

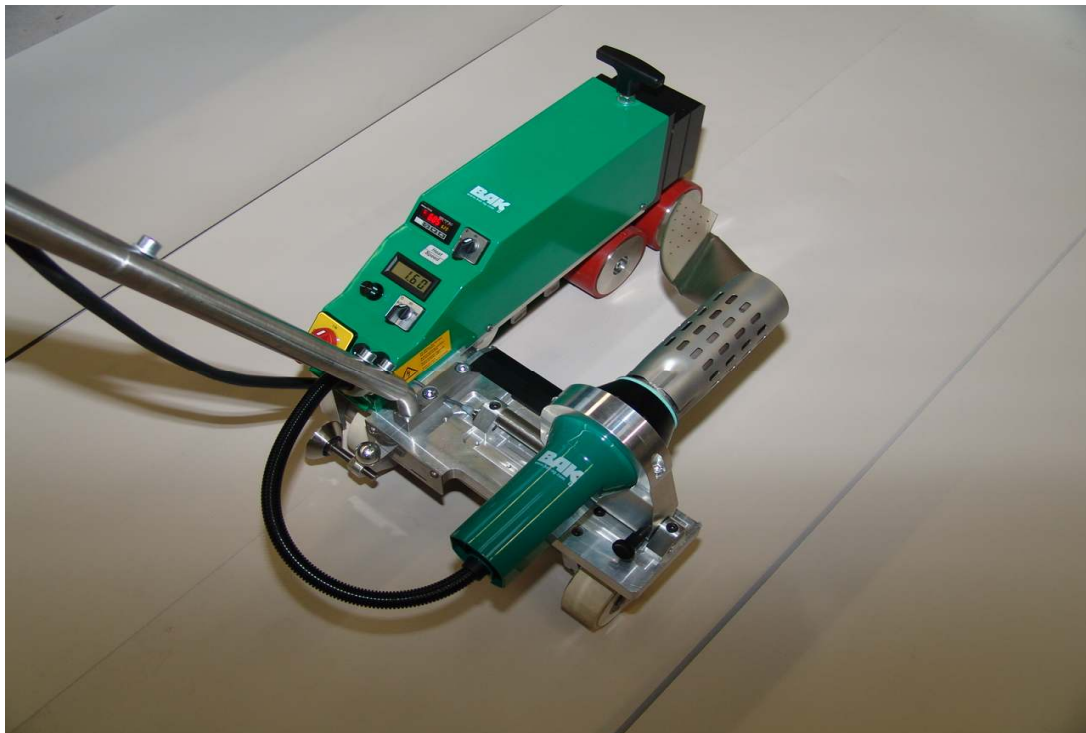
## OPERATING INSTRUCTIONS

### **Automatic welding machine LARON Version 2.2**

Please read the operating instructions carefully before use and keep for further reference!  
Before start-up these operating instructions must be examined carefully because we will not assume any liability for any failures resulting from improper use.

### **APPLICATION**

The Laron is an automatic welding machine for overlap welding to weld geomembranes (geomembranes width 20mm or 40mm). The machine must only be used to weld geomembranes (PE, PVC, TPO, ECB, EPDM, CSPE and bitumen) at the edge and uneven surfaces.





## SECURITY WARNING



**Danger of fire and explosion!** The hot air stream of the automatic welding machine may not be directed to temperature-sensitive objects or living things. Ensure that a safety distance of 2 m is observed in all directions. Do not point the hot air stream onto the same position for a long time.

Never use the automatic welding machine in hazardous or inflammable areas. Heat can reach combustible materials which are hidden.



**Danger of burns!** All automatic welding 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 as they may achieve temperatures of up to 650°C. Let the automatic welding machine cool down before packing.



The automatic welding machine must be operated using a protective switch or an isolation transformer. Operating the automatic welding machine is subject to applicable national regulations. Observe applicable regulations for the prevention of accidents as well as technical rules for safe and professional operation.

## CAUTION



Before connecting the tool to the mains, check the rated voltage. The mains voltage must correspond to the rated voltage shown on the tool plate.



**Do not leave the tool unobserved!!!**



Never spray water on the automatic welding machine (Risk of short circuit).  
**Protect the tool from wet and humidity!!!**

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

Only use the automatic welding machine if in technically perfect condition and for the purposes for which they are intended while observing the operating instructions.

**The tool can be used for the applications mentioned in the present operating instructions only!**

**Stop operating the automatic welding machine if:**

- connecting line or plug have been damaged
- safety installations have been damaged
- changes occur in the operating state

## EXTENSION CORDS

When using extension cords the minimum diameter of cables must be observed.  
Extension cords must be approved and marked for their place of utilisation.

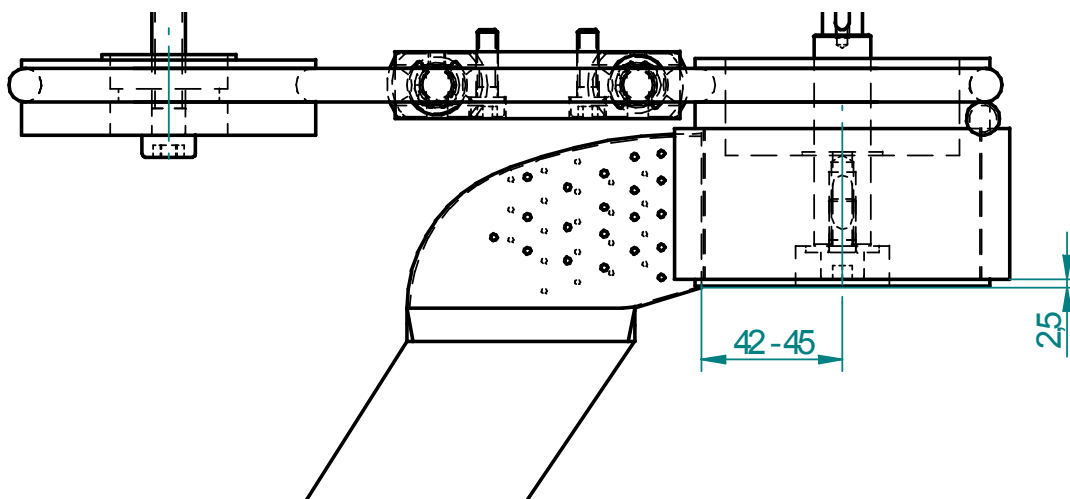
**Before operating the machine examine the tool adjustment.  
Proceed with adjustments only in cold condition (burn danger!).**

## TECHNICAL DATA

Voltage	VAC	230	400
Frequency	Hz	50/60	50/60
Power consumption heating up	W	4600	5700
Power consumption controlled operation	W	1750	2200
Drive	m/min.	0.5-7 stepless	0.5-7 stepless
Welding temperature	°C	30-620 stepless	30-620 stepless
Air flow	%	60-100	60-100
Size LxWxH	mm	610x410x320	610x410x320
Weight	kg	39	39

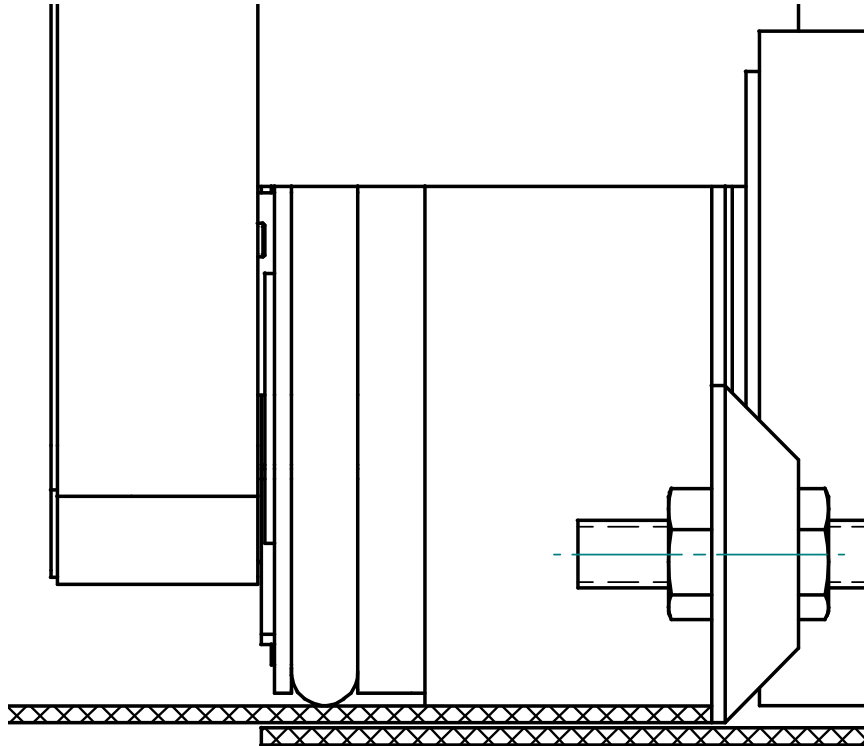
## NOZZLE ADJUSTMENT

- Changes of the nozzle adjustments can be done if screws are loosened
- For recommended settings use the following sketch



## GUIDE ROLLER ADJUSTMENT

- Bring the automatic welding machine into the welding position.
- Push the transport roller to the right in welding position, take care that the spring sheet engages.
- Push the guide roller downward and fix it with the hexagon nut on the threaded bar. Outside edge of the overlap, outside edge of pressure roll and outside edge of guide roller must form a line. (see following sketch).



## START UP OF THE AUTOMATIC WELDING MACHINE

### **Observe the section concerning safety of these operating instructions.**

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

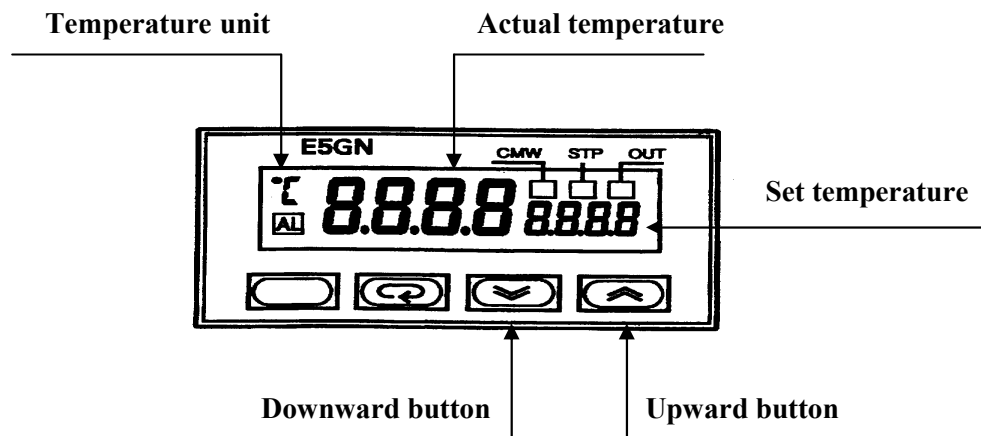
- Main switch is on pos. 0 OFF
- Drive switch is on pos. 0
- Heating switch is on pos. 0
- Potentiometer of the air flow is on pos. 0 (100%)
- The hot air blower is on pos. stand by (lifted up)
- Put the plug into the socket
- Put the main switch on pos. 01

Switch the heating switch on.

The tool now heats up to the last selected set temperature.

To change the set temperature, check the section of the controller adjustment.

## CONTROLLER ADJUSTMENT



Select on the potentiometer the desired welding speed.

On switching position ON the drive starts immediately and is constantly running.

On switching position AUTO the drive starts only after sliding the nozzle into the welding seam and stops immediately after taking out the nozzle.

To separate the automatic welding machine from the electric system, change the main switch to “OFF” und unplug the mains plug.

## GUARANTEE AND LIABILITY

For BAK guarantee and liability see the general and sales condition on the back of the invoice paper.

For the neglect or for damages resulting from it, the manufacturer / supplier will not accept any liability.

Any utilisation of the automatic welding machine, for other purposes than those for which it is intended, is subject to the consent of the manufacturer / supplier.

No warranty claims will be accepted if the automatic welding machine has been modified unless this has been done in consultation with the manufacturer / supplier.

## SERVICE AND REPAIRS

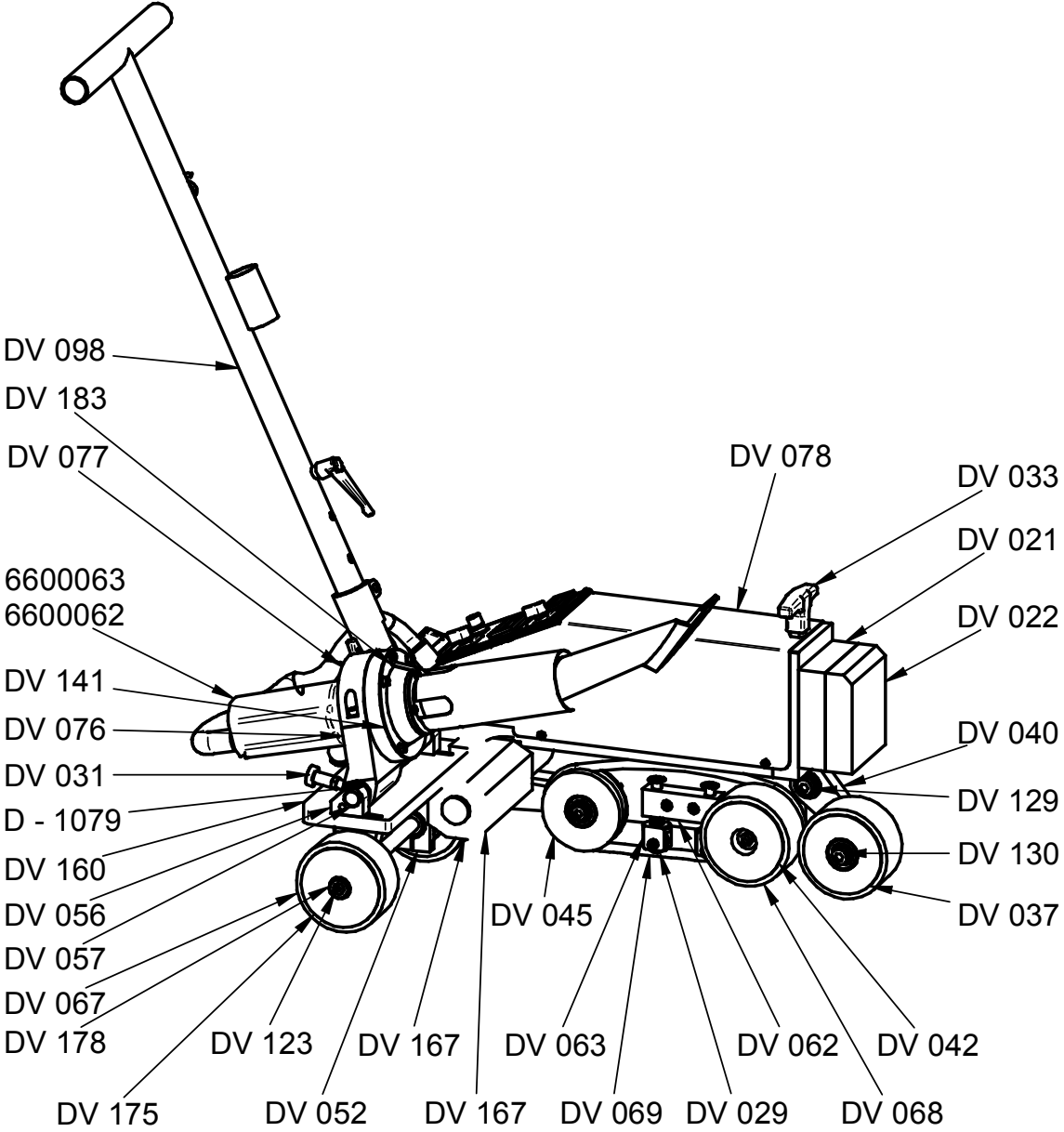
Work on electrical parts of welding machine may only be performed by an electrical engineer in compliance with electro-technical rules.

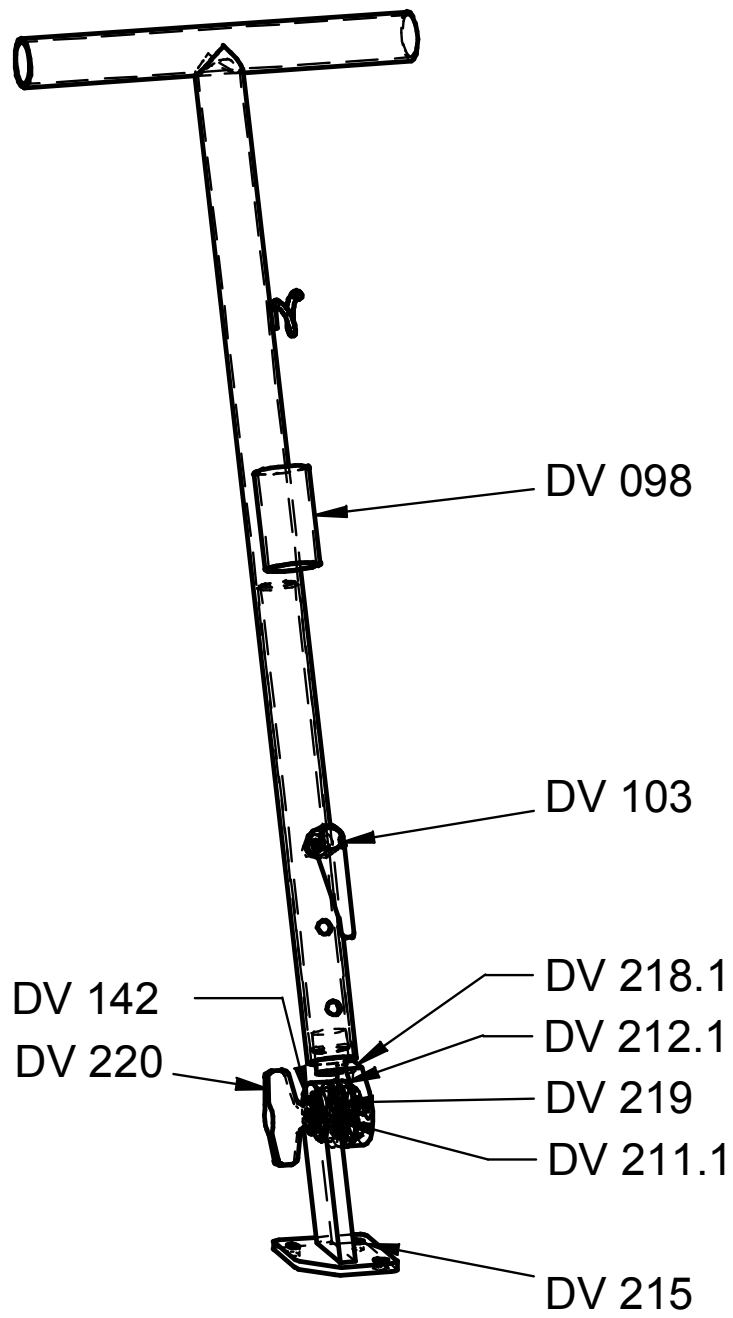
Do not use the automatic welding machine if the connecting line or the plug is damaged, repairs have to be done by the manufacturer or authorised service personnel.

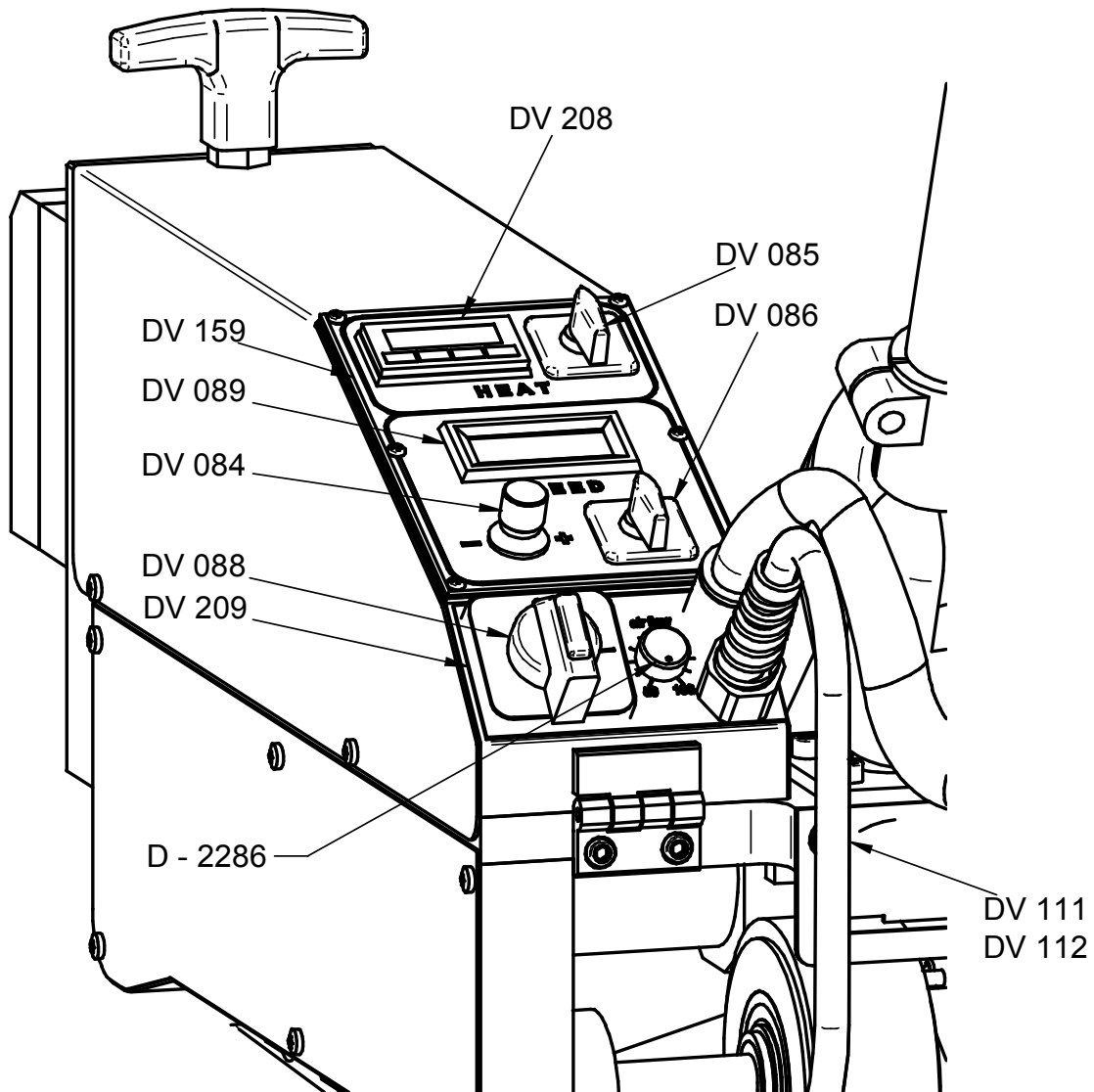
### For after-sales service and orders please contact:

BAK Thermoplastic Welding Technology AG  
Industriestrasse 6  
CH-6064 Kerns / Switzerland  
Phone: (0041) 041 6612250  
Fax: (0041) 041 6612251

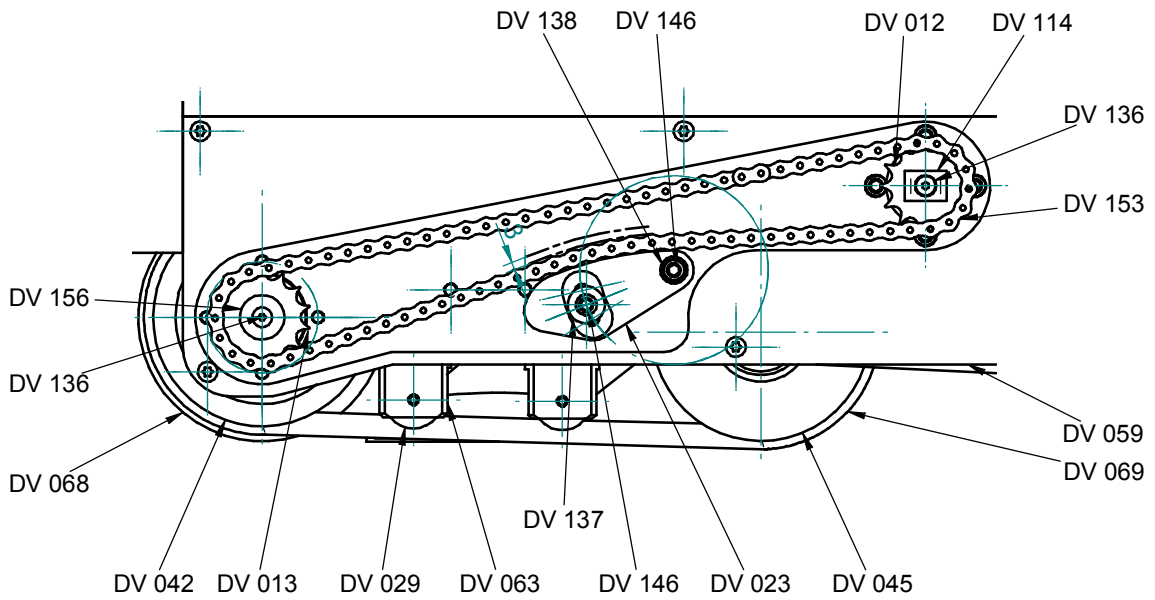
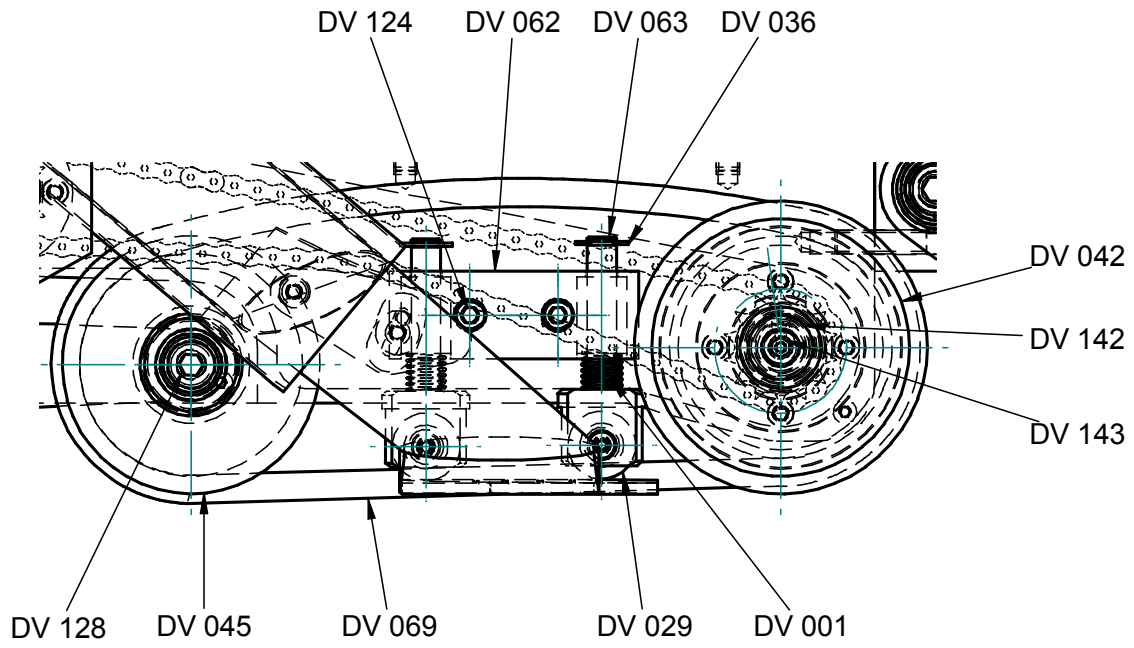
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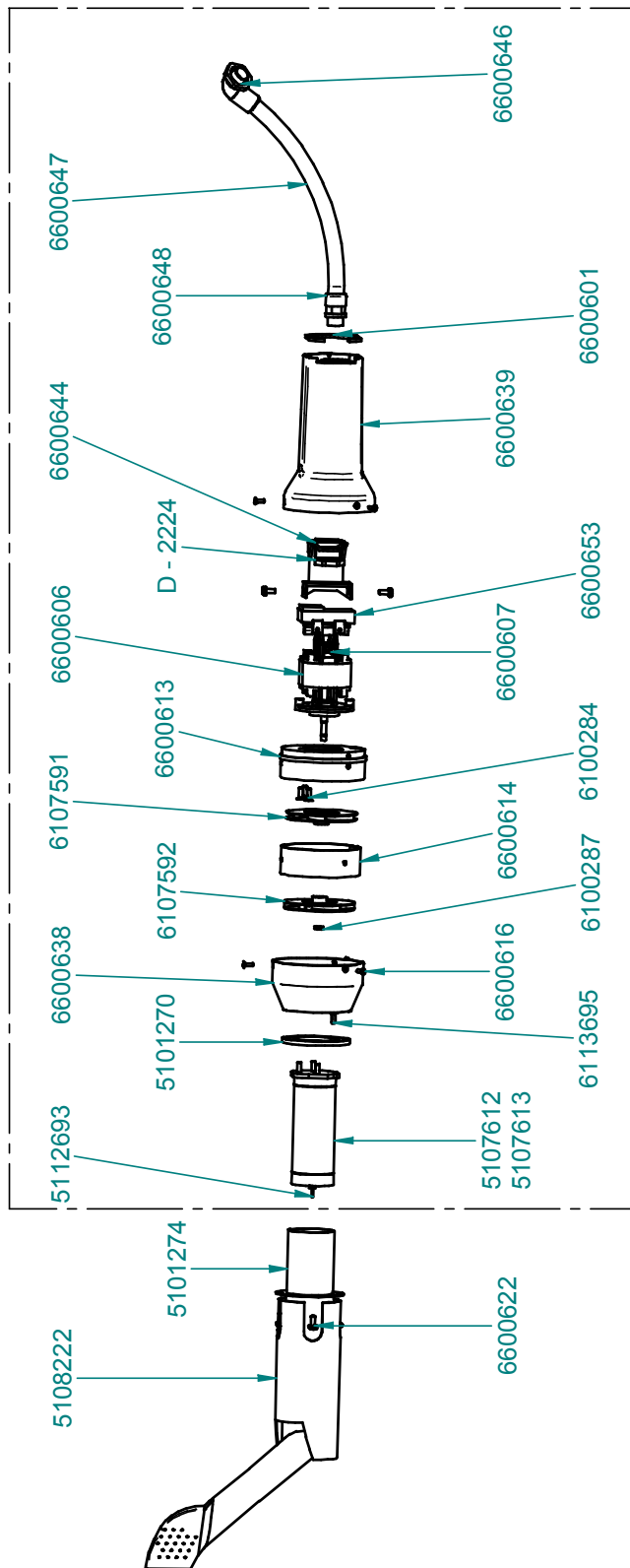




## Laron

Art. No.	Description	Art. No.	Description
6600062	Eron 230V Laron complete	6601155	Adjustable clamping lever (DV103)
6600063	Eron 400V Laron complete	6601159	Power supply cord 230V (DV111)
6601246	O-ring 19x3.5 DIN3771 (D-1079)	6601160	Power supply cord 400V (DV112)
6601111	Pressure spring (DV001)	6601161	Sprocket wheel clamp (DV114)
6601112	Sprocket wheel Z13 (DV012)	6601254	Countersunk screw, M6x16 DIN7991 (DV123)
6601113	Sprocket wheel Z14 (DV013)	6601162	Cheese head screw, M6x20 DIN 912 (DV124)
6601118	Weight 1 (DV021)	6601164	Cheese head screw, M10x40 DIN 7984 (DV128)
6601119	Weight 2 (DV022)	6601165	Cheese head screw, M12x35 DIN 7984 (DV129)
6601120	Chain tension adjuster (DV023)	6601166	Cheese head screw, M12x70 DIN 7984 (DV130)
6601121	Guide roller (DV029)	6601168	Countersunk screw M4x10 DIN 7991 (DV136)
6601122	Stop bolt with counter nut (DV031)	6601169	Disk A 5,3 DIN 9021 (DV137)
6601123	T-handle (DV033)	6601170	Disk A 5,3 DIN 125 (DV138)
6601125	Circlip RA9 (DV036)	6601172	Support turbine housing Eron (DV141)
6601126	Drag roller (DV037)	6601173	Disk B 8,4 DIN 9021 (DV142)
6601127	Rocker drag roller (DV040)	6601174	Cheese head screw, M8x16, DIN 912 (DV143)
6601128	Drive pressure roller (DV042)	6601175	Cheese head screw, M5x16, DIN 912 (DV146)
6601129	Round belt roller (DV045)	6601114	Single roller chain Laron (DV153)
6601133	Fixation block (DV052)	6601255	Disk B 6.4 DIN 9021 (DV156)
6601135	Bearing (DV056)	6601146	Housing Laron (DV158)
6601136	Shaft (DV057)	6601231	Front plate Laron (DV159)
6601138	Gear sheet (DV059)	6601232	Base plate (DV160)
6601139	Guide handle block (DV062)	6601235	Planetary gear motor (DV167)
6601140	Guide rod (DV063)	6601237	Transport roller V2A (DV175)
6601212	Rubber ring white (DV067)	6601238	Cover transport roller (DV178)
6601142	Silicon ring (DV068)	6601247	Ground piece (DV183)
6601143	Round belt (DV069)	6601256	Controller Laron 2010 (DV208)
6601144	Locking ring Eron, lower part (DV076)	6601259	Front panel 2 (DV209)
6601145	Locking ring Eron, upper part (DV077)	6601260	Potentiometer 47K (D-2286)
6601148	Knob (DV084)	6601261	Locking disk (DV211.1)
6601217	Cam switch, 1-pole (DV085)	6601262	Locking disk (DV212.1)
6601218	Cam switch, had-off-auto (DV086)	6601263	Handlebar base plate (DV215)
6601220	Main switch (DV088)	6601264	Handlebar bottom (DV218.1)
6601149	LCD Display (DV089)	6601265	Pressure spring (DV219)
6601152	Grip of steering bar (DV098)	6601266	Stainless steel wing nut (DV220)

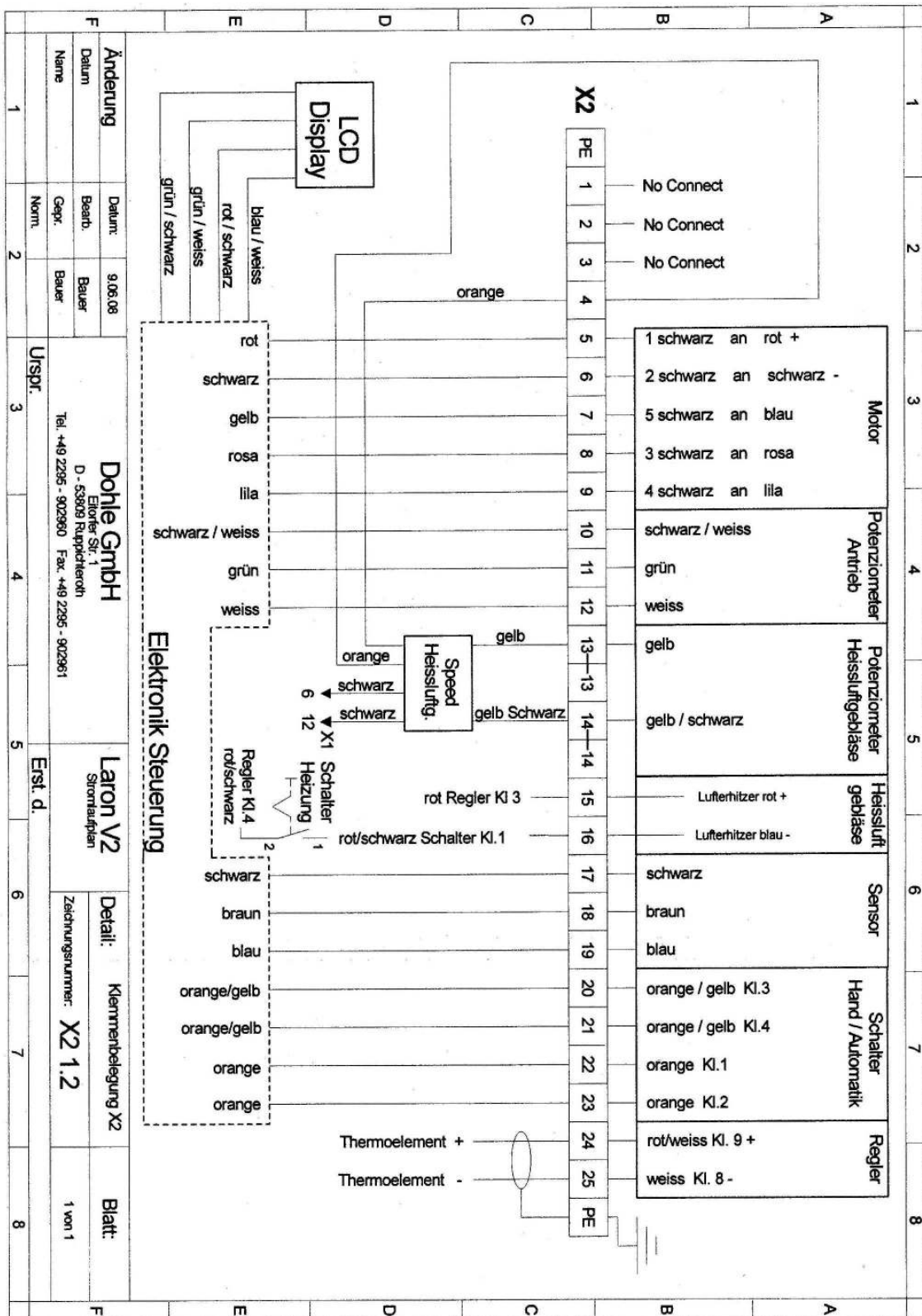
**ERON 230V/400V, Art.-No.: 6600062/6600063**

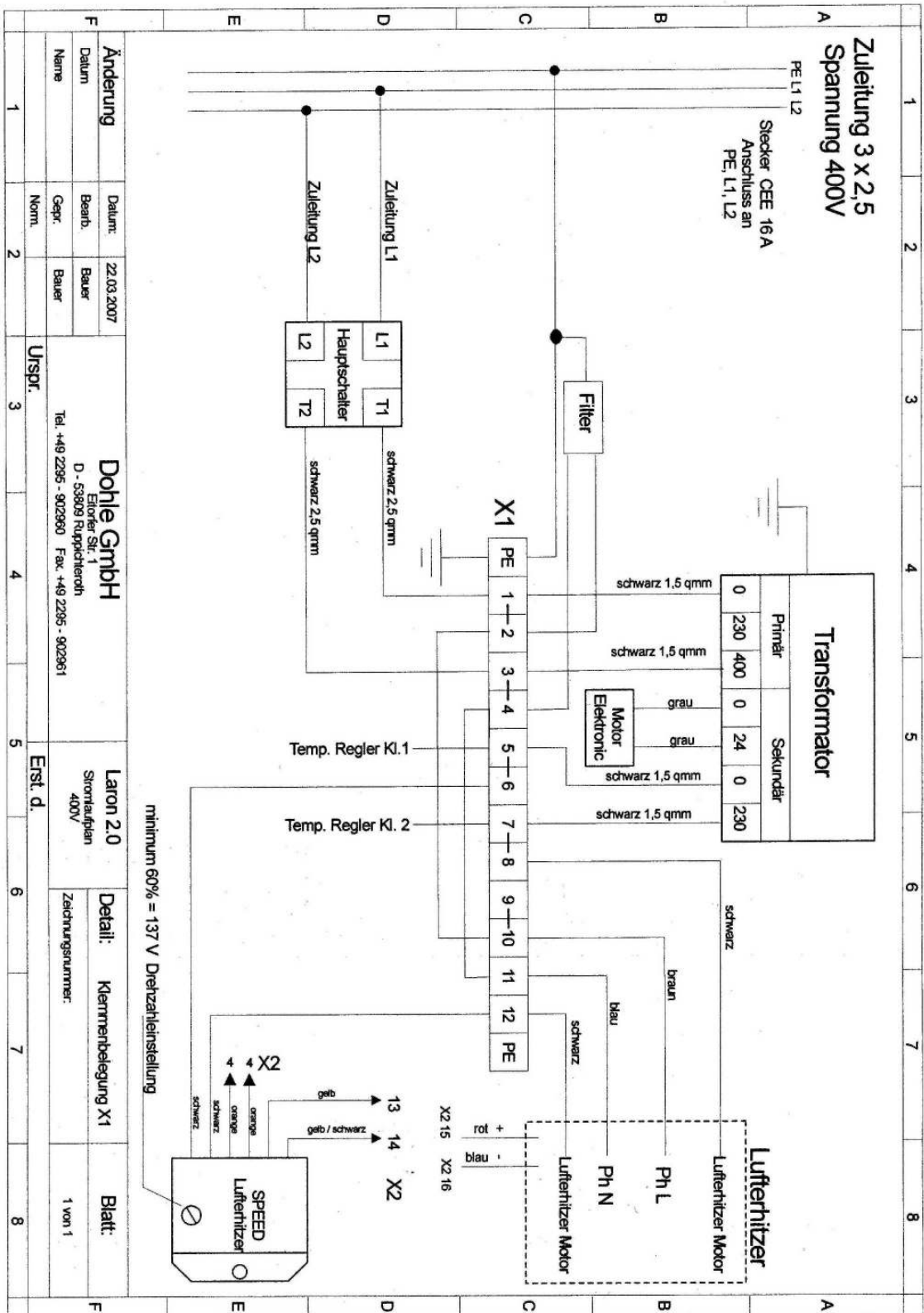


Art.-Nr.: 6600047 Eron230V / 6600048 Eron 400V

**Spare parts list Eron 230V/400V, Art.-No.: 6600062/6600063**

Art. No.	Description	Qty.
5101270	Gasket 70x48x4	1
5101274	Mica tube 47.6x134	1
5107612	Heating element Laron 230V	1
5107613	Heating element Laron 400V	1
5108222	Overlap welding nozzle 40mm	1
5112693	Thermocouple	1
6100284	Countersunk screw M4x12 TX	3
6100287	Hexagon nut M5	1
6107591	Turbine	1
6107592	Turbine	1
6113695	Clixon 135°C	1
6600601	Air filter	1
6600606	Motor 230V SL	1
6600607	Carbon	2
6600613	Turbine housing lower part	1
6600614	Stripper	1
6600616	Countersunk screw M3x10 TX	6
6600622	Fillister head screw M4x10 TX	5
6600639	Handle	1
6600644	Terminal support	1
6600638	Turbine housing upper part	1
6600646	Elbow	1
6600647	cabl sleeve 290mm	1
6600648	Hose coupling straight	1
6600653	Electronic circuit board 230V/400V	1
D-2224	Plastic hexagon nut PG16	2



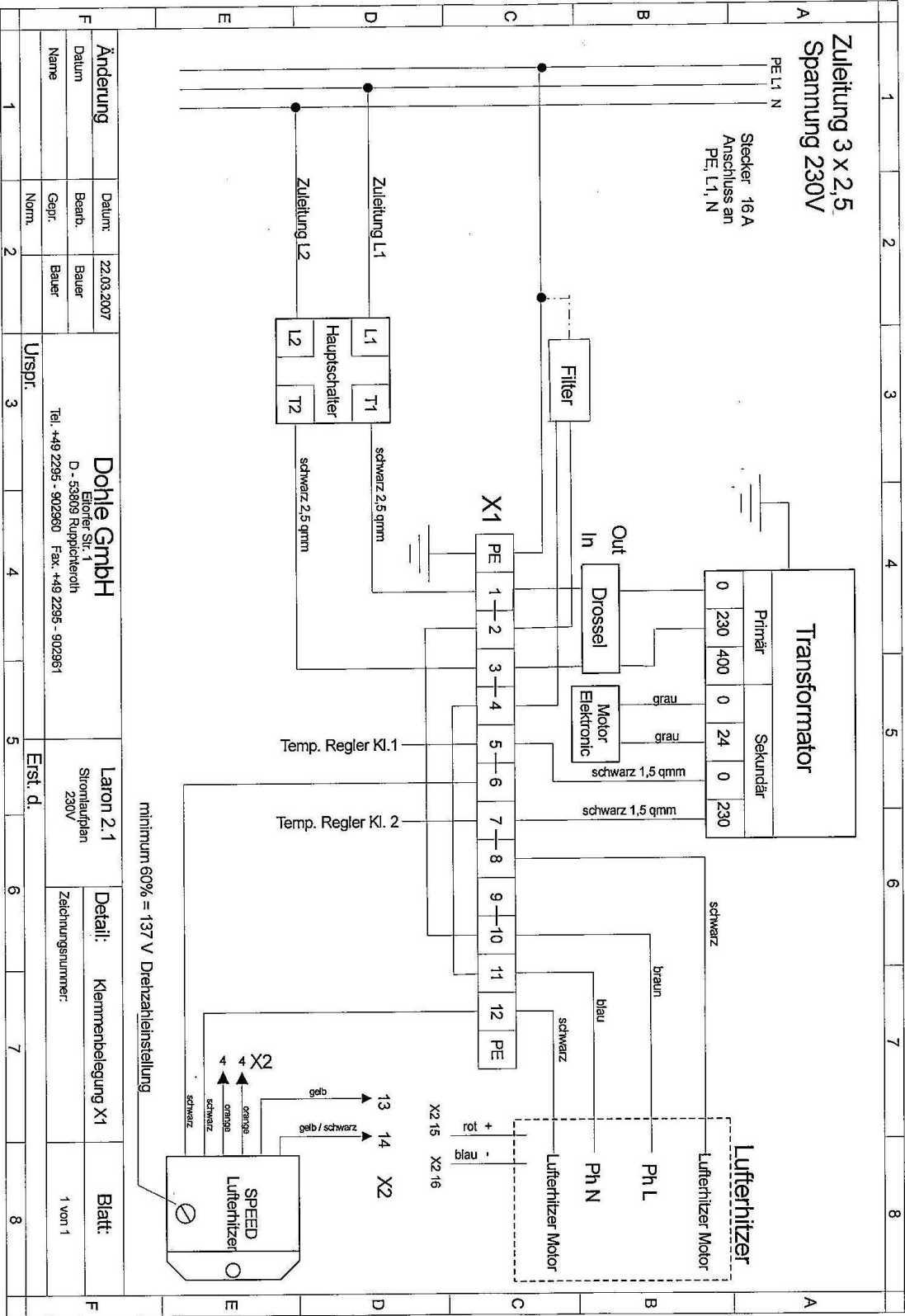


<b>Änderung</b>		Datum:	22.03.2007
Datum		Bearb.	Bauer
Name		Gepr.	Bauer
1		Noml.	
2		Urspr.	
3			
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**Laron 2.0**  
Stromtafelpfen  
400V

Detail: Klemmenbelegung X1  
Zeichnungsnummer:  
Blatt: 1 von 1



Änderung		Datum:	22.03.2007	Dohle GmbH		Laron 2.1		Detail:		Klemmenbelegung X1	Blatt:	
Datum		Bearb.	Bauer	D - 53809 Ruppelchenroth		Stromlaufplan		Zeichnungsnummer:		1 von 1		
Name		Gepr.	Bauer	Tel: +49 2295 - 902980 Fax: +49 2295 - 902981		230V						
1		Norm.		Urspr.		Erst. d.						