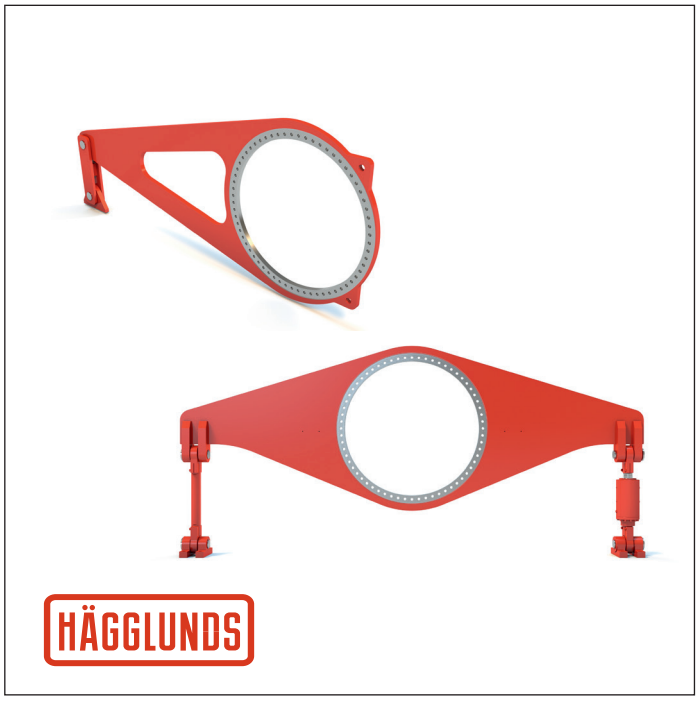
RE 15355/01.2021
Replaces: 12.2020

rexroth
A Bosch Company

Torque arms
Hägglunds TC A, DTCA, DTCB, DTCBM



- Valid for: Hägglunds motors Atom, CA, CB, CBp, CBm

Features

- Easy mounting i.e. No alignment problems, couplings and bed plates are eliminated.
- Fast mounting of motor to driven shaft.
- Robust torque-transmitting.
- Controlled external forces on driven shaft.
- Space saving. i.e. close mounting to the driven machine.
- Take up radial and axial movements on driven shaft.
- Reduction of external force on driven shaft with double ended torque arm type DTC.
- As option: Electrical isolated articulated connection to avoid current from passing through the hydraulic motor.
- As option: Heavy duty designed articulated connection.

Contents

1 Preface

Warning signs
In this manual you will find the following signs which indicate a potential hazard, which can or will cause personal injury or substantial property damage. Depending on the probability if the hazard, and how serious the injury or property damage could be, there are three levels if classification.

Warning sign (warning triangle):	Draws attention to the hazard
Signal word:	Identifies the degree of hazard
Type of risk:	Specifies the type or source of the hazard
Consequences:	Describes the consequences of non-compliance
Precautions:	Specifies how the hazard can be prevented

The signal words have the following meaning:

Warning sign, signal word	Meaning
⚠ **DANGER**	Indicates a dangerous situation which will cause death or severe personal injuries if not avoided.
⚠ **WARNING**	Indicates a dangerous situation which may cause death or severe personal injuries if not avoided.
⚠ **CAUTION**	Indicates a dangerous situation which may cause minor or medium personal injuries if not avoided.
NOTICE	Material damage: the product or its environment could be damaged.

2 Ordering code

2.1 Single ended torque arm TC A

In order to identify Hägglunds equipment exactly, the following ordering code is used. These ordering codes should be stated in full in all correspondence e.g. when ordering spare parts.

Example: Single ended torque arm TC A:

TC		A		0070		2		0		00
01		02		03		04		05		06

01	**Torque arm** (see *3.1)*	
	Torque arm	**TC**

02	**Type**	
		A

03	**For motor frame size**	
	AM 10, AM 20	**0020**
	AM 30, AM 40	**0040**
	CA 50	**0050**
	CA 70	**0070**
	CA 100	**0100**
	CA 140, CA 210, CBp 140	**0210**
	CB 280, CB 400, CBp 280, CBp 400 F	**0400**
	CB 560, CB 840, CBp 400 C, CBp 560, CBp 840	**0840**
	CB 1120	**1120**
	CBm 2000	**2000**
	CBm 3000/4000	**4000**
	~~CBm 5000/6000~~	~~**6000**~~

04	**Attachment**	
	Without attachment (see *Fig. 2, Fig. 5)*	**0**
	Without attachment, with mounting screws and washers [1) 2)] (see *Fig. 3)*	**1**
	Standard: With mounting screws, washers and articulated connection (see *Fig. 4, Fig. 6)*	**2**
	Option: Electrical isolated articulated connection with mounting screws and washers [3)] (see *5.3)*	**4**
	Option: Heavy duty designed articulated connection with mounting screws and washers [4)] (see chapter *5.4)*	**5**

05	**Modification**	
		0

06	**Design**	
	Standard	**00**
	Special index	**01-99**

C = Centre mounted
F = Front mounted

[1)] Mounting screws part of the motor for frame sizes AM 10, AM 20, CA 50, CA 70, CB 280, CB 400, CBp 280
[2)] Not available for TC A 6000
[3)] Prepared for TC A 0400, TC A 0840, TC A 2000 and TC A 4000. For other sizes on request.
[4)] Not available for TC A 0020 to TC A 0040 and TC A 1120 to TC A 6000.

Note!
TC A 6000 is currently not available. Please contact your Bosch Rexroth representative for more information!

2.2 Double ended torque arm DTC

In order to identify Hägglunds equipment exactly, the following ordering code is used. These ordering codes should be stated in full in all correspondence e.g. when ordering spare parts.

Example: Double ended torque arm DTCB_:

DTC	B_		0400		05		2		0		00
01	02		03		04		05		06		07

01	**Torque arm** (see *2.2)*	
	Double ended torque arm	**DTC**

02	**Motor type**	
	CA	**A_**
	CB, CBp	**B_**
	CBm	**BM**

03 04	**For motor size**	**03 (size torque arm)**	**04 (cylinder type)**
	CA 50 20 to CA 50 50	**0050**	**01**
	CA 70 40 to CA 70 70	**0070**	
	CA 100 40 to CA 100 100	**0100**	**02**
	CA 140 80 to CA 140 140	**0140**	**03**
	CA 210 160 to CA 210 210	**0210**	**04**
	CB 280 240 ,CB 400 240, CBp 280 240, CBp 400 240 F	**0400**	**05**
	CB 280 280, CB 400 280, CB 400 320, CBp 280 280, CBp 400 280 F, CBp 400 320 F		**06**
	CB 400 360, CBp 400 360 F		**07**
	CB 400 400 to CB 400 560, CBp 400 400 F		**08**
	CBp 400 240 C to CBp 400 360 C	**1120**	**05**
	CB 560 440 to CB 560 480, CBp 400 400 C, CBp 560 440 to CBp 560 480		**06**
	CB 560 520 to CB 560 560, CBp 560 520 to CBp 560 560		**09**
	CB 840 600, CBp 840 600		**08**
	CB 840 640 to CB 840 760, CBp 840 640 to CBp 840 760		**10**
	CB 1120 880 to CB 1120 1120, CBp 840 800 to CBp 840 840		**11**
	CBm 2000 1200	**1600**	**12**
	CBm 2000 1400 to CBm 2000 1600		**13**
	CBm 2000 1800	**2600**	**13**
	CBm 2000 2000 to CBm 3000 2200		**14**
	CBm 3000 2400 to CBm 3000 2600		**15**
	CBm 3000 2800 to CBm 3000 3000	**3600**	**15**
	CBm 4000 3200 to CBm 4000 3600		**16**
	CBm 4000 3800 to CBm 4000 4000	**4000**	**16**
	CBm 5000 4600	**4600**	**17**
	CBm 5000 5000 to CBm 6000 5600	**5600**	**17**
	CBm 6000 6000	**6000**	**17**

C = Center mounted
F = Front mounted

05	**Attachment**	
	Standard: With mounting screws, washers, articulated connection, hydraulic cylinder and hose kit (see *Fig. 7*, *Fig. 8)*	**2**
	Option: Electrical isolated articulated connection and hydraulic cylinder with mounting screws, washers and hose kit [1] (see *5.3)*	**4**

06	**Modification**	
		0

07	**Design**	
	Standard	**00**
	Special index	**01-99**

[1] Prepared for CBm 2000 1200 to CBm 4000 4000. For other sizes on request

3 Functional description

3.1 Single ended torque arm

If the driven machine can stand the forces generated by the Hägglunds single ended torque arm arrangement, the Hägglunds single ended torque arm is an easy and favorable mounting solution for the Hägglunds hydraulic motor.

The torque arm transmits the force generated by the hydraulic motor in to a fixed point. The length of the torque arm determine the force Fr (see *Fig. 19*) on motor and driven shaft.

The standard torque arm kit consists of the torque arm, screws, washers and an articulated connection.

The articulated connection is a flexible link which allows the motor to follow the rotation of customer shaft within specified limits of misalignment and eccentricity. See *7*

Note!
For installation instructions see Installation and maintenance manual for respective Hägglunds motor. *(See chapter 8 Related documents page 23)*

DANGER

Articulated connection rotates with the motor!
Risk to life and risk of injury or serious injuries and risk of damage to equipment! (see *Fig. 1*)

- Make sure the foundation and the customer machine, can withstand the forces from the torque arm. See *Fig. 19 and Table 7* for single ended torque arms , *Fig. 20* and *Table 8* for double ended torque arms.

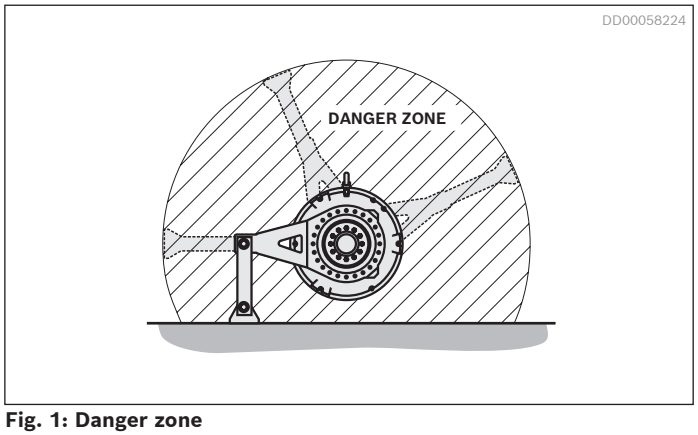


Fig. 1: Danger zone

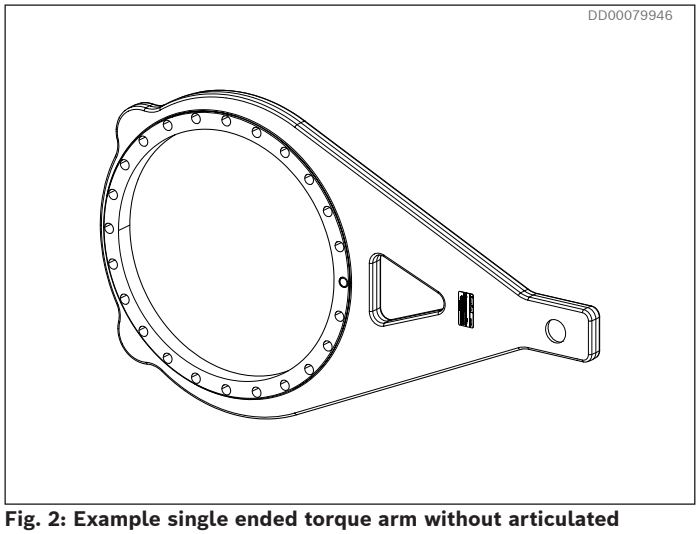


Fig. 2: Example single ended torque arm without articulated connection

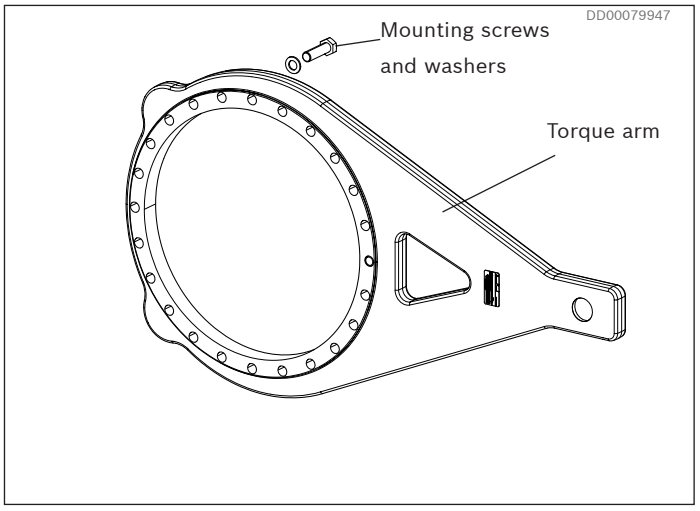


Fig. 3: Example single ended torque arm with mounting screws and washers

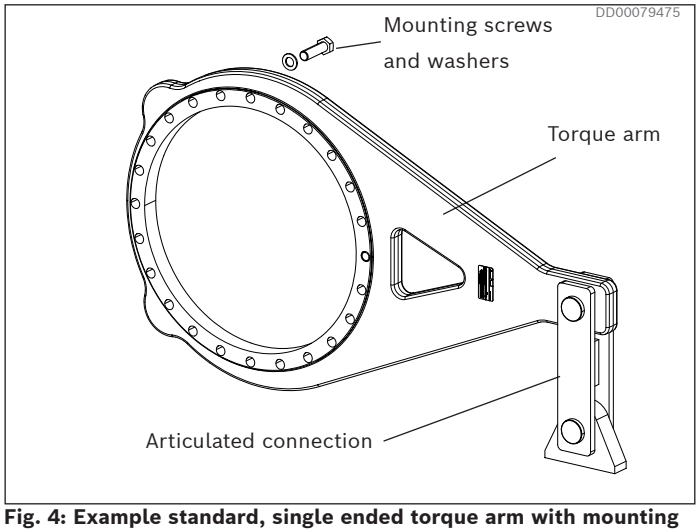


Fig. 4: Example standard, single ended torque arm with mounting screws, washers and articulated connection

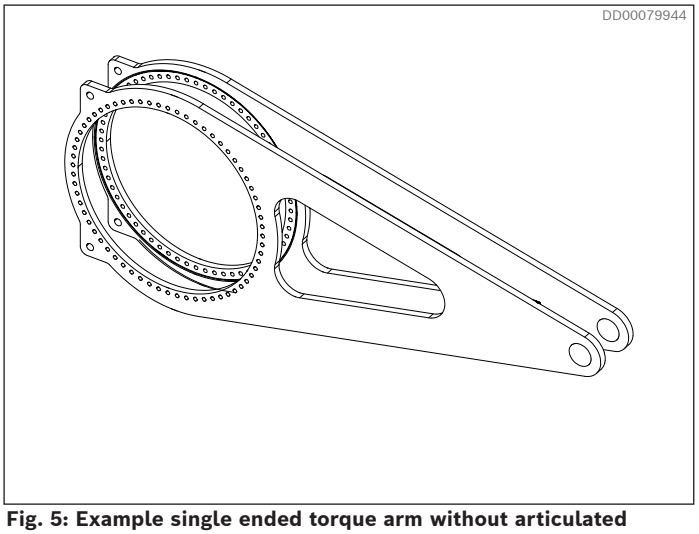


Fig. 5: Example single ended torque arm without articulated connection

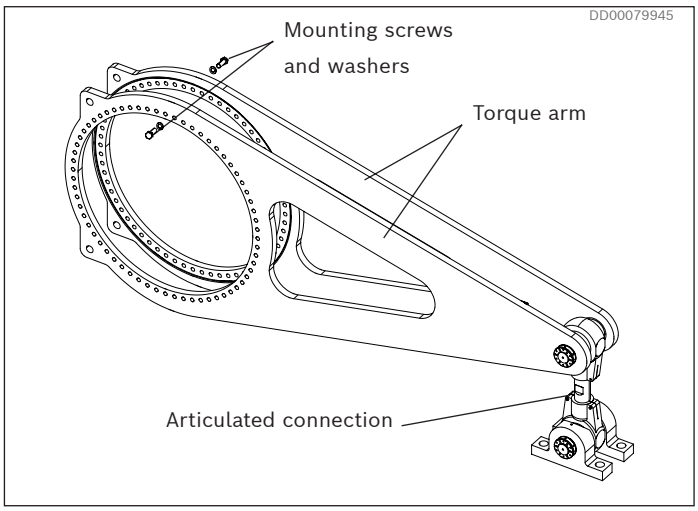


Fig. 6: Example single ended torque arm with mounting screws, washers and articulated connection

3.2 Double ended torque arm

If the driven machine or the driven shaft can not withstand the external forces generated by a single ended torque arm arrangement (see *Fig. 19 and Table 7)*. In such a case a double ended torque arm is the optional solution.

One end of the torque arm is fixed with a articulated connection. The other end of the torque arm is equipped with a double acting hydraulic cylinder connected to the main pressure ports of the motor. By sizing the cylinder area and the torque arm length the differential pressure on the cylinder area equalize the forces in both ends of the torque arm and consequently limited forces are acting on the driven machine shaft.

Note!
For installation instructions see Installation and maintenance manual for respective Hägglunds motor. *(See chapter 8 Related documents page 23)*

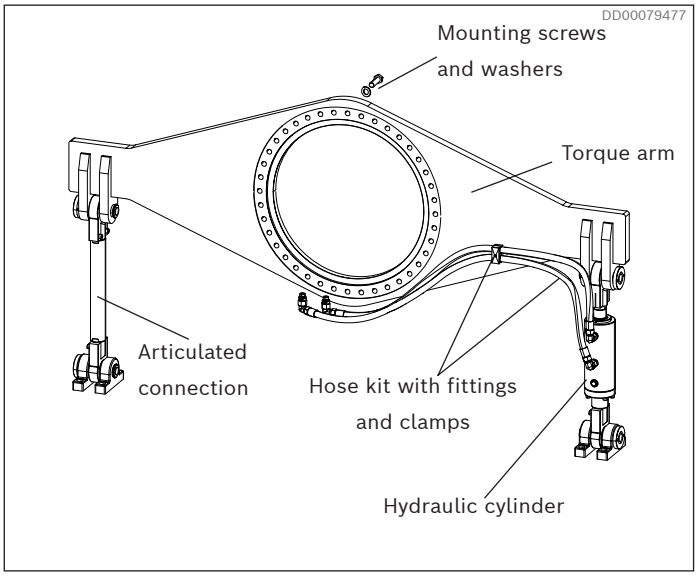


Fig. 7: Double ended torque arm, DTCA , DTCB and DTCBM 1600 to DTCBM 4000

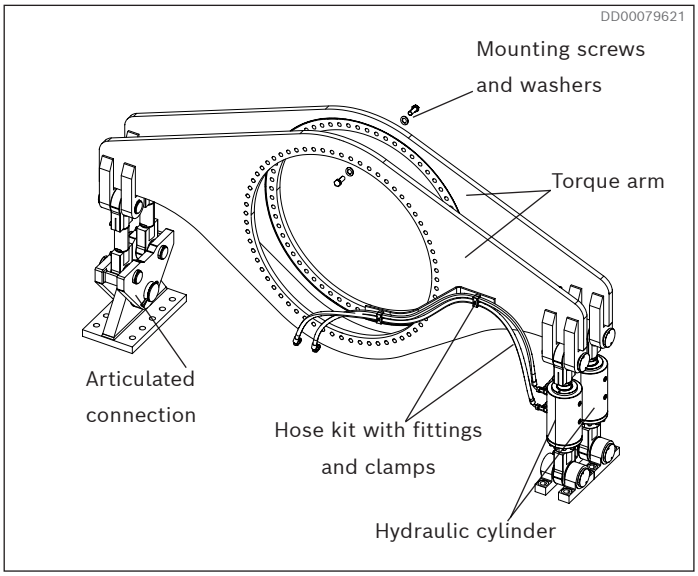


Fig. 8: Double ended torque arm, DTCBM 4600 to DTCBM 6000

4 Technical data

4.1 General data

Table 1: General data for single ended torque arms

Torque arm	Max torque for alternating or pulsating torque		Max torque static		Weight [1]	
	Nm	lb·ft	Nm	lb·ft	Kg	lb
TC A 0020	8 750	6 454	10 500	7 744	18	40
TC A 0040	14 000	10 326	16 800	12 391	20	44
TC A 0050	17 500	12 900	21 000	15 489	28	62
TC A 0070	24 500	18 100	29 400	21 684	31	68
TC A 0100	35 000	25 800	42 000	30 978	91	200
TC A 0210	70 000	51 600	84 000	61 955	81	179
TC A 0400	140 000	103 200	168 000	123 910	162	357
TC A 0840	294 000	216 700	352 800	260 211	223	492
TC A 1120	392 000	289 000	470 400	346 949	344	759
TC A 2000	700 000	516 300	840 000	619 551	450	992
TC A 4000	1 400 000	1 032 600	1 680 000	1 239 103	1 085	2392
TC A 6000	2 100 000	1 548 900	2 520 000	1 858 654	1 860	4 101

Table 2: General data for double ended torque arms

Torque arm	Max torque for alternating or pulsating torque		Max torque static		Weight [1]	
	Nm	lb·ft	Nm	lb·ft	Kg	lb
DTCA 0050	17 500	12 900	21 000	15 489	95	209
DTCA 0070	24 500	18 100	29 400	21 684	100	220
DTCA 0100	35 000	25 800	42 000	30 978	135	297
DTCA 0140	70 000	51 600	84 000	61 955	155	341
DTCA 0210	73 500	54 210	88 200	65 052	162	357
DTCB 0400	196 000	216 700	350 000	258 146	500	1 102
DTCB 1120	392 000	289 124	470 400	346 949	500	1 102
DTCBM 1600	560 000	413 100	672 000	495 642	740	1 631
DTCBM 2600	1 050 000	774 441	1 260 000	929 328	950	2 094
DTCBM 3600	1 260 000	939 328	1 512 000	1 115194	950	2 094
DTCBM 4000	1 400 000	1 032 587	1 680 000	1 239 103	1 130	2 491
DTCBM 4600	1 610 000	1 187 475	1 932 000	1 424 970	1 760	3 880
DTCBM 5600	1 960 000	1 445 622	2 352 000	1 734 746	1 960	4 321
DTCBM 6000	2 100 000	1 548 881	2 520 000	1 858 654	2 170	4 784

[1]) Single ended torque arm with articulated connection and double ended torque arm with articulated connection and hydraulic cylinder

4.2 Painting system

Corrosion protection
The painting system of Hägglunds motors and accessories are avalible in two different corrosivity categories regarding corrosion protection in accordance with SS-EN ISO 12944:

- C3 - Corrosivity category Medium - which is recommended for normal urban and industrial atmosphere.

- C5 - Corrosivity category Very High - which is recommended for marine environment with high salt load or other aggressive atmosphere.

Colour
Standard colour for Hägglunds motors and accessories is orange (RAL 2002)

5 Dimensions/interface

5.1 TC A

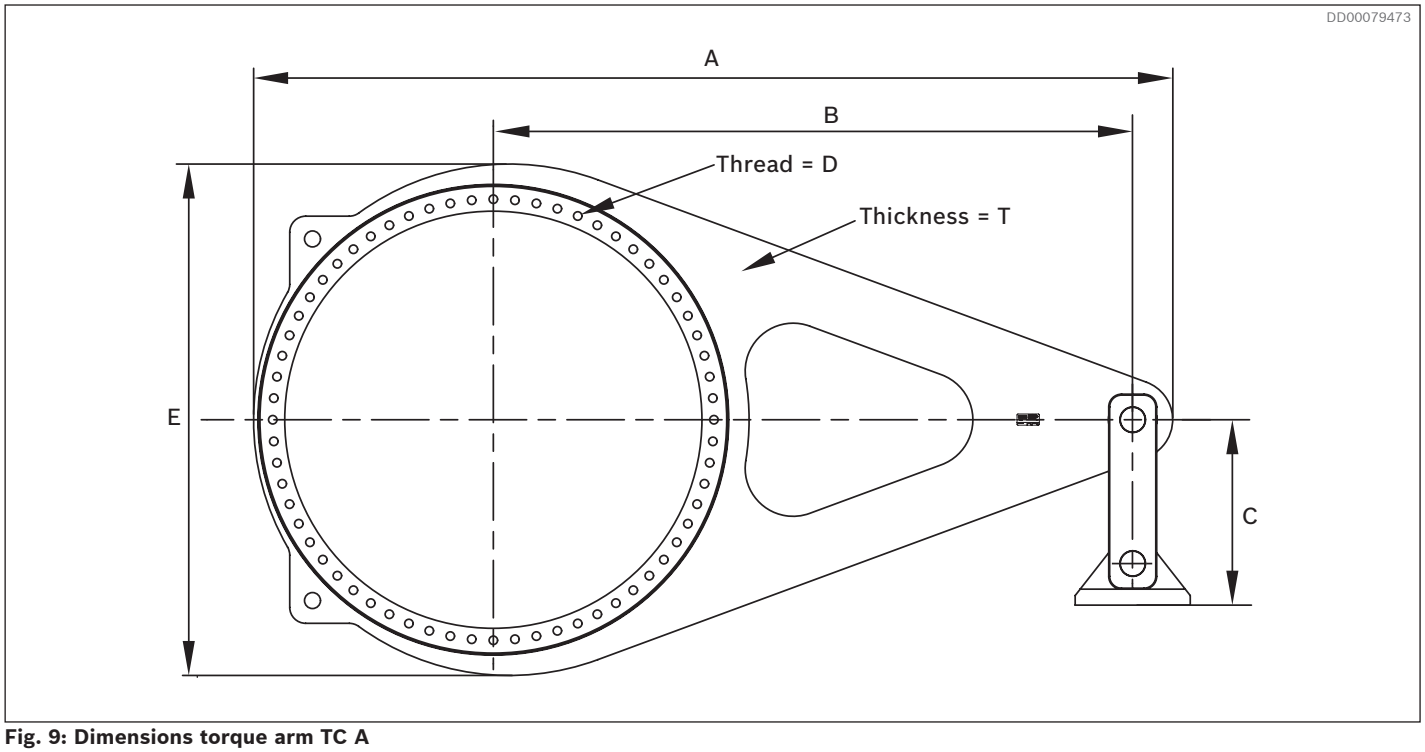


Fig. 9: Dimensions torque arm TC A

Table 3: Dimensions torque arm TC A

Torque arm	A		B		C		D	E		T	
	mm	in	mm	in	mm	in		mm	in	mm	in
TC A 0020	603	23.74	400	15.75	250	9.84	M10	325	12.80	25	0.98
TC A 0040	603	23.74	400	15.75	250	9.84	M10	380	14.96	25	0.98
TC A 0050	890	35.04	600	23.62	340	13.39	M16	500	19.69	25	0.98
TC A 0070	915	36.02	600	23.62	340	13.39	M16	550	21.65	25	0.98
TC A 0100	1 175	46.26	800	31.50	430	17.20	M20	665	26.18	35	1.38
TC A 0210	1 175	46.26	800	31.50	430	17.20	M20	665	26.18	35	1.38
TC A 0400	1 725	67.91	1 250	49.21	545	21.46	M20	820	32.28	40	1.58
TC A 0840	2 088	82.20	1 500	59.06	545	21.46	M24	1 088	42.86	35	1.38
TC A 1120	2 588	101.89	2 000	78.74	545	21.46	M24	1 088	42.86	40	1.57.
TC A 2000	2 875	113.19	2 000	78.74	580	22.83	M30	1 600	62.99	40	1.57
TC A 4000	3 900	154.54	3 000	118.11	700	27.56	M30	1 600	62.99	50	1.97
TC A 6000	3 900	154.54	3 000	118.11	870	34.25	M30	1 600	62.99	50	1.97

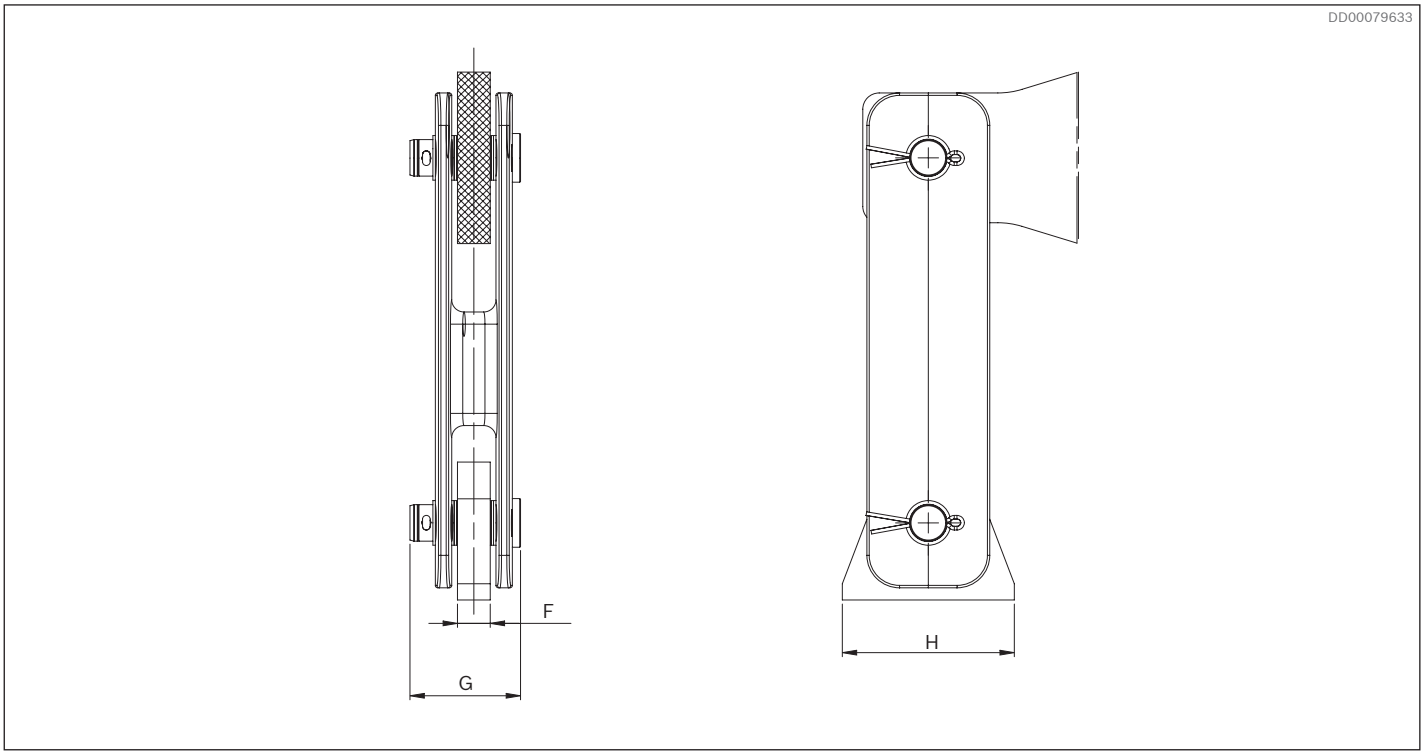


Fig. 10: Dimensions articulated connection TC A 0020 to TC A 4000

Table 4: Dimensions articulated connection TC A 0020 to TC A 4000

Torque arm	F		G		H	
	mm	in	mm	in	mm	in
TC A 0020 to TC A 0070	25	0.98	77	3.03	100	3.94
TC A 0050 to TC A 0070 heavy duty			109	4.29		
TC A 0100 to TC A 0210	40	1.57	118	4.65	170	6.69
TC A 0100 to TC A 0210 heavy duty			138	5.43		
TC A 0400 to 0840	40	1.57	135	5.31	210	8.27
TC A 0400 to 0840 heavy duty			154	6.06		
TC A 0400 to 0840 electrical isolated			144	5.67		
TC A 1120	40	1.57	135	5.31	210	8.27
TC A 2000	40	1.57	135	5.31	360	14.17
TC A 2000 electrical isolated			144	5.67		
TC A 4000	50	1.97	180	7.09	450	17.72
TC A 4000 electrical isolated			190	7.48		
TC A 6000 see *Fig. 11: Dimensions articulated connection TC A 6000*						

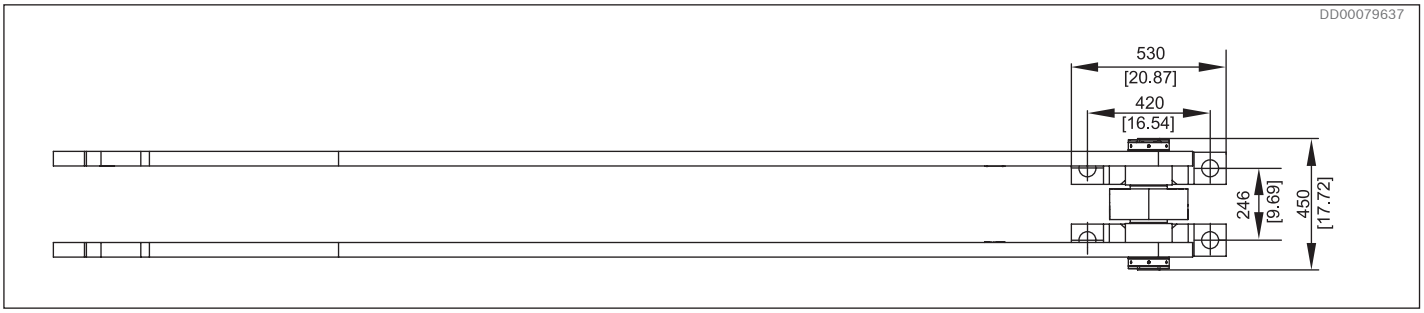


Fig. 11: Dimensions articulated connection TC A 6000

5.2 DTCA, DTCB, DTCBM

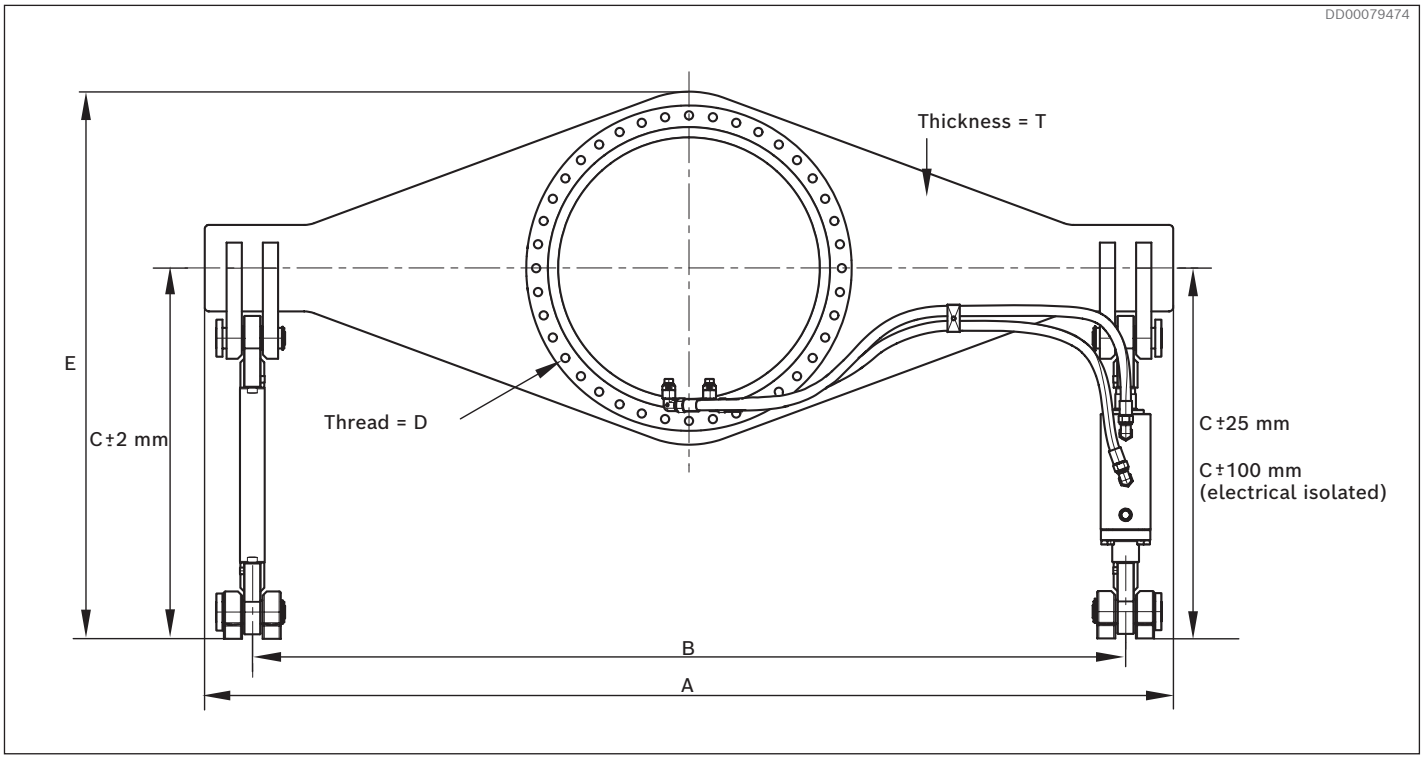


Fig. 12: Dimensions double ended torque arm DTCA, DTCB, DTCBM

Table 5: Dimensions double ended torque arm DTCA, DTCB, DTCBM

Torque arm	A		B		C		D	E		T	
	mm	in	mm	in	mm	in		mm	in	mm	in
DTCA 0050	709	27.91	625	24.6	730	28.74	M16	980	38.58	30	1.18
DTCA 0070	984	38.74	900	35.4	730	28.74	M16	1 029	40.50	30	1.18
DTCA 0100	1 188	46.77	1 015	40.0	780	30.71	M20	1 088	42.83	40	1.57
DTCA 0140	1 338	52.68	1 165	45.9	780	30.71	M20	1 095	43.11	40	1.57
DTCA 0210	1 496	58.90	1 320	52.0	780	30.71	M20	1 095	43.11	40	1.57
DTCB 0400	2 351	92.56	2 120	83.46	900	35.43	M20	1 329	52.32	40	1.57
DTCB 1120	3 231	127.20	3 000	118.11	900	35.43	M24	1 408	55.43	40	1.57
DTCBM 1600	3 100	122.05	2 800	110.24	1 235	48.62	M30	2 035	80.12	40	1.57
DTCBM 1600 electricalisolated	3 100	122.05	2 800	110.24	1 558	1 149.12	M30	2 035	80.12	40	1.57
DTCBM 2600	3 500	137.79	3 200	125.98	1 235	48.62	M30	2 035	80.12	40	1.57
DTCBM 2600 electricalisolated	3 500	137.79	3 200	125.98	1 558	1 149.12	M30	2 035	80.12	40	1.57
DTCBM 3600	3 900	153.54	3 600	141.73	1 235	48.62	M30	2 035	80.12	40	1.57
DTCBM 3600 electricalisolated	3 900	153.54	3 600	141.73	1 558	1 149.12	M30	2 035	80.12	40	1.57
DTCBM 4000	4 500	177.16	4 200	165.35	1 235	48.62	M30	2 035	80.12	40	1.57
DTCBM 4000 electricalisolated	4 500	177.16	4 200	165.35	1 558	1 149.12	M30	2 035	80.12	40	1.57
DTCBM 4600	3 100	122.05	2 800	110.23	1 235	48.62	M30	2 035	80.12	40	1.57
DTCBM 5600	3 500	137.79	3 200	125.98	1 235	48.62	M30	2 035	80.12	40	1.57
DTCBM 6000	3 900	153.54	3 600	141.73	1 235	48.62	M30	2 035	80.12	40	1.57

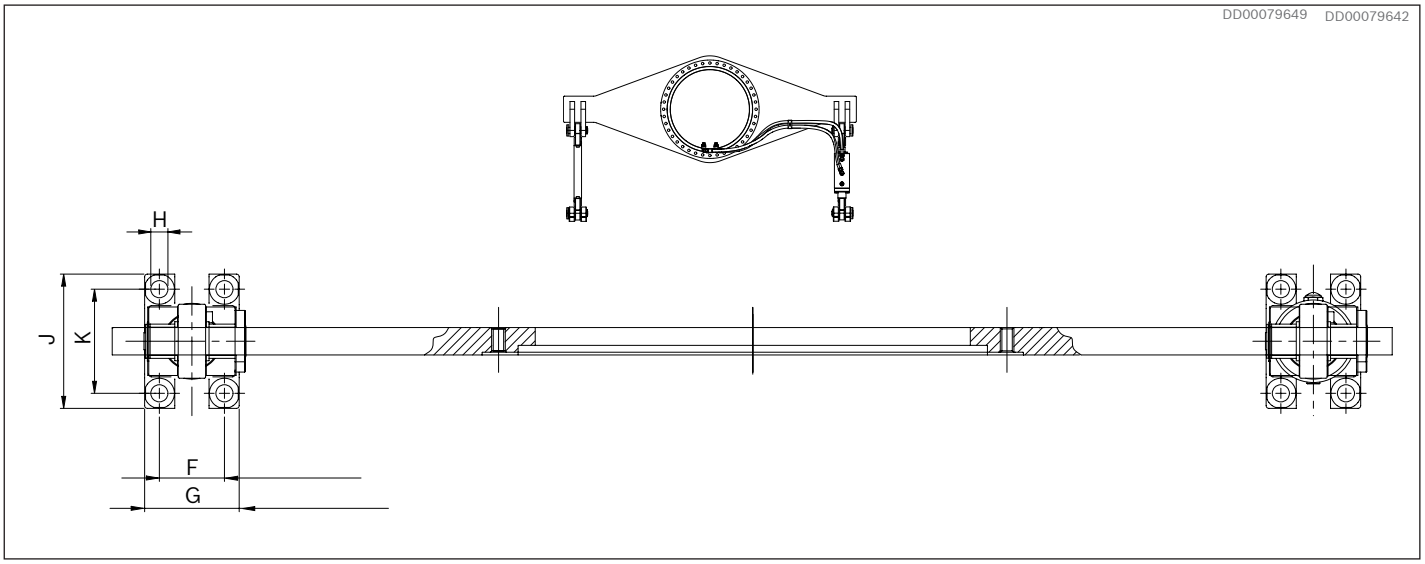


Fig. 13: Dimensions articulated connection for DTCA, DTCB and DTCBM 1600 to DTCBM 4000

Table 6: Dimensions articulated connection for DTCA, DTCB, DTCBM 1600 to DTCBM 4000

Torque arm	F		G		H		J		K	
	mm	in	mm	in	mm	in	mm	in	mm	in
DTCA 0050	47	1.85	69	2.72	13	0.51	110	4.33	88	3.46
DTCA 0070										
DTCA 0100	85	3.35	129	5.08	25	0.98	196	7.72	152	5.98
DTCA 0140										
DTCA 0210										
DTCB 0400 to DTCB 1120	95	3.74	138	5.43	25	0.98	196	7.72	152	5.98
DTCBM 1600 to 4000	157	6.18	233	9.17	38	1.50	300	11.81	230	9.06
DTCBM 1600 to 4000 electrical isolated	169	6.65	245	6.22	38	1.50	300	11.81	230	9.06

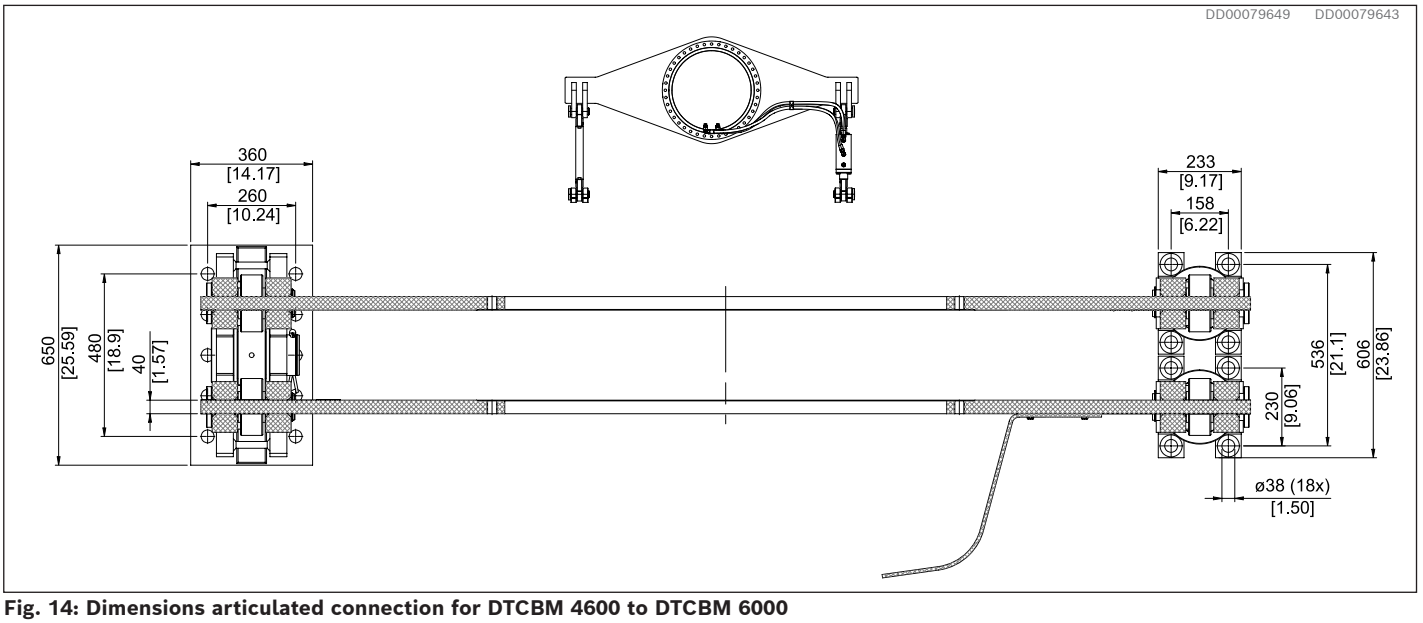


Fig. 14: Dimensions articulated connection for DTCBM 4600 to DTCBM 6000

5.3 Electrical isolated articulated connection

If there is a risk of current passing through the hydraulic motor an electrical isolated articulated connection is one solution to prevent damage of the bearing interfaces in the hydraulic motor.

Dimensions for TC A with electrical isolated articulated connection, see *Fig. 9, Fig. 10, Table 3 and Table 4.*
Dimensions for DTCBM with electrical isolated articulated connection, see *Fig. 12, Fig. 13, Table 5 and Table 6.*

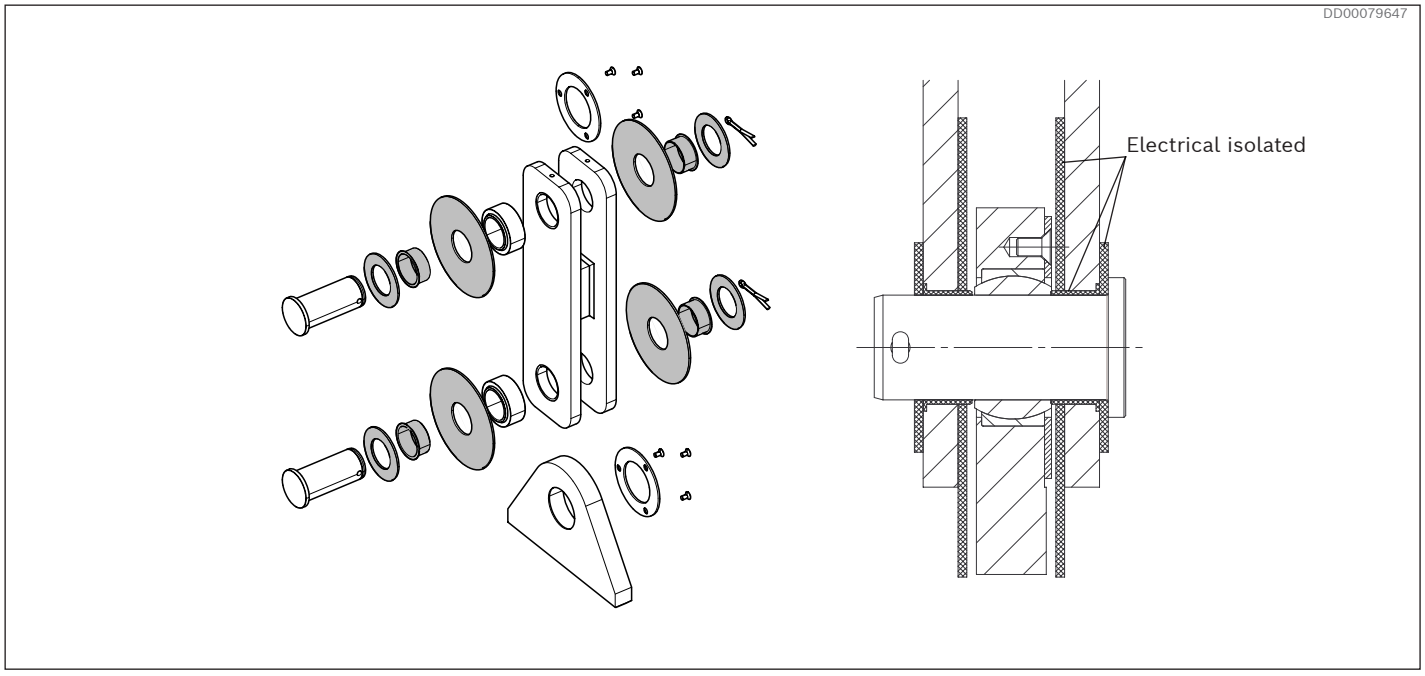


Fig. 15: Electrical isolated articulated connection for TC A

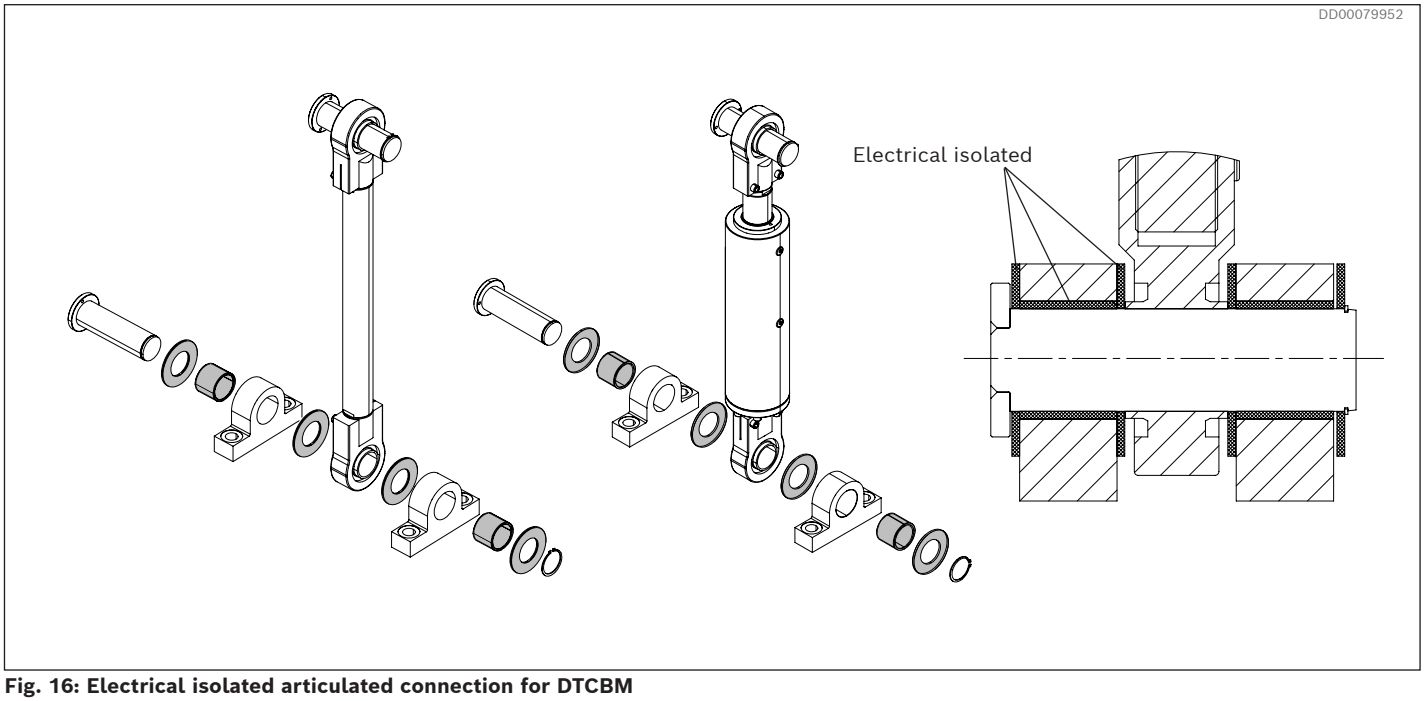


Fig. 16: Electrical isolated articulated connection for DTCBM

5.4 Heavy duty designed articulated connection

In applications with extensive vibrations or pulsating torque, the heavy duty designed articulated connection is a suitable solution. It is designed with expander systems to reduce mechanical play and prevent damage of the articulated connection.

Dimensions for TC A, with heavy duty designed articulated connection see *Fig. 10 and Table 4*

Note!
The torque of the expander systems must regulary be checked. Ensure that the axle is centered in the linkage part! For more information see respective motor's Installation & Maintenance manual.

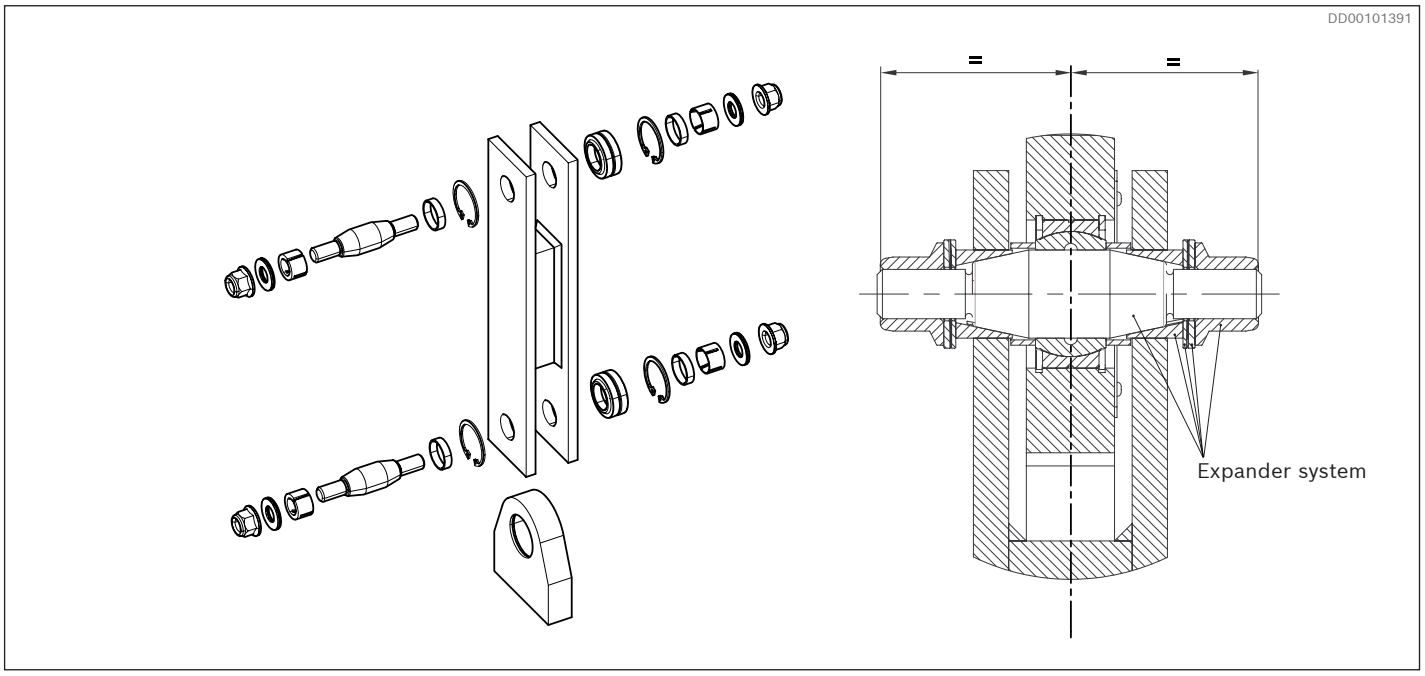


Fig. 17: Heavy duty designed articulated connection for TC A 0050 to TC A 0210

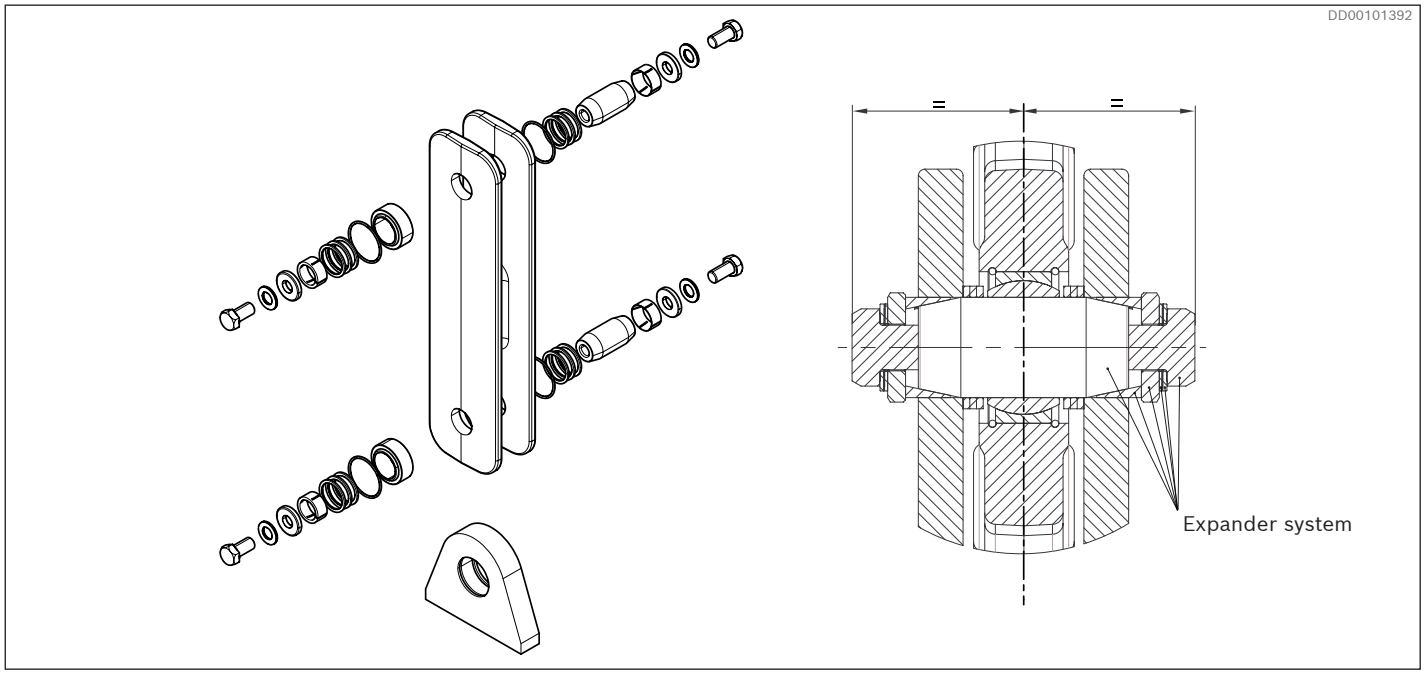


Fig. 18: Heavy duty designed articulated connection for TC A 0400 to TC A 0840

6 External forces

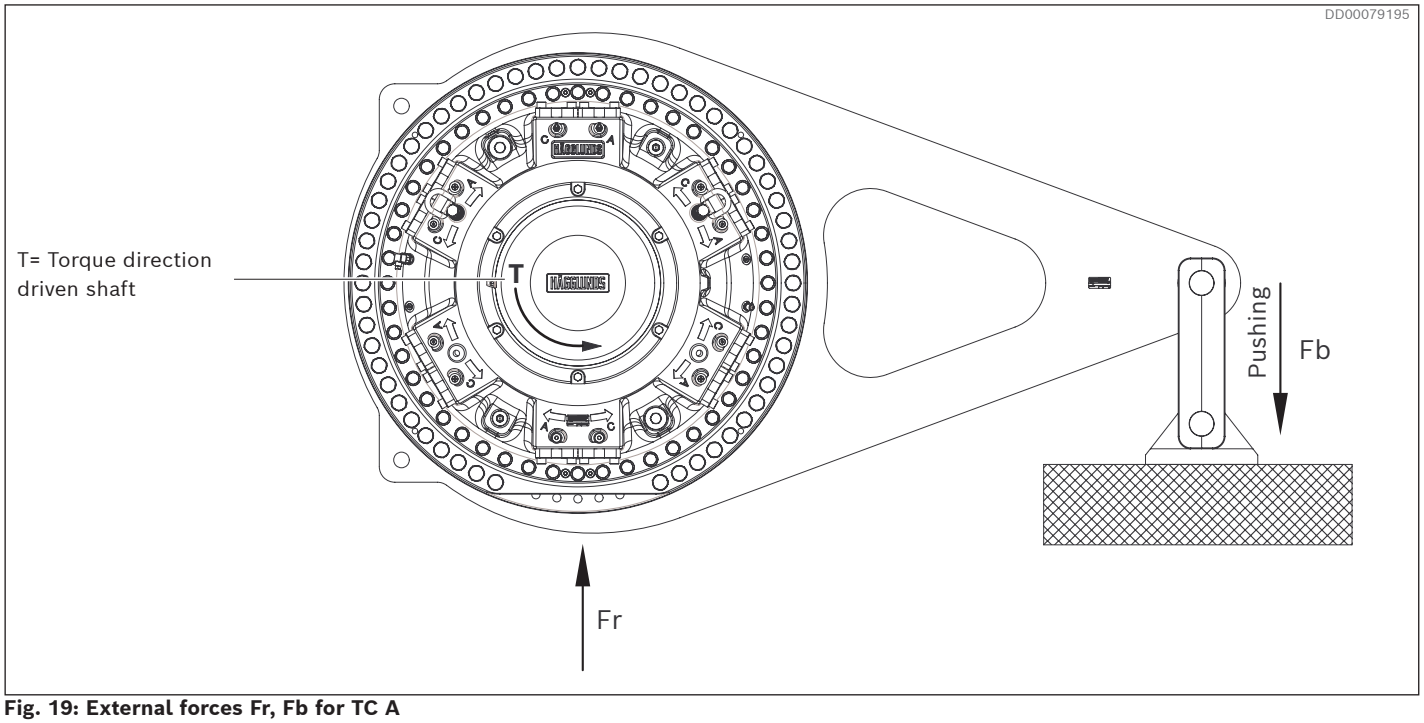


Fig. 19: External forces Fr, Fb for TC A

Table 7: External forces single ended torque arm valid for a pressure difference of 420 bar [6000 psi] static

Torque arm	Motor	Force Fb		Force Fr [1)]	
		N	lbf	N	lbf
TC A 0020	AM 20 25	26 250	5 901.24	25 439	5 718.92
TC A 0040	AM 40 40	42 000	9 441.98	41 849	9 408.03
TC A 0050	CA 50 50	35 000	7 868.31	33 077	7 436.00
TC A 0070	CA 70 70	49 000	11 015.64	46 754	10 510.72
TC A 0100	CA 100 100	52 500	11 802.47	49 164	11 052.51
TC A 0210	CA 140 140	73 500	16 523.46	69 517	15 628.04
	CA 210 210	110 250	24 785.19	105 384	23 691.27
	CBp 140 140	73 500	16 523.46	68 977	15 506.65
TC A 0400	CB 280 280, CBp 280 280	94 080	21 150.03	86 046	19 343.91
	CB 400 400, CBp 400 400 F	134 400	30 214.32	122 883	27 625.20
	CBp 280 280 F	94 080	21 150.03	77 462	17 414.15
	CBp 400 400C	134 400	30 214.32	114 839	25 816.83
TC A 0840	CB 560 560	156 800	35 250.04	143 674	32 299.20
	CBp 560 C	156 800	35 250.04	136 071	30 589.98
	CB 840 840	235 200	52 875.06	218 837	49 196.51
	CBp 840 840 C	235 200	52 875.06	211 724	47 597.45
TC A 1120	CB 1120 1120	235 200	52 875.06	214 792	48 287.16
TC A 2000	CBm 2000 2000	420 000	94 419.76	375 845	84 493.32
TC A 4000	CBm 3000 3000	308 000	69 241.15	251 553	56 551.36
TC A 4000	CBm 4000 4000	560 000	125 893.00	495 705	111 438.90
TC A 6000	CBm 5000 5000	700 000	157 366.30	619 585	139 288.20
TC A 6000	CBm 6000 6000	840 000	188 839.50	751 737	168 997.20

1) The force Fr is calculated including the weight of splines motor and torque arm.

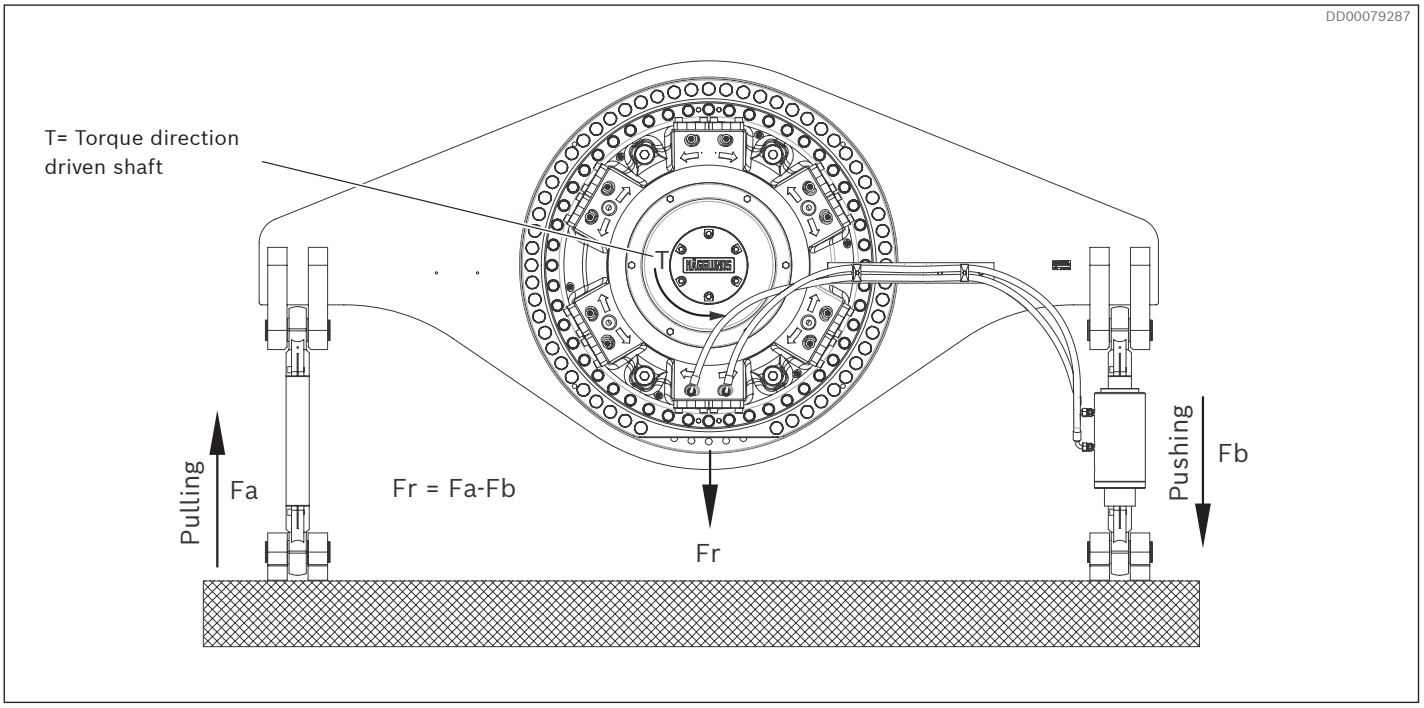


Fig. 20: External forces Fr, Fa, Fb for DTCBM

Table 8: External forces double ended torque arm valid for a pressure difference of 420 bar [6000 psi] static

Torque arm	Motor	Force Fa, Fb on foundation		Force Fr on driven shaft [1)]	
		N	lbf	N	lbf
DTCA_ 0050 01	CA 50 50	31 013	6 972.00	2 182	490.53
DTCA_ 0070 01	CA 70 70	31 013	6 972.00	815	183.22
DTCA_ 0100 02	CA 100 100	38 298	8 609.733	3 142	706.35
DTCA_ 0140 03	CA 140 140	46 727	10 504.65	3 531	793.80
DTCA_ 0210 04	CA 210 210	61 836	13 901.29	4 213	947.12
DTCB_ 0400 05	CB 280 240 CB 400 240 CBp 280 240 F CBp 400 240 F	46 386	10 427.99	4 794	1 077.73
DTCB_ 0400 06	CB 400 320 CBp 400 320 F	61 836	13 901.29	7 145	1 606.26
DTCB_ 0400 07	CB 400 360 CBp 400 360F	76 341	17 162.14	-7 341	-1 650.32
DTCB_ 0400 08	CB 400 560	111 814	25 136.79	35 031	7 875.28
DTCB_ 1120 06	CB 560 480 CBp 560 480 F/C	61 836	13 901.29	17 008	3 823.55
DTCB_ 1120 09	CB 560-560 CBp 560 560 C/F	77 327	17 383.80	6 546	1 471.60
DTCB_ 1120 08	CB 840 600 CBp 840 600 C	91 450	20 558.78	-8 202	-1 843.88
DTCB_ 1120 10	CB 840 760 CBp 840 760 C	103 823	23 340.34	8 090	1 818.70
DTCB_ 1120 11	CB 1120 1120 CBp 840 840 C	163 226	36 694.66	67 033	15 069.62
DTCB_ 1120 05	CBp 400 360 C	46 727	10 504.65	22 224	4 996.15
DTCBM 1600 12	CBm 2000 1200	167 600	37 677.98	48 502	10 903.68
DTCBM 1600 13	CBm 2000 1600	233 800	37 677.98	70 957	15 951.77
DTCBM 2600 13	CBm 2000 1800	227 000	51 031.63	64 086	14 407.11
DTCBM 2600 14	CBm 3000 2200	290 000	65 194.59	101 912	22 910.73
DTCBM 2600 15	CBm 3000 2600	320 000	52 560.33	66 094	14 858.52
DTCBM 3600 15	CBm 3000 3000	336 000	75 535.80	82 125	18 462.43
DTCBM 3600 16	CBm 4000 3600	404 000	71 938.86	98 822	22 216.07
DTCBM 4000 16	CBm 4000 4000	367 100	90 822.81	62 179	13 978.40
DTCBM 4600 17	CBm 5000 4600	636 200	82 527.36	64 940	14 599.09
DTCBM 5600 17	CBm 6000 5600	710 500	143 023.40	114 590	25 760.86
DTCBM 6000 17	CBm 6000 6000	646 400	159 726.80	82 527	18 552.81

1) The force Fr is calculated included the weight of splines motor and torque arm.

7 Installation

Note!
For more information see Installation and maintenance manual for respective Hägglunds motor. *(See chapter 8 Related documents page 23)*

7.1 Single ended torque arm

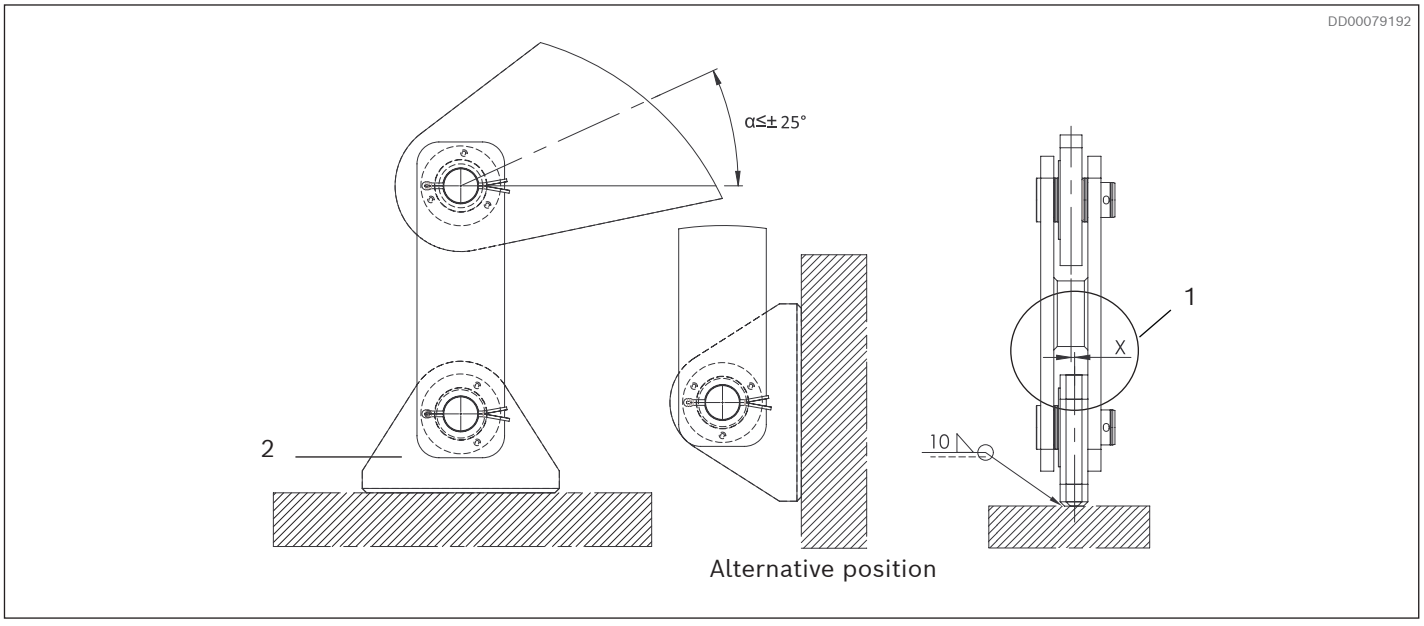


Fig. 21: Installation instruction for articulated connection for TC A

1 x ≤ ± 2 mm (0,079 inch) misalignment in installation.
x ≤ ± 15 mm (0,59 inch) movement when in use.

2 Steel EN 10025-3 – S355N (1.0545), Protected against corrosion, after welding.

Mounting heavy duty articulated connection TC A 0050 to TC A 0210

1. The bearing (6) shall be mounted by using a mounting sleeve or tube applied on the bearing outer ring.
2. The bearing(6) shall be mounted with the slot in the outer ring perpendicular towards the load direction. See *Fig. 22*
3. Lock the bearings (6) with the circlips (5).
4. Grease the chonical sleeves (7) and shaft (3) with grease available, preferably graphite grease. Do not grease the threads.
5. lnsert the shaft (3) and then the supporting sleeves (4) and position the shaft (3) in the bores. Make sure the shaft is centered, see *Fig. 22*. Install the sleeves (7), then wedge lock washers and nuts (9). Tighten the nuts with 115 Nm, 85 lb-ft for TC A 0050 to TC A 0070 / 175 Nm, 129 lb-ft for TC A 0100 to TC A 0210.
6. After initial torque, check the torque after 10 hours, 40 hours and at regular service intervals to ensure proper seating of the chonical sleeves.

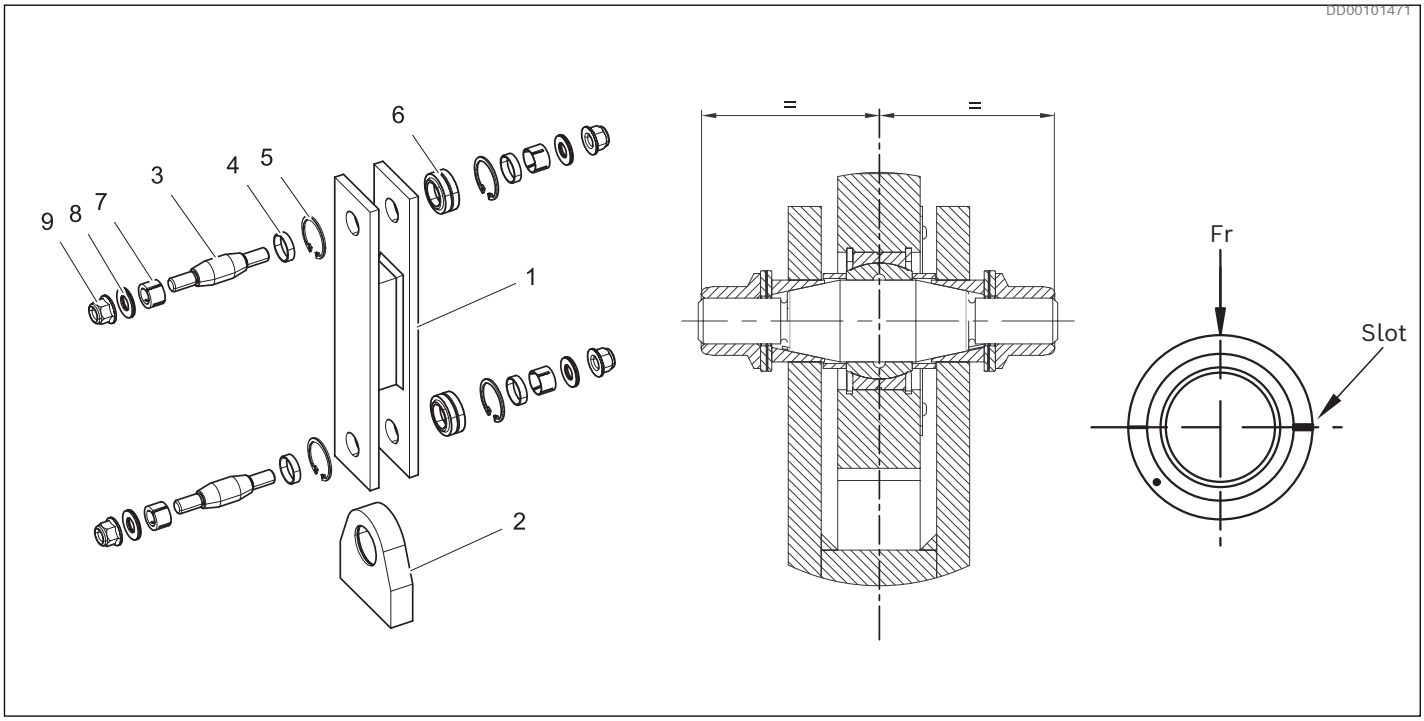


Fig. 22: Heavy duty articulated connection TC A 0050 to TC A 0210

Pos	Description	Pcs
1	Linkage part	1
2	Fastening support	1
3	Shaft	2
4	Supporting sleeve	4
5	Circlip	4
6	Spherical plain bearing	2
7	Chonical sleeve	4
8	Set of wedge lock washers	4
9	Nut	4
	Tightening torque TC A 0050 to TC A 0070, 115 Nm, 85 lb-ft	
	Tightening torque TC A 0100 to TC A 0210, 175 Nm, 129 lb-ft	

Note!
The torque of the expander systems must regulary be checked. Ensure that the axle is centered in the linkage part! For more information see respective motor's Installation & Maintenance manual.

Mounting heavy duty articulated connection TC A 0400 to TC A 0840

1. The bearing (6) shall be mounted by using a mounting sleeve or tube applied on the bearing outer ring.
2. The bearing(6) shall be mounted with the slot in the outer ring perpendicular towards the load direction. See *Fig. 23*
3. Lock the bearings (6) with the circlips (5).
4. Grease the sleeves (7) and shaft (3) with grease available, preferably graphite grease. Do not grease the threads.
5. lnsert the shaft (3) and then the supporting discs (4) and position the shaft (3) in the bores. Make sure the shaft is centered, see *Fig. 23.* Install the chonical sleeves (7), then wedge lock washers and screws (9). Tighten the screws with 350 Nm, 258 lb-ft.
6. After initial torque, check the torque after 10 hours, 40 hours and at regular service intervals to ensure proper seating of the chonical sleeves.

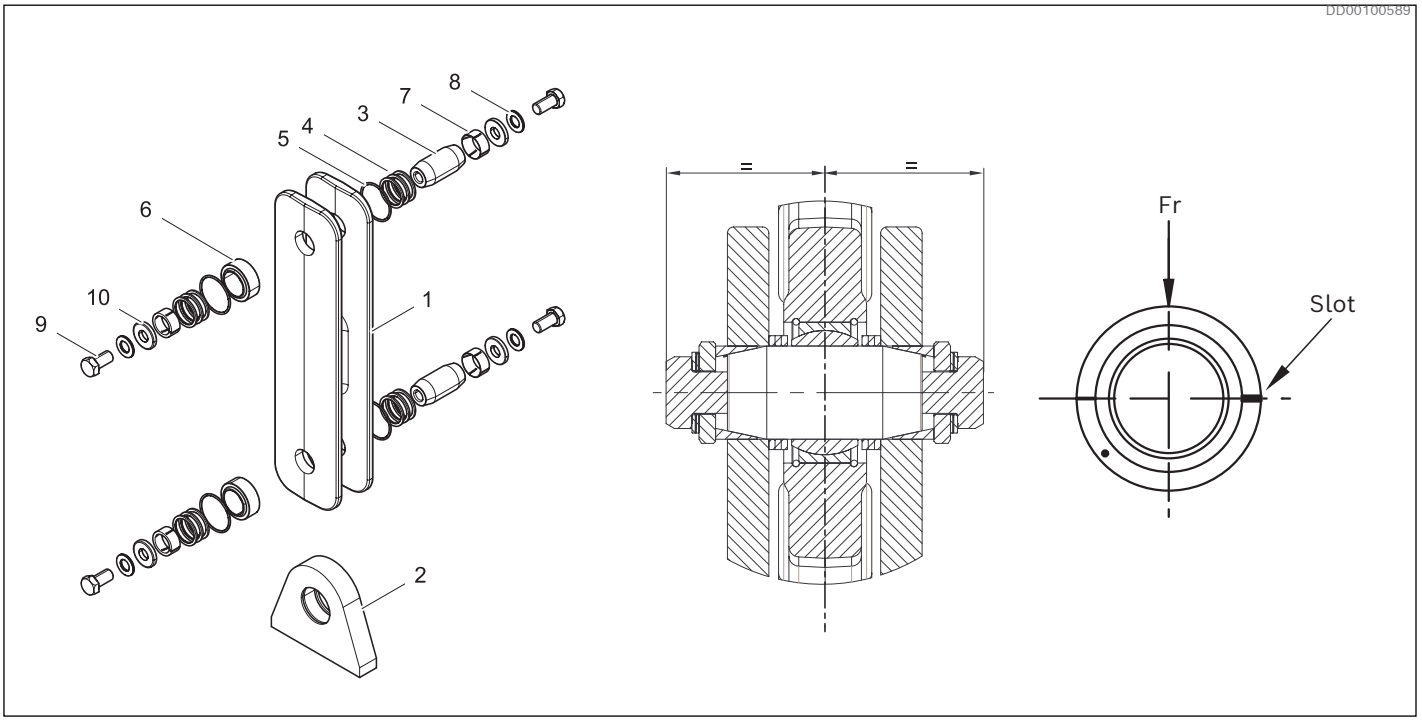


Fig. 23: Heavy duty articulated connection TC A 0400 to TC A 0840

Pos	Description	Pcs
1	Linkage part	1
2	Fastening support	1
3	Shaft	2
4	Supporting disc	12
5	Circlip	4
6	Spherical plain bearing	2
7	Chonical sleeve	4
8	Set of wedge lock washers	4
9	Screw	4
	Tightening torque 350 Nm, 258 lb-ft	
10	Washers	4

Note!
The torque of the expander systems must regulary be checked. Ensure that the axle is centered in the linkage part! For more information see respective motor's Installation & Maintenance manual.

7.2 Double ended torque arm

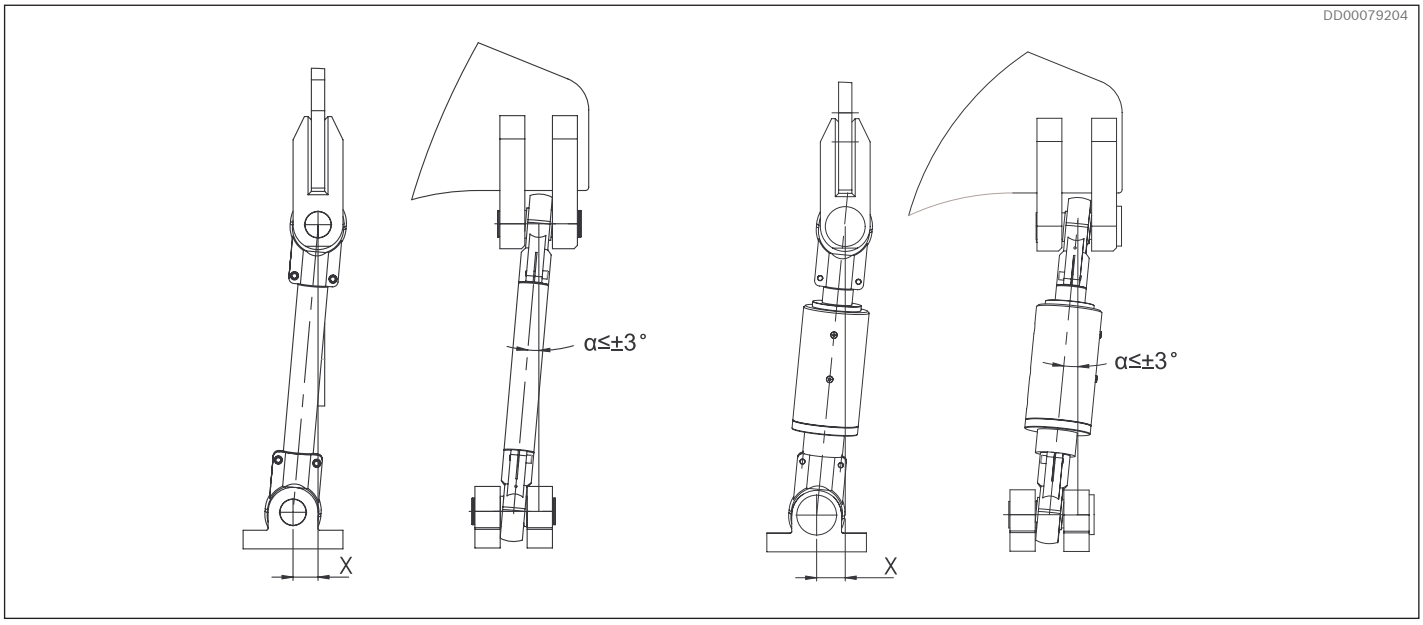


Fig. 25: Installation instruction for articulated connection and hydraulic cylinder for DTCA, DTCB and DTCBM 1600 to DTCBM 4000

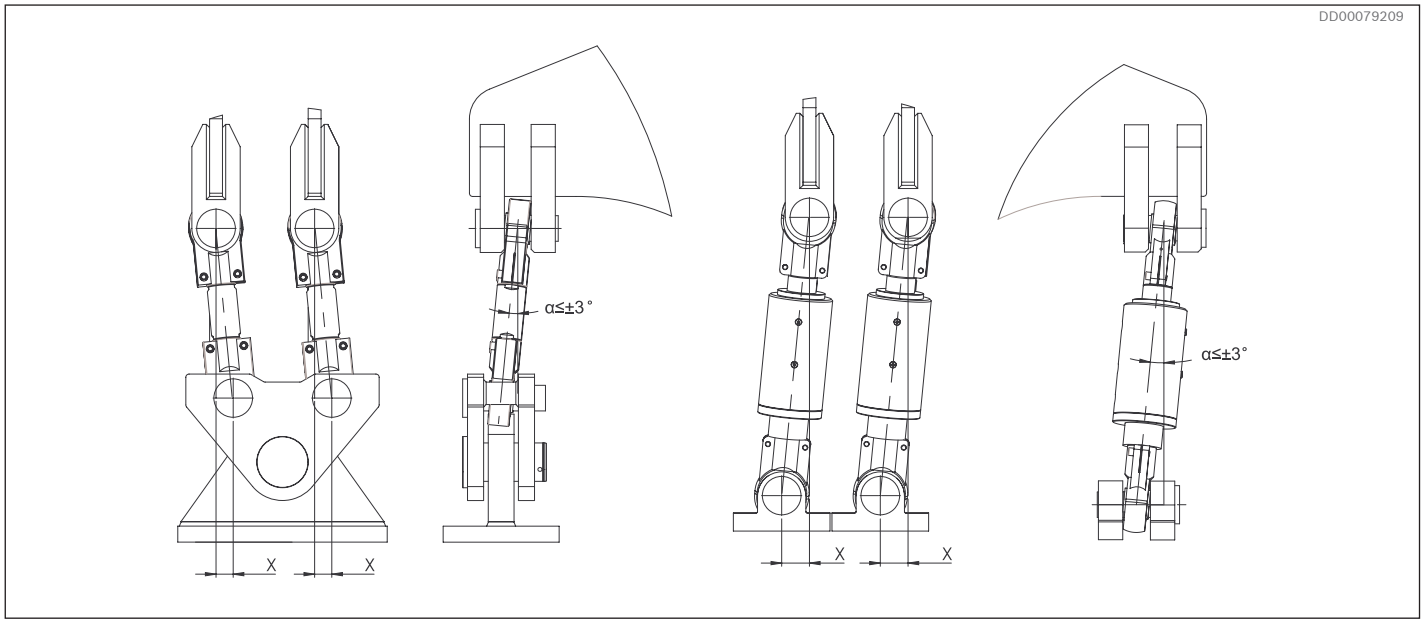


Fig. 26: Installation instruction for articulated connection and hydraulic cylinder for DTCBM 4600-6000

1 x ≤ ±2 mm (0,079 inch) misalignment in installation.
x ≤ ±15 mm (0,59 inch) movement when in use.

2 Hole dimensions hole for ground attachment see *Fig. 13, Fig. 14 and Table 6*

8 Related documents

	Title	Document no	Document type
🕮	Hägglunds Atom	RE 15354-WA	Installation & maintenance manual
🕮	Hägglunds CA	RE 15305-WA	Installation & maintenance manual
🕮	Hägglunds CB	RE 15302-WA	Installation & maintenance manual
🕮	Hägglunds CBp	RE 15301-WA	Installation & maintenance manual
🕮	Hägglunds CBm	RE 15300-WA	Installation & maintenance manual
🕮	TC A 0020	078 5327-501*)	Dimension drawing
🕮	TC A 0040	078 5327-502*)	Dimension drawing
🕮	TC A 0050	278 1348*)	Dimension drawing
🕮	TC A 0050 HD	078 5445*)	Dimension drawing
🕮	TC A 0070	278 1498*)	Dimension drawing
🕮	TC A 0070 HD	078 5446*)	Dimension drawing
🕮	TC A 0100	278 1486*)	Dimension drawing
🕮	TC A 0100 HD	078 5447*)	Dimension drawing
🕮	TC A 0210	278 1490*)	Dimension drawing
🕮	TC A 0210 HD	078 5454*)	Dimension drawing
🕮	TC A 0400	278 5016*)	Dimension drawing
🕮	TC A 0400 HD	078 5456*)	Dimension drawing
🕮	TC A 0840	278 5017*)	Dimension drawing
🕮	TC A 0840 HD	078 5457*)	Dimension drawing
🕮	TC A 1120	078 1310*)	Dimension drawing
🕮	TC A 2000	078 2668*)	Dimension drawing
🕮	TC A 4000	078 2667*)	Dimension drawing
🕮	TC A 6000	078 2718*)	Dimension drawing
🕮	DTCA_	078 3440*)	Dimension drawing
🕮	DTCB_0400	141 0460*)	Dimension drawing
🕮	DTCB_1120	141 0461*)	Dimension drawing
🕮	DTCBM 1600-4000	078 2669*)	Dimension drawing
🕮	DTCBM 4600-6000	078 2682*)	Dimension drawing

Documents at Bosch Rexroth Media Directory

*)Documents only available for Bosch Rexroth employes on MyRexroth. Contact your Bosch Rexroth representative for information.

Bosch Rexroth AB
895 80 Mellansel, Sweden
Tel: +46 (0) 660 870 00
Fax: +46 (0) 660 871 60
www.hagglunds.com

Bosch Rexroth AB, RE 15355/01.2021