
Bedienungsanleitung

Operating Instructions

ExOn2A, DX304
ExOn2A-5, DX312



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Before start-up these operating instructions must be examined carefully because we will not assume any liability for any failures resulting from improper use. No warranty claims will be accepted if the hand-held welding and extruding machine has been modified unless this has been done in consultation with the manufacturer/ supplier.

The appliance is not to be used by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction.

Children must be supervised not to play with the appliance.

The extruder shall be used for extrusion weld works only !

These operating instructions should always be accessible by the operator.

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english

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1. Type

Article-no. / Type of machine :	DX304 ExOn2A, DX312 ExOn2A-5
Machine no. :
Required voltage :	230 V / 50 – 60 Hz
Heating unit :	2700 W/11,7A
Processing of :	PE, PP

2. Safety

Pursuant to section 55 of VDE 0 100 (Regulations of the Association of German Electrotechnical Engineers), the extruder must be operated using a protective switch or an isolation transformer. Always keep extruder dry!

Operating hand-held welding and extruding machines is subject to applicable national regulations. Observe applicable regulations for the prevention of accidents as well as technical rules for safe and professional operation.

Directive 92/ 57/ EWG dated June 24, 1992, shall be applicable by analogy.

Utilisation:

Hand-held welding and extruding machines are manufactured according to the latest state of the art and in compliance with safety requirements.

Any improper use may result in dangers for the operator or third parties or may adversely affect machines and assets.

Only use hand-held welding and extruding machines if in technically perfect condition and for the purposes for which they are intended while observing the operating instructions.

The manufacturer / supplier will not accept any liability for any failure to comply with the above or for damages resulting there from.

Any utilisation of the hand-held welding and extruding machine for other purposes than those for which it is intended is subject to the consent of the manufacturer / supplier.

Work on electrical parts of the hand-held welding and extruding machines may only be performed by an electrical engineer in compliance with electro-technical rules.

Special risks:

All hand-held welding and extruding machines may only be held and operated using the handles provided for this purpose.

A risk of burning exists on all **uncovered metal parts**. Avoid contact with these parts because they may achieve temperatures of up to 350 °C.

Caution: Heat can reach combustible materials!

Safety area:

The hot air stream of the hand-held welding and extruding machine may not be directed to temperature-sensitive objects or living things. Ensure that a safety distance of 2m is observed in all directions.

Don't concentrate the heat stream long time on the same area.

Operation:

Never use hand-held welding and extruding machines without air supply.
In case of external air supply ensure that the feed line is of sufficient size.
The pressurised air that is supplied **must be free of oil and water.**

Overhead work:

When working overhead always wear appropriate safety devices (such as helmet, safety glasses etc.).

Safety:

Check for correct nominal voltage before connecting the hand-held welding and extruding machine to the mains voltage.

Mains voltage must be identical to the nominal voltage shown on the type plate of the hand-held welding and extruding machine.

Pursuant to sec. 55 of VDE 0 100 the hand-held welding and extruding machine must be operated using a protective switch or an isolation transformer.

Extension cords:

When using extension cords the minimum diameter of cables must be observed.

Length up to 18 m: diameter 2.5 mm²

Length up to 50 m: diameter 4.0 mm²

Extension cords must be approved and marked for their place of utilisation.

Stop operating the hand-held welding and extruding machine if:

- connecting line or plug have been damaged
- safety installations have been damaged
- foreign objects or liquids have entered the hand-held welding and extruding machine
- changes occur in the operating state

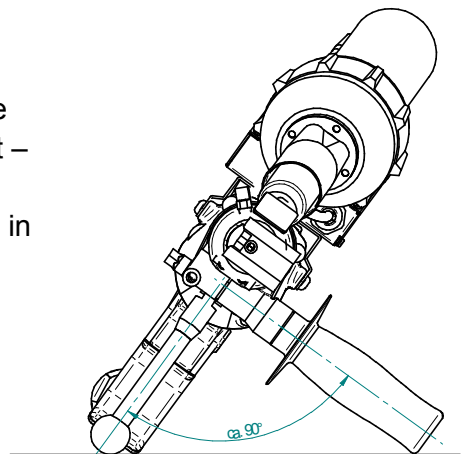
**Never spray water on hand-held welding and extruding machines
(risk of short circuit)**

Never use hand-held welding and extruding machines in hazardous or inflammable areas.

To park the tool:

To save the stand, click the machine base out and put the tool on the three points (machine base – handle drive unit – pivoted handle).

Make sure that the machine base to the pivoted handle is in angle of 90°.



3. Start-up

General:

Observe the notes on safety contained in these operating instructions. In addition, the regulations on the prevention of accidents and the national regulations shall apply.

Assembling the hand-held welding and extruding machine

When dispatched, our hand-held welding and extruding machines are almost completely assembled.

What remains to be done is to screw the enclosed handle to the machine.

For machines with external air supply the air supply hose must be connected.

Ensure sufficient supply with air which is free of oil and water (min. 300 l/min).

We recommend our air compressor, item no. DX 011.

Weld shoe

The machine is supplied with two weld shoes blank which can be machined to suit your requirements.

Note: please observe guideline DVS 2207 part 4.

If you indicate your required form of seam and thickness of plates we will supply two weld shoes machined ready for use.

Start-up of hand-held welding extruder

Observe the section concerning safety of these operating instructions.

Hand-held welding and extruding machines may not be used without air supply.

This would inevitably result in damages of the extruder.

Before connecting the extruder to the mains supply please check that:

- air supply is connected correctly
- the driving machine has not been put to permanent operation
- now switch on air supply
- and put plug into socket.

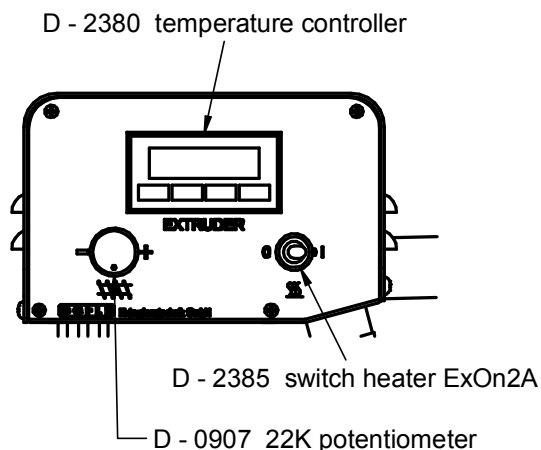
If you give now the power supply plug to a suitable plug socket (230V, 16A), press that On - Off switch on the air heater on position ON.

The machine heats now up.

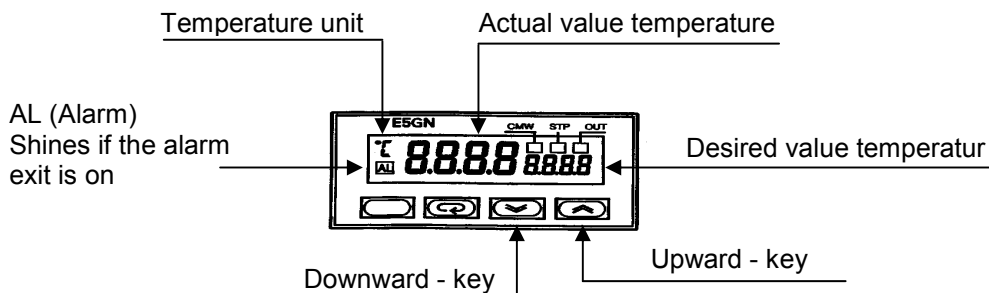
Make sure by each switching on of the machine, that the on-off switch of the drive engine is switched off.

After a heating-up time of approx. 15 minutes, start the machine using the welding material wished by you and examine the air and welding material temperature with a suitable temperature measurement. By changing the temperature of the air heater consider the reaction response time of the system .

View – controller front – steering box



Display and control elements off he controller front

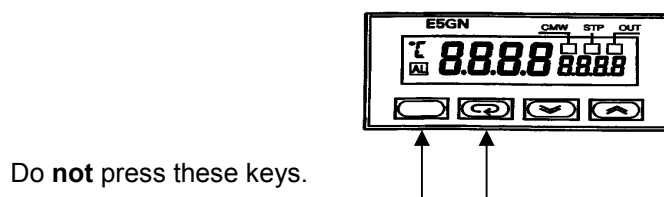


Controller – desired value setting

All controllers can be changed only in the desired value and are electrically locked against wrong inputs.

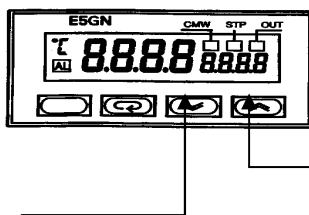
Change the desired value

The controller indicates actual and desired value temperature at the same time. To change the desired value temperature proceed as follows:



Downward - key

By every press of this key, the value becomes smaller, which is indicated on the desired value display. If this key is kept constantly pressed, then the value is sequentially becomes smaller.



Upward - key

By every press of this key, the value increases, which is indicated on the desired value display. If this key is kept constantly pressed, then the value sequentially becomes higher.

Change of the welding shoe

In order to be sure that no more old welding rod is in the hand welding extrusion, heat up the machine on operating temperature, remove the welding shoe and change the nozzle (**note: left hand thread!**).

Changing the welding filler

Heat up the hand-held welding and extruding machine until operating temperature is reached to ensure that no welding filler is present in the machine, remove the weld shoe and exchange the die (caution, left-handed thread) by a new one or by a die used with the material to be applied now.

Note: with work on heated machine burn danger.

When the nozzle is changed drive for approx. 1 min. the new welding rod in the hand welding extrusion.

Interruption of the welding

Do not leave the hand welding extruder unsupervised.
The air supply must remain maintained

Switch off the hand welding extruder

Bring the potentiometer of the air heater in position 0 and pull after ca.2 minutes the power supply plug.

Note: Even after 15 minutes still exists burn danger on bright metal parts.

No water or other materials for accelerating the cooling procedure must be used. .

Maintenance

Before maintenance work on the equipment, pull power supply plug!
Maintenance work may be accomplished only by electrical specialists.

Consider the security chapter!

After approximately 500 operation hours the hand welding extruder, including the drive unit must be cleaned, greased and controlled. These work may be implemented only by electrical specialists.

Drive

The carbon brushes conductors of the drive must be examined approx. every 200 operation hours and renewed if necessary.

Deep groove ball thrust bearing /barrel extruder

The deep groove thrust bearing and the barrel extruder should be cleaned approx. every 200 operation hours and again be greased

Note: Only high temperature grease can be used. Our art. no.: D-0581

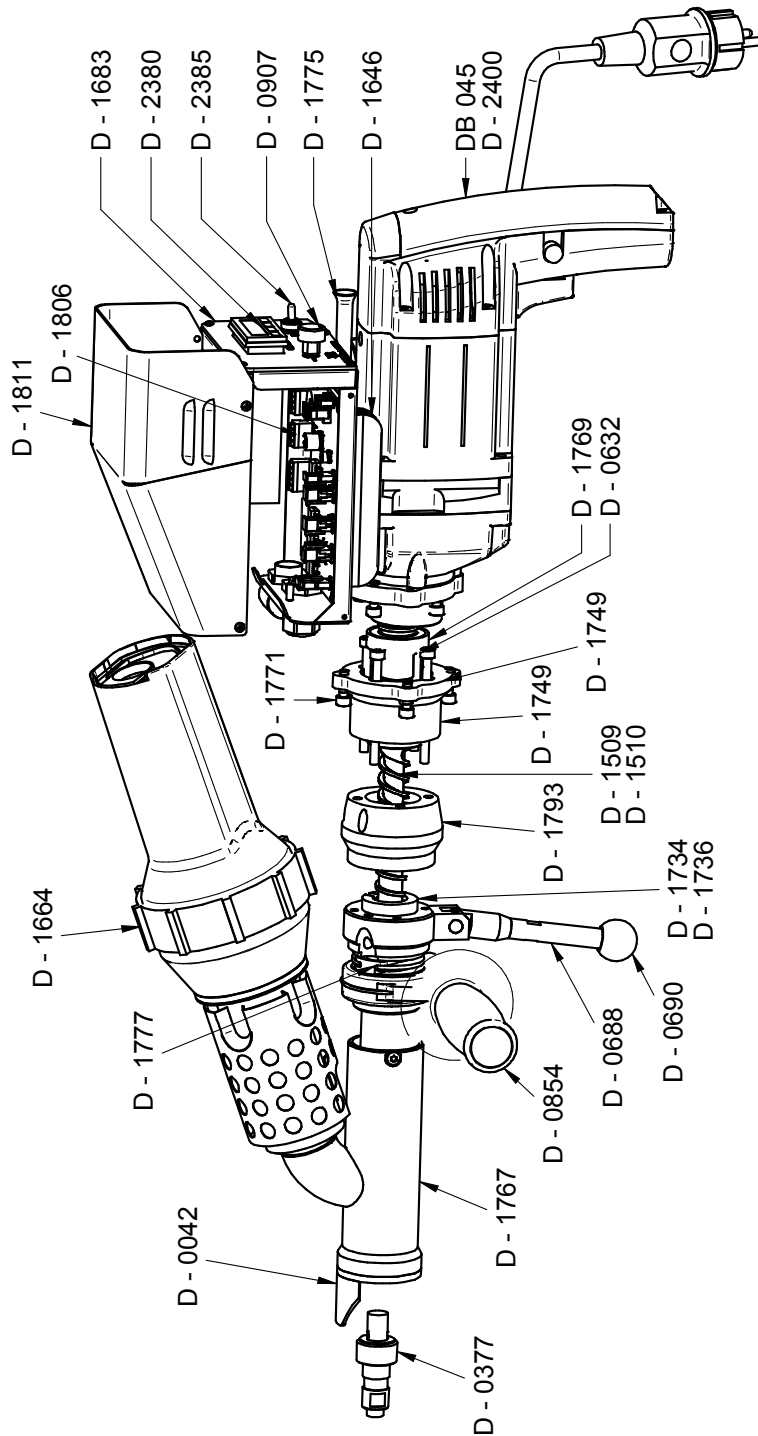
4. Error tracing

<u>Malfunctioning</u>	<u>Error- No.</u>
Driving motor does not start	01,02,04,05,06,07,08,09,10,11,12
Driving motor switches off	03,04,05,06,07,08,09,10
Extruder remains cold	04,05,06,07,08,09,15,17
Hot air remains cold	05,07,08,09,12
Hot air temperature is under desired value	11,13
Extrusion temperature is under desired value	11
Extruder does not deliver extruded material from the die	11
Display does not light up	01
Display shows: S . e r r	15
Display not constant	17
Display shows wrong direction of action	18

<u>Error-No.</u>	<u>possible cause</u>	<u>Elimination of error</u>
01	No power supply	Provide power supply
02	Incorrect mains voltage	Have checked by skilled technician
03	Extension cord becomes hot	Check cable diameter Run out cable completely from reel
04	Thermoelement for mass defective	Exchange thermoelement
05	Thermoelement for air defective	Exchange thermoelement
06	Temperature control unit for mass defective	Exchange temperature control unit
07	Temperature control unit for air defective	Exchange temperature control unit
08	On/Off switch for heating units in OFF position	Put switch to ON position
09	Defect on cable connections	Have checked by skilled technician
10	Carbon brushes of drive motor worn	Replace by new carbon brushes
11	Pre-heating time too short	Heat up extruder
12	External air supply not connected	Connect external air supply
13	Air flow too high when using external air supply	Reduce to prescribed quantity
15	Breakage of monitoring thermoelement	Replace thermoelement
16	Unsuccessful attempt to change a blocked parameter	Blockage can only be removed by a skilled technician
17	Thermoelement failure or loose connections	Check thermoelement Check connections
18	Sensor incorrectly connected, + and – mistaken	Check connections

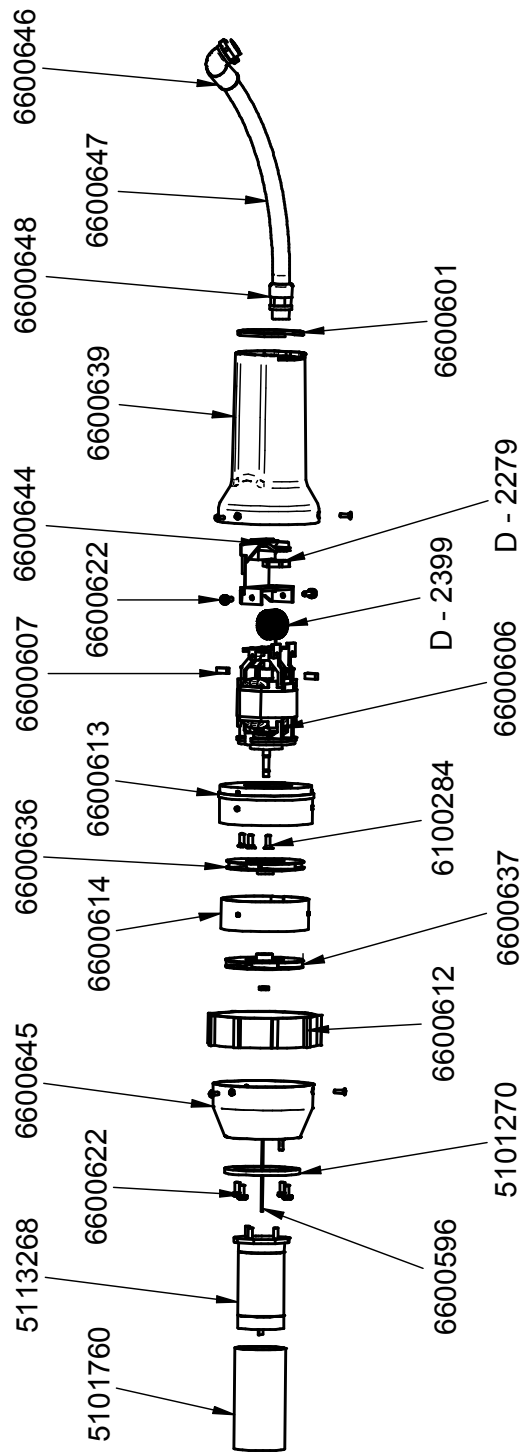
5 Drawings, Informations

DX304 ExOn2A, DX312 ExOn2A-5



article no	description	qty
6600646	angled hose screw fitting	1
D- 0042	air die Multi Fix 32mm	1
D- 0288	screw 2,2x6,5	4
D- 0377	die 1500	1
D- 0632	screw M5x65	4
D- 0680	compression spring handle	1
D- 0687	link	1
D- 0688	link joint 1502-3002	1
D- 0690	ball button 1502 - 6002	1
D- 0726	ball	1
D- 0854	handle	1
D- 0864	screw 2,9x6,5 DIN 7981	4
D- 0907	22K potentiometer	1
D- 1509	worm type ExO2	1
D- 1510	worm type ExO2- 5mm	1
D- 1532.1	cylinder inset ExO2+3	1
D- 1646	cooling ribs ExO2- 6	1
D- 1650	gasket heatsink ExO2- 6	1
D- 1664	Eron ExO2- 6	1
D- 1683	front panel ExO2A	1
D- 1734	cylinder ExO2 4mm	2
D- 1736	cylinder ExO2 5mm	2
D- 1748	flange ExO2- 4	2
D- 1749	indentation1 ExO2- 4	2
D- 1754	mainboard ExO2- 6	1
D- 1767	burner pipe ExO2A	1
D- 1769	deep groove ball bearing 61904 2Z ISB	2
D- 1771	screw M5x6	8
D- 1772	screw M4x6 T20 DIN 985	2
D- 1775	holder ExO2	1
D- 1777	cabl sleeve	1
D- 1778	axis ExO2- 6	1
D- 1793	indentation2 ExO2A+3A	1
D- 1806	line filter ExO2- 3	1
D- 1811	control box ExO2+3	1
D- 2050	screwed cable buckle proofed FG1	1
D- 2063	main cable 8m	1
D- 2134	widening FG9- FG1	1
D- 2279	plastic nut M6x15	1
D- 2322	screwed cable M6x15	1
D- 2380	temperature controller	1
D- 2385	switch heater ExO2A	1
D- 2400	inductor Exon2	1
DB 045	Drive BSM274, 230V, 800W	1

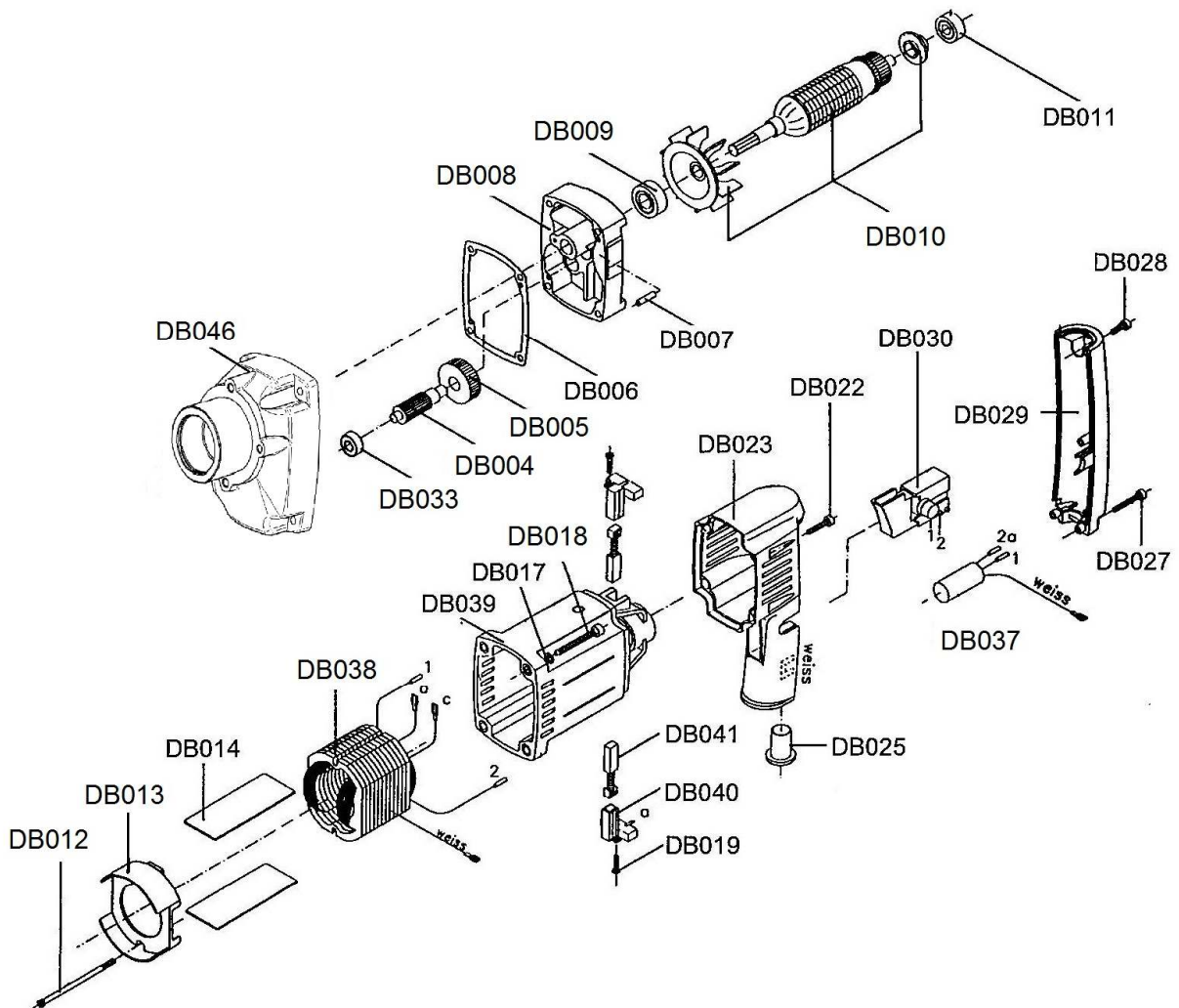
Eron ExOn2-6, Art-No: D - 1664



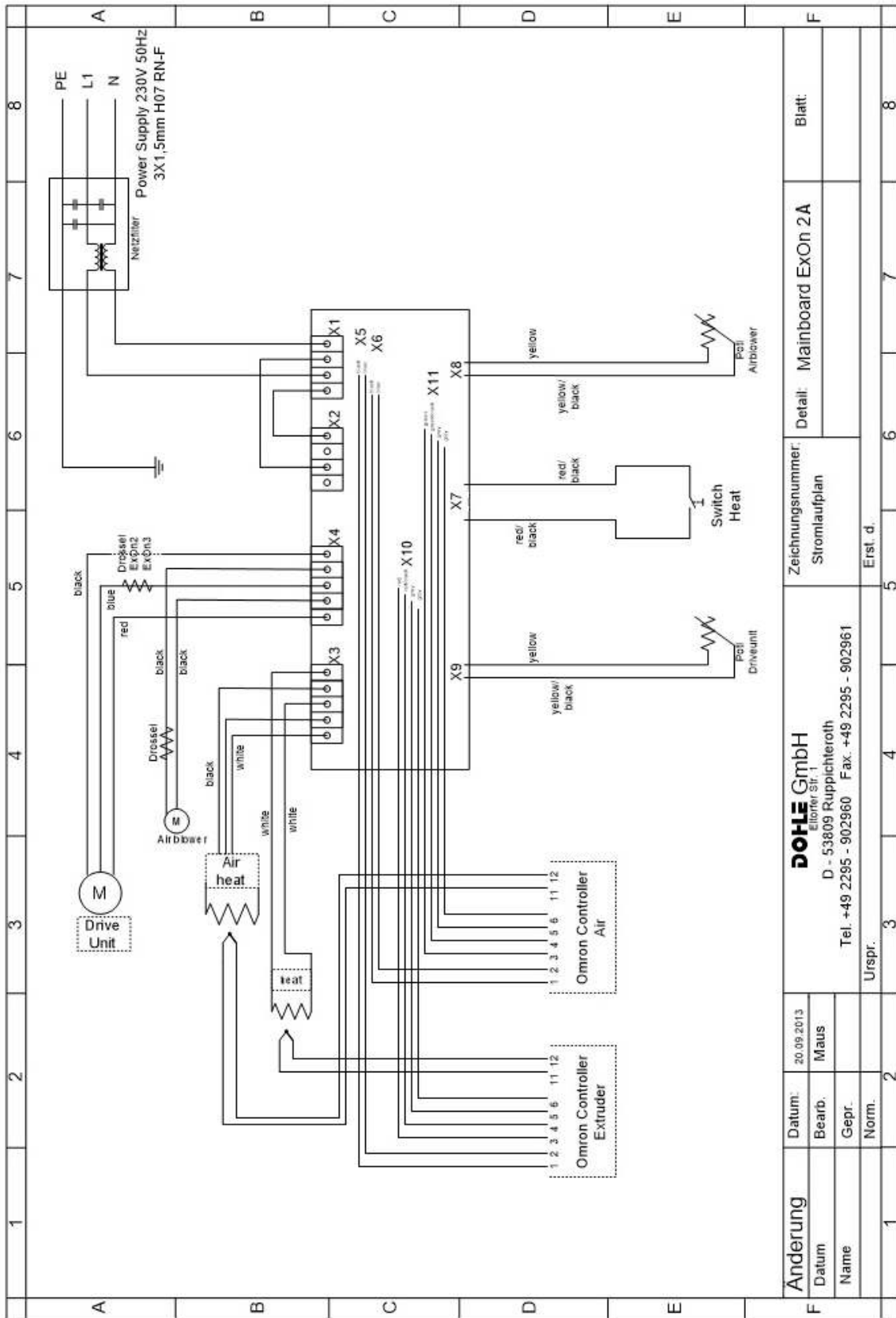
article-no	description	qty
5101270	gasket 70x48x4	1
5101760	mica tube 47,6x95	1
5113268	heating element 230V/2200W	1
6100284	countersunk screw M4x12 TX	3
6100287	hexagon nut M5	1
6113695	temperatur limit switch 135°C	1
6600596	thermoelement	1
6600601	air filter	1
6600606	motor 230V SL	1
6600607	carbon brush	2
6600612	rubber ring	1
6600613	turbine housing lower part	1
6600614	stripper	1
6600616	countersunk screw M3x10 TX	4
6600622	fillister head screw M4x10 TX	6
6600636	turbine	1
6600637	turbine	1
6600639	handle	1
6600644	connecting piece for cable sleeve	1
6600645	turbine housing upper part with hole 1/4"	1
6600646	angled hose screw fitting	1
6600647	cable sleeve 290mm	1
6600648	hose screw fitting straight	1
D - 2279	plastic nut M16x1,5	2
D - 2399	inductor Eron	1

Spare Parts Drive Unit

DB045



Art.Nr.	Qty	Description
DB046	1	Gear BSM 274
DB004	1	Idler 8Z
DB005	1	Gearwheel 21 Z
DB006	1	Flat Gasket
DB007	2	Cylinder Pin 4m6, 6x16 DIN7
DB008	1	Engine Flap KPL
DB009	1	Ball Bearing 6000 C3 2 RS
DB010	1	Armature Winding BSM 270
DB011	1	Ball Bearing 608-2Z
DB012	2	Raised Head Screw 3,9 x 70 DIN 7981 G
DB013	1	Air Plate
DB014	2	Insulating Plate
DB017	4	Spring Washer M5 DIN 7980 Satz 4 Stck.
DB018	1	Cheese Heat Screw M5 x 45 DIN 912
DB019	2	Cheese Heat Screw 2,9 x 9,5 DIN 7971
DB022	1	Raised Head Screw 3,9 x 19 DIN 7981 G
DB023	1	Handle BSM 270 green
DB025	1	Stopper
DB027	1	Raised Head Screw 3,9 x 25 DIN 7981 G
DB028	1	Raised Head Screw 3,9 x 13 DIN 7981 G
DB029	1	Handgrip Black
DB030	1	Switch ON-OFF
DB033	1	Ball Bearing 626-2Z
DB034	1	Shaft BSM 270 – 280
DB036	1	Drive Unit BSM 270, 230 V, 800 W, green
DB037	1	Capacitor 2007 BSM 270
DB038	1	Field 230 V
DB039	1	Motor Case Green
DB040	2	Carbon Holder BSM 270
DB041	2	Carbon Brush BSM 270

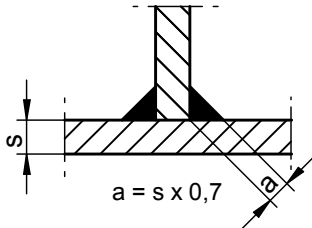


Änderung	Datum:	20.09.2013	DOHLE GmbH		Zeichnungsnummer:		Detail:		Blatt:	
Datum	Bearb.	Maus	Eilicher Str. 1		Stromlaufplan		Mainboard ExOn 2A			
Name	Gepr.		D - 53809 Ruppichteroth		Erst. d.					
	Norm.		Tel. +49 2295 - 902960 Fax. +49 2295 - 902961		5		6		7	
1	2	3	Urspr.		8		8		8	

Welding Shoes

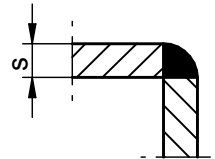
s = thickness of material

fillet weld



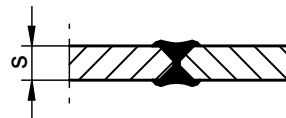
thickness of material	order - no.
5-8	D-0174
10-12	D-0175
15	D-0177
20	D-0178
25	D-0179
30	D-0180
35	D-0181
40	D-0182

corner weld



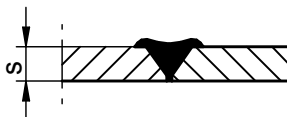
thickness of material	order - no.
5-8	D-0195
10-12	D-0196
15	D-0197

X - weld



thickness of material	order - no.
10	D-0198
15	D-0199
20	D-0200
25	D-0201
30	D-0202
35	D-0203
40	D-0204

V-seam

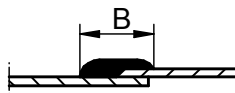


thickness of material	order - no.
5-8	D-0183
10	D-0184
12	D-0185
15	D-0186
20	D-0187
25	D-0188
30	D-0189
35	D-0190
40	D-0191

welding shoe, round

	order - no.
Ø15	D-0600
Ø20	D-0366
Ø25	D-0337

overlap weld



width of weld B	order - no.
25	D-0192
30	D-0193
35	D-0194
40	D-0599

welding shoe - unshaped

size	order - no.
30 x 30 x 45	D-0223
30 x 40 x 50	D-0224
30 x 45 x 45	D-0225
50 x 60 x 80	D-0247
50 x 70 x 80	D-0248
Ø35	D-0598

please require for shoes for special application