EMP THROUGH BORE BRAKES
FREINS EMP AVEC ARBRES TRAVERSANTS

The most popular range of MEROBEL's EMP Brakes, offering tailored solutions for every need with:
- **10 sizes**
- up to **5 different versions** for each size (heat dissipation options).

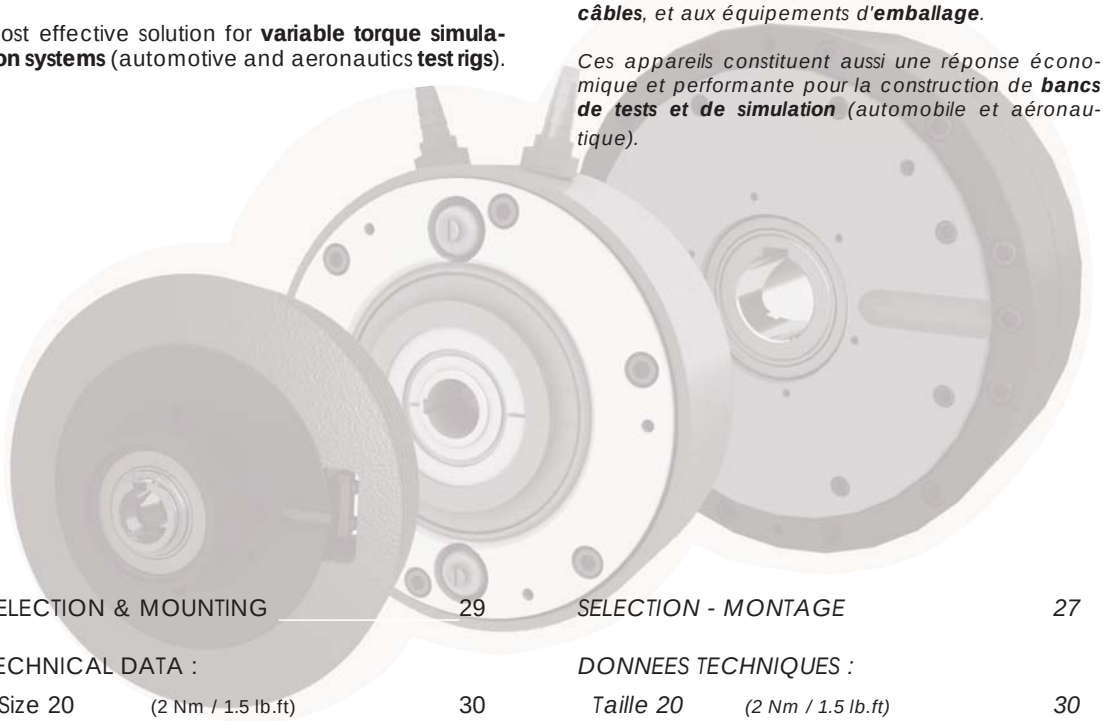
Specifically designed to be easily installed on **Converting, Printing, Wire & cable, and Packaging** machines to name a few.

Cost effective solution for **variable torque simulation systems** (automotive and aeronautics **test rigs**).

*La plus large et la plus diffusée des gammes de freins MEROBEL permet d'offrir une réponse technique à tous les besoins à partir des **10 tailles** et des **5 versions** (capacité de dissipation de puissance) disponibles en standard pour chacune de ces tailles.*

*Cette gamme offre une conception tout spécialement adaptée aux machines d'**impression**, de transformation (**converting**), de déroulement des **fils et câbles**, et aux équipements d'**emballage**.*

*Ces appareils constituent aussi une réponse économique et performante pour la construction de **bancs de tests et de simulation** (automobile et aéronautique).*



SELECTION & MOUNTING 29

TECHNICAL DATA :

Size 20	(2 Nm / 1.5 lb.ft)	30
Size 50	(5 Nm / 4 lb.ft)	32
Size 120	(12 Nm / 9 lb.ft)	34
Size 350	(35 Nm / 26 lb.ft)	36
Size 650	(65 Nm / 50 lb.ft)	38
Size 1200	(120 Nm / 90 lb.ft)	40
Size 2002	(200 Nm / 150 lb.ft)	42
Size 3500	(350 Nm / 260 lb.ft)	44

SELECTION - MONTAGE 27

DONNEES TECHNIQUES :

Taille 20	*(2 Nm / 1.5 lb.ft)*	*30*
Taille 50	*(5 Nm / 4 lb.ft)*	*32*
Taille 120	*(12 Nm / 9 lb.ft)*	*34*
Taille 350	*(35 Nm / 26 lb.ft)*	*36*
Taille 650	*(65 Nm / 50 lb.ft)*	*38*
Taille 1200	*(120 Nm / 90 lb.ft)*	*40*
Taille 2002	*(200 Nm / 150 lb.ft)*	*42*
Taille 3500	*(350 Nm / 260 lb.ft)*	*44*

Looking for higher torque capacity? Please refer to the next chapter: EMP Brakes High Torque (p 46)

Pour des capacités supérieures en couple, se référer au chapitre suivant: Freins EMP "high torque" (p 46)

All data subject to change without notice
Données susceptibles d'être modifiées sans préavis

SELECTION GUIDE - MOUNTING RECOMMENDATIONS
GUIDE DE SELECTION - CONSEILS DE MONTAGE

Selection guide / *Guide de sélection*

Standard sizing procedure

1 - The rated torque of the brake selected must be greater than the highest torque required by the application. The reduction ratio (gears or belts) must be considered when making the calculation.

2 - The maximum heat generated by the application must be lower than the rated power dissipation of the specified brake and cooling option.

3 - The rated residual torque must be lower than the minimum requested by the application (again, according to ratio).

4 - The speed range must be within the min. / max. of the brake selected (if not, please consult your local supplier).

For calculation details, please refer to pages 12 and 17

Procédure de sélection usuelle

1 - Le couple nominal du frein choisi doit être supérieur à la valeur demandée la plus élevée (si nécessaire, prendre en compte les rapports de réduction -pignons ou courroies).

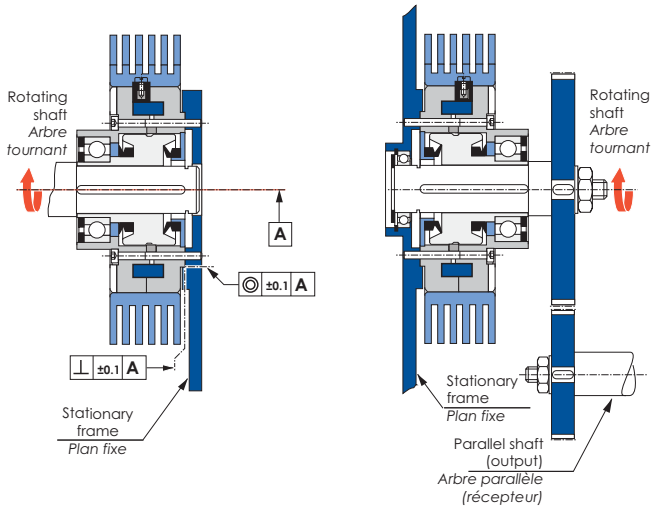
2 - La puissance max. dissipée (couple et vitesse), doit demeurer inférieure à celle qui est disponible, en fonction des options de refroidissement choisies.

3 - La valeur de couple résiduel doit être inférieure à celle imposée par l'application (en prenant à nouveau en compte le rapport de réduction).

4 - La gamme de vitesse doit rester dans les limites du min. / max. du frein choisi (merci de consulter votre distributeur local dans le cas contraire).

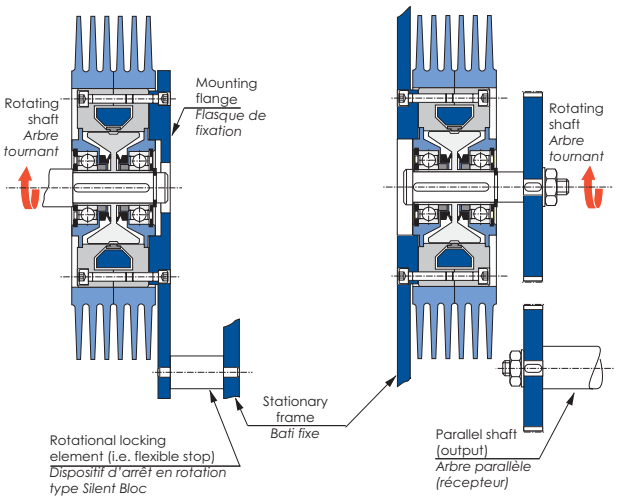
Pour les détails de calcul, se référer aux pages 12 et 17

Mounting recommendations / *Conseils de montage*



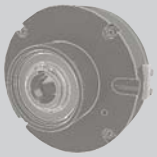
Brakes size 20 and 50
(Only one internal ball bearing by design)

Freins taille 20 et 50
(conçus avec un seul roulement à billes interne)

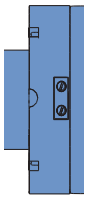


All other sizes

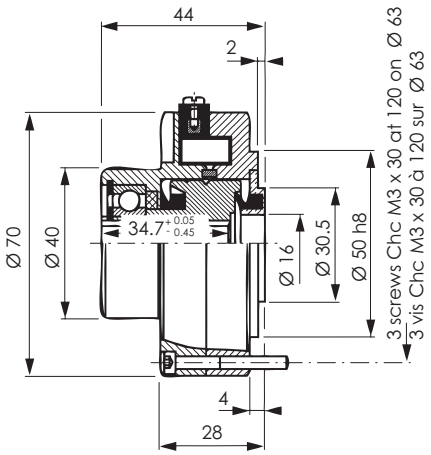
Toutes autres tailles

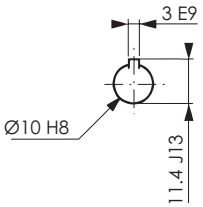


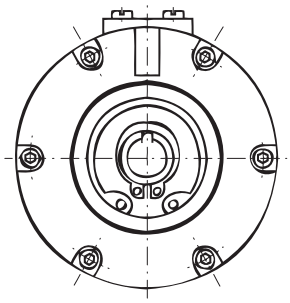
FAT 20

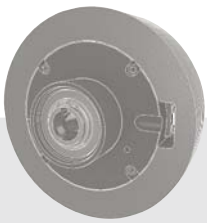


DIMENSIONS - Size 20
DIMENSIONS - Taille 20

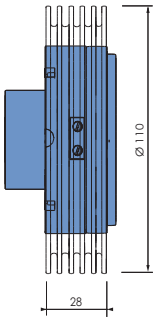




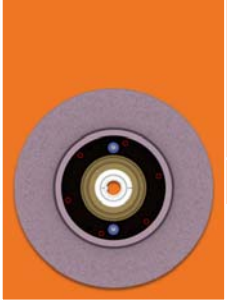




FRAT



All data subject to change without notice
Données susceptibles d'être modifiées sans préavis



TECHNICAL DATA - Size 20
DONNEES TECHNIQUES - Taille 20

Features / *Caractéristiques*

Technical Features	***Données techniques***				
Rated torque	*Couple nominal*	Nm	**2**	*lb.ft*	***1.5***
Rated current	*Courant nominal*	A	**0.40**	*Amp*	***0.40***
Residual torque	*Couple résiduel*	Nm	**0.04**	*lb.ft*	***0.03***
Residual torque RR (1)	*Couple résiduel RR (1)*	Nm	**0.08**	*lb.ft*	***0.06***
Coil resistance (2)	*Impédance de la bobine (2)*	Ω		**24**	
Rotor inertia	*Inertie du rotor*	$kg.m^2$		**16.10^{-6}**	
Min rotation speed (3)	*Vitesse de rotation min (3)*	mn^{-1} *rpm*		**40**	
Max rotation speed (3)	*Vitesse de rotation max (3)*	mn^{-1} *rpm*		**3000**	
Rated housing Temp. (4)	*Temp. ext. nominale du corps (4)*	°C		**100**	
Ultimate housing Temp.	*Limite max. de Temp. ext. du corps*	°C		**120**	

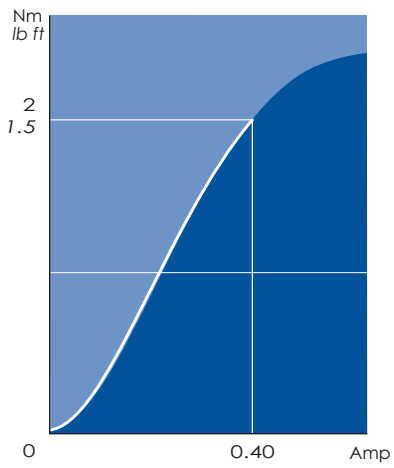
(1) remnant rotor version
(2) at 20°C (varies with the coil temperature)
(3) except RR versions. Any further request, please consult your supplier
(4) max for rated life

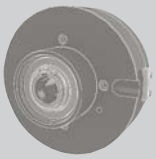
(1) version rotor rémanent
(2) à 20°C (variable en fonction de la température de bobine)
(3) sauf versions RR. Pour toute autre valeur souhaitée, consultez votre revendeur
(4) limite max pour une durée de vie nominale

Full range / *Gamme complète*

	Power ***Puissance*** W	**Weight** ***Masse*** kg / *lb*	**Ordering Code** ***Code de commande***
FAT 20	**40**	0.80 / *1.76*	ME314320-00
FRAT 20	**60**	0.90 / *1.98*	ME314325-00

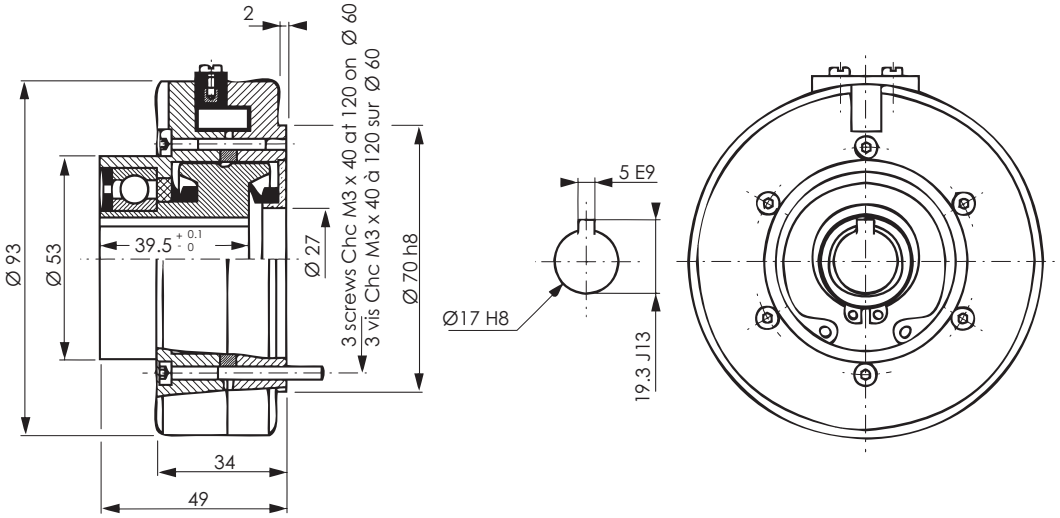
Typical torque vs. current / *Courbe caractéristique courant - couple*

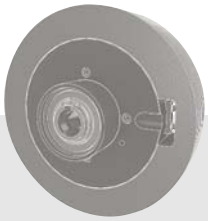




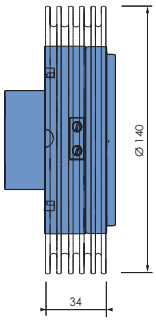
FAT 50

DIMENSIONS - Size 50
DIMENSIONS - Taille 50

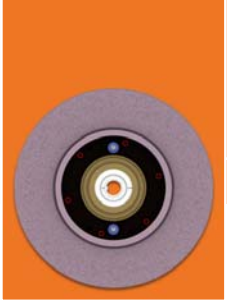




FRAT



All data subject to change without notice
Données susceptibles d'être modifiées sans préavis



TECHNICAL DATA - Size 50
DONNEES TECHNIQUES - Taille 50

Features / *Caractéristiques*

Technical Features	***Données techniques***				
Rated torque	*Couple nominal*	Nm	**5**	*lb.ft*	***4***
Rated current	*Courant nominal*	A	**0.50**	*Amp*	***0.50***
Residual torque	*Couple résiduel*	Nm	**0.20**	*lb.ft*	***0.15***
Residual torque RR (1)	*Couple résiduel RR (1)*	Nm	**0.40**	*lb.ft*	***0.30***
Coil resistance (2)	*Impédance de la bobine (2)*	Ω		**24**	
Rotor inertia	*Inertie du rotor*	$kg.m^2$		**99.10^{-6}**	
Min rotation speed (3)	*Vitesse de rotation min (3)*	mn^{-1} *rpm*		**40**	
Max rotation speed (3)	*Vitesse de rotation max (3)*	mn^{-1} *rpm*		**3000**	
Rated Outside body Temp. (4)	*Temp. ext. nominale du corps (4)*	°C		**100**	
Ultimate Outside body Temp.	*Limite max. de Temp. ext. du corps*	°C		**120**	

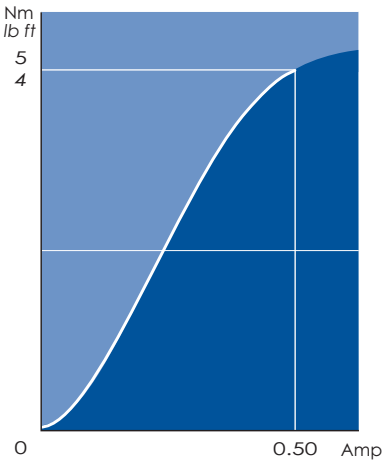
(1) remnant rotor version
(2) at 20°C (varies with the coil temperature)
(3) except RR versions. Any further request, please consult your supplier
(4) max for rated life

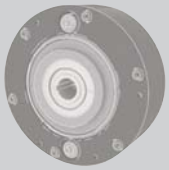
(1) version rotor rémanent
(2) à 20°C (variable en fonction de la température de bobine)
(3) sauf versions RR. Pour toute autre valeur souhaitée, consultez votre revendeur
(4) limite max pour une durée de vie nominale

Full range / *Gamme complète*

	Power ***Puissance*** W	**Weight** ***Masse*** kg / *lb*	**Ordering Code** ***Code de commande***
FAT 50	**70**	1.70 / *3.74*	ME313920-00
FRAT 50	**100**	2.00 / *4.40*	ME313925-00

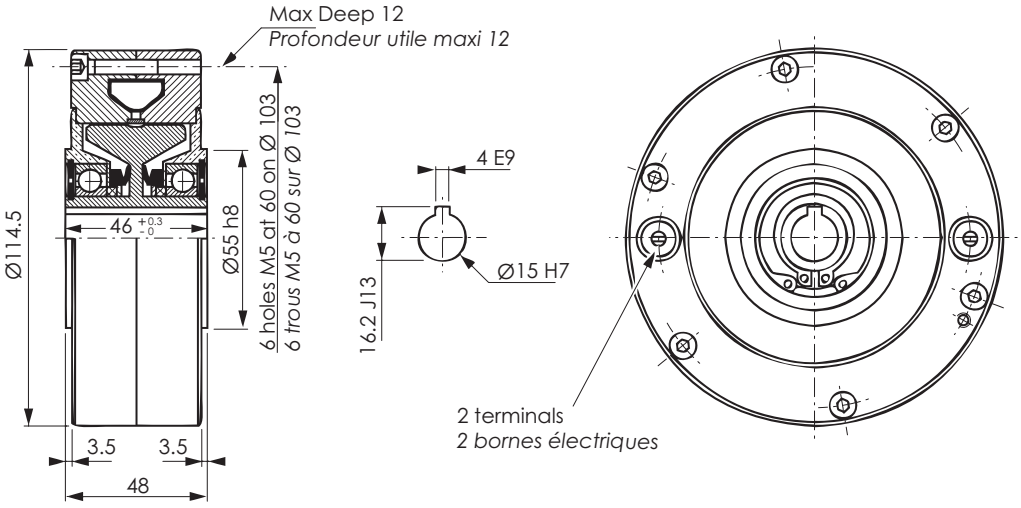
Typical torque vs. current / *Courbe caractéristique courant - couple*



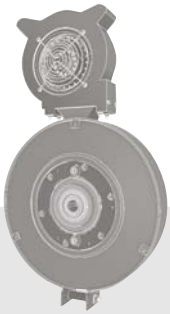


FAT 120

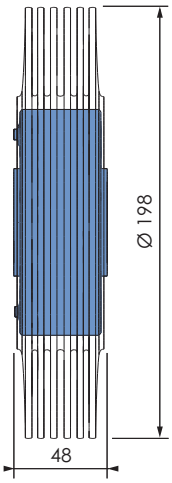
DIMENSIONS - Size 120
DIMENSIONS - Taille 120

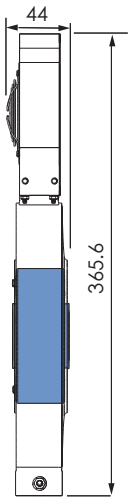


FRAT



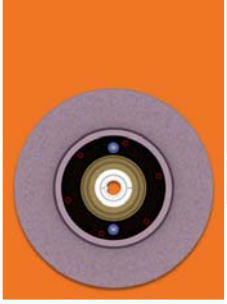
FVRAT





Fan supply : 220V AC, except (5)
Ventilateur : 220 V Alt., sauf (5)

All data subject to change without notice
Données susceptibles d'être modifiées sans préavis



TECHNICAL DATA - Size 120
DONNEES TECHNIQUES - Taille 120

Features / *Caractéristiques*

Technical Features	***Données techniques***				
Rated torque	*Couple nominal*	Nm	**12**	*lb.ft*	***9***
Rated current	*Courant nominal*	A	**0.55**	*Amp*	***0.55***
Residual torque	*Couple résiduel*	Nm	**0.27**	*lb.ft*	***0.20***
Residual torque RR (1)	*Couple résiduel RR (1)*	Nm	**0.56**	*lb.ft*	***0.40***
Coil resistance (2)	*Impédance de la bobine (2)*	Ω		**23**	
Rotor inertia	*Inertie du rotor*	$kg.m^2$		**$0.25.10^{-3}$**	
Min rotation speed (3)	*Vitesse de rotation min (3)*	mn^{-1} *rpm*		**40**	
Max rotation speed (3)	*Vitesse de rotation max (3)*	mn^{-1} *rpm*		**3000**	
Rated Outside body Temp. (4)	*Temp. ext. nominale du corps (4)*	°C		**100**	
Ultimate Outside body Temp.	*Limite max. de Temp. ext. du corps*	°C		**120**	

(1) remnant rotor version
(2) at 20°C (varies with the coil temperature)
(3) except RR versions. Any further request, please consult your supplier
(4) max for rated life

(1) version rotor rémanent
(2) à 20°C (variable en fonction de la température de bobine)
(3) sauf versions RR. Pour toute autre valeur souhaitée, consultez votre revendeur
(4) limite max pour une durée de vie nominale

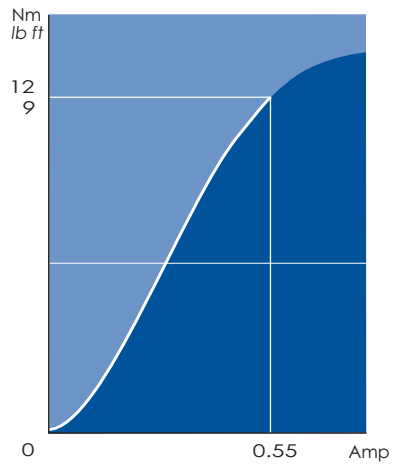
Full range / *Gamme complète*

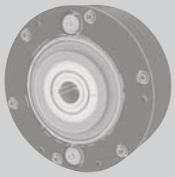
	Power ***Puissance*** W	**Weight** ***Masse*** kg / *lb*	**Ordering Code** ***Code de commande***
FAT 120	**75**	2.60 / *5.72*	ME321300-00
FRAT 120	**150**	4.40 / *9.68*	ME321400-00
FVRAT 120	**650**	5.50 / *12.1*	ME321400-00 + ME126105-00 (5)

(5) US version : ME321300BK (110 V AC)

(5) Version US : ME 321300BK (110 V AC)

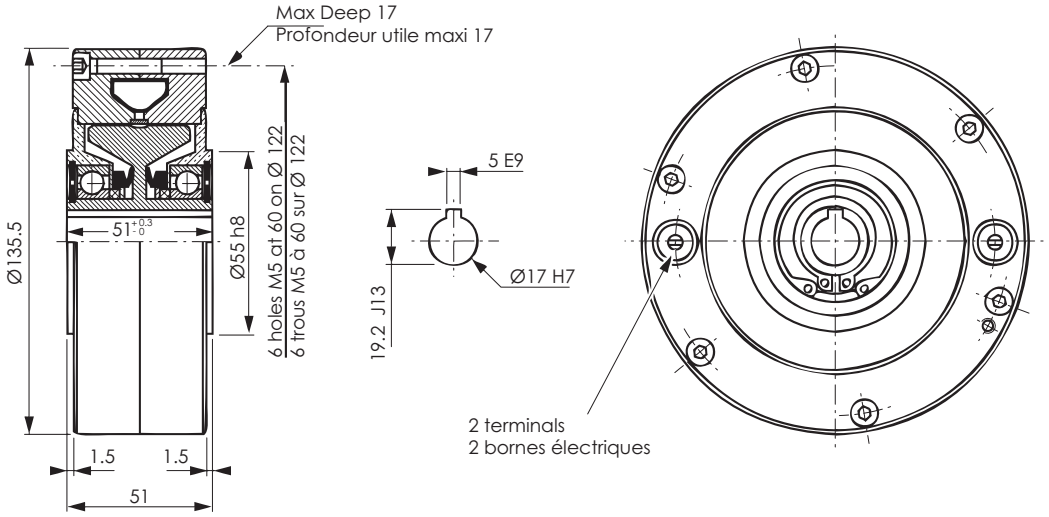
Typical torque vs. current / *Courbe caractéristique courant - couple*



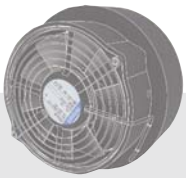


FAT 350

DIMENSIONS - Size 350
DIMENSIONS - Taille 350

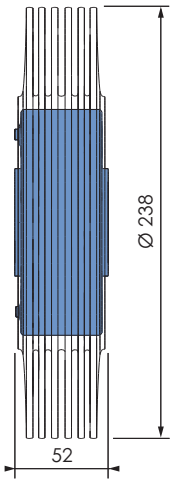


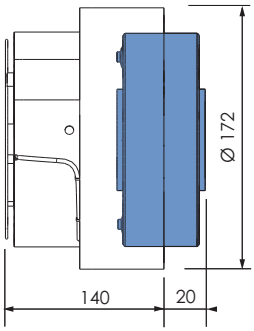
FRAT



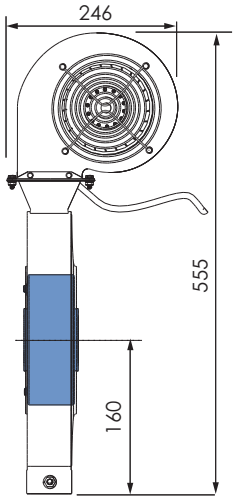
FVAT

FVRAT



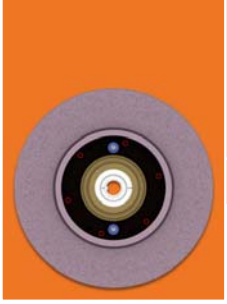


Fan supply : 24V DC
Ventilateur : 24 V CC



Fan supply : 220V AC, except (5)
Ventilateur : 220 V Alt., sauf (5)

All data subject to change without notice
Données susceptibles d'être modifiées sans préavis



TECHNICAL DATA - Size 350
DONNEES TECHNIQUES - Taille 350

Features / *Caractéristiques*

Technical Features	*Données techniques*				
Rated torque	*Couple nominal*	Nm	**35**	*lb.ft*	***26***
Rated current	*Courant nominal*	A	**1.00**	*Amp*	***1.00***
Residual torque	*Couple résiduel*	Nm	**0.33**	*lb.ft*	***0.24***
Residual torque RR (1)	*Couple résiduel RR (1)*	Nm	**0.66**	*lb.ft*	***0.48***
Coil resistance (2)	*Impédance de la bobine (2)*	Ω		**19**	
Rotor inertia	*Inertie du rotor*	$kg.m^2$		**$0.79.10^{-3}$**	
Min rotation speed (3)	*Vitesse de rotation min (3)*	mn^{-1} *rpm*		**40**	
Max rotation speed (3)	*Vitesse de rotation max (3)*	mn^{-1} *rpm*		**3000**	
Rated Outside body Temp. (4)	*Temp. ext. nominale du corps (4)*	°C		**100**	
Ultimate Outside body Temp.	*Limite max. de Temp. ext. du corps*	°C		**120**	

(1) remnant rotor version
(2) at 20°C (varies with the coil temperature)
(3) except RR versions. Any further request, please consult your supplier
(4) max for rated life

(1) version rotor rémanent
(2) à 20°C (variable en fonction de la température de bobine)
(3) sauf versions RR. Pour toute autre valeur souhaitée, consultez votre revendeur
(4) limite max pour une durée de vie nominale

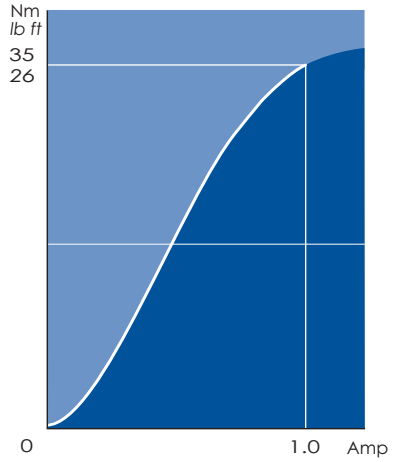
Full range / *Gamme complète*

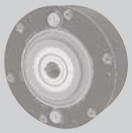
	Power ***Puissance*** W	**Weight** ***Masse*** kg / *lb*	**Ordering Code** ***Code de commande***
FAT 350	**100**	4.50 / *9.90*	ME321700-00
FRAT 350	**210**	6.70 / *14.7*	ME321800-00
FVAT 350	**500**	5.80 / *12.8*	ME321700-00 + ME129196-00
FVRAT 350	**1400**	11.7 / *25.7*	ME321800-00 + ME338400-00 (5)

(5) US version : ME321700BK (110 V AC)

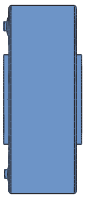
(5) Version US : ME 321700BK (110 V AC)

Typical torque vs. current / *Courbe caractéristique courant - couple*

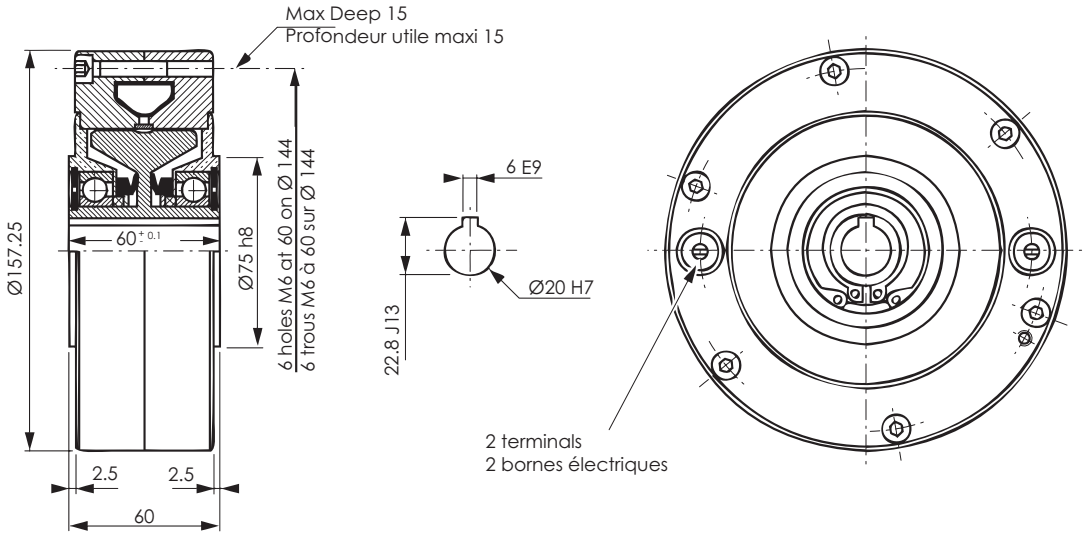




FAT 650

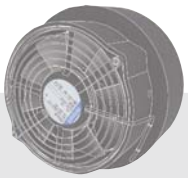


DIMENSIONS - Size 650
DIMENSIONS - Taille 650



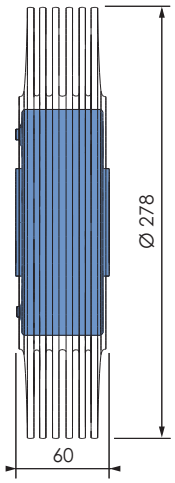
FRAT

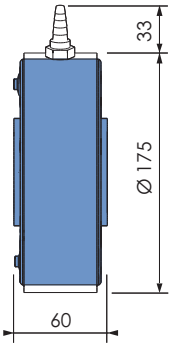
FRATO

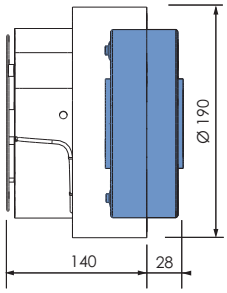


FVAT

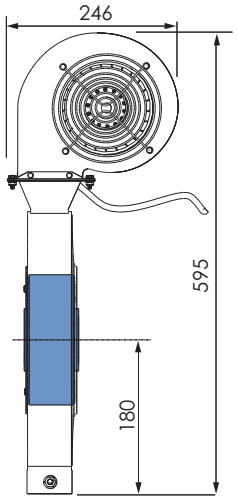
FVRAT





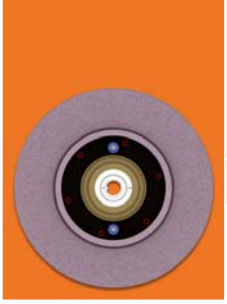


Fan supply : 24V DC
Ventilateur : 24 V CC



Fan supply : 220V AC, except (5)
Ventilateur : 220 V Alt., sauf (5)

All data subject to change without notice
Données susceptibles d'être modifiées sans préavis



TECHNICAL DATA - Size 650
DONNEES TECHNIQUES - Taille 650

Features / *Caractéristiques*

Technical Features	*Données techniques*				
Rated torque	*Couple nominal*	Nm	**65**	*lb.ft*	***50***
Rated current	*Courant nominal*	A	**1.00**	*Amp*	***1.00***
Residual torque	*Couple résiduel*	Nm	**0.63**	*lb.ft*	***0.46***
Residual torque RR (1)	*Couple résiduel RR (1)*	Nm	**1.30**	*lb.ft*	***0.93***
Coil resistance (2)	*Impédance de la bobine (2)*	Ω	**20**		
Rotor inertia	*Inertie du rotor*	$kg.m^2$	**2.10^{-3}**		
Min rotation speed (3)	*Vitesse de rotation min (3)*	mn^{-1} *rpm*	**40**		
Max rotation speed (3)	*Vitesse de rotation max (3)*	mn^{-1} *rpm*	**3000**		
Rated Outside body Temp. (4)	*Temp. ext. nominale du corps (4)*	°C	**100**		
Ultimate Outside body Temp.	*Limite max. de Temp. ext. du corps*	°C	**120**		

(1) remnant rotor version
(2) at 20°C (varies with the coil temperature)
(3) except RR versions. Any further request, please consult your supplier
(4) max for rated life

(1) version rotor rémanent
(2) à 20°C (variable en fonction de la température de bobine)
(3) sauf versions RR. Pour toute autre valeur souhaitée, consultez votre revendeur
(4) limite max pour une durée de vie nominale

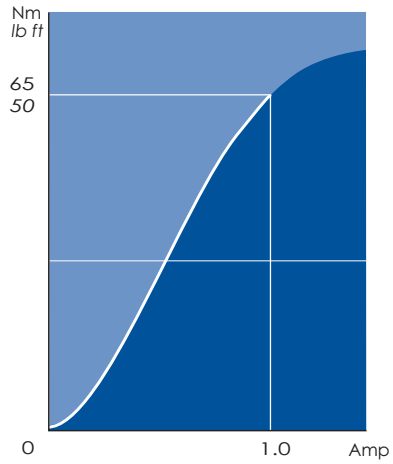
Full range / *Gamme complète*

		Power *Puissance* W	Weight *Masse* kg / *lb*	Ordering Code *Code de commande*
FAT 650		**150**	7.20 / *15.8*	ME322100-00
FRAT 650		**350**	11.0 / *24.0*	ME322200-00
FVAT 650		**700**	8.60 / *18.9*	ME322100-00 + ME129193-00
FVRAT 650		**1800**	16.2 / *35.6*	ME322200-00 + ME338500-00 (5)
FRATO 650	(6)	**2000**	8.60 / *18.9*	ME322500-00

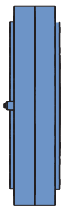
(5) US version : ME338500BK (110 V AC)
(6) water flow requirement : 120 l/h

(5) Version US : ME 338500BK (110 V AC)
(6) pour un débit d'eau de 120 l/h

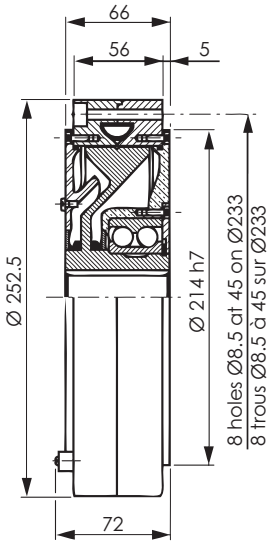
Typical torque vs. current / *Courbe caractéristique courant - couple*

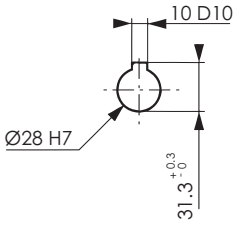


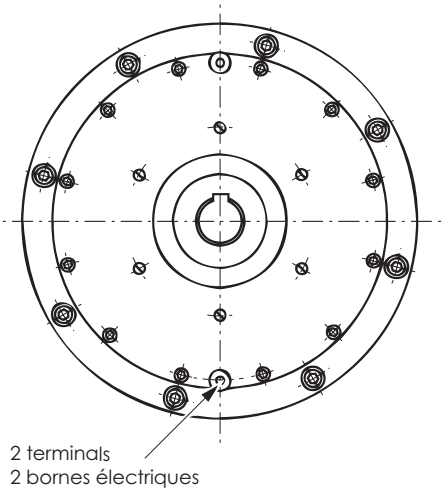
FAT 1200

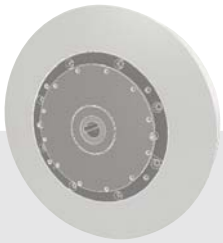


DIMENSIONS - Size 1200
DIMENSIONS - Taille 1200

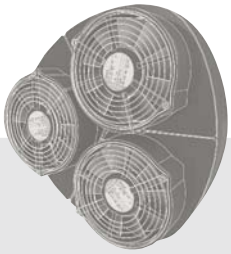






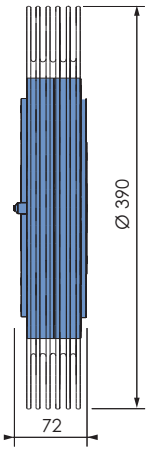


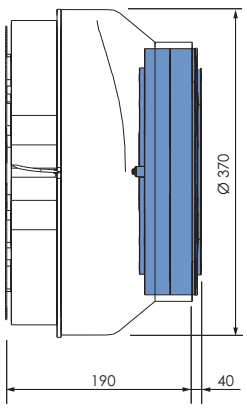
FRAT



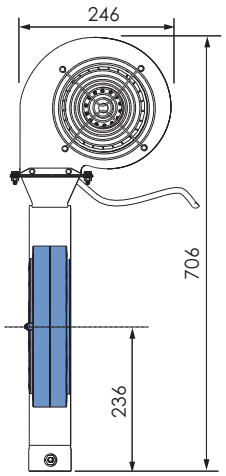
FVAT

FVRAT



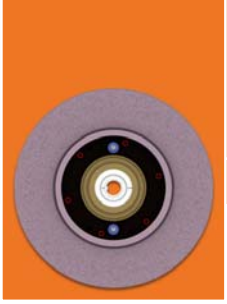


Fan supply : 24V DC
Ventilateur : 24 V CC



Fan supply : 220V AC, except (5)
Ventilateur : 220 V Alt., sauf (5)

All data subject to change without notice
Données susceptibles d'être modifiées sans préavis



TECHNICAL DATA - Size 1200
DONNEES TECHNIQUES - Taille 1200

Features / *Caractéristiques*

Technical Features	*Données techniques*				
Rated torque	*Couple nominal*	Nm	**120**	*lb.ft*	***90***
Rated current	*Courant nominal*	A	**1.10**	*Amp*	***1.10***
Residual torque	*Couple résiduel*	Nm	**1.2**	*lb.ft*	***0.9***
Residual torque RR (1)	*Couple résiduel RR (1)*	Nm	**2.4**	*lb.ft*	***1.8***
Coil resistance (2)	*Impédance de la bobine (2)*	Ω	**12.5**		
Rotor inertia	*Inertie du rotor*	$kg.m^2$	**$26.5 .10^{-3}$**		
Min rotation speed (3)	*Vitesse de rotation min (3)*	mn^{-1} *rpm*	**40**		
Max rotation speed (3)	*Vitesse de rotation max (3)*	mn^{-1} *rpm*	**2000**		
Rated Outside body Temp. (4)	*Temp. ext. nominale du corps (4)*	°C	**100**		
Ultimate Outside body Temp.	*Limite max. de Temp. ext. du corps*	°C	**120**		

(1) remnant rotor version
(2) at 20°C (varies with the coil temperature)
(3) except RR versions. Any further request, please consult your supplier
(4) max for rated life

(1) version rotor rémanent
(2) à 20°C (variable en fonction de la température de bobine)
(3) sauf versions RR. Pour toute autre valeur souhaitée, consultez votre revendeur
(4) limite max pour une durée de vie nominale

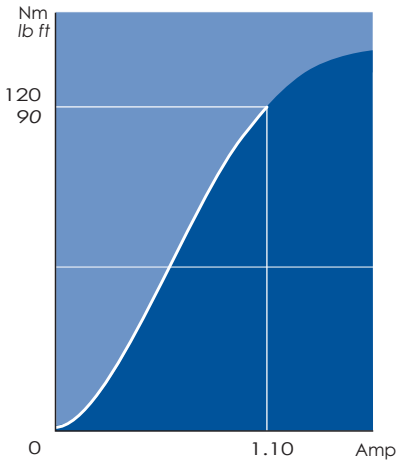
Full range / *Gamme complète*

	Power *Puissance* W	Weight *Masse* kg / *lb*	Ordering Code *Code de commande*
FAT 1200	**300**	17.2 / *37.8*	ME317400-00
FRAT 1200	**550**	25.0 / *55.0*	ME322600-00
FVAT 1200	**1400**	28.0 / *61.6*	ME317400-00 + ME129187-00
FVRAT 1200	**2000**	30.5 / *67.1*	ME322600-00 + ME338800-00 (5)

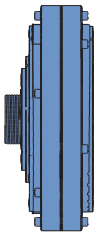
(5) US version : ME322600BK (110 V AC)

(5) Version US : ME 322600BK (110 V AC)

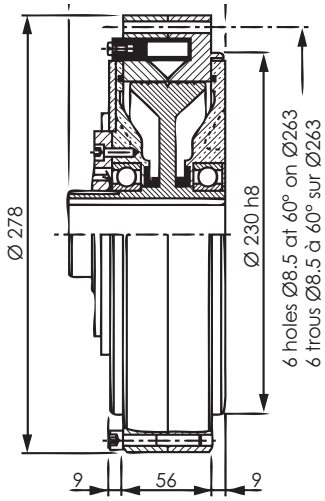
Typical torque vs. current / *Courbe caractéristique courant - couple*

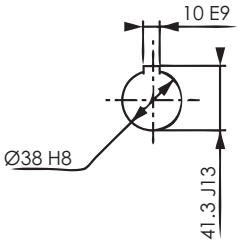


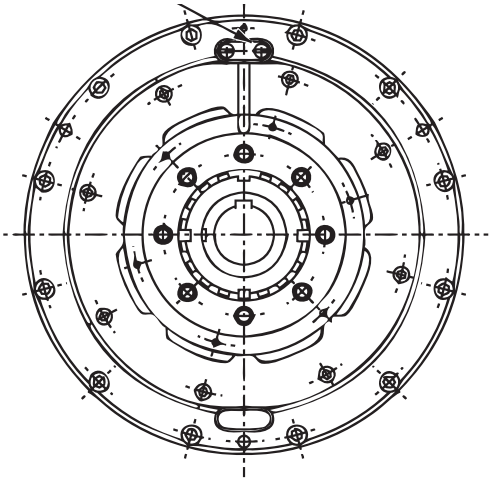
FAT 2002



DIMENSIONS - Size 2002
DIMENSIONS - Taille 2002

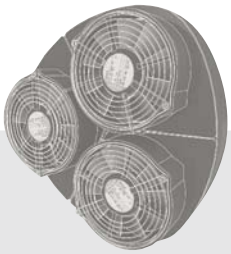






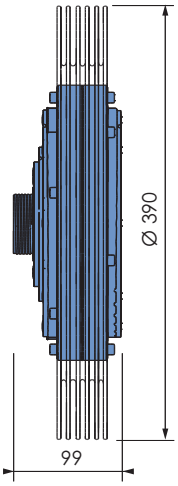
FRAT

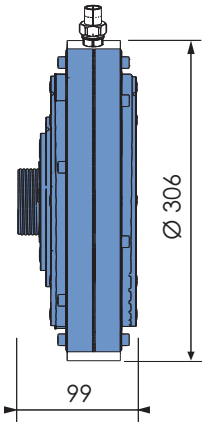
FRATO

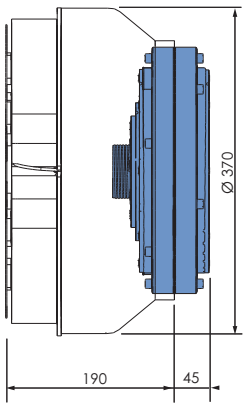


FVAT

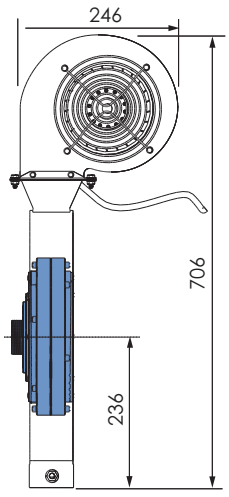
FVRAT





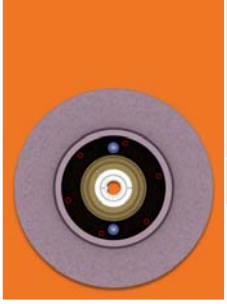


Fan supply : 24V DC
Ventilateur : 24 V CC



Fan supply : 220V AC, except (5)
Ventilateur : 220 V Alt., sauf (5)

All data subject to change without notice
Données susceptibles d'être modifiées sans préavis



TECHNICAL DATA - Size 2002
DONNEES TECHNIQUES - Taille 2002

Features / *Caractéristiques*

Technical Features	***Données techniques***				
Rated torque	*Couple nominal*	Nm	**200**	*lb.ft*	***150***
Rated current	*Courant nominal*	A	**1.55**	*Amp*	***1.55***
Residual torque	*Couple résiduel*	Nm	**2.0**	*lb.ft*	***1.5***
Residual torque RR (1)	*Couple résiduel RR (1)*	Nm	**4.0**	*lb.ft*	***3.0***
Coil resistance (2)	*Impédance de la bobine (2)*	Ω		**11**	
Rotor inertia	*Inertie du rotor*	$kg.m^2$		**35.2 .10^{-3}**	
Min rotation speed (3)	*Vitesse de rotation min (3)*	mn^{-1} *rpm*		**40**	
Max rotation speed (3)	*Vitesse de rotation max (3)*	mn^{-1} *rpm*		**2000**	
Rated Outside body Temp. (4)	*Temp. ext. nominale du corps (4)*	°C		**100**	
Ultimate Outside body Temp.	*Limite max. de Temp. ext. du corps*	°C		**120**	

(1) remnant rotor version
(2) at 20°C (varies with the coil temperature)
(3) except RR versions. Any further request, please consult your supplier
(4) max for rated life

(1) version rotor rémanent
(2) à 20°C (variable en fonction de la température de bobine)
(3) sauf versions RR. Pour toute autre valeur souhaitée, consultez votre revendeur
(4) limite max pour une durée de vie nominale

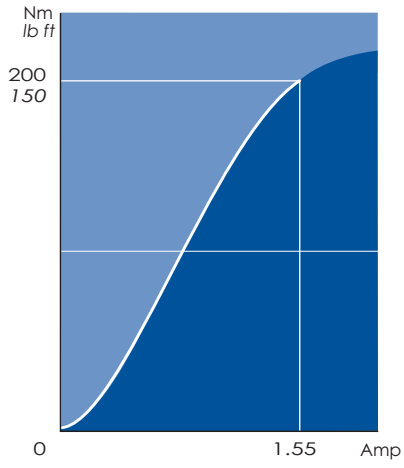
Full range / *Gamme complète*

		Power ***Puissance*** W	**Weight** ***Masse*** kg / *lb*	**Ordering Code** ***Code de commande***
FAT 2002		**400**	24.0 / *52.8*	ME330200-00
FRAT 2002		**700**	30.0 / *66.0*	ME330210-00
FVAT 2002		**1800**	34.5 / *75.9*	ME330200-00 + ME129190-00
FVRAT 2002		**2000**	35.5 / *78.1*	ME330210-00 + ME338800-00 (5)
FRATO 2002	(6)	**2500**	28.0 / *61.6*	ME330240-00

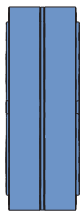
(5) US version : ME330200BK (110 V AC)
(6) water flow requirement : 120 l/h

(5) Version US : ME 330200BK (110 V AC)
(6) pour un débit d'eau de 120 l/h

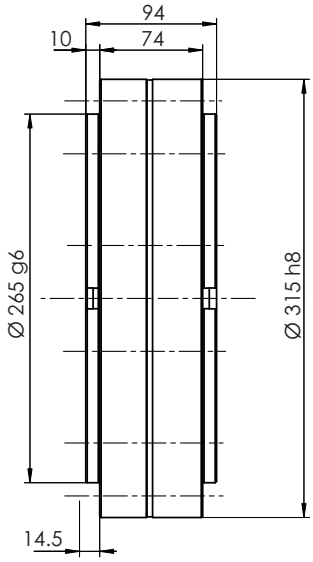
Typical torque vs. current / *Courbe caractéristique courant - couple*

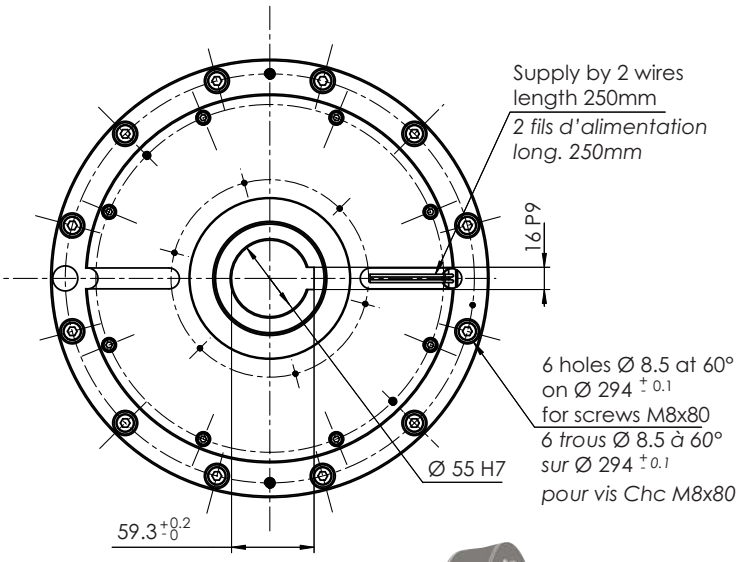


FAT 3500



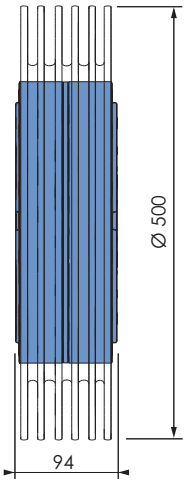
DIMENSIONS - Size 3500
DIMENSIONS - Taille 3500

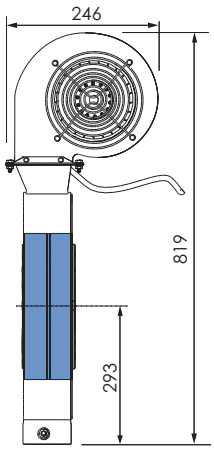




FRAT

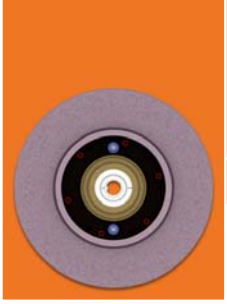
FVRAT





Fan supply : 220V AC
Ventilateur : 220 V Alt.

All data subject to change without notice
Données susceptibles d'être modifiées sans préavis



TECHNICAL DATA - Size 3500
DONNEES TECHNIQUES - Taille 3500

Features / *Caractéristiques*

Technical Features	***Données techniques***				
Rated torque	*Couple nominal*	Nm	**350**	*lb.ft*	***260***
Rated current	*Courant nominal*	A	**1.50**	*Amp*	***1.50***
Residual torque	*Couple résiduel*	Nm	**3.5**	*lb.ft*	***2.6***
Residual torque RR (1)	*Couple résiduel RR (1)*	Nm	**5.0**	*lb.ft*	***3.7***
Coil resistance (2)	*Impédance de la bobine (2)*	Ω		**10**	
Rotor inertia	*Inertie du rotor*	$kg.m^2$		**89 .10^{-3}**	
Min rotation speed (3)	*Vitesse de rotation min (3)*	mn^{-1} *rpm*		**40**	
Max rotation speed (3)	*Vitesse de rotation max (3)*	mn^{-1} *rpm*		**2000**	
Rated Outside body Temp. (4)	*Temp. ext. nominale du corps (4)*	°C		**100**	
Ultimate Outside body Temp.	*Limite max. de Temp. ext. du corps*	°C		**120**	

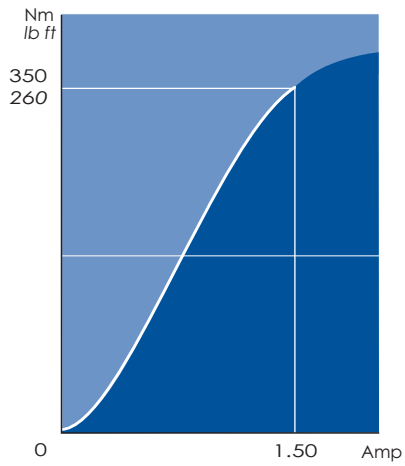
(1) remnent rotor version
(2) at 20°C (varies with the coil temperature)
(3) except RR versions. Any further request, please consult your supplier
(4) max for rated life

(1) version rotor rémanent
(2) à 20°C (variable en fonction de la température de bobine)
(3) sauf versions RR. Pour toute autre valeur souhaitée, consultez votre revendeur
(4) limite max pour une durée de vie nominale

Full range / *Gamme complète*

	Power ***Puissance*** W	**Weight** ***Masse*** kg / *lb*	**Ordering Code** ***Code de commande***
FAT 3500	**470**	38.0 / *83.6*	ME126170-00
FRAT 3500	**950**	53.0 / *117*	ME126338-00
FVRAT 3500	**3300**	59.5 / *131*	ME126338-00 + ME126764-00

Typical torque vs. current / *Courbe caractéristique courant - couple*



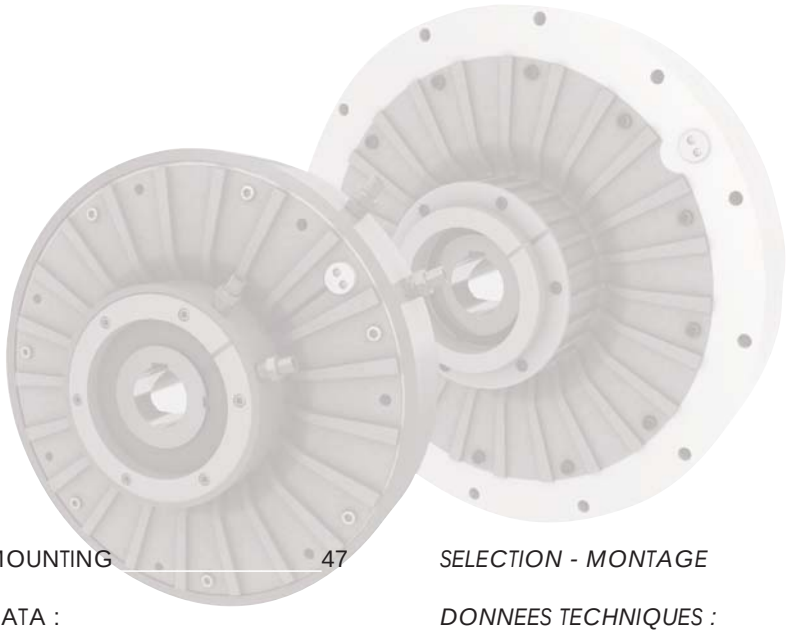
EMP BRAKES HIGH TORQUE
FREINS EMP "HIGH TORQUE"

The EMP Brakes "High Torque" provide up to 1000 Nm of torque with the same smooth transmission, accuracy, reliability, and very low electric power consumption as the entire MEROBEL range.

MEROBEL offers 2 **sizes** and up to **5 different versions** for each size (heat dissipation options) as standard to meet the needs of **large converting machinery** as well as **variable torque simulation systems** (such as automotive and aeronautics **test rigs**).

Les freins EMP "high torque" permettent de contrôler des couples allant jusqu'à 1000 Nm, avec la même souplesse, la même précision, la même répétabilité, et la même très faible puissance électrique que l'ensemble de la gamme MEROBEL.

***2 tailles** et **5 versions** (capacité de dissipation de puissance) sont disponibles en standard pour répondre aux besoins des machines de transformation (converting) de grande taille, ainsi qu'aux **bancs de tests et de simulation** (automobile et aéronautique).*



SELECTION- MOUNTING 47

TECHNICAL DATA :

Size 5001 (500 Nm / 370 lb.ft) 48

Size 10001 (1000 Nm / 750 lb.ft) 50

SELECTION - MONTAGE *47*

DONNEES TECHNIQUES :

Taille 5001 *(500 Nm / 370 lb.ft)* *48*

Taille 10001 *(1000 Nm / 750 lb.ft)* *50*

All data subject to change without notice
Données susceptibles d'être modifiées sans préavis

SELECTION GUIDE - MOUNTING RECOMMENDATIONS
GUIDE DE SELECTION - CONSEILS DE MONTAGE

Selection guide / *Guide de sélection*

Standard sizing procedure

1 - The rated torque of the brake selected must be greater than the highest torque required by the application. The reduction ratio (gears or belts) must be considered when making the calculation.

2 - The maximum heat generated by the application must be lower than the rated power dissipation of the specified brake and cooling option.

3 - The rated residual torque must be lower than the minimum requested by the application (again, according to ratio).

4 - The speed range must be within the min. / max. of the brake selected (if not, please consult your local supplier).

For calculation details, please refer to pages 12 and 17

Procédure de sélection usuelle

1 - Le couple nominal du frein choisi doit être supérieur à la valeur demandée la plus élevée (si nécessaire, prendre en compte les rapports de réduction -pignons ou courroies).

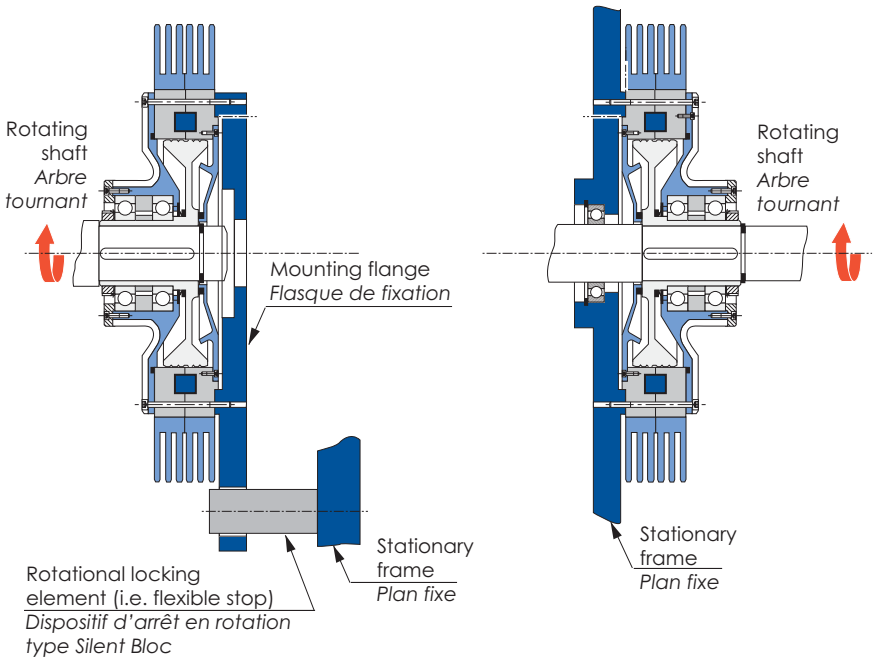
2 - La puissance max. dissipée (couple et vitesse), doit demeurer inférieure à celle qui est disponible, en fonction des options de refroidissement choisies.

3 - La valeur de couple résiduel doit être inférieure à celle imposée par l'application (en prenant à nouveau en compte le rapport de réduction).

4 - La gamme de vitesse doit rester dans les limites du min. / max. du frein choisi (merci de consulter votre distributeur local dans le cas contraire).

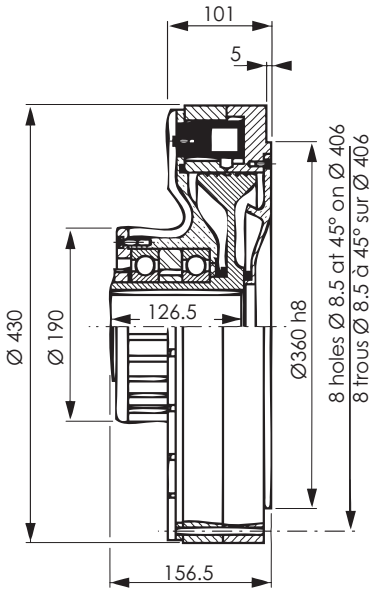
Pour les détails de calcul, se référer aux pages 12 et 17

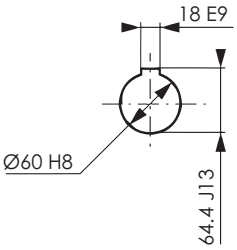
Mounting recommendations / *Conseils de montage*

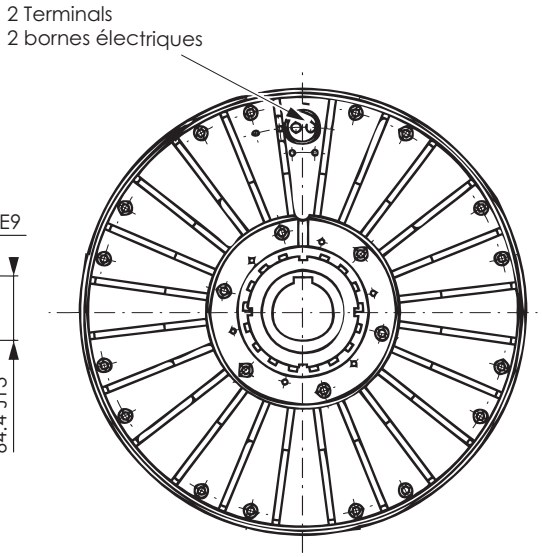


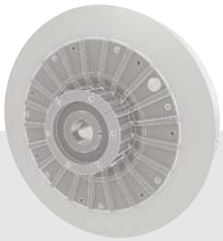
FAT 5001

DIMENSIONS - Size 5001
DIMENSIONS - Taille 5001







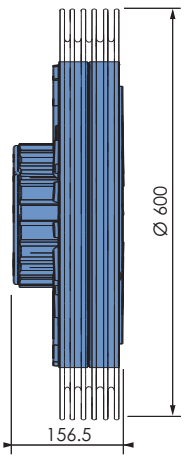


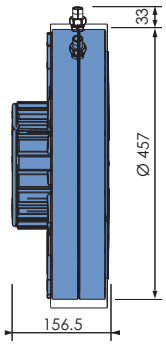
FRAT

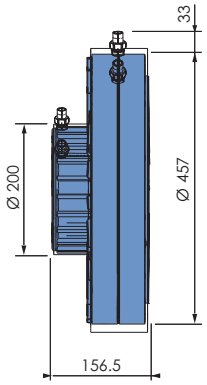
FRATO

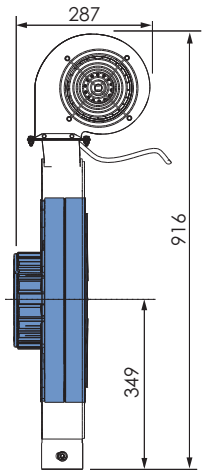
FRATO_R

FVRAT









Fan supply : 220V AC
Ventilateur : 220 V Alt.

All data subject to change without notice
Données susceptibles d'être modifiées sans préavis

Size 5001 Taille 5001

TECHNICAL DATA - Size 5001
DONNEES TECHNIQUES - Taille 5001

Features / *Caractéristiques*

Technical Features	*Données techniques*				
Rated torque	*Couple nominal*	Nm	**500**	*lb.ft*	***370***
Rated current	*Courant nominal*	A	**1.70**	*Amp*	***1.70***
Residual torque	*Couple résiduel*	Nm	**5.0**	*lb.ft*	***3.7***
Residual torque RR (1)	*Couple résiduel RR (1)*	Nm	**10**	*lb.ft*	***7.4***
Coil resistance (2)	*Impédance de la bobine (2)*	Ω		**11**	
Rotor inertia	*Inertie du rotor*	$kg.m^2$		**331 .10^{-3}**	
Min rotation speed (3)	*Vitesse de rotation min (3)*	mn^{-1} *rpm*		**60**	
Max rotation speed (3)	*Vitesse de rotation max (3)*	mn^{-1} *rpm*		**1500**	
Rated Outside body Temp. (4)	*Temp. ext. nominale du corps (4)*	°C		**100**	
Ultimate Outside body Temp.	*Limite max. de Temp. ext. du corps*	°C		**120**	

(1) remnant rotor version
(2) at 20°C (varies with the coil temperature)
(3) except RR versions. Any further request, please consult your supplier
(4) max for rated life

(1) version rotor rémanent
(2) à 20°C (variable en fonction de la température de bobine)
(3) sauf versions RR. Pour toute autre valeur souhaitée, consultez votre revendeur
(4) limite max pour une durée de vie nominale

Full range / *Gamme complète*

		Power (5) ***Puissance***(5) W	**Weight** ***Masse*** kg / *lb*	**Ordering Code** ***Code de commande***
FAT		**1000**	73.0 / *161*	ME330900-00
FRAT		**1800**	93.0 / *205*	ME-330910-00
FVRAT		**4500**	101.0 / *222*	ME-330910-00 + ME350600-00
FRATO	(6)	**4500**	81.0 / *178*	ME330940-00
FRATO_R	(6)	**8000**	83.0 / *183*	ME330950-00

(6) water flow requirement : 180 l/h

(6) pour un débit d'eau de 180 l/h

(5) Notes on Power dissipation

The duty cycle (speed and torque variations) and the mounting of the EMP Brakes High Torque may have a great influence on the max. temperature.

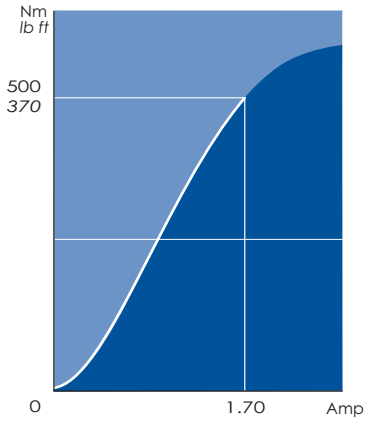
In order to optimize the selection of the device, please consult your local supplier.

(5) Notes sur la Puissance dissipée

Les cycles de travail (variations de vitesse et de couple) et le mode de montage des freins EMP "high torque" peuvent modifier significativement la température maximale atteinte.

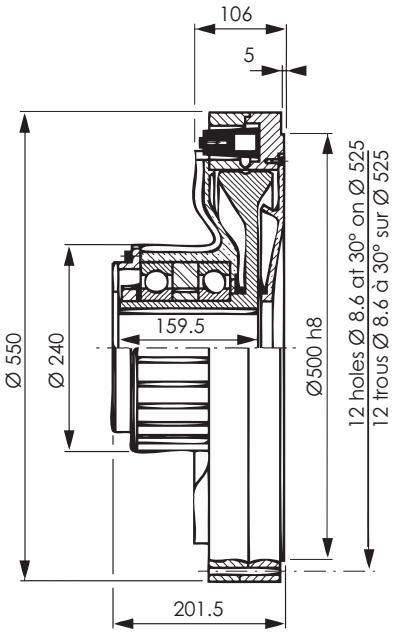
Pour optimiser la sélection des appareils, merci de consulter votre revendeur local.

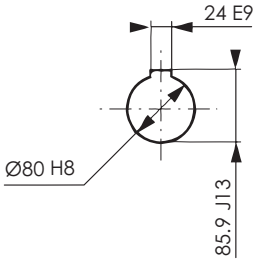
Typical torque vs. current
Courbe caractéristique courant-couple

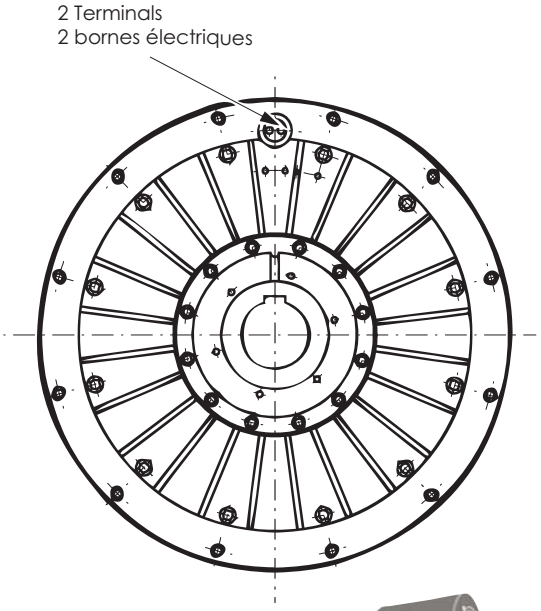


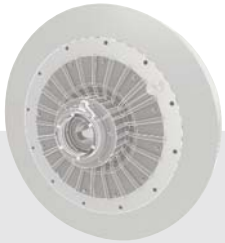
FAT 10001

DIMENSIONS - Size 10001
DIMENSIONS - Taille 10001







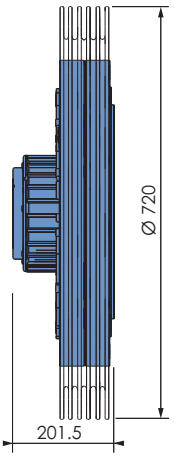


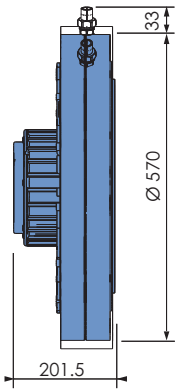
FRAT

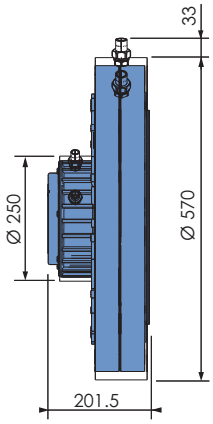
FRATO

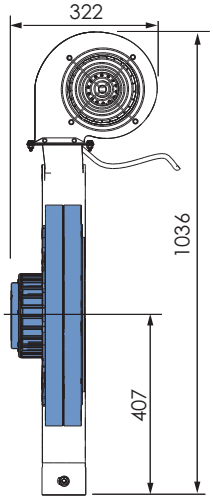
FRATOR

FVRAT









Fan supply : 220V AC
Ventilateur : 220 V Alt.

All data subject to change without notice
Données susceptibles d'être modifiées sans préavis

Size 10001 Taille 10001

TECHNICAL DATA - Size 10001
DONNEES TECHNIQUES - Taille 10001

Features / *Caractéristiques*

Technical Features	*Données techniques*				
Rated torque	*Couple nominal*	Nm	**1000**	*lb.ft*	***750***
Rated current	*Courant nominal*	A	**1.7**	*Amp*	***1.70***
Residual torque	*Couple résiduel*	Nm	**10**	*lb.ft*	***7.5***
Residual torque RR (1)	*Couple résiduel RR (1)*	Nm	**20**	*lb.ft*	***15***
Coil resistance (2)	*Impédance de la bobine (2)*	Ω		**20**	
Rotor inertia	*Inertie du rotor*	$kg.m^2$		**809.10^{-3}**	
Min rotation speed (3)	*Vitesse de rotation min (3)*	mn^{-1} *rpm*		**60**	
Max rotation speed (3)	*Vitesse de rotation max (3)*	mn^{-1} *rpm*		**1000**	
Rated Outside body Temp. (4)	*Temp. ext. nominale du corps (4)*	°C		**100**	
Ultimate Outside body Temp.	*Limite max. de Temp. ext. du corps*	°C		**120**	

(1) remnant rotor version
(2) at 20°C (varies with the coil temperature)
(3) except RR versions. Any further request, please consult your supplier
(4) max for rated life

(1) version rotor rémanent
(2) à 20°C (variable en fonction de la température de bobine)
(3) sauf versions RR. Pour toute autre valeur souhaitée, consultez votre revendeur
(4) limite max pour une durée de vie nominale

Full range / *Gamme complète*

		Power (5) ***Puissance*** (5) W	**Weight** ***Masse*** kg / *lb*	**Ordering Code** ***Code de commande***
FAT		**1700**	135 / *297*	ME331200-00
FRAT		**3000**	160 / *352*	ME331210-00
FVRAT		**7000**	143 / *316*	ME331210-00 + ME350700-00
FRATO	(6)	**5000**	155 / *341*	ME331240-00
FRATOR	(6)	**10000**	160 / *352*	ME331250-00

(6) water flow requirement : 320 l/h

(6) pour un débit d'eau de 320 l/h

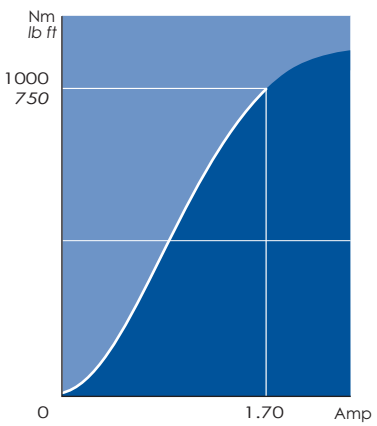
(5) Notes on Power dissipation

The duty cycle (speed and torque variations) and the mounting of the EMP Brakes High Torque may have a great influence on the max. temperature.

In order to optimize the selection of the device, please consult your local supplier.

(5) Notes sur la Puissance dissipée

Les cycles de travail (variations de vitesse et de couple) et le mode de montage des freins EMP "high torque" peuvent modifier significativement la température maximale atteinte.

Pour optimiser la sélection des appareils, merci de consulter votre revendeur local.

Typical torque vs. current
Courbe caractéristique courant-couple