Warner Electric

Twiflex Limited

Power Transmission Solutions for the **Elevator Market**

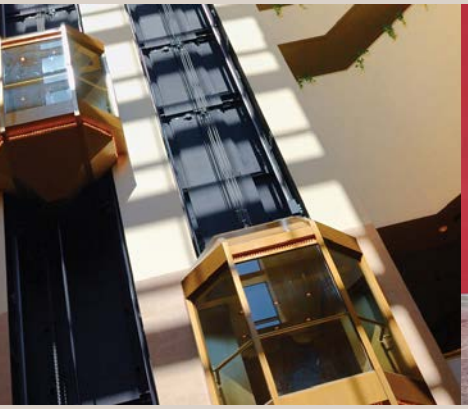
Altra® Industrial Motion

The Power of Experience

ALTRA INDUSTRIAL MOTION PROVIDES POWER TRANSMISSION SOLUTIONS FOR THE ELEVATOR MARKET

Warner Electric and Twiflex Limited, both part of Altra Industrial Motion, are leading designers and manufacturers of intelligent braking technologies for the global elevator and escalator industries.

Altra offers extensive application expertise together with world-class engineering capability. We analyze every application in order to provide efficient, cost-effective solutions to our customers. Altra elevator braking systems have a reputation for exceptional performance and reliability with major elevator OEM's in the US, Europe and China.



A wide range of electrically released brakes and hydraulically-actuated caliper brakes are specifically designed for use on passenger and freight elevators featuring geared and gearless traction machines as well as modernization/retrofit applications. Other custom applications include heavy duty elevators and escalators such as those used in the world's tallest building, deepest mine shaft, and busiest metro stations.

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THE WARNER ELECTRIC/TWIFLEX LIMITED FAMILY OF ELEVATOR BRAKES

ERS VAR 09
Electrically Released Brake
Redundant brake for gearless machines
Pages 3-4

ERS VAR 11-01
Electrically Released Brake
Modular and redundant brake for gearless machines
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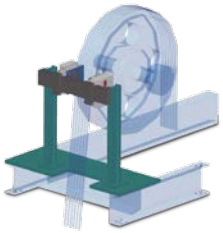
ERS VAR 12
Electrically Released Brake
Modular and redundant brake for gearless machines
Pages 7-8



ERS VAR 14
Electrically Released Brake
To prevent ascending car overspeed for retrofit and modernization
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ERS VAR 15
Electrically Released Brake
Modular and redundant brake for gearless machines
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ERS VAR 07
Electrically Released Brake
Redundant brake for gearless machines
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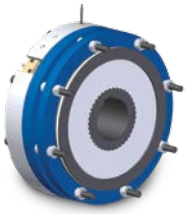
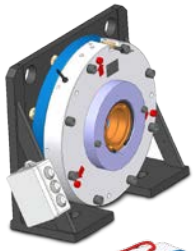
ERS VAR 08
Electrically Released Brake
To prevent ascending car overspeed and unintended movement for geared machines
Pages 15-16

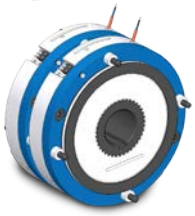


ERS VAR 10
Electrically Released Brake
To prevent ascending car overspeed and unintended movement for geared machines
Pages 17-18

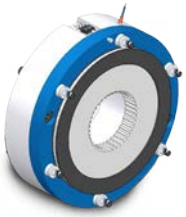


ERS VAR 08M
Electrically Released Brake
To prevent ascending car overspeed for retrofrit and modernization
Pages 19-20

ERS TWINIX
Electrically Released Brake
Designed to offer a double braking system in a very compact dimension
Pages 21-22



ERS FENIX 09
Electrically Released Brake
Designed to offer a double braking system
Pages 23-24



ERS FENIX 08
Electrically Released Brake
To prevent ascending car overspeed and unintended movement
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ERS FENIX 10
Electrically Released Brake
To prevent ascending car overspeed and unintended movement
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CBCx-001 Switch
Rectifier for Power-Off Brakes/Clutches
Fast acting rectifier for all Power-Off brakes and clutches applications
Pages 29-30

VCS
Hydraulically Released Brake
Caliper braking system for high rise buildings and heavy duty escalators
Pages 31-32

ERS VAR 09 for the Elevator Market

Elevator Applications

- Gearless Motors
- Gear Motors

ELECTRICALLY RELEASED BRAKE FOR ELEVATORS

Electrically Released Failsafe Brake

The ERS VAR 09, designed to offer a double braking system, is an electrically failsafe brake that operates in static & emergency stops. The ERS VAR 09 is particularly suitable for gearless motors to meet EN81-20&50 conformity.

- Redundant system in accordance with EN81-20/50
- Compact design
- Complies with Directive 2014/33/EU
- Standard torque capacity : 2 x 50 Nm to 2 x 1700 Nm
- 2 magnets and 2 discs
- Dust cover and hand release upon request
- No airgap adjustment required
- Very easy installation
- Microswitch equipped
- Nearly maintenance free (further information in our service manual)
- Overexcitation (dual voltage) or single voltage

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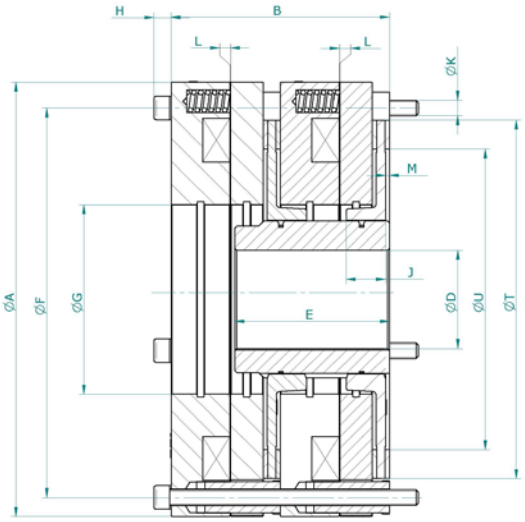
ERS VAR 09



Voltage (VDC)

With Overexcitation		Without Overexcitation
Holding Voltage	Overexcitation Voltage	SIngle Voltage
24	48	24
52	103.5	–
103.5	207	207
ED=50%		

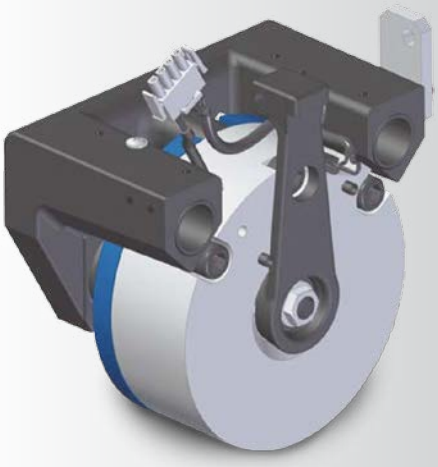
Tolerances on the supply voltage at the brake terminals +5% / -10% (NF C 79-300).

Size		050	110	200	300	600	1000	1700
Nominal Torque with Overexcitation	Nm	–	–	–	2 x 300	2 x 600	2 x 900	2 x 1700
Nominal Torque without Overexcitation	Nm	2 x 50	2 x 110	2 x 200	2 x 300	2 x 500	–	2 x 1200
Cert. Max. speed	RPM	1000	800	500	450	450	400	400
A	mm	147	165	184	223	254	273	332
B	mm	109	145	138	143	171	185	171
HUB D Standard H7	mm	Can vary depending on customer specifications						
HUB E	mm							
HUB M	mm							
F	mm	132	145	170	204	230	245	305
G	mm	51	59	70	80	88	98	145
H	mm	6,7	9,4	9,4	–	11,6	13,1	13,1
J	mm	25	30	30	30	30	30	30
K	–	3 x M6	3 x M8	3 x M8	6 x M8	6 x M10	8 x M10	8 x M12
L nominal	mm	0,30	0,55	0,35	0,35	0,35	0,35	0,35
T	mm	116	125	150	174	199	214	275
U	mm	80	90	120	127	135	175	230
Hand Release	–	**OPTION**						
Weight	kg	9,2	17	20	30	48	61	84
Inertia	kgcm	Can vary depending on customer specifications						
Connection		Cable – Length 300 mm						

Keyway according DIN 6885, tolerance P9. The working keyway length is equal to the hub length.

Subject to alteration without prior notice.

ERS VAR 11-01 for the Elevator Market



Elevator Applications

- Gearless Motors
- Gear Motors

ELECTRICALLY RELEASED BRAKE FOR ELEVATORS

Electrically Released Failsafe Brake Caliper

The VAR 11-01 is a highly modular braking system for modern elevators that is particularly suitable for flat gearless motors. The VAR 11-01 operates in static and/or emergency stops.

- Torque according to disc diameter and number of calipers
- Floating magnet and fixed disc
- Complies with Directive 2014/33/EU
- Hand release equipped
- Redundant capability according EN81-20/50 when two or more brakes are used
- Overexcitation (dual voltage)
- Microswitch equipped
- Very easy installation
- Nearly maintenance free (further information in our service manual)
- No airgap adjustment required

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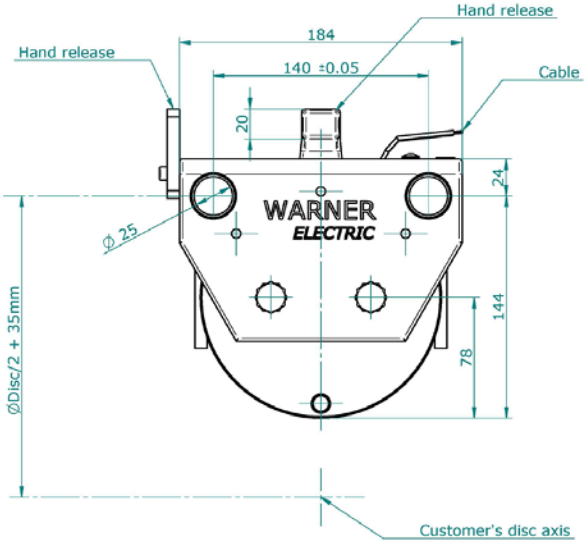
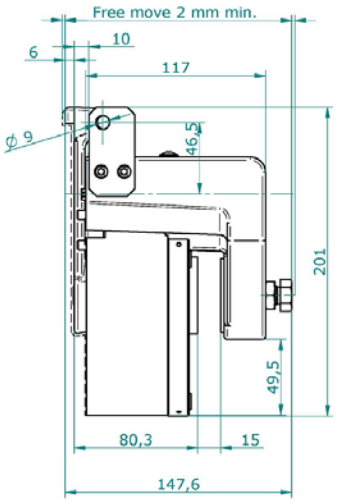
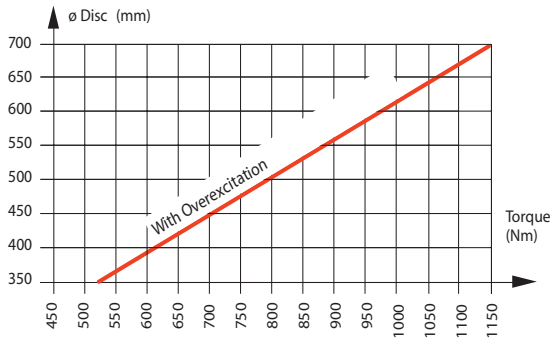
ERS VAR 11-01







Linear speed (outer diameter of disc):
standard up to 15 m/s

Friction material: Steel or grey cast iron

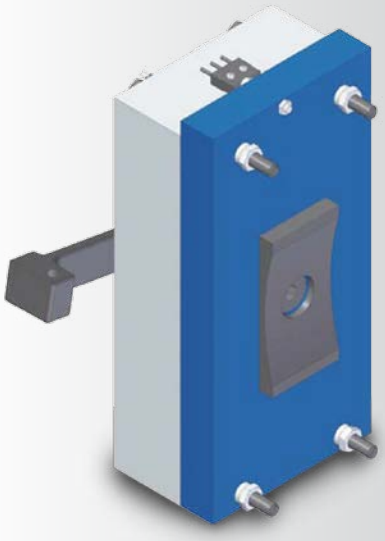
Subject to alteration without prior notice.

Voltage (VDC)

With Overexcitation	
Holding Voltage	Overexcitation Voltage
24	48
52	103.5
103.5	207
ED=50%	

Tolerances on the supply voltage at the brake terminals +5% / -10% (NF C 79-300).

ERS VAR 12 for the Elevator Market



Elevator Applications

- Gearless Motors

ELECTRICALLY RELEASED BRAKE FOR ELEVATORS

Electrically Released Single Surface Brake

The VAR 12 is a highly modular braking system for modern elevators. With 2 brakes, the braking systems complies with EN81-20&50 and protects the elevator against ascending overspeed and unintended movement.

- Complies with Directive 2014/33/EU
- Torque capacity according to drum diameter
- Single voltage
- Hand release upon request
- Redundant capability according EN81-20/50 when two or more brakes are used
- Large braking torques can be achieved by using several brakes
- Very easy installation
- Nearly maintenance free (further information in our service manual)
- Microswitch equipped

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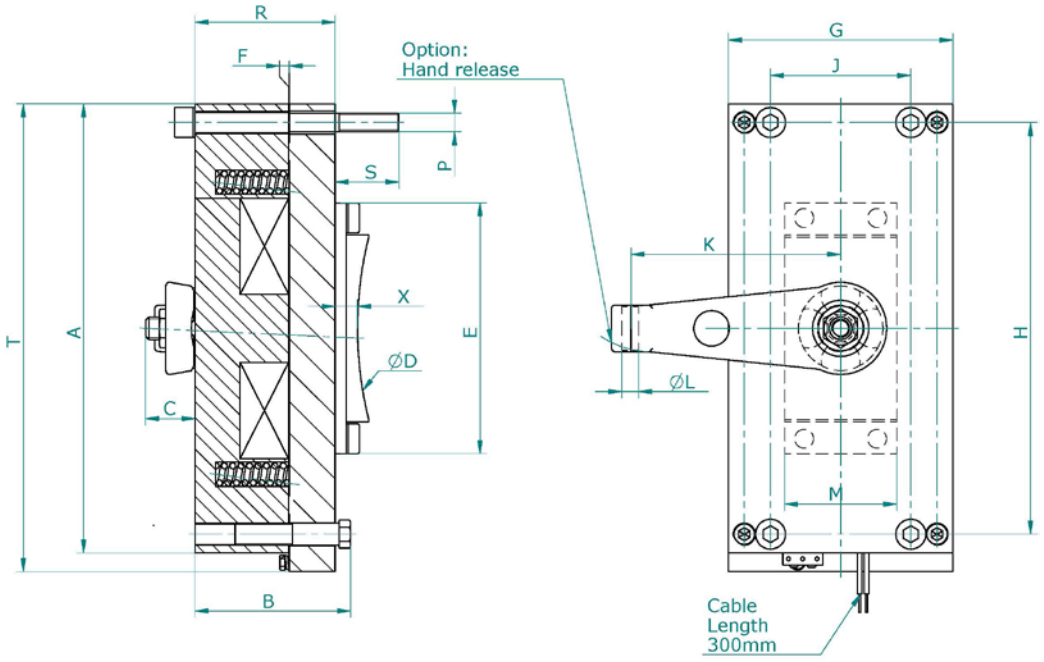
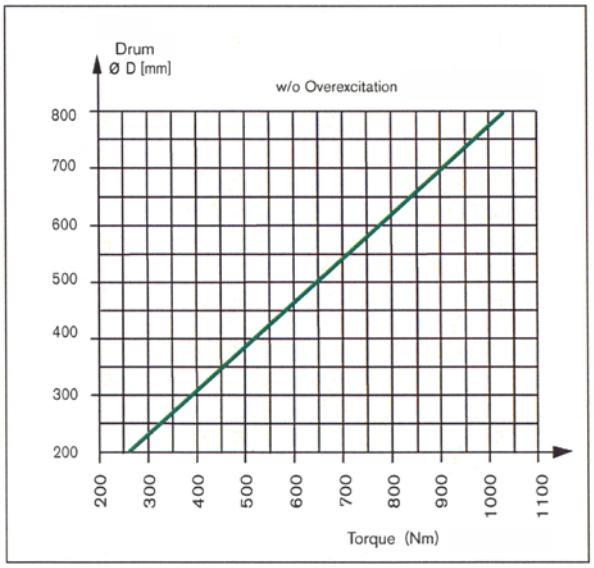
ERS VAR 12



Tolerances on the supply voltage at the brake terminals =5% / -10% (NFC 79-300).



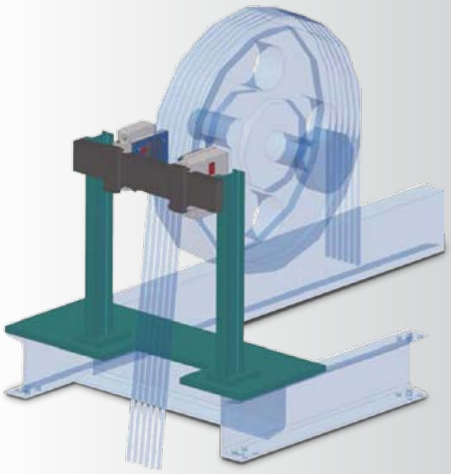
Linear speed (outer diameter of disc): standard up to 5 m/s
Friction material: Steel

Subject to alteration without prior notice.

VAR		12-03	12-04
A	mm	210	240
B	mm	93	83
C	mm	26	27
E	mm	100	134
F Nominal	mm	0,3	0,3
G	mm	120	120
H	mm	170	220
J	mm	85	75
K	mm	112,5	112,5
L	mm	9	9
M	mm	60	60
P	mm	4 X M10 X 1,5-6G	
R	mm	85	75
S	mm	25	35
T	mm	220	250
X	mm	8	12
Voltage*	VDC	24/207	24/207
ED	%	40	40
Weight	KG	16,5	16,8
Connection		Cable	Cable

Note: D has to be given by the customer.
*Single voltage

ERS VAR 14 for the Elevator Market



Elevator Applications

- Modernization

ELECTRICALLY RELEASED BRAKE FOR ELEVATORS

Sheave-Grip Modular Braking System

The VAR 14 electrically released brake is designed for modernization of gear motors and operates in static and emergency stops. It has been designed to prevent ascending car overspeed and unintended movement and complies with Section 2.19 ASME A.17.1 and EN81-20&50.

- Complies with Directive 2014/33/EU
- High modular braking system
- Standard braking force up to 6000 N
- Torque according to your sheave diameter
- Acting directly on traction sheave
- Basic configuration : 2 magnets
- Easy to install
- Microswitch equipped
- Nearly maintenance free (further information in our service manual)
- Overexcitation (dual voltage) or single voltage

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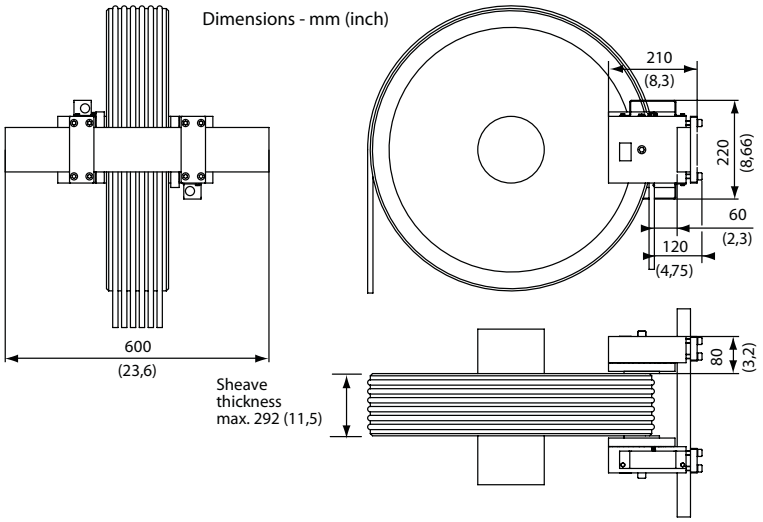
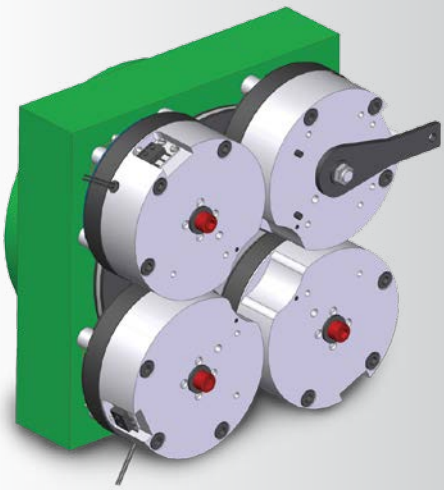
ERS VAR 14



2 Magnets Silent					2 Magnets			
Model		**ERS VAR 14-01-S**			**ERS VAR 14-01**			
Part Number		1 12 106842	1 12 106843	1 12 106844	1 12 106847	1 12 106848	1 12 106849	1 12 106850
106850								
Braking Force (magnet A&B)		5000 N	4000 N	3000 N	6000 N	5200 N	4300 N	3500 N
OPTION: Electric connection on the CBC140-5 power supply / Serial connection of the 2 magnets – Part # 2 12 095515								
Nominal voltage	+5%/ - 10%	230 VAC						
Nominal current	(holding)	2,2 A						
Overexcitation	(1,5 s)	4,4 A			Dependant on Application			
Power 20°C	(holding)	116 W						
Overexcitation	(1,5 s)	464 W						
OPTION: Electric connection on the CBC140-5 power supply / Parallel connection of the 2 magnets – Part # 2 12 095516								
Nominal voltage	+5%/ - 10%	115 VAC						
Nominal current	(holding)	2,2 A						
Overexcitation	(1,5 s)	4,4 A			Dependant on Application			
Power 20°C	(holding)	116 W						
Overexcitation	(1,5 s)	464 W						
Electric connection directly on the magnets (data for 1 magnet)								
Nominal voltage	+5%/ - 10%	52 VDC			52 VDC			
Overexcitation	(1,5 s)	103,5 VDC						
Nominal current	(holding)	1,1 A			1,1 A			
Overexcitation	(1,5 s)	2,2 A			4,5 A			
Power 20°C	(holding)	58 W			58 W			
Overexcitation	(1,5 s)	232 W						
ED		50%			100%			
Mass		31 kg (w/o connection rail)			31 kg (w/o connection rail)			
Airgap		0,4 mm			1 mm			
Temperature range	(ambient)	0°C to +40°C			0°C to +40°C			
Magnet insulation		Class F 155°C			Class F 155°C			
Maximum speed		5 m/s (outer sheave dia.)			5 m/s (outer sheave dia.)			
Switch voltage		24 VDC			24 VDC			
Switch current		10 - 100 mA			10 - 100 mA			

Subject to alteration without prior notice.

ERS VAR 15 for the Elevator Market



Elevator Applications

- Gearless Motors

ELECTRICALLY RELEASED BRAKE FOR ELEVATORS

Electrically Released Safety Brake

The ERS VAR 15, an electrically released safety brake with fixed magnets and a floating friction disc, is a highly modular braking system for gearless motors.

- Redundant system in accordance with EN 81-20/50 when two or more magnets are used
- Complies with Directive 2014/33/EU
- Compact and modular design: From 2 up to 4 magnets in standard configuration
- Torque Capacity in accordance with diameter of friction disc and number of magnets
- Available with optional hand release
- Low noise operation through the life of the brake
- Very easy installation
- Install directly on the drive housing or additional flange
- Micro switch equipped
- Nearly maintenance free (further information in our service manual)
- Overexcitation (dual voltage) or single voltage

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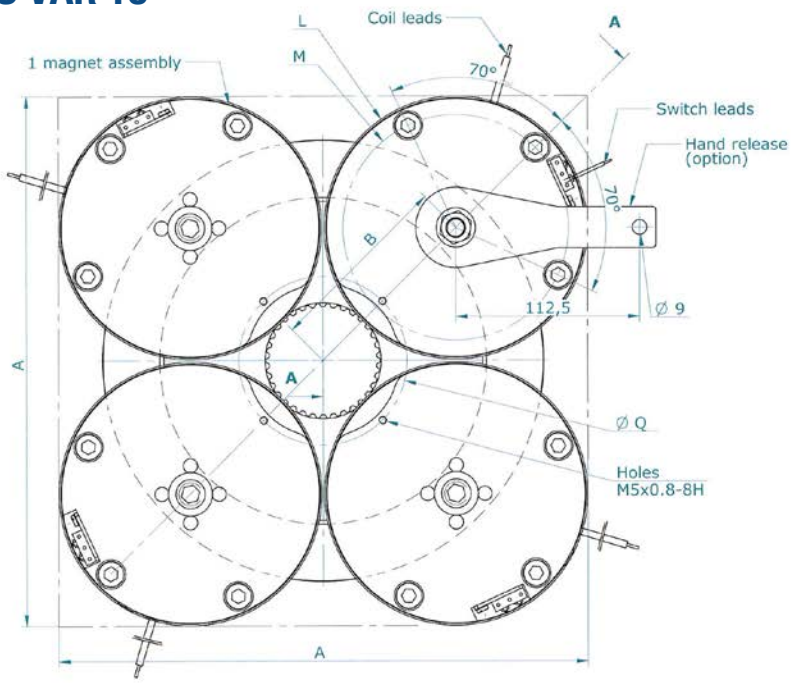
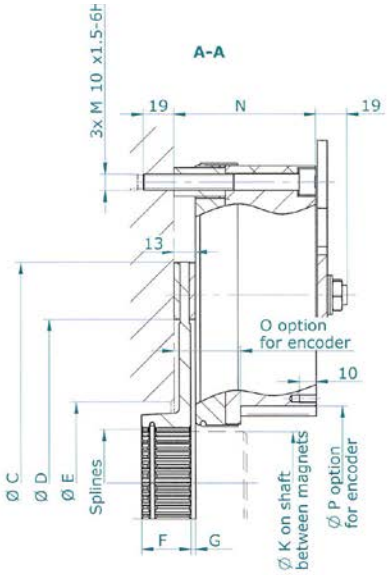
ERS VAR 15





Characteristics for 1 Magnet Assembly

Size		ERS VAR 15-02					ERS VAR 15-11				
Torque per magnet	Nm	260	320	300	350	300	400	350	450		
Nominal Torque up to (With 4 magnets)	Nm	780	960	900	1050	300**	400**	1050	1350		
Disc Ø	mm	237		270		237		270			
Cert. Max Speed	RPM	600	300	600	300	600	400	600	400		
A	mm	290		305		292		324			
B	mm	103		112		93		115			
C	mm	237		270		237		270			
D	mm	177		200		177		200			
E min	mm	100		100		100		100			
F	mm	30		30		30		30			
G	mm	3		3		3		3			
K Max	mm	59		78		25		69			
L Nominal	mm	143		143		161		161			
M	mm	124		124		138		138			
N	mm	101		101		86		86			
O (*)	mm	40		40		51		51			
P (*)	mm	83		105		50		90			
Q (*)	mm	90		108		59		103			
Weight	Kg	10		10		11		11			
Connection	-	Cable - Length 300mm - Connectors on request									

(*) Option for encoder

(**) 2 magnets maximum

Voltage (VDC)

With Overexcitation	
Holding Voltage	Overexcitation Voltage
103.5	207

Without Overexcitation
Single Voltage
207
103.5
24

Tolerances on the supply voltage at the brake terminals +5% / -10% (NF C 79-300).

ERS VAR 07 for the Elevator Market

Elevator Applications

- Gearless Motors

ELECTRICALLY RELEASED BRAKE FOR ELEVATORS

Electrically Released Failsafe Brake

The ERS VAR 07, an electrically released failsafe brake that operates in static and emergency stops, is designed to offer a double braking system in a very compact dimension. The VAR 07 is particularly suitable for gearless motors with limited space

- Redundant system in accordance with EN 81-20/50
- Complies with Directive 2014/33/EU
- Extremely compact, round design
- Compact design with torque from 100Nm up to 1000Nm
- Optional hand-release, mountable by customer
- Available with optional dustcover
- 1 shell / 2 independent braking circuits / 1 disc
- Low noise operation through the life of the brake
- Very easy installation
- Micro switch equipped
- Nearly maintenance free (further information in our service manual)
- Overexcitation (dual voltage) or single voltage

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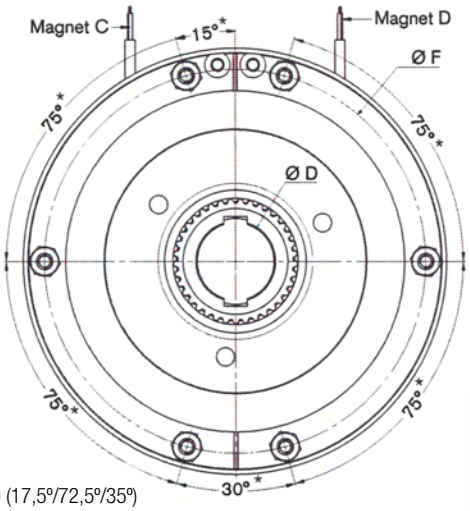
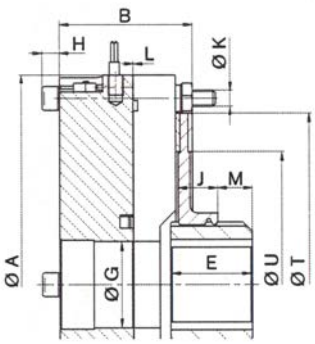
ERS VAR 07



*SZ100 (17,5º/72,5º/35º)

*SZ100 (17.5º/72.5º/35º)
*SZ300 (15º/75º/82.5º/15º/82.5º/75º)
*SZ500 (15º/57º/100.5º/15º/64.5º/93º)



Voltage (VDC)

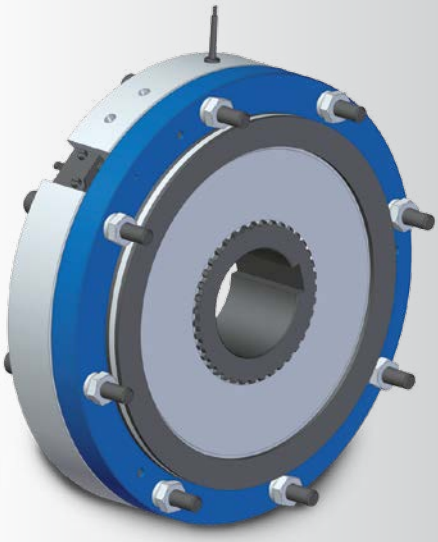
With Overexcitation

Holding Voltage	Overexcitation Voltage
24	48
52	103.5
103.5	207
ED=50%	

Tolerances on the supply voltage at the brake terminals +5% / -10% (NF C 79-300).

Size		100		200		300		420		600		800	
Standard Torque	Nm	2x100	2x125	2x220	2x260	2x315	2x350	2x350	2x450	2x500	2x600	2x900	2x1000
Cert. Max Speed	RPM	600	300	600	300	600	300	600	300	600	300	600	300
A	mm	DESIGN IN PROCESS - Available 2016		230		254		273		303		315	
B	mm			78		79		86		95		101	
D Standard H7	mm			Can very depending on customer specifications									
E	mm												
M	mm												
F	mm			204		236		255		275		288	
G	mm			58		65		65		65		65	
H	mm			9.4		9.4		9.4		11.6		13.1	
J	mm			20		34		25		30		32.5	
K	-			6xM8		6xM8		6xM8		6xM10		6xM12	
L Nominal	mm			0.4		0.4		0.4		0.4		0.4	
T	mm			174		210		233		243		258	
U	mm			145		175		190		200		200	
Hand- Release	-			OPTION - Can be mounted by customer									
Weight	Kg			15		25		32		42		54	
Inertia	kgcm			Can vary depending on customer specification									
Connection	-			Cable - Length 300mm - Connectors on request									

ERS VAR 08 for the Elevator Market



Elevator Applications

- Gearless Motors
- Gear Motors

ELECTRICALLY RELEASED BRAKE FOR ELEVATORS

Electrically Released Brake

The ERS VAR 08, suitable for new build gear motors to meet EN81-20&50 conformity, is designed to prevent ascending car overspeed and unintended movement.

- Compact design
- Standard torque capacity : 50 to 1700 Nm
- Single magnet and single friction disc
- Complies with Directive 2014/33/EU
- No airgap adjustment required
- Very easy installation
- Microswitch equipped
- Dust cover and hand release on request
- Nearly maintenance free (further information in our service manual)
- Overexcitation (dual voltage) or single voltage

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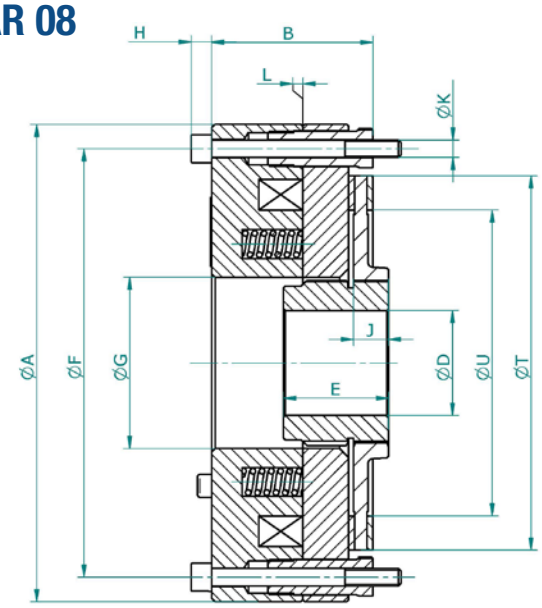
ERS VAR 08



Voltage (VDC)

With Overexcitation		Without Overexcitation
Holding Voltage	Overexcitation Voltage	SIngle Voltage
24	48	24
52	103.5	–
103.5	207	207
ED=50%		

Tolerances on the supply voltage at the brake terminals +5% / -10% (NF C 79-300).

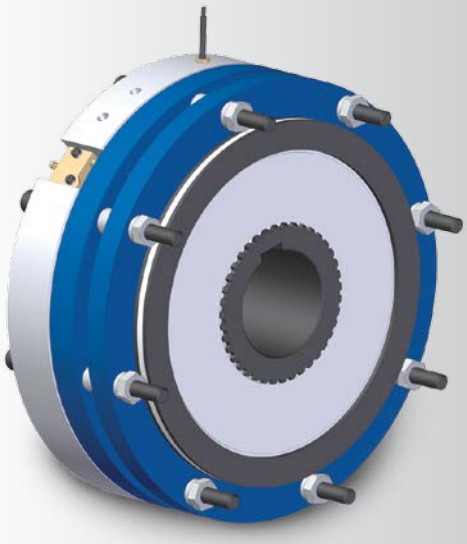
Size		050	110	200	300	600	1000	1700
Nominal Torque with Overexcitation	Nm	–	–	–	300	600	1000	1700
Nominal Torque without Overexcitation	Nm	50	110	200	300	500	–	1200
Cert. Max. speed	RPM	1000	800	500	400	400	400	400
A	mm	147	165	184	223	254	273	332
B	mm	109	72,5	69	71,5	85,5	92,5	85,5
HUB D Standard H7	mm	Can vary depending on customer specifications						
HUB E	mm							
HUB M	mm							
F	mm	132	145	170	204	230	245	305
G	mm	51	59	70	80	88	98	145
H	mm	6,7	9,4	9,4	–	11,6	13,1	13,1
J	mm	25	30	30	30	30	30	30
K	–	3 x M6	3 x M8	3 x M8	3 x M8	3 x M10	4 x M10	8 x M12
L nominal	mm	0,30	0,35	0,35	0,35	0,35	0,35	0,35
T	mm	116	125	150	174	199	214	275
U	mm	80	90	120	127	135	175	230
Hand Release	–	OPTION						*
Weight	kg	9,2	17	20	30	48	61	84
Inertia	kgcm	Can vary depending on customer specifications						
Connection		Cable – Length 300 mm						

*Not Available

Keyway according DIN 6885, tolerance P9. The working keyway length is equal to the hub length.

Subject to alteration without prior notice.

ERS VAR 10 for the Elevator Market



Elevator Applications

- Gearless Motors
- Gear Motors

ELECTRICALLY RELEASED BRAKE FOR ELEVATORS

Electrically Released Brake

The ERS VAR 10, suitable for new build gear motors to meet EN81-20&50 conformity, is designed to prevent ascending car overspeed and unintended movement.

- Compact design
- Standard torque capacity : 50 to 1700 Nm
- Single magnet and two friction discs
- Complies with Directive 2014/33/EU
- No airgap adjustment required
- Very easy installation
- Microswitch equipped
- Dust cover and hand release on request
- Nearly maintenance free (further information in our service manual)
- Overexcitation (dual voltage) or single voltage

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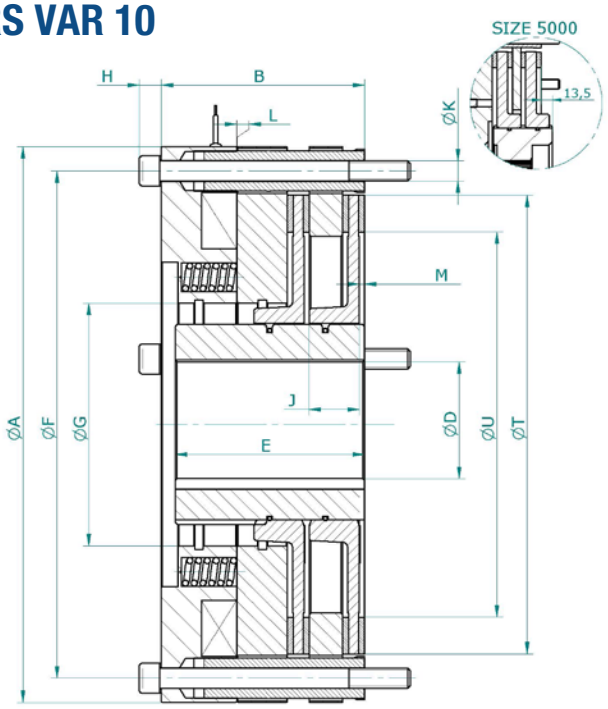
ERS VAR 10



Voltage (VDC)

With Overexcitation	
Holding Voltage	Overexcitation Voltage
24	48
52	103.5
103.5	207
ED=50%	

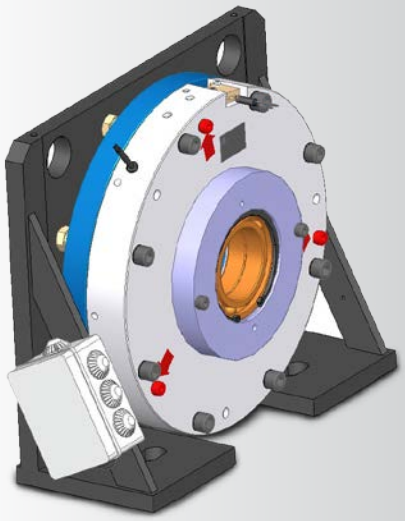
Tolerances on the supply voltage at the brake terminals +5% / -10% (NF C 79-300).

Size			1010	1600	2500	5000
Standard Torque	Nm		1000	1600	2500	5000
Other Available Torque	Min	Nm				4250
	Max	Nm			3000	5800
Cert. Max Speed	min^{-1}		250	250	250	250
A	mm		254	273	332	395
B	mm		120,5	-	118,5	166,5
D Standard H7	mm		Can vary depending on customer specifications			
E	mm					
M	mm					
F	mm		204	230	305	369
G	mm		88	98	145	88
H	mm		6,6	-	13,1	13,1
J	mm		30	30	30	28
K	-		6xM10	8xM10	8xM12	8xM12
L Nominal	mm		0,4	0,4	0,45	0,5
T	mm		199	214	275	338
U	mm		135	175	230	300
Hand Release	-		OPTION			
Weight	Kg		35,7	-	60	124
Inertia	kgcm		Can vary depending on customer specifications			
Connection			Cable - Length 300mm			

Keyway according DIN 6885, tolerance P9. The working keyway length is equal to the hub length.

Subject to alteration without prior notice.

ERS VAR 08M for the Elevator Market



Elevator Applications

- Modernization

ELECTRICALLY RELEASED BRAKE FOR ELEVATORS

Electrically Released Brake

The ERS VAR 08M, a braking system for modernization to be linked to sheave, is designed to prevent ascending overspeed for retrofit and modernization. It has been especially designed for modernization of gear motors that are already installed. The Var 08M also meets EN81-20&50 conformity

- Complies with Directive 2014/33/EU
- Standard torque capacity from 800 Nm to 1700 Nm, other torques available upon request
- Easy retrofit
- Low cost mounting solution
- Single magnet and 1 or 2 discs
- Hub fitted to the sheave
- For 2 or 3 bearing units gearmotor

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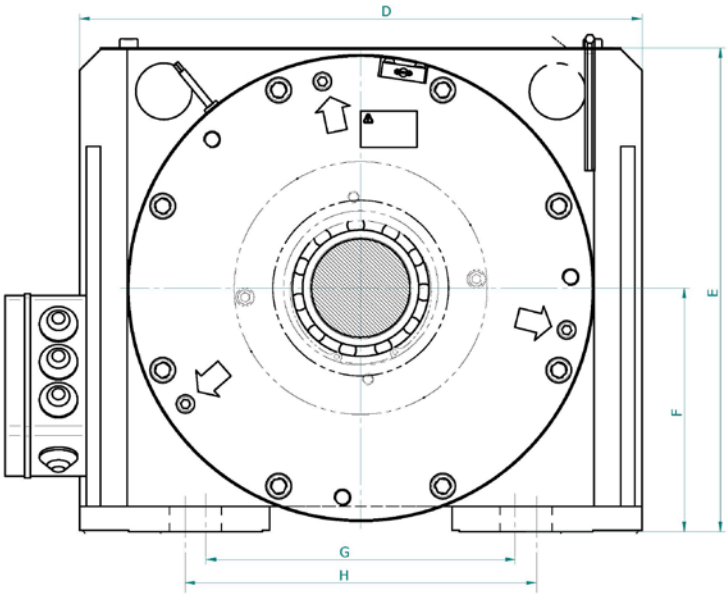
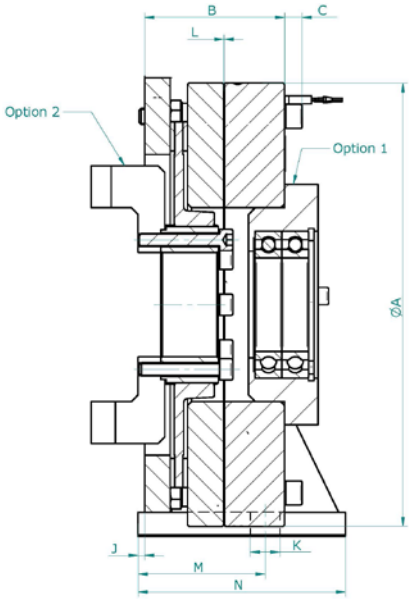
ERS VAR 08M



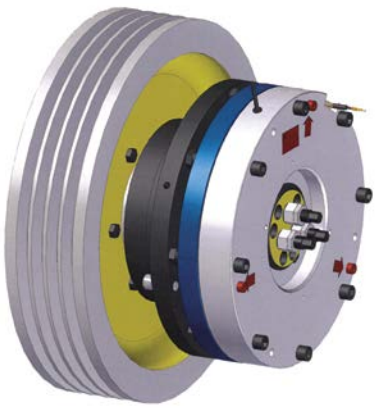


Size		800	1200	1700
Nominal Torque With Overexcitation	Nm	800	-	1700
Nominal Torque Without Overexcitation	Nm	800	1200	-
Max. Speed	min^{-1}	250	250	250
A	mm	270	332	332
B	mm	110.8	92.1	104.3
C	mm	12	13.1	13.1
D	mm	400	400	400
E	mm	310	344.4	344.4
F	mm	174.4	174.4	174.4
G	mm	220	220	220
H	mm	250	250	250
J	mm	5	5	5
K	mm	22	22	22
L nominal	mm	0.35	0.35	0.35
M	mm	95	95	95
N	mm	155	155	155
Weight	kg	50	60	70
Connection		Connection		

Voltage (VDC)

With Overexcitation		Without Overexcitation
Holding Voltage	Overexcitation Voltage	Voltage
24	48	24
52	103.5	–
103.5	207	207
ED=50%		

Tolerances on the supply voltage at the brake terminals +5% / -10% (NF C 79-300).



Existing also on bearings connected to the end shaft.

ERS TWINIX for the Elevator Market

Elevator Applications

- Gearless Motors

ELECTRICALLY RELEASED BRAKE FOR ELEVATORS

Electrically Released Failsafe Brake

The ERS TWINIX is an electrically released failsafe brake that operates in static and emergency stops. It is designed to offer a double braking system in a very compact dimension. The ERS TWINIX is particularly suitable for gearless motors with limited space.

- Redundant system in accordance with EN81-20&50
- Low noise operation through the life of the brake
- Extremely compact
- Complies with Directive 2014/33/EU
- 2 independent braking circuits / 1 disc
- No airgap adjustment required
- Very easy installation
- Microswitch equipped
- Nearly maintenance free (further information in our service manual)
- Overexcitation (dual voltage) or single voltage
- Available with optional dustcover and hand-release

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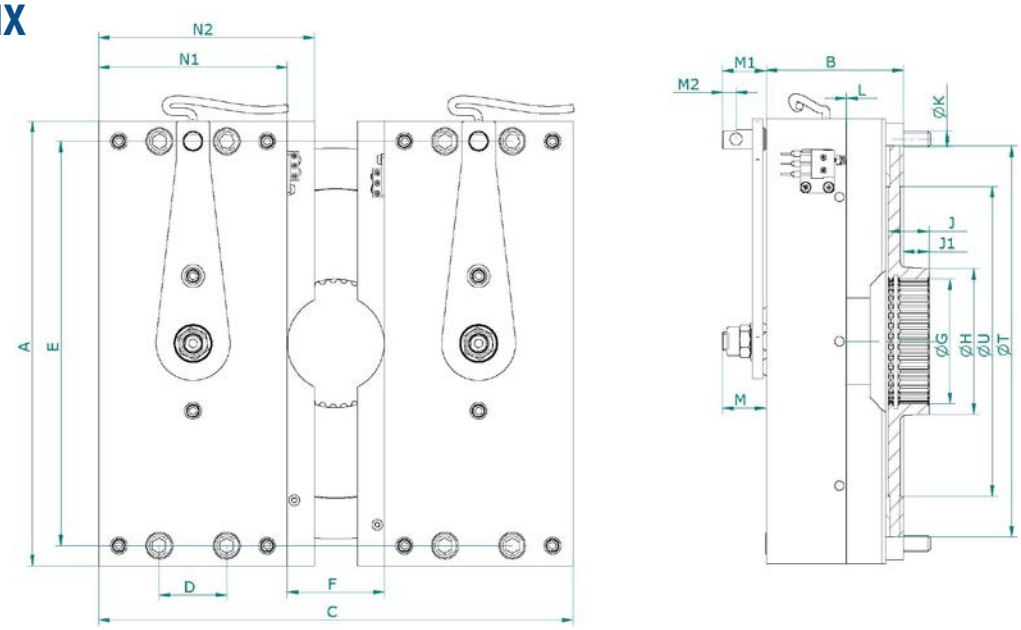
ERS TWINIX

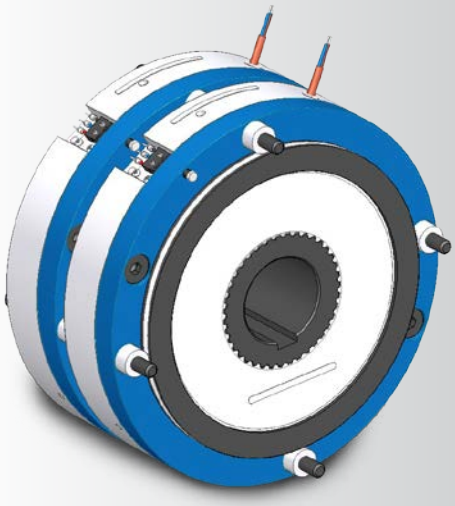


Size		800	1000
Nominal Torque	Nm	2X800	2X1000
Cert. Max Speed	RPM	400	400
A	mm	330	380
B	mm	101.9	107
C	mm	352	382
D	mm	50	60
E	mm	300	342
F	mm	72	62
G	DIN5480	95x2.5x36	95x2.5x36
H	mm	108.5	108.5
J	mm	30	30
J1	mm	19	19
K	-	8xM12	8xM16
L Nominal	mm	0.35	0.35
M	mm	32.2	32.2
M1	mm	32.2	32.2
M2	mm	22	22
N1	mm	140	160
N2	mm	160	160
T	mm	290	335
U	mm	230	270
Hand Release	-	OPTION	
Weight	Kg	61.5	89
Inertia	kgcm	Can very depending on customer specifications	
Connection		Cable - Length 300mm	

Keyway according DIN 6885, tolerance P9. The working keyway length is equal to the hub length.

Subject to alteration without prior notice.

ERS FENIX 09 for the Elevator Market



Elevator Applications

- Gearless Motors
- Gear Motors

ELECTRICALLY RELEASED BRAKE FOR ELEVATORS

Electrically Released Failsafe Brake

The ERS FENIX 09 is an electrically released failsafe brake that operates in static and emergency stops that is designed to offer a double braking system. The ERS FENIX 09 is particularly suitable for gearless motors to meet EN81-20&50 conformity.

- Complies with Directive 2014/33/EU
- Standard torque capacity from 2x100Nm up to 2x2300Nm
- 2 magnets and 2 friction discs
- Available with optional dustcover and hand release
- Low noise operation through the life of the brake
- Very easy installation
- Micro switch equipped
- Nearly maintenance free (further information in our service manual)
- Overexcitation (dual voltage) or single voltage

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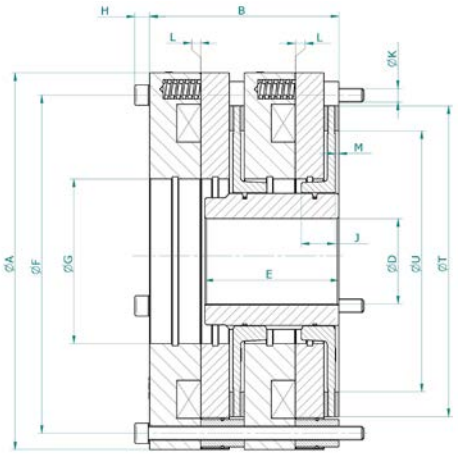
ERS FENIX 09



Voltage (VDC)

With Overexcitation		Without Overexcitation
Holding Voltage	Overexcitation Voltage	Single Voltage
24	48	24
52	103.5	–
103.5	207	207
ED=50%		

Size		02		03		06		10		15		23	
Maximum Torque	Nm	2x 200	2x 250	2x 300	2x 450	2x 800	2x 950	2x 1300	2x 1400	2x 1500	2x 1800	2x 2000	2x 2300
Cert. Max Speed	RPM	600	300	600	300	400	300	500	300	400	300	300	250
A	mm	194		234		274		332		352		395	
B	mm	159		155		181		167		221		230	
D Standard H7	mm	Can very depending on customer specifications											
E	mm												
F	mm	170		214		250		303		320		358	
G	mm	70		80		98		145		145		165	
H	mm	9.4		9.4		11.6		13.1		13.1		17.3	
J	mm	13		13		30		30		30		28.5	
K	-	3xM8		6xM8		4xM10		4xM12		6xM12		4xM16	
L Nominal	mm	0.35		0.35		0.35		0.35		0.5		0.5	
T	mm	150		193		225		275		290		325	
U	mm	116		145		175		230		230		240	
Hand- Release	-	OPTION											
Weight	Kg	25		40		62		82		127		170	
Inertia	kgcm	Can vary depending on customer specifications											
Connection	-	Cable - Length 300mm - Connectors on request											

ERS FENIX ___ ___ ___ ___ - ___ ___ ___ ___

Brake Configuration
08 1 Magnet & 1 Disc
09 2 Magnets & 2 Discs
10 1 Magnet & 2 Discs

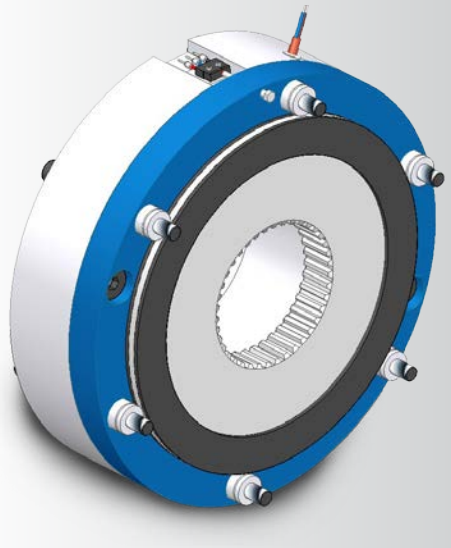
Nominal Torque of Brake size / 100

02	200 Nm	**04**	400 Nm
03	400 Nm	**06**	600 Nm
06	600 Nm	**12**	1200 Nm
10	1000 Nm	**20**	2000 Nm
15	1500 Nm	**30**	3000 Nm
23	2300 Nm	**46**	4600 Nm

Real Selling Torque of Bake

Example of name: **ERS FENIX 09 10-1000**
(Brake with 2 magnets, 2 disc, nominal torque of size = 1000Nm, real torque of size = 1000Nm)

ERS FENIX 08 for the Elevator Market



Elevator Applications

- Gearless Motors
- Gear Motors

ELECTRICALLY RELEASED BRAKE FOR ELEVATORS

Electrically Released Brake

The ERS FENIX 08 is an electrically released brake that is intended to prevent ascending car overspeed and unintended movement. The ERS FENIX 08 is suitable for new build gear motors to meet EN81-20&50 conformity.

- Complies with Directive 2014/33/EU
- Compact design with torque from 100Nm up to 2300Nm
- Single magnet and single friction disc
- Available with optional dustcover and hand release
- Low noise operation through the life of the brake
- Very easy installation
- Micro switch equipped
- Nearly maintenance free (further information in our service manual)
- Overexcitation (dual voltage) or single voltage

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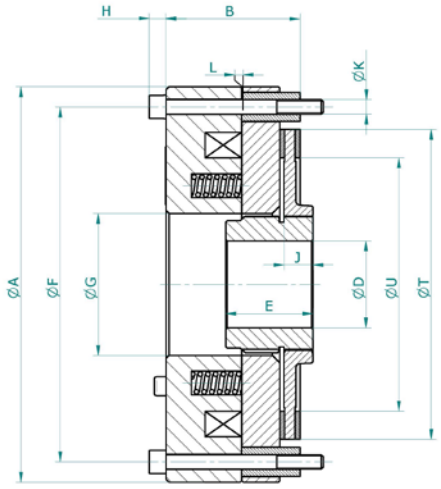
ERS FENIX 08



Voltage (VDC)

With Overexcitation		Without Overexcitation
Holding Voltage	Overexcitation Voltage	Single Voltage
24	48	24
52	103.5	–
103.5	207	207
ED=50%		

Size		02		03		06		10		15		23	
Maximum Torque	Nm	200	250	300	450	800	950	1000	1400	1500	1800	2000	2300
Cert. Max Speed	RPM	600	300	600	300	400	300	250	250	250	250	250	250
A	mm	194		234		274		332		352		395	
B	mm	80		78		91		83		111		115	
D Standard H7	mm	Can very depending on customer specifications											
E	mm												
F	mm	170		214		250		303		320		358	
G	mm	70		80		98		145		145		165	
H	mm	9.4		9.4		11.6		13.1		13.1		17.3	
J	mm	13		13		30		30		30		28.5	
K	-	3xM8		6xM8		4xM10		4xM12		6xM12		4xM16	
L Nominal	mm	0.35		0.35		0.35		0.35		0.5		0.5	
T	mm	150		193		225		275		290		325	
U	mm	116		145		175		230		230		240	
Hand- Release	-	OPTION											
Weight	Kg	13		20		32		41		63		80	
Inertia	kgcm	Can vary depending on customer specifications											
Connection	-	Cable - Length 300mm - Connectors on request											

ERS FENIX ___ ___ ___ ___ - ___ ___ ___ ___

Brake Configuration

08	1 Magnet & 1 Disc
09	2 Magnets & 2 Discs
10	1 Magnet & 2 Discs

Nominal Torque of Brake size / 100

02	200 Nm	**04**	400 Nm
03	400 Nm	**06**	600 Nm
06	600 Nm	**12**	1200 Nm
10	1000 Nm	**20**	2000 Nm
15	1500 Nm	**30**	3000 Nm
23	2300 Nm	**46**	4600 Nm

Real Selling Torque of Bake

Example of name: **ERS FENIX 08 10-1000**
(Brake with 1 magnets, 1 disc, nominal torque of size = 1000Nm, real torque of size = 1000Nm)

ERS FENIX 10 for the Elevator Market

Elevator Applications

- Gearless Motors
- Gear Motors

ELECTRICALLY RELEASED BRAKE FOR ELEVATORS

Electrically Released Brake

The ERS FENIX 10 is an electrically released brake that is intended to prevent ascending car overspeed and unintended movement. The ERS FENIX 10 is suitable for new build gear motors to meet EN81-20&50 conformity.

- Complies with Directive 2014/33/EU
- Compact design with torque from 200Nm up to 4600Nm
- Single magnet and two friction disc
- Available with optional dustcover and hand release
- Low noise operation through the life of the brake
- Very easy installation
- Micro switch equipped
- Nearly maintenance free (further information in our service manual)
- Overexcitation (dual voltage) or single voltage

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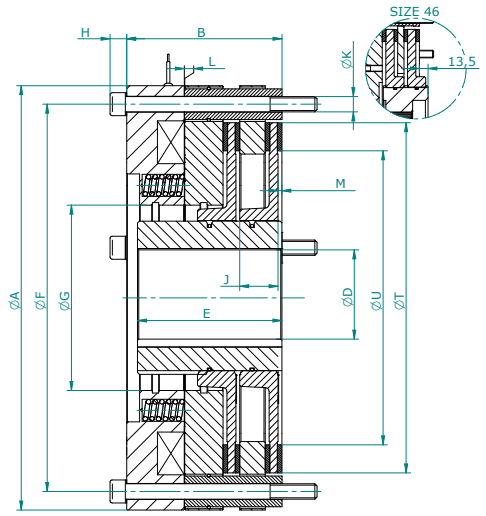
ERS FENIX 10



Voltage (VDC)

With Overexcitation		Without Overexcitation
Holding Voltage	Overexcitation Voltage	Single Voltage
24	48	24
52	103.5	–
103.5	207	207
ED=50%		

Size		04		06		12		20		30		46	
Maximum Torque	Nm	400	500	600	900	1600	1800	2000	2600	3000	3500	4000	4600
Cert. Max Speed	Nm	600	300	600	300	400	300	250	250	250	250	250	250
A	Nm	194		234		274		332		352		395	
B	RPM	105		105		122		116		144		148	
D Standard H7	mm	Can very depending on customer specifications											
E	mm												
F	mm	170		214		250		303		320		358	
G	mm	70		80		98		145		145		165	
H	mm	9.4		9.4		11.6		13.1		13.1		17.3	
J	mm	13		13		30		30		30		28.5	
K	mm	3xM8		6xM8		4xM10		4xM12		6xM12		4xM16	
L Nominal	mm	0.35		0.35		0.35		0.35		0.5		0.5	
T	mm	150		193		225		275		290		325	
U	-	116		145		175		230		230		240	
Hand- Release	mm	OPTION											
Weight	mm	16		26		40		52		81		100	
Inertia	mm	Can vary depending on customer specifications											
Connection	-	Cable - Length 300mm - Connectors on request											

ERS FENIX ___ ___ ___ ___ - ___ ___ ___ ___

Brake Configuration
- **08** 1 Magnet & 1 Disc
- **09** 2 Magnets & 2 Discs
- **10** 1 Magnet & 2 Discs

Nominal Torque of Brake size / 100
- **02** 200 Nm
- **03** 400 Nm
- **06** 600 Nm
- **10** 1000 Nm
- **15** 1500 Nm
- **23** 2300 Nm
- **04** 400 Nm
- **06** 600 Nm
- **12** 1200 Nm
- **20** 2000 Nm
- **30** 3000 Nm
- **46** 4600 Nm

Real Selling Torque of Bake

Example of name: **ERS FENIX 10 12-1200**
(Brake with 1 magnets, 2 discs, nominal torque of size = 1200Nm, real torque of size = 1200Nm)

CBCx-001 Switch for the Elevator Market

Elevator Applications

- Power-off applications based on ERD or ERS brakes

LOGIC CONTROLLED POWER SUPPLY FOR ELEVATORS

Fast Acting AC Rectifier For Power-Off Brake and Clutch Applications

The CBCx-001 power supply is an AC rectifier providing a time programmable Over-excitation voltage as well as an integrated On/Off switch.

This is particularly suitable to all Power-Off applications based on our well known Elevator Brakes, ERD or ERS brakes.

The Over-excitation feature is automatically switching from a full bridge to a single wave rectification after a programmable time (from 50 ms up to 4 s). It can easily be disabled to convert your power supply in a Single or Double wave rectifier.

The On/Off Control allows this power supply to be driven directly thru an external PLC or control board. Thanks to its integrated PNP input, the power can be directly applied or removed without using any external Switches or Relays.

The DC power-off feature associated to the state of the art snubber design allows drastic reduction of the engagement time requested by most of the security related applications.

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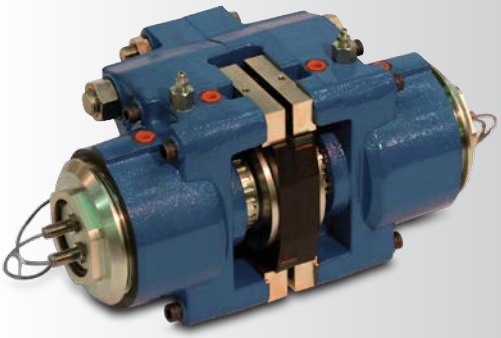
CBCx-001 Switch – Overexcitation / Logic Controlled Power Supply

Advantages

- Significant cost reductions with saving all external power relays : over-excitation and power on/off control.
- Shorten your application response time
- Annihilate all engagement/disengagement noise of all external relays.

Input Voltage	100 VAC to 500 VAC
Output	90 VDC to 450 VDC
Max Current	4 Amps @ 500 VAC
Over-Excitation	Integrated programmable timer (from 50 ms to 4 s). No external resistors needed: integrated DIP switches. Selectable use: Enable / Disable.
ON/OFF Control	Integrated PNP Input (8 to 30 VDC). Can be disabled.
Shorter Response time DC switch off	Integrated back EMF suppression thanks to its over dimensioned suppression and snubber circuitry.
Certifications	CE, UL approved

Twiflex VCS for the Elevator Market



Elevator Applications

- Caliper Brakes

HYDRAULICALLY RELEASED CALIPER BRAKE FOR ELEVATORS

Hydraulically Released Brake

The Twiflex VCS is a caliper braking system for high rise buildings and heavy duty escalators.

- For elevators, protects against ascending overspeed and unintended movement
- For escalators, ensures stoppage in a smooth and safe manner when experiencing power or other system failure
- Braking force from 20 kN to 60 kN
- Highly modular - greater braking torques achievable with use of multiple brakes
- Particular strength with long, heavy-duty escalators
- Hydraulic power supply units also available
- Overexcitation (dual voltage) or single voltage

www.twiflex.com

Twiflex® Limited

VCS Series Disc Brakes

Application

The VCS Series (modular) disc brake has been specifically designed for both static holding and dynamic (emergency) stopping duty. The braking force is applied by springs located in each module and released by hydraulic pressure. The rate of application and release can be controlled. Depending on the spring pack selected, a maximum braking force of 60kN can be achieved per brake unit. VCS brakes can be used on a wide variety of industrial and marine applications including conveyor drives, hoisting drums, rolling mills, winches, process lines, and cranes.

Description

The VCS Caliper is comprised of two modules located on either side of a mounting plate which could be made to accommodate brake discs of 20mm and over. Each module consists of a spring pack to provide the clamping/ braking force. The minimum disc diameter is 500 mm. A flange mounted version of the caliper is available for special applications.

Special Features

- Modular construction for easy maintenance and assembly
- Rugged design and corrosion protection for reliable service in challenging operational environments
- Low Pad Pressures Pad Area = 296.8 cm2 (2 Pads)
- Designed for dynamic use with infinite fatigue and exceeding mining standards on stressed parts
- Easy setup and adjustment to precisely tailor to wide ranging operational requirements
- Suitable for “soft braking”
- Wide choice of designs based on standard components
- Backed by a global network of dealers
- Air gap adjustment from rear
- Monitoring sensors for brake on/off and pad adjustment are available

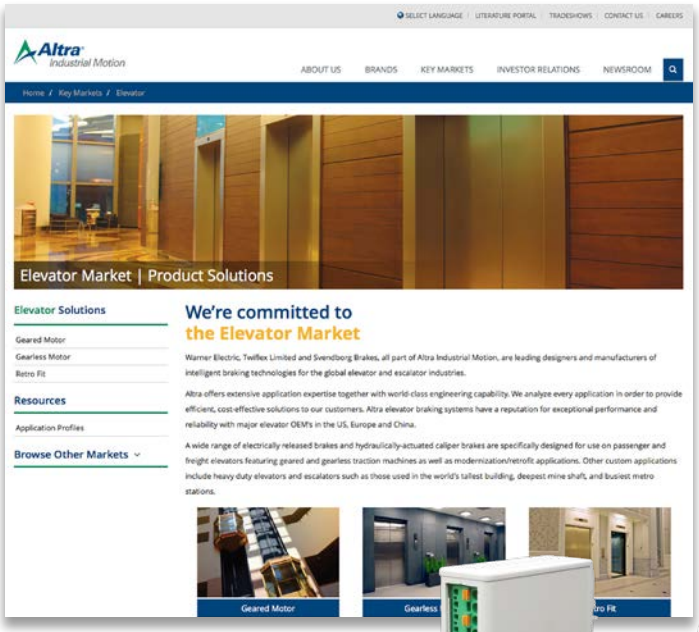
VCS MK4 Spring/Floating Module

Caliper Type	Braking Force kN	Release Pressure bar	Max Retraction Pressure bar	Air Gap in. (mm)
VCS 70	60	131	160	.067 (1.7)
VCS60	50	113	148	.079 (2.0)
VCS 50	40	94	131	.079 (2.0)
VCS40	30	75	113	.079 (2.0)
VCS30	20	54	94	.079 (2.0)

Elevator Solutions

WE'RE COMMITTED TO THE ELEVATOR MARKET

Visit our Elevator Market Portal for more information regarding our products, application solutions, brands and related literature.



Altra Industrial Motion
Elevator Solutions

www.AltraElevators.com

- Warner Electric and Twiflex Limited offer a full range of electrically released brakes and hydraulically-actuated caliper brakes that are specifically designed for use on passenger and freight elevators featuring geared and gearless traction machines as well as modernization/retrofit applications
- Altra elevator braking systems have a reputation for exceptional performance and reliability with major elevator OEM's in the US, Europe and China.

Warner Electric and Twiflex Limited provide a variety of customized solutions to meet specific performance and installation requirements for elevator applications.

Geared Motor

- CBCx-001 Switch
- ERS Fenix 08
- ERS Fenix 09
- ERS Fenix 10
- ERS VAR 08/VAR 10
- ERS VAR 09
- ERS VAR 11
- VCS Series Disc Brake Caliper

Gearless Motor

- CBCx-001 Switch
- ERS Fenix 08
- ERS Fenix 09
- ERS Fenix 10
- ERS Twinix
- ERS VAR 07
- ERS VAR 08/VAR 10
- ERS VAR 09
- ERS VAR 11
- ERS VAR 15
- VCS Series Disc Brake Caliper

Retrofit

- ERS VAR 14

Altra Industrial Motion

All Customer Service phone numbers shown in bold

Belted Drives and Sheaves

TB Wood's

Belted Drives

Chambersburg, PA - USA
1-888-829-6637 – Press #5

For application assistance:
1-888-829-6637 – Press #7

Couplings

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Mill Spindles, Ameriflex, Ameridisc

Erie, PA - USA
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Gear Couplings

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Bibby Turboflex

Disc, Gear, Grid Couplings, Overload Clutches

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+27(0) 11 918 4270

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Chambersburg, PA - USA
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Couplings Cont.

Lamiflex Couplings

Flexible Couplings, Bearing Isolators, and Coupling Guards

Cotia, SP - Brasil
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TB Wood's

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Electromagnetic Clutches and Brakes

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Electromagnetic Clutches and Brakes, Pressure Operated Clutches and Brakes

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+44 (0) 1356 602000

New Hartford, CT - USA
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Warner Electric

Electromagnetic Clutches and Brakes

New Hartford, CT - USA
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For application assistance:
1-800-825-9050

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Precision Electric Coils and Electromagnetic Clutches and Brakes

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Kilian Manufacturing

Engineered Bearing Assemblies

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Gearing

Bauer Gear Motor

Geared Motors

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Boston Gear

Enclosed and Open Gearing, Electrical and Mechanical P.T. Components

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Nuttall Gear and Delroyd Worm Gear

Worm Gear and Helical Speed Reducers

Niagara Falls, NY - USA
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Heavy Duty Clutches and Brakes

Industrial Clutch

Pneumatic and Oil Immersed Clutches and Brakes

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Industrial Brakes and Brake Systems

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Twiflex Limited

Caliper Brakes and Thrusters

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Wichita Clutch

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Formsprag Clutch

Overrunning Clutches and Holdbacks

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South Beloit, IL - USA
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Stieber Clutch

Overrunning Clutches and Holdbacks

Heidelberg, Germany
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For information concerning our sales offices in Asia Pacific check our website www.altramotion.com.cn

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Elevator Brakes

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