

AC SPINDLE MOTORS - FM7 / FM9 -

ORDERING HANDBOOK



FAGOR AUTOMATION

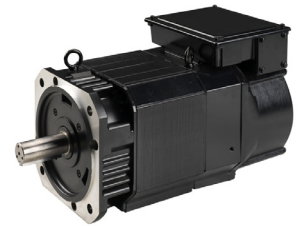
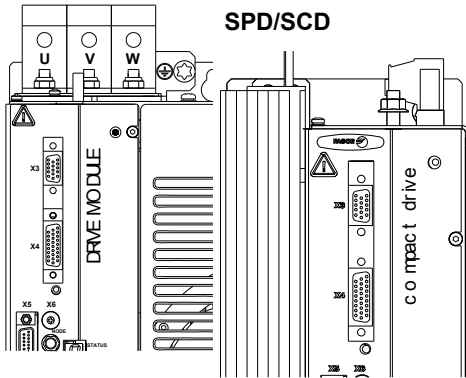
Ref.1710

AC SPINDLE MOTORS FM7

On systems with SPD/SCD drives

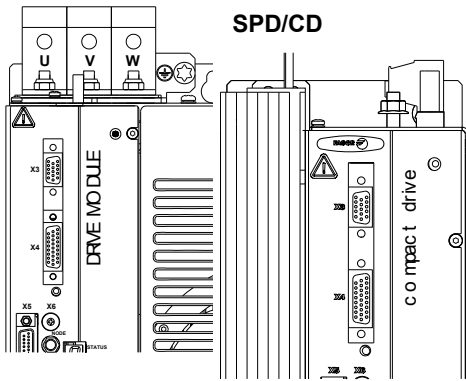
MOTOR FEEDBACK

With standard encoder: Magnetic TTL encoder (1024 ppt)



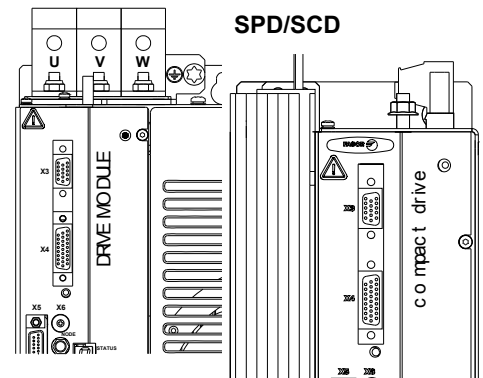
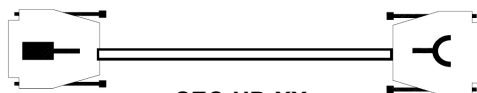
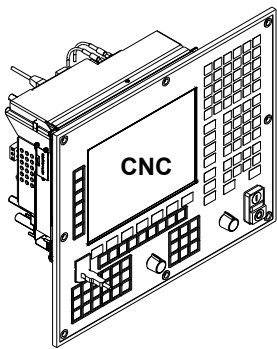
FM7-XXXX-XXXX-E01/E02
FM7-XXXX-XXXX-E03/HS3

With C axis encoder : Sinusoidal SinCos Stegmann encoder SRS50 (1024 ppt)

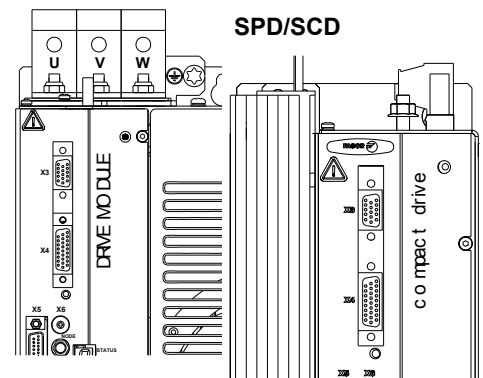
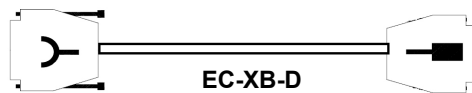


FM7-XXXX-XXXX-E01/E02

ENCODER SIMULATOR



DIRECT FEEDBACK



External incremental feedback

Reference	Length	Code	Reference	Length	Code	Reference	Length	Code
EC-1 PD	1 m	02402101	EC-4 PD	4 m	02402104	EC-9 PD	9 m	02402109
EC-2 PD	2 m	02402102	EC-6 PD	6 m	02402106	EC-10 PD	10 m	02402110
EC-3 PD	3 m	02402103	EC-8 PD	8 m	02402108	EC-12 PD	12 m	02402112

SERCOS interface

Reference	Length	Code	Reference	Length	Code	Reference	Length	Code
SFO-1	1 m	03900001	SFO-FLEX-10	10 m	03910010	SFO-V-FLEX-40	40 m	03920040
SFO-2	2 m	03900002	SFO-FLEX-15	15 m	03910015	SFO-V-FLEX-50	50 m	03920050
SFO-3	3 m	03900003	SFO-FLEX-20	20 m	03910020	SFO-V-FLEX-60	60 m	03920060
SFO-5	5 m	03900005	SFO-FLEX-25	25 m	03910025	SFO-V-FLEX-75	75 m	03920075
SFO-7	7 m	03900007	SFO-FLEX-30	30 m	03910030	SFO-V-FLEX-100	100 m	03920100
SFO-10	10 m	03900010	SFO-FLEX-35	35 m	03910035			
SFO-12	12 m	03900012	SFO-FLEX-40	40 m	03910040			

Denominations

FM7- □□□□ - □□□□ - E0□

MOTOR FAGOR M7

BASE SPEED (Single winding)
 1500 rpm A
 1000 rpm B
 500 rpm C

MOTOR POWER kW (Duty S1)
 Note. The kW for each model are obtained by multiplying the given value by 0.1. E.g. An FM7- B280 motor can provide up to 28 kW in S1.
 A 037 - 055 - 075 - 090 - 110 - 150 - 185 - 220 - 300 - 370 - 510
 B 120 - 170 - 220 - 280
 C 215 - 270

FEEDBACK
 Standard encoder S
 C axis encoder C

MOUNTING
 Flange 1
 Foot 3
 Flange+Foot 5
 -see note 1-

DEGREE OF VIBRATION
 V10 B
 V5 C
 V3 D

SHAFT
 Keyless 0
 With key (half-key balancing) 1

RELEASE
 E01 Series 1
 E02 Series 2
 -see note 2 -

FM7- □□□□ - □□□□ - □□3

MOTOR FAGOR M7

BASE SPEED (option to configure winding connection)
 1500 rpm for a star (Y) connection
 1000 rpm for a triangle (Delta) connection D

MOTOR POWER kW (Duty S1)
 Note. The kW for each model are obtained by multiplying the given value by 0.1. E.g. An FM7- D150 motor can provide up to 15 kW in S1 duty.
 D 055 - 075 - 110 - 150 - 185 - 220

FEEDBACK
 Magnetic TTL encoder S

MOUNTING
 Flange 1

DEGREE OF VIBRATION
 V3 D

SHAFT
 Keyless 0

RELEASE
 E0 Series E0
 HS Series (hollow shaft) HS
 -see note 3 -

Note 3. The D055 & D150 models will not be available in the HS3 series.

Electrical data

E01/E02 series	Rated power		Rated speed	Max. speed	Rated torque		Rated current	
	Pn (S1)	Pn (S6-40%)	nN	nmax E01/E02	Mn (S1)	Mn (S6-40%)	In (S1)	In (S6-40%)
	kW	kW	1/min	1/min	N·m	N·m	A	A
FM7-A037-□□□□-E01/E02	3.7	5.5	1500	9000/12000	23.5	35.3	12.4	17.5
FM7-A055-□□□□-E01/E02	5.5	7.7	1500	9000/10000	35.0	49.0	14.6	18.9
FM7-A075-□□□□-E01/E02	7.5	11.0	1500	9000/10000	47.7	71.5	19.8	27.0
FM7-A090-□□□□-E01/E02	9.0	13.0	1500	9000/10000	57.4	82.4	25.1	33.6
FM7-A110-□□□□-E01/E02	11.0	15.5	1500	9000/10000	70.0	100.4	27.9	36.5
FM7-A150-□□□□-E01/E02	15.0	22.0	1500	8000/9000	95.5	143.9	39.3	52.9
FM7-A185-□□□□-E01/E02	18.5	26.0	1500	8000/9000	117.8	165.0	47.4	61.5
FM7-A220-□□□□-E01/E02	22.0	33.0	1500	8000/9000	140.0	210.0	61.4	81.4
FM7-A300-□□□□-E01	30.0	45.0	1500	6500/-	191.0	286.0	82.1	113.2
FM7-A370-□□□□-E01	37.0	56.0	1500	6500/-	235.0	356.0	89.9	127.9
FM7-A510-□□□□-E01/E02	51.0	71.0	1500	5000/6000	325.0	452.0	115.1	153.2
FM7-B120-□□□□-E01/E02	12.0	18.5	1000	8000/9000	114.6	176.6	35.0	47.5
FM7-B170-□□□□-E01/E02	17.0	25.0	1000	8000/9000	162.3	238.7	47.2	64.1
FM7-B220-□□□□-E01	22.0	33.0	1000	6500/-	210.0	315.1	64.9	89.5
FM7-B280-□□□□-E01	28.0	42.0	1000	6500/-	267.4	401.1	78.2	109.0
FM7-C215-□□□□-E01/E02	21.5	29.0	500	5000/6000	410.6	553.9	87.8	114.7
FM7-C270-□□□□-E01/E02	27.0	37.0	500	5000/6000	515.7	706.6	116.9	153.2

E03 series	Connection	Rated power		Rated speed	Max. speed	Rated torque		Rated current	
		Pn (S1)	Pn (S6-40%)	nN	nmax	Mn (S1)	Mn (S6-40%)	In (S1)	In (S6-40%)
		kW	kW	1/min	1/min	N·m	N·m	A	A
FM7-D055-S1D0-E03	▲	5.5	7.7	1500	15000	35.0	49.0	20.3	26.2
FM7-D055-S1D0-E03	△	5.5	10.0	4000	15000	13.1	23.8	21.0	21.9
FM7-D075-S1D0-E03	▲	7.5	11.0	1500	15000	47.7	70.0	26.5	35.7
FM7-D075-S1D0-E03	△	7.5	13.0	4000	15000	17.9	31.0	25.8	34.5
FM7-D110-S1D0-E03	▲	11.0	15.5	1500	12000	70.0	98.7	38.0	50.0
FM7-D110-S1D0-E03	△	11.0	20.0	4000	12000	26.3	47.7	40.0	52.0
FM7-D150-S1D0-E03	▲	15.0	22.0	1500	12000	95.5	140.0	46.4	63.3
FM7-D150-S1D0-E03	△	15.0	26.0	4000	12000	35.8	62.0	45.7	62.3
FM7-D185-S1D0-E03	▲	18.5	26.0	1500	12000	117.8	165.5	49.2	63.0
FM7-D185-S1D0-E03	△	18.5	32.0	4000	12000	44.2	76.4	49.2	70.5
FM7-D220-S1D0-E03	▲	22.0	33.0	1500	12000	140.1	210.0	62.3	82.5
FM7-D220-S1D0-E03	△	22.0	40.0	4000	12000	52.2	95.5	61.7	86.4

HS3 series	Connection	Rated power		Rated speed	Max. speed	Rated torque		Rated current	
		Pn (S1)	Pn (S6-40%)	nN	nmax	Mn (S1)	Mn (S6-40%)	In (S1)	In (S6-40%)
		kW	kW	1/min	1/min	N·m	N·m	A	A
FM7-D075-S1D0-HS3	▲	7.5	11.0	1500	15000	47.7	70.0	26.5	35.7
FM7-D075-S1D0-HS3	△	7.5	13.0	4000	15000	17.9	31.0	25.8	34.5
FM7-D110-S1D0-HS3	▲	11.0	15.5	1500	12000	70.0	98.7	38.0	50.0
FM7-D110-S1D0-HS3	△	11.0	20.0	4000	12000	26.3	47.7	40.0	52.0
FM7-D185-S1D0-HS3	▲	18.5	26.0	1500	12000	117.8	165.5	49.2	63.0
FM7-D185-S1D0-HS3	△	18.5	32.0	4000	12000	44.2	76.4	49.2	70.5
FM7-D220-S1D0-HS3	▲	22.0	33.0	1500	12000	140.1	210.0	62.3	82.5
FM7-D220-S1D0-HS3	△	22.0	40.0	4000	12000	52.2	95.5	61.7	86.4

Mechanical data, power cable and associated drive

E01/E02 series	Vibration Severity	IP	Poles	Inertia J kg·cm ²	Approx. mass			Power cable Nr wires x mm ²	Modular spindle drive	Compact spindle drive
					flange	foot	flange + foot			
					kg					
FM7-A037-□□□□-E01/E02	V5 / V3	44	4	140	47	49	x	MPC-4x2.5	SPD 1.25	SCD 1.25
FM7-A055-□□□□-E01/E02	V5 / V3	44	4	210	52	56	x	MPC-4x2.5	SPD 1.25	SCD 1.25
FM7-A075-□□□□-E01/E02	V5 / V3	44	4	260	59	64	x	MPC-4x4	SPD 1.35	SCD 1.35
FM7-A090-□□□□-E01/E02	V5 / V3	44	4	330	68	73	x	MPC-4x6	SPD 2.50	SCD 2.50
FM7-A110-□□□□-E01/E02	V5 / V3	44	4	690	94	110	x	MPC-4x6	SPD 2.50	SCD 2.50
FM7-A150-□□□□-E01/E02	V5 / V3	44	4	690	94	110	x	MPC-4x10	SPD 2.75	SCD 2.75
FM7-A185-□□□□-E01/E02	V5 / V3	44	4	890	120	130	x	MPC-4x16	SPD 2.85	x
FM7-A220-□□□□-E01/E02	V5 / V3	44	4	1080	135	145	x	MPC-4x25	SPD 3.100	x
FM7-A300-□□□□-E01	V10 / V5	44	4	2310	220	230	x	MPC-4x35	SPD 3.150	x
FM7-A370-□□□□-E01	V10 / V5	44	4	2660	250	260	x	MPC-4x50	SPD 3.200	x
FM7-A510-□□□□-E01/E02	V10 / V5	44	4	4730	340	350	x	MPC-4x70	SPD 3.200	x
FM7-B120-□□□□-E01/E02	V5 / V3	44	4	890	120	130	x	MPC-4x10	SPD 2.75	x
FM7-B170-□□□□-E01/E02	V5 / V3	44	4	1080	135	145	x	MPC-4x16	SPD 2.85	x
FM7-B220-□□□□-E01	V10 / V5	44	4	2310	220	230	x	MPC-4x25	SPD 3.100	x
FM7-B280-□□□□-E01	V10 / V5	44	4	2660	250	260	x	MPC-4x35	SPD 3.150	x
FM7-C215-□□□□-E01/E02	V10 / V5	44	4	4730	340	350	x	MPC-4x50	SPD 3.150	x
FM7-C270-□□□□-E01/E02	V10 / V5	44	4	5840	380	390	x	MPC-4x70	SPD 3.200	x

E03 series	Connection	Vibration Severity	IP	Poles	Inertia	Approx. mass			Power cable Nr wires x mm ²	Modular spindle drive	Compact spindle drive
						flange	foot	flange + foot			
					J						
					kg·cm ²	kg					
FM7-D055-S1D0-E03	▲	V3	44	4	210	67	x	x	MPC-4x4	SPD 1.35	SCD 1.35
FM7-D055-S1D0-E03	△	V3	44	4	210	67	x	x	MPC-4x4	SPD 1.35	SCD 1.35
FM7-D075-S1D0-E03	▲	V3	44	4	260	74	x	x	MPC-4x6	SPD 2.50	SCD 2.50
FM7-D075-S1D0-E03	△	V3	44	4	260	74	x	x	MPC-4x6	SPD 2.50	SCD 2.50
FM7-D110-S1D0-E03	▲	V3	44	4	690	110	x	x	MPC-4x10	SPD 2.75	SCD 2.75
FM7-D110-S1D0-E03	△	V3	44	4	690	110	x	x	MPC-4x10	SPD 2.75	x
FM7-D150-S1D0-E03	▲	V3	44	4	690	110	x	x	MPC-4x16	SPD 2.85	x
FM7-D150-S1D0-E03	△	V3	44	4	690	110	x	x	MPC-4x16	SPD 2.85	x
FM7-D185-S1D0-E03	▲	V3	44	4	890	135	x	x	MPC-4x16	SPD 2.85	x
FM7-D185-S1D0-E03	△	V3	44	4	890	135	x	x	MPC-4x16	SPD 2.85	x
FM7-D220-S1D0-E03	▲	V3	44	4	1080	150	x	x	MPC-4x25	SPD 3.100	x
FM7-D220-S1D0-E03	△	V3	44	4	1080	150	x	x	MPC-4x25	SPD 3.100	x

HS3 series	Connection	Vibration Severity	IP	Poles	Inertia	Approx. mass			Power cable Nr wires x mm ²	Modular spindle drive	Compact spindle drive
						flange	foot	flange + foot			
					J						
					kg·cm ²	kg					
FM7-D075-S1D0-HS3	▲	V3	44	4	260	77	x	x	MPC-4x6	SPD 2.50	SCD 2.50
FM7-D075-S1D0-HS3	△	V3	44	4	260	77	x	x	MPC-4x6	SPD 2.50	SCD 2.50
FM7-D110-S1D0-HS3	▲	V3	44	4	690	115	x	x	MPC-4x10	SPD 2.75	SCD 2.75
FM7-D110-S1D0-HS3	△	V3	44	4	690	115	x	x	MPC-4x10	SPD 2.75	x
FM7-D185-S1D0-HS3	▲	V3	44	4	890	140	x	x	MPC-4x16	SPD 2.85	x
FM7-D185-S1D0-HS3	△	V3	44	4	890	140	x	x	MPC-4x16	SPD 2.85	x
FM7-D220-S1D0-HS3	▲	V3	44	4	1080	155	x	x	MPC-4x25	SPD 3.100	x
FM7-D220-S1D0-HS3	△	V3	44	4	1080	155	x	x	MPC-4x25	SPD 3.100	x

Mounting possibilities

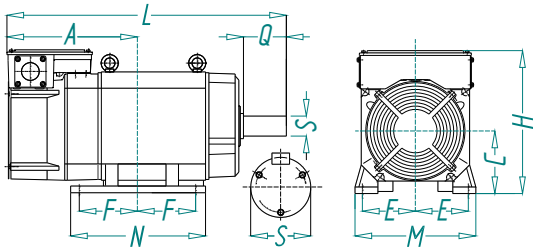
IEC 60034-7

The drawings show six different motor mounting configurations. The top row shows horizontal shaft configurations: B35 (foot and flange), B3 (foot), and B5 (flange). The bottom row shows vertical shaft configurations: V15 (foot and flange), V5 (foot), and V1 (flange).

Code I	Built
IM B3	Foot mounting, horizontal shaft.
IM B5	Flange mounting, horizontal shaft.
IM V1	Flange mounting, vertical shaft facing down.
IM V5	Foot mounting, vertical shaft facing down.
IM B35	Foot & flange mount. Large flange with through holes. Horizontal shaft.
IM V15	Foot & flange mount. Large flange with through holes. Vertical shaft facing down.

Dimensions

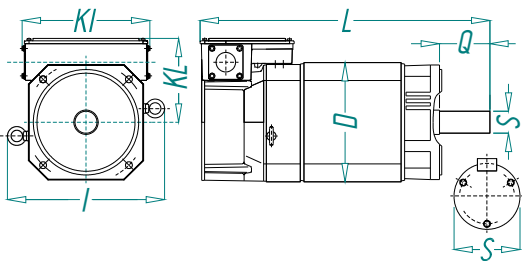
FM7-□□□□-□3□□-E01/E02 SERIES. FOOT MOUNT



Models	A	C	E	F	H	L	M	N	Q	S
FM7-A037-□3□□-E01/E02	324	100	80	70	250	499	188	168	60	28h6
FM7-A055-□3□□-E01/E02	286	112	95	50	269	486	220	129	80	32h6
FM7-A075-□3□□-E01/E02	296	112	95	70	269	546	220	177	110	48h6
FM7-A090-□3□□-E01/E02	317	112	95	89	269	586	220	215	110	48h6
FM7-A110-□3□□-E01/E02	264	160	127	89	343	571	290	223	110	48h6
FM7-A150-□3□□-E01/E02	264	160	127	89	343	571	290	223	110	48h6
FM7-A185-□3□□-E01/E02	310	160	127	105	343	633	290	255	110	48h6
FM7-A220-□3□□-E01/E02	313.5	160	127	139.5	343	671	290	324	110	48h6
FM7-A300-□3□□-E01	381	180	139.5	127	407	769	320	298	140	60m6
FM7-A370-□3□□-E01	421	180	139.5	127	407	809	320	298	140	60m6
FM7-A510-□3□□-E01/E02	398	225	178	155.5	540	842.5	420	425	140	70/60m6
FM7-B120-□3□□-E01/E02	310	160	127	105	343	633	290	255	110	48h6
FM7-B170-□3□□-E01/E02	313.5	160	127	139.5	343	671	290	324	110	48h6
FM7-B220-□3□□-E01	381	180	139.5	127	407	769	320	298	140	60m6
FM7-B280-□3□□-E01	421	180	139.5	127	407	809	320	298	140	60m6
FM7-C215-□3□□-E01/E02	398	225	178	155.5	540	842.5	420	425	140	70/60m6
FM7-C270-□3□□-E01/E02	429	225	178	174.5	540	892.5	420	465	140	70/60m6

Dimensions in mm. 1"=25.4 mm

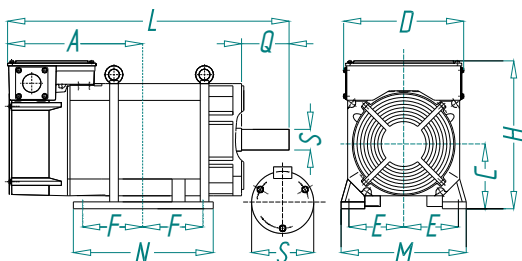
FM7-□□□□-□1□□-E01/E02 SERIES. FLANGE MOUNT



Models	D	I	KL	KI	L	Q	S		
FM7-A037-□1□□-E01/E02	174	-	150	174	499	60	28h6		
FM7-A055-□1□□-E01/E02	204	270	158	204	486	80	32h6		
FM7-A075-□1□□-E01/E02	204	270	158	204	546	110	48h6		
FM7-A090-□1□□-E01/E02	204	270	158	204	586	110	48h6		
FM7-A110-□1□□-E01/E02	260	343	183	279	571	110	48h6		
FM7-A150-□1□□-E01/E02	260	343	183	279	571	110	48h6		
FM7-A185-□1□□-E01/E02	260	343	183	279	633	110	48h6		
FM7-A220-□1□□-E01/E02	260	343	183	279	671	110	48h6		
FM7-A300-□1□□-E01	320	440	227	320	769	140	60m6		
FM7-A370-□1□□-E01	320	440	227	320	809	140	60m6		
FM7-A510-□1□□-E01/E02	380	504	315	388	847	140	70/60m6		
FM7-B120-□1□□-E01/E02	260	343	183	279	633	110	48h6		
FM7-B170-□1□□-E01/E02	260	343	181	250	671	110	48h6		
FM7-B220-□1□□-E01	320	440	227	320	769	140	60m6		
FM7-B280-□1□□-E01	320	440	227	320	809	140	60m6		
FM7-C215-□1□□-E01/E02	380	504	315	388	847	140	70/60m6		
FM7-C270-□1□□-E01/E02	380	504	315	388	897	140	70/60m6		

Dimensions in mm. 1"=25.4

FM7-□□□□-□5□□-E01/E02 SERIES. FLANGE + FOOT MOUNT



Models	A	C	E	F	H	L	M	N	Q	S
FM7-A110-□5□□-E01/E02	264	160	127	89	343	571	290	223	110	48h6
FM7-A150-□5□□-E01/E02	264	160	127	89	343	571	290	223	110	48h6
FM7-A185-□5□□-E01/E02	310	160	127	105	343	633	290	255	110	48h6
FM7-A220-□5□□-E01/E02	313.5	160	127	139.5	343	671	290	324	110	48h6
FM7-A300-□5□□-E01	381	180	139.5	127	407	769	320	298	140	60m6
FM7-A370-□5□□-E01	421	180	139.5	127	407	809	320	298	140	60m6
FM7-A510-□5□□-E01/E02	398	225	178	155.5	540	847	420	425	140	70/60m6
FM7-B120-□5□□-E01/E02	310	160	127	105	343	633	290	255	110	48h6
FM7-B170-□5□□-E01/E02	313.5	160	127	139.5	343	671	290	324	110	48h6
FM7-B220-□5□□-E01	381	180	139.5	127	407	769	320	298	140	60m6
FM7-B280-□5□□-E01	421	180	139.5	127	407	809	320	298	140	60m6
FM7-C215-□5□□-E01/E02	398	225	178	155.5	540	847	420	425	140	70/60m6
FM7-C270-□5□□-E01/E02	429	225	178	174.5	540	897	420	425	140	70/60m6

Dimensions in mm. 1"=25.4

FM7-D□□□-S1D0□□-E03 SERIES. FLANGE MOUNT

Models	D	I	L	Q	KI	KL	LC	LF	LL	S
FM7-D055-S1D0-E03	204	270	475	60	204	158	204	171	415	28h6
FM7-D075-S1D0-E03	204	270	506	60	250	164	204	190	446	28h6
FM7-D110-S1D0-E03	260	343	556	80	279	183	250	205	476	38h6
FM7-D150-S1D0-E03	260	343	556	80	279	183	250	205	476	38h6
FM7-D185-S1D0-E03	260	343	618	80	279	183	250	205	538	38h6
FM7-D220-S1D0-E03	260	343	656	80	279	183	250	205	576	38h6

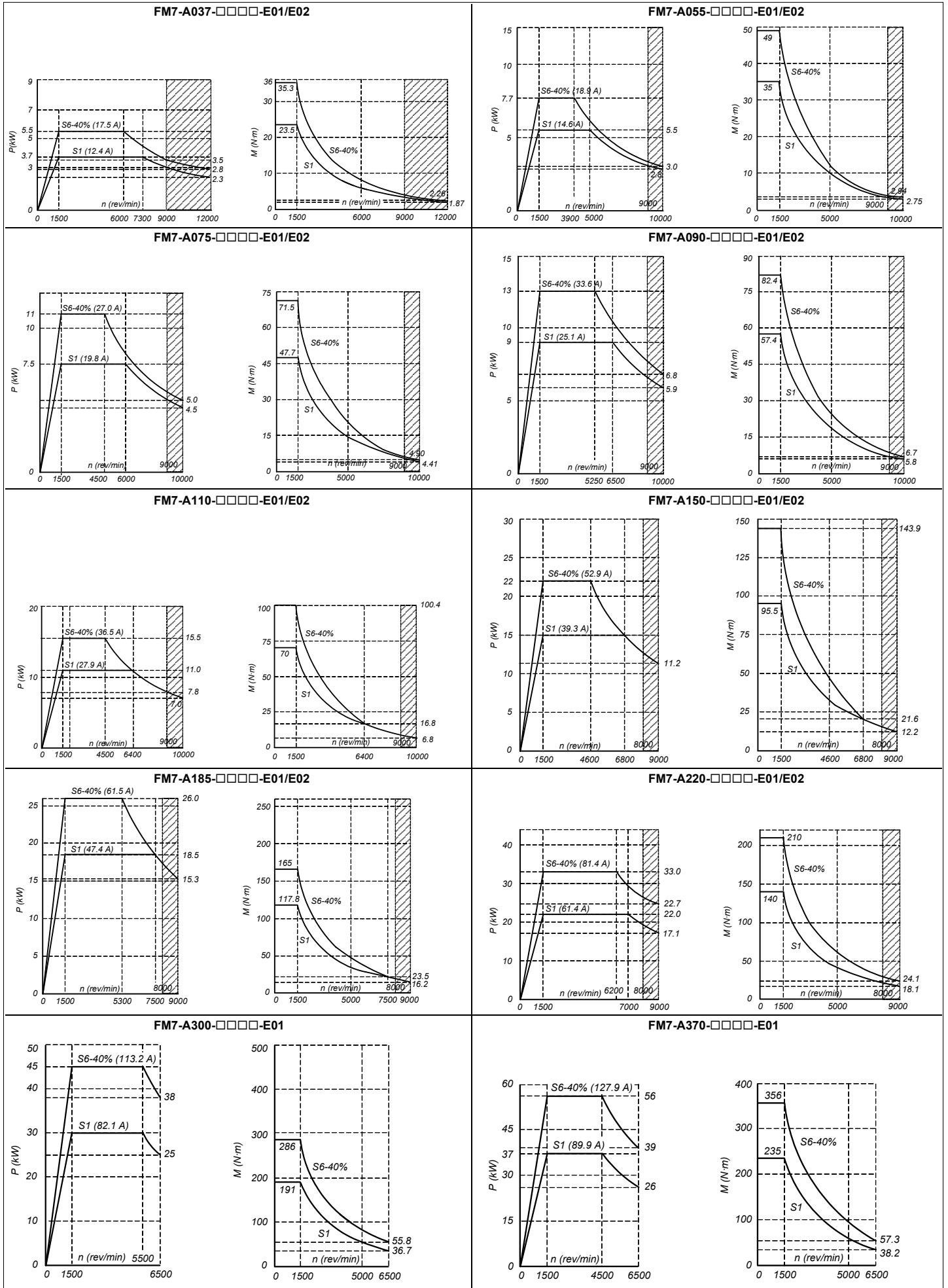
Dimensions in mm. 1"=25.4

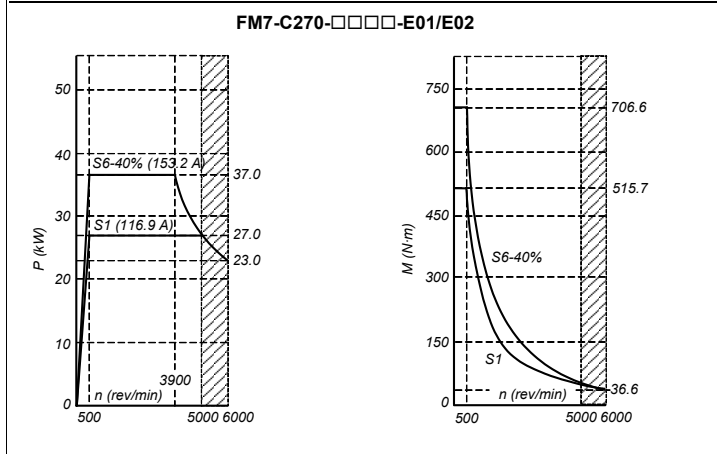
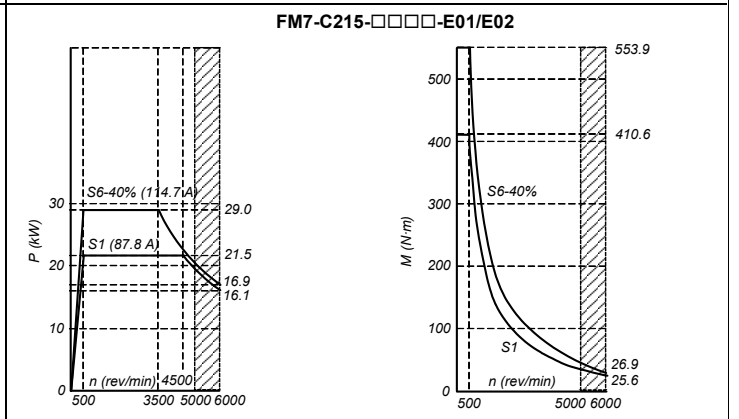
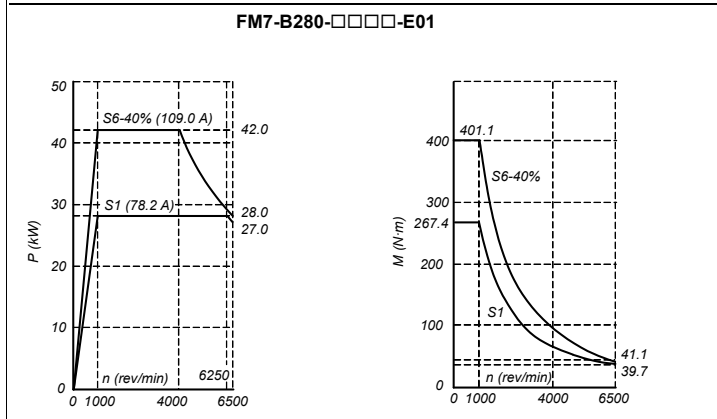
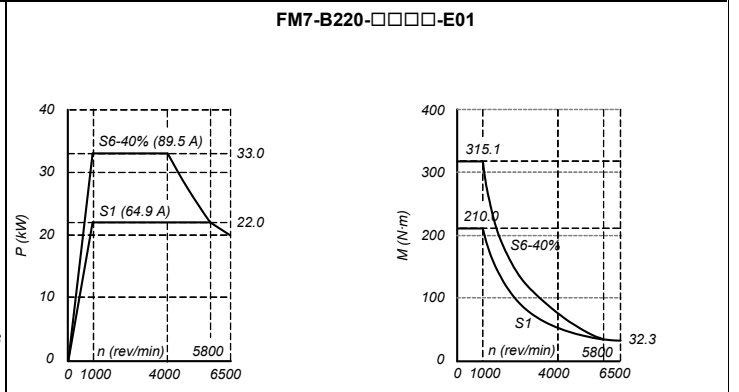
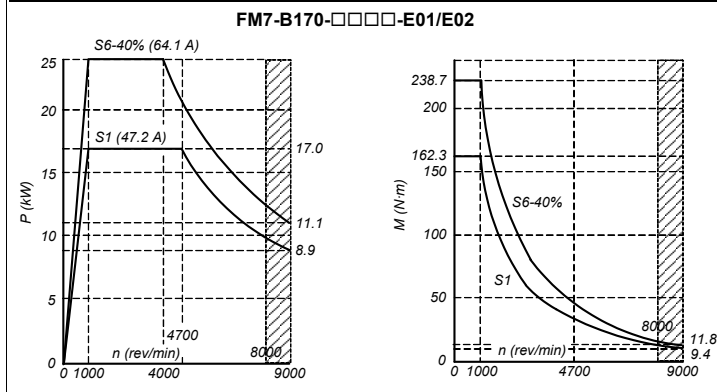
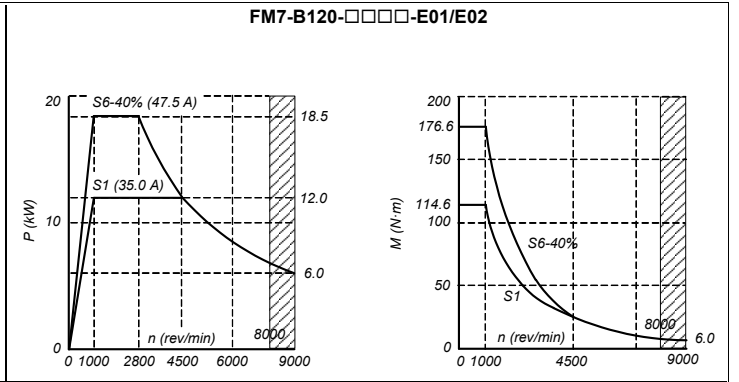
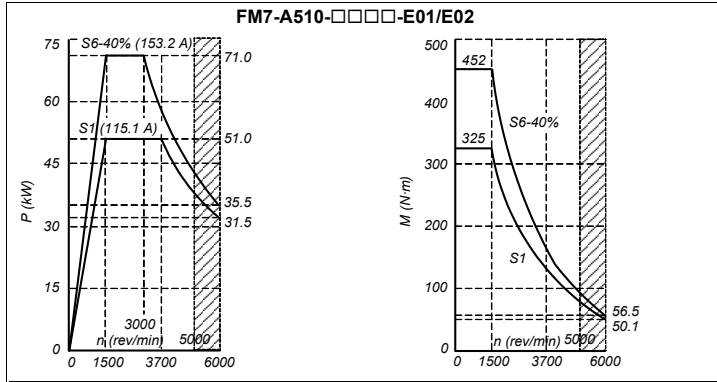
FM7-D□□□-S1D0-HS3 SERIES. FLANGE MOUNT

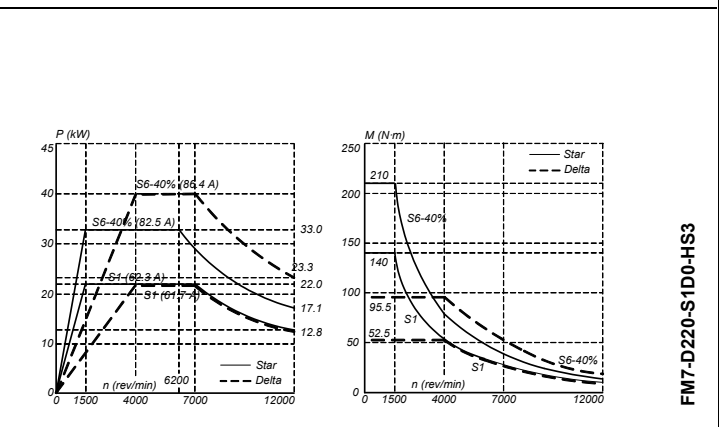
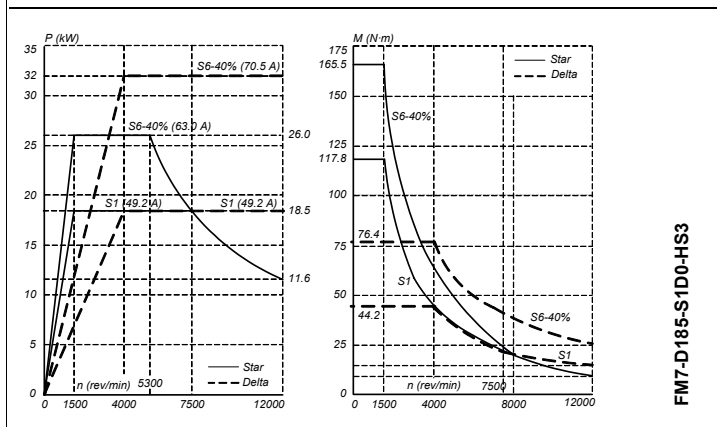
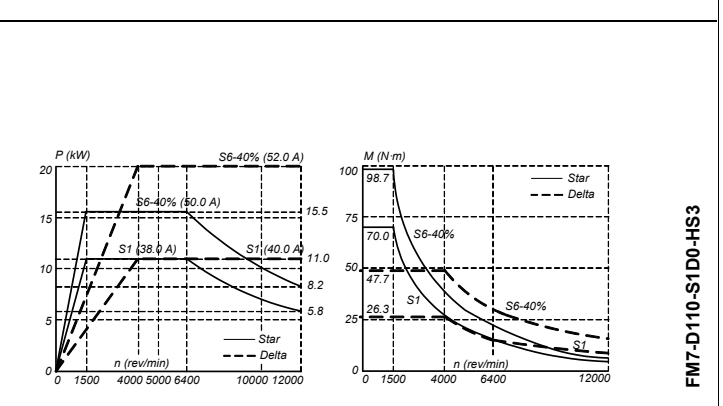
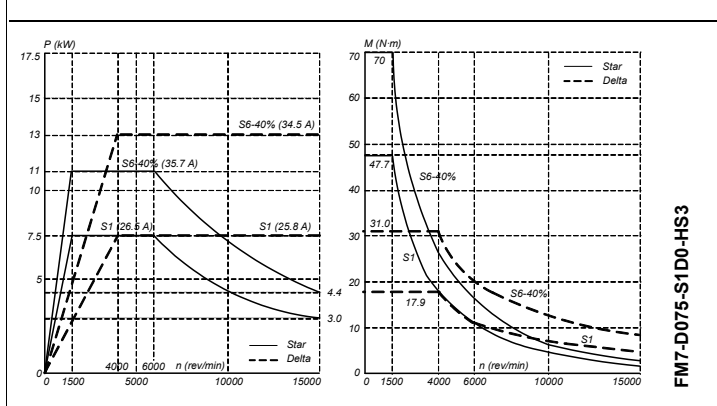
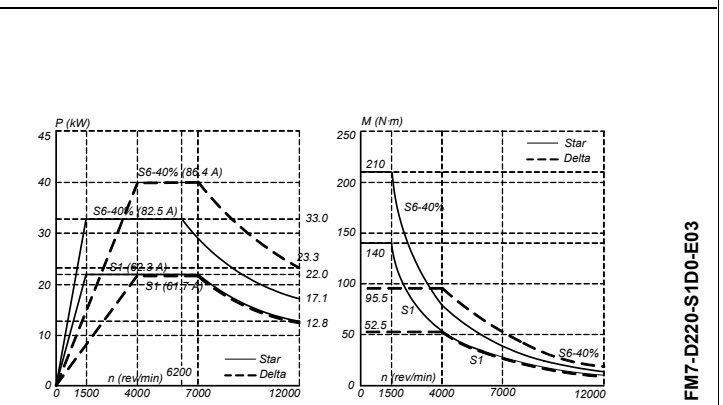
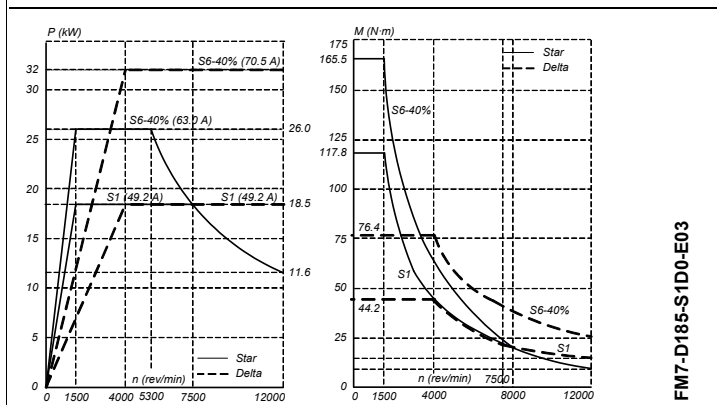
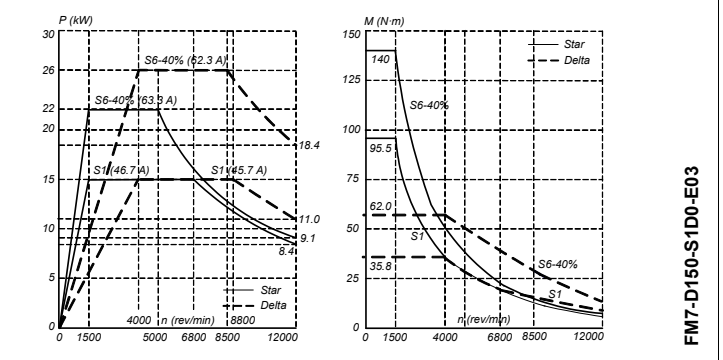
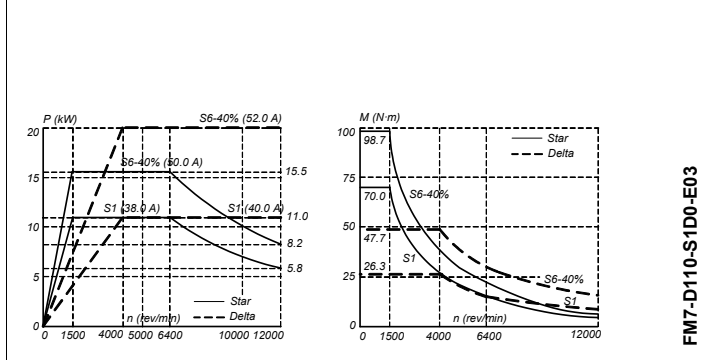
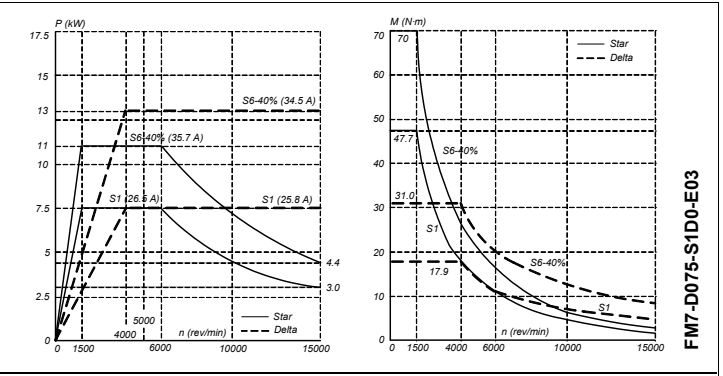
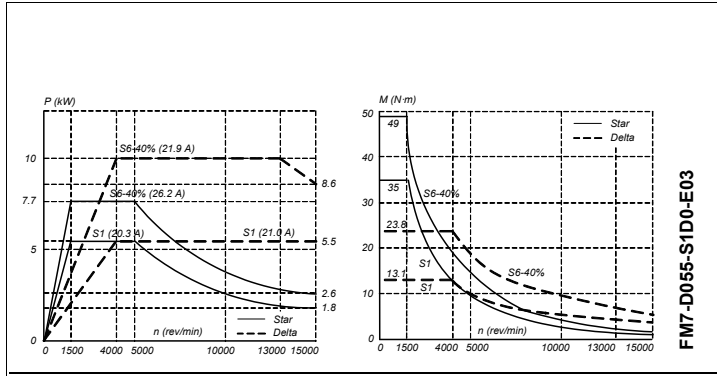
Models	I	L	Q	KI	KL	LC	LF	dx	S
FM7-D075-S1D0-HS3	271	715	60	250	158	204	190	16	28h6
FM7-D110-S1D0-HS3	343	751	70	279	183	250	205	20	38h6
FM7-D185-S1D0-HS3	343	813	70	279	183	250	205	20	38h6
FM7-D220-S1D0-HS3	343	851	70	279	183	250	205	20	38h6

Dimensions in mm. 1"=25.4

Power/Speed and Torque/Speed graphics



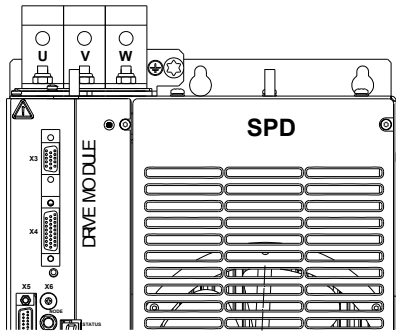




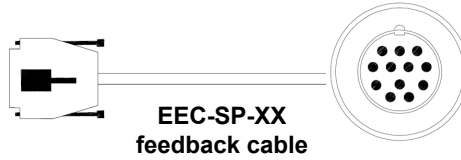
AC SPINDLE MOTORS FM9

On systems with SPD drive

MOTOR FEEDBACK

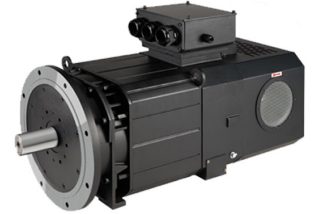


SPD 3.200
SPD 3.250



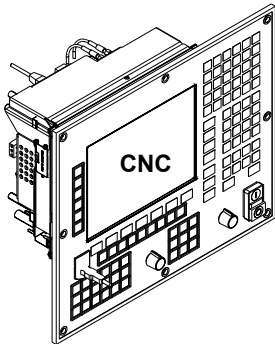
EEC-SP-XX
feedback cable

Standard: Sinusoidal SinCos Stegmann
encoder SFS60 (1024 ppt)



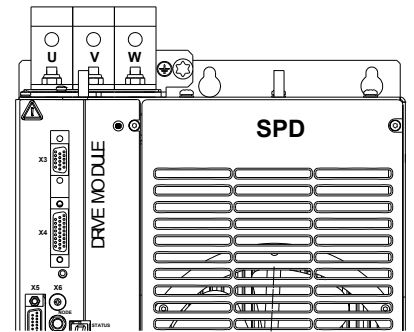
FM9-B055-C5Cx-E01-A
FM9-B071-C5Cx-E01

ENCODER SIMULATOR

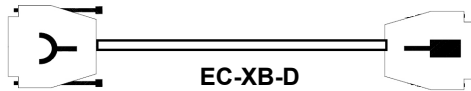


SEC-HD-XX
Encoder simulator cable

SPD 3.200
SPD 3.250



DIRECT FEEDBACK

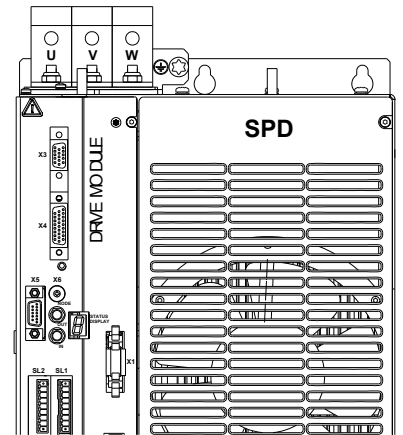


EC-XB-D
external absolute
feedback cable

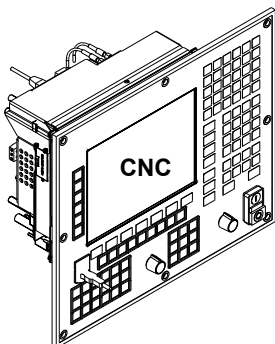


EC-X PD
external incremental
feedback cable

SPD 3.200
SPD 3.250

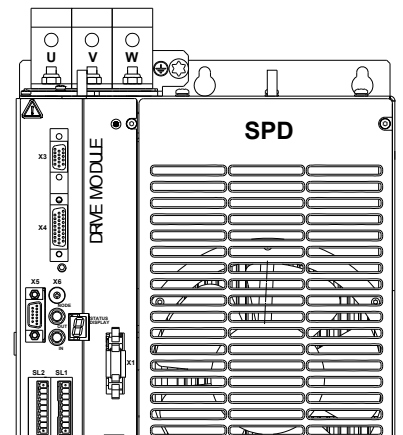


SERCOS INTERFACE



SF0-XX
SFO-FLEX-XX
SF0-V-FLEX-XX
optical fiber

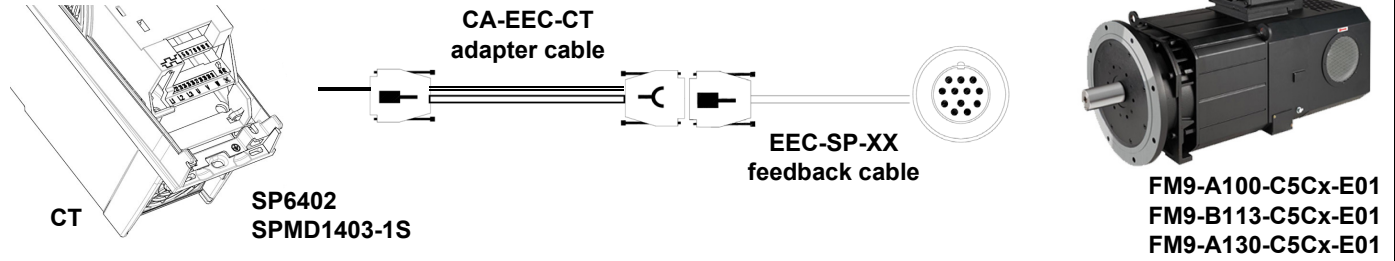
SPD 3.200
SPD 3.250



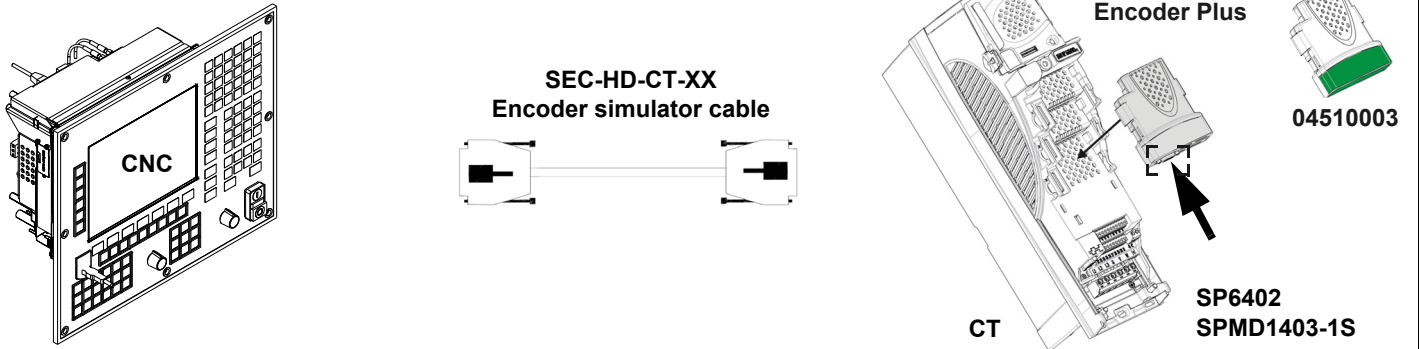
On systems with CT drive

MOTOR FEEDBACK

Standard: Sinusoidal SinCos Stegmann encoder SFS60 (1024 ppt)

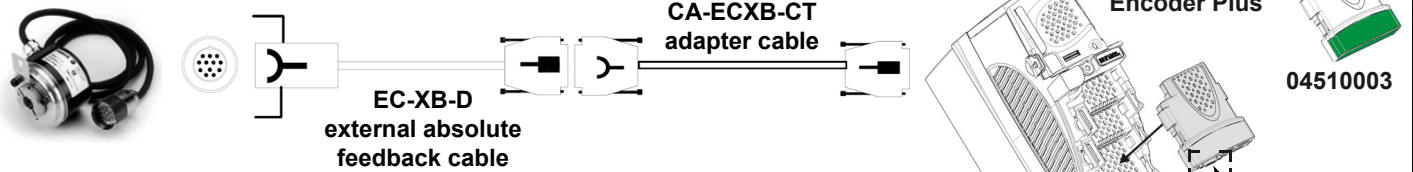


ENCODER SIMULATOR

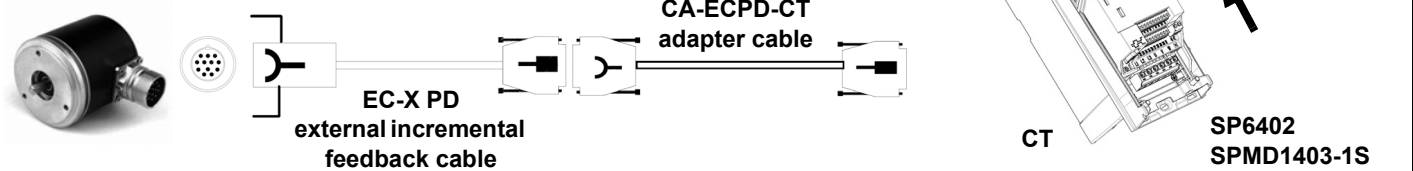


DIRECT FEEDBACK

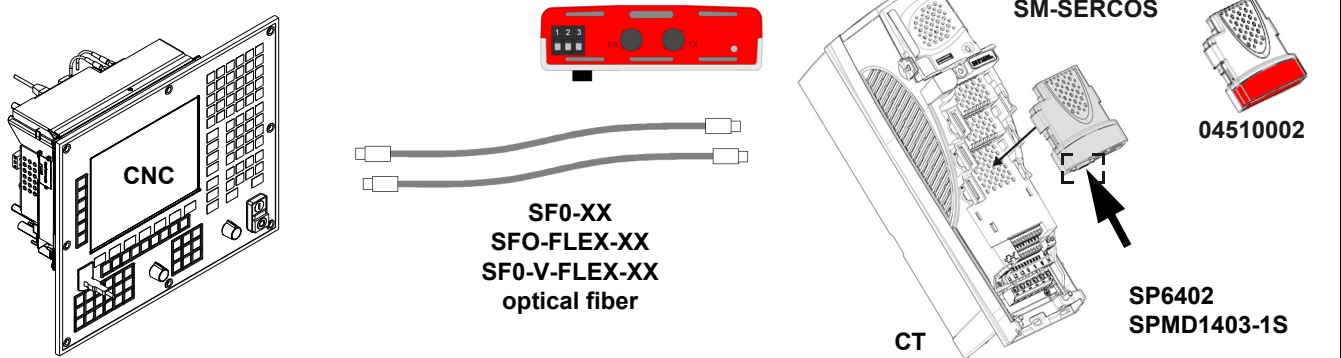
External absolute feedback



External incremental feedback



SERCOS INTERFACE



PC-DRIVE SERIAL COMMUNICATION



Codes

Motors

Reference	Code
FM9-B037-C5C0-E01	04170015
FM9-B037-C5C1-E01	04170016
FM9-B055-C5C0-E01-A	04170025
FM9-B055-C5C1-E01-A	04170026

Reference	Code
FM9-B071-C5C0-E01	04170030
FM9-B071-C5C1-E01	04170031
FM9-A100-C5C0-E01	04170000
FM9-A100-C5C1-E01	04170001

Reference	Code
FM9-B113-C5C0-E01	04170040
FM9-B113-C5C1-E01	04170041
FM9-A130-C5C0-E01	04170010
FM9-A130-C5C1-E01	04170011

Drives

Reference	Code
SP6402	04510010
SPMD1403-1S	04510015

Reference	Code

Reference	Code

Motor feedback cables

Reference	Length	Code
EEC-SP-5	5 m	04080020
EEC-SP-10	10 m	04080021
EEC-SP-15	15 m	04080022
EEC-SP-20	20 m	04080023
EEC-SP-25	25 m	04080024

Reference	Length	Code
EEC-SP-30	30 m	04080060
EEC-SP-35	35 m	04080061
EEC-SP-40	40 m	04080062
EEC-SP-45	45 m	04080063
EEC-SP-50	50 m	04080064

Reference	Length	Code
CA-EEC-CT	30 cm	04080070

Encoder simulator cables

Reference	Length	Code
SEC-HD-1	1 m	04000060
SEC-HD-3	3 m	04000061
SEC-HD-5	5 m	04000062

Reference	Length	Code
SEC-HD-10	10 m	04000063
SEC-HD-15	15 m	04000064
SEC-HD-20	20 m	04000065

Reference	Length	Code
SEC-HD-25	25 m	04000066
SEC-HD-30	30 m	04000067
SEC-HD-35	35 m	04000068

Reference	Length	Code
SEC-HD-CT-1	1 m	04080080
SEC-HD-CT-3	3 m	04080081
SEC-HD-CT-5	5 m	04080082

Reference	Length	Code
SEC-HD-CT-10	10 m	04080083
SEC-HD-CT-15	15 m	04080084
SEC-HD-CT-20	20 m	04080085

Reference	Length	Code
SEC-HD-CT-25	25 m	04080086
SEC-HD-CT-30	30 m	04080087
SEC-HD-CT-35	35 m	04080088

Direct feedback cables

External absolute feedback

Reference	Length	Code
EC-1B-D	1 m	02403401
EC-3B-D	3 m	02403403

Reference	Length	Code
EC-6B-D	6 m	02403406
EC-9B-D	9 m	02403409

Reference	Length	Code
CA-ECXB-CT- 0.30	0.3 m	04080072

External incremental feedback

Reference	Length	Code
EC-1 PD	1 m	02402101
EC-2 PD	2 m	02402102
EC-3 PD	3 m	02402103
EC-4 PD	4 m	02402104
EC-6 PD	6 m	02402106

Reference	Length	Code
EC-8 PD	8 m	02402108
EC-9 PD	9 m	02402109
EC-10 PD	10 m	02402110
EC-12 PD	12 m	02402112

Reference	Length	Code
CA-ECPD-CT- 0.30	0.3 m	04080071

SERCOS interface

Reference	Length	Code
SFO-1	1 m	03900001
SFO-2	2 m	03900002
SFO-3	3 m	03900003
SFO-5	5 m	03900005
SFO-7	7 m	03900007
SFO-10	10 m	03900010
SFO-12	12 m	03900012

Reference	Length	Code
SFO-FLEX-10	10 m	03910010
SFO-FLEX-15	15 m	03910015
SFO-FLEX-20	20 m	03910020
SFO-FLEX-25	25 m	03910025
SFO-FLEX-30	30 m	03910030
SFO-FLEX-35	35 m	03910035
SFO-FLEX-40	40 m	03910040

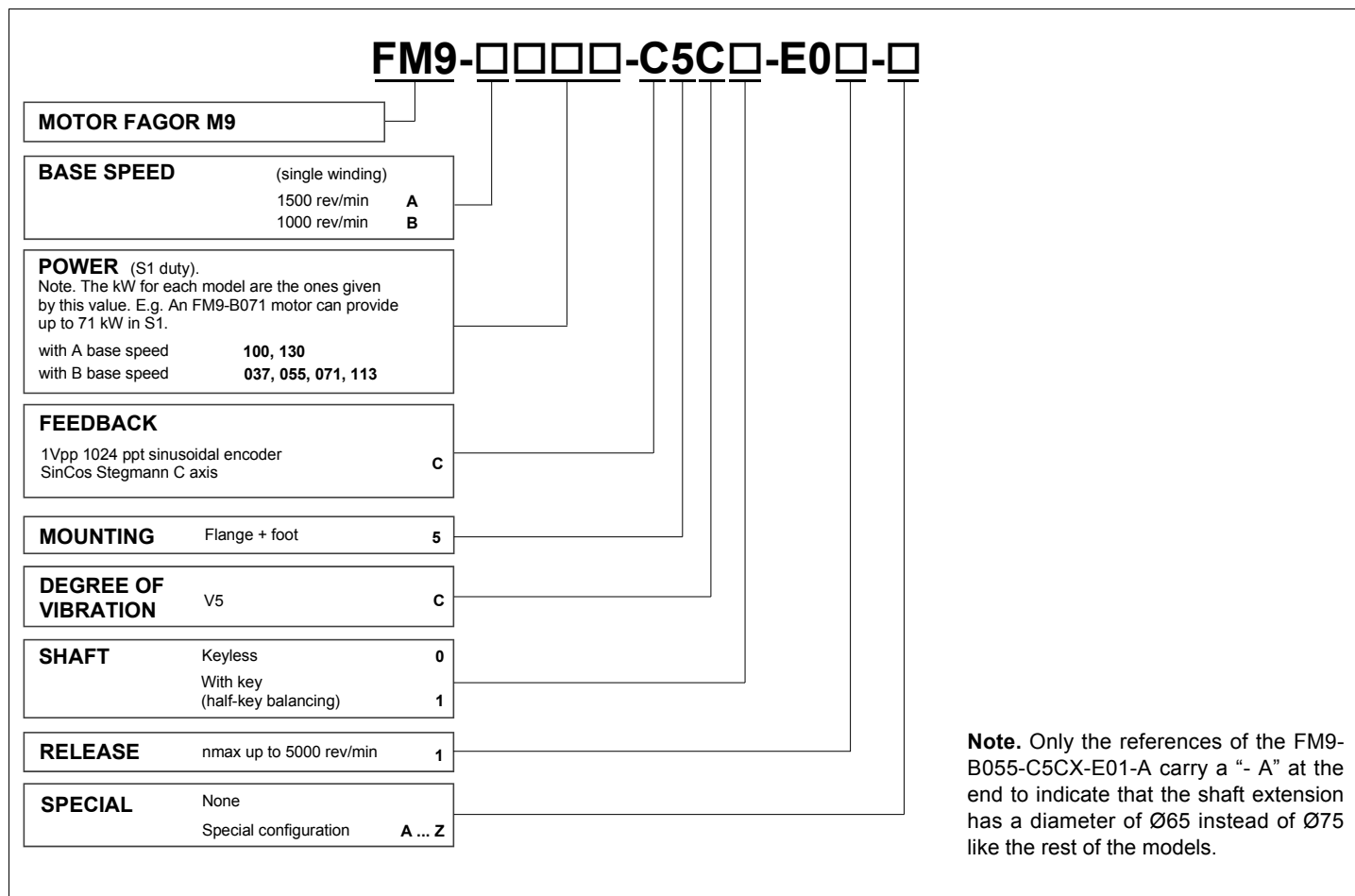
Reference	Length	Code
SFO-V-FLEX-40	40 m	03920040
SFO-V-FLEX-50	50 m	03920050
SFO-V-FLEX-60	60 m	03920060
SFO-V-FLEX-75	75 m	03920075
SFO-V-FLEX-100	100 m	03920100

PC-Drive serial communication cable

Reference	Length	Code
CT comms cable USB-RS485	2 m	4500-0096

Reference	Length	Code

Denominations



Electrical data

E01 series	Rated power		Rated speed	Max. speed	Rated torque		Rated current	
	Pn (S1)	Pn (S6-40%)	nN	nmax	Mn (S1)	Mn (S6-40%)	In (S1)	In (S6-40%)
	kW	kW	1/min	1/min	N·m	N·m	A	A
FM9-B037-C5C□-E01	37	45	1000	5000	350.0	426.0	74.7	89.7
FM9-B055-C5C□-E01-A	55	72	1000	5000	525.2	687.5	104.4	146.2
FM9-B071-C5C□-E01	71	-	1000	4500	678.0	-	134.8	-
FM9-A100-C5C□-E01	100	-	1500	4500	636.6	-	189.9	-
FM9-B113-C5C□-E01	113	-	1000	4500	1079.0	-	214.6	-
FM9-A130-C5C□-E01	130	-	1500	4500	827.6	-	246.9	-

Mechanical data

E01 series	Vibration Severity	IP	Poles	Inertia	Approx. mass			
				J	flange+foot			
			p/2	kg·cm ²	kg			
FM9-B037-C5C□-E01	V5	54	4	3000	265			
FM9-B055-C5C□-E01-A	V5	54	4	6900	440			
FM9-B071-C5C□-E01	V5	54	4	14790	680			
FM9-A100-C5C□-E01	V5	54	4	14790	635			
FM9-B113-C5C□-E01	V5	54	4	23260	860			
FM9-A130-C5C□-E01	V5	54	4	19300	745			

Power cable and associated drive & power supply

E01 series	Power cable	Spindle drive & power supply	
	nx MPC-Nr wires x mm ²	S1 duty cycle	S6-40% duty cycle
FM9-B037-C5C□-E01	MPC-4x35	SPD 3.150 & RPS-45	SPD 3.150 & RPS-45
FM9-B055-C5C□-E01-A	MPC-4x50	SPD 3.200 & RPS-75	SPD 3.200 & RPS-75
FM9-B071-C5C□-E01	MPC-4x70	SPD 3.250 & RPS-80	None
FM9-A100-C5C□-E01	2x MPC-4x50	SP6402	None
FM9-B113-C5C□-E01	2x MPC-4x70	SPMD1403-1S	None
FM9-A130-C5C□-E01	2x MPC-4x70	SPMD1403-1S	None

Note that the sections given for three-phase lines in a PVC hose shown in this table may be installed on a machine through conduits or channels except those shown in bold letters. When installed under other more / less favorable conditions, some sections may be reduced/enlarged according to the EN 60204-1 standard.

Note that, with FM9 motors larger than the B055, the «FM9 motor+associated drive» combination is designed to work in duty cycle S1. A torque overload at high speed is allowed depending on the maximum current allowed for the combination (power supply+drive). To estimate its value, use the smallest rated power of the drive and that of the power supplied minus 7%. Also keep in mind that, with FM9 motors largers than the B037, to obtain the graph of rated power at high speed, the DC BUS must be configured at 675 V DC (for RPS power supplies).

Mounting possibilities

Code I	Built
IM B3	Foot mounting, horizontal shaft.
IM B5	Flange mounting, horizontal shaft.
IM V1	Flange mounting, vertical shaft facing down.
IM V5	Foot mounting, vertical shaft facing down.
IM V3	Flange mounting, vertical shaft facing up.
IM V6	Foot mounting, vertical shaft facing up.
IM B35	Foot & flange mount. Large flange with through holes. Horizontal shaft.
IM V15	Foot & flange mount. Large flange with through holes. Vertical shaft facing down.
IM V36	Foot & flange mount. Large flange with through holes. Vertical shaft facing up.

Dimensions

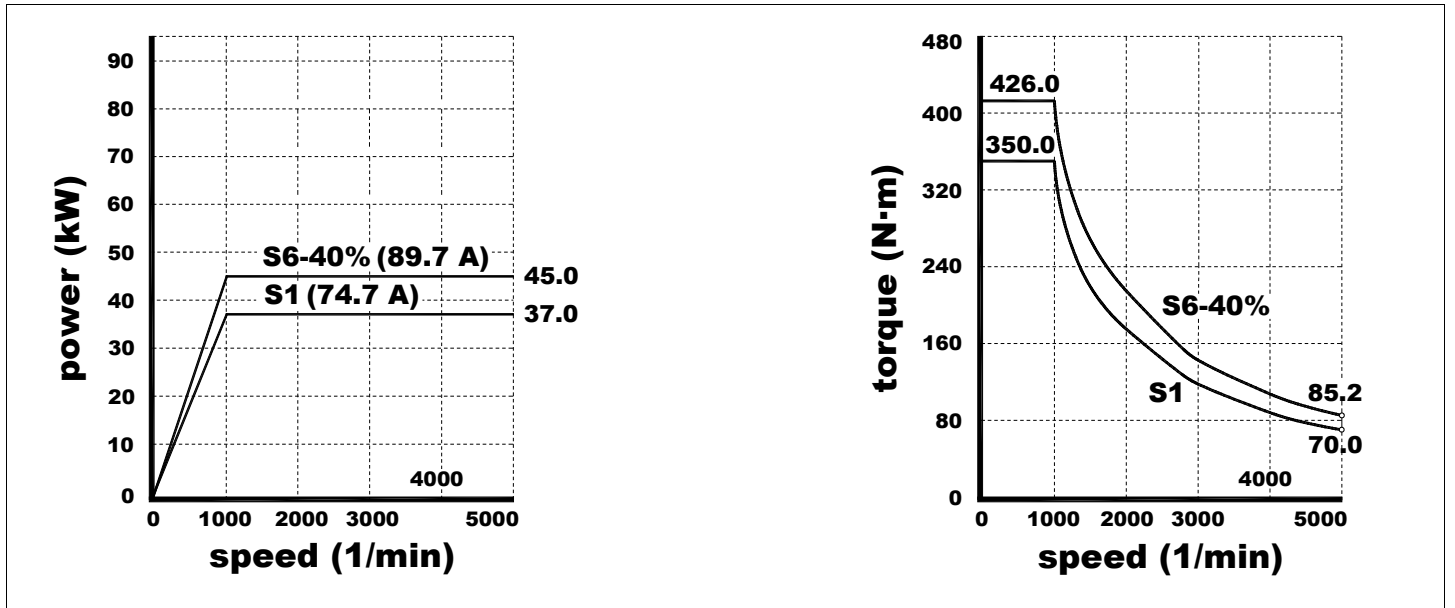
FM9-B037-C5C□-E01

PCD. Pitch Circle Diameter
Dimensions in mm. 1"=25.4 mm, C: Shaft height

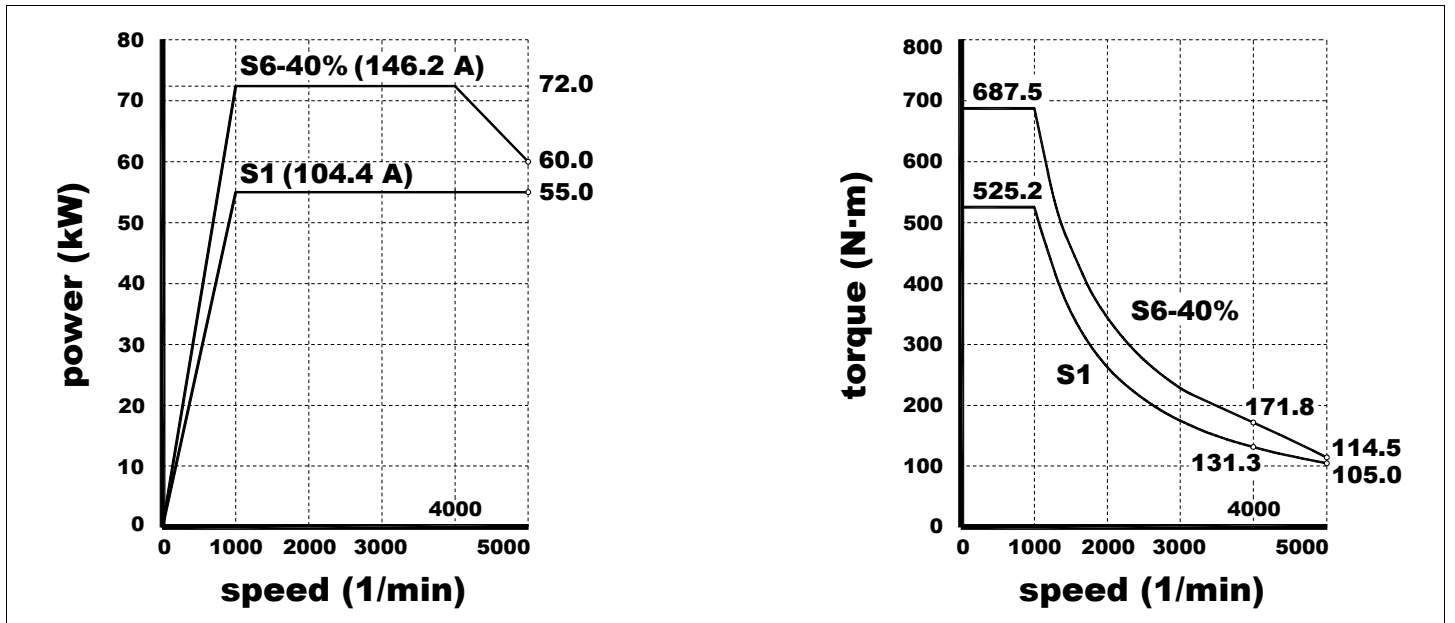
M20, DEPTH 42

Power/speed and torque/speed graphics

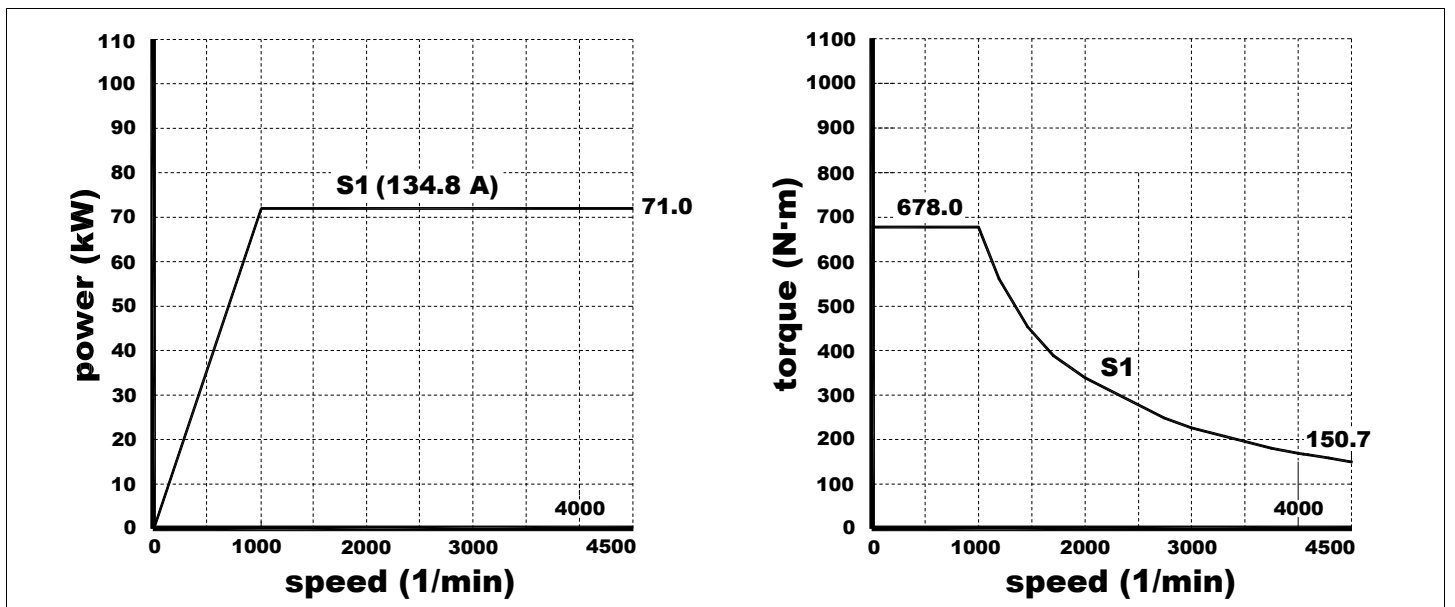
FM9-B037-C5C□-E01



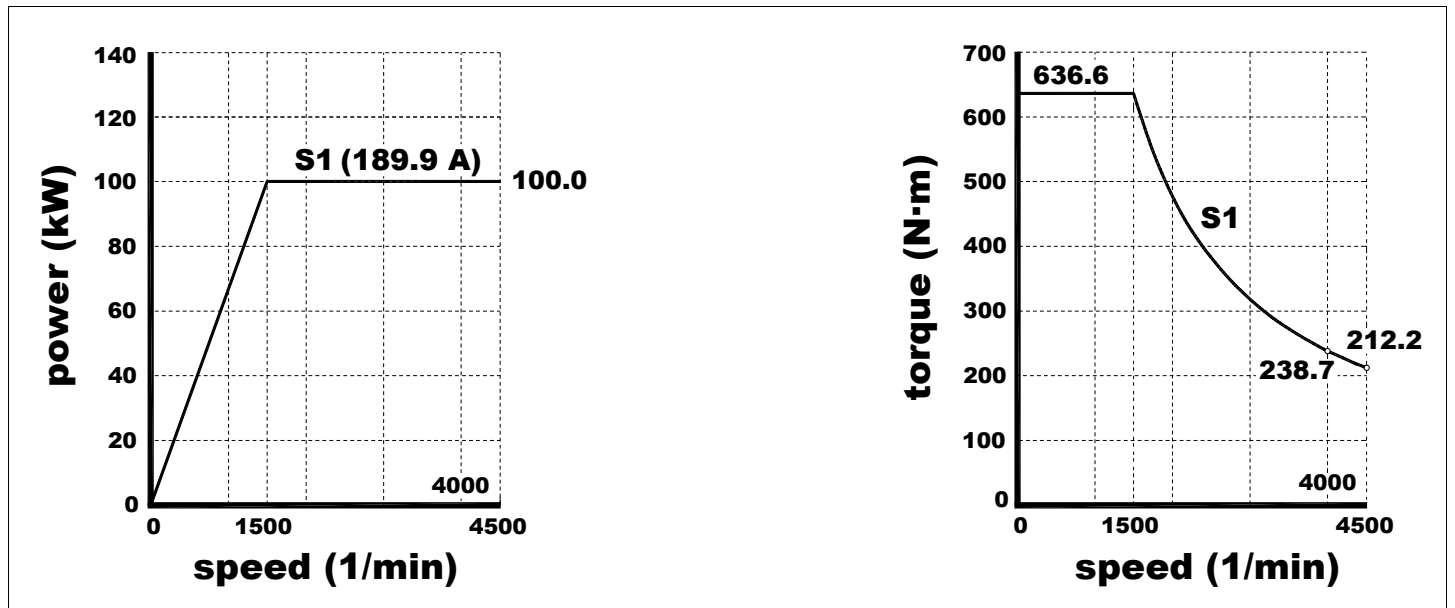
FM9-B055-C5C□-E01-A



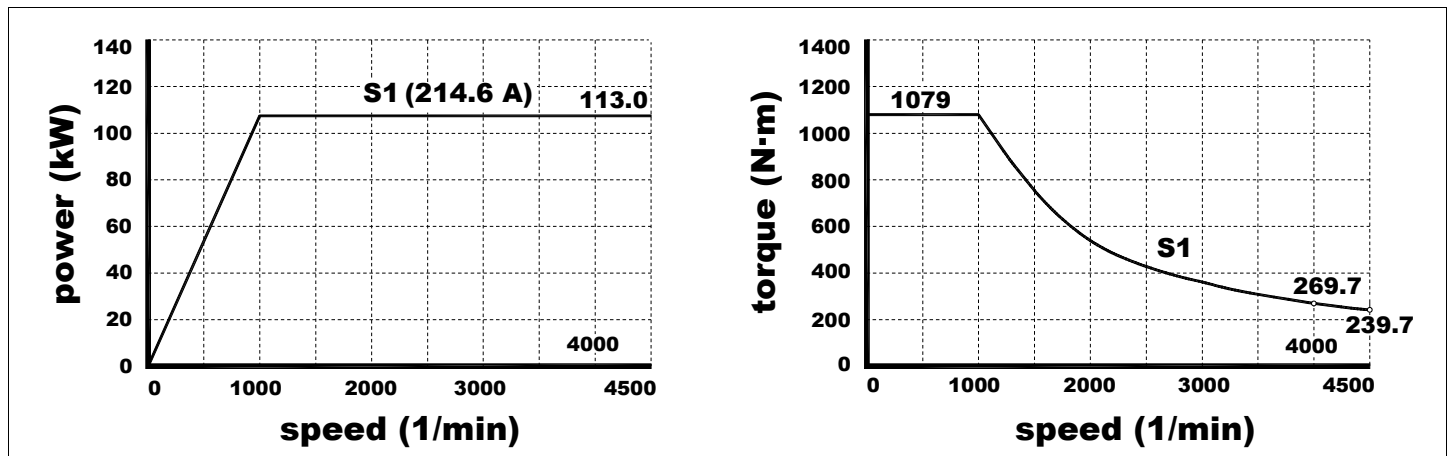
FM9-B071-C5C□-E01



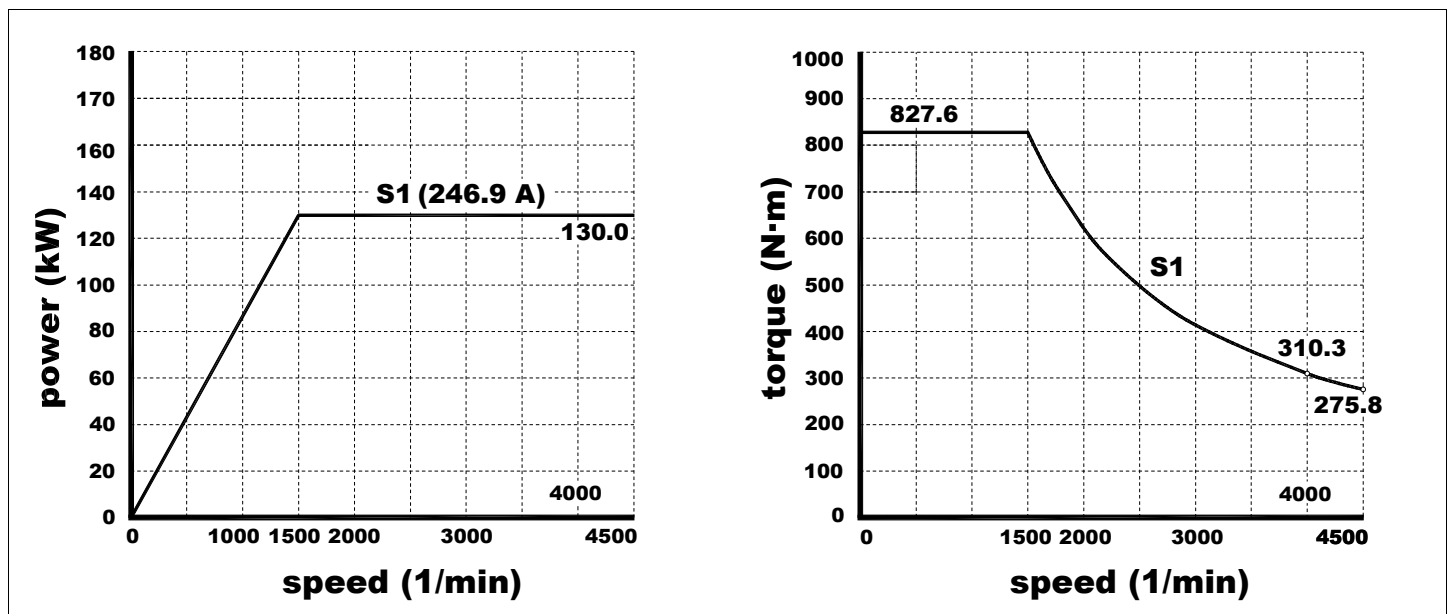
FM9-A100-C5C□-E01



FM9-B113-C5C□-E01



FM9-A130-C5C□-E01



Fagor Automation S.Coop.
B.º San Andrés 19, Apdo. 144
E-20500 Arrasate - Mondragón
Spain



www.fagorautomation.com
E-mail: info@fagorautomation.es
Tel. 34-943 71 92 00 / 34-943 03 98 00
Fax. 34-943 79 17 12