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EEX Line
EEX Line (+50°C)
EEX Line / IEC Ex
EEX Line / U.S. (NEC 500/505) CSA

Spring-applied single-disc brake

INDUSTRIAL DRIVE SYSTEMS

BINDER

About the EEX Line

The EEX Line is comprised of spring-applied single-disc brakes with explosion protection foruse in potentially explosion hazards locations. The flame proofed spring applied brake is suitable for use in underground mines where there is a danger of firedamp. Explosion proofed spring-applied brakes are characterised by the fact that all components which may ignite explosive mixtures are placed in an enclosure designed to withstand the specified test pressure and to prevent any mixtures outside the enclosure from being affected by the explosion. The brakes are equipped with four thermoswitches and one microswitch. The microswitch prevents any unintentional motor start-up when the brake is not released. The thermoswitches, which are connected in series with the microswitch, interrupt the control circuit as soon as the brake exceeds the permitted maximum temperature limits. The brakes are corosion protected. Electromagnetic spring-applied brakes generate the required brake torque when voltage is removed. The hand release feature fitted to the brake allows the braking effect to be neutralised manually.

Versions

76 26E..B00
torque range 10-270Nm
DC
explosion proofing type II as per ATEX (EU)

76 26G..B00
torque range 10-270Nm
AC (with rectifier)
explosion proofing type II as per ATEX (EU)

76 26N..B00
torque range 10-270Nm
DC
flame proofing type I as per ATEX (EU)

76 26P..B00
torque range 10-270Nm
AC (with rectifier)
flame proofing type I as per ATEX (EU)

Approvals

explosion proofing type II
II 2G Ex de IIC T5 Gb
II 2D Ex tb IIIC T95°C Db, IP67
DMT 02 ATEX E 122 X

flame proofing type I
I M2 Ex de I Mb
II 2D Ex tb IIIC T95°C Db, IP67
DMT 02 ATEX E 122 X

Applications

- DC motors
- Three-phase motors
- Gear motors
- Lifting and materials handling technology
- Petrochemical industry
- Process technology for explosion protected and flammable areas...

Data sheets – General information

The Operating Instructions must be strictly observed during the set-up of the machine (e.g. motor) and during the start-up, operation and maintenance of the brakes. The state-of-the-art brakes have been designed, built and tested in accordance with the requirements of DIN VDE 0580 concerning electromagnetic devices and components. Additional information on technical specifications given in the data sheets is included in the operating instructions.

Upon request, spring-applied single-disc brakes can be designed for lower rated torques and supplied without microswitch and hand release feature.
Further approvals: IEC Ex, NEC 500 or
up to 60°C ambient temperature on request

Spring-applied single-disc brake
Dust and explosion proofing type II for DC or single-phase AC

Version	76 26E..B00 – DC 76 26G..B00 – single-phase AC
Standard rated voltage	76 26E..B00 – 205V DC 76 26G..B00 – 230V AC, 50Hz
Protection	IP 67
Thermal class	T 5 (acc. to EN 60079-0)
Rated torque	10 - 270 Nm
Accessories (options)	mounting screws
Note	Specification subject to change without notice. The „General technical information“ and the „Operating instructions“ 76 26E..B00 / 76 26G..B00 must be strictly observed.

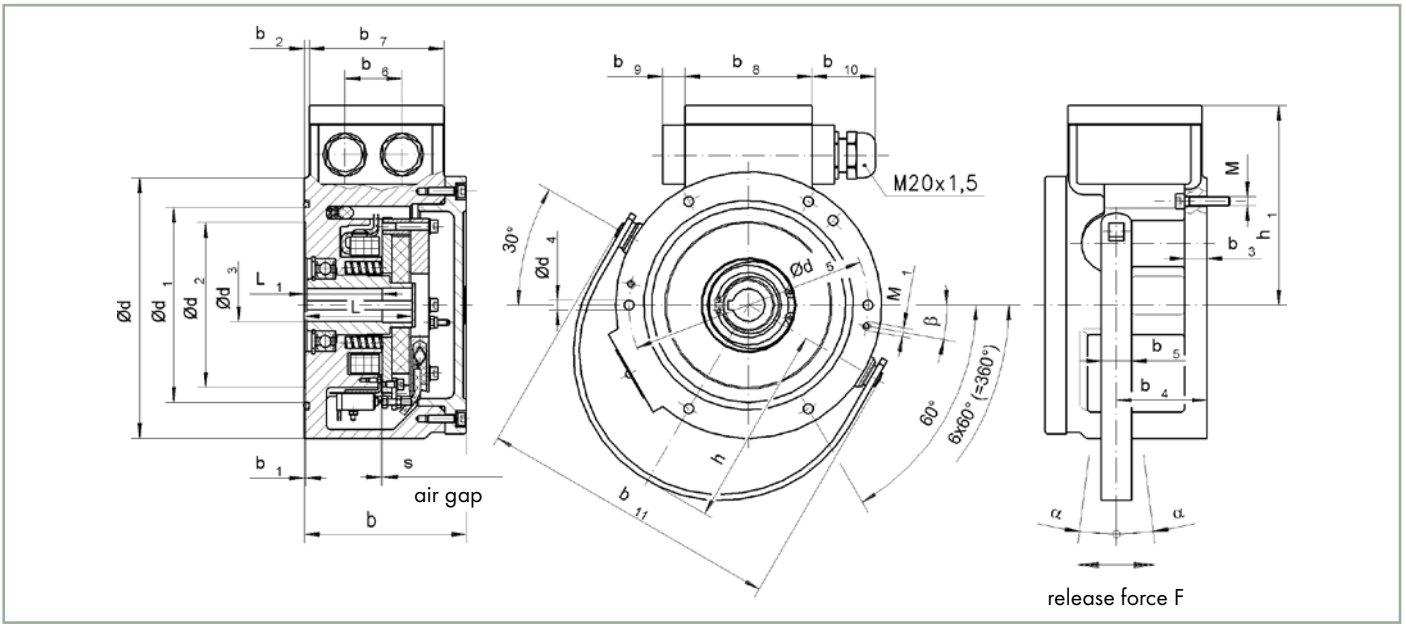
Technical specifications

Size	Nominal torque	Max. speed	Max. switching power	Max. switching energy (Z = 1)	Rated power		Response times		Moment of inertia armature and flange hub	Weight
							Coupling time (acc. to VDE 0580)	Disconnection time		
	M_2 [Nm]	n_{max} [min^{-1}]	P_{max} [kJ/h]	W_{max} [kJ]	P_N [W]	P_S [VA]	t_1 [ms]	t_2 [ms]	J [$kgcm^2$]	m [kg]
10	10	6000	270	41	56	62	80	80	2.5	14.5
11	20	6000	270	41	56	62	70	110	2.5	14.5
13	50	3600	400	55	82	88	110	170	21.5	29
16	100	3600	400	55	82	88	90	230	21.5	29
19	150	3600	570	80	91	95	180	240	125	57
24	270	3600	570	80	91	95	140	350	125	57

Design types

Bore diameter (standard) [mm], flute DIN 6885 BL.1 JS9							
10	Ø 15	Ø 16	Ø 19	Ø 20	Ø 22		
11	Ø 15	Ø 16	Ø 19	Ø 20	Ø 22		
13	Ø 22	Ø 25	Ø 28	Ø 32	Ø 35	Ø 38	Ø 40
16	Ø 22	Ø 25	Ø 28	Ø 32	Ø 35	Ø 38	Ø 40
19	Ø 40	Ø 42	Ø 50	Ø 60			
24	Ø 40	Ø 42	Ø 50	Ø 60			

Dimensions [mm]



Size	d	d_1	d_2	d_3 (G7)	d_4	d_5	b	b_1	b_2	b_3	b_4	b_5	b_6	b_7	b_8	b_9	b_{10}	b_{11}
10	178	130	110[3]	12[1] / 22[2]	6.6	160	108	1	2.5	15	60.7	20	38	90	85	15	ca. 43	202
11	178	130	110[3]	12[1] / 22[2]	6.6	160	108	1	2.5	15	60.7	20	38	90	85	15	ca. 43	202
13	245	180	160[3]	20[1] / 45[2]	8.4	225	132	1	14	20	77.2	20	38	90	85	15	ca. 43	262
16	245	180	160[3]	24[1] / 45[2]	8.4	225	132	1	14	20	77.2	20	38	90	85	15	ca. 43	262
19	330	260	240[3]	30[1] / 70[2]	10.5	305	143	1	16	20	79.8	25	38	90	85	15	ca. 43	344
24	330	260	240[3]	34[1] / 70[2]	10.5	305	143	1	16	20	79.8	25	38	90	85	15	ca. 43	344

Size	h	h_1	L	L_1	s	s_{max}	M	M_1	F [N]	α	ß
10	134	133	70	52	$0.25^{+0.12}$	0.7	6xM6	2xM6	ca. 18	ca. 19°	10°
11	134	133	70	52	$0.25^{+0.12}$	0.7	6xM6	2xM6	ca. 35	ca. 19°	10°
13	164	161	90	83	$0.25^{+0.15}$	0.9	6xM8	3xM8	ca. 45	ca. 19°	68°
16	164	161	90	83	$0.25^{+0.15}$	0.9	6xM8	3xM8	ca. 90	ca. 19°	68°
19	215	205	100	92	$0.25^{+0.2}$	1.1	6xM10	3xM10	ca. 85	ca. 19°	70°
24	215	205	100	92	$0.25^{+0.2}$	1.1	6xM10	3xM10	ca. 170	ca. 19°	70°

[1] Min. bore with fitting key JS9 as per DIN 6885, sheet 1
[2] Max. bore with fitting key JS9 as per DIN 6885, sheet 1
[3] Undercut, no centering diameter
Supporting keyway over entire length. Shaft ISO fitting h6 ([1], [2])

Accessories

Size	Mounting screws			
	Screw	Nominal torque	Material number	Screws per brake
10	ISO 4762 - M6 x 30 - 8.8	9.7 Nm	304 046	6
11	ISO 4762 - M6 x 30 - 8.8	9.7 Nm	304 046	6
13	ISO 4762 - M8 x 35 - 8.8	24 Nm	304 071	6
16	ISO 4762 - M8 x 35 - 8.8	24 Nm	304 071	6
19	ISO 4762 - M10 x 40 - 8.8	45 Nm	304 107	6
24	ISO 4762 - M10 x 40 - 8.8	45 Nm	304 107	6

Spring-applied single-disc brake
Dust and firedamp protection type I for DC or single-phase AC

Version	76 26N..B00 – DC 76 26P..B00 – single-phase AC
Standard rated voltage	76 26N..B00 – 205V DC 76 26P..B00 – 230V AC, 50Hz
Protection	IP 67
Thermal class	T 5 (acc. to EN 60079-0)
Rated torque	10 - 270 Nm
Accessories (options)	mounting screws
Note	Specification subject to change without notice. The „General technical information“ and the „Operating instructions“ 76 ..N..B00 / 76 ..P..B00 must be strictly observed.

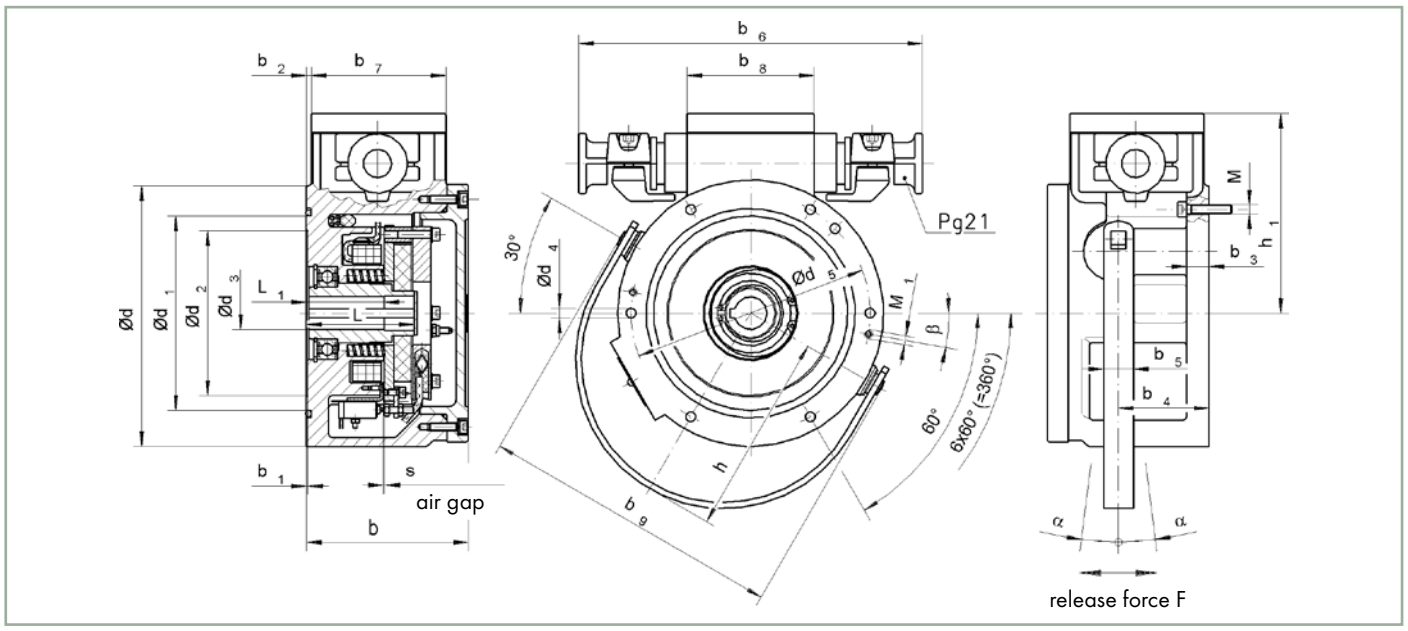
Technical specifications

Size	Nominal torque	Max. speed	Max. switching power	Max. switching energy (Z = 1)	Rated power		Response times		Moment of inertia armature and flange hub	Weight
							Coupling time (acc. to VDE 0580)	Disconnection time		
	M_2 [Nm]	n_{max} [min^{-1}]	P_{max} [kJ/h]	W_{max} [kJ]	P_N [W]	P_S [VA]	t_1 [ms]	t_2 [ms]	J [$kgcm^2$]	m [kg]
10	10	6000	270	41	56	62	80	80	2.5	14.5
11	20	6000	270	41	56	62	70	110	2.5	14.5
13	50	3600	400	55	82	88	110	170	21.5	29
16	100	3600	400	55	82	88	90	230	21.5	29
19	150	3600	570	80	91	95	180	240	125	57
24	270	3600	570	80	91	95	140	350	125	57

Design types

Bore diameter (standard) [mm], flute DIN 6885 BL.1 JS9							
10	Ø 15	Ø 16	Ø 19	Ø 20	Ø 22		
11	Ø 15	Ø 16	Ø 19	Ø 20	Ø 22		
13	Ø 22	Ø 25	Ø 28	Ø 32	Ø 35	Ø 38	Ø 40
16	Ø 22	Ø 25	Ø 28	Ø 32	Ø 35	Ø 38	Ø 40
19	Ø 40	Ø 42	Ø 50	Ø 60			
24	Ø 40	Ø 42	Ø 50	Ø 60			

Dimensions [mm]



Size	d	d_1	d_2	d_3 (G7)	d_4	d_5	b	b_1	b_2	b_3	b_4	b_5	b_6	b_7	b_8	b_9
10	178	130	110[3]	12[1] / 22[2]	6.6	160	108	1	2.5	15	60.7	20	230	90	85	202
11	178	130	110[3]	12[1] / 22[2]	6.6	160	108	1	2.5	15	60.7	20	230	90	85	202
13	245	180	160[3]	20[1] / 45[2]	8.4	225	132	1	14	20	77.2	20	230	90	85	262
16	245	180	160[3]	24[1] / 45[2]	8.4	225	132	1	14	20	77.2	20	230	90	85	262
19	330	260	240[3]	30[1] / 70[2]	10.5	305	143	1	16	20	79.8	25	230	90	85	344
24	330	260	240[3]	34[1] / 70[2]	10.5	305	143	1	16	20	79.8	25	230	90	85	344

Size	h	h_1	L	L_1	s	s_{max}	M	M_1	F [N]	α	ß
10	134	133	70	52	$0.25^{+0.12}$	0.7	6xM6	2xM6	ca. 18	ca. 19°	10°
11	134	133	70	52	$0.25^{+0.12}$	0.7	6xM6	2xM6	ca. 35	ca. 19°	10°
13	164	161	90	83	$0.25^{+0.15}$	0.9	6xM8	3xM8	ca. 45	ca. 19°	68°
16	164	161	90	83	$0.25^{+0.15}$	0.9	6xM8	3xM8	ca. 90	ca. 19°	68°
19	215	205	100	92	$0.25^{+0.2}$	1.1	6xM10	3xM10	ca. 85	ca. 19°	70°
24	215	205	100	92	$0.25^{+0.2}$	1.1	6xM10	3xM10	ca. 170	ca. 19°	70°

[1] Min. Min. bore with keyway JS9 as per DIN 6885, sheet 1
[2] Max. bore with keyway JS9 as per DIN 6885, sheet 1
[3] Undercut, no centering diameter
Supporting keyway over entire length. Shaft ISO fitting h6 ([1], [2]).

Accessories

Size	Mounting screws			
	Screw	Nominal torque	Material number	Screws per brake
10	ISO 4762 - M6 x 30 - 8.8	9.7 Nm	304 046	6
11	ISO 4762 - M6 x 30 - 8.8	9.7 Nm	304 046	6
13	ISO 4762 - M8 x 35 - 8.8	24 Nm	304 071	6
16	ISO 4762 - M8 x 35 - 8.8	24 Nm	304 071	6
19	ISO 4762 - M10 x 40 - 8.8	45 Nm	304 107	6
24	ISO 4762 - M10 x 40 - 8.8	45 Nm	304 107	6

About the EEX Line (+50°C)

The EEX Line is comprised of spring-applied single-disc brakes with explosion protection foruse in potentially explosion hazards locations. The flame proofed spring applied brake is suitable for use in underground mines where there is a danger of firedamp. Explosion proofed spring-applied brakes are characterised by the fact that all components which may ignite explosive mixtures are placed in an enclosure designed to withstand the specified test pressure and to prevent any mixtures outside the enclosure from being affected by the explosion. The brakes are equipped with four thermoswitches and one microswitch. The microswitch prevents any unintentional motor start-up when the brake is not released. The thermoswitches, which are connected in series with the microswitch, interrupt the control circuit as soon as the brake exceeds the permitted maximum temperature limits. The brakes are corosion protected. Electromagnetic spring-applied brakes generate the required brake torque when voltage is removed. The hand release feature fitted to the brake allows the braking effect to be neutralised manually. This version is designed for use at ambient temperatures of up to 50ºC .

Versions (T_{amb} = -20°C...+50°C)

76 26E..B10
torque range 10-270Nm
DC
explosion proofing type II as per ATEX (EU) + IEC Ex

76 26G..B10
torque range 10-270Nm
AC (with rectifier)
explosion proofing type II as per ATEX (EU) + IEC Ex

76 26N..B10
torque range 10-270Nm
DC
flame proofing type I as per ATEX (EU) + IEC Ex

76 26P..B10
torque range 10-270Nm
AC (with rectifier)
flame proofing type I as per ATEX (EU) + IEC Ex

Approvals

explosion proofing type II
II 2G Ex de IIC T4 Gb
II 2D Ex tb IIIC T105°C Db, IP67
DMT 02 ATEX E 122 X; IEC Ex BVS 11.0025X

flame proofing type I
I M2 Ex de I Mb
II 2D Ex tb IIIC T105°C Db, IP67
DMT 02 ATEX E 122 X; IEC Ex BVS 11.0025X

Applications

- DC motors
- Three-phase motors
- Gear motors
- Lifting and materials handling technology
- Petrochemical industry
- Process technology for explosion protected and flammable areas...

Data sheets – General information

The Operating Instructions must be strictly observed during the set-up of the machine (e.g. motor) and during the start-up, operation and maintenance of the brakes. The state-of-the-art brakes have been designed, built and tested in accordance with the requirements of DIN VDE 0580 concerning electromagnetic devices and components. Additional information on technical specifications given in the data sheets is included in the operating instructions.

Upon request, spring-applied single-disc brakes can be designed for lower rated torques and supplied without microswitch and hand release feature.
Further approvals: T_{amb} ≤ 60°C or NEC500 on request

Spring-applied single-disc brake

Dust and explosion proofing type II for DC or single-phase AC

Version	76 26E..B10 – DC 76 26G..B10 – single-phase AC
Standard rated voltage	76 26E..B10 – 205V DC 76 26G..B10 – 230V AC, 50Hz
Protection	IP 67
Thermal class	T 4 (acc. to EN 60079-0)
Ambient temperature range	-20°C to + 50°C
Rated torque	10 - 270 Nm
Accessories (options)	mounting screws
Note	Specification subject to change without notice. The „General technical information“ and the „Operating instructions“ 76 26E..B10 / 76 26G..B10 must be strictly observed.

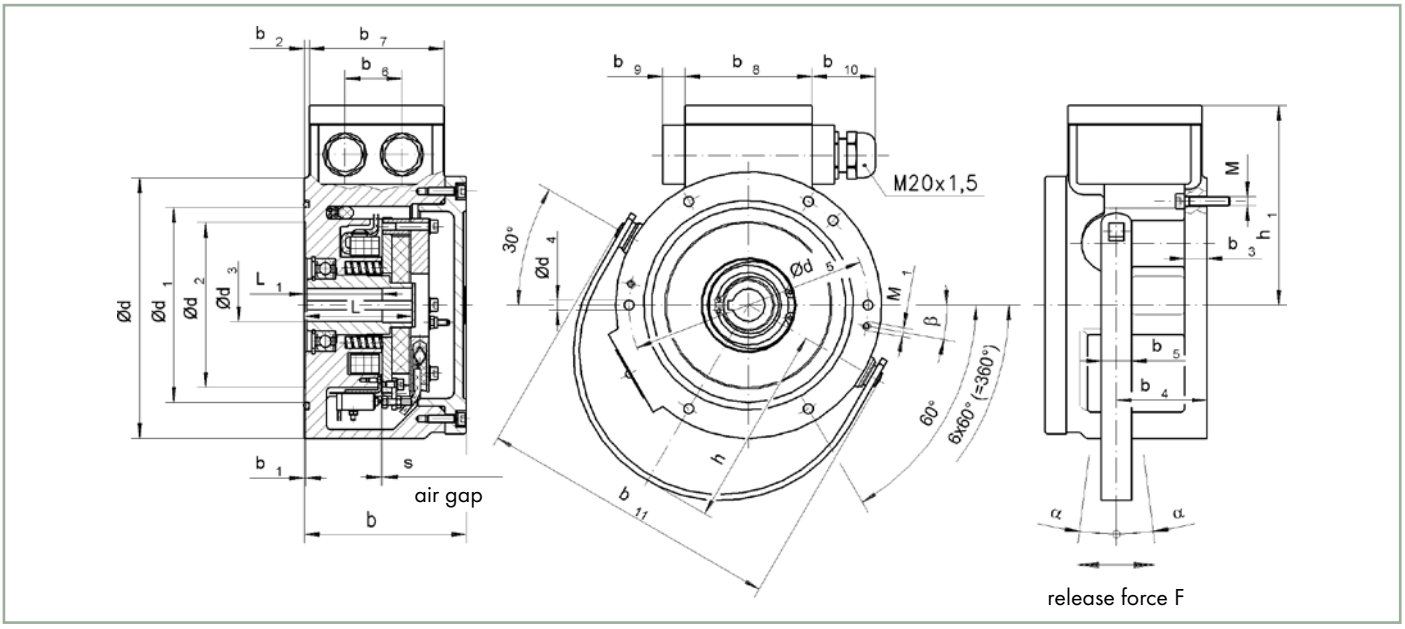
Technical specifications

Size	Nominal torque	Max. speed	Max. switching power	Max. switching energy (Z = 1)	Rated power		Response times		Moment of inertia armature and flange hub	Weight
							Coupling time (acc. to VDE 0580)	Disconnection time		
	M_2 [Nm]	n_{max} [min^{-1}]	P_{max} [kJ/h]	W_{max} [kJ]	P_N [W]	P_S [VA]	t_1 [ms]	t_2 [ms]	J [$kgcm^2$]	m [kg]
10	10	6000	270	41	56	62	80	80	2.5	14.5
11	20	6000	270	41	56	62	70	110	2.5	14.5
13	50	3600	400	55	82	88	110	170	21.5	29
16	100	3600	400	55	82	88	90	230	21.5	29
19	150	3600	570	80	91	95	180	240	125	57
24	270	3600	570	80	91	95	140	350	125	57

Design types

Bore diameter (standard) [mm], flute DIN 6885 BL.1 JS9							
10	Ø 15	Ø 16	Ø 19	Ø 20	Ø 22		
11	Ø 15	Ø 16	Ø 19	Ø 20	Ø 22		
13	Ø 22	Ø 25	Ø 28	Ø 32	Ø 35	Ø 38	Ø 40
16	Ø 22	Ø 25	Ø 28	Ø 32	Ø 35	Ø 38	Ø 40
19	Ø 40	Ø 42	Ø 50	Ø 60			
24	Ø 40	Ø 42	Ø 50	Ø 60			

Dimensions [mm]



Size	d	d_1	d_2	d_3 (G7)	d_4	d_5	b	b_1	b_2	b_3	b_4	b_5	b_6	b_7	b_8	b_9	b_{10}	b_{11}
10	178	130	110[3]	12[1] / 22[2]	6.6	160	108	1	2.5	15	60.7	20	38	90	85	15	ca. 43	202
11	178	130	110[3]	12[1] / 22[2]	6.6	160	108	1	2.5	15	60.7	20	38	90	85	15	ca. 43	202
13	245	180	160[3]	20[1] / 45[2]	8.4	225	132	1	14	20	77.2	20	38	90	85	15	ca. 43	262
16	245	180	160[3]	24[1] / 45[2]	8.4	225	132	1	14	20	77.2	20	38	90	85	15	ca. 43	262
19	330	260	240[3]	30[1] / 70[2]	10.5	305	143	1	16	20	79.8	25	38	90	85	15	ca. 43	344
24	330	260	240[3]	34[1] / 70[2]	10.5	305	143	1	16	20	79.8	25	38	90	85	15	ca. 43	344

Size	h	h_1	L	L_1	s	s_{max}	M	M_1	F [N]	α	ß
10	134	133	70	52	$0.25^{+0.12}$	0.7	6xM6	2xM6	ca. 18	ca. 19°	10°
11	134	133	70	52	$0.25^{+0.12}$	0.7	6xM6	2xM6	ca. 35	ca. 19°	10°
13	164	161	90	83	$0.25^{+0.15}$	0.9	6xM8	3xM8	ca. 45	ca. 19°	68°
16	164	161	90	83	$0.25^{+0.15}$	0.9	6xM8	3xM8	ca. 90	ca. 19°	68°
19	215	205	100	92	$0.25^{+0.2}$	1.1	6xM10	3xM10	ca. 85	ca. 19°	70°
24	215	205	100	92	$0.25^{+0.2}$	1.1	6xM10	3xM10	ca. 170	ca. 19°	70°

[1] Min. bore with fitting key JS9 as per DIN 6885, sheet 1
[2] Max. bore with fitting key JS9 as per DIN 6885, sheet 1
[3] Undercut, no centering diameter
Supporting keyway over entire length. Shaft ISO fitting h6 ([1], [2])

Accessories

Size	Mounting screws			
	Screw	Nominal torque	Material number	Screws per brake
10	ISO 4762 - M6 x 30 - 8.8	9.7 Nm	304 046	6
11	ISO 4762 - M6 x 30 - 8.8	9.7 Nm	304 046	6
13	ISO 4762 - M8 x 35 - 8.8	24 Nm	304 071	6
16	ISO 4762 - M8 x 35 - 8.8	24 Nm	304 071	6
19	ISO 4762 - M10 x 40 - 8.8	45 Nm	304 107	6
24	ISO 4762 - M10 x 40 - 8.8	45 Nm	304 107	6

Spring-applied single-disc brake

Dust and firedamp protection type I for DC or single-phase AC

Version	76 26N..B10 – DC 76 26P..B10 – single-phase AC
Standard rated voltage	76 26N..B10 – 205V DC 76 26P..B10 – 230V AC, 50Hz
Protection	IP 67
Thermal class	T 4 (acc. to EN 60079-0)
Ambient temperature range	-20°C to + 50°C
Rated torque	10 - 270 Nm
Accessories (options)	mounting screws
Note	Specification subject to change without notice. The „General technical information“ and the „Operating instructions“ 76 ..N..B10 / 76 ..P..B10 must be strictly observed.

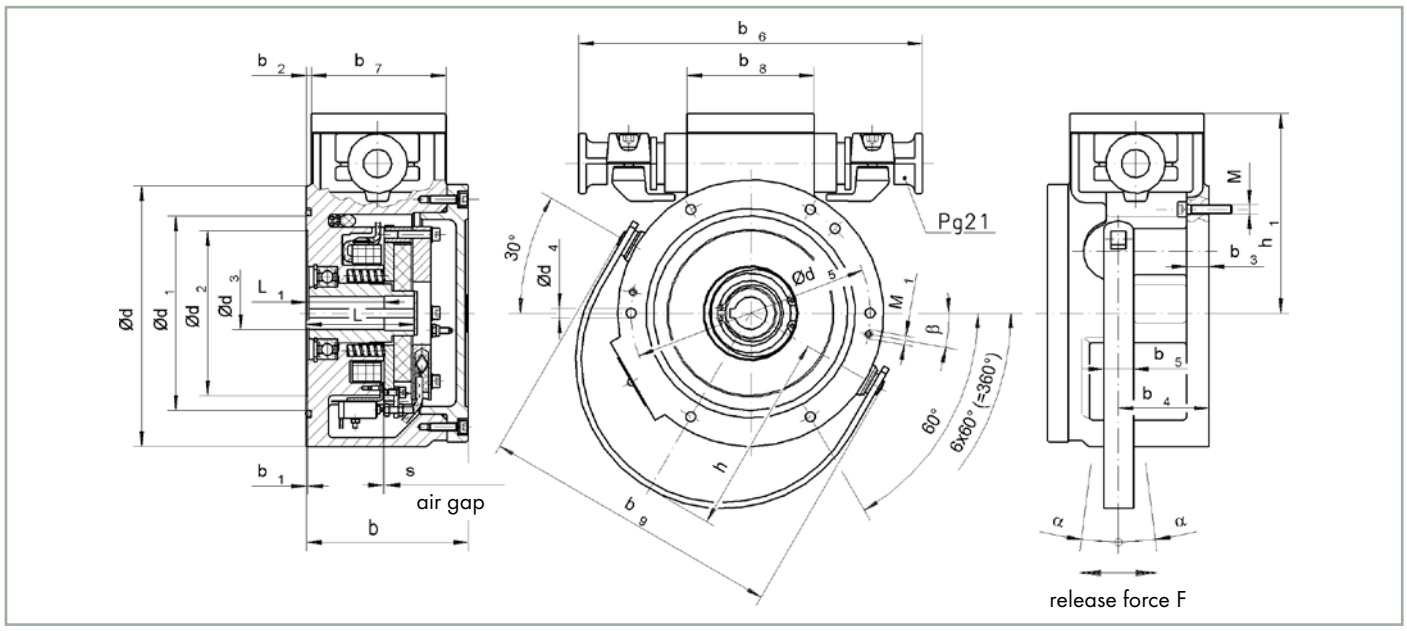
Technical specifications

Size	Nominal torque M_2 [Nm]	Max. speed n_{max} [min^{-1}]	Max. switching power P_{max} [kJ/h]	Max. switching energy (Z = 1) W_{max} [kJ]	Rated power P_N [W]	Rated power P_S [VA]	Response times: Coupling time (acc. to VDE 0580) t_1 [ms]	Response times: Disconnection time t_2 [ms]	Moment of inertia armature and flange hub J [kgcm^2]	Weight m [kg]
10	10	6000	270	41	56	62	80	80	2.5	14.5
11	20	6000	270	41	56	62	70	110	2.5	14.5
13	50	3600	400	55	82	88	110	170	21.5	29
16	100	3600	400	55	82	88	90	230	21.5	29
19	150	3600	570	80	91	95	180	240	125	57
24	270	3600	570	80	91	95	140	350	125	57

Design types

Bore diameter (standard) [mm], flute DIN 6885 BL.1 JS9							
10	Ø 15	Ø 16	Ø 19	Ø 20	Ø 22		
11	Ø 15	Ø 16	Ø 19	Ø 20	Ø 22		
13	Ø 22	Ø 25	Ø 28	Ø 32	Ø 35	Ø 38	Ø 40
16	Ø 22	Ø 25	Ø 28	Ø 32	Ø 35	Ø 38	Ø 40
19	Ø 40	Ø 42	Ø 50	Ø 60			
24	Ø 40	Ø 42	Ø 50	Ø 60			

Dimensions [mm]



Size	d	d_1	d_2	d_3 (G7)	d_4	d_5	b	b_1	b_2	b_3	b_4	b_5	b_6	b_7	b_8	b_9
10	178	130	110[3]	12[1] / 22[2]	6.6	160	108	1	2.5	15	60.7	20	230	90	85	202
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24	330	260	240[3]	34[1] / 70[2]	10.5	305	143	1	16	20	79.8	25	230	90	85	344

Size	h	h_1	L	L_1	s	s_{max}	M	M_1	F [N]	α	ß
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13	164	161	90	83	$0.25^{+0.15}$	0.9	6xM8	3xM8	ca. 45	ca. 19°	68°
16	164	161	90	83	$0.25^{+0.15}$	0.9	6xM8	3xM8	ca. 90	ca. 19°	68°
19	215	205	100	92	$0.25^{+0.2}$	1.1	6xM10	3xM10	ca. 85	ca. 19°	70°
24	215	205	100	92	$0.25^{+0.2}$	1.1	6xM10	3xM10	ca. 170	ca. 19°	70°

[1] Min. Min. bore with keyway JS9 as per DIN 6885, sheet 1
[2] Max. bore with keyway JS9 as per DIN 6885, sheet 1
[3] Undercut, no centering diameter
Supporting keyway over entire length. Shaft ISO fitting h6 ([1], [2]).

Accessories

Size	Mounting screws			
	Screw	Nominal torque	Material number	Screws per brake
10	ISO 4762 - M6 x 30 - 8.8	9.7 Nm	304 046	6
11	ISO 4762 - M6 x 30 - 8.8	9.7 Nm	304 046	6
13	ISO 4762 - M8 x 35 - 8.8	24 Nm	304 071	6
16	ISO 4762 - M8 x 35 - 8.8	24 Nm	304 071	6
19	ISO 4762 - M10 x 40 - 8.8	45 Nm	304 107	6
24	ISO 4762 - M10 x 40 - 8.8	45 Nm	304 107	6

About the EEX Line / IEC Ex

The EEX Line brake series is comprised of spring-applied single-disc brakes with explosion protection for use in potentially explosive atmospheres. The firedamp-protected brakes included in the series are designed for use in mines that are susceptible to firedamp. All brake components that may ignite explosive mixtures are mounted in an enclosure designed to withstand the specified test pressure in case the mixture explodes inside the enclosure. As a result, mixtures outside the enclosure will not be affected by the explosion. The brakes are equipped with four thermal switches and one microswitch. The microswitch prevents any unintentional motor start-up when the brake is not released. The thermal switches are connected in series with the microswitch. They interrupt the machine control circuit as soon as the brake exceeds the permitted maximum temperature limits. The brakes are saltwater-proof. Electromagnetic spring-applied brakes generate the required brake torque when voltage is removed. The hand release fitted to the brake can be used to neutralise the braking effect manually.

Versions

EX 26E..A00
Torque range 10 to 270 Nm
DC
Explosion protection type II to IEC Ex

EX 26G..A00
Torque range 10 to 270 Nm
AC (with rectifier)
Explosion protection type II to IEC Ex

EX 26N..A00
Torque range 10 to 270 Nm
DC
Firedamp protection type I to IEC Ex

EX 26P..A00
Torque range 10 to 270 Nm
AC (with rectifier)
Firedamp protection type I to IEC Ex

Approvals

Dust and explosion protection II
II 2G Ex de IIC T5
II 2D Ex tD A21 IP67 T100°C
IEC Ex BVS 11.0025X
DMT 02 ATEX E 122 X

Dust and firedamp protection I
I M2 Ex de I
II 2D Ex tD A21 IP67 T100°C
IEC Ex BVS 11.0025X
DMT 02 ATEX E 122 X

Applications

DC motors

Threephase motors

Gear motors

Lifting and materials handling systems

Petrochemical industry

Process technology for explosion protected and flammable atmospheres...

Data sheets – General information

The Operating Instructions must be strictly observed during the set-up of the machine (e.g. motor) and during the start-up, operation and maintenance of the brakes. The state-of-the-art brakes have been designed, built and tested in accordance with the requirements of DIN VDE 0580 concerning electromagnetic devices and components. Additional information on technical specifications given in the data sheets is included in the operating instructions.

The brakes can be designed for lower rated torques and supplied without microswitch and hand release upon request.
Other approvals: NEC 500 / 505 upon request

Spring-applied single-disc brake
Dust and explosion protection type II for DC and single-phase AC

Versions	EX 26E..A00 – DC EX 26G..A00 – single-phase AC
Standard rated voltage	EX 26E..A00 – 205 VDC EX 26G..A00 – 230 VAC, 50 Hz
Protection	IP 67
Temperature class	T5 (to IEC 60079-0)
Ambient temperature range	-20°C to +45°C
Rated torque	10 to 270 Nm
Accessories (options)	fixing screws
Note	Specifications subject to change without notice. The “General information on specification sheets” and the Operating Instructions EX ..E..A00 or EX ..G..A00 must be strictly observed.

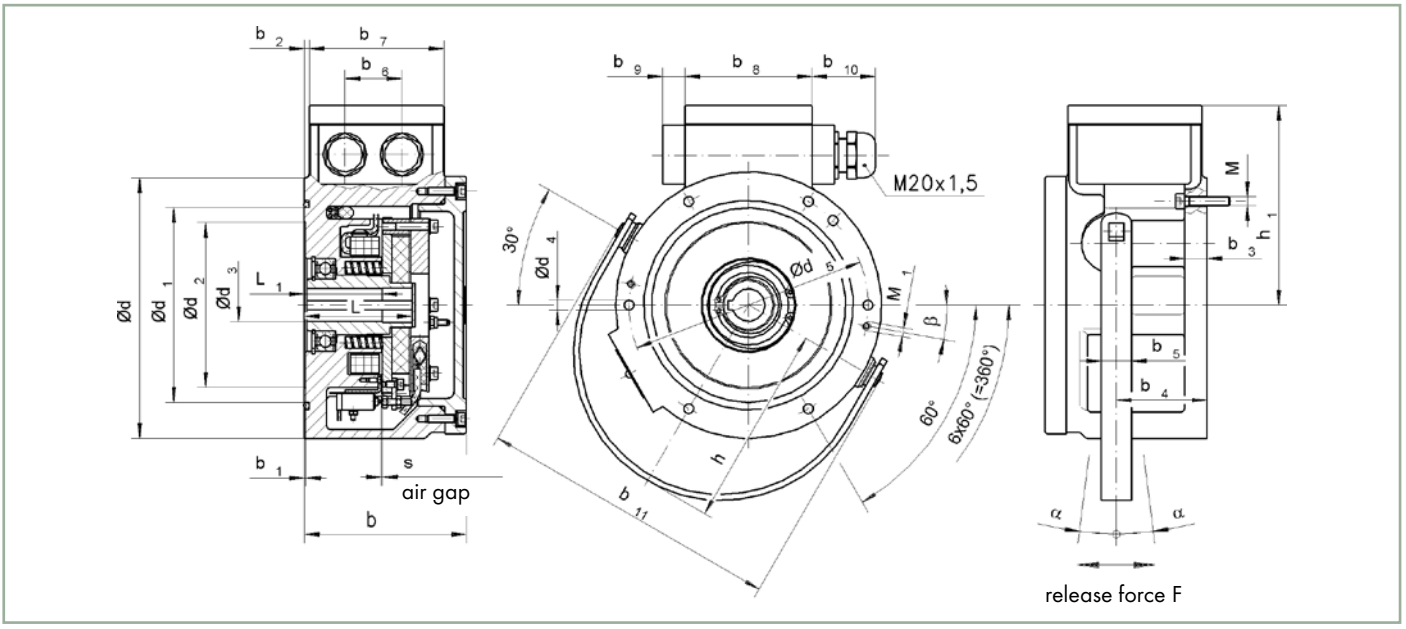
Technical specifications

Size	Rated torque	Max. speed	Max. switching power	Max. switching energy (Z = 1)	Rated power		Times		Moment of inertia hub and friction disc	Weight
							Coupling time	Disconnection time		
	M_2 [Nm]	n_{max} [min^{-1}]	P_{max} [kJ/h]	W_{max} [kJ]	P_N [W]	P_S [VA]	t_1 [ms]	t_2 [ms]	J [$kgcm^2$]	m [kg]
10	10	6000	270	41	56	62	80	80	2,5	14,5
11	20	6000	270	41	56	62	70	110	2,5	14,5
13	50	3600	400	55	82	88	110	170	21,5	29
16	100	3600	400	55	82	88	90	230	21,5	29
19	150	3600	570	80	91	95	180	240	125	57
24	270	3600	570	80	91	95	140	350	125	57

Versions

Bore diameter (standard) [mm], JS9 keyway to DIN 6885, sheet 1							
10	Ø 15	Ø 16	Ø 19	Ø 20	Ø 22		
11	Ø 15	Ø 16	Ø 19	Ø 20	Ø 22		
13	Ø 22	Ø 25	Ø 28	Ø 32	Ø 35	Ø 38	Ø 40
16	Ø 22	Ø 25	Ø 28	Ø 32	Ø 35	Ø 38	Ø 40
19	Ø 40	Ø 42	Ø 50	Ø 60			
24	Ø 40	Ø 42	Ø 50	Ø 60			

Dimensions [mm]



Size	d	d_1	d_2	d_3 (G7)	d_4	d_5	b	b_1	b_2	b_3	b_4	b_5	b_6	b_7	b_8	b_9	b_{10}	b_{11}
10	178	130	110[3]	12[1] / 22[2]	6,6	160	108	1	2,5	15	60,7	20	38	90	85	15	ca. 43	202
11	178	130	110[3]	12[1] / 22[2]	6,6	160	108	1	2,5	15	60,7	20	38	90	85	15	ca. 43	202
13	245	180	160[3]	20[1] / 45[2]	8,4	225	132	1	14	20	77,2	20	38	90	85	15	ca. 43	262
16	245	180	160[3]	24[1] / 45[2]	8,4	225	132	1	14	20	77,2	20	38	90	85	15	ca. 43	262
19	330	260	240[3]	30[1] / 70[2]	10,5	305	143	1	16	20	79,8	25	38	90	85	15	ca. 43	344
24	330	260	240[3]	34[1] / 70[2]	10,5	305	143	1	16	20	79,8	25	38	90	85	15	ca. 43	344

Size	h	h_1	L	L_1	s	s_{max}	M	M_1	F [N]	α	ß
10	134	133	70	52	$0,25^{+0.12}$	0,7	6xM6	2xM6	ca. 18	ca. 19°	10°
11	134	133	70	52	$0,25^{+0.12}$	0,7	6xM6	2xM6	ca. 35	ca. 19°	10°
13	164	161	90	83	$0,25^{+0.15}$	0,9	6xM8	3xM8	ca. 45	ca. 19°	68°
16	164	161	90	83	$0,25^{+0.15}$	0,9	6xM8	3xM8	ca. 90	ca. 19°	68°
19	215	205	100	92	$0,25^{+0.2}$	1,1	6xM10	3xM10	ca. 85	ca. 19°	70°
24	215	205	100	92	$0,25^{+0.2}$	1,1	6xM10	3xM10	ca. 170	ca. 19°	70°

[1] Min. bore, with JS9 keyway to DIN 6885, sheet 1
[2] Max. bore, with JS9 keyway to DIN 6885, sheet 1
[3] Undercut, no centring diameter
Supporting feather key over entire length, shaft with ISO “h6” fit ([1], [2]).

Accessories

Size	Fixing screws			
	Screw	Tightening torque	Order number	Screws per brake
10	ISO 4762 - M6 x 30 - 8.8	9,7 Nm	304 046	6
11	ISO 4762 - M6 x 30 - 8.8	9,7 Nm	304 046	6
13	ISO 4762 - M8 x 35 - 8.8	24 Nm	304 071	6
16	ISO 4762 - M8 x 35 - 8.8	24 Nm	304 071	6
19	ISO 4762 - M10 x 40 - 8.8	45 Nm	304 107	6
24	ISO 4762 - M10 x 40 - 8.8	45 Nm	304 107	6

Spring-applied single-disc brake
Dust and firedamp protection I for DC and single-phase AC

Versions	EX 26N..A00 – DC EX 26P..A00 – single-phase AC
Standard rated voltage	EX 26N..A00 – 205 VDC EX 26P..A00 – 230 VAC, 50Hz
Protection	IP 67
Temperature class	T5 (to IEC 60079-0)
Ambient temperature range	-20°C to +45°C
Rated torque	10 to 270 Nm
Accessories (options)	fixing screws
Note	Specifications subject to change without notice. The “General information on specification sheets” and the Operating Instructions EX ..N..A00 or EX ..P..A00 must be strictly observed.

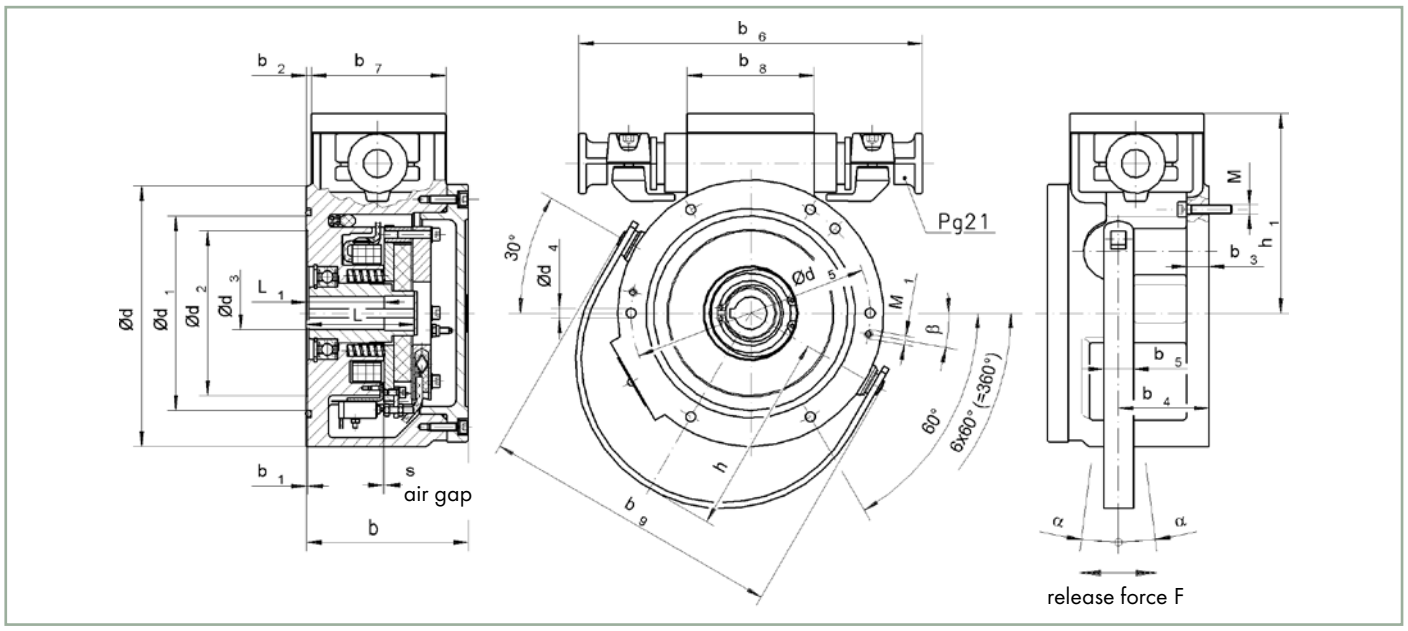
Technical specifications

Size	Rated torque	Max. speed	Max. switching power	Max. switching energy (Z = 1)	Rated power		Times		Moment of inertia hub and friction disc	Weight
							Coupling time	Disconnection time		
	M_2 [Nm]	n_{max} [min^{-1}]	P_{max} [kJ/h]	W_{max} [kJ]	P_N [W]	P_S [VA]	t_1 [ms]	t_2 [ms]	J [kgcm^2]	m [kg]
10	10	6000	270	41	56	62	80	80	2,5	14,5
11	20	6000	270	41	56	62	70	110	2,5	14,5
13	50	3600	400	55	82	88	110	170	21,5	29
16	100	3600	400	55	82	88	90	230	21,5	29
19	150	3600	570	80	91	95	180	240	125	57
24	270	3600	570	80	91	95	140	350	125	57

Versions

Bore diameter (standard) [mm], JS9 keyway to DIN 6885, sheet 1							
10	Ø 15	Ø 16	Ø 19	Ø 20	Ø 22		
11	Ø 15	Ø 16	Ø 19	Ø 20	Ø 22		
13	Ø 22	Ø 25	Ø 28	Ø 32	Ø 35	Ø 38	Ø 40
16	Ø 22	Ø 25	Ø 28	Ø 32	Ø 35	Ø 38	Ø 40
19	Ø 40	Ø 42	Ø 50	Ø 60			
24	Ø 40	Ø 42	Ø 50	Ø 60			

Dimensions [mm]



Size	d	d_1	d_2	d_3 (G7)	d_4	d_5	b	b_1	b_2	b_3	b_4	b_5	b_6	b_7	b_8	b_9
10	178	130	110[3]	12[1] / 22[2]	6,6	160	108	1	2,5	15	60,7	20	230	90	85	202
11	178	130	110[3]	12[1] / 22[2]	6,6	160	108	1	2,5	15	60,7	20	230	90	85	202
13	245	180	160[3]	20[1] / 45[2]	8,4	225	132	1	14	20	77,2	20	230	90	85	262
16	245	180	160[3]	24[1] / 45[2]	8,4	225	132	1	14	20	77,2	20	230	90	85	262
19	330	260	240[3]	30[1] / 70[2]	10,5	305	143	1	16	20	79,8	25	230	90	85	344
24	330	260	240[3]	34[1] / 70[2]	10,5	305	143	1	16	20	79,8	25	230	90	85	344

Size	h	h_1	L	L_1	s	s_{max}	M	M_1	F [N]	α	ß
10	134	133	70	52	$0{,}25^{+0.12}$	0,7	6xM6	2xM6	ca. 18	ca. 19°	10°
11	134	133	70	52	$0{,}25^{+0.12}$	0,7	6xM6	2xM6	ca. 35	ca. 19°	10°
13	164	161	90	83	$0{,}25^{+0.15}$	0,9	6xM8	3xM8	ca. 45	ca. 19°	68°
16	164	161	90	83	$0{,}25^{+0.15}$	0,9	6xM8	3xM8	ca. 90	ca. 19°	68°
19	215	205	100	92	$0{,}25^{+0.2}$	1,1	6xM10	3xM10	ca. 85	ca. 19°	70°
24	215	205	100	92	$0{,}25^{+0.2}$	1,1	6xM10	3xM10	ca. 170	ca. 19°	70°

[1] Min. bore, with JS9 keyway to DIN 6885, sheet 1
[2] Max. bore, with JS9 keyway to DIN 6885, sheet 1

[3] Undercut, no centring diameter
Supporting feather key over entire length, shaft with ISO “h6” fit ([1], [2]).

Accessories

Size	Fixing screws			
	Screw	Tightening torque	Order number	Screws per brake
10	ISO 4762 - M6 x 30 - 8.8	9,7 Nm	304 046	6
11	ISO 4762 - M6 x 30 - 8.8	9,7 Nm	304 046	6
13	ISO 4762 - M8 x 35 - 8.8	24 Nm	304 071	6
16	ISO 4762 - M8 x 35 - 8.8	24 Nm	304 071	6
19	ISO 4762 - M10 x 40 - 8.8	45 Nm	304 107	6
24	ISO 4762 - M10 x 40 - 8.8	45 Nm	304 107	6

About the EEX Line / U.S. (NEC 500/505) CSA

The EEX Line brake series is comprised of spring-applied single-disc brakes with explosion protection for use in potentially explosive atmospheres. The firedamp-protected brakes included in the series are designed for use in mines that are susceptible to firedamp. All brake components that may ignite explosive mixtures are mounted in an enclosure designed to withstand the specified test pressure in case the mixture explodes inside the enclosure. As a result, mixtures outside the enclosure will not be affected by the explosion. The brakes are equipped with four thermal switches and one microswitch. The microswitch prevents any unintentional motor start-up when the brake is not released. The thermal switches are connected in series with the microswitch. They interrupt the machine control circuit as soon as the brake exceeds the permitted maximum temperature limits. The brakes are saltwater-proof. Electromagnetic spring-applied brakes generate the required brake torque when voltage is removed. The hand release fitted to the brake can be used to neutralise the braking effect manually.

Versions

EX 26E..B00
Torque range 10 to 270 Nm
DC
Explosion protection type II to U.S. (NEC 500/505) CSA, US

EX 26G..B00
Torque range 10 to 270 Nm
AC (with rectifier)
Explosion protection type II to U.S. (NEC 500/505) CSA, US

Approvals

Dust and explosion protection II
EX de IIC T5...T2, Class I, Zone 1, AEx de IIC T5...T2
Class I, Division 2, Groups C, D
Class II, Division 1, Groups E, F and G
Class III
DIP A21 T_A = 100°C
Enclosure Type 4 , IP66

The brakes can be designed for lower rated torques and supplied without microswitch and hand release upon request.
Other approvals: IEC Ex or ATEX upon request

Applications

- DC motors
- Threephase motors
- Gear motors
- Lifting and materials handling systems
- Petrochemical industry
- Process technology for explosion protected and flammable atmospheres...

Data sheets – General information

The Operating Instructions must be strictly observed during the set-up of the machine (e.g. motor) and during the start-up, operation and maintenance of the brakes. The state-of-the-art brakes have been designed, built and tested in accordance with the requirements of DIN VDE 0580 concerning electromagnetic devices and components. Additional information on technical specifications given in the data sheets is included in the operating instructions.

Spring-applied single-disc brake
Dust and explosion protection type II for DC and single-phase AC

Versions	EX 26E..B00 – DC EX 26G..B00 – single-phase AC
Standard rated voltage	EX 26E..B00 – 205 VDC EX 26G..B00 – 230 VAC, 50 Hz
Protection	IP 66
Temperature class	T 5 (acc. to EN60079-0, NEC 505)
Rated torque	10 to 270 Nm
Accessories (options)	fixing screws
Note	Specifications subject to change without notice. The “General information on specification sheets” and the Operating Instructions EX ..E..B00 or EX ..G..B00 must be strictly observed.

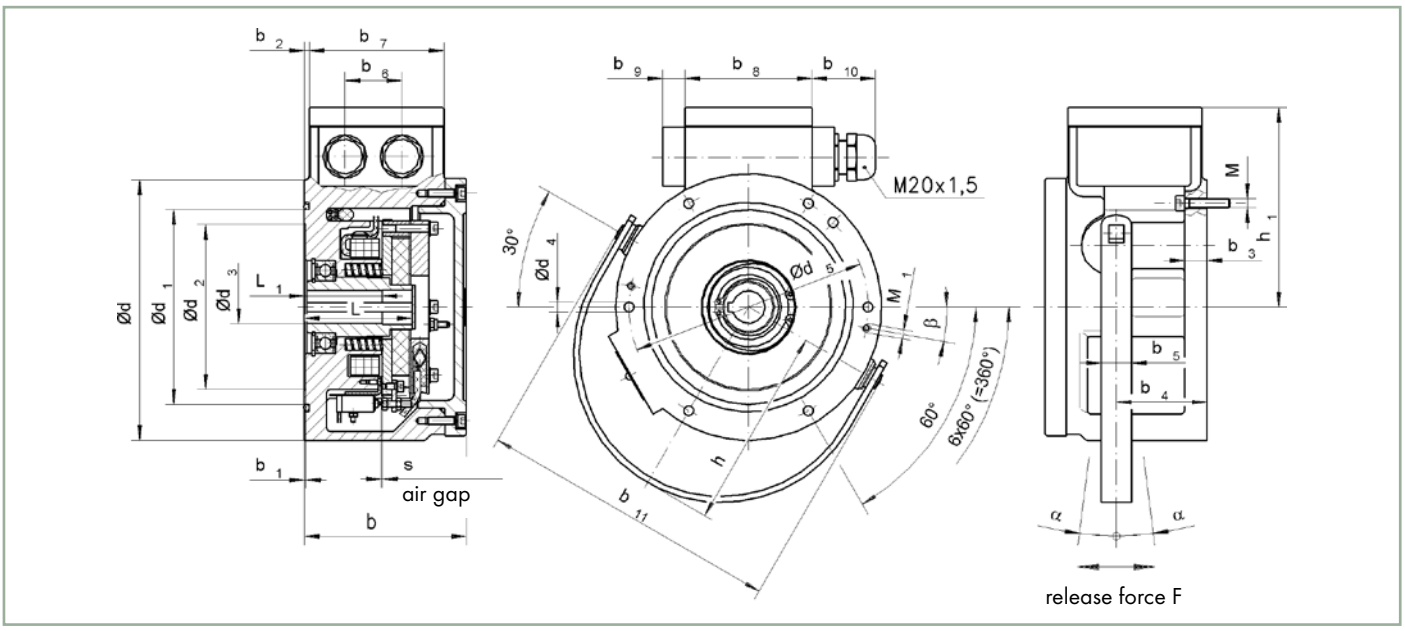
Technical specifications

Size	Rated torque M_2 [Nm]	Max. speed n_{max} [min^{-1}]	Max. switching power P_{max} [kJ/h]	Max. switching energy (Z = 1) W_{max} [kJ]	Rated power P_N [W]	Rated power P_S [VA]	Times: Coupling time t_1 [ms]	Times: Disconnection time t_2 [ms]	Moment of inertia hub and friction disc J [kgcm^2]	Weight m [kg]
10	10	6000	270	41	56	62	80	80	2,5	14,5
11	20	6000	270	41	56	62	70	110	2,5	14,5
13	50	3000	400	55	82	88	110	170	21,5	29
16	100	3000	400	55	82	88	90	230	21,5	29
19	150	3000	570	80	91	95	180	240	125	57
24	270	3000	570	80	91	95	140	350	125	57

Versions

Bore diameter (standard) [mm], JS9 keyway to DIN 6885, sheet 1							
10	Ø 15	Ø 16	Ø 19	Ø 20	Ø 22		
11	Ø 15	Ø 16	Ø 19	Ø 20	Ø 22		
13	Ø 22	Ø 25	Ø 28	Ø 32	Ø 35	Ø 38	Ø 40
16	Ø 22	Ø 25	Ø 28	Ø 32	Ø 35	Ø 38	Ø 40
19	Ø 40	Ø 42	Ø 50	Ø 60			
24	Ø 40	Ø 42	Ø 50	Ø 60			

Dimensions [mm]



Size	d	d_1	d_2	d_3 (G7)	d_4	d_5	b	b_1	b_2	b_3	b_4	b_5	b_6	b_7	b_8	b_9	b_{10}	b_{11}
10	178	130	110[3]	12[1] / 22[2]	6,6	160	108	1	2,5	15	60,7	20	38	90	85	15	ca. 43	202
11	178	130	110[3]	12[1] / 22[2]	6,6	160	108	1	2,5	15	60,7	20	38	90	85	15	ca. 43	202
13	245	180	160[3]	20[1] / 45[2]	8,4	225	132	1	14	20	77,2	20	38	90	85	15	ca. 43	262
16	245	180	160[3]	24[1] / 45[2]	8,4	225	132	1	14	20	77,2	20	38	90	85	15	ca. 43	262
19	330	260	240[3]	30[1] / 70[2]	10,5	305	143	1	16	20	79,8	25	38	90	85	15	ca. 43	344
24	330	260	240[3]	34[1] / 70[2]	10,5	305	143	1	16	20	79,8	25	38	90	85	15	ca. 43	344

Size	h	h_1	L	L_1	s	s_{max}	M	M_1	F [N]	α	ß
10	134	133	70	52	$0,25^{+0,12}$	0,7	6xM6	2xM6	ca. 18	ca. 19°	10°
11	134	133	70	52	$0,25^{+0,12}$	0,7	6xM6	2xM6	ca. 35	ca. 19°	10°
13	164	161	90	83	$0,25^{+0,15}$	0,9	6xM8	3xM8	ca. 45	ca. 19°	68°
16	164	161	90	83	$0,25^{+0,15}$	0,9	6xM8	3xM8	ca. 90	ca. 19°	68°
19	215	205	100	92	$0,25^{+0,2}$	1,1	6xM10	3xM10	ca. 85	ca. 19°	70°
24	215	205	100	92	$0,25^{+0,2}$	1,1	6xM10	3xM10	ca. 170	ca. 19°	70°

[1] Min. bore, with JS9 keyway to DIN 6885, sheet 1
[2] Max. bore, with JS9 keyway to DIN 6885, sheet 1
[3] Undercut, no centring diameter
Supporting feather key over entire length, shaft with ISO “h6” fit ([1], [2]).

Accessories

Size	Fixing screws			
	Screw	Tightening torque	Order number	Screws per brake
10	ISO 4762 - M6 x 30 - 8.8	9,7 Nm	304 046	6
11	ISO 4762 - M6 x 30 - 8.8	9,7 Nm	304 046	6
13	ISO 4762 - M8 x 35 - 8.8	24 Nm	304 071	6
16	ISO 4762 - M8 x 35 - 8.8	24 Nm	304 071	6
19	ISO 4762 - M10 x 40 - 8.8	45 Nm	304 107	6
24	ISO 4762 - M10 x 40 - 8.8	45 Nm	304 107	6

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WE MAGNETISE THE WORLD

Kendrion (Villingen) GmbH
Wilhelm-Binder-Strasse 4-6
78048 Villingen-Schwenningen
Germany
Tel: +49 7721 877-0
Fax: +49 7721 877-1462
sales-ids@kendrion.com
www.kendrion.com