

Directions for Use Turntable Type 1250



Version A

The manual is subject to alteration

Contents	Page
<u>Chapter 1: EC Declaration of Conformity</u>	1
<u>Chapter 2: General information</u>	2
<u>Chapter 3: Personal safety and warnings</u>	
- Personal safety.....	3
- Range of application.....	4
- Removal of safety devices.....	4
- Accurate placing of workpiece.....	4
<u>Chapter 4: Function of machine</u>	
- Sketch of DB1250.....	5
- Sketch of control.....	5
- Functions with controls.....	6
- Start and stop.....	8
- Fail during start, operation or stop.....	8
- Maintenance.....	9
- Keeping the directions for use.....	12
<u>Chapter 5: Assembling and disassembling</u>	
- Installation and connection.....	13
- Disassembling.....	14
<u>Chapter 6: Technical specifications</u>	
- Technical data.....	15
- Current diagramme.....	16
- Connections.....	17
- Spare parts.....	18



IMPORTANT SAFETY INSTRUCTIONS

The safety instructions contained in the PERSONAL SAFETY section of this manual should be read and observed before installing and operating the machine. This manual and the accompanying instructions for use must be accessible at all times to staff engaged in the installation, operation and maintenance of the machine. Full understanding of this manual requires a

skilled welder’s knowledge of welding and of the risks involved.

Manufacturer: Migatronic Automation A/S
Knøsgaardvej 112
DK – 9440 Aabybro
+45 96 96 27 00

Authorised to compile the technical file: Torben Lindholm
Migatronic Automation A/S
Knøsgaardvej 112
DK – 9440 Aabybro

Herewith declares, that

Commercial name: Turntable
Function: Automatic turning
Model/type: DB1250
Project/serial No.: -
Built: 2011

Is in conformity with the provisions of the Councils Directive 2006/42/EC and with national implementing legislation.

and

Is in conformity with the provisions in 2004/108/EC – EMC.

The objective for the Low Voltage Directive 2006/95/EC is observant compared to the Machinery Directive's Annex I, No.1.5.1

Stated machine is produced according to following:

harmonized standards:

DS/EN ISPO 12100, DS/EN 13861, DS/EN 614-2+A1, DS/EN ISO 13849-1

national technical standards and specifications:

Aabybro den 21.02.2012

Place/date



Production manager

Chapter 2: General information

Turntable type 1250 is designed for handling/circumferential welding, and is prepared for use in connection with one of the following control units:

- Type 1001 : Automatic controls, 1 revolution with overlapping
- Type 1002 : Automatic, 1-4 revolutions with overlapping
- Type 1005 : Manual start/stop

which for example include functions as:

- * Rotary speed
- * Preweld time
- * Direction of rotation
- * Arc ON/OFF
- * Torch/lifting

If a power supply is applied in connection to the turntable, the manual for the power supply should be read before start.

Chapter 3: Personal safety and warnings

PERSONAL SAFETY



Light and heat emission

A welding arc emits radiation which is damaging to the human eye. Even short-term exposure to this radiation can cause lasting damage. Protect your eyes from powerful radiation by infra-red, visible and also ultra-violet light by installing suitable radiation protection glass in your welding helmet. Your skin can also be damaged by welding radiation.

Radiation can cause serious burns. Protect your skin by wearing a welding helmet, working clothing covering all exposed parts, and gloves. During welding, warn other people in the vicinity of the danger of radiation and sparks. If possible, place a screen between the place of work and the surroundings.

The heat emitted from the arc and pool crater - as well as the sparks emitted during welding - represent a fire hazard. Consequently, welding should never be carried out near combustible materials. Working clothing should not be made of substances which are easily combustible, and should have no folds or open pockets into which sparks can fall. Wear a fire resistant apron if necessary.



Welding fumes

The smoke and gasses emitted during welding are damaging to health. Consequently, the inhalation of welding smoke and gasses should be avoided by taking suitable preventive measures (e.g. local air extraction, ventilation, or supply of fresh air to welding helmet).



Electricity

Avoid contact with all live components.

The voltages used in welding are not sufficient to represent a danger in themselves. However, if damp clothing is worn, or if working in damp conditions, electric shocks can be caused, representing an indirect source of danger. Considerable electric shocks can be caused by HF high voltage ignition during TIG welding in particular, and may lead to minor burns beneath the skin.

Consequently, all contact with live components should be avoided as far as possible.

Always use dry, leather welding gloves and wear dry working clothing and shoes. Keep cables, torches, and the welding machine itself dry at all times.

Make sure that the welding machine's earth connection is properly and safely earthed. Do not open the machine to expose live components. Maintenance and service which require access to live components inside the machine must be carried out by an authorized electrician.

Range of application:

- The turntable must be fastened on a stable base.
- TIG-welding hoses (current-carrying parts) and welding torches on the electronic controls are not allowed.
- The maximum values for dimensions of workpieces mentioned in the manual must not be exceeded.
- The machine/equipment must only be operated by personnel, which are trained in using the machine, and have also been taught in the manual.

Removal of safety devices:

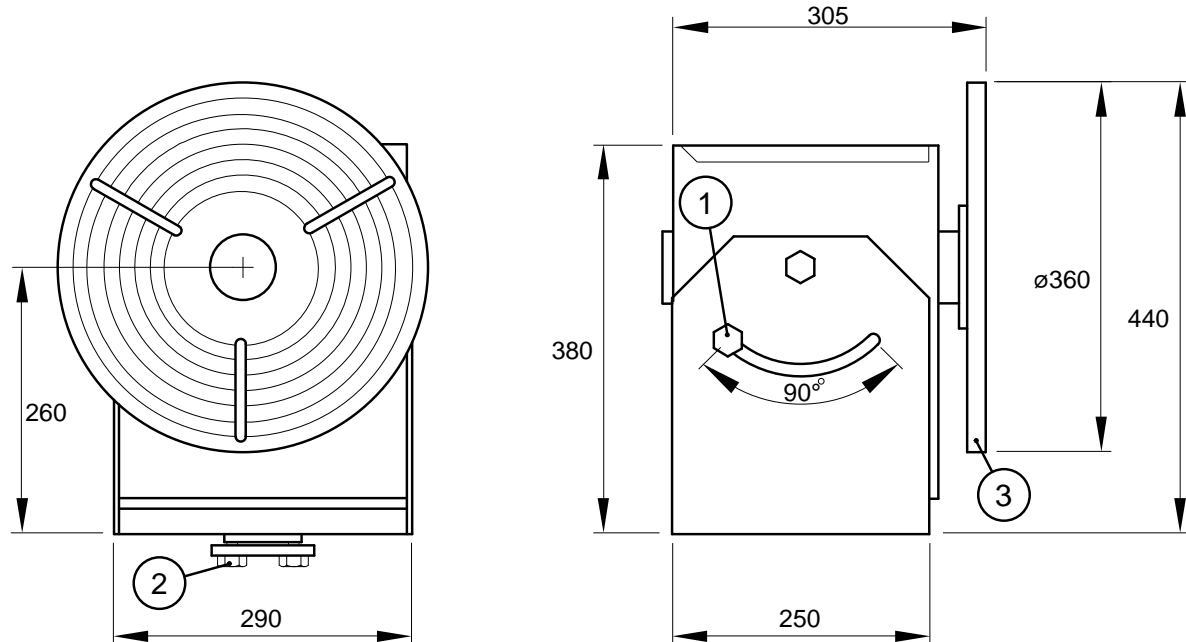
- During operational circumstances it is not allowed to remove safety devices or to take them out of operation.

Accurate placing of workpiece:

- Before start the operator must ensure that the workpiece is correctly placed and is properly secured.
- Please observe if any risks may arise when the workpiece rotates due to the design of the workpiece. In that case the operator must carry out the appropriate action in order to eliminate risks.

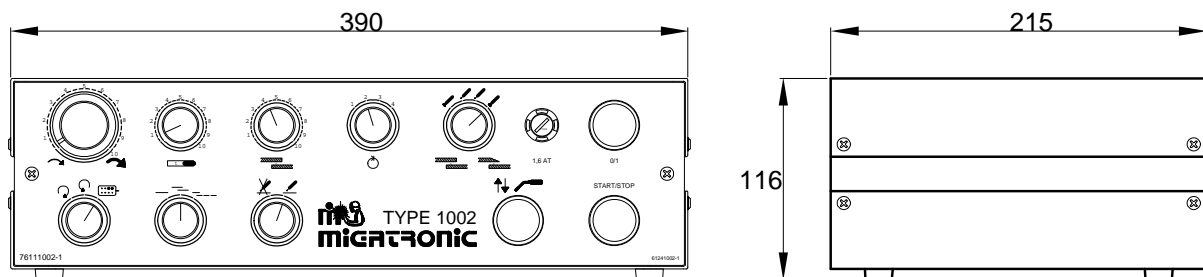
Chapter 4: Function of machine

Sketch of DB1250:

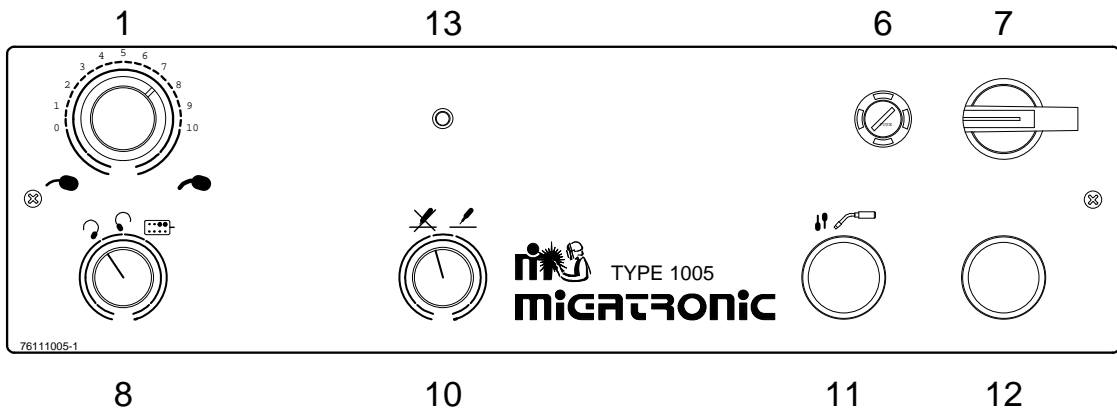
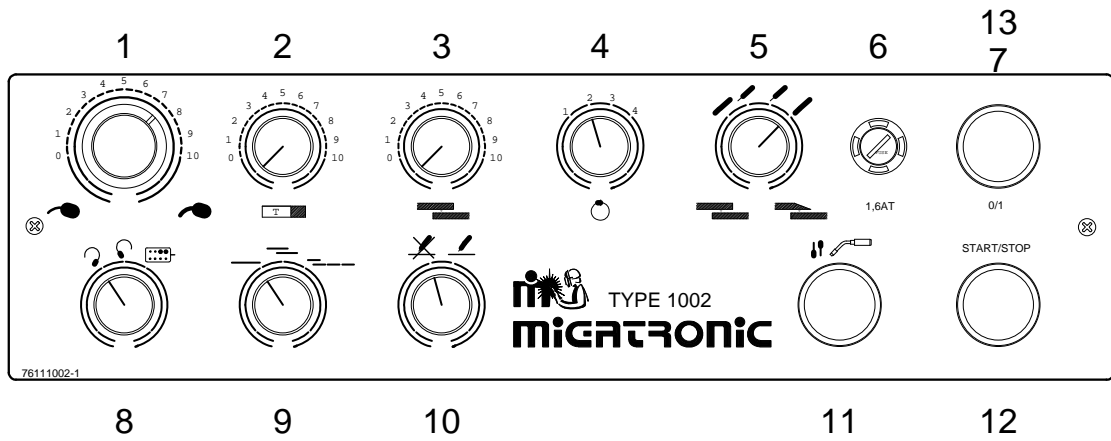
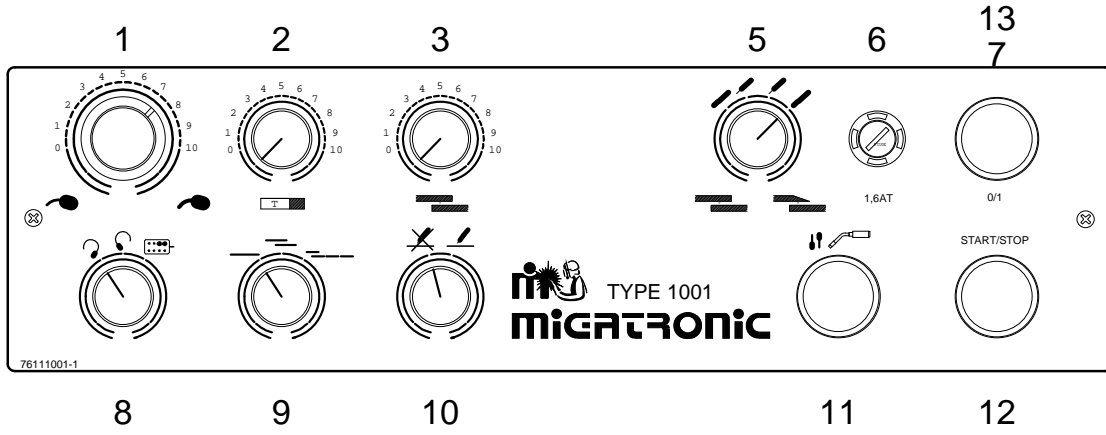


- Pos. 1 Angle adjustment.
The angle of the plate can be adjusted up to 90°.
- Pos. 2 Clamping bolts for mounting on base.
- Pos. 3 As a standard the turntable is mounted with a tool disk of which the outer diameter is $\varnothing 360$ mm. The tool disc is in addition provided with 3 pcs. 12mm tracks for mounting of fixture.

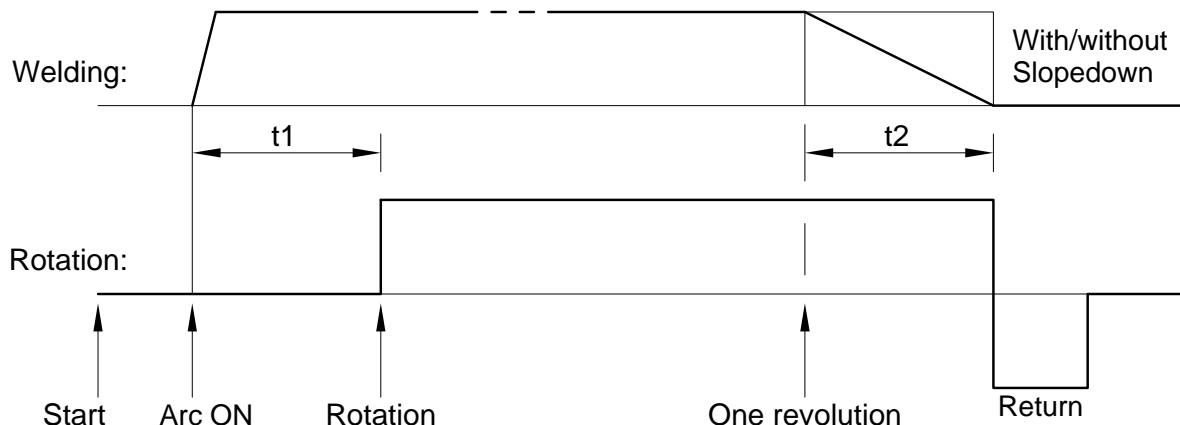
Sketch of control:



Functions with controls:



- Pos. 1 Rotation speed.
- Pos. 2 Preweld time t_1 (0 - 5 sec.).
 Delay time prior to start of rotation.
- Pos. 3 Overlap time t_2 (0 - 10 sec.).
 The rotation continues further than one revolution in the selected time.
- Pos. 4 Multilayer welding (1 - 4 rev.).
 Selection of the number of revolutions. Automatic overlap after last revolution.
- Pos. 5 Mode selector 1:
 a) with arc control; without slope down.
 b) without arc control; without slope down.
 c) without arc control; with slope down.
 d) with arc control; with slope down.
 The selection of arc control causes the preweld timer to start only after the arc is established.
 The selection of slope down causes the signal to the welding machine to be OFF in the overlap period. The slope down time is set at the power source, and should always be shorter than the overlap time.
- Pos. 6 Fuse.
- Pos. 7 Power ON/OFF.
- Pos. 8 Direction of rotation.
- Pos. 9 Mode selector 2:
 a) without overlapping.
 b) with overlapping.
 c) activated sensor for intermittent welding.
 (Optional with programme disc).
- Pos. 10 Arc ON/OFF.
 Test can be done without arc in level "OFF".
- Pos. 11 Torch lift.
 Push button for pneumatic lift/lowering of welding torch.
 (Optional).
- Pos. 12 Start/Stop.
- Pos. 13 Control lamp.



Start and stop:

1. Set the relevant data on the control.
2. Fasten the workpiece properly.
3. Start the process, (see pos. 12 for functions with the control).

Failure during start, operation or stop:

If monitoring of the arc (arc control) and welding is activated, the turntable does not start until the arc is established.

In this waiting position the operator should note that the rotation can start when the arc is established.

Maintenance:

Regular maintenance is important.

Regular maintenance guarantees:

- * Long life for the turntable.
- * Safety.
- * Safety of working.

Many of the tasks of maintenance are easy to take care of yourself, if you are a little mechanically gifted and have a few tools. These tasks are described below.

Please note that some tasks of maintenance require special tools and special knowledge. These tasks ought to be handled by qualified Migatronik personnel. Even if you are an experienced do-it-yourself mechanic, we recommend that you let us have the repairs and maintenance.

Basic safety precautions



Warning

All power **must** be disconnected before working on any electrical connections or components.

- Make sure that the working area is clean.
- When work with the equipment is finished, or when the work area is left unattended, turn off the air- and electricity supplies to the equipment.

DAILY CHECK BEFORE START

Check control:

- A. Check if all mains lamps and security lamps are on.
- B. Check plug at the back of the control.
- C. Run a cycle without welding.

Check mains cable, ground wire, air hose and gas tubing:

- A. Check outside damages.
- B. Check leakages.

Welding control:

Weld subject - compare it with the subject from the same time the day before.
If everything is OK, save the last welded subject to the start of next day.

WEEKLY CHECK

Clean all the most important surfaces with clean dry air, and oil with machine oil.

Sign the form of maintenance.

MONTHLY CHECK

In addition to the weekly check, also check all nuts and screws especially by the bearings.

Check the carbon holder and the length of carbon.

Check gear motor for leakage in gear gasket and check wires.

Check if there is play in the bearings.

Clean current supply inside (**Remember to remove mains cable**).

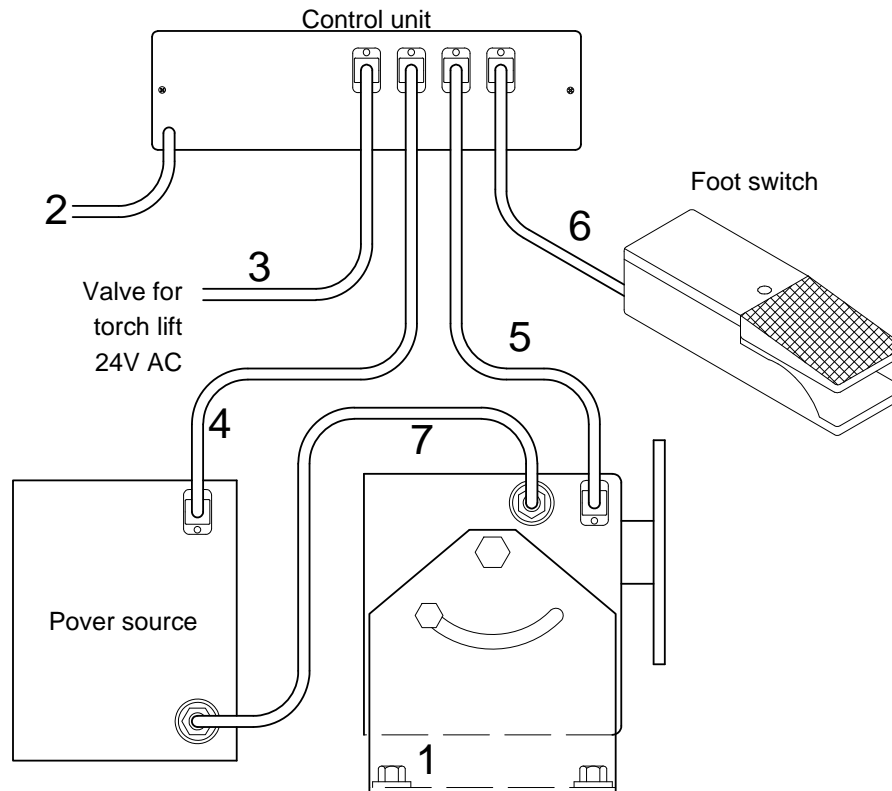
Sign the form of maintenance.

Keeping the directions for use:

The directions for use should be kept available to operators, maintenance personnel and service mechanics.

Chapter 5: Assembling and disassembling

Installation and connections:



- 1: Fasten the turntable by means of the 4 bolts to a stable base, which will secure the table's stability at the max. load.
- 2: Power cable. To be connected to a 230V / 10A wall socket with ground.
- 3: Torch lift cable. Partnumber 74320006-1.
- 4: Start signal to power source. Partnumber 74320002-1.
To be connected to existing start socket on TIG machines instead of plug from manual torch.
On MIG-machines the corresponding socket can be mounted, or the connection can be made internal in the wire feeder.
- 5: Cable control / turntable. Partnumber 74320001-1.
- 6: Foot switch / remote control.
- 7: Ground cable (standard extension cables).
25mm² - 5m : Partnumber 80522505-0.
50mm² - 5m : Partnumber 80525005-0.

Disassembling:

The old turntable contains parts which may be recycled.

Therefore, do not deliver your turntable over to the nearest waste disposal site, but contact the local authority or a scrap dealer for the possibility of recycling.

All external connections (electricity, air, etc.) must be disconnected before disassembling.

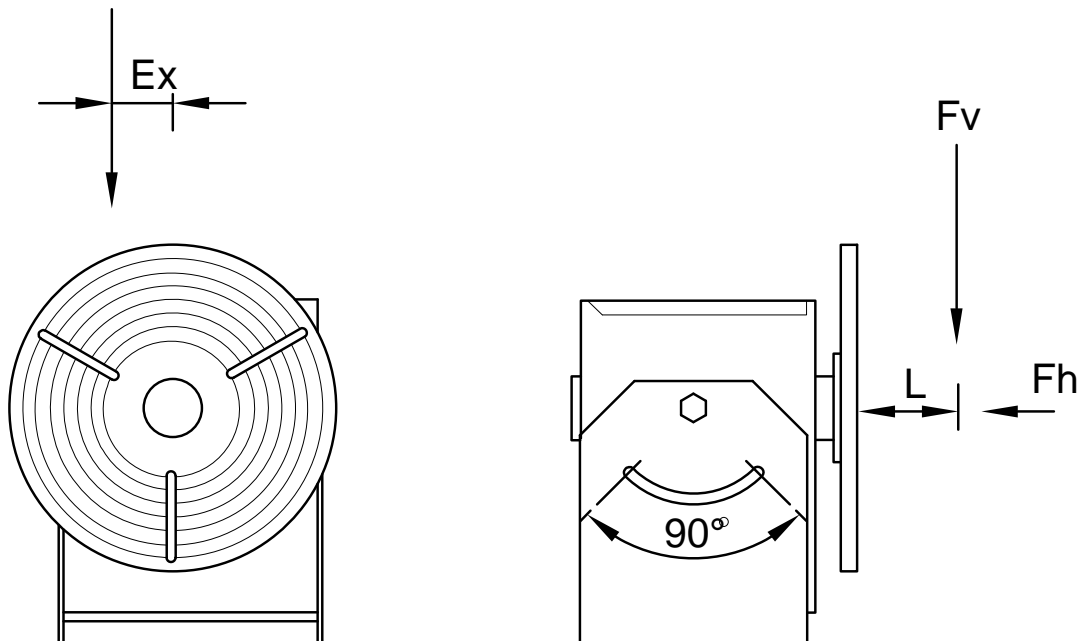
Chapter 6: Technical specifications

Technical data:

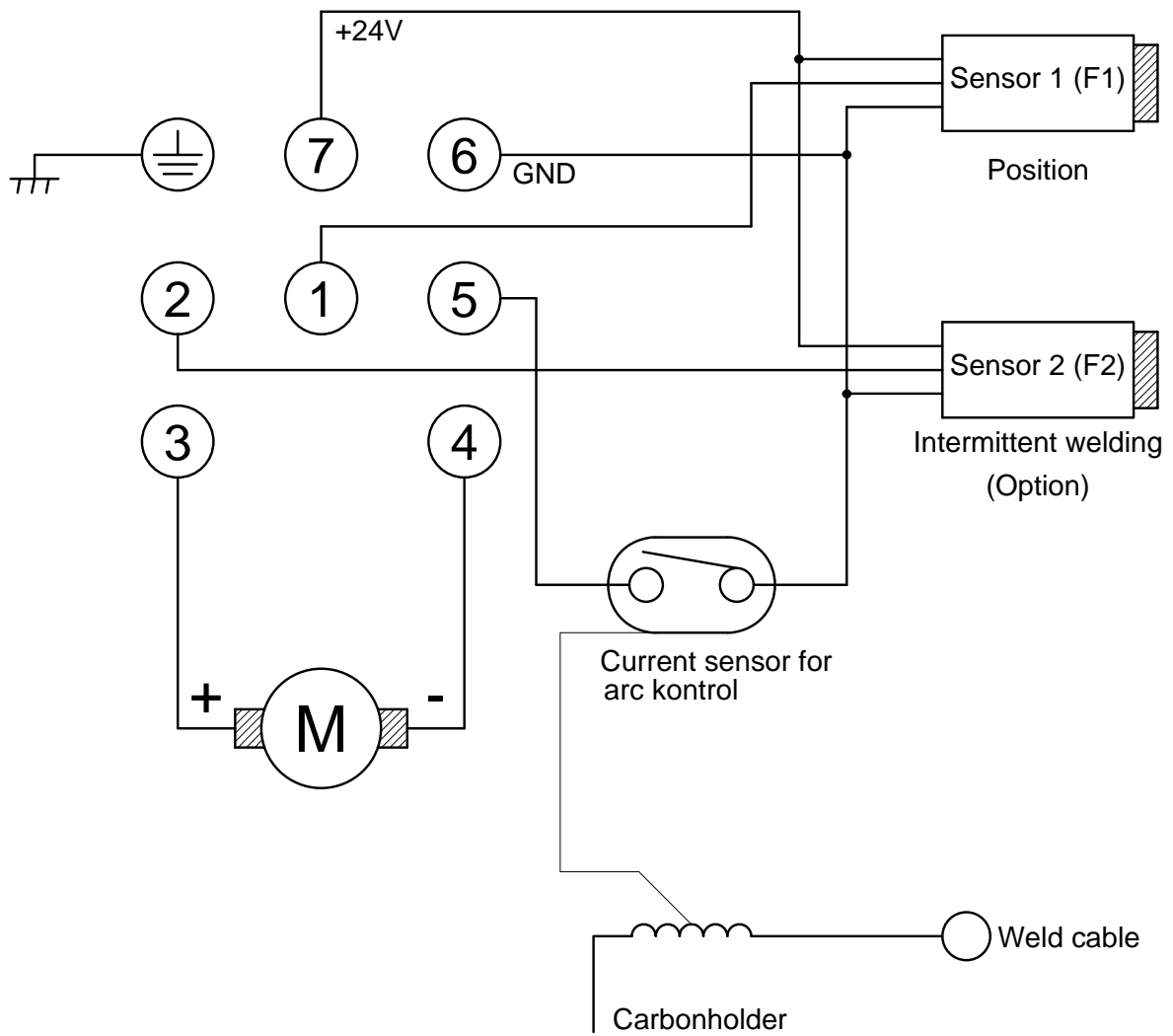
Line voltage	: 230 - 240V AC / 10A
Centre height	: 265mm
Speed range	: 0.2 - 2 rev./min. 0.4 - 4 rev./min. 0.8 - 8 rev./min.
Tool disc diameter	: \varnothing 360mm
Bore	: \varnothing 62mm
Travel of centre	: 75mm
Max. weight horizontal	: 250 kg
Max. weight vertical	: 150 kg
Centre pressure	: 1500N at 6 bar
Tilting movement	: 0 - 90°
Welding power std.	: 180A - 100%
Weight - turntable	: 65 kg
Weight - control	: 8 kg
Noise level	: < 70 dB(A)

Load:

Fh	Kg	250 (0 - 90°)				
L	mm	100	200	300	400	500
Fv	Kg	150	120	100	85	75
Ex	mm	35	40	50	60	70



Current diagramme:



Connections for control units 1001, 1002 and 1005

Torch lift - 4-pin + GND

1	: ---	
2	: NC	
3	: NC	24V AC for magnet valve
4	: ---	
J	: NC	

Power source - 6-pin

1	: NC	
2	: ---	}
3	: NC	
4	: NC	}
5	: NC	
6	: ---	}

Relay contact for start of welding machine

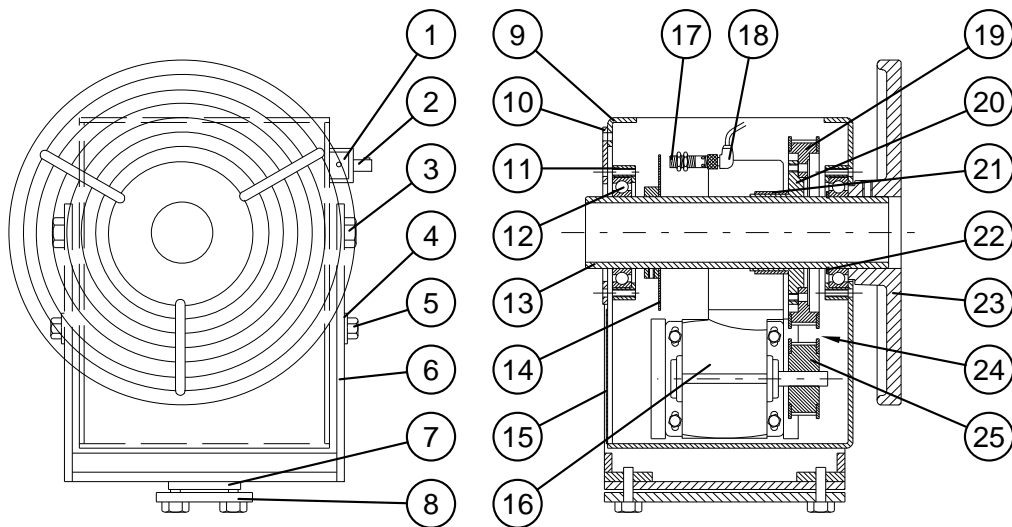
Remote control - 4-pin + GND

1	: ---}	Start/stop (1001 and 1002: Impuls, 1005: Continuous contact)
2	: ---}	
3	: ---}	
4	: ---}	Direction of rotation
J	: GND to cabinet	

Turntable - 7-pin + GND

1	: Sensor for pos., activated "1" (only 1001 and 1002)
2	: Sensor for intermittent welding, activated "1" (option; only 1001 and 1002)
3	: --- +}
4	: --- - }Motor
5	: Arc ON signal; activated "0" (only 1001 and 1002)
6	: GND
7	: + 24V =
J	: GND to cabinet

Spare parts - turntable:



Pos.no.	Description	Partnumber
1	Multiple plug, 8-pin, female	17210005-1
1a	Housing flange	18200102-0
1b	Crimp pins 4 pcs 0,5-1,5mm ²	18200024-1
1c	Crimp pins 4 pcs 0,14-0,5mm ²	18200026-1
2	Welding connection 35-50, male	18120060-0
3	Bolt NV12 - M12	29403001-1
4	Facet disc M12	41962412-1
5	Bolt M12x20	40661220-1
6	Tilting console	70121250-1
7	Guide	27000002-1
8	Clamping yoke	27000005-1
9	Cabinet	70111250-1
10	End flange	24613006-1
11	Bearing housing	26914024-1
12	Bearing	44160154-1
13	Hollow axle	26917562-1
14	Disc for sensor	70210001-1
15	Rear plate	24601012-1
16	Motor: 5 RPM. Output speed 2 RPM 10 RPM. Output speed 4 RPM 20 RPM. Output speed 8 RPM	17290005-1 17290010-1 17290020-1
17	Sensor XS1-N12PA3410	17101202-1
18	Cable for sensor, 5m	74325005-1
19	Belt pulley 48H100	47448423-1
20	Flange	26915056-1
21	Contact ring, bronze	26925035-1
22	Seeger circlip	42510072-1
23	Tool disc ø360mm	25486001-1
24	Belt 300H100	47040604-1
25	Belt pulley 19H100	47419422-1

MIGATRONIC
automation

Knøsgårdvej 112 - DK-9440 Aabybro
Tel. +45 9696 2700 - Fax +45 9696 2701
www.migatronik-automation.dk
info@migatronik-automation.dk