Tightening spindles size 3
Spindle bearing

- Working range 1.7 – 56 Nm
- Max. output drive speed 740 rpm

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

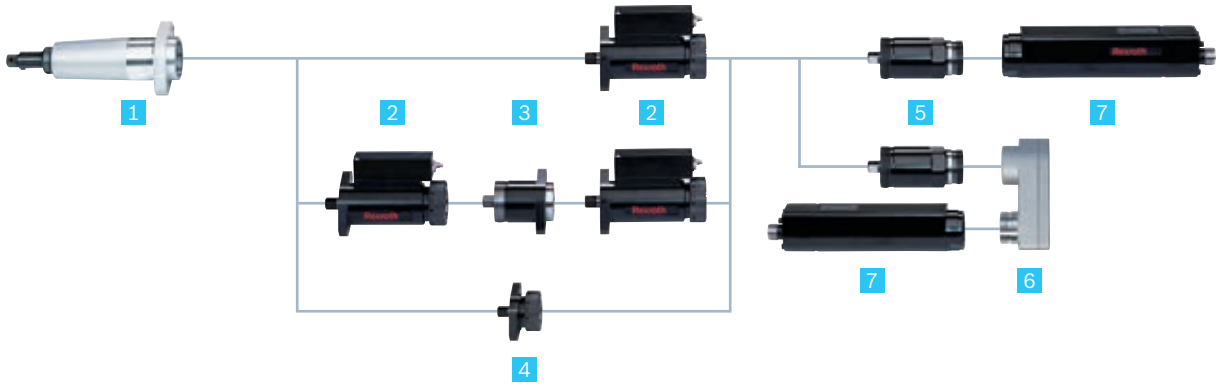
FEATURES

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

Tightening spindle		**Spindle bearing**				**Measure-ment transducer**	**Planetary gearbox**	**EC motor**
Working range*	Max. out-put drive speed	Range of spring mm/ max. Spring force	Tool mount	Code	Order no.	Code/ Order no.	Code/ Order no.	Code/ Order no.
Nm	rpm	N						
1.7–16	740	25/39	3/8" square drive	G1A102	0608800062	3DMC017 0608820112	3GE27 0608720053	EC303 0608701017
			1/4" quick-change chuck	G1B102	0608800063			
			3/8" square drive with centering pin	G1C102	0608800072			
		50/38	3/8" square drive	G2A152	0608800064			
			1/4" quick-change chuck	G2B152	0608800065			
			3/8" square drive with centering pin	G2C152	0608800073			
	295	25/39	3/8" square drive	G1A102	0608800062		3GE67 0608720039	
			1/4" quick-change chuck	G1B102	0608800063			
			3/8" square drive with centering pin	G1C102	0608800072			
		50/38	3/8" square drive	G2A152	0608800064			
			1/4" quick-change chuck	G2B152	0608800065			
			3/8" square drive with centering pin	G2C152	0608800073			
6–33	740	25/39	3/8" square drive	G1A102	0608800062	3DMC060 0608820113	3GE27 0608720053	
			1/4" quick-change chuck	G1B102	0608800063			
			3/8" square drive with centering pin	G1C102	0608800072			
		50/38	3/8" square drive	G2A152	0608800064			
			1/4" quick-change chuck	G2B152	0608800065			
			3/8" square drive with centering pin	G2C152	0608800073			
6–35	295	25/39	1/4" quick-change chuck	G1B102	0608800063		3GE67 0608720039	
		50/38	1/4" quick-change chuck	G2B152	0608800065			
6–56	295	25/39	3/8" square drive	G1A102	0608800062			
			3/8" square drive with centering pin	G1C102	0608800072			
		50/38	3/8" square drive	G2A152	0608800064			
			3/8" square drive with centering pin	G2C152	0608800073			

* The accuracy within the working range according to VDI/VDE 2647 is ± 2 % over 6 s.
Note: You can find component dimensions and 3D/CAD data on the Internet at www.boschrexroth.com/tightening

Spindle bearing size 3 – components



1 **Spindle bearing**	**Code**		**G1B102**	**G2B152**	**G1A102**	**G1C102**	**G2A152**	**G2C152**
	Order no.		0 608 800 063	0 608 800 065	0 608 800 062	0 608 800 072	0 608 800 064	0 608 800 073
	Max. torque	Nm	35	35	55	55	55	55
	Range of spring	mm	25	50	25	25	50	50
	Spring force	N	16–39	14–38	16–39	16–39	14–38	14–38
	Reduction		1	1	1	1	1	1
	Avg. efficiency		1	1	1	1	1	1
	Length A	mm	102	152	102	102	152	152
	Installation length	mm	112	162	112	112	162	162
	Weight	kg	0.33	0.41	0.33	0.33	0.41	0.41

2 **Measurement transducer**	**Code**		**3DMC017**	**3DMC060**	
	Order no.		0 608 820 112	0 608 820 113	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	17	60	
	Reduction		1	1	
	Avg. efficiency		1	1	
	Installation length	mm	118.6	118.6	
	Weight	kg	1	1	

3 **Redundant adapter**	**Code**		**3AR**	
	Order no.		0 608 810 021	When configuring with a redundant measurement transducer, the adapter connects both measurement transducers.
	Reduction		1	
	Avg. efficiency		1	
	Installation length	mm	57	
	Weight	kg	0.4	

4 **Adapter**	**Code**		**3A**	
	Order no.		0 608 810 025	When configuring without a measurement transducer, the adapter connects the output drive and the planetary gearbox.
	Reduction		1	
	Avg. efficiency		1	
	Installation length	mm	30.5	
	Weight	kg	0.3	

5 **Planetary gearbox**	**Code**		**3GE27**	**3GE67**
	Order no.		0608720053	0608720039
	Reduction		27	67.4
	Avg. efficiency		0.93	0.9
	Installation length	mm	65.5	81.5
	Weight	kg	0.35	0.5

6 **Transverse gearbox**	**Code**		**3ULG**	
	Order no.		0608810037	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	30.1	
	Weight	kg	0.4	

7 **EC motor**	**Code**		**EC303**
	Order no.		0608701017
	Installation length	mm	219
	Weight	kg	1.3

Side-by-side arrangement of tightening spindles (center-to-center distance)						
Number of tightening spindles		2	3	4	5	6
						
Min. circle diameter-Ø d_{min} mm	G...	45	52	65	80	89

Tightening spindles size 3
Offset output drive

- Working range 1.7 – 53 Nm
- Max. output drive speed 740 rpm

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

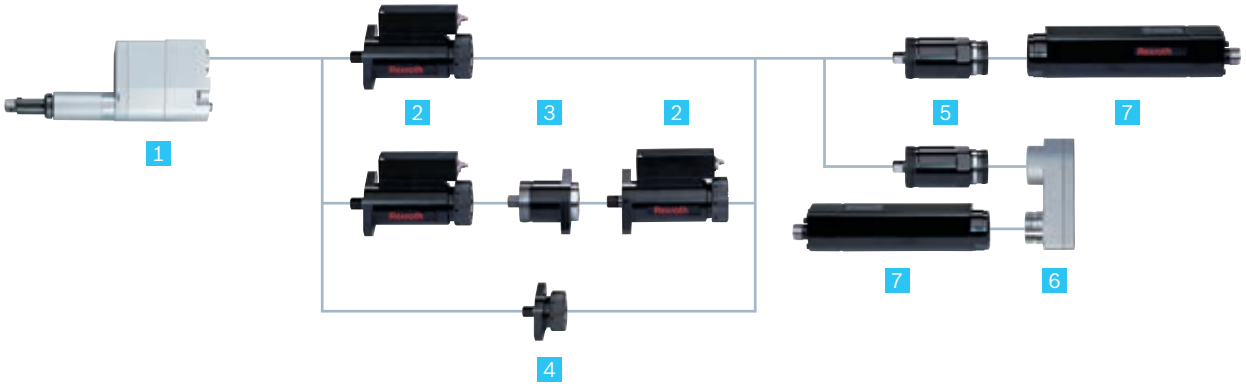
FEATURES

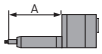
- For tight hole templates
- Standard tool mounts
- Maintenance-free for 1 million full-load cycles

Tightening spindle		**Offset output drive**				**Measure-ment 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.	Code/ Order no.
1.7*–15	740	50	1/4" quick-change chuck	VNS2B152	0608800630	3DMC017 0608820112	3GE27 0608720053	EC303 0608701017
	295	50	1/4" quick-change chuck	VNS2B152	0608800630		3GE67 0608720039	
6*–31	740	50	1/4" quick-change chuck	VNS2B152	0608800630	3DMC060 0608820113	3GE27 0608720053	
6*–33	295	50	1/4" quick-change chuck	VNS2B152	0608800630		3GE67 0608720039	
1.7*–15	740	50	3/8" square drive	VNS2A152	0608800629	3DMC017 0608820112	3GE27 0608720053	
			3/8" square drive with centering pin	VNS2C152	0608800631			
	295	50	3/8" square drive	VNS2A152	0608800629		3GE67 0608720039	
			3/8" square drive with centering pin	VNS2C152	0608800631			
6*–31	740	50	3/8" square drive	VNS2A152	0608800629	3DMC060 0608820113	3GE27 0608720053	
			3/8" square drive with centering pin	VNS2C152	0608800631			
6*–53	295	50	3/8" square drive	VNS2A152	0608800629		3GE67 0608720039	
			3/8" square drive with centering pin	VNS2C152	0608800631			

* 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 3 – components



1 **Offset output drive**	**Code**		**VNS2B152**	**VNS2A152**	**VNS2C152**
	Order no.		0608800630	0608800629	0608800631
	Max. torque	Nm	35	55	55
	Range of spring	mm	50	50	50
	Spring force	N	14–38	14–38	14–38
	Reduction		1	1	1
	Avg. efficiency		0.93	0.93	0.93
	Length A	mm	152	152	152
	Installation length	mm	240	240	240
	Weight	kg	1.2	1.2	1.2
2 **Measurement transducer**	**Code**		**3DMC017**	**3DMC060**	
	Order no.		0608820112	0608820113	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	17	60	
	Reduction		1	1	
	Avg. efficiency		1	1	
	Installation length	mm	118.6	118.6	
	Weight	kg	1	1	
3 **Redundant adapter**	**Code**		**3AR**		
	Order no.		0608810021		When configuring with a redundant measurement transducer, the adapter connects both measurement transducers.
	Reduction		1		
	Avg. efficiency		1		
	Installation length	mm	57		
	Weight	kg	0.4		
4 **Adapter**	**Code**		**3A**		
	Order no.		0608810025		When configuring without a measurement transducer. the adapter connects the output drive and the planetary gearbox.
	Reduction		1		
	Avg. efficiency		1		
	Installation length	mm	30.5		
	Weight	kg	0.3		

5 **Planetary gearbox**	**Code**		**3GE27**	**3GE67**
	Order no.		0608720053	0608720039
	Reduction		27	67.4
	Avg. efficiency		0.93	0.9
	Installation length	mm	65.5	81.5
	Weight	kg	0.35	0.5

6 **Transverse gearbox**	**Code**		**3ULG**	
	Order no.		0608810037	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	30.1	
	Weight	kg	0.4	

7 **EC motor**	**Code**		**EC303**
	Order no.		0608701017
	Installation length	mm	219
	Weight	kg	1.3

Side-by-side arrangement of tightening spindles (center-to-center distance)						
Number of tightening spindles		2	3	4	5	6
						
Min. circle diameter-Ø d_{min} mm	VNS2...152	29	33.5	41	49.5	58

Tightening spindles size 3
Offset output drive with integrated measurement transducer

- Working range 3.2 – 57 Nm
- Max. output drive speed 740 rpm

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

FEATURES

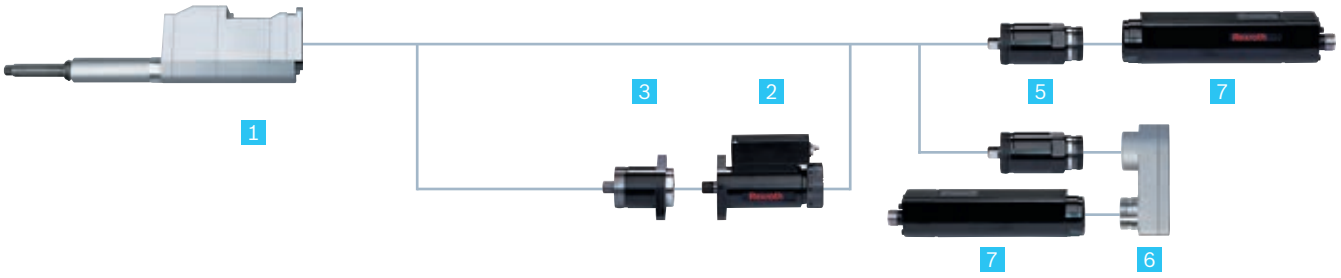
- Reduced center-to-center distances
- Torque measurement directly at the bolt
- Proximity switching digital measurement transfer
- Efficiency fluctuations do not affect measurements

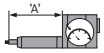
Tightening spindle		**Offset output drive with integrated measurement transducer**				**Planetary gearbox**	**EC motor**
Working range Nm	Max. output drive speed 1/min	Range of spring mm	Tool mount	Code	Order no.	Code / Order no.	Code / Order no.
3.2*–16	740	50	3/8" square drive	3VMC017	0608801009	3GE27 0608720053	EC303 0608701017
	295	50	3/8" square drive	3VMC017	0608801009	3GE67 0608720039	
6*–31	740	50	3/8" square drive	3VMC035	0608801010	3GE27 0608720053	
6*–33	295	50	3/8" square drive	3VMC035	0608801010	3GE67 0608720039	
10*–57	295	50	3/8" square drive	3VMC060	0608801011		

* 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 3 – components



1 **Offset output drive with integrated measurement transducer** 	**Code**		**3VMC017**	**3VMC035**	**3VMC060**
	Order no.		0608801009	0608801010	0608801011
	Max. torque	Nm	17	35	60
	Range of spring	mm	50	50	50
	Spring force	N	14–38	14–38	14–38
	Reduction		1	1	1
	Avg. efficiency		0.93	0.93	0.93
	Length A	mm	152	152	152
	Installation length	mm	311	311	311
	Weight	kg	3.4	3.4	3.4
2 **Measurement transducer** 	**Code**		**3DMC017**	**3DMC060**	
	Order no.		0608820112	0608820113	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	17	60	
	Reduction		1	1	
	Avg. efficiency		1	1	
	Installation length	mm	118.6	118.6	
	Weight	kg	1	1	
3 **Redundant adapter** 	**Code**		**3AR**		
	Order no.		0608810021		When configuring with a redundant measurement transducer, the adapter connects both measurement transducers.
	Reduction		1		
	Avg. efficiency		1		
	Installation length	mm	57		
	Weight	kg	0.4		

5 **Planetary gearbox** 	**Code**		**3GE27**	**3GE67**	
	Order no.		0608720053	0608720039	
	Reduction		27	67.4	
	Avg. efficiency		0.93	0.9	
	Installation length	mm	65.5	81.5	
	Weight	kg	0.35	0.5	
6 **Transverse gearbox** 	**Code**		**3ULG**		
	Order no.		0608810037		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	30.1		
	Weight	kg	0.4		
7 **EC motor** 	**Code**		**EC303**		
	Order no.		0608701017		
	Installation length	mm	219		
	Weight	kg	1.3		

Side-by-side arrangement of tightening spindles (center-to-center distance)						
Number of tightening spindles		2	3	4	5	6
						
Min. circle diameter-Ø d_{min} mm	3VMC...	31	36	44	53	62

Tightening spindles size 3
Angle head

- Working range 5.4 – 90 Nm
- Max. output drive speed 705 rpm

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

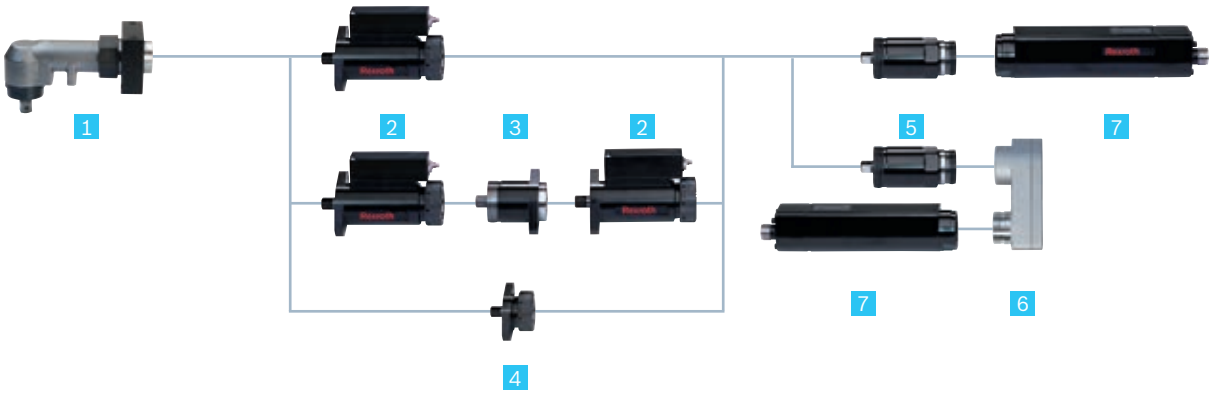
FEATURES

- For restricted accessibility
- Precision toothing for high torque accuracy
- Incremental positioning (9° increments)
- Integrated fastening flanges
- With integrated measurement transducer on request

Tightening spindle		**Angle head**			**Measure-ment 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.
5.4–16	705	3/8" square drive	3W027	0608810042	3DMC017 0608820112	3GE27 0608720053	EC303 0608701017
	280	3/8" square drive	3W027	0608810042		3GE67 0608720039	
5.7–27	705	3/8" square drive	3W027	0608810042	3DMC060 0608820113	3GE27 0608720053	
	280	3/8" square drive	3W027	0608810042		3GE67 0608720039	
10–33	705	3/8" square drive	3W050	0608810043		3GE27 0608720053	
10–50	280	3/8" square drive	3W050	0608810043		3GE67 0608720039	
18–53	440	1/2" square drive	3W090	0608810044		3GE27 0608720053	
18–90	175	1/2" square drive	3W090	0608810044		3GE67 0608720039	

Note: 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:
3W027 (0608810042) – spindle bearing size 3 (page 30)
3W050 (0608810043) – spindle bearing size 3 (page 30)
3W090 (0608810044) – spindle bearing size 4 (page 50)
Note: You can find component dimensions and 3D/CAD data on the Internet at www.boschrexroth.com/tightening

Angle head size 3 – components



1 **Angle head**	**Code**		**3W027**	**3W050**	**3W090**
	Order no.		0608810042	0608810043	0608810044
	Max. torque	Nm	27	50	90
	Reduction		1.05	1.05	1.67
	Avg. efficiency		0.95	0.95	0.95
	Installation length	mm	85.6	125.6	125.6
	Weight	kg	1	1.42	1.7
2 **Measurement transducer**	**Code**		**3DMC017**	**3DMC060**	
	Order no.		0608820112	0608820113	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	17	60	
	Reduction		1	1	
	Avg. efficiency		1	1	
	Installation length	mm	118.6	118.6	
	Weight	kg	1	1	
3 **Redundant adapter**	**Code**		**3AR**		
	Order no.		0608810021		When configuring with a redundant measurement transducer, the adapter connects both measurement transducers.
	Reduction		1		
	Avg. efficiency		1		
	Installation length	mm	57		
	Weight	kg	0.4		
4 **Adapter**	**Code**		**3A**		
	Order no.		0608810025		When configuring without a measurement transducer, the adapter connects the output drive and the planetary gearbox.
	Reduction		1		
	Avg. efficiency		1		
	Installation length	mm	30.5		
	Weight	kg	0.3		

5 **Planetary gearbox**	**Code**		**3GE27**	**3GE67**
	Order no.		0608720053	0608720039
	Reduction		27	67.4
	Avg. efficiency		0.93	0.9
	Installation length	mm	65.5	81.5
	Weight	kg	0.35	0.5

6 **Transverse gearbox**	**Code**		**3ULG**	
	Order no.		0608810037	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	30.1	
	Weight	kg	0.4	

7 **EC motor**	**Code**		**EC303**
	Order no.		0608701017
	Installation length	mm	219
	Weight	kg	1.3

Side-by-side arrangement of tightening spindles (center-to-center distance)						
Number of tightening spindles		2	3	4	5	6
						
Min. circle diameter-Ø d_{min} mm	3W027	29	34	41	50	58
	3W050	35	40	50	60	70
	3W090	45	52	64	78	90

Tightening spindles size 3
Feed output drive

- Working range 1.7 – 53 Nm
- Max. output drive speed 740 rpm

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

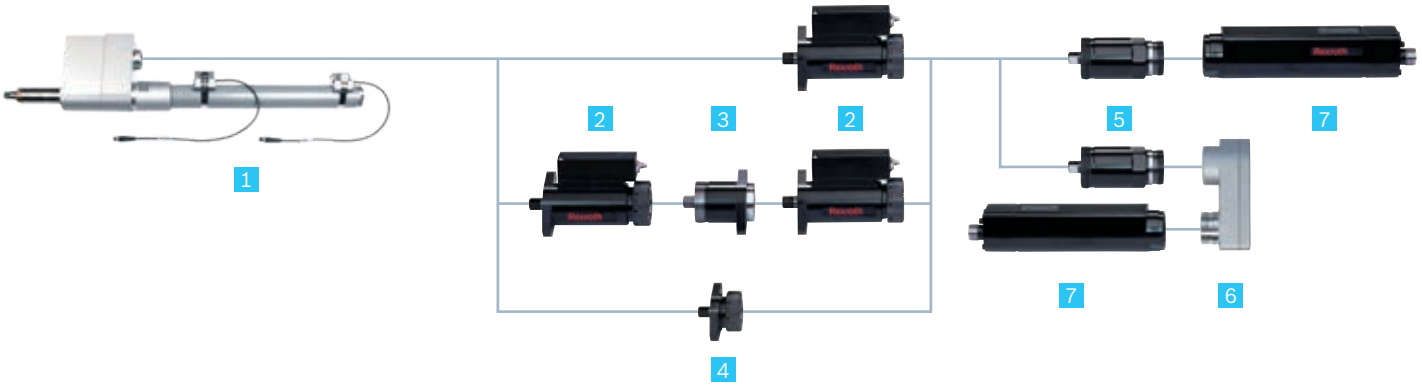
FEATURES

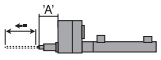
- Integrated feed movement
- In connection with automatic bolt supply
- Standard tool mounts and compressed air connections
- Maintenance-free for 1 million full-load cycles

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.
1.7*–15	740	200	3/8" square drive	3S1M8	0608800648	3DMC017 0608820112	3GE27 0608720053	EC303 0608701017
	295	200	3/8" square drive	3S1M8	0608800648		3GE67 0608720039	
1.7*–15	740	200	1/4" square drive	3S2M8	0608800649		3GE27 0608720053	
	295	200	1/4" square drive	3S2M8	0608800649		3GE67 0608720039	
5.3*–20	295	200	1/4" square drive	3S2M8	0608800649	3DMC060 0608820113	3GE67 0608720039	
	740	200	1/4" square drive	3S2M8	0608800649		3GE27 0608720053	
7*–31	740	200	3/8" square drive	3S1M8	0608800648		3GE27 0608720053	
6*–53	295	200	3/8" square drive	3S1M8	0608800648		3GE67 0608720039	

* 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 3 – components



1 **Feed output drive**	**Code**		**3S2M8**	**3S1M8**	
	Order no.		0 608 800 649	0 608 800 648	
	Max. torque	Nm	20	55	
	Stroke	mm	200	200	
	Max. air pressure	bar	4	4	
	Reduction		1	1	
	Avg. efficiency		0.93	0.93	
	Length A	mm	97	97	
	Installation length	mm	204	204	
	Weight	kg	3.5	3.5	
2 **Measurement transducer**	**Code**		**3DMC017**	**3DMC060**	
	Order no.		0 608 820 112	0 608 820 113	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	17	60	
	Reduction		1	1	
	Avg. efficiency		1	1	
	Installation length	mm	118.6	118.6	
	Weight	kg	1	1	
3 **Redundant adapter**	**Code**		**3AR**		
	Order no.		0 608 810 021		When configuring with a redundant measurement transducer, the adapter connects both measurement transducers.
	Reduction		1		
	Avg. efficiency		1		
	Installation length	mm	57		
	Weight	kg	0.4		
4 **Adapter**	**Code**		**3A**		
	Order no.		0 608 810 025		When configuring without a measurement transducer, the adapter connects the output drive and the planetary gearbox.
	Reduction		1		
	Avg. efficiency		1		
	Installation length	mm	30.5		
	Weight	kg	0.3		

5 **Planetary gearbox**	**Code**		**3GE27**	**3GE67**
	Order no.		0608720053	0608720039
	Reduction		27	67.4
	Avg. efficiency		0.93	0.9
	Installation length	mm	65.5	81.5
	Weight	kg	0.35	0.5

6 **Transverse gearbox**	**Code**		**3ULG**	
	Order no.		0608810037	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	30.1	
	Weight	kg	0.4	

7 **EC motor**	**Code**		**EC303**
	Order no.		0608701017
	Installation length	mm	219
	Weight	kg	1.3

Side-by-side arrangement of tightening spindles (center-to-center distance)						
Number of tightening spindles		2	3	4	5	6
						
Min. circle diameter-Ø d_{min} mm	3S...	49	56.5	69.5	83.5	98