



HUGONG



TYPE
INVERDELTA400III



**Read this manual carefully before
using the product.**

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Storing the user manual

- Keep the user manual in an accessible place, close to the product.
- Ensure that the manual is stored in a dry place.
- Use the manual carefully and avoid damage.
- The product must not be used by persons who are not familiar with the instructions and procedures in this manual.

This user manual is an integral part of the product and must therefore be kept in a safe place. If the product is transferred to another user, the manual must be included.

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1. General

Installation instructions for the INVERDELTA400III

The INVERDELTA400III is an electric welding machine designed for professional use with various welding features such as ARC FORCE, HOT START and digital current display. Ensure that you only use the device for its intended applications, without any modifications. Store the device in a dry place, out of the reach of children. Check the device regularly for wear or damage.

2. Safety instructions

General warnings

- Read all instructions carefully before use.
- Only allow qualified persons to install or operate the machine.
- Keep the workplace clean, dry and well ventilated.
- Place the welder on a stable base or trolley.

Personal protective equipment (PPE)

- Always wear a welding helmet that complies with ANSI Z87.1.
- Use safety goggles, welding gloves and flame-retardant clothing.
- Use hearing protection and a welding hood.

Electrical hazard

- Do not touch conductive parts during welding.
- Wear dry, insulated clothing and shoes.
- Check cables for wear and replace if necessary.
- Ground the device correctly.

Toxic fumes

- Work only in well-ventilated areas or use extraction.
- Do not weld on materials with toxic coatings such as zinc or cadmium.
- Consult the material's safety data sheet.

UV and IR radiation

- Cover the skin completely.
- Use welding hoods and protective screens.

Fire hazard

- Remove flammable materials within a radius of 10 metres.
- Keep a fire extinguisher within reach.
- Never weld on or near flammable containers.

Hot material & sparks

- Do not touch freshly welded parts without protection.
- Be careful when tapping slag; wear eye protection.

EMC risk

- Persons with pacemakers should consult a doctor first.
- Keep cables on one side of the body and never wrap them around the body.

Gas cylinders

- Always secure gas cylinders in an upright position.
- Keep them away from heat, flames and electrical circuits.

3. Assembly

3.1 Power requirements

- 3~ 220V/380V/400V/415V $\pm 15\%$, 50/60Hz
- Fuse protection with 40A slow-blow fuse
- Do not use below minimum or above maximum mains voltage

3.2 Connection

- Earthing required
- Do not use adapter plugs
- Switch off the main switch before connecting

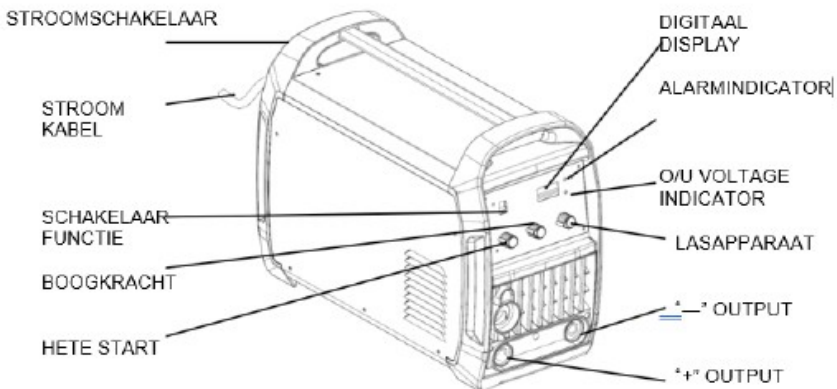
3.3 Positioning of workpiece

- Position the workpiece horizontally or flat if possible
- Remove dirt, paint and rust; prime if necessary
- Make a good ground connection without contamination

3.4 Electrode selection and mounting

- Suitable electrodes: E6011, E6013, E7014, E7018
- Select electrode type and current based on material thickness and position

4. Use



4.1 Control elements

- Digital display: shows set or current current
- Amperage control: stepless
- HOT START, ARC FORCE and Amperage adjustable on front
- Overheating indicator switches off when temperature is too high

4.2 Welding technology

- Starting: scratch the electrode and maintain a constant arc of ~3 mm
- Hold the electrode at an angle of 10–30°.
- Avoid rapid or irregular movements

4.3 Weld seams

- Stringer bead: straight line
- Weave bead: zigzag for wider deposition
- After welding, check for slag and remove it with a hammer

4.4 Welding position

- Flat: simplest
- Horizontal: electrode pointed downwards at 30°

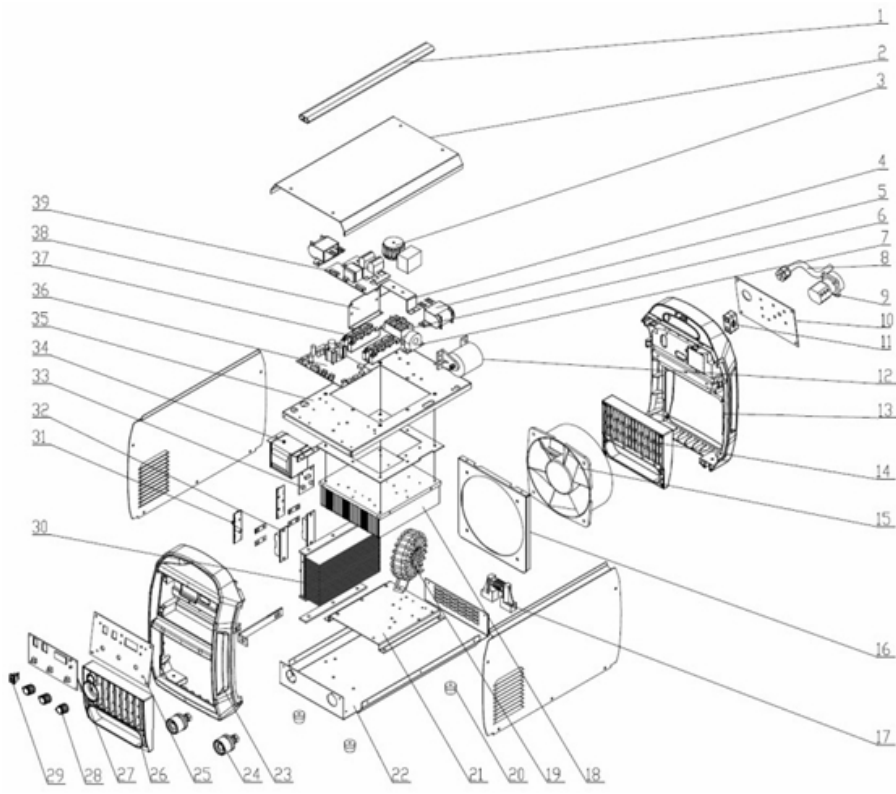
5. Maintenance

- Clean the inside of the device every 6 months with compressed air
- Replace damaged cables and components immediately
- Store the device in a dry place (10–50 °C, <90% RH)
- Clean before storage and repackage if possible

6. Specifications

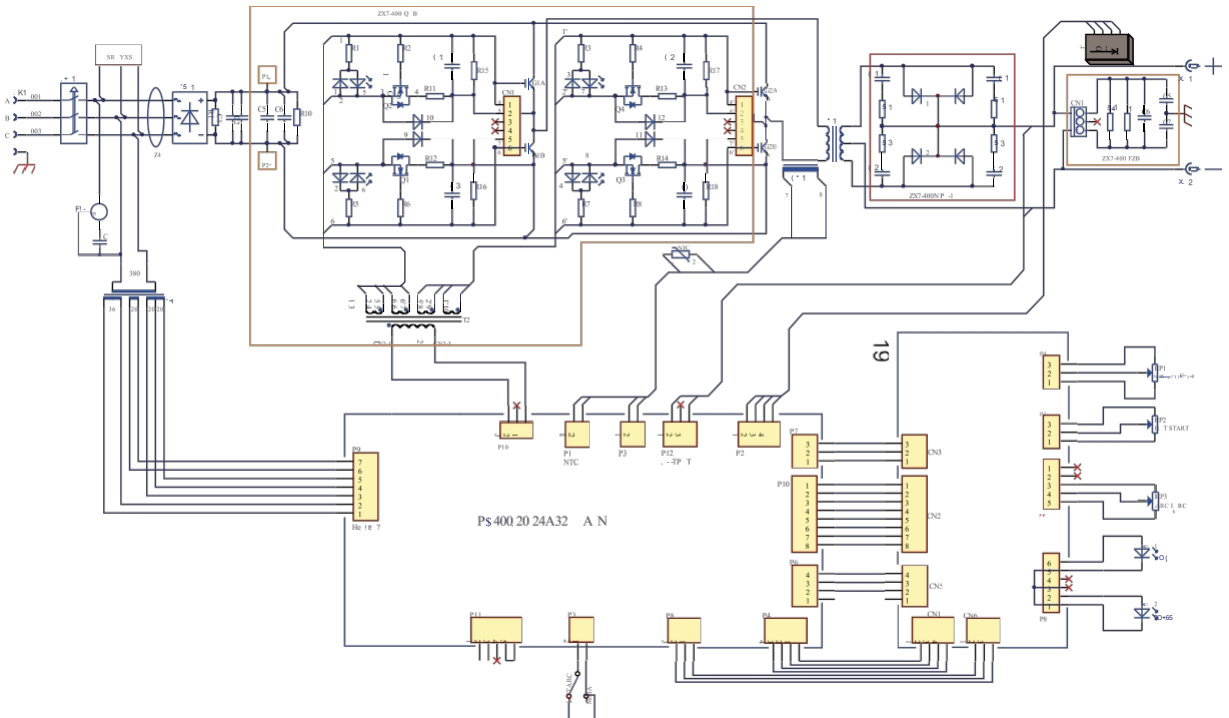
Model	INVERDELTA400III
Power supply:	3~ 400V
Duty cycle:	400A @25%
Open terminal voltage:	max. 85 V
Protection rating:	IP21S
Cooling:	forced air IGBT
protection temperature:	75–80°C
Dimensions (mm):	510×240×420
Weight	19

7. Parts lists



N o	CODE	QTY	English name
1	20020170016	1	Handle
2	11010011527	1	Shell
3	20030302203	1	Common-mode inductance wiring harness
4	11010060603	1	Common-mode inductance fixed plate
5	20070120118	1	Filter capacitor
6	20070370027	1	3 phase rectifier bridge
7	20070390047	1	Mutual inductor
8	20040300009	1	Nylon cable gland
9	20070800378	1	Source switch
10	11010032490	1	Black face panel
11	20050170019	1	Tension disc
12	20070120118	1	capacitor
13	20050050643	1	Plastic back plate frame
14	20050050640	1	blinds
15	20070890147	1	Axial flow fan
16	11020011327	1	Fan cover
17	20070040090	1	Filter inductance
18	20070430135	1	IGBT heat sink
19	20070250136	1	Main transformer
20	20050050542	4	Machine feet
21	11020010233	1	Heat sink holder
2	12020121211	1	Base plate
23	20050050643	1	Plastic front plate frame
24	20070570185	1	European style quick socket
25	11050070324	1	Front panel
26	20050050640	1	blinds
27	11020015760	1	Plate support plate
28	20070110068	3	Potentiometer knob 2
29	20030302171	1	Potentiometer knob 1
30	2007	1	Fast recovery heat sink
3	11050080047	1	Secondary baffle
32	20070280141	2	Fast recovery diode
33	11050090061	1	Load resistance capacitance board
34	20070250135	1	Control transformer
35	20070250036	1	Mounting plate
36	11020011330	1	Main control board
37	11050020539	2	IGBT
38	20070330067	1	Capacitor Mounting plate
39	11010050254	1	Driving board

8. Circuit diagram



9. HUGONG warranty conditions

1. Warranty period

We offer the following on all our products:

- 2-year standard warranty on manufacturing and material defects from the date of purchase
- 5-year extended warranty, provided the product is registered within 30 days of purchase
- The extended warranty is only valid for the original owner and is not transferable. For business applications, different terms may apply, unless otherwise agreed in writing.

2. Unique HUGONG warranty:

5 years with official purchase from an official HUGONGWELDS.EU sales point

The 5-year warranty on our HUGONG welding machines is unique in the market and underlines our commitment to quality, durability and service.

This extended warranty applies only if:

- The machine was purchased from an authorised dealer listed on HUGONGWELDS.EU, the central platform for official HUGONG sales outlets and service partners.
- The product has been correctly registered online within 30 days of purchase.
- Any repairs or maintenance are carried out exclusively by an authorised HUGONG service partner, as listed on HUGONG-WELDS.EU
- Repairs carried out by unauthorised parties will invalidate the warranty.
- The complete list of authorised dealers and service points can be found at:
- www.hugongwelds.eu
- Purchases made through unauthorised sales channels or grey imports are not covered by the warranty conditions.
- Valkenpower B.V. is the official importer of HUGONG welding equipment for Western Europe. The 5-year extended warranty is provided exclusively by Valkenpower in collaboration with HUGONG.

3. Warranty conditions (standard and extended)

To claim warranty (standard or extended), the following conditions must be met:

- The product was purchased from a dealer recognised on HUGONG-WELDS.EU
- The product is used in accordance with the user manual and the prescribed maintenance instructions
- Maintenance and/or repairs are carried out exclusively by authorised HUGONG service partners
- For extended warranty: the product has been correctly registered within 30 days of purchase
- The original purchase invoice is available and can be presented
- Please note: In the event of incorrect or improper use, the warranty will be void, including the standard warranty.

- If the product is not registered or is registered incorrectly within 30 days, only the standard 2-year warranty applies.

4. What is covered by the warranty?

Within the valid warranty period, HUGONG covers:

- Manufacturing defects
- Material defects
- Functional defects under normal use We will:
- Repair or replace the defective part
- Replace the entire product if necessary
- Or, in consultation, refund the purchase price (in part), minus depreciation
- The choice of solution is at the discretion of Valkenpower B.V. or an authorised service partner.

5. What is not covered by the warranty?

The warranty does not apply to:

- Normal wear and tear of parts such as:
- Electrodes, torches, cables, connectors, filters
- Hose couplings, switches, seals
- Water pumps for water coolers – these are considered wear parts
- Incorrect use, overloading or incorrect installation
- Modified or altered products without written permission
- Use of non-approved accessories or parts
- Ingress of dust, moisture or metal particles into the machine – this is not covered by the warranty and is considered user error
- Damage caused by external influences: moisture, dust, overheating, power surges, lightning, fire, corrosion or transport
- Use in rental applications, unless agreed in writing in advance

6. Warranty procedure

In the event of a defect:

Please contact our customer service or an authorised HUGONG dealer. Please provide the following:

- Proof of purchase
- Serial number (legible on the type plate)
- Description of the problem and the circumstances

Shipping:

- The product must be returned safely packaged to the designated service point.
- Transport and shipping costs are at the customer's expense, unless otherwise agreed.
- During repairs, there is no automatic right to a loan or replacement product.

7. Limitation of liability

HUGONG and Valkenpower are not liable for:

- Loss of income, consequential damage or business interruptions
- Costs for disassembly/assembly or adjustments
- Work carried out by third parties without written permission
- Claims exceeding the original purchase price
- Statutory consumer rights remain unaffected.

8. Warranty on parts and repairs

- Repaired or replaced parts retain the remaining warranty period of the original product.
- Separately purchased parts have a warranty period of 6 months.

9. Applicable law

These warranty conditions are governed by Dutch law. Disputes will preferably be resolved through consultation. If necessary, the matter may be submitted to the competent court in Roermond or to a recognised dispute resolution body.

Questions?

Our customer service team will be happy to help you. Visit:

www.hugongwelds.eu – for dealers, service partners and registration

EC Declaration of Conformity – Declaration of Conformity – EG-Konformitätserklärung – Declaration de conformité - Declaration of conformity

We, We, Wir, Nous, Noi, La empresa, **Valkenpower BV, Industrieweg 4, 6051 AE Maasbracht, Netherlands**, declare under our sole responsibility that the product declare under our sole responsibility that the product
erklären in alleiniger Verantwortung, dass das Produkt
déclarons sous notre seule responsabilité que le produit
dichiariamo sotto la nostra responsabilità che il prodotto
declare under our sole responsibility that the product

Type	Description	Brand
Model	Description	Brand
Type	Description	Marke
Type	Description	Marque
Tipo	Description	Marca
Tipo	Electrode welding machine	Marca
INVERDELTA400III		Hugong

To which this declaration relates is in conformity with the following standards:
To which this declaration relates is in conformity with the following document: Auf welches sich diese Erklärung bezieht, den folgenden Normen entspricht: Auquel se réfère cette déclaration est conforme à le document suivant:
The declaration refers to the following documents:
The present declaration refers to the following documents:

Low Voltage Directive, Niederspannungsrichtlinie, la Directive Basse Tension, la direttiva bassa tensione, la norma Baja tensión:

2014/35/EC

Netherlands, Maasbracht, 05-08-2025

Serial number:

Director Valkenpower



B.A.H Valkenburg

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