



HTC SWEDEN AB
www.htc-sweden.com



Manual

HTC 500



Read this first

This manual gives you the information you need to carry out a delivery inspection, commission and use your machine. Please contact your distributor in the event of any problem when installing and commissioning. HTC Sweden AB is not responsible in any way for any consequences, whether direct or indirect, that arise as a result of the machine being used in a way that contradicts these instructions.

- *Although all possible measures have been taken to ensure the accuracy and completeness of the information presented in this manual, HTC Sweden AB does not accept any responsibility or liability for errors or missing information. HTC Sweden AB reserves the right to alter descriptions in this manual without prior notice.*
- *No part of this manual may be copied or in any way used without the express written permission of HTC.*

Trademarks

The HTC trademark is owned by HTC Sweden AB. Other names and products mentioned in this manual may be registered trademarks of their respective companies.

© HTC Sweden AB, 2004. Sole rights.

CONTENTS

Read this first.....	3
Trademarks.....	3
Warranty	5
Safety regulations.....	5
Machine name plate	7
Delivery	7
Unpacking the machine	7
CE marking.....	7
DECLARATION OF CONFORMITY	8
Annex to DECLARATION OF CONFORMITY	9
Introduction.....	10
Description of the machine	11
Dry/wet grinding	13
Control buttons – function description	13
HTC 500 Frequency controlled.....	13
HTC 500 Soft start.....	13
Mounting/dismantling of grinding discs.....	14
Mounting and replacement of tools	15
Operation.....	16
Measures prior to start	16
Start of machine	16
Technical data.....	17
Environment	18
Chassis.....	18
Electrical system	18
Maintenance	18
Parts and service.....	18
Exploded diagram HTC 500	19
Exploded diagram HTC 500	20
Parts list HTC 500	21
Parts list HTC 500	22
Parts list HTC 500	23
Error codes for frequency converter SJ 100.....	24
Troubleshooting	27
Appendix, soft start HTC 500	28

Warranty

See the warranty that accompanies the machine.

Safety regulations

- This machine may only be operated, repaired or in any other way handled by personnel who have the requisite training and have read this manual.
- Only use this machine for grinding and polishing unhewn stone, terrazzo, concrete or any of the other materials specified in this manual.
- Only use original tools and original spare parts in the machine. Failure to do so will nullify the CE marking and warranty.
- Only lift the machine using the intended lifting bow. Do not lift the machine by the handle, motor, chassis or other parts. Transport the machine securely mounted on a pallet wherever possible.
- Always keep the machine in a dry and warm area when it is not being used. If this is not the case, the machine could be damaged due to internal condensation.
- If the machine has to be stored in a cool place, it must be in a heated area at least two (2) hours before use.
- Do not move the machine manually on an inclined surface. Even a gentle slope can generate rolling forces that cannot be checked by hand power alone.
- Do not use the machine on an inclined surface.
- Do not use the machine in environments where there is a risk of explosion or fire.
- Wear personal safety equipment such as boots with steel toe caps, goggles, protective gloves and ear muffs.
- Check that all the phases are deenergised before starting the machine. Check using test tools.
- Do not start the machine with the grinding head raised. Only start the grinder with the rotating discs facing the floor and with the correct tools mounted.
- Do not start the machine without the splashguard mounted which seals between the grinding head and the floor. Also ensure that the splashguard is in satisfactory condition.
- Fill the tank with cold water only.
- No chemicals may be added to the water. Chemicals may cause leakage resulting in danger of electrical contact and injury.
- Observe caution when filling with water so as to avoid danger of electrical contact and injury.

- Only use the water tank for its intended purpose.
- Use a customised dust extractor when dry grinding, such as HTC D26, D30, D55 or larger.
- Always tip up the machine after grinding when removing glue or when wet grinding so that the machine does not stick to the floor and damage machine parts upon restart.
- The control current must always be cut and the mains connection disconnected when replacing grinding discs.
- The grinding discs may be hot following grinding. Let the machine stand in tipped position for a few minutes and wear gloves when you remove the grinding discs.
- Cut the current to the machine when repairing.

Machine plate

Model and serial number for your machine is shown on the machine plate. This information is required when ordering spare parts for the machine. Use the space below to note the model and serial number of your machine for future reference.

MODEL NUMBER _____

SERIAL NUMBER _____

Delivery

The following items should be included on delivery. Contact your distributor if anything is missing.

- Grinder
- Splash guard
- Manual

Unpacking the machine

- Check carefully if the packaging or the machine has been damaged during delivery. If there are signs of damage, contact your distributor to report the damage.
- Check that the delivery matches your order. Contact your distributor if you have any questions.
- Read carefully through the safety instructions and manual before use.

CE marking

CE marking of a product guarantees its free movement within the EU region in line with EU regulations. The CE marking guarantees that the product meets the various directives (EMC directives and any other requirements in the new procedures directives). The HTC 500 grinder has CE marking in accordance with the "Low Voltage Directive" (LVD), the Machinery Directive and the EMC Directive. The EMC directive stipulates that the electrical equipment must not subject the surrounding area to electro-magnetic radiation, and that it must also be immune to electromagnetic interference in the surrounding area.

The following pages include the Manufacturer's Declaration of Conformity that demonstrates that the HTC 500 grinder complies with the EMC directives. HTC 500 is classified for use in environments such as heavy industry Class A.

DECLARATION OF CONFORMITY

Declaration of Conformity in accordance with

- The Machinery Directive - 98/37/EC
- The EMC Directive - 89/336/EEC
- The Low Voltage Directive - 73/23/EEC including amendments
- The CE Marking Directive - 93/68/EEC

Type of equipment Grinder

Make HTC

Trademark HTC _____

Serial number _____

Manufacturer

HTC Sweden AB

Box 69

SE-614 22 Söderköping, Sweden

The annex includes documents that are applicable for verification of conformity.

Additional information on the Machinery Directive

Declaration of Conformity in accordance with Appendix 2A.

The product conforms to the Machinery Directive 89/392/EEC with amendments.

Additional information on the EMC Directive

The equipment conforms to the harmonised EMC standards specified in the annex.

See technical report 97028.

Additional information on the Low Voltage Directive

The product conforms to good operating practices within EES, even though they do not fully conform to the standards and other technical specifications outlined in the annex. HTC Sweden AB has an internal system for quality assurance that guarantees conformity between the manufactured product and the technical documentation.

Additional information on the Low Voltage Directive

CE marking of a product guarantees its free movement within the EU region in line with EU regulations. The CE marking guarantees that the product meets the various CE directives (EMC directives and any other requirements in the new procedures directives). The product was CE marked in 1997.

As manufacturer, we declare under our sole responsibility that the product meets the provisions laid down in the Directives specified above.

Date: - -

Sten Jeansson
Managing Director

Annex to DECLARATION OF CONFORMITY

The following harmonised standards have been applied:

<i>Standards</i>	<i>Date</i>	<i>Notes</i>
-	-	-

The following national standards have been applied:

<i>Standards</i>	<i>Date</i>	<i>Notes</i>
SS-EN 292-1		
SS-EN 292-2		

The following corporate standards or other technical specifications have been applied:

Introduction

The HTC 500 can be used for wet and dry grinding of marble, terrazzo, granite and concrete. It can be used for both abrasive grinding and polishing.

NOTE:

The machine may only be operated or repaired by personnel who have undergone the requisite practical and theoretical training.

NOTE:

The instructions in this manual must be observed in order for CE marking to apply.

Description of the machine

The machine is built of a number of main components, such as motor, rotating grinding unit, frequency converter, operator panel, chassis, handle bar and wheels. The HTC 500 is available in two motor options; 115V or 400V.

The machine can either be fitted with soft start or a frequency converter. The difference lies in the speed of the machine being controlled by a frequency converter from the operator panel. The rotational direction of the grinding discs can also be changed from the operator panel (read more on Page 16, Operation). The machine with soft start only has one speed.

The machine is built around a chassis with wheels. Motor with rotating grinding unit mounted at the bottom of the chassis in such a way that allows some movement between the chassis and the motor housing. The screws between the bracket and the chassis must not be too tight. Loosen them to allow a little movement. You should be able to turn the washer.

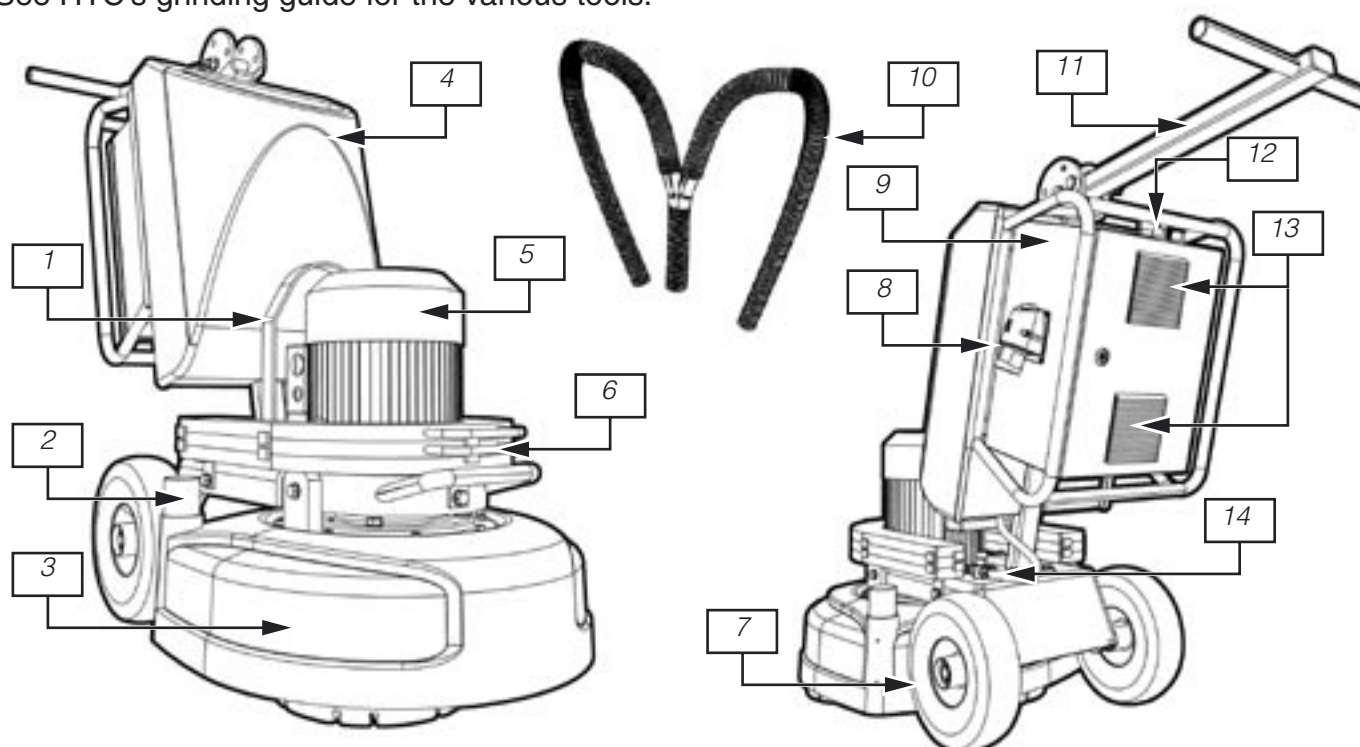
The handle bar can be set at a number of angles. Select a position that suits you.

The water tank is manufactured of rotation cast polyethylene. The water is directed via a hose with stop cock to the periphery of the large disc. Tank capacity: 17 litres

The grinding cover has two connections for an external dust extractor hose, to be used when dry grinding.

The machine can be fitted with a large number of grinding discs and tools depending on the type of material to be ground by following a simple procedure. See Pages 14-15 for grinding disc replacement.

See HTC's grinding guide for the various tools.



1. Lifting bow	6. Extra weights	11. Adjustable handle
2. Connection, vacuum cleaner	7. Wheel	12. Operator panel
3. Grinding head	8. Mains connection 16-32A	13. Filter
4. Water tank	9. Frequency converter	14. Water hose + valve
5. Motor	10. Hoses with Y-connection	

Normal direction

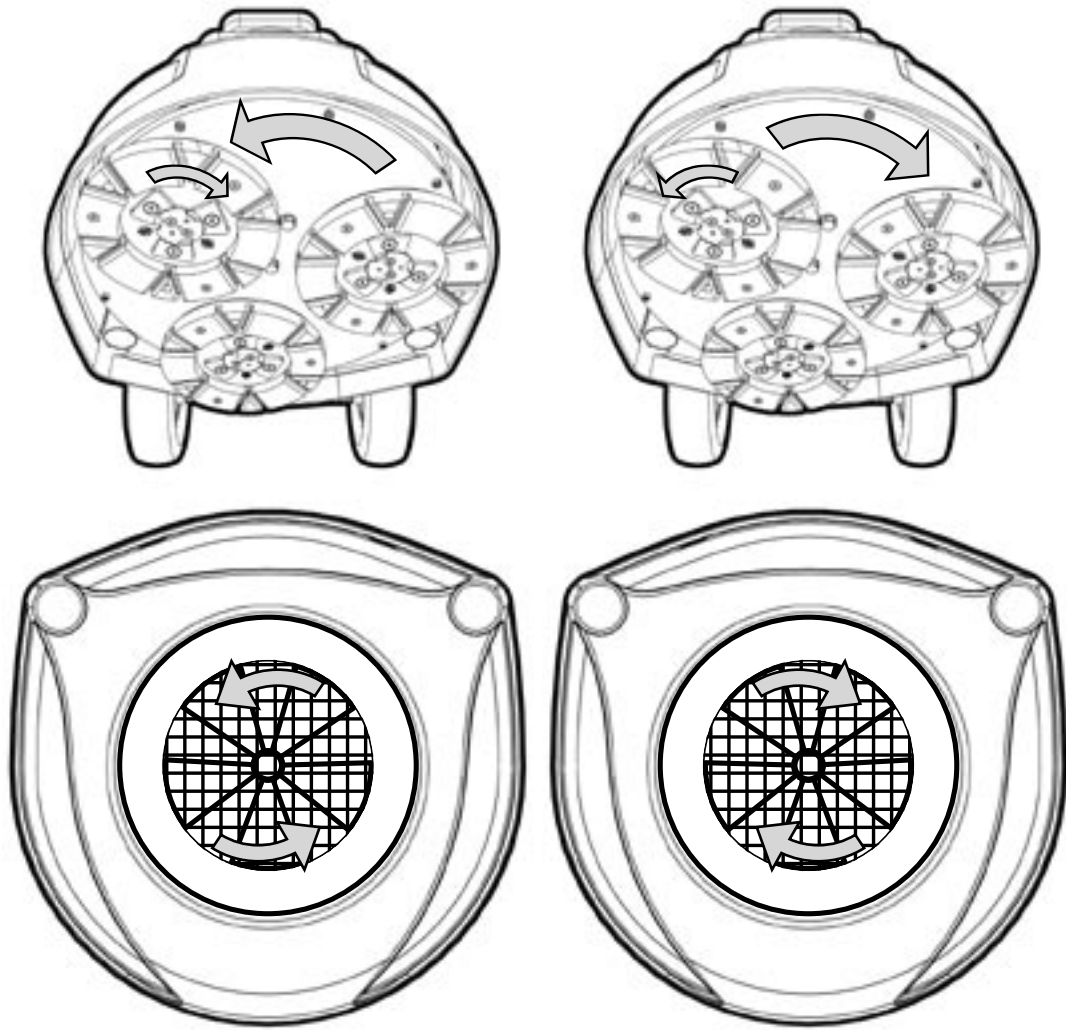


Fig. 1

The rotational direction of the motor seen from above through the fan casing. Normal rotational direction is forwards.

HTC with frequency converter has always had the same rotational direction, regardless of how the phases are connected. However, HTC soft start is affected by the incoming phases which means you should observe caution in this respect.

Dry/wet grinding

A dust extractor should be connected to the machine when dry grinding. Connect the dust extractor to both terminals that are located on the machine's safety cover. If only one terminal is connected, the other terminal must be covered. The capacity of the dust extractor should be adjusted in line with the capacity of the machine. Fill the tank with cold water when wet grinding and start the flow through the open valve located on the left side of the chassis under the tank (seen from the operator).

Control buttons – function description

HTC 500 Frequency controlled

DUTY	Operation lamp, indicates when the machine is ready for use.
RESET	After an emergency stop or malfunction, the reset button must be pressed for two seconds before the machine can run.
SPEED	Knob to control the rotational speed of the grinding discs. Turn the knob clockwise to increase the rotational speed and anticlockwise to decrease the speed.
REV – FWD	Used for starting and stopping the machine. Adjusts the rotational direction of the grinding discs forwards or backwards. A definition of forwards and backwards is outlined in the figure on Page 12.
ON - OFF	For disconnecting or powering up the machine. Must not be used for starting or stopping the machine.

HTC 500 Soft start

REV – FWD	Used for starting the machine. Adjusts the rotational direction of the grinding discs forwards or backwards. Check that the discs are rotating in the right direction. Do not change the rotational direction when running, but let the machine come to a total stop before changing direction in order to avoid damage to the soft start unit.
STOP	Stops the machine
EMERGENCY STOP	Cuts the power to the machine. Turn to reset.



Control panel for soft start



Control panel for frequency controlled machine

Mounting/dismantling of grinding discs

Take the following safety measures when mounting grinding discs:

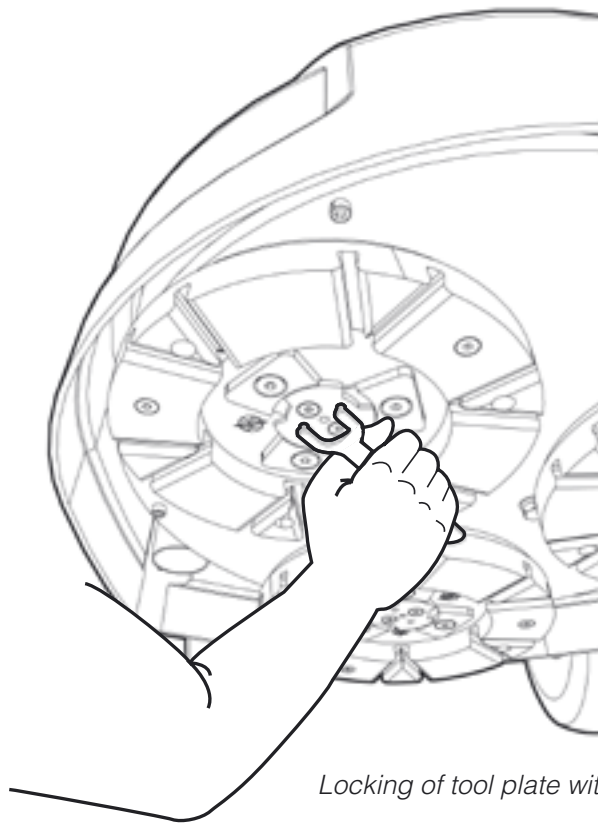
- Remove any weights.
- Disconnect the power supply and the power cable.

Tip the machine up, and remove the old grinding discs using the enclosed special tool, see picture. The tools can also be bolted to the machine if required.

Observe caution when working with tools and tool discs:

- The discs may be hot after operating the machine.

Lock the tools using the enclosed special tool following tool change. Tip the machine back in place. Check the splashguard around the cover to the grinding head. If you do not adjust the height of the splashguard it may be damaged as the working height of the different tools varies depending on wear.



Locking of tool plate with special tool.

Mounting and replacement of tools

Always cut the mains voltage to the machine when working with the grinding tools. Make a habit of always disconnecting the mains plug before commencing work.

Start by tipping the machine backwards.

Remember that the grinding tools can be extremely hot if grinding work has recently been carried out.

The HTC 500 is equipped with our newly patented and copyright protected EZchange™ tool system. It consists of wings with diamond tools. These wings are folded and pushed into a tool holder where they are locked using a light blow from a non-rebounding rubber hammer.

Move the grinding tool slightly tilted forwards down into the intended slots in the tool holder to mount. Now push the tool forwards out from the centre of the tool holder, see Picture 1.

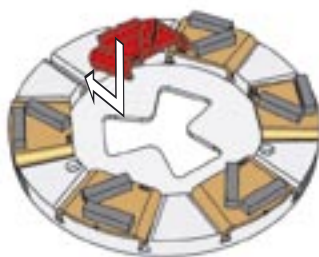
Then lock the tool in the tool holder by administering a few light blows with a rubber hammer, see Picture 2.

Now mount the tool holder on the machine, turn the machine to working position and check that the splashguard is properly mounted.

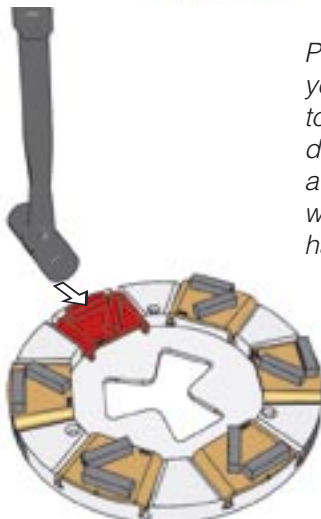
Connect the machine to the mains.

When changing tool, release the grinding tool with a few light blows using a rubber hammer. Now do everything in reverse order. Strike the tool until it loosens and lift it out of its slot in the tool holder, see Picture 3.

Picture 1. When mounting a grinding tool, you must first move the tool down into the slots in the tool holder.



Picture 3. To remove a tool apply a few light blows to release the lock, and then lift it out of its slot.



Picture 2. Now you can lock the tool in the tool holder by applying a few light blows with a rubber hammer.



Operation

The following section describes how to operate and use the grinding machine. The section does not deal with the technical aspects of grinding such as choice of grinding tool etc. For selection of tool, see the Grinding Guide from HTC.

NOTE:

Only personnel with the requisite training may operate the machine.

It is assumed that the relevant personnel have read the safety regulations,

and that the machine is positioned on the surface intended for grinding, that the surface is not inclined and that the grinding discs are mounted.

Measures prior to start.

1. Inspect the floor carefully and remove any protruding items such as reinforcement bars and bolts, as well as any loose material that could get caught in the machine.
2. Set the handle bar in the desired working position.
3. Fit the appropriate tools to the machine.
4. Mount and check the splashguard.
5. Connect the voltage to the terminal on the side of the frequency converter.
6. Check that all the phase indicator lamps are lit (applies to frequency controlled machines).
7. If all the LEDs are not lit, double-check with a suitable tester tool.
8. If the floor is to be dry ground, a dust extractor should be connected and started before starting the machine.

Start of machine

1. Start by energising the frequency converter by turning the On/Off knob. This will light the "duty" lamp. This means the machine is in standby mode.
2. Set the speed you want to start grinding with. The more uneven the floor, the lower the speed.
3. Start the machine by selecting the rotational direction.

NOTE:

Do not use the ON / OFF knob to start or stop the rotational direction of the discs.

NOTE:

Only start the machine when all lamps are lit.

Measures, see the chapter for troubleshooting.

NOTE:

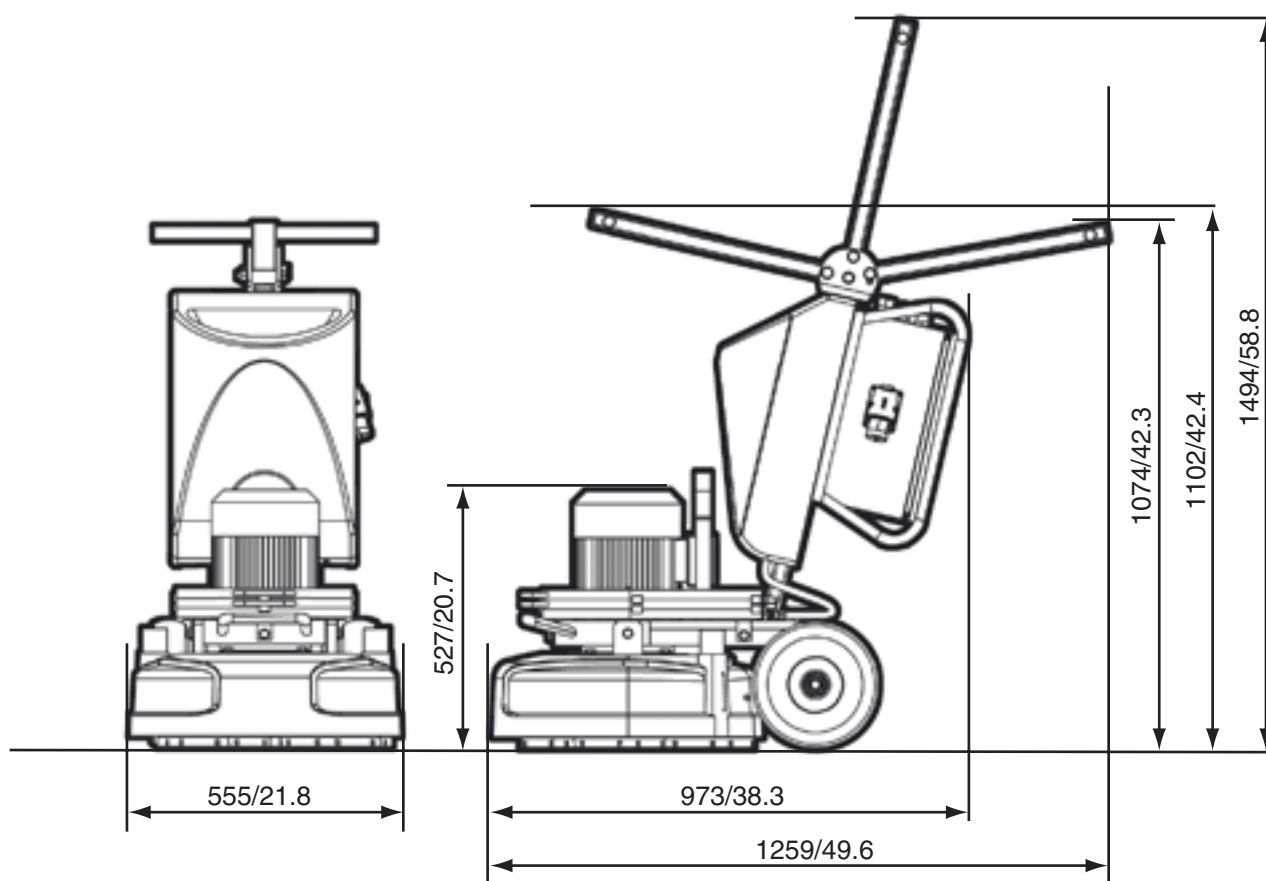
Only use HTC original tools.

Technical data

	HTC 500E	HTC 500E	HTC 500S
Motor:	4.0 kW	4.0 kW	4.0 kW
Current load (max):	16 A	32 A	16 A
Supply voltage:	3x400V	2x115V	3x400V
Machine weight:	147 kg	147 kg	145 kg
Weight set:	3x10 kg	3x10 kg	3x10 kg
Grinding pressure (extra weights):	100-(130) kg	100-(130) kg	100-(130) kg
Grinding diameter:	500 mm	500 mm	500 mm
RPM:	300-1300 rpm	300-1300 rpm	750 rpm
Tank volume (water):	17 l	17 l	17 l
Grinding discs:	3x220	3x220	3x220

NOTE:

HTC reserves the right to amend the technical specifications.



Environment

The majority of components in HTC machines are made of recyclable metals and plastics. The main construction material used is specified below.

Chassis

Frame	Steel, electrically galvanized sheet metal
Wheels	Polyurethane filled rubber tyres with steel rims
Cover	ABS plastic
Water tank	Polythene

Electrical system

Cables	Copper conductors with PVC jackets
Electronics card	Glass-fibre reinforced circuit board laminate
Electronic cabinet	Stainless steel plate

Plastic parts can be reused by sorting as hard plastic. Electronic components can be disposed of as electronic waste. The machine or machine components can of course be returned to HTC Sweden AB.

Maintenance

Always clean the machine after use. Do not use a pressure washer as this can force water into various components causing damage. We recommend the regular inspection of seals, especially the seals by the upper belt. These seals should be inspected once every three months and changed if worn. The filter to the electrical cabinet should be replaced regularly (See Page 11.)

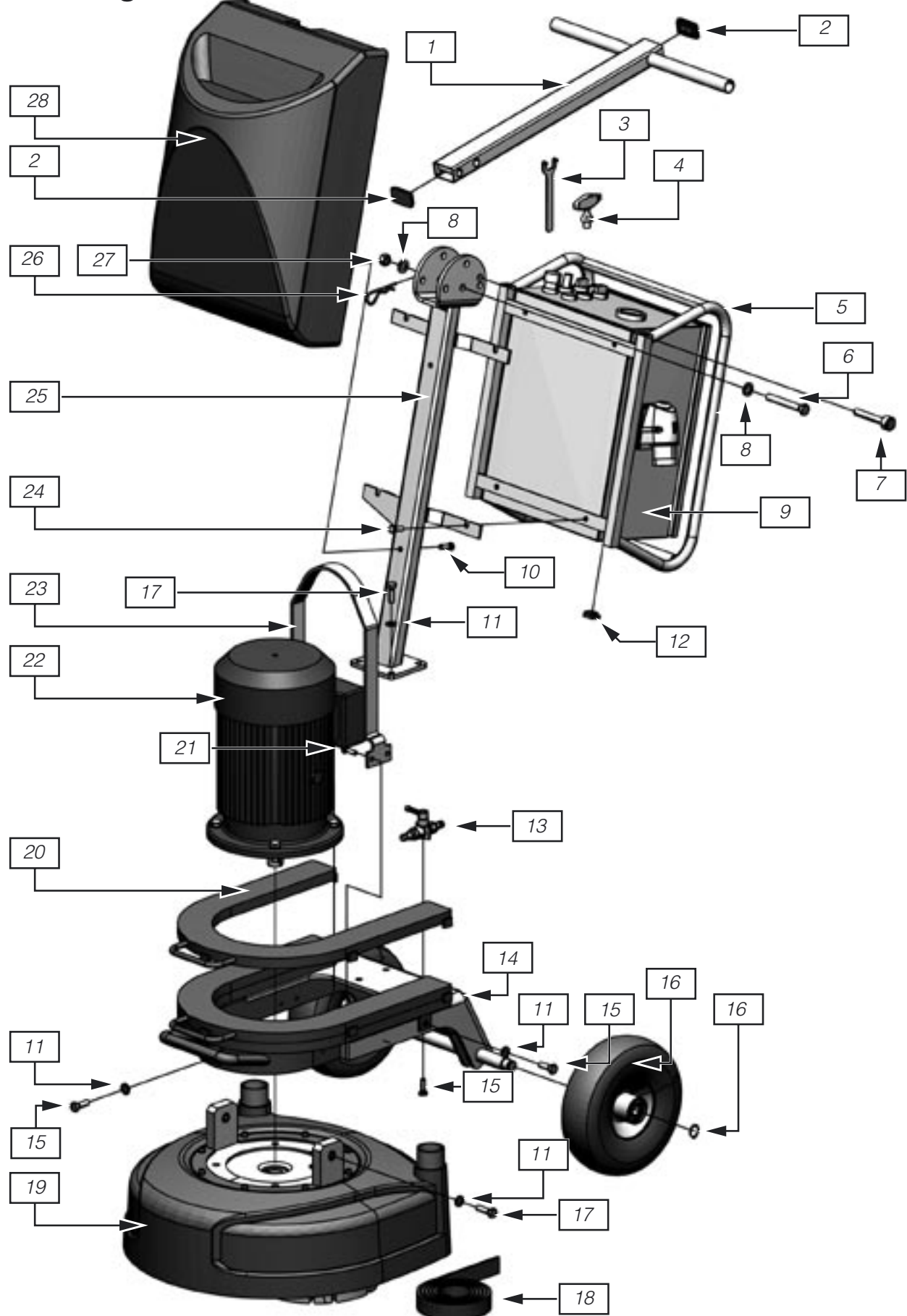
Parts and service

Any necessary repairs must be carried out by a HTC Service Centre that has the qualified service personnel and use HTC's original parts and accessories. Contact your distributor if you need spare parts or service.

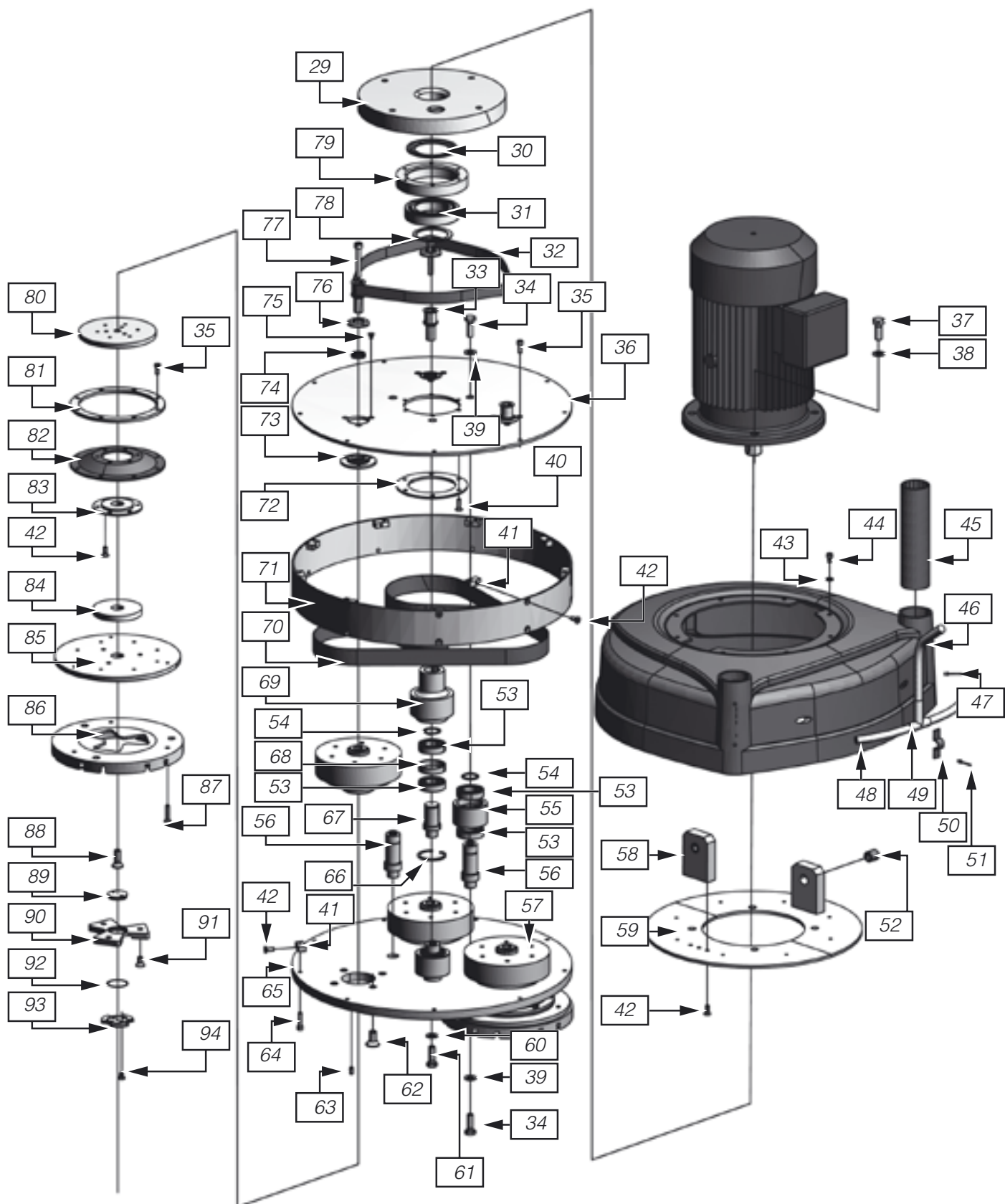
Addresses to our distributors and service partners are available on our website:
www.htc-sweden.se

Always state model and serial number if you have any questions about your machine.

Exploded diagram HTC 500



Exploded diagram HTC 500



Piece list HTC 500

Pos:	Description:	Art.Nr:	Antal:
1	Chassis HTC 500 Handle	110616	1
2	Insert rectang. 50x30 HTC 500	110579	2
3	Pin spanner for HTC 500, 650, 800	110134	1
4	Standard wrench (for frequency converter cabinet)	110349	1
5	Protective cage	110385	1
6	Screw M6S M12x85	310002	1
7	Pin	110001	1
8	Washer BRB M12 13x24x2.5	310003	2
9	Power Unit		1
10	Screw MC6S M8x10	310006	4
11	Washer TBRB 22x10.5x4	310008	7
12	Insert rectangular 20x20 (cage)	10372	4
13	Water valve, complete	110548	1
14	Chassis bottom	110617	1
15	Screw M6S M10x30	310066	4
16	Wheel HTC 500 + Clamp ring	110381	2
17	Screw M6S M10x35	310007	4
18	Splashguard HTC 500 EZ 2nx100 mm	110972	1
19	Cover HTC 500 2004	111180	1
20	Set of weights HTC 500	110736	3
21	Screw MC6S M8x16	310080	4
22	Motor (4kW) Frequency controlled 200/346V	110225	1
22	Motor (4kW) Soft start 400/600V	110011	1
23	Lifting bow HTC 5000	110813	1
24	Screw M6S M8x25	310001	7
25	Chassis HTC 500 Post	110618	1
26	Hair pin 3.5x75	310125	1
27	Locknut M12	310004	1
28	Water tank HTC 500	110610	1
29	Motor plate HTC 5000	110812	1
30	Nilos ring HTC 420	10472	1
31	Ball bearing 6012 2rs C3	110026	1
32	Belt upper S-140 HTC 500	110016	1
33	Shaft journal HTC 5000	110803	3
34	Screw M6S M8x25	310001	3
35	Screw MC6S M6x16	310082	17
36	Upper cover HTC 5000	110811	1
37	Screw M6S M12x30	310128	4
38	Washer BRB M12 13x24x2.5	310003	4
39	Washer TBRB 8.4x26x5	310015	3

Parts list HTC 500

Pos:	Description:	Art.Nr:	Antal:
40	Screw MFT-TT M6x25	310025	6
41	Fixing boss, non-zinc	110023	18
42	Screw MFT-TT M6x16	310014	10
43	Washer BRB M6	310012	8
44	Screw MC6S M6x10	310005	8
45	PEH Pipe 50 LK	110383	2
46	Hose, thick, reinforced PVC (0.5 m)	110130	1
47	Pop rivet 4.8x19	310083	4
48	Hose, polyurethane tube 10/7 black 1.3 m	110145	1
49	T-pipe 10mm	110144	1
50	Wiring holder (clip) JR12	110059	2
51	Pop rivet 4.8x12.7	310084	2
52	Bushing, fixing lug	111225	2
53	Ball bearing 6005-2rs C3	110019	2
54	Circlip SGA 25	310021	1
55	Tensioning wheel HTC 5000	110815	1
56	Tensioning wheel shaft HTC 5000	110800	1
57	Pulley assembly, complete HTC 5000	111278	3
58	Fixing lug HTC 500	110013	2
59	Split plate HTC 500	110014	1
60	Washer TBRBSB 10.5x28x6	310042	4
61	Screw M6S M10x25	310114	4
62	Screw MF6S M12x1.25,20	310138	12
63	Cylinder pin CP 6x16 M6 (3x3)	10466	9
64	Screw MC6S M6x25	310035	9
65	Lower cover HTC 5000	110802	1
66	Circlip SGH 47	310144	1
67	Shaft centre hub HTC 5000	111189	1
68	Spacer centre hub HTC 5000	111192	1
69	Centre hub HTC 5000	110814	1
70	Belt, inner S-250 HTC 500	110021	1
71	Edging strip HTC 5000	110810	1
72	Bearing cover, centre HTC 420	110652	1
73	Sealcover HTC 5000	111259	3
74	Radial seal CR 15x26x7	10874	3
75	Screw MFT M5x12	310141	9
76	Gamma ring 9RB 20x37x04	111260	3
77	Screw MC6S M8x55	10482	3
78	Circlip SGA 60	310018	1
79	Bearing cap, centre HTC 420	110673	1
80	Grinding holder, upper HTC 5000	110807	1

Parts list HTC 500

Pos:	Description:	Art.Nr:	Antal:
81	Polycord holder, outer HTC 5000	110051	1
82	Pad, polycord green 168 mm	110370	2
83	Polycord holder, inner HTC 5000	110809	1
84	Spring HTC 5000	110808	1
85	Grinding holder, lower HTC 5000	110806	1
86	Tool holder D230 Aluminium	210752	3
87	Screw MFT M6x30	310017	9
88	Screw MF6S M10x30	310146	3
89	Cross-piece, part 3 HTC	110937	1
90	Cross-piece, part 1 HTC	110930	1
91	Screw MFT M8x16	310070	3
92	O-ring 32.1mm cross	110947	1
93	Cross-piece, part 2 HTC	110955	1
94	Screw MF6S M6x10	310168	2

Error codes for frequency converter SJ 100

If a fault occurs that trips the frequency converter, an error code will be automatically generated and shown on the converter's display. Use the error code table below to interpret the error code.

Error code	Name	Cause(s)	Action
E01	Overcurrent indicated during ongoing operation at constant speed	Short circuit in the converter's voltage output, or the motor's driveshaft is sluggish or has seized. Load or speed too high. Supply voltage too low. These conditions result in a heavy current load on the converter that cuts its voltage output.	Check the inertia by turning the grinding disks by hand. Note that the discs and tools may be very hot after running on the machine.
E02	Overcurrent indicated during ongoing operation at decreasing speed		
E03	Overcurrent indicated ongoing operation at increasing speed	Occurs when there is a major change in load. Can happen if you run on varying surfaces.	Check the tools. Remove any extra weights.
E04	Overcurrent indicated while motor is shut down		
E05	Overload protection device	When overload in the motor is detected via the heat protection function the converter cuts the output power supply. Due to a load or speed that is too high over an extended period. Supply voltage too low.	Reduce the grinding speed and remove any extra weight. Check the tools.
E06	Overloaded brake resistance	When the interchangeable brake resistor exceeds its permitted operation time, or when overvoltage caused by overload in the brake resistor is detected the converter cuts the output current supply to the motor.	
E07	Overvoltage protection	When the voltage at the DC bus exceeds a threshold value due to the power generated by the motor.	Check that the belt is intact by turning the grinding disc by hand.

Error code	Name	Cause(s)	Action
E08	EEPROM error	When the built-in EEPROM memory has problems due to interference or exceeded temperature level, the converter cuts the output current supply to the motor.	Check the temperature inside the electrical cabinet. Faults arise when running the machine too hard at an excessive ambient temperature.
E09	Undervoltage fault	When the voltage at the DC bus is so low that it falls below the lower threshold value, this will result in an error message. This condition may also cause excessive motor temperature or a drop in torque. If this is the case, the converter cuts the output current supply to the motor.	Check: - Cables - Contacts - Fuses May be defect or have supply cables that are too long resulting in too many users in the electricity supply network.
E10	Current converter fault	If a source that generates a lot of interference is close to the converter or if a fault is generated from the current converter, the converter cuts the output current supply to the motor.	Contact service.
E11 E22	CPU error	If a technical fault occurs in the built-in CPU (processor), the converter cuts the output current supply to the motor.	Press "reset" on the frequency converter to reset the processor.
E13	USP (Unattended Start Protection) activated	Operating fault. Protection function that prevents unintentional start. Occurs when the mains supply is switched on and the command interpreter is found.	The FRW/REW knob is used for starting and stopping the grinding head. The ON/OFF knob is a main circuit breaker and must not be used to stop/start the grinding head. See the operating instructions in the manual.
E14	Output earth fault	The converter is earth protected between the converter and the motor via a test during start-up. This function protects the converter and not the user.	Check the motor and motor cable. This may also be due to there being dirt on the contact surfaces that needs to be cleaned.
E15	Input overvoltage	When the input voltage is higher than the specified value, this is detected within 100 seconds of start-up whereupon the converter cuts the output current supply to the motor.	Check voltage.

Error code	Name	Cause(s)	Action
E16	Voltage variation	May be due to poorly connected supply cables. Can occur during thunderstorms.	Check cable and connection.
E21	Converter heat protection	When the internal temperature of the converter exceeds the specified value, the converter's temperature sensor detects this and cuts the output power supply to the motor.	
E24	Phase fault	Input phase fault.	Check the fuses. US versions running on two phases have a jumper. The jumper may need to be moved if the phase voltage in the machine is incorrect. Contact your distributor.
E35	PTC error	When terminal no. 5 is configured as PTC (heat protection) and the converter has detected resistance that is too high (malfunction in component or the temperature is too high), the converter cuts the output current supply to the motor.	Contact service.

Error codes for E30 are general faults that must be corrected at the service workshop.

Troubleshooting

Possible faults along with the actions necessary to correct the faults are detailed below.

Type of fault	Action no. (see below)
Machine does not start	1, 2, 3, 4, 5, 6 or 7
Machine starts after a while	1, 2, 3, 4, 5, 8 or 9
Machine runs unevenly	10, 11, 12, 13, 14, 15
Machine grinds incorrectly	14,15

1. Check that the emergency stop is not actuated.
2. Check that the electrical connection between the machine and the mains is correct.
3. Check that all phase indication diodes are lit.
4. Check that the fuses are intact and the right type is used.
5. Check the quick-acting contact under the converter that provides current to the motor.
6. Check your starting speed. We recommend that you do not start at high speed.
7. Check any error messages on the frequency converter display.
8. Check if the cable is hot. If it is hot, the cable may be too long or its area too small.
9. The machine has been run too quickly (power supply inadequate). Reduce speed.
10. Packed dirt means that the small drive plates become hard and less resilient. Clean the machine between the large and small plates.
11. Check for wear to the grinding tools and/or that they are properly secured to the disc.
12. The screws between the grinding head bracket and the chassis may be too tight. Loosen them to allow for a little movement.
13. The upper belt may have come off. Check by sliding the small plate in any direction. If the large plate turns freely the belt has come off.
14. The grinding holders may be uneven and need renovating. See the service instructions for grinding holders.
15. The chassis may be askew and need to be replaced or realigned.

If the machine still does not work after the above items have been checked, contact HTC's Service Department on +46 (0)121-294 00.

Appendix, soft start HTC 500

HTC 500 Soft start is a more basic model. The difference lies in the soft start only having one speed instead of being infinitely variable as is the case with the frequency controlled machines. The soft start gives the HTC 500 a fixed speed, see technical data. The control panel consists of four buttons. An emergency stop is placed at the top that, when activated, must be turned a half turn to the right before the machine can be started again. Under this function is a stop button that shuts the machine down, and under this are two buttons for selecting rotational direction. These buttons also start the machine.

A miniature circuit breaker, motor protector, hour counter and a soft start are installed inside the electrical cabinet. The motor protector activates when the motor takes more current than is permitted. This may happen during a heavy load or when running at a speed that is too high.

Press the black button on the motor protector again to reset the machine.

The miniature circuit breaker trips when there is a short circuit. If the machine does not work. Check the fuse and the motor protector.

NOTE:

Settings that are made for the soft start and for the motor protector must not be changed. Contact HTC SWEDEN AB or your distributor if you have any problems.



HTC SWEDEN AB
Box 69
SE-614 22 Söderköping
Sweden
Tel: +46 (0) 121-294 00
Fax: +46 (0) 121-152 12
www.htc-sweden.com