

Synchronous motors

Linear motors for SINAMICS S120

1FN3 standard type linear motors Version for peak load – water cooling

Selection and Ordering Data

Feedrate force		Maximum velocity ³⁾		1FN3 linear motors – Version for peak load Water cooling		Weight, approx.	
F_{rated} ¹⁾²⁾	F_{MAX}	v_{MAX} at F_{MAX}	v_{MAX} at F_{rated}	Primary section	Secondary section	Primary section without/with precision cooling	Secondary section without/with heatsink profiles
N (lb _f)	N (lb _f)	m/min (ft/min)	m/min (ft/min)	Order No.	Order No.	kg (lb)	kg (lb)
200 (45)	550 (124)	146 (479)	373 (1 224)	1FN3050-2WC00-0EA1	1FN3050-4SA00-0AA0	2.4/2.9 (5.3/6.4)	0.4/0.5 (0.9/1.1)
200 (45)	550 (124)	146 (479)	373 (1 224)	1FN3050-2WC00-0FA1		2.4/2.9 (5.3/6.4)	0.4/0.5 (0.9/1.1)
200 (45)	490 (110)	138 (453)	322 (1 056)	1FN3100-1WC00-0BA1	1FN3100-4SA00-0AA0	2.2/- (4.9/-) ⁴⁾	0.7/0.8 (1.5/1.8)
450 (101)	1 100 (247)	131 (430)	297 (974)	1FN3100-2WC00-0BA1		3.8/4.4 (8.4/9.7)	
450 (101)	1 100 (247)	237 (778)	497 (1 631)	1FN3100-2WE00-0BA1		3.8/4.4 (8.4/9.7)	
675 (152)	1 650 (371)	120 (394)	277 (909)	1FN3100-3WC00-0BA1		5.4/6.2 (11.9/13.7)	
675 (152)	1 650 (371)	237 (778)	497 (1 631)	1FN3100-3WE00-0BA1		5.4/6.2 (11.9/13.7)	
900 (202)	2 200 (495)	131 (430)	297 (974)	1FN3100-4WC00-0BA1		7.4/8.5 (16.3/18.7)	
900 (202)	2 200 (495)	237 (778)	497 (1 631)	1FN3100-4WE00-0BA1		7.4/8.5 (16.3/18.7)	
1 125 (253)	2 750 (618)	109 (358)	255 (837)	1FN3100-5WC00-0BA1		9.1/10.4 (20.1/22.9)	
340 (76)	820 (184)	126 (413)	282 (925)	1FN3150-1WC00-0BA1	1FN3150-4SA00-0AA0	3.0/- (6.6/-) ⁴⁾	1.2/1.3 (2.7/2.9)
675 (152)	1 650 (371)	126 (413)	282 (925)	1FN3150-2WC00-0BA1		5.3/6 (11.7/13.2)	
1 015 (228)	2 470 (555)	126 (413)	282 (925)	1FN3150-3WC00-0BA1		7.8/8.7 (17.2/19.2)	
1 350 (304)	3 300 (742)	126 (413)	282 (925)	1FN3150-4WC00-0BA1		10.2/11.4 (22.5/25.1)	
1 690 (380)	4 120 (926)	126 (413)	282 (925)	1FN3150-5WC00-0BA1		12.8/14.2 (28.2/31.3)	
615 (138)	1 720 (387)	128 (420)	309 (1 014)	1FN3300-1WC00-0BA1	1FN3300-4SA00-0AA0	6.2/- (13.7/-) ⁴⁾	2.4/2.6 (5.3/5.7)
1 225 (275)	3 450 (776)	63 (207)	176 (577)	1FN3300-2WB00-0BA1		11.4/12.4 (25.1/27.3)	
1 225 (275)	3 450 (776)	125 (410)	297 (974)	1FN3300-2WC00-0BA1		11.4/12.4 (25.1/27.3)	
1 225 (275)	3 450 (776)	369 (1 211)	805 (2 641)	1FN3300-2WG00-0BA1		11.4/12.4 (25.1/27.3)	
1 840 (414)	5 170 (1 162)	125 (410)	297 (974)	1FN3300-3WC00-0BA1		17.0/18.4 (37.5/40.6)	
1 840 (414)	5 170 (1 162)	383 (1 257)	836 (2 743)	1FN3300-3WG00-0BA1		17.0/18.4 (37.5/40.6)	
2 450 (551)	6 900 (1 551)	63 (207)	176 (577)	1FN3300-4WB00-0BA1		22.2/24 (48.9/52.9)	
2 450 (551)	6 900 (1 551)	125 (410)	297 (974)	1FN3300-4WC00-0BA1		22.2/24 (48.9/52.9)	

Type of connection:

Frame sizes 1FN3100 to 1FN3900

Connection cover prepared for separate power and signal cables

Frame size 1FN3050

Permanently connected power and signal cables with open core ends
Length: 2 m (6.56 ft)

Frame size 1FN3050

Permanently connected power and signal cables pre-assembled,
with connectors
Length: 0.5 m (1.64 ft)

B

E

F

Synchronous motors

Linear motors for SINAMICS S120

1FN3 standard type linear motors
Version for peak load – water cooling

Selection and Ordering Data

Motor type Primary section (continued)	Rated current	Maxi- mum cur- rent	Calcu- lated power	SINAMICS S120 Motor Module		Power cable with complete shield Motor connection via adapter cable with power connector for increased velocity/acceleration			
	$I_{\text{rated}}^{1)}$	I_{MAX}	P_{calc}	Required rated current	Books- ize format	Pre-assembled adapter cable for motor	Power con- nector	Cable- cross- section ⁵⁾	Pre-assembled basic cable to converter
	A	A	kW (HP)	$I_{\text{rated}} / I_{\text{MAX}}$	Order No.				
1FN3050-2WC00-...	2.7	8.2	4.1 (5.5)	5/10	6SL312 - - TE15-0AA3	– ⁶⁾	1	4 x 2.5	6FX8002-5CS11-
1FN3050-2WC00-...	2.7	8.2	4.1 (5.5)	5/10	6SL312 - - TE15-0AA3	– ⁷⁾	1	4 x 2.5	6FX8002-5CS11-
1FN3100-1WC00-...	2.4	6.5	3.1 (4.2)	5/10	6SL312 - - TE15-0AA3	6FX7002-5LM42-	1	4 x 2.5	6FX8002-5CS11-
1FN3100-2WC00-...	5.1	13.5	6.3 (8.5)	9/18	6SL312 - - TE21-0AA3	6FX7002-5LM42-	1	4 x 2.5	6FX8002-5CS11-
1FN3100-2WE00-...	8.1	21.5	8.3 (11.1)	18/36	6SL312 - - TE21-8AA3	6FX7002-5LM42-	1	4 x 2.5	6FX8002-5CS11-
1FN3100-3WC00-...	7.2	19.1	9.2 (12.3)	18/36	6SL312 - - TE21-8AA3	6FX7002-5LM42-	1	4 x 2.5	6FX8002-5CS11-
1FN3100-3WE00-...	12.1	32.2	12.4 (16.6)	18/36	6SL312 - - TE21-8AA3	6FX7002-5LM42-	1	4 x 2.5	6FX8002-5CS11-
1FN3100-4WC00-...	10.1	27.0	12.6 (16.9)	18/36	6SL312 - - TE21-8AA3	6FX7002-5LM42-	1	4 x 2.5	6FX8002-5CS11-
1FN3100-4WE00-...	16.1	43.0	16.5 (22.1)	30/56	6SL312 - - TE23-0AA3	6FX7002-5LM42-	1	4 x 2.5	6FX8002-5CS11-
1FN3100-5WC00-...	11.0	29.5	14.4 (19.3)	18/36	6SL312 - - TE21-8AA3	6FX7002-5LM42-	1	4 x 2.5	6FX8002-5CS11-
1FN3150-1WC00-...	3.6	9.5	4.3 (5.8)	5/10	6SL312 - - TE15-0AA3	6FX7002-5LM42-	1	4 x 2.5	6FX8002-5CS11-
1FN3150-2WC00-...	7.2	19.1	8.7 (11.7)	18/36	6SL312 - - TE21-8AA3	6FX7002-5LM42-	1	4 x 2.5	6FX8002-5CS11-
1FN3150-3WC00-...	10.7	28.6	13.0 (17.4)	18/36	6SL312 - - TE21-8AA3	6FX7002-5LM42-	1	4 x 2.5	6FX8002-5CS11-
1FN3150-4WC00-...	14.3	38.2	17.4 (23.3)	30/56	6SL312 - - TE23-0AA3	6FX7002-5LM42-	1	4 x 2.5	6FX8002-5CS11-
1FN3150-5WC00-...	17.9	47.7	21.7 (29.1)	30/56	6SL312 - - TE23-0AA3	6FX7002-5LM42-	1	4 x 2.5	6FX8002-5CS11-
1FN3300-1WC00-...	6.5	20.0	8.7 (11.7)	18/36	6SL312 - - TE21-8AA3	6FX7002-5LM62-	1	4 x 2.5	6FX8002-5CS11-
1FN3300-2WB00-...	8.0	24.7	13.2 (17.7)	18/36	6SL312 - - TE21-8AA3	6FX7002-5LM62-	1	4 x 2.5	6FX8002-5CS11-
1FN3300-2WC00-...	12.6	39.2	16.8 (22.5)	30/56	6SL312 - - TE23-0AA3	6FX7002-5LM62-	1	4 x 2.5	6FX8002-5CS11-
1FN3300-2WG00-...	32.2	99.7	30.1 (40.4)	60/113	6SL312 - - TE26-0AA3	6FX7002-5LM82-	1.5	4 x 6	6FX8002-5CS54-
1FN3300-3WC00-...	19.0	58.7	25.1 (33.7)	30/56	6SL312 - - TE23-0AA3	6FX7002-5LM62-	1	4 x 2.5	6FX8002-5CS11-
1FN3300-3WG00-...	50.0	154.9	46.2 (61.9)	132/210	6SL312 - - TE31-3AA3	6FX7002-5LM02-	1.5	4 x 16	6FX8002-5CS24-
1FN3300-4WB00-...	16.0	49.4	26.3 (35.3)	30/56	6SL312 - - TE23-0AA3	6FX7002-5LM62-	1	4 x 2.5	6FX8002-5CS11-
1FN3300-4WC00-...	25.3	78.3	33.5 (44.9)	45/85	6SL312 - - TE24-5AA3	6FX7002-5LM72-	1.5	4 x 4	6FX8002-5CS54-
Cooling:									
Internal air cooling						0			
External air cooling						1			
Motor Module:									
Single Motor Module						1			
Double Motor Module						2			
For length code as well as power and signal cables, see Connection system MOTION-CONNECT.									

Designation	Order No.
Pre-assembled signal cable with M17 connector	
• 1FN3100/1FN3150 motors	6FX7002-2SL01-....
• 1FN3300 to 1FN3900 motors	6FX7002-2SL02-....

¹⁾ For water cooling with inlet temperature 35 °C (95 °F).

²⁾ A reduction of up to 30% must be expected in case of motor standstill, at very low speeds, or with very short traverse paths.

³⁾ Velocity values refer to a converter DC link voltage of 600 V DC.

⁴⁾ No precision cooler available.

⁵⁾ The current carrying capacity of the power cables complies with EN 60204-1 for installation type C under continuous operating conditions at an ambient air temperature of 40 °C (104 °F).

⁶⁾ Permanently connected power and signal cables, length 2 m (6.56 ft), with open core ends:

⁷⁾ Permanently connected power and signal cables, length 0.5 m (1.64 ft), with power connector size 1 or M17 connector.

Synchronous motors

Linear motors for SINAMICS S120

1FN3 standard type linear motors Version for peak load – water cooling

Selection and Ordering Data

Feedrate force		Maximum velocity ³⁾		1FN3 linear motors – Version for peak load Water cooling		Weight, approx.	
F_{rated} ¹⁾²⁾	F_{MAX}	v_{MAX} at F_{MAX}	v_{MAX} at F_{rated}	Primary section	Secondary section	Primary section without/with precision cooling	Secondary section without/with heatsink profiles
N (lb _f)	N (lb _f)	m/min (ft/min)	m/min (ft/min)	Order No.	Order No.	kg (lb)	kg (lb)
1 930 (434)	5 180 (1 165)	30 (98)	112 (368)	1FN3450-2WA50-0BA1	1FN3450-4SA00-0AA0	15.9/17.1 (35.1/37.7)	3.8/4 (8.4/8.8)
1 930 (434)	5 180 (1 165)	120 (394)	275 (902)	1FN3450-2WC00-0BA1		15.9/17.1 (35.1/37.7)	
1 930 (434)	5 180 (1 165)	240 (787)	519 (1 703)	1FN3450-2WE00-0BA1		15.9/17.1 (35.1/37.7)	
2 895 (651)	7 760 (1 745)	62 (203)	164 (538)	1FN3450-3WB00-0BA1		22.6/24.3 (49.8/53.6)	
2 895 (651)	7 760 (1 745)	90 (295)	217 (712)	1FN3450-3WB50-0BA1		22.6/24.3 (49.8/53.6)	
2 895 (651)	7 760 (1 745)	120 (394)	275 (902)	1FN3450-3WC00-0BA1		22.6/24.3 (49.8/53.6)	
2 895 (651)	7 760 (1 745)	240 (787)	519 (1 703)	1FN3450-3WE00-0BA1		22.6/24.3 (49.8/53.6)	
3 860 (868)	10 350 (2 327)	62 (203)	164 (538)	1FN3450-4WB00-0BA1		30.9/33.1 (68.1/73)	
3 860 (868)	10 350 (2 327)	90 (295)	217 (712)	1FN3450-4WB50-0BA1		30.9/33.1 (68.1/73)	
3 860 (868)	10 350 (2 327)	120 (394)	275 (902)	1FN3450-4WC00-0BA1		30.9/33.1 (68.1/73)	
3 860 (868)	10 350 (2 327)	240 (787)	519 (1 703)	1FN3450-4WE00-0BA1		30.9/33.1 (68.1/73)	
2 610 (587)	6 900 (1 551)	36 (118)	120 (394)	1FN3600-2WA50-0BA1	1FN3600-4SA00-0AA0	22.2/24.7 (49/54.5)	4.6/5 (10.1/11)
3 915 (880)	10 350 (2 327)	58 (190)	155 (509)	1FN3600-3WB00-0BA1		31.5/33.4 (69.5/73.7)	
3 915 (880)	10 350 (2 327)	112 (368)	254 (833)	1FN3600-3WC00-0BA1		31.5/33.4 (69.5/73.7)	
5 220 (1 174)	13 800 (3 102)	26 (85)	105 (345)	1FN3600-4WA30-0BA1		40.8/43.3 (90/95.5)	
5 220 (1 174)	13 800 (3 102)	58 (190)	155 (509)	1FN3600-4WB00-0BA1		40.8/43.3 (90/95.5)	
5 220 (1 174)	13 800 (3 102)	91 (299)	215 (705)	1FN3600-4WB50-0BA1		40.8/43.3 (90/95.5)	
5 220 (1 174)	13 800 (3 102)	112 (368)	254 (833)	1FN3600-4WC00-0BA1		40.8/43.3 (90/95.5)	
4 050 (910)	10 350 (2 327)	65 (213)	160 (525)	1FN3900-2WB00-0BA1	1FN3900-4SA00-0AA0	28.2/29.7 (62.2/65.4)	7.5/7.9 (16.5/17.4)
4 050 (910)	10 350 (2 327)	115 (377)	253 (830)	1FN3900-2WC00-0BA1		28.2/29.7 (62.2/65.4)	
6 075 (1 366)	15 530 (3 491)	75 (246)	181 (594)	1FN3900-3WB00-0BA1		42.2/44.3 (93.1/97.6)	
8 100 (1 821)	20 700 (4 653)	65 (213)	160 (525)	1FN3900-4WB00-0BA1		56.2/58.9 (124/130)	
8 100 (1 821)	20 700 (4 653)	88 (290)	203 (666)	1FN3900-4WB50-0BA1		56.2/58.9 (124/130)	
8 100 (1 821)	20 700 (4 653)	115 (377)	253 (830)	1FN3900-4WC00-0BA1		56.2/58.9 (124/130)	

Type of connection:

Frame sizes 1FN3100 to 1FN3900

Connection cover prepared for separate power and signal cables

B

¹⁾ For water cooling with inlet temperature 35 °C (95 °F).

²⁾ A reduction of up to 30 % must be expected in case of motor standstill, at very low speeds, or with very short traverse paths.

³⁾ Velocity values refer to a converter DC link voltage of 600 V DC.

Synchronous motors

Linear motors for SINAMICS S120

1FN3 standard type linear motors
Version for peak load – water cooling

Selection and Ordering Data

Motor type Primary section (continued)	Rated current	Maxi- mum current	Calcu- lated power	SINAMICS S120 Motor Module		Power cable with complete shield			
	I_{rated} ¹⁾	I_{MAX}	P_{calc}	Required rated current	Booksize format	Motor connection via adapter cable with power connector for increased velocity/acceleration			
						Pre-assembled adapter cable for motor	Power con- nector	Cable- cross- section ⁴⁾	Pre-assembled basic cable to converter
	A	A	kW (HP)	A	Order No.	Order No.	Size	mm ²	Order No.
1FN3450-2WA50-...	8.6	25.3	15.9 (21.3)	18/36	6SL312  -  TE21-8AA3	6FX7002-5LM62-	1	4 x 2.5	6FX8002-5CS11-
1FN3450-2WC00-...	18.8	55.3	23.1 (31)	30/56	6SL312  - 1 TE23-0AA3	6FX7002-5LM62-	1	4 x 2.5	6FX8002-5CS11-
1FN3450-2WE00-...	33.8	99.7	32.6 (43.7)	60/113	6SL312  - 1 TE26-0AA3	6FX7002-5LM82-	1.5	4 x 6	6FX8002-5CS54-
1FN3450-3WB00-...	17.9	52.7	27.5 (36.9)	30/56	6SL312  - 1 TE23-0AA3	6FX7002-5LM62-	1	4 x 2.5	6FX8002-5CS11-
1FN3450-3WB50-...	22.8	67.3	31.1 (41.7)	45/85	6SL312  - 1 TE24-5AA3	6FX7002-5LM72-	1.5	4 x 4	6FX8002-5CS54-
1FN3450-3WC00-...	28.1	83.0	34.6 (46.4)	45/85	6SL312  - 1 TE24-5AA3	6FX7002-5LM72-	1.5	4 x 4	6FX8002-5CS54-
1FN3450-3WE00-...	50.7	149.6	48.9 (65.6)	132/210	6SL312  - 1 TE31-3AA3	6FX7002-5LM02-	1.5	4 x 16	6FX8002-5CS24-
1FN3450-4WB00-...	23.8	70.3	36.7 (49.2)	45/85	6SL312  - 1 TE24-5AA3	6FX7002-5LM72-	1.5	4 x 4	6FX8002-5CS54-
1FN3450-4WB50-...	30.4	89.8	41.4 (55.5)	60/113	6SL312  - 1 TE26-0AA3	6FX7002-5LM82-	1.5	4 x 6	6FX8002-5CS54-
1FN3450-4WC00-...	37.5	110.6	46.2 (61.9)	60/113	6SL312  - 1 TE26-0AA3	6FX7002-5LM32-	1.5	4 x 10	6FX8002-5CS64-
1FN3450-4WE00-...	67.6	199.5	65.3 (87.5)	132/210	6SL312  - 1 TE31-3AA3	6FX7008-1BB61- ⁵⁾	–	4 x 25	6FX7008-1BB25- ⁶⁾
1FN3600-2WA50-...	12.4	36.0	21.9 (29.4)	18/36	6SL312  -  TE21-8AA3	6FX7002-5LM62-	1	4 x 2.5	6FX8002-5CS11-
1FN3600-3WB00-...	23.2	67.3	35.4 (47.5)	45/85	6SL312  - 1 TE24-5AA3	6FX7002-5LM72-	1.5	4 x 4	6FX8002-5CS54-
1FN3600-3WC00-...	35.2	102.4	41.6 (55.8)	60/113	6SL312  - 1 TE26-0AA3	6FX7002-5LM82-	1.5	4 x 6	6FX8002-5CS54-
1FN3600-4WA30-...	22.3	64.9	41.8 (56.1)	45/85	6SL312  - 1 TE24-5AA3	6FX7002-5LM72-	1.5	4 x 4	6FX8002-5CS54-
1FN3600-4WB00-...	30.9	89.8	47.2 (63.3)	60/113	6SL312  - 1 TE26-0AA3	6FX7002-5LM82-	1.5	4 x 6	6FX8002-5CS54-
1FN3600-4WB50-...	40.8	118.5	52.2 (70)	85/141	6SL312  - 1 TE28-5AA3	6FX7002-5LM32-	1.5	4 x 10	6FX8002-5CS64-
1FN3600-4WC00-...	46.9	136.5	55.5 (74.4)	85/141	6SL312  - 1 TE28-5AA3	6FX7002-5LM32-	1.5	4 x 10	6FX8002-5CS64-
1FN3900-2WB00-...	24.7	69.5	34.5 (46.3)	45/85	6SL312  - 1 TE24-5AA3	6FX7002-5LM72-	1.5	4 x 4	6FX8002-5CS54-
1FN3900-2WC00-...	36.7	103.3	41.0 (55)	60/113	6SL312  - 1 TE26-0AA3	6FX7002-5LM32-	1.5	4 x 10	6FX8002-5CS64-
1FN3900-3WB00-...	40.6	114.0	54.5 (73.1)	85/141	6SL312  - 1 TE28-5AA3	6FX7002-5LM32-	1.5	4 x 10	6FX8002-5CS64-
1FN3900-4WB00-...	49.4	138.9	68.9 (92.4)	132/210	6SL312  - 1 TE31-3AA3	6FX7002-5LM32-	1.5	4 x 10	6FX8002-5CS64-
1FN3900-4WB50-...	60.6	170.3	76.3 (102.3)	132/210	6SL312  - 1 TE31-3AA3	6FX7002-5LM02-	1.5	4 x 16	6FX8002-5CS24-
1FN3900-4WC00-...	73.5	206.5	81.9 (109.8)	132/210	6SL312  - 1 TE31-3AA3	6FX7008-1BB61- ⁵⁾	–	4 x 25	6FX7008-1BB25- ⁶⁾
Cooling:					0 1				
Internal air cooling									
External air cooling									
Motor Module:					1 2				
Single Motor Module									
Double Motor Module									
For length code as well as power and signal cables, see Connection system MOTION-CONNECT.									

Designation	Order No.
Pre-assembled signal cable with M17 connector	
• 1FN3100/1FN3150 motors	6FX7002-2SL01-....
• 1FN3300 to 1FN3900 motors	6FX7002-2SL02-....

⁴⁾ The current carrying capacity of the power cables complies with EN 60204-1 for installation type C under continuous operating conditions at an ambient air temperature of 40 °C (104 °F).

⁵⁾ Sold by the meter only (4 x 16 mm²). Connected to primary section with 16 mm² (< 1.5 m (4.92 ft)) then routed onwards through terminal box with 25 mm².

⁶⁾ Sold by the meter only (4 x 25 mm²).

Synchronous motors

Linear motors for SINAMICS S120

1FN3 standard type linear motors Version for continuous load – water cooling

Selection and Ordering Data

Feedrate force		Maximum velocity ³⁾		1FN3 linear motors – Version for continuous load Water cooling		Weight, approx.	
F_{rated} ¹⁾²⁾	F_{MAX}	v_{MAX} at F_{MAX}	v_{MAX} at F_{rated}	Primary section	Secondary section	Primary section without/with precision cooling	Secondary section without/with heatsink profiles
N (lb _f)	N (lb _f)	m/min (ft/min)	m/min (ft/min)	Order No.	Order No.	kg (lb)	kg (lb)
150 (34)	260 (58)	242 (794)	435 (1 427)	1FN3050-1ND00-0EA1	1FN3050-4SA00-0AA0	1.9/2.3 (4.2/5.1)	0.4/0.5 (0.9/1.1)
150 (34)	260 (58)	242 (794)	435 (1 427)	1FN3050-1ND00-0FA1		1.9/2.3 (4.2/5.1)	
300 (67)	510 (115)	108 (354)	202 (663)	1FN3050-2NB80-0EA1		3.2/3.9 (7.1/8.6)	
300 (67)	510 (115)	108 (354)	202 (663)	1FN3050-2NB80-0FA1		3.2/3.9 (7.1/8.6)	
300 (67)	510 (115)	117 (384)	214 (702)	1FN3100-1NC00-0BA1	1FN3100-4SA00-0AA0	3/3.5 (6.6/7.7)	0.7/0.8 (1.5/1.8)
605 (136)	1 020 (229)	170 (558)	307 (1 007)	1FN3100-2NC80-0BA1		5.1/5.9 (11.3/13.1)	
905 (203)	1 530 (344)	115 (337)	211 (692)	1FN3100-3NC00-0BA1		7.3/8.3 (16.1/18.03)	
1 205 (271)	2 040 (459)	169 (555)	305 (1 001)	1FN3100-4NC80-0BA1		10/11.9 (22.1/26.2)	
455 (102)	770 (173)	129 (423)	234 (768)	1FN3150-1NC20-0BA1	1FN3150-4SA00-0AA0	4.1/4.6 (9.0/10.1)	1.2/1.3 (2.7/2.9)
905 (203)	1 530 (344)	110 (361)	201 (660)	1FN3150-2NB80-0BA1		7.2/8.1 (15.9/17.9)	
1 360 (306)	2 300 (517)	163 (535)	292 (958)	1FN3150-3NC70-0BA1		10.5/11.6 (23.2/25.6)	
1 810 (407)	3 060 (688)	109 (358)	200 (656)	1FN3150-4NB80-0BA1		13.8/15.2 (30.4/33.5)	
865 (195)	1 470 (331)	129 (423)	230 (755)	1FN3300-1NC10-0BA1	1FN3300-4SA00-0AA0	8.8/9.5 (19.4/20.9)	2.4/2.6 (5.3/5.7)
1 730 (389)	2 940 (661)	127 (417)	228 (748)	1FN3300-2NC10-0BA1		16.1/17.2 (35.5/37.9)	
2 595 (583)	4 400 (989)	144 (473)	257 (843)	1FN3300-3NC40-0BA1		22.8/24.3 (50.3/53.6)	
3 460 (778)	5 870 (1 320)	109 (358)	196 (643)	1FN3300-4NB80-0BA1		30.4/32.3 (67.0/71.2)	
2 595 (583)	4 400 (989)	153 (502)	271 (889)	1FN3450-2NC50-0BA1	1FN3450-4SA00-0AA0	22/23.2 (48.5/51.2)	3.8/4 (8.4/8.8)
3 890 (875)	6 600 (1 484)	152 (499)	270 (886)	1FN3450-3NC50-0BA1		32/32.7 (70.6/72.1)	
5 185 (1 166)	8 810 (1 981)	106 (348)	190 (623)	1FN3450-4NB80-0BA1		42.3/44.4 (93.3/97.9)	
3 460 (778)	5 870 (1 320)	112 (368)	200 (656)	1FN3600-2NB80-0BA1	1FN3600-4SA00-0AA0	28.9/30.4 (63.7/67.0)	4.6/5 (10.1/11)
5 185 (1 166)	8 810 (1 981)	111 (364)	199 (653)	1FN3600-3NB80-0BA1		42.9/45.0 (94.6/99.2)	
6 915 (1 555)	11 740 (2 639)	111 (364)	199 (653)	1FN3600-4NB80-0BA1		56.6/59.2 (124.8/130.54)	
5 185 (1 166)	8 810 (1 981)	71 (233)	130 (427)	1FN3900-2NB20-0BA1	1FN3900-4SA00-0AA0	42.4/44.2 (93.5/97.5)	7.5/7.9 (16.5/17.4)
7 780 (1 749)	13 210 (2 970)	71 (233)	129 (423)	1FN3900-3NB20-0BA1		62/64.5 (136.7/142.2)	
10 375 (2 332)	17 610 (3 959)	70 (230)	129 (423)	1FN3900-4NB20-0BA1		82.2/85.4 (181.3/188.3)	

Type of connection:

Frame sizes 1FN3100 to 1FN3900

Connection cover prepared for separate power and signal cables

Frame size 1FN3050

Permanently connected power and signal cables with open core ends

Length: 2 m (6.56 ft)

Frame size 1FN3050

Permanently connected power and signal cables pre-assembled, with connectors

Length: 0.5 m (1.64 ft)

B

E

F

¹⁾ For water cooling with inlet temperature 35 °C (95 °F).

²⁾ A reduction of up to 30 % must be expected in case of motor standstill, at very low speeds, or with very short traverse paths.

³⁾ Velocity values refer to a converter DC link voltage of 600 V DC.

Synchronous motors

Linear motors for SINAMICS S120

1FN3 standard type linear motors
Version for continuous load – water cooling

Selection and Ordering Data

Motor type Primary section (continued)	Rated current	Maxi- mum current	Calcu- lated power	SINAMICS S120 Motor Module		Power cable with complete shield Motor connection via adapter cable with power connector for increased velocity/acceleration			
	$I_{\text{rated}}^{1)}$	I_{MAX}	P_{calc}	Required rated current	Booksize format	Pre-assembled adapter cable for motor Order No.	Power con- nector Size	Cable cross- section ⁵⁾ mm ²	Pre-assembled basic cable to converter Order No.
	A	A	kW (HP)	A	Order No.				
1FN3050-1ND...	2.8	5.9	1.8 (2.4)	3/6	6SL312 ■ - ■ TE13-0AA3	⁶⁾	1	4 x 2.5	6FX8002-5CS11-
1FN3050-1ND...	2.8	5.9	1.8 (2.4)	3/6	6SL312 ■ - ■ TE13-0AA3	⁶⁾	1	4 x 2.5	6FX8002-5CS11-
1FN3050-2NB...	2.8	5.9	2.4 (3.2)	3/6	6SL312 ■ - ■ TE13-0AA3	⁶⁾	1	4 x 2.5	6FX8002-5CS11-
1FN3050-2NB...	2.8	5.9	2.4 (3.2)	3/6	6SL312 ■ - ■ TE13-0AA3	⁶⁾	1	4 x 2.5	6FX8002-5CS11-
1FN3100-1NC...	2.8	5.9	2.1 (2.8)	3/6	6SL312 ■ - ■ TE13-0AA3	6FX7002-5LM42-	1	4 x 2.5	6FX8002-5CS11-
1FN3100-2NC...	8	16.5	5.2 (7)	9/18	6SL312 ■ - ■ TE21-0AA3	6FX7002-5LM42-	1	4 x 2.5	6FX8002-5CS11-
1FN3100-3NC...	8.5	17.6	6.3 (8.5)	9/18	6SL312 ■ - ■ TE21-0AA3	6FX7002-5LM42-	1	4 x 2.5	6FX8002-5CS11-
1FN3100-4NC...	15.9	33.1	10.3 (13.8)	18/36	6SL312 ■ - ■ TE21-8AA3	6FX7002-5LM42-	1	4 x 2.5	6FX8002-5CS11-
1FN3150-1NC...	4.5	9.4	3.2 (4.3)	5/10	6SL312 ■ - ■ TE15-0AA3	6FX7002-5LM42-	1	4 x 2.5	6FX8002-5CS11-
1FN3150-2NB...	8	16.5	5.9 (7.9)	9/18	6SL312 ■ - ■ TE21-0AA3	6FX7002-5LM42-	1	4 x 2.5	6FX8002-5CS11-
1FN3150-3NC...	16.9	35.2	10.8 (14.5)	18/36	6SL312 ■ - ■ TE21-8AA3	6FX7002-5LM42-	1	4 x 2.5	6FX8002-5CS11-
1FN3150-4NB...	15.9	33.1	11.7 (15.7)	18/36	6SL312 ■ - ■ TE21-8AA3	6FX7002-5LM42-	1	4 x 2.5	6FX8002-5CS11-
1FN3300-1NC...	8.1	17.1	5.4 (7.2)	9/18	6SL312 ■ - ■ TE21-0AA3	6FX7002-5LM62-	1	4 x 2.5	6FX8002-5CS11-
1FN3300-2NC...	16.2	34.1	10.8 (14.5)	18/36	6SL312 ■ - ■ TE21-8AA3	6FX7002-5LM62-	1	4 x 2.5	6FX8002-5CS11-
1FN3300-3NC...	27.3	57.4	17.4 (23.3)	30/56 ⁴⁾	6SL312 ■ - 1 TE23-0AA3	6FX7002-5LM72-	1.5	4 x 4	6FX8002-5CS41-
1FN3300-4NB...	28.4	59.6	19.8 (26.6)	30/56 ⁴⁾	6SL312 ■ - 1 TE23-0AA3	6FX7002-5LM72-	1.5	4 x 4	6FX8002-5CS41-
1FN3450-2NC...	28.4	59.6	17.5 (23.5)	30/56 ⁴⁾	6SL312 ■ - 1 TE23-0AA3	6FX7002-5LM72-	1.5	4 x 4	6FX8002-5CS41-
1FN3450-3NC...	42.5	89.5	26.2 (35.1)	45/85 ⁴⁾	6SL312 ■ - 1 TE24-5AA3	6FX7002-5LM32-	1.5	4 x 10	6FX8002-5CS64-
1FN3450-4NB...	40.8	85.8	28.1 (37.7)	45/85 ⁴⁾	6SL312 ■ - 1 TE24-5AA3	6FX7002-5LM32-	1.5	4 x 10	6FX8002-5CS64-
1FN3600-2NB...	28.4	59.6	19.1 (25.6)	30/56 ⁴⁾	6SL312 ■ - 1 TE23-0AA3	6FX7002-5LM72-	1.5	4 x 4	6FX8002-5CS41-
1FN3600-3NB...	42.5	89.5	28.5 (38.2)	45/85 ⁴⁾	6SL312 ■ - 1 TE24-5AA3	6FX7002-5LM32-	1.5	4 x 10	6FX8002-5CS64-
1FN3600-4NB...	56.7	119.3	38 (51)	60/113 ⁴⁾	6SL312 ■ - 1 TE26-0AA3	6FX7002-5LM02-	1.5	4 x 16	6FX8002-5CS24-
1FN3900-2NB...	28.4	59.6	22 (29.5)	30/56 ⁴⁾	6SL312 ■ - 1 TE23-0AA3	6FX7002-5LM72-	1.5	4 x 4	6FX8002-5CS41-
1FN3900-3NB...	42.5	89.5	32.9 (44.1)	45/85 ⁴⁾	6SL312 ■ - 1 TE24-5AA3	6FX7002-5LM32-	1.5	4 x 10	6FX8002-5CS64-
1FN3900-4NB...	56.7	119.3	43.8 (58.7)	60/113 ⁴⁾	6SL312 ■ - 1 TE26-0AA3	6FX7002-5LM02-	1.5	4 x 16	6FX8002-5CS24-
Cooling: Internal air cooling External air cooling					0 1				
Motor Module: Single Motor Module Double Motor Module					1 2				
For length code as well as power and signal cables, see Connection system MOTION-CONNECT.									

Designation	Order No.
Pre-assembled signal cable with M17 connector	
• 1FN3100/1FN3150 motors	6FX7002-2SL01-....
• 1FN3300 to 1FN3900 motors	6FX7002-2SL02-....

⁴⁾ Power modules are designed for feedrate force F_{rated} . If feedrate force F_{MAX} is utilized, the next largest power module must be used. If a power module with a higher rating is used, you must check whether the specified power cable can be connected to it.

⁵⁾ The current carrying capacity of the power cables complies with EN 60204-1 for installation type C under continuous operating conditions at an ambient air temperature of 40 °C (104 °F).

⁶⁾ Permanently connected power and signal cables.

Synchronous motors

Linear motors for SINAMICS S120

1FN3 standard type linear motors

Water cooling

Selection and Ordering Data

1FN3 linear motors Type	Optional components Secondary section cover		Cover end pieces for secondary section cover ²⁾ Retaining of the integrated cover without heat sink profiles
	Integrated ¹⁾	Segmented	
	Order No.	Order No.	
1FN3050-...	1FN3050-0TB00-1 ■ ■ 0	1FN3050-4TP00-1A ■ ■	1FN3050-0TC00-0AA0
1FN3100-...	1FN3100-0TB00-1 ■ ■ 0	1FN3100-4TP00-1A ■ ■	1FN3100-0TC00-0AA0
1FN3150-...	1FN3150-0TB00-1 ■ ■ 0	1FN3150-4TP00-1A ■ ■	1FN3150-0TC00-0AA0
1FN3300-...	1FN3300-0TB00-1 ■ ■ 0	1FN3300-4TP00-1A ■ ■	1FN3300-0TC00-0AA0
1FN3450-...	1FN3450-0TB00-1 ■ ■ 0	1FN3450-4TP00-1A ■ ■	1FN3450-0TC00-0AA0
1FN3600-...	1FN3600-0TB00-1 ■ ■ 0	1FN3600-4TP00-1A ■ ■	—
1FN3900-...	1FN3900-0TB00-1 ■ ■ 0	1FN3900-4TP00-1A ■ ■	—

Number of secondary sections	0	A	Number of secondary sections for all frame sizes	2.5	C	5
	10	B		3	D	0
	20	C		3.5	D	5
	30	D		4	E	0
	40	E		5	F	0
	50	F				
	0	A	Number of secondary sections for frame sizes 1FN3600/1FN3900	5.5	F	5
	1	B		6.5	G	5
	2	C				
	3	D				
	4	E				
	5	F				
	6	G				
	7	H				
	8	J				
	9	K				

1FN3 linear motors Version for peak load	Optional components Precision cooler
Type	Order No.
1FN3050-2W...	1FN3050-2PK00-0AA0
1FN3100-2W...	1FN3100-2PK00-0AA0
1FN3100-3W...	1FN3100-3PK00-0AA0
1FN3100-4W...	1FN3100-4PK00-0AA0
1FN3100-5W...	1FN3100-5PK00-0AA0
1FN3150-2W...	1FN3150-2PK00-0AA0
1FN3150-3W...	1FN3150-3PK00-0AA0
1FN3150-4W...	1FN3150-4PK00-0AA0
1FN3150-5W...	1FN3150-5PK00-0AA0
1FN3300-2W...	1FN3300-2PK00-0AA0
1FN3300-3W...	1FN3300-3PK00-0AA0
1FN3300-4W...	1FN3300-4PK00-0AA0
1FN3450-2W...	1FN3450-2PK00-0AA0
1FN3450-3W...	1FN3450-3PK00-0AA0
1FN3450-4W...	1FN3450-4PK00-0AA0
1FN3600-2W...	1FN3600-2PK00-0AA0
1FN3600-3W...	1FN3600-3PK00-0AA0
1FN3600-4W...	1FN3600-4PK00-0AA0
1FN3900-2W...	1FN3900-2PK00-0AA0
1FN3900-3W...	1FN3900-3PK00-0AA0
1FN3900-4W...	1FN3900-4PK00-0AA0

1FN3 linear motors Version for continuous load	Optional components Precision cooler
Type	Order No.
1FN3050-1N...	1FN3050-1PK10-0AA0
1FN3050-2N...	1FN3050-2PK10-0AA0
1FN3100-1N...	1FN3100-1PK10-0AA0
1FN3100-2N...	1FN3100-2PK10-0AA0
1FN3100-3N...	1FN3100-3PK10-0AA0
1FN3100-4N...	1FN3100-4PK10-0AA0
1FN3150-1N...	1FN3150-1PK10-0AA0
1FN3150-2N...	1FN3150-2PK10-0AA0
1FN3150-3N...	1FN3150-3PK10-0AA0
1FN3150-4N...	1FN3150-4PK10-0AA0
1FN3300-1N...	1FN3300-1PK10-0AA0
1FN3300-2N...	1FN3300-2PK10-0AA0
1FN3300-3N...	1FN3300-3PK10-0AA0
1FN3300-4N...	1FN3300-4PK10-0AA0
1FN3450-2N...	1FN3450-2PK10-0AA0
1FN3450-3N...	1FN3450-3PK10-0AA0
1FN3450-4N...	1FN3450-4PK10-0AA0
1FN3600-2N...	1FN3600-2PK10-0AA0
1FN3600-3N...	1FN3600-3PK10-0AA0
1FN3600-4N...	1FN3600-4PK10-0AA0
1FN3900-2N...	1FN3900-2PK10-0AA0
1FN3900-3N...	1FN3900-3PK10-0AA0
1FN3900-4N...	1FN3900-4PK10-0AA0

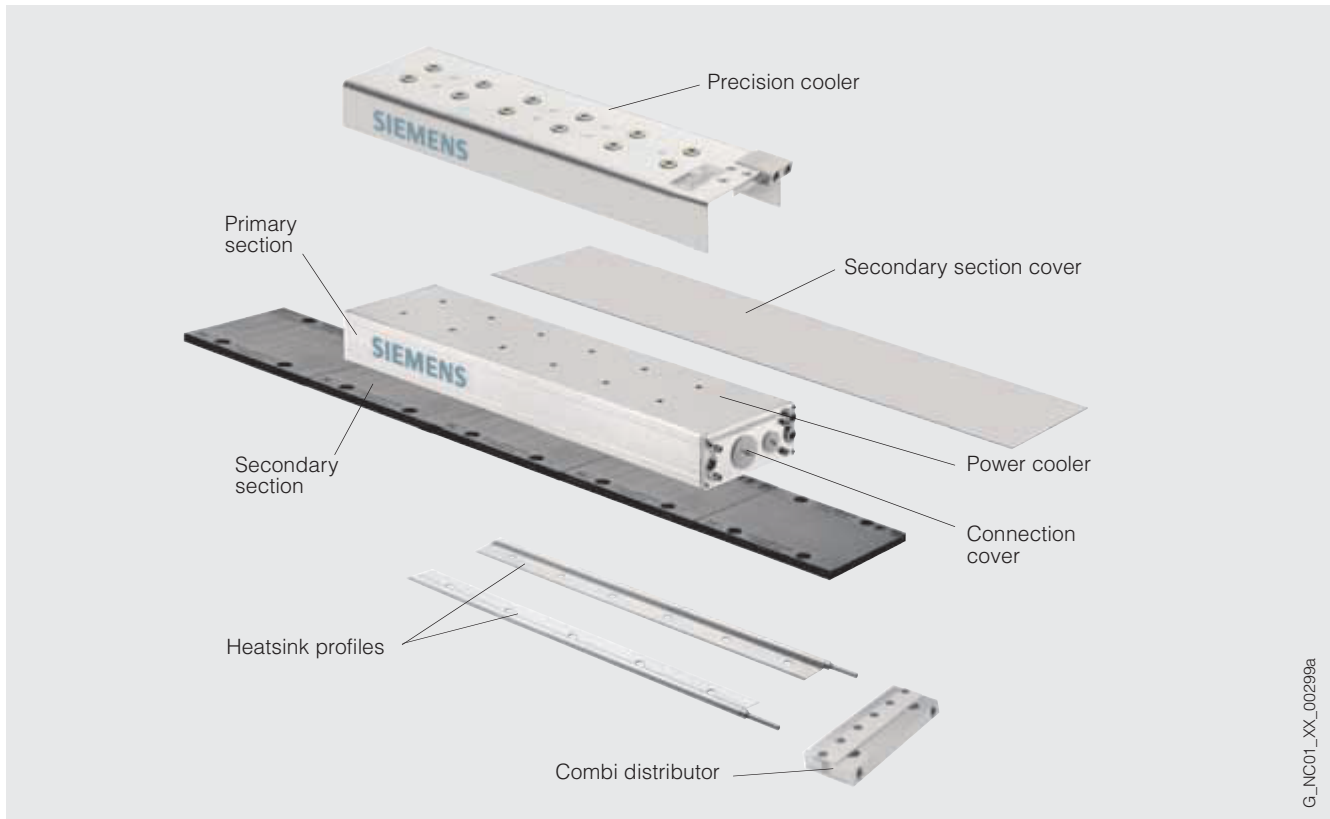
¹⁾ Integrated cover for several secondary sections. The maximum length of the secondary section cover is 6 m (19.7 ft). For the following frame sizes, this corresponds to: 1FN3050 to 1FN3150, a maximum number of 50 secondary sections (AB to FA). 1FN3300 to 1FN3900, a maximum number of 32 secondary sections (AB to DC).

²⁾ The secondary section end pieces are designed to allow clamping of the integrated secondary section cover.

Synchronous motors

Linear motors for SINAMICS S120

1FN3 standard type linear motors
Water cooling



G_NC01_XX_00299a

6

Selection and Ordering Data

Linear motors Type	Optional components		Secondary section end pieces ²⁾		
	Heatsink profile ³⁾	Combi distributor Parallel water connection for all heatsink profiles	Combi adapter Combi adapter and end piece can only be implemented together. Single-sided water connection	Combi end piece	
				Water diversion	
	Order No.	Order No.	Order No.	Order No.	
1FN3050-...	1FN3002-0TK0 ■ -1 ■ ■ 0	1FN3050-0TJ01-0AA0	1FN3050-0TG01-0AA0	1FN3050-0TF01-0AA0	
1FN3100-...	1FN3002-0TK0 ■ -1 ■ ■ 0	1FN3100-0TJ01-0AA0	1FN3100-0TG01-0AA0	1FN3100-0TF01-0AA0	
1FN3150-...	1FN3002-0TK0 ■ -1 ■ ■ 0	1FN3150-0TJ01-0AA0	1FN3150-0TG01-0AA0	1FN3150-0TF01-0AA0	
1FN3300-...	1FN3003-0TK0 ■ -1 ■ ■ 0	1FN3300-0TJ01-0AA0	1FN3300-0TG01-0AA0	1FN3300-0TF01-0AA0	
1FN3450-...	1FN3003-0TK0 ■ -1 ■ ■ 0	1FN3450-0TJ01-0AA0	1FN3450-0TG01-0AA0	1FN3450-0TF01-0AA0	
1FN3600-...	1FN3004-0TK0 ■ -1 ■ ■ 0	1FN3600-0TJ01-0AA0	—	—	
1FN3900-...	1FN3005-0TK0 ■ -1 ■ ■ 0	1FN3900-0TJ01-0AA0	—	—	

With plug-in coupling prepared for connection to combi distributor with plug-in coupling, combi adapter with plug-in coupling, combi end piece with plug-in coupling or as intermediate unit for heat-sink profile with cable grommet nipple

Frame sizes 1FN3050 to 1FN3450⁴⁾:
Grommet nipple only on right end of secondary section track

Frame sizes 1FN3600/1FN3900:
Grommet nipple on both ends of secondary section track

Frame sizes 1FN3050 to 1FN3450⁴⁾:
Grommet nipple only on left end of secondary section track

4

**Number of
secondary sections**

A	0
B	10
C	20
A	0
B	1
C	2
D	3
E	4
F	5
G	6
H	7
J	8
K	9

- ³⁾ Frame sizes 1FN3050 to 1FN3450:
2 units per secondary section track.
1FN3600 to 1FN3900:
3 units per secondary section track.
The maximal available length of a single-part heat-sink profile is 3 m (9.84 ft).
For the following frame sizes, this corresponds to:
1FN3050 to 1FN3150, a maximum of 24 secondary sections (AB to CE)
1FN3300 to 1FN3900, a maximum of 16 secondary sections (AB to BG).
- ⁴⁾ Available only in length AC (equals 2 secondary sections). The difference in the secondary section track length must be compensated through assembly with the heatsink profile 1FN300.-0TK04-1..0.