

POSITIONER

POSIMATIC PS03 - PS08 PS15 - PS30

SAFETY INSTRUCTIONS FOR OPERATING AND MAINTENANCE

NO W000385391; P95032101NG; W000385392; P95032111NG; W000385393; P95032121NG;
W000385394; P95032131NG



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Instructions

REF: 8695 6646

Original instructions

LINCOLN[®]
ELECTRIC

Thank you very much for the trust you have shown by choosing this piece of equipment. It will give you trouble-free service if it is used and maintained as recommended.

Its design, component specifications and manufacturing are in accordance with applicable European directives.

Please refer to the CE declaration enclosed to identify the directives applicable to it.

The manufacturer shall not be liable for any combination of parts not recommended by it.

For your safety, please follow the non-limitative list of recommendations and obligations, a large part of which are included in the Labour Code.

Please inform your supplier if you find any error in this instruction manual.

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INFORMATION

This technical literature is intended for the following machines or products:

- POSIMATIC PS03 ⚡ W000385391
- POSIMATIC PS03 Plasma ⚡ P95032101NG
- POSIMATIC PS08 ⚡ W000385392
- POSIMATIC PS08 Plasma ⚡ P95032111NG
- POSIMATIC PS15 ⚡ W000385393
- POSIMATIC PS15 Plasma ⚡ P95032121NG
- POSIMATIC PS30 ⚡ W000385394
- POSIMATIC PS30 Plasma ⚡ P95032131NG



This manual and the product with which it is associated refer to applicable standards.



Please read this document carefully before you install, use or maintain the machine. Keep this document in a safe place for future reference. This document must follow the machine described if there is a change in ownership of the machine and accompany it up to demolition.



Display and pressure gauge:

Measurement instruments or displays of voltage, intensity, speed, accuracy etc. are to be considered as indicators, whether they are analogue or digital.




























For operating instructions, adjustments, troubleshooting and spare parts, please refer to the special instructions for safe operating and maintenance.



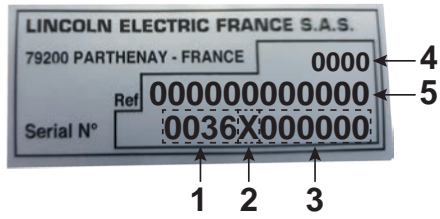
In spite of all the measures applied, invisible residual risks may still remain. Residual risks can be reduced if the safety instructions are observed, the machine is used as recommended and general service instructions are followed.

MEANING OF SYMBOLS

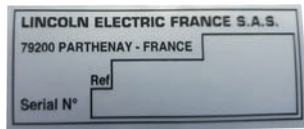
	Reading the manual/instructions for use is mandatory.		Indicates a hazard.
	Mandatory use of safety shoes.		Warning of an electricity risk or hazard.
	Mandatory use of hearing protection.		Warning of a risk or hazard due to an obstacle on the floor.
	Mandatory use of a safety helmet.		Warning of a risk or hazard of falling with a level change.
	Mandatory use of safety gloves.		Warning of a risk or hazard due to suspended loads.
	Mandatory use of safety glasses.		Warning of a risk or hazard due to a hot surface.
	Mandatory use of a safety visor.		Warning of a risk or hazard due to moving mechanical parts.
	Mandatory use of safety clothing.		Warning of a risk or hazard due to a closing movement of mechanical parts of a machine.
	Make sure you clean the working zone.		Warning of a risk or hazard due to laser radiation.
	Mandatory use of breathing protection.		Warning of a risk or hazard due to an obstacle at a height.
	Visual inspection required.		Warning of a risk or hazard due to the presence of a pointed part.
	Indicates a lubrication operation.		Wearers of pacemakers may not be admitted in the designated area.
	Requires maintenance action.		

A - IDENTIFICATION

Please note the serial number of your equipment in the box below.
The information below should be provided in all correspondence.



1	Manufacturing plant code	4	Year of manufacture
2	Year of manufacture code	5	Type of product
3	product serial number		



B - SAFETY INSTRUCTIONS



For general safety instructions, please refer to the specific manual supplied with the equipment.

1 - Limits of use of the machine or the installation



The limits of use of the machine (or installation) are provided in the different documents; please review them carefully before starting to use the machine (or installation).

For safety reasons, and in the light of our current knowledge of customer processes, the working area may be occupied only by one individual.

The machine (or installation) may only be operated by a single person above the age of 18 and trained in operating and use-related risks.

The machine (or installation) may only be used for welding applications; any other use of the machine is forbidden.

The machine (or installation) is designed for indoor use.
It may not be used outdoors.

The workshop must be adequately lit and ventilated.

The dimensions and weights of the workpieces must be appropriate for the machine (or installation). Do not exceed the permissible loads, torques and tangential forces or the minimum and maximum diameters of shells.

Loading and unloading may only be carried out outside the welding cycle.

The energy supply must imperatively comply with recommendations.
The customer must supply and install a device for isolating each source of energy (electricity, air, gas and water). The devices must be clearly identified. They must be of the locking type.

The machine (or installation) is designed for professional use.

Before use, the operator must make sure that there is no risk of collision with personnel.

The use of Personal Protective Equipment (PPE) and work clothing covering the body is mandatory in the work area. Do not wear a tie and keep your hair tied back securely.



The positioner with its load moves within a working area that must be increased by an 800 mm safety area, regardless of its tilt angle and rotation position.

That area must be clear of any obstacles (walls, posts, tools etc.) that could come in the way of the movements of the positioner and its load, and the free movement of the operator.

While accessing the marked area, a worker could be hit by a part of the installation.

For any extended absence, the operator must shut off the supply of utilities (electricity and fluids).

Maintenance may only be carried out by experienced personnel who are trained in machine-related risks.

Machine maintenance must be carried out with all the energy supplies switched off.
The disconnection and padlocking of all energy sources is mandatory.

Access to the machine (or installation) must be left free for maintenance (e.g. no workpiece etc.).

The frequency of such maintenance is indicated for production in one work shift per day (i.e. 8 hours a day).

Visually inspect the overall condition of the installation and the working area twice a shift, or with every change of production.

The maintenance schedule must absolutely be followed.

We recommend putting in place a traced system for tracking all your maintenance operations.

All maintenance must be carried out by specialised personnel who have read and understood these instructions.

Electricity technician

Qualified operator with the ability to work in normal conditions on electrical parts for regulation, maintenance and repair.

Mechanical technician

Specialised technician authorised to carry out complex and exceptional mechanical operations.

Carry out a dry test run of the rotation movement.

Do not drop loads on the equipment.

Make sure that the working of the equipment is not hindered by tools and/or objects left close to the rotating part or by its appendages, which could strike fixed elements (ground, frame, posts).

Make sure that the power and control conductors of the machine are in good condition.

Maintain the centre to centre distance of the rollers depending on the diameter of the shell.

No object is to be placed on the rolling tracks.

Before using the machine. Make sure that the guard covers of the electrical and mechanical parts are in place before starting up the equipment.

All guard covers must be screwed in.

Clean the working area from time to time.

If the equipment is used for welding, make sure that the ground of the power source is connected to the piece before you start welding.

Never modify the machine.

The rotator is not designed for anchoring lifting equipment.

The positioner must be placed on a flat and sufficiently strong floor. If necessary, use wedges and anchor the machine to the floor using dowels. The feet have holes for that purpose.

Carry out a dry test run of the rotation movement and make sure the safety systems are operating correctly, particularly the limit switches.

Make sure the parts are securely clamped to the positioner table.

Never use the positioner table as a metal working table or heat up parts without first taking elementary precautions.

If the equipment is used for welding, make sure that the ground of the power source is connected to the workpiece before you start the process.

The positioner may not be modified in any event.

The positioner is not designed for anchoring handling equipment.

2 - Residual risks

Based on the results of the risk assessment, a few elements have emerged where there was no “technical” solution for eliminating risk or making it negligible.

In spite of all the care that has gone into the designing of our machines (or installations), some risk areas remain. To control these risks, the customer must pay particular attention to them, ensure that the instructions are applied and define any additional measures that may be necessary in view of its own internal operating procedures.

Therefore, you will find below a guidance list of residual risks.

Training of operators in safety and in the use of the machine from their operating position will better address these residual risks.

We recommend putting place workstation instructions that remind users of the presence or otherwise of residual risks in the working area.

2.1 - Residual risks - General

☛ Environment risk - slipping and/or falling



The working and safety area must be clear of all obstacles.

The working area must be kept clean and cleaned regularly.

The machine must undergo periodic maintenance (see maintenance instructions of each piece of equipment).

Waste consumables must be cleaned.

The operator must pay special attention to cables and rolling tracks on the ground.

The operator must use the necessary personal protective equipment (helmet, gloves, safety shoes, mask and work clothing).

Falling from heights:

In order to be protected from falling from heights and for access to high parts, the operator must use access means that comply with applicable standards.

For all work at heights, the use of personal protective equipment (helmet, gloves, safety shoes, mask, ear muffs and harness) is indispensable.

For all work at heights, the operator must be trained in the use of means for accessing high locations.

☛ Mechanical risk - Impacts, shearing, crushing



The operator may not wear loose clothing or a tie, must have their hair tied back and use personal protective equipment (helmet, gloves, safety shoes, mask and work clothing).

The operator must make sure that nobody else is close to the machine before starting.

The operator's working position is before the control console.

The machine safety areas must not be crossed.

The operator must be trained in the use of the machine, and all personnel must be aware of residual risks.

Catching between an obstacle and the machine - Access to a moving part.

The operator must use personal protective equipment, (helmet, gloves, safety shoes, mask and work clothing).

The operator's working position is before the control console.

The operator must make sure nobody is present in the machine working area or safety area before using it.

The operator must make sure that all the machine guards are in place before using it.

The operator must be trained in the use of the machine, and all personnel must be aware of residual risks.

Anchoring failure of handling equipment

The machine may not be modified.

The machine is not designed for anchoring lifting equipment.

Any change in the machine location must be made by **Lincoln Electric** or authorised personnel.

Presence of a person under the load

The operator must be trained and approved for the use of handling equipment.

The operator must be trained in the use of the machine, and all personnel must be aware of residual risks.

☛ **Mechanical risk - Puncturing or piercing**



The use of personal protective equipment (helmet, gloves, safety shoes, mask, ear muffs) is indispensable.

The operator must be trained in the use of the machine and all personnel must be aware of residual risks.

☛ **Thermal risk - Burns**



Part of the body in contact with a hot part (torch/workpiece etc.)

The use of personal protective equipment (helmet, gloves, safety shoes, mask, ear muffs) is indispensable.

The operator must be trained in the use of the machine and all personnel must be aware of residual risks.

☛ **Noise risk - Fatigue**



Process noise

The use of personal protective equipment (helmet, gloves, safety shoes, mask, ear muffs) is indispensable.

The operator must be trained in the use of the machine and all personnel must be aware of residual risks.

1 - Description

Posimatic is designed for positioning workpieces with different shapes to make work such as welding, oxy-fuel cutting, surfacing, metallising etc. as easy as possible, by offering up the working line in the best position.

The Plasma version allows improved rotation speed regulation, with a minimum speed that is halved.

The range of:

- **Posimatic PS03 & Posimatic PS03 Plasma** can rotate workpieces with weights up to 300 kg.
- **Posimatic PS08 & Posimatic PS08 Plasma** can rotate workpieces with weights up to 800 kg.
- **Posimatic PS15 & Posimatic PS15 Plasma** can rotate workpieces with weights up to 1500 kg.
- **Posimatic PS30 & Posimatic PS30 Plasma** can rotate workpieces with weights up to 3000 kg.

2 - Posimatic range

2.1 Posimatic

Posimatic PS03: W000385391
Posimatic PS03 Plasma: P95032101NG



Posimatic PS08: W000385392
Posimatic PS08 Plasma: P95032111NG



Posimatic PS15: W000385393
Posimatic PS15 Plasma: P95032121NG



Posimatic PS30: W000385394
Posimatic PS30 Plasma: P95032131NG



2.2 Option

			Posimatic PS03	Posimatic PS08	Posimatic PS15	Posimatic PS30
125	Mandrel for diameter 125 mm Mass 4.5 kg	W000315315	✓			
	Mandrel adapter, 125 mm	W000400522	✓			
250	Mandrel for diameter 250 mm Mass 26 kg	W000274993	✓	✓	✓	
	Mandrel adapter, 250 mm	W000400523	✓	✓	✓	
315	Mandrel for diameter 315 m Mass 44 kg	W000274994	✓	✓	✓	
	Mandrel adapter, 315 mm	W000400524	✓	✓	✓	
400	Mandrel for diameter 400 mm Mass 80 kg	W000274995	✓	✓	✓	
	Mandrel adapter, 400 mm	W000400525	✓	✓	✓	

Characteristics of mandrels:

Steel mandrel with three reversible jaws to hold rotating parts.

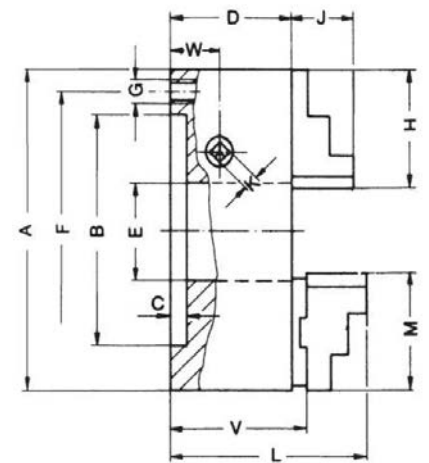


NB: When the positioner is dimensioned, take account of the weight of the mandrel and its width to calculate the centre of gravity of the part.



A	B _{H6}	C	D	E	F	G	H
125	95	4	56	32	108	3xM8	52
250	200	5	82	76	224	3xM12	90
315	260	5	95	103	286	3xM16	130
400	330	5	105	136	362	3xM16	130

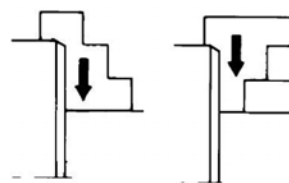
A	J	K	L	M	V	Mass
125	22.5	9	95.5	56	61	4.5 kg
250	40	12	139.5	95	89.9	25.7 kg
315	46	14	155	109.5	100.4	44.2 kg
400	43	17	171.5	127	113.4	80 kg



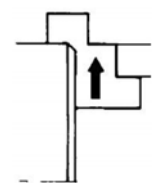
Possible diameters depending on the type of clamping:

Ø		Outer	Inner
		Min.	
125 mm	Min.	3	37
	Max.	157	123
250 mm	Min.	5	59
	Max.	302	236
315 mm	Min.	6	96
	Max.	395	305
400 mm	Min.	20	100
	Max.	480	390

Outer clamping



Inner clamping



3 - Main specifications

3.1 Posimatic PS03

		Posimatic PS03	Posimatic PS03 Plasma
<u>Permissible load</u>			
Load in all positions	Kg	300	
<u>Rotation</u>			
Maximum eccentricity distance	mm	117	
Maximum rotation torque	m.Kg	35	
Rotation speed	rpm	0.2 to 3	0.1 to 3
Rotation motor power		0.37 kW (4 poles)	530 W (Brushless)
<u>Tilting</u>			
Maximum eccentricity distance	mm	253	
Maximum tilting torque	m.Kg	100	
Power-operated tilting	rpm	0.4	
Table tilt angle	°	0 to 135	
Tilting time for 135°	s	31	
Tilt/table centre line distance	mm	80	
Tilting motor power	kW	0.37 (4 poles)	
<u>Power supply</u>			
Power supply voltage	V	400	
Maximum current requirement	A	2	
Frequency	Hz	50/60	
Ground clamp	A	500 to 100%	
<u>Tolerance</u>			
Rotation precision		Standard	High
Rotation clearance	mm	< 2 - Ø 600	
Tilting clearance	mm	< 2 - Ø 600	
Table flatness	mm	< 1	



The 300 kg weight applies to overhanging parts where the centre of gravity is located no more than 253 mm from the table in the vertical position with no more than 117 mm eccentricity in relation to the rotation axis.

Supplied with:

- a 5 metre long power supply cable,
- a remote control with a 5 metre long cable,
- an On/Off pedal with a 5 metre long cable,
- an rpm rotation speed display on the electrical cabinet.

3.2 Posimatic PS08

		Posimatic PS08	Posimatic PS08 Plasma
<u>Permissible load</u>			
Load in all positions	Kg	800	
<u>Rotation</u>			
Maximum eccentricity distance	mm	150	
Maximum rotation torque	m.Kg	120	
Rotation speed	rpm	0.16 to 2.4	0.08 to 2.4
Rotation motor power		0.75 kW (4 poles)	530 W (Brushless)
<u>Tilting</u>			
Maximum eccentricity distance	mm	200	
Maximum tilting torque	m.Kg	280	
Power-operated tilting	rpm	0.4	
Table tilt angle	°	0 to 135	
Tilting time for 135°	s	58	
Tilt/table centre line distance	mm	148	
Tilting motor power	kW	0.75 (4 poles)	
<u>Power supply</u>			
Power supply voltage	V	400	
Maximum current requirement	A	3.6	
Frequency	Hz	50/60	
Ground clamp	A	500 to 100%	
<u>Tolerance</u>			
Rotation precision		Standard	High
Rotation clearance	mm	< 2 - Ø 800	
Tilting clearance	mm	< 2 - Ø 800	
Table flatness	mm	< 1	



The 800 kg weight applies to overhanging parts where the centre of gravity is located no more than 200 mm from the table in the vertical position with no more than 150 mm eccentricity in relation to the rotation axis.

Supplied with:

- a 5 metre long power supply cable,
- a remote control with a 5 metre long cable,
- an On/Off pedal with a 5 metre long cable,
- an rpm rotation speed display on the electrical cabinet.

3.3 Posimatic PS15

		Posimatic PS15	Posimatic PS15 Plasma
Permissible load			
Load in all positions	Kg	1500	
Rotation			
Maximum eccentricity distance	mm	150	
Maximum rotation torque	m.Kg	225	
Rotation speed	rpm	0.14 to 1.8	0.06 to 1.8
Rotation motor power		1.5 kW (4 poles)	700 W (Brushless)
Tilting			
Maximum eccentricity distance	mm	215	
Maximum tilting torque	m.Kg	550	
Power-operated tilting	rpm	0.4	
Table tilt angle	°	0 to 135	
Tilting time for 135°	s	56	
Tilt/table centre line distance	mm	151	
Tilting motor power	kW	1.5 (4 poles)	
Power supply			
Power supply voltage	V	400	
Maximum current requirement	A	4.4	
Frequency	Hz	50/60	
Ground clamp	A	1000 to 100%	
Tolerance			
Rotation precision		Standard	High
Rotation clearance	mm	< 2 - Ø 1000	
Tilting clearance	mm	< 2 - Ø 1000	
Table flatness	mm	< 1	



The 1500 kg weight applies to overhanging parts where the centre of gravity is located no more than 215 mm from the table in the vertical position with no more than 150 mm eccentricity in relation to the rotation axis.

Supplied with:

- a 5 metre long power supply cable,
- a remote control with a 5 metre long cable,
- an On/Off pedal with a 5 metre long cable,
- an rpm rotation speed display on the electrical cabinet.

3.4 Posimatic PS30

		Posimatic PS30	Posimatic PS30 Plasma
Permissible load			
Load in all positions	Kg	3000	
Rotation			
Maximum eccentricity distance	mm	120	
Maximum rotation torque	m.Kg	450	
Rotation speed	rpm	0.1 to 1.5	0.05 to 1.5
Rotation motor power	kW	1.5 kW (4 poles)	1170 W (Brushless)
Tilting			
Maximum eccentricity distance	mm	200	
Maximum tilting torque	m.Kg	1300	
Power-operated tilting	rpm	0.4	
Table tilt angle	°	0 to 135	
Tilting time for 135°	s	54	
Tilt/table centre line distance	mm	222	
Tilting motor power	kW	2.2 (4 poles)	
Power supply			
Power supply voltage	V	400	
Maximum current requirement	A	8	
Frequency	Hz	50/60	
Ground clamp	A	1000 to 100%	
Tolerance			
Rotation precision		Standard	High
Rotation clearance	mm	< 2 - Ø 1200	
Tilting clearance	mm	< 2 - Ø 1200	
Table flatness	mm	< 1	



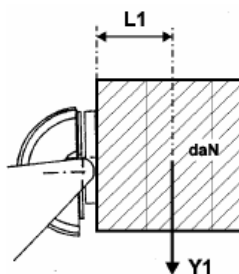
The 3000 kg weight applies to overhanging parts where the centre of gravity is located no more than 200 mm from the table in the vertical position with no more than 120 mm eccentricity in relation to the rotation axis.

Supplied with:

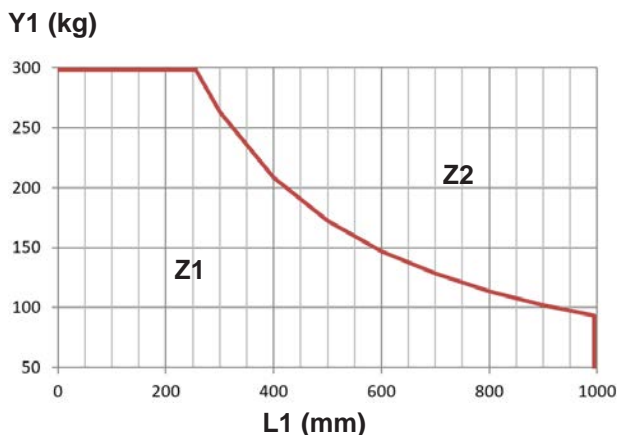
- a 5 metre long power supply cable,
- a remote control with a 5 metre long cable,
- an On/Off pedal with a 5 metre long cable,
- an rpm rotation speed display on the electrical cabinet.

3.5 Tilting torque

Permissible load in kg (**Y1**) depending on the distance in mm (**L1**) from the centre of gravity of the workpiece in relation to the table surface.

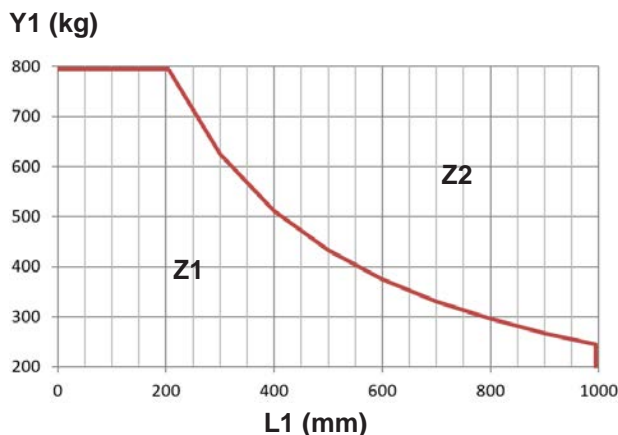


Posimatic PS03
Posimatic PS03 Plasma



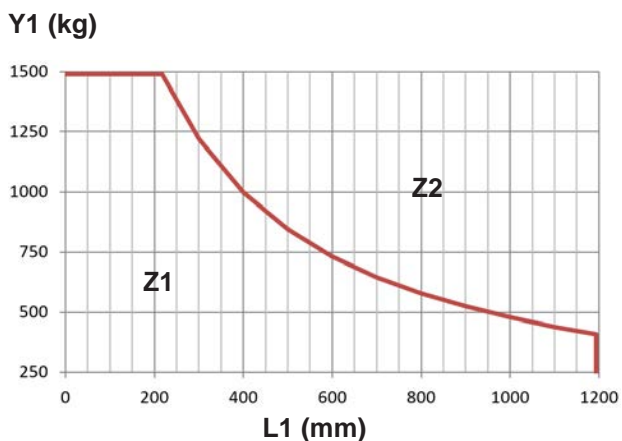
$$Y1 = 100000/(L1+80)$$

Posimatic PS08
Posimatic PS08 Plasma



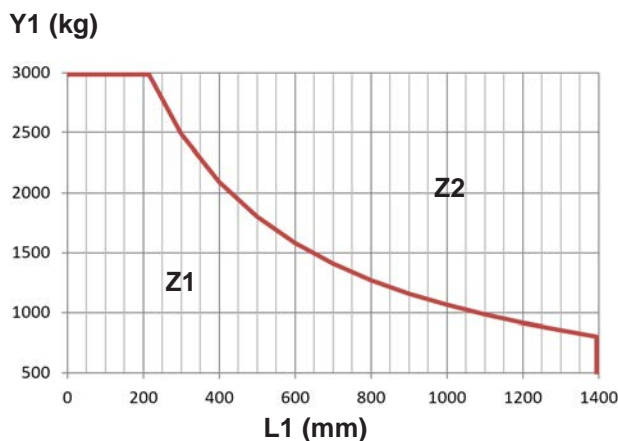
$$Y1 = 280000/(L1+148)$$

Posimatic PS15
Posimatic PS15 Plasma



$$Y1 = 550000/(L1+151)$$

Posimatic PS30
Posimatic PS30 Plasma

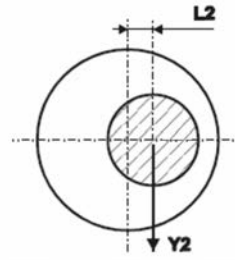


$$Y1 = 1300000/(L1+222)$$

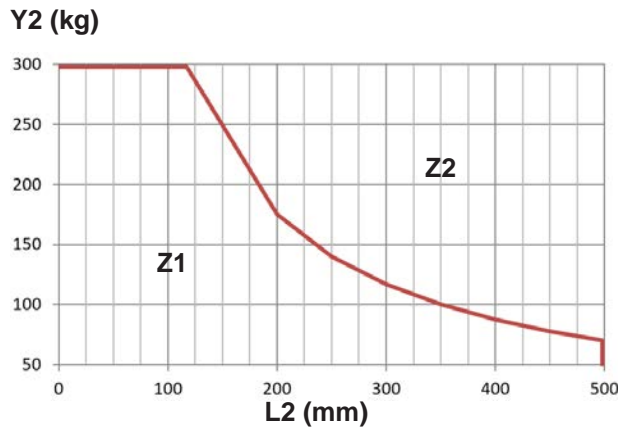
Z1	Permitted zone
Z2	Prohibited zone (table vertical)
Y1	Load in kg
L1	Load/table offset in mm

3.6 Rotation torque

Permissible load in kg (Y2) depending on the distance in mm (L2) of the centre of gravity from the rotation axis.

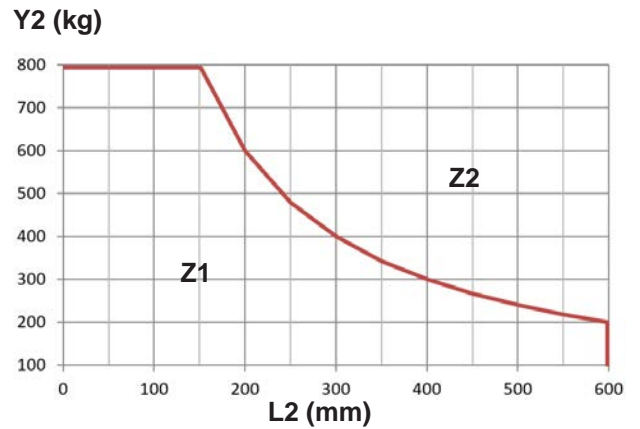


Posimatic PS03
Posimatic PS03 Plasma



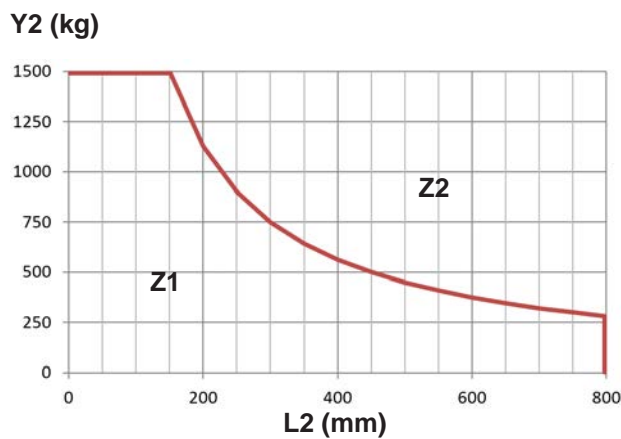
$$Y2 = 35000/L2$$

Posimatic PS08
Posimatic PS08 Plasma



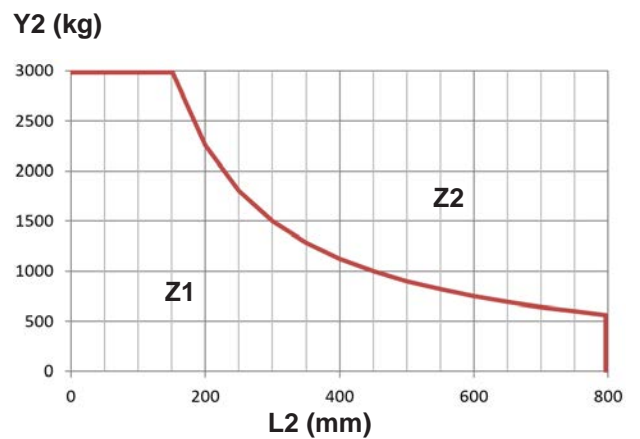
$$Y2 = 120000/L2$$

Posimatic PS15
Posimatic PS15 Plasma



$$Y2 = 225000/L2$$

Posimatic PS30
Posimatic PS30 Plasma

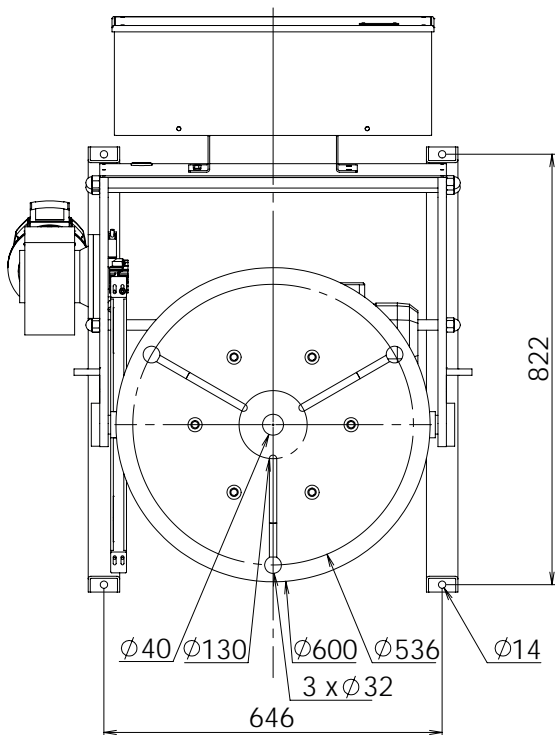
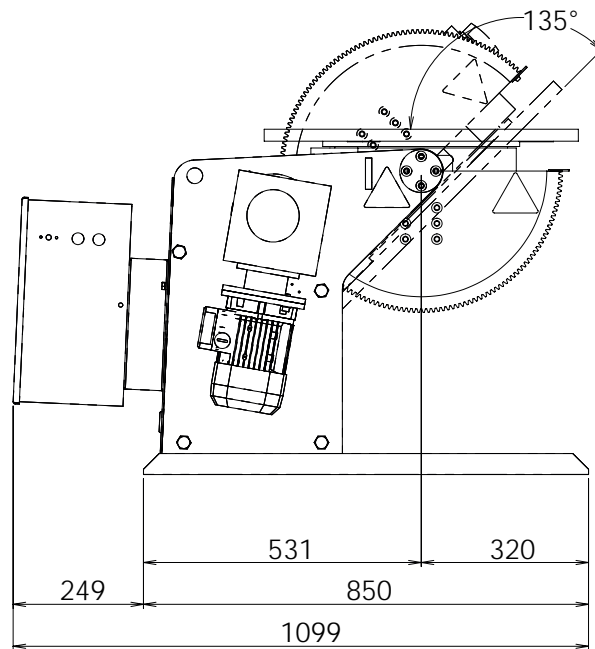
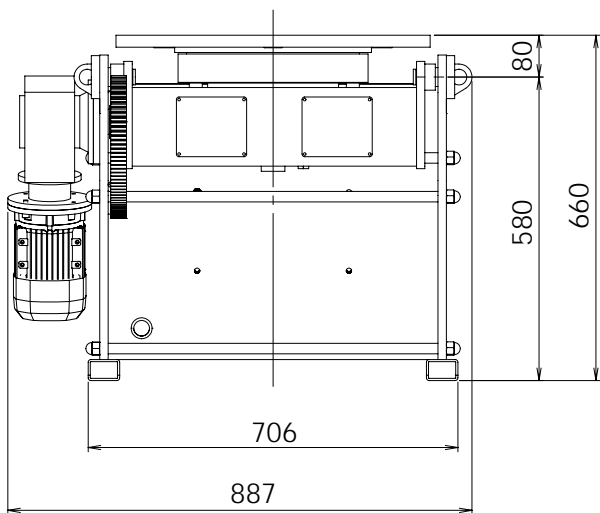


$$Y2 = 450000/L2$$

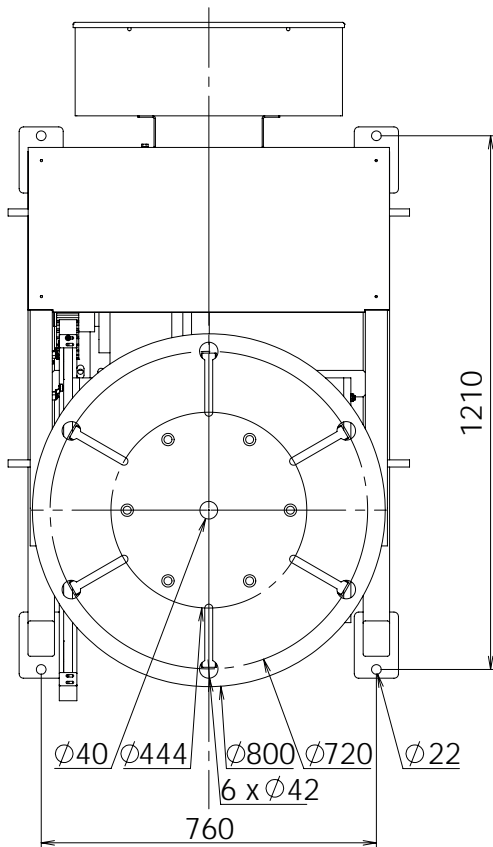
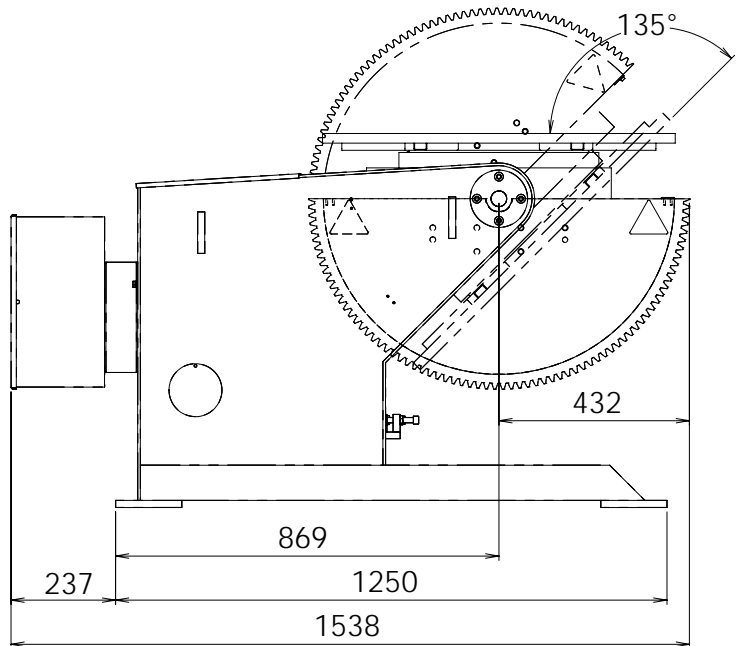
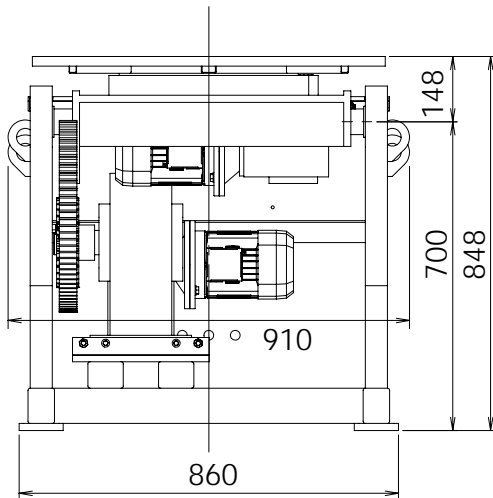
Z1	Permitted zone
Z2	Prohibited zone (table vertical)
Y2	Load in kg
L2	Load eccentricity in mm

4 - Dimensions

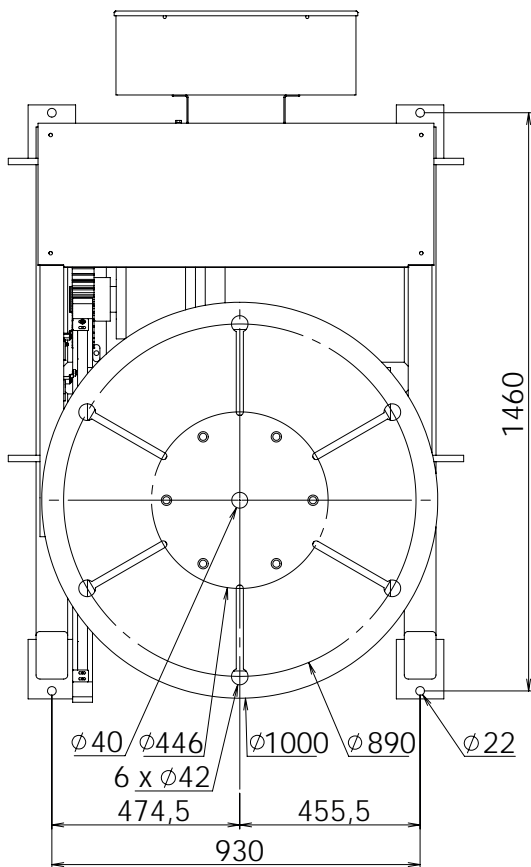
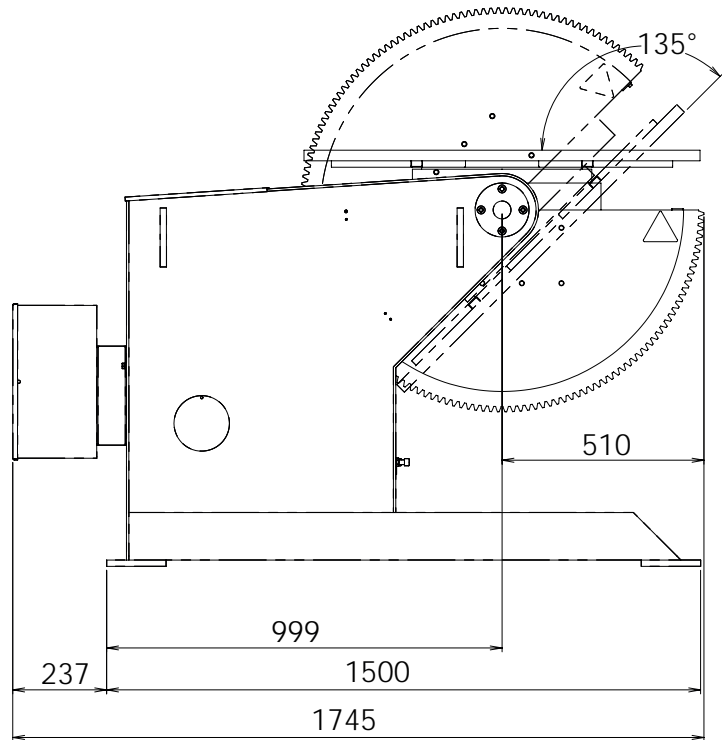
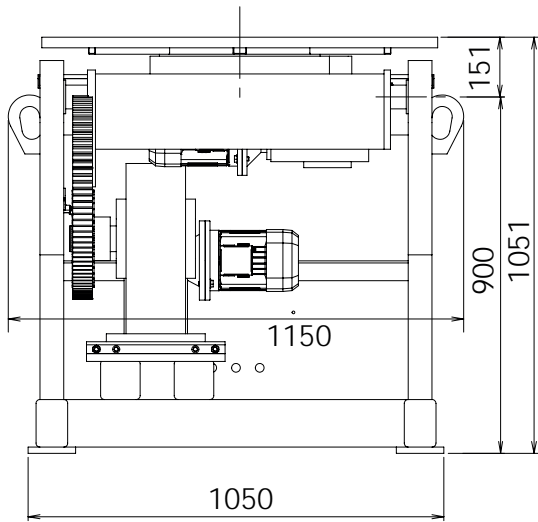
4.1 Posimatic PS03



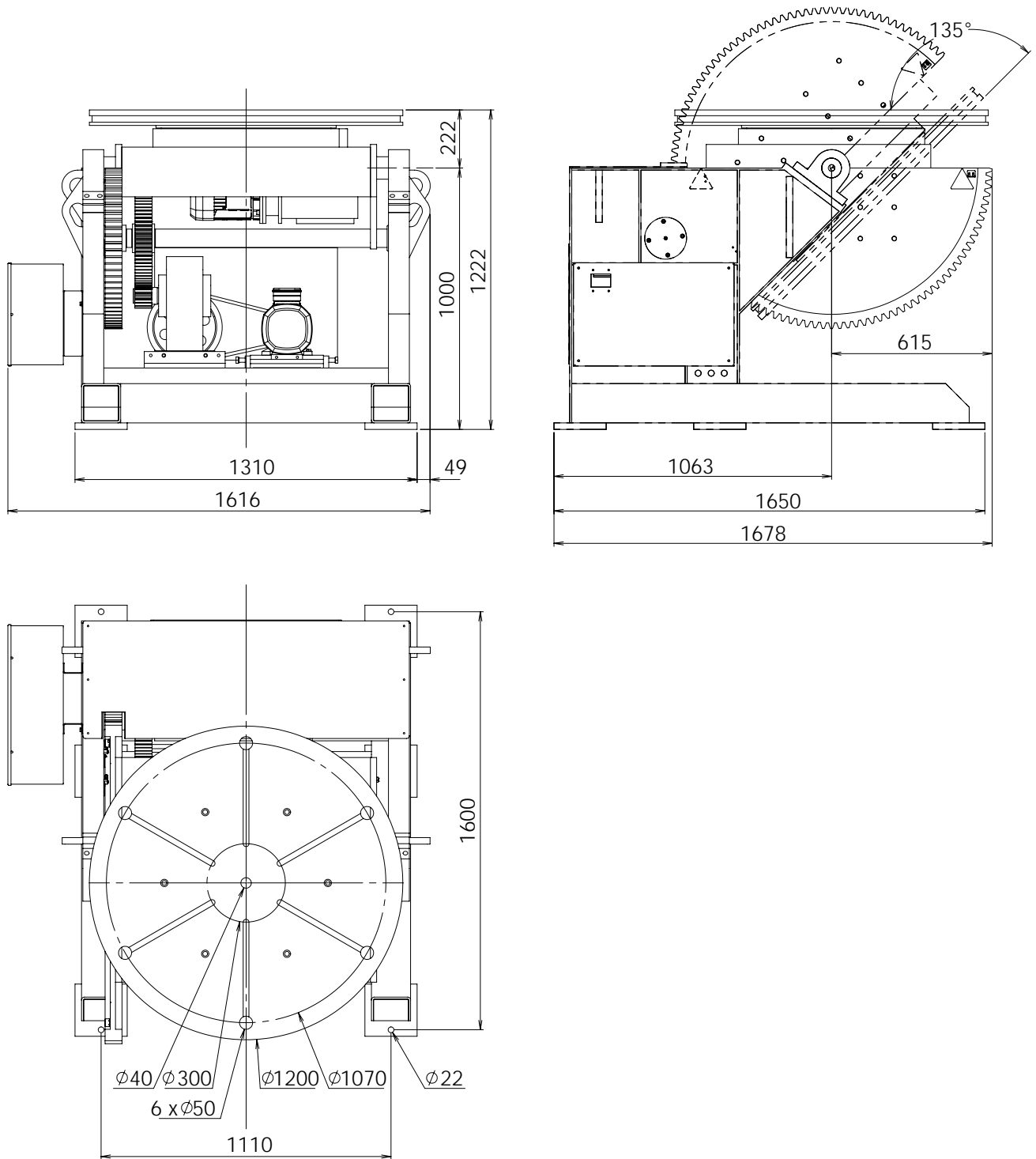
4.2 Posimatic PS08



4.3 Posimatic PS15



4.4 Posimatic PS30



5 - Detailed description

5.1 Overall appearance

Posimatic positioners are made up of a fixed frame (M1) in which a tilting frame (M2) is articulated to support a rotating table (M9).

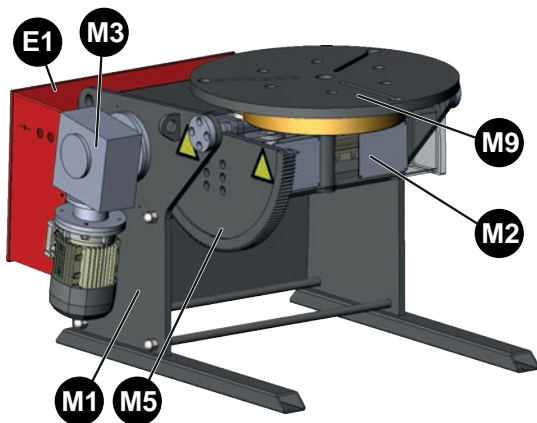
The fixed frame (M1) also supports the following:

- the tilting reduction drive (M3).
- the electrical cabinet (E1).

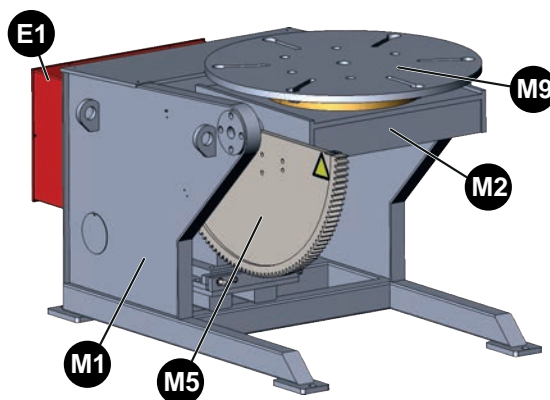
The tilting frame (M2) supports the following:

- the tilting quadrant gear (M5).
- The rotating table (M9) and the rotation ring gear (M8).
- The rotation reduction drive (M6).

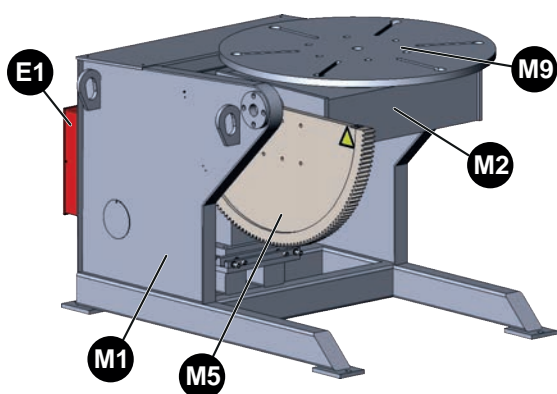
Posimatic PS03
Posimatic PS03 Plasma



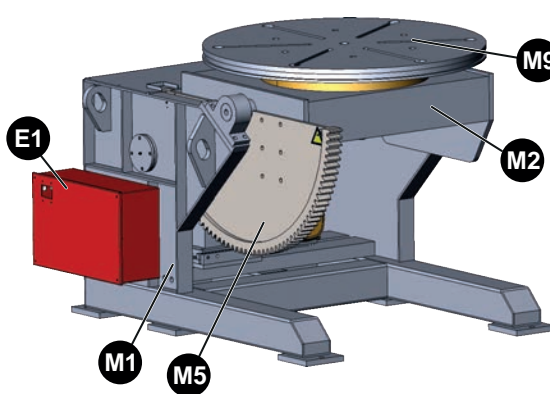
Posimatic PS08
Posimatic PS08 Plasma



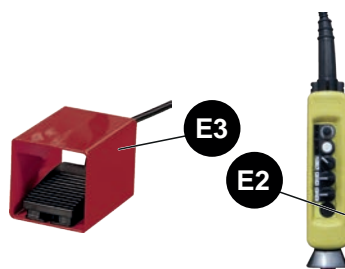
Posimatic PS15
Posimatic PS15 Plasma



Posimatic PS30
Posimatic PS30 Plasma



A button box (E2) and a pedal (E3) make it possible to control the rotation and tilting movements remotely.

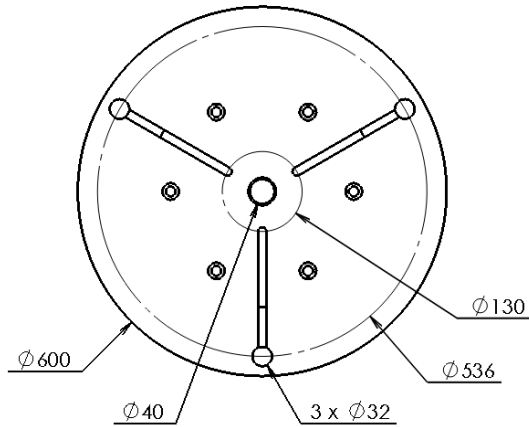


M1	Fixed frame	M9	Rotating table
M2	Tilting frame	E1	Electrical cabinet
M3	Reduction drive	E2	Remote control
M5	Quadrant gear	E3	Pedal

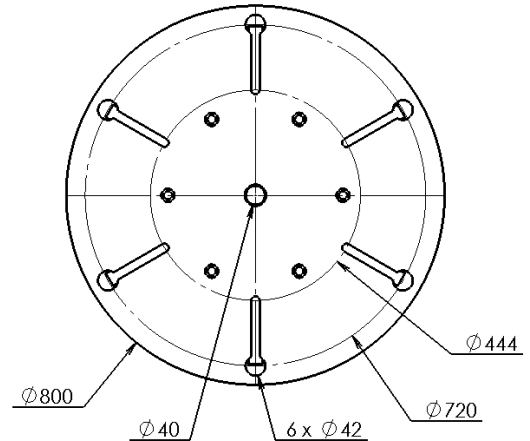
5.2 Table

The work table (**M9**) is made up of thick plate and is designed to make it easy to fasten workpieces. Grooves are provided to receive bolts or gibs so that they are not accidentally driven out of their recesses. The $\varnothing 40$ central hole is extended by a tube that goes through the tilting frame (**M2**). It is used for supplying backing gas, for instance during welding applications.

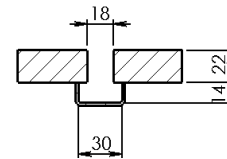
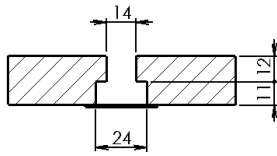
Posimatic PS03
Posimatic PS03 Plasma



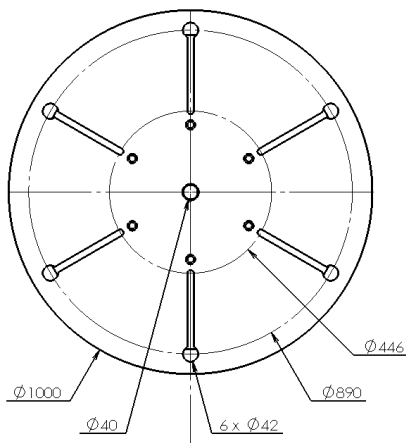
Posimatic PS08
Posimatic PS08 Plasma



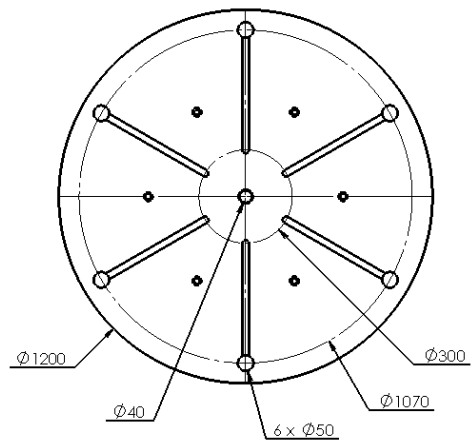
Section of grooves:



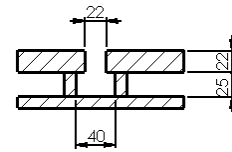
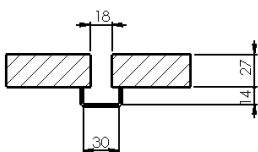
Posimatic PS15
Posimatic PS15 Plasma



Posimatic PS30
Posimatic PS30 Plasma



Section of grooves:

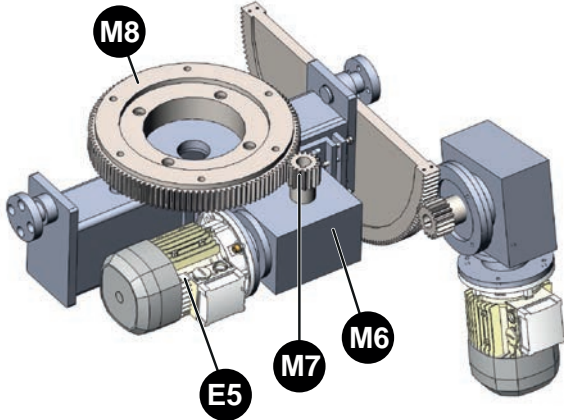


5.3 Rotation components

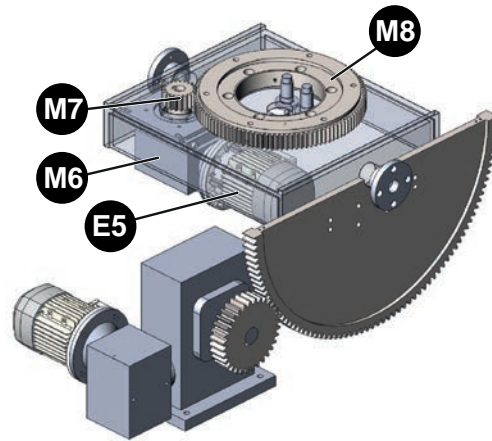
The wheel and worm geared motor (**E5-M6**) drives the rotation movement of the ring gear (**M8**) through the drive pinion (**M7**).

Speed variation is achieved by a potentiometer fastened to the button box.

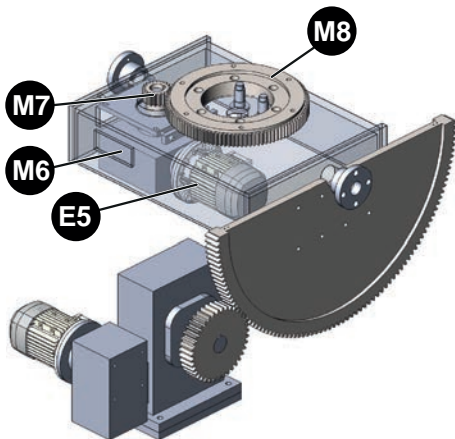
Posimatic PS03
Posimatic PS03 Plasma



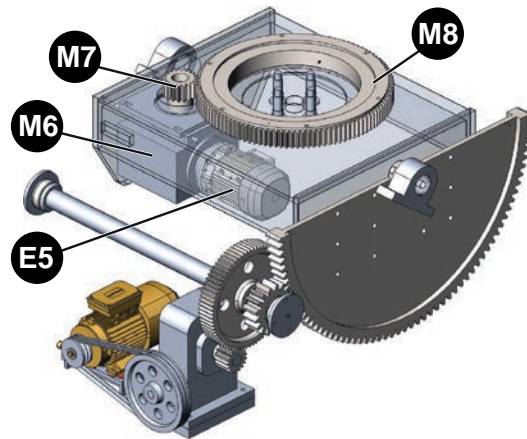
Posimatic PS08
Posimatic PS08 Plasma



Posimatic PS15
Posimatic PS15 Plasma



Posimatic PS30
Posimatic PS30 Plasma



E5	Fixed frame
M6	Tilting frame
M7	Reduction drive
M8	Quadrant gear

5.4 Tilting components

The wheel and worm geared motor (**E4-M3**) drives the movement of the quadrant gear (**M5**) through the drive pinion (**M4**).

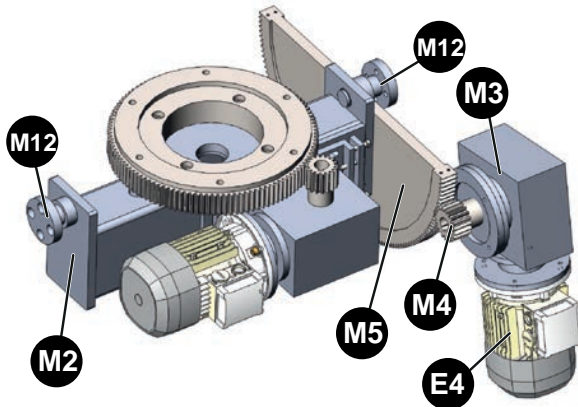
The tilting frame (**M2**), which has rings, pivots on two horizontal shafts (**M12**) fastened to the frame (**M1**). It holds the fixed part of the slewing ring (**M8**).

On **Posimatic PS30**, the motor (**E4**) drives the reduction drive (**M3**) through the pulleys and belts assembly (**M21**).

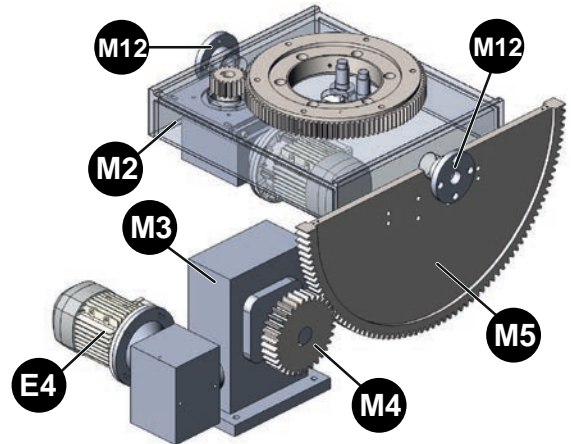
The reduction drive (**M3**) transmits the movement to the quadrant gear (**M5**) through the drive pinion (**M4**), and pinions (**M16**) and (**M17**) integral with the shaft (**M20**).

The shaft (**M20**) is mounted on bearings (**M18**) in the frame (**M1**).

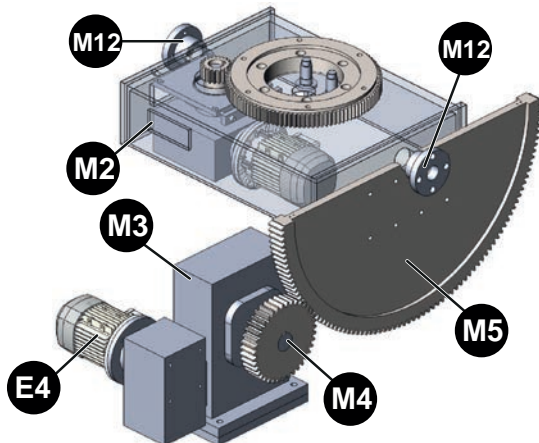
Posimatic PS03
Posimatic PS03 Plasma



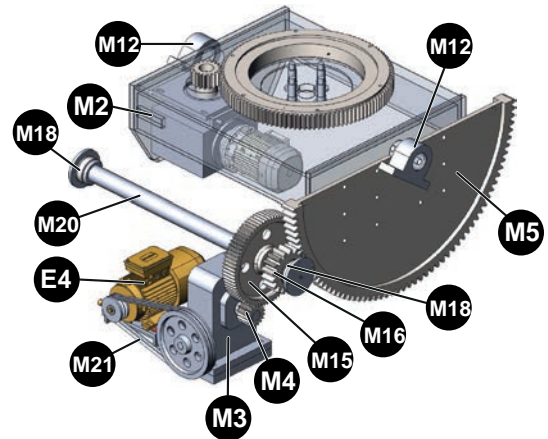
Posimatic PS08
Posimatic PS08 Plasma



Posimatic PS15
Posimatic PS15 Plasma



Posimatic PS30
Posimatic PS30 Plasma



E4	Motor	M15	Pinion (only in Posimatic PS30)
M2	Tilting frame	M16	Pinion (only in Posimatic PS30)
M3	Reduction drive	M18	Bearing (only in Posimatic PS30)
M4	Pinion	M20	Shaft (only in Posimatic PS30)
M5	Quadrant gear	M21	Belt (only in Posimatic PS30)
M12	Bearing housing		

5.5 Ground clamp

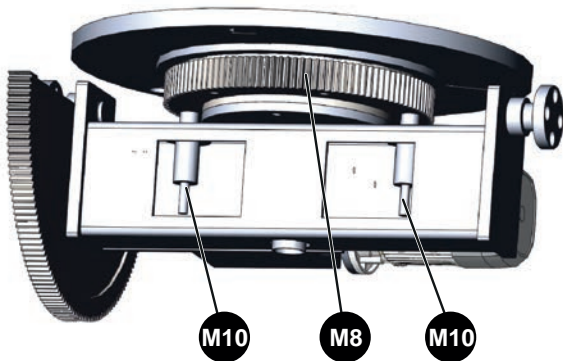
There are two ground clamps (**M10**) on **Posimatic PS03**, **PS08** and **PS15** (4 on **Posimatic PS30**).

On **Posimatic PS03**, they are made up of a conducting pad held against the ring (**M8**) by a spring. On **Posimatic PS08**, **PS15** and **PS30**, they are made up of a conducting pad held against the table (**M9**) by a spring.

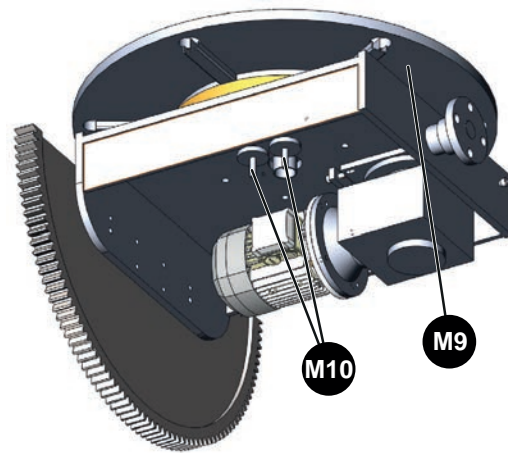
They are used for connecting the power source during welding applications. Their capacity (500 A at 100% • **PS03** and **PS08** and 1000 A at 100% • **PS15** and **PS30**) allows their use during most processes. However, they are not suitable for the submerged arc process, which requires greater capacity. In order to avoid the risk of overheating, it is crucial to make sure that the section of the cables used is suitable for the current carried and its duty factor.

These ground clamps must necessarily be connected during welding applications in order to avoid damaging the ball bearings of the positioner.

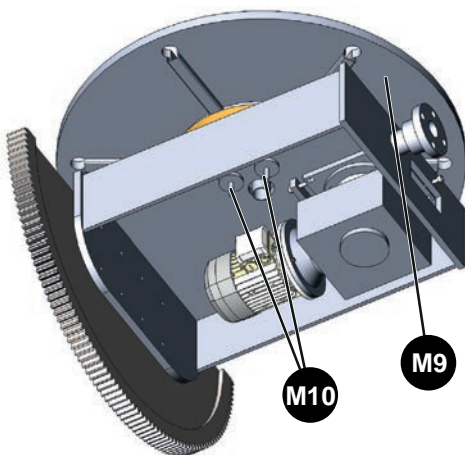
Posimatic PS03
Posimatic PS03 Plasma



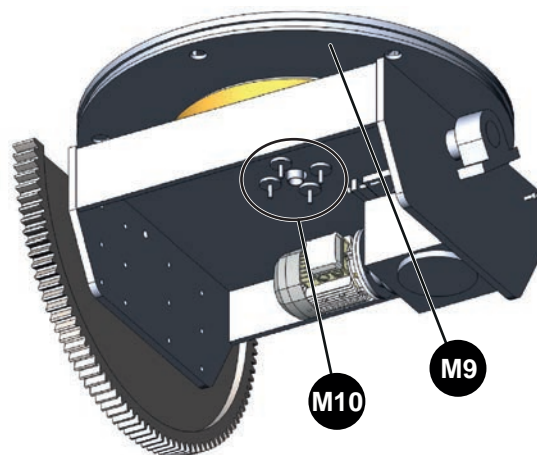
Posimatic PS08
Posimatic PS08 Plasma



Posimatic PS15
Posimatic PS15 Plasma



Posimatic PS30
Posimatic PS30 Plasma



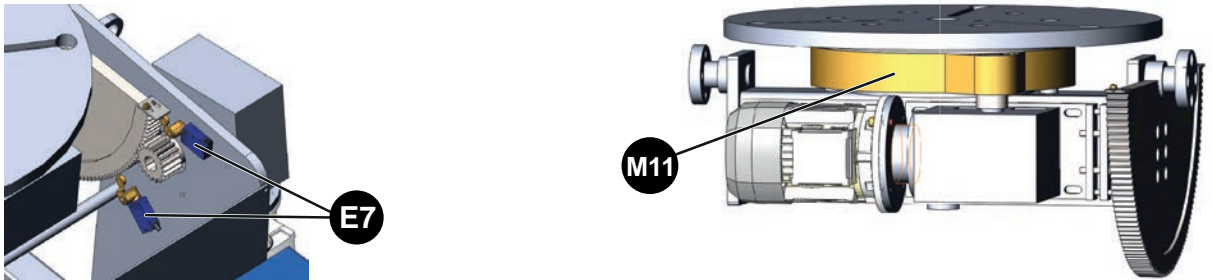
M8	Ring gear
M9	Rotating table
M10	Ground clamp

5.6 Safety components

Two limit switches (**E7**) shut off the power supply to the tilting motor when the mobile subassembly reaches the extreme positions (0° and 135°).

A guard casing (**M11**) makes it impossible to reach the teeth of the ring (**M8**) and the pinion (**M7**).

Posimatic PS03 - Posimatic PS03 Plasma



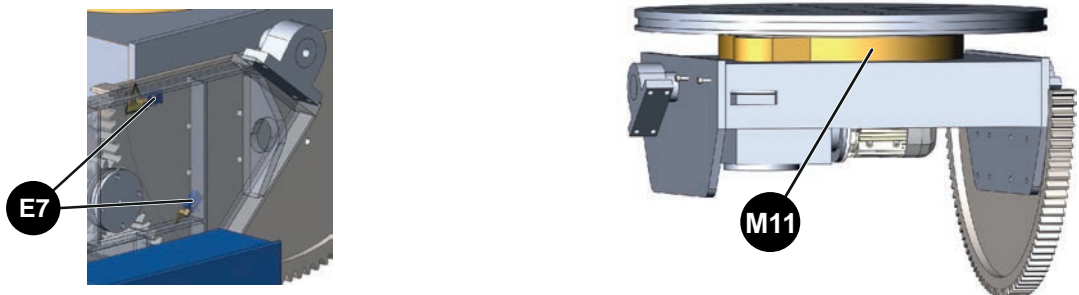
Posimatic PS08 - Posimatic PS08 Plasma



Posimatic PS15 - Posimatic PS15 Plasma



Posimatic PS30 - Posimatic PS30 Plasma



E7	Tilting limit switch
M11	Ring gear casing

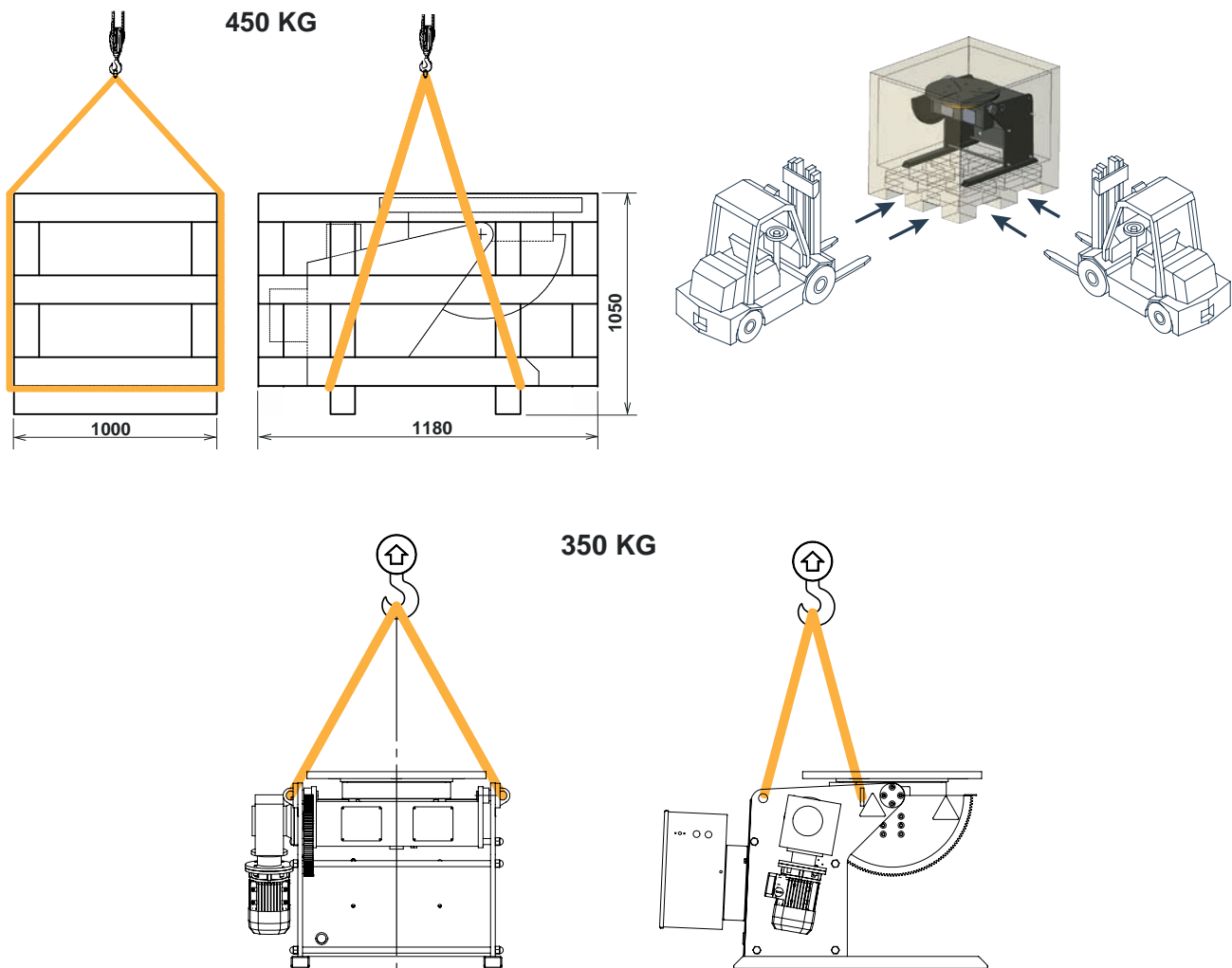
1- Handling Posimatic

- 1.Sling **Posimatic** in its wooden packaging in the manner indicated in the drawing
- 2.Unpack **Posimatic** from its delivery packaging.
- 3.Sling **Posimatic**, always using the opposite holes at each end.



You can use a lift truck to move the wooden packaging with its Posimatic.

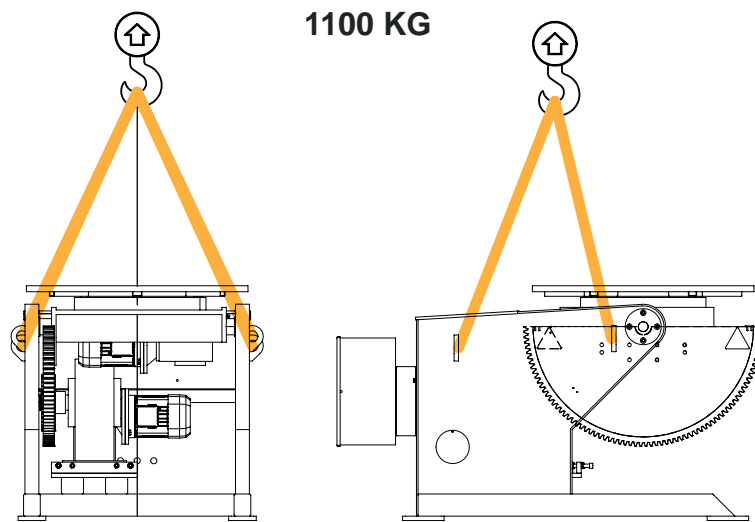
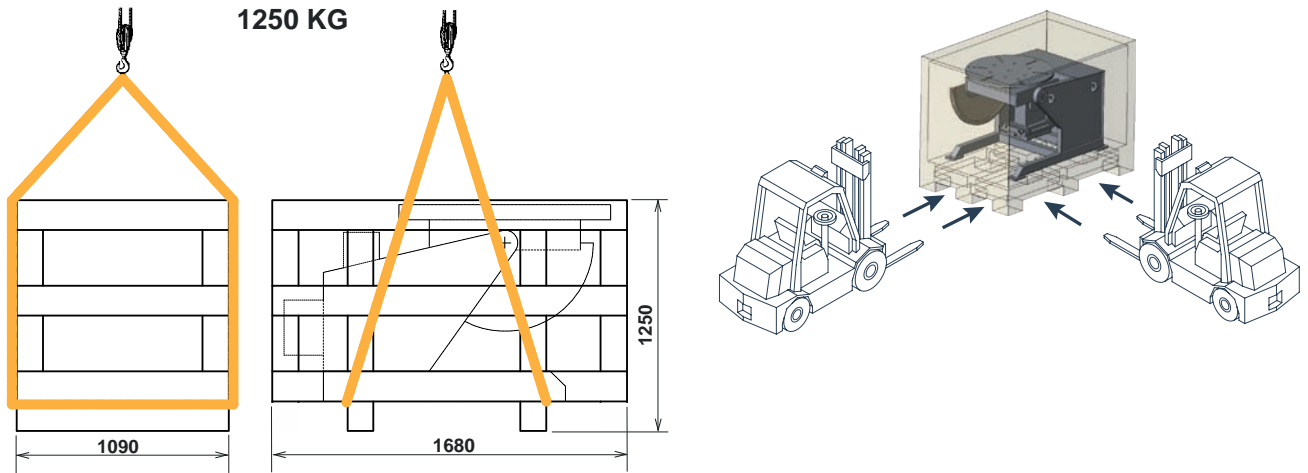
1.1 Posimatic PS03



During slinging/transport operations, the use of Personal Protective Equipment (PPE) is **MANDATORY**.



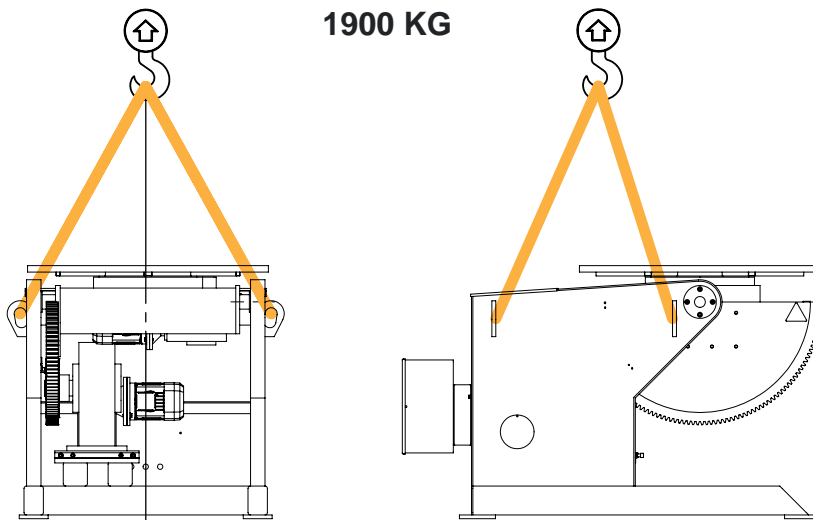
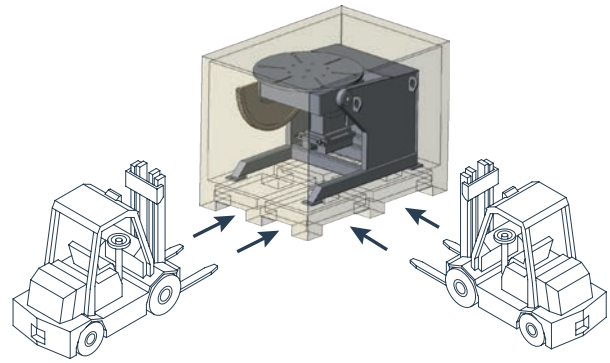
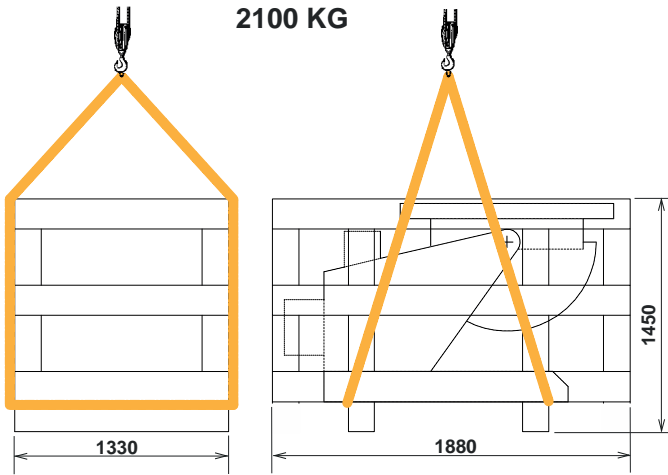
1.2 Posimatic PS08



During slinging/transport operations, the use of Personal Protective Equipment (PPE) is **MANDATORY**.



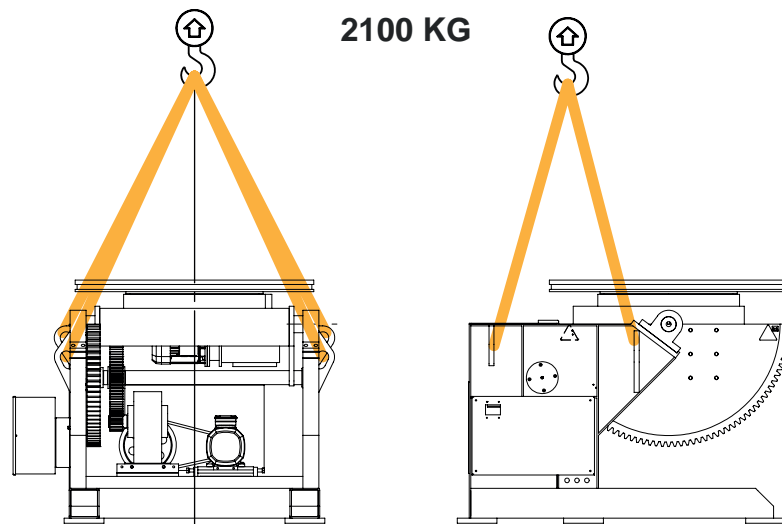
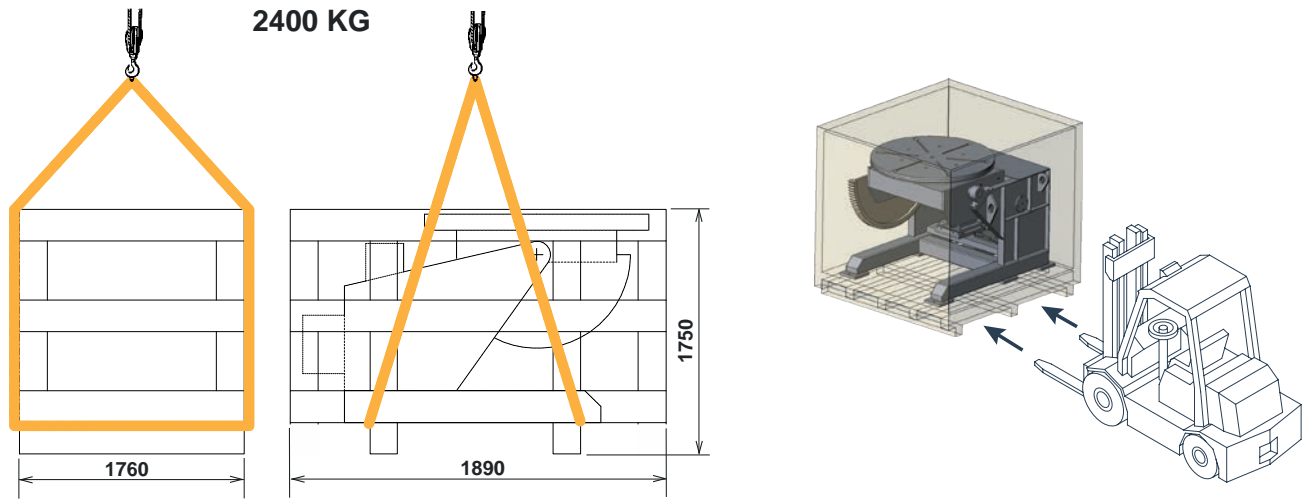
1.3 Posimatic PS15



During slinging/transport operations, the use of Personal Protective Equipment (PPE) is **MANDATORY**.



1.4 Posimatic PS30



During slinging/transport operations, the use of Personal Protective Equipment (PPE) is **MANDATORY**.



2 - Putting in place



The positioner must be placed on a flat and sufficiently strong floor. Wedge the supports if necessary.



The positioner with its load must move within a working area that is increased by an 800 mm safety area, regardless of its tilt angle and rotation position.



That area must be clear of any obstacles (walls, posts, tools etc.) that could come in the way of the movements of the positioner and its load, and the free movement of the operator.

3 - Fastening Posimatic

This machine must be anchored to the floor with four anchoring points in a 20 Mpa (350 kg/m³) single continuous concrete screed with metal reinforcement, completed since at least 21 days.

The anchors are not included in the supply from **Lincoln Electric**.

Equipment recommended for fastening Posimatic PS03

Make	Type of anchor	Part number	Drilling Ø (mm)	Permissible load (daN)
SPIT	Metal	050590 FIX 10/25	Ø 10	345 to 560
	Chemical	051510 MAXIMA CAPSULE, M10 050960 MAXIMA RODS, M10X130	Ø 12	700

Equipment recommended for fastening Posimatic PS08, PS15 and PS30

Make	Type of anchor	Item number	Drilling Ø (mm)	Permissible load (daN)
SPIT	Metal	FBR M 16 x 130	Ø 16	800
	Chemical	HAS M 16 x 190 + HBP 16	Ø 18	2120
FISCHER	Metal	FA 16 x 20 FB 16 x 25	Ø 16 Ø 16	1200 1200
	Chemical	RM 16 + RGM 16 x 190	Ø 18	3750
SPIT	Metal	050680 FIX 16/45	Ø 16	810 to 1270
	Chemical	M 16 - 5209 + SM 16 - 5224	Ø 18	2175

4 - Electrical connections

Posimatic is connected electrically to the system made using the 5-metre cable located at the rear of the supply cabinet.

The cable, which has 4 conductors, must be connected to a standardised 3 x 400 V/50-60Hz system with equipotential bonding (earth).

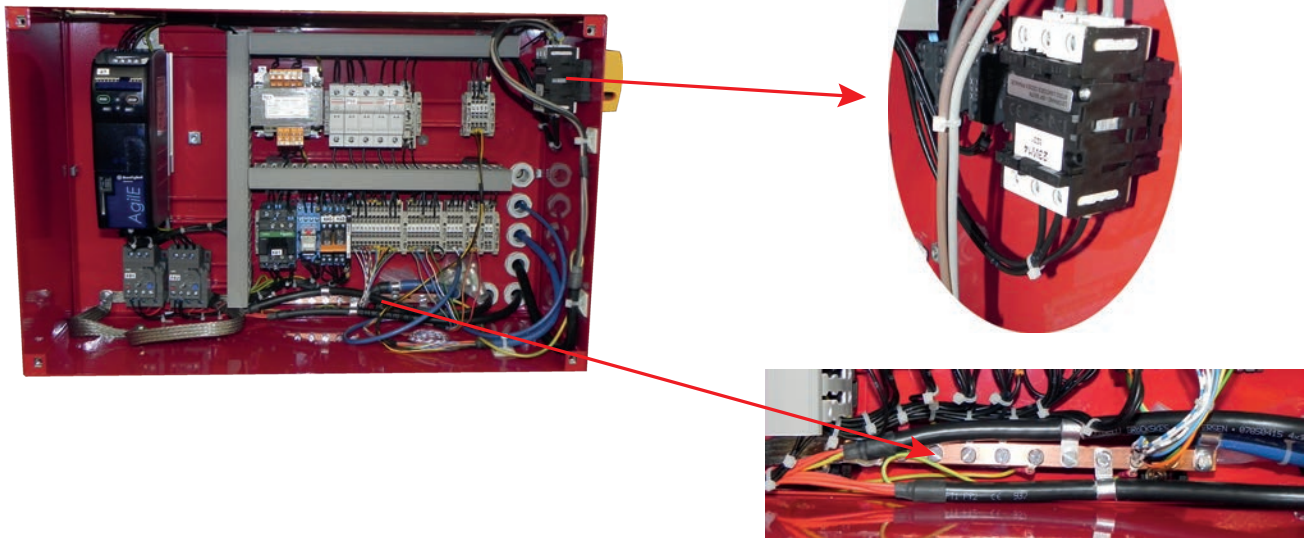


Please read the manually carefully before you start any work on the machine. Any maintenance operations may only be carried out by approved, specialised and qualified individuals. Behaviour that does not comply with the safety instructions stated here could lead to major hazards for personnel and damage to property and/or the surroundings.



IMPORTANT!

The phase direction is important for safe tilting.



VERY IMPORTANT:

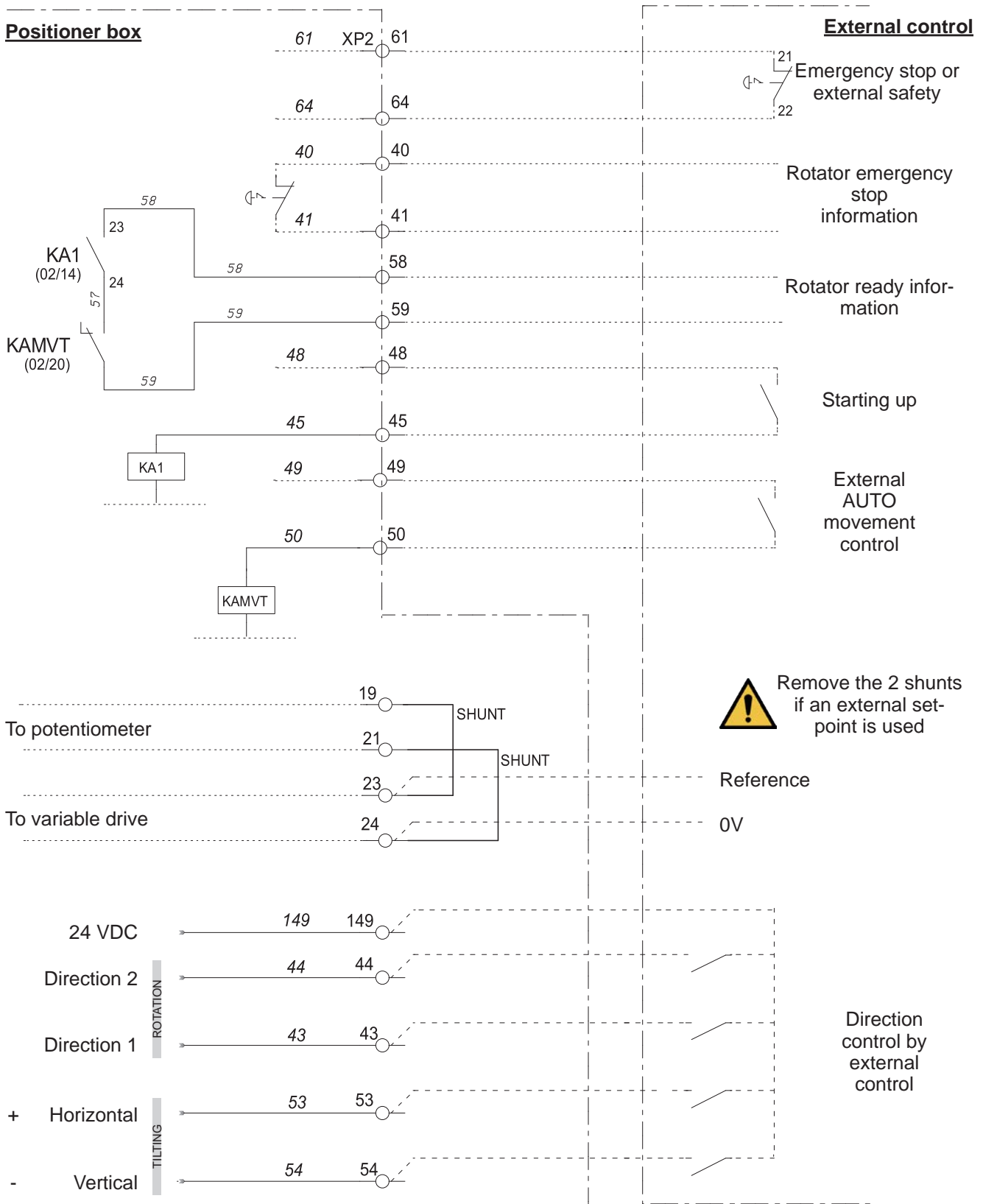
For compliance with European safety standards, the connection to the electricity supply is to be made via a wall-mounted cabinet with an individual protective sectioning switch with rating appropriate for the mains voltage and the consumption by the devices.

The protective disconnecter must offer breaking capacity of 100KA.

ARRANGEMENT OF CABLES AND FLEXIBLE HOSES

The customer must provide a means to support and protect cables and flexible hoses from mechanical, chemical or thermal damage, right from their point of origin.

4.1 External connection of optional equipment



5 - Installation

5.1 Inspections after transport

The positioner is delivered ready to operate.

However, before it is commissioned, a certain number of preliminary operations are required:

- Make sure that no visible component has been damaged in transport,
- Check the fastening of the main components that may have come loose during transport, particularly the tilting limit switches.
- Make sure that the electrical connections are correct.

5.2 Inspection of phase direction

- Make sure that the electrical connections are correct.
- Press the table tilt button **C5**.



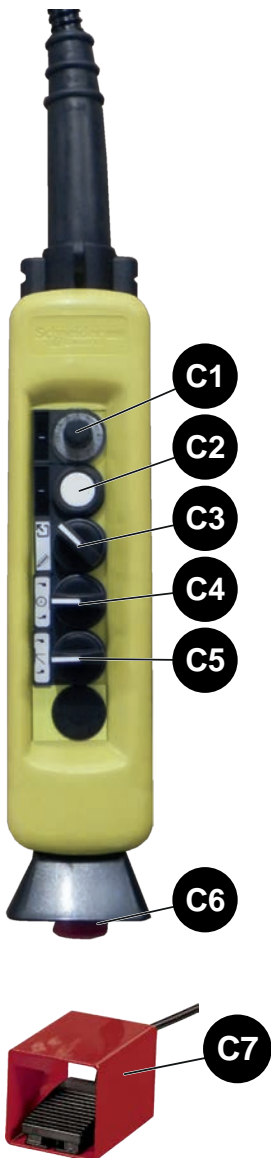
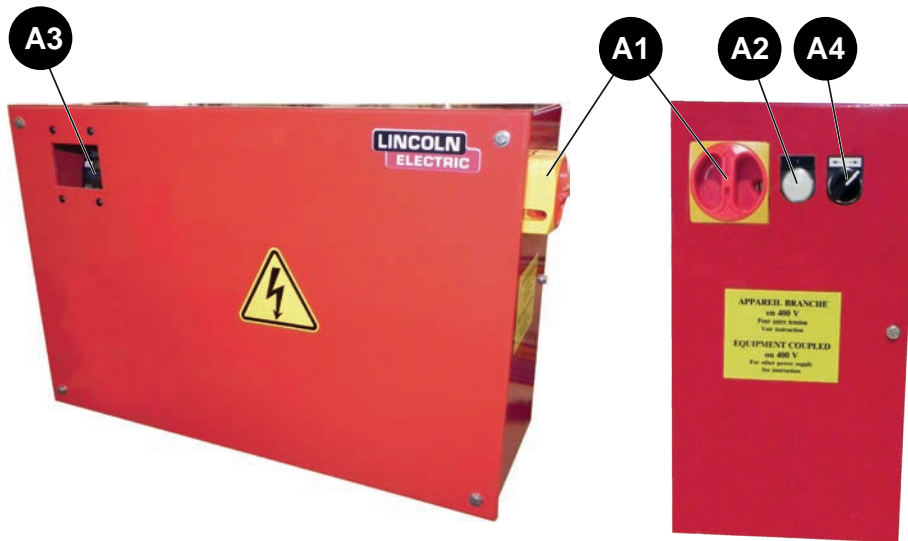
- The tilting direction is as expected ☞ phases correctly connected
- The tilting direction is opposite that expected ☞ reverse two phases of the connection to the main supply

If the positioner passes these checks, it is ready to be put into service.



Repeat these checks every time you move the positioner.

1 - Control button on cabinet



Reference	Description
A1	Main power up switch
A2	Power up indicator
A3	Variable drive speed display (in revolutions per minute: rpm)
A4	Rotation direction with automatic starting
C1	Rotation speed adjustment potentiometer
C2	Starting up pushbutton (variable drive)
C3	Local/external control location selection
C4	Switch with three fixed positions for rotation direction. The central position is the idle position.
C5	Switch with three fixed positions for rotation direction. The central position is the idle position.
C6	Emergency stop
C7	Table rotation control pedal

2 - Starting up Posimatic

2.1 Use in Local mode

1. Power up **Posimatic** by moving the disconnecter **Ref A1** to position **I**. The indicator **Ref A2** must go on. The variable drive must display "**Ready**".
2. If the variable drive displays "**Alarm**", check that the emergency stop **Ref C6** is released.
3. Start up **Posimatic** by pressing **Ref C2**.
4. Select Local control. Selection is via **Ref C3**.

Rotation

5. Activate a rotation direction by selecting the following:
 - A position on the switch **Ref A4** ◀ Continuous rotation.
Put it back into the **O** position to stop it.
 - Press the pedal with your foot, and release the pedal to stop rotation.
The rotation direction is selected with **Ref A4**.



Caution! This will put **Posimatic** into rotation.

6. If needed, change the rotation speed with potentiometer **Ref C1**.

Tilting

7. Activate tilting by selecting a position on the switch **Ref C5**.

2.2 Use in External mode

1. Power up **Posimatic** by moving the disconnecter **Ref A1** to position **I**. The indicator **Ref A2** must go on. The variable drive must display "**Ready**".
2. If the variable drive displays "**Alarm**", check that the emergency stop line is released.
3. Start up **Posimatic** by pressing **Ref C2** or with the external control.
4. Select External control. Selection is via **Ref C3**.
5. Select the rotation direction with **Ref A4** or the external control.
6. Activate the external automatic movement control.
7. If needed, change the rotation speed with
 - the potentiometer **Ref C1** or
 - the external control.

Tilting

8. Activate a tilting direction with the external control.

3 - Shutting down Posimatic

1. Use the emergency stop **Ref C6**.
2. Power down **Posimatic** by moving the disconnecter **Ref A1** to position **0**. The indicator **Ref A2** must go off.

1 - Care

For a long and trouble-free life, the machine requires a minimum level of care and maintenance.

The frequency of such maintenance is indicated for production in one work shift per day, or maximum 8 hours of daily running for each movement axis. For higher production rates, increase the maintenance frequencies accordingly.

Your maintenance department could photocopy these pages to track maintenance frequencies and times and the operations completed (tick the appropriate box).



Before working on the machine, it is **MANDATORY** to lock out all the supplies of utilities to the machine (electricity, air, gas etc.).
Locking an emergency stop button is not sufficient.



Lubrication:

The reduction drives on **Posimatic** are lubricated with oil. They have level sight glasses, filling plugs and draining plugs.
These reduction drives can operate at ambient temperatures from 0 °C to +40 °C.
The bearing of the slewing ring is lubricated with grease.
The external teeth are lubricated with grease.



Inspection and safety:

All the instructions in this manual must be followed closely, particularly those relating to the limits of use.
Further, the main parts of the equipment, particularly the teeth of pinions and rings, wearing of wheel and worm gears, power cables of motors and remote control, fan ventilation etc. must be inspected from time to time.
If the equipment has not been in use for a long period, run all the periodic inspections before putting it back into service.

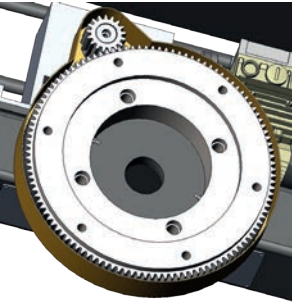
1.1 Maintenance schedule

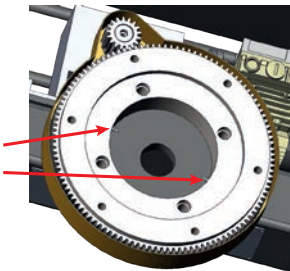


This schedule must **absolutely** be followed.
We recommend putting in place a traced system for tracking all your maintenance operations.

Initial maintenance

Sub-assembly	Component	Type of inspection	Action	Time			Step
				1 month or 80 hours	300 hours	500 hours	
Rotation	Teeth	-	Lubrication	X			A
	Bearing	-	Lubrication	X			B
Tilting	Bearing	-	Lubrication	X			C
Rotation	Reduction drive	Visual	Lubrication			X	D
Tilting	Reduction drive	Visual	Lubrication		X PS08 PS15 PS30	X PS03	E

Step	Operation	OK	NOK
A	<u>Rotation - Teeth</u>	✓	✗
	<ul style="list-style-type: none"> Remove the table Clean the teeth, especially the bottom of the teeth Lubricate the teeth using a brush (Unil Opal EPR2 grease) 		

Step	Operation	OK	NOK
B	<u>Rotation - Bearing</u>	✓	✗
	<ul style="list-style-type: none"> With the table removed, lubricate the bearing using the accessible lubricators (Unil Opal EPR2 grease) 		


Step	Operation	OK	NOK
C	<u>Tilting - Bearing</u>	✓	✗
	<ul style="list-style-type: none"> Lubricate the bearings using the lubricators (Unil Opal EPR2 grease) 		

Step	Operation	OK	NOK																				
D	<u>Rotation - Reduction drive</u>	✓	✗																				
	<ul style="list-style-type: none"> Drain the reduction drive. <table border="1" data-bbox="309 1420 1310 1664"> <thead> <tr> <th></th> <th>PS03</th> <th>PS08</th> <th>PS15</th> <th>PS30</th> </tr> </thead> <tbody> <tr> <td>Time (hours)</td> <td>500</td> <td>500</td> <td>500</td> <td>500</td> </tr> <tr> <td>Type of oil</td> <td>Type 1</td> <td>Type 1</td> <td>Type 1</td> <td>Type 1</td> </tr> <tr> <td>Volume (l)</td> <td>1</td> <td>1.55</td> <td>3.2</td> <td>6.5</td> </tr> </tbody> </table> <p>Type 1: L-CKC/220 or equivalent oil</p>		PS03	PS08	PS15	PS30	Time (hours)	500	500	500	500	Type of oil	Type 1	Type 1	Type 1	Type 1	Volume (l)	1	1.55	3.2	6.5		
	PS03	PS08	PS15	PS30																			
Time (hours)	500	500	500	500																			
Type of oil	Type 1	Type 1	Type 1	Type 1																			
Volume (l)	1	1.55	3.2	6.5																			

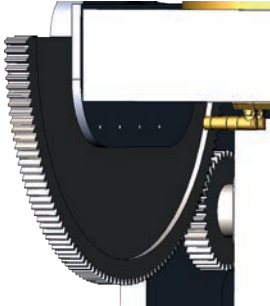
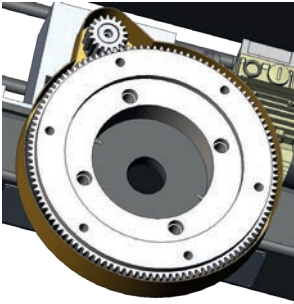
Step	Operation	OK	NOK																				
E	<i>Tilting - Reduction drive</i>	✓	✗																				
	<ul style="list-style-type: none"> Drain the reduction drive <table border="1"> <thead> <tr> <th></th> <th>PS03</th> <th>PS08</th> <th>PS15</th> <th>PS30</th> </tr> </thead> <tbody> <tr> <td>Time (hours)</td> <td>500</td> <td>300</td> <td>300</td> <td>300</td> </tr> <tr> <td>Type of oil</td> <td>Type 1</td> <td>Type 2</td> <td>Type 2</td> <td>Type 2</td> </tr> <tr> <td>Volume (l)</td> <td>1</td> <td>Up to the centre of the level sight glass</td> <td>Up to the centre of the level sight glass</td> <td>Up to the centre of the level sight glass</td> </tr> </tbody> </table> <p>Type 1: L-CKC/220 or equivalent oil Type 2: N320 or equivalent oil</p>		PS03	PS08	PS15	PS30	Time (hours)	500	300	300	300	Type of oil	Type 1	Type 2	Type 2	Type 2	Volume (l)	1	Up to the centre of the level sight glass	Up to the centre of the level sight glass	Up to the centre of the level sight glass		
	PS03	PS08	PS15	PS30																			
Time (hours)	500	300	300	300																			
Type of oil	Type 1	Type 2	Type 2	Type 2																			
Volume (l)	1	Up to the centre of the level sight glass	Up to the centre of the level sight glass	Up to the centre of the level sight glass																			

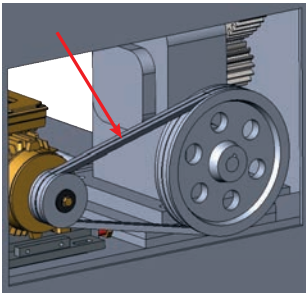
Periodic inspections and maintenance

Sub-assembly	Component	Type of inspection	Action	Frequency				Time		Step
				Weekly	Twice-monthly	Half-yearly	6 months	2000 hours	3000 hours	
Rotation	Table	Visual	-	X						F
Rotation	Ground clamp	Visual	-	X						G
Rotation Tilting	Teeth	-	Lubrication		X					H
Tilting	Belt				X					I
Rotation	Reduction drive	Visual	Lubrication					X		J
Tilting	Reduction drive	Visual	Lubrication					X	X PS08 PS15 PS30	K
Rotation	Teeth	Visual	-			X				L
	Teeth	-	Lubrication			X				M
	Bearing	-	Lubrication			X				N
Tilting	Teeth	Visual	-			X				O
	Ring	Visual	-			X				P
	Bearing	-	Lubrication			X				Q
	Belt	Visual	-			X				R
	Brake	Visual	-			X				S
Rotation Tilting	Limit switch	Visual					X			T

Step	Operation	OK	NOK
F	<u>Table</u>	✓	✗
	<p>Check that the screws fastening the table to the ring are locked.</p> <div style="border: 1px solid red; padding: 5px;">  <p>If anything is wrong (screws loose), users are strongly advised to remove the whole table and also check that the screws that hold the ring to the box are locked.</p> </div>		

Step	Operation	OK	NOK
G	<u>Ground clamp</u>	✓	✗
	Blow on and check the condition of the surfaces in contact.		

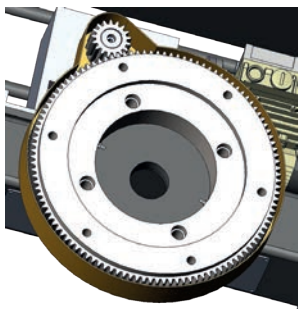
Step	Operation	OK	NOK
H	<u>Rotation and tilting - Teeth</u>	✓	✗
	<ul style="list-style-type: none"> Lubricate the teeth of the tilting quadrant gear (Unil Opal EPR2 grease)  <ul style="list-style-type: none"> Lubricate the teeth of the slewing ring (Unil Opal EPR2 grease) 		

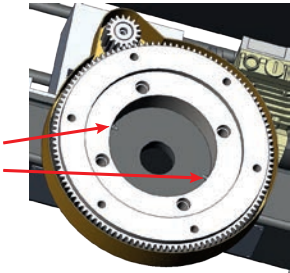
Step	Operation	OK	NOK
I	<u>Tilting - Belt (only on Posimatic PS30)</u>	✓	✗
	<ul style="list-style-type: none"> Check the tension 		

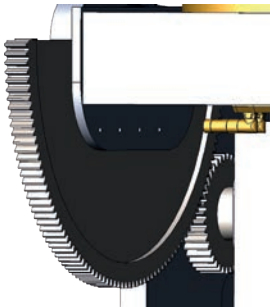
Step	Operation	OK	NOK																				
J	<u>Rotation - Reduction drive</u>	✓	✗																				
	<ul style="list-style-type: none"> Drain the reduction drive. <table border="1"> <thead> <tr> <th></th> <th>PS03</th> <th>PS08</th> <th>PS15</th> <th>PS30</th> </tr> </thead> <tbody> <tr> <td>Time (hours)</td> <td>2000</td> <td>2000</td> <td>2000</td> <td>2000</td> </tr> <tr> <td>Type of oil</td> <td>Type 1</td> <td>Type 1</td> <td>Type 1</td> <td>Type 1</td> </tr> <tr> <td>Volume (l)</td> <td>1</td> <td>1.55</td> <td>3.2</td> <td>6.5</td> </tr> </tbody> </table> <p>Type 1: L-CKC/220 or equivalent oil</p>		PS03	PS08	PS15	PS30	Time (hours)	2000	2000	2000	2000	Type of oil	Type 1	Type 1	Type 1	Type 1	Volume (l)	1	1.55	3.2	6.5		
	PS03	PS08	PS15	PS30																			
Time (hours)	2000	2000	2000	2000																			
Type of oil	Type 1	Type 1	Type 1	Type 1																			
Volume (l)	1	1.55	3.2	6.5																			

Step	Operation	OK	NOK																				
K	<u>Tilting - Reduction drive</u>	✓	✗																				
	<ul style="list-style-type: none"> Drain the reduction drive. <table border="1"> <thead> <tr> <th></th> <th>PS03</th> <th>PS08</th> <th>PS15</th> <th>PS30</th> </tr> </thead> <tbody> <tr> <td>Time (hours)</td> <td>2000</td> <td>3000</td> <td>3000</td> <td>3000</td> </tr> <tr> <td>Type of oil</td> <td>Type 1</td> <td>Type 2</td> <td>Type 2</td> <td>Type 2</td> </tr> <tr> <td>Volume (l)</td> <td>1</td> <td>Up to the centre of the level sight glass</td> <td>Up to the centre of the level sight glass</td> <td>Up to the centre of the level sight glass</td> </tr> </tbody> </table> <p>Type 1: L-CKC/220 or equivalent oil Type 2: N320 or equivalent oil</p>		PS03	PS08	PS15	PS30	Time (hours)	2000	3000	3000	3000	Type of oil	Type 1	Type 2	Type 2	Type 2	Volume (l)	1	Up to the centre of the level sight glass	Up to the centre of the level sight glass	Up to the centre of the level sight glass		
	PS03	PS08	PS15	PS30																			
Time (hours)	2000	3000	3000	3000																			
Type of oil	Type 1	Type 2	Type 2	Type 2																			
Volume (l)	1	Up to the centre of the level sight glass	Up to the centre of the level sight glass	Up to the centre of the level sight glass																			

Step	Operation	OK	NOK
L	<u>Rotation - Teeth</u>	✓	✗
	<ul style="list-style-type: none"> Check the condition of the teeth of the slewing ring and its drive pinion. 		

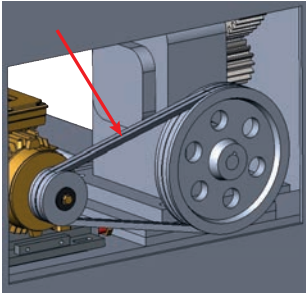
Step	Operation	OK	NOK
M	<u>Rotation - Teeth</u>	✓	✗
	<ul style="list-style-type: none"> Remove the table Clean the teeth, especially the bottom of the teeth Lubricate the teeth using a brush (Unil Opal EPR2 grease) 		

Step	Operation	OK	NOK
N	<u>Rotation - Bearing</u>	✓	✗
	<ul style="list-style-type: none"> With the table removed, lubricate the bearing using the accessible lubricators (Unil Opal EPR2 grease) 		

Step	Operation	OK	NOK
O	<u>Tilting - Teeth</u>	✓	✗
	<ul style="list-style-type: none"> Check the condition of the teeth of the quadrant gear and its drive pinion 		

Step	Operation	OK	NOK
P	<u>Tilting - Pivot rings</u>	✓	✗
	<ul style="list-style-type: none"> Check wear and tear 		

Step	Operation	OK	NOK
Q	<u>Tilting - Bearing</u>	✓	✗
	<ul style="list-style-type: none"> Lubricate the bearings using the lubricators (Unil Opal EPR2 grease) 		

Step	Operation	OK	NOK
R	<u>Tilting - Belt (only on Posimatic PS30)</u>	✓	✗
	<ul style="list-style-type: none"> Check the tension 		

Step	Operation	OK	NOK																																																									
S	<u>Tilting - Brake (only on Posimatic PS30)</u>	✓	✗																																																									
	<ul style="list-style-type: none"> Inspect the setting of the gap and the state of wear of the linings (see procedure). Replacement of the linings before the minimum thickness limit is exceeded (1.5 mm) <p>Procedure for adjusting the brake of the tilting motor</p> <ul style="list-style-type: none"> Loosen the nuts 2. Adjust the gap T with the screw 1 or the nuts 3 to the minimum value indicated in the table. Once the adjustment is complete, hold the screws 1 in place and lock the nuts 2. <div style="text-align: center;"> </div> <table border="1" style="width: 100%; text-align: center; border-collapse: collapse;"> <thead> <tr> <th colspan="9">TIPO DI FRENO / BRAKE TYPE / BREMSTYP / TYPE DE FREIN / TIPO DE FRENO</th> </tr> <tr> <th>FD</th> <th>FD 02</th> <th>FD 03 FD 53</th> <th>FD 04 FD 14</th> <th>FD 05 FD 15 FD 55</th> <th>FD 06S</th> <th>FD 06 FD 56</th> <th>FD 07</th> <th>FD 08 FD 09</th> </tr> <tr> <th>FA</th> <th>FA 02</th> <th>FA 03</th> <th>FA 04 FA 14</th> <th>FA 05 FA 15</th> <th>FA 06S</th> <th>FA 06</th> <th>FA 07</th> <th>FA 08</th> </tr> </thead> <tbody> <tr> <td>T</td> <td>Min</td> <td>0.2</td> <td>0.2</td> <td>0.3</td> <td>0.3</td> <td>0.4</td> <td>0.4</td> <td>0.4</td> <td>0.5</td> </tr> <tr> <td></td> <td>Max</td> <td>0.4</td> <td>0.4</td> <td>0.45</td> <td>0.45</td> <td>0.55</td> <td>0.55</td> <td>0.7</td> <td>0.8</td> </tr> <tr> <td>X</td> <td>≥</td> <td>0.6</td> <td>0.8</td> <td>1.0</td> <td>1.0</td> <td>1.2</td> <td>1.2</td> <td>1.2</td> <td>1.2</td> </tr> </tbody> </table> <div style="border: 1px solid red; padding: 5px; margin-top: 10px;"> <p>CAUTION! The value of the gap must be verified from time to time. It must be located between minimum and maximum values stated in the table. If the gap values are greater than the maximum value, the brake becomes noisier and releasing it may become impossible. In the presence of the releasing lever, an excessive increase in the gap could cancel the breaking torque, because of the take-up of the clearance of the rods of the releasing lever.</p> </div> <div style="border: 1px solid red; padding: 5px; margin-top: 10px;"> <p>CAUTION! The distance X must necessarily be greater than or equal to the value indicated in the table. The thickness of the disc brake lining must be greater than 1.5mm.</p> </div>	TIPO DI FRENO / BRAKE TYPE / BREMSTYP / TYPE DE FREIN / TIPO DE FRENO									FD	FD 02	FD 03 FD 53	FD 04 FD 14	FD 05 FD 15 FD 55	FD 06S	FD 06 FD 56	FD 07	FD 08 FD 09	FA	FA 02	FA 03	FA 04 FA 14	FA 05 FA 15	FA 06S	FA 06	FA 07	FA 08	T	Min	0.2	0.2	0.3	0.3	0.4	0.4	0.4	0.5		Max	0.4	0.4	0.45	0.45	0.55	0.55	0.7	0.8	X	≥	0.6	0.8	1.0	1.0	1.2	1.2	1.2	1.2		
TIPO DI FRENO / BRAKE TYPE / BREMSTYP / TYPE DE FREIN / TIPO DE FRENO																																																												
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T	Min	0.2	0.2	0.3	0.3	0.4	0.4	0.4	0.5																																																			
	Max	0.4	0.4	0.45	0.45	0.55	0.55	0.7	0.8																																																			
X	≥	0.6	0.8	1.0	1.0	1.2	1.2	1.2	1.2																																																			

Step	Operation	OK	NOK
T	<u>Limit switch</u>	✓	✗
	<ul style="list-style-type: none"> Check the condition and working of the limit switches. 		

2 - Troubleshooting

Possible symptom	Probable causes	Possible remedies			
Starting up not possible	Emergency stop engaged	Unlock the button			
	Rotation direction button active	set the pushbutton to the central O position			
The Posimatic indicator goes off after the power is switched on with the switch QS1.	The indicator bulb has blown	Replace the bulb			
	Fuses FU1 or FU3 have blown	Replace the blown fuses on the basis of the fuse rating table.			
The table will not rotate after it is started up.	No rotation direction has been selected.	Select a rotation direction using the switch ↑ ↓			
		With automatic control, the connection is not made between terminals 149 and 44 (right-hand rotation) or 149 and 43 (left-hand rotation) to control the operating direction. Make the connection with a shunt or external contact; see electrical connections.			
	When using an external ± 10V setpoint, check the presence of voltage between terminals 23 and 24 (0V → no rotation).				
	The motor is not powered	Check and replace the fuses FU2 if needed.			
	Over-intensity leading to: - a variable drive fault, F0102 or F0103	Check that you have followed the values in the tables of your Posimatic .			
Check that the load has not increased suddenly.					
Check that the terminals U, V and W of the variable drive are not shorted.					
Check that the motor cable is not shorted and that the motor is correctly coupled.					
Tilting is not working	No tilting direction has been selected.	Select a tilting direction using the switch ↑ ↓			
		Check that the tilting movement has not reached a limit stop in the selected direction			
		With automatic control, the connection is not made between terminals 149 and 54 (vertical tilting) or 149 and 53 (horizontal tilting) to control the operating direction. Make the connection with a shunt or external contact; see electrical connections.			
	The motor is not powered	Check if the thermal-magnetic relay Q3 has tripped.			
		Then check that the thermal-magnetic relay is correctly adjusted according to the table below:			
	type:	03	08	15	30

		value (A)	1.05	1.85	2.66	5.20
Tilting runs for a short time and then stops.	Over-intensity leading to: - a thermal relay fault	Check the condition and adjustment of the thermal relays according to the table above.				
		Check that you have followed the values in the tables of your positioner				
		Check that the load has not increased suddenly.				
		Check that the motor cable is not shorted and that the motor is correctly coupled.				
The tilting direction is inverted	The phases are reversed	Change over two power wires to reverse the phase direction				

2.1 Definitions of errors displayed on the variable drive

Number	Description
F0102,F0103	Variable drive overload. Check the load behaviour. Check the motor parameter adjustments.
F0200...F0300	Temperature too high. Check cooling, flap, sensor and ambient temperature. Temperature low. Check the ambient temperature and the heating of the electrical cabinet.
F0400, F0403	Motor temperature too high or sensor faulty. Check the connection to X12.4. Phase fault. Check the motor and the wiring
F0500...F0507	Overload, short circuit or dispersion in the ground, motor current or phase fault. Check the load behaviour and the gradients (P420...P423). Check the motor and the wiring.
F0700...F0706	DC bus too high or too low. Check the deceleration gradients (P421, P423) and the connected braking resistor. Check the network voltage. Check the network voltage, the fuses and the network circuit.
F0801,F0804	Electrical voltage (24V) too high or too low. Check the wiring of the control terminals
F1100...F1110	Maximum frequency reached. Check the control signals and adjustments. Inspect the deceleration gradients (P421, P423) and the connected braking resistor
F1310	Minimum output current. Check the motor and the wiring.
F1401	Signal of the reference value on the input X12.3 faulty, check the signal.
F1407	Over-intensity at input X12.3, check the signal.
F1408	Over-intensity at input X12.4, check the signal.
A0001...A0004	Variable drive overload. Check the load behaviour. Check the motor and application parameters.
A0008,A0010	Temperature too high. Check cooling, flap and ambient temperature.
A0080	Once the maximum motor temperature is reached, check the motor and sensor.
A0100	Network phase failure, check the main fuses and the power cable
A0400	Once the frequency limit is reached; output frequency limited.
A0800	Input signal at X12.3 too low. Increase the value
A1000	Input signal at X12.4 too low. Increase the value
A4000	The voltage of the DC bus has reached the minimum value

2.2 Posimatic fuse ratings

	Standard Posimatic		
	FU1 5x20	FU2 10x38	FU3 5x20
Posimatic PS03	1 A FsT	6 A aM	6 A FsF
Posimatic PS08	1 A FsT	6 A aM	6 A FsF
Posimatic PS15	1 A FsT	6 A aM	6 A FsF
Posimatic PS30	1 A FsT	6 A aM	6 A FsF

3 - Spare parts

Ordering procedure:

Almost all the parts of a machine or installation are referenced in the photographs and sketches.

The descriptive tables contain three types of item:

- items normally held in stock: ✓
- items not held in stock: ✗
- articles upon request: no reference

(For such parts, please complete the list of parts page and send us a copy. In the Order column, state the number of parts required and indicate the type and number of your equipment.)


For items referenced in the photographs or sketches but not included in the tables, please send us a copy of the relevant page and highlight the relevant reference.

Example:

Ref	Part no	Stock	Order	Description
E1	W000XXXXXX	✓		Machine interface board
G2	W000XXXXXX	✗		Flow meter
A3	P9357XXXX			Printed front plates

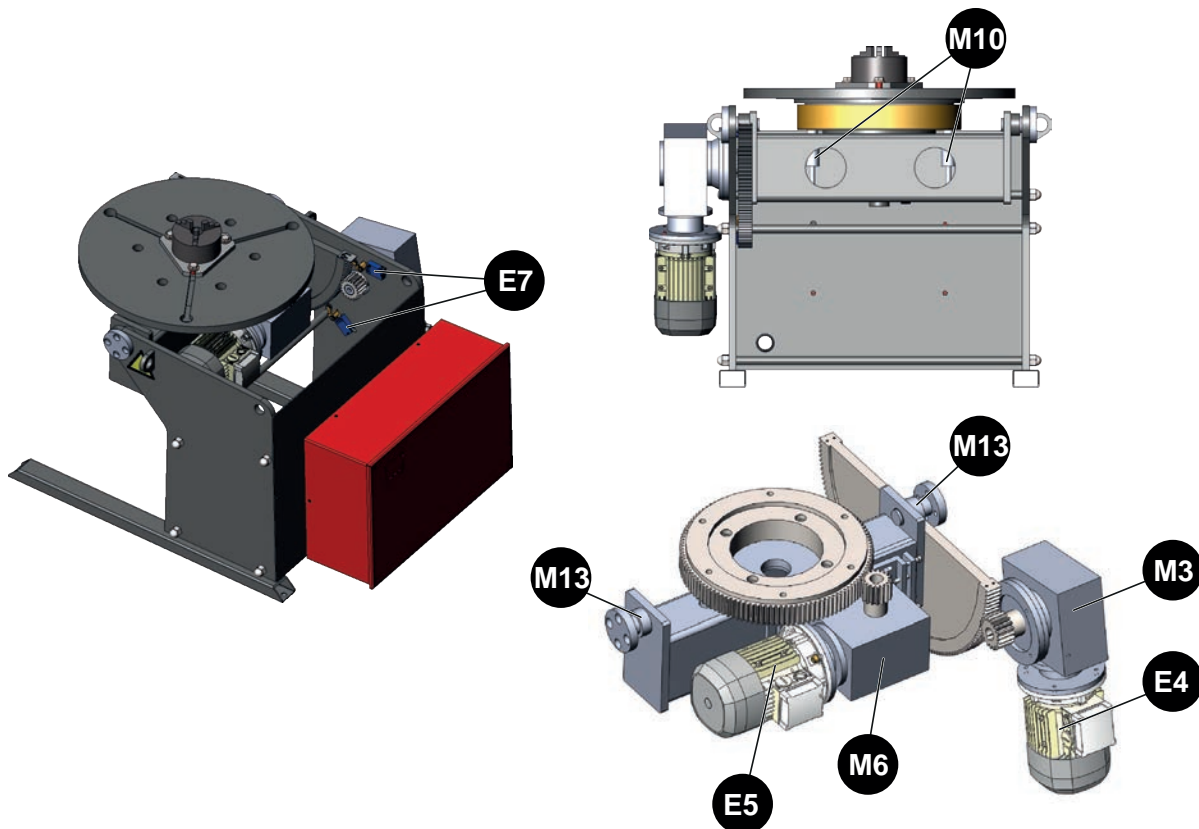
✓	normally held in stock.
✗	not in stock
	upon request.

- While ordering parts, please indicate the quantity and note the number of your machine in the box above.

 Type <input type="text"/> Matricule <input type="text"/>	TYPE:
	Number:

3.1 Mechanical components

Posimatic PS03 & Posimatic PS03 Plasma



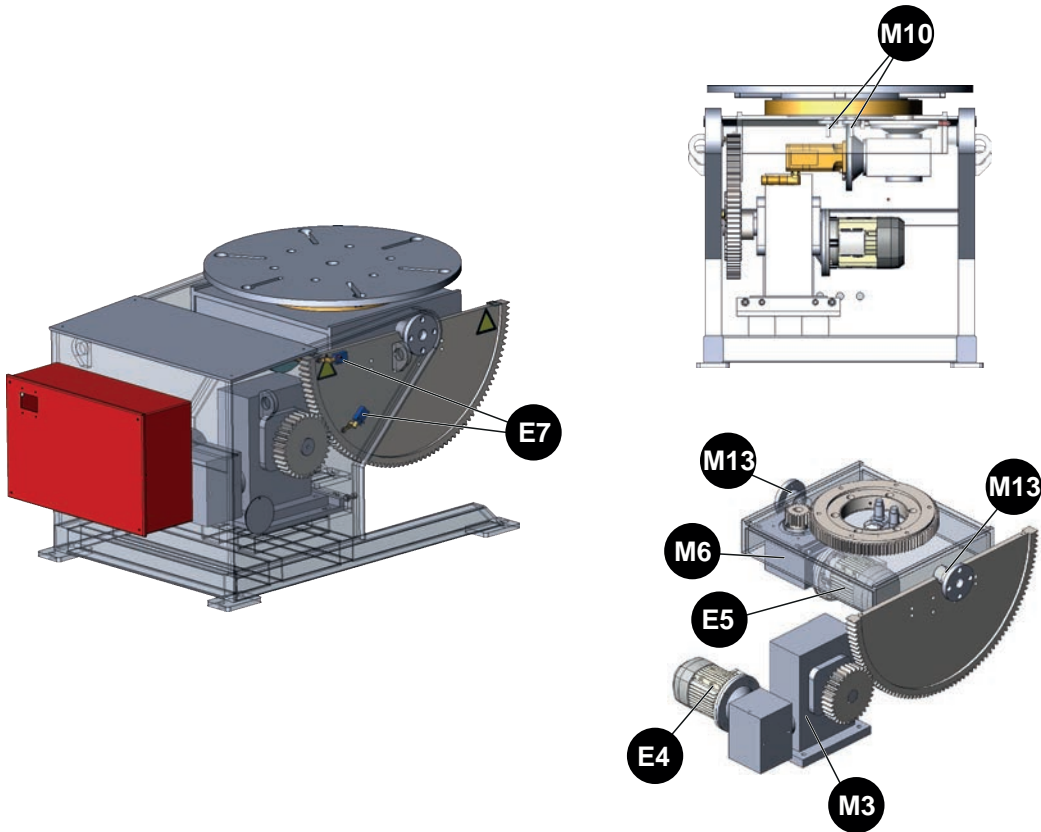
✓	normally held in stock.
✗	not in stock upon request.

Ref	Part no PS03	Part no PS03 Plasma	Stock	Order	Description
E5	W000386978		✓		Motor
		PC5700274			Motor
		PC5700277			Adapter flange
M6	W000386952		✓		Reduction drive
M10	W000386963		✓		Complete ground clamp
E4	W000386978		✓		Motor
M3	W000386953		✓		Reduction drive
M13	W000386970		✓		Ring
E7	W000386987		✓		Sensor

• While ordering parts, please indicate the quantity and note the number of your machine in the box above.

	TYPE:
	Number:

Posimatic PS08 & Posimatic PS08 Plasma



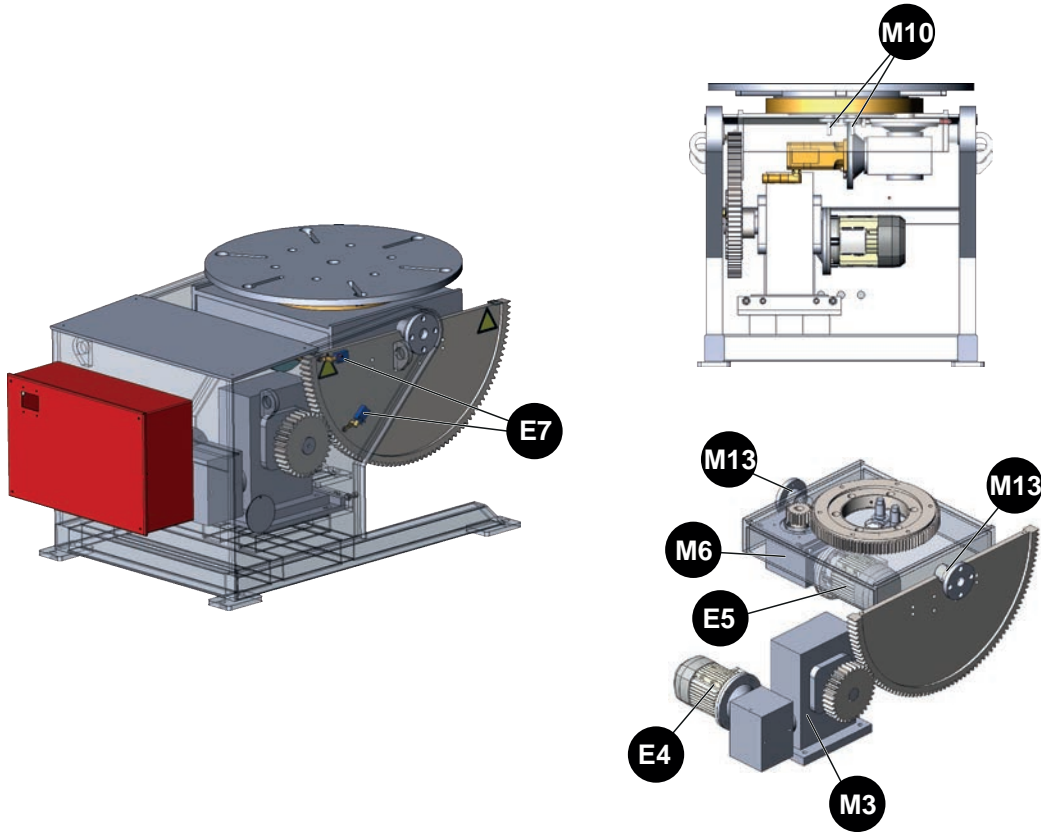
✓	normally held in stock.
✗	not in stock upon request.

Ref	Part no PS08	Part no PS08 Plasma	Stock	Order	Description
E5	W000386979		✓		Motor
		PC5700275			Motor
		PC5700278			Adapter flange
M6	W000386954		✓		Reduction drive
M10	W000386964		✓		Complete ground clamp
E4	W000386979		✓		Motor
M3	W000386955		✓		Reduction drive
M13	W000386971		✓		Ring
E7	W000386987		✓		Sensor

- While ordering parts, please indicate the quantity and note the number of your machine in the box above.

Type <input style="width: 80%;" type="text"/> Matricule <input style="width: 80%;" type="text"/>	TYPE: <input style="width: 60%;" type="text"/> Number: <input style="width: 60%;" type="text"/>
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Posimatic PS15 & Posimatic PS15 Plasma



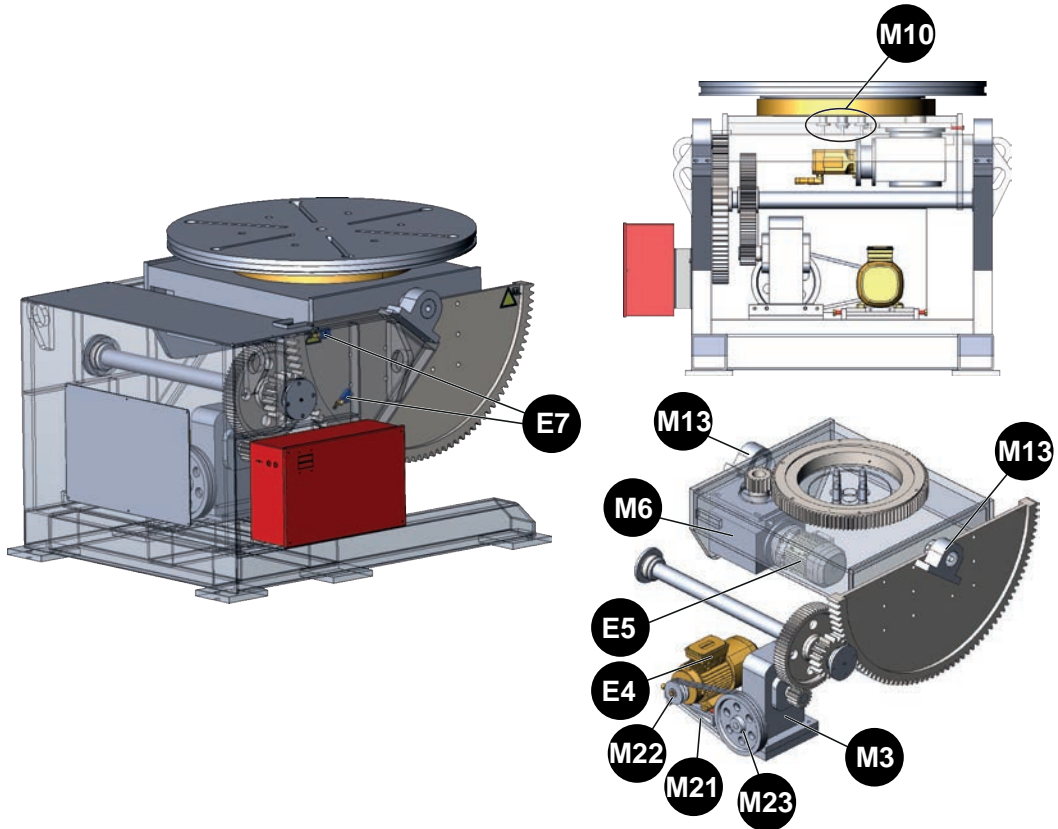
✓	normally held in stock.
✗	not in stock upon request.

Ref	Part no PS15	Part no PS15 Plasma	Stock	Order	Description
E5	W000386980		✓		Motor
		PC5700291			Motor
		PC5700278			Adapter flange
M6	W000386956		✓		Reduction drive
M10	W000386966		✓		Complete ground clamp
E4	W000386980		✓		Motor
M3	W000386957		✓		Reduction drive
M13	W000386972		✓		Ring
E7	W000386987		✓	↑	Sensor

- While ordering parts, please indicate the quantity and note the number of your machine in the box above.

	TYPE:
	Number:

Posimatic PS30 & Posimatic PS30 Plasma



✓	normally held in stock.
✗	not in stock upon request.

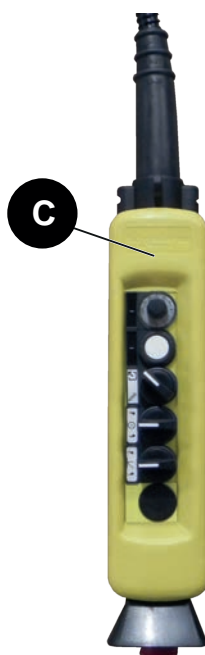
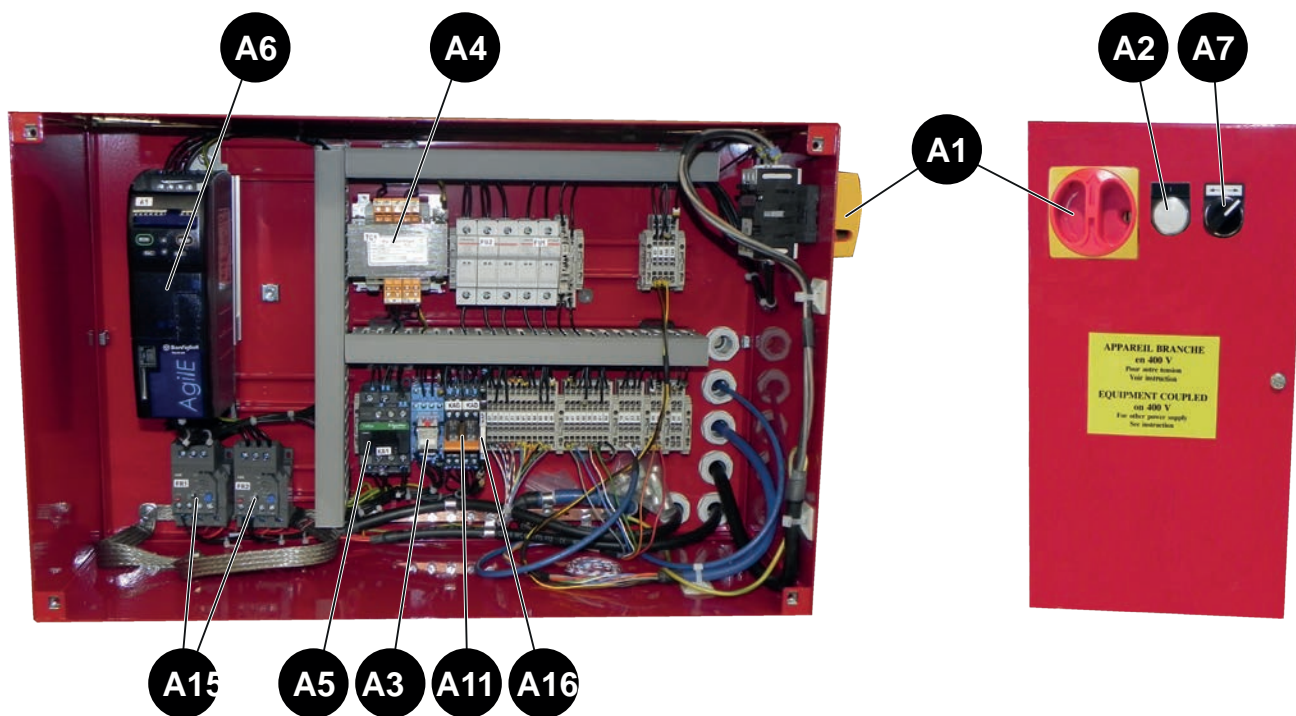
Ref	Part no PS30	Part no PS30 Plasma	Stock	Order	Description
E5	W000386982		✓		Motor
		PC5700276			Motor
		PC5700278			Adapter flange
M6	W000386958		✓		Reduction drive
M10	W000386969		✓		Complete ground clamp
E4	W000386981		✓		Motor
M3	W000386959		✓		Reduction drive
M13	W000386973		✓		Ring
M21	W000386975		✓		Belt
M22	W000386976		✓		Pulley
M23	W000386977		✓		Pulley
E7	W000386987		✓		Sensor

- While ordering parts, please indicate the quantity and note the number of your machine in the box above.

CE Type <input style="width: 100%;" type="text"/> Matricule <input style="width: 100%;" type="text"/>	→	TYPE: <input style="width: 95%;" type="text"/>
	→	Number: <input style="width: 95%;" type="text"/>

3.2 Electrical components


Basic cabinet (except plasma)



✓	normally held in stock.
✗	not in stock
	upon request.

Ref	Part no	Part no Plasma	Stock	Order	Description
A1	W000140748		✓		Main switch (Rexel: LEG022102)
A2	AS-PS-C5704157		✓		LED indicator (Schneider Electric France: XB4BVB1)
A3	P91093173				Four-contact relay (Neorel: MY4IN24VAC)
A4	PC5706078				63VA 220-380/2x24V transformer
A5	PC5701064				Auxiliary contactor KA1 (Schneider Electric France: CAD50B7)
A6	W000386983		✓		0.55KW Agile variable drive for PS03
	W000386984		✓		0.75KW Agile variable drive for PS08
	W000386985		✓		1.1KW Agile variable drive for PS15
	W000386986		✓		1.5KW Agile variable drive for PS30
		PC5700209			0.55KW ACU variable drive for PS03 Plasma
		PC5700205			0.75KW ACU variable drive for PS08 Plasma
		PC5700270			400V/1.1KW/3.2A ACU variable drive for PS15 and PS30 Plasma
		PC5700269			RES02 variable drive for PS03, PS08, PS15 and PS30 Plasma
A7	W000366020		✗		Selector head with 2 fixed positions (Schneider Electric France: ZB4BD2)
	W000366042		✗		Body (Schneider Electric France: ZB4BZ101)
	W000366044		✗		Contact (Schneider Electric France: ZBE102)
A11	P91093173				Relay 2 RT (Neorel: G2R2SNS24VAC)
A15	PC5705026				Thermal relay (Elec System: 1SAZ711201R1023)
A16	PC5701726				1RT relay (used with optional pedal) (Weidmuller: 1122890000)
C	AS-PS-95032133				Full control unit
	PC5602178				Potentiometer
C8	W000273453		✓	↑	Pedal

- While ordering parts, please indicate the quantity and note the number of your machine in the box above.

	TYPE:
	Number:

