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Screw Jacks

HR Line

Screw Jacks are mechanical devices providing an output linear movement by means of a spinning input movement. It can be used as a single unit, or more Screw Jacks can be connected via shafts transmissions and angular drives.

Input rotational movement can come from a manual winding or from a motor, be that AC or DC.

Screw Jacks are made up by a worm gear system (worm screw/worm wheel), a leadscrew and a nut.



- **Gearbox:** Aluminum for sizes 05, 10, 25, Cast Iron for sizes 50, 100, 200
- **Worm Screw:** Hardened Tempered steel
- **Worm Wheel:** Bronze
- **Nut:** Bronze
- **Bearings:** Ball
- **Front Lock Ring:** Cast Iron
- **ACME Lead Screw:** Carbon Steel – (Available in AISI304 on request)
- **Ball Screw:** Hardened Tempered Steel
- **Max Force:** 5 KN to 200 KN
- **Gear Ratios:** 1:1, 1:10; 1:16, 1:30

Characteristics:

TYPE:	05	10	25	50	100	200
LOAD (daN):	500	1000	2500	5000	10000	20000
ACME SCREW DIAMETER/PITCH:	18x4	20x4	30x6	40x7	55x9	70x10
GEARBOX REDUCTION RATIO:	1:4	1:4	1:5	1:5	1:5	1:5
	1:10	1:10	1:10	1:10	1:10	1:10
	1:16	1:16	1:30	1:30	1:30	1:30
	1:30	1:30				
LEAD SCREW STROKE PER INPUT TURN (MM):	1	1	1.2	1.4	1.8	2
	0.4	0.4	0.6	0.7	0.9	1
	0.25	0.25	0.2	0.23	0.3	0.33
	0.13	0.13				
JACK WEIGHT (GEARBOX ONLY) (KG):	2	3	6.5	24.5	36	80
WEIGHT FOR EACH 100 MM STROKE(KG):	0.16	0.2	0.45	0.81	1.56	2.6

Characteristics (VRS):

TYPE:	05	10	25	50	100	200
LOAD (daN):	500	1000	2500	5000	10000	2000
ACME SCREW DIAMETER/PITCH:	16x5	20x5	32x10	40x10	50x10	63x10
GEARBOX REDUCTION RATIO:	1:4	1:4	1:5	1:5	1:5	1:5
	1:10	1:10	1:10	1:10	1:10	1:10
	1:16	1:16	1:30	1:30	1:30	1:30
	1:30	1:30				
LEAD SCREW STROKE PER INPUT TURN (MM):	1.25	1.25	2	2	2	2
	0.5	0.5	1	1	1	1
	0.31	0.31	0.33	0.33	0.33	0.33
	0.16	0.16				
JACK WEIGHT (GEARBOX ONLY) (KG):	2	3	6.5	24.5	36	80
WEIGHT FOR EACH 100 MM STROKE(KG):	0.12	0.24	0.53	0.85	1.3	2.2

Speed (mm/s):

GEAR REDUCTION RATIO																
	2 POLE = 3000 RPM					4 POLE = 1500 RPM					6 POLE = 1000 RPM					
SIZE:	1:4	1:5	1:10	1:16	1:30	1:4	1:5	1:10	1:16	1:30	1:4	1:5	1:10	1:16	1:30	
HR 05	50	-	20	12.5	6.6	25	-	10	6.2	3.3	16.6	-	6.6	4.1	2.2	
HR 10	50	-	20	12.5	6.6	25	-	10	6.2	3.3	16.6	-	6.6	4.1	2.2	
HR 25	-	60	30	-	10	-	30	15	-	5	-	20	10	-	3.3	
HR 50	-	70	35	-	11.6	-	35	17.5	-	5.8	-	23.3	11.6	-	3.8	
HR 100	-	90	45	-	15	-	45	22.5	-	7.5	-	30	15	-	5	
HR 200	-	100	50	-	16.6	-	50	25	-	8.3	-	33.3	16.6	-	5.5	

Speed (mm/s) (VRS):

GEAR REDUCTION RATIO																
	2 POLE = 3000 RPM					4 POLE = 1500 RPM					6 POLE = 1000 RPM					
SIZE:	1:4	1:5	1:10	1:16	1:30	1:4	1:5	1:10	1:16	1:30	1:4	1:5	1:10	1:16	1:30	
HR-VRS 05	-	100	50	-	16.6	-	50	25	-	8.3	-	33.3	16.6	-	5.5	
HR-VRS 10	-	100	50	-	16.6	-	50	25	-	8.3	-	33.3	16.6	-	5.5	
HR-VRS 25	-	100	50	-	16.6	-	50	25	-	8.3	-	33.3	16	-	5.5	
HR-VRS 50	-	100	50	-	16.6	-	50	25	-	8.3	-	33.3	16.6	-	5.5	

Load Specifications:

Pull Load:



Compression Load:



Side Load:



Off-Center Load:



Rotation Directions:



Righthanded worm screw and lead screw.



Righthanded worm screw and left-handed lead screw.



Performance for HR05:

Data shown below refer to HR Screw Jacks featuring ACME leadscrew and grease-lubricated gearbox.

RATIO – 1:4											
LOAD:		500		400		300		200		100	
N1 (RPM)	SPEED (MM/S)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)
1500	25.0	0.47	3	0.36	2.3	0.25	1.6	0.19	1.2	0.09	0.6
1000	16.7	0.31	3	0.24	2.3	0.17	1.6	0.13	1.2	0.06	0.6
750	12.5	0.24	3	0.18	2.3	0.13	1.6	0.09	1.2	0.05	0.6
500	8.3	0.16	3	0.12	2.3	0.08	1.6	0.06	1.2	0.03	0.6
300	5.0	0.09	3	0.07	2.3	0.05	1.6	0.04	1.2	0.02	0.6
100	1.7	0.03	3	0.02	2.3	0.02	1.6	0.01	1.2	0.01	0.6
50	0.8	0.02	3	0.01	2.3	0.01	1.6	0.01	1.2	0.01	0.6

RATIO – 1:10											
LOAD:		500		400		300		200		100	
N1 (RPM)	SPEED (MM/S)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)
1500	10.0	0.24	1.5	0.19	1.2	0.14	0.9	0.09	0.6	0.05	0.3
1000	6.7	0.16	1.5	0.13	1.2	0.09	0.9	0.06	0.6	0.03	0.3
750	5.0	0.12	1.5	0.09	1.2	0.07	0.9	0.05	0.6	0.02	0.3
500	3.3	0.08	1.5	0.06	1.2	0.05	0.9	0.03	0.6	0.02	0.3
300	2.0	0.05	1.5	0.04	1.2	0.03	0.9	0.02	0.6	0.01	0.3
100	0.7	0.01	1.5	0.01	1.2	0.01	0.9	0.01	0.6	0.01	0.3
50	0.3	0.01	1.5	0.01	1.2	0.00	0.9	0.01	0.6	0.01	0.3

RATIO – 1:16											
LOAD:		500		400		300		200		100	
N1 (RPM)	SPEED (MM/S)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)
1500	6.3	0.16	1	0.13	0.8	0.09	0.6	0.06	0.4	0.03	0.2
1000	4.2	0.10	1	0.08	0.8	0.06	0.6	0.04	0.4	0.02	0.2
750	3.1	0.08	1	0.06	0.8	0.05	0.6	0.03	0.4	0.02	0.2
500	2.1	0.05	1	0.04	0.8	0.03	0.6	0.02	0.4	0.01	0.2
300	1.3	0.03	1	0.03	0.8	0.02	0.6	0.01	0.4	0.01	0.2
100	0.4	0.01	1	0.01	0.8	0.01	0.6	0.01	0.4	0.01	0.2
50	0.2	0.01	1	0.00	0.8	0.00	0.6	0.01	0.4	0.01	0.2

RATIO – 1:30											
LOAD:		500		400		300		200		100	
N1 (RPM)	SPEED (MM/S)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)
1500	3.3	0.08	0.5	0.06	0.4	0.05	0.3	0.03	0.2	0.02	0.1
1000	2.2	0.05	0.5	0.04	0.4	0.03	0.3	0.02	0.2	0.01	0.1
750	1.7	0.04	0.5	0.03	0.4	0.02	0.3	0.02	0.2	0.01	0.1
500	1.1	0.03	0.5	0.02	0.4	0.02	0.3	0.01	0.2	0.01	0.1
300	0.7	0.02	0.5	0.01	0.4	0.01	0.3	0.01	0.2	0.01	0.1
100	0.2	0.01	0.5	0.01	0.4	0.01	0.3	0.01	0.2	0.01	0.1
50	0.1	0.01	0.5	0.01	0.4	0.01	0.3	0.01	0.2	0.01	0.1

Performance for HR10:

Data shown below refer to HR Screw Jacks featuring ACME leadscrew and grease-lubricated gearbox.

RATIO – 1:4											
LOAD:		1000		800		600		400		200	
N1 (RPM)	SPEED (MM/S)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)
1500	25.0	0.97	6.2	0.79	5	0.58	3.7	0.39	2.5	0.20	1.3
1000	16.7	0.65	6.2	0.52	5	0.39	3.7	0.26	2.5	0.14	1.3
750	12.5	0.49	6.2	0.39	5	0.29	3.7	0.20	2.5	0.10	1.3
500	8.3	0.32	6.2	0.26	5	0.19	3.7	0.13	2.5	0.07	1.3
300	5.0	0.19	6.2	0.16	5	0.12	3.7	0.08	2.5	0.04	1.3
100	1.7	0.06	6.2	0.05	5	0.04	3.7	0.03	2.5	0.01	1.3
50	0.8	0.03	6.2	0.03	5	0.02	3.7	0.01	2.5	0.01	1.3

RATIO – 1:10											
LOAD:		1000		800		600		400		200	
N1 (RPM)	SPEED (MM/S)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)
1500	10.0	0.50	3.2	0.41	2.6	0.31	2	0.20	1.3	0.10	0.65
1000	6.7	0.34	3.2	0.27	2.6	0.21	2	0.14	1.3	0.07	0.65
750	5.0	0.25	3.2	0.20	2.6	0.16	2	0.10	1.3	0.05	0.65
500	3.3	0.17	3.2	0.14	2.6	0.10	2	0.07	1.3	0.03	0.65
300	2.0	0.10	3.2	0.08	2.6	0.06	2	0.04	1.3	0.02	0.65
100	0.7	0.03	3.2	0.03	2.6	0.02	2	0.01	1.3	0.01	0.65
50	0.3	0.02	3.2	0.01	2.6	0.01	2	0.01	1.3	0.01	0.65

RATIO – 1:16											
LOAD:		1000		800		600		400		200	
N1 (RPM)	SPEED (MM/S)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)
1500	6.3	0.31	2	0.25	1.6	0.19	1.2	0.13	0.8	0.06	0.4
1000	4.2	0.21	2	0.17	1.6	0.13	1.2	0.08	0.8	0.04	0.4
750	3.1	0.16	2	0.13	1.6	0.09	1.2	0.06	0.8	0.03	0.4
500	2.1	0.10	2	0.08	1.6	0.06	1.2	0.04	0.8	0.02	0.4
300	1.3	0.06	2	0.05	1.6	0.04	1.2	0.03	0.8	0.01	0.4
100	0.4	0.02	2	0.02	1.6	0.01	1.2	0.01	0.8	0.01	0.4
50	0.2	0.01	2	0.01	1.6	0.01	1.2	0.01	0.8	0.01	0.4

RATIO – 1:30											
LOAD:		1000		800		600		400		200	
N1 (RPM)	SPEED (MM/S)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)
1500	3.3	0.16	1	0.14	0.9	0.11	0.7	0.06	0.4	0.03	0.2
1000	2.2	0.10	1	0.09	0.9	0.07	0.7	0.04	0.4	0.02	0.2
750	1.7	0.08	1	0.07	0.9	0.05	0.7	0.03	0.4	0.02	0.2
500	1.1	0.05	1	0.05	0.9	0.04	0.7	0.02	0.4	0.01	0.2
300	0.7	0.03	1	0.03	0.9	0.02	0.7	0.01	0.4	0.01	0.2
100	0.2	0.01	1	0.01	0.9	0.01	0.7	0.01	0.4	0.01	0.2
50	0.1	0.01	1	0.01	0.9	0.01	0.7	0.01	0.4	0.01	0.2

Performance for HR25:

RATIO – 1:5															
LOAD:		2500		2000		1500		1000		750		500		250	
N1 (RPM)	SPEED (MM/S)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)
1500	30.0	3.69	23.5	2.91	18.5	2.20	14	1.46	9.3	1.10	7	0.71	4.5	0.36	2.3
1000	20.0	2.46	23.5	1.94	18.5	1.47	14	0.97	9.3	0.73	7	0.47	4.5	0.24	2.3
750	15.0	1.85	23.5	1.45	18.5	1.10	14	0.73	9.3	0.55	7	0.35	4.5	0.18	2.3
500	10.0	1.23	23.5	0.97	18.5	0.73	14	0.49	9.3	0.37	7	0.24	4.5	0.12	2.3
300	6.0	0.74	23.5	0.58	18.5	0.44	14	0.29	9.3	0.22	7	0.14	4.5	0.07	2.3
100	2.0	0.25	23.5	0.19	18.5	0.15	14	0.10	9.3	0.07	7	0.05	4.5	0.02	2.3
50	1.0	0.12	23.5	0.10	18.5	0.07	14	0.05	9.3	0.04	7	0.02	4.5	0.01	2.3

RATIO – 1:10															
LOAD:		2500		2000		1500		1000		750		500		250	
N1 (RPM)	SPEED (MM/S)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)
1500	15.0	2.28	14.5	1.88	12	1.41	9	0.94	6	0.71	4.5	0.47	3	0.24	1.5
1000	10.0	1.52	14.5	1.26	12	0.94	9	0.63	6	0.47	4.5	0.31	3	0.16	1.5
750	7.5	1.14	14.5	0.94	12	0.71	9	0.47	6	0.35	4.5	0.24	3	0.12	1.5
500	5.0	0.76	14.5	0.63	12	0.47	9	0.31	6	0.24	4.5	0.16	3	0.08	1.5
300	3.0	0.46	14.5	0.38	12	0.28	9	0.19	6	0.14	4.5	0.09	3	0.05	1.5
100	1.0	0.15	14.5	0.13	12	0.09	9	0.06	6	0.05	4.5	0.03	3	0.02	1.5
50	0.5	0.08	14.5	0.06	12	0.05	9	0.03	6	0.02	4.5	0.02	3	0.01	1.5

RATIO – 1:30															
LOAD:		2500		2000		1500		1000		750		500		250	
N1 (RPM)	SPEED (MM/S)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)
1500	5.0	0.79	5	0.63	4	0.47	3	0.31	2	0.25	1.6	0.16	1	0.08	0.5
1000	3.3	0.52	5	0.42	4	0.31	3	0.21	2	0.17	1.6	0.10	1	0.05	0.5
750	2.5	0.39	5	0.31	4	0.24	3	0.16	2	0.13	1.6	0.08	1	0.04	0.5
500	1.7	0.26	5	0.21	4	0.16	3	0.10	2	0.08	1.6	0.05	1	0.03	0.5
300	1.0	0.16	5	0.13	4	0.09	3	0.06	2	0.05	1.6	0.03	1	0.02	0.5
100	0.3	0.05	5	0.04	4	0.03	3	0.02	2	0.02	1.6	0.01	1	0.01	0.5
50	0.2	0.03	5	0.02	4	0.02	3	0.01	2	0.01	1.6	0.01	1	0.00	0.5

Data shown above refer to HR Screw Jacks featuring ACME leadscrew and grease-lubricated gearbox.



Highlighted values show restrictions due to thermal limits.

In this case, it's necessary to reduce the duty factor or choose a bigger size, in order to grant an adequate heat dissipation.

Performance for HR50:

RATIO – 1:5															
LOAD:		5000		4000		3000		2000		1500		1000		500	
N1 (RPM)	SPEED (MM/S)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)
1500	35.0	7.30	46.5	5.81	37	4.40	28	2.91	18.5	2.20	14	1.46	9.3	0.72	4.6
1000	23.3	4.87	46.5	3.87	37	2.93	28	1.94	18.5	1.47	14	0.97	9.3	0.48	4.6
750	17.5	3.65	46.5	2.91	37	2.20	28	1.45	18.5	1.10	14	0.73	9.3	0.36	4.6
500	11.7	2.43	46.5	1.94	37	1.47	28	0.97	18.5	0.73	14	0.49	9.3	0.24	4.6
300	7.0	1.46	46.5	1.16	37	0.88	28	0.58	18.5	0.44	14	0.29	9.3	0.14	4.6
100	2.3	0.49	46.5	0.39	37	0.29	28	0.19	18.5	0.15	14	0.10	9.3	0.05	4.6
50	1.2	0.24	46.5	0.19	37	0.15	28	0.10	18.5	0.07	14	0.05	9.3	0.02	4.6

RATIO – 1:10															
LOAD:		5000		4000		3000		2000		1500		1000		500	
N1 (RPM)	SPEED (MM/S)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)
1500	17.5	4.63	29.5	3.69	23.5	2.75	17.5	1.81	11.5	1.41	9	0.93	5.9	0.47	3
1000	11.7	3.09	29.5	2.46	23.5	1.83	17.5	1.20	11.5	0.94	9	0.62	5.9	0.31	3
750	8.8	2.32	29.5	1.85	23.5	1.37	17.5	0.90	11.5	0.71	9	0.46	5.9	0.24	3
500	5.8	1.54	29.5	1.23	23.5	0.92	17.5	0.60	11.5	0.47	9	0.31	5.9	0.16	3
300	3.5	0.93	29.5	0.74	23.5	0.55	17.5	0.36	11.5	0.28	9	0.19	5.9	0.09	3
100	1.2	0.31	29.5	0.25	23.5	0.18	17.5	0.12	11.5	0.09	9	0.06	5.9	0.03	3
50	0.6	0.15	29.5	0.12	23.5	0.09	17.5	0.06	11.5	0.05	9	0.03	5.9	0.02	3

RATIO – 1:30															
LOAD:		5000		4000		3000		2000		1500		1000		500	
N1 (RPM)	SPEED (MM/S)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)
1500	5.8	1.65	10.5	1.29	8.2	0.94	6	0.63	4	0.47	3	0.31	2	0.16	1
1000	3.9	1.10	10.5	0.86	8.2	0.63	6	0.42	4	0.31	3	0.21	2	0.10	1
750	2.9	0.82	10.5	0.64	8.2	0.47	6	0.31	4	0.24	3	0.16	2	0.08	1
500	1.9	0.55	10.5	0.43	8.2	0.31	6	0.21	4	0.16	3	0.10	2	0.05	1
300	1.2	0.33	10.5	0.26	8.2	0.19	6	0.13	4	0.09	3	0.06	2	0.03	1
100	0.4	0.11	10.5	0.09	8.2	0.06	6	0.04	4	0.03	3	0.02	2	0.01	1
50	0.2	0.05	10.5	0.04	8.2	0.03	6	0.02	4	0.02	3	0.01	2	0.01	1

Data shown above refer to HR Screw Jacks featuring ACME leadscrew and grease-lubricated gearbox.



Highlighted values show restrictions due to thermal limits.

In this case, it's necessary to reduce the duty factor or choose a bigger size, in order to grant an adequate heat dissipation.

Performance for HR100:

RATIO – 1:5															
LOAD:		5000		4000		3000		2000		1500		1000		500	
N1 (RPM)	SPEED (MM/S)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)
1500	45.0	21.36	136	16.02	102	10.68	68	8.56	54.5	6.44	41	4.24	27	2.12	13.5
1000	30.0	14.24	136	10.68	102	7.12	68	5.71	54.5	4.29	41	2.83	27	1.41	13.5
750	22.5	10.68	136	8.01	102	5.34	68	4.28	54.5	3.22	41	2.12	27	1.06	13.5
500	15.0	7.12	136	5.34	102	3.56	68	2.85	54.5	2.15	41	1.41	27	0.71	13.5
300	9.0	4.27	136	3.20	102	2.14	68	1.71	54.5	1.29	41	0.85	27	0.42	13.5
100	3.0	1.42	136	1.07	102	0.71	68	0.57	54.5	0.43	41	0.28	27	0.14	13.5
50	1.5	0.71	136	0.53	102	0.36	68	0.29	54.5	0.21	41	0.14	27	0.10	13.5

RATIO – 1:10															
LOAD:		5000		4000		3000		2000		1500		1000		500	
N1 (RPM)	SPEED (MM/S)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)
1500	22.5	11.78	75	8.80	56	5.97	38	4.71	30	3.46	22	2.36	15	1.18	7.5
1000	15.0	7.85	75	5.86	56	3.98	38	3.14	30	2.30	22	1.57	15	0.79	7.5
750	11.3	5.89	75	4.40	56	2.98	38	2.36	30	1.73	22	1.18	15	0.59	7.5
500	7.5	3.93	75	2.93	56	1.99	38	1.57	30	1.15	22	0.79	15	0.39	7.5
300	4.5	2.36	75	1.76	56	1.19	38	0.94	30	0.69	22	0.47	15	0.24	7.5
100	1.5	0.79	75	0.59	56	0.40	38	0.31	30	0.23	22	0.16	15	0.08	7.5
50	0.8	0.39	75	0.29	56	0.20	38	0.16	30	0.12	22	0.08	15	0.04	7.5

RATIO – 1:30															
LOAD:		5000		4000		3000		2000		1500		1000		500	
N1 (RPM)	SPEED (MM/S)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)
1500	7.5	4.71	30	3.30	21	2.36	15	1.88	12	1.41	9	0.94	6	0.47	3
1000	5.0	3.14	30	2.20	21	1.57	15	1.26	12	0.94	9	0.63	6	0.31	3
750	3.8	2.36	30	1.65	21	1.18	15	0.94	12	0.71	9	0.47	6	0.24	3
500	2.5	1.57	30	1.10	21	0.79	15	0.63	12	0.47	9	0.31	6	0.16	3
300	1.5	0.94	30	0.66	21	0.47	15	0.38	12	0.28	9	0.19	6	0.09	3
100	0.5	0.31	30	0.22	21	0.16	15	0.13	12	0.09	9	0.06	6	0.03	3
50	0.3	0.16	30	0.11	21	0.08	15	0.06	12	0.05	9	0.03	6	0.02	3

Data shown above refer to HR Screw Jacks featuring ACME leadscrew and grease-lubricated gearbox.



Highlighted values show restrictions due to thermal limits.

In this case, it's necessary to reduce the duty factor or choose a bigger size, in order to grant an adequate heat dissipation.

Performance for HR200:

RATIO – 1:5															
LOAD:		20000		17500		15000		10000		7500		5000		2500	
N1 (RPM)	SPEED (MM/S)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)
1500	50.0	47.59	303	41.62	265	35.65	227	23.87	152	17.91	114	11.94	76	5.97	38
1000	33.3	31.73	303	27.75	265	23.77	227	15.92	152	11.94	114	7.96	76	3.98	38
750	25.0	23.80	303	20.81	265	17.83	227	11.94	152	8.95	114	5.97	76	2.98	38
500	16.7	15.86	303	13.87	265	11.88	227	7.96	152	5.97	114	3.98	76	1.99	38
300	10.0	9.52	303	8.32	265	7.13	227	4.77	152	3.58	114	2.39	76	1.19	38
100	3.3	3.17	303	2.77	265	2.38	227	1.59	152	1.19	114	0.80	76	0.40	38
50	1.7	1.59	303	1.39	265	1.19	227	0.80	152	0.60	114	0.40	76	0.20	38

RATIO – 1:10															
LOAD:		20000		17500		15000		10000		7500		5000		2500	
N1 (RPM)	SPEED (MM/S)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)
1500	25.0	26.23	167	22.93	146	19.63	125	13.19	84	9.90	63	6.60	42	3.30	21
1000	16.7	17.49	167	15.29	146	13.09	125	8.80	84	6.60	63	4.40	42	2.20	21
750	12.5	13.12	167	11.47	146	9.82	125	6.60	84	4.95	63	3.30	42	1.65	21
500	8.3	8.74	167	7.64	146	6.54	125	4.40	84	3.30	63	2.20	42	1.10	21
300	5.0	5.25	167	4.59	146	3.93	125	2.64	84	1.98	63	1.32	42	0.66	21
100	1.7	1.75	167	1.53	146	1.31	125	0.88	84	0.66	63	0.44	42	0.22	21
50	0.8	0.87	167	0.76	146	0.65	125	0.44	84	0.33	63	0.22	42	0.11	21

RATIO – 1:30															
LOAD:		20000		17500		15000		10000		7500		5000		2500	
N1 (RPM)	SPEED (MM/S)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)
1500	8.3	10.52	67	9.11	58	7.85	50	5.34	34	3.93	25	2.59	16.5	1.34	8.5
1000	5.6	7.02	67	6.07	58	5.24	50	3.56	34	2.62	25	1.73	16.5	0.89	8.5
750	4.2	5.26	67	4.55	58	3.93	50	2.67	34	1.96	25	1.30	16.5	0.67	8.5
500	2.8	3.51	67	3.04	58	2.62	50	1.78	34	1.31	25	0.86	16.5	0.45	8.5
300	1.7	2.10	67	1.82	58	1.57	50	1.07	34	0.79	25	0.52	16.5	0.27	8.5
100	0.6	0.70	67	0.61	58	0.52	50	0.36	34	0.26	25	0.17	16.5	0.09	8.5
50	0.3	0.35	67	0.30	58	0.26	50	0.18	34	0.13	25	0.09	16.5	0.04	8.5

Data shown above refer to HR Screw Jacks featuring ACME leadscrew and grease-lubricated gearbox.



Highlighted values show restrictions due to thermal limits.

In this case, it's necessary to reduce the duty factor or choose a bigger size, in order to grant an adequate heat dissipation.

Performance for HR-VRS 25:

Data shown below refer to HT-VRS Screw Jacks featuring ballscrew and oil-lubricated gearbox.

RATIO - 1:5															
LOAD:		2500		2000		1500		1000		750		500		250	
N1 (RPM)	SPEED (MM/S)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)
1500	50.0	1.57	10	1.26	8	0.94	6	0.63	4	0.47	3	0.31	2	0.16	1
1000	33.3	1.05	10	0.84	8	0.63	6	0.42	4	0.31	3	0.21	2	0.10	1
750	25.0	0.79	10	0.63	8	0.47	6	0.31	4	0.24	3	0.16	2	0.08	1
500	16.7	0.52	10	0.42	8	0.31	6	0.21	4	0.16	3	0.10	2	0.05	1
300	10.0	0.31	10	0.25	8	0.19	6	0.13	4	0.09	3	0.06	2	0.03	1
100	3.3	0.10	10	0.08	8	0.06	6	0.04	4	0.03	3	0.02	2	0.01	1
50	1.7	0.05	10	0.04	8	0.03	6	0.02	4	0.02	3	0.01	2	0.01	1

RATIO - 1:10															
LOAD:		2500		2000		1500		1000		750		500		250	
N1 (RPM)	SPEED (MM/S)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)
1500	25.0	0.86	5.5	0.68	4.3	0.50	3.2	0.35	2.2	0.27	1.7	0.17	1.1	0.09	0.55
1000	16.7	0.58	5.5	0.45	4.3	0.34	3.2	0.23	2.2	0.18	1.7	0.12	1.1	0.06	0.55
750	12.5	0.43	5.5	0.34	4.3	0.25	3.2	0.17	2.2	0.13	1.7	0.09	1.1	0.04	0.55
500	8.3	0.29	5.5	0.23	4.3	0.17	3.2	0.12	2.2	0.09	1.7	0.06	1.1	0.03	0.55
300	5.0	0.17	5.5	0.14	4.3	0.10	3.2	0.07	2.2	0.05	1.7	0.03	1.1	0.02	0.55
100	1.7	0.06	5.5	0.05	4.3	0.03	3.2	0.02	2.2	0.02	1.7	0.01	1.1	0.01	0.55
50	0.8	0.03	5.5	0.02	4.3	0.02	3.2	0.01	2.2	0.01	1.7	0.01	1.1	0.00	0.55

RATIO - 1:30															
LOAD:		2500		2000		1500		1000		750		500		250	
N1 (RPM)	SPEED (MM/S)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)
1500	8.3	0.31	2	0.27	1.7	0.20	1.3	0.13	0.8	0.09	0.6	0.06	0.4	0.03	0.2
1000	5.6	0.21	2	0.18	1.7	0.14	1.3	0.08	0.8	0.06	0.6	0.04	0.4	0.02	0.2
750	4.2	0.16	2	0.13	1.7	0.10	1.3	0.06	0.8	0.05	0.6	0.03	0.4	0.02	0.2
500	2.8	0.10	2	0.09	1.7	0.07	1.3	0.04	0.8	0.03	0.6	0.02	0.4	0.01	0.2
300	1.7	0.06	2	0.05	1.7	0.04	1.3	0.03	0.8	0.02	0.6	0.01	0.4	0.01	0.2
100	0.6	0.02	2	0.02	1.7	0.01	1.3	0.01	0.8	0.01	0.6	0.01	0.4	0.00	0.2
50	0.3	0.01	2	0.01	1.7	0.01	1.3	0.01	0.8	0.01	0.6	0.01	0.4	0.00	0.2

Performance for HR-VRS 50:

Data shown below refer to HR-VRS Screw Jacks featuring ballscrew and oil-lubricated gearbox.

RATIO - 1:5															
LOAD:		5000		4000		3000		2000		1500		1000		500	
N1 (RPM)	SPEED (MM/S)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)
1500	50.0	3.14	20	2.51	16	1.88	12	1.26	8	0.94	6	0.63	4	0.31	2
1000	33.3	2.09	20	1.68	16	1.26	12	0.84	8	0.63	6	0.42	4	0.21	2
750	25.0	1.57	20	1.26	16	0.94	12	0.63	8	0.47	6	0.31	4	0.16	2
500	16.7	1.05	20	0.84	16	0.63	12	0.42	8	0.31	6	0.21	4	0.10	2
300	10.0	0.63	20	0.50	16	0.38	12	0.25	8	0.19	6	0.13	4	0.06	2
100	3.3	0.21	20	0.17	16	0.13	12	0.08	8	0.06	6	0.04	4	0.02	2
50	1.7	0.10	20	0.08	16	0.06	12	0.04	8	0.03	6	0.02	4	0.01	2

RATIO - 1:10															
LOAD:		5000		4000		3000		2000		1500		1000		500	
N1 (RPM)	SPEED (MM/S)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)
1500	25.0	1.63	10.4	1.30	8.3	0.99	6.3	0.66	4.2	0.50	3.2	0.33	2.1	0.17	1.1
1000	16.7	1.09	10.4	0.87	8.3	0.66	6.3	0.44	4.2	0.34	3.2	0.22	2.1	0.12	1.1
750	12.5	0.82	10.4	0.65	8.3	0.49	6.3	0.33	4.2	0.25	3.2	0.16	2.1	0.09	1.1
500	8.3	0.54	10.4	0.43	8.3	0.33	6.3	0.22	4.2	0.17	3.2	0.11	2.1	0.06	1.1
300	5.0	0.33	10.4	0.26	8.3	0.20	6.3	0.13	4.2	0.10	3.2	0.07	2.1	0.03	1.1
100	1.7	0.11	10.4	0.09	8.3	0.07	6.3	0.04	4.2	0.03	3.2	0.02	2.1	0.01	1.1
50	0.8	0.05	10.4	0.04	8.3	0.03	6.3	0.02	4.2	0.02	3.2	0.01	2.1	0.01	1.1

RATIO - 1:30															
LOAD:		5000		4000		3000		2000		1500		1000		500	
N1 (RPM)	SPEED (MM/S)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)
1500	8.3	0.63	4	0.50	3.2	0.38	2.4	0.25	1.6	0.19	1.2	0.13	0.8	0.08	0.5
1000	5.6	0.42	4	0.34	3.2	0.25	2.4	0.17	1.6	0.13	1.2	0.08	0.8	0.05	0.5
750	4.2	0.31	4	0.25	3.2	0.19	2.4	0.13	1.6	0.09	1.2	0.06	0.8	0.04	0.5
500	2.8	0.21	4	0.17	3.2	0.13	2.4	0.08	1.6	0.06	1.2	0.04	0.8	0.03	0.5
300	1.7	0.13	4	0.10	3.2	0.08	2.4	0.05	1.6	0.04	1.2	0.03	0.8	0.02	0.5
100	0.6	0.04	4	0.03	3.2	0.03	2.4	0.02	1.6	0.01	1.2	0.01	0.8	0.01	0.5
50	0.3	0.02	4	0.02	3.2	0.01	2.4	0.01	1.6	0.01	1.2	0.01	0.8	0.01	0.5

Performance for HR-VRS 100:

Data shown below refer to HR-VRS Screw Jacks featuring ballscrew and oil-lubricated gearbox.

RATIO - 1:5

LOAD:		10000		7500		5000		4000		3000		2000		1000	
N1 (RPM)	SPEED (MM/S)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)
1500	50.0	6.20	39.5	4.65	29.6	3.14	20	2.51	16	1.88	12	1.26	8	0.63	4
1000	33.3	4.14	39.5	3.10	29.6	2.09	20	1.68	16	1.26	12	0.84	8	0.42	4
750	25.0	3.10	39.5	2.32	29.6	1.57	20	1.26	16	0.94	12	0.63	8	0.31	4
500	16.7	2.07	39.5	1.55	29.6	1.05	20	0.84	16	0.63	12	0.42	8	0.21	4
300	10.0	1.24	39.5	0.93	29.6	0.63	20	0.50	16	0.38	12	0.25	8	0.13	4
100	3.3	0.41	39.5	0.31	29.6	0.21	20	0.17	16	0.13	12	0.08	8	0.04	4
50	1.7	0.21	39.5	0.15	29.6	0.10	20	0.08	16	0.06	12	0.04	8	0.02	4

RATIO - 1:10

LOAD:		10000		7500		5000		4000		3000		2000		1000	
N1 (RPM)	SPEED (MM/S)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)
1500	25.0	3.25	20.7	2.45	15.6	1.63	10.4	1.30	8.3	0.99	6.3	0.66	4.2	0.33	2.1
1000	16.7	2.17	20.7	1.63	15.6	1.09	10.4	0.87	8.3	0.66	6.3	0.44	4.2	0.22	2.1
750	12.5	1.63	20.7	1.23	15.6	0.82	10.4	0.65	8.3	0.49	6.3	0.33	4.2	0.16	2.1
500	8.3	1.08	20.7	0.82	15.6	0.54	10.4	0.43	8.3	0.33	6.3	0.22	4.2	0.11	2.1
300	5.0	0.65	20.7	0.49	15.6	0.33	10.4	0.26	8.3	0.20	6.3	0.13	4.2	0.07	2.1
100	1.7	0.22	20.7	0.16	15.6	0.11	10.4	0.09	8.3	0.07	6.3	0.04	4.2	0.02	2.1
50	0.8	0.11	20.7	0.08	15.6	0.05	10.4	0.04	8.3	0.03	6.3	0.02	4.2	0.01	2.1

RATIO - 1:30

LOAD:		10000		7500		5000		4000		3000		2000		1000	
N1 (RPM)	SPEED (MM/S)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)
1500	8.3	1.26	8	0.94	6	0.63	4	0.50	3.2	0.38	2.4	0.25	1.6	0.13	0.8
1000	5.6	0.84	8	0.63	6	0.42	4	0.34	3.2	0.25	2.4	0.17	1.6	0.08	0.8
750	4.2	0.63	8	0.47	6	0.31	4	0.25	3.2	0.19	2.4	0.13	1.6	0.06	0.8
500	2.8	0.42	8	0.31	6	0.21	4	0.17	3.2	0.13	2.4	0.08	1.6	0.04	0.8
300	1.7	0.25	8	0.19	6	0.13	4	0.10	3.2	0.08	2.4	0.05	1.6	0.03	0.8
100	0.6	0.08	8	0.06	6	0.04	4	0.03	3.2	0.03	2.4	0.02	1.6	0.01	0.8
50	0.3	0.04	8	0.03	6	0.02	4	0.02	3.2	0.01	2.4	0.01	1.6	0.01	0.8

Performance for HR-VRS 200:

Data shown below refer to HR-VRS Screw Jacks featuring ballscrew and oil-lubricated gearbox.

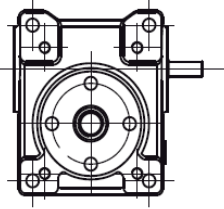
RATIO - 1:5															
LOAD:		2000		1750		1500		1000		750		5000		2500	
N1 (RPM)	SPEED (MM/S)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)
1500	50.0	12.41	79	10.84	69	9.27	59	6.20	39.5	4.65	29.6	3.14	20	1.57	10
1000	33.3	8.27	79	7.23	69	6.18	59	4.14	39.5	3.10	29.6	2.09	20	1.05	10
750	25.0	6.20	79	5.42	69	4.63	59	3.10	39.5	2.32	29.6	1.57	20	0.79	10
500	16.7	4.14	79	3.61	69	3.09	59	2.07	39.5	1.55	29.6	1.05	20	0.52	10
300	10.0	2.48	79	2.17	69	1.85	59	1.24	39.5	0.93	29.6	0.63	20	0.31	10
100	3.3	0.83	79	0.72	69	0.62	59	0.41	39.5	0.31	29.6	0.21	20	0.10	10
50	1.7	0.41	79	0.36	69	0.31	59	0.21	39.5	0.15	29.6	0.10	20	0.05	10

RATIO - 1:10															
LOAD:		20000		17500		15000		10000		7500		5000		2500	
N1 (RPM)	SPEED (MM/S)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)
1500	25.0	6.50	41.4	5.69	36.2	4.88	31.1	3.25	20.7	2.45	15.6	1.63	10.4	0.82	5.2
1000	16.7	4.34	41.4	3.79	36.2	3.26	31.1	2.17	20.7	1.63	15.6	1.09	10.4	0.54	5.2
750	12.5	3.25	41.4	2.84	36.2	2.44	31.1	1.63	20.7	1.23	15.6	0.82	10.4	0.41	5.2
500	8.3	2.17	41.4	1.90	36.2	1.63	31.1	1.08	20.7	0.82	15.6	0.54	10.4	0.27	5.2
300	5.0	1.30	41.4	1.14	36.2	0.98	31.1	0.65	20.7	0.49	15.6	0.33	10.4	0.16	5.2
100	1.7	0.43	41.4	0.38	36.2	0.33	31.1	0.22	20.7	0.16	15.6	0.11	10.4	0.05	5.2
50	0.8	0.22	41.4	0.19	36.2	0.16	31.1	0.11	20.7	0.08	15.6	0.05	10.4	0.03	5.2

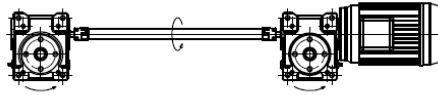
RATIO - 1:30															
LOAD:		20000		17500		15000		10000		7500		5000		2500	
N1 (RPM)	SPEED (MM/S)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)	Pi (KW)	Mt (Nm)
1500	8.3	2.51	16	2.20	14	1.88	12	1.26	8	0.94	6	0.63	4	0.31	2
1000	5.6	1.68	16	1.47	14	1.26	12	0.84	8	0.63	6	0.42	4	0.21	2
750	4.2	1.26	16	1.10	14	0.94	12	0.63	8	0.47	6	0.31	4	0.16	2
500	2.8	0.84	16	0.73	14	0.63	12	0.42	8	0.31	6	0.21	4	0.10	2
300	1.7	0.50	16	0.44	14	0.38	12	0.25	8	0.19	6	0.13	4	0.06	2
100	0.6	0.17	16	0.15	14	0.13	12	0.08	8	0.06	6	0.04	4	0.02	2
50	0.3	0.08	16	0.07	14	0.06	12	0.04	8	0.03	6	0.02	4	0.01	2

System Mounting Options:

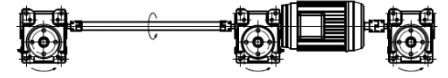
Screw Jack



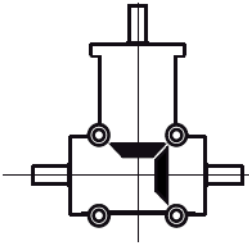
Option A



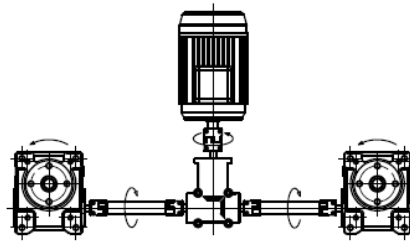
Option B



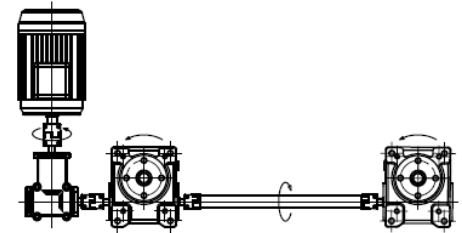
Bevel Gear



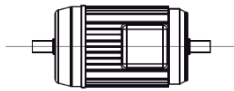
Option C



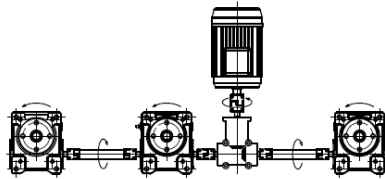
Option D



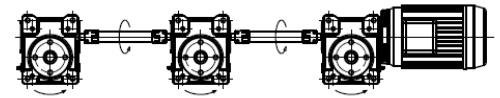
Motor



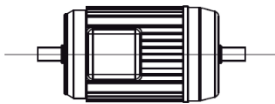
Option E



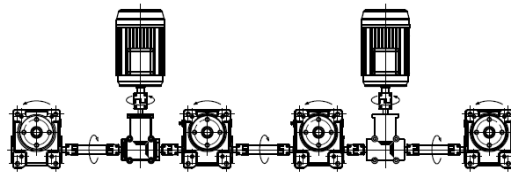
Option F



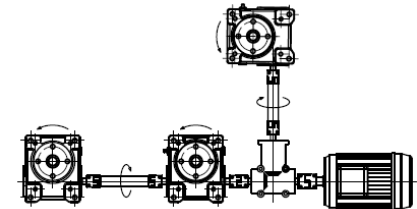
Motor with double shaft



Option G



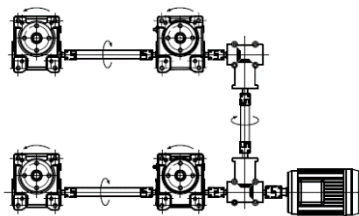
Option H



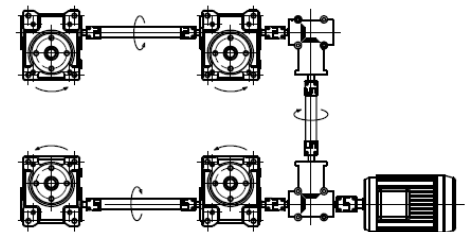
Coupling



Option I



Option L



Transmission Shaft



Screw Jacks

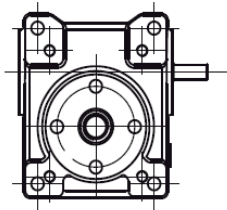
HR Line

BirCraft

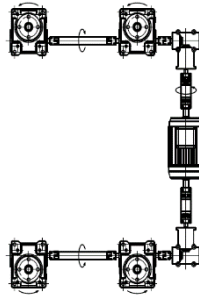
GEARED MOTORS - LINEAR ACTUATORS - CONTROLS

- Over 40 Years of Supplying Africa -

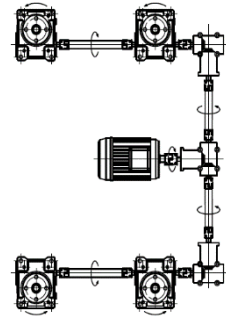
Screw Jack



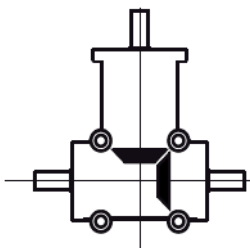
Option M



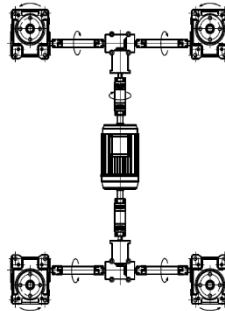
Option N



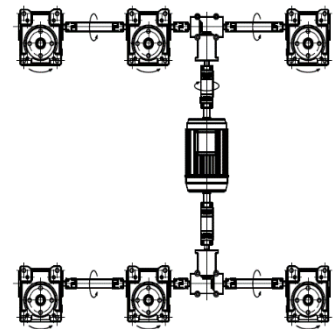
Bevel Gear



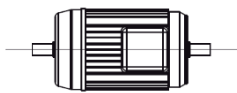
Option O



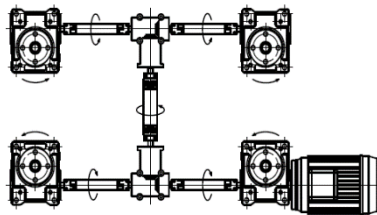
Option P



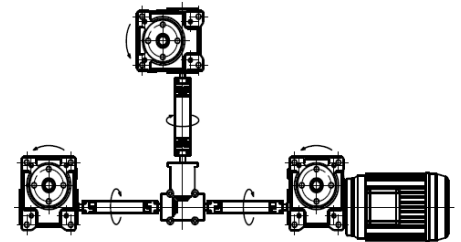
Motor



Option Q



Option R



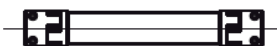
Motor with double shaft



Coupling



Transmission shaft



Option S

