

WL / WL-S

OPERATING INSTRUCTIONS

WL15

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Standard and special accessories

Scope of delivery:

- complete machine ready for operation
- incl. funnel
- incl. control cabinet with all operating elements such as mains switch, ON/OFF, emergency OFF, etc.
- incl. complete electrical control

Special accessories:

Automatic star-delta starting

Vibration-damping machine feet

Gearmotor with spiral conveyor

Cover with limit switch

Fast-change sieve (only WLK)

Funnel with manual lift (only WLK)

Funnel with electric lift (only WLK)

Special rotors with blades set in the spiral

Second row of blades

Various sieve sizes

Equipment for underground installation consisting of funnel raiser, guard rail, external emergency OFF

adapted to local conditions

WLK model with sound insulation consisting of sound insulated funnel, sound insulated cover and sound insulated front door

TECHNICAL DATA

Machine type:	WL 15 / V-Rotor
Machine number:	500-9960
Year of construction:	03.2011
Funnel capacity:	ca. 2,9 m ³
Material-Output:	depends on material and screen size
Operating voltage:	460 V, 3 Ph, 60 Hz
Motor output - main drive:	54 kW
Motor output - hydraulic system:	2,6/3,3 kW
Weight:	approx. 6.200 kg
Number of tools:	43
Rotor speed:	approx. 90 U/min
Rotor diameter:	368 mm
V-belt length:	6 x XPB 2500
Hydraulic oil filling:	approx. 40 ltr. / HLP 46
Gearbox oil filling:	26 ltr. / Mobil Glycoyle 30
Fluid coupling:	6,3 ltr. / Nuto 32
Fuse:	125 Ampere
Current:	85 Ampere

Feed cross section:

Length:	3.300 mm
Width:	1.500 mm
Extraction nozzles:	250 mm

Dear Customer,

Harmonization of safety standards in Europe has made it necessary for special attention be given to the following instructions - particularly with regard to installation - in order to achieve the CE Conformity standards.

For this reason, we kindly request that you sign the enclosed Delivery Declaration and return it to the manufacturers.

If you have any questions in this request, please do not hesitate to contact us.

Delivery Declaration

The delivered timber waste shredder is in perfect operating condition and contains all protection equipment as required by latest technological standards. The machine is therefore marked with the CE label. The operating instructions also contain the appropriate conformity declaration.

If, without our knowledge, the machine is installed "underground" on site, it is deemed to be installation contrary to the intended purpose. The attached manufacturer's declaration alone, stating that the machine may not be operated without additional measures (see "Special accessories - underground installation" among others), is valid until the machine has been brought into compliance with the safety levels prescribed in the operating instructions.

Normal operation

The shredder type WL has been designed exclusively for shredding wood/timber and similar materials e.g. plastics, cardboard etc.

Normal operation also includes compliance with the operating instructions.

The machine may only be operated, serviced and repaired by trained and authorized persons.

The appropriate accident prevention regulations, as well as general safety regulations, must be observed (see section 10 Safety Instructions as well).

The shredder may only be used with original accessories and original tools.

Any other usage is deemed to be improper operation. The manufacturer accepts no liability for any damage occurring as a result. The operator alone is responsible for risks incurred.

Details of danger prevention

Selected solutions

Danger caused by

Safety measures

Tools

- coming loose -
- breakage -

Permanently mounted shredding shaft with welded-on tool holders. Knives are screwed on and glued. There is no danger from ejection because of the low rotational speed (approx. 90 rpm)

Hand contact with cutting area

Not possible because of design. Funnel dimensions to EN 294, distance > 850 mm.
Residual risk description

Outside the cutting area
e.g. also spiral conveyor

From below, prevented by housing in connection with movable, electrically locked protection device
Residual risk description.

Feed mechanism

Feed pusher secured by design: Distance from above >850 mm to EN 294, below in closed machine system.

Workpieces

Protection against flying and thrashing workpieces by funnel height 1650 mm above ground, complies with latest technological standards. Underground installation version described in the "Transportation and installation" section of the operating instructions.

Drive

Shredding shaft drive and counter bearing protected against touching by a screw-fitted safety guard. Hydraulic pump drive fully enclosed.

Danger caused by

Safety measures

Noise

The emission levels have been established. They lie within the range of the latest noise reduction technology standards. See "Noise emission" section.

Sawdust

The emission levels have been established. The present applicable limits for sawdust will not be exceeded if operating according to specifications.
See details and operating instructions in section "Extractor connection" in this respect.

Electricity

The electrical equipment complies with the requirements of EN 60 204-1. The input terminals which are live after switching off the mains switch, are covered and marked with a lightning bolt.

WLK special accessories - raisable funnel

Touching the shredding shaft with funnel raised

The drive for raising the funnel is activated after a 10 sec. delay by a sealed time relay in order to bridge the shaft run-on time (7 sec.).

Funnel falling unintentionally

The spindle of the gearmotor for lifting the funnel is self-locking and keeps the funnel in each position. A support rod is also supplied and is fastened to the funnel. The operating instructions describe how to use the support rod.

Crushing when moving funnel

Movement of the funnel in either direction is by a control button without lock at a reduced speed of 10 mm/s.

Residual risks

The machine has been constructed according to latest technological standards and recognized safety regulations.

Nevertheless, individual residual risks can occur:

- Contact with cutters starting up by mistake or crushing by the feed pusher whilst working in the funnel
- Contact with cutters from below when the provided lower safety guards have not been put into place correctly
- Falling into open funnel when installed underground
- Injuries from pieces of wood thrashing about or being thrown out
- Contact with live parts with switch cupboard open
- Danger from health-endangering dusts when operating without extractor
- Contact with tools or transport units by the extractor nozzles when removing the extractor connection

Residual risks can be minimized by observing the safety instructions on page 10.

General safety instructions

1. Whenever possible, do not allow workpieces to project above the top of funnel to prevent thrashing. Very long pieces should be cut up beforehand.
2. Never operate the shredder indoors without connected extractor.
3. Never reach into the spiral conveyor or hole sieve area with extraction pipe removed, e.g. to clear blockage. Warning, the blade shaft is directly behind here.
4. Switch off at mains switch when working on the cutting blade cylinder. Securing the mains switch with a padlock is absolutely essential before working in the funnel.
5. For your own safety, wear protective clothing such as safety shoes and gloves and ear protectors when loading particularly unwieldy and large pieces.
6. Do not leave the machine running with the funnel or any safety installations removed.
7. The service life of the hydraulic pipes is limited. They must be inspected at least once a year by a **qualified technician**.

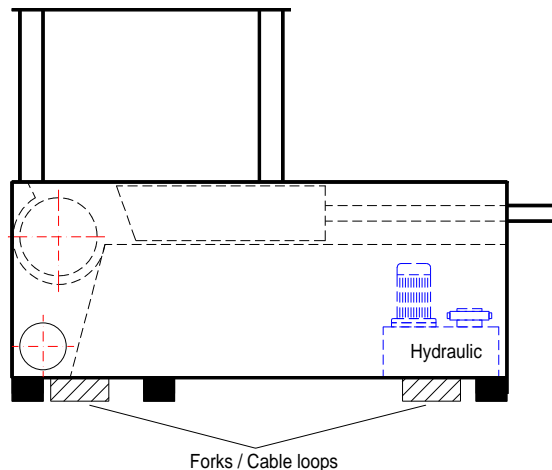
Worn parts, cuts, tears, brittleness or discoloration are an indication of restricted work safety. They should be replaced in this case.

The pipe fittings must also be inspected at regular intervals. Leaks which cannot be stopped by tightening the fastening nuts, deformation and the formation of corrosion are all signs that replacement is necessary.

The hydraulic system should be depressurized before working on it.

Transportation and installation

Unloading the machine should be carried out by forklift truck. The forks can be placed between the feet. Two cable loops should be placed between the feet (see illus.) if unloading by crane.



The location for installing the machine should be chosen - insofar as local conditions allow - so that the unit is not subjected to direct weather influences. If the unit cannot be installed indoors, it should at least be provided with a covering roof.

Attention must be paid that there is sufficient room all round the machine for maintenance work and repairs.

No particular demands are made on the foundations of the site where the machine is to be installed.

As the machine is loaded from above, installation in cellar rooms is advantageous. If it is to be loaded by front loader or forklift truck, attention must be paid that there is sufficient headroom and enough room for the vehicle.

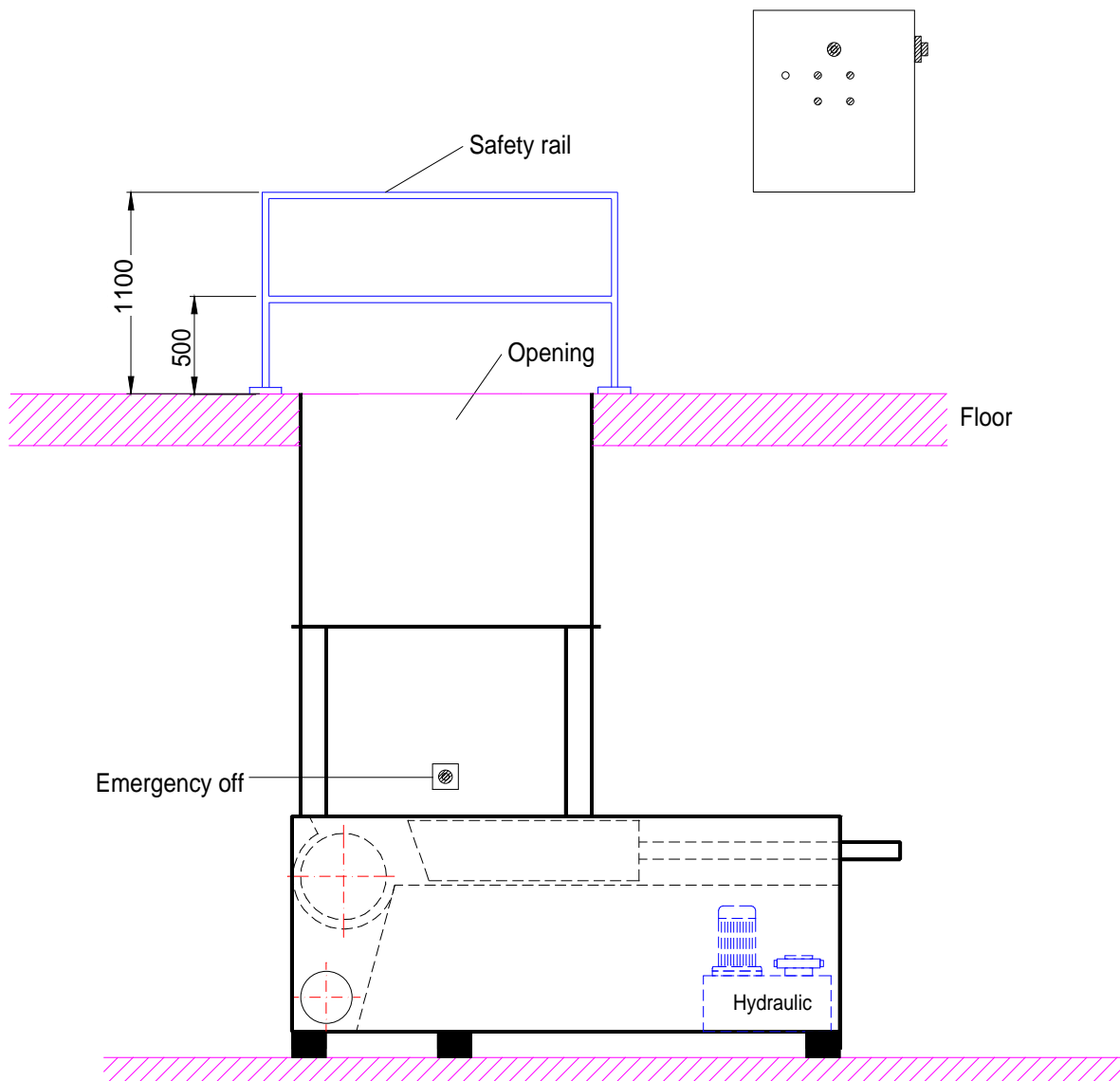
If being installed in a cellar, attention must be paid that all measures have been met to prevent anyone falling into the machine, e.g. by providing safety railings around the funnel opening and, if necessary, a funnel cover with electric closing.

The machine may only be started up when the installation requirements, in particular
correct disposal of chippings
prevention of reaching in or falling in
correct electrical connections,
have been fulfilled completely.

We can supply you with the appropriate technical measures for correct installation.

Special accessories for underground installation

If installing underground, the switchbox is to be installed close to the filling opening with an emergency OFF button on the machine (see special accessories). A safety rail to prevent falling into the funnel is to be installed in the dimensions shown in the diagram. The space between the floor opening and the standard funnel upper edge is to be bridged with a funnel extension made of sheet steel (thickness of sheet steel depends on height of room).



Special accessories - funnel raising unit

The funnel raising mechanism can only be operated if the shredding machine has been switched off and the key switch - funnel lock - is in position 1.

The up/down movement of the funnel is in inching mode so that the funnel up/down motion has to be controlled constantly by an operator.

For safety reasons, we recommend that the **key switch** be removed during normal operation so that only authorized personnel can operate the raising unit.

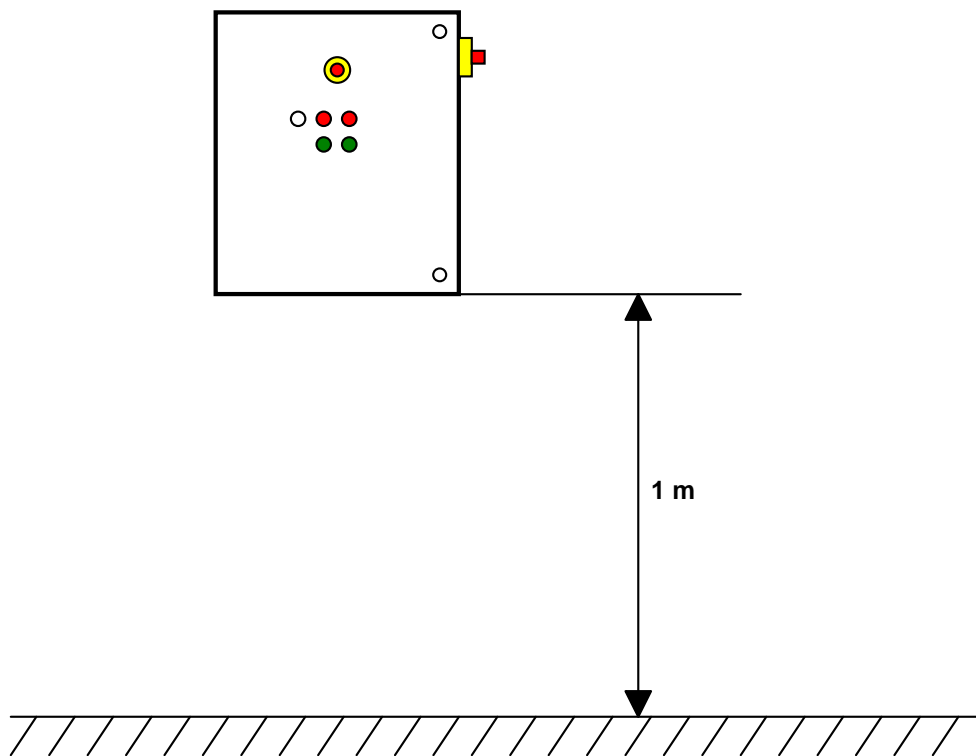
Important!!! Put support in place when the funnel is raised.

Normal operation of the machine is not possible when the funnel is raised.

Electrical connection

Caution: The electrical connection of the machine may only be carried out by a local electrician.

Important: If the switchbox is not attached to the machine, attention must be paid that installation is such that the distance between the switchbox and the machine does not exceed approx. 5 m and that the lower edge of the switchbox is at least 1 m above the floor. The connecting cables between switchbox and machine are to be protected against damage (cable duct, protective sleeve).



If the switchbox cannot be installed according to these criteria, an additional emergency OFF button must be located on the machine or within reach (see special accessories).

Extractor connection

An extractor system must be connected if the machine is to be operated indoors. If the connection consists of flexible plastic tubes, they must be of a flame retardant design.

If, contrary to normal use, chippings are not be extracted by an extractor, the extractor nozzle must be replaced by a sealing panel. Chippings must be extracted in such a way that access to the sieve chamber is not possible. This operating method is only permitted outside of workshops and must be approved by the manufacturer beforehand.

The conformity declaration only covers operation with extractor.

Extractor nozzle interface:

Diameter	D = 250 mm	200 mm	160 mm
Volume flow	V = 4950 m ³ /h	2300 m ³ /h	2040 m ³ /h

Minimum air flow speed: $v = 28 \text{ m/s}$

Static vacuum with half-open air inlet flap
 $V = 28 \text{ m/s } p_{\text{ST}} = 1300 \text{ Pa}$

This results in a resistance coefficient of
 $= P_{\text{stat}} / P_{\text{dyn}} = 2.8$

Dust collection

If connected in compliance with interface description, it can be safely assumed that the limiting values for sawdust will not be exceeded (test certificates for dust emission measurements to DIN 33893 part 2 have been obtained) for dust extraction as proposed.

The terminals 1 to 10, bridged at the factory, are to be used for electrical connection with the extraction system by connecting with a floating contact of the extraction control.

The Weima company also offers a floating contactor relay for controlling the startup of auxiliary equipment.

Noise emission

The figures quoted here are emission values and therefore do not necessarily represent workplace values. As there is no correlation between emission values and workplace values, these cannot be used reliably to establish whether any further measures are necessary. Factors which could influence workplace values include duration of exposure, characteristics of the workshop, other noise sources, the number of machines and other neighbouring influences. Reliable workplace values, therefore, can vary from country to country. This information, however, should enable the operator to be able to make a better estimate of dangers and risks.

Measurements to EN 31 202 with CENTL 142 supplement in connection with ISO 7960 for workplace-related emission value $L_{pA} = 83$ dB work noise.

The measurement uncertainty constant K is 4 dB (A).

The sound power level measured to EN 23746 with CEN-TC 142 supplement is $L_{WA} = 100$ dB work noise.

The measurement uncertainty constant K is 4 dB (A).

The following supplements from CEN-TC 142 were taken into account in order to obtain an accuracy class of better than 3 dB:

- The ambient correction factors K_{2A} and K_{3A} are $\mu 4$ dB
- The difference between background noise level and noise sound pressure level at every measuring point is $- 6$ dB
- K_{3A} is calculated according to appendix A, prEN 31204
- A parallelepipedal enveloping surface with 9 measuring points at distances of 1.0 m from the reference surface is used.

Machine-related settings:

Half funnel filling with timber scraps of various dimensions.

Microphone position for workplace-related emission measurement:

Height 1.5 m at 0.5 m distance to funnel edge, centred on output side.

Tool changing

Changing or turning knives

1. Switch off machine and secure against being switched on again.
2. Although it is possible to reach the cutting shaft by climbing into the funnel with funnel widths of >800 mm, we recommend carrying out change of blades by removing the electrically locked side flap and the sieve. The shaft can be rotated manually by turning the motor v-belt pulley.
3. Clean the hexagon head socket of the knife screw.
4. Undo the knife screw using a high quality Allen key (10 mm). As the screws are secured with Loctite 222, they should be loosened with a jolt or, if necessary, by knocking the Allen key lightly with a hammer.
5. After having removed the knife screws and the reversible jaw plates, clean the knife seat so that the knife will rest flush on the knife support without fail. The reversible jaw plates can be turned round four times with hollow knives 40x40. After this, they should be replaced with original spare parts form Weima.
6. When fastening the reversible jaw plates, secure fasting screws with Loctite 222 and tighten to a torque of 125 Nm.
7. With "raisable funnel" special accessory, changing cutting blades can be carried out with the funnel raised (see also section 8/1).

Changing or turning counter blades

1. Switch off machine and secure against being switched on again.
2. Clean the hexagon head socket of the counter blade screw.
3. In this case we also recommend tapping the screw head several times with a hammer to loosen the screw before trying to undo it.
4. After having removed the counter blade, clean the knife seat so that the knife will rest flush on the support surface without fail.
5. When fastening the counter blades, secure the counter blade screws with Loctite 222 and tighten to a torque of 170 Nm.

IMPORTANT: **Fastening screws must be secured with LOCTITE 222 after all work on the tools**

Starting up the machine

The machine can be started up upon completion of electrical installation of the control cabinet in accordance with the enclosed circuit diagram.

Run the machine briefly whilst empty in order to check the rotational direction of the main motor.

If the rotational direction of an E-motor does not coincide with the prescribed rotational direction, have it corrected by an electrician. Wrong rotational direction of the hydraulic unit motor can lead to damage to the hydraulic pump. With correct rotational direction for E-motors, run the machine empty for about 3-5 minutes to check the function of the hydraulic pusher.

The hydraulic pusher is controlled by a pressure switch at the front and rear end positions. Changeover should take place at 80 - 100 bar can be controlled using the manometer (pos. 28) on the hydraulic unit. the level of the changeover pressure can be set of the adjustment scale of the pressure switch (pos. 35). Turning the scale clockwise increases the changeover pressure; turning the scale anti-clockwise lowers the pressure. **(Please consult manufacturers before adjusting!)** If the changeover pressure is set too high, the pusher drives to the end position without switching over to the other direction, which would lead to the hydraulic oil warming up. The pressure switch is set at works when machine is tested so that usually no adjustment work is necessary on the hydraulic system. The machine can be operated with material once the above points have been carried out.

It should also be noted that adjustment at the control cabinet is necessary according to the type of material being worked. The rotary knob of the current relay U 2 (pos. 79) for load-dependent feed should be set somewhat lower if the rotor is reversing too often. If the set value is too low, the pusher will come to a halt in its current position. If this happens, set the current relay a little higher again.

Warning:

Make sure that the manometer stopcock is closed when operating the machine.

Functional description of mechanical section

After the machine has been switched on, a hydraulically controlled feed unit pushes the quantity of wood onto the slow-running profiled rotor. The infeed is controlled according to load.

The material can be placed unsorted in the hopper mounted on top of the machine. Attention must be paid that this material does not contain **any other metal parts** apart from staples and nails. The guarantee does not cover any damage to the machine as a result of metal parts being fed into the machine. The material in the hopper is shredded by the rotating knives on the profiled rotor. This shredding process is repeated as often as required until the diameter of the sieve behind the rotor has been reached.

The shredder can also be switched off with material still in the hopper.

Functional description - Control

The machine is fitted with an automatic shutdown, i.e. when set to automatic, the machine switches off after a period which has been preset in the time relay (d10).

The pusher plate on the floor feeds the shredding unit (rotor) with as much material as this is able to process. Upon reaching 70-90 % of rated current, the pushing movement of the pusher plate is switched off and automatically switched on again when the power consumption has fallen by 20 % in comparison with rated current. If the high current is applied for longer than 0.7 - 1.5 secs., the main drive motor switches off and runs back after about 3 secs. standstill time. The pusher plate also runs back whilst the rotor runs back. The drive motor then stops for another 3 secs. before starting again.

Duration of pauses and return as well as the current settings can be adjusted.

Any alterations, however, should only be carried out after consulting the manufacturer.

Maintenance / repair

The following maintenance should be performed on the Weima Grinder:

- Tightness of the screws on the machine frame and drive unit should be checked after approximately 50 operating hours and the oil level of the hydraulic unit and the V-belt tension checked at the same time.

The following maintenance should be performed routinely:

- Every 250-300 operating hours, the space below the machine should be cleared of any residual wood pieces which have made their way through the pusher.
- Every 500 operating hours the level of grease in the rotor bearings on both sides should be checked. Also the welding bead between rotorend and machine frame should be controlled and if necessary renewed.
- The following work should be carried out every 1000 operating hours:
 1. Check all mechanical connections, in particular
 - Torque arm
 - Transmission support
 - Sieve fastenings
 - Hydraulic cylinder fastenings
 2. Check, retighten and, if necessary, replace the fan belt
 3. Check the belt pulleys for tight seat and wear
 4. Check hydraulic pipes and screw connections for leaks
 4. Check cables for damage to insulation
 6. Check the emergency shut-down
- The hydraulic system should be given an oil change and a filter change every 2000 operating hours or 2 years.
- The rotor bearings on the drive side and opposite the drive side should be subjected to an overall clean every 3 years. Lubricant/grease to DIN 51806 or ISO 2137 on a lithium basis NLGI 2 should be used.

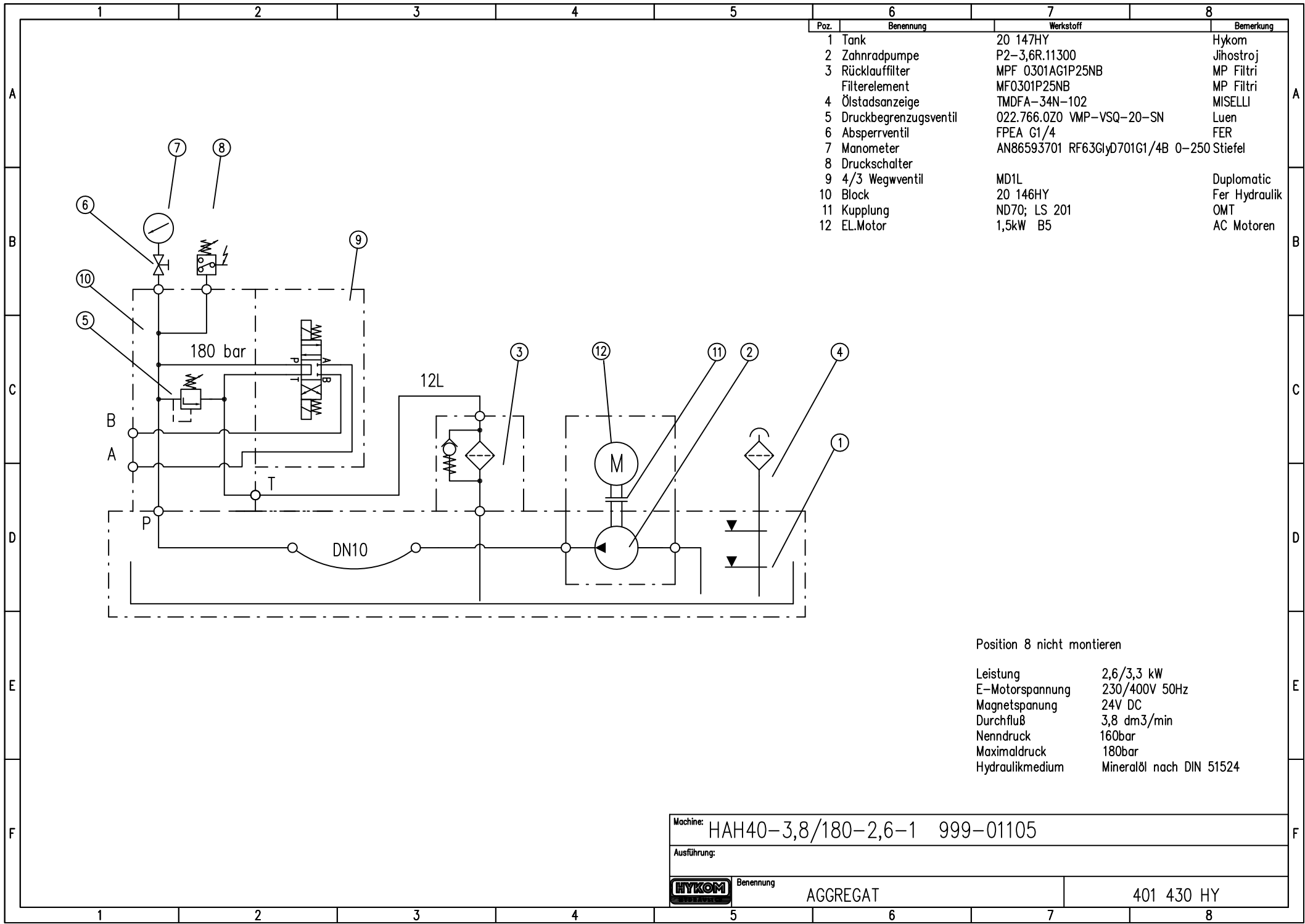
Withdrawal from service / Disposal

If withdrawing the machine from service for disposal, please ensure that this is done according to local regulations. This applies in particular to used oil and electric components.

Hydraulic liquid recommendation

Designation to DIN 51 502	HLP 32	HLP 46	HLP 68
Ambient temperature:	-7 to +70°C	±0 to +80°C	+5 to +90°C
Supply co.	Name of the oil	Name of the oil	Name of the oil
ARAL	Aral Vitam GF 32 Aral Vitam HF 32	Aral Vitam GF 46 Aral Vitam HF 46	Aral Vitam GF 68
BP	BP Energol HLP-D 32 BP Energol HLP 32 BP Energol SHF 32	BP Energol HLP-D 46 BP Energol HLP 46 BP Energol SHF 46	BP Energol HLP-D 68 BP Energol HLP 68
ELF	Elfolna 32 Hydrelf 32	Elfolna 46 Hydrelf 46	Elfolna 68 Hydrelf 68
ESSO	Nuto H 32 HLPD-Oel 32	Nuto H 46 HLPD-Oel 46	Nuto H 68
FINA	Fina Hydran 32	Fina Hydran 46	Fina Hydran 68
FUCHS	Renolin MR 10 Renolin B 10	Renolin MR 15 Renolin B 15	Renolin MR 20
MOBIL	Mobil DTE 24 Mobil DTE 17 Drucköl HLP 32 - C Hydrauliköl HLPD 32	Mobil DTE 25 Drucköl HLP 46-C Hydrauliköl HLPD 46	Mobil DTE 27 Drucköl HLP 68-C Hydrauliköl HLPD 68
TEXACO	Rando Oil HD A - 32 Rando Oil HD AZ - 32 Alcor Oil DD 32	Rando Oil HD B - 46 Alcor Oil DD 46	Rando Oil HD C - 68 Rando Oil HD CZ - 68 Alcor Oil DD 68

These oils can be used without hesitation for 2,000 operating hours, after which time oil must be changed. When topping up hydraulic oil, attention must be paid that the same type of oil is used. If oil of the same type is not available, or the type of oil already in use is unknown, the oil in the tank and in the complete hydraulic system must be removed completely and the complete system flushed carefully. The system may only be filled with new oil after this has been done. Only in this way is it possible to prevent any gumming of the valves.



Poz.	Benennung	Werkstoff	Bemerkung
1	Tank	20 147HY	Hykom
2	Zahnradpumpe	P2-3,6R.11300	Jihostroj
3	Rücklauffilter	MPF 0301AG1P25NB	MP Filtri
	Filterelement	MF0301P25NB	MP Filtri
4	Ölstadsanzeige	TMDFA-34N-102	MISELLI
5	Druckbegrenzungsventil	022.766.0ZO VMP-VSQ-20-SN	Luen
6	Absperrventil	FPEA G1/4	FER
7	Manometer	AN86593701 RF63GlyD701G1/4B 0-250	Stiefel
8	Druckschalter		
9	4/3 Wegventil	MD1L	Diplomatic
10	Block	20 146HY	Fer Hydraulik
11	Kupplung	ND70; LS 201	OMT
12	EL.Motor	1,5kW B5	AC Motoren

Position 8 nicht montieren

Leistung	2,6/3,3 kW
E-Motorspannung	230/400V 50Hz
Magnetspannung	24V DC
Durchfluß	3,8 dm ³ /min
Nennndruck	160bar
Maximaldruck	180bar
Hydraulikmedium	Mineralöl nach DIN 51524

Machine: HAH40-3,8/180-2,6-1 999-01105

Ausführung:

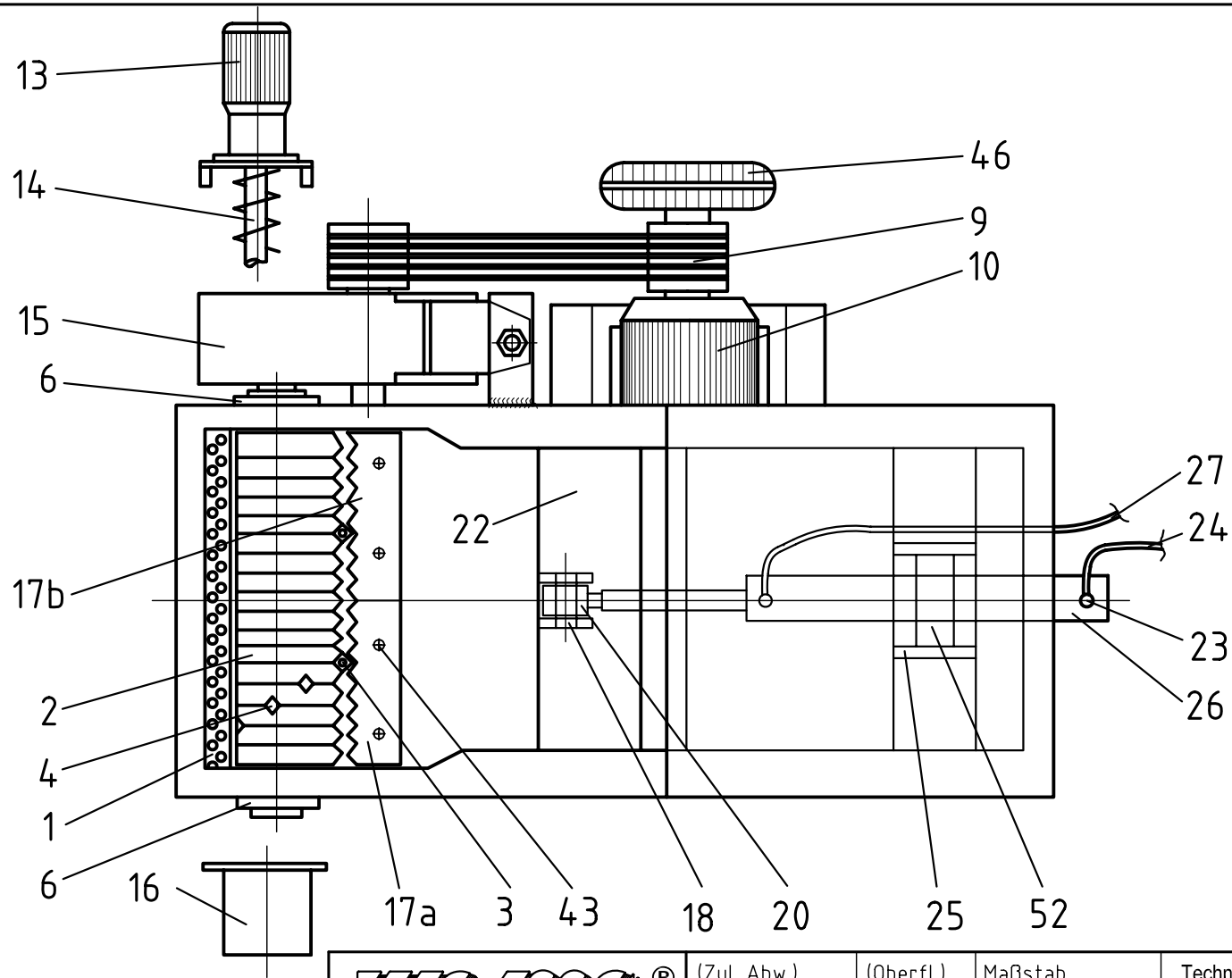
HYKOM Benennung	AGGREGAT	401 430 HY
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Spare parts list


Pos.	Parts	pcs.	Articel no.
1	screeninsert WL 15	1	009005000010
2	rotor WL 15V	1	010005000016
3	knife bold M12 x 45	43	012001000001
4	concave knife 40x40 performance	43	009001000031
5	bearing flange 15	2	009003000077
6a	bearing housing WLK 100	1	009010000014
6b	self-aligning roller bearing 22220	1	009010000013
6c	bearing housing WLK 326	1	009010000038
6d	self-aligning roller bearing 22226	1	009010000033
7	pulley SPB250 (gearbox)	1	009009000034
8	v - belt XPB 2500	6	009009000049
9	pulley SPB224 (motor)	1	009009000032
10	electric motor 90 kW B3	1	011001000027
15	gearbox WAP100	1	010004000129
16	exhaust connection piece 250 mm	1	009003000060
17a	counterknife WL 15V 775 mm	1	009002000026
17b	counterknife WL 15V 705 mm	1	009002000027
18	fixing bolt for hydraulic cylinder	2	009003000049
19	vertical ram guides for the large ram	2	009003000020
20	joint bearing for hydraulic cylinder WL	2	009003000044
21	ram guides for WL 15	1	009003000017
22	ram plate WL 15	1	010001000008
23	fitting hydraulic cylinder	4	008003000007
24	hydraulic hose 1050 mm	2	008003000032
	hydraulic hose 850 mm	1	008003000039
25	cylinder suspension	4	009003000022
26	WL cylinder 1055	4	008005000009
27a	hydraulic hose 650 mm	2	008003000048
27b	hydraulic hose 850 mm	1	008003000039
28	gauge	1	008003000012
29	electric motor 2,6 / 3,3 kW with 2 speeds	1	011001000028
30	pumpbracket WL	1	008004000010
31	coupling WL large	1	008004000007
32	stop valve for gauge	1	008003000013
33	pump WL 3,8 ccm	1	008004000002

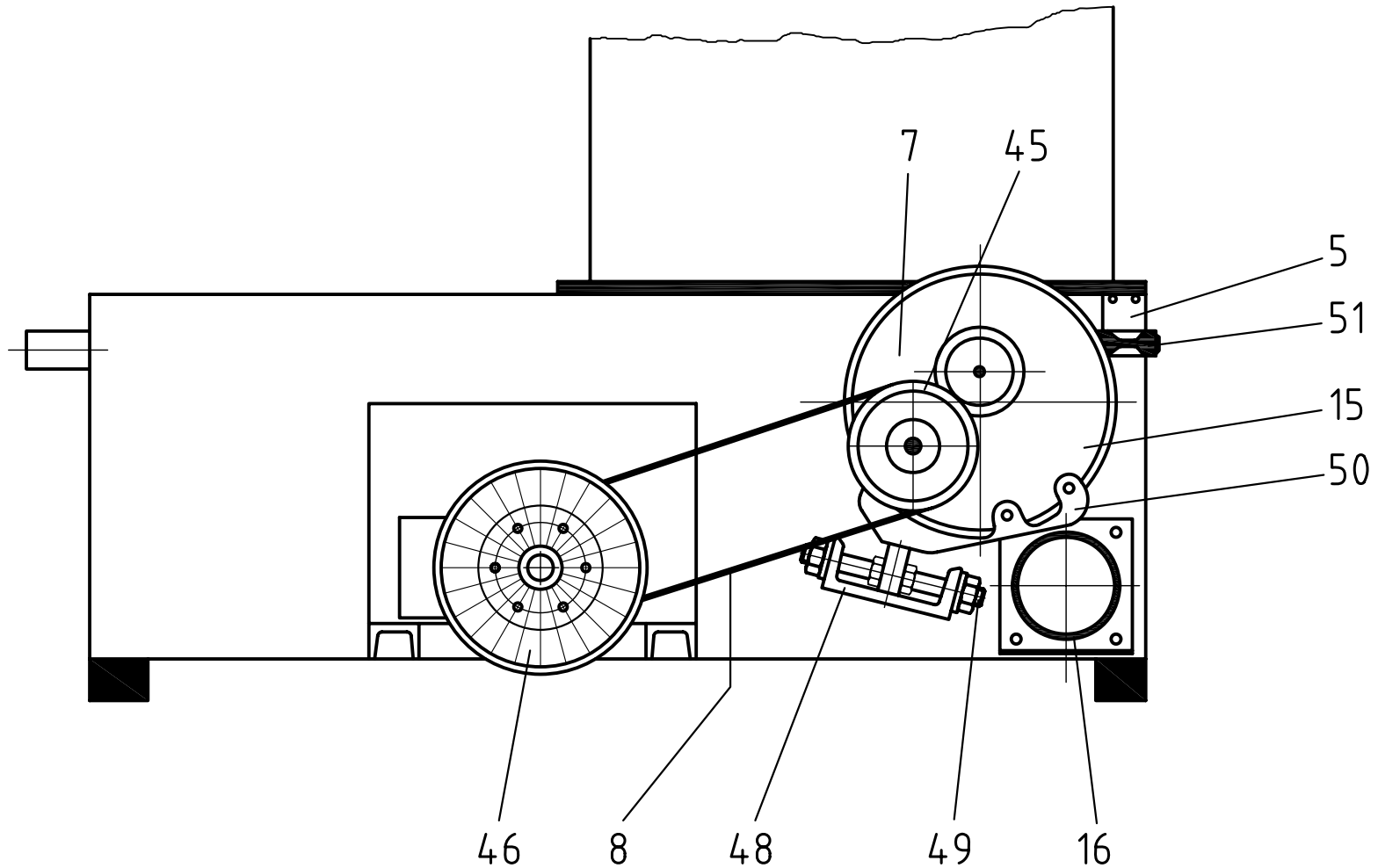
Spare parts list

Pos.	Parts	pcs.	Articel no.
34	valve for WL 24V DC	1	008002000007
35	pressure switch	1	008002000009
36	solenoid coil 24V DC	2	008002000015
37	filterhousing for WL	1	008001000005
38	connection block for hydraulic WL	1	008002000013
39	filler and breather for WL-hydraulic	1	008001000008
40	drain plug for hydraulic unit	1	008003000020
41	hydraulic unit WL 40 litres	1	008006000006
42	relief valve	1	008002000012
43	counter knife screw M16x60	10	012001000002
44	slip off ledge 1500 mm	1	009003000078
45	taper bush 3535-60	1	009009000016
46	fluid coupling size 17	1	010001000020
48	mounting for gearbox	1	009003000025
49	torque bolt M36x500	1	009003000106
50	gearbox-bracket for WAP	1	009003000174
51	safety switch	1	007003000003
52	universal joint	2	009003000023
90	adjustable pressure relief valve	1	008002000027
92	safety switch gearbox	1	007003000014



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 Maschinenbau GmbH 74 358 ILSFELD Postfach 6 Telefon: (07062) 9570-0 Fax: 9570-90		(Zul. Abw.)	(Oberfl.)	Maßstab	Techn. Änderungen jederzeit vorbehalten!
		Kommission:			
2002	Datum	Name	WL / WLK		
Bearb.	17.04.	Kis Kollar			
Gepr.					
Norm					
Revision 1			EZ-4-02-019		Blatt
Zust.	Änderung	Datum	Name	EDV: EZ-4-02-019R1 Ersatz für: EZ-4-02-19 vom 24.01.96 / Merkle	

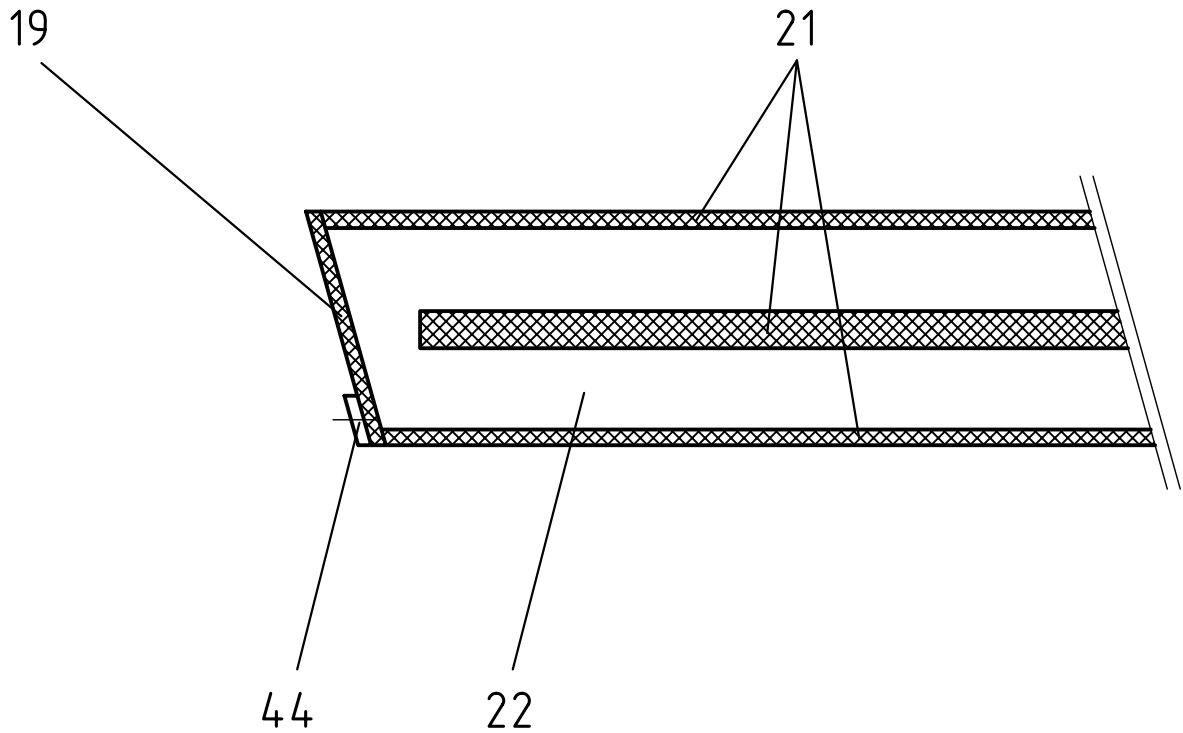


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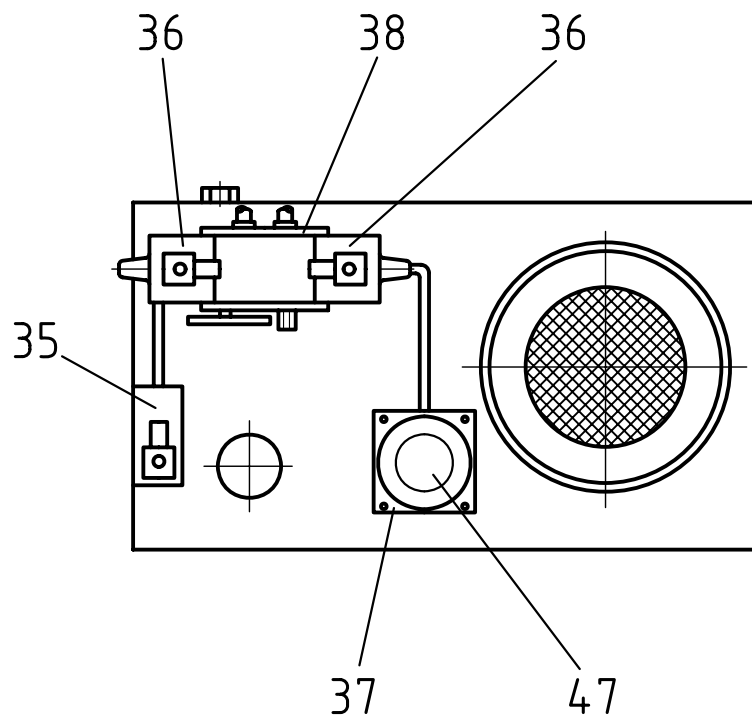
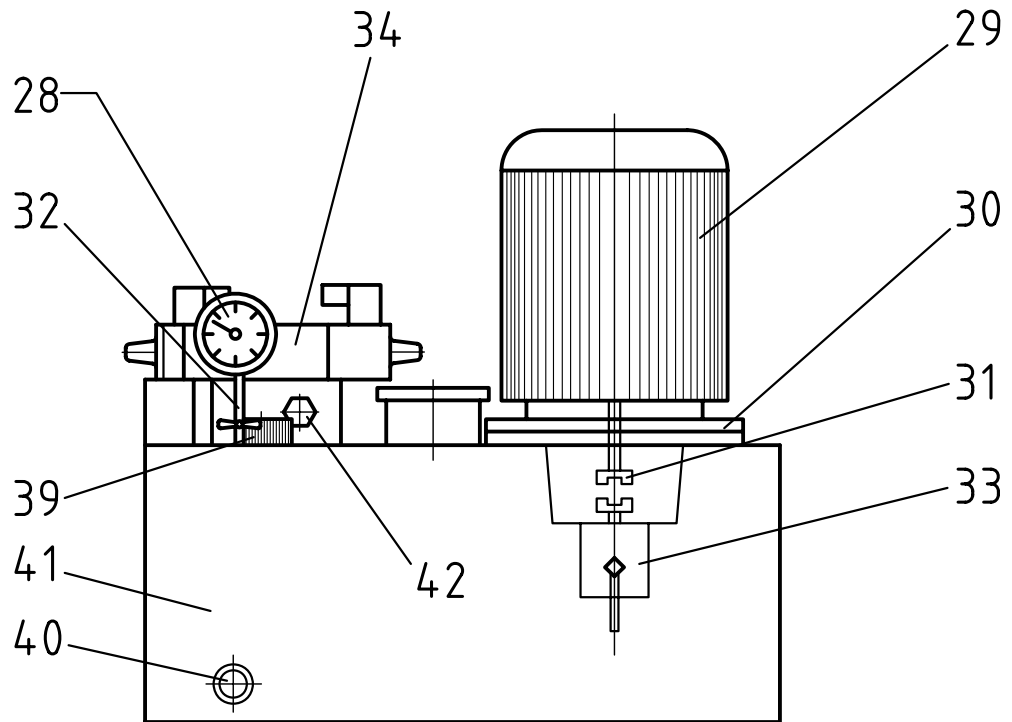
Zust.	Änderung	Datum	Name

(Zul. Abw.)	(Oberfl.)	Maßstab	Techn. Änderungen jederzeit vorbehalten!	
		Kommission:		
2000	Datum	Name		Ersatzteilzeichnung WL / WLK
Bearb.	07.01.	Merkle / BAD		
Gepr.				
Norm				
Revision 0		EZ-4-02-018		Blatt
EDV: EZ-4-02-018.DWG		Ersatz für: EZ-4-02-18 vom 24.01.96 / Merkle		Bl.




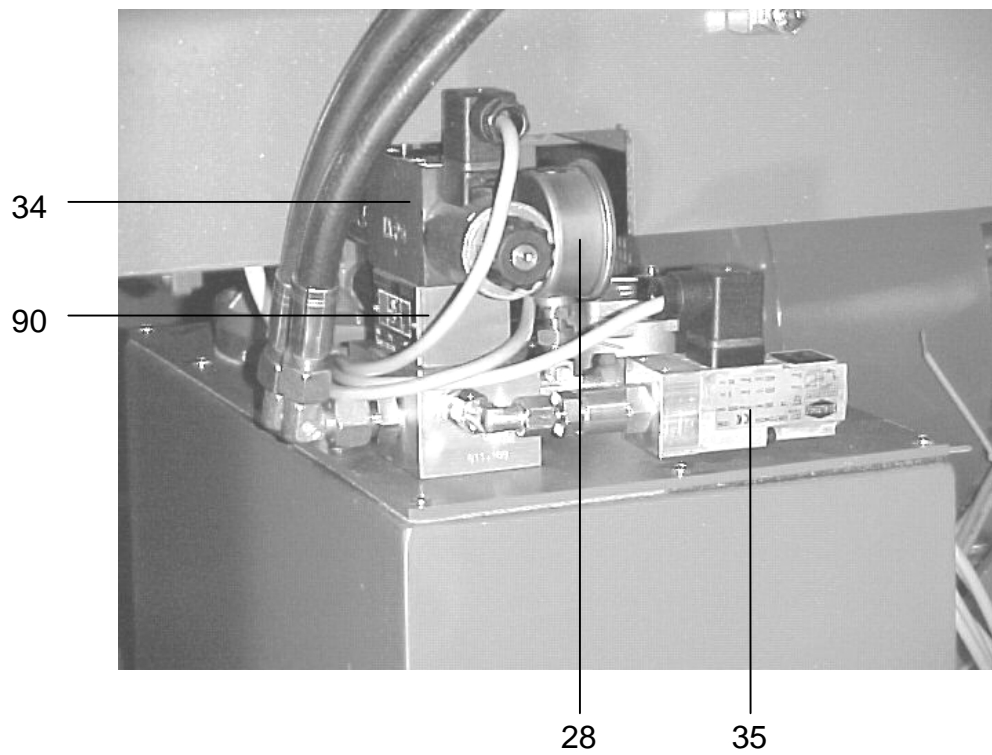
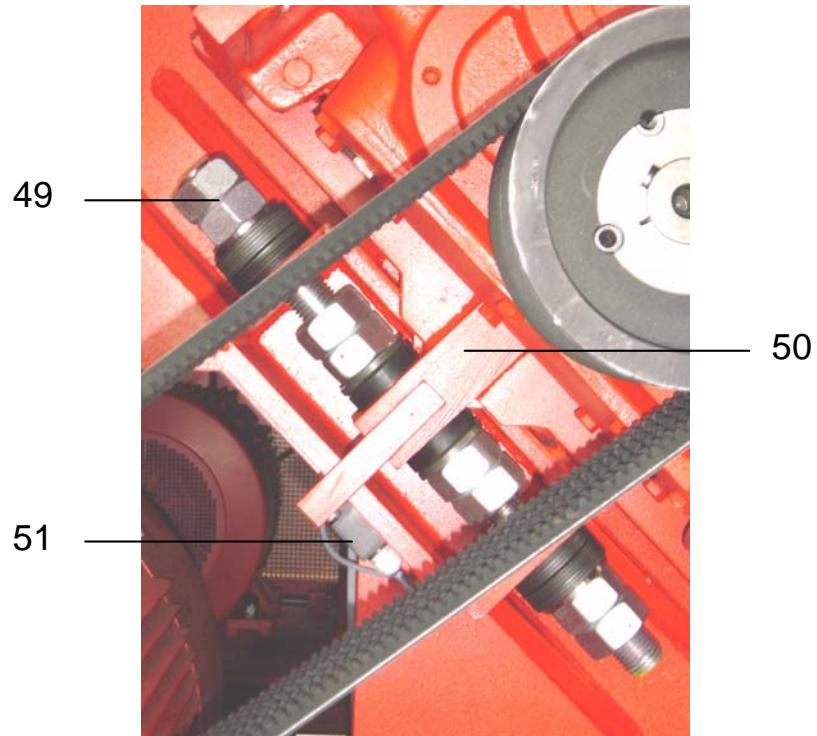
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				Kommission:			
2000	Datum	Name		Schieber WL			
Bearb.	07.01.	Merkle / BAD					
Gepr.							
Norm							
Revision 0				EZ-4-02-014			Blatt
							Bl.
Zust.	Änderung	Datum	Name	EDV: EZ-4-02-014.DWG		Ersatz für: EZ-4-02-14 vom 24.01.96 / Merkle	



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	Kommission:					
	2000	Datum	Name	<h1>Hydraulikaggregat</h1>		
	Bearb.	07.01.	Merkle / BAD			
Gepr.						
Norm						
Revision 0			<h1>EZ-4-02-013</h1>		Blatt	
Zust.	Änderung	Datum	Name	EDV: EZ-4-02-013.DWG		
				Ersatz für: EZ-4-02-13 vom 24.01.96 / Merkle		
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Size Reduction Equipment

Weima America Inc.

3678 Centre Circle
 Fort Mill, SC 29715
 Phone: +1 803-802-7170
 Internet: www.weimaamerica.com

Customer :
 Commission : Po.16558
 Project : Hopper Shredder WLK 15
 Order no. : M18661

Technical data

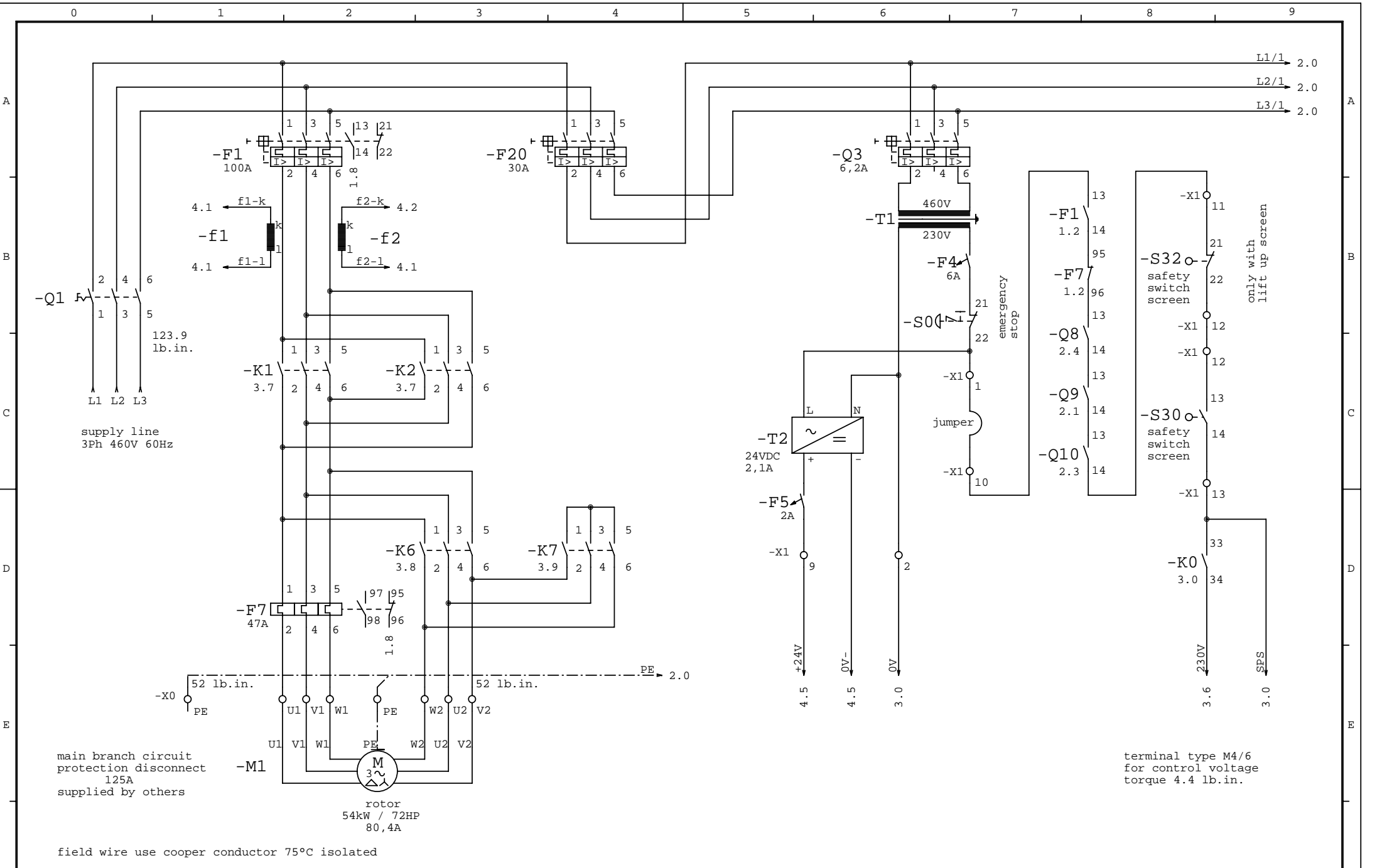
Drawing number : ES-4-02-777 Rev.0
 Circuit diagrams : IEC/DIN
 Enclosure : IP54
 Rated voltage : 3PH 460V 60Hz + Ground
 Feed cross section : according to local regulation
 Control voltage : 230VAC / 24VDC
 Rated current : 85A
 max. back up fuse : 125A
 Ambient temperature : 0 bis + 35 °C

When changes in the circuit diagram or program consultation is to be held, with the manufacturer since otherwise any warranty claims on the electrical equipment expires.

Colors

Main current black
 Protective grounding green yellow
 DC voltage dark blue
 AC voltage red
 Measuring line violet
 External voltage orange

				date	09.03.11				WL/ECO with PLC control	cover sheet	=	
				drawn	Steiner	Po.16558					+	
				check								
state	change	date	name	norm		origin	replace	exchange		M18661	ES-4-02-777 Rev.0	page 1 of 1 sh.

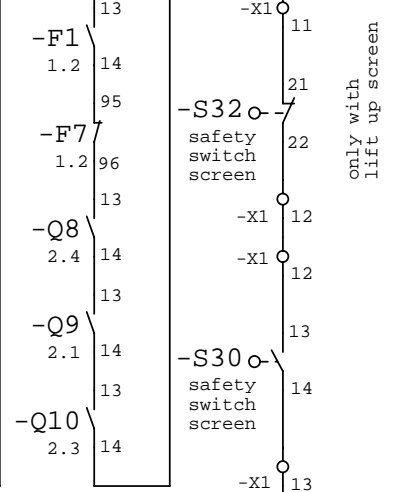


supply line
3Ph 460V 60Hz

main branch circuit
protection disconnect
125A
supplied by others

rotor
54kW / 72HP
80,4A

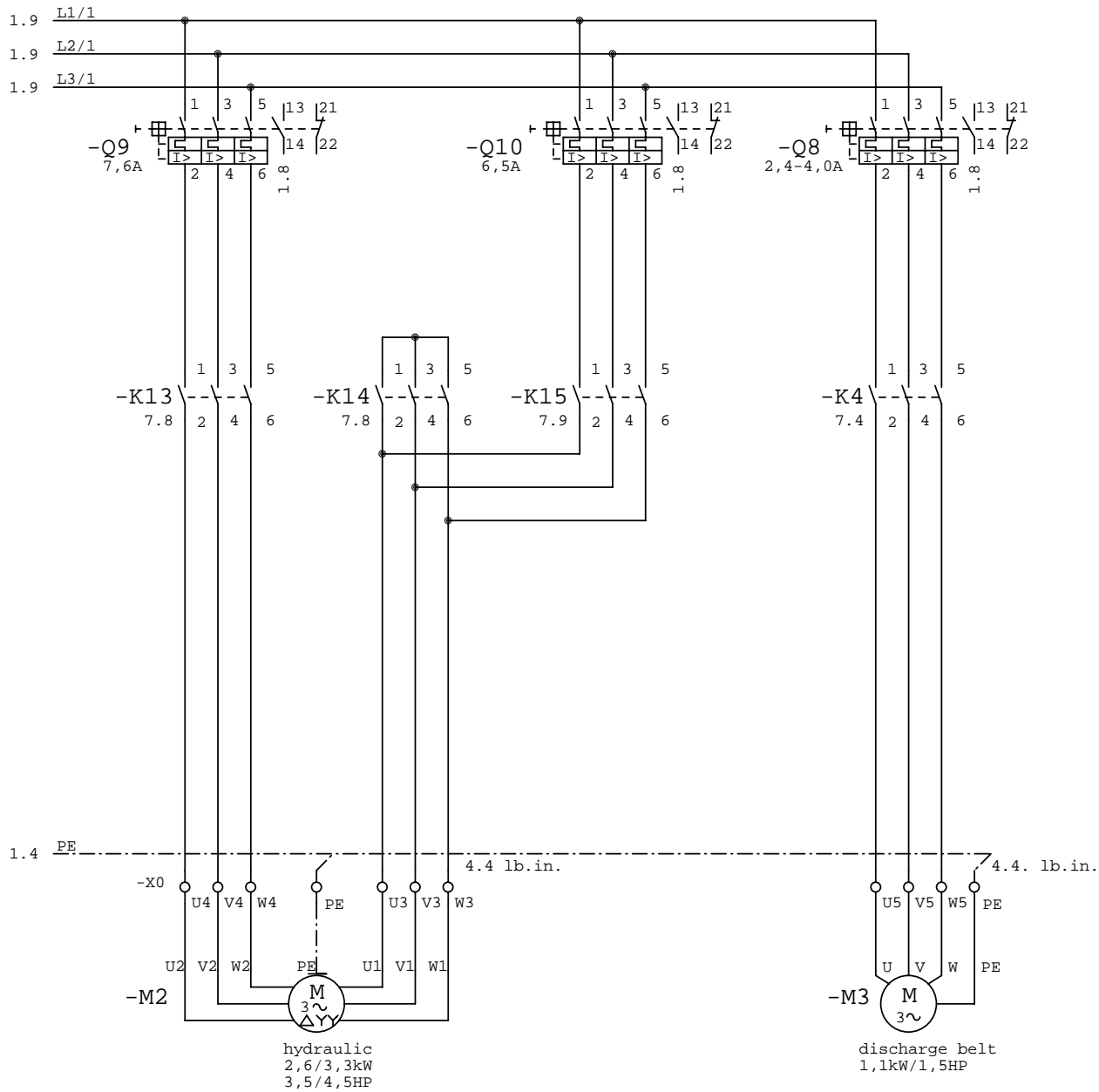
field wire use cooper conductor 75°C isolated



only with
lift up screen

terminal type M4/6
for control voltage
torque 4.4 lb.in.

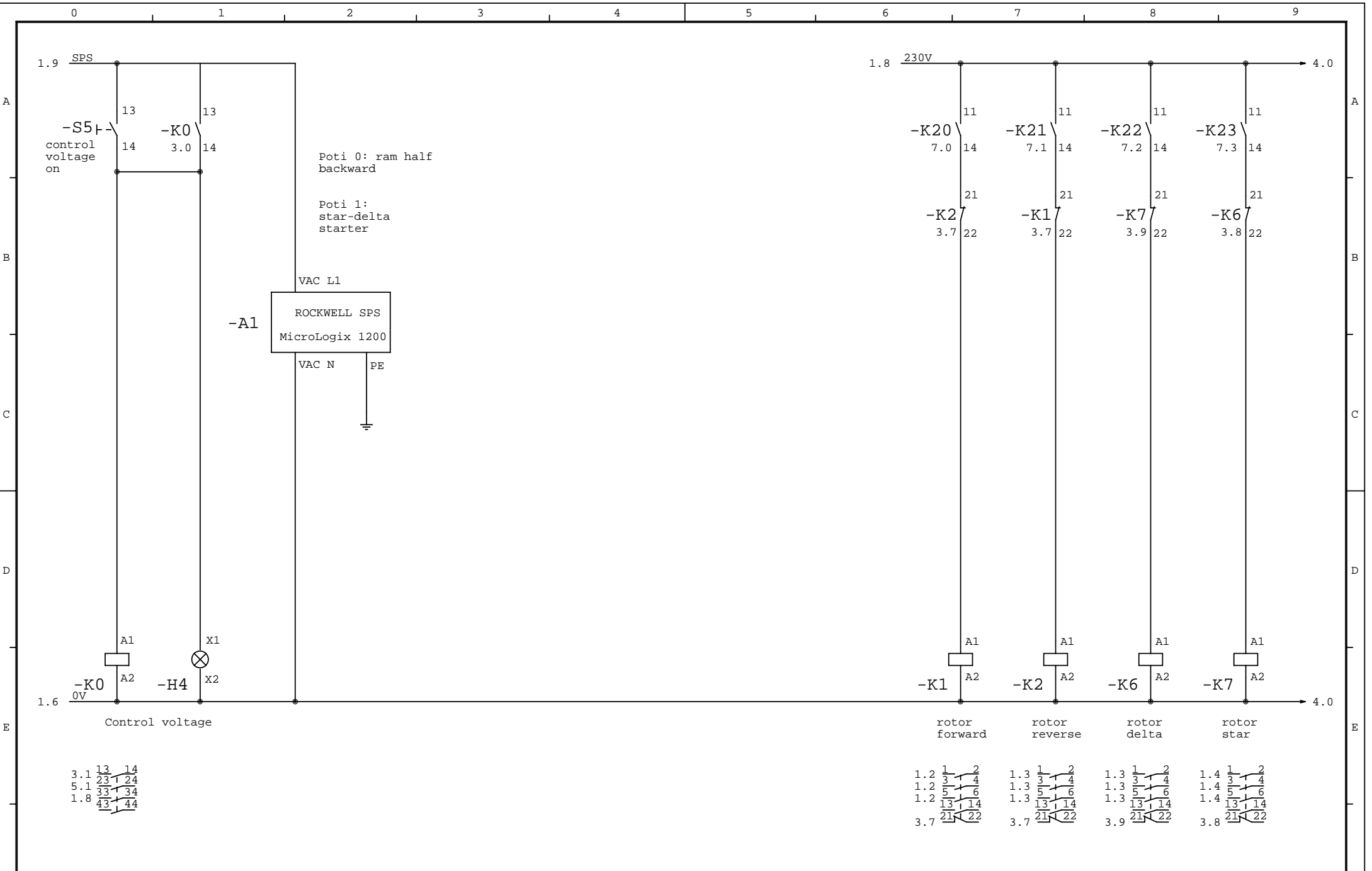
date		09.03.11			WL/ECO with PLC control		main supply, rotor		=	
drawn		Steiner			Po.16558				+	
check										
state	change	date	name	norm	origin	replace	exchange	M18661	ES-4-02-777 Rev.0	page 1 of 7 sh.



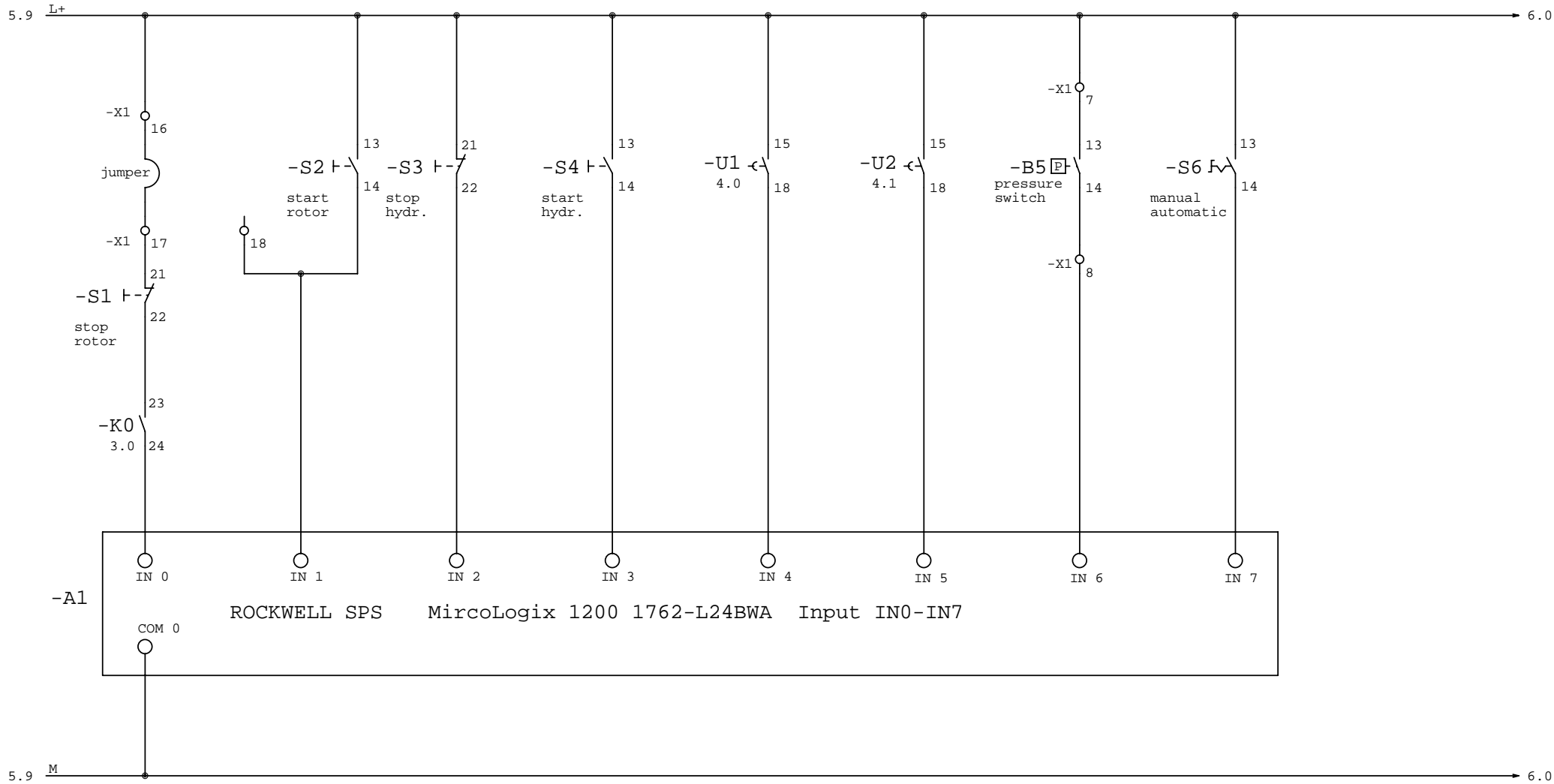
hydraulic
2,6/3,3kW
3,5/4,5HP

discharge belt
1,1kW/1,5HP

				date	09.03.11	Po.16558		WL/ECO with PLC control	primary circuit		=	
			drawn	Steiner								
			check									
state	change	date	name	norm		origin	replace	exchange	M18661	ES-4-02-777 Rev.0	page 2 of 7 sh.	

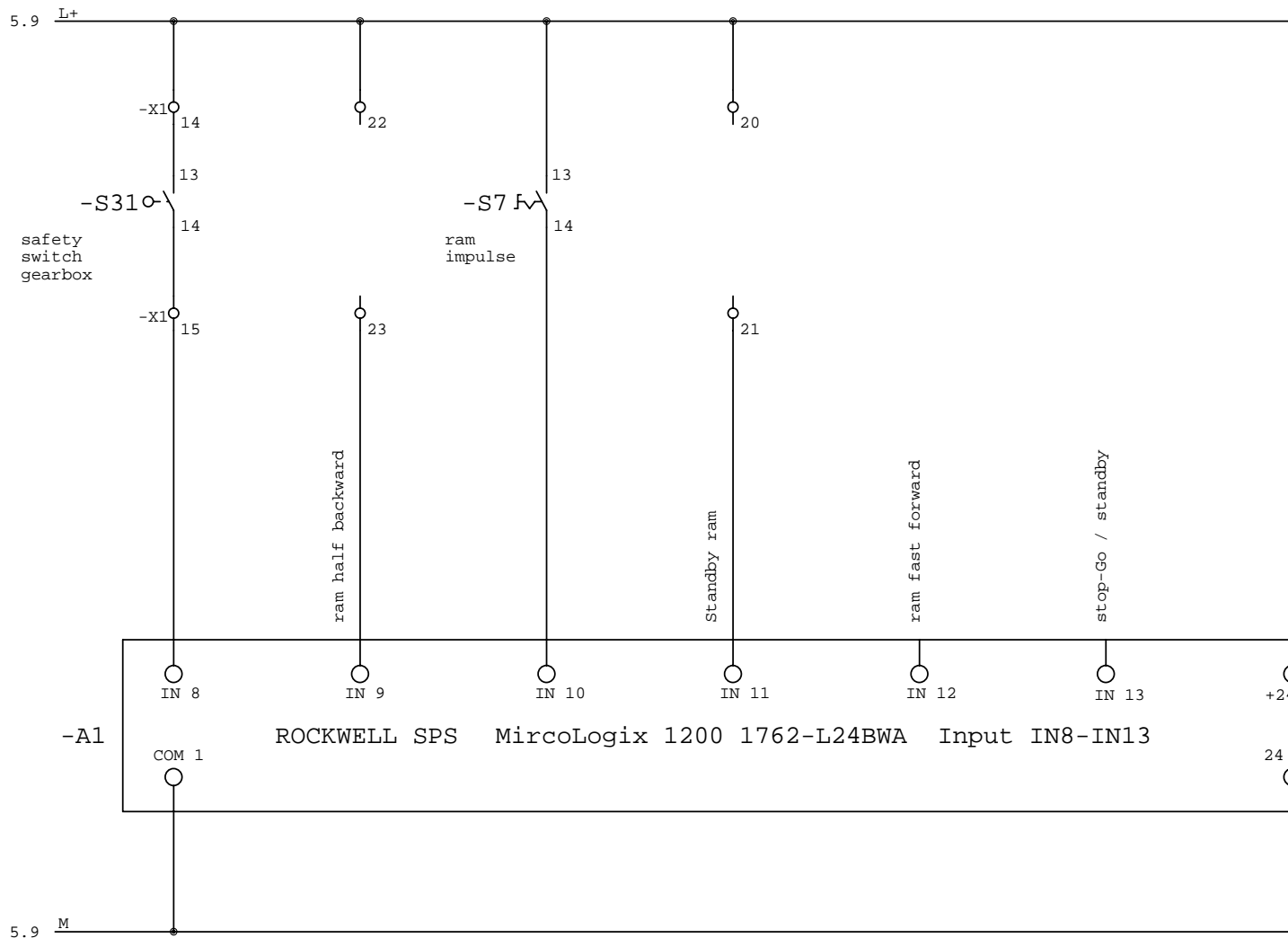


		date	09.03.11				 WCTVA America, Inc. Size Reduction Equipment	WL/ECO with PLC control		rotor		=
		drawn	Steiner		Po.16558							+
		check										
state	change	date	name	norm	origin	replace	exchange	M18661		ES-4-02-777 Rev.0		page 3 of 7 sh.



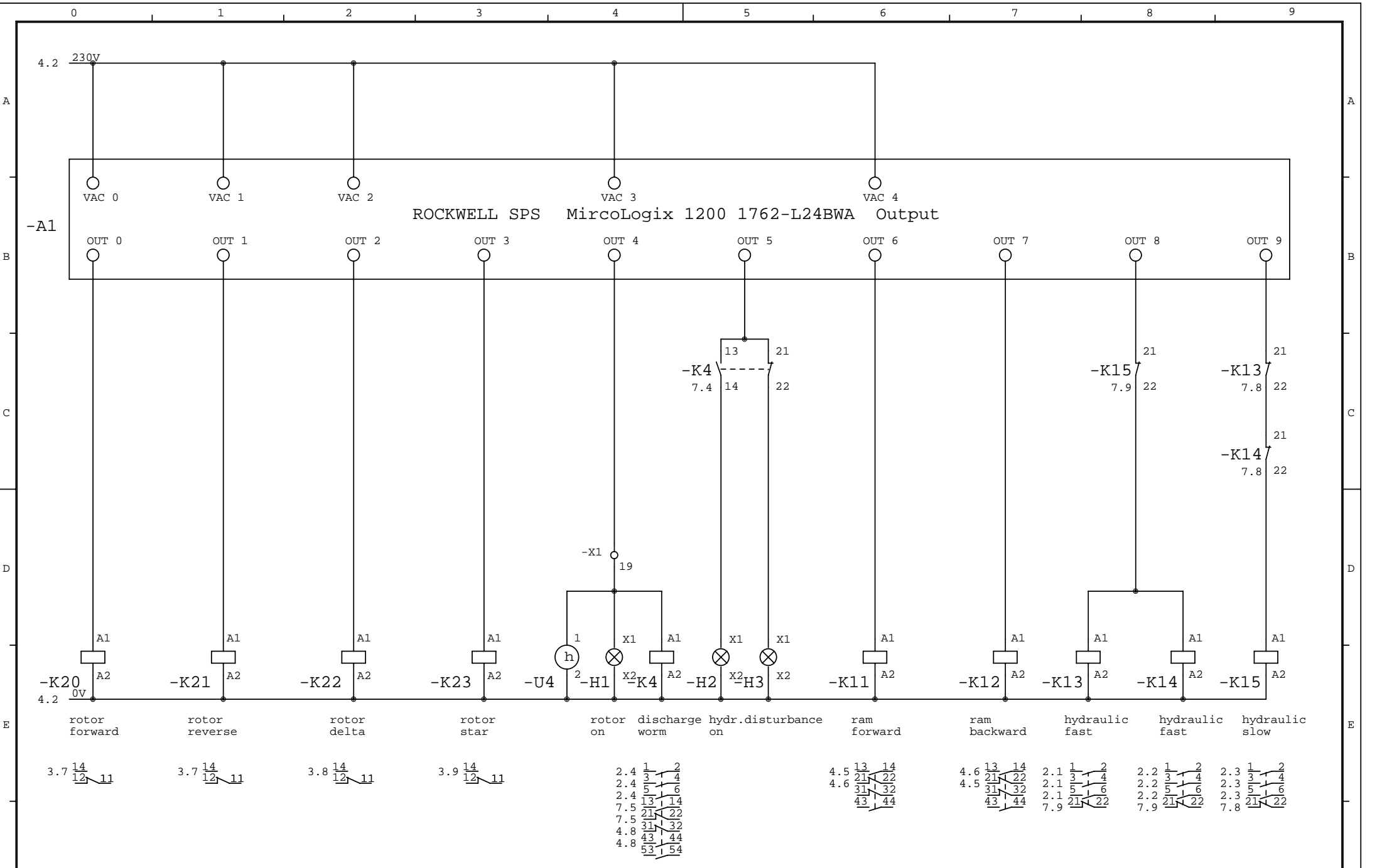
				date	09.03.11													
				drawn	Steiner	Po.16558					WL/ECO with PLC control		Inputs					
				check					Size Reduction Equipment				M18661		ES-4-02-777 Rev.0		page 5	
state	change	date	name	norm		origin	replace	exchange								of 7 sh.		

A
B
C
D
E
F

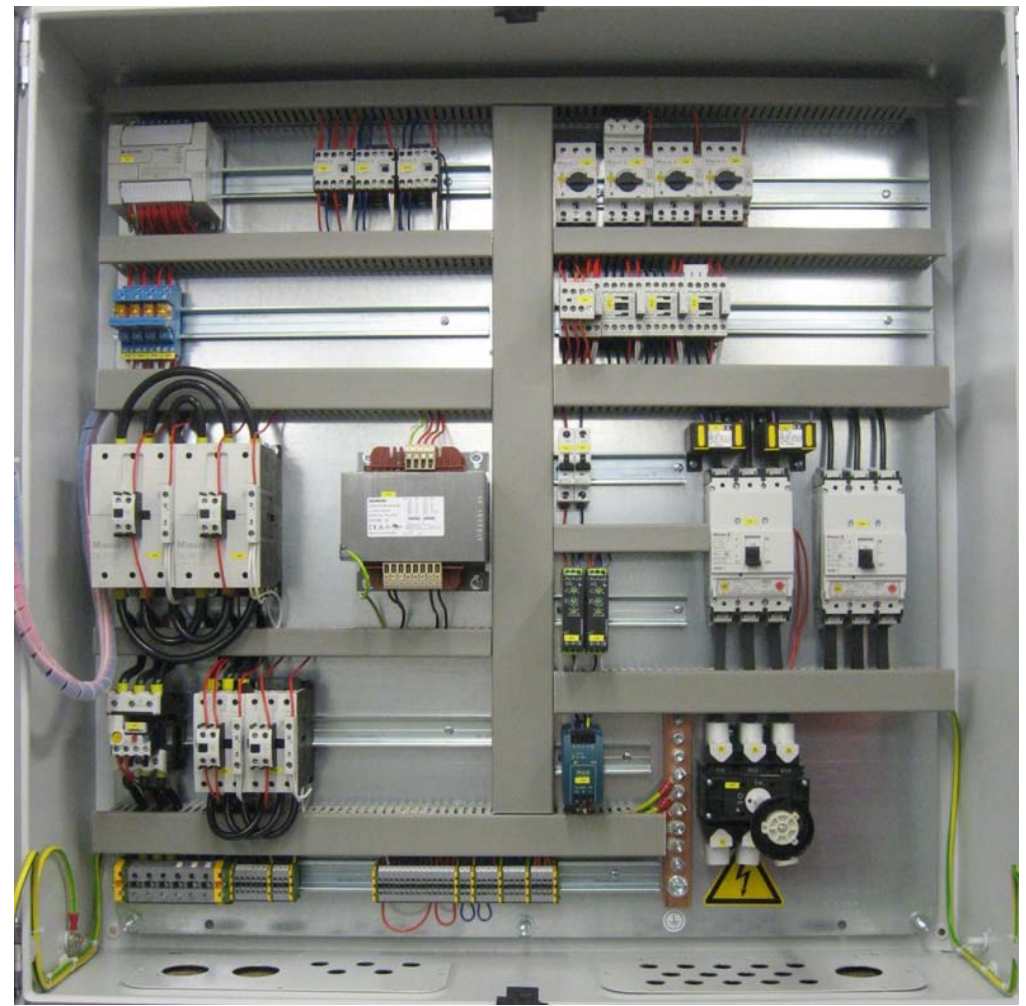


A
B
C
D
E
F

		date		09.03.11				 WL/ECO with PLC control		Inputs		=			
		drawn		Steiner		Po.16558						+			
		check								M18661		ES-4-02-777 Rev.0		page 6	
state	change	date	name	norm		origin	replace	exchange					of 7 sh.		



				date	09.03.11	 WCTVA America, Inc. Size Reduction Equipment	WL/ECO with PLC control	Outputs	=		
				drawn	Steiner		Po.16558			+	
				check							
state	change	date	name	norm		origin	replace	exchange			
0				1		2				3	
						4				5	
						6				7	
						8				9	
										10	
										11	



				date	09.03.11					WL/ECO with PLC control	Structure control panel		=	
				drawn	Steiner	Po.16558								+
				check										
state	change	date	name	norm		origin	replace	exchange			M18661	ES-4-02-777 Rev.0	page 1 of 1 sh.	

Cable list

No.	line designation	function text	line typ	field	remark
1	-W01	rotor cable 1	JZ-602 4xAWG10	-M1	
2	-W02	rotor cable 2	JZ-602 4xAWG10	-M1	
3	-W03	hydraulic	JZ-602 7xAWG14	-M2	
4	-W04	discharge worm	JZ-602 4xAWG14	-M3	
5	-W20	ram forward	JZ-602 2xAWG16	-Y1	
6	-W21	ram backward	JZ-602 2xAWG16	-Y2	
7	-W22	pressure switch	JZ-602 2xAWG16	-B5	
8	-W30	safety switch screen	JZ-602 2xAWG16	-S30	
9	-W31	safety switch screen	JZ-602 2xAWG16	-S31	
10	-W32	safety switch gearbox	JZ-602 2xAWG16	-S32	

Parts list

Ref. name	Page Path	part	name	item-number	Manufacturer
-Q1	1.0	1	On-off switch /red	P5-160/V/SVB	Moeller GmbH
-f1	1.1	1	current transformer	AST315 100/5A 2,5VA Kl.1	Celsa
-F7	1.2	1	Motor protective switch 40 -57A	ZB65-57	Moeller GmbH
-F1	1.2	1	protective switch 3p 100A, motor 1NC 1NO	NZMB1-A100-NA+M22-K10+M22-K01	Moeller GmbH
-f2	1.2	1	current transformer	AST315 75/5A 1,5VA Kl.1	Celsa
-F20	1.4	1	protective switch 3p,motor	NZMB1-A40-NA	Moeller GmbH
-T2	1.5	1	MINILINE-Serie 50W	ML50.100	Puls
-F5	1.5	1	Fuse C-Char. 1p 2A	FAZ-C2/1	Moeller GmbH
-T1	1.6	1	transformer 1000VA; UPRI(V):600-230; USEC(V):2X115	4AM5742-8ED40-0FA0	Siemens
-Q3	1.6	1	Transformer protective switch 10A 3p	PKZM0-10-T	Moeller GmbH
-F4	1.7	1	Fuse C-Char. 1p 6A	FAZ-C6/1	Moeller GmbH
-S0	1.7	1	Emergency stop button red lÖ	M22-PV+M22-K01	Moeller GmbH
-Q9	2.1	1	Motor protective switch 3p, manually operated+NHI11	PKZM0-10+NHI11-PKZ0	Moeller GmbH
-Q10	2.3	1	Motor protective switch 3p, manually operated+NHI11	PKZM0-10+NHI11-PKZ0	Moeller GmbH
-Q8	2.4	1	Motor protective switch 3p, manually operated+NHI11	PKZM0-4+NHI11-PKZ0	Moeller GmbH
-S5	3.0	1	Lighted push button, green 1S, LED 230VAC green	M22-DL-G+AK10+LED230-G	Moeller GmbH
-K0	3.0	1	Control contactor AC 4S	DILER-40(230V50/60HZ)	Moeller GmbH
-A1	3.2	1	MicroLogix 1200 14xDE 24VDC/10xRelais	1762-L24BWA	Rockwell
-K1	3.7	1	Main contactor, 55kW/400V, AC-operated	DILM115-11(RAC240)	Moeller GmbH
-K2	3.7	1	Main contactor, 55kW/400V, AC-operated	DILM115-11(RAC240)	Moeller GmbH
-K6	3.8	1	Main contactor, 30kW/400V, AC-operated	DILM65-11(230V50/60HZ)	Moeller GmbH
-K7	3.9	1	Main contactor, 22kW/400V, AC-operated	DILM50-11(230V50/60HZ)	Moeller GmbH
-U1	4.0	1	current relais	G2IO5A20-W1	Tele Steuergerät
-U2	4.1	1	current relais	G2IO5A20-W1	Tele Steuergerät
-S1	5.1	1	Push button lÖ flat,black 0,front	M22-D-S-X0 +AK01	Moeller GmbH
-S2	5.2	1	Lighted push button, white 1S, LED 230VAC white	M22-DL-W+AK10+LED230-W	Moeller GmbH
-S3	5.3	1	Push button lÖ flat,black 0,front	M22-D-S-X0 +AK01	Moeller GmbH
-S4	5.3	1	Lighted push button, white 1S, LED 230VAC white	M22-DL-W+AK10+LED230-W	Moeller GmbH
-S6	5.7	1	selector switch V-60°, resting, 1S	M22-WKV+AK10	Moeller GmbH
-S7	6.3	1	selector switch V-60°, resting, 1S	M22-WKV+AK10	Moeller GmbH
-K20	7.0	1	Putting/print relay 1S 10e voltage 230V AC	40.31.8.230.2000	Finder
-K21	7.1	1	Putting/print relay 1S 10e voltage 230V AC	40.31.8.230.2000	Finder
-K22	7.2	1	Putting/print relay 1S 10e voltage 230V AC	40.31.8.230.2000	Finder
-K23	7.3	1	Putting/print relay 1S 10e voltage 230V AC	40.31.8.230.2000	Finder
-K4	7.4	1	Main contactor, 4kW/400V, AC-operated	DILM9-32(230V50/60HZ)	Moeller GmbH
-U4	7.4	1	hour meter TYP H57 60Hz	3220401085	Kübler

date	09.03.11	Po.16558	 WEMA, Inc. Size Reduction Equipment	WL/ECO with PLC control	Parts list		=			
drawn	Steiner						+			
check										
state	change	date	name	norm	origin	replace	exchange	M18661	ES-4-02-777 Rev.0	page 1 of 2 sh.



The emergency stop switches the control voltage and all motors off and disturbances will be reseted.



If the Manual/Auto switch is set to MANUAL, the shredding machine has to be started manually. Switching off is also manual.
If the selector switch is set to AUTO, the shredding machine also has to be started manually but switching off, however, is automatic.
The running period of automatic operation can be adjusted using the potentiometer 0 of the PLC controller.



The control voltage must be switched on after emergency stop or mainswitch on. The grinder can only start with control voltage on.



The disturbance control lamp indicates a malfunction in the drive. Either the transmission limit switch (lamp on) or the reversing switch (lamp flashing) has been triggered. In either case, check whether there are any foreign bodies in the machine.

				date	09.03.11					WL/ECO with	Control elements		=
				drawn	Steiner	Po.16558				PLC control			+
				check									
state	change	date	name	norm		origin	replace	exchange		M18661	ES-4-02-777 Rev.0	page 1	
0			1			2	3	4	5	6	7	8	of 2 sh.



The shredding machine can be started using the Rotor ON illuminated pushbutton. The hydraulic system is switched on automatically when the Rotor ON button is pressed.



The shredding machine can be switched off using the Rotor OFF button.



The hydraulic motor for the ram can be switched on, if rotor is on by using the Hydraulic ON button.

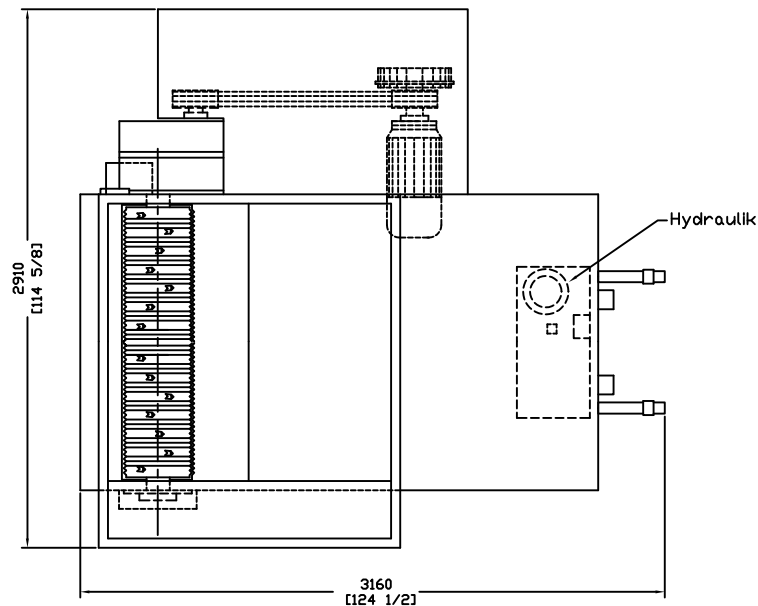
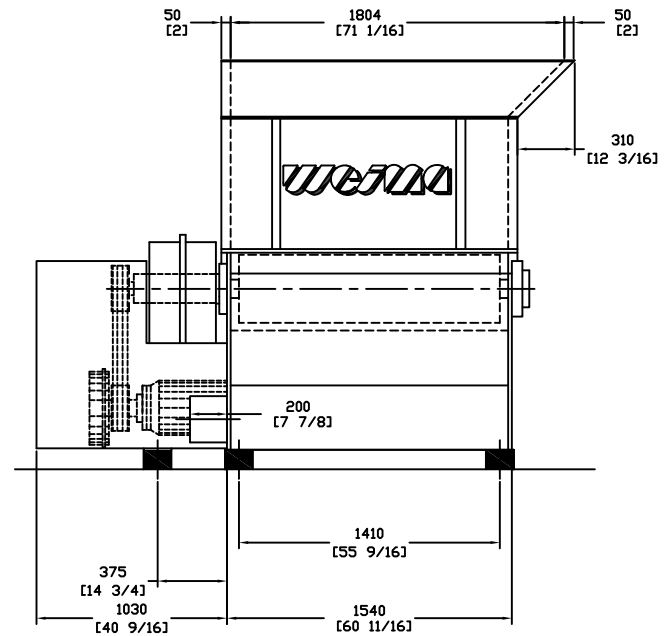
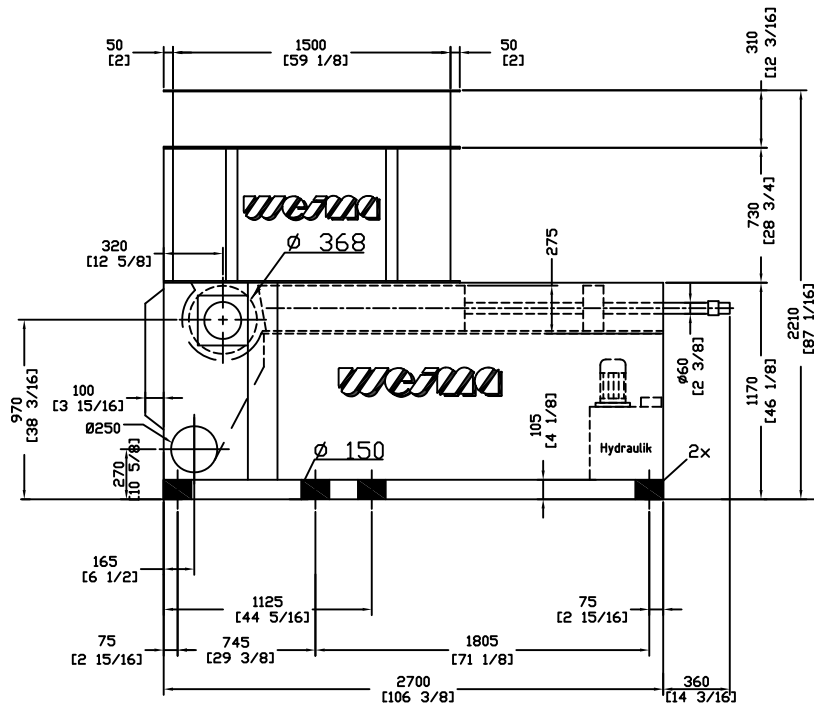


The hydraulic motor for the ram can be switched off using the Hydraulic OFF button. Using button ON and OFF at the same time while rotor is off, the ram will go backward.



Two possibilities of ram control can be selected using the Pusher Cycle rotary button. In the 0 position, the ram drives forward and stops at about 80 % of the motor's rated current. After the material has been processed between the rotor and ram, the ram reduces to about 50 % rated motor current in order to feed new material into the rotor. In position 1, the ram drives forwards and also comes to a halt at about 80 % of the motor's rated current but then drives back by about 100 mm in order to remove the load from the drive motor more rapidly. Driving back enables new material to slide in more quickly

				date	09.03.11	Po.16558				WL/ECO with PLC control	Control elements		=
			drawn	Steiner							+		
			check										
state	change	date	name	norm		origin	replace	exchange			M18661	ES-4-02-777 Rev.0	page 2 of 2 sh.



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29715

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		Units mm (inches)	Scale NA	Technical Information May Change Without Notice
		Drawn For: Case Paper		
2011	Date	Name	WL 15	
Drawn	1/24	BPB		
Checked				
Norm				
		Drawing Description		
Revision 0		AP-3-02-4527		
EDV: AP-3-02-4527		Replacement for:		Replaced by: