

Tightening spindles size 4

Spindle bearing



- ▶ Working range 5.7 – 150 Nm
- ▶ Max. output drive speed 1,000 rpm

Depending on the size, the actual components may differ from those in the illustration.

FEATURES

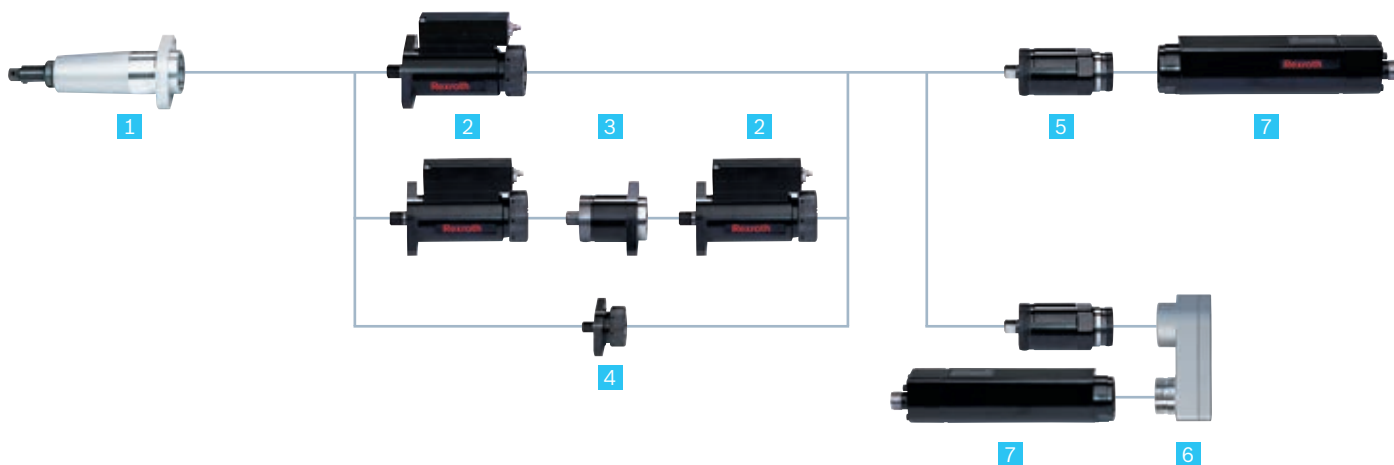
- ▶ Various lengths with axial compensator
- ▶ Standard tool mounts
- ▶ Maximum efficiency
- ▶ Maintenance-free for 1 million full-load cycles

Tightening spindle		Spindle bearing				Measurement transducer	Planetary gearbox	EC motor					
Working range*	Max. output drive speed	Range of spring mm / Max. Spring force N	Tool mount	Code	Order no.	Code / Order no.	Code / Order no.	Code / Order no.					
Nm	rpm												
5.7–56	340	25 / 93.3	1/2" square drive	GK1A156	0 608 800 031	4DMC060 0 608 820 114	4GE59 0 608 720 040	EC304 0 608 701 018					
			7/16" quick-change chuck	GK1B156	0 608 800 020								
			1/2" square drive with centering pin	GK1C156	0 608 800 001								
		50 / 93.3	1/2" square drive	GK2A181/251	0 608 800 006 / 048								
			7/16" quick-change chuck	GK2B181/251	0 608 800 008 / 049								
			1/2" square drive with centering pin	GK2C181/251	0 608 800 021 / 050								
			1/2" square drive	GL2A319	0 608 800 056								
			7/16" quick-change chuck	GL2B319	0 608 800 057								
			1/2" square drive with centering pin	GL2C319	0 608 800 027								
		5.7–54	1,000	25 / 90.2	1/2" square drive				GK1A156	0 608 800 031	4DMC060 0 608 820 114	4GE19 0 608 720 056	
					7/16" quick-change chuck				GK1B156	0 608 800 020			
					1/2" square drive with centering pin				GK1C156	0 608 800 001			
50 / 93.3	1/2" square drive			GK2A181/251	0 608 800 006 / 048								
	7/16" quick-change chuck			GK2B181/251	0 608 800 008 / 049								
	1/2" square drive with centering pin			GK2C181/251	0 608 800 021 / 050								
	1/2" square drive			GL2A319	0 608 800 056								
	7/16" quick-change chuck			GL2B319	0 608 800 057								
	1/2" square drive with centering pin			GL2C319	0 608 800 027								
15–150	340			25 / 93.3	1/2" square drive	GK1A156	0 608 800 031	4DMC160 0 608 820 115	4GE59 0 608 720 040				
					7/16" quick-change chuck	GK1B156	0 608 800 020						
					1/2" square drive with centering pin	GK1C156	0 608 800 001						
		50 / 93.3	1/2" square drive	GK2A181/251	0 608 800 006 / 048								
			7/16" quick-change chuck	GK2B181/251	0 608 800 008 / 049								
			1/2" square drive with centering pin	GK2C181/251	0 608 800 021 / 050								
			1/2" square drive	GL2A319	0 608 800 056								
			7/16" quick-change chuck	GL2B319	0 608 800 057								
			1/2" square drive with centering pin	GL2C319	0 608 800 027								





* The accuracy within the working range according to VDI/VDE 2647 is $\pm 2\%$ (6 s).






Note: You can find component dimensions and 3D/CAD data on the Internet at www.boschrexroth.com/tightening

Spindle bearing size 4 – components



1 Spindle bearing	Code	GK1A156	GK1B156	GK1C156	GK2A181	GK2B181	GK2C181
	Order no.	0608800031	0608800020	0608800001	0608800006	0608800008	0608800021
	Max. torque	Nm 150	150	150	150	150	150
	Range of spring	mm 25	25	25	50	50	50
	Spring force	N 39–90	39–90	39–90	30–93	30–93	30–93
	Reduction	1	1	1	1	1	1
	Avg. efficiency	1	1	1	1	1	1
	Length A	mm 156	156	156	181	181	181
	Installation length	mm 170	170	170	195	195	195
	Weight	kg 0.9	0.9	0.9	1	1	1
1 Spindle bearing	Code	GK2A251	GK2B251	GK2C251	GL2A319	GL2B319	GL2C319
	Order no.	0608800048	0608800049	0608800050	0608800056	0608800057	0608800027
	Max. torque	Nm 150	150	150	150	150	150
	Range of spring	mm 50	50	50	50	50	50
	Spring force	N 30–93	30–93	30–93	30–93	30–93	30–93
	Reduction	1	1	1	1	1	1
	Avg. efficiency	1	1	1	1	1	1
	Length A	mm 251	251	251	319	319	319
	Installation length	mm 265	265	265	333	333	333
	Weight	kg 1	1	1	2.1	2.1	2.1
2 Measurement transducer	Code	4DMC060	4DMC160				
	Order no.	0608820114	0608820115	You can configure your tightening spindle with a redundant measurement transducer from the same type. Connect both measurement transducers with the redundant adapter. For measurement transducer cables, see page 140.			
	Max. torque	Nm 60	160				
	Reduction	1	1				
	Avg. efficiency	1	1				
	Length	mm 182	182				
	Installation length A	mm 122	122				
	Weight	kg 1.6	1.6				
3 Redundant adapter	Code	4AR					
	Order no.	0608810022	When configuring with a redundant measurement transducer, the adapter connects both measurement transducers.				
	Reduction	1					
	Avg. efficiency	1					
	Installation length	mm 65					
	Weight	kg 0.8					

4 Adapter 	Code	4A		When configuring without a measurement transducer, the adapter connects the output drive and the planetary gearbox.
	Order no.	0 608 810 026		
	Reduction	1		
	Avg. efficiency	1		
	Installation length	mm	26.5	
Weight	kg	0.4		
5 Planetary gearbox 	Code	4GE19	4GE59	
	Order no.	0 608 720 056	0 608 720 040	
	Reduction	19.3	58.6	
	Avg. efficiency	0.93	0.9	
	Installation length	mm	82.9	105.5
Weight	kg	0.7	1.1	
6 Transverse gearbox 	Code	4ULG		The transverse gearbox shortens the length of your tightening spindle by the installation length of the EC motor plus the installation length of the transverse gearbox.
	Order no.	0 608 810 038		
	Reduction	1		
	Avg. efficiency	0.95		
	Installation length	mm	41.3	
Weight	kg	1.3		
7 EC motor 	Code	EC304		
	Order no.	0 608 701 018		
	Installation length	mm	247	
	Weight	kg	2.7	

Side-by-side arrangement of tightening spindles (center-to-center distance)						
Number of tightening spindles		2	3	4	5	6
						
Min. circle diameter- $\varnothing d_{min}$ mm	G...	59	69	89	109	119

Tightening spindles size 4

Offset output drive



- ▶ Working range 6 – 340 Nm
- ▶ Max. output drive speed 1,000 rpm

Depending on the size, the actual components may differ from those in the illustration.

FEATURES

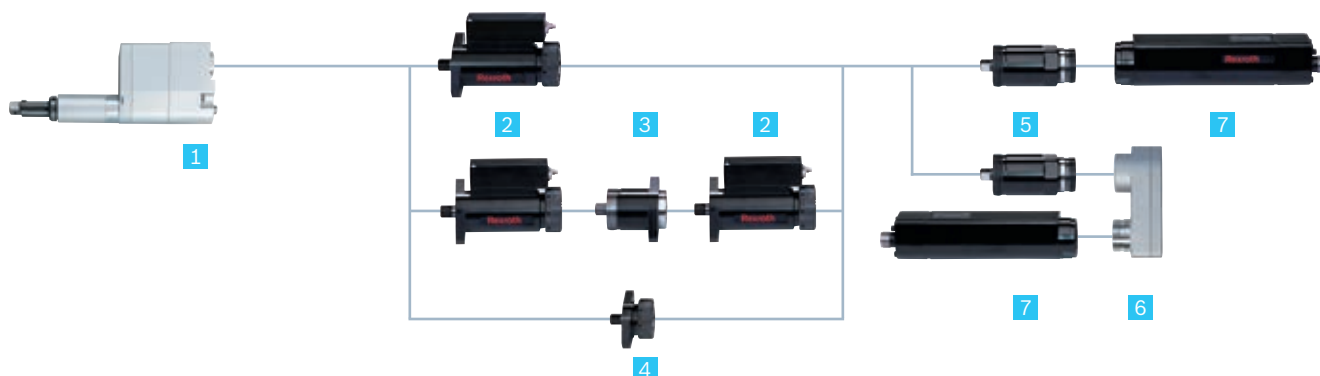
- ▶ For tight hole templates, side-by-side arrangement with small center-to-center distances
- ▶ Standard tool mounts
- ▶ Maintenance-free for 1 million full-load cycles





Tightening spindle		Offset output drive				Measurement transducer	Planetary gearbox	EC motor
Working range	Max. output drive speed rpm	Range of spring	Tool mount	Code	Order no.	Code/Order no.	Code/Order no.	Code/Order no.
Nm		mm						
6*-49	1,000	50	1/2" square drive	VNK2A181/251	0 608 800 632 / 633	4DMC060 0 608 820 114	4GE19 0 608 720 056	EC304 0 608 701 018
			7/16" change chuck	VNK2B181/251	0 608 800 634 / 635			
			1/2" square drive with centering pin	VNK2C181/251	0 608 800 636 / 637			
			1/2" square drive	VNL2A319	0 608 800 639			
			1/2" square drive with centering pin	VNL2C319	0 608 800 643			
8*-73	740	50	3/4" square drive	VUK2D242	0 608 PE0 588			
13*-128	410	50	3/4" square drive	VUK2D186	0 608 800 644			
				VUL2D290	0 608 800 645			
15*-138	340	50	1/2" square drive	VNK2A181/251	0 608 800 632 / 633	4DMC160 0 608 820 115	4GE59 0 608 720 040	
			7/16" quick-change chuck	VNK2B181/251	0 608 800 634 / 635			
			1/2" square drive with centering pin	VNK2C181/251	0 608 800 636 / 637			
			1/2" square drive	VNL2A319	0 608 800 639			
			1/2" square drive with centering pin	VNL2C319	0 608 800 643			
20*-200	240	50	3/4" square drive	VUK2D242	0 608 PE0 588			
35*-340	135	50	3/4" square drive	VUK2D186	0 608 800 644			
				VUL2D290	0 608 800 645			

* Depending on the tolerance limits, position-based MCT required

Note: You can find component dimensions and 3D/CAD data on the Internet at www.boschrexroth.com/tightening





Offset output drive size 4 – components








1 Offset output drive 	Code		VNK2A181	VNK2B181	VNK2C181	VNK2A251	VNK2B251	VNK2C251
	Order no.		0608800632	0608800634	0608800636	0608800633	0608800635	0608800637
	Max. torque	Nm	150	150	150	150	150	150
	Range of spring	mm	50	50	50	50	50	50
	Spring force	N	30–93	30–93	30–93	30–93	30–93	30–93
	Reduction		1	1	1	1	1	1
	Avg. efficiency		0.91	0.91	0.91	0.91	0.91	0.91
	Length A	mm	182	182	182	252	252	252
	Installation length	mm	309	309	309	379	379	379
Weight	kg	3.4	3.4	3.4	4.0	4.0	4.0	
1 Offset output drive 	Code		VNL2A319	VNL2C319	VUK2D242	VUK2D186	VUL2D290	
	Order no.		0608800639	0608800643	0608PE0588	0608800644	0608800645	
	Max. torque	Nm	150	150	200	340	340	
	Range of spring	mm	50	50	50	50	50	
	Spring force	N	30–93	30–93	30–93	30–93	30–93	
	Reduction		1	1	1.46	2.56	2.56	
	Avg. efficiency		0.91	0.91	0.92	0.92	0.92	
	Length A	mm	182	182	242	252	252	
	Installation length	mm	448	448	370	354	458	
Weight	kg	4.5	4.5	5.8	7.7	8.5		
2 Measurement transducer 	Code		4DMC060	4DMC160				
	Order no.		0608820114	0608820115				
	Max. torque	Nm	60	160				
	Reduction		1	1				
	Avg. efficiency		1	1				
	Length	mm	182	182				
	Installation length A	mm	122	122				
Weight	kg	1.6	1.6					
3 Redundant adapter 	Code		4AR					
	Order no.		0608810022					
	Reduction		1					
	Avg. efficiency		1					
	Installation length	mm	65					
Weight	kg	0.8						

You can configure your tightening spindle with a redundant measurement transducer from the same type. Connect both measurement transducers with the redundant adapter. For measurement transducer cables, see page 140.

When configuring with a redundant measurement transducer, the adapter connects both measurement transducers.

4 Adapter 	Code	4A		When configuring without a measurement transducer, the adapter connects the output drive and the planetary gearbox.
	Order no.	0 608 810 026		
	Reduction	1		
	Avg. efficiency	1		
	Installation length	mm	26.5	
Weight	kg	0.4		
5 Planetary gearbox 	Code	4GE19	4GE59	
	Order no.	0 608 720 056	0 608 720 040	
	Reduction	19.3	58.6	
	Avg. efficiency	0.93	0.9	
	Installation length	mm	82.9	105.5
Weight	kg	0.7	1.1	
6 Transverse gearbox 	Code	4ULG		The transverse gearbox shortens the length of your tightening spindle by the installation length of the EC motor plus the installation length of the transverse gearbox.
	Order no.	0 608 810 038		
	Reduction	1		
	Avg. efficiency	0.95		
	Installation length	mm	41.3	
Weight	kg	1.3		
7 EC motor 	Code	EC304		
	Order no.	0 608 701 018		
	Installation length	mm	247	
	Weight	kg	2.7	

Side-by-side arrangement of tightening spindles (center-to-center distance)

Number of tightening spindles		2	3	4	5	6
						
Min. circle diameter- $\varnothing d_{min}$ mm	VN...	44	51	63	75	88
	VU...	57	66	81	97	114
	VUK2D242	48	56	68	82	96

Tightening spindles size 4

Offset output drive with integrated measurement transducer



- ▶ Working range 15 – 342 Nm
- ▶ Max. output drive speed 1,000 rpm

Depending on the size, the actual components may differ from those in the illustration.

FEATURES

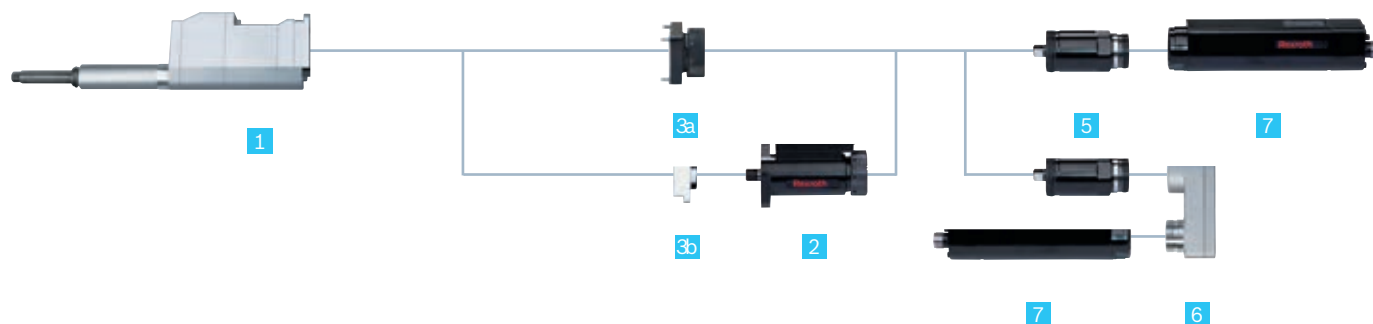
- ▶ Reduced center-to-center distances
- ▶ Torque measurement directly at the bolt
- ▶ Proximity switching digital measurement transfer
- ▶ Efficiency fluctuations do not affect measurements





Tightening spindle		Offset output drive with integrated measurement transducer				Planetary gearbox	EC motor
Working range Nm	Max. output drive speed rpm	Range of spring mm	Tool mount	Code	Order no.	Code/ Order no.	Code/ Order no.
15*-49	1,000	80	1/2" square drive	4VMC150	0608801004	4GE19	EC304
21*-73	700	80	3/4" square drive	4VMC210	0608801005	0608720056	0608701018
36*-128	410	80	3/4" square drive	4VMC360	0608801006		
15*-142	340	80	1/2" square drive	4VMC150	0608801004	4GE59	
21*-200	240	80	3/4" square drive	4VMC210	0608801005	0608720040	
36*-342	135	80	3/4" square drive	4VMC360	0608801006		




* Depending on the tolerance limits, position-based MCT required






Note: You can find component dimensions and 3D/CAD data on the Internet at www.boschrexroth.com/tightening

Offset output drive with integrated measurement transducer size 4 – components



1 Offset output drive with integrated measurement transducer 	Code	4VMC150	4VMC210	4VMC360	
	Order no.	0 608 801 004	0 608 801 005	0 608 801 006	
	Max. torque	Nm	150	210	360
	Range of spring	mm	80	80	80
	Spring force	N	30–100	30–100	30–100
	Reduction		1	1.46	2.56
	Avg. efficiency		0.92	0.92	0.92
	Length A	mm	242	252	246
	Installation length	mm	438	438	476
Weight	kg	4.9	7.1	11.7	
2 Measurement transducer 	Code	4DMC060	4DMC160		
	Order no.	0 608 820 114	0 608 820 115	You can configure your tightening spindle with a redundant measurement transducer from the same type. Connect both measurement transducers with the redundant adapter. For measurement transducer cables, see page 140.	
	Max. torque	Nm	60	160	
	Reduction		1	1	
	Avg. efficiency		1	1	
	Installation length	mm	122	122	
Weight	kg	1.6	1.6		
3a AVG adapter 	Code	4AVG			
	Order no.	0 608 801 008		The adapter connects the output drive and the planetary gearbox.	
	Reduction		1		
	Avg. efficiency		1		
	Installation length	mm	26.5		
	Weight	kg	0.4		
3b AVR Redundant adapter 	Code	4AVR			
	Order no.	0 608 801 007		When configuring an offset output drive with integrated measurement transducer and redundant measurement transducer, the adapter connects both components.	
	Reduction		1		
	Avg. efficiency		1		
	Installation length	mm	30.3		
	Weight	kg	0.7		

5 Planetary gearbox 	Code	4GE19	4GE59	
	Order no.	0 608 720 056	0 608 720 040	
	Reduction	19.3	58.6	
	Avg. efficiency	0.93	0.9	
	Installation length	mm	82.9	105.5
	Weight	kg	0.7	1.1
6 Transverse gearbox 	Code	4ULG		
	Order no.	0 608 810 038		
	Reduction	1		
	Avg. efficiency	0.95		
	Installation length	mm	41.3	
	Weight	kg	1.3	
The transverse gearbox shortens the length of your tightening spindle by the installation length of the EC motor plus the installation length of the transverse gearbox.				
7 EC motor 	Code	EC304		
	Order no.	0 608 701 018		
	Installation length	mm	247	
	Weight	kg	2.7	

Side-by-side arrangement of tightening spindles (center-to-center distance)						
Number of tightening spindles		2	3	4	5	6
						
Min. circle diameter- $\varnothing d_{\min}$ mm	4VMC150	44	51	63	75	88
	4VMC210	48	56	68	82	96
	4VMC360	57	66	81	97	114

Tightening spindles size 4

Angle head



- ▶ Working range 26–220 Nm
- ▶ Max. output drive speed 985 rpm

Depending on the size, the actual components may differ from those in the illustration.

FEATURES

- ▶ For restricted accessibility
- ▶ Precision tothing for high torque accuracy
- ▶ Incremental positioning (10° increments)
- ▶ Integrated fastening flanges
- ▶ With integrated measurement transducer on request

Tightening spindle		Angle head			Measurement transducer	Planetary gearbox	EC motor
Working range Nm	Max. output drive speed rpm	Tool mount	Code	Order no.	Code/ Order no.	Code/ Order no.	Code/ Order no.
26–54	985	1/2" square drive	4W130	0608810045	4DMC060	4GE19	EC304
44–86	620	3/4" square drive	4W220	0608810046	0608820114	0608720056	0608701018
26–130	320	1/2" square drive	4W130	0608810045	4DMC160	4GE59	
44–220	200	3/4" square drive	4W220	0608810046	0608820115	0608720040	

Notes: To ensure troublefree operation, the angle head must always be operated with an output drive axial compensator, e.g. spindle bearing. See page 21.

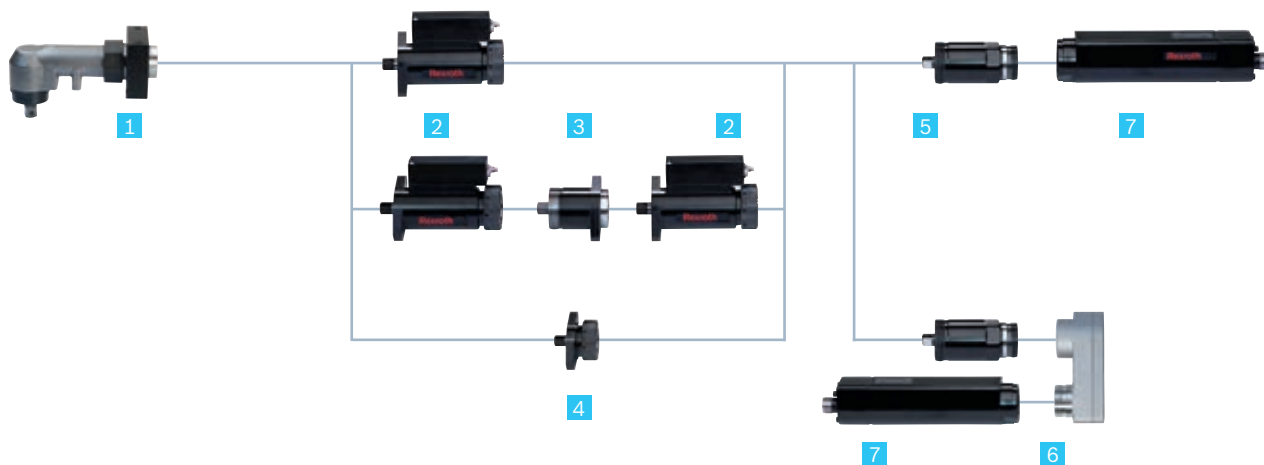
For an output drive axial compensator, the following angle head/spindle bearing combinations are possible:





4W130 (0608810045) – spindle bearing size 4 (page 50)




4W220 (0608810046) – on request

You can find component dimensions and 3D/CAD data on the Internet at www.boschrexroth.com/tightening






Angle head size 4 – components



1 Angle head 	Code		4W130	4W220	
	Order no.		0 608 810 045	0 608 810 046	
	Max. torque	Nm	130	220	
	Reduction		1.05	1.67	
	Avg. efficiency		0.95	0.95	
	Installation length	mm	141.5	141.5	
	Weight	kg	2.8	3.2	
2 Measurement transducer 	Code		4DMC060	4DMC160	
	Order no.		0 608 820 114	0 608 820 115	You can configure your tightening spindle with a redundant measurement transducer from the same type. Connect both measurement transducers with the redundant adapter. For measurement transducer cables, see page 140.
	Nominal torque	Nm	60	160	
	Reduction		1	1	
	Avg. efficiency		1	1	
	Installation length	mm	122	122	
	Weight	kg	1.6	1.6	
3 Redundant adapter 	Code		4AR		
	Order no.		0 608 810 022		
	Reduction		1		
	Avg. efficiency		1		
	Installation length	mm	65		
	Weight	kg	0.8		
4 Adapter 	Code		4A		When configuring without a measurement transducer, the adapter connects the output drive and the planetary gearbox.
	Order no.		0 608 810 026		
	Reduction		1		
	Avg. efficiency		1		
	Installation length	mm	26.5		
	Weight	kg	0.4		

5 Planetary gearbox 	Code	4GE19	4GE59
	Order no.	0 608 720 056	0 608 720 040
	Reduction	19.3	58.6
	Avg. efficiency	0.93	0.9
	Installation length	mm 82.9	105.5
	Weight	kg 0.7	1.1
6 Transverse gearbox 	Code	4ULG	
	Order no.	0 608 810 038	The transverse gearbox shortens the length of your tightening spindle by the installation length of the EC motor plus the installation length of the transverse gearbox.
	Reduction	1	
	Avg. efficiency	0.95	
	Installation length	mm 41.3	
	Weight	kg 1.3	
7 EC motor 	Code	EC304	
	Order no.	0 608 701 018	
	Installation length	mm 247	
	Weight	kg 2.7	

Side-by-side arrangement of tightening spindles (center-to-center distance)

Number of tightening spindles	2	3	4	5	6
					
Min. circle diameter- $\varnothing d_{\min}$	4W130	47	55	67	80
mm	4W220	62	72	88	106
					124

Tightening spindles size 4

Feed output drive



- ▶ Working range 6 – 138 Nm
- ▶ Max. output drive speed 1,000 rpm

Depending on the size, the actual components may differ from those in the illustration.

FEATURES

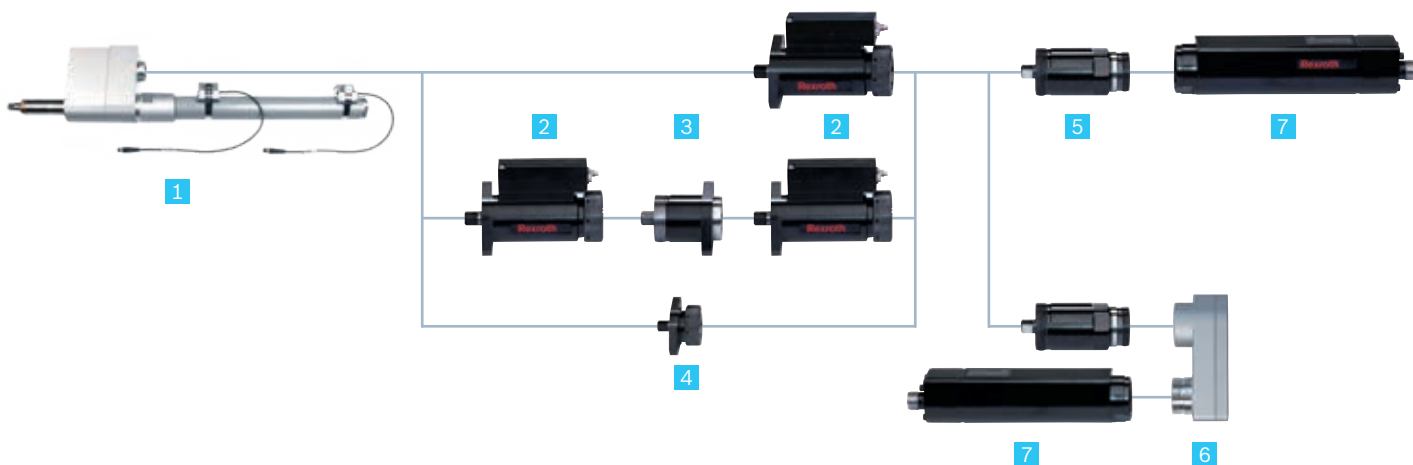
- ▶ Integrated feed movement
- ▶ In connection with automatic bolt supply
- ▶ Standard tool mounts and compressed air connections
- ▶ Maintenance-free for 1 million full-load cycles

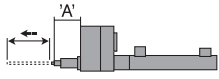



Tightening spindle			Feed output drive			Measurement transducer	Planetary gearbox	EC motor
Working range Nm	Max. output drive speed rpm	Stroke mm	Tool mount	Code	Order no.	Code/ Order no.	Code/ Order no.	Code/ Order no.
6*-49	1,000	200	1/2" square drive with centering pin	4S1M8	0 608 800 650	4DMC060 0608820114	4GE19 0608720056	EC304 0608701018
15*-138	340	200	1/2" square drive with centering pin	4S1M8	0 608 800 650	4DMC160 0608820115	4GE59 0608720040	




* Depending on the tolerance limits, position-based MCT required

Note: You can find component dimensions and 3D/CAD data on the Internet at www.boschrexroth.com/tightening






Feed output drive size 4 – components



1 Feed output drive 	Code	4S1M8			
	Order no.	0 608 800 650			
	Max. torque	Nm	150		
	Stroke	mm	200		
	Max. air pressure	bar	4		
	Reduction		1		
	Avg. efficiency		0.93		
	Length A	mm	101		
	Installation length	mm	219		
	Weight	kg	6.6		
2 Measurement transducer 	Code	4DMC060	4DMC160		
	Order no.	0 608 820 114	0 608 820 115	You can configure your tightening spindle with a redundant measurement transducer from the same type. Connect both measurement transducers with the redundant adapter. For measurement transducer cables, see page 140.	
	Nominal torque	Nm	60		160
	Reduction		1		1
	Avg. efficiency		1		1
	Installation length	mm	122		122
Weight	kg	1.6	1.6		
3 Redundant adapter 	Code	4AR			
	Order no.	0 608 810 022		When configuring with a redundant measurement transducer, the adapter connects both measurement transducers.	
	Reduction	1			
	Avg. efficiency	1			
	Installation length	mm	65		
Weight	kg	0.8			
4 Adapter 	Code	4A			
	Order no.	0 608 810 026		When configuring without a measurement transducer, the adapter connects the output drive and the planetary gearbox.	
	Reduction	1			
	Avg. efficiency	1			
	Installation length	mm	26.5		
Weight	kg	0.4			

5 Planetary gearbox 	Code	4GE19	4GE59	
	Order no.	0 608 720 056	0 608 720 040	
	Reduction	19.3	58.6	
	Avg. efficiency	0.93	0.9	
	Installation length	mm 82.9	105.5	
	Weight	kg 0.7	1.1	
6 Transverse gearbox 	Code	4ULG		
	Order no.	0 608 810 038		
	Reduction	1		
	Avg. efficiency	0.95		
	Installation length	mm 41.3	The transverse gearbox shortens the length of your tightening spindle by the installation length of the EC motor plus the installation length of the transverse gearbox.	
	Weight	kg 1.3		
7 EC motor 	Code	EC304		
	Order no.	0 608 701 018		
	Installation length	mm 247		
	Weight	kg 2.7		

Side-by-side arrangement of tightening spindles (center-to-center distance)

Number of tightening spindles	2	3	4	5	6
					
Min. circle diameter- $\varnothing d_{\min}$ mm	4S1M8 56	65	79	95	112