

KENDRION

INTORQ

POWERED BY KENDRION



KENDRION SOLUTIONS

INTORQ BFK458

The all-rounder among
the spring-applied brakes

PRECISION. SAFETY. MOTION.

Our brakes – perfect for your safe application

KENDRION Industrial Brakes – stands for smart innovation and excellent service, which we consistently apply for the benefit of our customers:

Strong know-how

Our specialists develop the leading-edge permanent magnet and spring-applied brakes. With INTORQ as a new member of KENDRION, we have once again consistently expanded our range of spring-applied brakes and clutches for you. This way, we can find the right solution for any of your requirements.



Complete product portfolio

Electromagnetic brakes and clutches as well as perfectly matched accessories: with us you will find an exceptionally large selection of quickly available off-the-shelf products that can be put together in a modular system and the best expertise for customer-specific solutions.

Dynamic innovative power

More than 50 specialists working in agile teams in our research and development worldwide are creating convincing product solutions for tomorrow.

Excellent market knowledge

We are very familiar with our focus markets – thanks to extensive experience and research, but also thanks to long-term customer relationships built on partnership and eye-to-eye cooperation.

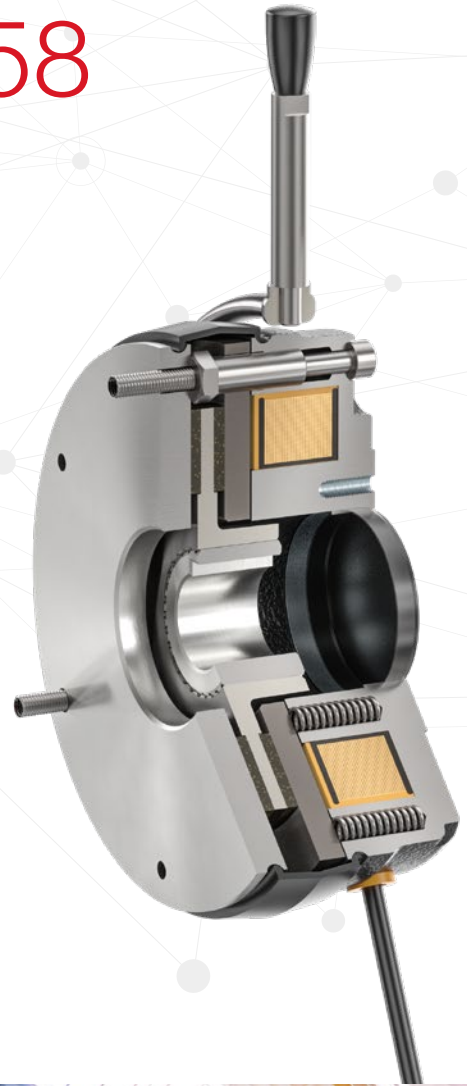
International power

Committed and competent employees, production sites in Germany, United States, India and China as well as a large number of certified sales partners all over the world make us a strong partner for you!

The INTORQ BFK458

On the point

- Fail-safe spring applied-brake
- Adjustable service brake and holding brake
- Standard modular system with many options
- 9 sizes from 1.5 Nm to 720 Nm
- Reducible brake module (Type E)
- TÜV-Nord safety certificate
- UL-certified



Suitable for the use of:



Conveyors



Industrial trucks



Wind power



High-speed gates



Customizable service brake and holding brake with a short delivery time


The wide use of IEC standard motors in the industrial sector requires a variable brake for the various applications in the industries served. In addition to the holding function, dynamic braking processes are needed for motors operated directly from the grid.

The modular system of the INTORQ BFK458 spring-applied brake series from Kendrion has proven itself in the field for many years and is ideally suited for a wide range of requirements.

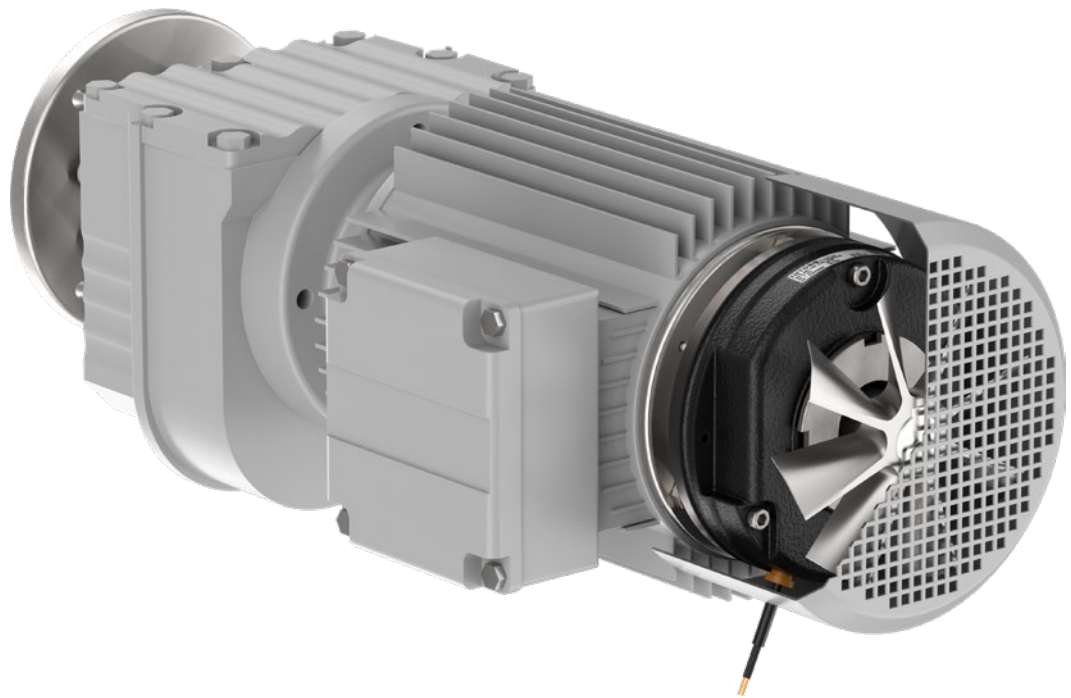
The INTORQ BFK458 contains both standard solutions that can be applied universally and specific solutions for special industry requirements. The key feature: compatible components that can be freely configured with each other. This system, developed by INTORQ, allows you to combine brakes for classic industrial applications. Your advantage: a wide range of options, fast project development, and rapid delivery.

The INTORQ BFK458, labeled with the CE mark and CSA certified, is suitable for all markets worldwide. Solutions for ATEX and extended temperature ranges are available, as well as solutions for noise-sensitive applications.

The INTORQ BFK458 is ideally suited as a service brake for applications requiring regular, frequent braking operations and has a very high wear reserve owing to the readjustment option. All INTORQ BFK458 service brakes also meet the requirements of the holding brake function and emergency stop function. For optimum control of the brakes, Kendrion offers the corresponding rectifiers, depending on the requirements. Please get in touch with us!



Easy to combine.
Mounted brake with
the features of your choice.



Technical highlights

- INTORQ BFK458L long-life version available in sizes 06 to 12
- Guaranteed service life
- Proof of suitability for functional safety (safety brake)
- ATEX: suitable for use in explosive atmospheres of Zone 2 and Zone 22 for stationary operation (holding or parking brake) and temperature class T4
- Certified also for use as a service brake
- CCV (Cold Climate Version), temperature resistant up to -40°C



Features

The series offers various options that can be customized in addition to the standard option.

- **Various microswitches**
with reliable service life and UL for monitoring the switching function and for wear control
- **Dust protection ring and seals**
to protect the brake from dust, metal chips, and water and to protect the surroundings from friction dust
- **Monitoring of manual release** with microswitch
- Use within different **temperature ranges**
- **Friction linings** for special requirements
- PT-100 elements in the **friction parts**
- **Noise-reduced** applications

Options

Several brake options possible using a single stator:

- Various positions of the manual release
- Various fastening options
- Torque adjustment for the E-version
- Connection to various shaft diameters by using the compatible standard hub (hub diameter)

Technical data

Design types	Basic module N, Basic module E
Standard rated voltages	24 V, 103 V, 180 V, 205 V
Protection class	IP00 – IP55
Thermal class	F (155°C)
Ambient temperature	-20°C to 40°C -40°C to 40°C (CCV option)
Rated torques	1.5 to 600 Nm 7.5 to 720 Nm (HFC coating)
Duty cycle	100% duty cycle
Nominal backlash	1°
Options	Friction plate, flange, hand release, cover ring, cap, threaded holes, ...
Note	Please read the general information on data sheets and the corresponding operating instructions. Design subject to change without notice.



Brake size	Rated torques for service brakes @ 100 [min ⁻¹]	Rated torques for holding brakes ¹⁾ @ 100 [min ⁻¹]	Maximum speed n _{max} [min ⁻¹]	Switching work one-time switching W _{max} [J]	Number of emergency stops for holding brakes Z _{ges} [-]	Friction work until maintenance for service brakes with WR lining Q _{BW} [MJ]
06	4	6	6000	3000	500	85
08	8	12	5000	7500	500	158
10	16	23	4000	12000	500	264
12	32	46	3600	24000	500	530
14	60	80	3600	30000	500	571
16	80	125	3600	36000	500	966
18	150	235	3600	60000	500	1542
20	260	400	3600	80000	500	2322
25	400	600	3000	120000	500	3522

¹⁾ Holding brakes can be used as service brakes but require more frequent adjustments or overexcitation.

Basic module E, rated torque reduction

The rated torque of the basic module E can be reduced using the adjustment ring located in the stator. The adjustment ring may only be unscrewed to the maximum n_{h1max} measure. Please note that the engagement and disen-

gagement times change depending on the rated torque. The torque reduction depends on the rated torque.

Brake size	06	08	10	12	14	16	18	20	25
Torque reduction per detent position [Nm]	0.2	0.35	0.8	1.3	1.7	1.6	3.6	5.6	6.2

Rotors with HFC coating increase the amount of the torque reduction by 25%

Dimensions Basic module E (with adjustment ring)

Brake size	b	d ^{J7} 1)	d ^{H7} 2)	d ₁	d ₂	d ₅	d ₆	d ₇	d ₈	d ₉	d ₁₀	d ₁₁	d ₁₂	d ₁₃	d ₁₆	d ₁₇	d ₁₈	d _i	d _a
06	88	10	10/11/12/14/15	3xM4	72	91	87	87	52	24 ^{H9}	31	8	13	9.6	3x4.4	86	36	40	60
08	106.5	10	11/12/14/15/20	3xM5	90	109	105	105	60	26 ^{H9}	41	8	13	9.6	3x5.5	106	45	56.1	76.5
10	132	10	11/12/14/15/20	3xM6	112	135.4	130	130	68	35 ^{H9}	45	10	13	12	3x6.6	132	52	66.1	95
12	152	14	20/25	3xM6	132	155	150	150	82	40 ^{H9}	52	10	13	12	3x6.6	153	68	70.1	115
14	169	14	20/25/30	3xM8	145	171	165	165	92	52 ^{H9}	55	12	24	14	3x9	169	78	80.1	124
16	187.6	15	25/30/35/38 ³⁾	3xM8	170	196	190	190	102	52 ^{H9}	70	12	24	14	3x9	194	90	104.1	149
18	218.6	20	30/35/40/45	6xM8	196	223	217	217	116	62 ^{H9}	77	14	24	15	4x9 ⁶⁾	-	-	129.1	174
20	252.6	25	40/45/50	6xM10	230	259	254	254	135	72 ^{H8}	90	14	24	17	4x11 ⁶⁾	-	-	148.1	206
25	297.6	30	45/50/55/60/65/70 ³⁾	6xM10	278	308	302	302	165	85 ^{H8}	120	16	24	18.4	6x11	-	-	199.1	254

1) Pre-drilled without keyway

2) Standard keyway according to DIN 6885/1 P9, selection of the shaft diameter depends on type of load (see the operating instructions)

3) Ø 38 and Ø 70 mm, keyway according to DIN 6885/3 P9

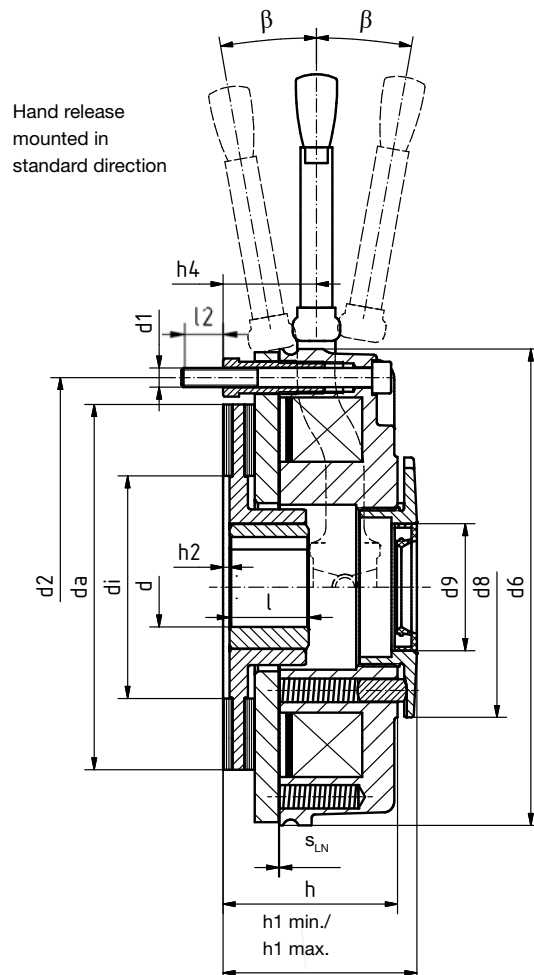
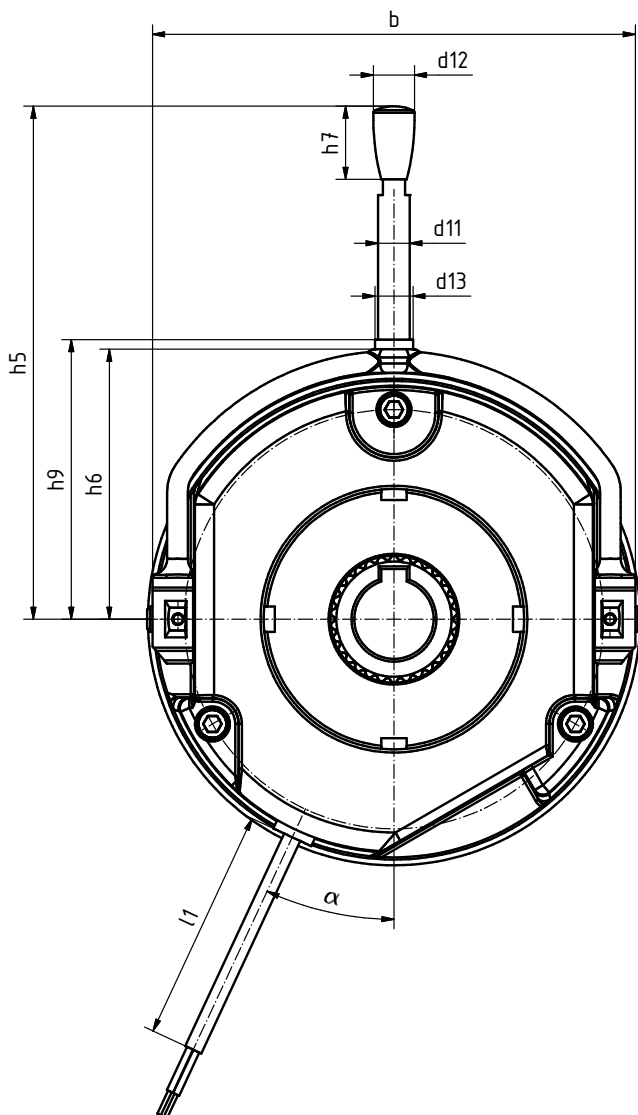
4) Hand release angle tolerance +3°

5) Recommended lever length for 1.5 M_k

6) The thread in the mounting surface is offset by 30° to the center axis of the manual release lever

Recommended ISO shaft tolerances: up to Ø 50 mm = k6 / over Ø 50 mm = m6
Dimensions in mm

Without counter friction surface, hand release (optional)



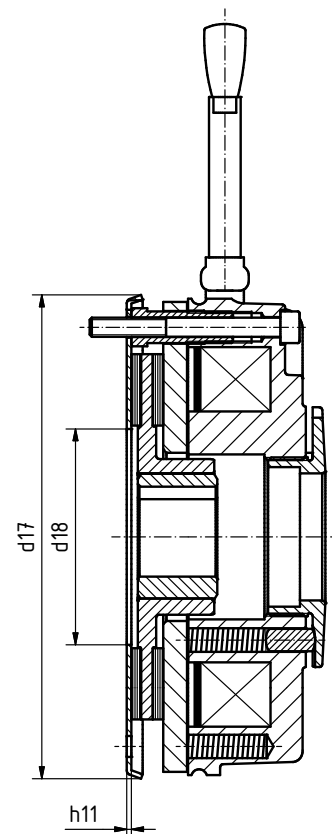
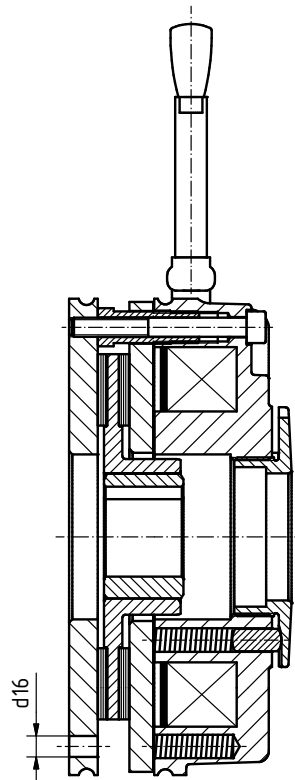
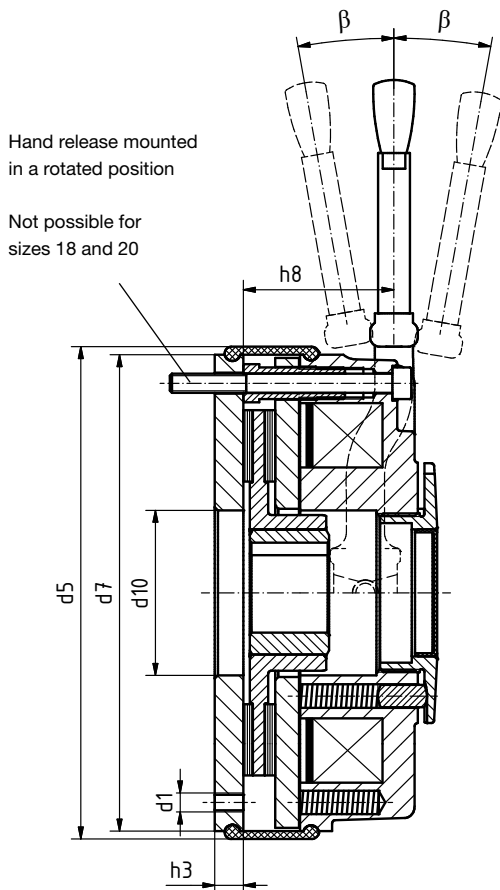
Hand release mounted in standard direction

Brake size	h	h ₁ min.	h ₁ max.	h ₂	h ₃	h ₄	h ₅ Standard	h ₅ ⁵⁾ max.	h ₆	h ₇	h ₈	h ₉	h ₁₁	l	l ₁	s _{LN}	α	β ⁴⁾
06	36.3	39.3	43.2	1	6	15.8	107	–	54	23	32.8	56	1.5	18	400	0.2	25°	10°
08	42.8	46.8	50.8	1	7	16.3	116	–	63	23	41.3	65	1.5	20	400	0.2	25°	10°
10	48.4	52.4	55.9	2	9	27.4	132	–	73.3	23	42.4	77.8	1.5	20	400	0.2	25°	10°
12	54.9	58.9	67.5	2	9	29.4	161	–	85	23	47.4	88	1.5	25	400	0.3	25°	10°
14	66.3	71.3	77.3	2	11	33.8	195	–	97.9	32	50	101	1.5	30	400	0.3	25°	10°
16	72.5	77.5	85.5	2.25	11	37	240	–	111	32	53.5	114	1.5	30	600	0.3	25°	10°
18	83.1	89.1	97.1	3	11	41.6	279	394	125	32	59.1	128	–	35	600	0.4	25°	10°
20	97.6	104.6	114.6	3.5	11	48.1	319	416	146	32	68.6	148.5	–	40	600	0.4	25°	10°
25	106.7	115.7	127.7	4.5	12.5	57.7	445	501	170	32	88.7	175	–	50	600	0.5	25°	10°

With flange, hand release and cover ring (optional)

With flange, hand release (optional), mounted on flange

With friction plate, hand release (optional)



Dimensions Basic module N (without adjustment ring)

Brake size	b	d ^{J7 1)} vorg.	d ^{H7 2)} Standard	d ₁	d ₂	d _{3H8}	d ₅	d ₆	d ₇	d ₁₀	d ₁₁	d ₁₂	d ₁₃	d _{14 4)}	d ₁₅	d ₁₆	d ₁₇	d ₁₈	d _i	d _a
06	88	10	10/11/12/14/15	3xM4	72	25	91	87	87	31	8	13	9.6	4xM4	37.7	3x4.4	86	36	40	60
08	106.5	10	11/12/14/15/20	3xM5	90	32	109	105	105	41	8	13	9.6	4xM5	49	3x5.5	106	45	56.1	76.5
10	132	10	11/12/14/15/20	3xM6	112	42	135	130	130	45	10	13	12	4xM5	54	3x6.6	132	52	66.1	95
12	152	14	20/25	3xM6	132	50	155	150	150	52	10	13	12	4xM5	64	3x6.6	153	68	70.1	115
14	169	14	20/25/30	3xM8	145	60	171	165	165	55	12	24	14	4xM6	75	3x9	169	78	80.1	124
16	187.6	15	25/30/35/38 ³⁾	3xM8	170	68	196	190	190	70	12	24	14	4xM6	85	3x9	194	90	104.1	149
18	218.6	20	30/35/40/45	6xM8	196	75	223	217	217	77	14	24	15	4xM8	95	4x9 ⁷⁾	-	-	129.4	174
20	252.6	25	35/40/45/50	6xM10	230	85	259	254	254	90	14	24	17	4xM10	110	4x11 ⁷⁾	-	-	148.1	206
25	297.6	30	40/45/50/55/60/65/70 ³⁾	6xM10	278	115	308	302	302	120	16	24	18.4	4xM10	140	6x11	-	-	199.1	254

¹⁾ Pre-drilled without keyway

²⁾ Standard keyway according to DIN 6885/1 P9, selection of the shaft diameter depend on type of load (see operating instructions)

³⁾ Ø 38 and Ø 70 mm, keyway according to DIN 6885/3 P9

⁴⁾ Bores for size 06 – 12 are made acc. to the customer's requirements

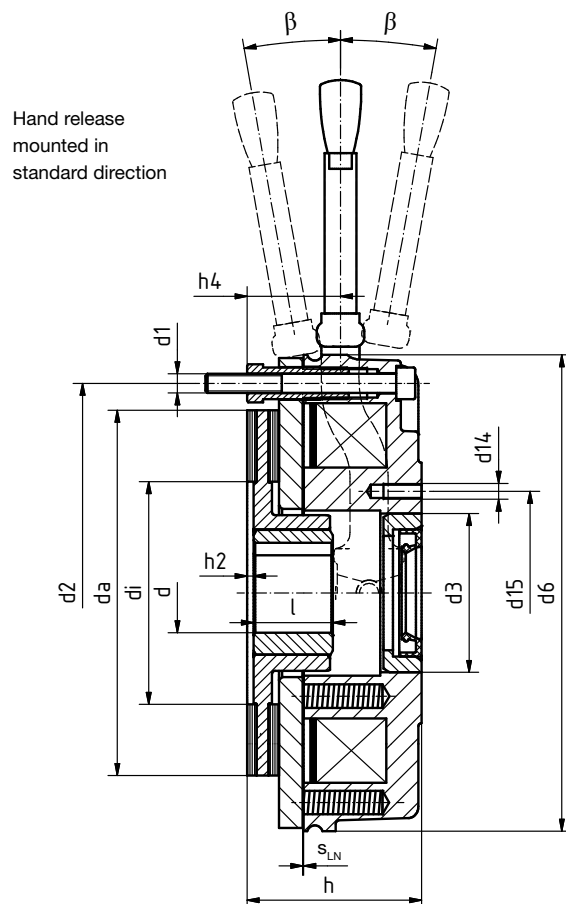
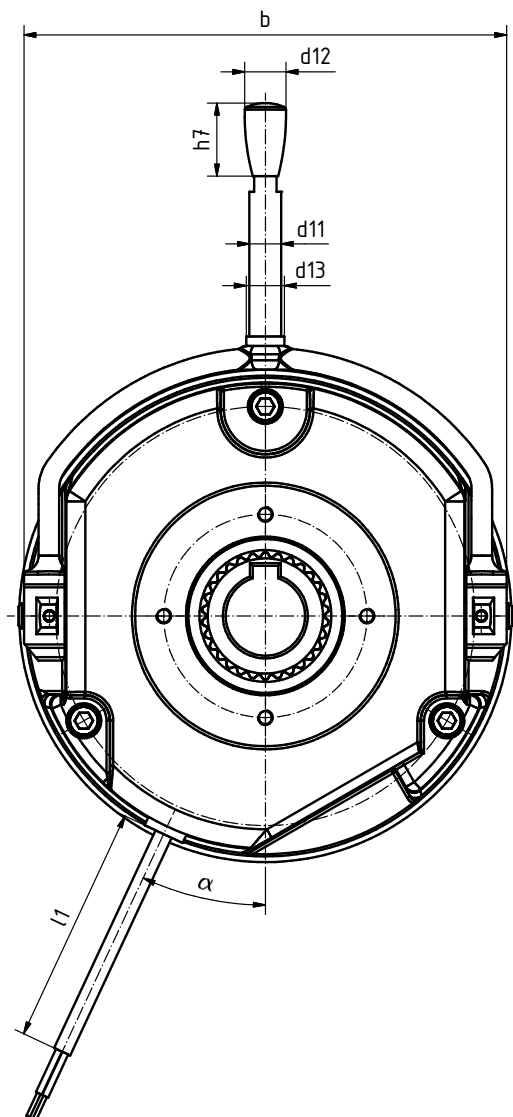
⁵⁾ Hand release angle tolerance +3°

⁶⁾ Recommended lever length for 1.5 M_k

⁷⁾ The thread in the mounting surface is offset by 30° to the center axis of the manual release lever

Recommended ISO shaft tolerances: up to Ø 50 mm = k6 / over Ø 50 mm = m6
Dimensions in mm

Without counter friction surface, hand release (optional)



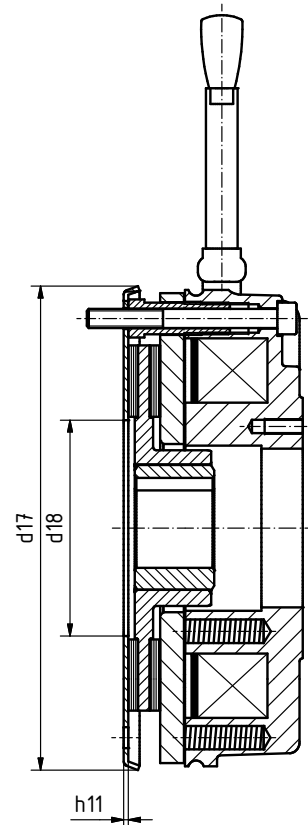
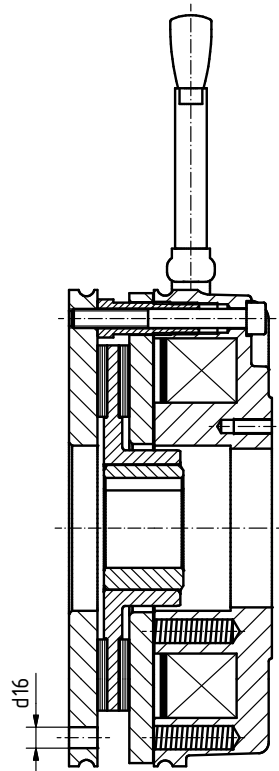
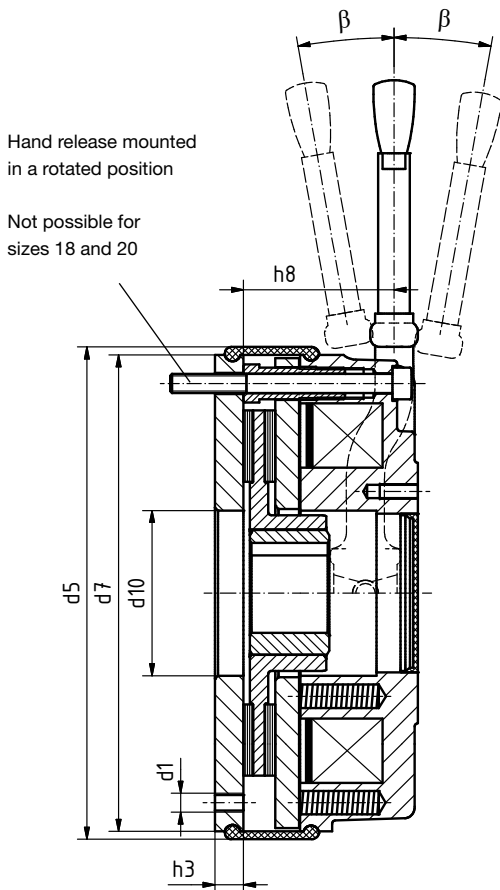
Hand release
mounted in
standard direction

Brake size	h	h ₂	h ₃	h ₄	h ₅ Standard	h ₅ ⁶⁾ max.	h ₆	h ₇	h ₈	h ₉	h ₁₁	l	l ₁	s _{LN}	α	β ⁵⁾
06	36.3	1	6	15.8	107	–	54	23	32.8	56	1.5	18	400	0.2	25°	10°
08	42.8	1	7	16.3	116	–	63	23	41.3	65	1.5	20	400	0.2	25°	10°
10	48.4	2	9	27.4	132	–	73.3	23	42.4	77.8	1.5	20	400	0.2	25°	10°
12	54.9	2	9	29.4	161	–	85	23	47.4	88	1.5	25	400	0.3	25°	10°
14	66.3	2	11	33.8	195	–	97.9	32	50	101	1.5	30	400	0.3	25°	10°
16	72.5	2.25	11	37	240	–	111	32	53.5	114	1.5	30	600	0.3	25°	10°
18	83.1	3	11	41.6	279	394	125	32	59.1	128	–	35	600	0.4	25°	10°
20	97.6	3.5	11	48.1	319	416	146	32	68.6	148.5	–	40	600	0.4	25°	10°
25	106.7	4.5	12.5	57.7	445	501	170	32	88.7	175	–	50	600	0.5	25°	10°

With flange, hand release and cover ring (optional)

With flange, hand release (optional), mounted on flange

With friction plate, hand release (optional)





For an overview of the many standard options available, we offer you a choice of combinations. All features are available at short notice and have been extensively tested.

Design

- Brake size** 06 08 10 12 14 16 18 20 25
- Type** E (with adjustment ring) N (without adjustment ring)
- Voltage** 24 V 96 V 103 V 170 V 180 V 190 V 205 V
Other voltages between 12 V and 250 V possible.
- Cable length** Standard from 100 mm – 1000 mm in 100 mm steps
 from 1000 mm – 3000 mm in 250 mm steps
- Hand release** Mounted As attachment kit
- Microswitch** Switching function monitoring (size 12 and above)
 Wear monitoring (size 12 and above)
 Hand release monitoring, direction away from the motor (sizes 06 – 25 N)
 Hand release monitoring, direction of release towards motor (sizes 06 – 10 N)
- Temperature resistant -40°C** With hard chrome-plated friction surfaces (armature plate and flange are required)
- Rotor** Aluminium Noise-reduced (rotor with toothed intermediate ring)
- Friction lining** Standard (ST) High friction coefficient (HFC)
 Wear-resistant (WR)
- Hub** For bore diameter, see dimensions
- Mounting screw set** For mounting on flange Counter friction surface
 For flange with through hole (up to and including size 16)
 For intermediate flange/double brake
- Counter friction surface** Flange Friction plate (up to and including size 16)
 Flange hard chrome-plated Intermediate flange / double brake
- Sealing** Cover ring Shaft sealing cap (shaft diameter on request)
 Sealing cap



You will find the right design for your application in our product finder!





INTOR&
POWERED BY KENDRION

KENDRION

Customized solutions – tailored exactly to your needs

Automation solutions have become an indispensable part of industry and everyday life. In this context, it is often the brakes that ensure safety: They hold loads and brake reliably in an emergency.

Just as automation continues to evolve, brakes must also face higher demands – forward-looking products are in demand. At the same time, quality and safety must be unconditionally guaranteed. This is a challenge that Kendrion Industrial Brakes meets with passion and care.



When it comes to developing customer-specific solutions, we have three aces up our sleeves:

- With our **new agile organization**, we respond much faster to customer requests.
- Our **modularly developed products** enable new configurations without complete redevelopment.
- The **global structure of our organization** bundles competencies and ensures valuable knowledge transfer.

This makes us a competent and reliable partner for our customers – starting with industry-savvy consulting, through product development with practical experience, to uncompromising quality assurance.



We will find the
solution that suits
you best!



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