D-Burromat 682006

Note:Db-Enclosure (68-15000) is not shown in the picture

Prep.	Christer Kolb 2006-01-01	Operators Manual		No of sh.
		Operators Manual		14
Appr.		D-Burromatic 682006		
Resp. dept.				

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Important information

For your safety,

please read the safety instruction in (3 Safety instructions) in this manual before you connect the Deburromat 682006 to the main power.

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1. Table of contents

2. Description

2.1 Information

The D-Burromat 682006 (hereafter referred to as the D-Burr) is a automatic deburring machine for deburring of gear wheels and contours on round and oval work pieces typically pipes and flanges.

The D-Burr has a very fast set-up and is very flexible.

The grinding pressure is adjusted by means of a counterweight, Pneumatic lowering and lifting of the spindle when the cycle is complete.

The cycle is controled by a programmable unit. The machine has a built in converter for driving the grinding motor.

The machine is easy to reset for different details and can be driven remotely from another robot or machine.

Customized machines can be delivered on request

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3.   Safety instructions

1. Read all of these instructions.

2. Save them for later reference.

3. Follow all warnings and instructions marked on the product.

Figur 1 High voltage

4. Do not place this product on an unstable cart, stand, or table. The product may fall, causing serious damage to the product.

5. Slots and openings in the cabinet and the back or bottom are provided for ventilation; to ensure reliable operation of the product and to protect it from overheating, these openings must not be blocked or covered.

Figur 2 Air ventilation

6. This product should be connected to an AC power source within the range indicated on the rating label. If you are not sure, contact a qualified electrician.

Figur 3 220V Inlet

7. Dress properly. Do not wear loose clothing or jewellery. Contain long hair. Keep your hair, clothing, and gloves away from moving parts. Loose clothes, jewellery, or long hair can be caught in moving parts.

8. Accessories must be rated for at least the speed recommended on the tool warning label. Wheels and other accessories running over rated speed can fly apart and cause injury.

9. Use safety equipment. Always wear eye protection and ear protection. Using personal safety devices and working in safe environment reduces risk of injury

10. When device is operated externally, the start and stop button are disconnected. The emergency stop still breaks the power to the D Burr.

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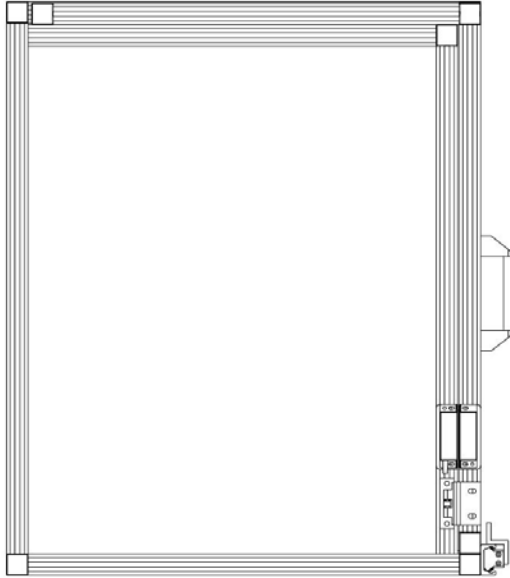Db-Enclosure with the magnetic switch in the right corner

Figur 4 Db-Enclosure, left view

11. The magnetic switch and the cable on the Db-Enclosure must not be damaged.
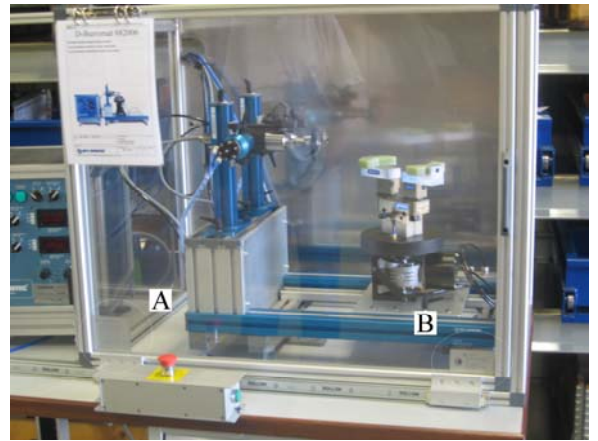

Figur 5 Magnetic switch on Db-Enclosure

Figur 6 Db-Enclosure

12. The plastic material in the window must be cleand with water or window cleaning solvent. The material is destroyed by alkaline solutions as ammonia gas and its solution and amines. The material dissolves in a large number of industrial solvent. Other organic compounds, such as benzene, acetone and carbon tetrachloride, cause it to swell.

⚠ WARNING

🚫 The material will be destroyed by alkaline solutions, ammonia gas and its solution, and amines.
The material will be dissolved by a large number of industrial solvents.
The material will be swelled by organic compunds, such as benzene, acetone and carbon tetrachloride.

Figur 7 Db-Enclosure sign, position B in figure.

13. The enclosure has a short safety instruction on the main language where the machine is sold.

⚠ SÄKERHETSINSTRUKTION

1. Endast lämpligt utbildad personal skall manövrera den.
2. Läs, förstå och följ alla instruktionsmanualer och varningsskyltar före manövrering av denna maskin.
3. Alla säkerhetsskydd måste vara rätt placerade och fungerande före manövrering.
4. Bär aldrig ringar, klockor eller löst sittande kläder vid manövrering av maskinen.
   Håll håret borta från rörliga delar i maskinen.
5. Använd alltid skyddsglasögon och godkända skor.
6. Stäng den rörliga dörren före start av maskinen.
7. Bryt huvudströmmen före rengöring/reparation.
8. Endast utbildad personal får utföra installation eller reparation.
9. Följ rekommendationerna från leverantörerna för verktygen, överskrid aldrig max varvtal.

Avlägsna aldrig denna skylt från sin plats

Figur 8 Safetyinstruction on the Db-Enclosure, position A in figure.

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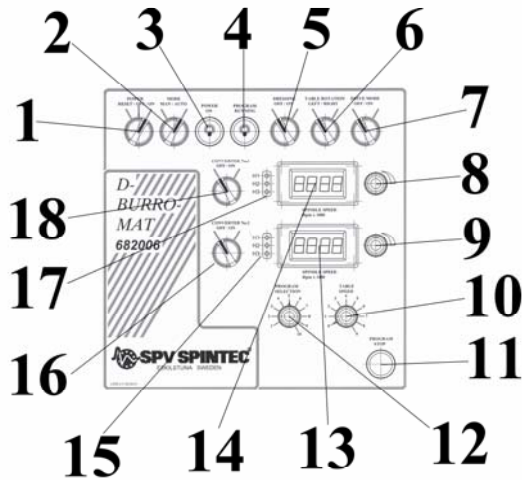
4.   Startup

Figur 9 Frontpanel

4.1   Manually startup instructions

The mode switch (No 2) in position (Man) to start with the start button on the two hand control box.

Dressing switch (No 5) in position (OFF)

Table rotation (No 6) in position left (most common)

Drive mode (No 7) in position (ON).

Converter switch (No 18 and/or No 16) In position (ON).

Program selection switch, (No 12) select program 1 to 5 (number of turns of the table)

Table speed (No10) the time for the table to turn one rev. This can not be adjusted during program running.

To startup the D-Burr for the first time or after the emergency stop has been pressed, the power/reset switch (No 1) must be turn to position (Reset) before turn to position (Power on)

The Green H3 LED (No 17 and/or No 15) and the yellow H2 LED (No 17 and/or No 15) will know lit up, If not read the (Tabell 1Trouble shooting list).

Spindle speed (No 8 and/or No 9), turn the potentiometer to the desired speed, if the speed is zero the program running will not lit up.

Press the two start buttons on the Db-Odevice (68-14000) simultaneously

The yellow H2 LED (No 17 and/or No 15) will now start flashing (The program is now running, the program running will shine.) If the LED is not flashing read the (Tabell 1Trouble shooting list)

Adjust the spindle speed (No 8 and/or No 9) if not right. Read the instruction for the tool about maximum allowed speed.

If the red H1 LED (No 18 and/or No 16) is lightning or flashing, read the (Tabell 1Trouble shooting list)

4.2   Robot startup instructions

The mode switch (No 2) shall be in the position (Auto)
The two hand control box start button is now disconnected, The Emergency button is still working.

Dressing switch (No 5) in the position (OFF)

Table rotation (No 6) in the position (LEFT) (most common)

Drive mode (No 7) in the position (ON)

Converter switch (No 18 and/or No 16) in the position (ON)

The program selections switch (No 12), select program 1 to 5 (number of turns of the table)

Table speed (No 10), the time for the table to turn one rev. This can not be adjusted during program running.

To startup the D-Burr for the first time or after the emergency stop has been pressed, the power/reset switch (No 1) must be turn in the position (Reset) before turn to position (Power on).
The power on signal to the robot will be set.

The Green H3 LED (No 17 and/or No 15) and the yellow H2 LED (No 17 and/or No 15) will know lit up, If not read the (Tabell 1Trouble shooting list).

Spindle speed (No 8 and/or No 9), turn the potentiometer to the desired speed, if the speed is zero the program running will not lit up..

The start signal from robot can now start the cycle.

The yellow H2 LED (No 17 and/or No 15) will now start flashing (The program is now running, the program running will shine.) If the LED is not flashing read the (Tabell 1Trouble shooting list)

Adjust the spindle speed (No 8 and/or No 9) if not right. Read the instruction for the tool about maximum allowed speed.

If the red H1 LED (No 18 and/or No 16) is lightning or flashing, read the (Tabell 1Trouble shooting list)

4.3   Table speed (No 10)

To adjust the speed of the table, switch the Mode to position (Man) and switch the Drive mode to position (OFF). Press the two start buttons.
Choose the right speed for the table.
The Table speed can not be changed during a program cycle.

4.4   Switches

Power on switch (No 1) (POWER RESET / OFF / ON)
The D-Burr must be reseted before it can be turned on.

Selecting the operating mode (No 2) (MODE MAN/AUTO)
The D-Burr can be operated either manually or automatically. In manual mode, the D-Burr can only be operated by the start and stop button. In automatic mode the external connection controls the D-Burr.

Dressing (No 5)
TBD

Table rotation (No 6) (TABLE ROTATION LEFT / RIGHT)
To rotate the workpiece to the left or to the right, the speed of the table can be adjusted by the TABLE SPEED)

Drive mode (No 7) (DRIVE MODE ON / OFF)
To set the function of the D Burr in either operation mode or in test mode, in testmode (OFF) the table rotate but the spindle do not start.

Converter n (No 18 and/or No 16) (Converter No 1 or 2 ON / OFF)
Switch the converter on / off

Program stop (No 11)

Stops the programme, stops the spindle and stops the table rotation.

4.5   Lamps and Leds

H1, H2, H3 (No 17 and/or No 15)
Signals from the converter, green led is power on, yellow led is program on, yellow led flashing is program running, red led is fault.

Power on (No 3)
Power on lamp indicates that the power to the internal equipment is on.

Program running (No 4)
Program running indicates that the program runs, If the spindle speed potentiometer is set to zero this lamp will not light.

4.6   Potentiometers

Spindle speed (No 8 and/or No 9)
Set the speed of the spindle

Program selection (No 12) (PROGRAM SELECTION 1 - 5)
Set the right amount of turns the table will rotate

Table speed (No 10) (TABLE SPEED)
The speed of the table to rotate

4.7   Two hand control box

Emergency stop
There is one emergency stop push button on the controller box. This will break the power to the D Burromat 2006 and stop all programs and movements. After releasing the (POWER) switch has to be reseted.

Start buttons
To start the D Burr, both switches must be pressed at the same time.

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5. Mainteance

5.1 Introduction

The D Burr requires only a minimum of maintenance during operation. It has been designed to make it as easy to service as possible.

5.2 Checklist

Danger!
Before cleaning the machine turn the power off, never use compressed air, it may result in the machine failure

Checking and repairing period

Daily

- Check that the coolant flow is high enough.
- Remove chips and dust from spindles and turntable (do not use high pressure to blow directly in to the air ventilation on the spindle, this may damage the bearing)
- Check that the air pressure is high enough
- Check if the tool is broken or damage
- If there is coolant, grease or water or other fluids on the floor, immediately wipe it out with damp clothes or papers. Otherwise it may cause personal injury
- Check that the emergency stop works
- Check that the Db-Enclosure switch breaks the operation
-

Weekly

- Clean the worktable
- Check if there is any loosen bolts
- Check the compressed air tube for damages.
- Check the power cable for damages
- Check the other cables for damages

Monthly

- Check if the spindle feels alright
- Clean the machine and have some oil on parts that slides or moves.

Yearly

- Remove the fan filter and change it.
- Check if the spindle need some service

6. Error and troubleshooting

No:	Contents of status error	Correction method
1	Spindle not spinning	1. Is the power on? 2. Is the Db-Enclosure closed? 3. Is the converter switch on? 4. Is the spindle speed set to a value (not below 2000rpm) 5. Is the program running lamp on? 6. Is the cable connected from the spindle to the Db-CUnit ? 7. Shut down the machine and restart it, Start the cycle again, is the turntable rotating, send the spindle for repair 8.
2	Turntable not moving	1. Is the power on? 2. Is the Db-Enclosure closed? 3. Is the program running lamp on? 4. Is the cable connected from the spindle to the Db-CUnit 5. Shut down the machine and restart it, Start the cycle again, is the spindle rotating, send the machine for repair
3	Power on lamp is off	1. Is the power cable ok? 2. Is the fuse ok? 3. Is the power on? 4. Is the emergency stop released? 5. Is the machine reseted? 6. Is something else on on the front panel? 7. Shut down the machine and restart it, Is the error still there send the machine for repair
4	Program running lamp is off	1. Is the spindle running or/and the table rotating, then the lamp is broken 2. Is the table rotating? Check if the potentiometer for spindle speed not is set to zero, if so change it to the right speed. 3. Is the switches set to the right mode, for manually work mode switch set to man, Dressing set to off, Drive mode set to on, Converter switch is on, The Db-Enclosure is closed.
5	H1 red led flashing	1. Count the amount of flashes.

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		2. One flash, Shut down the machine and restart it, Is the error still there send the machine for repair 3. Two or four flashes, check the main voltage 4. Three flashes, shortcurcuit, earth error, check the cable to the spindle 5. Five to eight flashes, check the cable to the spindle, Is the spindle hot? Shut down the machine and restart it, Start the cycle again, is the spindle rotating, send the machine for repair
6		
7		
8		
9		

Tabell 1Trouble shooting list

7.   Accessories

7.1   Basic

TBD

7.2   Peripherals

TBD

8. Appendix

8.1 Figures

8.2 Tables

9. References

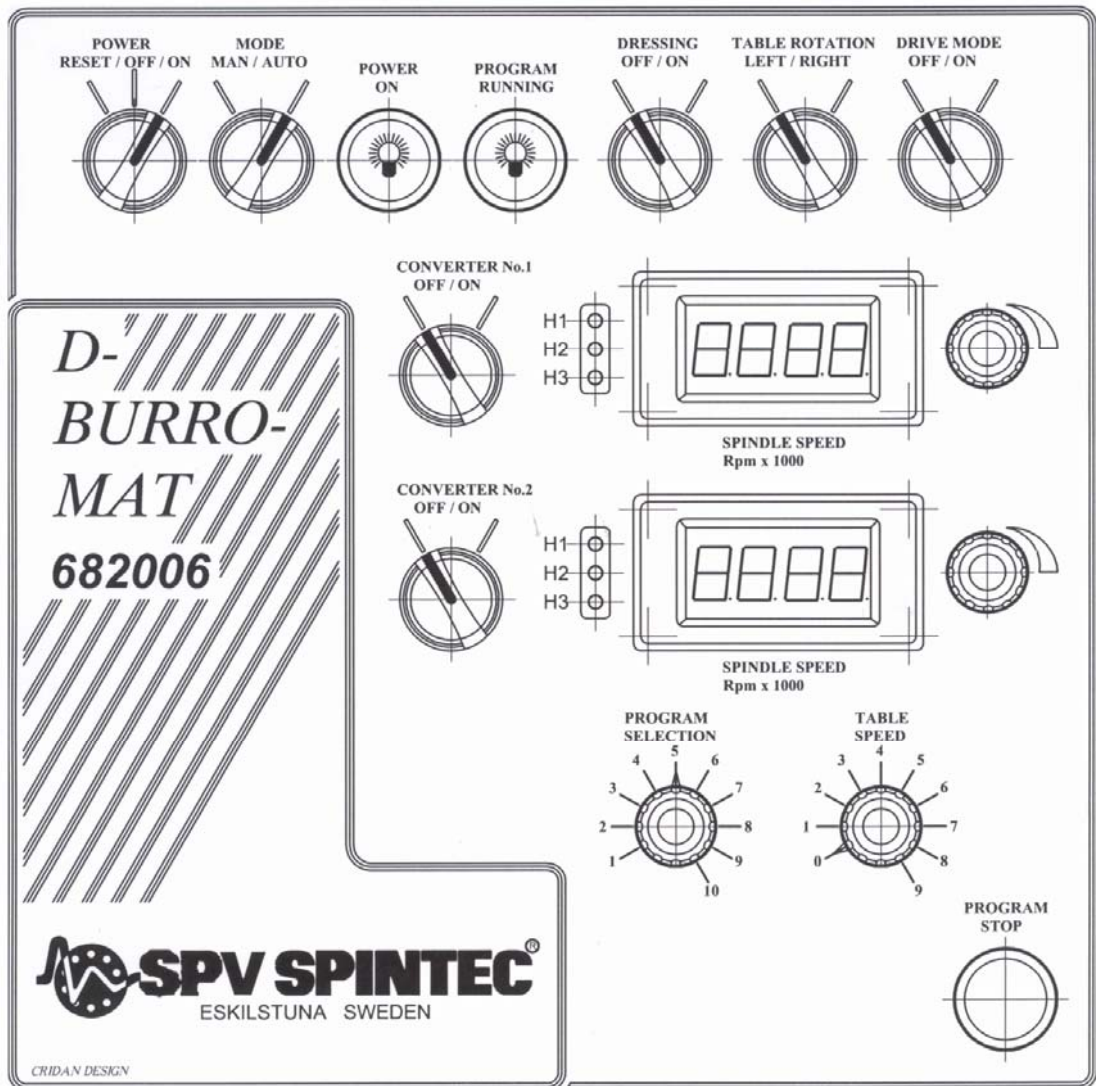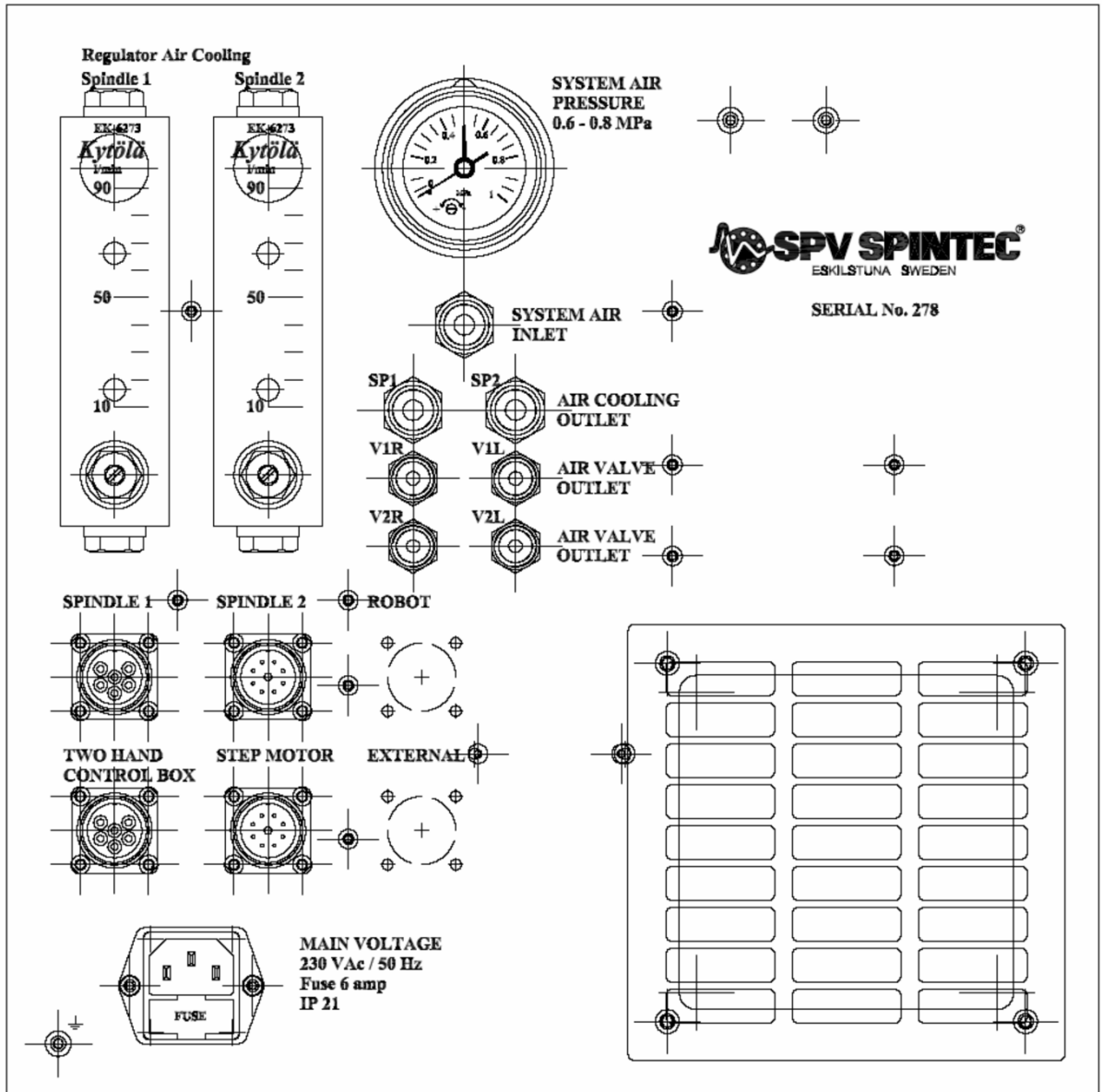| No	Description	Date
1	MD 98/37/EC	1998-07-23
2	AFS 1993:10 (omtryckt AFS 1994:48)	2000-12-15
3	89/655/EEC	1989-11-30
4	AFS 2006:4	
5	AFS 2005:16	
6	AFS 1998:1	
7	AFS 2001:3	
8	LVD 2006/95/EC	
9	EMC 2004/108/EC	
10		
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12		

Tabell 2 References

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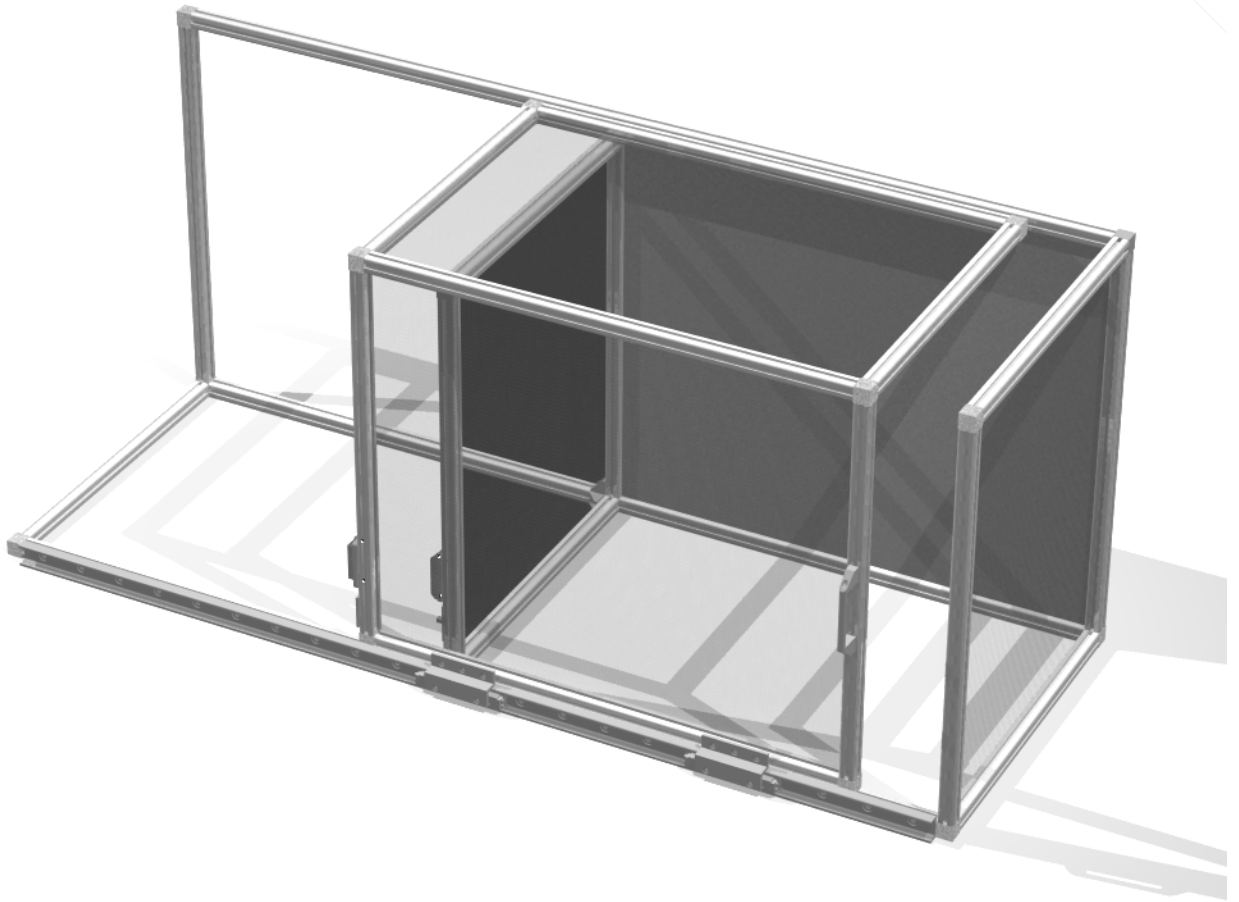| Rev.	Description	Date
0.9	Changes due to SEMKO updates	070820
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0.6	Rewritten	061218
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0.1	New document	060101

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Figur 10 Frontpanel

Figur 11 Rearpanel

Figur 12 Db-Enclosure

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