

Datasheet

Our modular system for a complete and flexible solution. The screw jack **MAR40G** gear allows the transformation of rotary movements into linear "push/pull" movements.

Features at a glance

- Modular System for Turnkey Solutions
- Synchronized operation and precise positioning and feed movements
- Stroke and drive with load support
- Can be used individually or in groups
- Can be used with universal joints, coupling shafts, and bevel gearboxes
- Semi-automatic systems with digital or programmable displays
- Automatic systems with axis modules
- Standard stroke lengths of the threaded spindle in mm: **50 - 100 - 200 - 300**
- Maintenance-free: Lubricated for life with SANEG LX EP 2 (grease lubrication)



Optional on request:

Complete with coupling flanges and extension shaft for visualization with digital OP3 and programmable EP3 position indicator (see dimensions MAR40G FL-OP3)

Technical characteristics

Rotation direction	Clockwise (clockwise rotation)
Radial load	50 N (10 N $\approx$ 1 kg)
Axial load (push/pull)	700 N (10 N $\approx$ 1 kg)
Screw load	<u>Not allowed</u>
Revolution	max. 1,500 rpm
Gearbacklash Tolerance	0,75° bis 1.5° max.
Dimensions	
Spindle	TPN Ø 14 - 4 mm pitch
Stroke length	50 - 100 - 200 - 300 mm
Material	
Threaded spindle	Stainless steel (AISI 304)
Housing	Aluminum, black anodized
Gearing and shaft	Steel, surface-hardened
Hexagonal support	Aluminum, grey anodized
Support tube	Stainless steel (AISI 304)
Weight	1,2 - 1,5 kg max.
Transmission ratio	1:1 - 1:2 - 1:4 - 1:7,5 - 1:10 - 1:15 - 1:20 - 1:30 - 1:40
Input torque	See performance tables
Operating temperature	-20 ... +80 °C
Service life	10,000 h
Grease lubrication	SANEG LX EP 2 (Grease)

Datasheet

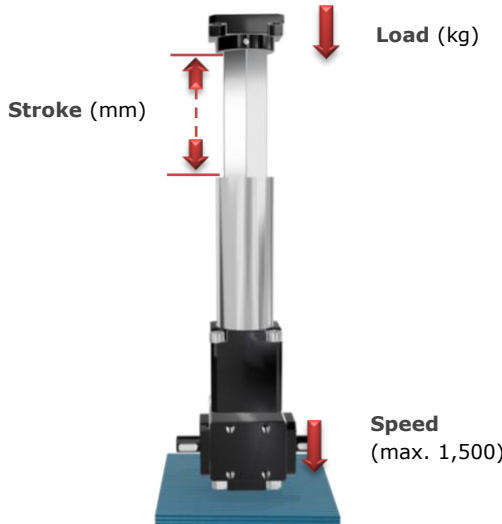
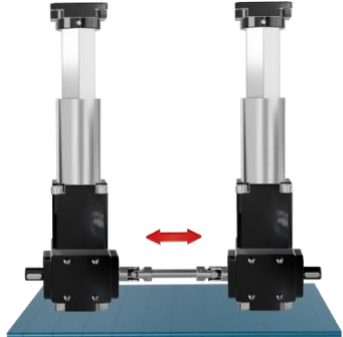
Assembly



The main cause of breakage on the trapezoidal threaded spindle is radial loads caused by eccentricity. It is necessary to align the spindle and mounting surface of the gearbox orthogonally.

When mounting multiple screw jacks (also connected by shafts), it is essential that the couplings are perfectly aligned to distribute the load evenly.

In this case, the use of flexible couplings is recommended to compensate for misalignments.

Sizing verification		Support and mounting	
Load (kg) – Mass on screw jack Speed (rpm) – Required max. 1,500 rpm Stroke (mm) – Useful linear travel Protection (opt.) – Screw shielding 		The unit must be firmly secured to the machine structure using a flat, rigid base (supports not included in the supply). Bottom support  Plate/bracket under housing for optimal mounting Lateral support  The side support allows a max. load of 100 kg	
Assembly			
 Avoid radial/lateral loads on threaded bar, main cause of failure.	 Threaded bar and reducer plane orthogonal; ensure load/bar coaxial, avoid eccentricity.	 Multiple screw jacks: terminals aligned for uniform load; use couplings to compensate misalignments.	

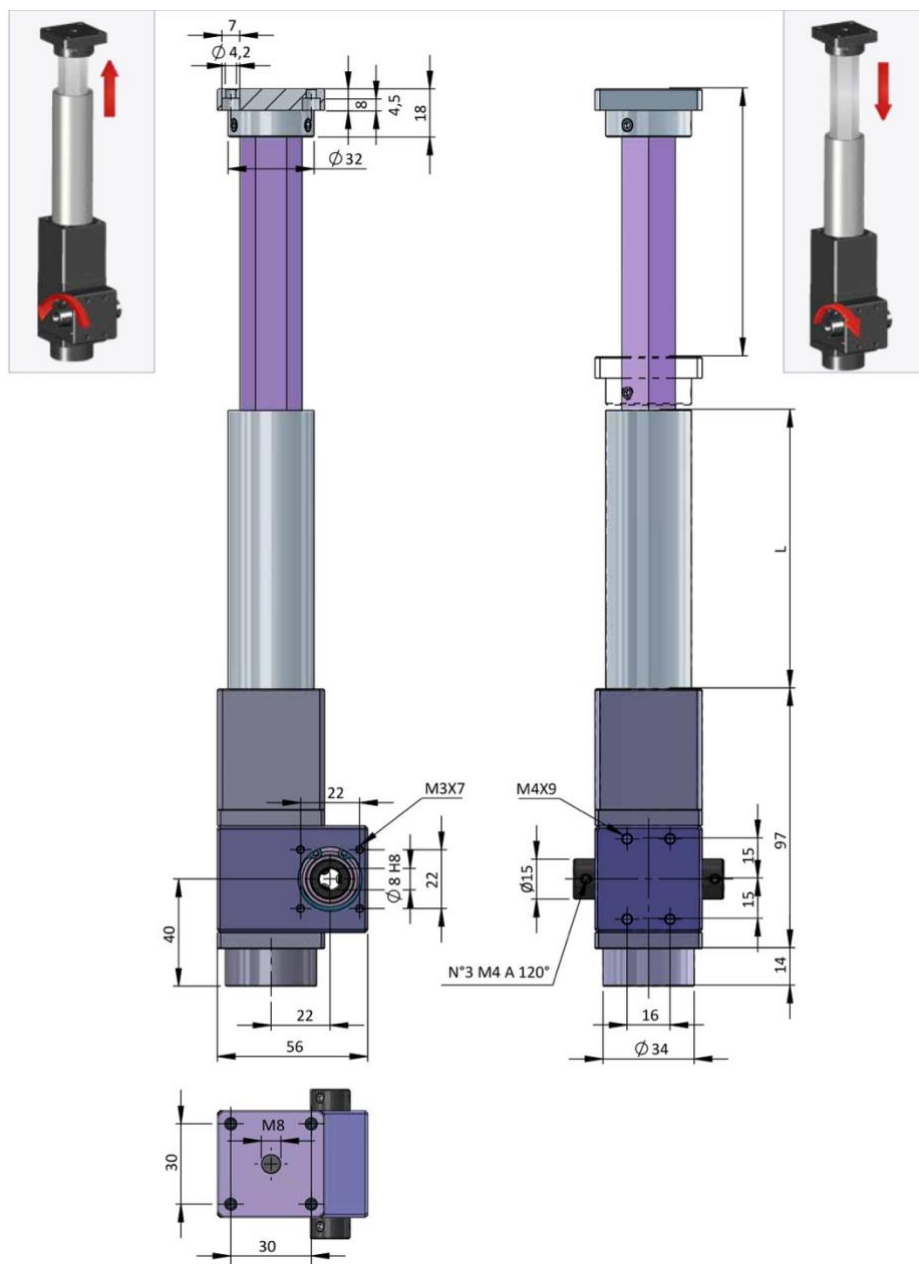
Datasheet

Sizing verification

- Load (kg) = the force which is applied to the threaded spindle of the screw jack.
- Linear speed (mm/s) = the desired linear speed of load handling; it is recommended to limit the input rotatory speed to a maximum of 1,500 rpm.
- Stroke length (mm) = the linear distance the load must be moved, generally equal to the total length of the threaded spindle.
- Torque (Nm) = torque required to the load handling.

Dimensions

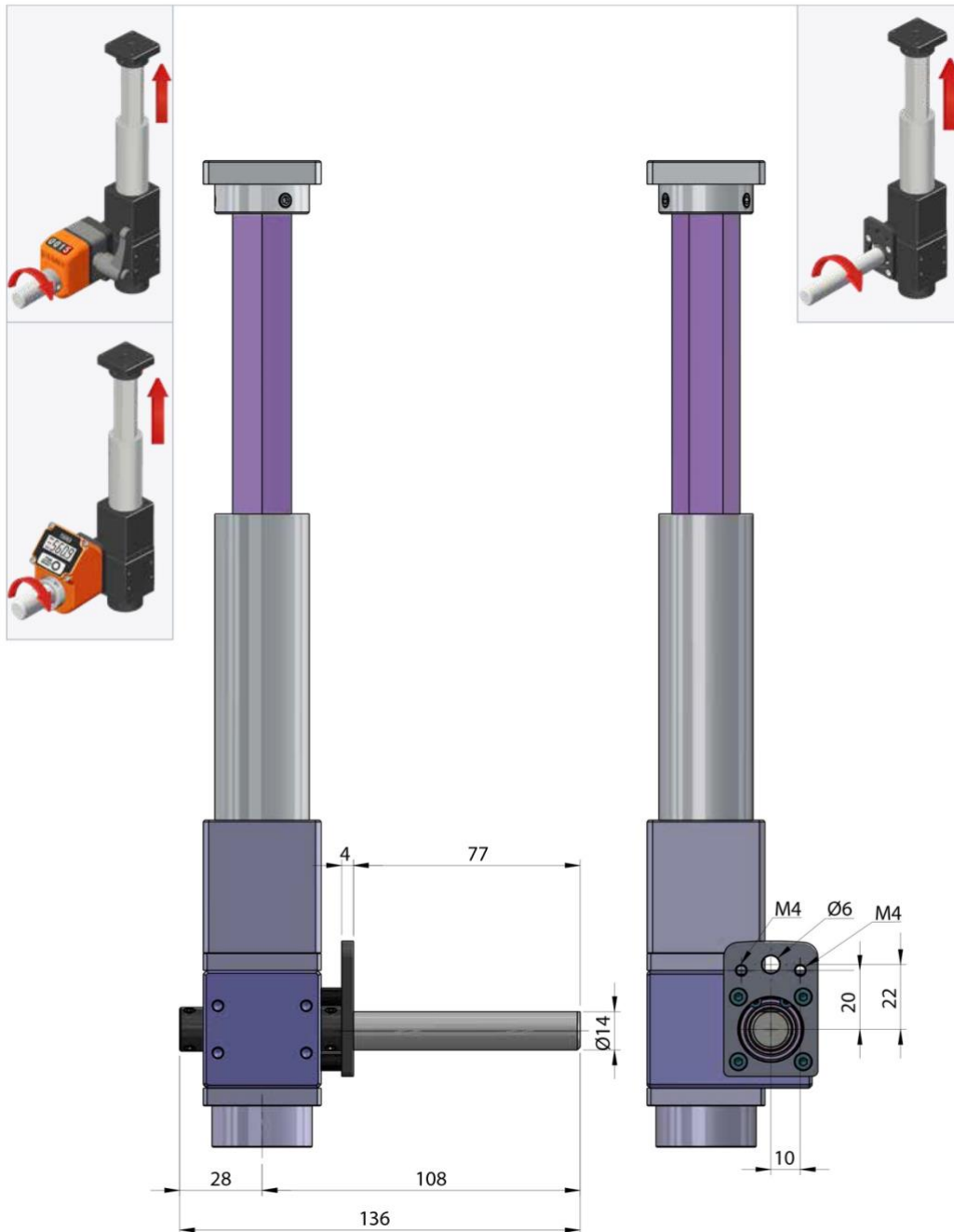
MAR40G



All dimensions in mm

MAR40G FL-OP3/EP3

Version complete with flange and extension shaft; compatible for mounting a spindle position indicator OP3 or programmable indicator EP3, for manual setting and direct reading of a measured value



All dimensions in mm

Datasheet

Performances tables

Tab. 1	= Handling of loads according to the input torque
Tab. 2	= Handling of loads according to the trapezoidal spindle (with guides)
Tab. 3	= Spindle travel speed according to input speed
i	= Gear ratio [/]
T	= Torque [Nm]
C	= Handling of loads [kg]
s	= Measuring path [mm]
ω	= Rotational speed [rpm]
v	= Traversing speed [mm/s]

i [/]	Tab.1		Tab. 2		Tab. 3	
	T [Nm]	C [kg]	s [mm]	C [kg] (T max)	ω [rpm]	v [mm/s]
1/1	1	32,0	50	265,8	250	16,67
	2	64,0	100	265,8	500	33,33
	3	96,1	150	265,8	750	50,00
	4	128,1	200	265,8	1000	66,67
	5	160,1	250	265,8	1250	83,33
	6	192,1	300	265,8	1500	100,00
	7	224,2				
	8	256,2				
	8,3	265,8				
1/2	0,5	32,0	50	269,0	250	8,33
	1	64,0	100	269,0	500	16,67
	1,5	96,1	150	269,0	750	25,00
	2	128,1	200	269,0	1000	33,33
	2,5	160,1	250	269,0	1250	41,67
	3	192,1	300	269,0	1500	50,00
	3,5	224,2				
	4	256,2				
	4,2	269,0				
1/4	0,25	32,0	50	288,2	250	4,17
	0,5	64,0	100	288,2	500	8,33
	0,75	96,1	150	288,2	750	12,50
	1	128,1	200	288,2	1000	16,67
	1,25	160,1	250	288,2	1250	20,83
	1,5	192,1	300	288,2	1500	25,00
	1,75	224,2				
	2	256,2				
	2,25	288,2				

Datasheet

i [/]	Tab.1		Tab. 2		Tab. 3	
	T [Nm]	C [kg]	s [mm]	C [kg] (T max)	ω [rpm]	v [mm/s]
1/7,5	0,1	24,0	50	288,2	250	2,22
	0,2	48,0	100	288,2	500	4,44
	0,3	72,1	150	288,2	750	6,67
	0,4	96,1	200	288,2	1000	8,89
	0,5	120,1	250	288,2	1250	11,11
	0,6	144,1	300	288,2	1500	13,33
	0,7	168,1				
	0,8	192,1				
	0,9	216,2				
	1	240,2				
	1,1	264,2				
	1,2	288,2				
1/10	0,1	21,1	50	253,6	250	1,67
	0,2	42,3	100	253,6	500	3,33
	0,3	63,4	150	253,6	750	5,00
	0,4	84,5	200	253,6	1000	6,67
	0,5	105,7	250	253,6	1250	8,33
	0,6	126,8	300	253,6	1500	10,00
	0,7	148,0				
	0,8	169,1				
	0,9	190,2				
	1	211,4				
	1,1	232,5				
	1,2	253,6				
1/15	0,1	24,5	50	294,0	250	1,11
	0,2	49,0	100	294,0	500	2,22
	0,3	73,5	150	294,0	750	3,33
	0,4	98,0	200	294,0	1000	4,44
	0,5	122,5	250	294,0	1250	5,56
	0,6	147,0	300	294,0	1500	6,67
	0,7	171,5				
	0,8	196,0				
	0,9	220,5				
	1	245,0				
	1,1	269,5				
	1,2	294,0				

Datasheet

i [/]	Tab.1		Tab. 2		Tab. 3	
	T [Nm]	C [kg]	s [mm]	C [kg] (T max)	ω [rpm]	v [mm/s]
1/20	0,1	42,3	50	295,9	250	0,83
	0,2	84,5	100	295,9	500	1,67
	0,3	126,8	150	295,9	750	2,50
	0,4	169,1	200	295,9	1000	3,33
	0,5	211,4	250	295,9	1250	4,17
	0,6	253,6	300	295,9	1500	5,00
	0,7	295,9				
1/30	0,1	30,3	50	302,6	250	0,56
	0,2	60,5	100	302,6	500	1,11
	0,3	90,8	150	302,6	750	1,67
	0,4	121,1	200	302,6	1000	2,22
	0,5	151,3	250	302,6	1250	2,78
	0,6	181,6	300	302,6	1500	3,33
	0,7	211,8				
	0,8	242,1				
	0,9	272,4				
	1	302,6				
1/40	0,1	55,7	50	278,6	250	0,42
	0,2	111,4	100	278,6	500	0,83
	0,3	167,2	150	278,6	750	1,25
	0,4	222,9	200	278,6	1000	1,67
	0,5	278,6	250	278,6	1250	2,08
			300	278,6	1500	2,50

Datasheet

Order example

Type MAR40G	MAR40G	-	1:1	-	200	-
Transmission ratios 1:1 - 1:2 - 1:4 - 1:7,5 - 1:10 - 1:15 - 1:20 - 1:30 - 1:40						
Stroke length (mm) 50 - 100 - 200 - 300						
Coupling flange (optional) FL-OP3/EP3	= no information (standard) = for Spindle position indicator					
Position indicator (optional) please order separately OP3 EP3	= without a Spindle position indicator = for spindle position indicator OP3 = for spindle position indicator EP3					



Our **MAR40G** worm gear screw jacks are available in combination with the **OP3 / EP3**. Please order spindle position indicator separately. Further information on our spindle position indicators can be found on the corresponding data sheet. Other versions that cannot be generated from the order code may be available as special versions on request.

Accessory

Hand wheels 	Folding handles 	Bearing blocks 	Flanges
Cardan joints 	Clutch shafts 	Clamping flanges 	Angular gearbox

Datasheet

System components

Digital position indicators



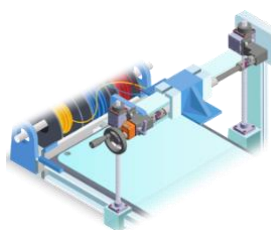
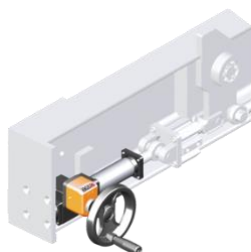
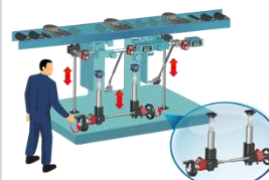
Programmable displays



Axle modules



Combination / Application options



You can find more information on our homepage www.willtec.de

Manufacturer: **FIAMA** since 1913

The manufacturer reserves the right to make changes to the products that it deems necessary for their improvement without prior notice.