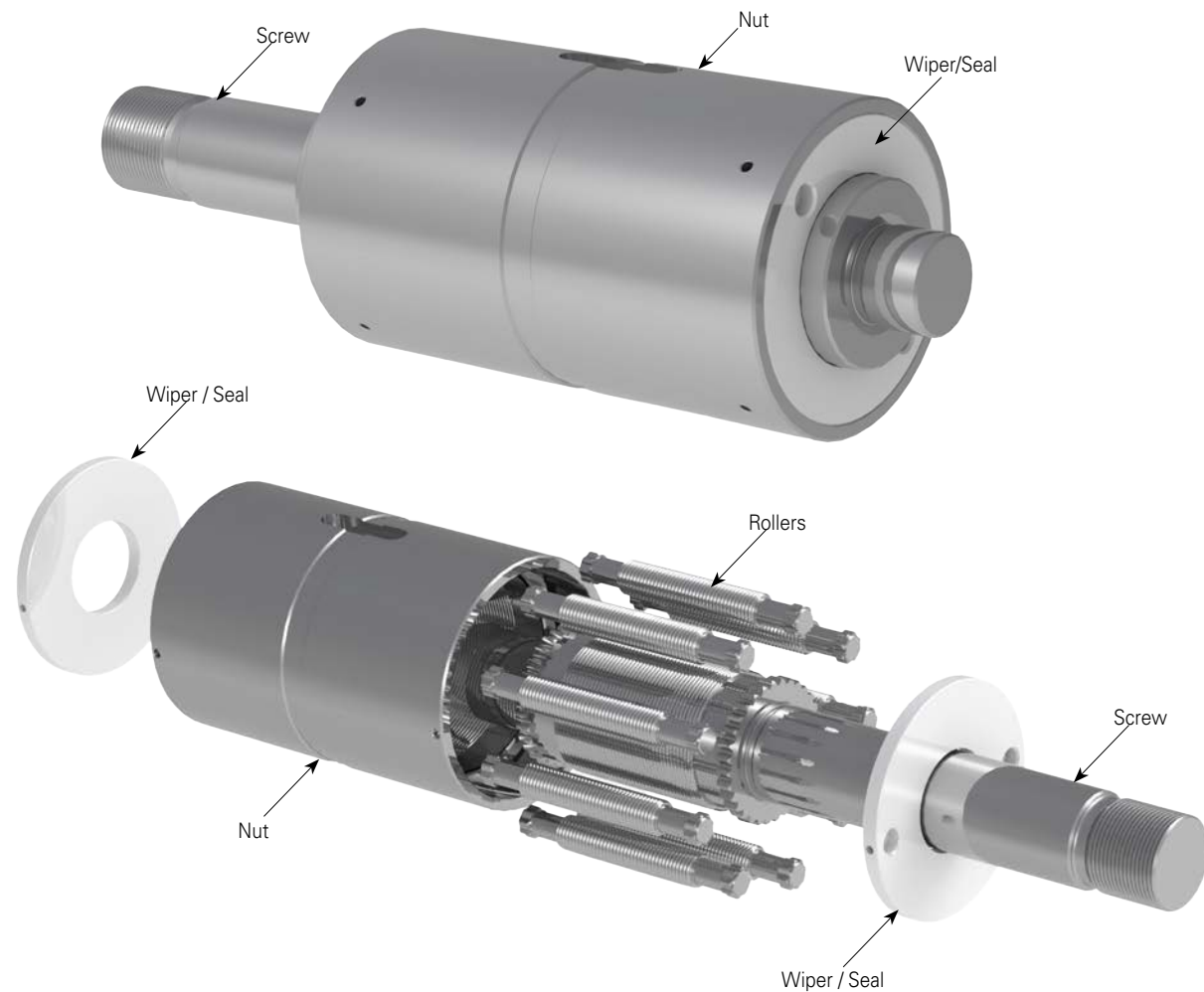


Differential Roller Screws



Differential Roller Screws (DRS)

Overview



The DRS is designed when extreme positioning accuracy and resolution is required for instance in laboratory, space, telescope, medical applications. The lead can be from hundredth of mm up to few tenth or

mm. The resulting lead is achieved with a differential motion between the shaft nut and rollers which are actually designed with a larger pitch to keep a very high load capacity.

Differential Roller Screws (DRS)

Dynamic Load Ratings (kN)

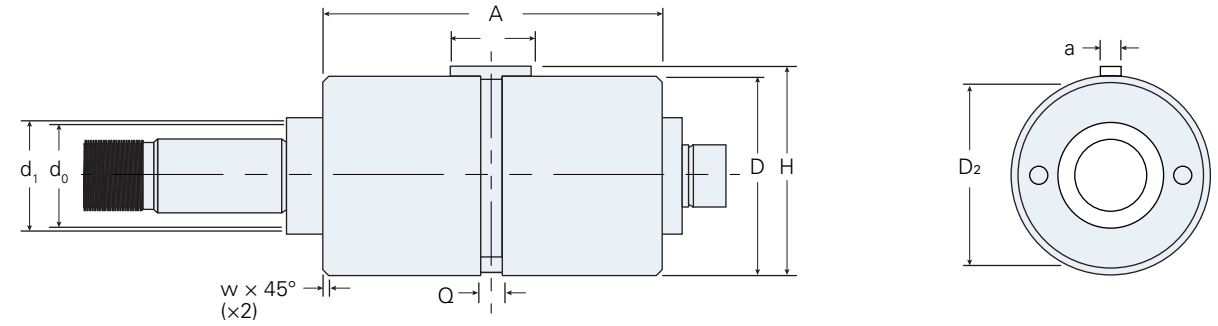
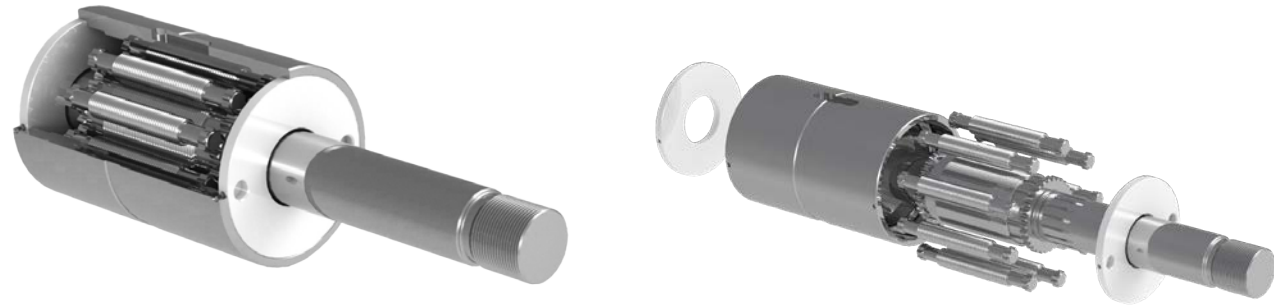
Nominal Diameter (mm)	Lead (mm)		
	0.2	0.4	0.6
16	17	20	23
20	33	39	45
24	47	55	63
28	53	63	72
32	56	66	76
36	61	72	82
40	92	108	124
44	103	122	140

Possible leads can be extremely small, reaching a few hundredths of mm if needed. This design is perfect if you need extreme resolution and positioning accuracy on a short stroke.

As always material, coatings and interface dimensions will be fully adapted to meet application needs. Please consult our Engineering team for further details. Our innovative design has been optimized to a higher level with a fewer components and lower weight while keeping high load and speed capabilities.

Differential Roller Screws

ø16 – ø44 mm



d_0 (mm)	P_h (mm)	C_a (kN)	C_{0a} (kN)	η	η'	ST	m_n (kg)	m_s (kg/m)	I_s (kgmm ² /m)	I_{nn} (kgmm ²)	I_{ns}	Z_s (mL/m)		d_1 (mm)	$D_{g6/H7}$ (mm)	A_{h12} (mm)	w (mm)	a_{h9} (mm)	b (mm)	H (mm)	Q (mm)	D_2 (mm)
16	0.2	17	21	0.79	0.78	5	0.2	1.6	50	62	29.7	5	DRS 16x0.2 R	16.5	32	63	0.5	4	12	33.5	5	27
	0.4	20	28	0.81	0.8	5	0.2	1.6	50	71	38	5	DRS 16x0.4 R	16.5	32	63	0.5	4	12	33.5	5	27
	0.6	23	34	0.8	0.79	5	0.2	1.6	50	79	47	5	DRS 16x0.6 R	16.5	32	63	0.5	4	12	33.5	5	27
20	0.2	33	56	0.79	0.78	5	0.3	2.5	123	161	93.3	7.6	DRS 20x0.2 R	20.5	38	77	0.5	5	18	40	5	35
	0.4	39	71	0.81	0.8	5	0.4	2.5	123	188	120	7.6	DRS 20x0.4 R	20.5	38	77	0.5	5	18	40	5	35
	0.6	45	87	0.8	0.79	5	0.4	2.5	123	215	146.7	7.7	DRS 20x0.6 R	20.5	38	77	0.5	5	18	40	5	35
24	0.2	47	88	0.79	0.78	5	0.5	3.5	254	344	193.9	11	DRS 24x0.2 R	24.5	45	86	0.5	5	20	47	5	40
	0.4	55	113	0.81	0.8	5	0.6	3.5	254	400	249	11	DRS 24x0.4 R	24.5	45	86	0.5	5	20	47	5	40
	0.6	63	138	0.8	0.79	5	0.6	3.5	254	455	305	11	DRS 24x0.6 R	24.5	45	86	0.5	5	20	47	5	40
28	0.2	53	101	0.79	0.78	5	0.6	4.8	471	482	283	15	DRS 28x0.2 R	28.5	50	87	0.5	5	20	52	5	45
	0.4	63	129	0.81	0.8	5	0.7	4.8	471	563	364	15	DRS 28x0.4 R	28.5	50	87	0.5	5	20	52	5	45
	0.6	72	158	0.8	0.79	5	0.7	4.8	471	644	445	15	DRS 28x0.6 R	28.5	50	87	0.5	5	20	52	5	45
32	0.2	56	103	0.79	0.78	5	0.8	6.3	803	723	358.5	19	DRS 32x0.2 R	32.5	58	85	0.5	6	25	60	5	53
	0.4	66	132	0.81	0.8	5	0.9	6.3	803	826	461	19	DRS 32x0.4 R	32.5	58	85	0.5	6	25	60	5	53
	0.6	76	161	0.8	0.79	5	1	6.3	803	928	563	19	DRS 32x0.6 R	32.5	58	85	0.5	6	25	60	5	53
36	0.2	61	110	0.79	0.78	5	1	7.9	1,286	978	468	24	DRS 36x0.2 R	36.5	64	85	0.5	6	32	66.5	5	58
	0.4	72	142	0.81	0.8	5	1.1	7.9	1,286	1,111	602	25	DRS 36x0.4 R	36.5	64	85	0.5	6	32	66.5	5	58
	0.6	82	173	0.8	0.79	5	1.2	7.9	1,286	1,245	735	25	DRS 36x0.6 R	36.5	64	85	0.5	6	32	66.5	5	58
40	0.2	92	202	0.79	0.78	5	1.2	9.8	1,960	1,652	1,010	31	DRS 40x0.2 R	40.5	68	104	1	6	32	70	7	63
	0.4	108	260	0.81	0.8	5	1.3	9.8	1,960	1,941	1,299	31	DRS 40x0.4 R	40.5	68	104	1	6	32	70	7	63
	0.6	124	318	0.8	0.79	5	1.5	9.8	1,960	2,229	1,587	31	DRS 40x0.6 R	40.5	68	104	1	6	32	70	7	63
44	0.2	103	235	0.79	0.78	5	1.4	11.9	2,870	2,235	1,376	37	DRS 44x0.2 R	44.5	74	108	1	6	32	76.7	7	70
	0.4	122	303	0.81	0.8	5	1.6	11.9	2,870	2,628	1,769	37	DRS 44x0.4 R	44.5	74	108	1	6	32	76.7	7	70
	0.6	140	370	0.8	0.79	5	1.8	11.9	2,870	3,021	2,162	37	DRS 44x0.6 R	45	74	108	1	6	32	76.7	7	70



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