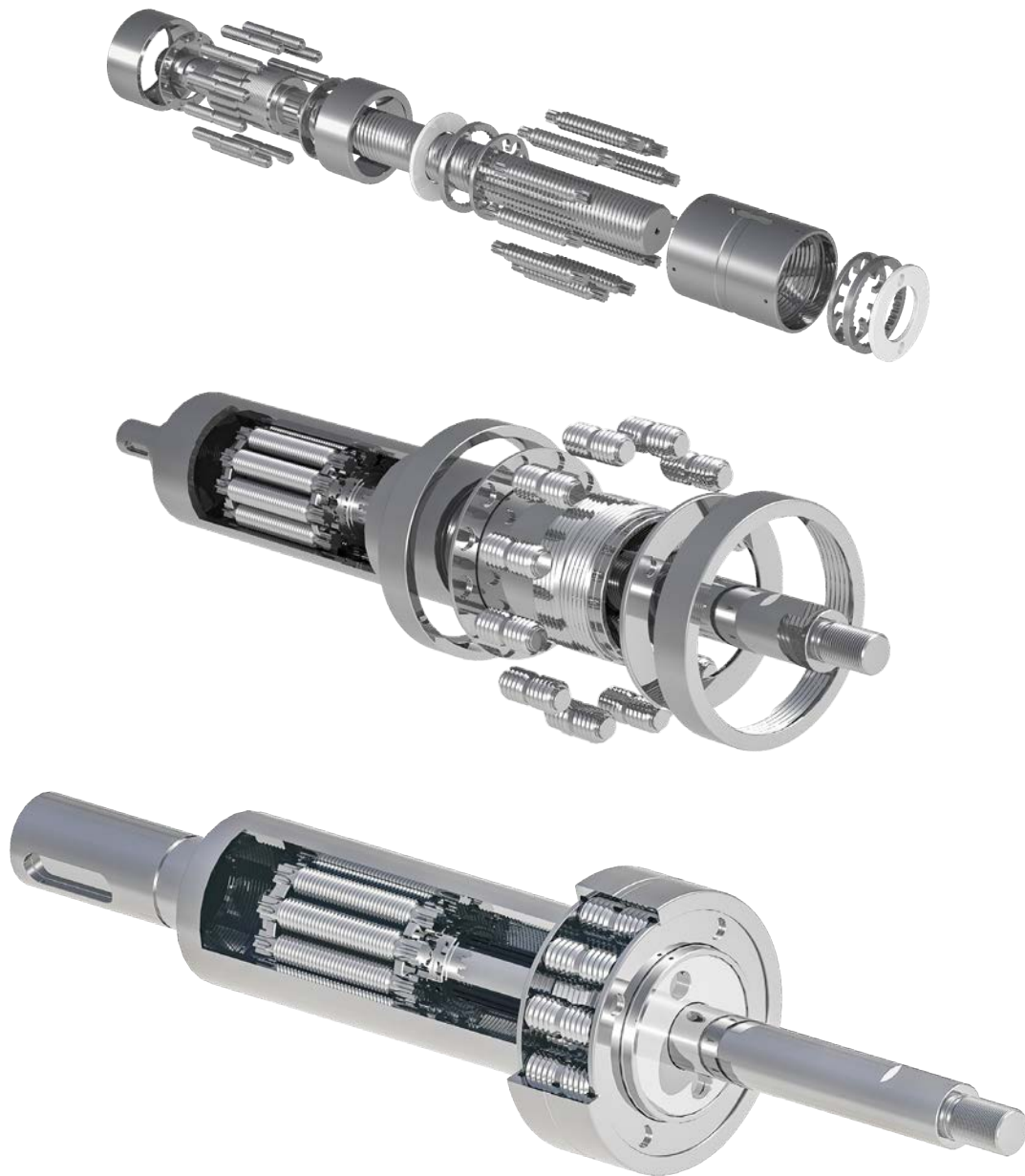
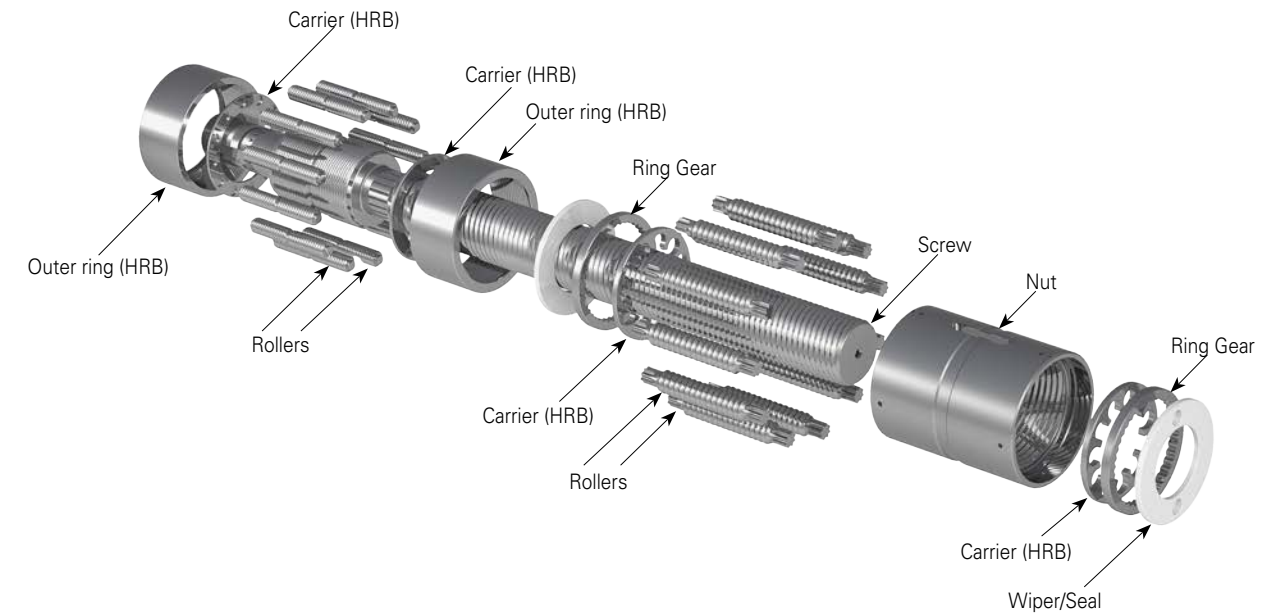
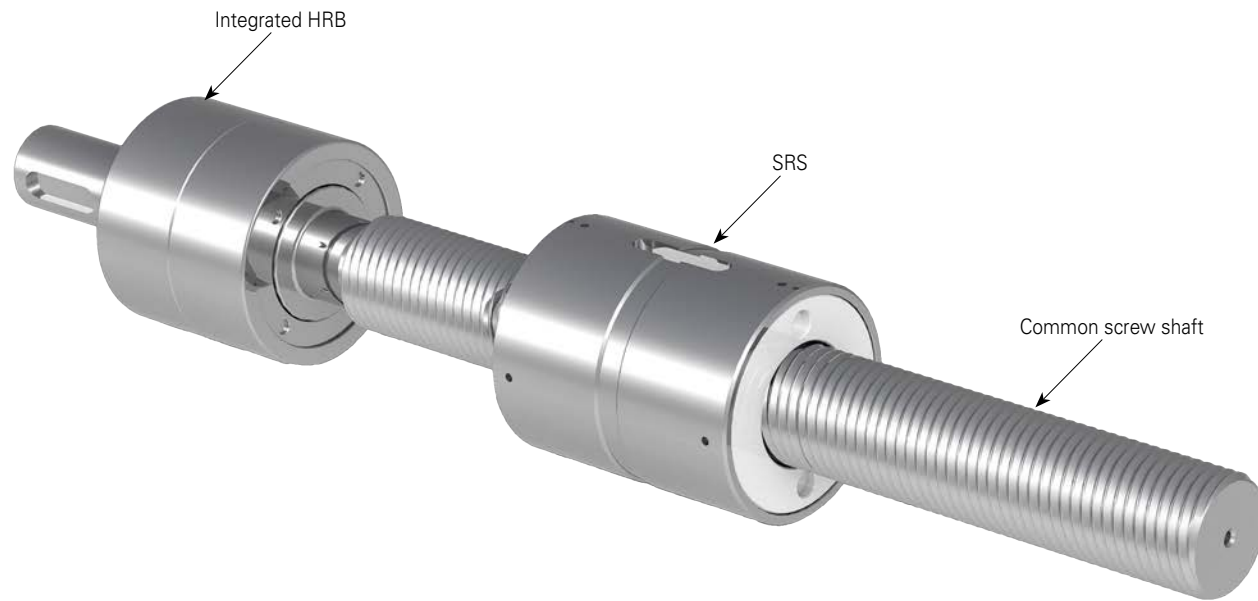


Roller Screws with Herringbone Roller Bearings



Standard Roller Screws with HRB (HRA-s)

Overview



According to customer requirements Helix Roller Screws can be designed and supplied with customized HRS solutions with integrated Herringbone Roller Bearings (HRBs). The main advantage of this compact solution that combines bearing and roller screw on the same shaft is to optimize the available space, reduce mass and the cost of HRS and surrounding parts. Named as the HRA, this mechanism exists in standard with IT or HT bearing nut assemblies to align HRS and HRB capacities. The nut of the HRS can have any shape to fit customer requirements.

The table to the right helps select the right bearing nut that can equip the HRS in a standard HRA configuration. Adjustment can be made depending on the application requirements. So, Helix can advise in selecting the right HRA.

Nominal Diameter (mm)	Part Number
60	HHT-060
75	HHT-075
87	HHT-080
99	HHT-090
111	HHT-095
120	HHT-110
135	HHT-120
150	HHT-130

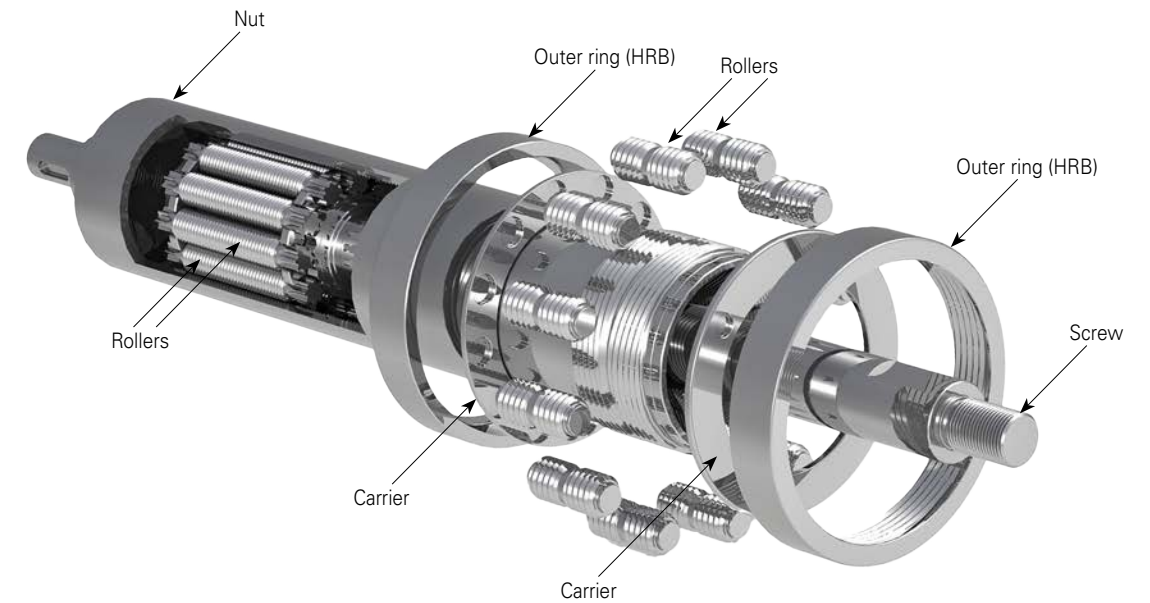
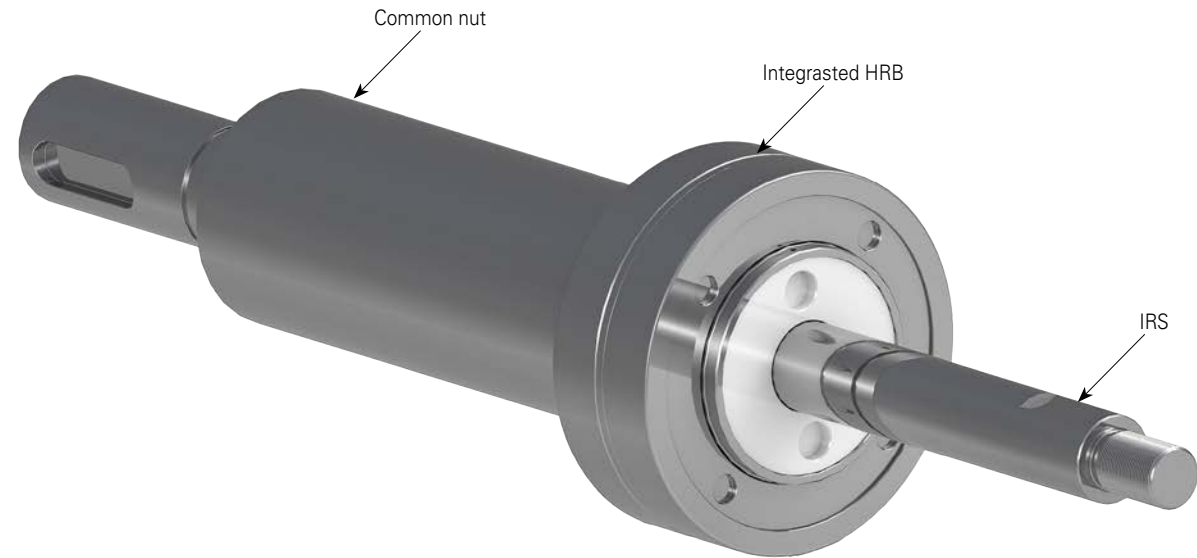
Standard Roller Screws with HRB (HRA-s)

Recommended sizes of integrated HRB for HRA-s

Nominal diameter (mm)	Lead (mm)										Lead (mm)									
	1	2	3	4	5	6	8	9	10		12	15	18	20	24	25	30	35	36	42
4	HIS-010	HIS-010	HIS-010																	
8	HIS-012	HIS-012	HIS-012	HIS-012																
12		HIS-012	HIS-012	HHS-012	HHS-012	HHS-012	HHS-012													
15		HIT-012	HIT-012	HIT-012	HIT-012	HIT-012	HIT-012													
18		HIT-015	HIT-015	HIT-015	HIT-015	HIT-015	HIT-015		HIT-015											
21			HIT-017	HIT-017	HIT-017	HIT-017	HHT-017		HHT-017											
24			HIT-020			HIT-020					HIT-020									
24		HIT-020		HIT-020	HIT-020	HIT-020	HIT-020		HIT-020			HIT-020								
27		HIT-025		HIT-025	HIT-025	HIT-025	HIT-025		HIT-025			HIT-025								
30		HIT-025		HIT-025	HIT-025	HIT-025	HIT-025		HIT-025			HIT-025		HIT-030						
36						HHT-030		HIT-025			HHT-030		HHT-030							
36		HHT-030		HHT-030	HHT-030	HHT-030	HHT-030		HHT-030			HHT-030		HHT-030						
39		HHT-030		HHT-030	HHT-030	HHT-030	HHT-030		HHT-030			HHT-030		HHT-030		HHT-030				
44						HHT-035					HHT-035		HHT-035		HHT-035		HHT-035			
48						HHT-040					HHT-040		HHT-040	HHT-040	HHT-040					
48					HHT-040				HHT-040			HHT-040		HHT-040		HHT-040				
51					HHT-040				HHT-040			HHT-045		HHT-050		HHT-050				
56						HHT-045					HHT-045		HHT-045		HHT-045		HHT-045		HHT-045	
60					HIT-055	HIT-055		HIT-050			HIT-055		HIT-055		HIT-055		HIT-055		HIT-055	HIT-055
60									HHT-050			HHT-050		HHT-050		HHT-050	HHT-050	HHT-050		
64						HIT-060					HIT-060		HIT-060		HIT-060		HIT-060		HIT-060	
68						HHT-055					HHT-055		HHT-055		HHT-055		HHT-055		HHT-055	
75									HHT-060			HHT-060		HHT-065		HHT-065	HHT-065			
80											HIT-075		HIT-075		HIT-075		HIT-075		HIT-075	
87									HIT-080			HIT-080		HHT-070		HHT-070	HHT-070			
92											HIT-085		HIT-085		HIT-085		HIT-085		HIT-085	
99												HHT-080		HHT-085		HHT-085	HHT-085	HHT-085	HHT-085	
120												HIT-110		HIT-110		HIT-110		HIT-110		HIT-110
120												HHT-100		HHT-100		HHT-100	HHT-100	HHT-100		

HRA-i

Roller Screw with an IRS and Herringbone Roller Bearings



The HRA-i is a design where the inner ring of a HRB is fully integrated on the nut of an inverted roller screw (Fig. 6.3 and Fig. 6.4). The HRA-i eliminates the need for a locknut and flange on the nut of an Inverted Roller Screw (IRS).

The main advantage of this compact solution that combines bearing and roller screw through a common component is to align the load capacities of both mechanisms and to optimize the entire available space, reduce masses and the cost of HRS as well as permitting improved design of parts. This is not possible with any traditional, existing bearings in such envelopes.

By maximizing capacity and reliability, the HRA-i also offers unprecedented power density with a custom mechanical package ready for the next generation of compact electric linear actuators.

The Helix designation system is not limited to HRA solutions. Contact our engineering team who can help to optimize your solution using the HRA design.

HRA-i

Recommended sizes of integrated HRB for HRA-i

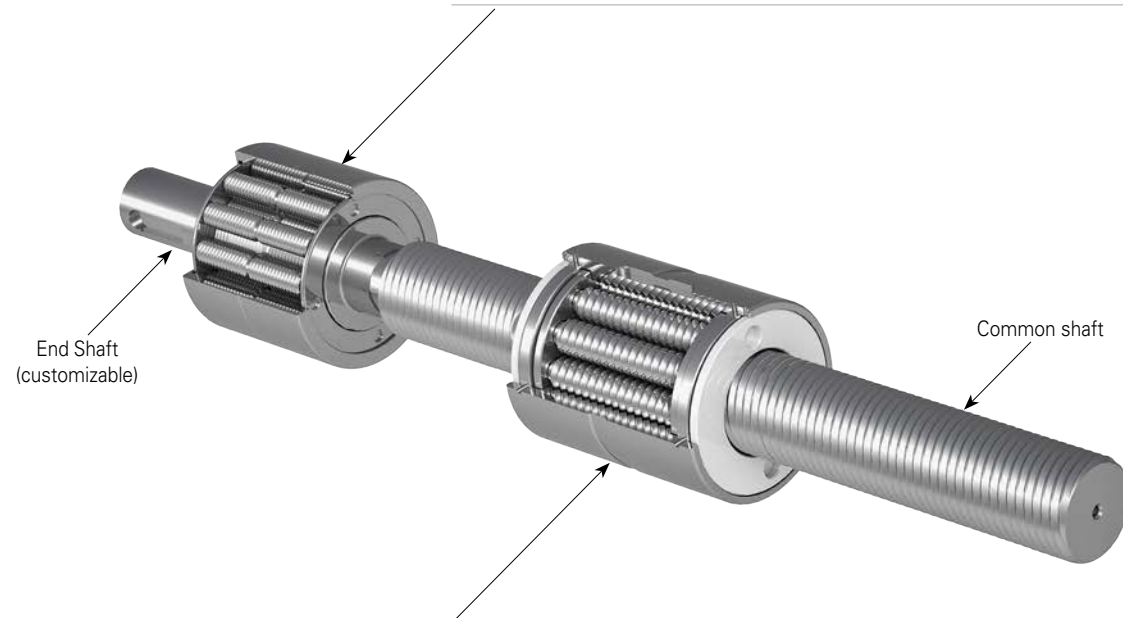
Nominal Diameter (mm)	Lead (mm)							Lead (mm)									
	1	2	2.4	3	4	5	6	7	8	9	10	12	14	15	16	36	42
9		HIS-020															
12	HIS-020	HIS-020															
14	HHS-020	HIS-025															
15	HIS-030	HIS-030		HIS-030													
18	HHS-030	HHS-030	HHS-030	HHS-030	HHS-030	HHS-030	HHS-030										
21		HIS-040	HIS-040	HIS-040	HIS-040	HIS-040	HIS-040										
24		HHS-040	HHS-040	HHS-040	HHS-040	HHS-040	HHS-040										
27		HHS-045		HHS-045	HHS-045	HHS-045											
28				HIS-045	HIS-045	HIS-045	HIS-045										
30		HHS-050	HHS-050	HHS-050	HHS-050	HHS-050	HHS-050										
36		HHS-050		HHS-050	HHS-050	HHS-050	HHS-050	HHS-050									
39		HHT-030		HHT-030	HHT-030	HHT-030	HHT-030	HHT-030		HHT-030		HHT-030					
44		HHT-030		HHT-030	HHT-030	HHT-030	HHT-030	HHT-030		HHT-030		HHT-030		HHT-030			
48									HHT-035		HHT-035		HHT-035		HHT-035		HHT-035
51									HHT-040		HHT-040		HHT-040		HHT-040		
56					HHT-040			HHT-040		HHT-040		HHT-040		HHT-040		HHT-040	
60					HHT-040			HHT-040		HHT-045		HHT-050		HHT-050		HHT-050	
64						HHT-045			HHT-045		HHT-045		HHT-045		HHT-045	HHT-045	HHT-045
70						HIT-055			HIT-055		HIT-055		HIT-055		HIT-055	HIT-055	HIT-055
75					HIT-055			HHT-050		HHT-050		HHT-050		HHT-050	HHT-050	HHT-050	
80						HIT-060			HIT-060		HIT-060		HIT-060		HIT-060	HIT-060	HIT-060

Standard Roller Screws with HRB (HRA-s)

ø15 – ø60 mm

Integrated HRB (HRA)

Type	B Length (mm)	D Outer Diameter (mm)	Equivalents (C, Co)
Single (S)	20 - 134	ø32 - ø320	HIS, HHS, HIT, HHT
Twin (T)	40 - 238	HIS, HHS, HIT, HHT	



Standard Roller Screws (SRS)

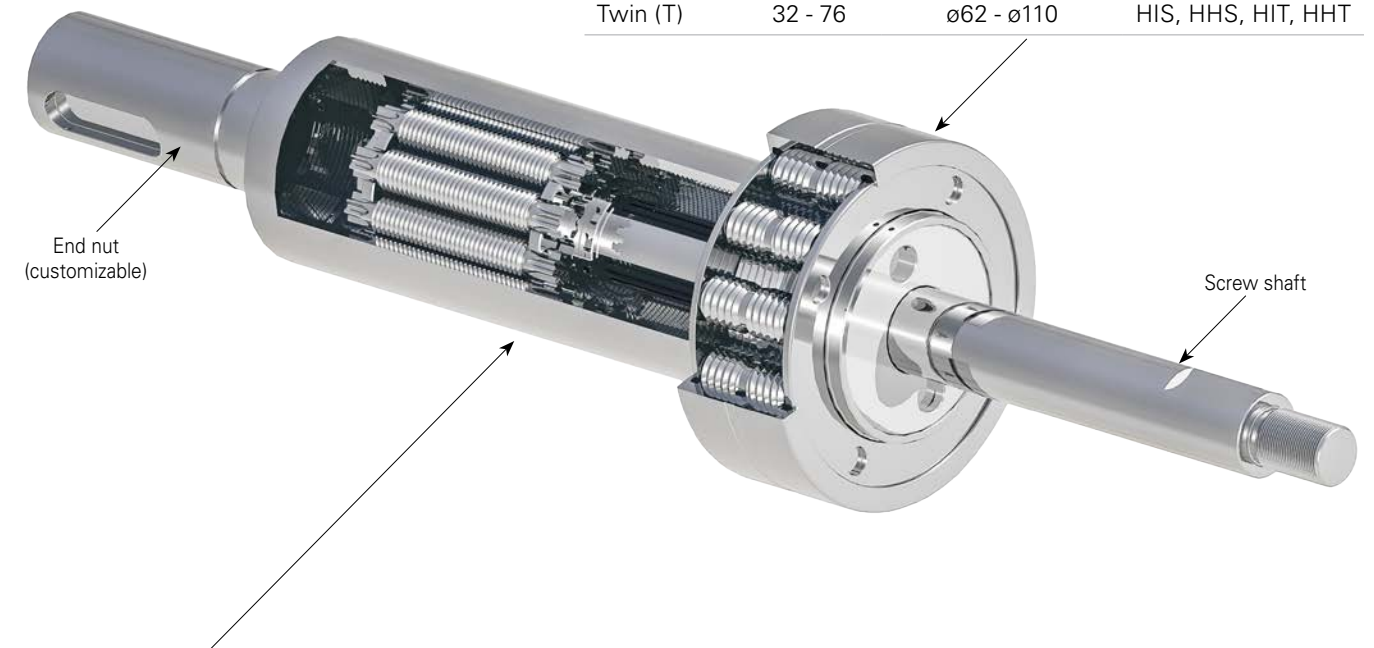
do - Screw Pitch Diameter (mm)	Lead Min - Max (mm)	Backlash (µm)
15	2 - 8	0 - 20
21	2 - 10	0 - 20
25	5 - 15	0 - 20
30	5 - 15	0 - 40
39	5 - 15	0 - 70
48	5 - 20	0 - 70
60	10 - 20	0 - 70

Inverted Roller Screws with HRB (HRA-I)

ø15 – ø39 mm

Integrated HRB (HRA)

Type	B Length (mm)	D Outer Diameter (mm)	Equivalents (C, Co)
Single (S)	32 - 76	ø62 - ø110	HIS, HHS, HIT, HHT
Twin (T)	32 - 76	ø62 - ø110	HIS, HHS, HIT, HHT

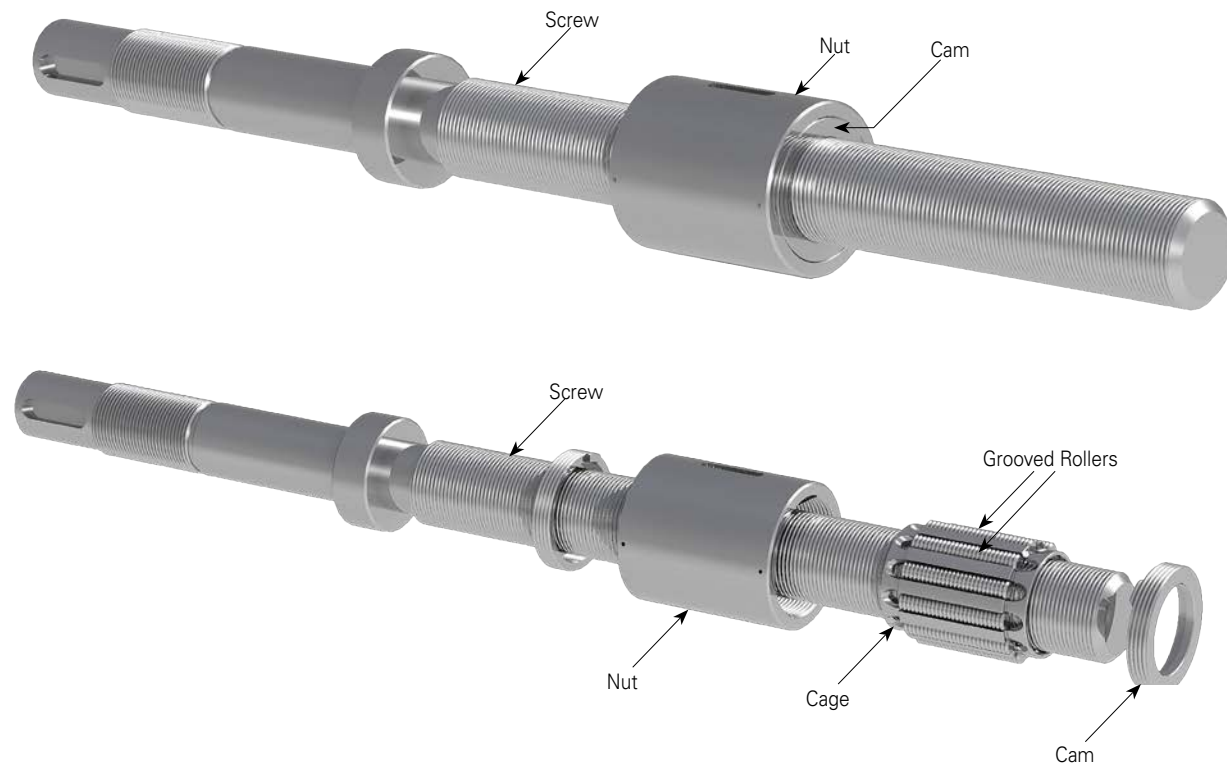


Inverted Roller Screws (SRS)

do - Screw Pitch Diameter (mm)	Lead Min - Max (mm)	D Nut Outer Diameter (µm)	Backlash (µm)
15	1 - 3	32	0 - 20
21	2 - 6	45	0 - 20
27	2 - 6	55	0 - 20
30	2 - 6	60	0 - 20
36	2 - 7	64	0 - 40
39	3 - 8	75	0 - 40

Recirculating Roller Screws (RRS)

Overview



Recirculating Roller Screw completes our range of Helix Roller Screws. They can have very fine leads for applications that require positioning with high resolution.

A step up from ball screws, the Helix Recirculating Roller Screw has many more contact points and offer higher load capacity and better rigidity.

Unlike planetary roller screws, the Recirculating Roller Screw allow rollers guides within a cage to recirculate inside the nut assembly thanks to cams.

This design is ideal for applications where long strokes with smaller leads are needed with high capacity in reduced envelopes. It is available with a cylindrical or flanged nut.

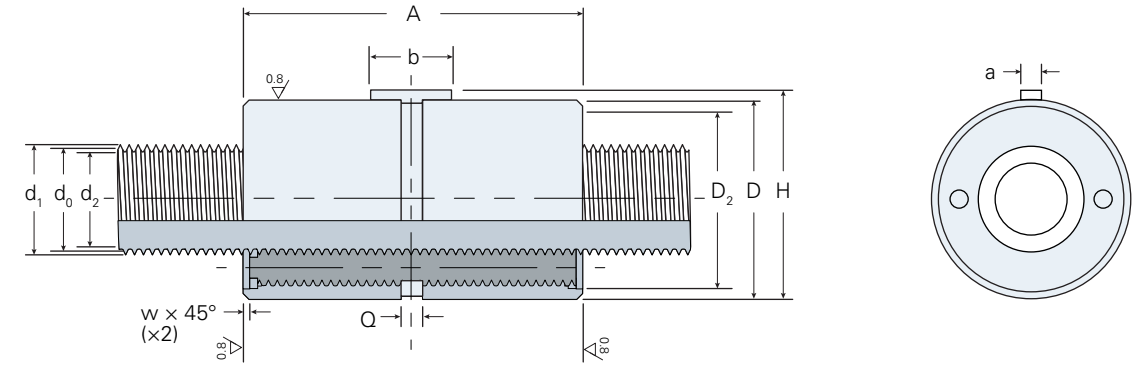
Recirculating Roller Screws (RRS)

Dynamic Load Ratings (kN)

Nominal Diameter (mm)	Lead (mm)				
	1	2	3	4	5
8	11.8	11.8			
10	14.1	14.1			
12	16.1	16.1			
16	19.4	19.4			
20	27.1	27.1			
25	39.7	39.7			
32	60.8	60.8	73.5		
36	73.8	73.8			
40	79.8	79.8		97.3	
50	134.1	139.9	160.0	168.2	
63		219.6	241.4	219.6	
80		374.6	414.2	440.6	
100			512.0	523.3	527.5
125					986.0

Recirculating Roller Screws with Cylindrical Nut

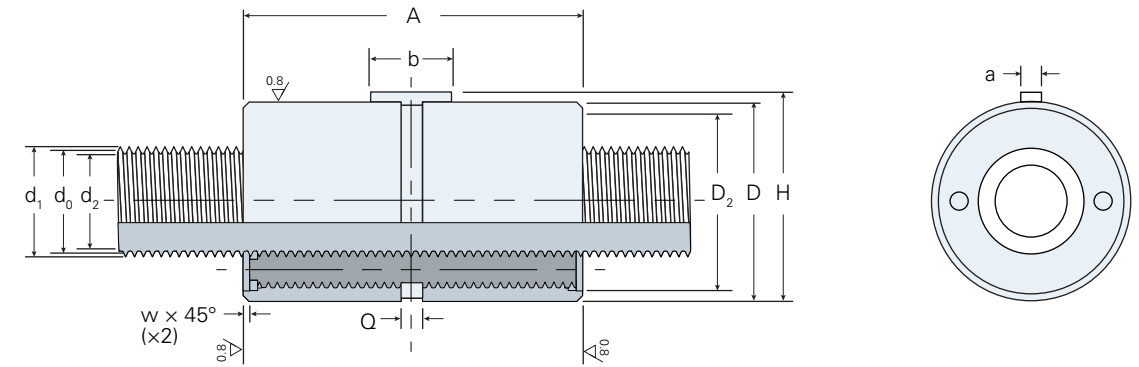
ø8 – ø36 mm



d_0 (mm)	P_h (mm)	N (mm)	C_a (kN)	C_{0a} (kN)	η	η'	S_0	T_0 (Nm)	m_n (kg)	m_s (kg/m)	I_s (kgmm ² /mm)	I_{nn}	I_{ns}	Z_n (mL)	Z_s (mL/m)	part number	d_0 (mm)	d_2 (mm)	D g6/H7 (mm)	A h12 w/ wiper recesses (mm)	A h12 w/o wiper recesses (mm)	w (mm)	a (mm)	b h9 (mm)	H (mm)	Q (mm)	D_2 (mm)
8	1	1	11.8	14.3	0.8	0.75	0.02	0.02	0.2	0.36	2.6	3.6	0.1	1.1	0.7	RRS 8x1 R-C	7.7	7.1	20	40	31	0.2	2	12	20.8	5	16.5
	2	2	11.8	14.3	0.79	0.73	0.02	0.03	0.2	0.36	2.6	3.6	0.1	1.2	0.7	RRS 8x2 R-C	7.7	7.1	20	40	31	0.2	2	12	20.8	5	16.5
10	1	1	14.1	17.8	0.8	0.75	0.02	0.03	0.2	0.57	6.7	5	0.1	1.3	0.8	RRS 10x1 R-C	9.7	9.1	22	40	31	0.2	2	12	22.8	5	18.5
	2	2	14.1	17.8	0.79	0.73	0.02	0.04	0.2	0.57	6.7	5	0.1	1.4	0.8	RRS 10x2 R-C	9.7	9.1	22	40	31	0.2	2	12	22.8	5	18.5
12	1	1	16.1	21.3	0.8	0.75	0.02	0.05	0.2	0.84	14.2	6.7	0.1	1.6	1	RRS 12x1 R-C	11.7	11.1	24	40	31	0.2	2	12	24.8	5	20.5
	2	2	16.1	21.3	0.79	0.73	0.02	0.06	0.2	0.84	14.2	6.7	0.1	1.7	1	RRS 12x2 R-C	11.7	11.1	24	40	31	0.2	2	12	24.8	5	20.5
16	1	1	19.4	28.2	0.8	0.75	0.02	0.06	0.3	1.51	46.2	14	0.3	2	1.3	RRS 16x1 R-C	15.7	15.1	29	40	31	0.5	3	12	30.2	5	25
	2	2	19.4	28.2	0.79	0.73	0.02	0.07	0.3	1.51	46.2	14	0.3	2.1	1.3	RRS 16x2 R-C	15.7	15.1	29	40	31	0.5	3	12	30.2	5	25
20	1	1	27.1	49.7	0.8	0.75	0.02	0.07	0.4	2.38	115	29.8	0.8	3.1	1.7	RRS 20x1 R-C	19.7	19.1	34	45	37	0.5	3	16	35.2	5	28.5
	2	2	27.1	49.7	0.79	0.73	0.02	0.08	0.4	2.38	115	29.8	0.8	3.2	1.7	RRS 20x2 R-C	19.7	19.1	34	45	37	0.5	3	16	35.2	5	28.5
25	1	1	39.7	85.2	0.8	0.75	0.02	0.09	0.6	3.75	285	79.3	2.5	3.3	2.1	RRS 25x1 R-C	24.7	24.1	42	54	44	0.5	4	20	43.5	5	36
	2	2	39.7	85.2	0.79	0.73	0.02	0.1	0.6	3.75	285	79.3	2.5	3.4	2.1	RRS 25x2 R-C	24.7	24.1	42	54	44	0.5	4	20	43.5	5	36
32	1	1	60.8	149	0.8	0.75	0.02	0.12	1.2	6.18	773	280	9.1	7	2.7	RRS 32x1 R-C	31.7	31.1	54	67	57	1	4	25	55.5	5	45
	2	2	60.8	149	0.79	0.73	0.02	0.13	1.2	6.18	773	280	9.1	7.1	2.7	RRS 32x2 R-C	31.7	31.1	54	67	57	1	4	25	55.5	5	45
	3	2	73.5	145	0.79	0.73	0.02	0.14	1.2	6.18	773	280	9.1	7.3	3.8	RRS 32x3 R-C	31.7	30.5	54	67	57	1	4	25	55.5	5	45
36	1	1	73.8	181	0.8	0.75	0.02	0.15	2.2	7.9	1286	682	13.5	7.6	3	RRS 36x1 R-C	35.7	35.1	61	75	62	1	6	28	63.5	5	53
	2	2	73.8	172	0.79	0.73	0.02	0.16	2.2	7.9	1286	682	13.5	7.7	3	RRS 36x2 R-C	35.7	35.1	61	75	62	1	6	28	63.5	5	53

Recirculating Roller Screws with Cylindrical Nut

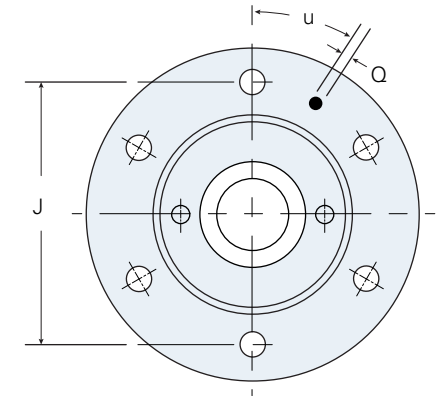
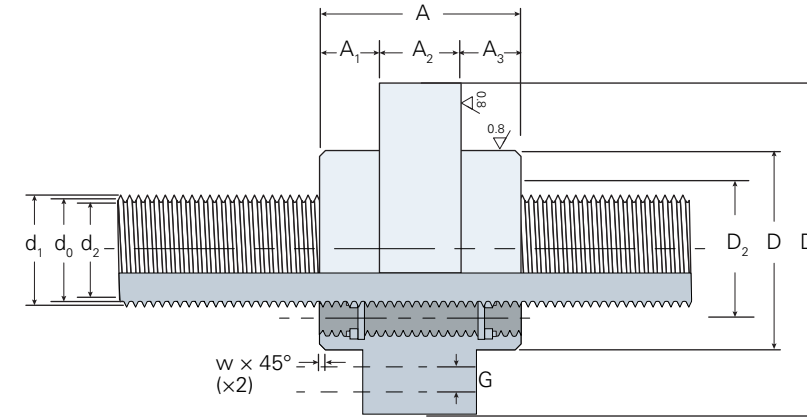
ø40 – ø125 mm



d_0 (mm)	P_n (mm)	N (mm)	C_a (kN)	C_{0a} (kN)	η	η'	S_0	T_0 (Nm)	m_n (kg)	m_s (kg/m)	I_s (kgmm ² /mm)	I_{nn}	I_{ns}	Z_n (mL)	Z_s (mL/m)	part number	d_0 (mm)	d_2 (mm)	D g6/H7 (mm)	A h12 w/ wiper recesses (mm)	A h12 w/o wiper recesses (mm)	w (mm)	a (mm)	b h9 (mm)	H (mm)	Q (mm)	D ₂ (mm)
40	1	1	79.8	207	0.8	0.75	0.02	0.17	2.1	9.69	1900	879	18.8	11.5	3.4	RRS 40x1 R-C	39.7	39.1	68	75	63	1	5	32	70	5	57
	2	2	79.8	207	0.79	0.73	0.02	0.18	2.1	9.69	1900	879	18.8	11.7	3.4	RRS 40x2 R-C	39.7	39.1	68	75	63	1	5	32	70	5	57
	4	2	97.3	199	0.78	0.72	0.04	0.19	2.1	9.69	1900	879	18.8	11.9	6.7	RRS 40x4 R-C	39.3	38.8	68	75	63	1	5	32	70	5	57
50	1	1	134	410	0.8	0.75	0.02	0.35	3.7	15	4550	2,190	76	19.1	4	RRS 50x1 R-C	49.7	49.1	82	101	85	1	6	32	84.5	8	70
	2	2	140	424	0.79	0.73	0.04	0.36	3.7	15	4550	2,190	76	19.2	5	RRS 50x2 R-C	49.5	48.7	82	101	85	1	6	32	84.5	8	70
	3	2	160	429	0.79	0.73	0.04	0.37	3.7	15	4550	2,190	76	19.4	7	RRS 50x3 R-C	49.3	48.6	82	101	85	1	6	32	84.5	8	70
	4	2	168	408	0.78	0.72	0.04	0.38	3.7	15	4550	2,190	76	19.6	8	RRS 50x4 R-C	49.3	48.2	82	101	85	1	6	32	84.5	8	70
63	2	2	220	563	0.79	0.73	0.04	0.53	6.4	23.9	11,600	6,460	230	22.5	6.3	RRS 63x2 R-C	62.4	61.2	103	120	104	1	6	40	105.5	8	94
	3	2	241	534	0.78	0.72	0.04	0.54	6.4	23.9	11,600	6,460	230	22.7	8.4	RRS 63x3 R-C	62.3	61.2	103	120	104	1	6	40	105.5	8	94
	4	2	220	563	0.79	0.73	0.04	0.55	6.4	23.9	11,600	6,460	230	22.8	10.6	RRS 63x4 R-C	62.3	61.1	103	120	104	1	6	40	105.5	8	94
80	2	2	375	1393	0.79	0.73	0.07	0.96	17.8	38.1	29,400	38,900	1,290	36.5	9.9	RRS 80x2 R-C	78.7	76.6	141	197	175	1	8	63	144	10	120
	3	2	414	1361	0.78	0.72	0.07	0.97	17.8	38.1	29,400	38,900	1,290	36.6	12.6	RRS 80x3 R-C	78.6	76.6	141	197	175	1	8	63	144	10	120
	4	2	441	1326	0.79	0.73	0.07	0.98	17.8	38.1	29,400	38,900	1,290	36.8	15.3	RRS 80x4 R-C	78.6	76.4	141	197	175	1	8	63	144	10	120
100	3	2	512	1577	0.78	0.72	0.07	1.17	33.1	59.5	71,800	108,000	4,000	103.2	15.7	RRS 100x3 R-C	98.6	95.7	175	237	205	2	10	80	178	10	150
	4	2	523	1548	0.78	0.72	0.07	1.18	33.1	59.5	71,800	108,000	4,000	103.4	19.1	RRS 100x4 R-C	98.3	95.6	175	237	205	2	10	80	178	10	150
	5	2	528	1520	0.77	0.7	0.07	1.19	33.1	59.5	71,800	108,000	4,000	103.6	22.5	RRS 100x5 R-C	98.3	95.5	175	237	205	2	10	80	178	10	150
125	5	2	986	3973	0.77	0.7	0.07	1.75	62.3	93.6	178,000	342,000	11,800	141.6	28.2	RRS 125x5 R-C	123.3	120.5	220	282	250	3	12	100	223	12	185

Recirculating Roller Screws with Flanged Nut

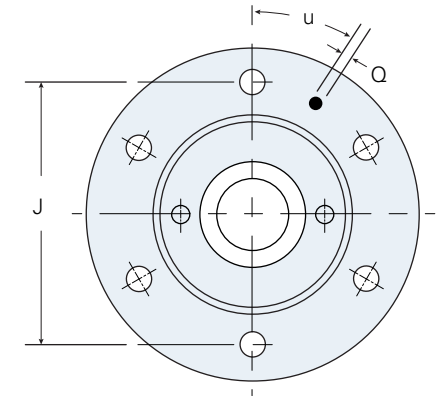
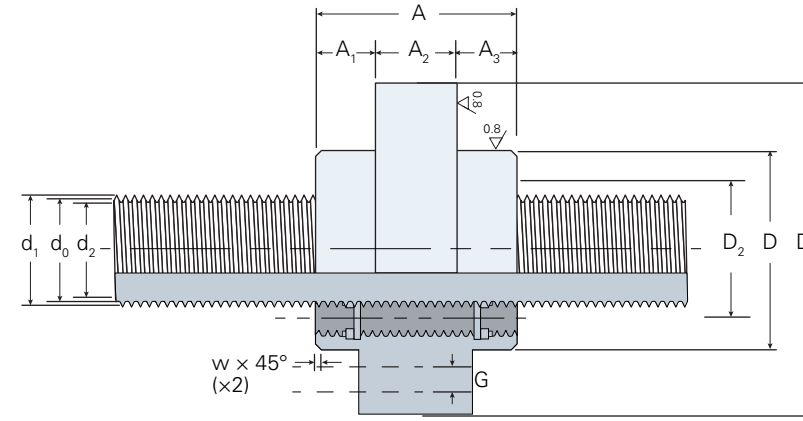
ø8 – ø36 mm



d_0 (mm)	P_h (mm)	N (mm)	C_a (kg)	C_{0a} (kg)	η	η'	S_0	T_0 (Nm)	m_n (kg)	m_s (kg/m)	I_s (kgmm ² /mm)	I_{nn}	I_{ns}	Z_n (mL)	Z_s (mL/m)	RRS	d_1 (mm)	d_2 (mm)	D (mm)	A _{h12} w/ wiper recesses (mm)	A ₁ (mm)	A ₂ (mm)	w (mm)	a (mm)	b (mm)	H (mm)	Q (mm)	D ₂ (mm)	u
8	1	1	11.8	14.3	0.8	0.75	0.02	0.02	0.2	0.36	2.6	3.6	0.1	1.1	0.7	RRS 8x1 R-F	7.7	7.1	20	31	7.5	16	43	0.2	33	6xø4.5	M6	16.5	30°
	2	2	11.8	14.3	0.79	0.73	0.02	0.03	0.2	0.36	2.6	3.6	0.1	1.2	0.7	RRS 8x2 R-F	7.7	7.1	20	31	7.5	16	43	0.2	33	6xø4.5	M6	16.5	30°
10	1	1	14.1	17.8	0.8	0.75	0.02	0.03	0.2	0.57	6.7	5	0.1	1.3	0.8	RRS 10x1 R-F	9.7	9.1	22	31	7.5	16	43	0.2	33	6xø4.5	M6	18.5	30°
	2	2	14.1	17.8	0.79	0.73	0.02	0.04	0.2	0.57	6.7	5	0.1	1.4	0.8	RRS 10x2 R-F	9.7	9.1	22	31	7.5	16	43	0.2	33	6xø4.5	M6	18.5	30°
12	1	1	16.1	21.3	0.8	0.75	0.02	0.05	0.2	0.84	14.2	6.7	0.1	1.6	1	RRS 12x1 R-F	11.7	11.1	24	31	7.5	16	46	0.2	36	6xø4.5	M6	20.5	30°
	2	2	16.1	21.3	0.79	0.73	0.02	0.06	0.2	0.84	14.2	6.7	0.1	1.7	1	RRS 12x2 R-F	11.7	11.1	24	31	7.5	16	46	0.2	36	6xø4.5	M6	20.5	30°
16	1	1	19.4	28.2	0.8	0.75	0.02	0.06	0.3	1.51	46.2	14	0.3	2	1.3	RRS 16x1 R-F	15.7	15.1	29	31	7.5	16	51	0.5	41	6xø4.5	M6	25	30°
	2	2	19.4	28.2	0.79	0.73	0.02	0.07	0.3	1.51	46.2	14	0.3	2.1	1.3	RRS 16x2 R-F	15.7	15.1	29	31	7.5	16	51	0.5	41	6xø4.5	M6	25	30°
20	1	1	27.1	49.7	0.8	0.75	0.02	0.07	0.4	2.38	115	29.8	0.8	3.1	1.7	RRS 20x1 R-F	19.7	19.1	34	37	9.5	18	58	0.5	46	6xø6	M6	28.5	30°
	2	2	27.1	49.7	0.79	0.73	0.02	0.08	0.4	2.38	115	29.8	0.8	3.2	1.7	RRS 20x2 R-F	19.7	19.1	34	37	9.5	18	58	0.5	46	6xø6	M6	28.5	30°
25	1	1	39.7	85.2	0.8	0.75	0.02	0.09	0.6	3.75	285	79.3	2.5	3.3	2.1	RRS 25x1 R-F	24.7	24.1	42	44	13	18	68	0.5	56	6xø6	M6	36	30°
	2	2	39.7	85.2	0.79	0.73	0.02	0.1	0.6	3.75	285	79.3	2.5	3.4	2.1	RRS 25x2 R-F	24.7	24.1	42	44	13	18	68	0.5	56	6xø6	M6	36	30°
32	1	1	60.8	149	0.8	0.75	0.02	0.12	1.2	6.18	773	280	9.1	7	2.7	RRS 32x1 R-F	31.7	31.1	54	57	18.5	20	84	1	70	6xø7	M6	45	30°
	2	2	60.8	149	0.79	0.73	0.02	0.13	1.2	6.18	773	280	9.1	7.1	2.7	RRS 32x2 R-F	31.7	31.1	54	57	18.5	20	84	1	70	6xø7	M6	45	30°
	3	2	73.5	145	0.79	0.73	0.02	0.14	1.2	6.18	773	280	9.1	7.3	3.8	RRS 32x3 R-F	31.7	30.5	54	57	18.5	20	84	1	70	6xø7	M6	45	30°
36	1	1	73.8	181	0.8	0.75	0.02	0.15	2.2	7.9	1286	682	13.5	7.6	3	RRS 36x1 R-F	35.7	35.1	61	62	22.5	17	90	1	75	6xø7	M6	53	30°
	2	2	73.8	172	0.79	0.73	0.02	0.16	2.2	7.9	1286	682	13.5	7.7	3	RRS 36x2 R-F	35.7	35.1	61	62	22.5	17	90	1	75	6xø7	M6	53	30°

Recirculating Roller Screws with Flanged Nut

ø40 – ø125 mm

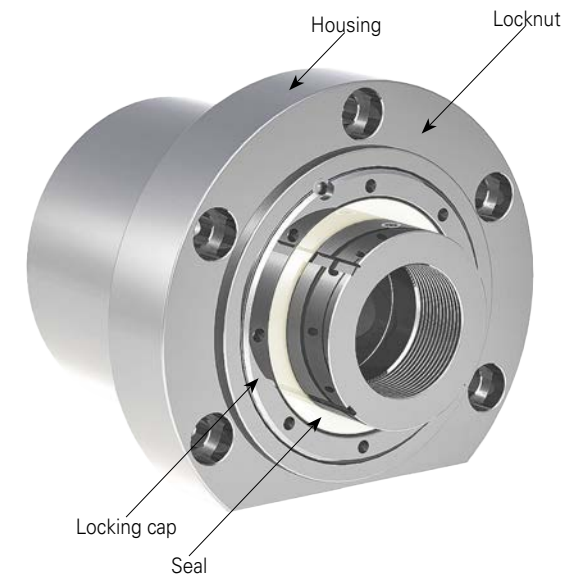
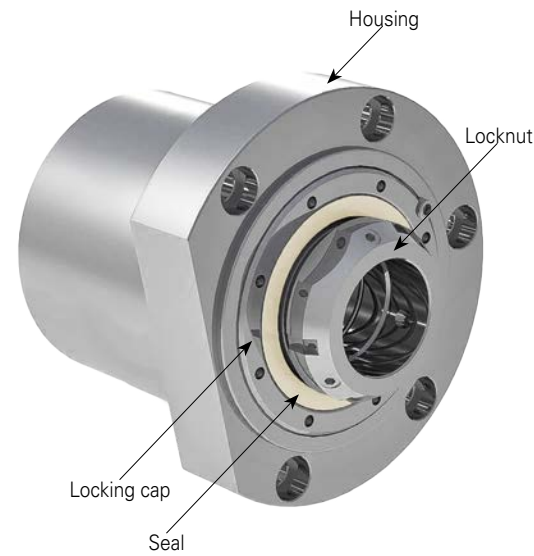


d ₀ (mm)	P _h (mm)	N (mm)	C _a (kg)	C _{0a} (kg)	η	η'	S ₀	T ₀ (Nm)	m _n (kg)	m _s (kg/m)	I _s (kgmm ² /mm)	I _{nn}	I _{ns}	Z _n (mL)	Z _s (mL/m)	RRS	d ₁ (mm)	d ₂ (mm)	D (mm)	A _{h12} w/ wiper recesses (mm)	A ₁ (mm)	A ₂ (mm)	w (mm)	a (mm)	b (mm)	H (mm)	Q (mm)	D ₂ (mm)	u
40	1	1	79.8	207	0.8	0.75	0.02	0.17	2.1	9.69	1,900	879	18.8	11.5	3.4	RRS 40x1 R-F	39.7	39.1	68	63	18	27	102	1	85	6xø9	M6	57	30°
	2	2	79.8	207	0.79	0.73	0.02	0.18	2.1	9.69	1,900	879	18.8	11.7	3.4	RRS 40x2 R-F	39.7	39.1	68	63	18	27	102	1	85	6xø9	M6	57	30°
	4	2	97.3	199	0.78	0.72	0.04	0.19	2.1	9.69	1,900	879	18.8	11.9	6.7	RRS 40x4 R-F	39.3	38.8	68	63	18	27	102	1	85	6xø9	M6	57	30°
50	1	1	134	410	0.8	0.75	0.02	0.35	3.7	15	4,550	2,190	76	19.1	4	RRS 50x1 R-F	49.7	49.1	82	85	26	33	124	1	102	6xø11	M6	70	30°
	2	2	140	424	0.79	0.73	0.04	0.36	3.7	15	4,550	2,190	76	19.2	5	RRS 50x2 R-F	49.5	48.7	82	85	26	33	124	1	102	6xø11	M6	70	30°
	3	2	160	429	0.79	0.73	0.04	0.37	3.7	15	4,550	2,190	76	19.4	7	RRS 50x3 R-F	49.3	48.6	82	85	26	33	124	1	102	6xø11	M6	70	30°
	4	2	168	408	0.78	0.72	0.04	0.38	3.7	15	4,550	2,190	76	19.6	8	RRS 50x4 R-F	49.3	48.2	82	85	26	33	124	1	102	6xø11	M6	70	30°
63	2	2	220	563	0.79	0.73	0.04	0.53	6.4	23.9	11,600	6,460	230	22.5	6.3	RRS 63x2 R-F	62.4	61.2	103	104	35.5	33	150	1	127	6xø13	M8x1	94	30°
	3	2	241	534	0.78	0.72	0.04	0.54	6.4	23.9	11,600	6,460	230	22.7	8.4	RRS 63x3 R-F	62.3	61.2	103	104	35.5	33	150	1	127	6xø13	M8x1	94	30°
	4	2	220	563	0.79	0.73	0.04	0.55	6.4	23.9	11,600	6,460	230	22.8	10.6	RRS 63x4 R-F	62.3	61.1	103	104	35.5	33	150	1	127	6xø13	M8x1	94	30°
80	2	2	375	1393	0.79	0.73	0.07	0.96	17.8	38.1	29,400	38,900	1,290	36.5	9.9	RRS 80x2 R-F	78.7	76.6	141	175	65	45	200	1	170	8xø17	M8x1	120	22.5°
	3	2	414	1361	0.78	0.72	0.07	0.97	17.8	38.1	29,400	38,900	1,290	37	12.6	RRS 80x3 R-F	78.6	76.6	141	175	65	45	200	1	170	8xø17	M8x1	120	22.5°
	4	2	441	1326	0.79	0.73	0.07	0.98	17.8	38.1	29,400	38,900	1,290	37	15.3	RRS 80x4 R-F	78.6	76.4	141	175	65	45	200	1	170	8xø17	M8x1	120	22.5°
100	3	2	512	1577	0.78	0.72	0.07	1.17	33.1	59.5	71,800	108,000	4,000	103.2	15.7	RRS 100x3 R-F	98.6	95.7	175	205	77.5	50	240	2	210	12xø17	M8x1	150	15°
	4	2	523	1548	0.78	0.72	0.07	1.18	33.1	59.5	71,800	108,000	4,000	103	19.1	RRS 100x4 R-F	98.3	95.6	175	205	77.5	50	240	2	210	12xø17	M8x1	150	15°
	5	2	528	1520	0.77	0.7	0.07	1.19	33.1	59.5	71,800	108,000	4,000	104	22.5	RRS 100x5 R-F	98.3	95.5	175	205	77.5	50	240	2	210	12xø17	M8x1	150	15°
125	5	2	986	3973	0.77	0.7	0.07	1.75	62.3	93.6	178,000	342,000	11,800	141.6	28.2	RRS 125x5 R-F	123.3	120.5	220	250	98	55	310	3	270	12xø19	M8x1	185	15°

Bearing Units

SBU and HHF

Roller screws are continuously improved with advanced tools used to analyze in detail the behaviour of its products in your applications with high security factors.



Helix Roller Screws can accommodate existing bearing designs. The Support Bearing Unit (SBU) can house existing bearing products such as stacked ACBBs (Angular Contact Ball Bearings) and other solutions as defined, including the Herringbone Roller Bearing (integrated into the housing HHF). Both solutions are sealed, lubricated and are designed for easy installation.

The SBU is designed for our planetary roller screws (SRS and URS) with nominal diameters between 8 mm and 80 mm as well as recirculating roller screws (RRS) between 8mm and 125 mm.

For greater capacity and stiffness, the HHF has been developed. Ideal for even more demanding and extreme conditions.

The HHF solution optimizes capacity and space with greater stiffness. Having the highest power density and longer lifetime than any bearing currently available. The HHF can also be customized easily to fit customer needs.

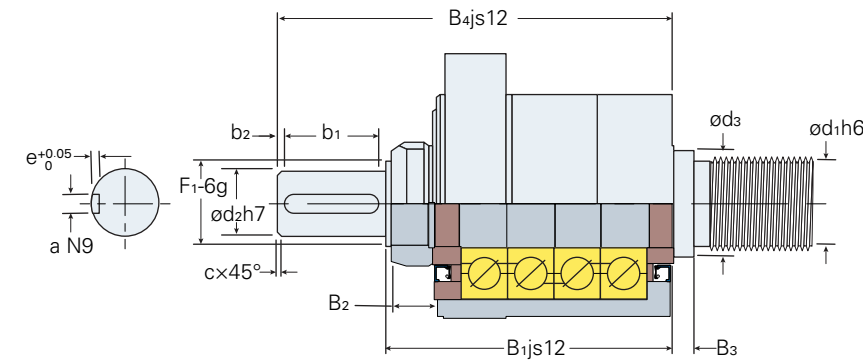
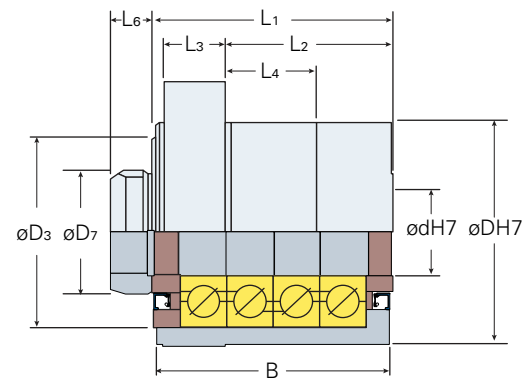
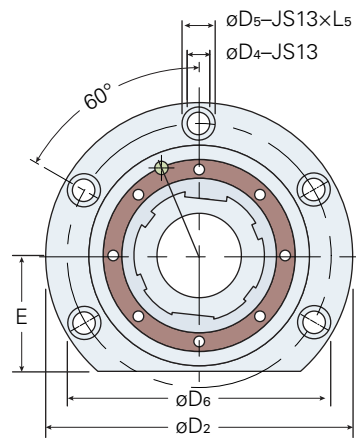
The HHF is designed and can be applied to Standard Roller Screws (SRS or URS) with nominal diameters between 8 to 80 mm and for Recirculating Roller Screws (RRS) with nominal diameters between 8 to 125 mm.

It is of primary importance that the capacity of the bearing unit exceeds the capacity of the roller screw to give the most robust design and reliable operation. The best compact bearing solution that can be assembled of your roller screw.

SBU: Support Bearing Units with ACCBs

Ø12mm – Ø100 mm

Part Number	Bearing Dimensions			Dynamic Load Ca (kN)	Static Load C0a (kN)	Standard Arrangement	High Precision KMT Locknut			Mass (kg)
	Internal Diameter (mm)	External Diameter (mm)	B (mm)				Part Number	Hook Spanner	Tightening Torque (kN)	
SBU-1	12	47	40	13.3	14.7	1+1	KMT 1	HN 3	15	0.72
SBU-2	17	60	44	27.9	31.9	1+1	KMT 3	HN 4	22	1.16
SBU-3	20	60	74	40.1	63.8	2+2	KMT 4	HN 5	27	1.73
SBU-4	25	80	86	79.8	122	2+2	KMT 5	HN 5	38	3.71
SBU-5	35	100	106	123	212	2+2	KMT 7	HN 7	65	6.72
SBU-6	50	130	136	214	385	2+2	KMT 10	HN 10	110	13.62
SBU-7	65	170	175	314	631	2+2	KMT 14	HN 14	200	29.51
SBU-8	70	220	229	513	1192	2+2	KMT 18	HN 18	300	60.47
SBU-9	100	250	245	615	1600	2+2	KMT 20	HN 20	400	84.21

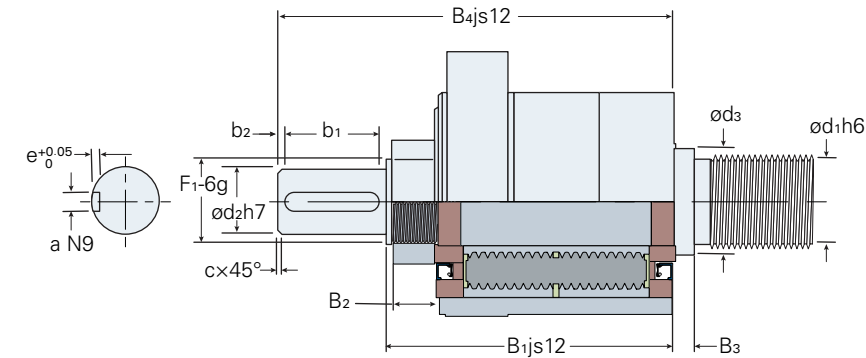
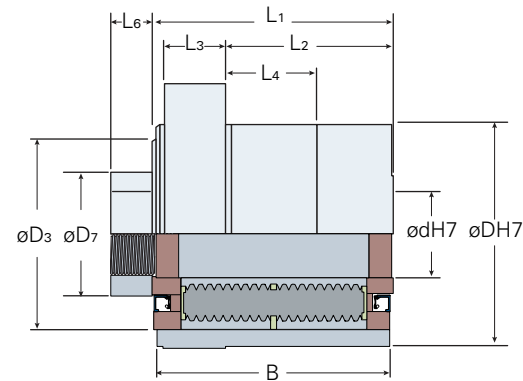
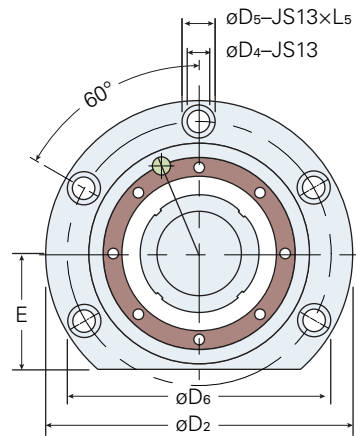


Part Number	D ₂ (mm)	D ₃ (mm)	D ₄ (mm)	D ₅ (mm)	D ₆ (mm)	D ₇ (mm)	L ₁ (mm)	L ₂ (mm)	L ₃ (mm)	L ₄ (mm)	L ₅ (mm)	L ₆ (mm)	E (mm)	d ₁ (mm)	d ₂ (mm)	d ₃ (mm)	B ₁ (mm)	B ₂ (mm)	B ₃ (mm)	B ₄ (mm)	f ₁	c (mm)	b ₁ (mm)	b ₂ (mm)	a (mm)	e (mm)
SBU-1	77	47	6.6	11	63	22	42	25	12	10	2	8	27	12	10	17	51	10	5	71	M12×1	0.5	16	1.5	3	1.8
SBU-2	92	57	6.6	11	76	28	46	32	12	15	2	10	32	17	15	23	66	21	5	96	M17×1	0.5	25	2	5	3
SBU-3	92	58	9	14	74	38	77	60	15	27	2	10	32	20	17	27	98	22	7	138	M20×1	0.5	32	3	5	3
SBU-4	122	74	11	17	100	45	89	68	19	33	3	20	44	25	20	34	111	24	7	156	M25×1.5	1	40	2.5	6	3.5
SBU-5	144	94	13	19	120	58	110	82	25	42	5	22	54	35	30	45	134	26	10	189	M35×1.5	1	45	2.5	8	4
SBU-6	177	128	13	19	152	75	140	98.5	36	52	11	25	67	50	40	62	168	30	12	233	M50×1.5	1	56	4	12	5
SBU-7	230	164	17	25	198	105	180	133.5	41	50	11	32	87	65	60	78	215	37	18	315	M65×2	1	90	3	18	7
SBU-8	292	215	22	32	252	130	235	179	48	94	13	38	115	70	85	108	275	43	25	395	M90×2	1	100	8	25	9
SBU-9	330	240	25	38	285	140	253	195	50	109	14	38	130	100	95	120	293	43	25	433	M100×2	1	125	7	25	9

HHF: Support Bearing Units with HRB

ø12mm – ø100 mm

	Bearing Dimensions			Dynamic Load	Static Load	Speed Ratings			Mass (kg)
	Internal Diameter (mm)	External Diameter (mm)	B (mm)	C _a (kN)	C _{0a} (kN)	Lifetime Benefit	Reference Speed	Limiting Speed	
HHF-1	12	47	40	19	17	4x	25,000	29,100	0.72
HHF-2	17	60	44	42	53	4x	17,600	20,500	1.16
HHF-3	20	60	74	138	258	50x	15,000	17,500	1.73
HHF-4	25	80	86	206	430	26x	12,000	14,000	3.71
HHF-5	35	100	106	314	736	24x	8,500	10,000	6.72
HHF-6	50	130	136	640	1,483	34x	6,000	7,000	13.62
HHF-7	65	170	175	885	2,399	25x	4,600	5,300	29.51
HHF-8	90	220	229	1,546	5,087	45x	3,300	3,800	60.47
HHF-9	100	250	245	1,783	6,285	31x	3,000	3,500	84.21



	D ₂ (mm)	D ₃ (mm)	D ₄ (mm)	D ₅ (mm)	D ₆ (mm)	D ₇ (mm)	L ₁ (mm)	L ₂ (mm)	L ₃ (mm)	L ₄ (mm)	L ₅ (mm)	L ₆ (mm)	E (mm)	d ₁ (mm)	d ₂ (mm)	d ₃ (mm)	B ₁ (mm)	B ₂ (mm)	B ₃ (mm)	B ₄ (mm)	f ₁	c (mm)	b ₁ (mm)	b ₂ (mm)	a (mm)	e (mm)
HHF-1	77	47	6.6	11	63	22	42	25	12	10	2	8	27	12	10	17	51	10	5	71	M12×1	0.5	16	1.5	3	1.8
HHF-2	92	57	6.6	11	76	28	46	32	12	15	2	10	32	17	15	23	66	21	5	96	M17×1	0.5	25	2	5	3
HHF-3	92	58	9	14	74	38	77	60	15	27	2	10	32	20	17	27	98	22	7	138	M20×1	0.5	32	3	5	3
HHF-4	122	74	11	17	100	45	89	68	19	33	3	20	44	25	20	34	111	24	7	156	M25×1.5	1	40	2.5	6	3.5
HHF-5	144	94	13	19	120	58	110	82	25	42	5	22	54	35	30	45	134	26	10	189	M35×1.5	1	45	2.5	8	4
HHF-6	177	128	13	19	152	75	140	98.5	36	52	11	25	67	50	40	62	168	30	12	233	M50×1.5	1	56	4	12	5
HHF-7	230	164	17	25	198	105	180	133.5	41	50	11	32	87	65	60	78	215	37	18	315	M65×2	1	90	3	18	7
HHF-8	292	215	22	32	252	130	235	179	48	94	13	38	115	70	85	108	275	43	25	395	M90×2	1	100	8	25	9
HHF-9	330	240	25	38	285	140	253	195	50	109	14	38	130	100	95	120	293	43	25	433	M100×2	1	125	7	25	9

Notes

Notes



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