

LaboPol-35



Instruction Manual
Gebrauchsanweisung
Mode d'emploi
Spare Parts and Diagrams

Manual No.: 16117001

Date of Release 27.09.2012



Instruction Manual

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Always state *Serial No* and *Voltage/frequency* if you have technical questions or when ordering spare parts. You will find the Serial No. and Voltage on the type plate of the machine itself. We may also need the *Date* and *Article No* of the manual. This information is found on the front cover.

The following restrictions should be observed, as violation of the restrictions may cause cancellation of Struers legal obligations:

Instruction Manuals: Struers Instruction Manual may only be used in connection with Struers equipment covered by the Instruction Manual.

Service Manuals: Struers Service Manual may only be used by a trained technician authorised by Struers. The Service Manual may only be used in connection with Struers equipment covered by the Service Manual.

Struers assumes no responsibility for errors in the manual text/illustrations. The information in this manual is subject to changes without notice. The manual may mention accessories or parts not included in the present version of the equipment.

Original instructions. The contents of this manual is the property of Struers. Reproduction of any part of this manual without the written permission of Struers is not allowed.

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LaboPol-35 Safety Precaution Sheet

To be read carefully before use

1. The operator(s) should be fully instructed in the use of the machine, any connected equipment and accessories and the applied consumables according to the relevant Instruction Manuals.
2. The machine must be placed on a safe and stable table with an adequate working height. All functions on the machine and any connected equipment must be in working order.
3. Operators should ensure that the actual voltage corresponds to the voltage on the back of the machine. The machine must be earthed. Follow the local regulations. Always turn the power off and remove the plug or the cable before opening the machine.
4. Connect only to cold water. Make sure that the water connections are leak-proof and that the water outlet is working.
5. Struers recommend that the mains water supply is shut off or disconnected if the machine is to be left unattended.
6. Establish efficient exhaust from the working area if consumables containing alcohol, e.g. DP-Lubricant Blue, are being used.
7. Make sure that the grinding or polishing discs are correctly mounted, the driving pins engaged with the holes in the turntable.
8. Keep clear of the rotational disc and the specimen mover during operation.
9. Check that any screws for clamping of specimens in specimen holders protrude as little as possible.
10. Manual grinding:- While grinding manually, take care not to touch the grinding paper. Do not drop the specimen while grinding.
11. Do not lift the specimen mover while preparing individual specimens.
12. If you observe malfunctions or hear unusual noises - stop the machine and call technical service.


The equipment should only be used for its intended purpose and as detailed in the Instruction Manual.

The equipment is designed for use with consumables supplied by Struers. If subjected to misuse, improper installation, alteration, neglect, accident or improper repair, Struers will accept no responsibility for damage(s) to the user or the equipment.

Dismantling of any part of the equipment, during service or repair, should always be performed by a qualified technician (electromechanical, electronic, mechanical, pneumatic, etc.).



Disposal

Equipment marked with a WEEE symbol  contain electrical and electronic components and must not be disposed of as general waste.

Please contact your local authorities for information on the correct method of disposal in accordance with national legislation.

User's Guide

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1. Getting Started

Checking the Contents of Packing

In the packing box you should find the following parts:

- 1 LaboPol-35 (Grinding/polishing machine)
- 1 Pressure hose 3/4" x 2 m
- 1 Filter gasket
- 1 Gasket $\varnothing 11/\varnothing 24$ x 1.5 mm
- 1 Reduction ring with gasket
- 1 Drain hose, $\varnothing 38$ mm x 3 m
- 1 Drain elbow pipe
- 2 Hose clamps
- 1 Protection ring
- Mains cable
- 1 Set of Instruction Manuals

Unpacking LaboPol-35

- Detach LaboPol-35 from the bottom of the packing case by removing the four screws from below.

Placing LaboPol-35

- Place LaboPol-35 placed on a steady table with an adequate working height. The machine must be close to the power supply, water mains and water outlet facilities.

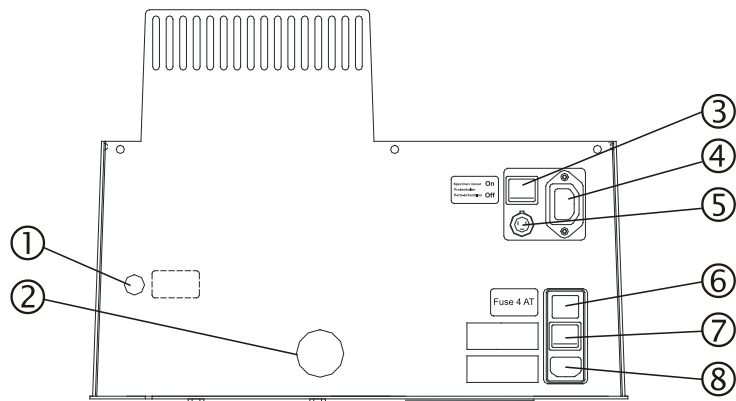
**Getting Acquainted with
LaboPol-35**

Take a moment to familiarise yourself with the location and names of all the LaboPol components:



- ① Start switch
- ② Stop switch
- ③ Speed control
- ④ Turntable
- ⑤ Water tap

Rear View of LaboPol-35



- ① Water inlet
- ② Water outlet
- ③ On/off switch for specimen mover
- ④ Power supply socket for specimen mover
- ⑤ Communication socket for specimen mover
- ⑥ Fuse
- ⑦ Main switch
- ⑧ Power inlet

Supplying Power

Always remember to switch the power off when installing electrical equipment.



DANGER!

The machine must be earthed

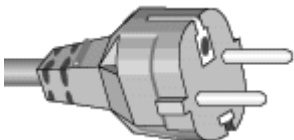
IMPORTANT

Check that the mains voltage corresponds to the voltage stated on the type plate on the back of the machine.

LaboPol-35 is available in 2 voltage variants:
1/3 x 200-240 V / 50-60 Hz
1 x 100 V / 50-60 Hz

Connecting a 1/3 x 200-240 V / 50-60 Hz

Single-phase Supply



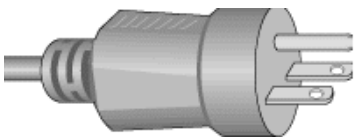
The 1/3 x 200-240 V / 50-60 Hz LaboPol-35 is shipped with 2 types of Mains cables:

The 2-pin (European Schuko) plug is for use on single-phase connections.

If the plug supplied on this cable is not approved in your country, then the plug must be replaced with an approved plug. The leads must be connected as follows:

Yellow/green: earth
Brown: line (live)
Blue: neutral

2-phase Supply



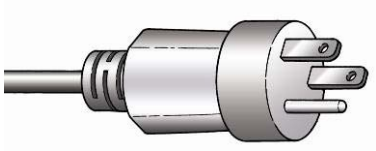
The 3-pin (North American NEMA 6-15P) plug is for use on 2-phase power connections.

If the plug supplied on this cable is not approved in your country, then the plug must be replaced with an approved plug. The leads must be connected as follows:

Green: earth
Black: line (live)
White: line (live)

Connecting a 1 x 100V / 50-60
Hz:

Single-phase Supply



The 3-pin (North American NEMA 5-15P) plug is for use on single-phase power connections.

If the plug supplied on this cable is not approved in your country, then the plug must be replaced with an approved plug. The leads must be connected as follows:

Green: earth
Black: phase (live)
White: neutral

Connection to the Machine



On the other end the cable is equipped with an IEC 320 cable connector that has to be connected to the LaboPol-35.

WARNING!

The output voltage from this cable is 200 – 240V and not 110V. DO NOT use this cable to connect equipment that use an 110V power supply. Failure to adhere to this may result in material damage.

IMPORTANT

If no specimen mover is connected to the LaboPol-35, remember to set the switch “specimen mover” into the **off** position. Otherwise the LaboPol-35 cannot be started.

Supplying Water
Water Outlet

- Connect the outlet hose to the water outlet on the back of the machine and secure the hose using the hose clamp.
- Lead the other end of the outlet hose to the drain. Be absolutely sure to place the outlet hose with a steady slope to prevent the water from being discharged too slowly, which may cause overflow or blocking the water outlet. Avoid sharp bends on the outlet hose.

Water Inlet

- Connect the inlet hose to the water tap and secure with a hose clamp. The fittings (gasket, union nut and reduction ring) supplied with the machine may also be used for the connection.

IMPORTANT

Only connect to cold water.

REMEMBER

Avoid sharp bends in the drain hose and make sure that the hose slopes throughout its length.

2. Operation


Routine Operations

Mounting a Disc


- Place the disc on the turntable and turn it until the three driving pins engage with the holes in the turntable.

Starting the Machine

Starting the Disc

- Set the speed control to the desired speed.
- Press the start switch . The machine starts operating.

Stopping the Disc

- Press the stop switch .

3. Maintenance

Daily Service

- Clean all accessible surfaces with a moist cloth.

Weekly Service

- Remove the splash ring and the grinding/polishing disc and remove all dirt from the tray and the drain tube.

Reference Guide

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1. Advanced Operations

Selection of Disc

LaboPol-35 is designed for MD-Discs of 300 mm dia., wet grinding discs of 305 mm dia. and polishing discs of 300 mm dia. However, the whole range of Struers discs can be mounted.

Mounting of Specimen Mover (optional)

LaboPol-35 can be equipped with a LaboForce-Mi specimen mover.

Please Note

To mount the specimen mover,
see the LaboForce-Mi Instruction Manual.

Mounting of LaboDoser (optional)

LaboPol-35, combined with a specimen mover, can be equipped with *LaboDoser* for automatic dosing of suspensions and lubricants.

Please Note

To connect the LaboDoser, see the LaboDoser Instruction Manual.

2. Struers Metalog Guide™

LaboPol-35 is designed for grinding, polishing and lapping. In Struers Metalog Guide™ you will find a detailed description of grinding/polishing for automated mechanical specimen preparation.

Struers Metalog Guide™ offers preparation methods for the most common materials, based on a simple analysis of two key properties: hardness and ductility. Finding the right method, including choice of consumables is easy. Always consult Struers Metalog Guide™ on the Struers website for the correct preparation method for the actual specimens.

Struers Metalog Guide™

A complete guide to materialographic specimen preparation.

[www.struers.com/KNOWLEDGE/Metalog Guide](http://www.struers.com/KNOWLEDGE/Metalog%20Guide).

3. Accessories and Connected Equipment

Accessories

Specification	Cat. No:
<i>Wet Grinding Discs</i> 305 mm dia., aluminium	02426909
<i>Polishing Discs</i> 300 mm dia., aluminium	02426906
<i>Discs for Magnetic Fixation</i> MD-Disc, 300 mm dia.	02426918
<i>Splash guard for LaboPol-35</i> for manual preparation	06116905

Connected Equipment

Specification	Cat. No:
<i>LaboForce-Mi, 1/3 x 200-240 V / 50-60 Hz</i>	06126327
<i>LaboForce-Mi, 1 x 100 V / 50-60 Hz</i>	06126416
Automatic specimen mover for the preparation of mineralogical specimens. For mounting on, and power supply from LaboPol-35. Lubricator included. Specimen mover plates have to be ordered separately	
<i>LaboDoser (4 Bottles)</i> Dosing unit for LaboPol with LaboForce. With built-in timer and 4 peristaltic pumps for dosing of diamond suspension, lubricant and all-in-one products	05406116

4. Trouble-Shooting

Error	Cause	Action
Noise when the machine starts or the turntable will not turn	The belt is too loose	Call a Struers service technician. The belt must be tightened.
The machine does not operate when the start switch \diamond is pressed.	<ul style="list-style-type: none"> - The main switch is off - The fuse at the rear of LaboPol is blown - The switch for the specimen mover at the back of LaboPol is set to "on", but no specimen mover is connected. 	<ul style="list-style-type: none"> - Turn the main switch on - Replace the fuse - Set the switch to "off"
Water is not draining away	<ul style="list-style-type: none"> - Drain hose squeezed - Drain hose clogged - Drain hose does not slope away 	<ul style="list-style-type: none"> - Straighten the hose - Clean the hose - Adjust the hose to an even slope
Water dripping underneath the machine	The water does not drain away	See above
Cooling water stops	<ul style="list-style-type: none"> - Water tap on mains closed - Built-in water tap closed - Built in water tap blocked - Filter at the water inlet blocked 	<ul style="list-style-type: none"> - Turn the water on - Turn the water on - Clean water tap - Clean filter
The preparation disc vibrates	Dirt on the underside of the disc or on the turntable	Clean the contact face between the disc and the turntable.
Continuous, irregular wear on a grinding/polishing surface.	Coupling on either the specimen holder/mover plate or the specimen mover head of the polishing machine is worn.	Please contact a Struers Service Technician to replace the coupling.

5. Technical Data

Subject		Specifications	
Disc	Diameter	300/305 mm 12"	
	Rotational Speed	50 - 500 rpm	
	Rotational direction	Anti-clockwise	
	Motor	370 W	
	Torque at disc	Continuous	7.1 Nm / 5.2 lbs-ft
Max.		10.6 Nm / 7.8 lbs-ft	
Supply Voltage	Power phases	Single-phase versions: 1 (L + N + PE) Three-phase versions: 3 (3L + PE)	
		Continuous load:	Max. load:
	Power consumption	400 W	600 W
	Voltage / frequency 1/3 x 200-240 V / 50-60 Hz 1 x 100 V / 50-60 Hz	2.2 A 4.4 A	3.5 A 10 A
Water Supply Tap water	Pressure for tap water	1-10 bar / 14.5-145 psi	
	Water inlet	1/2"	
	Water outlet	Ø40 mm	
Dimensions and weight	Width	515 mm / 20.3"	
	Depth	720 mm / 28.4"	
	Height	335 mm / 13.2"	
	Weight	49.0 kg / 108 lbs	
Environment	Noise level	Approx. 56 dB(A) at idle running at a distance of 1.0 m/39.4" from the machine	
	Surrounding temperature	5-40°C / 41-104°F	
	Humidity	0-95%RH Non condensing	
Safety standards	Please refer to the Declaration of Conformity		

Quick Reference Guide

Mounting a Disc

- Place the disc on the turntable and turn it until the three driving pins engage with the holes in the turntable.

Starting the Disc

- Set the speed control to the desired speed.
- Press the start switch.

Stopping the Disc

- Press the stop switch.

English

Declaration of Conformity



**Manufacturer,
responsible for
Technical File**

Struers A/S
Pederstrupvej 84
DK-2750 Ballerup, Denmark
Telephone +45 44 600 800

Herewith declares that

<i>Product Name:</i>	LaboPol-35
<i>Type No:</i>	611
<i>Machine Type:</i>	Grinding and polishing machine

is in conformity with the provisions of the following directives:

Safety of Machinery 2006/42/EC according to the following standard(s):
EN ISO 12100:2011, EN ISO 13849-2:2014, ,
EN 60204-1:2006/AC:2010, EN ISO 13857:2008, EN 349+A1:2010, EN 1037+A1:2010.

EMC-Directive 2004/108/EC according to the following standard(s):
EN 61000-6-1:2007, EN 61000-6-3:2007/A1:2011.

RoHS 2011/65/EU according to the following standard(s):
EN 50581:2012.

Supplementary Information The equipment complies with the American standards:
UL508, NFPA79:2012.

The above has been declared according to the global method, module A

Date: 13.02.2015

Christian Skjold Heyde,
Vice President, R & D and Production, Struers A/S

Dansk

Overensstemmelseserklæring



**Fabrikant,
ansvarlig for Teknisk
Dossier**

Struers A/S
Pederstrupvej 84
DK-2750 Ballerup, Danmark
Telefon 44 600 800

erklærer herved, at

<i>Produktnavn:</i>	LaboPol-35
<i>Type nr.:</i>	611
<i>Maskintype:</i>	Slibe og polér maskine

er i overensstemmelse med følgende EU-direktiver:

Maskindirektivet 2006/42/EF efter følgende norm(er):
EN ISO 12100:2011, EN ISO 13849-2:2014, ,
EN 60204-1:2006/AC:2010, EN ISO 13857:2008, EN 349+A1:2010, EN 1037+A1:2010.

EMC-direktivet 2004/108/EF efter følgende norm(er):
EN 61000-6-1:2007, EN 61000-6-3:2007/A1:2011.

RoHS 2011/65/EU efter følgende norm(er):
EN 50581:2012.

Supplerende oplysninger Endvidere overholdes de amerikanske normer:
UL508, NFPA79:2012.

Ovenstående overensstemmelse(r) er erklæret iflg. den globale metode, modul A

Dato: 13.02.2015

Christian Skjold Heyde,
Vice President, Udvikling og Produktion, Struers A/S



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DK-2750 Ballerup
Denmark

Spare Parts and Diagrams

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Motor with sledge	16110035F
Water tap, assembly	14920065G
Front plate, assembled.....	16110060B

Diagrams

Circuit Diagram	15863100C
Wiring Diagram	15863450E

Some of the drawings may contain position numbers
not used in connection with this manual.

LaboPol-35
Spare Parts and Diagrams

The following is a list of the spare parts that may need replacement during the lifetime of the equipment.

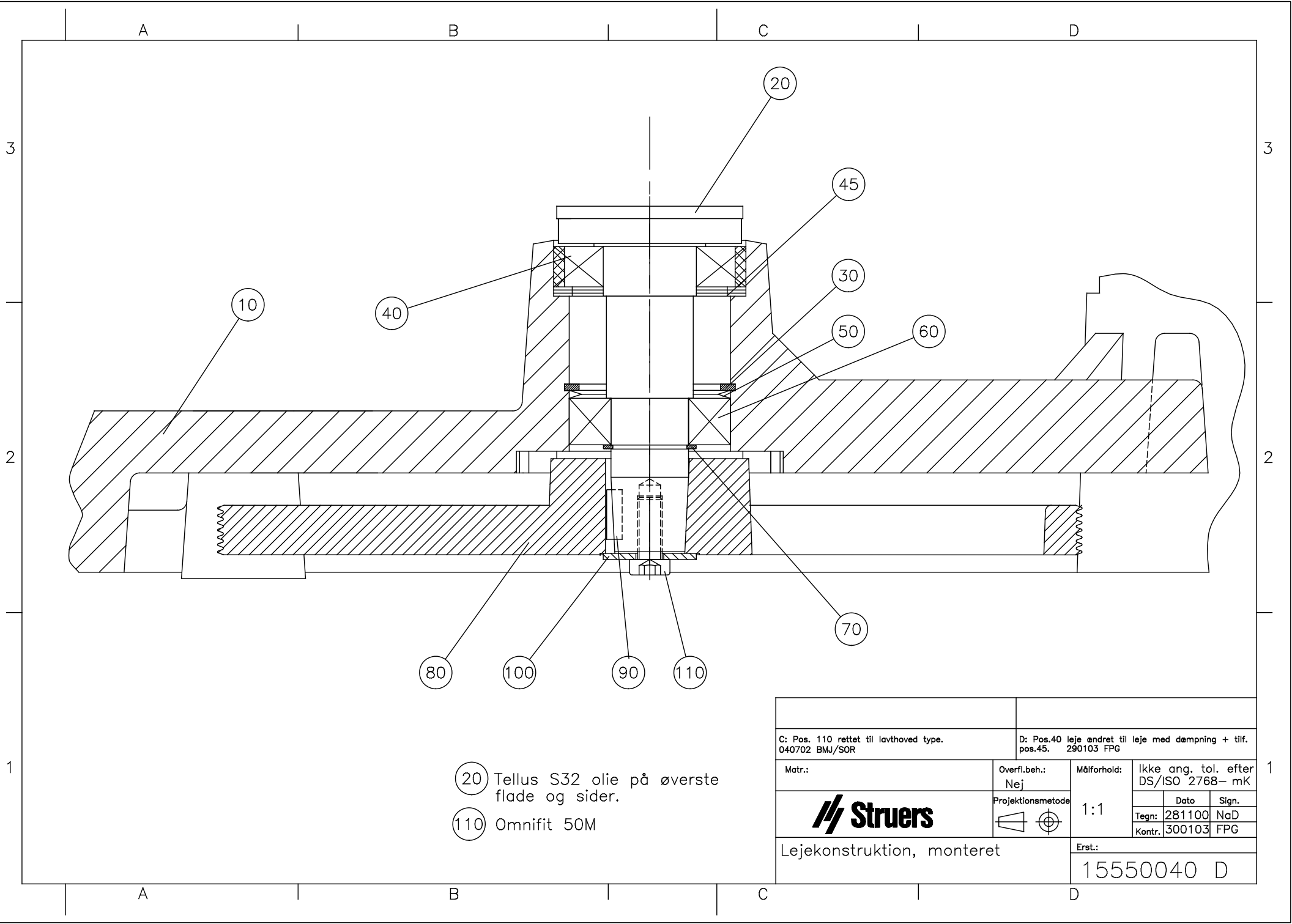
To check the availability of other replacement parts, please contact your local Struers Service Technician. It may help identify the part by referral to its position number on the assembly drawings included in this manual.

Spare part list for LaboPol-35

Drawing	Pos.	Spare Part	Cat no:
15550040		Bearing construction assembled	
		Ball bearing 6006 2RS w.damper	15540116
		Shim PS50x62x1 DIN988, 3 pcs	2ZP50010
		Disc spring 51.5x35.5x0.6, 2 pcs	2GF51018
		Ball bearing 6205-2RSR	2BK00055
		External circlip A25 DIN471	2ZL10250
		Key A 5x5x16	2ZF10516
		Body disc $\varnothing 8/\varnothing 30 \times 2$ BN732	2ZC70830
16110020		Bottom, assembled	
		Sealing strip Grey 2x5, 2 m	2IP10202
		Poly-V belt 450 J6 (L=1143)	2JD31143
		LenzeFrq.conv.8200smd370W16kHz	2PU81372
15860021		Electrical panel, assembled	
		Switch 1804.1102 Black	2SA60104
		Solid State Relay 10A 4-30Vdc	2KL81310
		Mains socket w. fuse + switch	2XN32107
		Fuse holder, Mains socket	2XN32901
		4.00A T Fuse glass 6.3x32 250V, 2 pcs	2FU14200
		Module holder. 3 elem. MHR-3, 2 pcs	2SA41603
		Contact block 1 NC 1/2. MTO	2SB10071
	Contact block 1 NO 3/4. MTI	2SB10072	
16110035		Motor with sledge	
	Motor 71C4 370W 240 60CSA ptc	2ME51553	
14920065		Water tap, assembly	
	Water tap, assembly	R5200050	

Spare part list for LaboPol-35

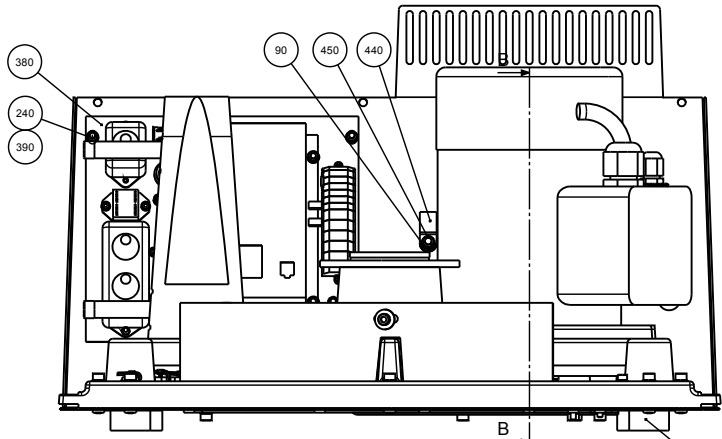
Drawing	Pos.	Spare Part	Cat no:
16110060		Front plate, assembled	
		Sealing strip Grey 1.5x10, 0.8 m	2IP10151
		Eco.push butt.head RTG (green)	2SA00410
		Eco.push butt.head RTR (red)	2SA00415
		5k0 2W Pot.meter Cermet 2%	2RP80100
		Various	
		EPM module V1.0 LP-35, progr.	16113901
		Pr.wat.hose grey ¾ ang.¾ str.	2NU93020
		Filter gasket ¾in	2IX20410
		Hose Danflex K-126 ø40, 1.5 m	RNU30238
		Splash ring	14920610



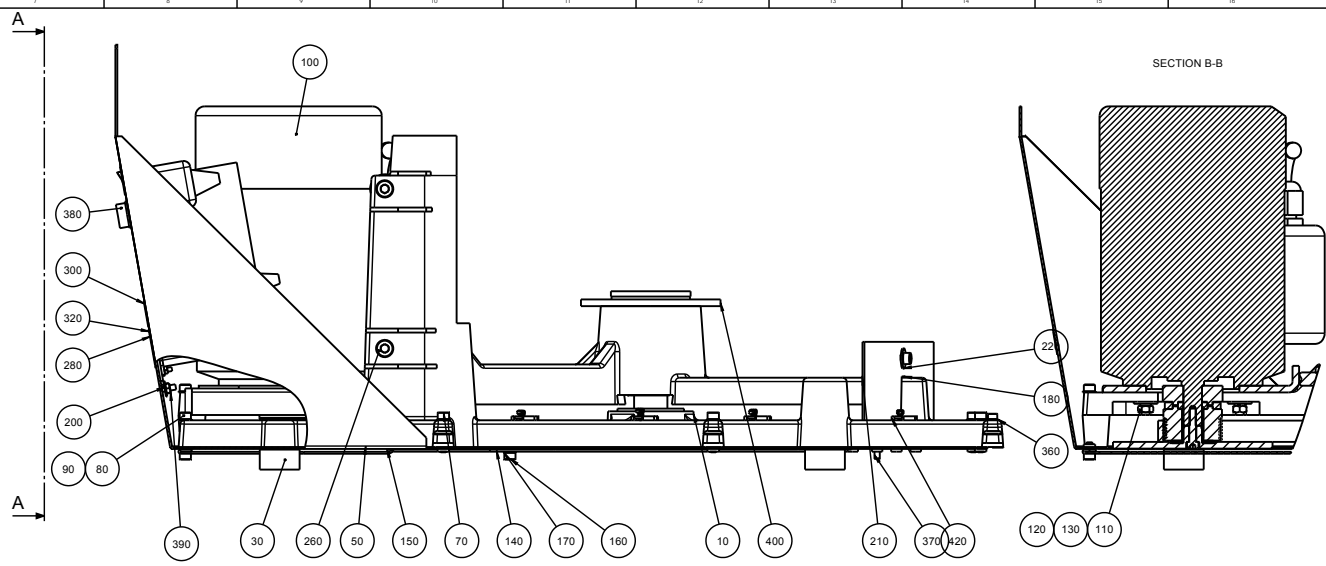
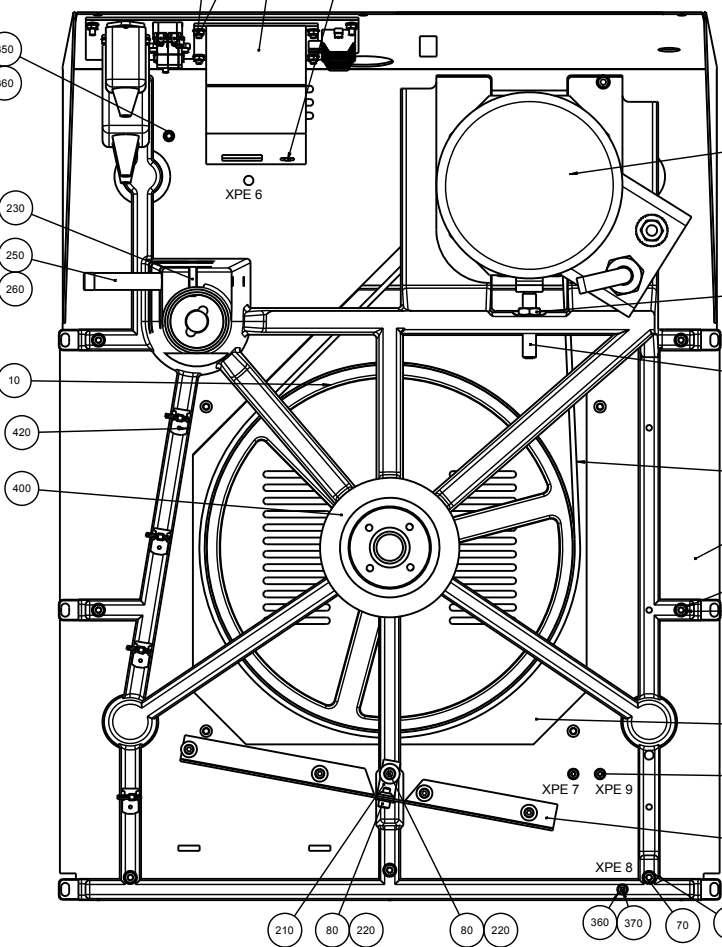
- 20 Tellus S32 olie på øverste flade og sider.
- 110 Omnifit 50M

C: Pos. 110 rettet til lavhoved type. 040702 BMJ/SOR		D: Pos.40 leje ændret til leje med dæmpning + tilf. pos.45. 290103 FPG	
Matr.:	Overfl.beh.: Nej	Målforshold:	Ikke ang. tol. efter DS/ISO 2768- mK
Struers		Projektionsmetode 	1:1
Lejekonstruktion, monteret		Erst.:	
		15550040 D	

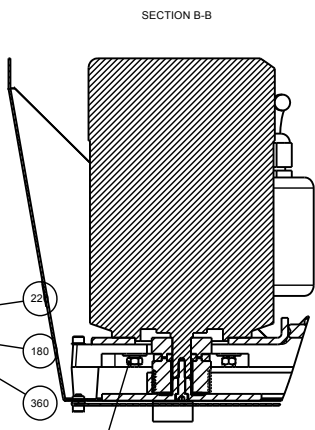
	Dato	Sign.
Tegn:	281100	NaD
Kontr.:	300103	FPG



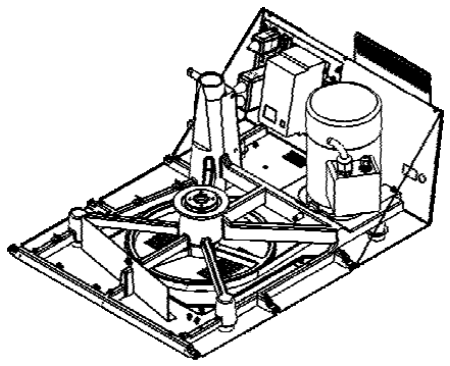
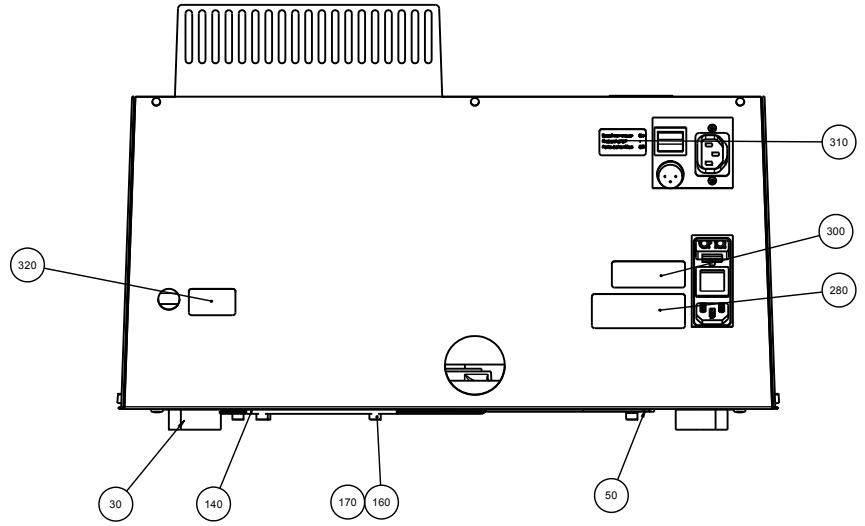
EPM modul se 16110010-XXX



SECTION A-A

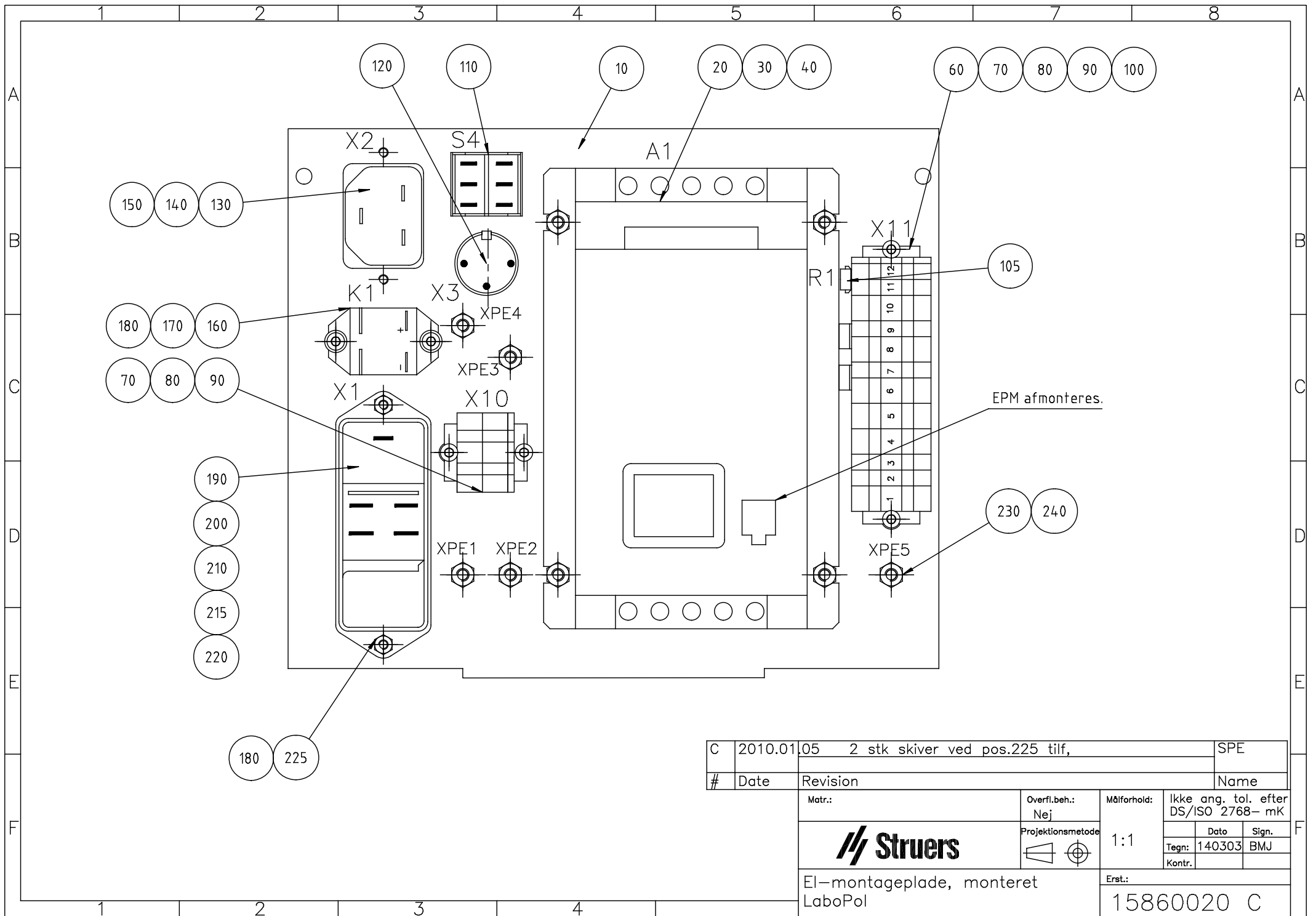


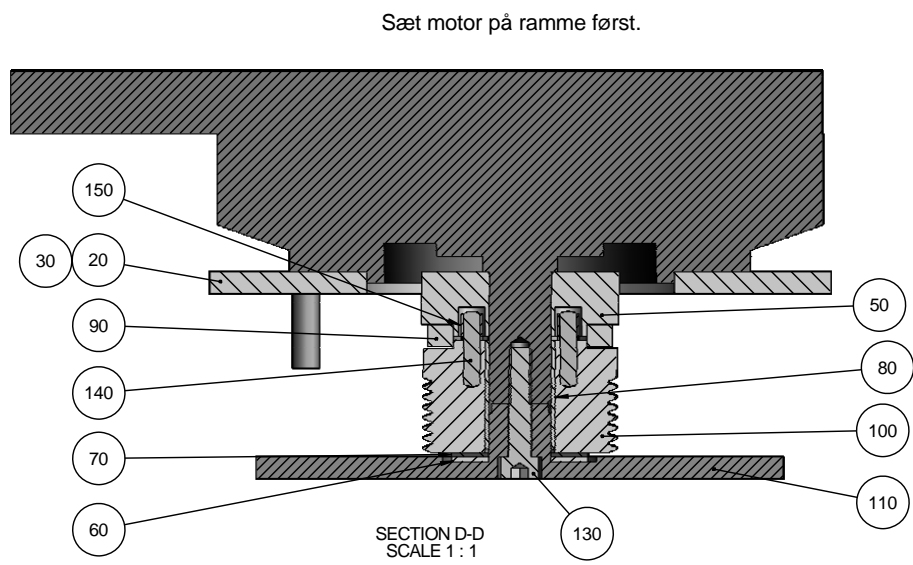
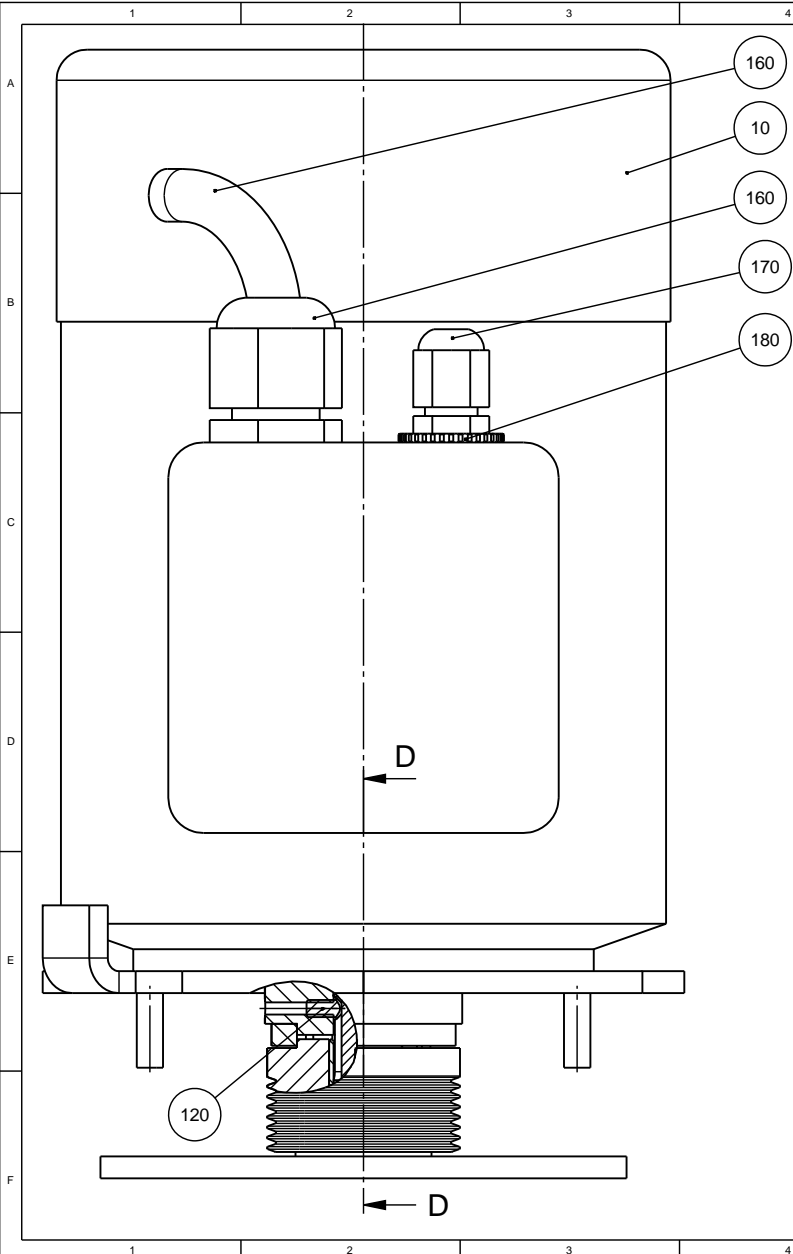
SECTION B-B



260 Fedt på gevind

D	2011-03-11	Trafo moved to assembly, Nylonboeje added.	JJO		
A	05.12.2008		SPE		
Revision	Crta date	Revision description	Draw. Init	Appr. date	Appr. Init
		Material	Scale	Format	Tolerance: DS/ISO 2768- mK
ID:	Description:		1:2	A1	Surface treat: None
	16110020 Bottom, assembled				Rev: D

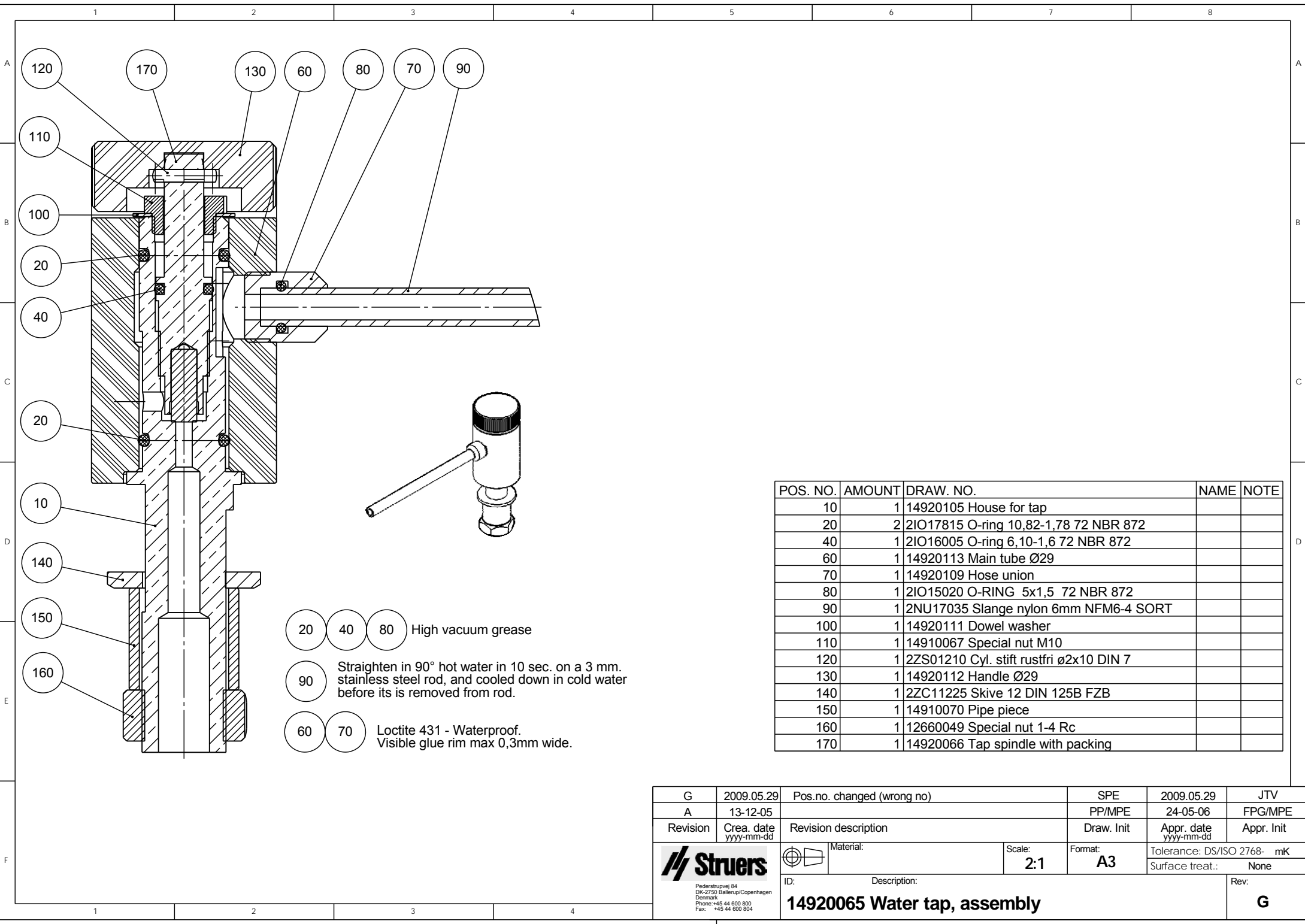




- 80 Skal gå let på aksel. Smøres med Kilopoise 2LS00869
- 90 100 Limes sammen med Loctite 409 Gel 2LL40409 (Må ikke komme på aksel)
- 120 130 Omnifit 50 M 2LL10050
- 60 110 Albida Grease 2LS00002 mellem disse flader

F	2011-05-09	Pos. 90 udskiftet. Dybere frihuller i pos. 50.	JJO		
A	04.12.2008		SPE		
Revision	Crea. date yyyy-mm-dd	Revision description	Draw. Init	Appr. date yyyy-mm-dd	Appr. Init
		Material:	Scale: 2:1	Format: A3	Tolerance: DS/ISO 2768- mK
		ID:	Description:	Surface treat.:	None
16110035 Motor with sledge, assembled					Rev: F

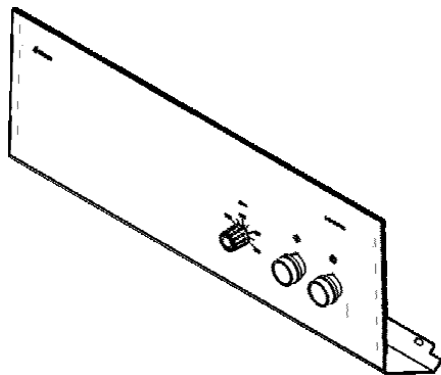
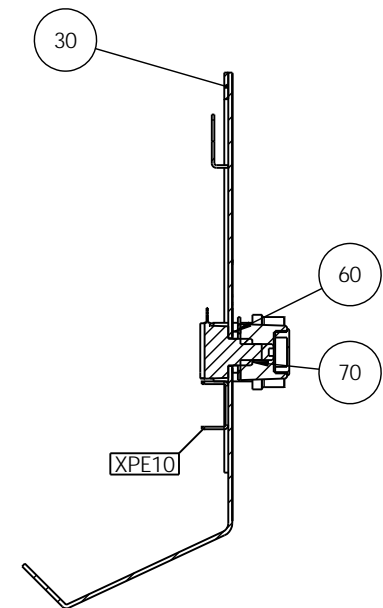
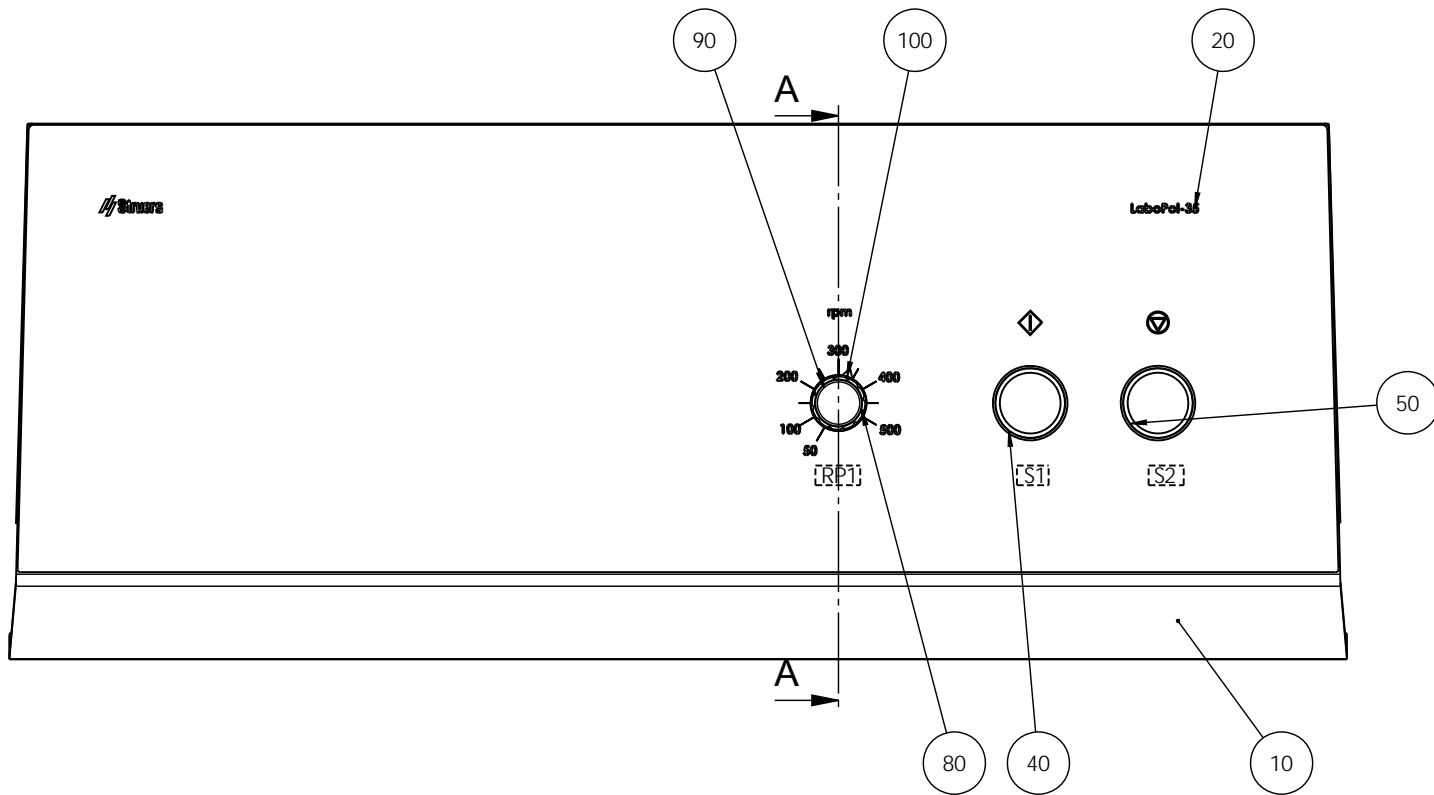
Pederstrupvej 84
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 Fax: +45 44 600 804




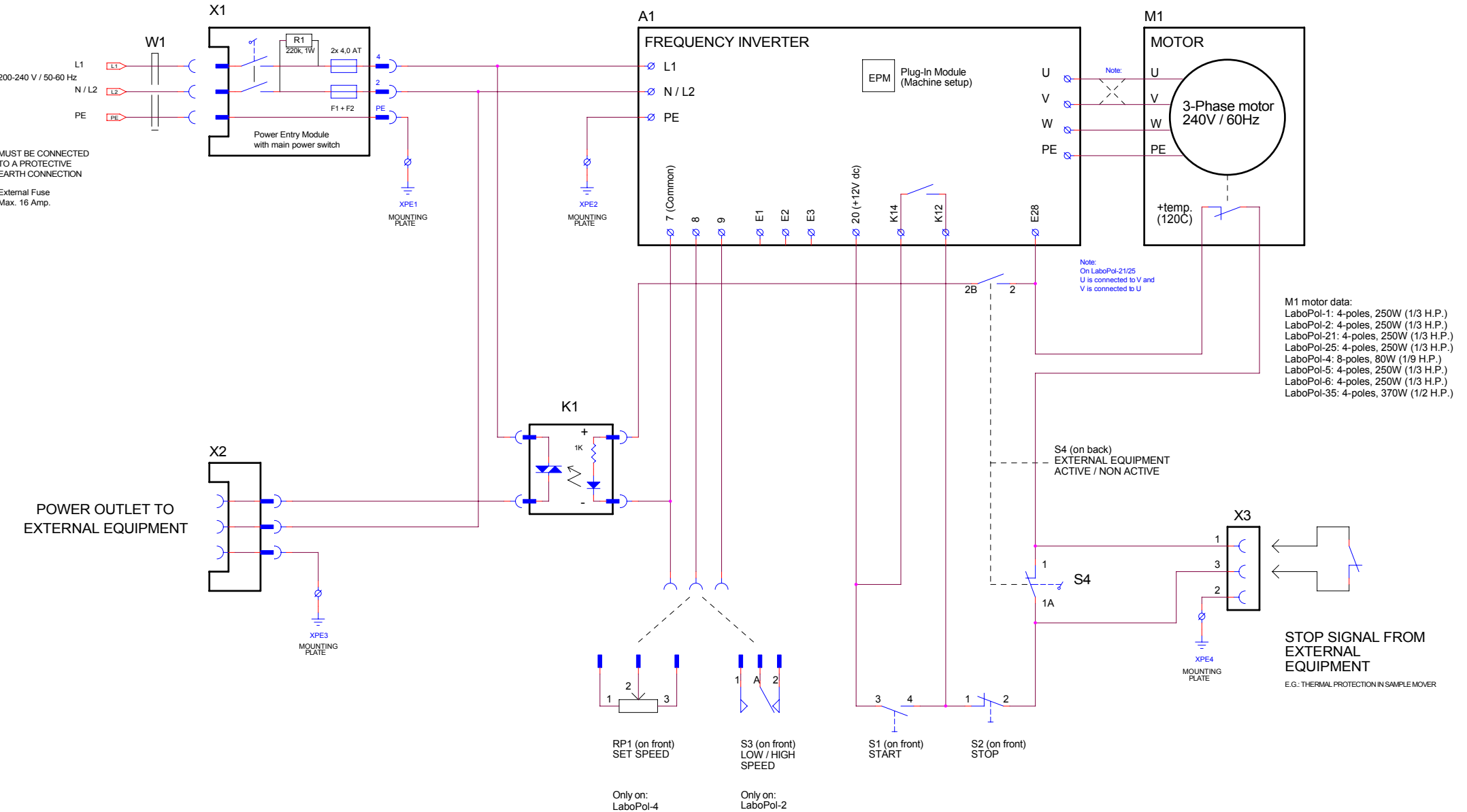
20 40 80 High vacuum grease
 90 Straighten in 90° hot water in 10 sec. on a 3 mm. stainless steel rod, and cooled down in cold water before its is removed from rod.
 60 70 Loctite 431 - Waterproof. Visible glue rim max 0,3mm wide.

POS. NO.	AMOUNT	DRAW. NO.	NAME	NOTE
10	1	14920105	House for tap	
20	2	2IO17815	O-ring 10,82-1,78 72 NBR 872	
40	1	2IO16005	O-ring 6,10-1,6 72 NBR 872	
60	1	14920113	Main tube Ø29	
70	1	14920109	Hose union	
80	1	2IO15020	O-RING 5x1,5 72 NBR 872	
90	1	2NU17035	Slange nylon 6mm NFM6-4 SORT	
100	1	14920111	Dowel washer	
110	1	14910067	Special nut M10	
120	1	2ZS01210	Cyl. stift rustfri ø2x10 DIN 7	
130	1	14920112	Handle Ø29	
140	1	2ZC11225	Skive 12 DIN 125B FZB	
150	1	14910070	Pipe piece	
160	1	12660049	Special nut 1-4 Rc	
170	1	14920066	Tap spindle with packing	

G	2009.05.29	Pos.no. changed (wrong no)	SPE	2009.05.29	JTV
A	13-12-05		PP/MPE	24-05-06	FPG/MPE
Revision	Crea. date yyyy-mm-dd	Revision description	Draw. Init	Appr. date yyyy-mm-dd	Appr. Init
 <small>Pederstrupvej 84 DK-2750 Ballerup/Copenhagen Denmark Phone: +45 44 600 800 Fax: +45 44 600 804</small>	 Material:	ID:	Scale: 2:1	Format: A3	Tolerance: DS/ISO 2768- mK
			Description: 14920065 Water tap, assembly		Surface treat.: None



B	2010-12-30	Scale changed	BRY	2010-12-30	JTV
A	22.12.2008		SPE		
Revision	Crea. date dd-mm-yy	Revision description	Draw. Init	Appr. date dd-mm-yy	Appr. Init
		Material:	Scale: 1:2	Format: A3	Tolerance: DS/ISO 2768- mK
Pederstrupvej 84 DK-2750 Ballerup/Copenhagen Denmark Phone: +45 44 600 800 Fax: +45 44 600 804		ID:	Description:	Surface treat.:	None
16110060 Front plate, assembled					Rev: B

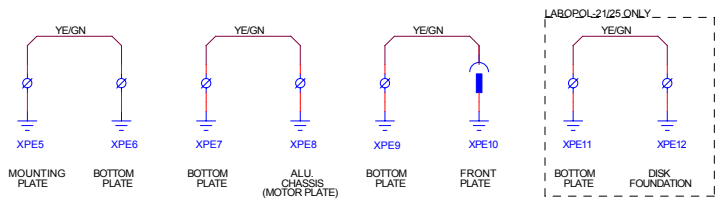


M1 motor data:
 LaboPol-1: 4-poles, 250W (1/3 H.P.)
 LaboPol-2: 4-poles, 250W (1/3 H.P.)
 LaboPol-21: 4-poles, 250W (1/3 H.P.)
 LaboPol-25: 4-poles, 250W (1/3 H.P.)
 LaboPol-4: 8-poles, 80W (1/9 H.P.)
 LaboPol-5: 4-poles, 250W (1/3 H.P.)
 LaboPol-6: 4-poles, 250W (1/3 H.P.)
 LaboPol-35: 4-poles, 370W (1/2 H.P.)

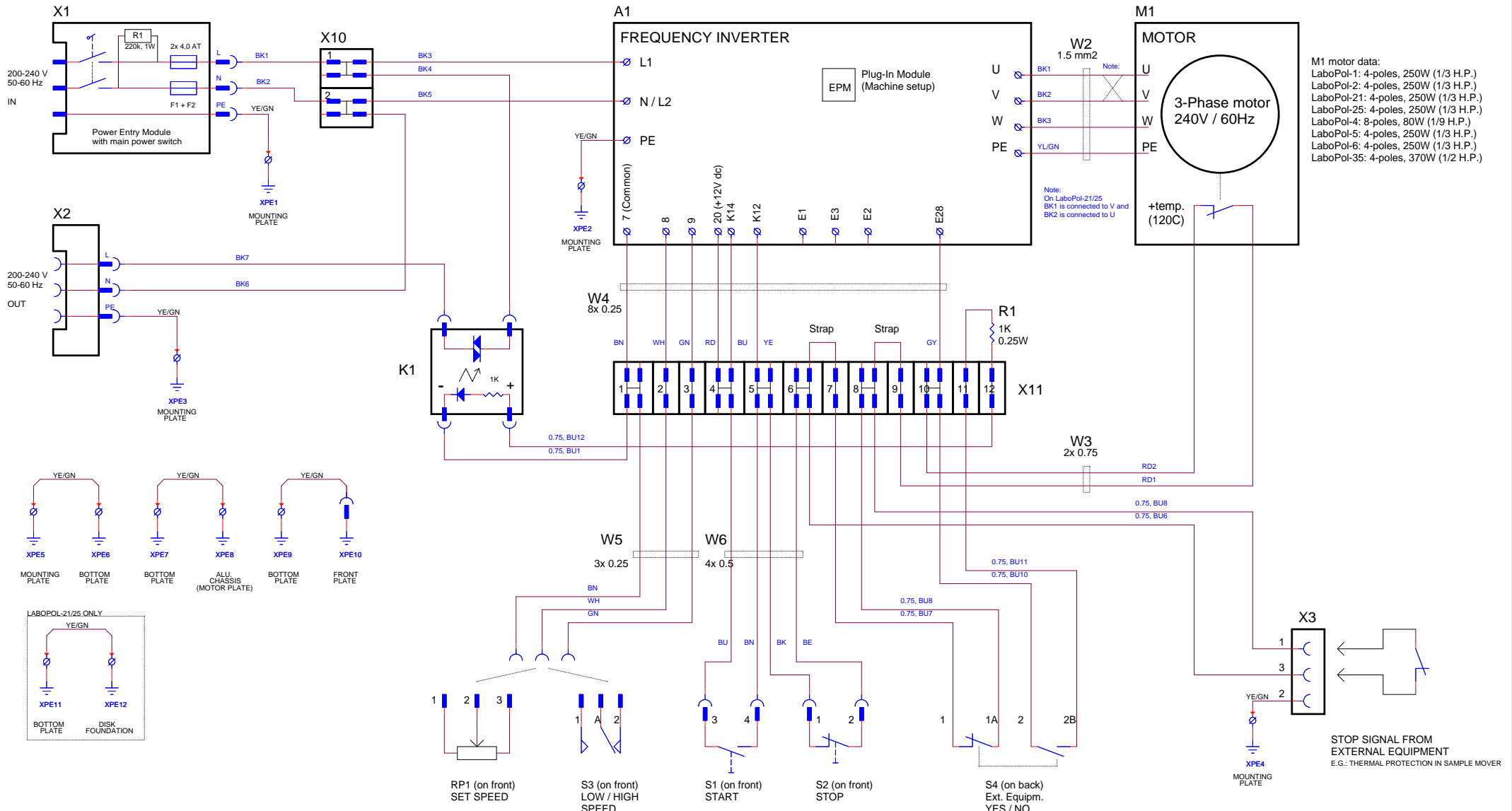
STOP SIGNAL FROM EXTERNAL EQUIPMENT
 E.G.: THERMAL PROTECTION IN SAMPLE MOVER

Only on:
 LaboPol-4
 LaboPol-5
 LaboPol-6
 LaboPol-25
 LaboPol-35

Only on:
 LaboPol-2



Rev.B: FTH 31-10-2007 R1 resistor added in Power Switch X1 Rev.C: FTH 28-08-2009 LaboPol-35 added	STRUERS A/S VALHOEJES ALLÉ 176 DK-2610 ROEDOVRE DENMARK PHONE: +45 3670 3600		
LABOPOL-SERIES, CIRCUIT DIAGRAM			
Size A2	CAGE Code <Cage Code>	DWG NO 15863100	Rev I C
Friday, August 28, 2009	Scale	FTH / FTH	Sheet 1 of 1



M1 motor data:
 LaboPol-1: 4-poles, 250W (1/3 H.P.)
 LaboPol-2: 4-poles, 250W (1/3 H.P.)
 LaboPol-21: 4-poles, 250W (1/3 H.P.)
 LaboPol-25: 4-poles, 250W (1/3 H.P.)
 LaboPol-4: 8-poles, 80W (1/9 H.P.)
 LaboPol-5: 4-poles, 250W (1/3 H.P.)
 LaboPol-6: 4-poles, 250W (1/3 H.P.)
 LaboPol-35: 4-poles, 370W (1/2 H.P.)

ALL WIRINGS AWG-16, EXCEPT OTHERWISE MARKED.

COLOR CODES:
 BK = BLACK
 BN = BROWN
 RD = RED
 OG = ORANGE
 YE = YELLOW
 GN = GREEN
 BU = BLUE
 VT = VIOLETT
 GY = GREY
 WH = WHITE
 BE = BEIGE

Only on:
 LaboPol-4
 LaboPol-5
 LaboPol-6
 LaboPol-25
 LaboPol-35

Only on:
 LaboPol-2

Rev. E: SPE 2012.05.29
 W2 1 mm2->1.5 mm2

Rev. B: FTH 10-07-2003
 Wire identifications added.
 Rev. C: FTH 15-02-2008
 R1 resistor added in Power Switch X1
 Rev. D: FTH 28-08-2009
 LaboPol-35 added

STRUIJERS A/S
 VALHOEJES ALLÉ 178
 DK-2810 ROEDOVRE
 DENMARK
 PHONE: +45 3670 3500

LABOPOL-SERIES, WIRING DIAGRAM

Size	CAGE Code	DWG NO	Rev
A2	<Cage Code>	15863450	E
Scale		FTH / FTH	Sheet 1 of 1

Tuesday, May 29, 2012



Pederstrupvej 84
DK-2750 Ballerup
Denmark