

STAR – Linear Bushings and Shafts

Supplement

STAR – Linear Motion Technology

Ball Rail Systems

Standard Ball Rail Systems
Ball Rail Systems with Aluminum Runner Blocks
Super Ball Rail Systems
Wide Ball Rail Systems
Accessories

Miniature Ball Rail Systems
Cam Roller Guides

Roller Rail Systems

Linear Bushings and Shafts **Linear Bushings**

Linear-Sets
Shafts
Shaft Support Rails
Shaft Support Blocks

Ball Transfer Units
Other Engineering Components

Screw Drives

Linear Motion Systems

Linear Motion Slides

- Precision Ball Screw Assemblies
- Toothed Belt Drive

Linear Modules

- Precision Ball Screw Assemblies
- Toothed Belt Drive
- Rack and Pinion Drive
- Linear Actuator
- Pneumatic Drive

Compact Modules

- Precision Ball Screw Assemblies

Precision Modules

- Precision Ball Screw Assemblies

Ball Rail Tables

- Precision Ball Screw Assemblies
- Linear Motor

ALU-STAR Profile System
Controllers, Motors, Electrical Accessories
Linear Actuators

STAR – Linear Bushings and Shafts, Supplement

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Additional Informations see catalog RE 83 100 "STAR – Linear Bushings and Shafts"



STAR – Linear Bushings and Shafts, Supplement

Standard Linear Bushings

**Standard
Linear Bushings, 0600-
closed type, without seals**

**Standard
Linear Bushings, 0602-
closed type, with seals**

Design

- Hardened and ground outer sleeve
- Steel ball retainer
(plastic ball retainer in sizes 3 to 10)
- Balls made of anti-friction bearing steel
- Steel holding rings or seals
- closed type for unsupported shafts



Ordering data

	shaft Ø d [mm]	Part numbers		Gewichte [kg]
		without seals	with two seals	
NEW	3	0600-303-00	–	0,001
NEW	4	0600-304-00	–	0,002
	5	0600-305-00	0602-305-10	0,010
	8	0600-308-00	0602-308-10	0,020
NEW	10	0600-310-00	0602-310-10	0,030
	12	0600-012-00	0602-012-10	0,040
	16	0600-016-00	0602-016-10	0,050
	20	0600-020-00	0602-020-10	0,100
	25	0600-025-00	0602-025-10	0,190
	30	0600-030-00	0602-030-10	0,320
	40	0600-040-00	0602-040-10	0,620
	50	0600-050-00	0602-050-10	1,140
	60	0600-060-00	0602-060-10	2,110
	80	0600-080-00	0602-080-10	4,700

Adjustable and open type Standard Lin. Bushings see catalog RE 83 100 "STAR – Linear Bushings and Shafts"

The values for dynamic-load capacity are based on a nominal travel of 100,000 m.
For a nominal travel of 50,000 m the values must be multiplied by the factor 1.26.

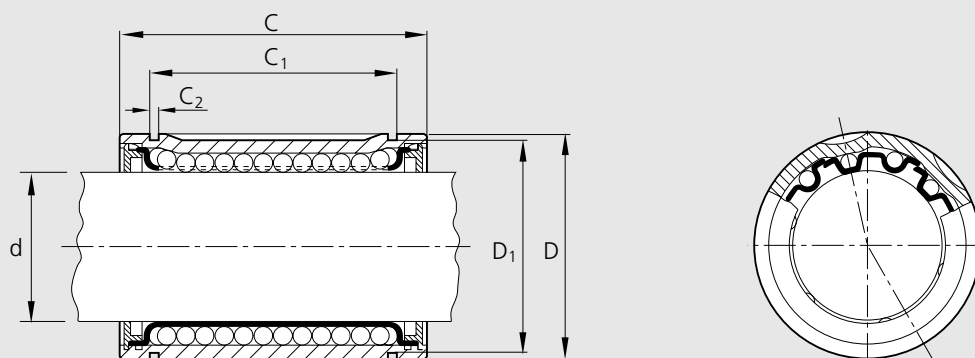
Solid shafts miniature type

Shaft Ø d [mm] h6	heat treatable steel	Part numbers		Length [mm]
		corrosion resistant steel X90CrMOV18	corrosion resistant steel X46Cr13	
3	1007-603-00	1007-603-20		400
4	1007-404-00		1007-404-30	600
5	1007-005-00		1007-005-30	1000

For shafts Ø 5 mm and larger see catalog RE 83 100 "STAR – Linear Bushings and Shafts"

Corrosion resistant steels to ISO 683-17 resp. EN 10088.

Dimensions



Ø d	Dimensions [mm]					ball circuits	bore tolerance [µm]	Radial clearance ¹⁾ [µm]		Load capacities			
	D h5	C h12	C ₁ H13	C ₂	D ₁			h6	h7	dyn. C [N]		stat. C ₀ [N]	
										min	max	min	max
3 ²⁾	7 ³⁾	10	–	–	–	4	+8 0	+12 +2	+15 +3	55	65	45	65
4 ²⁾	8 ³⁾	12	–	–	–	4	+8 0	+14 +2	+17 +3	70	80	60	85
5 ²⁾	12	22	14,2	1,1	11,1	4	+11 +1	+16 +4	+20 +4	180	210	140	200
8 ²⁾	16	25	16,2	1,1	14,7	4	+12 +2	+18 +5	+24 +5	320	370	240	330
10 ²⁾	19	29	21,6	1,3	18	4	+8 0	+18 +5	+24 +5	300	350	260	370
12	22	32	22,6	1,3	20,5	4	+12 +2	+20 +5	+26 +6	420	480	280	400
16	26	36	24,6	1,3	24,9	4	+14 +2	+22 +5	+28 +6	580	670	440	620
20	32	45	31,2	1,6	30,5	5	+14 +2	+23 +6	+31 +6	1170	1390	860	1250
25	40	58	43,7	1,85	38,5	5	+16 +2	+25 +6	+32 +7	2080	2480	1560	2280
30	47	68	51,7	1,85	44,5	6	+16 +2	+25 +6	+32 +7	2820	2980	2230	2860
40	62	80	60,3	2,15	58	6	+19 +2	+30 +7	+38 +8	5170	5480	3810	4880
50	75	100	77,3	2,65	71	6	+19 +2	+30 +7	+38 +8	8260	8740	6470	8280
60	90	125	101,3	3,15	85	6	+19 +2	+33 +7	+43 +8	11500	12100	9160	11730
80	120	165	133,3	4,15	114	6	+24 +2	+37 +8	+47 +9	21000	22200	16300	20850

¹⁾ Statistically determined. Recommended housing bore tolerance: H6 or H7.

²⁾ Sizes 3, 4, 5, 8 and 10 with plastic retainer.

³⁾ tolerance h6

STAR – Linear Bushings and Shafts, Supplement

Standard Linear Ball Bushing, corrosion - resistant type

Standard
Linear Bushing, 0600-
 closed type, without seals

Standard
Linear Bushing, 0602-
 closed type, with seals

Design

- Hardened and ground outer sleeve made of corrosion resistant steel
- Ball retainer of corrosion resistant steel
- Balls of corrosion resistant steel
- integrated steel holding rings or seals
- closed type for unsupported shafts



Ordering data

Shaft Ø d [mm]	Part numbers		mass [kg]
	without seals	with two seals	
3	0600-003-30	–	0,001
4	0600-004-30	–	0,002
5	0600-005-30	0602-005-30	0,011
8	0600-008-30	0602-008-30	0,022
10	0600-010-30	0602-010-30	0,036
12	0600-012-30	0602-012-30	0,045
16	0600-016-30	0602-016-30	0,06
20	0600-020-30	0602-020-30	0,10
25	0600-025-30	0602-025-30	0,235
30	0600-030-30	0602-030-30	0,360
40	0600-040-30	0602-040-30	0,770

The values for dynamic-load capacity are based on a nominal travel of 100,000 m.
 For a nominal travel of 50,000 m the values must be multiplied by the factor 1.26.

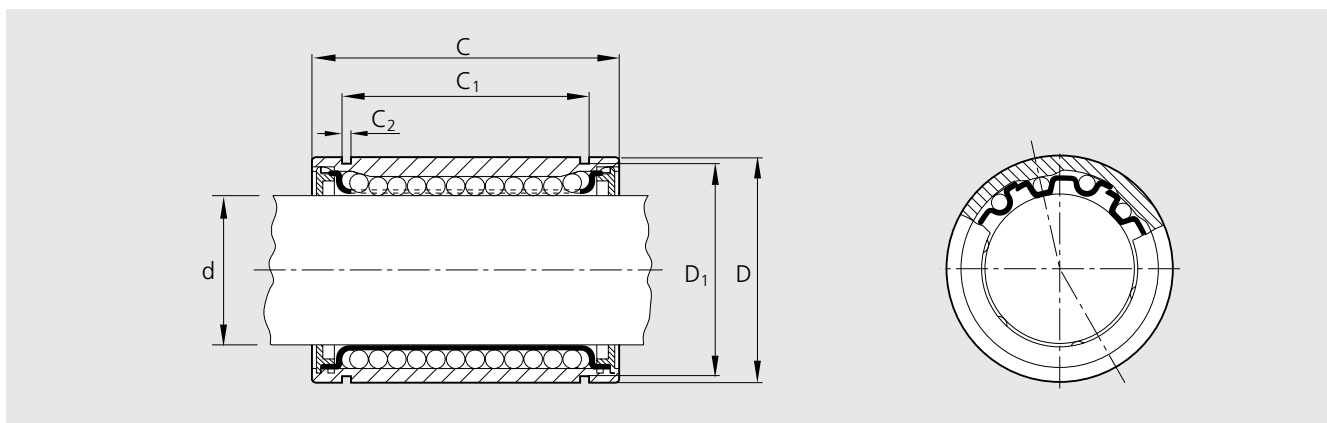
Solid shafts miniature type

Shaft Ø d [mm] h6	heat treatable steel	Part numbers		Length [mm]
		corrosion resistant steel X90CrMOV18	X46Cr13	
3	1007-603-00	1007-603-20		400
4	1007-404-00		1007-404-30	600
5	1007-005-00		1007-005-30	1000

For shafts Ø 5 mm and larger see catalog RE 83 100 "STAR – Linear Bushings and Shafts"

Corrosion resistant steels to ISO 683-17 resp. EN 10088.

Dimensions



Ø d	Dimensions [mm]					ball circuits	bore tolerance [µm]	radial clearance ¹⁾ [µm]		load capacity [N]			
	D h5	C h12	C ₁ H13	C ₂	D ₁			h6	h7	dyn. C		stat. C ₀	
										min	max	min	max
3	7 ²⁾	10	–	–	–	4	+8 0	+12 +2	+15 +3	55	65	45	65
4	8 ²⁾	12	–	–	–	4	+8 0	+14 +2	+17 +3	70	80	60	85
5	12	22	14,2	1,1	11,5	4	+11 +1	+16 +4	+20 +4	160	185	180	250
8	16	25	16,2	1,1	15,2	4	+12 +2	+18 +5	+24 +5	210	240	235	330
10	19	29	21,6	1,3	18	4	+8 0	+18 +5	+24 +5	300	350	260	370
12	22	32	22,6	1,3	21	4	+12 +2	+20 +5	+26 +6	400	460	420	600
16	26	36	24,6	1,3	24,9	4	+14 +2	+22 +5	+28 +6	460	530	440	630
20	32	45	31,2	1,6	30,3	5	+14 +2	+23 +6	+31 +6	680	800	860	1250
25	40	58	43,7	1,85	37,5	6	+16 +2	+25 +6	+32 +7	780	830	1620	2100
30	47	68	51,7	1,85	44,5	6	+16 +2	+25 +6	+32 +7	1250	1320	2000	2500
40	62	80	60,3	2,15	59	6	+19 +2	+30 +7	+38 +8	1720	1820	3300	4200

¹⁾ Statistically determined. Recommended housing bore tolerance: H6 or H7.

²⁾ Toleranz h6

STAR – Linear Bushings and Shafts, Supplement

Tandem Linear Bushings

Tandem Linear Bushing, 0650- with seals

Design

- hardened and ground outer sleeve
- ball retainer of plastic
- balls of bearing steel
- integrated seals

Tandem Linear Bushings, 0650- with seals

corrosion resistant type

Design

- hardened and ground outer sleeve of corrosion resistant steel
- ball retainer of corrosion resistant steel
- balls of corrosion resistant bearing steel
- integrated seals



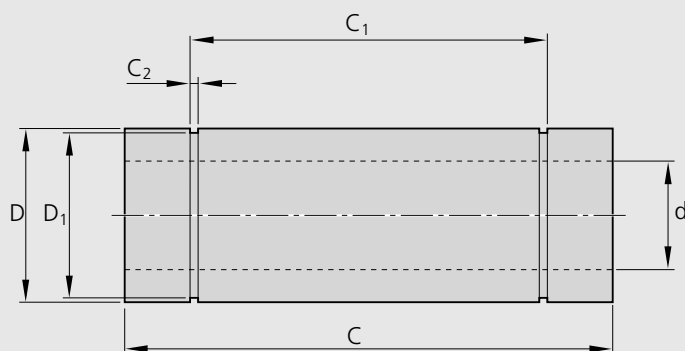
Ordering data

Shaft Ø d [mm]	Part numbers		mass [kg]
	regular	corrosion resistant	
8	0650-508-00	0650-208-30	0,04
12	0650-512-00	0650-212-30	0,08
16	0650-516-00	0650-216-30	0,12
20	0650-520-00	0650-220-30	0,18
25	0650-525-00	0650-225-30	0,43
30	0650-530-00	0650-230-30	0,62
40	0650-540-00	0650-240-30	1,40

The values for dynamic-load capacity are based on a nominal travel of 100,000 m.
For a nominal travel of 50,000 m the values must be multiplied by the factor 1.26.

Corrosion resistant steels to ISO 683-17 resp. EN 10088.

Dimensions



$\varnothing d$	Dimensions [mm]					ball circuits	bore tolerance [μm]	radial clearance ¹⁾ [μm]		load capacity			
	D h6	C	C_1	C_2	D_1			h6	h7	dyn. C [N]		stat. C_0 [N]	
										min	max	min	max
8	16	46 _{-0,3}	33 _{-0,3}	1,10	15,2	4	+9 -1	+15 +2	+21 +2	340	390	470	660
12	22	61 _{-0,3}	45,8 _{-0,3}	1,30	21,0	4	+9 -1	+17 +2	+23 +3	650	750	840	1200
16	26	68 _{-0,3}	49,8 _{-0,3}	1,30	24,9	4	+11 -1	+19 +2	+25 +3	750	860	880	1260
20	32	80 _{-0,3}	61 _{-0,3}	1,60	30,5	5	+11 -1	+20 +3	+28 +3	1100	1300	1720	2500
25	40	112 _{-0,4}	82 _{-0,4}	1,85	38,0	6	+13 -2	+22 +2	+29 +3	1250	1350	3240	4200
30	47	123 _{-0,4}	104,2 _{-0,4}	1,85	44,5	6	+13 -2	+22 +2	+29 +3	2000	2150	4000	5000
40	62	151 _{-0,4}	121,2 _{-0,4}	2,15	59,0	6	+16 -4	+27 +1	+35 +2	2800	3000	6600	8400

¹⁾ Statistically determined. Recommended housing bore tolerance: H6 or H7.

STAR – Linear Bushings and Shafts, Supplement

Flange Linear Bushings

Flange Linear Bushing, 0740-

Design

- hardened and ground sleeve
- ball retainer of plastic
- balls of bearing steel
- integrated seals

Flange Linear Bushing, 0740- corrosion resistant type

Design

- hardened and ground outer sleeve of corrosion resistant steel
- ball retainer of corrosion resistant steel (size 5 with plastic retainer)
- balls of corrosion resistant steel
- integrated seals



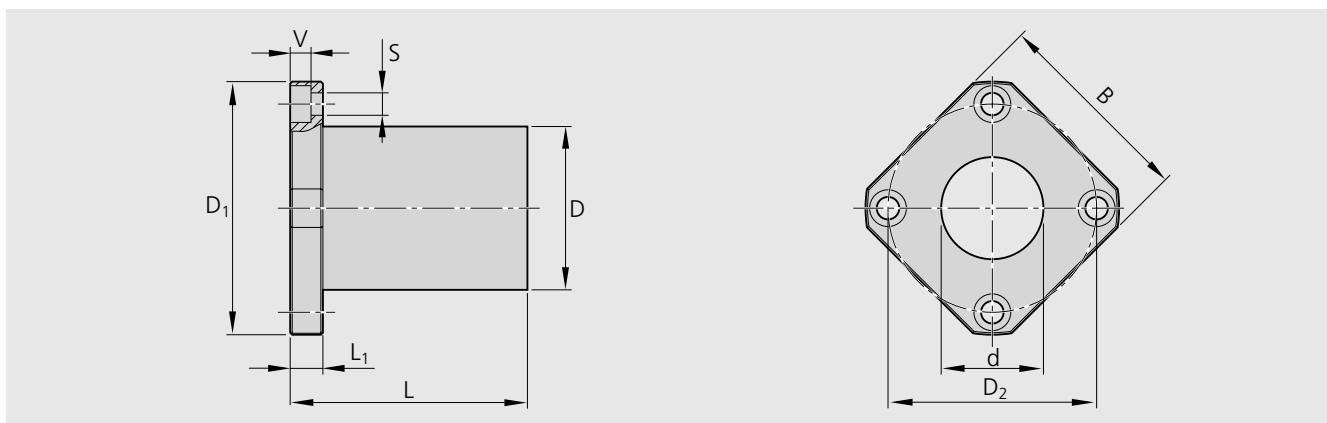
Ordering data

shaft Ø d [mm]	Part numbers		mass [kg]
	regular	corrosion resistant	
5	0740-505-00	0740-505-30	0,020
8	0740-508-00	0740-208-30	0,033
12	0740-512-00	0740-212-30	0,064
16	0740-516-00	0740-216-30	0,090
20	0740-520-00	0740-220-30	0,150
25	0740-525-00	0740-225-30	0,300
30	0740-530-00	0740-230-30	0,470
40	0740-540-00	0740-240-30	0,980

The values for dynamic-load capacity are based on a nominal travel of 100,000 m.
For a nominal travel of 50,000 m the values must be multiplied by the factor 1.26.

Corrosion resistant steels to ISO 683-17 resp. EN 10088.

Dimensions



Ø d	Dimensions [mm]								ball circuits	bore tolerance [µm]	radial clearance [µm]		load capacity [N]			
	D	D ₁	D ₂	B	L ±0,3	L ₁	V	S			h6	h7	dyn. C		stat. C ₀	
													min	max	min	max
5	12 _{-0,013}	28	20	22	22	5	3,1	3,5	4	+8 +0	+14 +2	+17 +3	160	185	180	250
8	16 _{-0,013}	32	24	25	25	5	3,1	3,5	4	+8 +0	+15 +2	+20 +3	210	240	235	330
12	22 _{-0,016}	42	32	32	32	6	4,1	4,5	4	+8 +0	+16 +3	+23 +3	400	460	420	600
16	26 _{-0,016}	46	36	35	36	6	4,1	4,5	4	+9 -1	+17 +2	+23 +3	460	530	440	630
20	32 _{-0,019}	54	43	42	45	8	5,1	5,5	5	+9 -1	+19 +2	+26 +3	680	800	860	1250
25	40 _{-0,019}	62	51	50	58	8	5,1	5,5	6	+11 -1	+20 +3	+28 +3	780	830	1620	2100
30	47 _{-0,019}	76	62	60	68	10	6,1	6,6	6	+11 -1	+20 +3	+28 +3	1250	1320	2000	2500
40	62 _{-0,022}	98	80	75	80	13	8,1	9	6	+13 -2	+24 +3	+33 +3	1720	1820	3300	4200

¹⁾ Statistically determined. Recommended housing bore tolerance: H6 or H7.

STAR – Linear Bushings and Shafts, Supplement

Flange Tandem Linear Bushings

Flange Tandem Linear Bushing, 0741-

Design

- hardened and ground sleeve
- ball retainer of plastic
- balls of bearing steel
- integrated seals

Flange Tandem Linear Bushing, 0741- corrosion resistant type

Design

- hardened and ground outer sleeve of corrosion resistant steel
- ball retainer of corrosion resistant steel
- balls of corrosion resistant steel
- integrated seals



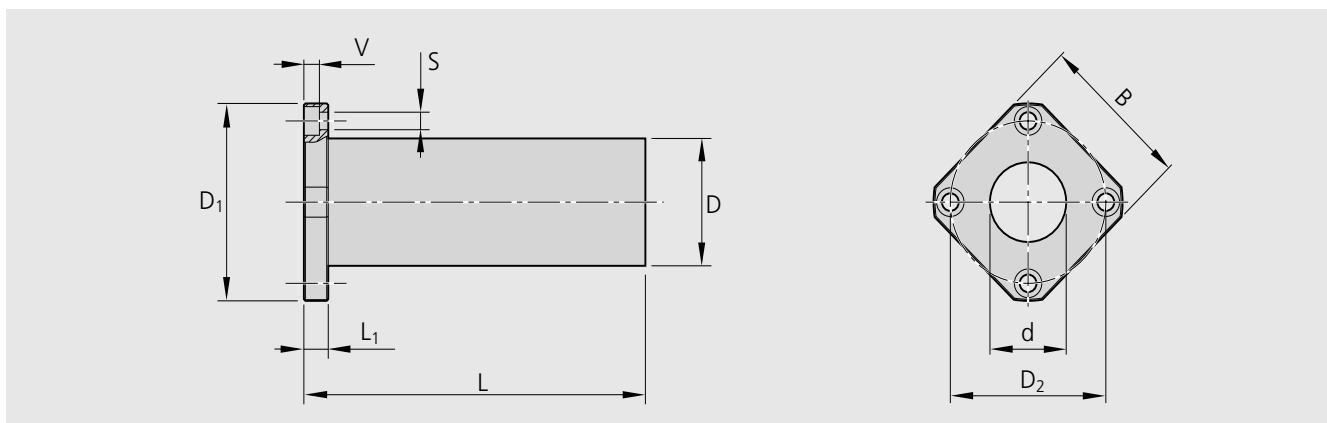
Ordering data

Shaft Ø d [mm]	Part numbers		mass [kg]
	regular	corrosion resistant	
8	0741-508-00	0741-208-30	0,05
12	0741-512-00	0741-212-30	0,09
16	0741-516-00	0741-216-30	0,14
20	0741-520-00	0741-220-30	0,23
25	0741-525-00	0741-225-30	0,50
30	0741-530-00	0741-230-30	0,72
40	0741-540-00	0741-240-30	1,60

The values for dynamic-load capacity are based on a nominal travel of 100,000 m.
For a nominal travel of 50,000 m the values must be multiplied by the factor 1.26.

Corrosion resistant steels to ISO 683-17 resp. EN 10088.

Dimensions



Ø d	Dimensions [mm]								ball circuits	bore tolerance [µm]	radial clearance [µm]		load capacity			
	D	D ₁	D ₂	B	L ±0,3	L ₁	V	S			h6	h7	dyn. C [N]		stat. C ₀ [N]	
													min	max	min	max
8	16 _{-0,013}	32	24	25	46	5	3,1	3,5	4	+9 -1	+15 +2	+21 +2	340	390	470	660
12	22 _{-0,016}	42	32	32	61	6	4,1	4,5	4	+9 -1	+17 +2	+23 +3	650	750	840	1200
16	26 _{-0,016}	46	36	35	68	6	4,1	4,5	4	+11 -1	+19 +2	+25 +3	750	860	880	1260
20	32 _{-0,019}	54	43	42	80	8	5,1	5,5	5	+11 -1	+20 +3	+28 +3	1100	1300	1720	2500
25	40 _{-0,019}	62	51	50	112	8	5,1	5,5	6	+13 -2	+22 +2	+29 +3	1250	1350	3240	4200
30	47 _{-0,019}	76	62	60	123	10	6,1	6,6	6	+13 -2	+22 +2	+29 +3	2000	2150	4000	5000
40	62 _{-0,022}	98	80	75	151	13	8,1	9	6	+16 -4	+27 +1	+35 +2	2800	3000	6600	8400

¹⁾ Statistically determined. Recommended housing bore tolerance: H6 or H7.

STAR – Linear Bushings and Shafts, Supplement

Centre Flange Linear Bushings

Centre Flange Linear Bushing, 0742-

Design

- hardened and ground sleeve
- ball retainer of plastic
- balls of bearing steel
- integrated seals

Centre Flange Bushing, 0742- corrosion resistant type

Design

- hardened and ground outer sleeve of corrosion resistant steel
- ball retainer of corrosion resistant steel
- balls of corrosion resistant steel
- integrated seals



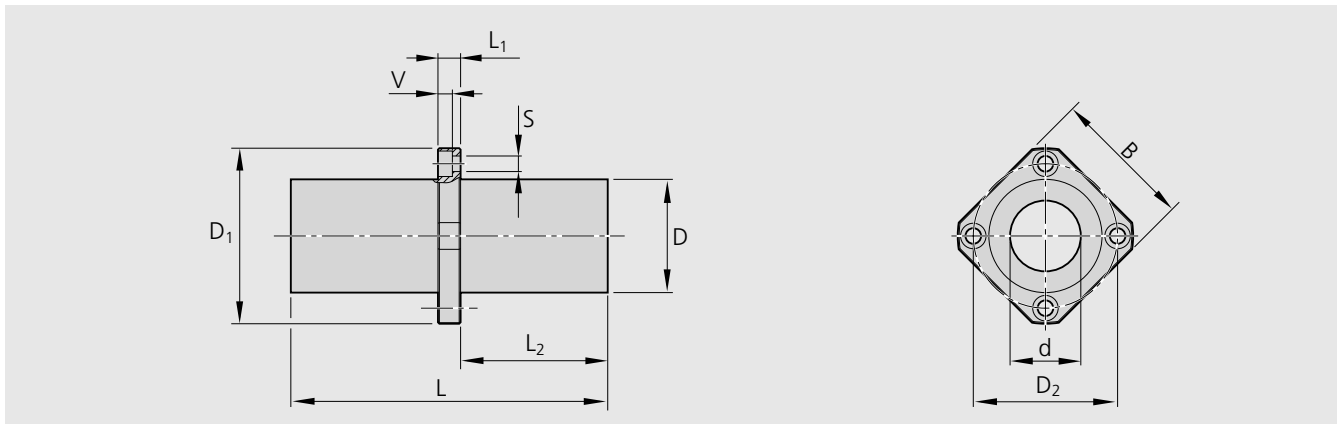
Ordering data

Shaft Ø d [mm]	Part numbers		mass [kg]
	regular	corrosion resistant	
8	0742-508-00	0742-208-30	0,05
12	0742-512-00	0742-212-30	0,09
16	0742-516-00	0742-216-30	0,14
20	0742-520-00	0742-220-30	0,23
25	0742-525-00	0742-225-30	0,50
30	0742-530-00	0742-230-30	0,72
40	0742-540-00	0742-240-30	1,60

The values for dynamic-load capacity are based on a nominal travel of 100,000 m.
For a nominal travel of 50,000 m the values must be multiplied by the factor 1.26.

Corrosion resistant steels to ISO 683-17 resp. EN 10088.

Dimensions



Ø d	Dimensions [mm]									ball circuits	bore tolerance [µm]	radial clearance [µm]		load capacity			
	D	D ₁	D ₂	B	L ±0,3	L ₁	L ₂	V	S			h6	h7	dyn. C [N]		stat. C ₀ [N]	
														min	max	min	max
8	16 _{-0,013}	32	24	25	46	5	20,5	3,1	3,5	4	+9 -1	+15 +2	+21 +2	340	390	470	660
12	22 _{-0,016}	42	32	32	61	6	27,5	4,1	4,5	4	+9 -1	+17 +2	+23 +3	650	750	840	1200
16	26 _{-0,016}	46	36	35	68	6	31,0	4,1	4,5	4	+11 -1	+19 +2	+25 +3	750	860	880	1260
20	32 _{-0,019}	54	43	42	80	8	36,0	5,1	5,5	5	+11 -1	+20 +3	+28 +3	1100	1300	1720	2500
25	40 _{-0,019}	62	51	50	112	8	52,0	5,1	5,5	6	+13 -2	+22 +2	+29 +3	1250	1350	3240	4200
30	47 _{-0,019}	76	62	60	123	10	56,5	6,1	6,6	6	+13 -2	+22 +2	+29 +3	2000	2150	4000	5000
40	62 _{-0,022}	98	80	75	151	13	69,0	8,1	9	6	+16 -4	+27 +1	+35 +2	2800	3000	6600	8400

¹⁾ Statistically determined. Recommended housing bore tolerance: H6 or H7.

STAR – Linear Bushings and Shafts, Supplement

Torque Resistant Linear Bushing

Linear-Set with shaft, 0724-sleeve design

Design

- hardened and ground sleeve
- ball retainer of plastic
- balls of bearing steel
- integrated seals
- precision steel shaft with 4 ball grooves
- key for torque transmission
- with lubrication hole



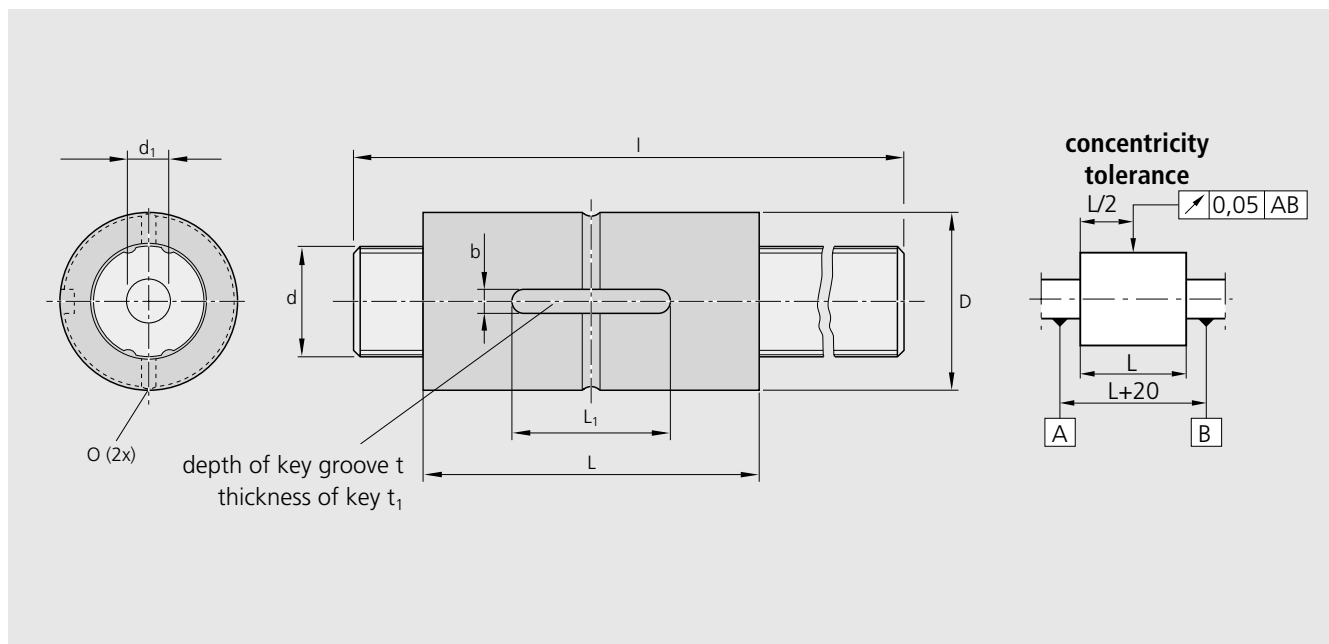
Ordering data

Size	Part numbers Linear-Set with			
	solid shaft		tubular shaft ¹⁾	
	cut to length	machined to drawing	cut to length	machined to drawing
4	0724-204-89	0724-204-86	0724-204-69	0724-204-66
6	0724-206-89	0724-206-86	0724-206-69	0724-206-66
8	0724-208-89	0724-208-86	0724-208-69	0724-208-66
10	0724-210-89	0724-210-86	0724-210-69	0724-210-66
13	0724-213-89	0724-213-86	0724-213-69	0724-213-66
16	0724-216-89	0724-216-86	0724-216-69	0724-216-66
20	0724-220-89	0724-220-86	–	–
25	0724-225-89	0724-225-86	–	–
30	0724-230-89	0724-230-86	–	–
40	0724-240-89	0724-240-86	–	–
50	0724-250-89	0724-250-86	–	–

¹⁾ Sizes 20 to 50 on request

The values for dynamic-load capacity are based on a nominal travel of 100,000 m. For a nominal travel of 50,000 m the values must be multiplied by the factor 1.26.

Dimensions



Size	Dimensions [mm]									Shaft length max. l [mm]	Torque		Load capacity ¹⁾		mass		
	$\varnothing d$ h7	d_1	D h6	L	L_1	O	t	t_1	b		dyn. M_t [Nm]	stat. M_t [Nm]	dyn.C [N]	stat. C_0 [N]	without shaft [kg]	solid shaft [kg/m]	tubular shaft [kg/m]
4	4	1,5	10	16 _{-0,2}	6	—	1,2	2	2	300	0,59	1,05	680	1220	0,0065	0,10	0,082
6	6	2	14	25 _{-0,2}	10,5	1	1,2	2,5	2,5	600	1,20	2,40	970	2280	0,019	0,21	0,195
8	8	3	16	25 _{-0,2}	10,5	1,5	1,2	2,5	2,5	600	1,70	3,70	1150	2870	0,023	0,38	0,34
10	10	4	21	33 _{-0,2}	13	1,5	1,5	3	3	600	3,50	8,20	2170	5070	0,054	0,60	0,51
13	13	6	24	36 _{-0,2}	15	1,5	1,5	3	3	600	16,70	39,20	2120	4890	0,07	1,00	0,80
16	16	8	31	50 _{-0,2}	17,5	2	2	3,5	3,5	600	48	110	4860	11200	0,15	1,50	1,20
20	18,2	—	32	60 _{-0,2}	26	2	2,5	4	4	1500	66	133	6200	11300	0,20	2,00	—
25	23	—	37	70 _{-0,3}	33	3	3	5	5	1500	129	239	9800	16100	0,22	3,10	—
30	28	—	45	80 _{-0,3}	41	3	4	7	7	1500	229	412	14800	23200	0,35	4,80	—
40	37,4	—	60	100 _{-0,3}	55	4	4,5	8	10	1800	500	882	24400	37500	0,81	8,60	—
50	47	—	75	112 _{-0,3}	60	4	5	10	15	1800	1100	3180	36600	74200	1,50	13,10	—

¹⁾ The given values are minimum values because the direction of load is not always precisely defined.

Mounting instructions:

Linear-Set, shaft and key are delivered as separate parts.
 Recommended housing bore tolerance: H6 oder H7.
 Radial clearance: ca $\pm 5 \mu\text{m}$; preload on request
 Align the shaft grooves to the ball circuits before inserting the shaft into the linear set.

STAR – Linear Bushings and Shafts, Supplement

Torque Resistant Linear Bushing

Linear-Set with shaft, 0725- Flanged type

Design

- hardened and ground sleeve
- ball retainer of plastic
- balls of bearing steel
- integrated seals
- precision steel shaft with 4 ball grooves
- with lubrication hole



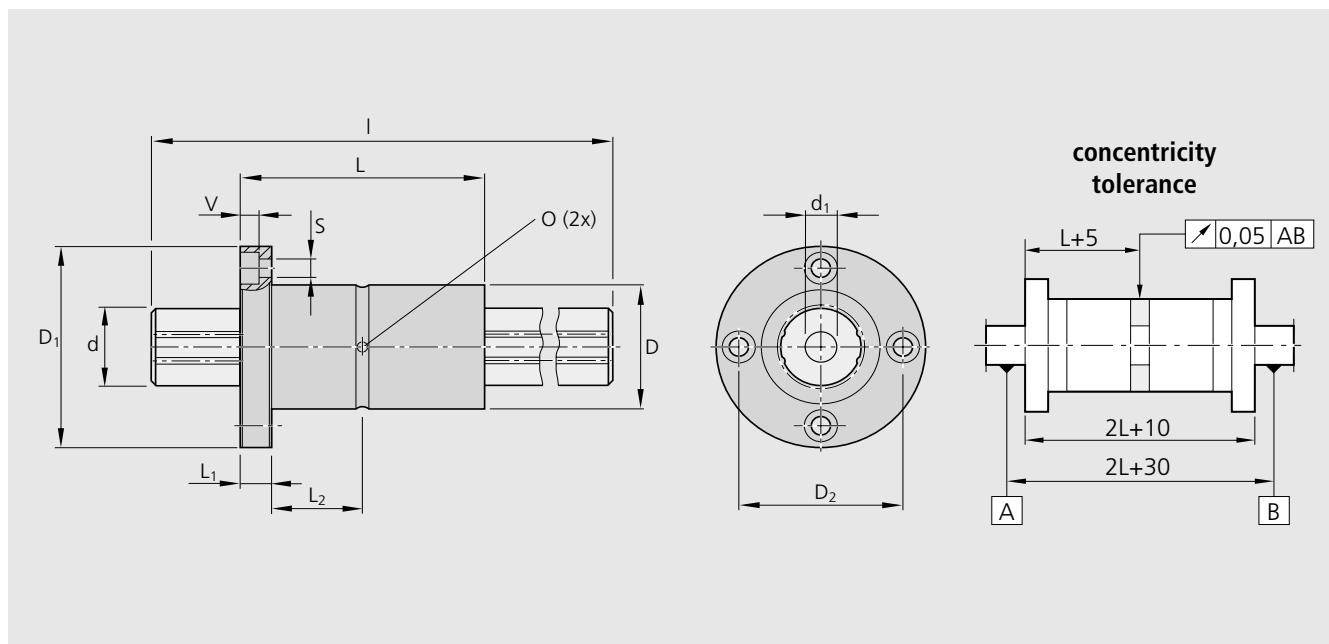
Ordering data

Size	Part numbers Linear-Set with			
	solid shaft		tubular shaft ¹⁾	
	cut to length	machined to drawing	cut to length	machined to drawing
6	0725-206-89	0725-206-86	0725-206-69	0725-206-66
8	0725-208-89	0725-208-86	0725-208-69	0725-208-66
10	0725-210-89	0725-210-86	0725-210-69	0725-210-66
13	0725-213-89	0725-213-86	0725-213-69	0725-213-66
16	0725-216-89	0725-216-86	0725-216-69	0725-216-66
20	0725-220-89	0725-220-86	–	–
25	0725-225-89	0725-225-86	–	–
30	0725-230-89	0725-230-86	–	–
40	0725-240-89	0725-240-86	–	–
50	0725-250-89	0725-250-86	–	–

¹⁾ Sizes 20 to 50 on request

The values for dynamic-load capacity are based on a nominal travel of 100,000 m. For a nominal travel of 50,000 m the values must be multiplied by the factor 1.26.

Dimensions



Size	Dimensions [mm]											Shaft length max. I [mm]	Torque		Load capacity ¹⁾		mass		
	Ø d h7	d ₁	D h6	D ₁	D ₂	L	L ₁	L ₂	V	S ²⁾	O		dyn. M _t [Nm]	stat. M _t [Nm]	dyn.C [N]	stat. C ₀ [N]	without shaft [kg]	solid shaft [kg/m]	tubular shaft [kg/m]
6	6	2	14	30	22	25 _{-0,2}	5	7,5	3,3	3,4	1	600	1,2	2,4	970	2280	0,037	0,21	0,195
8	8	3	16	32	24	25 _{-0,2}	5	7,5	3,3	3,4	1,5	600	1,7	3,7	1150	2870	0,042	0,38	0,34
10	10	4	21	42	32	33 _{-0,2}	6	10,5	4,4	4,5	1,5	600	3,5	8,2	2170	5070	0,094	0,60	0,51
13	13	6	24	43	33	36 _{-0,2}	7	11	4,4	4,5	1,5	600	16,7	39,2	2120	4890	0,10	1,00	0,80
16	16	8	31	50	40	50 _{-0,2}	7	18	4,4	4,5	2	600	48	110	4860	11200	0,20	1,50	1,20
20	18,2	-	32	51	40	60 _{-0,2}	7	23	4,4	4,5	2	1500	66	133	6200	11300	0,22	2,00	-
25	23	-	37	60	47	70 _{-0,3}	9	26	5,4	5,5	3	1500	129	239	9800	16100	0,32	3,10	-
30	28	-	45	70	54	80 _{-0,3}	10	30	6,5	6,6	3	1500	229	412	14800	23200	0,51	4,80	-
40	37,4	-	60	90	72	100 _{-0,3}	14	36	8,6	9	4	1800	500	882	24400	37500	1,15	8,60	-
50	47	-	75	113	91	112 _{-0,3}	16	40	11	11	4	1800	1100	3180	36600	74200	2,10	13,10	-

¹⁾ The given values are minimum values because the direction of load is not always precisely defined.

²⁾ mounting bolts ISO 4762-8.8

Mounting instructions:

Linear-Set and shaft are delivered as separate parts.
 Recommended housing bore tolerance: H6 oder H7.
 Radial clearance: ca ± 5 µm; preload on request
 Align the shaft grooves to the ball circuits before inserting the shaft into the linear set.

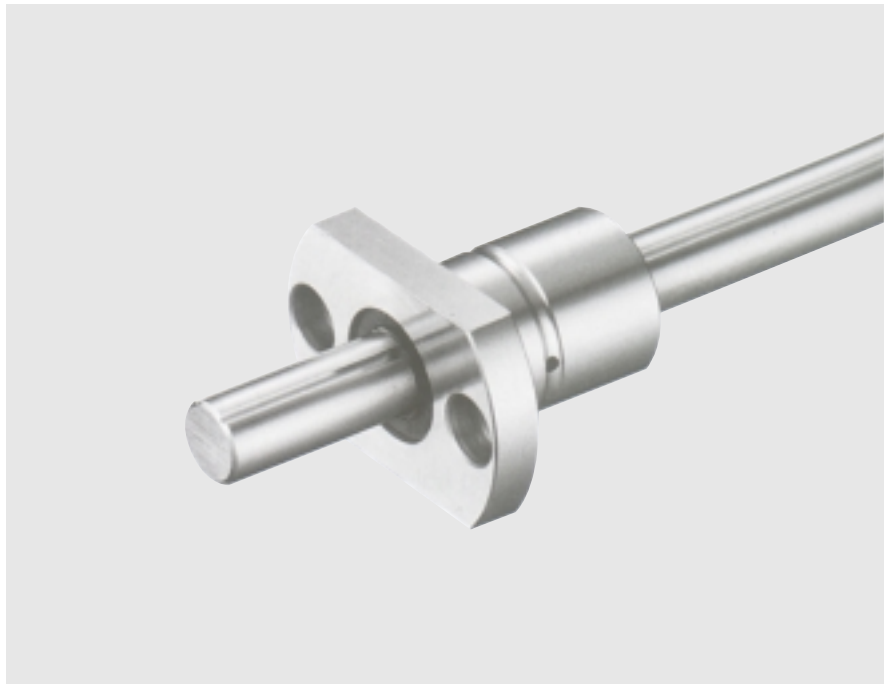
STAR – Linear Bushings and Shafts, Supplement

Torque Resistant Linear Bushing

Linear-Set with shaft, 0726- Miniature - Flanged type

Design

- hardened and ground sleeve
- ball retainer of plastic
- balls of bearing steel
- integrated seals
- precision steel shaft with 4 ball grooves
- with lubrication hole

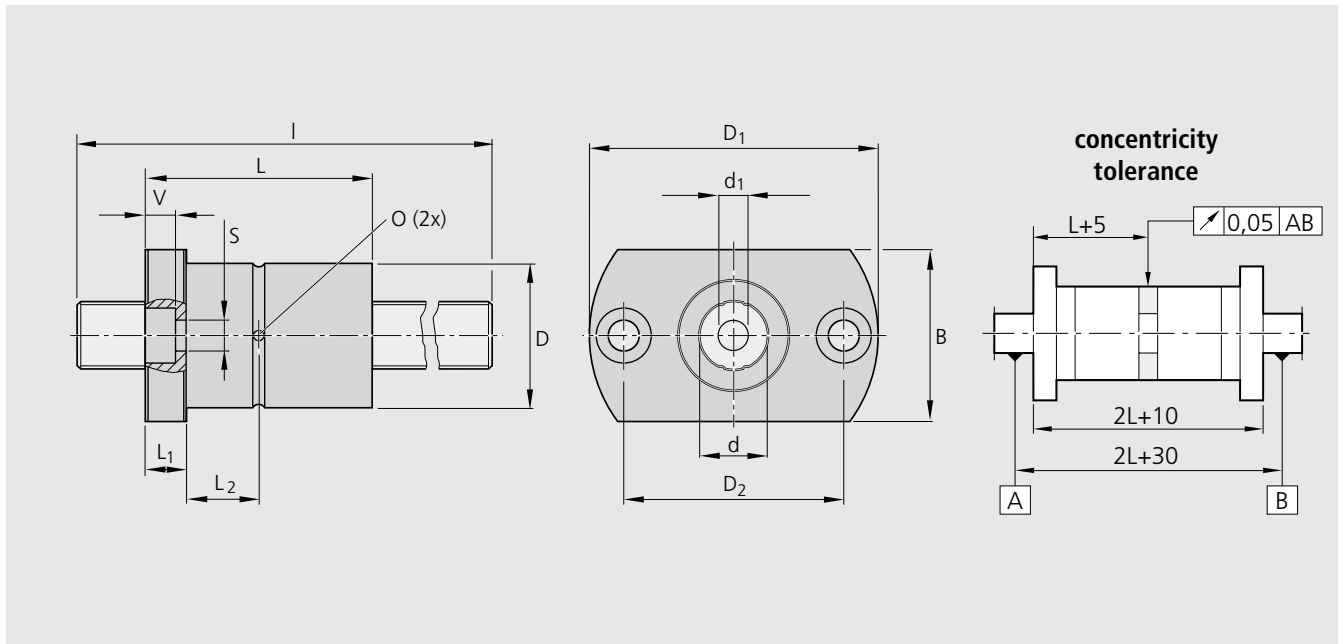


Ordering data

Size	Part numbers Linear-Set with			
	solid shaft		tubular shaft	
	cut to length	machined to drawing	cut to length	machined to drawing
6	0726-206-89	0726-206-86	0726-206-69	0726-206-66
8	0726-208-89	0726-208-86	0726-208-69	0726-208-66
10	0726-210-89	0726-210-86	0726-210-69	0726-210-66

The values for dynamic-load capacity are based on a nominal travel of 100,000 m.
For a nominal travel of 50,000 m the values must be multiplied by the factor 1.26.

Dimensions



Size	Dimensions [mm]												Shaft length max. I [mm]	Torque		Load capacity ¹⁾		mass		
	$\varnothing d$ h7	d_1	D h6	D_1	D_2	B	L -0,2	L_1	L_2	V	$S^2)$	O		dyn. M_t [Nm]	stat. M_t [Nm]	dyn.C [N]	stat. C_0 [N]	without shaft [kg]	solid shaft [kg/m]	tubular shaft [kg/m]
6	6	2	14	30	22	18	25	5	7,5	3,3	3,4	1	600	1,2	2,4	970	2280	0,029	0,21	0,195
8	8	3	16	32	24	21	25	5	7,5	3,3	3,4	1,5	600	1,7	3,7	1150	2870	0,035	0,38	0,34
10	10	4	21	42	32	25	33	6	10,5	4,4	4,5	1,5	600	3,5	8,2	2170	5070	0,075	0,60	0,51

¹⁾ The given values are minimum values because the direction of load is not always precisely defined.

²⁾ mounting bolts ISO 4762-8.8

Mounting instructions:

Linear-Set and shaft are delivered as separate parts.
 Recommended housing bore tolerance: H6 oder H7.
 Radial clearance: ca $\pm 5 \mu\text{m}$; preload on request
 Align the shaft grooves to the ball circuits before inserting the shaft into the linear set.

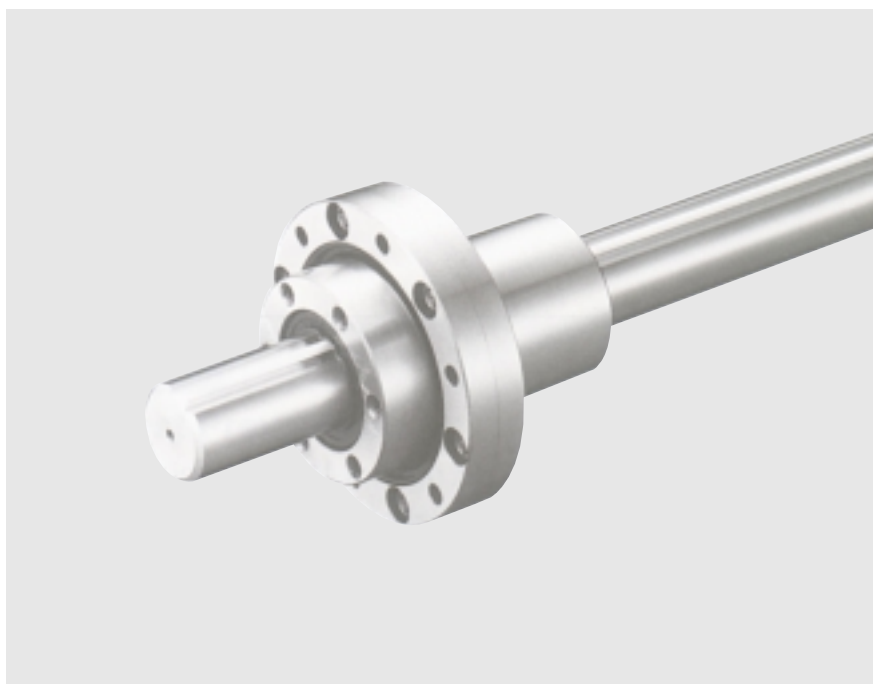
STAR – Linear Bushings and Shafts, Supplement

Torque Resistant Linear Bushing

Linear-Set with shaft, 0727- Rotary Linear Bushings Combined Linear and Rotary Motion

Design

- hardened and ground sleeve
- ball retainer of plastic
- balls of bearing steel
- integrated seals
- integrated cross roller bearing
- Precision steel shaft with 4 ball grooves

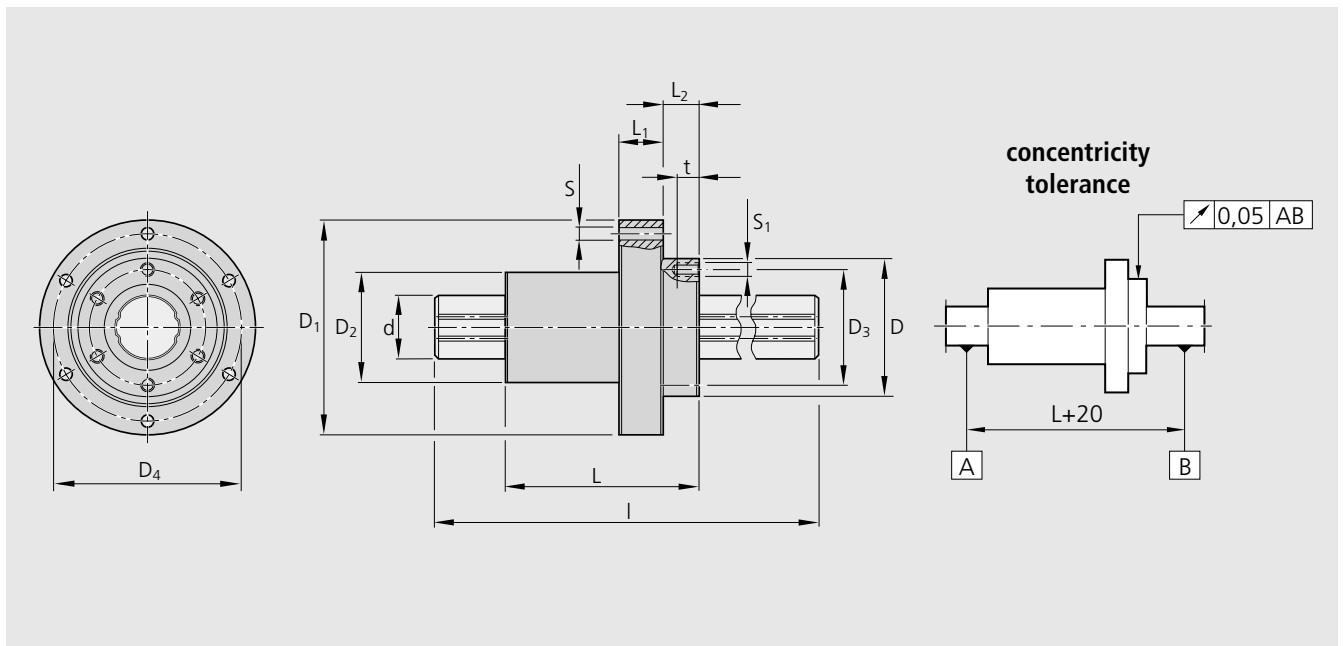


Ordering data

Size	Part numbers Linear-Set with	
	cut to length	machined to drawing
20	0727-220-89	0727-220-86
25	0727-225-89	0727-225-86
30	0727-230-89	0727-230-86
40	0727-240-89	0727-240-86

The values for dynamic-load capacity are based on a nominal travel of 100,000 m. For a nominal travel of 50,000 m the values must be multiplied by the factor 1.26.

Dimensions



Size	Dimensions [mm]												Shaft length max. l [mm]
	$\varnothing d$ h7	D h7	D_1 h7	D_2	D_3	D_4	L	L_1	L_2	S	S_1	t	
20	18,2	40	66	34	34	56	60 _{-0,2}	13	12	4,5	M4	7	1500
25	23	50	78	40	42	68	70 _{-0,3}	16	13	4,5	M5	8	1500
30	28	61	100	47	52	86	80 _{-0,3}	17	17	6,6	M6	10	1500
40	37,4	76	120	62	64	104	100 _{-0,3}	20	23	6,6	M6	10	1800

Size	Linear-Set				Cross roller bearing			Mass	
	Torque		Load capacity ¹⁾		Load capacity		speed limit	without shaft	shaft
	dyn. M_t [Nm]	stat. M_{t0} [Nm]	dyn. C [N]	stat. C_0 [N]	dyn. C [N]	stat. C_0 [N]	[min ⁻¹]	[kg]	[kg/m]
20	66	133	6200	11300	5900	7350	1200	0,45	2,0
25	129	239	9800	16100	9110	11500	1000	0,75	3,1
30	229	412	14800	23200	13200	18000	800	1,25	4,8
40	500	882	24400	37500	22800	32300	600	2,30	8,6

¹⁾ The given values are minimum values because the direction of load is not always precisely defined.


Mounting instructions:

Linear-Set and shaft are delivered as separate parts.
 Recommended housing bore tolerance: H6 oder H7.
 Align the shaft grooves to the ball circuits before inserting the shaft into the linear set.

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