

Worm gear screw jacks

3.3 Technical information

3.3.1 Table of settings

3.3.1.1 Worm gear screw jacks SHE

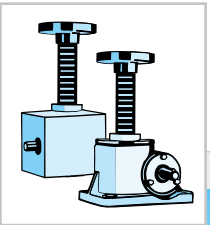
Size		0,5	1	2	2,5	5	10	15	
Max. lifting force	[kN]	5	10	20	25	50	100	150	
Max. tension load	[kN]	5	10	19	25	50	99	99	
Spindle Tr ¹⁾		18x6	22x5	26x6,28	30x6	40x7	58x12	60x12	
Ratio N		10:1	5:1	6:1	6:1	6:1	7 2/3:1	7 2/3:1	
Amount of lift per revolution for ratio N	[mm/per rev.]	0,60	1,0	1,047	1,0	1,167	1,565	1,50	
Ratio L		20:1	20:1	24:1	24:1	24:1	24:1	24:1	
Amount of lift per revolution for ratio L	[mm/per rev.]	0,30	0,25	0,262	0,25	0,292	0,50	0,50	
Max. drive capacity ²⁾ at 20°C									
Ambient temp. and 20 % ED/hr	[kW]	0,17	0,35	0,5	0,65	1,15	2,7	2,7	
Max. drive capacity ²⁾ at 20°C									
Ambient temp. and 10 % ED/hr	[kW]	0,25	0,55	0,75	0,9	1,65	3,85	3,85	
Overall efficiency of ratio L	[%]	31	29	31	27	24	27	27	
Rendement total Rapport L	[%]	24	20	18	19	16	17	17	
Spindle efficiency rating	[%]	54	43	45	40	36,5	40,5	39,5	
Torque, capacity, turning-speed at 20 % ED/hr and 20°C		See performance tables 3.3.3.1							
Spindle torque at max. lifting power	[Nm]	8,8	18,4	44	60	153	468	702	
Max. permitted drive-shaft torque	[Nm]	12	29,4	36	46,5	92	195	195	
Max. permitted spindle length with compression load		see bend diagrams 3.3.2							
Housing material	[mm]	G-ALSiCu4			GGG 60				
Weight without screw jack and protection tube	[kg]	1,2	2,5	7,3	7,3	16,2	25	25	
Spindle weight per 100 mm of lift	[kg]	0,14	0,23	0,32	0,45	0,82	1,67	1,79	
Amounts of lubricant in transmission	[kg]	0,05	0,1	0,15	0,2	0,35	0,9	0,9	
Mass moment of inertia ³⁾									
N-ratio Type 1	[kg cm ²]	0,095	0,383	0,651	0,780	2,234	5,256	5,256	
Mass moment of inertia ³⁾									
N-ratio Type 2	[kg cm ²]	0,100	0,390	0,657	0,792	2,273	5,356	5,356	
Mass moment of inertia ³⁾									
L-ratio Type 1	[kg cm ²]	0,089	0,269	0,459	0,558	1,696	4,081	4,081	
Mass moment of inertia ³⁾									
L-ratio Type 2	[kg cm ²]	0,089	0,275	0,460	0,558	1,699	4,091	4,091	

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

Worm gear screw jacks



3.3 Technical information

3

20	25	35	50	75	100	150	200	Size
200	250	350	500	750	1000	1500	2000	Max. lifting force
166	250	350	500	750	1000	1500	-	Max. tension load
65x12	90x16	100x16	120x16	140x20	160x20	190x24	220x28	Spindle Tr ¹⁾
8:1	10 2/3:1	10 2/3:1	10 2/3:1	12:1	12:1	19:1	17,5:1	Ratio N
1,50	1,50	1,50	1,50	1,667	1,667	1,263	1,60	Amount of lift per revolution for ratio N
24:1	32:1	32:1	32:1	36:1	36:1	-	-	Ratio L
0,5	0,5	0,5	0,5	0,556	0,556	-	-	Amount of lift per revolution for ratio L
3,8	5,0	6,0	7,4	9,0	12,5	18,5	on request	Max. drive capacity ²⁾ at 20°C Ambient temp. and 20 % ED/hr
5,4	7,2	8,6	10,4	12,6	17,5	26	on request	Max. drive capacity ²⁾ at 20°C Ambient temp. and 10 % ED/hr
24	22	21	15	18	15	15	17,5	Overall efficiency of ratio N
17	15	14	10	12	9	-	-	Overall efficiency of ratio L
37,5	36,5	34	30	31,6	28,5	28,8	29	Spindle efficiency rating
See performance tables 3.3.3.1								Torque, capacity, turning-speed at 20 % ED/hr and 20°C
1009	1725	2600	4235	7550	11115	19850	30700	Spindle torque at max. lifting power
280	480	705	840	2660	2660	4260	on request	Max. permitted drive-shaft torque
see bend diagrams 3.3.2								Max. permitted spindle length with compression load
GGG 60			GS 52	GGG 60	GS 52			Housing material
36	70,5	87	176	ca. 350	538	850	ca. 1000	Weight without screw jack and protection tube
2,15	4,15	5,2	7,7	10,0	13,82	19,6	26,2	Spindle weight per 100 mm of lift
2	1,3	2,5	4,0		10,0	10,0	on request	Amounts of lubricant in transmission
11,93	23,42	55,80	108,8	318,0	428,5	on request	on request	Mass moment of inertia ³⁾ N-ratio Type 1
12,08	23,74	56,30	109,9	325,2	431,3	on request	on request	Mass moment of inertia ³⁾ N-ratio Type 2
9,427	19,59	44,08	88,37	275,6	346,0	sur demande	sur demande	Mass moment of inertia ³⁾ L-ratio Type 1
9,444	19,62	44,13	88,49	279,4	346,3	on request	on request	Mass moment of inertia ³⁾ L-ratio Type 2