



BINDER CLUTCHES & BRAKES

SPRING-APPLIED SINGLE-DISC BRAKE

76 43108H00

76 431 ..H00



POWER OF PARTNERSHIP AND MAGNETISM

VARIO LINE

Kendrion PowerTransmission

BINDER CLUTCHES & BRAKES

Our company's strength is measured by the delivery of products, performances, as well as a high degree of esteem towards our customers. KENDRION POWER TRANSMISSION is striving to develop a long-term relationship with its

customers and to cultivate this relationship under the motto "Power of Partnership". Ambitious aims can only be realised through a close and productive co-operation with our customers.

The development of high-quality standard products as well as optimised tailor made solutions is the foundation of all our actions.

Power of Partnership stands for a co-operation with the Kendrion employees without bureaucracy, ensuring a long and successful partnership with our customers.

Top Market Knowledge...

the realisation of market orientated products are the results of our competence in electromagnetism which has been achieved with decades of experience and knowledge. The development of most innovative concepts and the

use of the most modern technologies in our research department together with the use of the latest production and logistic processes are our strengths.

Our customers profit from the individual solutions for high volume as well as the availability of individual products on the basis of a standard platform.

Our know-how is growing steadily hand in hand with the constant optimisation of every business process.

Optimal tailor made solutions...

are not empty promises. The profound understanding of the Power of Magnetism at KENDRION POWER TRANSMISSION is the source of the research/development of market orientated products. Continuous expansion of the technological possibilities

enables us to be in the position to offer optimal solutions of brakes and clutches for numerous applications. We lay great emphasis on being able to offer solutions for different applications such as:

... SECURING
... STOPPING
... POSITIONING
... ACCELERATING.

Important synergies as a basis for success...

KENDRION POWER TRANSMISSION is a European company with a local presence in all economic regions of the world. Integrated in and yielding performance to the Kendrion Holding N.V., which is noted on the Amsterdam stock exchange, as a successful company with an annual turnover of 1,8 billion EUR; and approx. 5500 employees all over the world.

This is an excellent basis to realise, secure and enable our long-term goals and company objectives. A network of connected companies within Kendrion is another valuable factor for the success of KENDRION POWER TRANSMISSION. We live the "Power of Partnership" in a firm exchange

of expertise and business relationship within these companies.



Kendrion Power Transmission protects people and the environment

General technical information

76 43108H00

76 431..H00



www.KendrionAT.com

Product line information

BINDER CLUTCHES & BRAKES



The VARIO LINE is comprised of DC operated spring-applied single-disc brakes. Due to the great variety of brakes included in this line, the products can be ideally tailored to specific applications.

Electromagnetically operated spring-applied brakes generate the braking torque when voltage is removed. The braking effect can be neutralised by the electromagnetic force or by an additional hand release feature. The fitting dimensions and brake sizes within the VARIO LINE are specifically tailored to IEC motors.

Applications

- Machining equipment
- DC motors
- Material handling vehicles
- Gear motors
- Equipment manufacturing industry
- Handling technology
- Lifting and materials handling technology
- IEC three-phase motors
- Medical technology
- Paper-making and printing machines
- Wheelchairs
- Textile machines
- Gate drives
- ...

Versions

76 43108H00	torque range 1 - 4 Nm DC adjustable torque
76 431..H00	torque range 4 - 400 Nm DC adjustable torque

Information on technical data included in the data sheets

The information provided in the operating instructions must be strictly adhered to when designing a machine (e.g. motor) and when using the brakes. The brakes are manufactured and tested in compliance with DIN VDE 0580 requirements. The insulation materials used conform with thermal class F norms. Operation of the brake as a pure holding brake without friction work is only permitted after prior consultation with the manufacturer. The specified times apply to the following conditions: separate switching of the brake, operating

temperature, rated voltage, and rated air gap. All values are mean values that are subject to variation. In the case of AC brake switching, the coupling time t_1 is substantially longer. W_{max} (maximum switching energy) is the switching energy that must not be exceeded during braking operations at max. 1500 rpm. Braking operations at >1500 rpm lead to a substantial reduction in the maximum admissible switching energy per switching operation. Such operations are only permitted after prior consultation with the manufacturer. The maximum switching power

P_{max} is the switching energy W that can be converted by the brake per hour. In the case of applications where the number of switching operations per hour is greater than 1 ($Z > 1$), the diagram (W_{max} as a function of the number of switching operations per hour Z) shown in the operating instructions applies. The P_{max} and W_{max} values are approximate values; they apply to applications where the brake is installed between the B-face end shield of the motor and the motor fan. The specified rated torques M_2 characterise the torque level of the brakes. Depending on the

application of the brake, the switching torque M_1 and the transmissible torque M_4 may differ from the specified M_2 values. The switching torque M_1 depends on the speed (rpm). If the friction surfaces are contaminated with oil, grease or dirt the transferable torque M_4 and the switching torque M_1 may drop.

All technical data is subject to the running-in process of the brake being completed. Vertical operation of the brake is only permitted after prior consultation with the manufacturer.

SPRING-APPLIED SINGLE-DISC BRAKE

DC

Version	76 43108H00
Standard rated voltages	24V, 102V, 178V, 205V DC
Protection	IP 55 (if installed under motor fan hood) IP 65 (with accessories and if installed under motor fan hood)
Thermal class	F
Rated torques	1 - 4 Nm
Accessories (options)	friction plate, hand release feature, mounting screws, protective cover, screw plugs, sealing rings

Specification subject to change without notice.
The "General technical information" and the "Operating instructions" 76 43108H00 must be strictly observed.

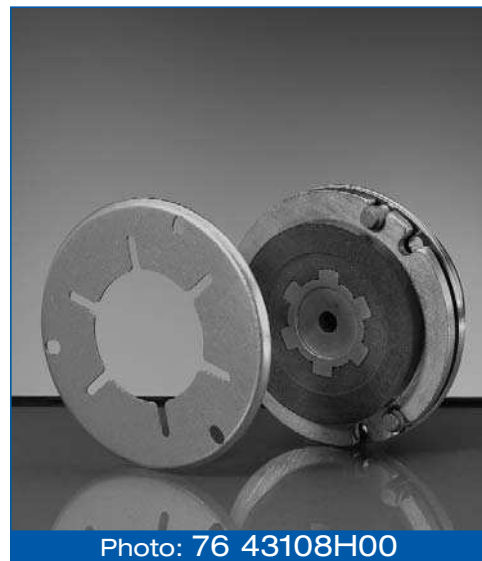


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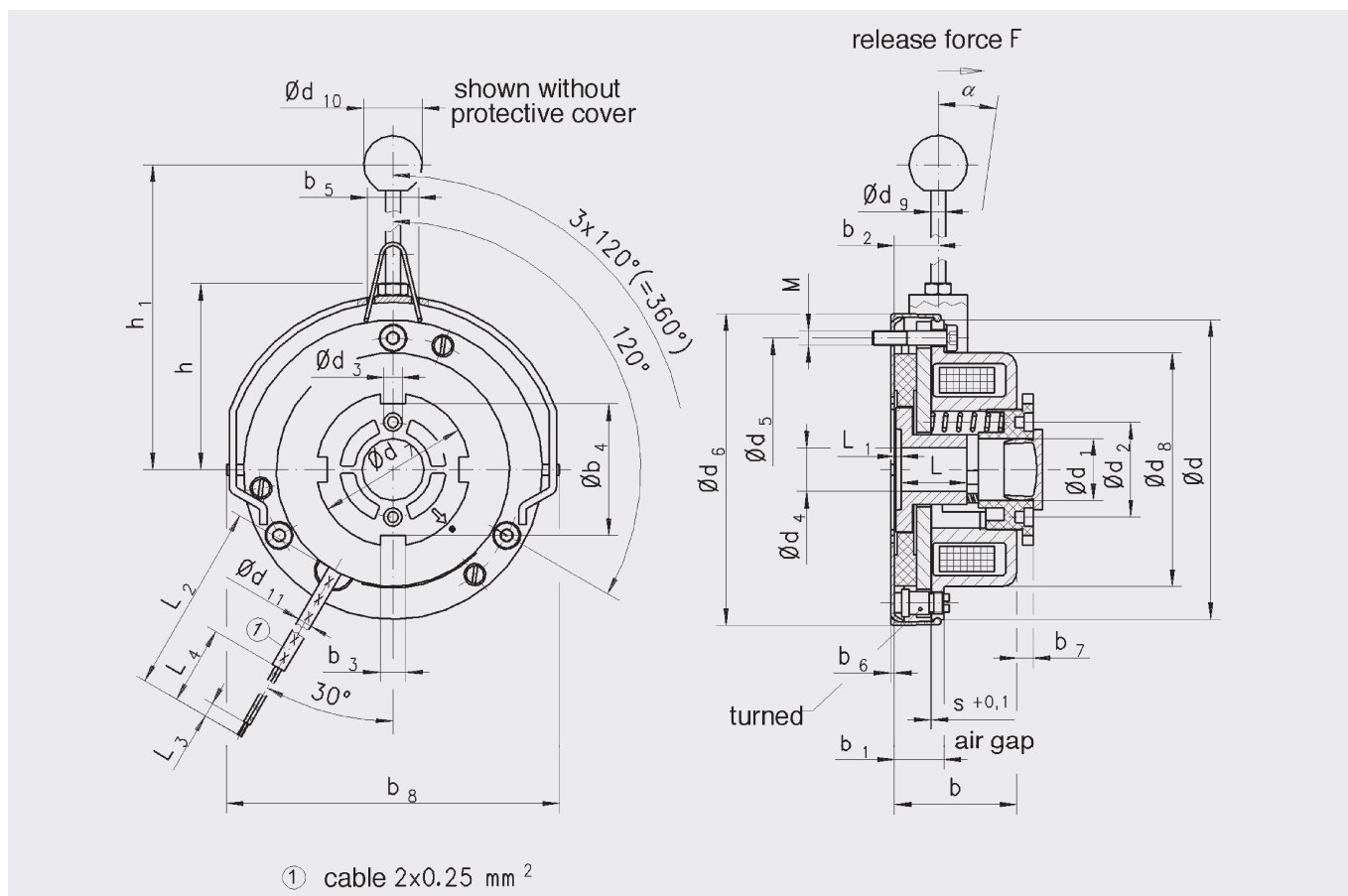
Technical data

Size	Rated torque range (standard)	Max. reachable rated torque with fully screwed in adjustment ring	Max. speed	Max. switching power	Max. switching energy (Z=1)	Rated power	Response times		Moment of inertia hub and friction disc	Weight
							on	off		
	M ₂ [Nm]	M _{2 max} [Nm]	n _{max} [rpm]	P _{max} [kJ/h]	W _{max} [kJ]	P _N [W]	t ₁ [ms]	t ₂ [ms]	J [kgcm ²]	m [kg]
08	1 - 4	5	10 000	200	25	23.5	18	30	0.32	0.61

The service life values (W_{tot}) specified in the table refer to the maximum rated torque (standard) and apply if the brake is adjusted twice.

Ordering data (to be fully specified)

SPRING-APPLIED SINGLE-DISC BRAKE		HUB	
Please specify requested version			
1	Mounting pitch circle diameter	1	Corrosion protection
	☐ pitch circle diameter Ø 72 mm ☐ pitch circle diameter Ø 75 mm		☐ with corrosion protection ☐ without corrosion protection
2	Corrosion protection	2	Bore diameter (standard), groove JS9 as per DIN 6885, sheet 1 / sheet 3
	☐ with corrosion protection ☐ without corrosion protection		Size 08: Ø 10, Ø 12, Ø 15 mm
3	Coil voltage (standard 24 V, 102 V, 178 V, 205 V) Voltage: _____ V DC	2	Bore diameter: _____ mm
4	Rated torque M ₂ (standard) Size 08: 4 Nm Rated torque M ₂ : _____ Nm		☐ or pilot bore



Size	d	d ₁	d ₂	d ₃	d ₄ (H7)	d ₅	d ₆	d ₇	d ₈	d ₉	d ₁₀	d ₁₁	b	b ₁	b ₂	b ₃
08	82	17	26	5	9 ¹⁾ / 15 ²⁾	72 / 75	85.5	42	64	4	16	3.8	33.5	13.7	12	7

Size	b ₄	b ₅	b ₆	b ₇	b ₈	h	h ₁	L	L ₁	L ₂	L ₃	L ₄	s	s _{max} ³⁾	M	F ⁴⁾ [N]	α
08	36	14	1	3-6	91.5	51	90	18	1.8	400	6	30	0.2	0.5	3xM4	30	ca. 2°

¹⁾ Min. bore with keyway JS9 as per DIN 6885, sheet 1.

²⁾ Max. bore with keyway JS9 as per DIN 6885, sheet 1.
Shaft ISO fitting k6. (¹⁾, ²⁾)

³⁾ Max. air gap referred to max. rated torque (standard) up to brake adjustment or friction disc replacement.

⁴⁾ Release force F (approx.) referred to max. rated torque (standard).

Accessories

Size	Friction plate	Hand release feature	Mounting screws				Protective cover ⁵⁾		Sealing ring ⁶⁾	Screw plugs
			Screw	Rated torque	Material number	Screws per brake	without hand release	with hand release		
08	76 43108A0004	76 43108A01940	DIN 7984-M4 x 25-8.8	3 Nm	304 510	3	76 43108A00005	76 43108A01005	326 000	412 817

⁵⁾ Friction plate required

⁶⁾ 3 sealing rings for mounting screws

SPRING-APPLIED SINGLE-DISC BRAKE

DC

Version	76 431..H00
Standard rated voltages	24V, 102V, 178V, 205V DC
Protection	IP 55 (if installed under motor fan hood) IP 65 (with accessories and if installed under motor fan hood)
Thermal class	F
Rated torques	4-400 Nm
Accessories (options)	friction plate/flange, hand release feature, mounting screws, protective cover, screw plugs, sealing rings

Specification subject to change without notice.
The "General technical information" and the "Operating instructions" 76 431..H00 must be strictly observed.

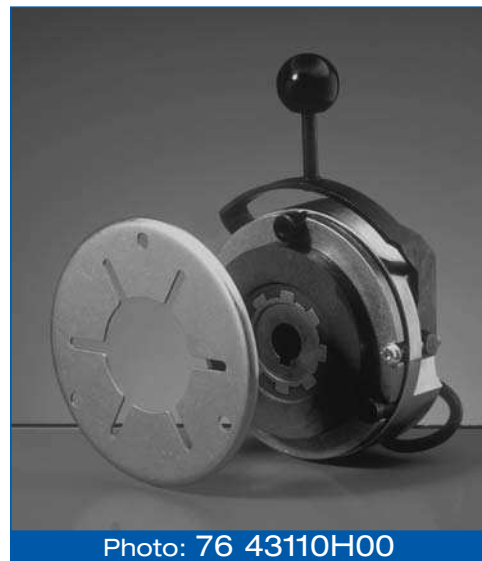


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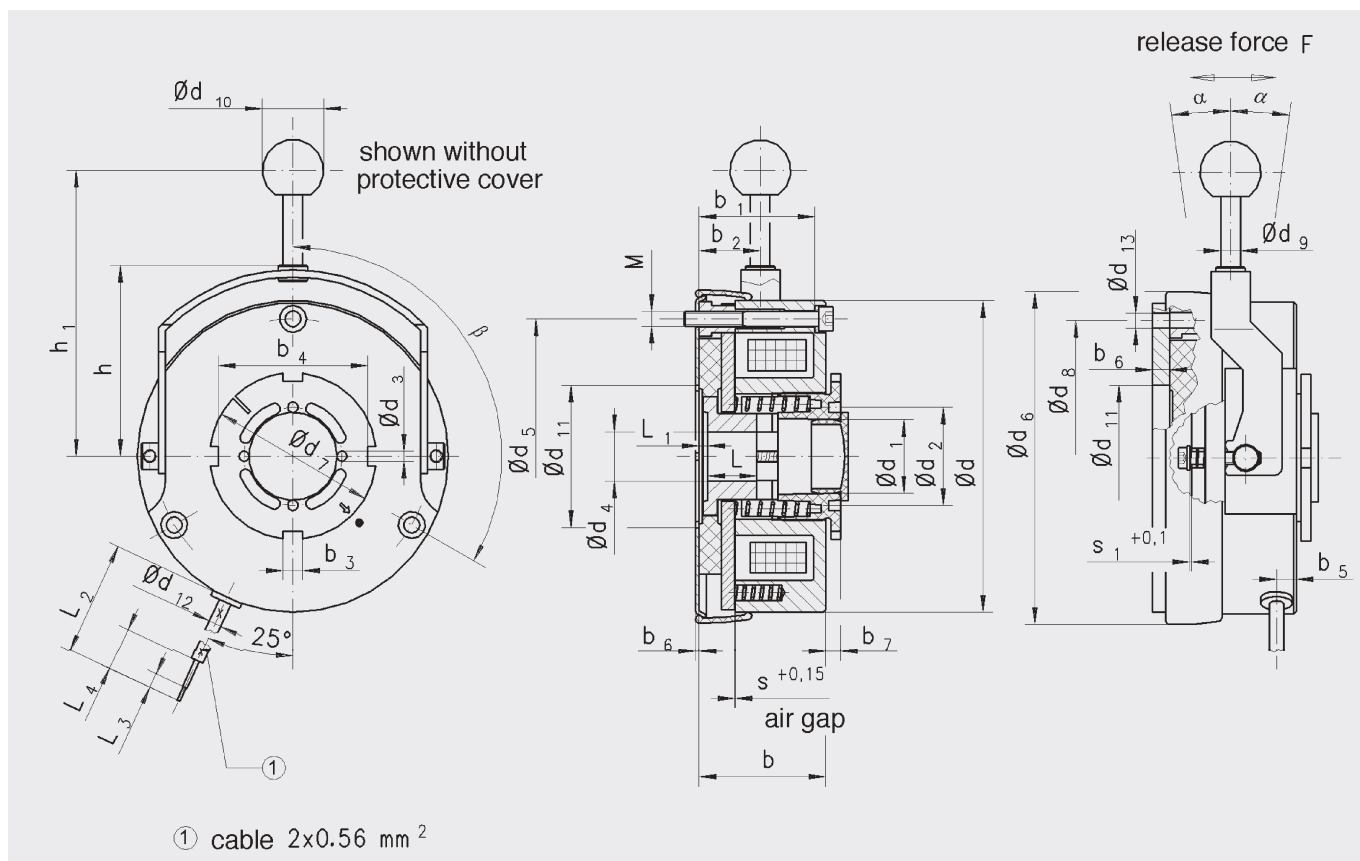
Technical data

Size	Rated torque range (standard) M ₂ [Nm]	Max. reachable rated torque with fully screwed in adjusting ring M ₂ max [Nm]	Max. speed n _{max} [rpm]	Max. switching power P _{max} [kJ/h]	Max. switching energy (Z=1) W _{max} [kJ]	Rated power P _N [W]	Response times		Moment of inertia hub and friction disc J [kgcm ²]	Weight m [kg]
							on t ₁ [ms]	off t ₂ [ms]		
10	4 - 8	10	3500	320	30	26	20	95	1.2	1.3
11	8 - 16	20	3500	430	41	30	30	80	2	2.8
13	16 - 32	40	3500	650	50	40	45	90	6	3.7
14	30 - 60	65	3500	800	55	53	85	85	8	5.7
16	40 - 80	100	3500	1000	58	55	90	190	16	8.4
19	80 - 150	170	3000	1200	65	80	130	270	38	13.1
24	150 - 240	300	3000	1400	80	110	225	235	108	22
29	280 - 400	600	3000	1600	275	130	115	560	230	36

The service life values (W_{tot}) specified in the table refer to the maximum rated torque (standard).

Ordering data (to be fully specified)

SPRING-APPLIED SINGLE-DISC BRAKE		HUB	
Please specify requested version			
1	Size (10, 11, 13, 14, 16, 19, 24, 29) Size: _____	1	Size (10, 11, 13, 14, 16, 19, 24, 29) Size: _____
2	Coil voltage (standard 24 V, 102 V, 178 V, 205 V) Voltage: _____ V DC	2	Corrosion protection ☐ Corrosion protection (enhanced) ☐ Corrosion protection (standard)
3	Optional hand release feature ☐ With optional hand release ☐ Without optional hand release	3	Bore diameter (standard), groove JS9 as per DIN 6885, sheet 1 Size 10: Ø 15, Ø 18, Ø 20 mm Size 29: Ø 40, Ø 45, Ø 60 mm Size 11: Ø 15, Ø 20, Ø 22 mm Size 13: Ø 22, Ø 25, Ø 30 mm Size 14: Ø 20, Ø 25, Ø 30 mm Size 16: Ø 25, Ø 30, Ø 35 mm Size 19: Ø 30, Ø 40, Ø 45 mm Size 24: Ø 40, Ø 45, Ø 50 mm
4	Corrosion protection ☐ Corrosion protection (enhanced) ☐ Corrosion protection (standard)		Bore diameter: _____ mm ☐ or pilot bore
5	Rated torque M ₂ (standard) Size 10: 8 Nm Size 29: 400 Nm Size 11: 16 Nm Size 13: 32 Nm Size 14: 60 Nm Size 16: 80 Nm Size 19: 150 Nm Size 24: 240 Nm Rated torque M ₂ : _____ Nm		



Size	d	d ₁	d ₂	d ₃	d ₄ (H7)	d ₅	d ₆ ca.	d ₇	d ₈	d ₉	d ₁₀	d ₁₁	d ₁₂	d ₁₃	b	b ₁	b ₂	b ₃	b ₄	b ₅	b ₆	b ₇	h	h ₁	L	L ₁	L ₂	L ₃	L ₄	s	s _{max} ³⁾	s ₁	M	F ⁵⁾ [N]	α ca.	β
10	100	24	35	5	11°/20°	90	111	60	-	8	25	44	5.2	-	42	38.5	18	8	53	7	1.5	3.5-6.5	62	115	20	2.5	400	6	30	0.2	0.8	1	3xM5	25	10°	3x120°
11	127	30	40	4.2	13°/23°	112	136	68	-	8	25	58	5.2	-	52	47.5	25	8	61	8	1.5	4.0-8.0	78	125	20	3.5	400	6	30	0.2	0.95	1	3xM6	30	10°	3x120°
13	147	35	50	5.2	18°/30°	132	159	82	-	8	32	70	5.2	-	55.5	52	22	10	74	8	1.5	5.0-10.0	86	140	25	3	400	6	30	0.25	0.8	1.25	3xM6	60	10°	3x120°
14	164	35	50	5.2	18°/30°	145	179	82	-	10	40	61	5.2	-	61.5	55.5	28.5	10	74	8	1.5	5.0-10.0	96.5	152.5	30	3	400	6	30	0.3	0.9	1.5	3xM8	110	10°	3x120°
16	188	45.5	60	5	25°/40°	170	203	102	-	10	40	61	5.2	-	70	65	25	10	94	8	1.5	5.5-11.5	110	175	30	3	600	6	30	0.35	1.2	1.5	3xM8	130	10°	3x120°
19	215	51	75	6	30°/45°	196	230	116	100	10	40	77	5.2	-	83	70.5	29	10	108	13	1*	6.0-14.5	134	210	35	4	600	6	30	0.35	1.5	1.7	6xM8	200	10°	6x60°
24	252	69.5	124	10.1	35°/60°	230	268	156	120	14	40	90	5.2	-	97	89	36	-	-	17	1*	7.0-15	148	230	40	5	750	6	30	0.4	1.5	2	6xM10	270	10°	6x60°
29	302	89	124	10	40°/70°	278	321	156	278	14	40	120	5.2	-	107	100	57.5	-	-	13.5	12.5	7.0-13.5	175	445	50	4.5	700	6	30	0.45	1.5	2.5	6xM10	200	10°	6x60°

¹⁾ Min. bore with feather key groove JS9 as per DIN 6885, sheet 1.

³⁾ Max. air gap referred to max. rated torque (standard) up to friction disc replacement.

²⁾ Max. bore with feather key groove JS9 as per DIN 6885, sheet 1.

⁴⁾ Except for sizes 24 and 29.

Supporting feather key over entire length. Shaft ISO fitting k6. (¹⁾, ²⁾)

⁵⁾ Release force F (approx.) referred to max. rated torque (standard).

Accessories

Size	Friction plate/flange ⁶⁾	Hand release feature	Mounting screws				Protective cover ⁷⁾	Screw plugs	Sealing ring	
			Screw	Rated torque	Material number	Screws per brake			Order number	Rings per brake
10	76 43110H00004	76 43110H00940	ISO 4762 - M5 x 45	6 Nm	304 065	3	76 43110H00005	412 859	326 005	3
11	76 43111H00004	76 43111H00940	ISO 4762 - M6 x 55	10 Nm	304 051	3	76 43111H00005	412 842	326 006	3
13	76 43113H00004	76 43113H00940	ISO 4762 - M6 x 60	10 Nm	304 052	3	76 43113H00005	412 843	326 006	3
14	76 43114H00004	76 43114H00940	ISO 4762 - M8 x 70	25 Nm	304 078	3	71 10116A3013	412 843	326 007	3
16	76 43116H00004	76 43116H00940	ISO 4762 - M8 x 75	25 Nm	304 079	3	76 43116H00005	412 860	326 007	3
19	76 43119H00024	76 43119H00940	ISO 4762 - M8 x 80 ⁸⁾	25 Nm	304 080	6	76 43119H00005	412 841	326 007	6
24	76 43124H00024	76 43124H00940	ISO 4762 - M10 x 100 ⁸⁾	40 Nm	304 117	6	76 43124H00005	412 885	326 008	6
29	76 43129H00024	76 43129H00940	ISO 4762 - M10 x 110 ⁸⁾	40 Nm	304 118	6	76 43129H00005	-	326 008	6

⁶⁾ Sizes 10 - 16: friction plate; sizes 19 - 29: flange.

⁸⁾ Screw length if no flange is used.

⁷⁾ Friction plate or flange required.

Operation of hand release feature only possible in the direction opposite the mounting surface.

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