1.0 INDICE

1.0 INDEX

1.0 INHALTSVERZEICHNIS

N.B. I dati del presente catalogo sono indicativi e non impegnativi; e sono suscettibili di modifiche senza preavviso.

N.B. The data contained in this catalogue are indicative and not mandatory and can be modify without prior notice.

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2.0 INTRODUZIONE

L'efficienza di un motore è correlata al valore del suo rendimento. Quest'ultimo esprime, in termini percentuali, la capacità di convertire l'energia elettrica in energia meccanica.

Utilizzare un motore ad alta efficienza significa quindi ridurre al minimo le perdite energetiche.

Nel recente passato non esisteva una normativa che unificasse i motori in funzione della efficienza / classe energetica e per convenzione, volontariamente, i costruttori introdussero le classi Eff1/Eff2/Eff3 non da tutti condivise. Al fine di superare questo vuoto normativo, la CE ha introdotto la norma IEC (International ElectrotechnicalCommision) IEC 60034-30:2008 – Classi di rendimento dei motori asincroni trifase a gabbia ad una sola velocità (codice IE) –

Tale norma prevede:

- introduzione delle seguenti nuove classi energetiche:
  - IE1 (rendimento standard)
  - IE2 (alto rendimento)
  - IE3 (rendimento preiumum)

- Rif. Norma IEC 60034-1-2:2007, introduzione del nuovo metodo di misura del rendimento

- Esclusione dei motori utilizzati in ambienti esplosivi

- Esclusione dei motori autofrenanti

- Esclusione dei motori realizzati perservizio intermittente

Di seguito, tabella con prospetto riepilogativo delle principali classificazioni ed esempio di targhetta dedicata ai motori IE2

2.0 INTRODUCTION

Motor efficiency is related to the value indicating motor performance. Such percentage value stands for the capacity to transform electric energy into mechanical power.

Using high-efficiency motors means, therefore, minimizing energy loss.

Up until recently there was no regulation to classify motors based on their efficiency level/energy class and some manufacturers conventionally as well as voluntarily introduced the classification Eff1/Eff2/Eff3, which was, however, not universally accepted.
To bridge the regulatory gap, the EC introduced the IEC (International Electrotechnical Commission) regulation IEC 60034-30:2008 – classes for one-speed three-stage cage-induction motors efficiency classes (IE code) -

The aforementioned regulation implied:

- the introduction of the following new energy classes:
  -IE1 (standard efficiency)
  -IE2 (high efficiency)
  -IE3 (premium efficiency)

- Ref. Regulation IEC 60034-1-2:2007, introduction of the new efficiency assessment method

- Exclusion of motors used in explosive environments

-Exclusion of brake motors

- Exclusion of motors manufactured for intermittent duty

The following table summarizes the main classification types; besides a name plate model for IE2 motors.

2.0 EINFÜHRUNG

Das Leistungsgrad eines Motors ist mit seinem Wirkungsgrad verbunden. Diese Prozentzahl stellt das Energieumwandlungswirkungsgrad des Motors dar, d.h. Die Fähigkeit, elektrische Energie in mechanische Energie umzuwandeln.

Einen Hochleistungsmotor zu verwenden bedeutet, Energieverluste zu minimieren.

Bisher gab es keine Richtlinie zur Klassifizierung der Motoren je nach dem Leistungsgrad/Energieklasse und deswegen haben einige Hersteller freiwillig und konventionell die Klassen Eff1/Eff2/Eff3 eingeführt, die aber nicht von allen Herstellern angenommen wurden.
Um solche Regulierungslücke zu schließen, hat die EG die IEC-Richtlinie (International Electrotechnical Commission) IEC 60034-30:2008 – Wirkungsgradklassen für Drehstrommotoren mit Käfigläufer ausgenommen polumschaltbare Motoren (IE-Code) – eingeführt.

Die o.g. Richtlinie sieht die folgenden Massnahmen vor:

- Einführung der folgenden neuen Energieklassen:
  -IE1 (standard-Wirkungsgrad)
  -IE2 (hoher Wirkungsgrad)
  -IE3 (Premium-Wirkungsgrad)

- Bezug auf Richtlinie IEC 60034-1-2:2007, Einführung der neuen Wirkungsgradabmessungsmethode

- Ausschliessung der Motoren, die in explosionsgefährdeten Umgebungen verwendet werden

- Ausschliessung von Bremsmotoren

- Ausschliessung von Motoren, die zum Aussetzbetrieb hergestellt wurden

Die folgende Tabelle fasst die Hauptwirkungsklassen zusammen; seitlich ein Muster des Typenschildes von IE2 Motoren.

2.0 INTRODUZIONE — *2.0 INTRODUCTION* — 2.0 EINFÜHRUNG

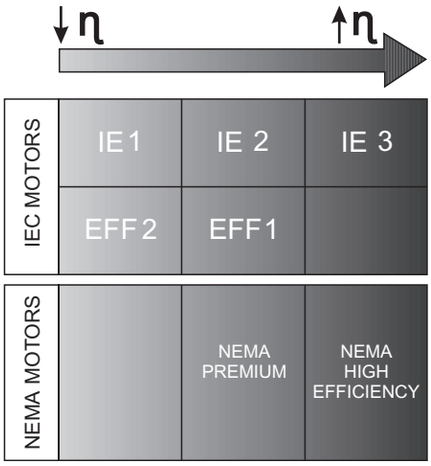
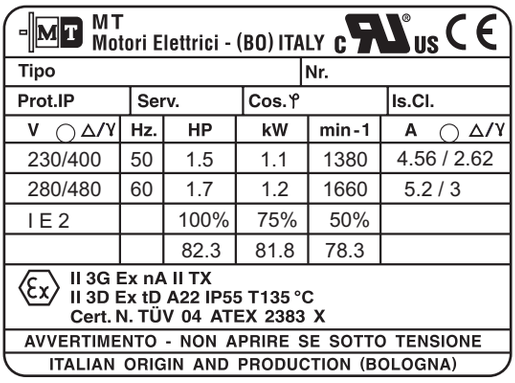


Tabella classificazione efficenza motori
Table efficiency motor classification
Tabelle Wirkungsklassen von Motoren



Targhetta motori IE2
Name plate IE2 motors
Typenshild von IE2 Motoren

3.0 DESIGNAZIONE — *3.0 DESIGNATION* — 3.0 DESIGNATION

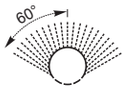
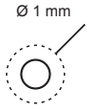
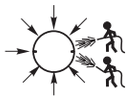
MOTORE IE2 / *IE2 MOTOR* / IE2 MOTOREN								
TN	**80**	**0.75**	**4**	**230/400**	**50**	**IP55**	**CL F**	**B5**
Tipo *Type* Tip	Grandezza *Size* Größe	Potenza *Power* Leistung	N. poli *N. poles* Polzahl	Tensione *Voltage* Spannung	Frequenza *Frequency* Frequenz	*Protezione* *Protection* *Schutzart*	*Isolamento* *Insulation* *Isolation*	*Forma costrutiva* *Mounting Position* *Baulform*
TN	80 - 200	*Vedi tabelle* *See tables* *Siehe* *Tabellen*	2 4 6	230/400 V Standard Trifase *threephase* Drehstrom	*50 Hz* *Standard* *60 Hz* *a richiesta* *on request* *auf Anfrage*	*Vedi tabelle* *See tables* *Siehe* *Tabellen*	**CL F** **Standard** **CL H** *a richiesta* *on request* *auf Anfrage*	**B5** **B14** **B3**

4.0 SIMBOLOGIA — *4.0 SYMBOLS* — 4.0 KURZBEZEICHNUNGEN

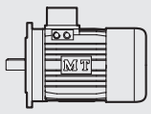
Grandezza	Denominazione	Unità di mis.	*Size*	*Nomenclature*	*Unit of meas.*	Größe	Bezeichnung	Maßeinheit
P_N	Potenza nominale	kW,HP	P_N	*Nominal power*	*kW,HP*	P_N	Nennleistung	kW,HP
n_N	Velocità nominale	min^{-1}	n_N	*Nominal speed*	min^{-1}	n_N	Nenngeschwindigkeit	min^{-1}
η	Rendimento	%	η	*Efficiency*	%	η	Wirkungsgrad	%
cosφ	Fattore di potenza	—	cosφ	*Power factor*	—	cosφ	Leistungsfaktor	—
I_{SP}	Corrente di spunto	A	I_{SP}	*Starting current*	*A*	I_{SP}	Anlaufstrom	A
I_N	Corrente nominale	A	I_N	*Nominal current*	*A*	I_N	Nennstrom	A
M_{SP}	Coppia di spunto	Nm	M_{SP}	*Starting torque*	*Nm*	M_{SP}	Anlaufmoment	Nm
M_{MAX}	Coppia massima	Nm	M_{MAX}	*Max torque*	*Nm*	M_{MAX}	Maximalmoment	Nm
M_N	Coppia nominale	Nm	M_N	*Nominal torque*	*Nm*	M_N	Nennmoment	Nm
U	Tensione	V	U	*Tension*	*V*	U	Spannung	V
J	Momento d'inerzia	Kgm^2	J	*Moment of inertia*	Kgm^2	J	Trägheitsmoment	Kgm^2

Protezione contro i corpi solidi
Protection against foreign bodies
Ziffer: Schutzart gegen feste Fremdkörper

Protezione contro i liquidi
Protection against water
Ziffer: Schutzart gegen das Eindringen von Wasser

IP	Prove *Proof* Prüfungen	Definizione / *Description* / Definition	IP	Prove *Proof* Prüfungen	Definizione / *Description* / Definition
0		Non protetto *No protection* Kein Schutz	**0**		Non protetto *No protection* Kein Schutz
1		Protetto contro i corpi solidi superiori a 50 mm (esempio: contatti involontari della mano) *Protection against solid foreign bodies of thickness greater than 50 mm (ex. involuntary contacts of the hand)* Geschützt gegen feste Fremdkörper größer als 50 mm (z.B. zufälliges Berüren mit der Hand)	**1**		Protetto contro la caduta verticale di gocce d'acqua (condensa) *Protection against vertical drops of water (condensation)* Geschützt gegen Wassertropfen, die senkrecht fallen (Kondenswasser)
2		Protetto contro i corpi solidi superiori a 12 mm (esempio: dita della mano) *Protection against solid foreign bodies of thickness greater than 12 mm (ex. fingers of the hand)* Geschützt gegen feste Fremdkörper größer als 12 mm (z.B. Fingern)	**2**		Protetto contro le cadute d' acqua a pioggia fino a 15° dallla verticale Protection against sprinkle water until 15° from the vertical Geschützt gegen Wasser, das in einem beliebigen Winkel bis 15° zur Senkrechten fällt
3		Protetto contro i corpi solidi superiori a 2.5 mm (esempio: fili, utensili) *Protection against solid foreign bodies of thickness greater than 2,5 mm (ex. wires, tools)* Geschützt gegen feste Fremdkörper größer als 2,5 mm (Werkzeugen, Drähte)	**3**		Protetto contro le cadute d' acqua a pioggia fino a 60° dallla verticale *Protection against sprinkle water until 60° from the vertical* Geschützt gegen Wasser, das in einem beliebigen Winkel bis 60° zur Senkrechten fällt
4		Protetto contro i corpi solidi superiori a 1 mm (esempio: fili sottili, utensili fini) *Protection against solid foreign bodies of thickness greater than 1 mm (ex. thin wire, fine tools)* Geschützt gegen feste Fremdkörper größer als 1 mm (dünne Werkzeuge, dünne Drähte)	**4**		Protetto contro i getti d'acqua provenienti da tutte le direzioni *Protection against jets of water from any direction* Geschützt gegen Wasser, das aus allen Richtungen spritzt
5		Protetto contro le polveri (nessun deposito nocivo) *Protection against ingress of dust (no harmful deposit)* Geschützt gegen Staub (keine schädliche Ablagerung)	**5**		Protetto contro i getti d'acqua con lancia da tutte le direzioni *Protection against water projected by a nozzle from any direction* Geschützt gegen Wasserstrahl aus einer Düse, der aus allen Richtungen gerichtet wird
6		Totalmente protetto contro le polveri *Complete protection against ingress of dust* Vollständig geschützt gegen Eindringen von Staub	**6**		Protetto contro le proiezioni d'acqua simili a onde marine *Protection against water projections similar to sea waves* Geschützt gegen starkes Strahlwasser, wie schwere Seen
7		N.A.	**7**		Protetto contro gli effetti dell'immersione *Protection against the effects of immersion* Geschützt gegen die Wirkungen beim Eintauchen
8		N.A.	**8**		Protetto contro immersione/sommersione prolungata *Protection against prolonged immersion/ submersion* Geschützt gegen Eintauchen/Untertauchen verlängerte

TN



Motori trifase standard
Standard Threephase motors
Standard Drehstrommotoren

2, 4, 6
poli/*pole*/polig

2 poli/*pole*/polig 3000 rpm

Tipo *Type* Tip	P_N kW	P_N HP	n_N min^{-1}	η %			cosφ	I_N (400V) A	$\frac{I_{sp}}{I_N}$	M_N Nm	$\frac{M_{sp}}{M_N}$	$\frac{M_{MAX}}{M_N}$	J Kgm^2	Kg **(TN)**
				100%P_N	**75**% P_N	**50**% P_N								
80 A	0.75	1	2820	77.5	78	77.6	0.80	1.75	4.8	2.5	2.8	2.9	0.00085	8.7
80 B	1.1	1.5	2850	80.1	80.8	78.3	0.84	2.1	6.3	3.7	3.1	3.2	0.00105	10.8
90 S	1.5	2	2820	81.3	80.6	79.8	0.80	3.5	5.9	5	4	3.9	0.00145	12.9
90 L	2.2	3	2840	83.2	84.3	83.8	0.81	4.7	6.2	7.5	4.2	4.4	0.00191	14.8
100 A	3	4	2840	84.6	85	83.8	0.82	6.2	7	10.1	4	4.5	0.00347	23.4
112 A	4	5.5	2890	85.8	86	84.6	0.81	8.3	7	13	3.7	3.6	0.00520	29
132 SA	5.5	7.5	2920	87	86.8	86	0.82	11.2	7.5	17.9	3.9	4	0.0135	46.5
132 SB	7.5	10	2930	88.3	88.1	86.7	0.85	15	8	24.4	4	4.2	0.0157	52.5
160 MA	11	15	2930	89.4	89	88	0.85	21	8.6	35.8	3.5	3.8	0.03198	80
160 MB	15	20	2935	90.3	90.2	88.5	0.85	28	8.3	48.8	3.6	3.9	0.04221	91
160 L	18.5	25	2930	90.9	90.7	90	0.85	34.4	8.3	60.5	3.9	3.7	0.0486	100
180 M	22	30	2950	91.3	91	89.7	0.86	40	7	71.4	2.9	2.2	0.0779	125
200 LA	30	40	2940	92	91.3	90.3	0.90	52	6.6	97.5	3	2.2	0.1052	156
200 LB	37	50	2940	92.6	93	92.8	0.89	64	7	120	3	2.4	0.1208	182

4 poli/*pole*/polig 1500 rpm

Tipo *Type* Tip	P_N kW	P_N HP	n_N min^{-1}	η %			cosφ	I_N (400V) A	$\frac{I_{sp}}{I_N}$	M_N Nm	$\frac{M_{sp}}{M_N}$	$\frac{M_{MAX}}{M_N}$	J Kgm^2	Kg **(TN)**
				100%P_N	**75**% P_N	**50**% P_N								
80 B	0.75	1	1415	79.6	79.4	77	0.79	2	6	5	2.9	3	0.0026	10.7
90 S	1.1	1.5	1430	82.3	81.8	78.3	0.75	2.6	6.1	7	3.5	3.7	0.0030	13.3
90 L	1.5	2	1420	82.8	82.4	80	0.73	3.6	6.4	10	4	4	0.0038	15
100 A	2.2	3	1420	84.3	84.4	83	0.78	5	6.5	14.6	2.9	3.7	0.0055	20.5
100 B	3	4	1420	85.5	84.9	84.3	0.80	6.6	5.8	20	3.2	3.3	0.0068	24.5
112 A	4	5.5	1440	87.3	87.9	86.9	0.80	8.7	7	26.7	3.4	3.6	0.0107	30
132 SA	5.5	7.5	1440	87.7	88	86	0.81	11.7	7	36	3.5	3.7	0.0233	46
132 MB	7.5	10	1450	88.7	88.4	87.5	0.80	15.6	7.5	49.3	3.5	3.7	0.0304	56
160 M	11	15	1450	89.8	90.2	90.2	0.79	22	7.3	71	3.5	3.7	0.0643	80
160 L	15	20	1460	90.6	91	90.7	0.79	30.6	7	96	3.6	3.1	0.0838	98
180 M	18.5	25	1460	91.3	91.6	90.8	0.82	37	6	120	2.5	2.6	0.131	126
180 L	22	30	1470	91.6	91.7	91.2	0.82	43	6.8	143	2.5	3	0.141	136
200 L	30	40	1465	92.3	92.1	92.1	0.82	62	6	196	2.5	2.9	0.151	182

6 poli/*pole*/polig 1000 rpm

Tipo *Type* Tip	P_N kW	P_N HP	n_N min^{-1}	η %			cosφ	I_N (400V) A	$\frac{I_{sp}}{I_N}$	M_N Nm	$\frac{M_{sp}}{M_N}$	$\frac{M_{MAX}}{M_N}$	J Kgm^2	Kg **(TN)**
				100%P_N	**75**% P_N	**50**% P_N								
90 S	0.75	1	930	75.9	76	75.9	0.73	2.4	3.5	7.79	1.8	2	0.00242	12.5
90 L	1.1	1.5	920	78.1	78	77.3	0.71	3.4	3.5	11.4	1.8	2	0.00398	14
100 A	1.5	2	950	79.8	79.2	78	0.75	4	4	15.2	1.8	2	0.00519	24
112 A	2.2	3	940	81.8	82	81.8	0.75	5.4	6	22	2.3	2.2	0.00720	34
132 SA	3	4	950	83.3	83.4	83	0.76	7.1	5.4	30	2.1	2.1	0.01940	44
132 MB	4	5.5	960	84.6	86.9	85	0.78	9.1	5.3	40	2.4	2.4	0.02688	55
132 MC	5.5	7.5	960	86.1	86.5	85.5	0.82	13.3	5.3	55	2.6	2.6	0.03430	60
160 M	7.5	10	950	87.2	88	87.7	0.82	15.5	5	74	2	2.3	0.08300	75
160 L	11	15	960	88.7	88.6	88	0.82	22	5.5	108	2.3	2.5	0.12500	100
180 L	15	20	960	89.7	90	89.8	0.82	30	5.2	148	2.3	2.2	0.20000	147
200 LA	18.5	25	950	90.4	89.8	89.6	0.84	36	5.2	182	2.1	2.3	0.25000	177

7.0 DIMENSIONI *7.0 DIMENSIONS* 7.0 ABMESSUNGEN

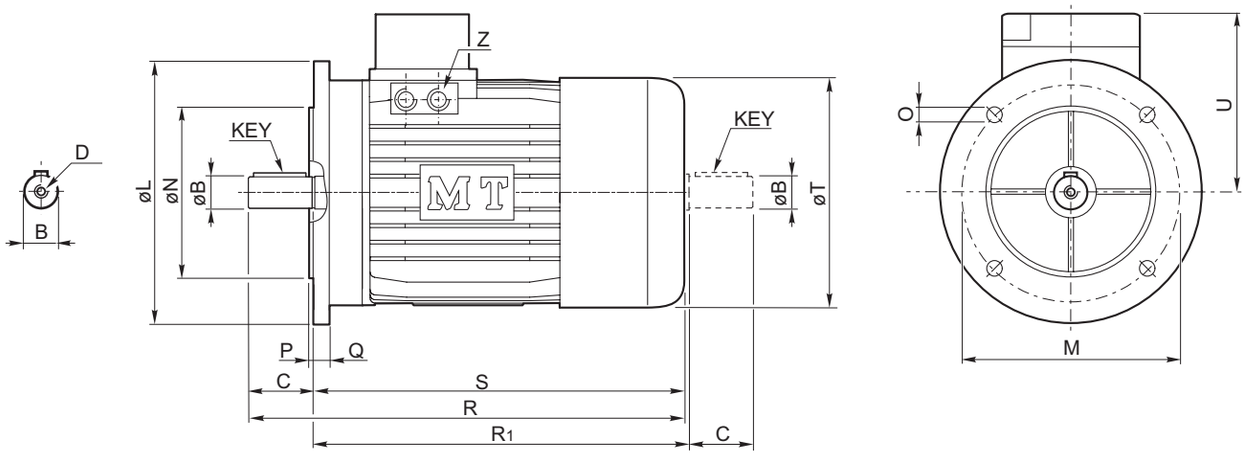
	B3 - B5 - B14													B5						
	B		C		D	R		R1		T	U	Z	Key		L	M	N	O	P	Q	S
	2 p	4/6 p	2 p	4/6 p		2 p	4/6 p	2 p	4/6 p				2 p	4/6 p							
80	19 j6	19 j6	40	40	M6	275	275	237	237	156	124	M20x1.5	6x6x30	6x6x30	200	165	130	11	3.5	10	235
90S	24 j6	24 j6	50	50	M8	300	300	256	256	176	127	M20x1.5	8x7x40	8x7x40	200	165	130	11	3.5	10	250
90L	24 j6	24 j6	50	50	M8	325	325	281	281	176	127	M20x1.5	8x7x40	8x7x40	200	165	130	11	3.5	10	275
100	28 j6	28 j6	60	60	M10	370	370	310	310	192	138	M20x1.5	8x7x40	8x7x40	250	215	180	14	4	14	308
112	28 j6	28 j6	60	60	M10	390	390	331	331	216	150	M20x1.5	8x7x40	8x7x40	250	215	180	14	4	14	330
132 S	38 k6	38 k6	80	80	M12	450	450	376	376	257	178	M25x1.5	10x8x70	10x8x70	300	265	230	14	4	20	370
132 M	38 k6	38 k6	80	80	M12	490	490	411	411	257	178	M25x1.5	10x8x70	10x8x70	300	265	230	14	4	20	408
160 M	42 k6	42 k6	110	110	M16	615	615	510	510	310	240	M32x1.5	12x8	12x8	350	300	250	19	5	16	490
160 L	42 k6	42 k6	110	110	M16	659	659	554	554	310	240	M32x1.5	12x8	12x8	350	300	250	19	5	16	535
180 M	48 k6	48 k6	110	110	M16	695	695	590	590	360	270	M32x1.5	14x9	14x8	350	300	250	19	5	18	585
180 L	48 k6	48 k6	110	110	M16	695	695	590	590	360	270	M32x1.5	14x9	14x8	350	300	250	19	5	18	585
200 L	55 kL6	55 kL6	110	110	M20	710	710	605	605	400	270	M32x1.5	16x10	16x10	400	350	300	19	5	18	600

	B3 - B5 - B14													B14					
	B		C		D	R		R1		T	U	Z	Key		L	M	N	O	P	S
	2 p	4/6 p	2 p	4/6 p		2 p	4/6 p	2 p	4/6 p				2 p	4/6 p						
80	19 j6	19 j6	40	40	M6	275	275	237	237	156	124	M20x1.5	6x6x30	6x6x30	120	100	80	M6	3	235
90S	24 j6	24 j6	50	50	M8	300	300	256	256	176	127	M20x1.5	8x7x40	8x7x40	140	115	95	M8	3	250
90L	24 j6	24 j6	50	50	M8	325	325	281	281	176	127	M20x1.5	8x7x40	8x7x40	140	115	95	M8	3	275
100	28 j6	28 j6	60	60	M10	370	370	310	310	192	138	M20x1.5	8x7x40	8x7x40	160	130	110	M8	3.5	310
112	28 j6	28 j6	60	60	M10	390	390	331	331	216	150	M20x1.5	8x7x40	8x7x40	160	130	110	M8	3.5	330
132 S	38 k6	38 k6	80	80	M12	450	450	376	376	257	178	M25x1.5	10x8x70	10x8x70	200	165	130	M10	4	370
132 M	38 k6	38 k6	80	80	M12	490	490	411	411	257	178	M25x1.5	10x8x70	10x8x70	200	165	130	M10	4	410
160 M	42 k6	42 k6	110	110	M16	615	615	510	510	310	240	M32x1.5	12x8	12x8	250	215	180	M12	4	490
160 L	42 k6	42 k6	110	110	M16	659	659	554	554	310	240	M32x1.5	12x8	12x8	250	215	180	M12	4	535
180 M	48 k6	48 k6	110	110	M16	695	695	590	590	360	270	M32x1.5	14x9	14x8	290	215	180	M12	4	585
180 L	48 k6	48 k6	110	110	M16	695	695	590	590	360	270	M32x1.5	14x9	14x8	290	215	180	M12	4	585
200 L	55 kL6	55 kL6	110	110	M20	710	710	605	605	400	270	M32x1.5	16x10	16x10						

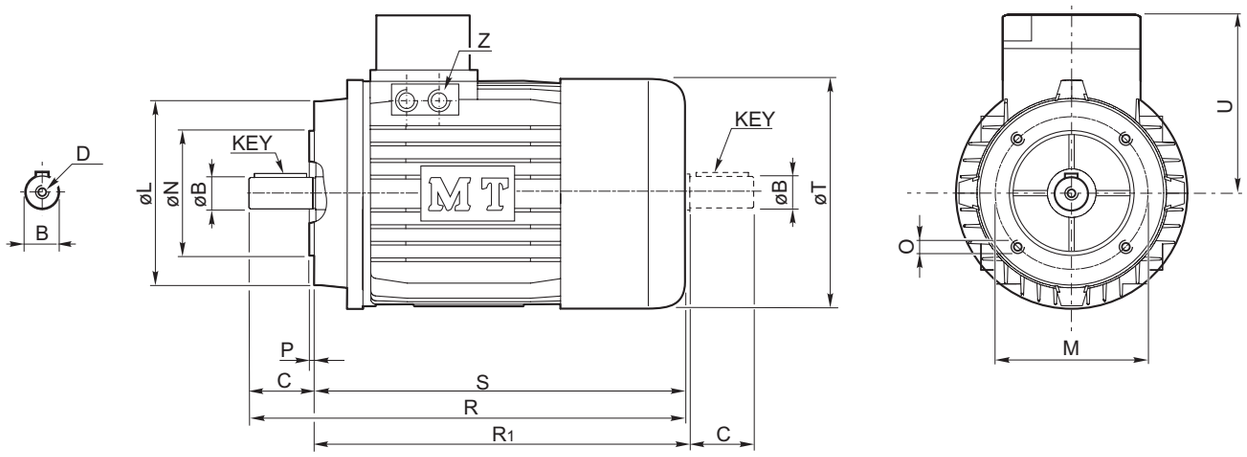
	B3 - B5 - B14													B3									
	B		C		D	R		R1		T	U	Z	Key		A	E	E1	F	F1	G	G1	H	I	V
	2 p	4/6 p	2 p	4/6 p		2 p	4/6 p	2 p	4/6 p				2 p	4/6 p										
80	19 j6	19 j6	40	40	M6	275	275	237	237	156	124	M20x1.5	6x6x30	6x6x30	80	50	38	100	125	125	154	9.5	11	204
90S	24 j6	24 j6	50	50	M8	300	300	256	256	176	127	M20x1.5	8x7x40	8x7x40	90	56	41	100	130	140	174	9.5	13	217
90L	24 j6	24 j6	50	50	M8	325	325	281	281	176	127	M20x1.5	8x7x40	8x7x40	90	56	41	125	155	140	174	9.5	13	217
100	28 j6	28 j6	60	60	M10	370	370	310	310	192	138	M20x1.5	8x7x40	8x7x40	100	63	46	140	175	160	192	12	14	238
112	28 j6	28 j6	60	60	M10	390	390	331	331	216	150	M20x1.5	8x7x40	8x7x40	112	70	53	140	180	190	234	12	14	262
132 S	38 k6	38 k6	80	80	M12	450	450	376	376	257	178	M25x1.5	10x8x70	10x8x70	132	89	60	140	180	216	256	12	16	310
132 M	38 k6	38 k6	80	80	M12	490	490	411	411	257	178	M25x1.5	10x8x70	10x8x70	132	89	60	178	218	216	256	12	16	310
160 M	42 k6	42 k6	110	110	M16	615	615	510	510	310	240	M32x1.5	12x8	12x8	160	108	83	210	260	254	310	15	22	400
160 L	42 k6	42 k6	110	110	M16	659	659	554	554	310	240	M32x1.5	12x8	12x8	160	108	72	254	320	254	330	15	22	400
180 M	48 k6	48 k6	110	110	M16	695	695	590	590	360	270	M32x1.5	14x9	14x8	180	121	80	241	315	279	355	13	24	450
180 L	48 k6	48 k6	110	110	M16	695	695	590	590	360	270	M32x1.5	14x9	14x8	180	121	80	279	353	279	355	13	24	450
200 L	55 kL6	55 kL6	110	110	M20	710	710	605	605	400	270	M32x1.5	16x10	16x10	200	133	91	305	400	318	395	19	27	500

7.0 DIMENSIONI *7.0 DIMENSIONS* 7.0 ABMESSUNGEN

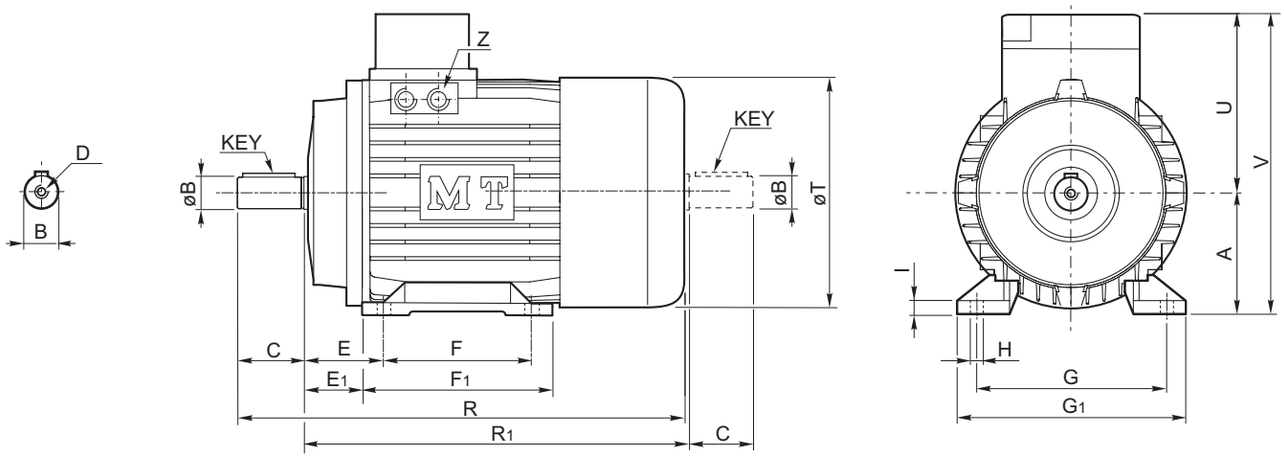
B5



B14



B3



8.0 DICHIARAZIONE CE

8.0 EC DECLARATION

Dichiarazione di conformità CE

La Ditta M.T. Motori Elettrici S.r.l., dichiara sotto la sua responsabilità che i prodotti:

Serie TN, DN, XN, TF, DF, MF, FP- DFP taglia da 56 a 200, motori elettrici con e senza freno

sono conformi alle seguenti direttive:
Direttiva ATEX 94/9/CE

EN 60079-0:2008
Costruzioni elettriche per atmosfere potenzialmente esplosive. Parte 0: Regole generali

EN 60069-15:2005
Costruzioni elettriche per atmosfere esplosive per la presenza di gas
Parte 15: Costruzione, prove marcatura delle costruzioni elettriche avente modo di protezione "n"

EN 61241-0:2006
Costruzioni elettriche destinate ad essere utilizzate in presenza di polveri combustibili. Parte 0: Prescrizioni generali

EN 61241-1:2006
Apparecchi con modo di protezione mediante custodie "t" destinati ad essere utilizzati in presenza di polveri combustibili

EN 13463-1:2009
Apparecchi non elettrici destinati ad essere utilizzati in atmosfere potenzialmente esplosive
Parte 1: Metodo e requisiti di base

EN 13463-5:2003
Apparecchi non elettrici per atmosfere potenzialmente esplosive
Parte 5: Protezione per sicurezza costruttiva "c"

Direttiva 2004/108/CE EMC
Comprende la direttiva EMC CEE 89/336 e la direttiva bassa tensione CEE 73/23 (1973), modificata con CEE 93/68 (1993)

Direttiva LVD 2006/95/CEE
Corrispondente alle IEC 60034-1 11/1996, IEC 60034-1/A1 06/1997, IEC 60034-1/A2 05/1999

E' conforme alla direttiva ATEX, con certificati emessi da TÙV CERT GmbH (0044):

ATEX TUV 04 ATEX 2383 X

Ex II 3 G Ex nA IIC TX
Ex II 3 D Ex tD A22 IP55 TX

CERTIFICATO UL 1004 – CSA C22.2 NR. 100-95

EC Declaration of conformity

M.T. Motori Elettrici S.r.l., having its head office in San Giovanni in Persiceto (BO), Via Bologna 175 (S.S.N. 568), declares under its responsibility that the products:
Model TN, DN, XN, TF, DF, MF, FP-DFP size from 56 to 200, electric motors with or without brakes

they are in conformity with the following standards:
Atex directive 94/9/EEC

EN 60079-0:2008
Electrical apparatus for potentially explosive atmospheres Part. 0: General requirements

EN 60069-15:2005
Electrical apparatus for explosive gas atmospheres
Part. 15: Construction, test and marking of type of protection, "n" electrical apparatus

EN 61241-0:2006
Electrical apparatus for use in the presence of combustible dust. Part. 0: General requirements

EN 61241-1:2006
Electrical apparatus for use in the presence of combustible dust
Part 1: Protection by enclosures “tD”

EN 13463-1:2009
Non-electrical equipment intended for use in potentially explosive atmospheres
Part. 1: Basic method and requirements

EN 13463-5:2003
Non-electrical equipment intended for use in potentially explosive atmospheres
Part 5: Protection by constructional safety "c"

EMC DIrective 2004/108/CE:
It includes the EEC EMC directive 89/336 and the EEC low voltage directive 73/23 (1973), modified by EEC 93/68 (1993)

LVD DIrective 2006/95/CEE
Corresponding to IEC: IEC 60034-1 11/1996, IEC 60034-1A1 06/1997, IEC 60034-1A2 05/1999

It is in conformity with the ATEX, with certificate issued from TÙV CERT GmbH (0044):

ATEX TUV 04 ATEX 2383 X

Ex II 3 G Ex nA IIC TX
Ex II 3 D Ex tD A22 IP55 TX

CERTIFICATO UL 1004 – CSA C22.2 NR. 100-95

Firma
Signature