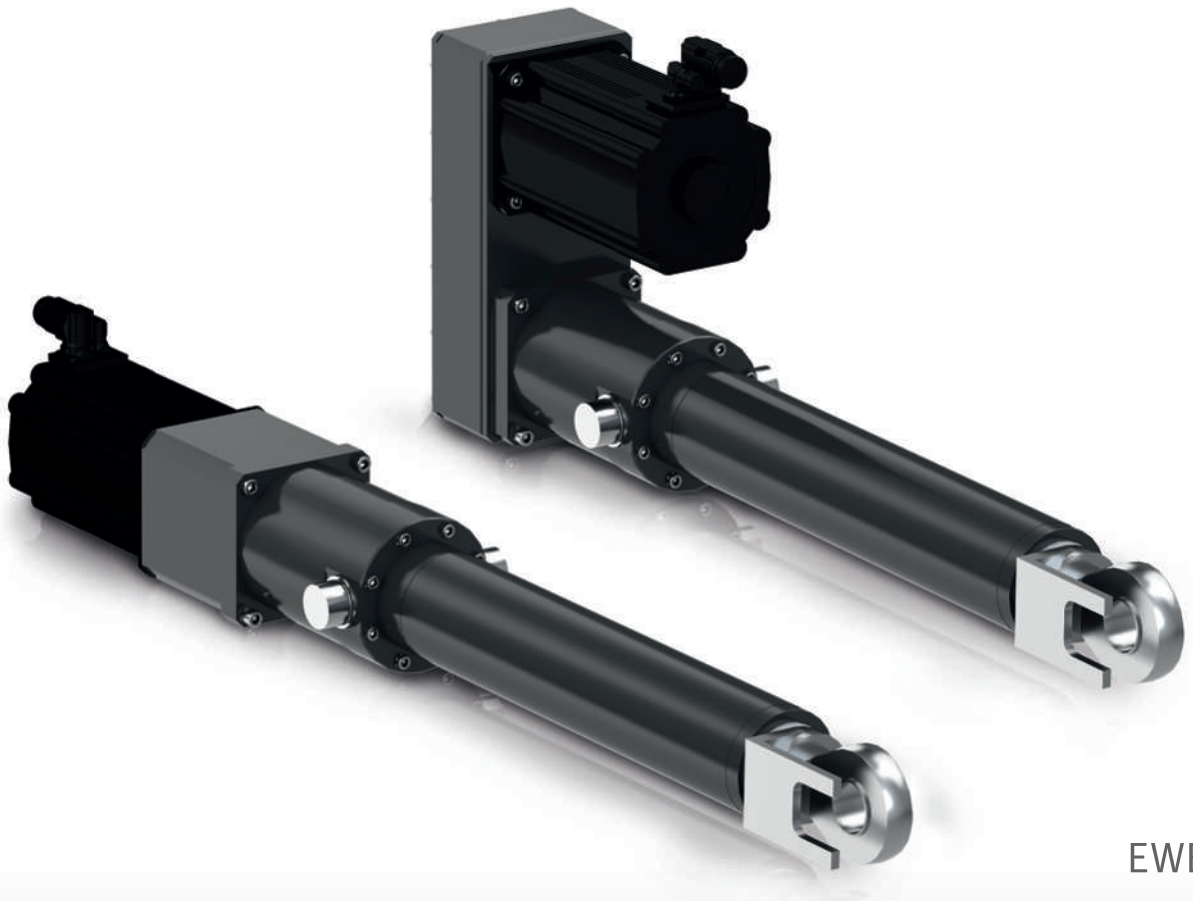


EWELLIX

Electromechanical EWELLIX Linear Actuator

SRSA, SVSA

Product Data Sheet

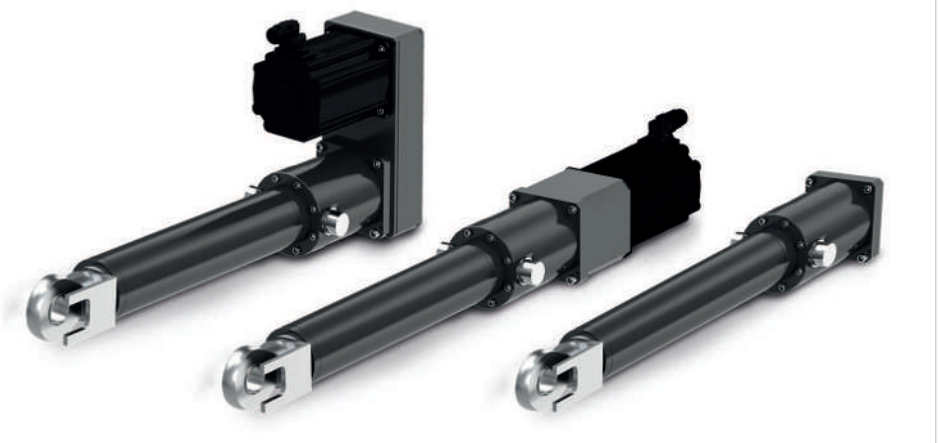
We pioneer motion

SCHAEFFLER

Contents

1 SRSA, SVSA

1 Electromechanical linear actuator SRSA and SVSA



Features

- high-performance roller screw drive
- steel push tube and protection tube
- modular concept
- anti-rotation device with profile rail guide
- relubrication of the roller screw nut possible with direct access
- optionally available: roller screw drive with low lead or ball screw drive with high lead.
- brushless servo-motors and customized motor adapters

Benefits

- high load capacity and long service life, as well as high acceleration and speed capabilities
- high stiffness and robustness
- multiple combinations to fit a wide range of applications
- extreme push tube torque resistance
- low maintenance requirements
- optimal solution for a wide range of applications where high load, high positioning accuracy, or high speed is needed.

Product description

The electromechanical linear actuators of the SRSA series combine high-quality planetary roller screw drives with corresponding servo-motors. This enables highly efficient, fully controllable linear movements. The SRSA housing is made of steel for high stiffness and robustness. The wide range includes linear actuators with screw drive sizes from 39 mm to 75 mm. This allows SRSA electromechanical linear actuators to be used in applications with peak forces of up to 500 kN, where hydraulic cylinders were previously the only option.

For long strokes, the free end of the screw drive shaft is supported and guided inside the push tube to prevent vibration.

The optional anti-rotation device consists of profile rail guides. This preloaded design provides very high torsional rigidity and durability.

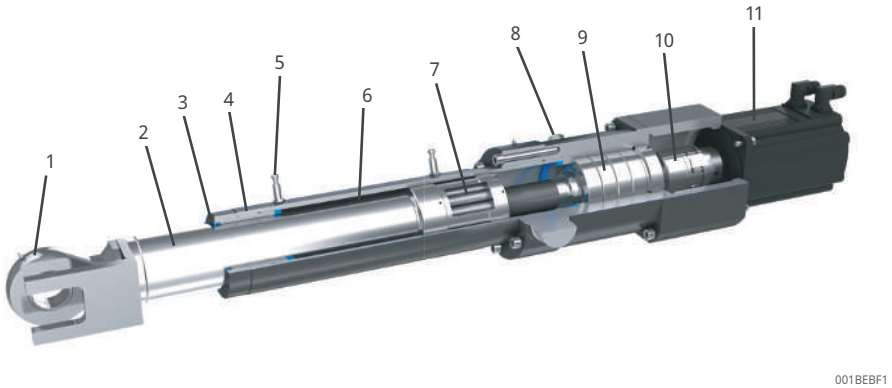
Two internal bumpers secure the mechanism during the adjustment phase, protecting the screw drive nut against damage caused by impact at the mechanical end stops.

For very high positioning accuracy, Schaeffler offers the slow-moving SVSA series with high-precision recirculating roller screw drives. Thanks to the very short screw drive lead of just 1 mm, the linear actuator is easier to control.

High-speed applications are covered by SRSA, with speeds of up to 1111 mm/s and accelerations of up to 38.2 m/s^2.

The complete SRSA and SVSA range is available in both inline and parallel configurations for most applications.

2 Design of the SRSA and SVSA electromechanical linear actuator



1	Front attachment	2	Steel push tube
3	Wiper seal for protection against contamination	4	Guide bushing
5	Home position switch and limit switch	6	Steel protection tube
7	High-quality planetary roller screw drive for maximum axial loads with low backlash and high efficiency	8	Sinter filter for high airflow
9	Angular contact ball bearing for supporting axial loads	10	Coupling
11	Servo-motor		

2 Motors and gearboxes

Servo-motors

SRSA linear actuators can be ordered with a servo-motor. In this case, Schaeffler has selected a range of Lenze motors and drives whose linear actuator performance is optimally matched to the end-user application. To complete the design, several options can be selected, such as absolute encoders (EnDat, Hyperface), safety brakes, or the corresponding servo-motor. It is also possible to equip SRSA linear actuators with a motor from your preferred servo-motor manufacturer to ensure optimal integration into your system. Please contact Schaeffler to check the feasibility of your configuration. For more information please visit the following sites:

Motors:

http://www.lenze.com/en-us/products/motors/

Drives:

http://www.lenze.com/en-us/products/inverters/

Drive options

The performance attributes shown in the table on the previous page are the result of specific Lenze servo-motor and drive combinations. SRSA linear actuators can be supplied with or without a servo-motor. The servo-motor may be provided in the recommended configuration or in another configuration that fits your installation.

For a different combination, please contact Schaeffler to determine what effect the different configuration will have on the performance of the linear actuator.

1 Performance overview of the linear units

Linear unit	F_{max}	$F_{0\ max}$	v_{max}
	kN	kN	mm/s
SRSA-U-3905	150	150	342
SRSA-U-3910	150	150	683
SRSA-U-3915	150	150	1025
SRSA-U-4805	260	260	278
SRSA-U-4810	260	260	556
SRSA-U-4815	260	260	833
SRSA-U-4820	260	260	1111
SRSA-U-6010	370	370	444
SRSA-U-6015	370	370	667
SRSA-U-6020	370	370	889
SRSA-U-7510	500	500	356
SRSA-U-7515	500	500	533
SRSA-U-7520	500	500	711
SVSA-U-3201	60	60	10.4
SVSA-U-4001	80	80	8.3
SVSA-U-5001	175	175	6.7

2 Performance overview of linear actuators with servo-motors

Linear unit	Interface and gear ratio	Motor	$F_{c\ vmax}$	F_{c0}	$F_{p\ vmax}$	F_{p0}	v_{max}
			kN	kN	kN	kN	mm/s
SRSA3905	L10/ P10	LC9	16.2	25.8 / 25	29.2	47.2 / 45.7	269
SRSA3905	L30/ P30	LA6	30.1	41.1 / 39.9	63.3	88.5 / 85.8	113
SRSA3905	L40/ P40	LA6	40.2	54.8 / 53.1	84.4	118 / 114.4	84

Linear unit	Interface and gear ratio	Motor	$F_{c\,vmax}$	F_{c0}	$F_{p\,vmax}$	F_{p0}	v_{max}
			kN	kN	kN	kN	mm/s
SRSA3910	L30/ P30	LC1	20.3	29.8 / 28.9	29.8	62.4 / 60.6	179
SRSA3910	L50/ P50	LC1	33.9	49.6 / 48.1	47.9	104.1 / 100.9	108
SRSA3910	L70/ P70	LC1	47.4	69.5 / 67.4	67.1	145.7 / 141.3	77
SRSA3915	L10/ P10	LB6	7.1	12 / 11.7	9.1	20.1 / 19.5	806
SRSA3915	L30/ P30	LD3	32.3	42.6 / 41.3	38.2	68.7 / 66.7	219
SRSA3915	L50/ P50	LD3	53.8	71 / 68.9	63.6	114.6 / 111.1	131
SRSA4805	L10/ P10	LD3	30.3	40 / 38.8	35.8	64.5 / 62.6	219
SRSA4805	L30/ P30	LD1	54.8	61.2 / 59.4	63.4	117.6 / 114.1	77
SRSA4805	L40/ P40	LD1	73.1	81.6 / 79.2	84.5	156.8 / 152.1	58
SRSA4810	L30/ P30	LD2	36.6	49.5 / 48	48.4	87 / 84.4	167
SRSA4810	L40/ P40	LD2	48.8	66 / 64.1	64.5	116 / 112.5	125
SRSA4810	L50/ P50	LD2	61	82.5 / 80.1	80.6	145 / 140.6	100
SRSA4815	L10/ P10	LD6	17.8	28.9 / 28.1	29.3	51.8 / 50.3	713
SRSA4815	L50/ P50	LD5	47.3	83.2 / 80.7	100.4	137.8 / 133.6	150
SRSA4815	L70/ P70	LD5	66.3	116.5 / 113	140.5	192.9 / 187.1	107
SRSA4820	L10/ P10	LD6	13.4	21.7 / 21.1	20.2	38.9 / 37.7	950
SRSA4820	L50/ P50	LD7	39.2	78.3 / 76	83.8	185.4 / 179.9	200
SRSA4820	L70/ P70	LD7	54.8	109.7 / 106.4	117.4	259.6 / 251.8	143
SRSA6010	L30/ P30	LD2	36.2	49 / 47.5	47.8	86 / 83.4	167
SRSA6010	L40/ P40	LD5	54.9	96.5 / 93.6	116.4	159.8 / 155	125
SRSA6010	L50/ P50	LD5	68.6	120.6 / 117	145.5	199.7 / 193.7	100
SRSA6015	L30/ P30	LD6	51.3	83.3 / 80.8	84.2	149.2 / 144.7	238
SRSA6015	L50/ P50	LD7	51.6	103.3 / 100.2	110.5	244.4 / 237.1	150
SRSA6015	L70/ P70	LD7	72.3	144.6 / 140.2	154.7	342.2 / 331.9	107
SRSA6020	L10/ P10	LD6	13.4	21.7 / 21.1	22	38.9 / 37.7	889
SRSA6020	L70/ P70	LD7	54.8	109.7 / 106.4	117.4	259.6 / 251.8	143
SRSA6020	L100/ P100	LD7	78.3	156.7 / 152	167.7	370.8 / 359.7	100
SRSA7510	L30/ P30	LD7	44.4	88.7 / 86.1	94.9	210 / 203.7	167
SRSA7510	L50/ P50	LD7	73.9	147.9 / 143.4	158.2	350 / 339.5	100
SRSA7510	L70/ P70	LD7	103.5	207 / 200.8	221.5	490 / 475.3	71
SRSA7515	L30/ P30	LD6	50.7	82.3 / 79.8	83.3	147.5 / 143.1	238
SRSA7515	L50/ P50	LD6	84.5	137.2 / 133.1	138.8	245.8 / 238.4	143
SRSA7515	L70/ P70	LD6	118.4	192.1 / 186.3	194.3	344.1 / 333.8	102
SRSA7520	L10/ P10	LD6	13.2	21.5 / 20.8	21.7	38.4 / 37.3	711
SRSA7520	L70/ P70	LD6	89.8	145.7 / 141.3	147.4	261.1 / 253.2	136
SRSA7520	L100/ P100	LD6	128.3	208.1 / 201.9	210.6	373 / 361.8	95
SVSA3201	L10/ P10	LC7	10.2	13.8 / 13.4	18.7	42.8 / 41.5	10
SVSA3201	L10/ P10	LD9	14.8	24.7 / 23.9	38.8	57.8 / 56.1	10
SVSA4001	L10/ P10	LA1	16.5	19.2 / 18.7	18.3	54.1 / 52.5	8
SVSA4001	L10/ P10	LA3	30.1	34.3 / 33.2	43.6	79.1 / 79.1	8
SVSA5001	L10/ P10	LA5	36	40 / 38.8	45.3	93 / 90.2	7
SVSA5001	L10/ P10	LE3	61.3	74.6 / 72.4	79.2	174.2 / 169.6	7

3 Standard motor types

Motor	Lenze servo-motor	Lenze 9400 Highline servoamplifier
LA1	MCS12D20	E94ASHE0044
LA3	MCS12H15	E94ASHE0074
LA4	MCS12H35	E94ASHE0134
LA5	MCS12L20	E94ASHE0074
LA6	MCS12L41	E94ASHE0134
LB6	MCS14P32	E94ASHE0244
LC1	MCS14H32	E94ASHE0174
LC7	MCS09F38	E94ASHE0044
LC9	MCS14L32	E94ASHE0244
LD1	MCS14H28	E94ASHE0174

Motor	Lenze servo-motor	Lenze 9400 Highline servoamplifier
LD2	MCS14L30	E94ASHE0324
LD3	MCS14P26	E94ASHE0324
LD5	MCS19J30	E94ASHE0324
LD6	MCS19P29	E94ASHE0474
LD7	MCS19P30	E94ASHE0474
LD9	MCS09L41	E94ASHE0074
LE3	MCS14L15	E94ASHE0134

Manuals

Supporting documents are available for download from medias.

medias | Product catalog |
medias.schaeffler.com

3D models

Product configurators for 3D models are available to download from medias.

medias | Product catalog |
medias.schaeffler.com

3 SRSA-U, SVSA-U

3.1 SRSA-U-39, linear unit

3 Linear unit SRSA-U-39

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4 Technical data SRSA-U-39

Designation	Symbol	Unit	SRSA-U-3905	SRSA-U-3910	SRSA-U-3915
Performance data					
Max. dynamic axial force	F_{max}	kN	150	150	150
Max. dynamic axial force L10 [1]	F_{L10}	kN	90	90	90
Max. static axial force	$F_{0\,max}$	kN	150	150	150
Dynamic load capacity	C	kN	129	153	168
Torque to reach F_{max}	M_{max}	Nm	159	301	446
Max. linear speed	v_{max}	mm/s	342	683	1025
Max. speed	n_{max}	min^{-1}	4100	4100	4100
Max. acceleration	a_{max}	m/s^2	9.5	19.1	28.6
Duty cycle	D_{unit}	%	100	100	100
Mechanical data					
Screw drive type	–	–	Roller screw drive	Roller screw drive	Roller screw drive
Screw drive diameter	d_{screw}	mm	39	39	39
Screw drive lead	p_{screw}	mm	5	10	15
Lead accuracy	–	–	G5	G5	G5
Stroke [2]	S	mm	100 to 900	100 to 900	100 to 900
Internal overstroke each side	S_0	mm	5	5	5
Backlash [3]	$S_{backlash}$	mm	0	0	0
Efficiency	η_{lu}	%	75	79	80
Moment of inertia at 0 mm stroke	J_{lu}	$10^{-4}\ kg \cdot m^2$	21.3	21.3	21.3
Δ moment of inertia per 100 mm stroke	ΔJ	$10^{-4}\ kg \cdot m^2$	1.8	1.8	1.8
at 0 mm stroke	m_{lu}	kg	33.8	33.8	33.8
Δ per 100 mm stroke	Δm	kg	4.3	4.3	4.3
of the anti-rotation device at 0 mm stroke	m_{arot0}	kg	–0.3	–0.3	–0.3
Δ of the anti-rotation device per 100 mm stroke	Δm_{arot}	kg	0.5	0.5	0.5

Designation	Symbol	Unit	SRSA-U-3905	SRSA-U-3910	SRSA-U-3915
Ambient					
Ambient temperature	T_{amb}	°C	0 to +40	0 to +40	0 to +40
Protection code (IP) [4]	–	–	IP54	IP54	IP54

[1] Maximum dynamic axial force for application of the theoretical life calculation L_{10}

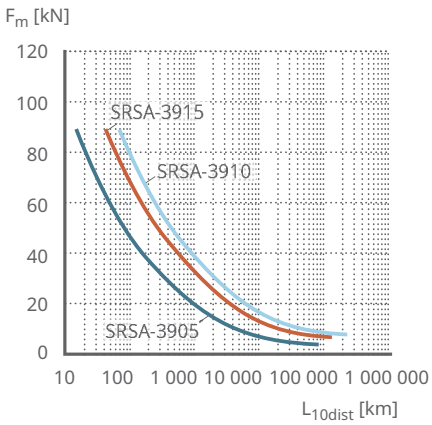
[2] In increments of 100 mm

[3] Backlash compensation up to 600 mm stroke. For longer strokes: $S_{backlash}$ = 0.02 mm screw drive lead 5,
$S_{backlash}$ = 0.04 mm for lead 10,
$S_{backlash}$ = 0.07 mm for lead 15

[4] With anti-rotation option IP44

Life diagram

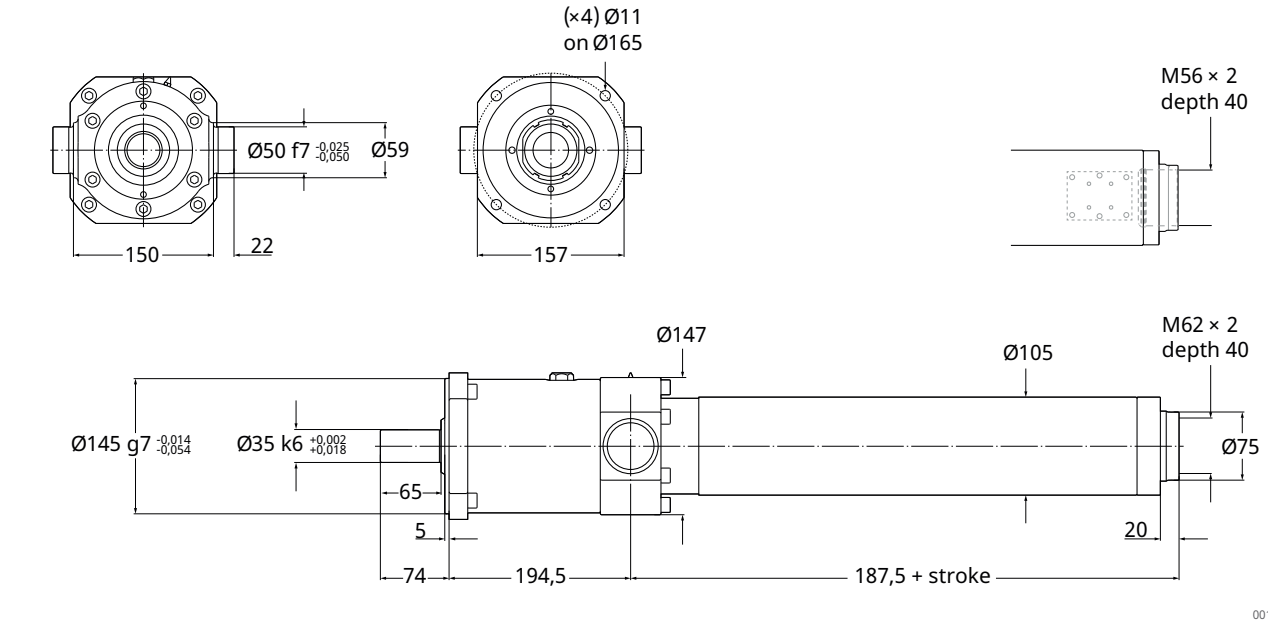
4 Life diagram SRSA-U-39



F_m	Equivalent dynamic axial load	L_{10dist}	Service life distance

Dimensional drawings

5 Dimensional drawing of a SRSA-U-39



Ordering designation

See ordering designation for linear unit SRSA-U/SRVA-U ➤48|6.1.

3.2 SRSA-U-48, linear unit

6 Linear unit SRSA-U-48

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5 Technical data SRSA-U-48

Designation	Symbol	Unit	SRSA-U-4805	SRSA-U-4810	SRSA-U-4815	SRSA-U-4820
Performance data						
Max. dynamic axial force	F_{max}	kN	260	260	260	260
Max. dynamic axial force L10 [1]	F_{L10}	kN	140	140	140	140
Max. static axial force	$F_{0\,max}$	kN	260	260	260	260
Dynamic load capacity	C	kN	198	232	258	266
Torque to reach F_{max}	M_{max}	Nm	283	527	773	1031
Max. linear speed	v_{max}	mm/s	278	556	833	1111
Max. speed	n_{max}	min^{-1}	3333	3333	3333	3333
Max. acceleration	a_{max}	m/s^2	9.5	19.1	28.6	38.2
Duty cycle	D_{unit}	%	100	100	100	100
Mechanical data						
Screw drive type	–	–	Roller screw drive	Roller screw drive	Roller screw drive	Roller screw drive
Screw drive diameter	d_{screw}	mm	48	48	48	48
Screw drive lead	p_{screw}	mm	5	10	15	20
Lead accuracy	–	–	G5	G5	G5	G5
Stroke [2]	S	mm	100 to 1200	100 to 1200	100 to 1200	100 to 1200
Internal overstroke each side	S_0	mm	5	5	5	5
Backlash [3]	$S_{backlash}$	mm	0	0	0	0
Efficiency	η_{lu}	%	73	79	80	80
Moment of inertia at 0 mm stroke	J_{lu}	10^{-4} kg · m^2	54.3	54.3	54.3	54.3
Δ moment of inertia per 100 mm stroke	ΔJ	10^{-4} kg · m^2	4.1	4.1	4.1	4.1
at 0 mm stroke	m_{lu}	kg	53.2	53.2	53.2	53.2
Δ per 100 mm stroke	Δm	kg	5.7	5.7	5.7	5.7
of the anti-rotation device at 0 mm stroke	m_{arot0}	kg	3.6	3.6	3.6	3.6
Δ of the anti-rotation device per 100 mm stroke	Δm_{arot}	kg	0.7	0.7	0.7	0.7

Designation	Symbol	Unit	SRSA-U-4805	SRSA-U-4810	SRSA-U-4815	SRSA-U-4820
Ambient						
Ambient temperature	T_{amb}	°C	0 to +40	0 to +40	0 to +40	0 to +40
Protection code (IP) [4]	–	–	IP54	IP54	IP54	IP54

[1] Maximum dynamic axial force for application of the theoretical life calculation L_{10}

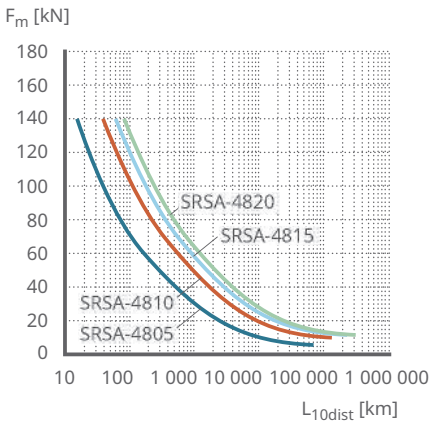
[2] In increments of 100 mm

[3] Backlash compensation up to 600 mm stroke. For longer strokes: $S_{backlash}$ = 0.02 mm screw drive lead 5,
$S_{backlash}$ = 0.04 mm for lead 10,
$S_{backlash}$ = 0.07 mm for lead 15

[4] With anti-rotation option IP44

Life diagram

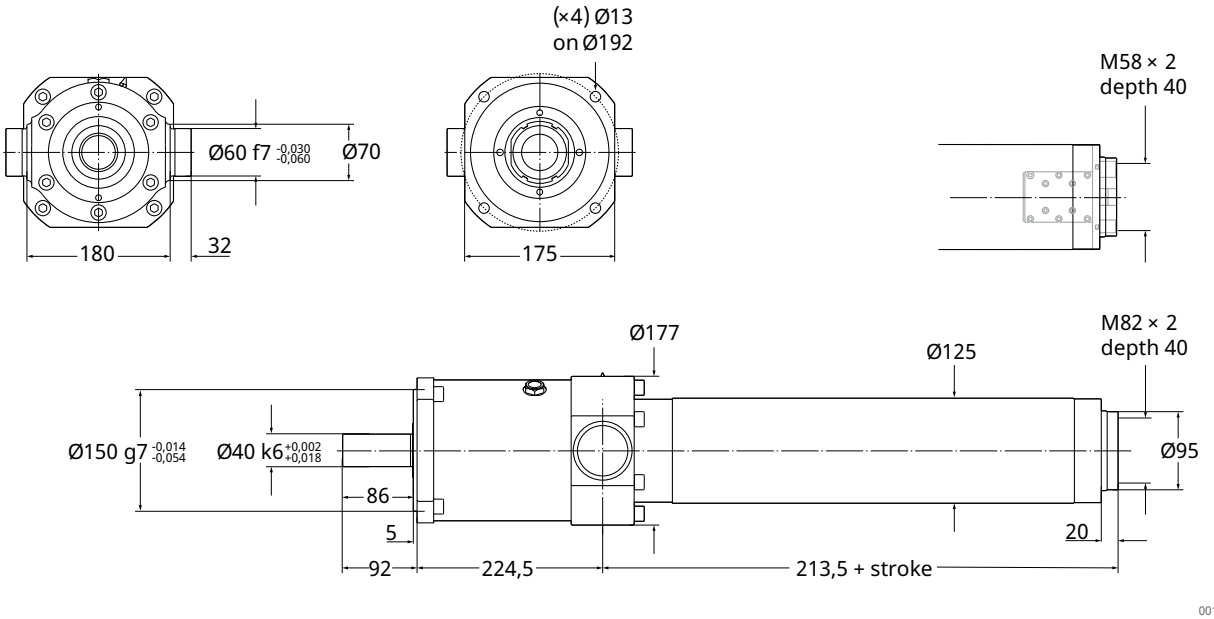
7 Life diagram SRSA-U-48



F_m	Equivalent dynamic axial load	L_{10dist}	Service life distance

Dimensional drawings

8 Dimensional drawing of a SRSA-U-48



Ordering designation

See ordering designation for linear unit SRSA-U/SRVA-U ➤48|6.1.

3.3 SRSA-U-60, linear unit

9 Linear unit SRSA-U-60

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6 Technical data SRSA-U-60

Designation	Symbol	Unit	SRSA-U-6010	SRSA-U-6015	SRSA-U-6020
Performance data					
Max. dynamic axial force	F_{max}	kN	370	370	370
Max. dynamic axial force L10 [1]	F_{L10}	kN	250	250	250
Max. static axial force	$F_{0\,max}$	kN	370	370	370
Dynamic load capacity	C	kN	339	373	395
Torque to reach F_{max}	M_{max}	Nm	759	1112	1467
Max. linear speed	v_{max}	mm/s	444	667	889
Max. speed	n_{max}	min^{-1}	2667	2667	2667
Max. acceleration	a_{max}	m/s^2	19.1	28.6	38.2
Duty cycle	D_{unit}	%	100	100	100
Mechanical data					
Screw drive type	–	–	Roller screw drive	Roller screw drive	Roller screw drive
Screw drive diameter	d_{screw}	mm	60	60	60
Screw drive lead	p_{screw}	mm	10	15	20
Lead accuracy	–	–	G5	G5	G5
Stroke [2]	S	mm	100 to 1300	100 to 1300	100 to 1300
Internal overstroke each side	S_0	mm	10	10	10
Backlash [3]	$S_{backlash}$	mm	0	0	0
Efficiency	η_{lu}	%	78	79	80
Moment of inertia at 0 mm stroke	J_{lu}	$10^{-4}\ kg \cdot m^2$	178	178	178
Δ moment of inertia per 100 mm stroke	ΔJ	$10^{-4}\ kg \cdot m^2$	10.1	10.1	10.1
at 0 mm stroke	m_{lu}	kg	83.6	83.6	83.6
Δ per 100 mm stroke	Δm	kg	8.9	8.9	8.9
of the anti-rotation device at 0 mm stroke	m_{arot0}	kg	5.2	5.2	5.2
Δ of the anti-rotation device per 100 mm stroke	Δm_{arot}	kg	0.8	0.8	0.8

Designation	Symbol	Unit	SRSA-U-6010	SRSA-U-6015	SRSA-U-6020
Ambient					
Ambient temperature	T_{amb}	°C	0 to +40	0 to +40	0 to +40
Protection code (IP) [4]	–	–	IP54	IP54	IP54

[1] Maximum dynamic axial force for application of the theoretical life calculation L_{10}

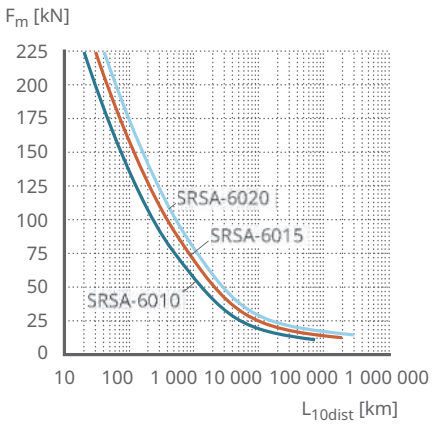
[2] In increments of 100 mm

[3] Backlash compensation up to 800 mm stroke. For longer strokes:
$S_{backlash}$ = 0.04 mm for screw drive lead 10,
$S_{backlash}$ = 0.07 mm for lead 15 and 20

[4] With anti-rotation option IP44

Life diagram

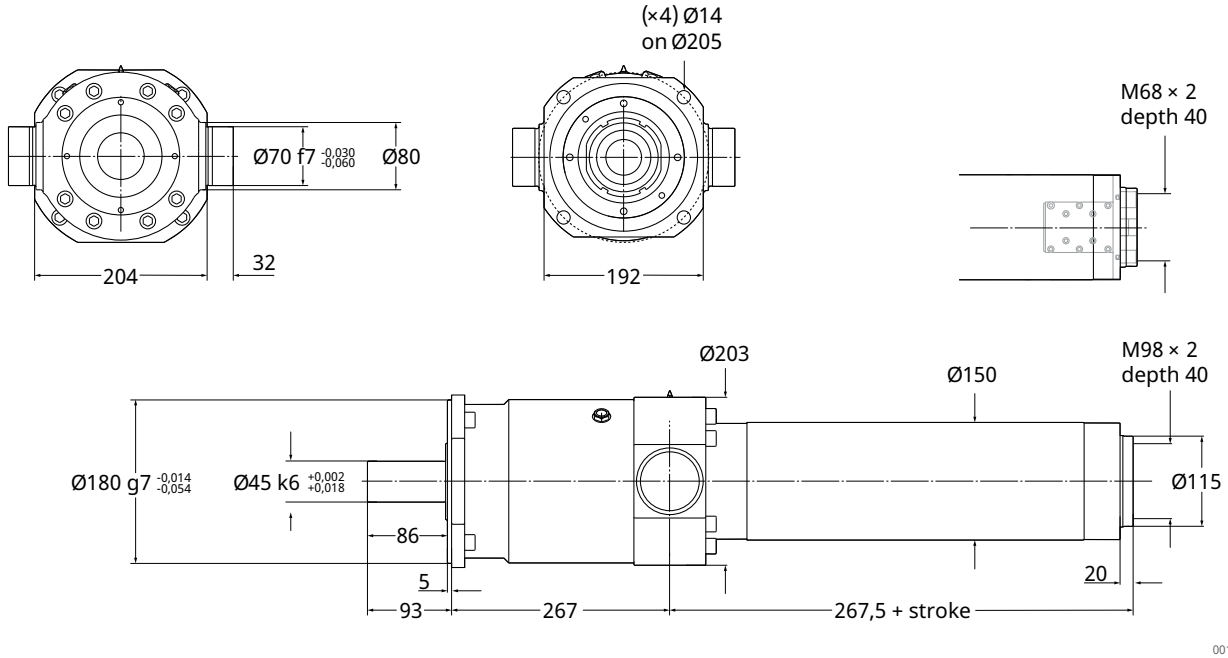
10 Life diagram SRSA-U-60



F_m	Equivalent dynamic axial load	L_{10dist}	Service life distance

Dimensional drawings

11 Dimensional drawing of a SRSA-U-60



Ordering designation

See ordering designation for linear unit SRSA-U/SRVA-U ➤48|6.1.

3.4 SRSA-U-75, linear unit

12 Linear unit SRSA-U-75

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7 Technical data SRSA-U-75

Designation	Symbol	Unit	SRSA-U-7510	SRSA-U-7515	SRSA-U-7520
Performance data					
Max. dynamic axial force	F_{max}	kN	500	500	500
Max. dynamic axial force L10 [1]	F_{L10}	kN	450	450	450
Max. static axial force	$F_{0\,max}$	kN	500	500	500
Dynamic load capacity	C	kN	505	561	572
Torque to reach F_{max}	M_{max}	Nm	1050	1521	2004
Max. linear speed	v_{max}	mm/s	356	533	711
Max. speed	n_{max}	min^{-1}	2133	2133	2133
Max. acceleration	a_{max}	m/s^2	19.1	28.6	38.2
Duty cycle	D_{unit}	%	100	100	100
Mechanical data					
Screw drive type	–	–	Roller screw drive	Roller screw drive	Roller screw drive
Screw drive diameter	d_{screw}	mm	75	75	75
Screw drive lead	p_{screw}	mm	10	15	20
Lead accuracy	–	–	G5	G5	G5
Stroke [2]	S	mm	100 to 1500	100 to 1500	100 to 1500
Internal overstroke each side	S_0	mm	10	10	10
Backlash [3]	$S_{backlash}$	mm	0	0	0
Efficiency	η_{lu}	%	76	79	79
Moment of inertia at 0 mm stroke	J_{lu}	10^{-4} kg · m^2	625	625	625
Δ moment of inertia per 100 mm stroke	ΔJ	10^{-4} kg · m^2	24.6	24.6	24.6
at 0 mm stroke	m_{lu}	kg	156.5	156.5	156.5
Δ per 100 mm stroke	Δm	kg	11.3	11.3	11.3
of the anti-rotation device at 0 mm stroke	m_{arot0}	kg	7.5	7.5	7.5
Δ of the anti-rotation device per 100 mm stroke	Δm_{arot}	kg	2.7	2.7	2.7

Designation	Symbol	Unit	SRSA-U-7510	SRSA-U-7515	SRSA-U-7520
Ambient					
Ambient temperature	T_{amb}	°C	0 to +40	0 to +40	0 to +40
Protection code (IP) [4]	–	–	IP54	IP54	IP54

[1] Maximum dynamic axial force for application of the theoretical life calculation L_{10}

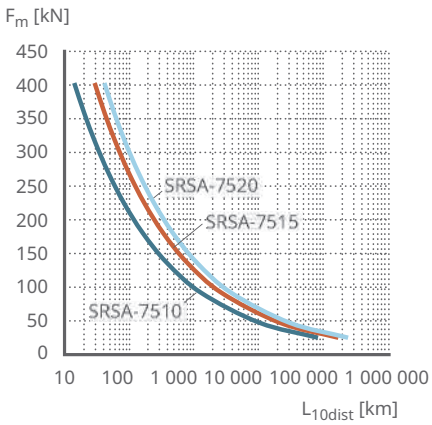
[2] In increments of 100 mm

[3] Backlash compensation up to 800 mm stroke. For longer strokes:
$S_{backlash}$ = 0.04 mm for screw drive lead 10,
$S_{backlash}$ = 0.07 mm for lead 15 and 20

[4] With anti-rotation option IP44

Life diagram

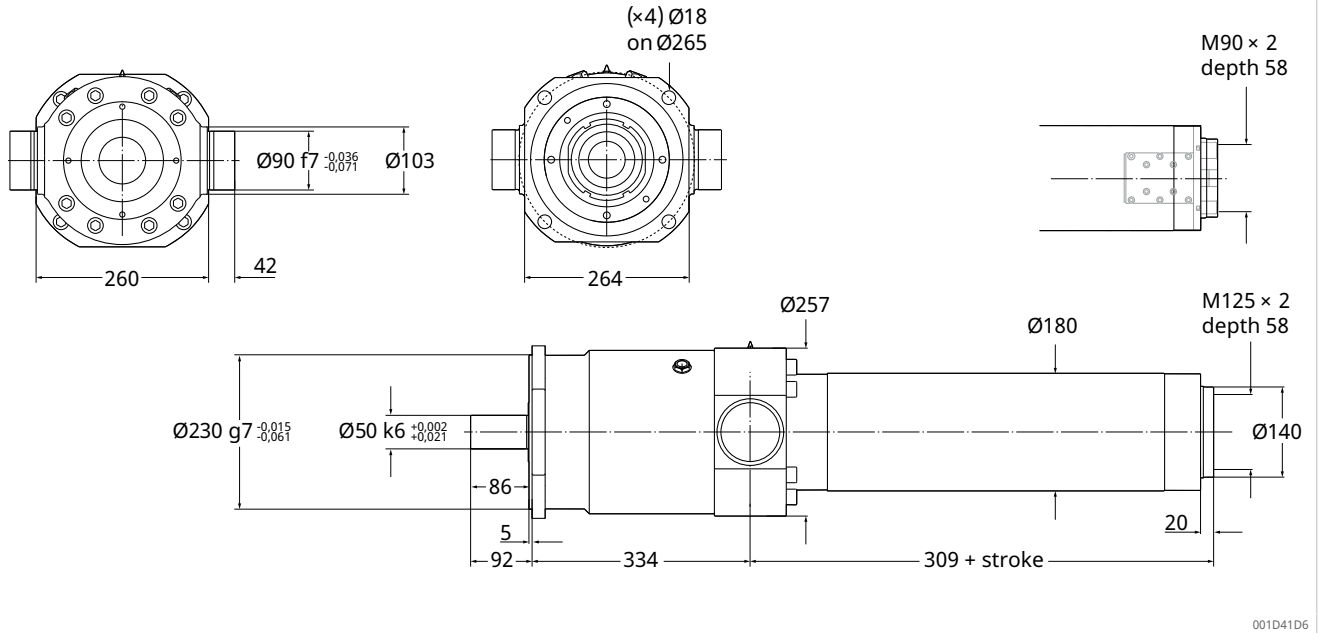
13 Life diagram SRSA-U-75



F_m	Equivalent dynamic axial load	L_{10dist}	Service life distance

Dimensional drawings

14 Dimensional drawing of a SRSA-U-75



Ordering designation

See ordering designation for linear unit SRSA-U/SRVA-U ➤48|6.1.

3.5 SVSA-U-..01, linear unit

15 Linear unit SVSA-U-..01

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8 Technical data SVSA-U-..01

Designation	Symbol	Unit	SVSA-U-3201	SVSA-U-4001	SVSA-U-5001
Performance data					
Max. dynamic axial force	F_{max}	kN	60	80	175
Max. dynamic axial force L10 [1]	F_{L10}	kN	40	50	60
Max. static axial force	$F_{0\,max}$	kN	60	80	175
Dynamic load capacity	C	kN	64	79	174
Torque to reach F_{max}	M_{max}	Nm	18.3	26.6	65.7
Max. linear speed	v_{max}	mm/s	10	8	7
Max. speed	n_{max}	min^{-1}	625	500	400
Max. acceleration	a_{max}	m/s^2	0.6	0.6	0.6
Duty cycle	D_{unit}	%	100	100	100
Mechanical data					
Screw drive type	–	–	Roller screw drive	Roller screw drive	Roller screw drive
Screw drive diameter	d_{screw}	mm	32	40	50
Screw drive lead	p_{screw}	mm	1	1	1
Lead accuracy	–	–	G5	G5	G5
Stroke [2]	S	mm	100 to 600	100 to 800	100 to 900
Internal overstroke each side	S_0	mm	5	5	5
Backlash [3]	$S_{backlash}$	mm	0	0	0
Efficiency	η_{lu}	%	52	48	42
Moment of inertia at 0 mm stroke	J_{lu}	$10^{-4}\ kg \cdot m^2$	3.4	6.8	21.3
Δ moment of inertia per 100 mm stroke	ΔJ	$10^{-4}\ kg \cdot m^2$	0.31	0.64	1.8
at 0 mm stroke	m_{lu}	kg	10.8	17.4	34.2
Δ per 100 mm stroke	Δm	kg	2.4	3.2	4.8
of the anti-rotation device at 0 mm stroke	m_{arot0}	kg	2.6	−0.3	−0.3
Δ of the anti-rotation device per 100 mm stroke	Δm_{arot}	kg	0.3	0.2	0.4

Designation	Symbol	Unit	SVSA-U-3201	SVSA-U-4001	SVSA-U-5001
Ambient					
Ambient temperature	T_{amb}	°C	0 to +40	0 to +40	0 to +40
Protection code (IP) [4]	–	–	IP54	IP54	IP54

[1] Maximum dynamic axial force for application of the theoretical life calculation L_{10}

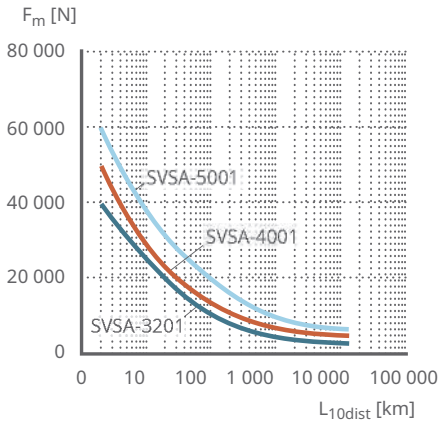
[2] In increments of 100 mm

[3] Backlash compensation up to 600 mm stroke. For longer strokes:
$S_{backlash}$ = 0.02 mm

[4] With anti-rotation option IP44

Life diagram

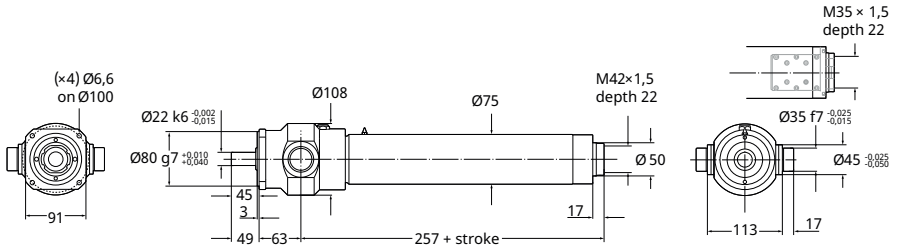
16 Life diagram SVSA-U-..01



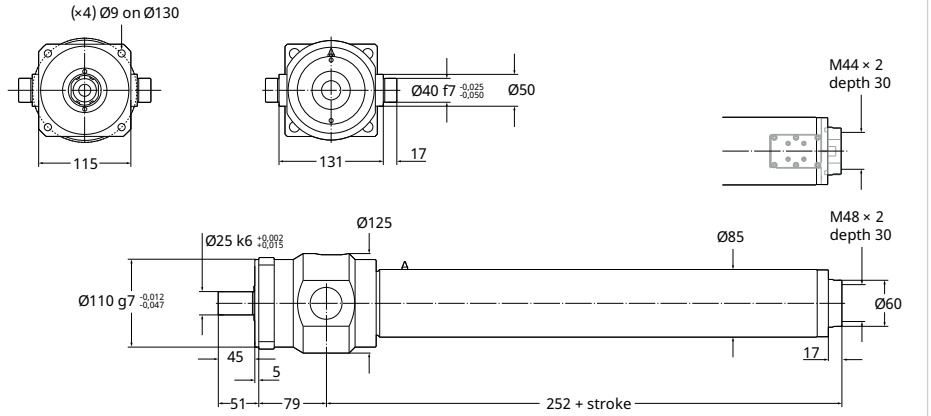
F_m	Equivalent dynamic axial load	L_{10dist}	Service life distance

Dimensional drawings

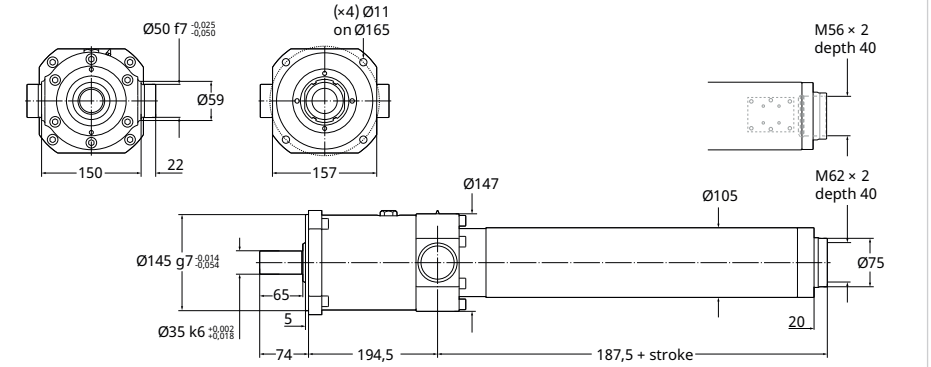
17 Dimensional drawing SVSA-U-3201



18 Dimensional drawing SVSA-U-4001



19 Dimensional drawing SVSA-U-5001



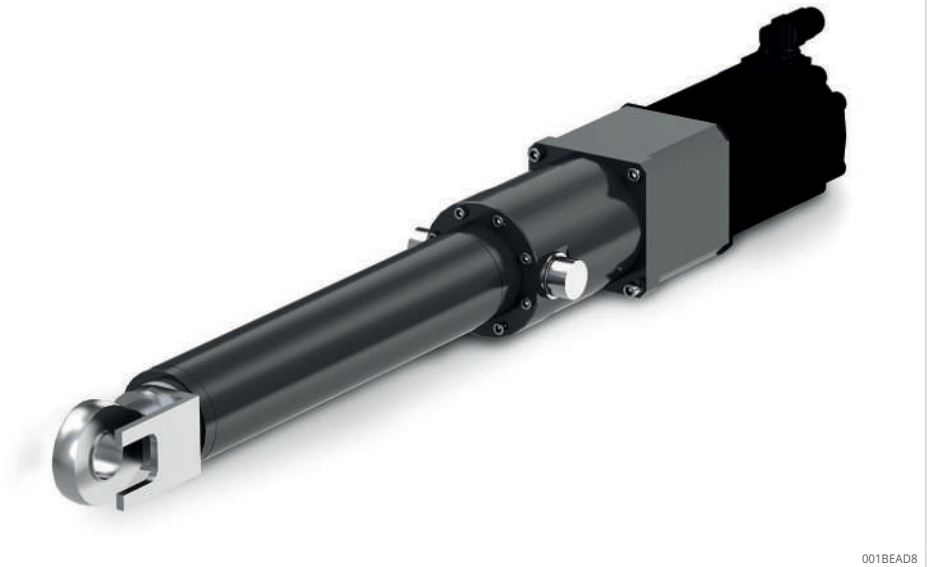
Ordering designation

See ordering designation for linear unit SRSA-U/SRVA-U ➤48|6.1.

4 SRSA-S, SVSA-S

4.1 SRSA-S-39, electromechanical linear actuator servo-motor, inline configuration

20 Electromechanical linear actuator SRSA-S-39 inline configuration



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9 Technical data for SRSA-S-39, inline configuration

Designation	Symbol	Unit	Servo-motor and inline adapter		
			L30	L70	L30
			LA6	LC1	LD3
Performance data					
Continuous force at zero speed	F_{c0}	kN	41.1	69.5	42.6
Continuous force at max. speed	$F_{c\ vmax}$	kN	30.1	47.4	32.3
Peak force at zero speed	F_{p0}	kN	88.5	145.7	68.7
peak force at max. speed	$F_{p\ vmax}$	kN	63.3	67.1	38.2
Dynamic load capacity	C	kN	129	153	168
Holding force (optional motor brake)	F_{hold}	kN	58	115	32
Max. linear speed	v_{max}	mm/s	113	77	219
Max. acceleration	a_{max}	m/s^2	5.5	4.2	7.7
Duty cycle	D	%	100	100	100
Mechanical data					
Screw drive type	–	–	Roller screw drive	Roller screw drive	Roller screw drive
Screw drive diameter	d_{screw}	mm	39	39	39
Screw drive lead	p_{screw}	mm	5	10	15
Lead accuracy	–	–	G5	G5	G5
Stroke [1)]	S	mm	100 to 900	100 to 900	100 to 900
Internal overstroke each side	S_0	mm	5	5	5
Backlash [2)]	$S_{backlash}$	mm	0	0	0
Gear reduction	i	–	3	7	3
Moment of inertia at 0 mm stroke	J	10^{-4} kg · m^2	15.36	23.05	72.65
Δ moment of inertia per 100 mm stroke	ΔJ	10^{-4} kg · m^2	0.2	0.04	0.20
Moment of inertia of optional brake	J_{brake}	10^{-4} kg · m^2	1.07	3.20	3.20
at 0 mm stroke	m	kg	66.1	88.4	101.9
Δ per 100 mm stroke	Δm	kg	4.3	4.3	4.3
of optional brake	m_{brake}	kg	0.9	1.9	1.9

Designation	Symbol	Unit	Servo-motor and inline adapter		
			L30	L70	L30
			LA6	LC1	LD3
of the anti-rotation device at 0 mm stroke	m_{arot0}	kg	–0.3	–0.3	–0.3
Δ of the anti-rotation device per 100 mm stroke	Δm_{arot}	kg	0.5	0.5	0.5
Electrical specifications					
Motor type	–	–	Servo	Servo	Servo
Rated voltage	U	V AC	400	400	400
Rated current	I	A	12.4	16.5	28.3
Peak current	I_{peak}	A	31.2	39.6	56
Rated power	P	kW	4.67	4.73	9.07
Environment and standards					
Ambient temperature	T_{amb}	°C	0 to +40	0 to +40	0 to +40
Protection code (IP) [3]	–	–	IP54	IP54	IP54

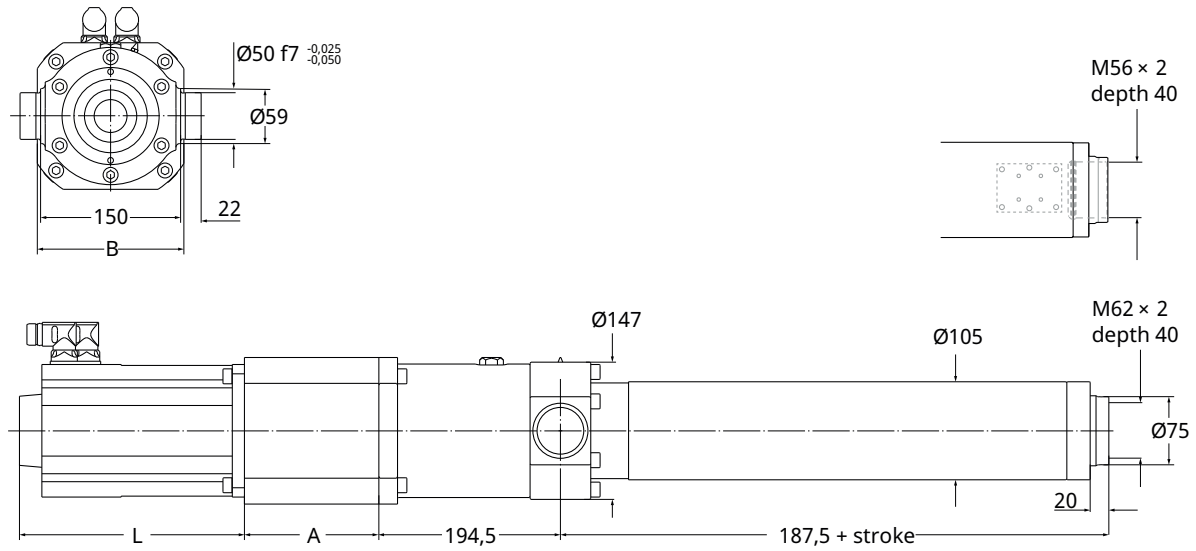
1) In increments of 100 mm

2) Backlash compensation up to 500 mm stroke. For longer strokes:
$S_{backlash}$ = 0.02 mm for screw drive lead 5,
$S_{backlash}$ = 0.04 mm for lead 10,
$S_{backlash}$ = 0.07 mm for lead 15

3) With anti-rotation option IP44

Dimensional drawings

21 Dimensional drawing of electromechanical linear actuator SRSA-S-39, inline configuration



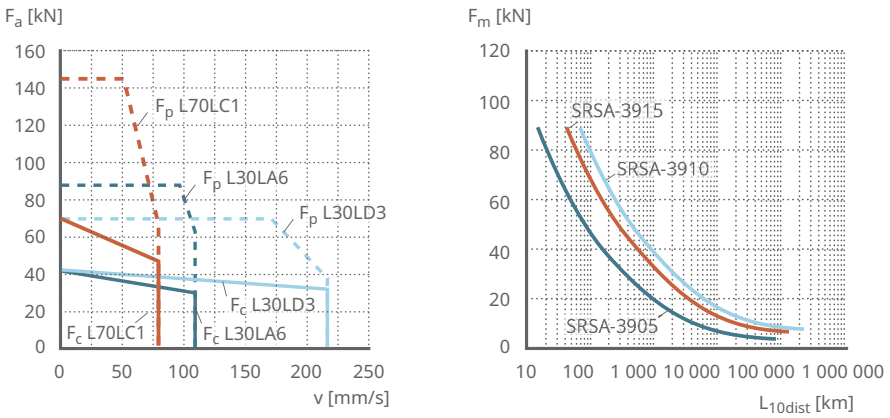
10 Dimensions

Reference	A	L	B	Added length for brake option	Added length for encoder option
	mm	mm	mm	mm	mm
L30LA6	186	415	185	20	49
L70LC1	216	455	185	28	50
L30LD3	216	584	185	28	50

4

Performance diagrams

22 Performance diagrams SRSA-S-39, inline configuration



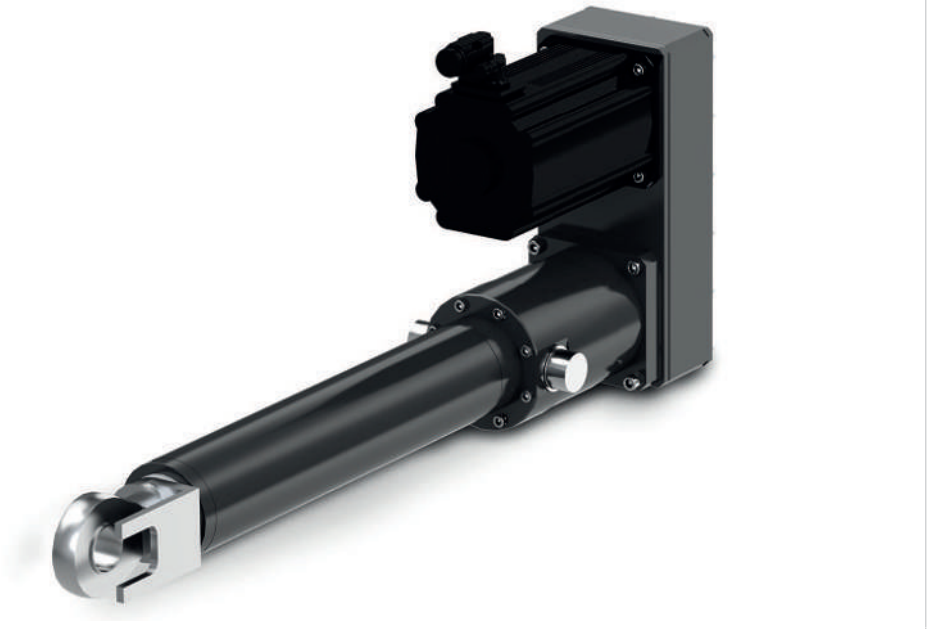
F_a	Axial force	v	Speed
F_m	Equivalent dynamic axial load	L_{10dist}	Service life distance
F_p	Peak force	F_c	Continuous force

Ordering designation

See ordering designation for linear unit SRSA-S/SVSA-S ➤49|6.2.

4.2 SRSA-S-39, electromechanical linear actuator servo-motor, parallel configuration

23 Electromechanical linear actuator SRSA-S-39, parallel configuration



11 Technical data SRSA-S-39, parallel configuration

Designation	Symbol	Unit	Servo-motor and parallel adapter		
			P30	P70	P30
			LA6	LC1	LD3
Performance data					
Continuous force at zero speed	F_{c0}	kN	39.9	67.4	41.3
Continuous force at max. speed	$F_{c\ vmax}$	kN	29.2	46	31.3
Peak force at zero speed	F_{p0}	kN	85.8	141.3	66.7
Peak force at max. speed	$F_{p\ vmax}$	kN	61.4	65.1	37
Dynamic load capacity	C	kN	129	153	168
Holding force (optional motor brake)	F_{hold}	kN	60	118	33
Max. linear speed	v_{max}	mm/s	113	77	219
Max. acceleration	a_{max}	m/s^2	1.6	0.5	4.3
Duty cycle	D	%	100	100	100
Mechanical data					
Screw drive type	–	–	Roller screw drive	Roller screw drive	Roller screw drive
Screw drive diameter	d_{screw}	mm	39	39	39
Screw drive lead	p_{screw}	mm	5	10	15
Lead accuracy	–	–	G5	G5	G5
Stroke [1]	S	mm	100 to 900	100 to 900	100 to 900
Internal overstroke each side	S_0	mm	5	5	5
Backlash [2]	$S_{backlash}$	mm	0	0	0
Gear reduction	i	–	3	7	3
Moment of inertia at 0 mm stroke	J	10^{-4} kg · m^2	54.85	213.66	72.65
Δ moment of inertia per 100 mm stroke	ΔJ	10^{-4} kg · m^2	0.2	0.04	0.20
Moment of inertia of optional brake	J_{brake}	10^{-4} kg · m^2	1.07	3.20	3.20
at 0 mm stroke	m	kg	76.3	97.6	101.9
Δ per 100 mm stroke	Δm	kg	4.3	4.3	4.3
of optional brake	m_{brake}	kg	0.9	1.9	1.9
of the anti-rotation device at 0 mm stroke	m_{arot0}	kg	−0.3	−0.3	−0.3
Δ of the anti-rotation device per 100 mm stroke	Δm_{arot}	kg	0.5	0.5	0.5
Electrical specifications					
Motor type	–	–	Servo	Servo	Servo
Rated voltage	U	V AC	400	400	400
Rated current	I	A	12.4	16.5	28.3
Peak current	I_{peak}	A	31.2	39.6	56
Rated power	P	kW	4.67	4.73	9.07
Environment and standards					
Ambient temperature	T_{amb}	°C	0 to +40	0 to +40	0 to +40
Protection code (IP) [3]	–	–	IP54	IP54	IP54

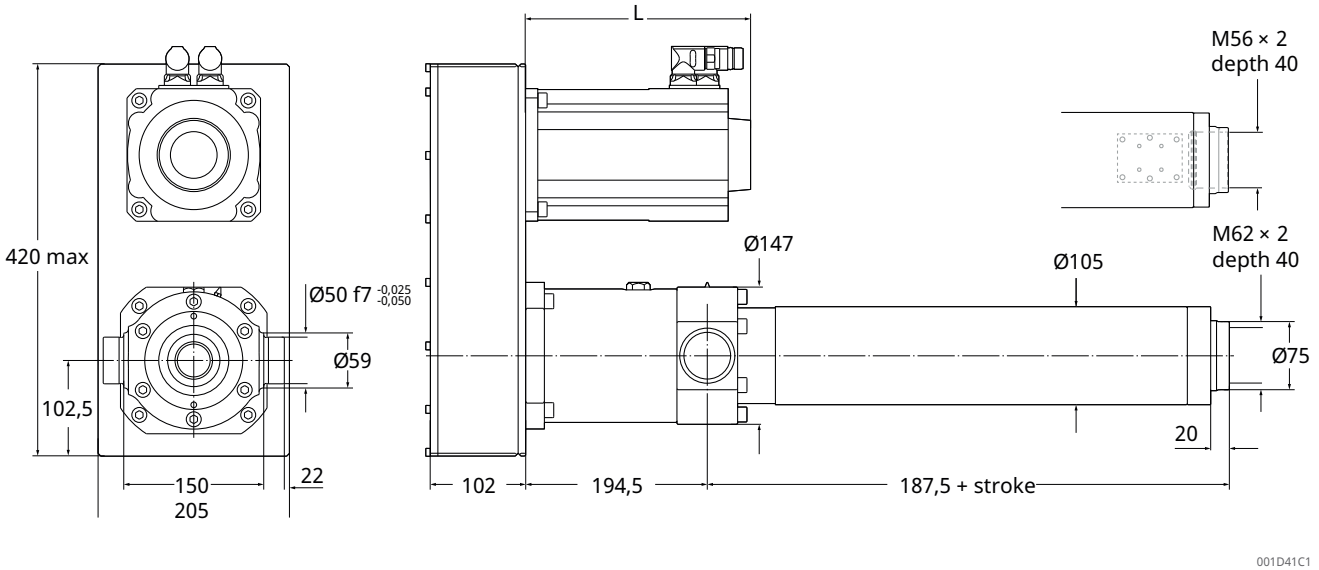
1) In increments of 100 mm

2) Backlash compensation up to 500 mm stroke. For longer strokes:
$S_{backlash}$ = 0.02 mm for screw drive lead 5,
$S_{backlash}$ = 0.04 mm for lead 10,
$S_{backlash}$ = 0.07 mm for lead 15

3) With anti-rotation option IP44

Dimensional drawings

24 Dimensional drawing of electromechanical linear actuator SRSA-S-39, parallel configuration

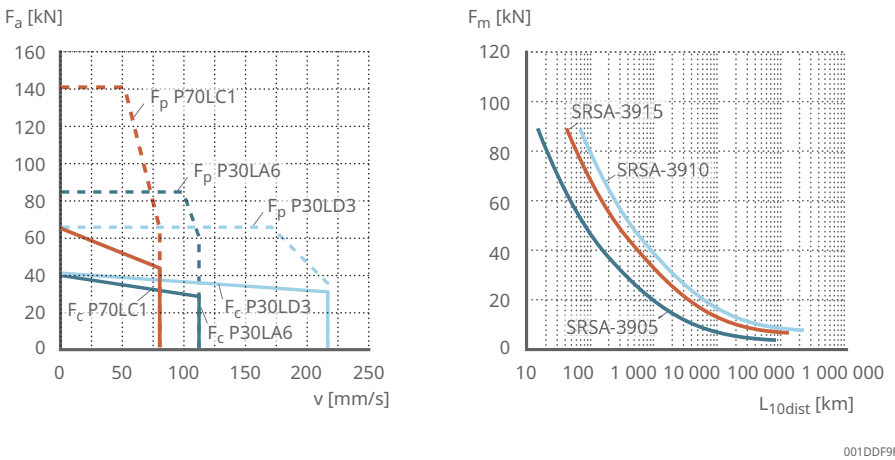


12 Dimensions

Reference	L	Added length for brake option	Added length for encoder option
	mm	mm	mm
P30LA6	403	20	49
P70LC1	483	28	50
P30LD3	584	28	50

Performance diagrams

25 Performance diagrams for SRSA-S-39, parallel configuration



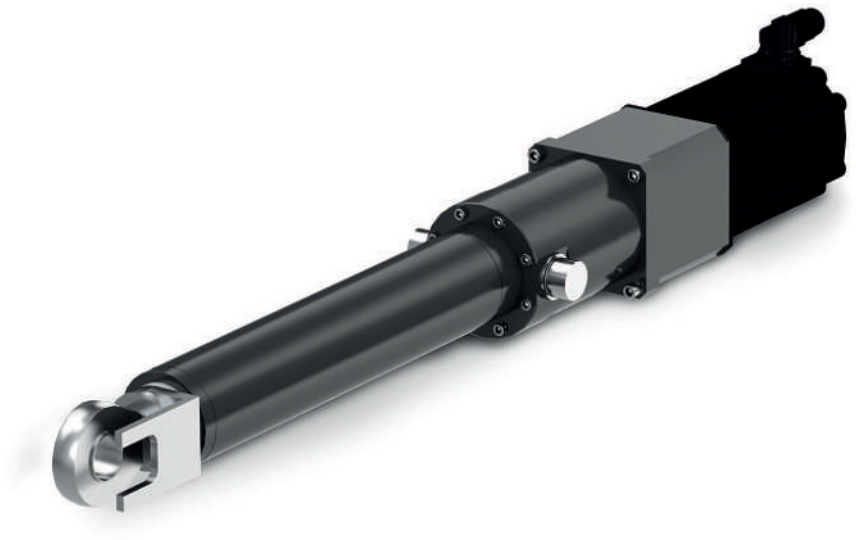
F_a	Axial force	v	Speed
F_m	Equivalent dynamic axial load	L_{10dist}	Service life distance
F_p	Peak force	F_c	Continuous force

Ordering designation

See ordering designation for linear unit SRSA-S/SVSA-S ➤49|6.2.

4.3 SRSA-S-48, electromechanical linear actuator servo-motor, inline configuration

26 Electromechanical linear actuator SRSA-S-48, inline configuration



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13 Technical data for SRSA-S-48, inline configuration

Designation	Symbol	Unit	Servo-motor and inline adapter			
			L40	L50	L10	L70
			LD1	LD2	LD6	LD7
Performance data						
Continuous force at zero speed	F_{c0}	kN	81.6	82.5	28.9	109.7
Continuous force at max. speed	$F_{c\,vmax}$	kN	73.1	61	17.8	54.8
Peak force at zero speed	F_{p0}	kN	156.8	145	51.8	259.6
Peak force at max. speed	$F_{p\,vmax}$	kN	84.5	80.6	29.3	117.4
Dynamic load capacity	C	kN	198	232	258	261
Holding force (optional motor brake)	F_{hold}	kN	150	84	18	95
Max. linear speed	v_{max}	mm/s	58	100	713	143
Max. acceleration	a_{max}	m/s^2	3.5	4.1	13	3.6
Duty cycle	D	%	100	100	100	100
Mechanical data						
Screw drive type	–	–	Roller screw drive	Roller screw drive	Roller screw drive	Roller screw drive
Screw drive diameter	d_{screw}	mm	48	48	48	48
Screw drive lead	p_{screw}	mm	5	10	15	20
Lead accuracy	–	–	G5	G5	G5	G5
Stroke [1]	S	mm	100 to 1200	100 to 1200	100 to 1200	100 to 1200
Internal overstroke each side	S_0	mm	5	5	5	5
Backlash [2]	$S_{backlash}$	mm	0	0	0	0
Gear reduction	i	–	4	5	1	7
Moment of inertia at 0 mm stroke	J	10^{-4} kg · m^2	24.98	46.45	279.8	191.98
Δ moment of inertia per 100 mm stroke	ΔJ	10^{-4} kg · m^2	0.26	0.16	4.12	0.08
Moment of inertia of optional brake	J_{brake}	10^{-4} kg · m^2	3.20	3.20	12.40	12.40
at 0 mm stroke	m	kg	109.1	126.6	128.8	168.2
Δ per 100 mm stroke	Δm	kg	5.7	5.7	5.7	5.7
of optional brake	m_{brake}	kg	1.9	1.9	3.1	3.1
of the anti-rotation device at 0 mm stroke	m_{arot0}	kg	3.6	3.6	3.6	3.6
Δ of the anti-rotation device per 100 mm stroke	Δm_{arot}	kg	0.7	0.7	0.7	0.7
Electrical specifications						

Designation	Symbol	Unit	Servo-motor and inline adapter			
			L40	L50	L10	L70
			LD1	LD2	LD6	LD7
Motor type	–	–	Servo	Servo	Servo	Servo
Rated voltage	U	V AC	400	400	400	400
Rated current	I	A	16.5	26.7	44.7	34.9
Peak current	I_{peak}	A	39.6	56	94	94
Rated power	P	kW	5.96	8.01	15.82	10.05
Environment and standards						
Ambient temperature	T_{amb}	°C	0 to +40	0 to +40	0 to +40	0 to +40
Protection code (IP) [3]	–	–	IP54	IP54	IP54	IP54

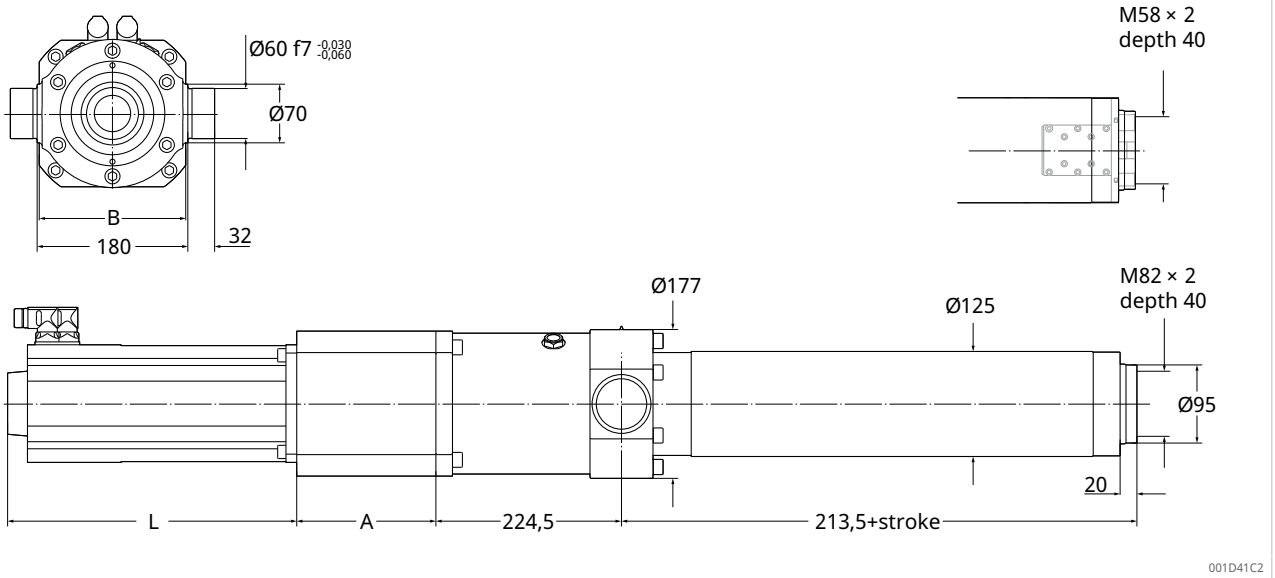
[1] In increments of 100 mm

[2] Backlash compensation up to 600 mm stroke. For longer strokes:
$S_{backlash}$ = 0.02 mm for screw drive lead 5,
$S_{backlash}$ = 0.04 mm for lead 10,
$S_{backlash}$ = 0.07 mm for lead 15 and 20

[3] With anti-rotation option IP44

Dimensional drawings

27 Dimensional drawing of electromechanical linear actuator SRSA-S-48, inline configuration

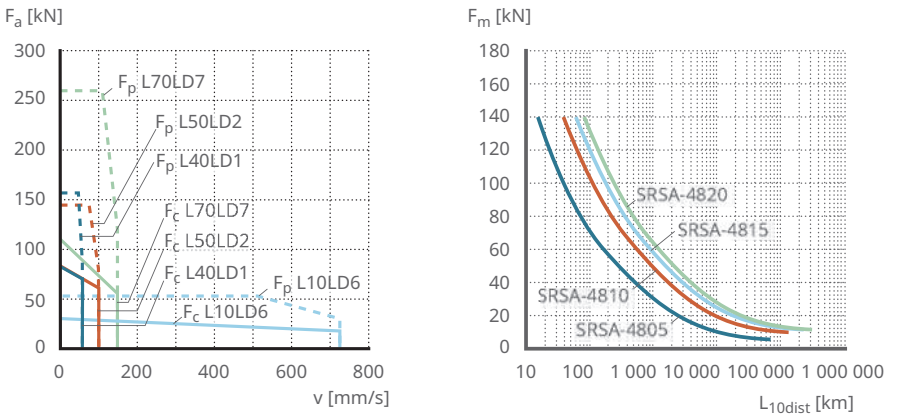


14 Dimensions

Reference	A	L	B	Added length for brake option	Added length for encoder option
	mm	mm	mm	mm	mm
L40LD1	206	476	192	28	50
L50LD2	239	544	192	28	50
L10LD6	178	427	192	44	49
L70LD7	247	529	192	44	49

Performance diagrams

28 Performance diagrams SRSA-S-48, inline configuration



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F_a	Axial force	v	Speed
F_m	Equivalent dynamic axial load	L_{10dist}	Service life distance
F_p	Peak force	F_c	Continuous force

Ordering designation

See ordering designation for linear unit SRSA-S/SVSA-S ➤49|6.2.

4.4 SRSA-S-48, electromechanical linear actuator servo-motor, parallel configuration

29 Electromechanical linear actuator SRSA-S-48, parallel configuration

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15 Technical data SRSA-S-48, parallel configuration

Designation	Symbol	Unit	Servo-motor and parallel adapter			
			P40	P50	P10	P70
			LD1	LD2	LD6	LD7
Performance data						
Continuous force at zero speed	F_{c0}	kN	79.2	80.1	28.1	106.4
Continuous force at max. speed	$F_{c\,vmax}$	kN	70.9	59.2	17.3	53.2
Peak force at zero speed	F_{p0}	kN	152.1	140.6	50.3	251.8
Peak force at max. speed	$F_{p\,vmax}$	kN	81.9	78.2	28.4	113.8
Dynamic load capacity	C	kN	198	232	258	261
Holding force (optional motor brake)	F_{hold}	kN	155	86	18	98
Max. linear speed	v_{max}	mm/s	58	100	713	143
Max. acceleration	a_{max}	m/s^2	0.9	1.4	10.1	1
Duty cycle	D	%	100	100	100	100
Mechanical data						
Screw drive type	–	–	Roller screw drive	Roller screw drive	Roller screw drive	Roller screw drive
Screw drive diameter	d_{screw}	mm	48	48	48	48
Screw drive lead	p_{screw}	mm	5	10	15	20
Lead accuracy	–	–	G5	G5	G5	G5
Stroke [1]	S	mm	100 to 1200	100 to 1200	100 to 1200	100 to 1200
Internal overstroke each side	S_0	mm	5	5	5	5
Backlash [2]	$S_{backlash}$	mm	0	0	0	0
Gear reduction	i	–	4	5	1	7
Moment of inertia at 0 mm stroke	J	10^{-4} kg · m^2	98.33	137.82	360.05	711.85
Δ moment of inertia per 100 mm stroke	ΔJ	10^{-4} kg · m^2	0.26	0.16	4.12	0.08
Moment of inertia of optional brake	J_{brake}	10^{-4} kg · m^2	3.20	3.20	12.40	12.40
at 0 mm stroke	m	kg	114.6	126.3	134.6	174.6
Δ per 100 mm stroke	Δm	kg	5.7	5.7	5.7	5.7
of optional brake	m_{brake}	kg	1.9	1.9	3.1	3.1
of the anti-rotation device at 0 mm stroke	m_{arot0}	kg	3.6	3.6	3.6	3.6
Δ of the anti-rotation device per 100 mm stroke	Δm_{arot}	kg	0.7	0.7	0.7	0.7
Electrical specifications						
Motor type	–	–	Servo	Servo	Servo	Servo
Rated voltage	U	V AC	400	400	400	400
Rated current	I	A	16.5	26.7	44.7	34.9
Peak current	I_{peak}	A	39.6	56	94	94
Rated power	P	kW	5.96	8.01	15.82	10.05
Environment and standards						
Ambient temperature	T_{amb}	°C	0 to +40	0 to +40	0 to +40	0 to +40
Protection code (IP) [3]	–	–	IP54	IP54	IP54	IP54

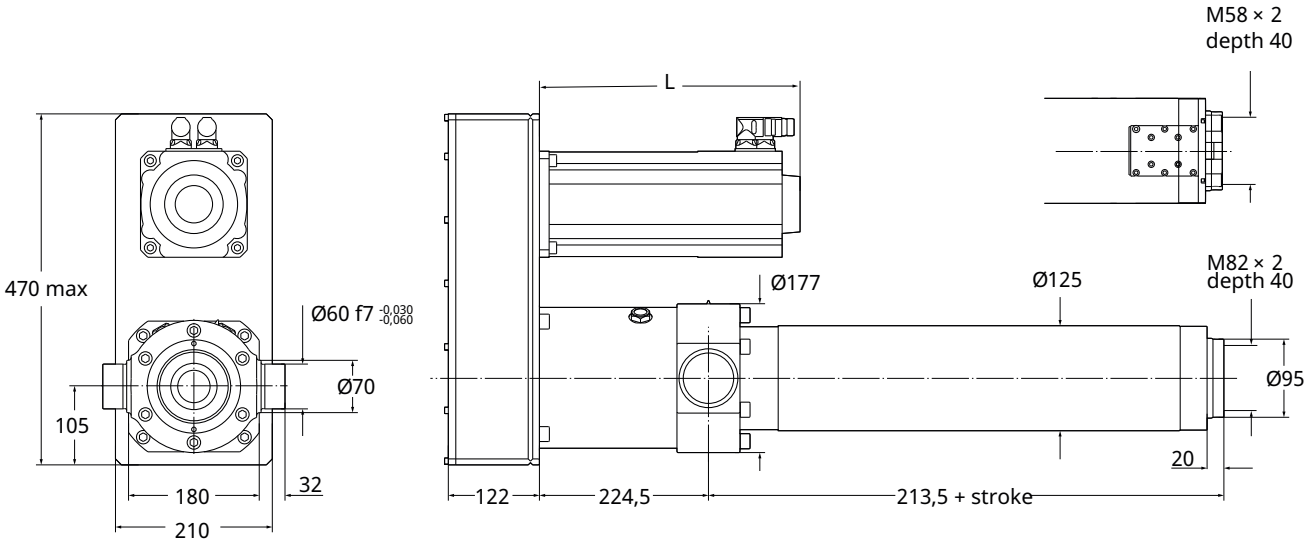
1) In increments of 100 mm

2) Backlash compensation up to 600 mm stroke. For longer strokes:
$S_{backlash}$ = 0.02 mm for screw drive lead 5,
$S_{backlash}$ = 0.04 mm for lead 10,
$S_{backlash}$ = 0.07 mm for lead 15 and 20

3) With anti-rotation option IP44

Dimensional drawings

30 Dimensional drawing of electromechanical linear actuator SRSA-S-48, parallel configuration

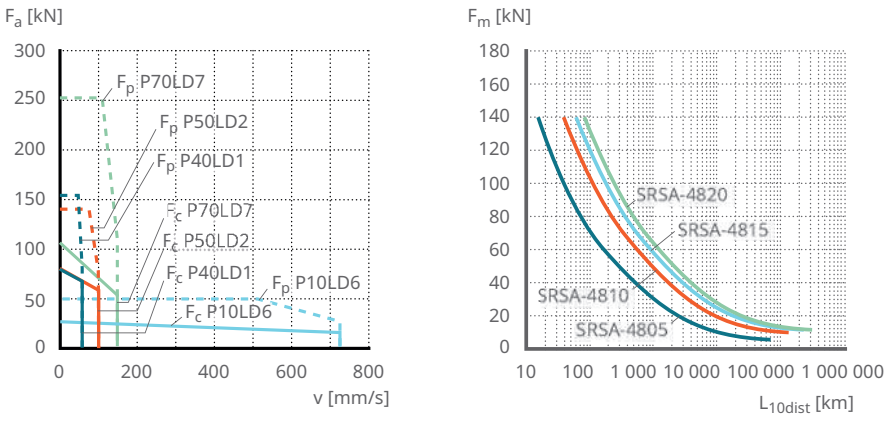


16 Dimensions

Reference	L	Added length for brake option	Added length for encoder option
	mm	mm	mm
P40LD1	476	28	50
P50LD2	544	28	50
P10LD6	427	44	49
P70LD7	529	44	49

Performance diagrams

31 Performance diagrams for SRSA-S-48, parallel configuration



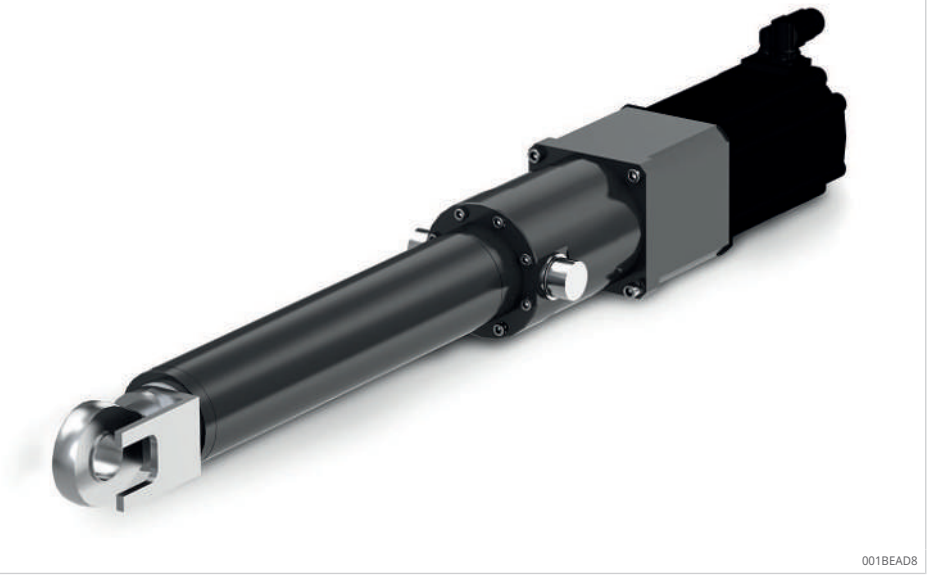
F_a	Axial force	v	Speed
F_m	Equivalent dynamic axial load	L_{10dist}	Service life distance
F_p	Peak force	F_c	Continuous force

Ordering designation

See ordering designation for linear unit SRSA-S/SVSA-S ➤49|6.2.

4.5 SRSA-S-60, electromechanical linear actuator servo-motor, inline configuration

32 Electromechanical linear actuator SRSA-S-60, inline configuration



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17 Technical data for SRSA-S-60, inline configuration

Designation	Symbol	Unit	Servo-motor and inline adapter		
			L50	L30	L70
			LD5	LD6	LD7
Performance data					
Continuous force at zero speed	F_{c0}	kN	120.6	83.3	109.7
Continuous force at max. speed	$F_{c\ vmax}$	kN	68.6	51.3	54.8
Peak force at zero speed	F_{p0}	kN	199.7	149.2	259.6
Peak force at max. speed	$F_{p\ vmax}$	kN	145.5	84.2	117.4
Dynamic load capacity	C	kN	339	373	395
Holding force (optional motor brake)	F_{hold}	kN	144	55	95
Max. linear speed	v_{max}	mm/s	100	238	143
Max. acceleration	a_{max}	m/s²	2	5.2	3.5
Duty cycle	D	%	100	100	100
Mechanical data					
Screw drive type	–	–	Roller screw drive	Roller screw drive	Roller screw drive
Screw drive diameter	d_{screw}	mm	60	60	60
Screw drive lead	p_{screw}	mm	10	15	20
Lead accuracy	–	–	G5	G5	G5
Stroke [1)]	S	mm	100 to 1300	100 to 1300	100 to 1300
Internal overstroke each side	S_0	mm	10	10	10
Backlash [2)]	$S_{backlash}$	mm	0	0	0
Gear reduction	i	–	5	3	7
Moment of inertia at 0 mm stroke	J	10^{-4} kg · m²	134.01	236.18	194.51
Δ moment of inertia per 100 mm stroke	ΔJ	10^{-4} kg · m²	0.40	1.12	0.21
Moment of inertia of optional brake	J_{brake}	10^{-4} kg · m²	12.40	12.40	12.40
at 0 mm stroke	m	kg	165.1	181.1	197.2
Δ per 100 mm stroke	Δm	kg	8.9	8.9	8.9
of optional brake	m_{brake}	kg	3.1	3.1	3.1
of the anti-rotation device at 0 mm stroke	m_{arot0}	kg	5.2	5.2	5.2
Δ of the anti-rotation device per 100 mm stroke	Δm_{arot}	kg	0.8	0.8	0.8
Electrical specifications					

Designation	Symbol	Unit	Servo-motor and inline adapter		
			L50	L30	L70
			LD5	LD6	LD7
Motor type	–	–	Servo	Servo	Servo
Rated voltage	U	V AC	400	400	400
Rated current	I	A	30.5	44.7	34.9
Peak current	I_{peak}	A	56	94	94
Rated power	P	kW	9.11	15.82	10.05
Environment and standards					
Ambient temperature	T_{amb}	°C	0 to +40	0 to +40	0 to +40
Protection code (IP) [3]	–	–	IP54	IP54	IP54

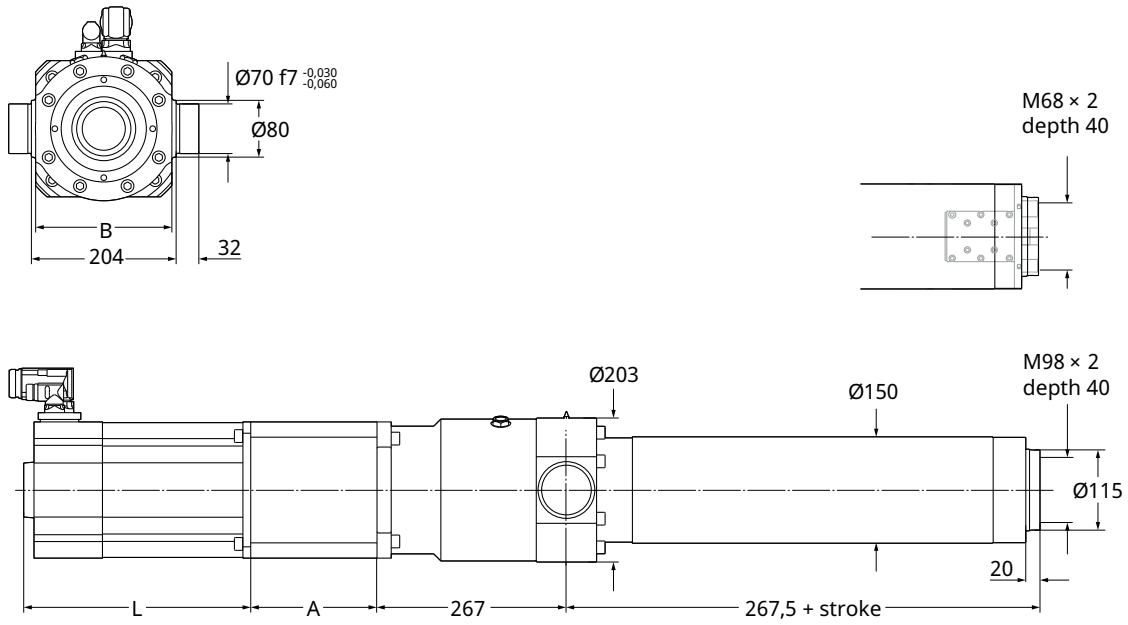
[1] In increments of 100 mm

[2] Backlash compensation up to 800 mm stroke. For longer strokes:
$S_{backlash}$ = 0.04 mm for screw drive lead 10,
$S_{backlash}$ = 0.07 mm for lead 15 and 20

[3] With anti-rotation option IP44

Dimensional drawings

33 Dimensional drawing of electromechanical linear actuator SRSA-S-60, inline configuration

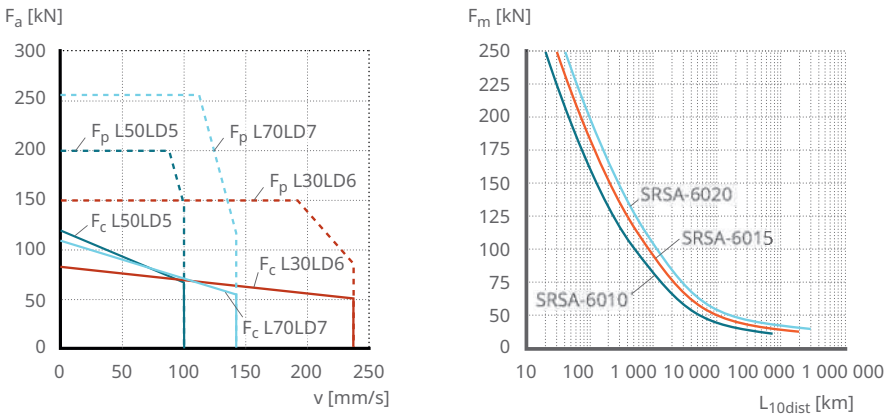


18 Dimensions

Reference	A	L	B	Added length for brake option	Added length for encoder option
	mm	mm	mm	mm	mm
L50LD5	240	435	192	44	49
L30LD6	240	602	192	44	49
L70LD7	248	529	192	44	49

Performance diagrams

34 Performance diagrams SRSA-S-60, inline configuration



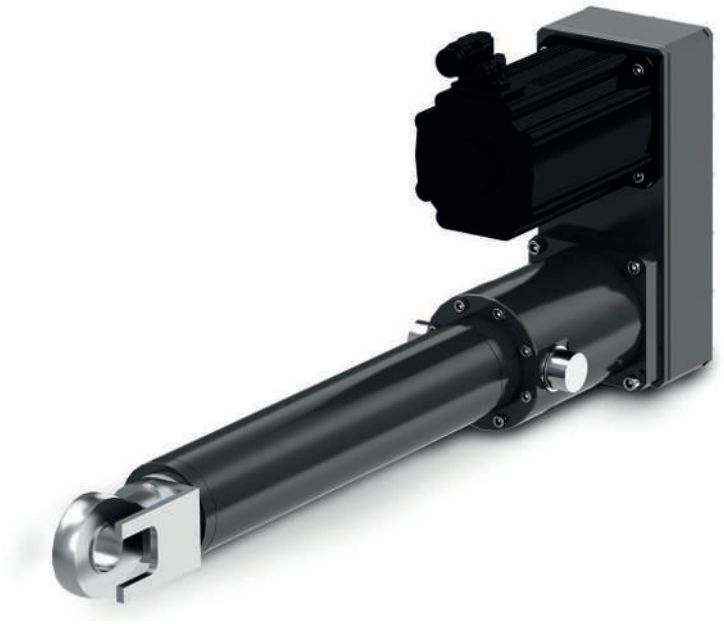
F_a	Axial force	v	Speed
F_m	Equivalent dynamic axial load	L_{10dist}	Service life distance
F_p	Peak force	F_c	Continuous force

Ordering designation

See ordering designation for linear unit SRSA-S/SVSA-S ➤49|6.2.

4.6 SRSA-S-60, electromechanical linear actuator servo-motor, parallel configuration

35 Electromechanical linear actuator SRSA-S-60, parallel configuration



19 Technical data SRSA-S-60, parallel configuration

Designation	Symbol	Unit	Servo-motor and parallel adapter		
			P50	P30	P70
			LD5	LD6	LD7
Performance data					
Continuous force at zero speed	F_{c0}	kN	117	80.8	106.4
Continuous force at max. speed	$F_{c\ vmax}$	kN	66.5	49.8	53.2
Peak force at zero speed	F_{p0}	kN	193.7	144.7	251.8
Peak force at max. speed	$F_{p\ vmax}$	kN	141.1	81.7	113.8
Dynamic load capacity	C	kN	339	373	395
Holding force (optional motor brake)	F_{hold}	kN	149	57	98
Max. linear speed	v_{max}	mm/s	100	238	143
Max. acceleration	a_{max}	m/s^2	0.6	2.2	1
Duty cycle	D	%	100	100	100
Mechanical data					
Screw drive type	–	–	Roller screw drive	Roller screw drive	Roller screw drive
Screw drive diameter	d_{screw}	mm	60	60	60
Screw drive lead	p_{screw}	mm	10	15	20
Lead accuracy	–	–	G5	G5	G5
Stroke [1]	S	mm	100 to 1300	100 to 1300	100 to 1300
Internal overstroke each side	S_0	mm	10	10	10
Backlash [2]	$S_{backlash}$	mm	0	0	0
Gear reduction	i	–	5	3	7
Moment of inertia at 0 mm stroke	J	$10^{-4}\ kg \cdot m^2$	463.12	557.95	714.38
Δ moment of inertia per 100 mm stroke	ΔJ	$10^{-4}\ kg \cdot m^2$	0.40	1.12	0.21
Moment of inertia of optional brake	J_{brake}	$10^{-4}\ kg \cdot m^2$	12.40	12.40	12.40
at 0 mm stroke	m	kg	173.3	187	206
Δ per 100 mm stroke	Δm	kg	8.9	8.9	8.9
of optional brake	m_{brake}	kg	3.1	3.1	3.1
of the anti-rotation device at 0 mm stroke	m_{arot0}	kg	5.2	5.2	5.2
Δ of the anti-rotation device per 100 mm stroke	Δm_{arot}	kg	0.8	0.8	0.8
Electrical specifications					
Motor type	–	–	Servo	Servo	Servo
Rated voltage	U	V AC	400	400	400
Rated current	I	A	30.5	44.7	34.9
Peak current	I_{peak}	A	56	94	94
Rated power	P	kW	9.11	15.82	10.05
Environment and standards					
Ambient temperature	T_{amb}	°C	0 to +40	0 to +40	0 to +40
Protection code (IP) [3]	–	–	IP54	IP54	IP54

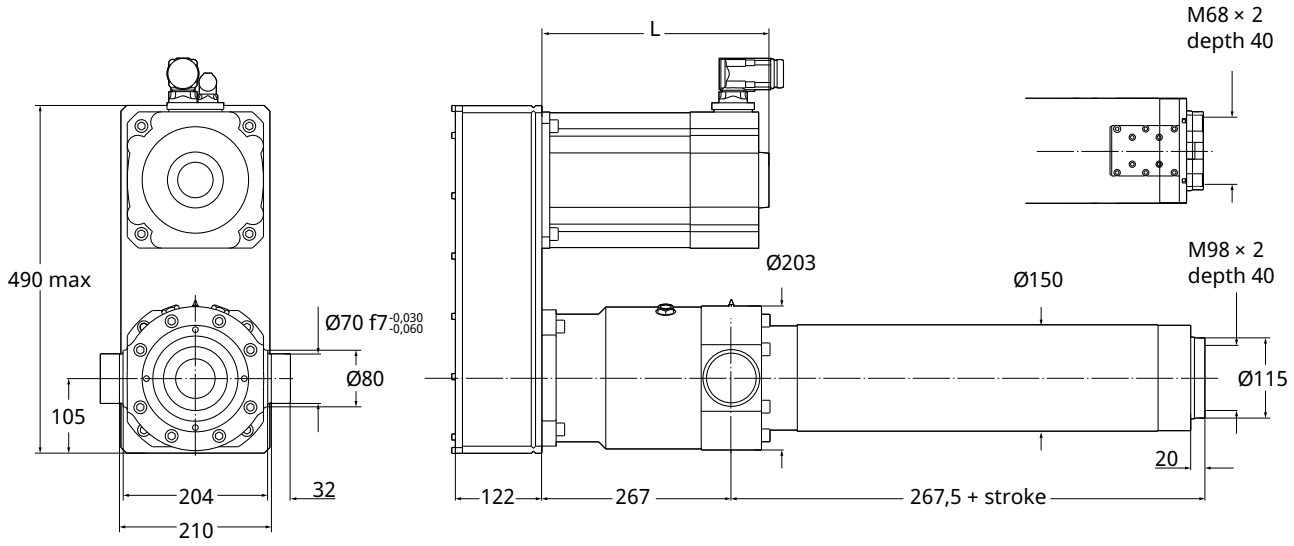
1) In increments of 100 mm

2) Backlash compensation up to 800 mm stroke. For longer strokes:
$S_{backlash}$ = 0.04 mm for screw drive lead 10,
$S_{backlash}$ = 0.07 mm for lead 15 and 20

3) With anti-rotation option IP44

Dimensional drawings

36 Dimensional drawing of electromechanical linear actuator SRSA-S-60, parallel configuration

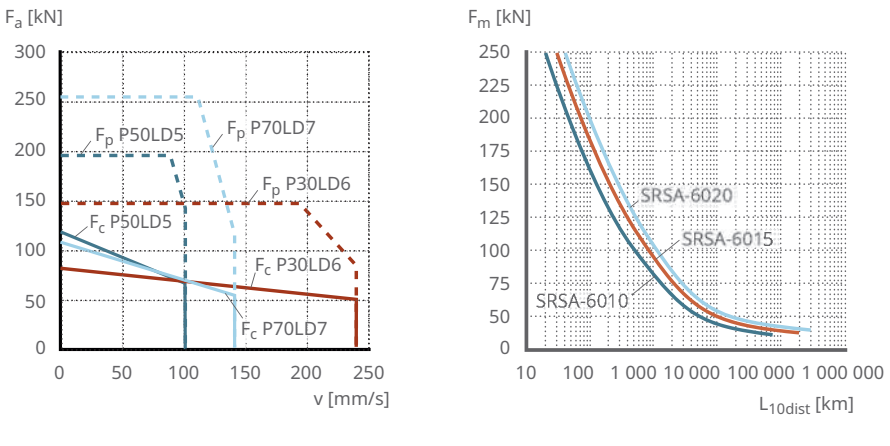


20 Dimensions

Reference	L	Added length for brake option	Added length for encoder option
	mm	mm	mm
P50LD5	435	44	49
P30LD6	602	44	49
P70LD7	529	44	49

Performance diagrams

37 Performance diagrams for SRSA-S-60, parallel configuration



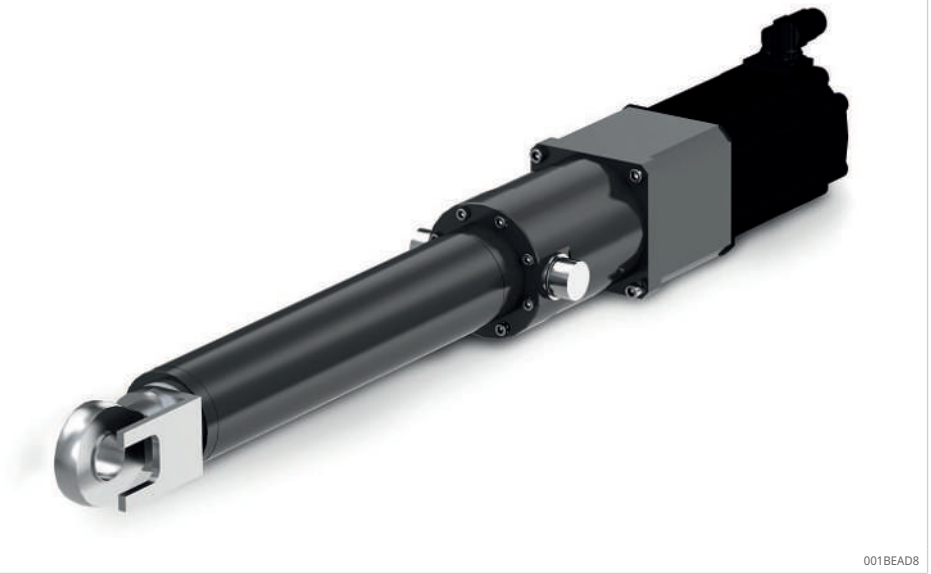
F_a	Axial force	v	Speed
F_m	Equivalent dynamic axial load	L_{10dist}	Service life distance
F_p	Peak force	F_c	Continuous force

Ordering designation

See ordering designation for linear unit SRSA-S/SVSA-S ➤49|6.2.

4.7 SRSA-S-75, electromechanical linear actuator servo-motor, inline configuration

38 Electromechanical linear actuator SRSA-S-75, inline configuration



21 Technical data for SRSA-S-75, inline configuration

Designation	Symbol	Unit	Servo-motor and inline adapter		
			L70	L30	L70
			LD7	LD6	LD6
Performance data					
Continuous force at zero speed	F_{c0}	kN	207	82.3	145.7
Continuous force at max. speed	$F_{c\ vmax}$	kN	103.5	50.7	89.8
Peak force at zero speed	F_{p0}	kN	490	147.5	261.1
Peak force at max. speed	$F_{p\ vmax}$	kN	221.5	83.3	147.4
Dynamic load capacity	C	kN	505	561	572
Holding force (optional motor brake)	F_{hold}	kN	210	56	96
Max. linear speed	v_{max}	mm/s	71	238	136
Max. acceleration	a_{max}	m/s^2	1.7	4.3	3.4
Duty cycle	D	%	100	100	100
Mechanical data					
Screw drive type	–	–	Roller screw drive	Roller screw drive	Roller screw drive
Screw drive diameter	d_{screw}	mm	75	75	75
Screw drive lead	p_{screw}	mm	10	15	20
Lead accuracy	–	–	G5	G5	G5
Stroke [1]	S	mm	100 to 1500	100 to 1500	100 to 1500
Internal overstroke each side	S_0	mm	10	10	10
Backlash [2]	$S_{backlash}$	mm	0	0	0
Gear reduction	i	–	7	3	7
Moment of inertia at 0 mm stroke	J	10^{-4} kg · m^2	263.61	285.71	203.61
Δ moment of inertia per 100 mm stroke	ΔJ	10^{-4} kg · m^2	0.50	2.73	0.44
Moment of inertia of optional brake	J_{brake}	10^{-4} kg · m^2	12.40	12.40	12.40
at 0 mm stroke	m	kg	292.1	277.8	298.1
Δ per 100 mm stroke	Δm	kg	11.3	11.3	11.3
of optional brake	m_{brake}	kg	3.1	3.1	3.1
of the anti-rotation device at 0 mm stroke	m_{arot0}	kg	7.5	7.5	7.5
Δ of the anti-rotation device per 100 mm stroke	Δm_{arot}	kg	2.7	2.7	2.7
Electrical specifications					

Designation	Symbol	Unit	Servo-motor and inline adapter		
			L70	L30	L70
			LD7	LD6	LD6
Motor type	–	–	Servo	Servo	Servo
Rated voltage	U	V AC	400	400	400
Rated current	I	A	34.9	44.7	44.7
Peak current	I_{peak}	A	94	94	94
Rated power	P	kW	10.05	15.82	15.82
Environment and standards					
Ambient temperature	T_{amb}	°C	0 to +40	0 to +40	0 to +40
Protection code (IP) [3]	–	–	IP54	IP54	IP54

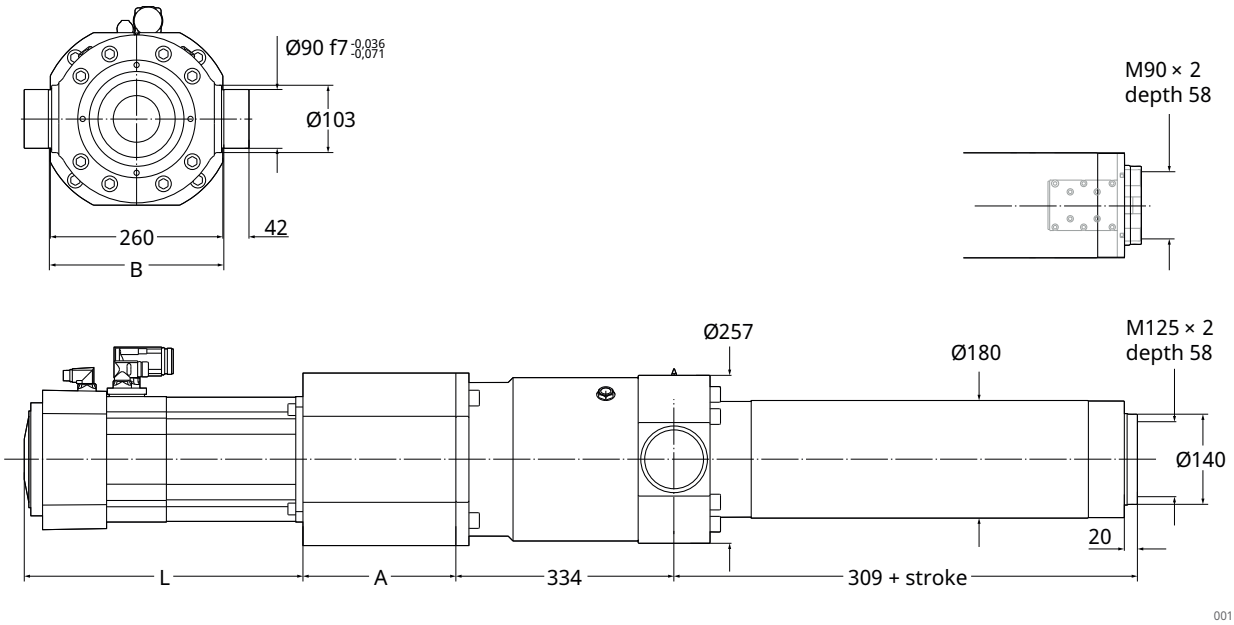
[1] In increments of 100 mm

[2] Backlash compensation up to 1000 mm stroke. For longer strokes:
$S_{backlash}$ = 0.04 mm for screw drive lead 10,
$S_{backlash}$ = 0.07 mm for lead 15 and 20

[3] With anti-rotation option IP44

Dimensional drawings

39 Dimensional drawing of electromechanical linear actuator SRSA-S-75x, inline configuration

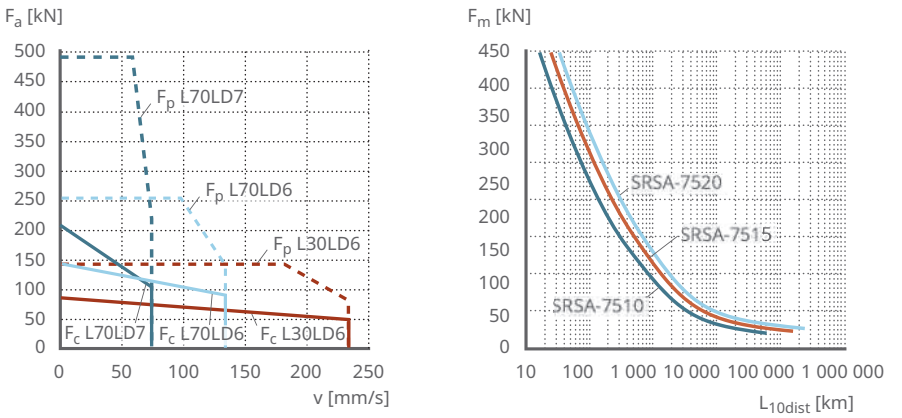


22 Dimensions

Reference	A	L	B	Added length for brake option	Added length for encoder option
	mm	mm	mm	mm	mm
L70LD7	247	529	264	44	49
L30LD6	239	602	264	44	49
L70LD6	247	636	264	44	49

Performance diagrams

40 Performance diagrams SRSA-S-75, inline configuration



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F_a	Axial force	v	Speed
F_m	Equivalent dynamic axial load	L_{10dist}	Service life distance
F_p	Peak force	F_c	Continuous force

Ordering designation

See ordering designation for linear unit SRSA-S/SVSA-S ➤49|6.2.

4.8 SRSA-S-75, electromechanical linear actuator servo-motor, parallel configuration

41 Electromechanical linear actuator SRSA-S-75, parallel configuration

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23 Technical data SRSA-S-75, parallel configuration

Designation	Symbol	Unit	Servo-motor and parallel adapter		
			P70	P30	P70
			LD7	LD6	LD6
Performance data					
Continuous force at zero speed	F_{c0}	kN	200.8	79.8	141.3
Continuous force at max. speed	$F_{c\ vmax}$	kN	100.4	49.2	87.1
Peak force at zero speed	F_{p0}	kN	475.3	143.1	253.2
Peak force at max. speed	$F_{p\ vmax}$	kN	214.9	80.8	143
Dynamic load capacity	C	kN	505	561	572
Holding force (optional motor brake)	F_{hold}	kN	216	58	99
Max. linear speed	v_{max}	mm/s	71	238	136
Max. acceleration	a_{max}	m/s^2	0.5	2	1
Duty cycle	D	%	100	100	100
Mechanical data					
Screw drive type	–	–	Roller screw drive	Roller screw drive	Roller screw drive
Screw drive diameter	d_{screw}	mm	75	75	75
Screw drive lead	p_{screw}	mm	10	15	20
Lead accuracy	–	–	G5	G5	G5
Stroke [1]	S	mm	100 to 1500	100 to 1500	100 to 1500
Internal overstroke each side	S_0	mm	10	10	10
Backlash [2]	$S_{backlash}$	mm	0	0	0
Gear reduction	i	–	7	3	7
Moment of inertia at 0 mm stroke	J	10^{-4} kg · m^2	723.5	607.59	723.5
Δ moment of inertia per 100 mm stroke	ΔJ	10^{-4} kg · m^2	0.50	2.73	0.44
Moment of inertia of optional brake	J_{brake}	10^{-4} kg · m^2	12.40	12.40	12.40
at 0 mm stroke	m	kg	303.5	284.6	309.5
Δ per 100 mm stroke	Δm	kg	11.3	11.3	11.3
of optional brake	m_{brake}	kg	3.1	3.1	3.1
of the anti-rotation device at 0 mm stroke	m_{arot0}	kg	7.5	7.5	7.5
Δ of the anti-rotation device per 100 mm stroke	Δm_{arot}	kg	2.7	2.7	2.7
Electrical specifications					
Motor type	–	–	Servo	Servo	Servo
Rated voltage	U	V AC	400	400	400
Rated current	I	A	34.9	44.7	44.7
Peak current	I_{peak}	A	94	94	94
Rated power	P	kW	10.05	15.82	15.82
Environment and standards					
Ambient temperature	T_{amb}	°C	0 to +40	0 to +40	0 to +40
Protection code (IP) [3]	–	–	IP54	IP54	IP54

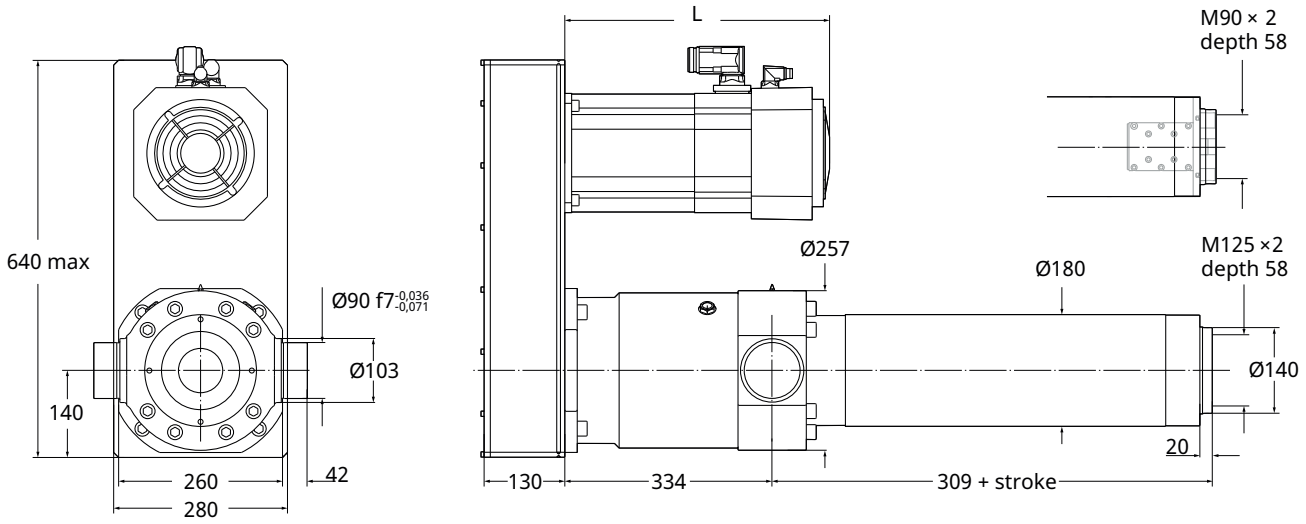
1) In increments of 100 mm

2) Backlash compensation up to 1000 mm stroke. For longer strokes:
$S_{backlash}$ = 0.04 mm for screw drive lead 10,
$S_{backlash}$ = 0.07 mm for lead 15 and 20

3) With anti-rotation option IP44

Dimensional drawings

42 Dimensional drawing of electromechanical linear actuator SRSA-S-75x, parallel configuration

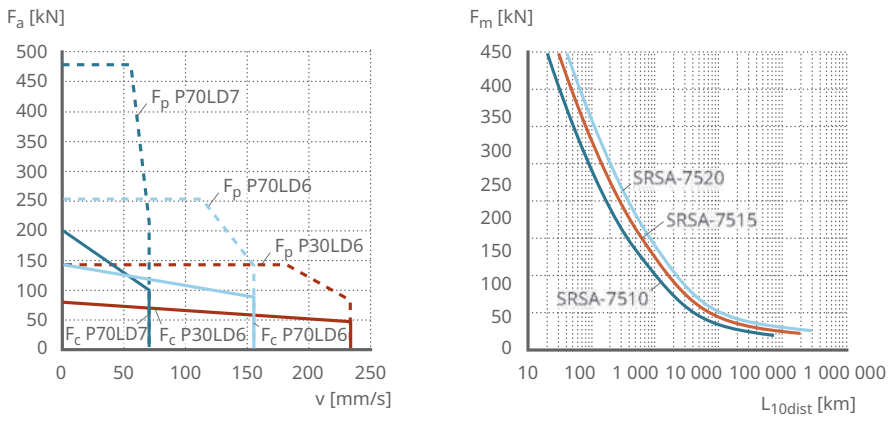


24 Dimensions

Reference	L	Added length for brake option	Added length for encoder option
	mm	mm	mm
P70LD7	529	44	49
P30LD6	602	44	49
P70LD6	636	44	49

Performance diagrams

43 Performance diagrams for SRSA-S-75, parallel configuration



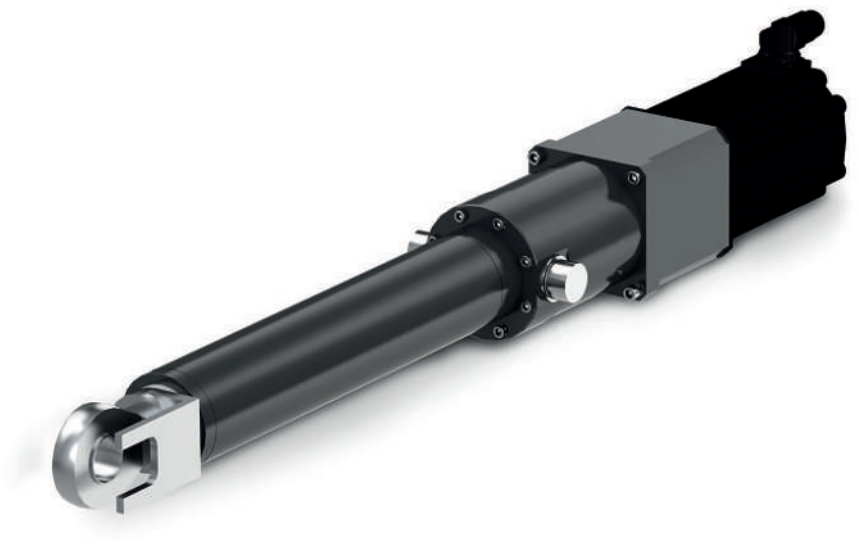
F_a	Axial force	v	Speed
F_m	Equivalent dynamic axial load	L_{10dist}	Service life distance
F_p	Peak force	F_c	Continuous force

Ordering designation

See ordering designation for linear unit SRSA-S/SVSA-S ➤49|6.2.

4.9 SVSA-S-..01, electromechanical linear actuator servo-motor, inline configuration

44 Electromechanical linear actuator SVSA-S-..01, inline configuration



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25 Technical data SVSA-S-..01, inline configuration

Designation	Symbol	Unit	Servo-motor and inline adapter		
			L10	L10	L10
			LC7	LA1	LA5
Performance data					
Continuous force at zero speed	F_{c0}	kN	13.8	19.2	40
Continuous force at max. speed	$F_{c\ vmax}$	kN	10.2	16.5	36
Peak force at zero speed	F_{p0}	kN	42.8	54.1	93
Peak force at max. speed	$F_{p\ vmax}$	kN	18.7	18.3	45.3
Dynamic load capacity	C	kN	64	79	174
Holding force (optional motor brake)	F_{hold}	kN	64	79.0	174
Max. linear speed	v_{max}	mm/s	10.4	8.3	6.7
Max. acceleration	a_{max}	m/s²	0.6	0.6	0.6
Duty cycle	D	%	100	100	100
Mechanical data					
Screw drive type	–	–	Roller screw drive	Roller screw drive	Roller screw drive
Screw drive diameter	d_{screw}	mm	32	40	50
Screw drive lead	p_{screw}	mm	1	1	1
Lead accuracy	–	–	G5	G5	G5
Stroke [1)]	S	mm	100 to 600	100 to 800	100 to 900
Internal overstroke each side	S_0	mm	5	5	5
Backlash [2)]	$S_{backlash}$	mm	0	0	0
Gear reduction	i	–	1	1	1
Moment of inertia at 0 mm stroke	J	10^{-4} kg · m²	8.88	19.95	40.82
Δ moment of inertia per 100 mm stroke	ΔJ	10^{-4} kg · m²	0.31	0.64	1.8
Moment of inertia of optional brake	J_{brake}	10^{-4} kg · m²	1.07	1.07	1.07
at 0 mm stroke	m	kg	19.1	30.1	62.4
Δ per 100 mm stroke	Δm	kg	2.4	3.2	4.8
of optional brake	m_{brake}	kg	0.8	0.9	0.9
of the anti-rotation device at 0 mm stroke	m_{arot0}	kg	2.6	–0.3	–0.3
Δ of the anti-rotation device per 100 mm stroke	Δm_{arot}	kg	0.3	0.2	0.4
Electrical specifications					

Designation	Symbol	Unit	Servo-motor and inline adapter		
			L10	L10	L10
			LC7	LA1	LA5
Motor type	–	–	Servo	Servo	Servo
Rated voltage	U	V AC	400	400	400
Rated current	I	A	3	2.7	6.2
Peak current	I_{peak}	A	12.8	10	26.8
Rated power	P	kW	1.22	1.12	2.76
Environment and standards					
Ambient temperature	T_{amb}	°C	0 to +40	0 to +40	0 to +40
Protection code (IP) [3]	–	–	IP54	IP54	IP54

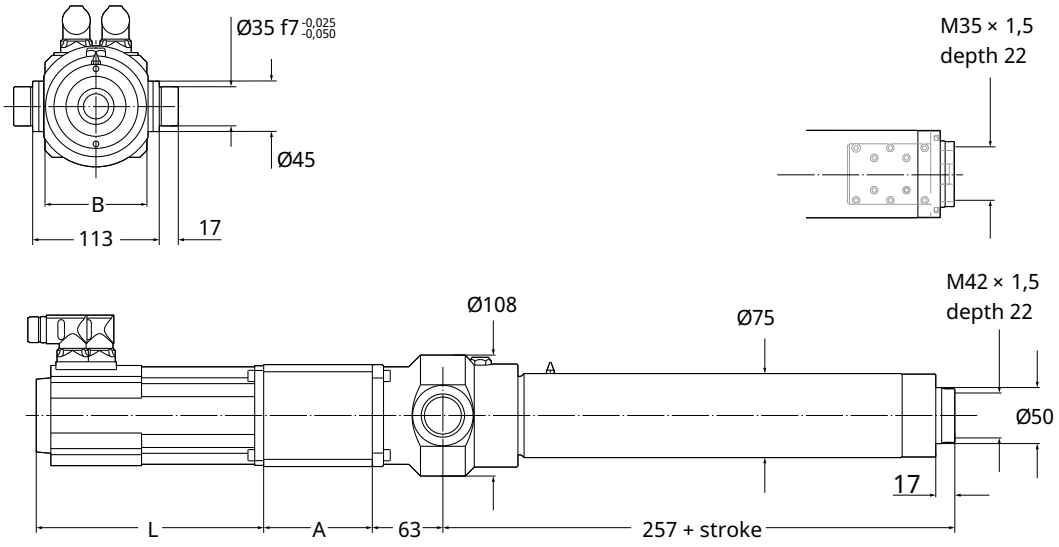
1) In increments of 100 mm

2) Backlash compensation up to 600 mm stroke. For longer strokes: $S_{backlash}$ = 0.02 mm

3) With anti-rotation option IP44

Dimensional drawings

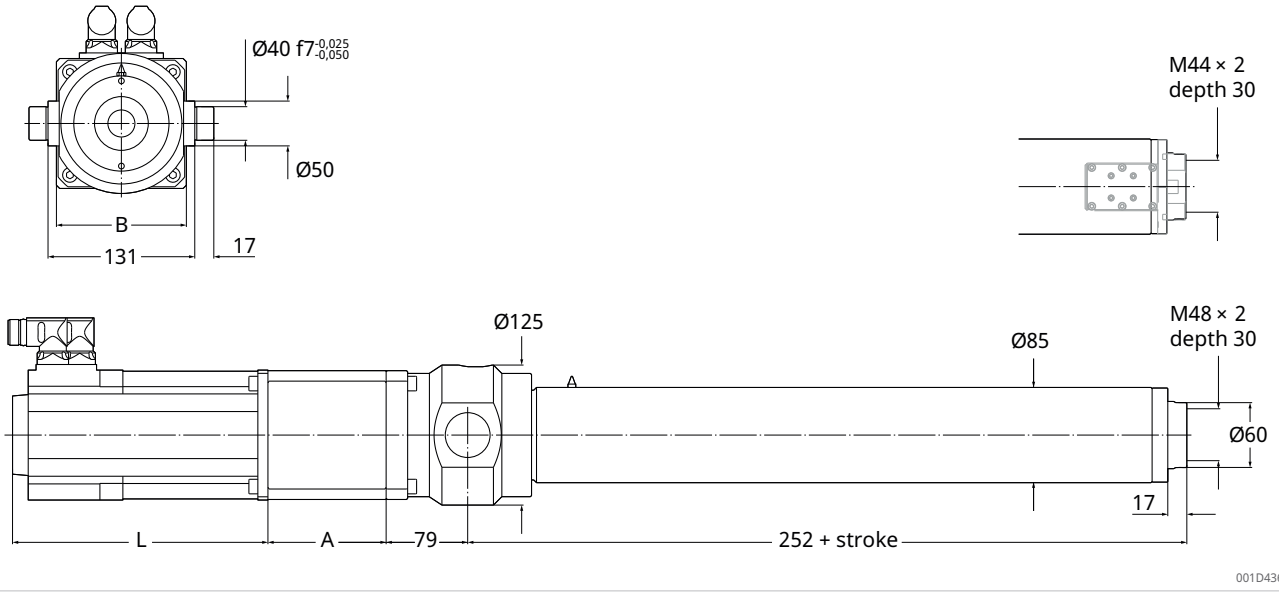
45 Dimensional drawing of electromechanical linear actuator SVSA-S-3201, inline configuration



26 Dimensions

Reference	A	L	B	Added length for brake option	Added length for encoder option
	mm	mm	mm	mm	mm
L10LC7	97	203	91	20	51

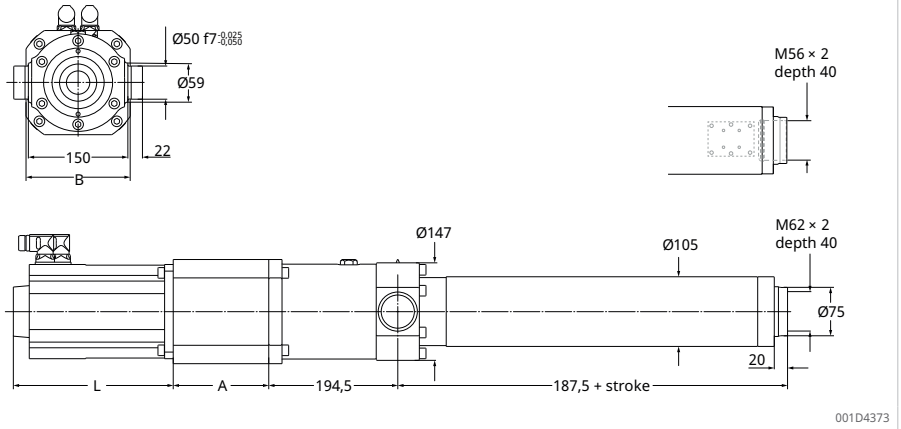
46 Dimensional drawing of electromechanical linear actuator SVSA-S-4001, inline configuration



27 Dimensions

Reference	A	L	B	Added length for brake option	Added length for encoder option
	mm	mm	mm	mm	mm
L10LA1	111	188	116	20	49

47 Dimensional drawing of electromechanical linear actuator SVSA-S-5001, inline configuration

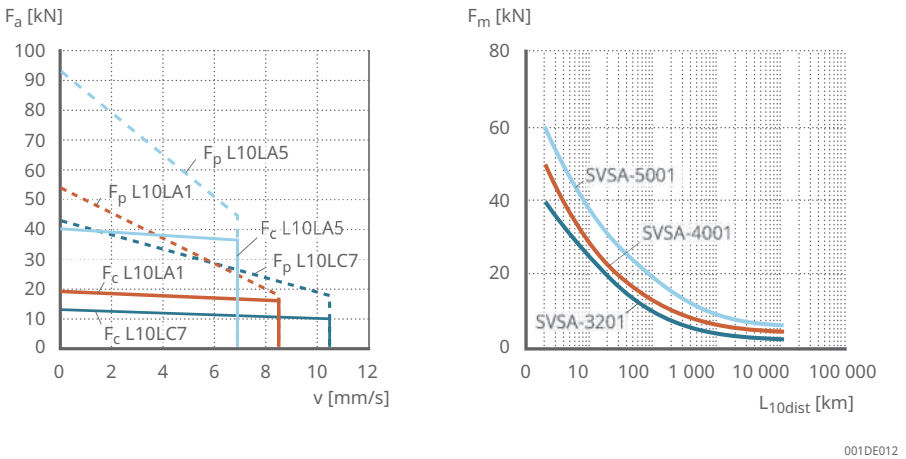


28 Dimensions

Reference	A	L	B	Added length for brake option	Added length for encoder option
	mm	mm	mm	mm	mm
L10LA5	134	268	185	20	49

Performance diagrams

48 Performance diagrams SVSA-S-..01, inline configuration



F_a	Axial force	v	Speed
F_m	Equivalent dynamic axial load	L_{10dist}	Service life distance
F_p	Peak force	F_c	Continuous force

Ordering key

See ordering key for linear unit SRSA-S/SVSA-S.

4.10 SVSA-S-..01, electromechanical linear actuator servomotor, parallel configuration

49 Electromechanical linear actuator SVSA-S-..01, parallel configuration

29 Technical data SVSA-S-..01, parallel configuration

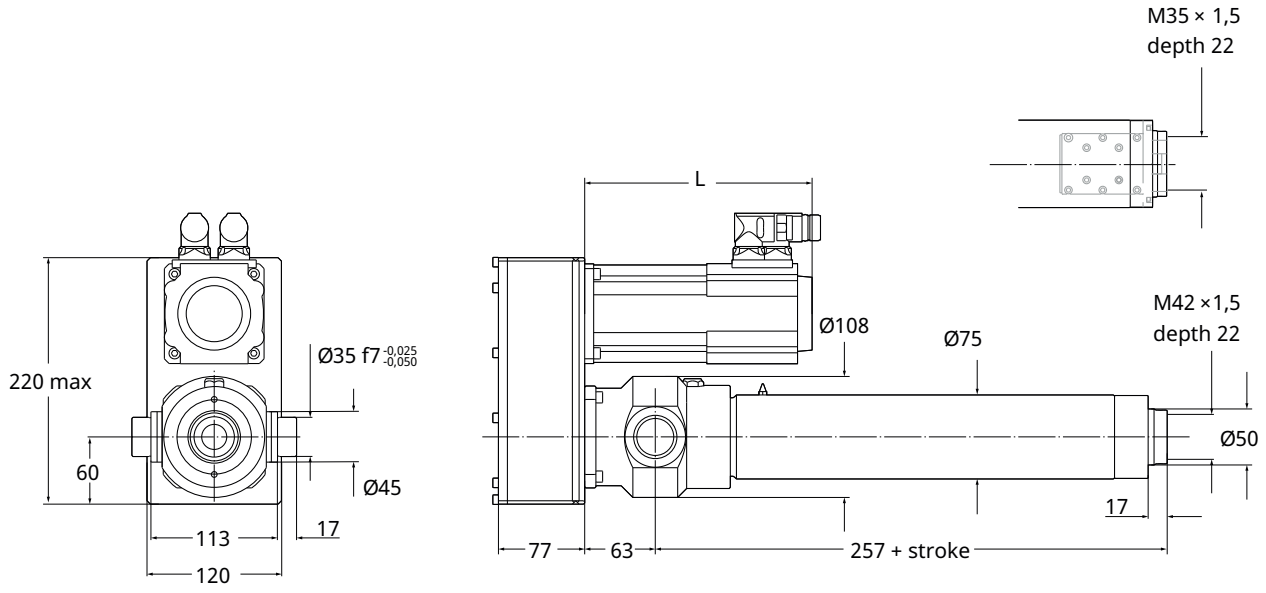
Designation	Symbol	Unit	Servo-motor and parallel adapter		
			P10	P10	P10
			LC7	LA1	LA5
Performance data					
Continuous force at zero speed	F_{c0}	kN	13.4	18.7	38.8
Continuous force at max. speed	$F_{c\ vmax}$	kN	9.9	16	34.9
Peak force at zero speed	F_{p0}	kN	41.5	52.5	90.2
Peak force at max. speed	$F_{p\ vmax}$	kN	18.2	17.8	43.9
Dynamic load capacity	C	kN	64	79	174
Holding force (optional motor brake)	F_{hold}	kN	64	79	174
Max. linear speed	v_{max}	mm/s	10.4	8.3	6.7
Max. acceleration	a_{max}	m/s^2	0.6	0.6	0.6
Duty cycle	D	%	100	100	100
Mechanical data					
Screw drive type	–	–	Roller screw drive	Roller screw drive	Roller screw drive
Screw drive diameter	d_{screw}	mm	32	40	50
Screw drive lead	p_{screw}	mm	1	1	1
Lead accuracy	–	–	G5	G5	G5
Stroke [1]	S	mm	100 to 600	100 to 800	100 to 900
Internal overstroke each side	S_0	mm	5	5	5
Backlash [2]	$S_{backlash}$	mm	0	0	0
Gear reduction	i	–	1	1	1
Moment of inertia at 0 mm stroke	J	10^{-4} kg · m^2	7.70	17.25	47.65
Δ moment of inertia per 100 mm stroke	ΔJ	10^{-4} kg · m^2	0.31	0.64	1.80
Moment of inertia of optional brake	J_{brake}	10^{-4} kg · m^2	1.07	1.07	1.07
at 0 mm stroke	m	kg	24	34.9	70.3
Δ per 100 mm stroke	Δm	kg	2.4	3.2	4.8
of optional brake	m_{brake}	kg	0.8	0.9	0.9
of the anti-rotation device at 0 mm stroke	m_{arot0}	kg	2.6	–0.3	–0.3
Δ of the anti-rotation device per 100 mm stroke	Δm_{arot}	kg	0.3	0.2	0.4
Electrical specifications					
Motor type	–	–	Servo	Servo	Servo
Rated voltage	U	V AC	400	400	400
Rated current	I	A	3	2.7	6.2
Peak current	I_{peak}	A	12.8	10	26.8
Rated power	P	kW	1.220	1.120	2.760
Environment and standards					
Ambient temperature	T_{amb}	°C	0 to +40	0 to +40	0 to +40
Protection code (IP) [2]	–	–	IP54	IP54	IP54

[1] In increments of 100 mm

[2] With anti-rotation option IP44

Dimensional drawings

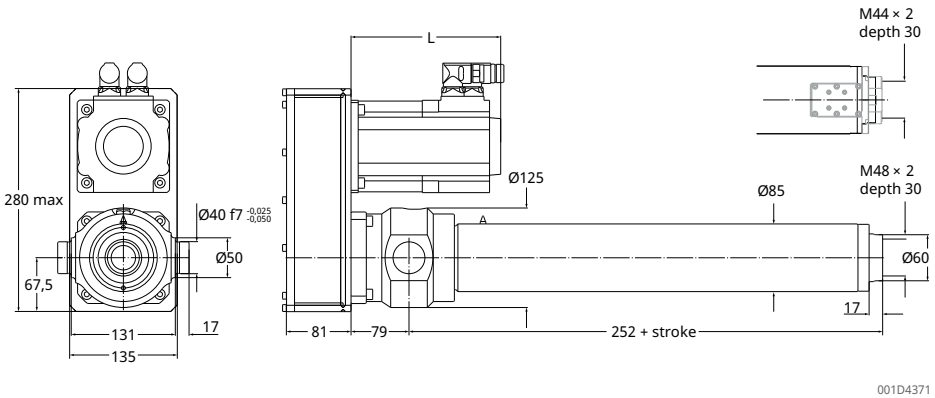
50 Dimensional drawing of electromechanical linear actuator SVSA-S-3201, parallel configuration



30 Dimensions

Reference	L	Added length for brake option	Added length for encoder option
	mm	mm	mm
P10LC7	203	20	51

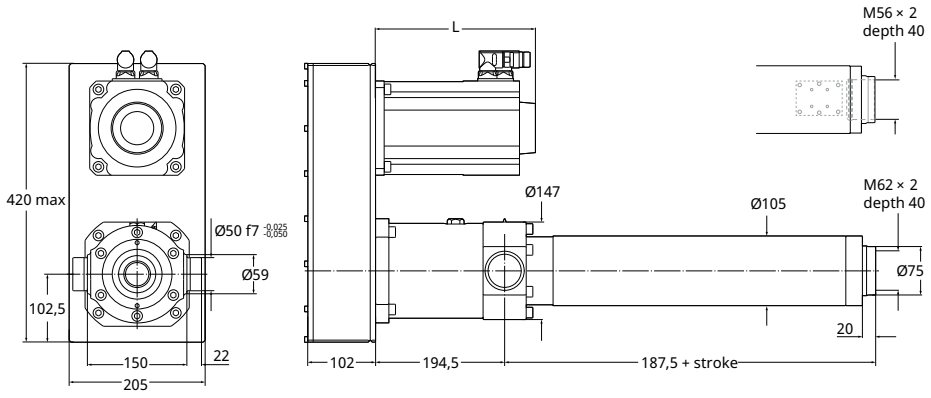
51 Dimensional drawing of electromechanical linear actuator SVSA-S-4001, parallel configuration



31 Dimensions

Reference	L	Added length for brake option	Added length for encoder option
	mm	mm	mm
P10LA1	188	20	49

52 Dimensional drawing of electromechanical linear actuator SVSA-S-5001, parallel configuration

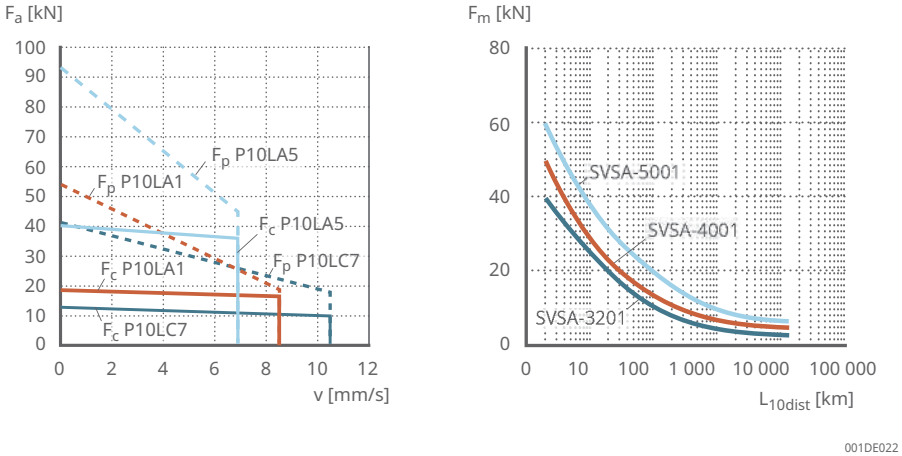


32 Dimensions

Reference	L	Added length for brake option	Added length for encoder option
	mm	mm	mm
P10LA5	268	20	49

Performance diagrams

53 Performance diagrams SVSA-S-..01, parallel configuration



F_a	Axial force	v	Speed
F_m	Equivalent dynamic axial load	L_{10dist}	Service life distance
F_p	Peak force	F_c	Continuous force

Ordering key

See ordering key for linear unit SRSA-S/SVSA-S.

See also

- SVSA-S-..01, electromechanical linear actuator servo-motor, parallel configuration [▷ 000]

5 Front attachment

54 Front attachment

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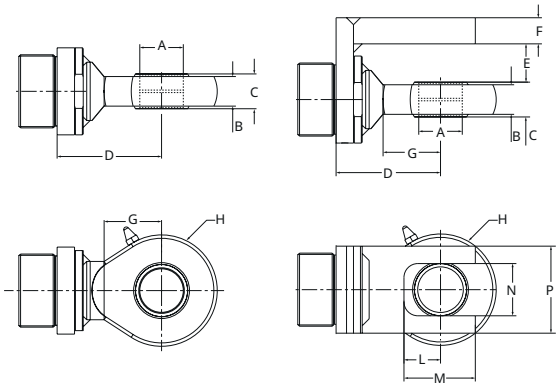
55 Dimensional drawing, front attachment



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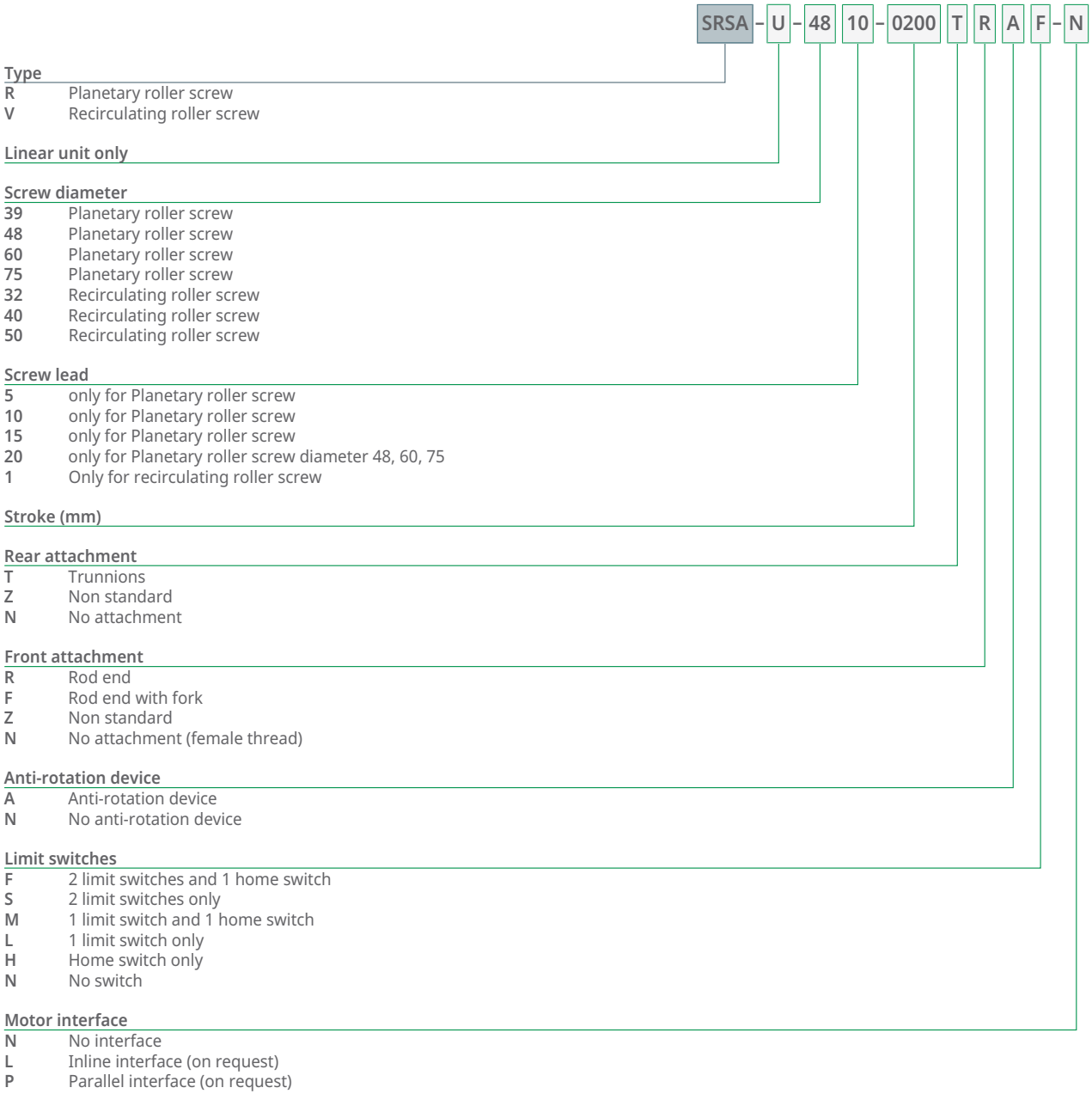
Type	F_{max}	A [1)]	B	C		D	E	F	G	H	L	M	N	P
	kN	mm	mm	mm		mm	mm	mm	mm	mm	mm	mm	mm	mm
SVSA-x-32	25	Ø25	17	20	0 −0.12	60	22	15	33	Ø64	21	41	30 H9	50
SVSA-x-40	33	Ø30	19	22	0 −0.12	71	24	15	37.5	Ø73	23	45	35 H9	60
SRSA-x-39/SVSA-x-50	46	Ø40	23	28	0 −0.12	89	30	15	48	Ø92	29	58	45 H9	75
SRSA-x-48	77	Ø50	30	35	0 −0.12	110	38	15	59	Ø112	36	71	55 H9	95
SRSA-x-60	117	Ø60	38	44	0 −0.12	122	46	15	72.5	Ø135	43	83	65 H9	115
SRSA-x-75	192	Ø80	47	55	0 −0.12	168	50	15	98	Ø180	50	95	85 H9	140

1) Inside diameter A of rod spherical plain bearing, tolerance m6.
The tolerance of the shaft inserted into the rod spherical plain bearing must comply with the recommendations in the catalog for spherical plain bearings and rod spherical plain bearings.

6 Ordering designation

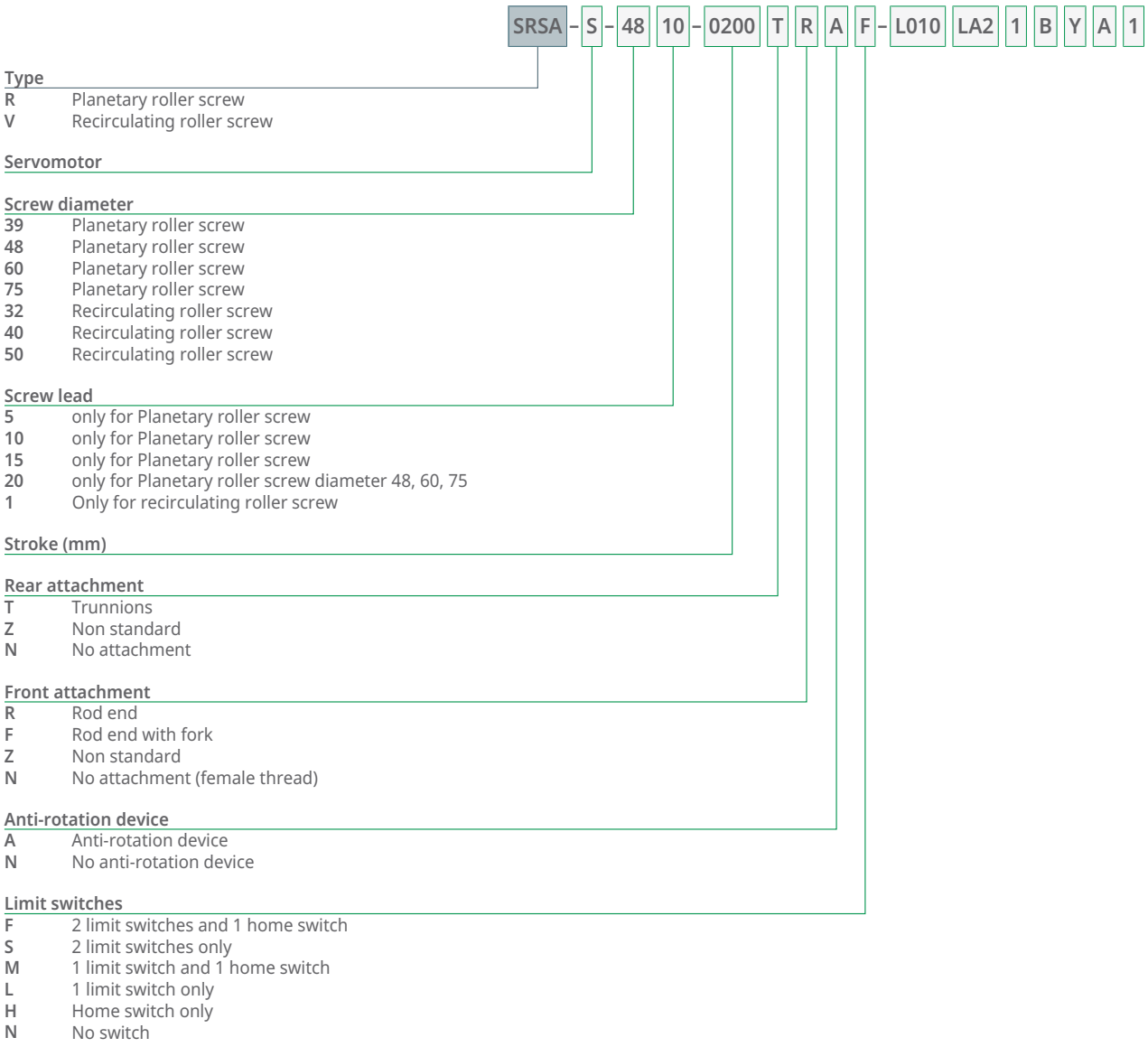
6.1 SRSA-U, SVSA-U

56 Structure of the order designation for linear unit SRSA-U/SVSA-U



6.2 SRSA-S, SVSA-S

57 Structure of the order designation for linear unit SRSA-S/SVSA-S



58 Structure of the order designation for linear unit SRSA-S/SVSA-S with servo-motors

1) See motors and gearboxes

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