
BN series

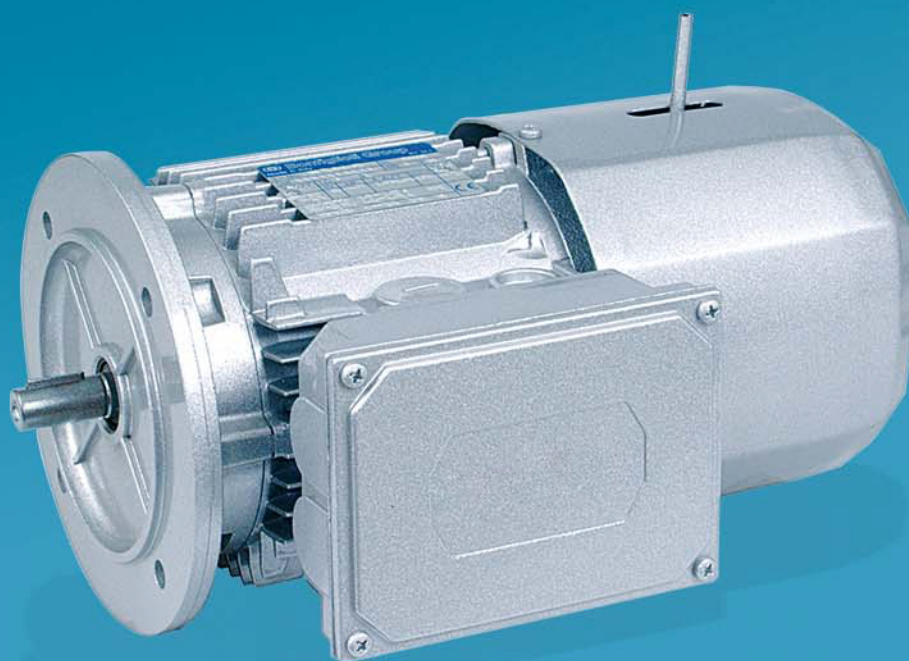
Motori asincroni trifase

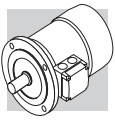
Three-phase asynchronous motors

Asynchronen Drehstrommotoren

Moteurs asynchrones triphasés

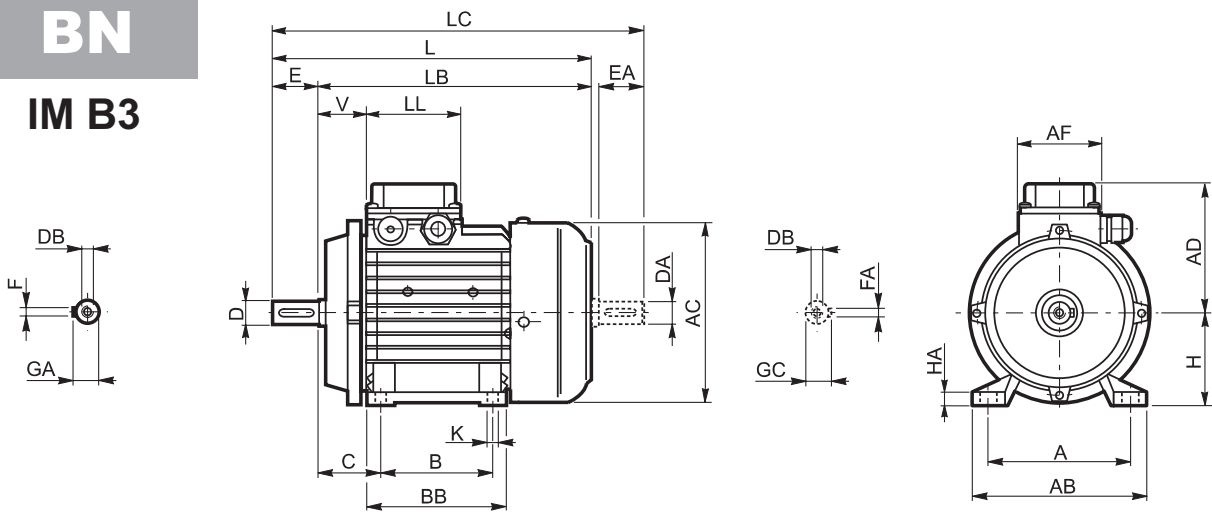
3~



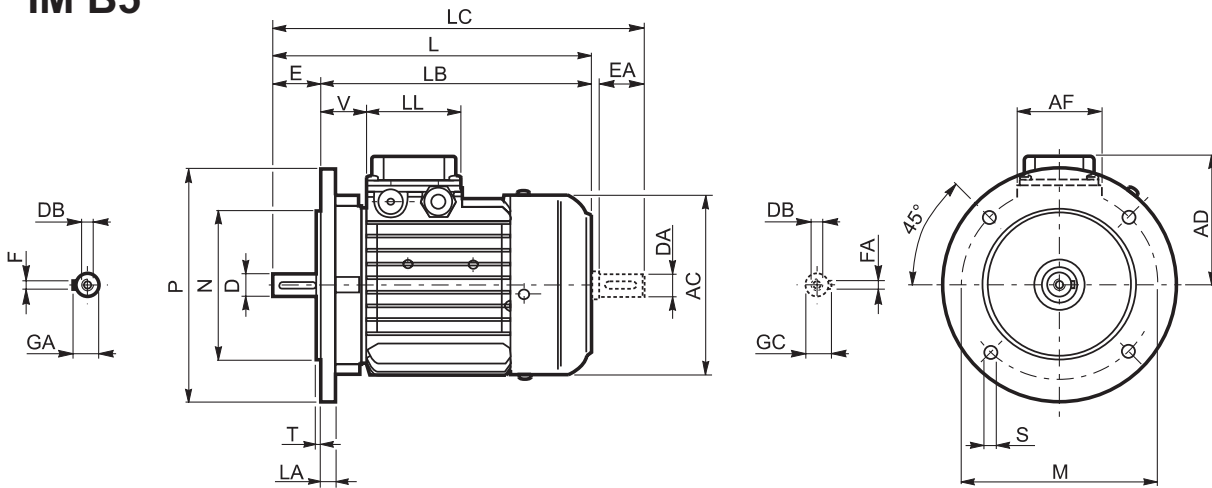


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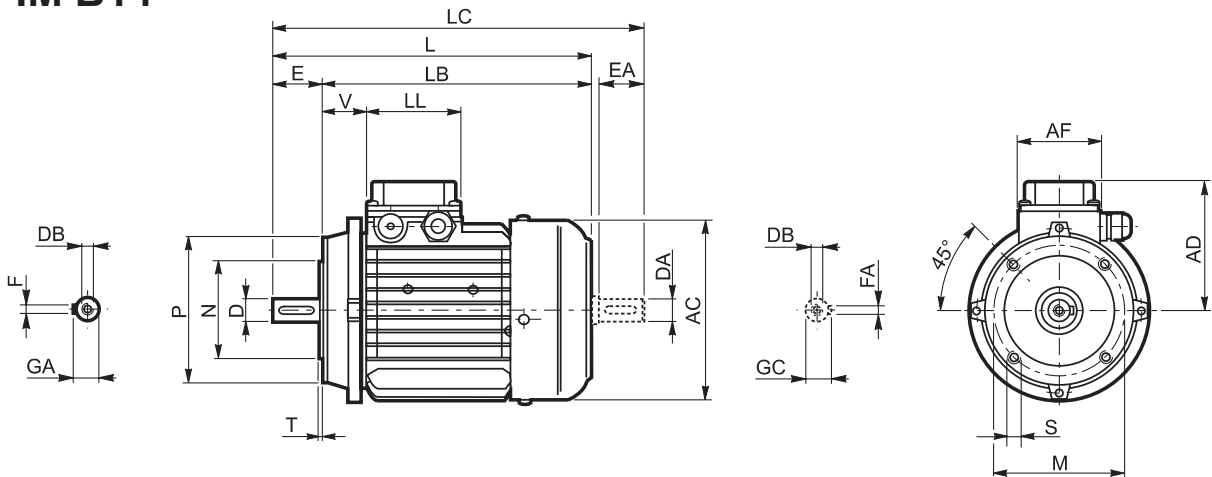
IM B3

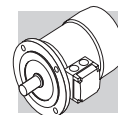


IM B5



IM B14




M29 - DIMENSIONI
M29 - DIMENSIONS
M29 - ABMESSUNGEN
M29 - DIMENSIONS

BN (IM B3)	Albero / Shaft / Welle / Arbre					Cassa / Frame / Gehäuse / Carcasse						Motore / Motor / Motor / Moteur									
	D DA	E EA	DB	GA GC	F FA	B	A	HA	BB	AB	K	C	H	AC	L	LB	LC	AD	AF	LL	V
BN 63	11	23	M4	12.5	4	80	100	7	96	120	7	40	63	121	212	189	237	92	74	80	30
BN 71	14	30	M5	16	5	90	112	8	112	135	7	45	71	138	249	219	281	105	74	80	35
BN 80	19	40	M6	21.5	6	100	125	9.5	124	153	10	50	80	156	273	233	315	115	74	80	38
BN 90S	24	50	M8	27	8	100	140	13	130	174	10	56	90	176	326	276	379	133	98	98	44
BN 90L	24	50	M8	27	8	125	140	13	155	174	10	56	90	176	326	276	379	133	98	98	44
BN 100	28	60	M10	31	8	140	160	14	175	192	12	63	100	195	367	307	429	142	98	98	50
BN 112	28	60	M10	31	8	140	190	14	175	224	12	70	112	219	385	325	448	157	98	98	52
BN 132S	38	80	M12	41	10	140	216	16	180	260	12	89	132	258	493	413	576	193	118	118	58
BN 132M	38	80	M12	41	10	178	216	16	218	260	12	89	132	258	493	413	576	193	118	118	58

BN (IM B5)	Albero / Shaft / Welle / Arbre					Flangia / Flange / Flansch / Bride						Motore / Motor / Motor / Moteur									
	D DA	E EA	DB	GA GC	F FA	M	N	P	S	T	LA	AC	L	LB	LC	AD	AF	LL	V		
BN 56	9	20	M3	10.2	3	100	80	120	7	3	8	110	185	165	207	91	74	80	34		
BN 63	11	23	M4	12.5	4	115	95	140	9.5	3	10	121	207	184	232	95	74	80	26		
BN 71	14	30	M5	16	5	130	110	160	9.5	3.5	10	138	249	219	281	108	74	80	37		
BN 80	19	40	M6	21.5	6	165	130	200	11.5	3.5	11.5	156	274	234	315	119	74	80	38		
BN 90	24	50	M8	27	8	165	130	200	11.5	3.5	11.5	176	326	276	378	133	98	98	44		
BN 100	28	60	M10	31	8	215	180	250	14	4	14	195	367	307	429	142	98	98	50		
BN 112	28	60	M10	31	8	215	180	250	14	4	15	219	385	325	448	157	98	98	52		
BN 132	38	80	M12	41	10	265	230	300	14	4	20	258	493	413	576	193	118	118	58		
BN 160MR	42 38 ⁽¹⁾	110 80 ⁽¹⁾	M16 M12 ⁽¹⁾	45 41 ⁽¹⁾	12 10 ⁽¹⁾	300	250	350	18.5	5	15	258	562	452	645	193	118	118	218		
BN 160M	42 38 ⁽¹⁾	110 80 ⁽¹⁾	M16 M12 ⁽¹⁾	45 41 ⁽¹⁾	12 10 ⁽¹⁾	300	250	350	18.5	5	15	310	596	486	680	245	187	187	51		
BN 160L	42 38 ⁽¹⁾	110 80 ⁽¹⁾	M16 M12 ⁽¹⁾	45 41 ⁽¹⁾	12 10 ⁽¹⁾	300	250	350	18.5	5	15	310	596	486	680	245	187	187	51		
BN 180M	48 38 ⁽¹⁾	110 80 ⁽¹⁾	M16 M12 ⁽¹⁾	51.5 41 ⁽¹⁾	14 10 ⁽¹⁾	300	250	350	18.5	5	15	310	640	530	724	245	187	187	51		
BN 180L	48 42 ⁽¹⁾	110 110 ⁽¹⁾	M16 M16 ⁽¹⁾	51.5 45 ⁽¹⁾	14 12 ⁽¹⁾	300	250	350	18.5	5	18	348	708	598	823	261	187	187	52		
BN 200L	55 42 ⁽¹⁾	110 110 ⁽¹⁾	M20 M16 ⁽¹⁾	59 45 ⁽¹⁾	16 12 ⁽¹⁾	350	300	400	18.5	5	18	348	722	612	837	261	187	187	66		

BN (IM B14)	Albero / Shaft / Welle / Arbre					Flangia / Flange / Flansch / Bride					Motore / Motor / Motor / Moteur									
	D DA	E EA	DB	GA GC	F FA	M	N	P	S	T	AC	L	LB	LC	AD	AF	LL	V		
BN 56	9	20	M3	10.2	3	65	50	80	M5	2.5	110	185	165	207	91	74	80	34		
BN 63	11	23	M4	12.5	4	75	60	90	M5	2.5	121	207	184	232	95	74	80	26		
BN 71	14	30	M5	16	5	85	70	105	M6	2.5	138	249	219	281	108	74	80	37		
BN 80	19	40	M6	21.5	6	100	80	120	M6	3	156	274	234	315	119	74	80	38		
BN 90	24	50	M8	27	8	115	95	140	M8	3	176	326	276	378	133	98	98	44		
BN 100	28	60	M10	31	8	130	110	160	M8	3.5	195	367	307	429	142	98	98	50		
BN 112	28	60	M10	31	8	130	110	160	M8	3.5	219	385	325	448	157	98	98	52		
BN 132	38	80	M12	41	10	165	130	200	M10	4	258	493	413	576	193	118	118	58		

N.B.:

1) Queste dimensioni sono riferite alla seconda estremità d'albero

NOTE:

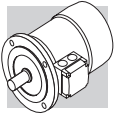
1) These values refer to the rear shaft end.

HINWEIS:

1) Diese Maße betreffen das zweite Wellenende.

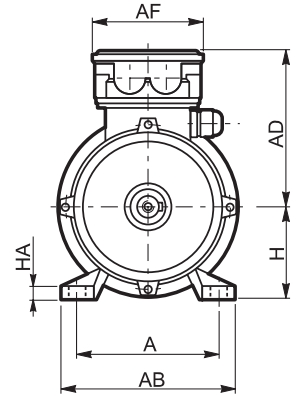
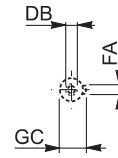
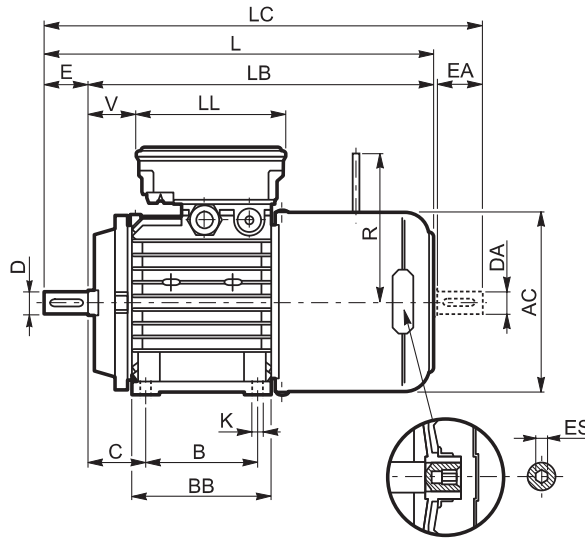
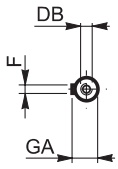
REMARQUE :

1) Ces dimensions se réfèrent à la deuxième extrémité de l'arbre.

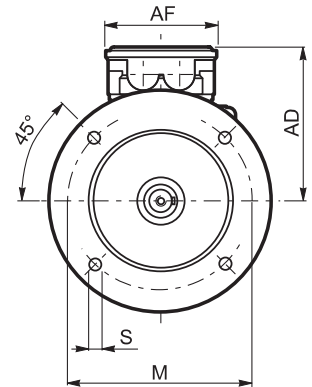
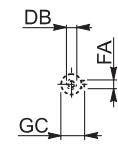
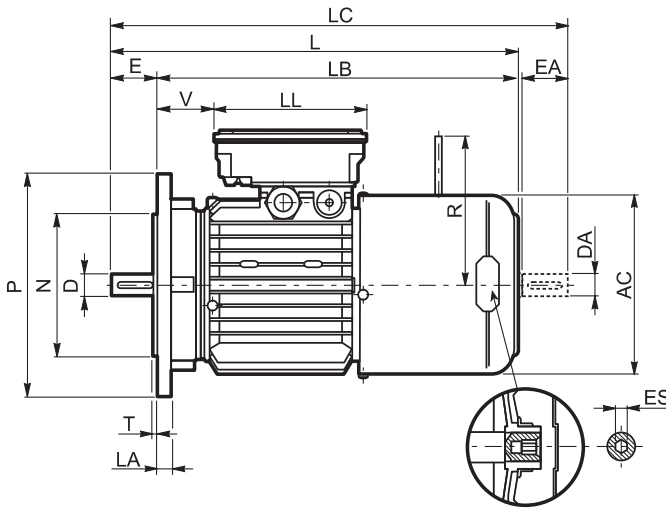
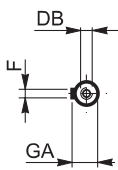


BN_FD

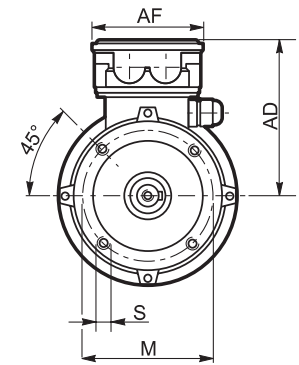
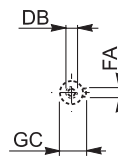
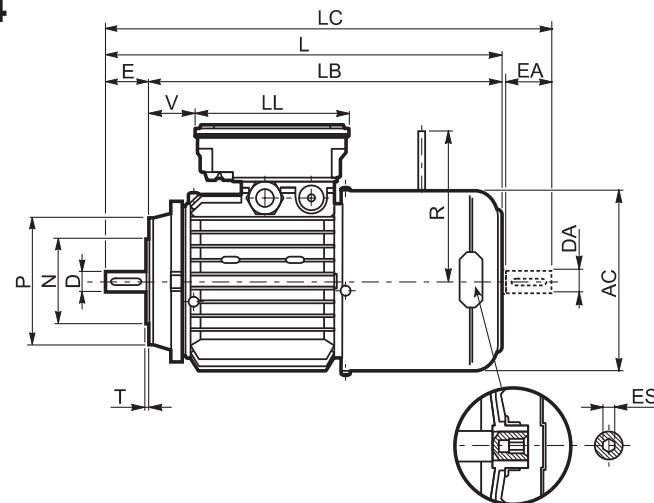
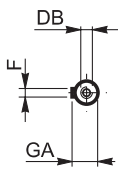
IM B3

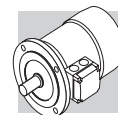


IM B5



IM B14





BN_FD (IM B3)	Albero / Shaft / Welle / Arbre					Cassa / Frame / Gehäuse / Carcasse							Motore / Motor / Motor / Moteur										
	D DA	E EA	DB	GA GC	F FA	B	A	HA	BB	AB	K	C	H	AC	L	LB	LC	AD	AF	LL	V	R	ES
BN 63	11	23	M4	12.5	4	80	100	7	96	120	7	40	63	121	269	246	294	122	98	133	51	96	5
BN 71	14	30	M5	16	5	90	112	8	112	135	7	45	71	138	310	280	342	135	98	133	25	103	5
BN 80	19	40	M6	21.5	6	100	125	9.5	124	153	10	50	80	156	346	306	388	146	98	133	41	129	5
BN 90S	24	50	M8	27	8	100	140	13	130	174	10	56	90	176	409	359	461	149	110	165	39	129	6
BN 90L	24	50	M8	27	8	125	140	13	155	174	10	56	90	176	409	359	461	149	110	165	39	160	6
BN 100	28	60	M10	31	8	140	160	14	175	192	12	63	100	195	458	398	521	158	110	165	62	160	6
BN 112	28	60	M10	31	8	140	190	14	175	224	12	70	112	219	484	424	547	173	110	165	73	199	6
BN 132S	38	80	M12	41	10	140	216	16	180	260	12	89	132	258	565	485	648	210	140	188	84	204 ⁽²⁾	6
BN 132M	38	80	M12	41	10	178	216	16	218	260	12	89	132	258	603	523	686	210	140	188	122	204 ⁽²⁾	6

BN_FD (IM B5)	Albero / Shaft / Welle / Arbre					Flangia / Flange / Flansch / Bride						Motore / Motor / Motor / Moteur									
	D DA	E EA	DB	GA GC	F FA	M	N	P	S	T	LA	AC	L	LB	LC	AD	AF	LL	V	R	ES
BN 63	11	23	M4	12.5	4	115	95	140	9.5	3	10	121	272	249	297	122	98	133	14	96	5
BN 71	14	30	M5	16	5	130	110	160	9.5	3.5	10	138	310	280	342	135	98	133	25	103	5
BN 80	19	40	M6	21.5	6	165	130	200	11.5	3.5	11.5	156	346	306	388	146	98	133	41	129	5
BN 90S	24	50	M8	27	8	165	130	200	11.5	3.5	11.5	176	409	359	461	149	110	165	39	129	6
BN 90L	24	50	M8	27	8	165	130	200	11.5	3.5	11.5	176	409	359	461	149	110	165	39	160	6
BN 100	28	60	M10	31	8	215	180	250	14	4	14	195	458	398	521	158	110	165	62	160	6
BN 112	28	60	M10	31	8	215	180	250	14	4	15	219	484	424	547	173	110	165	73	199	6
BN 132	38	80	M12	41	10	265	230	300	14	4	20	258	603	523	686	210	140	188	122	204 ⁽²⁾	6
BN 160MR	42 38 ⁽¹⁾	110 80 ⁽¹⁾	M16 M12 ⁽¹⁾	45 41 ⁽¹⁾	12 10 ⁽¹⁾	300	250	350	18.5	5	15	258	672	562	755	210	140	188	161	226	6
BN 160M	42 38 ⁽¹⁾	110 80 ⁽¹⁾	M16 M12 ⁽¹⁾	45 41 ⁽¹⁾	12 10 ⁽¹⁾	300	250	350	18.5	5	15	310	736	626	820	245	187	187	51	266	—
BN 160L	42 38 ⁽¹⁾	110 80 ⁽¹⁾	M16 M12 ⁽¹⁾	45 41 ⁽¹⁾	12 10 ⁽¹⁾	300	250	350	18.5	5	15	310	736	626	820	245	187	187	51	266	—
BN 180M	48 38 ⁽¹⁾	110 80 ⁽¹⁾	M16 M12 ⁽¹⁾	51.5 41 ⁽¹⁾	14 10 ⁽¹⁾	300	250	350	18.5	5	15	310	780	670	864	245	187	187	51	266	—
BN 180L	48 42 ⁽¹⁾	110 110 ⁽¹⁾	M16 M16 ⁽¹⁾	51.5 45 ⁽¹⁾	14 12 ⁽¹⁾	300	250	350	18.5	5	18	348	866	756	981	261	187	187	52	305	—
BN 200L	55 42 ⁽¹⁾	110 110 ⁽¹⁾	M20 M16 ⁽¹⁾	59 45 ⁽¹⁾	16 12 ⁽¹⁾	350	300	400	18.5	5	18	348	878	768	993	261	187	187	64	305	—

BN_FD (IM B14)	Albero / Shaft / Welle / Arbre					Flangia / Flange / Flansch / Bride					Motore / Motor / Motor / Moteur									
	D DA	E EA	DB	GA GC	F FA	M	N	P	S	T	AC	L	LB	LC	AD	AF	LL	V	R	ES
BN 63	11	23	M4	12.5	4	75	60	90	M5	2.5	121	272	249	297	122	98	133	14	96	5
BN 71	14	30	M5	16	5	85	70	105	M6	2.5	138	310	280	342	135	98	133	25	103	5
BN 80	19	40	M6	21.5	6	100	80	120	M6	3	156	346	306	388	146	98	133	41	129	5
BN 90S	24	50	M8	27	8	115	95	140	M8	3	176	409	359	461	149	110	165	39	129	6
BN 90L	24	50	M8	27	8	115	95	140	M8	3	176	409	359	461	149	110	165	39	160	6
BN 100	28	60	M10	31	8	130	110	160	M8	3.5	195	458	398	521	158	110	165	62	160	6
BN 112	28	60	M10	31	8	130	110	160	M8	3.5	219	484	424	547	173	110	165	73	199	6
BN 132	38	80	M12	41	10	165	130	200	M10	4	258	603	523	686	210	140	188	122	204 ⁽²⁾	6

N.B.:

- 1) Queste dimensioni sono riferite alla seconda estremità d'albero.
2) Per freno FD07 quota R=226

NOTE:

- 1) These values refer to the rear shaft end.
2) For FD07 brake value R=226

HINWEIS:

- 1) Diese Maße betreffen das zweite Wellenende
2) Für Bremse FD07, Maß R=226

REMARQUE :

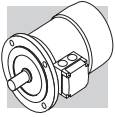
- 1) Ces dimensions se réfèrent à la deuxième extrémité de l'arbre
2) Pour frein FD07 valeur R=226

L'esagono ES non è presente con l'opzione PS

ES hexagon is not supplied with PS option

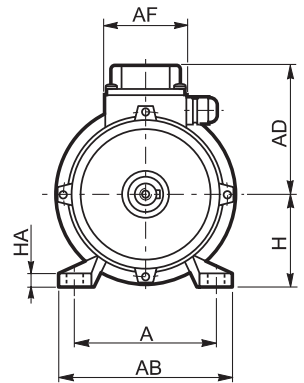
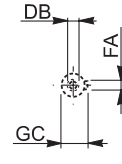
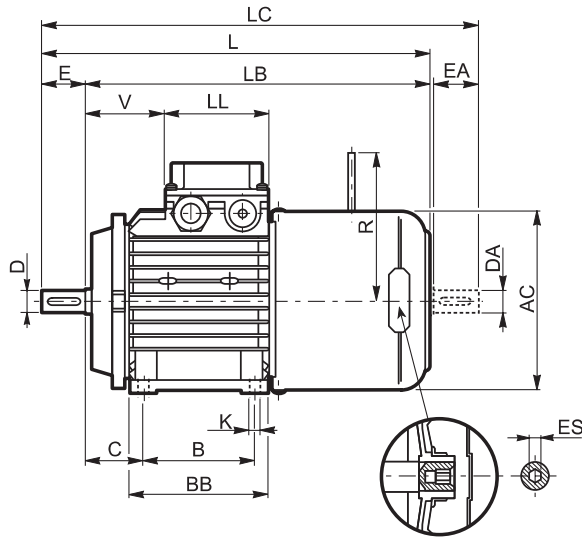
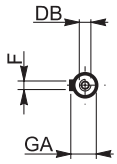
Der Sechskant ES ist bei der Option PS nicht vorhanden.

L'hexagone ES n'est pas disponible avec l'option PS

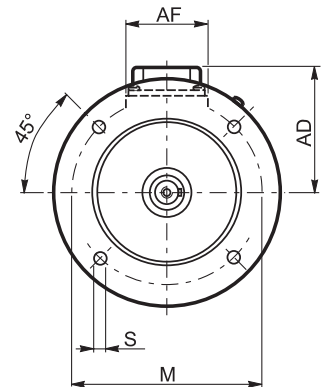
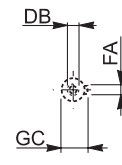
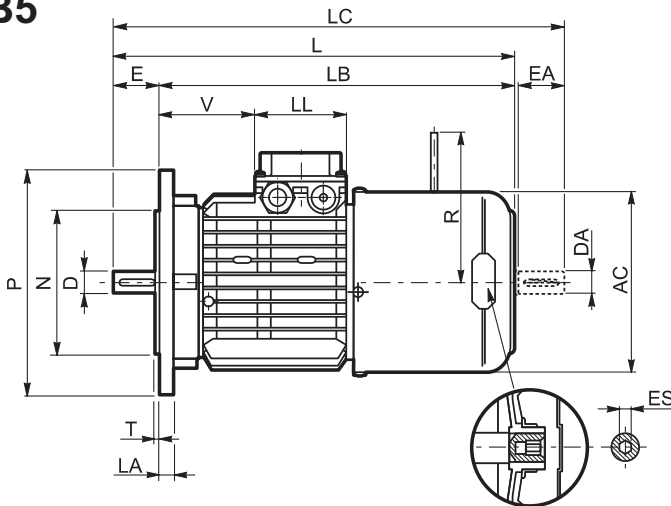
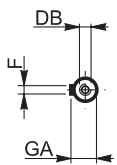


BN_FA

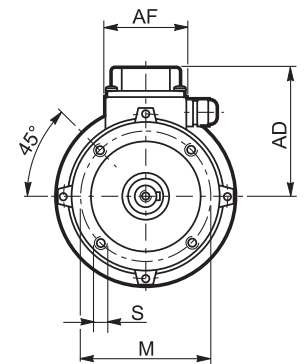
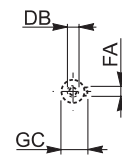
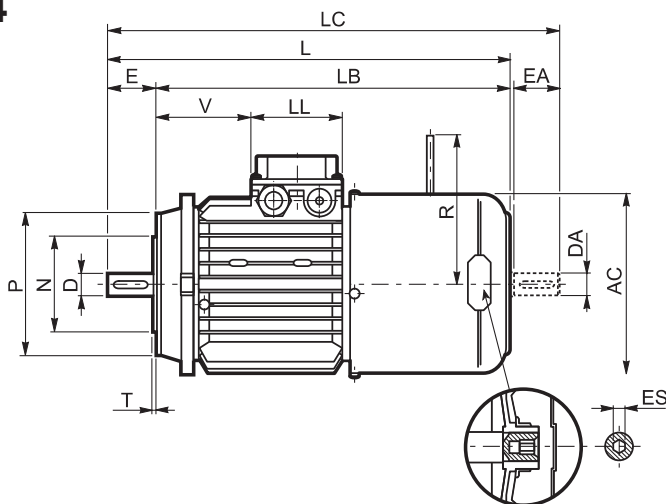
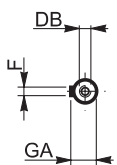
IM B3

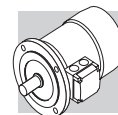


IM B5



IM B14





BN_FA (IM B3)	Albero / Shaft / Welle / Arbre					Cassa / Frame / Gehäuse / Carcasse						Motore / Motor / Motor / Moteur											
	D DA	E EA	DB	GA GC	F FA	B	A	HA	BB	AB	K	C	H	AC	L	LB	LC	AD	AF	LL	V	R	ES
BN 63	11	23	M4	12.5	4	80	100	7	96	120	7	40	63	121	269	246	294	92	74	80	51	116	5
BN 71	14	30	M5	16	5	90	112	8	112	135	7	45	71	138	310	280	342	105	74	80	68	124	5
BN 80	19	40	M6	21.5	6	100	125	9.5	124	153	10	50	80	156	346	306	388	115	74	80	83	134	5
BN 90S	24	50	M8	27	8	100	140	13	130	174	10	56	90	176	409	359	461	133	98	98	71	134	6
BN 90L	24	50	M8	27	8	125	140	13	155	174	10	56	90	176	409	359	461	133	98	98	95	160	6
BN 100	28	60	M10	31	8	140	160	14	175	192	12	63	100	195	458	398	521	142	98	98	119	160	6
BN 112	28	60	M10	31	8	140	190	14	175	224	12	70	112	219	484	424	547	157	98	98	142	198	6
BN 132S	38	80	M12	41	10	140	216	16	180	260	12	89	132	258	565	485	648	193	118	118	180	200 ⁽²⁾	6
BN 132M	38	80	M12	41	10	178	216	16	218	260	12	89	132	258	603	523	686	193	118	118	180	200 ⁽²⁾	6

BN_FA (IM B5)	Albero / Shaft / Welle / Arbre					Flangia / Flange / Flansch / Bride						Motore / Motor / Motor / Moteur									
	D DA	E EA	DB	GA GC	F FA	M	N	P	S	T	LA	AC	L	LB	LC	AD	AF	LL	V	R	ES
BN 63	11	23	M4	12.5	4	115	95	140	9.5	3	10	121	272	249	297	95	74	80	26	116	5
BN 71	14	30	M5	16	5	130	110	160	9.5	3.5	10	138	310	280	342	108	74	80	68	124	5
BN 80	19	40	M6	21.5	6	165	130	200	11.5	3.5	11.5	156	346	306	388	119	74	80	83	134	5
BN 90	24	50	M8	27	8	165	130	200	11.5	3.5	11.5	176	409	359	461	133	98	98	95	160	6
BN 100	28	60	M10	31	8	215	180	250	14	4	14	195	458	398	521	142	98	98	119	160	6
BN 112	28	60	M10	31	8	215	180	250	14	4	15	219	484	424	547	157	98	98	128	198	6
BN 132	38	80	M12	41	10	265	230	300	14	4	20	258	603	523	686	193	118	118	180	200 ⁽²⁾	6
BN 160MR	42 38 ⁽¹⁾	110 80 ⁽¹⁾	M16 M12 ⁽¹⁾	45 41 ⁽¹⁾	12 10 ⁽¹⁾	300	250	350	18.5	5	15	258	672	562	755	193	118	118	218	217	6
BN 160M	42 38 ⁽¹⁾	110 80 ⁽¹⁾	M16 M12 ⁽¹⁾	45 41 ⁽¹⁾	12 10 ⁽¹⁾	300	250	350	18.5	5	15	310	736	626	820	245	187	187	51	247	—
BN 160L	42 38 ⁽¹⁾	110 80 ⁽¹⁾	M16 M12 ⁽¹⁾	45 41 ⁽¹⁾	12 10 ⁽¹⁾	300	250	350	18.5	5	15	310	736	626	820	245	187	187	51	247	—
BN 180M	48 38 ⁽¹⁾	110 80 ⁽¹⁾	M16 M12 ⁽¹⁾	51.5 41 ⁽¹⁾	14 10 ⁽¹⁾	300	250	350	18.5	5	15	310	780	670	864	245	187	187	51	247	—

BN_FA (IM B14)	Albero / Shaft / Welle / Arbre					Flangia / Flange / Flansch / Bride					Motore / Motor / Motor / Moteur									
	D DA	E EA	DB	GA GC	F FA	M	N	P	S	T	AC	L	LB	LC	AD	AF	LL	V	R	ES
BN 63	11	23	M4	12.5	4	75	60	90	M5	2.5	121	272	249	119	95	74	80	26	116	5
BN 71	14	30	M5	16	5	85	70	105	M6	2.5	138	310	280	342	108	74	80	68	124	5
BN 80	19	40	M6	21.5	6	100	80	120	M6	3	156	346	306	388	119	74	80	83	134	5
BN 90	24	50	M8	27	8	115	95	140	M8	3	176	409	359	461	133	98	98	95	160	6
BN 100	28	60	M10	31	8	130	110	160	M8	3.5	195	458	398	521	142	98	98	119	160	6
BN 112	28	60	M10	31	8	130	110	160	M8	3.5	219	484	424	547	157	98	98	128	198	6
BN 132	38	80	M12	41	10	165	130	200	M10	4	258	603	523	686	193	118	118	180	200 ⁽²⁾	6

N.B.:

1) Queste dimensioni sono riferite alla seconda estremità d'albero.

2) Per freno FA07 quota R=217
Le dimensioni AD, AF, LL e V relative alla scatola morsettiera dei motori BN...FA dotati di alimentazione separata del freno (opzione SA) coincidono con quelle dei motori BN...FD di pari taglia.

L'esagono ES non è presente con l'opzione PS.

NOTE:

1) These values refer to the rear shaft end.

2) For FA07 brake value R=217
FDimensions AD, AF, LL and V, relevant to terminal box of motors BN...FA featuring the separate brake supply (option SA), are coincident with corresponding dimensions of same-size BN...FD motors.

ES hexagon is not supplied with PS option.

HINWEIS:

1) Diese Maße betreffen das zweite Wellenende

2) Für Bremse FA07, Maß R=217
Die Abmessungen des Klemmenkastens der Motoren BN ... FA AD, AF, LL und V in bezug auf die separate Spannungsversorgung (Option SA) stimmen mit den Abmessungen der entsprechenden Motoren BN...FD überein.

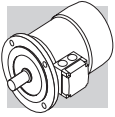
Der Sechskant ES ist bei Option PS nicht vorhanden.

REMARQUE :

1) Ces dimensions se réfèrent à la deuxième extrémité de l'arbre

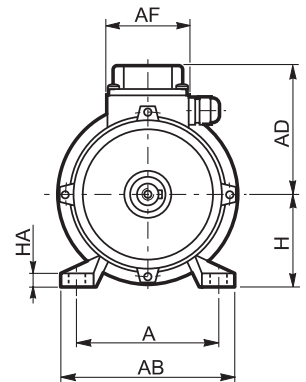
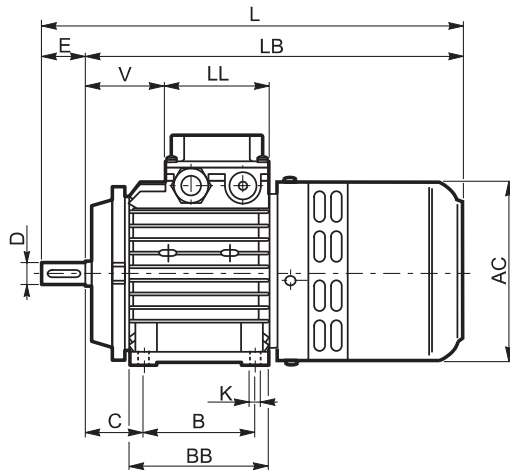
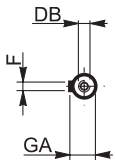
2) Pour frein FA07 valeur R=217
Les dimensions AD, AF, LL et V relatives à la boîte à borne des moteurs BN...FA équipés d'alimentation séparée du frein (option SA) sont identiques à celles des moteurs BN...FD de la même taille.

L'hexagone ES n'est pas disponible avec l'option PS.

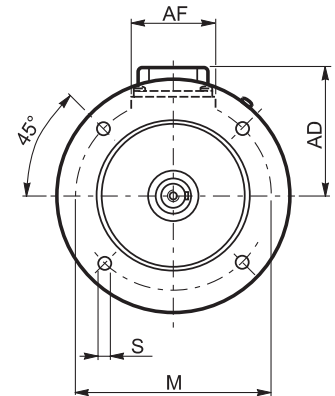
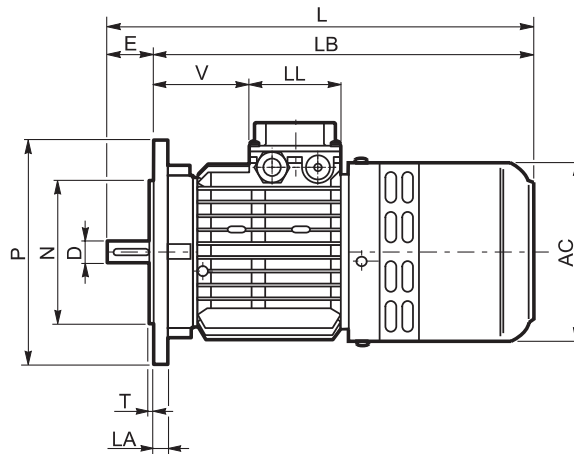
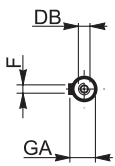


BN_BA

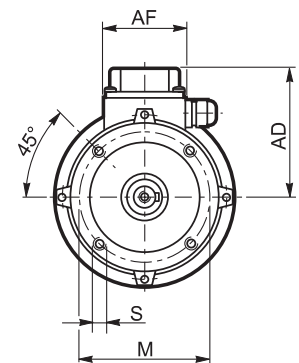
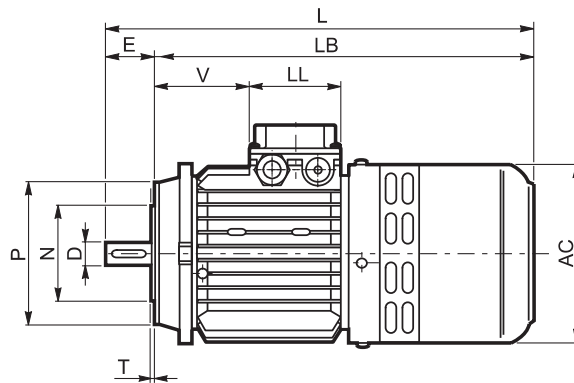
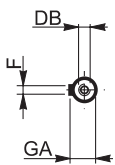
IM B3

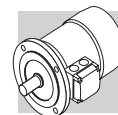


IM B5



IM B14





BN_BA (IM B3)	Albero / Shaft / Welle / Arbre					Cassa / Frame / Gehäuse / Carcasse						Motore / Motor / Motor / Moteur									
	D DA	E EA	DB	GA GC	F FA	B	A	HA	BB	AB	K	C	H	AC	L	LB	LC	AD	AF	LL	V
BN 71	14	30	M5	16	5	90	112	8	112	135	7	45	71	138	327	298	342	108	74	80	68
BN 80	19	40	M6	21.5	6	100	125	9.5	124	153	10	50	80	156	372	332	388	119	74	80	83
BN 90S	24	50	M8	27	8	100	140	13	130	174	10	56	90	176	425	375	461	133	98	98	95
BN 90L	24	50	M8	27	8	125	140	13	155	174	10	56	90	176	425	375	461	133	98	98	95
BN 100	28	60	M10	31	8	140	160	14	175	192	12	63	100	195	477	417	521	142	98	98	119
BN 112	28	60	M10	31	8	140	190	14	175	224	12	70	112	219	500	440	547	157	98	98	128
BN 132S	38	80	M12	41	10	140	216	16	180	260	12	89	132	258	600	520	648	193	118	118	142
BN 132M	38	80	M12	41	10	178	216	16	218	260	12	89	132	258	638	558	686	193	118	118	180

BN_BA (IM B5)	Albero / Shaft / Welle / Arbre					Flangia / Flange / Flansch / Bride						Motore / Motor / Motor / Moteur							
	D DA	E EA	DB	GA GC	F FA	M	N	P	S	T	LA	AC	L	LB	AD	AF	LL	V	
BN63	11	23	M4	12.5	4	115	95	140	9.5	3	10	124	298	275	95	74	80	28	
BN 71	14	30	M5	16	5	130	110	160	9.5	3.5	10	138	327	297	108	74	80	68	
BN 80	19	40	M6	21.5	6	165	130	200	11.5	3.5	11.5	156	372	332	119	74	80	83	
BN 90	24	50	M8	27	8	165	130	200	11.5	3.5	11.5	176	425	375	133	98	98	95	
BN 100	28	60	M10	31	8	215	180	250	14	4	14	195	477	417	142	98	98	119	
BN 112	28	60	M10	31	8	215	180	250	14	4	15	219	500	440	157	98	98	128	
BN 132	38	80	M12	41	10	265	230	300	14	4	20	258	638	558	193	118	118	180	

BN_BA (IM B14)	Albero / Shaft / Welle / Arbre					Flangia / Flange / Flansch / Bride					Motore / Motor / Motor / Moteur							
	D DA	E EA	DB	GA GC	F FA	M	N	P	S	T	AC	L	LB	AD	AF	LL	V	
BN 63	11	23	M4	12.5	4	75	60	90	M5	2.5	124	298	275	95	74	80	28	
BN 71	14	30	M5	16	5	85	70	105	M6	2.5	138	327	297	108	74	80	68	
BN 80	19	40	M6	21.5	6	100	80	120	M6	3	156	372	332	119	74	80	83	
BN 90	24	50	M8	27	8	115	95	140	M8	3	176	425	375	133	98	98	95	
BN 100	28	60	M10	31	8	130	110	160	M8	3.5	195	477	417	142	98	98	119	
BN 112	28	60	M10	31	8	130	110	160	M8	3.5	219	500	440	157	98	98	128	
BN 132	38	80	M12	41	10	165	130	200	M10	4	258	638	558	193	118	118	180	

N.B.:

Le dimensioni AD, AF, LL e V relative alla scatola morsettiera dei motori BN...BA dotati di alimentazione separata del freno (opzione SA) coincidono con quelle dei motori BN...FD di pari taglia.

NOTE:

Dimensions AD, AF, LL and V, relevant to terminal box of motors BN...BA featuring the separate brake supply (option SA), are coincident with corresponding dimensions of same-size BN...FD motors

HINWEIS:

Die Abmessungen des Klemmenkastens der Motoren BN ... BA AD, AF, LL und V in bezug auf die separate Spannungsversorgung (Option SA) stimmen mit den Abmessungen der entsprechenden Motoren BN...FD überein.

REMARQUE :

Les dimensions AD, AF, LL et V relatives à la boîte à borne des moteurs BN...BA équipés d'alimentation séparée du frein (option SA) sont identiques à celles des moteurs BN...FD de la même taille.