

Servomotors

Dimensional drawings

1FK7 Compact motors with/without DRIVE-CLiQ with SP+ planetary gearbox, single-stage

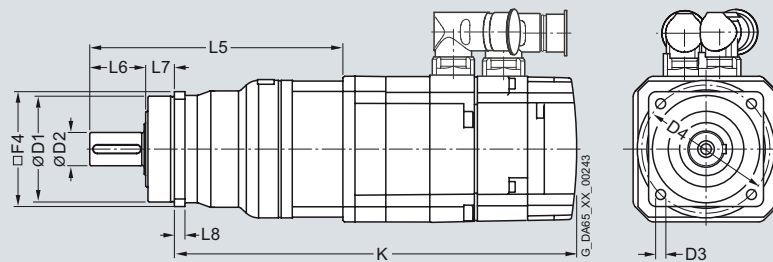
Dimensional drawings

For motor

Dimensions in mm (inches)

												Encoder system:			
												Resolver	Absolute encoder AM16S/R AM15DQ	Incremental encoder	IC2048S/R IC22DQ
												Absolute encoder		AM2048S/R AM22DQ AM512S/R AM20DQ AM32S/R AM16DQ	
Shaft height	Type	F4	Planetary gearbox Type	D1	D2	D3	D4	L5	L6	L7	L8	without brake K	with brake K	without brake K	with brake K
1FK7 Compact with SP+ planetary gearbox, single-stage, type of construction IM B5, natural cooling, with connector, with/without brake															
28	1FK7022-5	62 (2.44)	SP060S-MF1	60 (2.36)	16 (0.63)	5.5 (0.22)	68 (2.68)	137 (5.39)	28 (1.10)	20 (0.79)	6 (0.24)	242 (9.53)	264 (10.39)	267 (10.51)	289 (11.38)
36	1FK7032-5	62 (2.44)	SP060S-MF1	60 (2.36)	16 (0.63)	5.5 (0.22)	68 (2.68)	142 (5.59)	28 (1.10)	20 (0.79)	6 (0.24)	244 (9.61)	269 (10.59)	269 (10.59)	294 (11.57)
	1FK7034-5											269 (10.59)	294 (11.57)	294 (11.57)	319 (12.56)
48	1FK7040-5	76 (2.99)	SP075S-MF1	70 (2.76)	22 (0.87)	6.6 (0.26)	85 (3.35)	168 (6.61)	36 (1.42)	20 (0.79)	7 (0.28)	246 (9.69)	275 (10.83)	267 (10.51)	296 (11.65)
	1FK7042-5											274 (10.79)	303 (11.93)	294 (11.57)	323 (12.72)
63	1FK7060-5	101 (3.98)	SP100S-MF1	90 (3.54)	32 (1.26)	9 (0.35)	120 (4.72)	217 (8.54)	58 (2.28)	30 (1.18)	10 (0.39)	286 (11.26)	329 (12.95)	309 (12.17)	352 (13.86)
	1FK7063-5											331 (13.03)	374 (14.72)	354 (13.94)	397 (15.63)
80	1FK7080-5	141 (5.55)	SP140S-MF1	130 (5.12)	40 (1.58)	11 (0.43)	165 (6.50)	283 (11.14)	82 (3.23)	30 (1.18)	12 (0.47)	327 (12.87)	355 (13.98)	350 (13.78)	377 (14.84)
	1FK7083-5											365 (14.37)	416 (16.38)	388 (15.28)	439 (17.28)
100	1FK7100-5	182 (7.17)	SP180S-MF1	160 (6.30)	55 (2.17)	13.5 (0.53)	215 (8.47)	310 (12.20)	82 (3.23)	30 (1.18)	15 (0.59)	383 (15.08)	402 (15.83)	406 (15.98)	425 (16.73)
	1FK7101-5											409 (16.10)	438 (17.24)	432 (17.01)	461 (18.15)
	1FK7103-5											435 (17.13)	464 (18.27)	458 (18.03)	487 (19.17)
	1FK7105-5	182 (7.17)	SP180S-MF1	160 (6.30)	55 (2.17)	13.5 (0.55)	215 (8.47)	310 (12.20)	82 (3.23)	30 (1.18)	15 (0.59)	487 (19.17)	516 (20.31)	510 (20.08)	539 (21.22)
	1FK7105-5	215 (8.46)	SP210S-MF1	180 (7.09)	75 (2.95)	17 (0.67)	250 (9.84)	385 (15.16)	105 (4.13)	38 (1.50)	17 (0.67)	531 (20.91)	560 (22.05)	554 (21.81)	583 (22.95)

1FK702.-5
1FK703.-5
1FK704.-5
1FK706.-5
1FK708.-5
1FK710.-5



Servomotors

Dimensional drawings

1FK7 High Dynamic motors with/without DRIVE-CLiQ with SP+ planetary gearbox, single-stage

Dimensional drawings

For motor

Dimensions in mm (inches)

Encoder system:

Resolver

Absolute encoder

AM16S/R

AM15DQ

Incremental encoder

Absolute encoder

IC2048S/R

IC22DQ

AM2048S/R

AM22DQ

AM512S/R

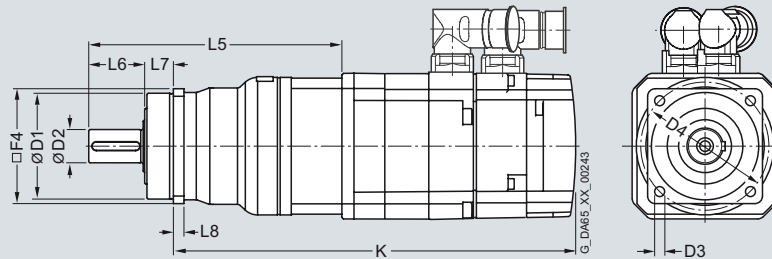
AM20DQ

AM32S/R

AM16DQ

Shaft height	Type	F4	Planetary gearbox	Type	D1	D2	D3	D4	L5	L6	L7	L8	without brake	with brake	without brake	with brake
													K	K	K	K
1FK7 High Dynamic with SP+ planetary gearbox, single-stage, type of construction IM B5, natural cooling, with connector, with/without brake																
36	1FK7033-7	62 (2.44)	SP060S-MF1		60 (2.36)	16 (0.63)	5.5 (0.22)	68 (2.68)	142 (5.59)	28 (1.10)	20 (0.79)	6 (0.24)	263 (10.35)	288 (11.34)	288 (11.34)	313 (12.32)
48	1FK7043-7	76 (2.99)	SP075S-MF1		70 (2.76)	22 (0.87)	6.6 (0.26)	85 (3.35)	168 (6.61)	36 (1.42)	20 (0.79)	7 (0.28)	303 (11.93)	332 (13.07)	324 (12.76)	353 (13.90)
	1FK7044-7												328 (12.91)	357 (14.06)	349 (13.74)	378 (14.88)
63	1FK7061-7	101 (3.98)	SP100S-MF1		90 (3.54)	32 (1.26)	9 (0.35)	120 (4.72)	217 (8.54)	58 (2.28)	30 (1.18)	10 (0.39)	314 (12.36)	357 (14.06)	337 (13.27)	380 (14.96)
	1FK7064-7												378 (14.88)	421 (16.57)	401 (15.79)	444 (17.48)
80	1FK7085-7	141 (5.55)	SP140S-MF1		130 (5.12)	40 (1.57)	11 (0.43)	165 (6.50)	283 (11.14)	82 (3.23)	30 (1.18)	12 (0.47)	432 (17.01)	474 (18.66)	454 (17.87)	497 (19.57)
	1FK7086-7															

1FK703.-7
1FK704.-7
1FK706.-7
1FK708.-7



Servomotors

Dimensional drawings

1FK7 Compact motors with/without DRIVE-CLiQ with SP+ planetary gearbox, two-stage

Dimensional drawings

For motor

Dimensions in mm (inches)

Encoder system:

Resolver

Absolute encoder

AM16S/R

AM15DQ

Incremental encoder

IC2048S/R

IC22DQ

AM2048S/R

AM22DQ

AM512S/R

AM20DQ

AM32S/R

AM16DQ

without

brake

with

brake

without

brake

with

brake

Shaft
height

Type

F4

Planetary
gearbox

Type

D1

D2

D3

D4

L5

L6

L7

L8

K

K

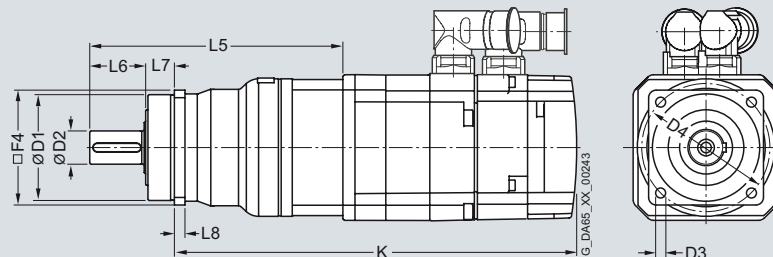
K

K

1FK7 Compact with SP+ planetary gearbox, two-stage, type of construction IM B5, natural cooling, with connector, with/without brake

28	1FK7022-5	62 (2.44)	SP060S-MF2	60 (2.36)	16 (0.63)	5.5 (0.22)	68 (2.68)	156 (6.14)	28 (1.10)	20 (0.79)	6 (0.24)	261 (10.28)	283 (11.14)	286 (11.26)	308 (12.13)
		76 (2.99)	SP075S-MF2	70 (2.76)	22 (0.87)	6.6 (0.26)	85 (3.35)	175 (6.89)	36 (1.42)	20 (0.79)	7 (0.28)	272 (10.71)	294 (11.57)	297 (11.69)	319 (12.56)
		101 (3.98)	SP100S-MF2	90 (3.54)	32 (1.26)	9 (0.35)	120 (4.72)	230 (9.06)	58 (2.28)	30 (1.18)	10 (0.39)	295 (11.61)	317 (12.48)	320 (12.60)	342 (13.46)
36	1FK7032-5	62 (2.44)	SP060S-MF2	60 (2.36)	16 (0.63)	5.5 (0.22)	68 (2.68)	164 (6.46)	28 (1.10)	20 (0.79)	6 (0.24)	266 (10.47)	291 (11.46)	291 (11.46)	316 (12.44)
		76 (2.99)	SP075S-MF2	70 (2.76)	22 (0.87)	6.6 (0.26)	85 (3.35)	179 (7.05)	36 (1.42)	20 (0.79)	7 (0.28)	273 (10.75)	298 (11.73)	298 (11.73)	323 (12.72)
		101 (3.98)	SP100S-MF2	90 (3.54)	32 (1.26)	9 (0.35)	120 (4.72)	230 (9.06)	58 (2.28)	30 (1.18)	10 (0.39)	292 (11.50)	317 (12.48)	317 (12.48)	342 (13.46)
	1FK7034-5	76 (2.99)	SP075S-MF2	70 (2.76)	22 (0.87)	6.6 (0.26)	85 (3.35)	179 (7.05)	36 (1.42)	20 (0.79)	7 (0.28)	298 (11.73)	323 (12.72)	323 (12.72)	348 (13.70)
		101 (3.98)	SP100S-MF2	90 (3.54)	32 (1.26)	9 (0.35)	120 (4.72)	230 (9.06)	58 (2.28)	30 (1.18)	10 (0.39)	317 (12.48)	342 (13.46)	342 (13.46)	367 (14.45)
48	1FK7040-5	76 (2.99)	SP075S-MF2	70 (2.76)	22 (0.87)	6.6 (0.26)	85 (3.35)	192 (7.56)	36 (1.42)	20 (0.79)	7 (0.28)	270 (10.63)	299 (11.77)	291 (11.46)	320 (12.60)
		101 (3.98)	SP100S-MF2	90 (3.54)	32 (1.26)	9 (0.35)	120 (4.72)	234 (9.21)	58 (2.28)	30 (1.18)	10 (0.39)	280 (11.02)	309 (12.17)	301 (11.85)	330 (12.99)
		141 (5.55)	SP140S-MF2	130 (5.12)	40 (1.57)	11 (0.43)	165 (6.50)	298 (11.73)	82 (3.23)	30 (1.18)	12 (0.47)	320 (12.60)	349 (13.74)	341 (13.43)	370 (14.57)
	1FK7042-5	76 (2.99)	SP075S-MF2	70 (2.76)	22 (0.87)	6.6 (0.26)	85 (3.35)	192 (7.56)	36 (1.42)	20 (0.79)	7 (0.28)	298 (11.73)	327 (12.87)	298 (11.73)	347 (13.66)
		101 (3.98)	SP100S-MF2	90 (3.54)	32 (1.26)	9 (0.35)	120 (4.72)	234 (9.21)	58 (2.28)	30 (1.18)	10 (0.39)	308 (12.13)	337 (13.27)	308 (12.13)	357 (14.06)
		141 (5.55)	SP140S-MF2	130 (5.12)	40 (1.57)	11 (0.43)	165 (6.50)	298 (11.73)	82 (3.23)	30 (1.18)	12 (0.47)	348 (13.71)	377 (14.84)	368 (14.49)	397 (15.63)
63	1FK7060-5	101 (3.98)	SP100S-MF2	90 (3.54)	32 (1.26)	9 (0.35)	120 (4.72)	252 (9.92)	58 (2.28)	30 (1.18)	10 (0.39)	321 (12.64)	364 (14.33)	344 (13.54)	387 (15.24)
		141 (5.55)	SP140S-MF2	130 (5.12)	40 (1.57)	11 (0.43)	165 (6.50)	305 (12.01)	82 (3.23)	30 (1.18)	12 (0.47)	350 (13.78)	393 (15.47)	373 (14.69)	416 (16.38)
	1FK7063-5	141 (5.55)	SP140S-MF2	130 (5.12)	40 (1.57)	11 (0.43)	165 (6.50)	305 (12.01)	82 (3.23)	30 (1.18)	12 (0.47)	395 (15.55)	438 (17.24)	418 (16.46)	461 (18.15)
		182 (7.17)	SP180S-MF2	160 (6.30)	55 (2.17)	13.5 (0.53)	215 (8.46)	346 (13.62)	82 (3.23)	30 (1.18)	15 (0.59)	436 (17.17)	479 (18.86)	459 (18.07)	502 (19.76)

1FK702.-5
1FK703.-5
1FK704.-5
1FK706.-5



Servomotors

Dimensional drawings

1FK7 Compact motors with/without DRIVE-CLiQ with SP+ planetary gearbox, two-stage

Dimensional drawings

For motor

Dimensions in mm (inches)

Encoder system:
Resolver

Incremental encoder IC2048S/R

Absolute encoder IC22DQ
AM2048S/R
AM22DQ
AM32S/R
AM16DQwithout
brakewith
brakewithout
brakewith
brakeShaft
height

Type

F4

Planetary
gearbox
Type

D1

D2

D3

D4

L5

L6

L7

L8

K

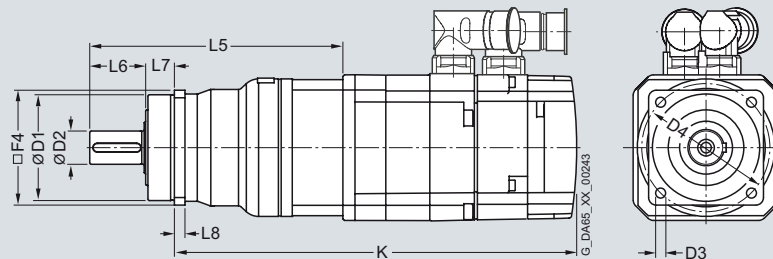
K

K

K

1FK7 Compact with SP+ planetary gearbox, two-stage, type of construction IM B5, natural cooling, with connector, with/without brake

80	1FK7080-5	141	SP140S-MF2	130	40	11	165	332	82	30	12	376	404	399	426
		(5.55)		(5.12)	(1.57)	(0.43)	(6.50)	(13.07)	(3.23)	(1.18)	(0.47)	(14.80)	(15.91)	(15.71)	(16.77)
		182	SP180S-MF2	160	55	13.5	215	355	82	30	15	399	427	422	449
		(7.17)		(6.30)	(2.17)	(0.53)	(8.46)	(13.98)	(3.23)	(1.18)	(0.59)	(15.71)	(16.81)	(16.61)	(17.68)
		215	SP210S-MF2	180	75	17	250	415	105	38	17	428	456	451	478
		(8.46)		(7.09)	(2.95)	(0.67)	(9.84)	(16.34)	(4.13)	(1.50)	(0.67)	(16.85)	(17.95)	(17.76)	(18.82)
	1FK7083-5	141	SP140S-MF2	130	40	11	165	332	82	30	12	414	465	437	488
		(5.55)		(5.12)	(1.57)	(0.43)	(6.50)	(13.07)	(3.23)	(1.18)	(0.47)	(16.30)	(18.31)	(17.20)	(19.21)
		182	SP180S-MF2	160	55	13.5	215	355	82	30	15	437	488	460	511
		(7.17)		(6.30)	(2.17)	(0.53)	(8.46)	(13.98)	(3.23)	(1.18)	(0.59)	(17.20)	(19.21)	(18.11)	(20.12)
		215	SP210S-MF2	180	75	17	250	415	105	38	17	466	517	489	540
		(8.46)		(7.09)	(2.95)	(0.67)	(9.84)	(16.34)	(4.13)	(1.50)	(0.67)	(18.35)	(20.35)	(19.25)	(21.26)
100	1FK7100-5	182	SP180S-MF2	160	55	13.5	215	310	82	30	15	383	402	406	425
		(7.17)		(6.30)	(2.17)	(0.53)	(8.46)	(12.20)	(3.23)	(1.18)	(0.59)	(15.08)	(15.83)	(15.98)	(16.73)
		215	SP210S-MF2	180	75	17	250	415	105	38	17	457	476	480	499
		(8.46)		(7.09)	(2.95)	(0.67)	(9.84)	(16.34)	(4.13)	(1.50)	(0.67)	(17.99)	(18.74)	(18.90)	(19.65)
	1FK7101-5	182	SP180S-MF2	160	55	13.5	215	310	82	30	15	409	438	432	461
		(7.17)		(6.30)	(2.17)	(0.53)	(8.46)	(12.20)	(3.23)	(1.18)	(0.59)	(16.10)	(17.24)	(17.01)	(18.15)
		215	SP210S-MF2	180	75	17	250	415	105	38	17	483	512	506	535
		(8.46)		(7.09)	(2.95)	(0.67)	(9.84)	(16.34)	(4.13)	(1.50)	(0.67)	(19.02)	(20.16)	(19.92)	(21.06)
		245	SP240S-MF2	200	85	17	290	467.5	130	40	20	509	538	531	561
		(9.65)		(7.87)	(3.35)	(0.67)	(11.42)	(18.41)	(5.12)	(1.57)	(0.79)	(20.04)	(21.18)	(20.91)	(22.09)
	1FK7103-5	182	SP180S-MF2	160	55	13.5	215	310	82	30	15	435	464	458	487
		(7.17)		(6.30)	(2.17)	(0.53)	(8.46)	(12.20)	(3.23)	(1.18)	(0.59)	(17.13)	(18.27)	(18.03)	(19.19)
		215	SP210S-MF2	180	75	17	250	415	105	38	17	509	538	532	561
		(8.46)		(7.09)	(2.95)	(0.67)	(9.84)	(16.34)	(4.13)	(1.50)	(0.67)	(20.04)	(21.18)	(20.94)	(22.09)
		245	SP240S-MF2	200	85	17	290	467.5	130	40	20	535	564	557	587
		(9.56)		(7.87)	(3.35)	(0.67)	(11.42)	(18.41)	(5.12)	(1.57)	(0.79)	(21.06)	(22.20)	(21.93)	(23.11)
	1FK7105-5	215	SP210S-MF2	180	75	17	250	415	105	38	17	561	590	584	613
		(8.46)		(7.09)	(2.95)	(0.67)	(9.84)	(16.34)	(4.13)	(1.50)	(0.67)	(22.09)	(23.23)	(22.99)	(24.13)
		245	SP240S-MF2	200	85	17	290	467.5	130	40	20	587	616	610	639
		(9.65)		(7.87)	(3.35)	(0.67)	(11.42)	(18.41)	(5.12)	(1.57)	(0.79)	(23.11)	(24.25)	(24.02)	(25.16)

1FK708.-5
1FK710.-5

Servomotors

Dimensional drawings

1FK7 High Dynamic motors with/without DRIVE-CLiQ with SP+ planetary gearbox, two-stage

Dimensional drawings

For motor			Dimensions in mm (inches)										Encoder system:				
Shaft height	Type	F4	Planetary gearbox Type	D1	D2	D3	D4	L5	L6	L7	L8	Resolver Absolute encoder AM16S/R AM15DQ		Incremental encoder	Absolute encoder		
												without brake K	with brake K	without brake K	with brake K	IC2048S/R IC22DQ AM2048S/R AM22DQ AM512S/R AM20DQ AM32S/R AM16DQ	
1FK7 High Dynamic with SP+ planetary gearbox, two-stage, type of construction IM B5, natural cooling, with connector, with/without brake																	
36	1FK7033-7	62 (2.44)	SP060S-MF2	60 (2.36)	16 (0.63)	5.5 (0.22)	68 (2.68)	164 (6.46)	28 (1.10)	20 (0.79)	6 (0.24)	285 (11.22)	310 (12.20)	310 (12.20)		335 (13.19)	
		76 (2.99)	SP075S-MF2	70 (2.76)	22 (0.87)	6.6 (0.26)	85 (3.35)	179 (7.05)	36 (1.42)	20 (0.79)	7 (0.28)	292 (11.50)	317 (12.48)	317 (12.48)		342 (13.46)	
		101 (3.98)	SP100S-MF2	90 (3.54)	32 (1.26)	9 (0.35)	120 (4.72)	230 (9.06)	58 (2.28)	30 (1.18)	10 (0.39)	311 (12.24)	336 (13.23)	336 (13.23)		361 (14.21)	
48	1FK7043-7	76 (2.99)	SP075S-MF2	70 (2.76)	22 (0.87)	6.6 (0.26)	85 (3.35)	192 (7.56)	36 (1.42)	20 (0.79)	7 (0.28)	327 (12.87)	356 (14.02)	348 (13.70)		377 (14.84)	
		101 (3.98)	SP100S-MF2	90 (3.54)	32 (1.26)	9 (0.35)	120 (4.72)	234 (9.21)	58 (2.28)	30 (1.18)	10 (0.39)	337 (13.27)	366 (14.41)	358 (14.09)		387 (15.24)	
		141 (5.55)	SP140S-MF2	130 (5.12)	40 (1.57)	11 (0.43)	165 (6.50)	298 (11.74)	82 (3.23)	30 (1.18)	12 (0.47)	377 (14.84)	406 (15.98)	398 (15.67)		427 (16.81)	
	1FK7044-7	101 (3.98)	SP100S-MF2	90 (3.54)	32 (1.26)	9 (0.35)	120 (4.72)	234 (9.21)	58 (2.28)	30 (1.18)	10 (0.39)	362 (14.25)	391 (15.39)	383 (15.08)		412 (16.22)	
		141 (5.55)	SP140S-MF2	130 (5.12)	40 (1.57)	11 (0.43)	165 (6.50)	298 (11.73)	82 (3.23)	30 (1.18)	12 (0.47)	402 (15.83)	431 (16.97)	432 (17.01)		452 (17.80)	
63	1FK7061-7	101 (3.98)	SP100S-MF2	90 (3.54)	32 (1.26)	9 (0.35)	120 (4.72)	252 (9.92)	58 (2.28)	30 (1.18)	10 (0.39)	349 (13.74)	392 (15.43)	372 (14.65)		415 (16.34)	
	1FK7061-7	141 (5.55)	SP140S-MF2	130 (5.12)	40 (1.57)	11 (0.43)	165 (6.50)	305 (12.01)	82 (3.23)	30 (1.18)	12 (0.47)	378 (14.88)	421 (16.57)	401 (15.79)		444 (17.48)	
	1FK7064-7											442 (17.40)	485 (19.09)	465 (18.31)		508 (20.00)	
	1FK7064-7	182 (7.17)	SP180S-MF2	160 (6.30)	55 (2.17)	14 (0.55)	215 (8.46)	346 (13.62)	82 (3.23)	30 (1.18)	15 (0.59)	483 (19.02)	526 (20.71)	506 (19.92)		549 (21.61)	
80	1FK7085-7	182 (7.17)	SP180S-MF2	160 (6.30)	55 (2.17)	13.5 (0.53)	215 (8.46)	355 (13.98)	82 (3.23)	30 (1.18)	15 (0.59)	504 (19.84)	546 (21.50)	526 (20.71)		569 (22.40)	
		215 (8.46)	SP210S-MF2	180 (7.09)	75 (2.95)	17 (0.67)	250 (9.84)	415 (16.34)	105 (4.13)	38 (1.50)	17 (0.67)	533 (20.98)	575 (22.64)	555 (21.85)		598 (23.54)	
	1FK7086-7	182 (7.17)	SP180S-MF2	160 (6.30)	55 (2.17)	13.5 (0.53)	215 (8.46)	355 (13.98)	82 (3.23)	30 (1.18)	15 (0.59)	504 (19.84)	546 (21.50)	526 (20.71)		569 (22.40)	
		215 (8.46)	SP210S-MF2	180 (7.09)	75 (2.95)	17 (0.67)	250 (9.84)	415 (16.34)	105 (4.13)	38 (1.50)	17 (0.67)	533 (20.98)	575 (22.64)	555 (21.85)		598 (23.54)	

1FK703.-7
1FK704.-7
1FK706.-7
1FK708.-7

