque is a standard system component of CX ALPHA and D-Flex ALPHA units when they are first delivered

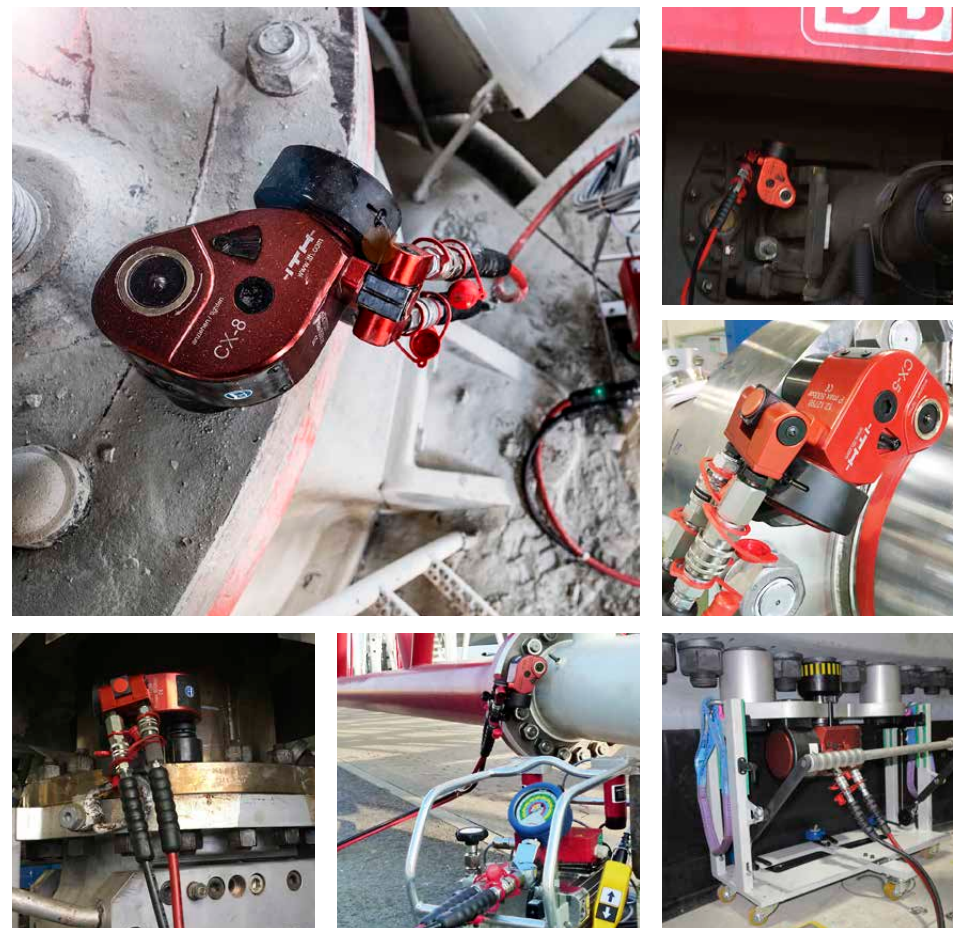


Type CX Hydraulic torque wrench

ITH
Bolting Technology



Application



Hydraulic torque wrench

Type CX

Advantages

- ✓ Universal use for service-jobs and serial application
- ✓ Different support conditions
- ✓ For radial limited spaces and difficult to loosen bolts
- ✓ Fast-acting 2-hose system
- ✓ Weight-optimised and maintenance-friendly assembly design
- ✓ Compatible with all ITH high-pressure units with 2-hose systems
- ✓ Extendable application possibilities through various wrench inserts
- ✓ Adaptability to standard power wrench sockets (KSE) through square insert CX VE (no new power wrench sockets necessary)

Types



CX 1

CX 2

CX 5

CX 8

CX 12

CX 18

CX 28

CX 40

CX 60

CX 80

Type CX Hydraulic torque wrench



Click & Change

various inserts can be exchanged without tools and fixed in place with the insert lock

TORQUE-FIX retaining latch

holds the CX in its position, ideal for overhead applications

Handle

for easier handling. Tool-free setting allows adjustment to the desired position

Dual-hose hydraulic connection

high-flow coupling and nipple for high delivery volumes



Asymmetric support

weight-optimized support including reinforced support shoe. Can be placed on both sides, positioned at a 360° angle and easily fixed in place with the recessed push button

High-performance housing

made of UL material (ultra-light): compact, weight-optimized, high-strength treatment

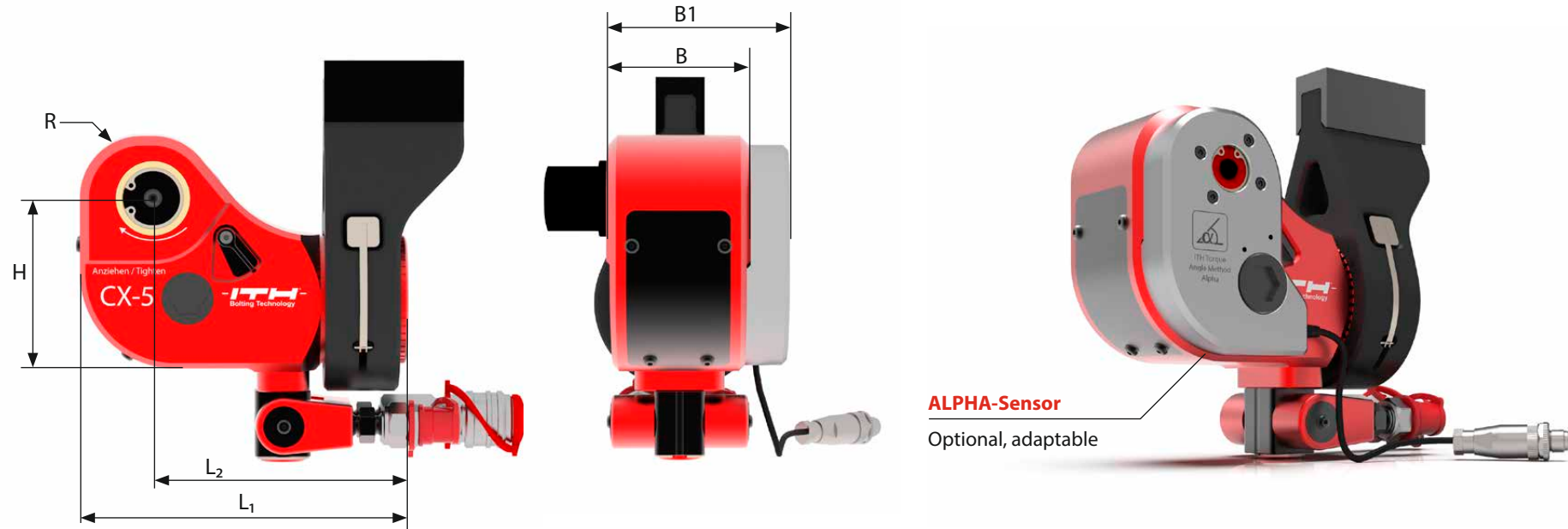
Dual swivel connection

rotatable in two dimensions for optimal positioning of the hydraulic hose

Type CX Technical data

Angle-controlled tightening: System ALPHA

Read more on page 4.



Technical data

ITH type	Max. Torque		L1		L2		B		B1		R		H		Weight		ITH order no.
	[Nm]	[ft·lb]	[mm]	["]	[mm]	["]	[mm]	["]	[mm]	["]	[mm]	["]	[mm]	["]	[kg]	[lb]	
CX 1	1,200	855	128	5.04	100	3.94	58	2.28	-	-	24	0.94	58	2.28	2.0	4.4	56.10001-5000
CX 2	2,000	1,475	143	5.63	114	4.49	61	2.40	77	3.03	25	0.98	63	2.48	2.1	4.6	56.10002-5000
CX 5	5,000	3,688	175	6.89	136	5.35	73	2.87	93	3.66	33	1.30	91	3.58	4.0	8.8	56.10005-5000
CX 8	8,000	5,900	198	7.80	147	5.79	85	3.35	108	4.25	40	1.57	110	4.33	5.8	12.8	56.10008-5000
CX 12	12,800	9,441	222	8.74	165	6.50	104	4.10	126	4.96	47	1.85	122	4.80	9.1	20.1	56.10012-5000
CX 18	18,000	13,276	263	10.35	196	7.72	112	4.41	133	5.24	53	2.09	134	5.28	12.0	30.4	56.10018-5000
CX 28	28,000	20,652	310	12.20	235	9.25	129	5.08	150	5.90	60	2.56	155	6.10	19.0	49.4	56.10028-5000
CX 40	40,000	29,502	335	13.19	253	9.96	159	5.91	180	7.09	66	3.23	185	7.28	28.5	75.0	56.10040-5000
CX 60	60,000	44,254	413	16.26	305	12.00	170	6.69	-	-	80	3.19	210	8.27	42.0	92.6	56.10060-5000
CX 80	80,000	59,005	445	17.52	334	13.15	190	7.48	-	-	85	3.35	231	9.09	57.0	125.7	56.10080-5000

Contact us for additional or custom designs.

Type CX Accessories



Supports

ITH type	Support-A Vertical standard	Support-B Vertical long	Support-C Vertical standard, rounded	Support-D Vertical ring
	ITH order no.	ITH order no.	ITH order no.	ITH order no.
CX 1	56.10001-1010	56.10001-1020	56.10001-1030	56.10001-1040
CX 2	56.10002-1010	56.10002-1020	56.10002-1030	56.10002-1040
CX 5	56.10005-1010	56.10005-1020	56.10005-1030	56.10005-1040
CX 8	56.10008-1010	56.10008-1020	56.10008-1030	56.10008-1040
CX 12	56.10012-1010	56.10012-1020	56.10012-1030	56.10012-1040
CX 18	56.10018-1010	56.10018-1020	56.10018-1030	56.10018-1040
CX 28	56.10028-1010	56.10028-1020	56.10028-1030	56.10028-1040
CX 40	56.10040-1010	56.10040-1020	56.10040-1030	56.10040-1040
CX 60	56.10060-1010	56.10060-1020	56.10060-1030	56.10060-1040
CX 80	56.10080-1010	56.10080-1020	56.10080-1030	56.10080-1040

Elongation horizontal

ITH type	Elongation		
	Length		ITH order no.
	[mm]	["]	
CX 1	50	2	56.00001-1202-050
CX 2	50	2	56.00002-1202-050
CX 5	60	2.36	56.00005-1202-060
CX 8	65	2.56	56.00008-1202-065
CX 12	80	3.15	56.00012-1202-080
CX 18	100	3.93	56.00018-1202-100
CX 28	115	4.53	56.00028-1202-115
CX 40	130	5.11	56.00040-1202-130
CX 60	140	5.51	56.00060-1202-140
CX 80	150	5.90	56.00080-1202-150



Support horizontal LX

ITH type	Support					
	Length		ITH order no.	ITH type	Length	
	[mm]	["]			[mm]	["]
CX 1	100	3.93	56.00001-1201-100	CX 18	250	9.84
	200	7.87	56.00001-1201-200		400	15.75
CX 2	100	3.93	56.00002-1201-100	CX 28	250	9.84
	200	7.87	56.00002-1201-200		450	17.72
CX 5	150	5.90	56.00005-1201-150	CX 40	300	11.81
	250	9.84	56.00005-1201-250		500	19.69
CX 8	200	7.87	56.00008-1201-200	CX 60	400	15.75
	300	11.81	56.00008-1201-300		550	21.65
CX 12	200	7.87	56.00012-1201-200	CX 80	450	17.72
	350	13.80	56.00012-1201-350		600	23.62



Support

horizontal

Elongation

horizontal

Click & Change

various inserts can be exchanged without tools and fixed in place with the insert lock

Support A

vertical standard

Support B

vertical long

Support C

vertical standard, rounded

Type CX-VE

square insert for all standard power wrench sockets

Support D

vertical ring

Type CX-SE

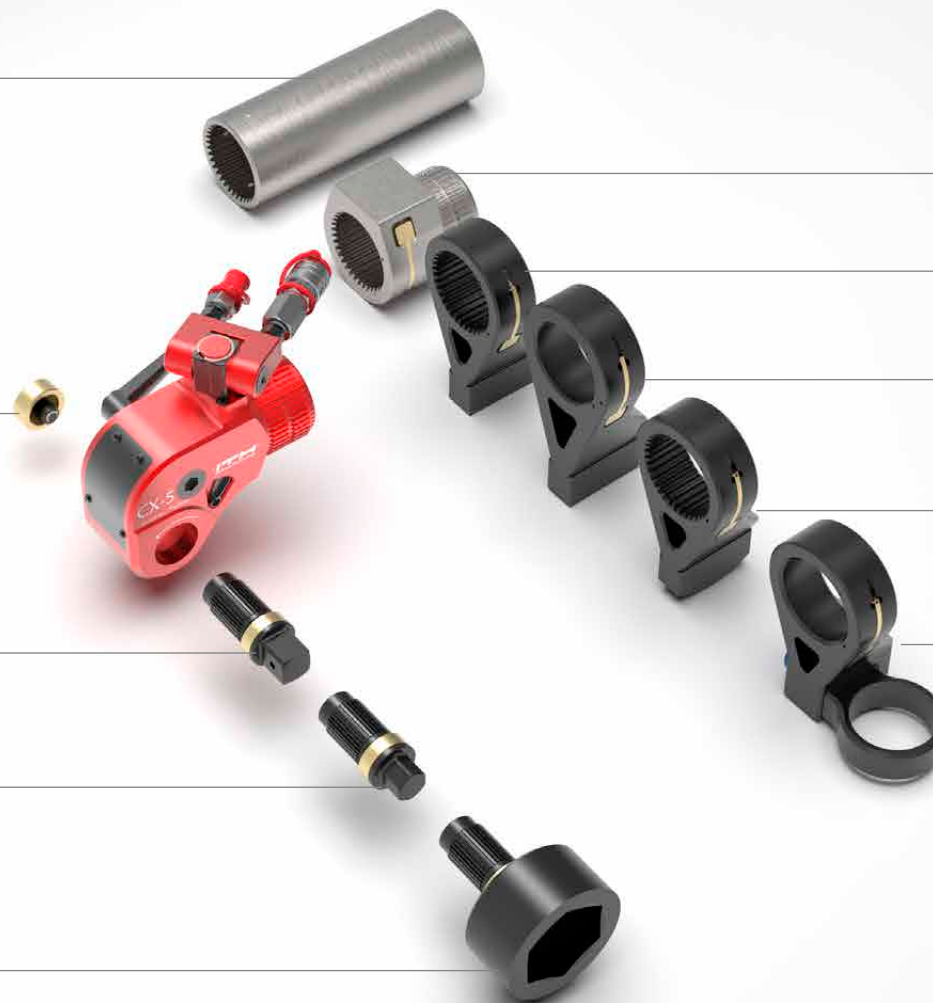
hexagon insert for inner hexagon bolts

Type CX-KSE

power wrench socket for hexagon bolts

Accessories: Inserts and Supports

The vertical ring support (Support D) allows the hydraulic torque wrench to be fixed on the next bolt. All accessories can be exchanged flexibly and quickly.



Inserts VE – 3/4" - 3 1/2"

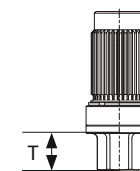
ITH type	VE ITH order no.	3/4"	1"	1 1/2"	2 1/2"	3 1/2"
		ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.
CX 1	56.02201-	3-4				
CX 2	56.02202-	3-4	1			
CX 5	56.02205-		1	1_1-2		
CX 8	56.02208-		1	1_1-2		
CX 12	56.02212-			1_1-2		
CX 18	56.02218-			1_1-2	2_1-2	
CX 28	56.02228-				2_1-2	
CX 40	56.02240-				2_1-2	3_1-2
CX 60	56.02260-				2_1-2	3_1-2
CX 80	56.02280-					3_1-2



CX-VE
Square insert for all
standard power
wrench sockets

Inserts SE – A/F 14 mm - 65 mm

ITH type	T [mm]	A/F 14	A/F 17	A/F 19	A/F 22	A/F 24	A/F 27	A/F 32	A/F 36	A/F 41	A/F 46	A/F 55	A/F 65
		8	10	13	15	18	19	32	28	34	38	43	48
	SE ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.
CX 1	56.02001-	0014	0017	0019									
CX 2	56.02002-		0017	0019	0022	0024							
CX 5	56.02005-		0017	0019	0022	0024	0027	0032					
CX 8	56.02008-			0019	0022	0024	0027	0032	0036				
CX 12	56.02012-				0022	0024	0027	0032	0036	0041			
CX 18	56.02018-					0024	0027	0032	0036	0041	0046		
CX 28	56.02028-						0027	0032	0036	0041	0046	0055	
CX 40	56.02040-							0032	0036	0041	0046	0055	0065
CX 60	56.02060-							0032	0036	0041	0046	0055	0065
CX 80	56.02080-							0032	0036	0041	0046	0055	0065

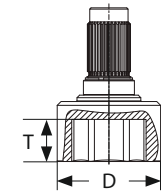


CX-SE
Hexagon insert for
inner hexagon bolts

Type CX Sockets KSE Metric

Sockets KSE – A/F 22 mm - 65 mm

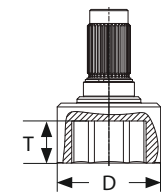
ITH type		A/F 22	A/F 24	A/F 27	A/F 30	A/F 32	A/F 36	A/F 41	A/F 46	A/F 50	A/F 55	A/F 60	A/F 65
	D [mm]	37	39	46	49	52	57	63	76	81	87	93	100
	T [mm]	14	16	18	20	22	24	27	30	33	36	39	42
	KSE ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.
CX 1	56.02301-	0022	0024	0027	0030	0032	0036	0041					
CX 2	56.02302-		0024	0027	0030	0032	0036	0041	0046	0050			
CX 5	56.02305-				0030	0032	0036	0041	0046	0050	0055	0060	0065
CX 8	56.02308-						0036	0041	0046	0050	0055	0060	0065
CX 12	56.02312-								0046	0050	0055	0060	0065
CX 18	56.02318-									0050	0055	0060	0065
CX 28	56.02328-										0055	0060	0065
CX 40	56.02301-											0060	0065
CX 60	56.02301-												0065



CX-KSE
Power wrench socket
for hexagon bolts

Sockets KSE – A/F 70 mm - 115 mm

ITH type		A/F 70	A/F 75	A/F 80	A/F 85	A/F 90	A/F 95	A/F 100	A/F 105	A/F 110	A/F 115
	D [mm]	106	112	118	125	131	142	149	155	162	169
	T [mm]	45	48	52	56	60	64	68	72	76	80
	KSE ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.
CX 5	56.02305-	0070	0075								
CX 8	56.02308-	0070	0075	0080							
CX 12	56.02312-	0070	0075	0080	0085	0090					
CX 18	56.02318-	0070	0075	0080	0085	0090	0095				
CX 28	56.02328-	0070	0075	0080	0085	0090	0095	0100	0105	0110	
CX 40	56.02340-	0070	0075	0080	0085	0090	0095	0100	0105	0110	0115
CX 60	56.02360-	0070	0075	0080	0085	0090	0095	0100	0105	0110	0115
CX 80	56.02380-	0070	0075	0080	0085	0090	0095	0100	0105	0110	0115



CX-KSE
Power wrench socket
for hexagon bolts

Type CX Inserts SE Imperial

Inserts SE – A/F 1/2" - 1 3/8"

ITH type	SE ITH order no.	1/2"	9/16"	5/8"	3/4"	13/16"	7/8"	1"	1 1/16"	1 1/8"	1 3/16"	1 1/4"	1 3/8"
		ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.
CX 1	56.02001-	1-2	9-16	5-8	3-4	13-16							
CX 2	56.02002-	1-2	9-16	5-8	3-4	13-16	7-8	1					
CX 5	56.02005-		9-16	5-8	3-4	13-16	7-8	1	1_1-16	1_1-8	1_13-16		
CX 8	56.02008-				3-4	13-16	7-8	1	1_1-16	1_1-8	1_13-16	1_1-4	1_3-8
CX 12	56.02012-					13-16	7-8	1	1_1-16	1_1-8	1_13-16	1_1-4	1_3-8
CX 18	56.02018-						7-8	1	1_1-16	1_1-8	1_13-16	1_1-4	1_3-8
CX 28	56.02028-								1_1-16	1_1-8	1_13-16	1_1-4	1_3-8
CX 40	56.02040-										1_13-16	1_1-4	1_3-8



Type CX-SE
Hexagon insert for
inner hexagon bolts

Continued inserts SE – A/F 1 1/2" - 2 1/8"

ITH type	SE ITH order no.	1 1/2"	1 5/8"	1 3/4"	1 13/16"	1 7/8"	2"	2 1/8"					
		ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.					
CX 18	56.02018-	1_1-2	1_5-8	1_3-4	1_13-16								
CX 28	56.02028-	1_1-2	1_5-8	1_3-4	1_13-16	1_7-8							
CX 40	56.02040-	1_1-2	1_5-8	1_3-4	1_13-16	1_7-8	2	2_1-8					
CX 60	56.02060-			1_3-4	1_13-16	1_7-8	2	2_1-8					
CX 80	56.02080-			1_3-4	1_13-16	1_7-8	2	2_1-8					



Type CX-SE
Hexagon insert for
inner hexagon bolts

Type CX Sockets KSE Imperial

Sockets KSE – A/F 7/8" - 1 9/16"

ITH type	KSE ITH order no.	7/8"	15/16"	1"	1 1/16"	1 1/8"	1 3/16"	1 1/4"	1 5/16"	1 3/8"	1 7/16"	1 1/2"	1 9/16"
		ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.
CX 1	56.02301-	7-8	15-16	1	1_1-16	1_1-8	1_3-16	1_1-4	1_5-16	1_3-8	1_7-16		
CX 2	56.02302-	7-8	15-16	1	1_1-16	1_1-8	1_3-16	1_1-4	1_5-16	1_3-8	1_7-16	1_1-2	1_9-16
CX 5	56.02305-									1_3-8	1_7-16	1_1-2	1_9-16
CX 8	56.02308-											1_1-2	1_9-16



Type CX-KSE
Power wrench socket
for hexagon bolts

Continued sockets KSE – A/F 1 5/8" - 2 5/16"

ITH type	KSE ITH order no.	1 5/8"	1 11/16"	1 3/4"	1 13/16"	1 7/8"	1 15/16"	2"	2 1/16"	2 1/8"	2 3/16"	2 1/4"	2 5/16"
		ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.
CX 5	56.02305-	1_5-8	1_11-16	1_3-4	1_13-16	1_7-8	1_15-16	2	2_1-16	2_1-8	2_3-16	2_1-4	2_5-16
CX 8	56.02308-	1_5-8	1_11-16	1_3-4	1_13-16	1_7-8	1_15-16	2	2_1-16	2_1-8	2_3-16	2_1-4	2_5-16
CX 12	56.02312-	1_5-8	1_11-16	1_3-4	1_13-16	1_7-8	1_15-16	2	2_1-16	2_1-8	2_3-16	2_1-4	2_5-16
CX 18	56.02318-					1_7-8	1_15-16	2	2_1-16	2_1-8	2_3-16	2_1-4	2_5-16
CX 28	56.02328-								2_1-16	2_1-8	2_3-16	2_1-4	2_5-16



Type CX-KSE
Power wrench socket
for hexagon bolts

Type CX Sockets KSE Imperial

Sockets KSE – A/F 2 3/8" - 3 1/16"

ITH type	KSE ITH order no.	2 3/8"	2 7/16"	2 1/2"	2 9/16"	2 5/8"	2 11/16"	2 3/4"	2 13/16"	2 7/8"	2 15/16"	3"	3 1/16"
		ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.
CX 5	56.02005-	2_3-8	2_7-16	2_1-2	2_9-16								
CX 8	56.02008-	2_3-8	2_7-16	2_1-2	2_9-16	2_5-8	2_11-16	2_3-4	2_13-16	2_7-8	2_15-16		
CX 12	56.02012-	2_3-8	2_7-16	2_1-2	2_9-16	2_5-8	2_11-16	2_3-4	2_13-16	2_7-8	2_15-16	3	3_1-16
CX 18	56.02018-	2_3-8	2_7-16	2_1-2	2_9-16	2_5-8	2_11-16	2_3-4	2_13-16	2_7-8	2_15-16	3	3_1-16
CX 28	56.02028-	2_3-8	2_7-16	2_1-2	2_9-16	2_5-8	2_11-16	2_3-4	2_13-16	2_7-8	2_15-16	3	3_1-16
CX 40	56.02040-	2_3-8	2_7-16	2_1-2	2_9-16	2_5-8	2_11-16	2_3-4	2_13-16	2_7-8	2_15-16	3	3_1-16
CX 60	56.02060-							2_3-4	2_13-16	2_7-8	2_15-16	3	3_1-16
CX 80	56.02080-											3	3_1-16



Type CX-KSE
Power wrench socket
for hexagon bolts

Continued sockets KSE – A/F 3 1/8" - 3 13/16"

ITH type	KSE ITH order no.	3 1/8"	3 3/16"	3 1/4"	3 5/16"	3 3/8"	3 7/16"	3 1/2"	3 9/16"	3 5/8"	3 11/16"	3 3/4"	3 13/16"
		ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.
CX 12	56.02012-	3_1-8	3_3-16										
CX 18	56.02018-	3_1-8	3_3-16	3_1-4	3_5-16	3_3-8	3_7-16	3_1-2	3_9-16	3_5-8			
CX 28	56.02028-	3_1-8	3_3-16	3_1-4	3_5-16	3_3-8	3_7-16	3_1-2	3_9-16	3_5-8	3_11-16	3_3-4	3_13-16
CX 40	56.02040-	3_1-8	3_3-16	3_1-4	3_5-16	3_3-8	3_7-16	3_1-2	3_9-16	3_5-8	3_11-16	3_3-4	3_13-16
CX 60	56.02060-	3_1-8	3_3-16	3_1-4	3_5-16	3_3-8	3_7-16	3_1-2	3_9-16	3_5-8	3_11-16	3_3-4	3_13-16
CX 80	56.02080-	3_1-8	3_3-16	3_1-4	3_5-16	3_3-8	3_7-16	3_1-2	3_9-16	3_5-8	3_11-16	3_3-4	3_13-16



Type CX-KSE
Power wrench socket
for hexagon bolts

Type CX Sockets KSE Imperial

Sockets KSE – A/F 3 7/8" - 4 1/2"

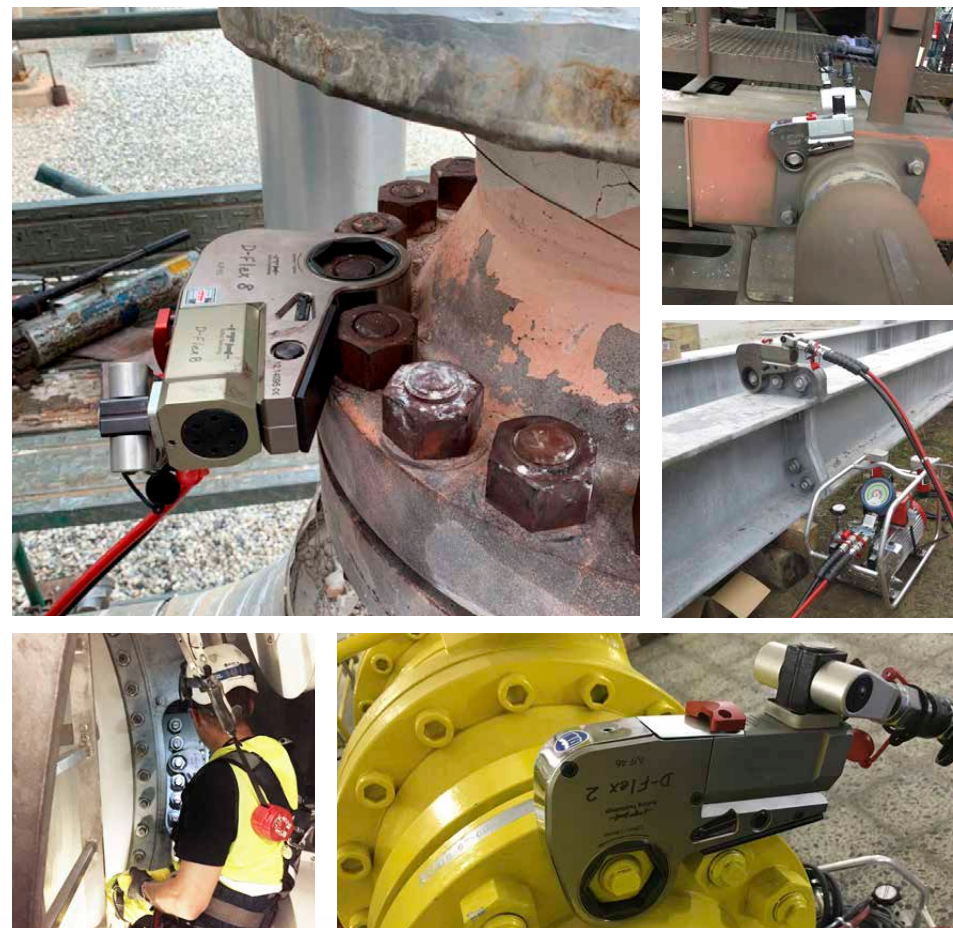
ITH type	KSE ITH order no.	3 7/8"	3 15/16"	4"	4 1/16"	4 1/8"	4 3/16"	4 1/4"	4 5/16"	4 3/8"	4 7/16"	4 1/2"	 Type CX-KSE Power wrench socket for hexagon bolts
		ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	
CX 28	56.02028-	3_7-8	3_15-16										
CX 40	56.02040-	3_7-8	3_15-16	4	4_1-16	4_1-8							
CX 60	56.02060-	3_7-8	3_15-16	4	4_1-16	4_1-8	4_3-16	4_1-4	4_5-16	4_3-8	4_7-16	4_1-2	
CX 80	56.02080-	3_7-8	3_15-16	4	4_1-16	4_1-8	4_3-16	4_1-4	4_5-16	4_3-8	4_7-16	4_1-2	

Type D-Flex Hydraulic torque wrench



SCAN ME

Application



Hydraulic torque wrench

Type D-Flex

Advantages

- ✓ **Flexible cassette-type hydraulic torque wrench:** one cylinder unit can operate various cassettes with different bolt diameters A/F
- ✓ **Quick change mechanism:** enables quick replacement of the cassettes - no extra tools required
- ✓ **Reduced head radiiuses:** advantageous for every application and compatible with flange standards

Types



D-Flex 2



D-Flex 5



D-Flex 8



D-Flex 12



D-Flex 18



D-Flex 28



D-Flex 40

Type D-Flex Features

Smallest head radiuses

reduced outer diameter, suitable for smallest bolt pitches. Suitable for flange connections according to ASME B16.5 - 2003 and MSS SP-44 - 2006

Cassette unit

for different bolt diameters A/F

Cylinder unit

fast and robust: the CLICK-AND-GO mechanism for easy locking by hand. No extra tools required

Dual-hose hydraulic connection

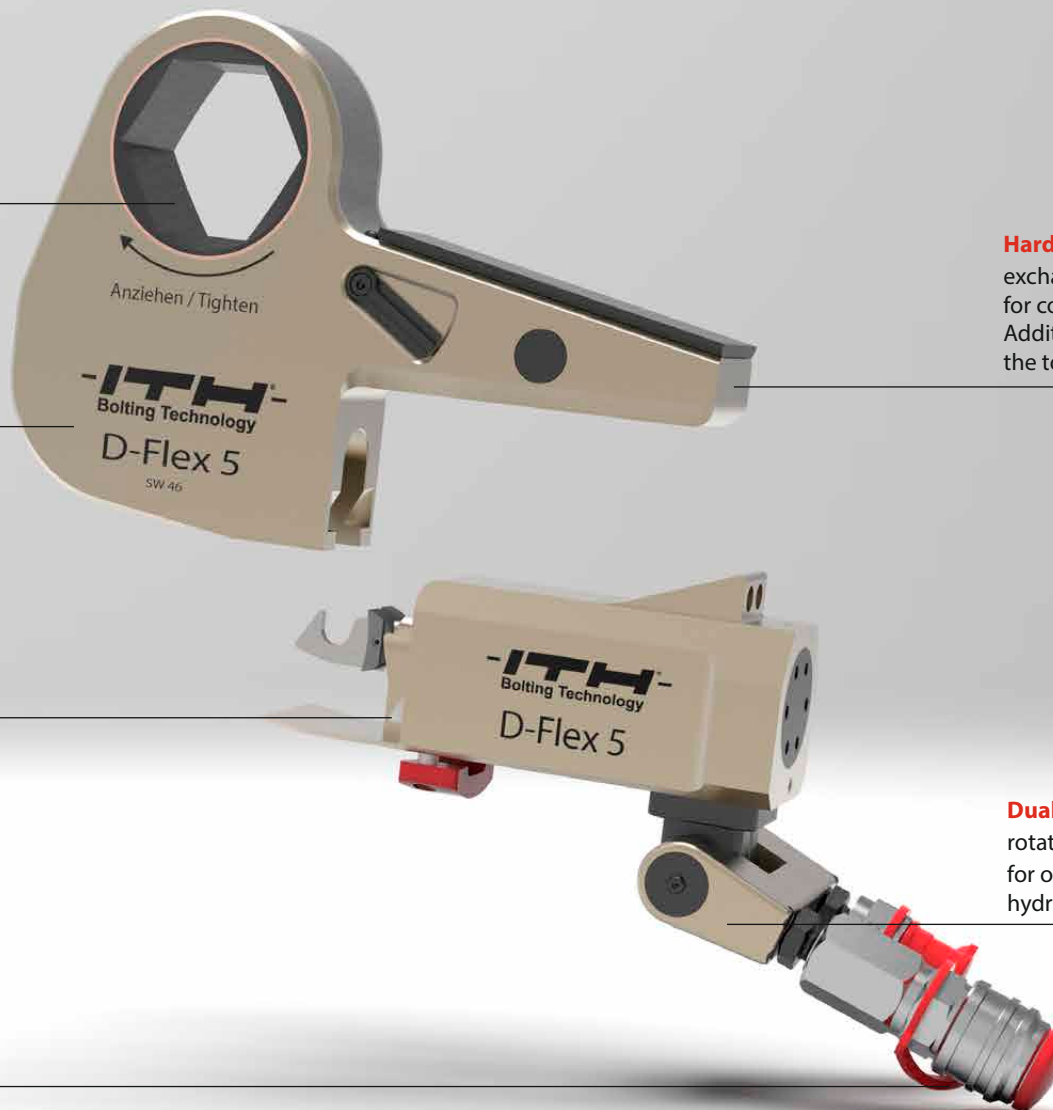
high-flow coupling and nipple for high delivery volumes

Hardened support plate

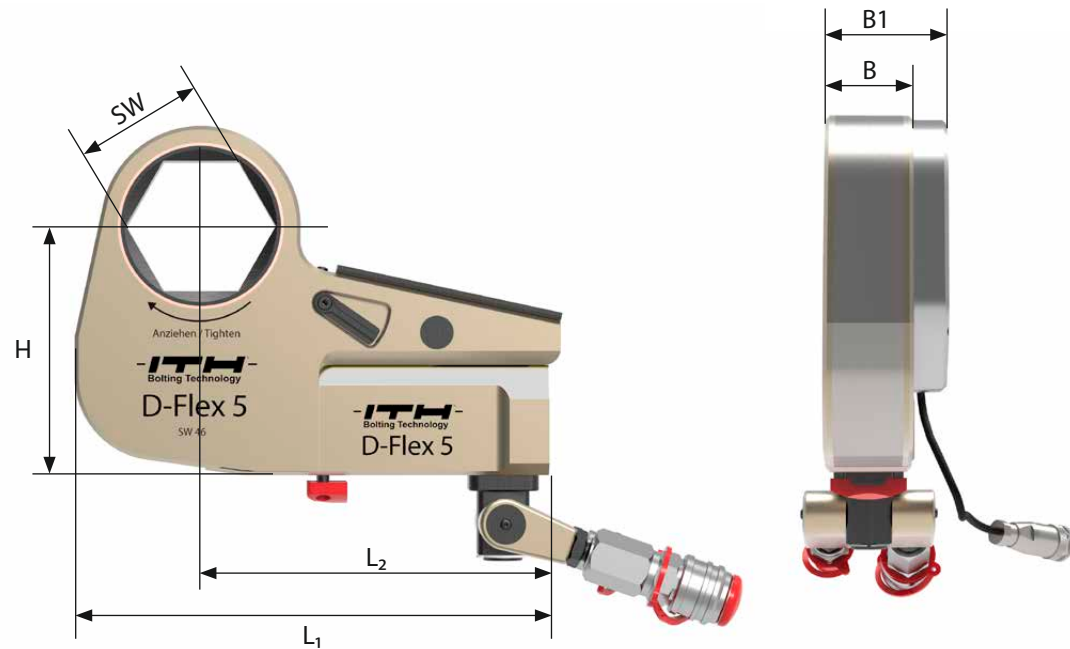
exchangeable, direct support for constant support conditions. Additional bending moment in the tool is avoided

Dual swivel connection

rotatable in two dimensions for optimal positioning of the hydraulic hose



Type D-Flex Technical data



Angle-controlled tightening: System ALPHA

Angle-controlled tightening is a method in which the achieved change in length of the bolt Δl is measured indirectly.

Read more on page 4.



Technical Data

ITH type	Max. Torque		L1 min. to max.*		L2 min. to max.*		B		B1		H		ITH order no. cylinder unit
	[Nm]	[ft-lb]	[mm]	["]	[mm]	["]	[mm]	["]	[mm]	["]	[mm]	["]	
D-Flex 2	2,000	1,475	183 - 193	7.20 - 7.60	135 - 144	5.31 - 5.67	34	1.34	50	1.97	88,7	3.49	58.00002-2000
D-Flex 5	5,000	3,688	238 - 260	9.37 - 10.24	174 - 195	6.85 - 7.68	42	1.65	59	2.32	124	4.88	58.00005-2000
D-Flex 8	8,000	5,900	253 - 273	9.96 - 10.75	176 - 203	6.93 - 7.99	48	1.89	64	2.52	141	5.55	58.00008-2000
D-Flex 12	12,000	8,851	285 - 301	11.22 - 11.85	200 - 224	7.87 - 8.82	56	2.20	77	3.03	158	6.22	58.00012-2000
D-Flex 18	18,000	13,276	357 - 376	14.06 - 14.80	250 - 270	9.84 - 10.63	68	2.68	84	3.31	196	7.72	58.00018-2000
D-Flex 28	28,000	18,439	400 - 428	15.75 - 16.85	280 - 310	11.02 - 12.20	77	3.03	84	3.31	215	8.46	58.00028-2000
D-Flex 40	40,000	29,502	458 - 509	18.03 - 20.04	328 - 368	12.91 - 14.49	94	3.70	110	4.33	240	9.45	58.00040-2000

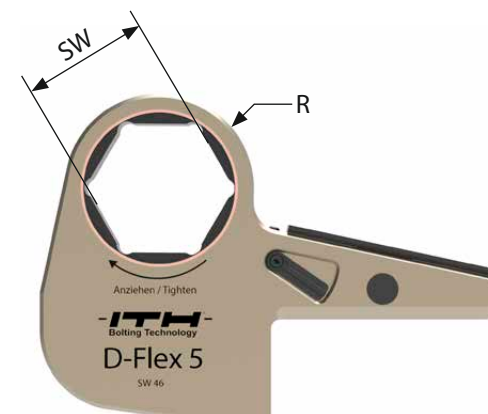
*depending on cassette unit.

Type D-Flex Head radiuses cassette unit

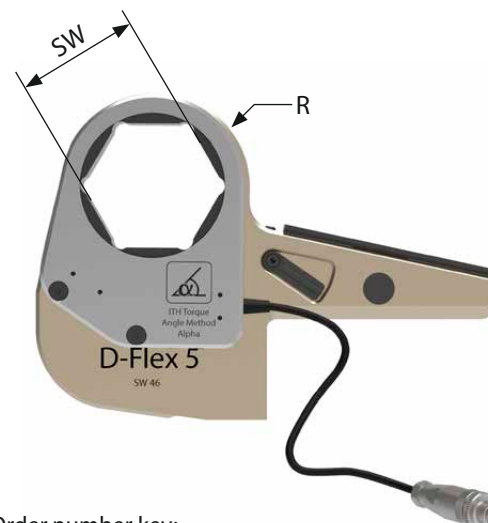
A/F		D-Flex 2	D-Flex 5	D-Flex 8	D-Flex 12	D-Flex 18	D-Flex 28	D-Flex 40	ITH order no.*	ALPHA ITH order no.
[mm]	["]	Head radius R [mm]								
19		28							58.000xx-3019	-A01
22		28							58.000xx-3022	-A01
24	15/16	28							58.000xx-3024	-A01
27		28	36						58.000xx-3027	-A01
30	1 1/4	28	36						58.000xx-3030	-A01
32		28	36						58.000xx-3032	-A01
36	1 4/9	28	39	44					58.000xx-3036	-A01
41	1 5/8	32	39	44					58.000xx-3041	-A01
46	1 4/5	35	39	44	48				58.000xx-3046	-A01
50	2	42	42	44	48	58			58.000xx-3050	-A01
55	2 1/5	42	44	44	48	58			58.000xx-3055	-A01
60	2 3/8	44	46	48	52	58			58.000xx-3060	-A01
65	2 4/7	48	50	48	52	58			58.000xx-3065	-A01
70	2 3/4		56	57	57	61			58.000xx-3070	-A01
75	3		56	57	57	61			58.000xx-3075	-A01
80	3 1/8		62	63	63	66	69		58.000xx-3080	-A01
85	3 3/2			63	63	66	69		58.000xx-3085	-A01
90	3 3/4			70	70	72	72	80	58.000xx-3090	-A01
95	3 7/8			70	70	72	72	80	58.000xx-3095	-A01
100	4 1/4				77	78	79	87	58.000xx-3100	-A01
105	4 5/8				77	78	79	87	58.000xx-3105	-A01
110						87	89	92	58.000xx-3110	-A01
115	5					87	89	92	58.000xx-3115	-A01
120**							94	97	58.000xx-3120	-A01
125							94	97	58.000xx-3125	-A01
130**	5 3/8						100	102	58.000xx-3130	-A01
135							100	102	58.000xx-3135	-A01
140**							105	107	58.000xx-3140	-A01
145	6 1/8						105	107	58.000xx-3145	-A01
150**								115	58.000xx-3150	-A01
155	6 1/2							115	58.000xx-3155	-A01
160**								122	58.000xx-3160	-A01
165								122	58.000xx-3165	-A01
170**								128	58.000xx-3170	-A01
175	7 1/8							128	58.000xx-3175	-A01
180	7 5/8							133	58.000xx-3180	-A01
185	8							133	58.000xx-3185	-A01
190								136	58.000xx-3190	-A01
195								136	58.000xx-3195	-A01
200	8 3/8							141	58.000xx-3200	-A01

Reduced head radiuses
matching flange standards:
ASME B16.5
Pipe flanges, class 300 to class 2,500
MSS SP-44
Steel pipe flanges, class 150 to 900.

Cassette unit standard



Cassette unit with ALPHA-Sensor



* Order number key:
xx = Size cylinder unit. Example D-Flex 8: xx = 08.
** These wrench sizes can be adapted.

Type D-Flex Cylinder units and accessories

Type D-Flex-AS

Outer hexagon adapter for inner hexagon bolts

Type D-Flex-AN

Inner hexagon adapter for hexagon bolts

Type D-Flex-A (Z)

Twelve-sided adapter for hexagon or twelve-sided bolts

Type D-Flex-A

Hexagon adapter for hexagon bolts

Cassette unit D-Flex 5

Accessories: Adapters

All adapters and supports can be replaced quickly - no extra tools required.



Cylinder unit
D-Flex 5

D-Flex wrench sizes

A/F 200

A/F 195

A/F 190

A/F 185

A/F 180

A/F 175

A/F 170

A/F 165

A/F 160

A/F 155

A/F 150

A/F 145

A/F 140

A/F 135

A/F 130

A/F 125

A/F 120

A/F 115

A/F 110

A/F 105

A/F 100

A/F 95

A/F 90

A/F 85

A/F 80

A/F 75

A/F 70

A/F 65

A/F 60

A/F 55

A/F 50

A/F 46

A/F 41

A/F 36

A/F 32

A/F 30

A/F 27

A/F 24

A/F 22

A/F 19

Type D-Flex Supports



Supports

ITH type	ITH order no. Support-A Horizontal standard	ITH order no. Support-B Vertical long	ITH order no. Support-C Horizontal low
D-Flex 2	58.00002-1xxx-01	58.00002-1xxx-02	58.00002-1xxx-03-Lyyy
D-Flex 5	58.00005-1xxx-01	58.00005-1xxx-02	58.00005-1xxx-03-Lyyy
D-Flex 8	58.00008-1xxx-01	58.00008-1xxx-02	58.00008-1xxx-03-Lyyy
D-Flex 12	58.00012-1xxx-01	58.00012-1xxx-02	58.00012-1xxx-03-Lyyy
D-Flex 18	58.00018-1xxx-01	58.00018-1xxx-02	58.00018-1xxx-03-Lyyy
D-Flex 28	58.00028-1xxx-01	58.00028-1xxx-02	58.00028-1xxx-03-Lyyy
D-Flex 40	58.00040-1xxx-01	58.00040-1xxx-02	58.00040-1xxx-03-Lyyy



Supports

ITH type	ITH order no. Support-D Horizontal ring	ITH order no. Support-E Horizontal long
D-Flex 2	58.00002-1xxx-04-Lyyy	58.00002-1xxx-05-Lyyy
D-Flex 5	58.00005-1xxx-04-Lyyy	58.00005-1xxx-05-Lyyy
D-Flex 8	58.00008-1xxx-04-Lyyy	58.00008-1xxx-05-Lyyy
D-Flex 12	58.00012-1xxx-04-Lyyy	58.00012-1xxx-05-Lyyy
D-Flex 18	58.00018-1xxx-04-Lyyy	58.00018-1xxx-05-Lyyy
D-Flex 28	58.00028-1xxx-04-Lyyy	58.00028-1xxx-05-Lyyy
D-Flex 40	58.00040-1xxx-04-Lyyy	58.00040-1xxx-05-Lyyy

Accessories: Supports

Horizontal supports ("in-line") can avoid additional bending moments in the tool.

All supports can be easily replaced and secured by a push button.

Order number key
xxx = A/F Cassette
yyy = Support length

Type D-Flex 2 Adapter A, AN, AS



ITH
Bolting Technology

D-Flex 2 Adapter A, AN, AS

ITH type	ITH order no. D-Flex-2	A/F D-Flex [mm]	ITH order no. Adapter	Adapter A/F [mm]																Type
Type D-Flex-A				24	30	34	36	41	46	50	55	60	65	70	75	80	85	90	95	 D-Flex-A Hexagon- adapter* for hexagon bolts
D-Flex 2	58.00002-3036	36	58.02502-3036-	0024	0030															
	58.00002-3041	41	58.02502-3041-	0024	0030	0034	0036													
	58.00002-3046	46	58.02502-3046-	0024	0030	0034	0036	0041												
	58.00002-3055	55	58.02502-3055-	0024	0030	0034	0036	0041	0046	0050										
	58.00002-3065	65	58.02502-3065-	0024	0030	0034	0036	0041	0046	0050	0055	0060								
Type D-Flex-AN				24	30	34	36	41	46	50	55	60	65	70	75	80	85	90	95	 D-Flex-AN Inner hexagon adapter* for hexagon bolts
D-Flex 2	58.00002-3036	36	58.02702-3036-	0024	0030	0034	0036	0041	0046	0050										
	58.00002-3041	41	58.02702-3041-		0030	0034	0036	0041	0046	0050	0055									
	58.00002-3046	46	58.02702-3046-			0034	0036	0041	0046	0050	0055	0060								
	58.00002-3055	55	58.02702-3055-					0041	0046	0050	0055	0060	0065	0070						
	58.00002-3065	65	58.02702-3065-							0050	0055	0060	0065	0070	0075	0080				
Type D-Flex-AS				14	17	19	22	27	32	36	41	60	65	70	75	80	85	90	95	 D-Flex-AS Outer hexagon adapter for inner hexagon bolts
D-Flex 2	58.00002-3036	36	58.02802-3036-	0014	0017	0019	0022	0027	0032											
	58.00002-3041	41	58.02802-3041-	0014	0017	0019	0022	0027	0032											
	58.00002-3046	46	58.02802-3046-	0014	0017	0019	0022	0027	0032											
	58.00002-3055	55	58.02802-3055-	0014	0017	0019	0022	0027	0032											
	58.00002-3065	65	58.02802-3065-	0014	0017	0019	0022	0027	0032											

*Also available as twelve-sided adapter.

Type D-Flex 5 Adapter A, AN, AS



D-Flex 5 Adapter A, AN, AS

ITH type	ITH order no. D-Flex-5	A/F D-Flex [mm]	ITH order no. Adapter	Adapter A/F [mm]																	Type
Type D-Flex-A				24	30	34	36	41	46	50	55	60	65	70	75	80	85	90	95	100	 D-Flex-A Hexagon adapter* for hexagon bolts
D-Flex 5	58.00005-3046	46	58.02505-3046-	0024	0030	0034	0036	0041													
	58.00005-3055	55	58.02505-3055-	0024	0030	0034	0036	0041	0046	0050											
	58.00005-3065	65	58.02505-3065-	0024	0030	0034	0036	0041	0046	0050	0055	0060									
	58.00005-3075	75	58.02505-3075-	0024	0030	0034	0036	0041	0046	0050	0055	0060	0065	0070							
	58.00005-3085	85	58.02505-3085-	0024	0030	0034	0036	0041	0046	0050	0055	0060	0065	0070	0075	0080					
Type D-Flex-AN				24	30	34	36	41	46	50	55	60	65	70	75	80	85	90	95	100	 D-Flex-AN Inner hexagon adapter* for hexagon bolts
D-Flex 5	58.00005-3046	46	58.02705-3046-			0034	0036	0041	0046	0050	0055	0060									
	58.00005-3055	55	58.02705-3055-					0041	0046	0050	0055	0060	0065	0070							
	58.00005-3065	65	58.02705-3065-							0050	0055	0060	0065	0070	0075	0080					
	58.00005-3075	75	58.02705-3075-									0060	0065	0070	0075	0080	0085	0090			
	58.00005-3085	85	58.02705-3085-											0070	0075	0080	0085	0090	0095	0100	
Type D-Flex-AS				14	17	19	22	27	32	36	41	60	65	70	75	80	85	90	95	100	 D-Flex-AS Outer hexagon adapter for inner hexagon bolts
D-Flex 5	58.00005-3046	46	58.02805-3046-	0014	0017	0019	0022	0027	0032	0036											
	58.00005-3055	55	58.02805-3055-	0014	0017	0019	0022	0027	0032	0036											
	58.00005-3065	65	58.02805-3065-	0014	0017	0019	0022	0027	0032	0036											
	58.00005-3075	75	58.02805-3075-	0014	0017	0019	0022	0027	0032	0036											
	58.00005-3085	85	58.02805-3085-	0014	0017	0019	0022	0027	0032	0036											

*Also available as twelve-sided adapter.

Type D-Flex 8 Adapter A, AN, AS



ITH
Bolting Technology

D-Flex 8 Adapter A, AN, AS

ITH type	ITH order no. D-Flex-8	A/F D-Flex [mm]	ITH order no. Adapter	Adapter A/F [mm]																Type
Type D-Flex-A				36	41	46	50	55	60	65	70	75	80	85	90	95	100	105	110	 D-Flex-A Hexagon adapter* for hexagon bolts
D-Flex 8	58.00008-3055	55	58.02508-3055-	0036	0041	0046	0050													
	58.00008-3065	65	58.02508-3065-	0036	0041	0046	0050	0055	0060											
	58.00008-3075	75	58.02508-3075-	0036	0041	0046	0050	0055	0060	0065	0070									
	58.00008-3085	85	58.02508-3085-	0036	0041	0046	0050	0055	0060	0065	0070	0075	0080							
	58.00008-3095	95	58.02508-3095-	0036	0041	0046	0050	0055	0060	0065	0070	0075	0080	0085	0090	0095				
Type D-Flex-AN				36	41	46	50	55	60	65	70	75	80	85	90	95	100	105	110	 D-Flex-AN Inner hexagon adapter* for hexagon bolts
D-Flex 8	58.00008-3055	55	58.02708-3055-		0041	0046	0050	0055	0060	0065	0070									
	58.00008-3065	65	58.02708-3065-				0050	0055	0060	0065	0070	0075	0080							
	58.00008-3075	75	58.02708-3075-						0060	0065	0070	0075	0080	0085	0090					
	58.00008-3085	85	58.02708-3085-								0070	0075	0080	0085	0090	0095	0100			
	58.00008-3095	95	58.02708-3095-										0080	0085	0090	0095	0100	0105	0110	
Type D-Flex-AS				22	27	32	36	41	60	65	70	75	80	85	90	95	100	105	110	 D-Flex-AS Outer hexagon adapter for inner hexagon bolts
D-Flex 8	58.00008-3055	55	58.02808-3055-	0022	0027	0032	0036													
	58.00008-3065	65	58.02808-3065-	0022	0027	0032	0036													
	58.00008-3075	75	58.02808-3075-	0022	0027	0032	0036													
	58.00008-3085	85	58.02808-3085-	0022	0027	0032	0036													
	58.00008-3095	95	58.02808-3095-	0022	0027	0032	0036													

*Also available as twelve-sided adapter.

Type D-Flex 12

Adapter A, AN, AS



ITH
Bolting Technology

D-Flex 12 Adapter A, AN, AS

ITH type	ITH order no. D-Flex-12	A/F D-Flex [mm]	ITH order no. Adapter	Adapter A/F [mm]																	Type
Type D-Flex-A				36	41	46	50	55	60	65	70	75	80	85	90	95	100	105	110	115	 D-Flex-A Hexagon adapter* for hexagon bolts
D-Flex 12	58.00012-3065	65	58.02512-3065-	0036	0041	0046	0050	0055	0060												
	58.00012-3075	75	58.02512-3075-	0036	0041	0046	0050	0055	0060	0065	0070										
	58.00012-3085	85	58.02512-3085-	0036	0041	0046	0050	0055	0060	0065	0070	0075	0080								
	58.00012-3095	95	58.02512-3095-	0036	0041	0046	0050	0055	0060	0065	0070	0075	0080	0085	0090						
	58.00012-3105	105	58.02512-3105-	0036	0041	0046	0050	0055	0060	0065	0070	0075	0080	0085	0090	0095	0100				
Type D-Flex-AN				36	41	46	50	55	60	65	70	75	80	85	90	95	100	105	110	115	 D-Flex-AN Inner hexagon adapter* for hexagon bolts
D-Flex 12	58.00012-3065	65	58.02712-3065-				0050	0055	0060	0065	0070	0075	0080								
	58.00012-3075	75	58.02712-3075-						0060	0065	0070	0075	0080	0085	0090						
	58.00012-3085	85	58.02712-3085-								0070	0075	0080	0085	0090	0095	0100				
	58.00012-3095	95	58.02712-3095-										0080	0085	0090	0095	0100	0105	0110		
	58.00012-3105	105	58.02712-3105-												0090	0095	0100	0105	0110	0115	
Type D-Flex-AS				22	27	32	36	41	46	50	55	60	65	70	75	80	85	90	95	100	 D-Flex-AS Outer hexagon adapter for inner hexagon bolts
D-Flex 12	58.00012-3065	65	58.02812-3065-	0022	0027	0032	0036	0041	0046												
	58.00012-3075	75	58.02812-3075-	0022	0027	0032	0036	0041	0046												
	58.00012-3085	85	58.02812-3085-	0022	0027	0032	0036	0041	0046												
	58.00012-3095	95	58.02812-3095-	0022	0027	0032	0036	0041	0046												
	58.00012-3105	105	58.02812-3105-	0022	0027	0032	0036	0041	0046												

*Also available as twelve-sided adapter.

Type D-Flex 18

Adapter A, AN, AS



ITH
Bolting Technology

D-Flex 18 Adapter A, AN, AS

ITH type	ITH order no. D-Flex-18	A/F D-Flex [mm]	ITH order no. Adapter	Adapter A/F [mm]																Type
Type D-Flex-A				36	41	46	50	55	60	65	70	75	80	85	90	95	100	105	110	 D-Flex-A Hexagon adapter* for hexagon bolts
D-Flex 18	58.00018-3065	65	58.02518-3065-			0046	0050	0055												
	58.00018-3075	75	58.02518-3075-			0046	0050	0055	0060	0065										
	58.00018-3085	85	58.02518-3085-			0046	0050	0055	0060	0065	0070	0075								
	58.00018-3095	95	58.02518-3095-			0046	0050	0055	0060	0065	0070	0075	0080	0085						
	58.00018-3105	105	58.02512-3105-			0046	0050	0055	0060	0065	0070	0075	0080	0085	0090	0095				
Type D-Flex-AN				36	41	46	50	55	60	65	70	75	80	85	90	95	100	105	110	 D-Flex-AN Inner hexagon adapter* for hexagon bolts
D-Flex 18	58.00018-3065	65	58.02718-3065-				0050	0055	0060	0065	0070	0075	0080							
	58.00018-3075	75	58.02718-3075-						0060	0065	0070	0075	0080	0085	0090					
	58.00018-3085	85	58.02718-3085-								0070	0075	0080	0085	0090	0095	0100			
	58.00018-3095	95	58.02718-3095-										0080	0085	0090	0095	0100	0105	0110	
	58.00018-3105	105	58.02718-3105-												0090	0095	0100	0105	0110	
Type D-Flex-AS				22	27	32	36	41	46	50	55	60	65	70	75	80	85	90	95	 D-Flex-AS Outer hexagon adapter for inner hexagon bolts
D-Flex 18	58.00018-3065	65	58.02818-3065-		0027	0032	0036	0041	0046											
	58.00018-3075	75	58.02818-3075-		0027	0032	0036	0041	0046											
	58.00018-3085	85	58.02818-3085-		0027	0032	0036	0041	0046											
	58.00018-3095	95	58.02818-3095-		0027	0032	0036	0041	0046											
	58.00018-3105	105	58.02818-3105-		0027	0032	0036	0041	0046											

*Also available as twelve-sided adapter.

Type D-Flex 28

Adapter A, AN, AS



ITH
Bolting Technology

D-Flex 28 Adapter A, AN, AS

ITH type	ITH order no. D-Flex-28	A/F D-Flex [mm]	ITH order no. Adapter	Adapter A/F [mm]																		Type
Type D-Flex-A				50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130	135	 D-Flex-A Hexagon adapter* for hexagon bolts
D-Flex 28	58.00028-3095	95	58.02528-3095-	0050	0055	0060	0065	0070	0075	0080	0085											
	58.00028-3105	105	58.02528-3105-	0050	0055	0060	0065	0070	0075	0080	0085	0090	0095									
	58.00028-3115	115	58.02528-3115-	0050	0055	0060	0065	0070	0075	0080	0085	0090	0095	0100	0105							
	58.00028-3125	125	58.02528-3125-	0050	0055	0060	0065	0070	0075	0080	0085	0090	0095	0100	0105	0110	0115					
	58.00028-3135	135	58.02528-3135-	0050	0055	0060	0065	0070	0075	0080	0085	0090	0095	0100	0105	0110	0115	0120	0125			
	58.00028-3145	145	58.02528-3145-	0050	0055	0060	0065	0070	0075	0080	0085	0090	0095	0100	1005	0110	0115	0120	0125	0130	0135	
Type D-Flex-AN				50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130	135	 D-Flex-AN Inner hexagon adapter* for hexagon bolts
D-Flex 28	58.00028-3095	95	58.02728-3095-							0080	0085	0090	0095	0100	0105	0110						
	58.00028-3105	105	58.02728-3105-									0090	0095	0100	0105	0110	0115	0120				
	58.00028-3115	115	58.02728-3115-											0100	0105	0110	0115	0120	0125	0130		
	58.00028-3125	125	58.02728-3125-													0110	0115	0120	0125	0130	0135	
	58.00028-3135	135	58.02728-3135-															0120	0125	0130	0135	
	58.00028-3145	145	58.02728-3145-															0120	0125	0130	0135	
Type D-Flex-AS				22	27	32	36	41	46	50	55	60	65	70	75	80	85	90	95	100	105	 D-Flex-AS Outer hexagon adapter for inner hexagon bolts
D-Flex 28	58.00028-3095	95	58.02828-3095-			0032	0036	0041	0046													
	58.00028-3105	105	58.02828-3105-			0032	0036	0041	0046													
	58.00028-3115	115	58.02828-3115-			0032	0036	0041	0046													
	58.00028-3125	125	58.02828-3125-			0032	0036	0041	0046													
	58.00028-3135	135	58.02828-3135-			0032	0036	0041	0046													
	58.00028-3145	145	58.02828-3145-			0032	0036	0041	0046													

*Also available as twelve-sided adapter.

Type D-Flex 40

Adapter A, AN, AS



ITH
Bolting Technology

D-Flex 40 Adapter A, AN, AS

ITH type	ITH order no. D-Flex-40	A/F D-Flex [mm]	ITH order no. Adapter	Adapter A/F [mm]																	Type
Type D-Flex-A				65	70	75	80	85	90	95	100	105	110	115	120	125	130	135	140	145	 D-Flex-A Hexagon adapter* for hexagon bolts
D-Flex 40	58.00040-3095	95	58.02540-3095-	0065	0070	0075	0080	0085													
	58.00040-3105	105	58.02540-3105-	0065	0070	0075	0080	0085	0090	0095											
	58.00040-3115	115	58.02540-3115-	0065	0070	0075	0080	0085	0090	0095	100	105									
	58.00040-3125	125	58.02540-3125-	0065	0070	0075	0080	0085	0090	0095	100	105	110	115							
	58.00040-3135	135	58.02540-3135-	0065	0070	0075	0080	0085	0090	0095	100	105	110	115	120	125					
	58.00040-3145	145	58.02540-3145-	0065	0070	0075	0080	0085	0090	0095	100	105	110	115	120	125	130	135			
58.00040-3175	175	58.02540-3175-	0065	0070	0075	0080	0085	0090	0095	100	105	110	115	120	125	130	135	140	145		
Type D-Flex-AN				65	70	75	80	85	90	95	100	105	110	115	120	125	130	135	140	145	 D-Flex-AN Inner hexagon adapter* for hexagon bolts
D-Flex 40	58.00040-3095	95	58.02740-3095-				0080	0085	0090	0095	0100	0105	0110								
	58.00040-3105	105	58.02740-3105-						0090	0095	0100	0105	0110	0115	0120						
	58.00040-3115	115	58.02740-3115-								0100	0105	0110	0115	0120	0125	0130				
	58.00040-3125	125	58.02740-3125-										0110	0115	0120	0125	0130	0135	0140		
	58.00040-3135	135	58.02740-3135-												0120	0125	0130	0135	0140	0145	
	58.00040-3145	145	58.02740-3145-														0130	0135	0140	0145	
58.00040-3175	175	58.02740-3175-														0130	0135	0140	0145		
Type D-Flex-AS				22	27	32	36	41	46	55	65	60	65	70	75	80	85	90	95	100	 D-Flex-AS Outer hexagon adapter for inner hexagon bolts
D-Flex 40	58.00040-3095	95	58.02840-3095-			0032	0036	0041	0046	0055	0065										
	58.00040-3105	105	58.02840-3105-			0032	0036	0041	0046	0055	0065										
	58.00040-3115	115	58.02840-3115-			0032	0036	0041	0046	0055	0065										
	58.00040-3125	125	58.02840-3125-			0032	0036	0041	0046	0055	0065										
	58.00040-3135	135	58.02840-3135-			0032	0036	0041	0046	0055	0065										
	58.00040-3145	145	58.02840-3145-			0032	0036	0041	0046	0055	0065										
58.00040-3175	175	58.02840-3175-			0032	0036	0041	0046	0055	0065											

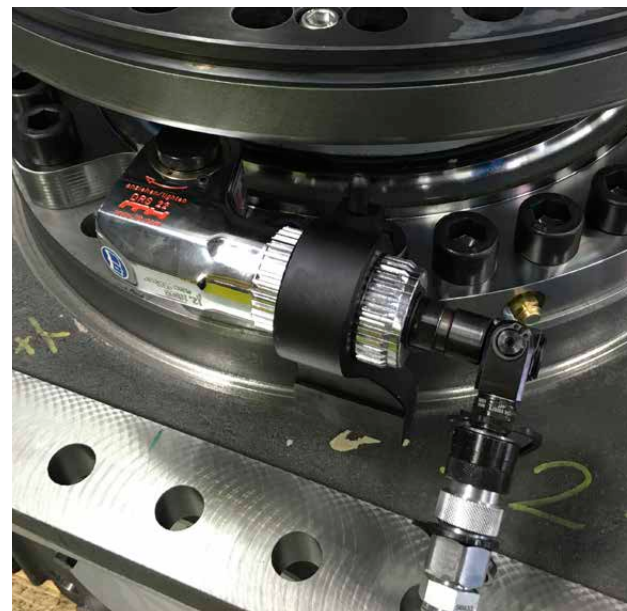
*Also available as twelve-sided adapter.

Type DRS Hydraulic torque wrench



SCAN ME

Application



Hydraulic torque wrench

Type DRS

Advantages

- ✓ Single-hose system, compatible with all ITH Torque Wrench High-Pressure Units
- ✓ Closed housing for universal use
- ✓ Use of standard power wrench sockets through square adapters
- ✓ Space-saving single-hose system, single-acting hydraulic cylinder with automatic retraction

Types



DRS 12

DRS 22

DRS 50

DRS 83

DRS 140

Type DRS Features

Fine-toothed spline

for power wrench sockets
type KSE, square inserts type VE
and hexagon inserts type SE

Closed and chromed steel housing

Asymmetric support

weight-optimized support,
including reinforced support shoe.
Can be placed on both sides,
positioned at a 360° angle and
easily fixed by the push button

External toothting

to accommodate the support,
three horizontal levels can be
selected on the housing

Tip lock

for fixing the support,
360° rotatable

Swivel connection

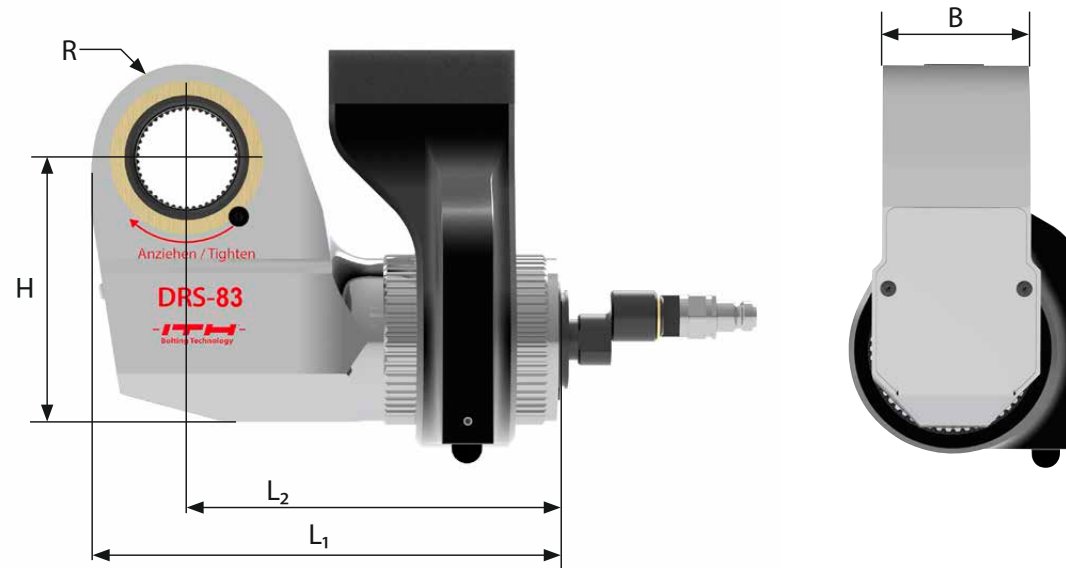
rotatable in two dimensions
for optimal positioning of the
hydraulic hose

Single hose hydraulic connection

space saving



Type DRS Technical Data



Technical Data

ITH type	Max. Torque		L1		L2		B		R		H		Weight		ITH order no.
	[Nm]	[ft·lb]	[mm]	["]	[mm]	["]	[mm]	["]	[mm]	["]	[mm]	["]	[kg]	[lb]	
DRS 12	1,250	922	124	4.88	103	4.06	38	1.50	21.5	0.85	58	2.28	1.7	3.75	51.10001-5000
DRS 22	2,200	1,623	161	6.34	136	5.35	45	1.77	25	0.98	68	2.68	2.3	5.07	51.10004-5000
DRS 50	5,000	3,688	180	7.09	150	5.91	54	2.13	30	1.18	90	3.54	4.1	9.04	51.10006-5000
DRS 83	8,300	6,122	219	8.62	179	7.05	60	2.36	40	1.57	118	4.65	6.8	14.99	51.10008-5000
DRS 140	14,000	10,326	224	8.82	179	7.07	70	2.76	45	1.77	127	5.00	9.6	21.16	51.10010-5000

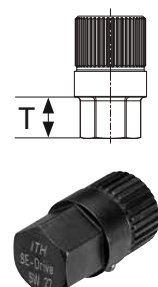
Contact us for additional or custom designs.

Type DRS Inserts VE - SE

Inserts VE – 3/4" - 2 1/2"

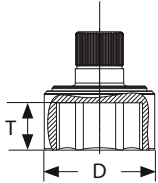
ITH type	VE	3/4"	1"	1 1/2"	2 1/2"	 DRS-VE Square insert for all power wrench sockets
	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	
DRS 12	51.12201-	3-4	1			
DRS 22	51.12204-		1	1_1-2		
DRS 50	51.12206-		1	1_1-2		
DRS 83	51.12208-			1_1-2		
DRS 140	51.12210-			1_1-2	2_1-2	

Inserts SE – A/F 14 mm - 41 mm

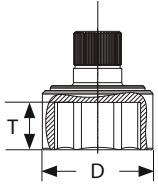
ITH type		A/F 14	A/F 17	A/F 19	A/F 22	A/F 24	A/F 27	A/F 32	A/F 36	A/F 41	 DRS-SE Hexagon insert for inner hexagon bolts
	T [mm]	8	10	13	15	18	19	32	28	34	
	SE ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	
DRS 12	51.12001-	0014	0017	0019	0022						
DRS 22	51.12004-		0017	0019	0022	0024					
DRS 50	51.12006-		0017	0019	0022	0024	0027	0032			
DRS 83	51.12008-			0019	0022	0024	0027	0032	0036		
DRS 140	51.12010-				0022	0024	0027	0032	0036	0041	

Type DRS Sockets KSE

Sockets KSE – A/F 22 mm - 50 mm

ITH type		A/F 22	A/F 24	A/F 27	A/F 30	A/F 32	A/F 36	A/F 41	A/F 46	A/F 50	  DRS-KSE Power wrench socket for hexagon bolts
	D [mm]	37	39	46	49	52	57	63	76	81	
	T [mm]	14	16	18	20	22	24	27	30	33	
	KSE ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	
DRS 12	51.12301-	0022	0024	0027	0030	0032	0036	0041	0046		
DRS 22	51.12304-		0024	0027	0030	0032	0036	0041	0046	0050	
DRS 50	51.12306-				0030	0032	0036	0041	0046	0050	
DRS 83	51.12308-						0036	0041	0046	0050	
DRS 140	51.12310-								0046	0050	

Sockets KSE – A/F 55 mm - 90 mm

ITH type		A/F 55	A/F 60	A/F 65	A/F 70	A/F 75	A/F 80	A/F 85	A/F 90	  DRS-KSE Power wrench socket for hexagon bolts
	D [mm]	87	93	100	106	112	118	125	131	
	T [mm]	36	39	42	45	48	52	56	60	
	KSE ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	ITH order no.	
DRS 12	51.12301-									
DRS 22	51.12304-									
DRS 50	51.12306-	0055	0060	0065	0070					
DRS 83	51.12308-	0055	0060	0065	0070	0075	0080			
DRS 140	51.12310-	0055	0060	0065	0070	0075	0080	0085	0090	

Type DKS Hydraulic torque wrench



SCAN ME

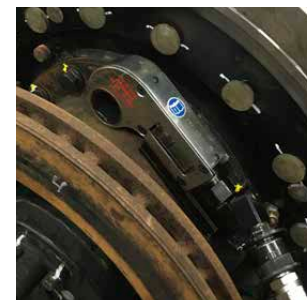
Application

Hydraulic torque wrench

Type DKS

Advantages

- ✓ Single-hose system, compatible with all ITH Torque Wrench High-Pressure Units
- ✓ Perfect for radial limited spaces
- ✓ Constant support conditions
- ✓ Expandable application possibilities with various plug-in inserts type KSE, VE, SE
- ✓ Easy-to-maintain assembly design
- ✓ Single-acting hydraulic cylinder with automatic piston return



Types



DKS 12

DKS 20

DKS 45

DKS 75

Type DKS Features

Flexible holding fixture

for various socket inserts and direct tightening of hexagon bolts

Component design

system of hydraulic cylinder, ratchet system and lug enables simple and quick repair work

Chromed steel housing

Hardened support plate

direct support for constant support conditions. Additional bending moment in the tool is avoided

Swivel connection

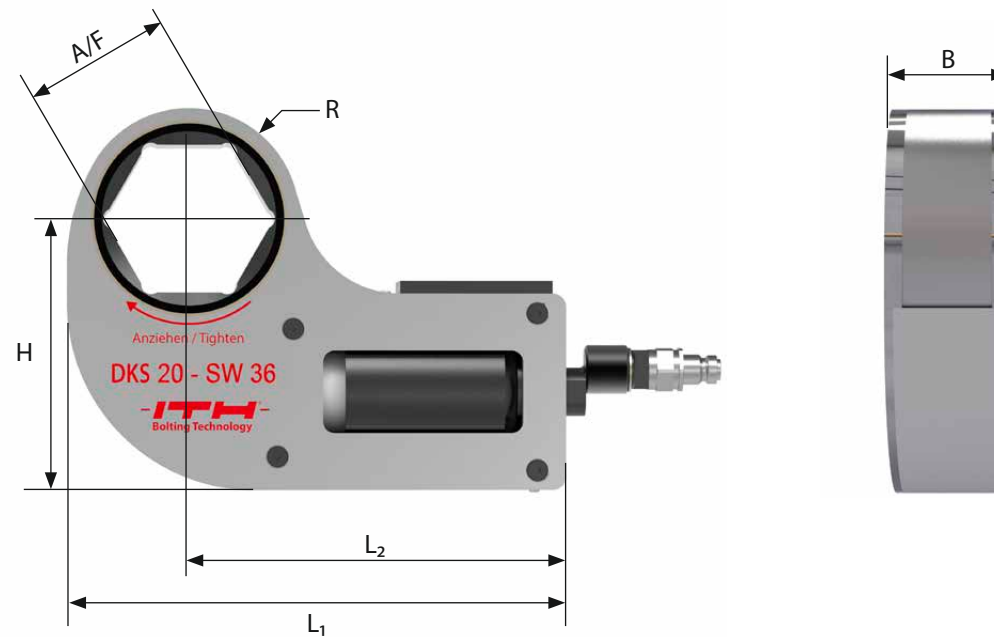
rotatable in two dimensions for optimal positioning of the hydraulic hose

Single hose hydraulic connection

space saving



Type DKS **Technical data**



Technical data

ITH type	Max. Torque		L1		L2		B		R		H		A/F		Weight		ITH order no.
	[Nm]	[ft·lb]	[mm]	["]	[mm]	["]	[mm]	["]	[mm]	["]	[mm]	["]	[mm]	["]	[kg]	[lb]	
DKS 12	1,250	922	142	5.59	110	4.33	31,5	1.24	24	0.94	61.5	2.42	30	1.18	1.3	2.87	52.10001-5000
			142	5.79					28	1.10	61.5	2.42	36	1.42	1.4	3.09	52.10002-5000
DKS 20	2,000	1,475	183	7.20	145	5.71	34	1.34	28	1.10	73	2.87	36	1.42	1.5	3.31	52.10003-5000
			188	7.40					35	1.38	76	2.99	46	1.81	1.8	3.97	52.10004-5000
DKS 45	4,500	3,319	204	8.03	143	5.63	44	1.73	38	1.50	99	3.90	46	1.81	3.4	7.50	52.10008-5000
			206	8.11	160	6.30			42	1.65	99	3.90	55	2.17	3.6	7.94	52.10010-5000
			214	8.43	262	10.31			48	1.89	137	5.39	65	2.56	3.8	8.38	52.10011-5000
			270	10.63	214	8.43			56	2.20	137	5.39	75	2.95	4.1	9.04	52.10012-5000
			280	11.02	210	8.27			70	2.76	137	5.39	95	3.74	4.3	9.48	52.10014-5000
DKS 75	7,500	5,532	243	9.57	185	7.28	46	1.81	48	1.89	124	4.88	65	2.56	5.2	11.46	52.10020-5000
			260	10.24	195	7.68			56	2.20	124	4.88	75	2.95	5.5	12.13	52.10021-5000
			267	10.51	195	7.68			62	2.44	124	4.88	85	3.35	5.9	13.01	52.10022-5000

Type DKS Adapter A & AN

Adapter A – A/F 22 mm - 90 mm

ITH type	ITH order no. DKS	A/F DKS [mm]	ITH order no. Adapter A	Adapter A/F [mm]																Type
				22	27	32	36	41	46	50	55	60	65	70	75	80	85	90		
DKS 12	52.10001	30	52.12501-	0022	0027															
	52.10002	36	52.12502-	0022	0027	0032														
DKS 20	52.10003	36	52.12503-	0022	0027	0032														
	52.10004	46	52.12504-	0022	0027	0032	0036	0041												
DKS 45	52.10008	46	52.12508-	0022	0027	0032	0036	0041												
	52.10010	55	52.12510-	0022	0027	0032	0036	0041	0046	0050										
	52.10011	65	52.12511-	0022	0027	0032	0036	0041	0046	0050	0055	0060								
	52.10012	75	52.12512-	0022	0027	0032	0036	0041	0046	0050	0055	0060	0065	0070						
	52.10014	95	52.12514-	0022	0027	0032	0036	0041	0046	0050	0055	0060	0065	0070	0075	0080	0085	0090		
DKS 75	52.10020	65	52.12520-	0022	0027	0032	0036	0041	0046	0050	0055	0060								
	52.10021	75	52.12521-	0022	0027	0032	0036	0041	0046	0050	0055	0060	0065	0070						
	52.10022	85	52.12522-	0022	0027	0032	0036	0041	0046	0050	0055	0060	0065	0070	0075	0080				

Adapter AN – A/F 22 mm - 75 mm

ITH type	ITH order no. DKS	A/F DKS [mm]	ITH order no. Adapter A	Adapter A/F [mm]												Type
				22	27	32	36	41	46	50	55	60	65	70	75	
DKS 12	52.10001	30	52.12701-	0022	0027	0032	0036	0041								 DKS-AN Inner hexagon adapter for hexagon bolts
	52.10002	36	52.12702-	0022	0027	0032	0036	0041								
DKS 20	52.10003	36	52.12703-	0022	0027	0032	0036	0041	0046							
	52.10004	46	52.12704-	0022	0027	0032	0036	0041	0046							
DKS 45	52.10008	46	52.12708-	0022	0027	0032	0036	0041	0046	0050	0055					
	52.10010	55	52.12710-	0022	0027	0032	0036	0041	0046	0050	0055					
	52.10011	65	52.12711-	0022	0027	0032	0036	0041	0046	0050	0055	0060				
	52.10012	75	52.12712-	0022	0027	0032	0036	0041	0046	0050	0055	0060	0065			
	52.10014	95	52.12714-	0022	0027	0032	0036	0041	0046	0050	0055	0060	0065	0070	0075	
DKS 75	52.10020	65	52.12720-	0022	0027	0032	0036	0041	0046	0050	0055	0060	0065	0070	0075	
	52.10021	75	52.12721-	0022	0027	0032	0036	0041	0046	0050	0055	0060	0065	0070	0075	
	52.10022	85	52.12722-	0022	0027	0032	0036	0041	0046	0050	0055	0060	0065	0070	0075	

Type DKS Adapter AS

Adapter AS – A/F 22 mm - 55 mm

ITH type	ITH order no. DKS	A/F DKS [mm]	ITH order no. Adapter A	Adapter A/F [mm]								Type
				22	27	32	36	41	46	50	55	
DKS 12	52.10001	30	52.12801-	0014	0017	0019	0022					 DKS-AS Outer hexagon adapter for inner hexagon bolts
	52.10002	36	52.12802-	0014	0017	0019	0022					
DKS 20	52.10003	36	52.12803-	0014	0017	0019	0022	0027	0032			
	52.10004	46	52.12804-	0014	0017	0019	0022	0027	0032			
DKS 45	52.10008	46	52.12808-	0014	0017	0019	0022	0027	0032	0036		
	52.10010	55	52.12810-	0014	0017	0019	0022	0027	0032	0036		
	52.10011	65	52.12811-	0014	0017	0019	0022	0027	0032	0036		
	52.10012	75	52.12812-	0014	0017	0019	0022	0027	0032	0036		
	52.10014	95	52.12814-	0014	0017	0019	0022	0027	0032	0036		
DKS 75	52.10020	65	52.12820-		0017	0019	0022	0027	0032	0036	0041	
	52.10021	75	52.12821-		0017	0019	0022	0027	0032	0036	0041	
	52.10022	85	52.12822-			0019	0022	0027	0032	0036	0041	

Hydro-DAX V-Series Hydraulic unit

ITH
Bolting Technology

Type Hydro-DAX



SCAN ME

Hydraulic unit

Hydro-DAX V-Series

Advantages

- ✓ Giving the V-series its name: the vertical design results in the best power-to-weight ratio kg/l in the market segment
- ✓ For the operation of hydraulic torque wrenches with single-hose system and with dual-hose system up to 850 bar (12,330 psi) - regardless of the brand
- ✓ Operation of multi-purpose lifting cylinders up to 850 bar (12,330 psi) - regardless of brand



For the following ITH Hydraulic Torque Wrenches



CX



D-FLEX



DRS



DKS



DPX

Hydro-DAX V-Series **Features**



Multifunction remote
(optional)

Digital cycle counter
enables simple traceability of the cycles
as a basis for systematic and forward-
looking maintenance management

High pressure gauge
with rubberised protective cap, multi-colour
scale and separate pressure scale from
0 - 1000 bar. Digital gauge optional

Dual-hose hydraulic connection
with high-flow nipple and coupling for
high delivery volumes. Compatible with
single-hose and dual-hose systems

Carrying device and cable carrier
practical storage of the supply cable
and the remote

Oil cooler
(optional)

Vertical multi-rib tank
with fan. Efficient temperature
exchange through robust and
weight-optimised aluminium
multi-rib tank (passive) and constantly
running fan (active)

Oil level sight glass

Remote
enables one-person operation



Hydro-DAX V-Series Options



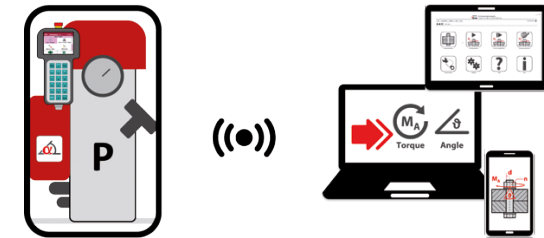
Digital gauge

Displays pressure and torque during operation as standard for all ITH Torque Wrenches. Individual operating modes for all brands or multi-purpose lifting cylinders.



Oil cooler

For working areas with increased ambient temperatures or high duty cycles, there is the option of an additional oil cooler (head side).



ITH Auto-Torque

Automatic bolting ITH Auto-Torque, angle-controlled tightening ALPHA or a digital documentation system are available as additional options.

Further information on pages 4 and 5.

Technical data

ITH Hydro-DAX type	ITH order no.	Max. operating pressure	Drive power	Oil volume (usable)	Oil flow rate low pressure	Oil flow rate high pressure	Noise emission	Voltage	Phases	Frequency	Standard		With oil cooler	
		[bar]	[kW]	[l]	[l]	[l]	[dB]	[V]	[n]	[Hz]	Dimensions (L x B x H)	Weight*	Dimensions (L x B x H)	Weight*
											[mm]	[kg]	[mm]	[kg]
V12	50.01112-x-y	850	0.55	1.9 (1.4)	6.7 l (70 bar)	0.79	< 80	90-120 190-240 380-420	1 1 3	50 + 60	300 x 300 x 475	20.5	300 x 300 x 515	22.5
V18	50.01118-x-y		0.7	1.8 (1.4)	6.9 l (100 bar)	1.07	< 80	90-120 190-240 380-420	1 1 3		300 x 300 x 515	24.0	300 x 300 x 575	26.0
V21	50.01121-x-y		1.4	2.2 (1.6)	15.8 l (100 bar)	2.5	< 85	90-120 190-240 380-420	1 1 3		310 x 337 x 555	32.0	310 x 337 x 615	34.0

90 - 120 V: x = 09170 (1-phase)
190 - 240 V: x = 19170 (1-phase)
380 - 420 V: x = 40370 (3-phase)

Standard: y = { }
With oil cooler: y = 01

* Including oil, 380 - 420 V version: weight reduction of 0.5 kg (1.1 lbs).

Hydro-DAX V18 Battery

ITH
Bolting Technology

Type Hydro-DAX V18 Battery



SCAN ME

For hydraulic torque
wrenches & multi-purpose
lifting cylinders

Hydraulic unit

Hydro-DAX V18 Battery

Advantages

- ✓ Mobile, fast pressure build-up and independent of power or compressed air supply
- ideal for service applications
- ✓ For hydraulic torque wrenches and multi-purpose lifting cylinders up to 850 bar
- regardless of the brand
- ✓ One battery charge tightens 104 bolts M30 (1 1/8") with 1,650 Nm (1.217 ft · lbs)*
- ✓ Powerful and long-lasting 82 V Li-ion batteries with capacities of 2.0 Ah, 4.0 Ah or 5.0 Ah
- ✓ Drive with Load Sense Technology - for optimum power output and efficient battery management

*Test setup: ITH Hydro-DAX V18 Battery with 82 V Li-ion battery 5.0 Ah, double high-pressure hose line 3 m, ITH Hydraulic Torque Wrench type D-Flex 5, torque 1,650 Nm, M30 bolt connections 10.9, clamping length $l_k = 81$ mm.



For the following ITH Hydraulic Torque Wrenches



CX



D-FLEX



DRS



DKS



DPX

Hydro-DAX V18 Battery **Features**

High pressure gauge

with rubberised protective cap, multi-colour scale and separate pressure scale from 0-1000 bar. Digital manometer optional

Digital cycle counter

enables simple traceability of the cycles as a basis for systematic and forward-looking maintenance management

Dual-hose hydraulic connection

with high-flow nipple and coupling for high delivery volumes. Compatible with single-hose and dual-hose systems

Carrying device and cable carrier

practical storage of the supply cable and the remote

Frontside battery compartment

quick and easy battery exchange - no extra tools required. Includes quick-release lock and safety key

Pressure adjusting valve

Oil level sight glass

Remote

enables one-person operation

Vertical multi-rib tank

with fan. Efficient temperature exchange through robust and weight-optimised aluminium multi-rib tank (passive) and constantly running fan (active)



Fig.: Hydro-DAX V18 Battery with optional digital pressure gauge

Hydro-DAX V18 Battery Options



82 V-Battery

- ✓ The scope of delivery includes two powerful 82 V Li-Ion batteries
- ✓ ITH type: Li-Ion Battery 82 V
- ✓ ITH order no.: 74.08697-ADAXVA-z
2 Ah: z = 2
4 Ah: z = 4 (Standard)
5 Ah: z = 5



High-performance fast-charging station

- ✓ The scope of delivery includes an air-cooled high-power quick-charging station with battery diagnosis function
- ✓ ITH type: quick charging station for DAX-V Battery
- ✓ ITH order no.: 74.08697-LDAVA-z
90 - 120 V: z = 100
190 - 240 V: z = 230

Technical data

ITH Hydro-DAX type	ITH order no.	Max. operating pressure	Drive power	Oil volume (usable)	Oil flow rate low pressure	Oil flow rate high pressure	Noise emission	Voltage	Amperage	Standard	
		[bar]	[kW]	[l]	[-]	[l]	[dB]	[V]	[Ah]	Dimensions (L x B x H)	Weight* (kg)
V18 Battery	50.01118-x	850	1.5	1.1 (0.8)	5.86 l / 70 bar	0.79	< 80	82 V, battery operated	2 4 5	320 x 380 x 640	20.5

*Including oil, without battery.

Aero-DAX 19 & DA 16



Pneumatic unit

- ✓ Operation by air pressure - no electrical power supply required
- ✓ Operating pressure: 850 bar
- ✓ One-man operation with pneumatic remote

Type:	Aero-DAX 19
ITH order no.:	50.01019
Compatibility:	All ITH Hydraulic Torque Wrenches, optimal with dual-hose systems.
Max. operating pressure:	850 bar
Dimensions (L x B x H):	600 x 300 x 440 mm
Weight:	35 kg (31.9 kg without oil)
Oil volume:	3 l
Required air supply:	Min. 6 bar
Compressed air volume:	2,000 - 2,500 l/min.
Pneumatic connector (inside diameter Ø):	Min. 10 mm (adapters available)



Manual pump

- ✓ Manual operation for service applications or applications without power supply, compact and mobile
- ✓ High pressure gauge with multi-colour scale
- ✓ Pressure relief valve for setting the torque

Type:	Manual pump DA 16
ITH order no.:	50.01016
Compatibility:	Hydraulic torque wrenches with single-hose systems.
Max. operating pressure:	950 bar
Dimensions (L x B x H):	880 x 180 x 280 mm
Weight:	11.8 kg including Oil

Accessories



Dual-hose system

- ✓ Dual high-pressure hose, compatible with torque wrenches with dual-hose system and high-pressure units of the DAX series
- ✓ High-flow nipple and coupling, designed for high flow rates
- ✓ Optionally with protective cover

Length:	ITH order no.:
3 m	34.00230-0030
4 m	34.00230-0040
5 m	34.00230-0050
6 m	34.00230-0060



Single-hose system

- ✓ High-pressure hose, compatible to ITH Torque Wrenches type DRS and DKS
- ✓ Optionally with protective cover

Length:	ITH order no.:
3 m	34.10030-0030
4 m	34.10030-0040
5 m	34.10030-0050
6 m	34.10030-0060

Technical Information Assembly preload F_M and tightening torque M_A

Bolt size			Strength grade DIN ISO 898 -1					
			8.8		10.9		12.9	
d [mm]	P	A/F	F_M [kN]	M_A [Nm]	F_M [kN]	M_A [Nm]	F_M [kN]	M_A [Nm]
M16	2	24	79	228	112	324	131	379
M20	2.5	30	123	446	176	635	205	743
M22	2.5	34	154	613	220	873	257	1,022
M24	3	36	178	768	253	1,094	296	1,281
M27	3	41	234	1,133	333	1,613	390	1,888
M30	3.5	46	285	1,551	406	2,209	475	2,585
M33	3.5	50	355	2,105	506	2,998	592	3,508
M36	4	55	417	2,706	594	3,853	696	4,509
M39	4	60	502	3,512	715	5,002	836	5,853
M42	4.5	65	575	4,339	819	6,179	959	7,231
M45	4.5	70	673	5,426	959	7,728	1,122	9,044
M48	5	75	758	6,563	1,079	9,347	1,263	10,938
M52	5	80	909	8,447	1,295	12,031	1,516	14,079
M56	5.5	85	1,049	10,524	1,494	14,989	1,749	17,540
M60	5.5	90	1,226	13,076	1,746	18,623	2,044	21,793
M64	6	95	1,388	15,749	1,977	22,430	2,313	26,248
M68	6	100	1,590	19,082	2,265	27,177	2,651	31,803
M72	6	105	1,807	23,149	2,573	32,970	3,011	38,582
M80	6	115	2,281	32,140	3,248	45,775	3,801	53,566
M90	6	130	2,950	46,505	4,202	66,234	4,917	77,508
M100	6	145	3,706	64,782	5,278	92,266	6,176	107,970
M110	6	155	4,547	86,375	6,476	123,019	7,579	143,958
M120	6	170	5,475	113,235	7,798	161,274	9,125	188,725

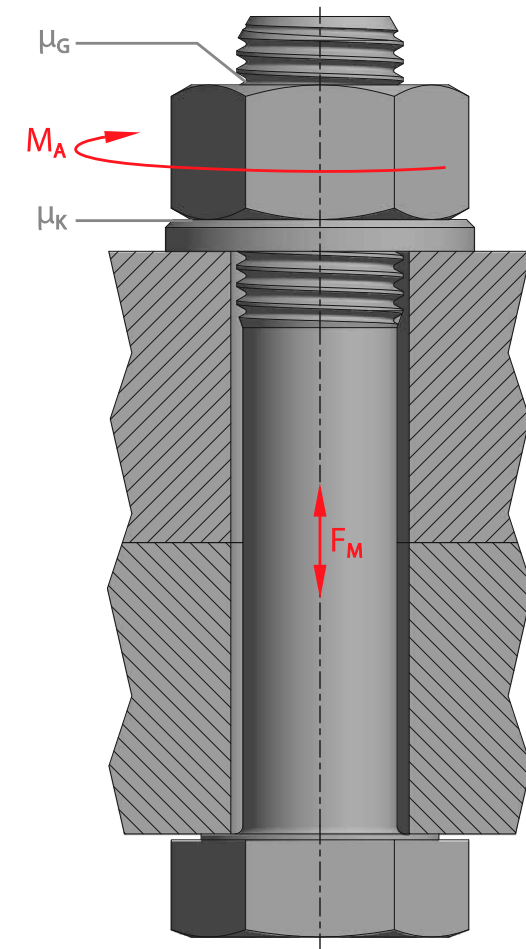
ITH reference: 09.80053

Calculation basis

Utilisation factor of the yield stress $v = 0,9$ for shank bolts with metric standard thread acc. to DIN 13-20 (minimum dimensions) resp. calculated acc. to DIN 13-19, tolerance class 6g; diameter of the bearing face d_w acc. to DIN EN ISO 4014 resp. DIN EN ISO 4032 up to M68, from M72 acc. to. DIN 2510-5 (d_2); Clearance hole "medium" acc. to DIN EN 20273. Friction coefficients $\mu_G = \mu_K = 0,14$.

The friction coefficient depends on material/surface and used lubricant. d = nominal diameter of thread, P = pitch, s = width across flats.

All values and data are calculated and checked prudently. However, we accept no responsibility for the correctness, completeness and topicality. Technical modifications reserved.

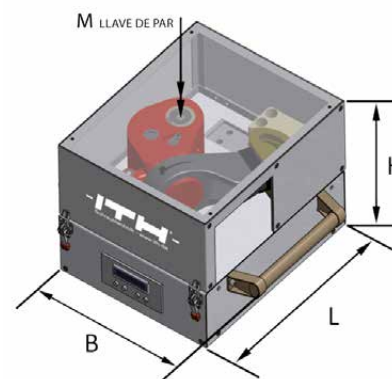


Measurement

ITH Static Torque Tester

- ✓ Testing and calibration of hydraulic torque wrenches – all brands
- ✓ Safe to work and mobile for use on construction sites with protective enclosure and window
- ✓ Easy, automatic generation of test protocols or PDF or CSV format (optional)
- ✓ Certified precision: the test stand is calibrated according to the strict regulations of the German Accreditation Body (DAkkS)

ITH type	[Nm]	L	B	H	Weight	ITH order no.
		[mm]	[mm]	[mm]	[kg]	
STT 5	500 - 5,000	365	313	310	38	20.00210
STT 13	1,300 - 13,000	591	517	374	85	20.00212
STT 28	2,800 - 28,000	541	506	440	140	20.00214
STT 45	4,500 - 45,000	686	699	454	198	20.00216



Versions

Standard

- ✓ Measuring and testing of all hydraulic torque wrenches
- ✓ Easily adjustable support unit, flexibly fixable depending on torque wrench type
- ✓ Safety features: reinforced cover, lockable by means of locking tensioner
- ✓ Mobile usage for on-site: two robust carrying handles, four ring eyelets for transport with cranes
- ✓ Digital display

Option 1: Measuring station

- ✓ Including mobile drawer cabinet and extensive storage options

Option 2: Digital

- ✓ Including pressure transducer for hydraulic unit and ITH control software for digital documentation of the measured values
- ✓ All relevant data is clearly recorded and can be saved. The results can be automatically generated in a test protocol as a PDF or optionally as a CSV file
- ✓ Easy use of the software

Option 3: Ultimate

- ✓ Including industrial touch panel PC and ITH control software for digital documentation
- ✓ Including ITH Hydraulic Unit of your choice

All options can be combined individually.

General information



ITH quality management

Before first delivery and after maintenance all ITH Hydraulic-Torque Wrenches are tested and calibrated on dynamic torque measurement units (DAkKS-certified). Measured values are recorded on an ITH calibration certificate.

All ITH business procedures – including development, production and distribution of bolting tools and testing equipment – are certified according to the quality management directive ISO 9001 and the environmental management directive ISO 14001.



Qualification in bolting technology

The ITH training courses in reference to **VDI/VDE-MT 2637** combine theory and practice efficiently – independent of the bolting tools you use:

Level A - ITH On-site Training - Tool instruction on-site

Level B - ITH Tool Training - Safety and tool operation

Level C - ITH Service Training - Maintenance and service

In cooperation with you we create an individual training course according to your requirements. By its modular design, ITH training contents can be adapted easily.

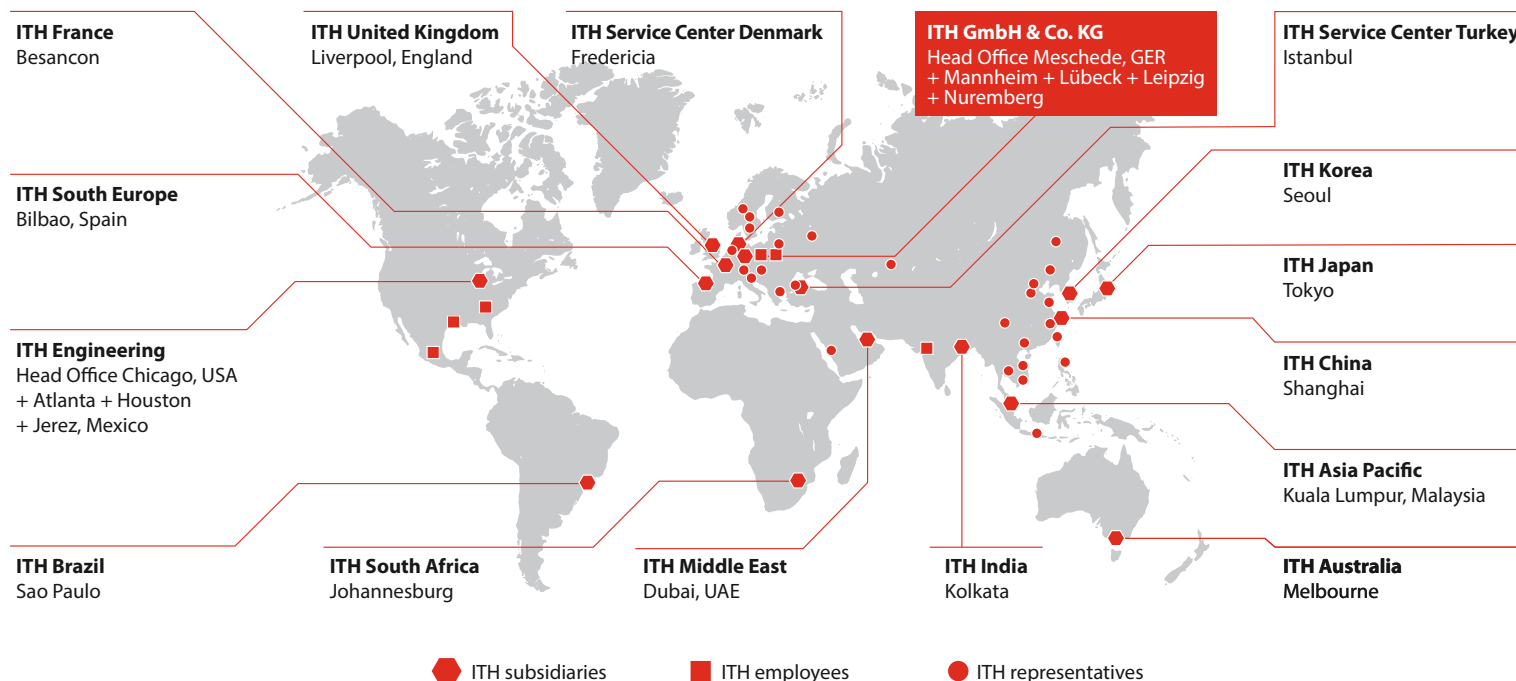
We mediate bolting competencies in terms of safety, technical physical fundamentals, maintenance, service and bolting tool operation. After the theory courses, learned contents will be applied practically to guarantee most efficient learning success. Participants receive a certification after passing a final test.

Service, rental and bolting service

- ✓ **Service on-site**
ITH offers global, qualified tool maintenance and calibration performed locally by the global ITH network. These services can be carried out on-site by ITH Calibration Centers or ITH Service-Vans.
- ✓ **Fast & traceable**
All services are handled quickly, reliably and are recorded internally. Tool calibrations are certified.
- ✓ **Customer-oriented, qualified and flexible**
Experienced ITH bolting service teams have successfully performed a various number of bolting jobs worldwide fast and safely. All ITH bolting tools are available for rent.

Contact

Global leading system supplier in bolting technology



ITH drives innovation

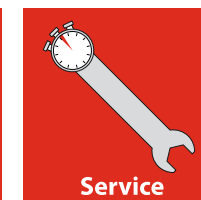
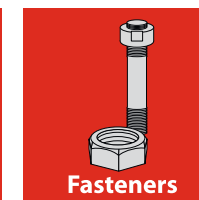
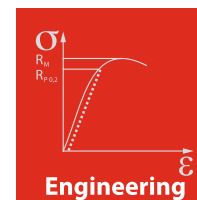
With more than 40 years in the bolting industry, ITH continuously invests experience and know-how into new technical developments. More than 200 national and international patents prove the innovative capabilities of ITH. Many of these developments have become standards of bolting technology.

- ✓ Global technical sales & service network
- ✓ Synergy effects being a whole system supplier
- ✓ Qualified, flexible service and fast spare parts availability
- ✓ Individual industry- or branch specific customer solutions
- ✓ Competent advice in all bolting cases
- ✓ Lean Production & certified quality, environmental and occupational safety management according to DIN ISO 9001, 14001 and 45001

ITH offers synergy

The technical and economic efficiency of a bolted connection is decisively determined by the design, the fasteners, the bolting tools and the assembly.

As a whole system supplier, ITH combines the expertise of these four sub-divisions (Tools, Engineering, Fasteners, Service) and configures the components with each other to achieve the best technical and economic result for our business partners.





Global technical sales & service network

Individual consultation is important for us. Visit the contact section on the ITH website to find the contact information of the local person in your country. We will be happy to advise you.

ITH GmbH & Co. KG

Steinwiese 8
59872 Meschede
+49 291 99620
sales@ith.com
www.ITH.com

Follow ITH on Social Media



Watch our corporate movie series "ITH Connects"

Scan the QR code and watch the movies on your smartphone or visit www.ITH.com.



