ENR Serisi Yay Baskılı Fren
ENR Series Spring Applied Brake



Ürün Tanımı I Product Description

ENR Serisi modüler yapıda tasarlanmıştır. Hareket halindeki yüklerin kontrollü duruş ve kalkışını sağlar. Kontrolsüz yüklerin tehlike yaratmadan emniyetli olarak duruşunu gerçekleştirir. Kullanım alanına göre seçim yapıldıktan sonra bağlantı aksesuarları yardımıyla montajı yapılır. Sofistike tasarımı sebebiyle motor gövdesi üzerinde işlem yapmadan hızlı ve güvenli şekilde akuple etmek mümkündür.

ENR Series have designed modular. Provides controlled stop and take-off of moving loads. Ensures safe stop of uncontrolled loads. After selection according to the application, it is assembled by connection accessories. Due to its sophisticated design, it is possible to coupling the motor housing quickly and safely without any operation.

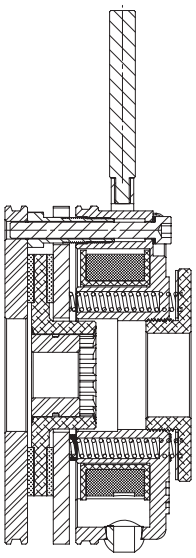
Çalışma Prensibi I Working Principle

ENARC ENR serisinde, yay baskılı fren gövdesinde kurulu yaylar baskı flanşını iter. Baskı flanşı ve motor fren flanşı ile temas eden balata, frenleme görevini gerçekleştirir.

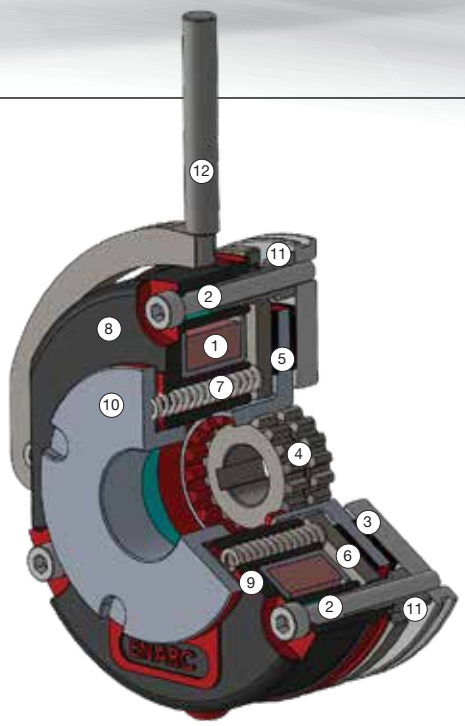
Sargıya verilen elektirik enerjisi ile sargı, fren statorunda manyetik alan oluşturur. Manyetik alanın gücü yayların gücünü yener. Milin üzerindeki frenleme direncini kaldırarak serbest halde dönmesine olanak sağlar.

At ENARC ENR series, springs are installed in stator frame applies pressure to braking flange. The shoe contacts with brake flange and motor endshield flange then brake stops shaft.

When power on, the winding provides a magnetic field in the brake stator. The strength of the magnetic field beats the force of the springs. Release the braking resistor on the shaft and allows it to rotate freely.



1- **Bobin /** Coil
2- **Gövde Montaj Civatası /** Connecting Screw
3- **Tespit Flanşı /** Connecting Flange
4- **Dişli /** Gear
5- **Balata /** Shoe
6- **Balata Baskı Diski /** Shoe Pressure Disc
7- **Baskı Yayı /** Pressure Spring
8- **Gövde /** Stator
9- **Baskı Yayı Pulu /** Pressure Spring Scale
10- **Tork Ayar Kapağı /** Torque Adjustment Cover
11- **Fren Ayar Vidası /** Brake Adjustment Screw
12- **Manuel Kol /** Hand Release



Asenkron motorlarda tavsiye edilen ENR Yay baskılı fren seçim tablosu

ENR brakes are recomended to use for asynchronus motors Selection Table for standard brakes are as shown.

ENR Serisi Fren Seçim Tablosu / ENR Series Brake Selection Table

Motor Gücü *Motor Power* **(kW)**	**900** **(d/dk** - *rpm***)**	**Tip** *Type*	**1500** **(d/dk** - *rpm***)**	**Tip** *Type*	**3000** **(d/dk** - *rpm***)**	**Tip** *Type*
0.12			63	ENR-01		
0.18	71	ENR-01	63	ENR-01	63	ENR-01
0.25	71	ENR-01	71	ENR-01	63	ENR-01
0.37	80	ENR-02	71	ENR-01	71	ENR-01
0.55	80	ENR-02	80	ENR-02	71	ENR-01
0.75	90	ENR-03	80	ENR-02	80	ENR-02
1.1	90	ENR-03	90	ENR-03	80	ENR-02
1.5	100	ENR-04	90	ENR-03	90	ENR-03
2.2	112	ENR-05	100	ENR-04	90	ENR-03
3.	132	ENR-06	100	ENR-04	100	ENR-04
4.	132	ENR-06	112	ENR-05	112	ENR-05
5.5	132	ENR-06	132	ENR-06	132	ENR-06
7.5	160	ENR-07	132	ENR-06	132	ENR-06
11	160	ENR-07	160	ENR-07	160	ENR-07
15	180		160	ENR-07	160	ENR-07
18.5	200		180		160	ENR-07

Hesaplama - Calculation

P : **Motor Gücü -** *Motor Power* **(kW)**

n : **Devir Sayısı -** *Rotational Speed* **(devir/dak.)**

Mr : **Hesaplanmış Moment -** *Calculated Moment* **(Nm.)**

Mk : **Fren Moment Değeri -** *Brake Torque Value* **(Nm.)**

K : **Emniyet Katsayısı -** *Safety Factor* **(2-4)**

$$Mr : \frac{9550 \times P \times 2}{n} = Mk.\ Nm.$$

Örnek Çalışma - Calculation Method

Motor Gücü - *Motor Power* **4 kW**

Devir Sayısı - *Rotational Speed* **1500 devir/dak.**

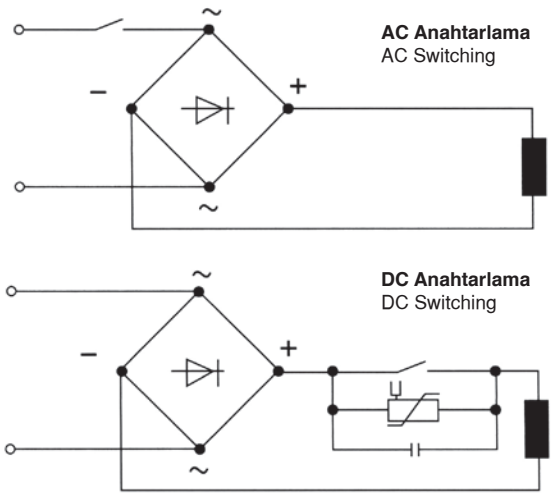
$$Mr : \frac{9550 \times 4 \times 2}{1500} = 50{,}9\ Nm.$$

ENR Serisi yüksek teknolojisi ve maksimum verimliliği

ENR Series high technology and maximum efficiency selection table

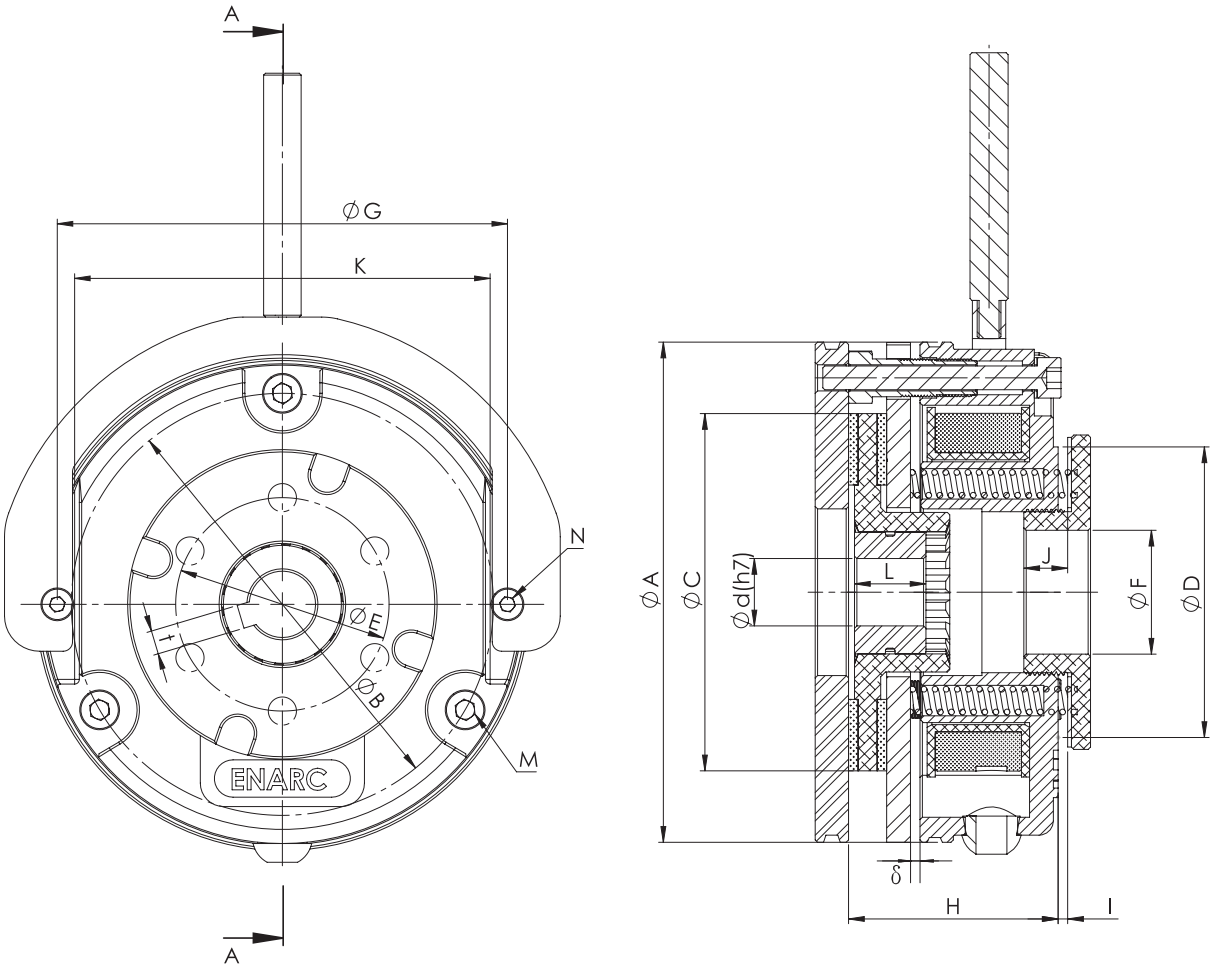


ENR Serisi Teknik Bilgiler / ENR Series Technical Informations					
ENR Tip / *Type*	**Gövde** *Frame*	**Tork** *Torque* **(Nm)**	**Güç** *Power* **(W)**	**Maksimum Dönme Hızı** *Max. Rotation Speed* **(d/dk** *- rpm***)**	**Çalışma Hava Boşluğu** *Working Air Gap* **(mm)**
ENR-01	63 / 71	10	25	3600	0.30
ENR-02	80	15	30	3600	0.30
ENR-03	90	20	35	3600	0.30
ENR-04	100	40	45	3600	0.30
ENR-05	112	60	55	3600	0.40
ENR-06	132	90	65	3600	0.40
ENR-07	160	200	70	3600	0.40



ENR serisi fren sistemlerinde fren bobinine DC voltaj uygularken iki yol kullanılır.
1- Yavaş açma kapama için AC anahtarlama
2- Hızlı açma kapama için DC anahtarlama

ENR series are operating with 2 different DC voltage level
1- Soft turn on - turn off operation by AC switching
2- Fast Turn on - Turn off operation by DC switching



ENR Serisi Teknik Ölçüler / ENR Series Technical Dimensions																	
ENR **Tip /** *Type*	**A (Ø)**	**B (Ø)**	**C (Ø)**	**D (Ø)**	**E (Ø)**	**F (Ø)**	**G (Ø)**	**H**	**I**	**J**	**K**	**L**	**d (Ø) h7**	**t**	**M**	**N**	**δ**
ENR-01	105	90	75	61	45,5	26	96	42	1-1,5	16	90	15	11/14	4/5	3x5,5	2x4,5	0.30
ENR-02	115	103	88	70	58,25	26	106	46	1-1,5	22	99	20	19	6	3x6,5	2x4,5	0.30
ENR-03	125	112	97	81	62,15	41	116	46	1,5-2	17	106	20	24	6/8	3x6,5	2x4,5	0.30
ENR-04	150	133	117	97,5	82,6	59	136	62	1,5-2	19	126	25	28	6/8	3x6,5	2x5,5	0.30
ENR-05	161	145	128	97,5	82,5	59	147	67,5	1,5-2	20,5	133	20	28	6/8	3x8,5	2x5,5	0.40
ENR-06	190	170	151	108	90	59	176	74	2-2,5	20	162	20	38	8/10	3x8,5	2x5,5	0.40
ENR-07	220	196	240	108	91	59	205	78	2-2,5	27	194	25	42	8/12	6x10,5	2x5,5	0.40

Ölçüler mm. dir *Dimensions in mm.*
Standart kama DIN 6885/1 *Standart DIN 6885/1 wedge*
Manuel kol aksesuardır *Hand release is accessories*