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Our modular system for a complete and flexible solution. The screw jack **MAR50** allows the transformation of rotary movements into linear "push/pull" movements.

Features at a glance

- Screw jack for lifting and actuation systems
- For conversion of rotary movements into linear "push/pull" movements
- For motorised or manually adjustable rotary movements
- Trapezoidal threaded spindle in stainless steel (AISI 304), **TPN Ø18 - 4 mm pitch**
- Housing in anodised aluminium, bevel gear and shaft in steel, surface-hardened
- High wear and fatigue resistance
- Maintenance-free: lubricated with Klüber long-life grease
- Standard stroke lengths of the threaded spindle in mm: **100 - 200 - 300 - 400 - 700 - 1000**
- Can be used individually or combined with flexible shafts, couplings, and gearboxes



Optional available on request:


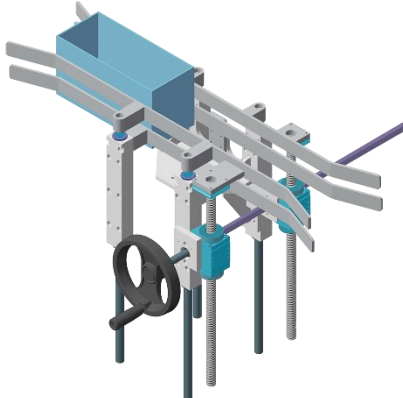
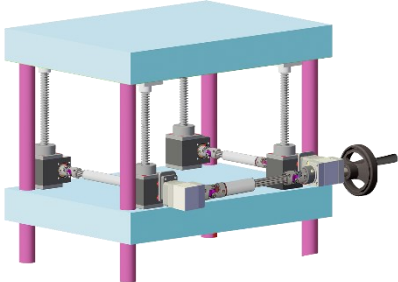
- Version supplied complete with flange and extension shaft; compatible for mounting a spindle position indicator **OP3**, **OP7** or **EP7** for manual adjustment and direct reading of a measured value (see dimensions MAR50 FL-OP3 and MAR50 FL-OP7/EP7).
- Protective aluminium cover (optionally in stainless steel) with spiral spring in stainless steel (AISI 303) for lengths up to 400 mm.



For continuous use, please contact our technical service: in this type of application, a grease nipple is provided through which, according to the operating conditions, it must be refilled.

Areas of application

MAR screw jacks are used in a wide range of industries and systems. For example, for height regulation, format adjustment in automatic machines or lifting and lowering loads.

MAR Areas of application		
		
Grouping / coupling via flexible shaft	Format adjustment in beverage filling lines	Height regulation in machines and systems

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Technical characteristics

Rotation direction	Im Uhrzeigersinn (rechtsdrehend)
Radial load	100 N (10 N \cong 1 kg)
Axial load (push/pull)	1000 N (10 N \cong 1 kg)
Screw load	<u>not allowed</u>
Revolution	max. 1500 rpm
Backlash	0,75° up to 1.5° max.
Dimensions	
Spindle	TPN Ø18 – 4 mm pitch
Stroke length	100 - 200 - 300 - 400 - 700 – 1000 mm
Protective cover length	< 400 mm
Material	
Spindle	Stainless steel (AISI 304)
Housing	Aluminium, black anodised
Bevel gearbox and shaft	Steel, surface-hardened
Spiral spring	Stainless steel (AISI 303)
Protective cover	Aluminium (optionally in stainless steel)
Weight	
Spindle/meter	1400 g/m
Housing gearbox	1000 g
Transmission ratio	1:1 – 1:2,5 – 1:5 – 1:7,5 – 1:10 – 1:12,5 – 1:15 – 1:25 – 1:30
Input torque	see performance table
Output torque	10 Nm
Operating temperature	-20 ... 80 °C
Life	10.000 h
Lubrication	Klüber AG 11-462 (grease)

Performance table

Transmission ratio		1:1	1:2,5	1:5	1:7,5	1:10	1:12,5	1:15	1:25	1:30
Efficiency	%	0,72	0,74	0,60	0,61	0,54	0,39 ¹⁾	0,45 ¹⁾	0,25 ¹⁾	0,29 ¹⁾
Input torque	Nm	13,95	5,42	3,32	2,19	1,84	2,04	1,48	1,62	1,13
Output torque	Nm	10	10	10	10	10	10	10	10	10
Linear speed	mm/s	100	40	20	13,3	10	8	6,6	4	3,3

¹⁾ Irreversible

Installation



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.

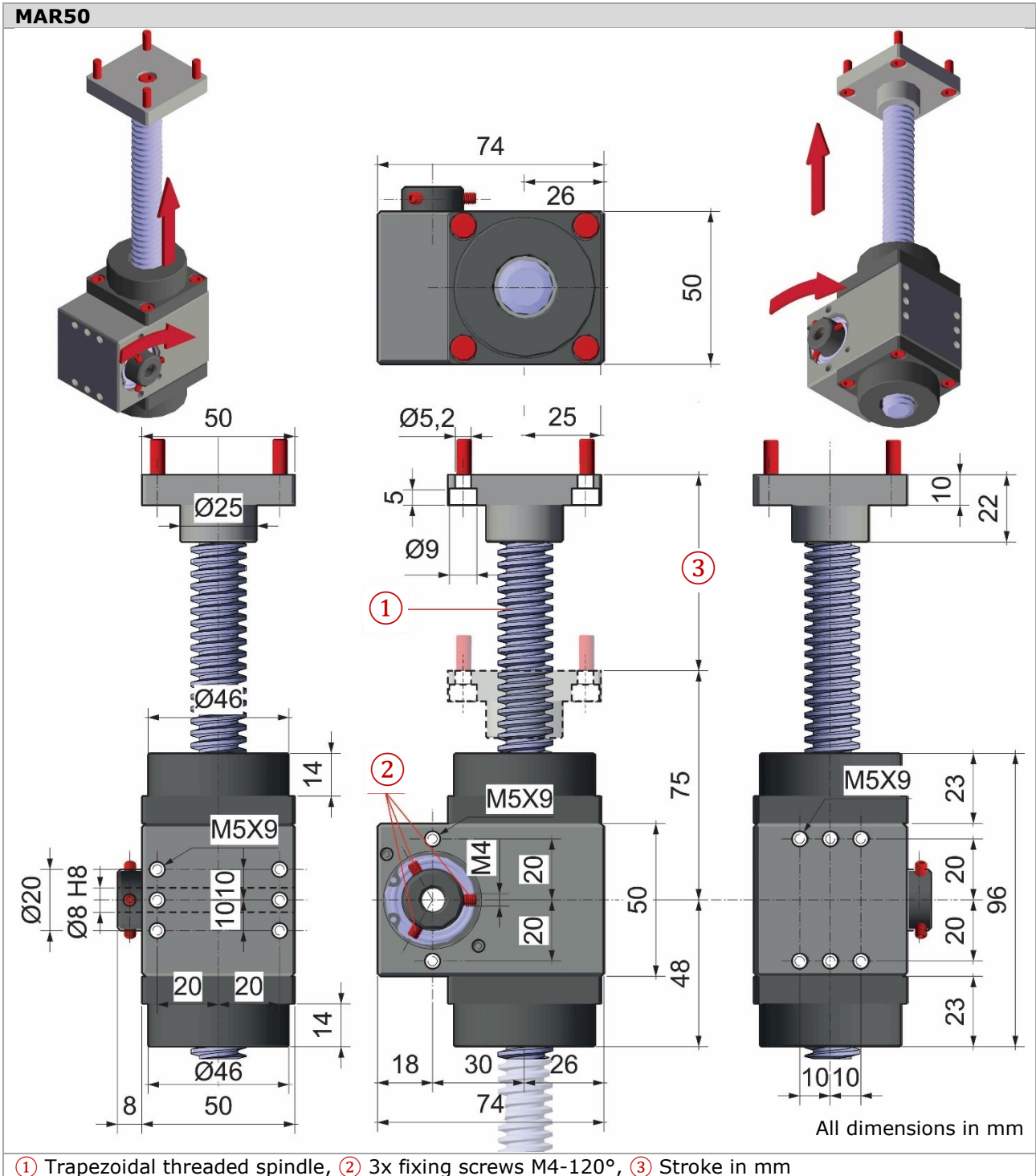
When mounting multiple screw jacks (also connected by shafts), it is essential that the couplings are perfectly aligned to distribute the load evenly. In this case, the use of flexible couplings is recommended to compensate for misalignments.

Sizing verification

- 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 1500 rpm.
- Stroke length (mm) = the linear distance the load must be moved, generally equal to the total length of the threaded spindle.
- Protective cover (optional on request) = to protect the threaded spindle in case of contamination, dust, foreign objects and/or oscillating installation and movements.
- Torque (Nm) = torque required to the load handling.

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Dimensions

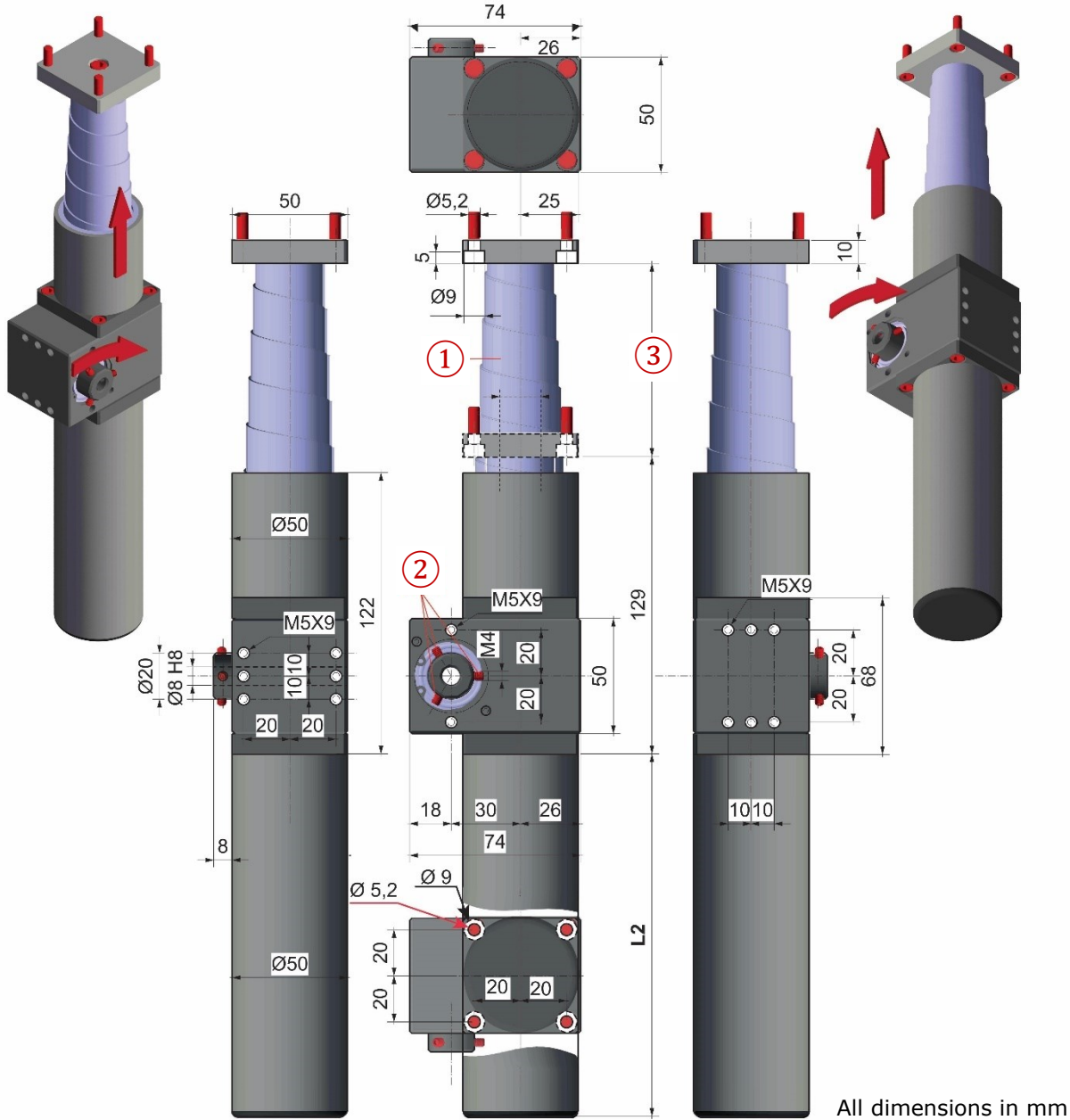


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MAR50-PROT

Version with protective cover and spiral spring for lengths up to 400 mm (optional)

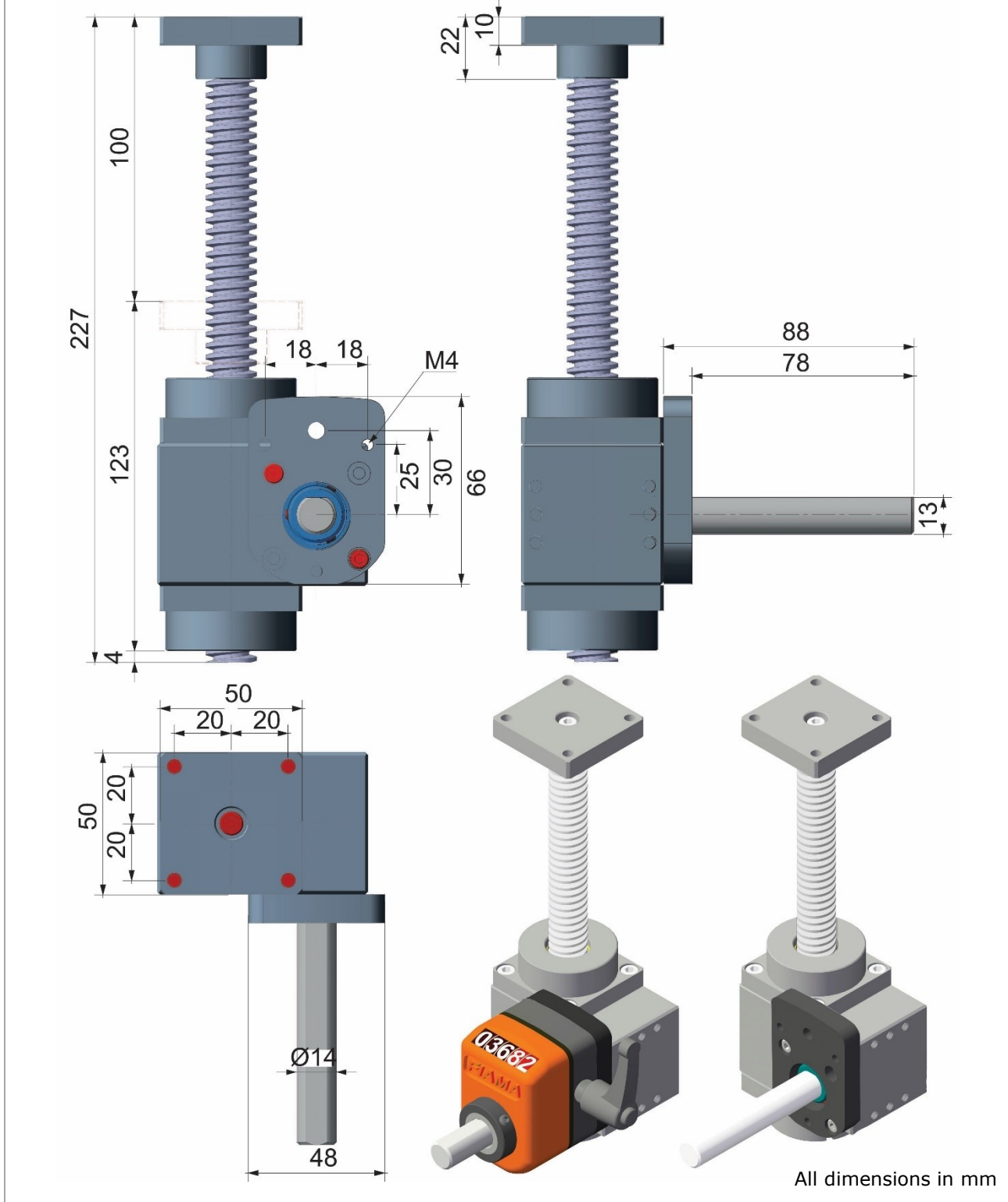


① Trapezoidal threaded spindle, ② 3x fixing screws M4-120°, ③ Stroke in mm

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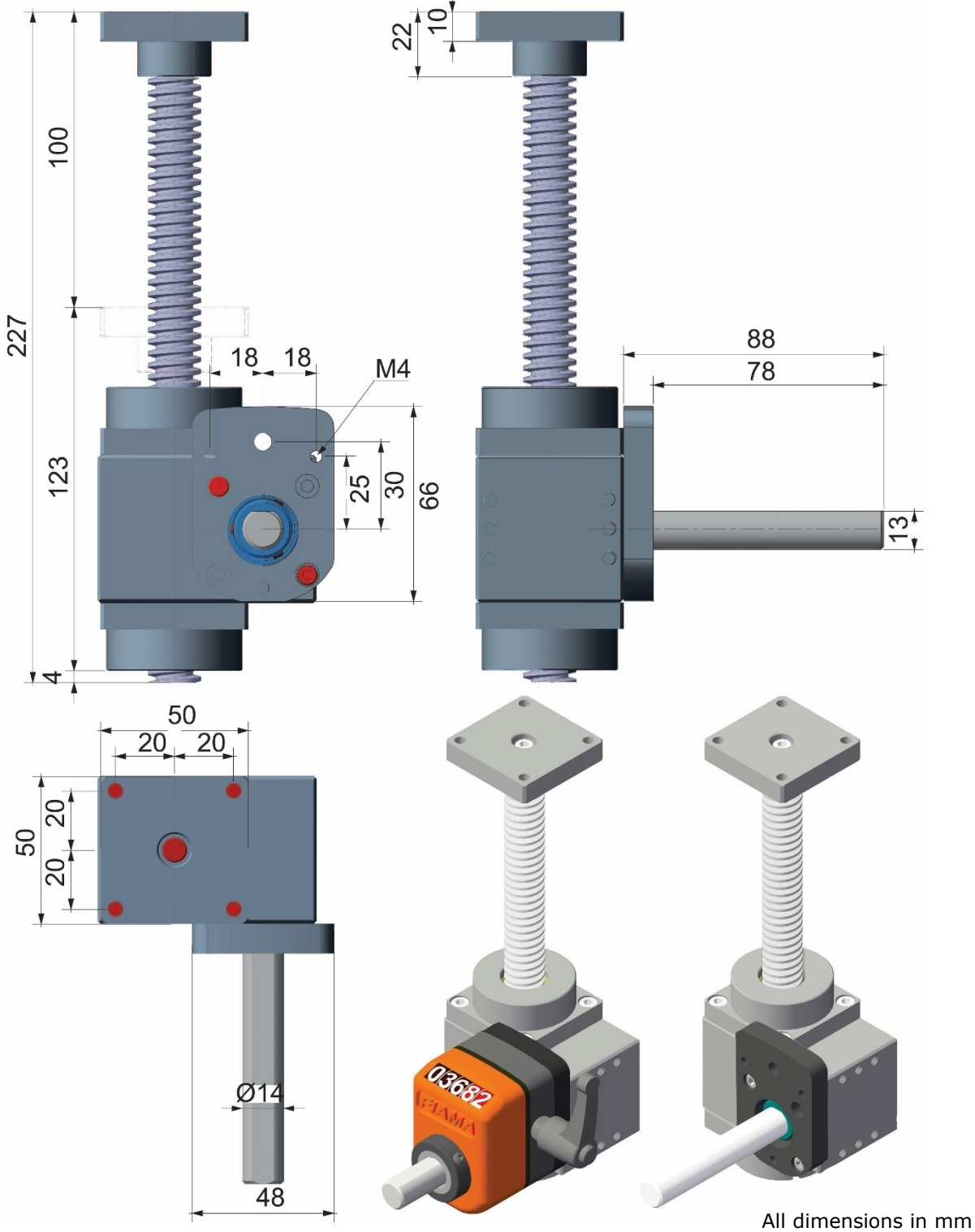
MAR50 FL-OP3
Version complete with flange and extension shaft; compatible for mounting a spindle position indicator OP3, for manual adjustment and direct reading of a measured value



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MAR50 FL-OP7/EP7

Version complete with flange and extension shaft; compatible for mounting a spindle position indicator OP7/EP7, for manual adjustment and direct reading of a measured value



All dimensions in mm

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Ordering example

Type MAR50 Screw jack	MAR50	-	1:10	-	200	-	PROT	-
Transmission ratios 1:1 - 1:2,5 - 1:5 - 1:7,5 - 1:10 - 1:12,5 - 1:15 - 1:25 - 1:30								
Stroke length (mm) 50 - 100 - 200 - 300 - 400 - 700 - 1000								
Operating mode UC = not specified (standard) = continuous use (optional), with grease nipple								
Version (optional) PROT = not specified (standard) PROT-IN = with protective cover; stainless steel								
Flange for spindle position indicator (optional) FL-OP3 = not specified (standard) FL-OP7/EP7 = with flange for spindle position indicator OP3/EP7								



Other versions that cannot be generated from the order code are available on request as special versions.

Our screw jacks **MAR50** are available in combination with mechanical-digital spindle position indicator **OP3**, **OP7** or with electronic-digital spindle position indicator **EP7**. Please order spindle position indicator separately. For more information on our spindle position indicators, please refer to the corresponding data sheet.

Manufacturer: **FIAMA** since 1913

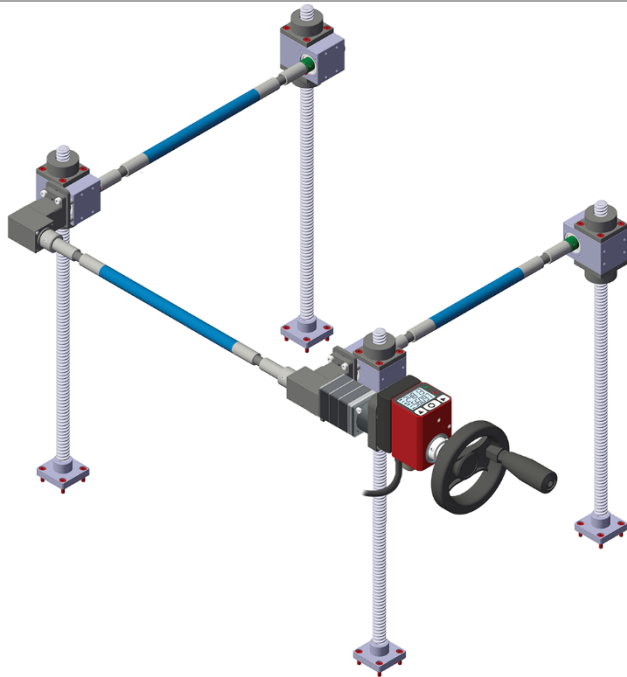
The manufacturer reserves the right to make changes to the products that it deems necessary for their improvement without prior notice.

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Combinable devices

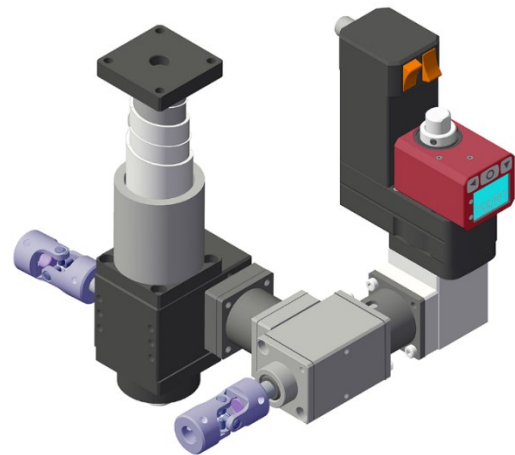
Flexible application possibilities with spindle position indicators, various gearboxes, and cardan joints, coupled via telescopic shafts.

MAR combinable devices



MAR screw jack in combination with:

- **GC** cardan joints coupled via **ATE** telescopic shafts
- **EP4** programmable electronic-digital spindle position indicator
- **P** hand wheel for manual adjustment
- series **66/** angular gearboxes

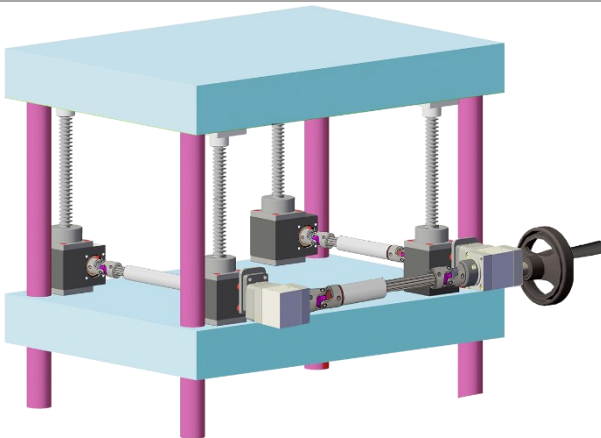


MAR screw jack in combination with:

- **GC** cardan joints
- **SERVO.OP** electronic rotary actuator with position indicator
- **EP4** programmable electronic-digital spindle position indicator
- series **66/** angular gearboxes

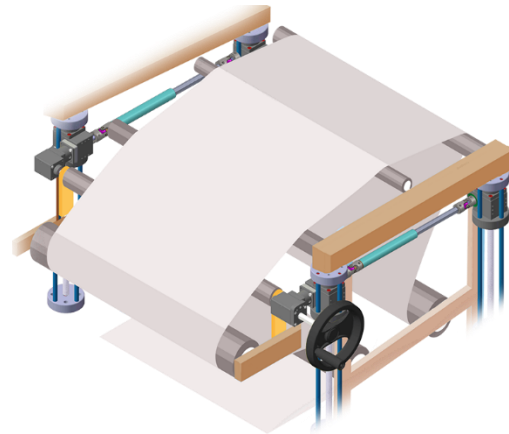
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MAR combinable devices



Height regulation in machines and systems:
MAR screw jack in combination with:

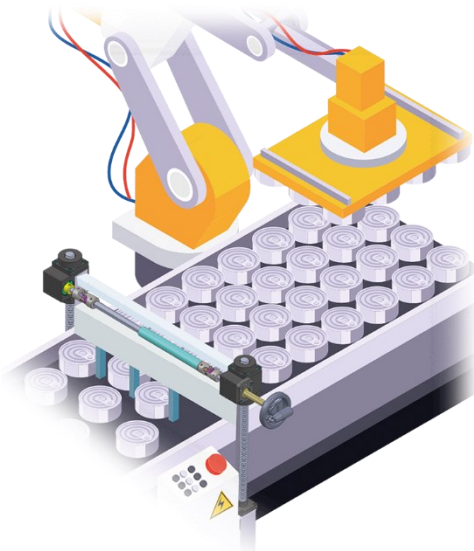
- **GC** cardan joints coupled via **ATE** telescopic shafts
- **P** hand wheel for manual adjustment
- series **66/** angular gearboxes



Paper machine:

- MAR** screw jack in combination with:
- **ATE** telescopic shaft with **GC** cardan joints
 - **P** hand wheel for manual adjustment
 - series **66/** angular gearboxes
 - **RDE** planetary gear-reducers

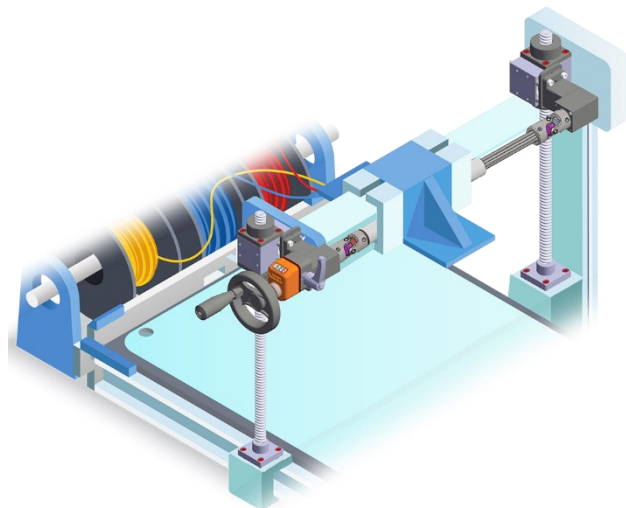
MAR combinable devices



Conveyor system for aluminium cans in the food industry:

MAR screw jack in combination with:

- **GC** cardan joints coupled via **ATE** telescopic shafts
- **P** hand wheel for manual adjustment



System for cutting meter goods to length:

MAR screw jack in combination with:

- **GC** cardan joints coupled via **ATE** telescopic shafts
- **OP** mechanic digital spindle position indicator
- **FKE** shaft clamping flange
- **P** hand wheel for manual adjustment
- series **66/** angular gearboxes