

System overview

Clicking to SiePortal

6SL3255-0AA00-5AA0



SINAMICS V90 basic servo drive system

Selection and ordering data

SIMOTICS S-1FL6 servomotors – Configuration with SINAMICS V90 servo drive
Further info in section SIMOTICS S-1FL6 servomotors.

Max. speed	Rated power ¹⁾	Static torque	Rated torque ¹⁾	Max. torque ¹⁾	Rated current	Max. current		Torque constant	Moment of inertia of rotor	Recommended load to motor inertia ratio, max.	Weight ²⁾
n_{max}	P_N at $\Delta T=100\text{ K}$	M_0 at $\Delta T=100\text{ K}$	M_N at $\Delta T=100\text{ K}$	M_{max}	I_N at $\Delta T=100\text{ K}$	I_{max}	Article No.		$J_{without\ brake}$ $J_{with\ brake}$		$m_{without\ brake}$ $m_{with\ brake}$
r/min	kW (hp)	Nm	Nm	Nm	A	A		Nm/A	10^{-4} kgm^2		kg

SIMOTICS S-1FL6 Low Inertia servomotors – High dynamic performance**Shaft height 20 – Rated speed n_N 3000 r/min**

5000	0.05 (0.07)	0.16	0.16	0.48	1.2	3.6	1FL6022-2AF21-1 ■ ■ 1	0.14	0.031	0.038	30×	0.47	0.7
5000	0.10 (0.14)	0.32	0.32	0.96	1.2	3.6	1FL6024-2AF21-1 ■ ■ 1	0.29	0.052	0.059	30×	0.63	0.86

Shaft height 30 – Rated speed n_N 3000 r/min

5000	0.20 (0.27)	0.64	0.64	1.91	1.4	4.2	1FL6032-2AF21-1 ■ ■ 1	0.48	0.214	0.245	30×	1.02	1.48
5000	0.40 (0.54)	1.27	1.27	3.82	2.6	7.8	1FL6034-2AF21-1 ■ ■ 1	0.49	0.351	0.381	30×	1.46	1.92

Shaft height 40 – Rated speed n_N 3000 r/min

5000	0.75 (1.02)	2.39	2.39	7.2	4.7	14.2	1FL6042-2AF21-1 ■ ■ 1	0.51	0.897	1.06	20×	2.8	3.68
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Shaft height 40 – Rated speed n_N 3000 r/min

5000	1.00 (1.36)	3.18	3.18	9.54	6.3	18.9	1FL6044-2AF21-1 ■ ■ 1	0.51	1.15	1.31	20×	3.39	4.2
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Shaft height 50 – Rated speed n_{NN} 3000 r/min

5000	1.50 (2.04)	4.78	4.78	14.3	10.6	31.8	1FL6052-2AF21-2 ■ ■ 1	0.46	2.04	2.24	15×	5.45	6.96
5000	2.00 (2.72)	6.37	6.37	19.1	11.6	34.8	1FL6054-2AF21-2 ■ ■ 1	0.55	2.62	2.82		6.66	8.2

SIMOTICS S-1FL6 High Inertia servomotors – Smooth operational performance**Shaft height 45 – Rated speed n_N 3000 r/min**

4000	0.4 (0.54)	1.9	1.27	3.8	1.2	3.6	1FL6042-1AF61-2 ■ ■ 1	1.1	2.7	3.2	10×	3.4	4.8
4000	0.75 (1.02)	3.5	2.39	7.2	2.1	6.3	1FL6044-1AF61-2 ■ ■ 1	1.2	5.2	5.7		5.2	6.6

Shaft height 65 – Rated speed n_N 2000 r/min

3000	0.75 (1.02)	4	3.58	10.7	2.5	7.5	1FL6061-1AC61-2 ■ ■ 1	1.5	8	9.1	5×	5.7	8.8
3000	1 (1.36)	6	4.78	14.3	3	9	1FL6062-1AC61-2 ■ ■ 1	1.7	11.7	13.5		7	10.1
3000	1.5 (2.04)	8	7.16	21.5	4.6	13.8	1FL6064-1AC61-2 ■ ■ 1	1.6	15.3	16.4		8.4	11.5
3000	1.75 (2.38)	11	8.36	25.1	5.3	15.9	1FL6066-1AC61-2 ■ ■ 1	1.7	22.6	23.7		11.1	14.2
3000	2 (2.72)	15	9.55	28.7	5.9	17.7	1FL6067-1AC61-2 ■ ■ 1	1.7	29.9	31		13.7	16.8

Shaft height 90 – Rated speed n_N 2000 r/min

3000	2.5 (3.40)	15	11.9	35.7	7.8	23.4	1FL6090-1AC61-2 ■ ■ 1	1.6	47.4	56.3	5×	15.4	21.5
3000	3.5 (4.76)	22	16.7	50	11	33	1FL6092-1AC61-2 ■ ■ 1	1.6	69.1	77.9		19.8	25.9
2500	5 (6.80)	30	23.9	70	12.6	36.9	1FL6094-1AC61-2 ■ ■ 1	2.0	90.8	99.7		24.4	30.5
2000	7 (9.52)	40	33.4	90	13.2	35.6	1FL6096-1AC61-2 ■ ■ 1	2.7	134.3	143.2		33.3	39.3

Encoder type

Incremental encoder TTL, 2500 S/R

Absolute encoder 20-bit single-turn + 12-bit multi-turn

1FL6 Low Inertia: Absolute encoder 21-bit single-turn

A
L
M**Shaft end****Holding brake**

Feather key Without

Feather key With

Plain shaft Without

Plain shaft With

A
B
G
HDetailed information on SINAMICS V90 is available on the internet at: www.siemens.com/sinamics-v90In addition, the Siemens Product Configurator can be used on the internet: www.siemens.com/spc

¹⁾ Rated torque, rated power and maximum torque listed in the table above allow for a production tolerance of 10 %.

²⁾ Motor weight with incremental encoder.

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System overview

SINAMICS V90 basic servo drive system

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	SINAMICS V90 servo drive Further info in section SINAMICS V90 servo drive.		Frame size	Line filter			Recommended standard fuse			Recommended circuit breaker	
	Max. motor power			With one of the recommended line filters, EN 61008-3 category C2 can be reached in combination with SINAMICS V90. For more information please refer to SINAMICS V90 Operating instructions.			corresponding to IEC standard		corresponding to UL standard		corresponding to IEC standard/ UL standard
	kW (hp)	Article No.		Line supply voltage	I_N		I_N	Class			
	V	A	Article No.	A	Article No.		A	Article No.	A		Article No.
	SINAMICS V90 servo drive										
	Line supply 200 ... 240 V 1 AC/3 AC										
	0.10 (0.14)	6SL3210-5FB10-1U ■ 2	FSA	200 ... 240 1 AC 18	6SL3203-0BB21-8VA1	6	3NA3801	6	Listed JDDZ	3RV2011-1EA10	
				200 ... 240 3 AC 5	6SL3203-0BE15-0VA0						
				200 ... 240 1 AC 18	6SL3203-0BB21-8VA1						
				200 ... 240 3 AC 5	6SL3203-0BE15-0VA0						
	Line supply 200 ... 240 V 1 AC/3 AC										
	0.20 (0.27)	6SL3210-5FB10-2U ■ 2	FSA	200 ... 240 1 AC 18	6SL3203-0BB21-8VA1	6	3NA3801	6	Listed JDDZ	3RV2011-1EA10	
				200 ... 240 3 AC 5	6SL3203-0BE15-0VA0						
	0.40 (0.54)	6SL3210-5FB10-4U ■ 1	FSB	200 ... 240 1 AC 18	6SL3203-0BB21-8VA1	10	3NA3803	10		3RV2011-1HA10	
				200 ... 240 3 AC 5	6SL3203-0BE15-0VA0					3RV2011-1EA10	
	Line supply 200 ... 240 V 1 AC/3 AC										
	0.75 (1.02)	6SL3210-5FB10-8U ■ 0	FSC	200 ... 240 1 AC 18	6SL3203-0BB21-8VA1	16	3NA3805	20	Listed JDDZ	3RV2011-1KA10	
				200 ... 240 3 AC 5	6SL3203-0BE15-0VA0					3RV2011-1HA10	
	Line supply 200 ... 240 V 3 AC										
	1.00 (1.36)	6SL3210-5FB11-0U ■ 1	FSD	200 ... 240 3 AC 12	6SL3203-0BE21-2VA0	16	3NA3805	20	Listed JDDZ	3RV2011-1JA10	
	Line supply 200 ... 240 V 3 AC										
	1.50 (2.04)	6SL3210-5FB11-5U ■ 0	FSD	200 ... 240 3 AC 12	6SL3203-0BE21-2VA0	25	3NA3810	25	Listed JDDZ	3RV2011-4AA10	
	2.00 (2.72)	6SL3210-5FB12-0U ■ 0									
	SINAMICS V90 servo drive										
	Line supply 380 ... 480 V 3 AC										
	0.4 (0.54)	6SL3210-5FE10-4U ■ 0	FSA	380 ... 480 3 AC 5	6SL3203-0BE15-0VA0	6	3NA3801-6	10	Listed JDDZ	3RV2021-1DA10	
	0.75 (1.02)	6SL3210-5FE10-8U ■ 0	FSA							3RV2021-1EA10	
	Line supply 380 ... 480 V 3 AC										
	1 (1.36)	6SL3210-5FE11-0U ■ 0	FSA	380 ... 480 3 AC 5	6SL3203-0BE15-0VA0	10	3NA3803-6	10	Listed JDDZ	3RV2021-1FA10	
	1.75 (2.38)	6SL3210-5FE11-5U ■ 0	FSB		6SL3203-0BE21-2VA0			15		3RV2021-1HA10	
	2.5 (3.40)	6SL3210-5FE12-0U ■ 0				16	3NA3805-6			3RV2021-4AA10	
	Line supply 380 ... 480 V 3 AC										
	2.5 (3.40)	6SL3210-5FE12-0U ■ 0	FSB	380 ... 480 3 AC 12	6SL3203-0BE21-2VA0	16	3NA3805-6	15	Listed JDDZ	3RV2021-4AA10	
	3.5 (4.76)	6SL3210-5FE13-5U ■ 0	FSC		6SL3203-0BE22-0VA0	20	3NA3807-6	25		3RV2021-4BA10	
	5 (6.80)	6SL3210-5FE15-0U ■ 0									
	7 (9.52)	6SL3210-5FE17-0U ■ 0				25	3NA3810-6			3RV2021-4DA10	
	SINAMICS V90, pulse train (PTI) version	A									
	SINAMICS V90, PROFINET (PN) version	F									

System overview

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SINAMICS V90 basic servo drive system

Selection and ordering data

SIMOTICS S-1FL6 servomotors – Configuration with MOTION-CONNECT connection systems
Further info in section SIMOTICS S-1FL6 servomotors.

Max. speed	Rated power ¹⁾	Static torque	Rated torque ¹⁾	Max. torque ¹⁾	Rated current	Max. current		Torque constant	Moment of inertia of rotor	Recommended load to motor inertia ratio, max.	Weight ²⁾
$n_{\max}$	P_N at $\Delta T=100\text{ K}$	M_0 at $\Delta T=100\text{ K}$	M_N at $\Delta T=100\text{ K}$	$M_{\max}$	I_N at $\Delta T=100\text{ K}$	$I_{\max}$	Article No.		$J_{\text{without brake}}$ $J_{\text{with brake}}$		$m_{\text{without brake}}$ $m_{\text{with brake}}$
r/min	kW (hp)	Nm	Nm	Nm	A	A		Nm/A	10^{-4} kgm^2		kg

SIMOTICS S-1FL6 Low Inertia servomotors – High dynamic performance**Shaft height 20 – Rated speed n_N 3000 r/min**

5000	0.05 (0.07)	0.16	0.16	0.48	1.2	3.6	1FL6022-2AF21-1 ■ ■ 1	0.14	0.031	0.038	30×	0.47	0.7
5000	0.10 (0.14)	0.32	0.32	0.96	1.2	3.6	1FL6024-2AF21-1 ■ ■ 1	0.29	0.052	0.059	30×	0.63	0.86

Shaft height 30 – Rated speed n_N 3000 r/min

5000	0.20 (0.27)	0.64	0.64	1.91	1.4	4.2	1FL6032-2AF21-1 ■ ■ 1	0.48	0.214	0.245	30×	1.02	1.48
5000	0.40 (0.54)	1.27	1.27	3.82	2.6	7.8	1FL6034-2AF21-1 ■ ■ 1	0.49	0.351	0.381	30×	1.46	1.92

Shaft height 40 – Rated speed n_N 3000 r/min

5000	0.75 (1.02)	2.39	2.39	7.2	4.7	14.2	1FL6042-2AF21-1 ■ ■ 1	0.51	0.897	1.06	20×	2.8	3.68
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Shaft height 40 – Rated speed n_N 3000 r/min

5000	1.00 (1.36)	3.18	3.18	9.54	6.3	18.9	1FL6044-2AF21-1 ■ ■ 1	0.51	1.15	1.31	20×	3.39	4.2
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Shaft height 50 – Rated speed n_N 3000 r/min

5000	1.50 (2.04)	4.78	4.78	14.3	10.6	31.8	1FL6052-2AF21-2 ■ ■ 1	0.46	2.04	2.24	15×	5.45	6.96
5000	2.00 (2.72)	6.37	6.37	19.1	11.6	34.8	1FL6054-2AF21-2 ■ ■ 1	0.55	2.62	2.82		6.66	8.2

SIMOTICS S-1FL6 High Inertia servomotors – Smooth operational performance**Shaft height 45 – Rated speed n_N 3000 r/min**

4000	0.4 (0.54)	1.9	1.27	3.8	1.2	3.6	1FL6042-1AF61-2 ■ ■ 1	1.1	2.7	3.2	10×	3.4	4.8
4000	0.75 (1.02)	3.5	2.39	7.2	2.1	6.3	1FL6044-1AF61-2 ■ ■ 1	1.2	5.2	5.7		5.2	6.6

Shaft height 65 – Rated speed n_N 2000 r/min

3000	0.75 (1.02)	4	3.58	10.7	2.5	7.5	1FL6061-1AC61-2 ■ ■ 1	1.5	8	9.1	5×	5.7	8.8
3000	1 (1.36)	6	4.78	14.3	3	9	1FL6062-1AC61-2 ■ ■ 1	1.7	11.7	13.5		7	10.1
3000	1.5 (2.04)	8	7.16	21.5	4.6	13.8	1FL6064-1AC61-2 ■ ■ 1	1.6	15.3	16.4		8.4	11.5
3000	1.75 (2.38)	11	8.36	25.1	5.3	15.9	1FL6066-1AC61-2 ■ ■ 1	1.7	22.6	23.7		11.1	14.2
3000	2 (2.72)	15	9.55	28.7	5.9	17.7	1FL6067-1AC61-2 ■ ■ 1	1.7	29.9	31		13.7	16.8

Shaft height 90 – Rated speed n_N 2000 r/min

3000	2.5 (3.40)	15	11.9	35.7	7.8	23.4	1FL6090-1AC61-2 ■ ■ 1	1.6	47.4	56.3	5×	15.4	21.5
3000	3.5 (4.76)	22	16.7	50	11	33	1FL6092-1AC61-2 ■ ■ 1	1.6	69.1	77.9		19.8	25.9
2500	5 (6.80)	30	23.9	70	12.6	36.9	1FL6094-1AC61-2 ■ ■ 1	2.0	90.8	99.7		24.4	30.5
2000	7 (9.52)	40	33.4	90	13.2	35.6	1FL6096-1AC61-2 ■ ■ 1	2.7	134.3	143.2		33.3	39.3

Encoder type

Incremental encoder TTL, 2500 S/R

Absolute encoder 20-bit single-turn + 12-bit multi-turn

1FL6 Low Inertia: Absolute encoder 21-bit single-turn

A
L
M**Shaft end****Holding brake**

Feather key	Without
Feather key	With
Plain shaft	Without
Plain shaft	With

A
B
G
HDetailed information on SINAMICS V90 is available on the internet at: www.siemens.com/sinamics-v90In addition, the Siemens Product Configurator can be used on the internet: www.siemens.com/spc

¹⁾ Rated torque, rated power and maximum torque listed in the table above allow for a production tolerance of 10 %.

²⁾ Motor weight with incremental encoder.

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System overview

SINAMICS V90 basic servo drive system

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MOTION-CONNECT connection systems Further info in section MOTION-CONNECT connection systems.								
Pre-assembled power cables		Pre-assembled signal cables			Connectors			
No. of cores x conductor cross-section		SINAMICS V90 – Incremental encoder on the 1FL6 servo- motor	SINAMICS V90 – Absolute encoder on the 1FL6 servomotor	SINAMICS V90 – Brake on the 1FL6 servomotor with holding brake	Motor side for power connection	Motor side for incre- mental encoder	for absolute encoder	for brake
mm ²	Article No.	Article No.	Article No.	Article No.	Article No.	Article No.	Article No.	Article No.
MOTION-CONNECT connection systems								
4 × 0.75	6FX3002-5CK01-1 ■ ■ 0	6FX3002-2CT20-1 ■ ■ 0	6FX3002-2DB20-1 ■ ■ 0	6FX3002-5BK02-1 ■ ■ 0	6FX2003-0LL12	6FX2003-0SL12	6FX2003-0DB12	6FX2003-0LL52
4 × 0.75	6FX3002-5CK01-1 ■ ■ 0	6FX3002-2CT20-1 ■ ■ 0	6FX3002-2DB20-1 ■ ■ 0	6FX3002-5BK02-1 ■ ■ 0	6FX2003-0LL12	6FX2003-0SL12	6FX2003-0DB12	6FX2003-0LL52
4 × 0.75	6FX3002-5CK01-1 ■ ■ 0	6FX3002-2CT20-1 ■ ■ 0	6FX3002-2DB20-1 ■ ■ 0	6FX3002-5BK02-1 ■ ■ 0	6FX2003-0LL12	6FX2003-0SL12	6FX2003-0DB12	6FX2003-0LL52
4 × 0.75	6FX3002-5CK01-1 ■ ■ 0	6FX3002-2CT20-1 ■ ■ 0	6FX3002-2DB20-1 ■ ■ 0	6FX3002-5BK02-1 ■ ■ 0	6FX2003-0LL12	6FX2003-0SL12	6FX2003-0DB12	6FX2003-0LL52
4 × 2.5	6FX3002-5CK32-1 ■ ■ 0	6FX3002-2CT12-1 ■ ■ 0	6FX3002-2DB12-1 ■ ■ 0	6FX3002-5BL03-1 ■ ■ 0	6FX2003-0LL13	6FX2003-0SL13	6FX2003-0DB13	6FX2003-0LL53
MOTION-CONNECT connection systems								
4 × 1.5	6FX3002-5CL02-1 ■ ■ 0	6FX3002-2CT12-1 ■ ■ 0	6FX3002-2DB10-1 ■ ■ 0	6FX3002-5BL03-1 ■ ■ 0	6FX2003-0LL13	6FX2003-0SL13	6FX2003-0DB11	6FX2003-0LL53
4 × 1.5	6FX3002-5CL02-1 ■ ■ 0	6FX3002-2CT12-1 ■ ■ 0	6FX3002-2DB10-1 ■ ■ 0	6FX3002-5BL03-1 ■ ■ 0	6FX2003-0LL13	6FX2003-0SL13	6FX2003-0DB11	6FX2003-0LL53
4 × 2.5	6FX3002-5CL12-1 ■ ■ 0							
4 × 2.5	6FX3002-5CL12-1 ■ ■ 0	6FX3002-2CT12-1 ■ ■ 0	6FX3002-2DB10-1 ■ ■ 0	6FX3002-5BL03-1 ■ ■ 0	6FX2003-0LL13	6FX2003-0SL13	6FX2003-0DB11	6FX2003-0LL53
Length		Length		Length		Length		Drive side for incre- mental encoder Article No. Article No. 6FX2003-0SB14 6FX2003-0SB14
3 m	A D	3 m	A D	3 m	A D	3 m	A D	
5 m	A F	5 m	A F	5 m	A F	5 m	A F	
7 m ¹⁾	A H	7 m ¹⁾	A H	7 m ¹⁾	A H	7 m ¹⁾	A H	
10 m	B A	10 m	B A	10 m	B A	10 m	B A	
15 m ¹⁾	B F	15 m ¹⁾	B F	15 m ¹⁾	B F	15 m ¹⁾	B F	
20 m	C A	20 m	C A	20 m	C A	20 m	C A	

¹⁾ Only available for High Inertia motors (400 V 3 AC).

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SINAMICS V90 basic servo drive system

Selection and ordering data

SIMOTICS S-1FL6 servomotors → Configuration with adapter for mounting on Innomotics gearboxes from our product partner Innomotics

www.innomotics.com

Further info in section SIMOTICS S-1FL6 servomotors.

Max. speed	Rated power ¹⁾	Static torque	Rated torque ¹⁾	Max. torque ¹⁾	Rated current	Max. current		Torque constant	Moment of inertia of rotor	Recom- mended load to motor inertia ratio, max.	Weight ²⁾	
$n_{\max}$	P_N at $\Delta T=100\text{ K}$	M_0 at $\Delta T=100\text{ K}$	M_N at $\Delta T=100\text{ K}$	$M_{\max}$	I_N at $\Delta T=100\text{ K}$	$I_{\max}$	Article No.		$J_{\text{without brake}}$	$J_{\text{with brake}}$	$m_{\text{without brake}}$	$m_{\text{with brake}}$
r/min	kW (hp)	Nm	Nm	Nm	A	A		Nm/A	10^{-4} kgm^2		kg	kg

SIMOTICS S-1FL6 Low Inertia servomotors – High dynamic performance

Shaft height 20 – Rated speed n_N 3000 r/min

5000	0.05 (0.07)	0.16	0.16	0.48	1.2	3.6	1FL6022-2AF21-1	0.14	0.031	0.038	30×	0.47	0.7
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5000	0.10 (0.14)	0.32	0.32	0.96	1.2	3.6	1FL6024-2AF21-1	0.29	0.052	0.059	30×	0.63	0.86
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Shaft height 30 – Rated speed n_N 3000 r/min

5000	0.20 (0.27)	0.64	0.64	1.91	1.4	4.2	1FL6032-2AF21-1	0.48	0.214	0.245	30×	1.02	1.48
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5000	0.40 (0.54)	1.27	1.27	3.82	2.6	7.8	1FL6034-2AF21-1	0.49	0.351	0.381	30×	1.46	1.92
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Shaft height 40 – Rated speed n_N 3000 r/min

5000	0.75 (1.02)	2.39	2.39	7.2	4.7	14.2	1FL6042-2AF21-1	0.51	0.897	1.06	20×	2.8	3.68
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Shaft height 40 – Rated speed n_N 3000 r/min

5000	1.00 (1.36)	3.18	3.18	9.54	6.3	18.9	1FL6044-2AF21-1	0.51	1.15	1.31	20×	3.39	4.2
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Shaft height 50 – Rated speed n_N 3000 r/min

5000	1.50 (2.04)	4.78	4.78	14.3	10.6	31.8	1FL6052-2AF21-2	0.46	2.04	2.24	15×	5.45	6.96
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5000	2.00 (2.72)	6.37	6.37	19.1	11.6	34.8	1FL6054-2AF21-2	0.55	2.62	2.82		6.66	8.2
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SIMOTICS S-1FL6 High Inertia servomotors – Smooth operational performance

Shaft height 45 – Rated speed n_N 3000 r/min

4000	0.4 (0.54)	1.9	1.27	3.8	1.2	3.6	1FL6042-1AF61-2	1.1	2.7	3.2	10×	3.4	4.8
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4000	0.75 (1.02)	3.5	2.39	7.2	2.1	6.3	1FL6044-1AF61-2	1.2	5.2	5.7		5.2	6.6
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Shaft height 65 – Rated speed n_N 2000 r/min

3000	0.75 (1.02)	4	3.58	10.7	2.5	7.5	1FL6061-1AC61-2	1.5	8	9.1	5×	5.7	8.8
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3000	1 (1.36)	6	4.78	14.3	3	9	1FL6062-1AC61-2	1.7	11.7	13.5		7	10.1
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3000	1.5 (2.04)	8	7.16	21.5	4.6	13.8	1FL6064-1AC61-2	1.6	15.3	16.4		8.4	11.5
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3000	1.75 (2.38)	11	8.36	25.1	5.3	15.9	1FL6066-1AC61-2	1.7	22.6	23.7		11.1	14.2
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3000	2 (2.72)	15	9.55	28.7	5.9	17.7	1FL6067-1AC61-2	1.7	29.9	31		13.7	16.8
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Shaft height 90 – Rated speed n_N 2000 r/min

3000	2.5 (3.40)	15	11.9	35.7	7.8	23.4	1FL6090-1AC61-2	1.6	47.4	56.3	5×	15.4	21.5
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3000	3.5 (4.76)	22	16.7	50	11	33	1FL6092-1AC61-2	1.6	69.1	77.9		19.8	25.9
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2500	5 (6.80)	30	23.9	70	12.6	36.9	1FL6094-1AC61-2	2.0	90.8	99.7		24.4	30.5
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2000	7 (9.52)	40	33.4	90	13.2	35.6	1FL6096-1AC61-2	2.7	134.3	143.2		33.3	39.3
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Encoder type

Incremental encoder TTL, 2500 S/R

Absolute encoder 20-bit single-turn + 12-bit multi-turn

1FL6 Low Inertia: Absolute encoder 21-bit single-turn

A
L
M

Shaft end

Holding brake

Feather key

Without

Feather key

With

Plain shaft

Without

Plain shaft

With

A
B
G
HDetailed information on SINAMICS V90 is available on the internet at: www.siemens.com/sinamics-v90In addition, the Siemens Product Configurator can be used on the internet: www.siemens.com/spc¹⁾ Rated torque, rated power and maximum torque listed in the table above allow for a production tolerance of 10 %.²⁾ Motor weight with incremental encoder.

SINAMICS V90 basic servo drive system

1

Adapter for mounting on Innomotics gearboxes from our product partner Innomotics www.innomotics.com					Innomotics gearboxes from our product partner Innomotics www.innomotics.com					
KS coupling adapter					Helical gearbox		Parallel shaft gearbox	Bevel gearbox		Helical worm gearbox
Adapter type and size	Permissible input torque for continuous operation	Mass inertia	Maximum permissible motor speed		1-stage	2-stage, 3-stage	2-stage, 3-stage	2-stage	3-stage	2-stage
					Gearbox type					
					E	Z, D	FZ, FD	B	K	C
	Nm	10 ⁻⁴ kgm ²	r/min		Gearbox size					
-					-					
KS3.1	5.1	0.3	4500		39/49/69	19/29/39/49/59/69/79	29/39/49/69/79	19/29/39/49	39/49/69/79/89	29/39/49/69/89
KS4.1	5.1	0.59	4500		39/49/69	19/29/39/49/59/69/79	29/39/49/69/79	19/29/39/49	39/49/69/79/89	29/39/49/69/89
KS4.1	5.1	0.59	4500		39/49/69	19/29/39/49/59/69/79	29/39/49/69/79	19/29/39/49	39/49/69/79/89	29/39/49/69/89
KS5.2	16.8	1.9	4500		39/49/69/89/109/129	29/39/49/59/69/79/89/109/129	29/39/49/69/79/89/109/129	29/39/49	39/49/69/79/89/109/129/149	29/39/49/69/89
KS4.2	5.1	0.59	4500		39/49/69	19/29/39/49/59/69/79	29/39/49/69/79	19/29/39/49	39/49/69/79/89	29/39/49/69/89
KS6.2	25.8	4.5	4500		39/49/69/89/109/129/149	29/39/49/59/69/79/89/109/129/149	29/39/49/69/79/89/109/129/149	29/39/49	39/49/69/79/89/109/129/149/169	39/49/69/89
KS10.2	121	29	4500		49/69/89/109/129/149	49/59/69/79/89/109/129/149/169/189	49/69/79/89/109/129/149/169/189	49	49/69/79/89/109/129/149/169/189	49/69/89