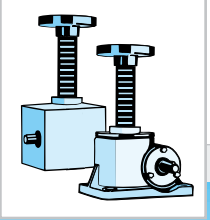


Worm gear screw jacks



3.3 Technical information

3.3.1.3 High performance worm gear screw jacks HSE

Size		31	36	50	63	80	100	125	140	200
Max. lifting force	[kN]	5	10	25	50	100	200	350	500	1000
Max. tension load	[kN]	5	10	25	50	100	178	350	500	1000
Spindle Tr ¹⁾		18x4	22x5	40x8	50x9	60x12	70x12	100x16	120x16	160x20
Ratio N		4:1	5:1	6:1	7:1	8:1	8:1	10 2/3:1	10 2/3:1	13 1/3:1
Amount of lift per revolution for ratio N	[mm/per rev.]	1,0	1,0	1,33	1,28	1,5	1,5	1,5	1,5	1,5
Ratio L		16:1	20:1	24:1	28:1	32:1	32:1	32:1	32:1	40:1
Amount of lift per revolution for ratio L	[mm/per rev.]	0,25	0,25	0,33	0,32	0,375	0,375	0,5	0,5	0,5
Max. drive capacity ²⁾ at 20°C	[kW]	0,60	0,90	1,5	2,3	3,6	4,8	7,7	10,2	17,9
Ambient temp. and 20 % ED/hr										
Max. drive capacity ²⁾ at 20°C	[kW]	1,0	1,5	2,6	4,0	6,3	8,4	13,5	17,9	31
Ambient temp. and 10 % ED/hr										
Overall efficiency of ratio N	[%]	see efficiency ratings tables 3.3.5.3								
Overall efficiency of ratio L	[%]	see efficiency ratings tables 3.3.5.3								
Spindle efficiency rating	[%]	42,5	43	40	36,5	39,5	35,5	34	30	28,5
Torque, capacity, turning-speed at 20 % ED/hr and 20°C		see performance tables 3.3.3.3								
Spindle torque at max. lifting power	[Nm]	7,4	18,4	80	190	478	1060	2600	4235	11115
Max. permitted drive-shaft torque	[Nm]	12,6	29,4	48,7	168	398	705	975	1640	4260
Max. permitted spindle length with compression load	[mm]	see bend diagrams 3.3.2								
Housing material		AlSi 12			GGG 50					
Weight without screw jack and protection tube	[kg]	2,0	4,0	13	25	47	74	145	335	870
Spindle weight per 100 mm of lift	[kg]	0,16	0,23	0,82	1,3	1,79	2,52	5,2	7,7	13,82
Amounts of lubricant in transmission	[kg]	0,07	0,15	0,4	0,9	1,5	2,1	5,0	10	15,5
Mass moment of inertia ³⁾										
N-ratio Type 1	[kg cm ²]	0,237	0,466	1,247	3,100	11,97	30,11	60,76	95,51	
Mass moment of inertia ³⁾										
N-ratio Type 2	[kg cm ²]	0,270	0,513	1,364	3,378	13,05	32,21	65,76	106,2	
Mass moment of inertia ³⁾										
L-ratio Type 1	[kg cm ²]	0,150	0,204	0,638	1,804	8,13	20,91	44,88	64,93	
Mass moment of inertia ³⁾										
L-ratio Type 2	[kg cm ²]	0,153	0,207	0,645	1,822	8,20	21,04	45,43	66,12	

¹⁾ Also applies to Ku spindle, see section 3.3.7

²⁾ Max. permitted values for type 1 and Tr spindle.

Higher values are possible when using type 2 or Ku spindles.

³⁾ referring to 100 mm spindle length