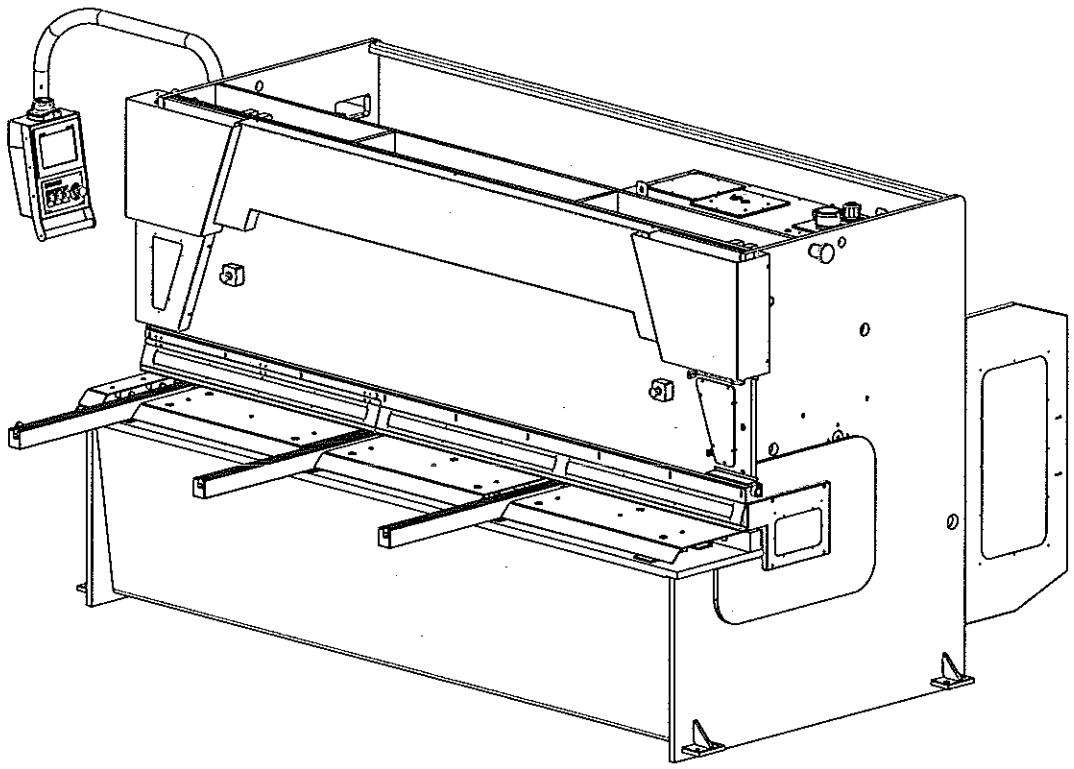
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ERMAKSAN



CNC HVR 4100 - 10
HYDRAULIC VARIABLE RAKE SHEAR
MANUAL INSTRUCTION

CERTIFICATE OF CONFORMITY

Certificate - No.: 15-PS-0175-TAT-18-MAD-0306

Applicant	:	ERMAKSAN MAKİNA SANAYİ TİCARET A.Ş. Organize Sanayi Bölgesi Lacivert Cad. No: 6 Nilüfer BURSA- TURKEY
Product	:	GUILLOTINE SHEARS
Type/Model(s)	:	# CNC HVR SERIES, CNC HVR-B SERIES # # CNC HGD SERIES, CNC HGD-B SERIES # # HGD-B SERIES, HGD SERIES, CNC HGS SERIES # CNC HGS-A SERIES, HGS-A SERIES, HGS SERIES # # CNC GMR SERIES, GMR SERIES, EKM SERIES# # EGS SERIES, ECO SHEAR SERIES # # HYBRID SHEAR SERIES #
Standard(s) / Certification Basis	:	2006/42/EC Machinery Directive 2014/30/EU Electromagnetic Compatibility Directive EN ISO 12100:2010 EN 13985:2003/A1:2009 EN ISO 13855:2010 EN ISO 13849-1:2015 EN 60204-1:2006/A1:2009/AC:2010 EN 61000-6-2:2005/AC:2005 EN 61000-6-4:2007/A1:2011

This Certificate of Conformity is issued on a voluntary basis according to Machinery Directive 2006/42/EC. It conforms that the listed equipment complies with the essential safety requirements of the directive. It refers only to the sample and its technical file submitted for conformity assessment.

Test Report No	:	15-PS-0175-IR-002
Issue Date	:	07.02.2018
Expiry Date	:	06.02.2019

For and on behalf of
TÜV Austria Türk Belgelendirme
Eğitim ve Gözetim Hizmetleri Ltd.Şti
Emrah Ümit ŞİRANLI
Industrial Auditor

CE

After preparation of the necessary technical documentation as well as the declaration of conformity the required CE marking can be affixed on the product. Other relevant directives have to be observed.

This Certificate of Conformity has been granted to the applicant based on the results of testing performed by the applicant/manufacturer or an accepted laboratory and the consequent review of the test report by TÜV Austria Turk. Revisions to the referenced certification basis or any change of the design, materials, components or processing may require the repetition of all or some of the qualification tests in order for the test report and therefore this associated certificate to remain valid

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ZERTIFIKAT | CERTIFICATE | CERTIFICAT | CERTIFICADO | СЕРТИФИКАТ | 证书 | 인증서

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ERMAKSAN
METAL FABRICATING MACHINERY
innovative technologies.

CE

EC DECLARATION OF CONFORMITY

THIS IS HEREBY DECLARED THAT FOLLOWING DESIGNATED PRODUCT COMPLIED WITH THE ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF MACHINERY DIRECTIVE 2006/42/EC AND ELECTROMAGNETIC COMPATIBILITY DIRECTIVE 2014/30/EU ON THE APPROXIMATION OF THE LAWS OF THE MEMBER STATES RELATING TO IT.

THE ITEM OF PRODUCTS WHICH IDENTIFIED BELOW HAS BEEN SUBJECT TO INTERNAL MANUFACTURING CHECKS WITH MONITORING OF THE FINAL ASSESMENT BY **ERMAKSAN MAKİNE SANAYİ TİCARET A.Ş.**

Manufacturer Information
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Product Information

Description of Product	:	GUILLOTINE SHEARS
Brand	:	ERMAKSAN
Model(s)/Type(s)	:	#CNC HVR SERIES, CNC HVR-B SERIES# #CNC HGD SERIES, CNC HGD-B SERIES# #HGD-B SERIES, HGD SERIES, CNC HGS SERIES# #CNC HGS-A SERIES, HGS-A SERIES, HGS SERIES# #CNC GMR SERIES, GMR SERIES, EKM SERIES# #EGS SERIES, ECO SHEAR SERIES# #HYBRID SHEAR SERIES#

Applicable Directives
2006/42/EC Machinery Directive
2014/30/EU Electromagnetic Compatibility Directive

Applicable Harmonised Standards
EN ISO 12100:2010, EN 13985:2003+A1:2009, EN ISO 13855:2010, EN ISO 13849-1:2015, EN 60204-1:2006+A1:2009+AC:2010, EN 61000-6-2:2005+AC:2005, EN 61000-6-4:2007+A1:2011

THIS DECLARATION APPLIES TO ALL SPECIMENS MANUFACTURED IDENTICAL TO THE MODEL SUBMITTED FOR TESTING /EVALUATION. ASSESSMENT OF COMPLIANCE OF THE PRODUCT WITH THE REQUIREMENTS RELATING TO SAFETY STANDARDS LISTED ABOVE WAS PERFORMED BY MANUFACTURER.

SIGNED ON BE HALF OF THE MANUFACTURER
Name / Surname: Fatih PITIR
Title : AR-GE COORDINATION RESPONSIBLE
Place / Date : Bursa / 2018
Signature :

ERMAKSAN
MAKİNE SANAYİ ve TİC. A.Ş.
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GUARANTEE CONDITIONS

1- All the parts of the machine are under guarantee regarding to workmanship and material defaults. (Exclusion of electricity materials).

2- Guarantee period is 1 year after delivery time.

3- If any part changed during guarantee period, that part has also 1 year guarantee form changing time.

EXCEPTIONS

1- Operating the machine before making the installation adjustments.

2- Not fixing the machine to the ground with anchorage bolts.

3- Feeding the machine with electricity voltage other than electricity voltage mentioned in Instruction Manual.

4- Not changing the parts that must be changed periodically such as oil and air filter.

5- Not lubricating the parts that are shown in Instruction Manual.

6- Operating the machine over max. pressure mentioned in Instruction Manual.

7- Damages occured from wrong cutting.

8- Damages occured from compulsions.

ORIGINAL LANGUAGE IS TURKISH!!!

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	Electricity Material List	
	Parameters	
	Controller Manual Instruction	

1- TECHNICAL DATAS

1.1- Technical Features

Model	: CNC HVR 4100 - 10
Cutting Length	: 4100 mm.
Cutting Capacity	: 10 mm. (42 kg/mm²)
Cutting Angle	: 0.5° - 2°
Maximum Pressure	: 250 bar.
Number of Hold Downs	: 18 Pieces.
Stroke per Minute	: 10-17 Pcs. / Min.
Table Height	: 900 mm.
Back Gauge Stroke	: 1000 mm.
Main Motor	: 22 kW
Back Gauge Motor	: 1,1 kW
IP	: 54
Maximum Noise	: 70 dBA
Plant Temperature	: 0 - 50 C°
Machine Length	: 6100 mm.
Machine Width	: 2275 mm.
Machine Height	: 2460mm.
Machine Weight	: 15100 kg.
Oil Volume	: 260 lt.

1.2- Electricity Information Table

Current Type	3 AC.
Frequency	50 Hz.
Operation Voltage	415V
Command Voltage	24 V.
Nominal Current	50A
Energy Entrance Cable	4 x 10 mm²
Minimum Resistance Isolation	1 MΩ
Test Voltage	415V

1.3- Standart Equipments

- Operator Panel
- Electricity Motors (Main Motor and Back Gauge Motor)
- Top and Bottom Blade
- Foot Pedal Command
- Front Gauge Arms
- Front Guard Fingers Sheet
- Back Gauge with Motor

1.4- Abrasion Parts

- Top Blade
- Bottom Blade
- Cylinder Seals
- Pressure Buffers
- Time Straps

1.5- Bearing and Special Parts

- Radial Bearing (Back Gauge)
- Spherical Slide Bearing (Articulation Axles)

2- UNLOADING AND TRANSPORTING THE MACHINE

Machine has to be unloaded and transported with an approriate lifting capacity crane. For the weigth of the machine, see section 1.1.
To transpot the machine, use lifting hooks that are located both sides of the machine. (Figure: 1)

Lifting rope's diameter and length have to be appropriate. Be careful about the transportation of the machine.(not to turn over the machine) When you receive the machine please check if the machine has any damage. If you realize a damage, register it to transporter receipt and inform us.

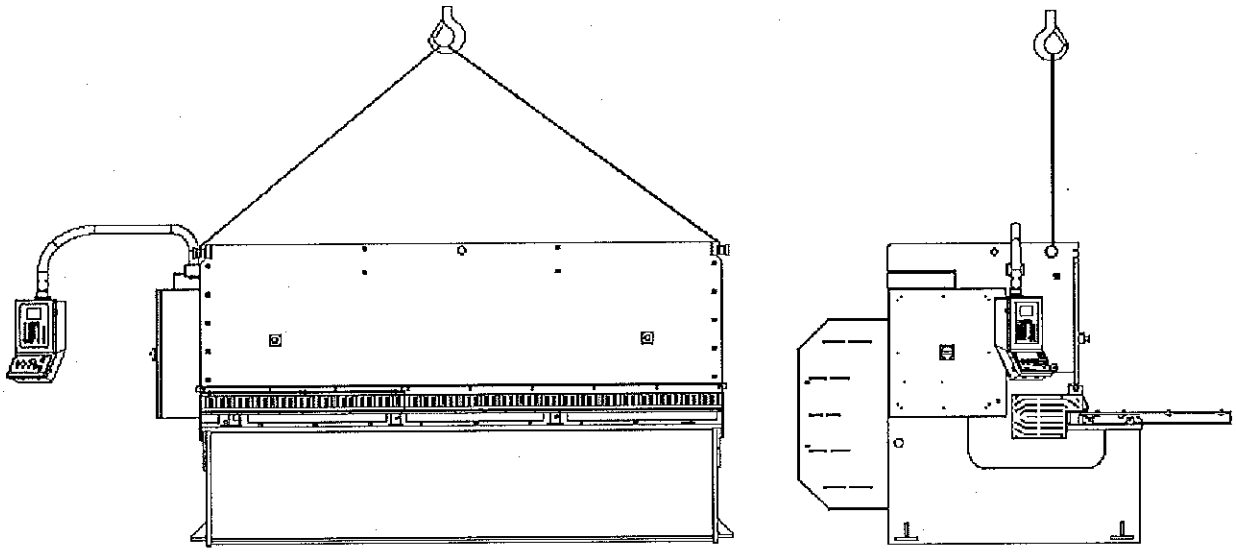


Figure : 1 - Unloading and Transporting the Machine

3 - ASSEMBLY

3.1 - Locating the Machine

Before choosing the place of machine, be careful about the machine dimensions mentioned in Instruction Manual. Prepare the anchroge holes and foundation. (Figure : 2) When the ground is ready, locate the machine on to its place. Put the adjustment plates, foundation bolts and nuts on to their places. Fill the anchorage holes with concrete. After drying of concrete, locate a precise water scale on to the bottom tool table. Adjust the machine precisely with water scale and 4 numbered bolts. Tighten the 2 numbered foundation bolts.

! The machine has to be fixed to the ground perfectly.

3.2 - Electricity Connection

The electricity connection of the machice to the network has to be made by a specialised person. Firstly check the current's approriateness.(For electricity value see page 1/1) Electricity entrance cable cross section; has to be chosen appropriate to the machine power (see page 1/1).
As you see in Figure: 3, pass the energy cable from the hole under the electricity panel. Connect the electricity cables to L1,L2,L3 clemenses. Connect the foot pedal command jack to the jack box on the electricity panel.(Figure : 3)
Before operating the machine please read user guide

3.3 - First Operation

! Before operating the machine please read Manual Instruction. Firstly oil level in oil tank is checked. If not oil is added with a propiate type until level is raised to middle of level indicator. check rigidity of protections and switches. Switch on the main shalter on electrical box. Then pres Test buton on control panel. If test buton light is on continuously it means machine is ready to run. then on control panel go to manual angle page, increase and decrease 3-4 times cutting angle to release air inside oil. Then pressing Start buton you can run the machine.

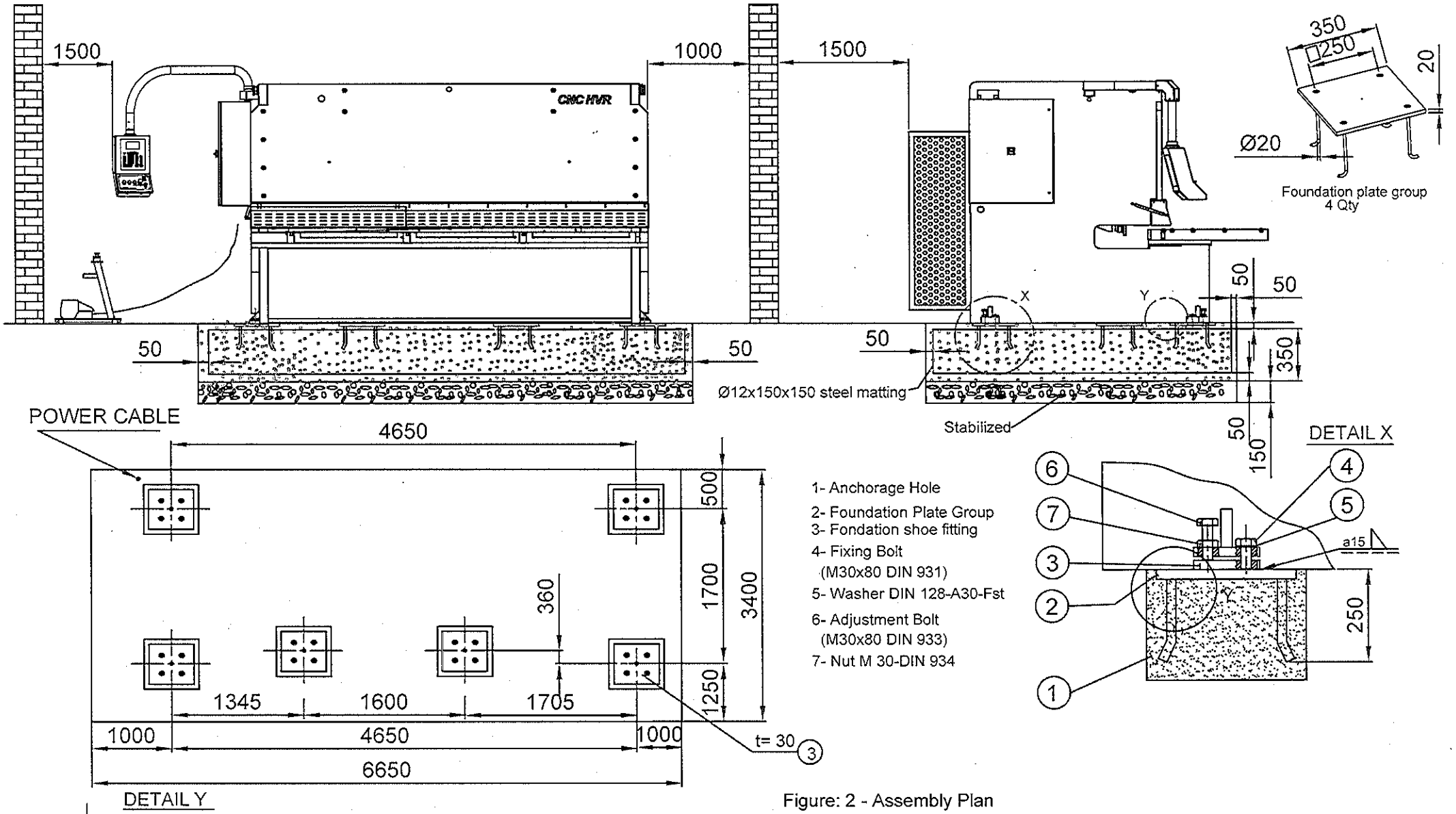
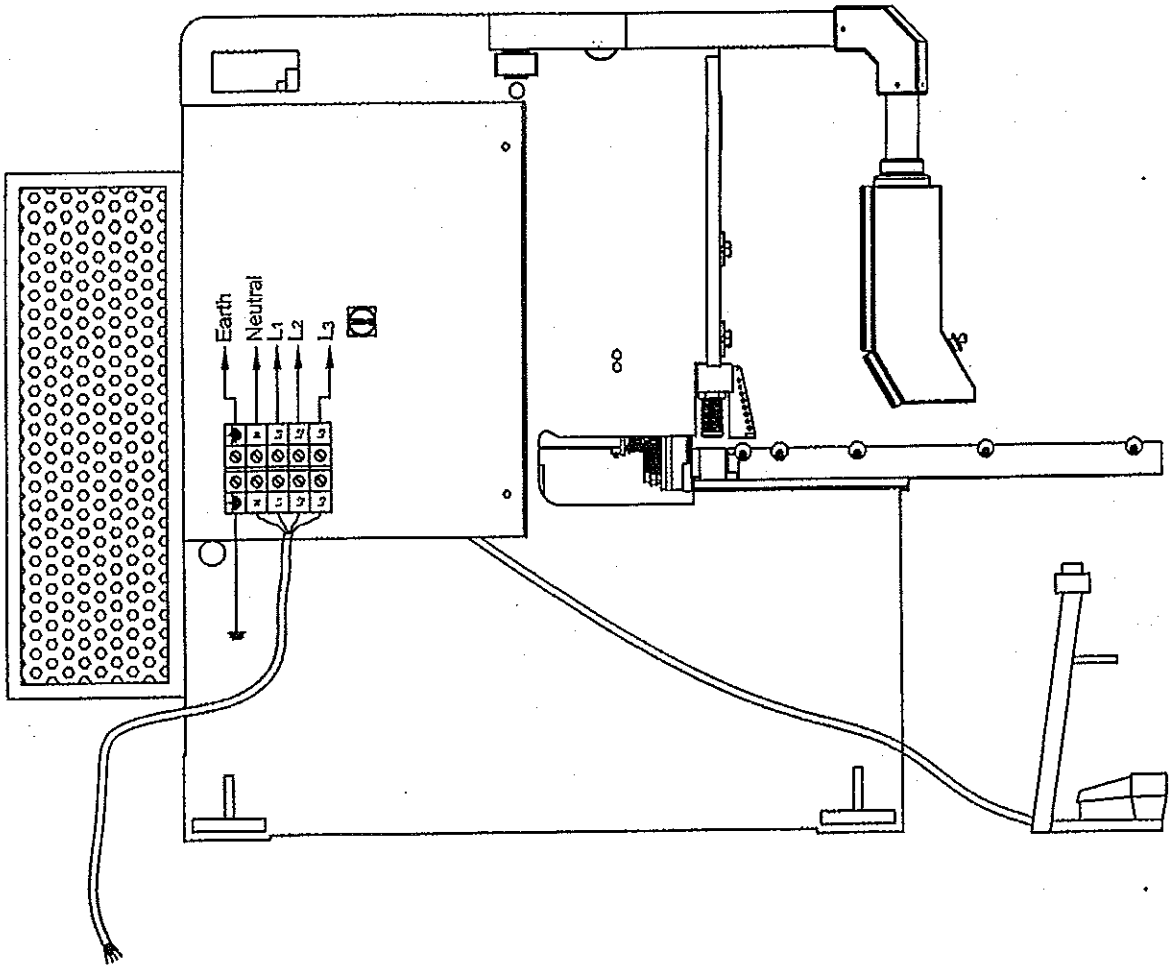


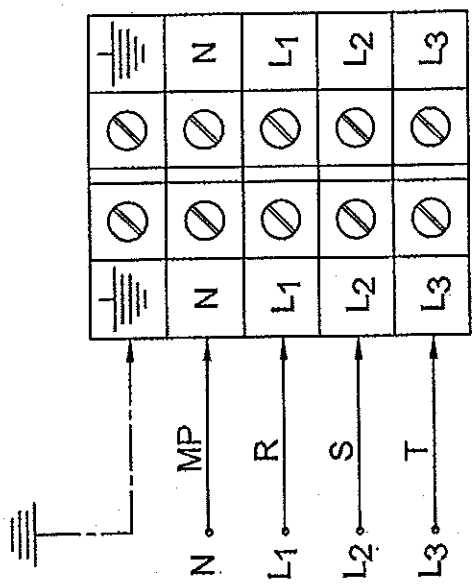
Figure: 2 - Assembly Plan

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MODEL : CNC HVR 4100 - 10



Energy Entrance Cable



L_1 → R → 1. Phase Line
L_2 → S → 2. Phase Line
L_3 → T → 3. Phase Line
N → MP → Neutral
⏚ → Earth

If the light is on, on the phase control relay it means electrical connections are made correctly.
If not phase change the place of two phase cables.

Figure : 3 - Electricity Connection

4 - OPERATION

4.1 - Forbidden Operation

- Hydraulic Variable Rake Shear has to be used in the following conditions:

- If any part of protection is not assemblied or out of order.

- If any foreign material exists between the top and bottom blade.

- If the material is not superficial (bar, tube etc.)

- So hardened material for cutting.

- Cutting of materials transform from glass or ceramic.

! Manufacturer has no responsibility for above forbiddens operations.

4.2 - Incorrect Operation

1- Cutting materials which contains much silicium and oxide.
Result : Blades become blunt.

2- Cutting material which worked by gas cutter.
Result : Blades become blunt or broken.

3- Cutting thick sheet without defining sheet thickness and the machine is adjusted for thin sheet
Result : Bad surface on the material.
Blades become blunt or broken bacuse of wearing out
In reverse situation of above
Result : marks on the sheet
Sheet may be squeezed between the blades.
Blades become blunt or broken.

4- If the material exceeds the capacity of the machine.
Result : Cutting is impossible.

5- If the width of the material is less than 15 times of its thickness.
Result : Material wrapps around.

6- Cutting 2 or 3 sheet one on another.
Result : One of the sheets may be squeezed between the blades.
Appropriate cutting is not possible.
Blades become blunt or broken.

! WHEN MAKING CUT IN ALL SHEARS , BACKGAUGE RETRACK FEATURE MUST BE TURNED ON.

4.3 - Command Elements

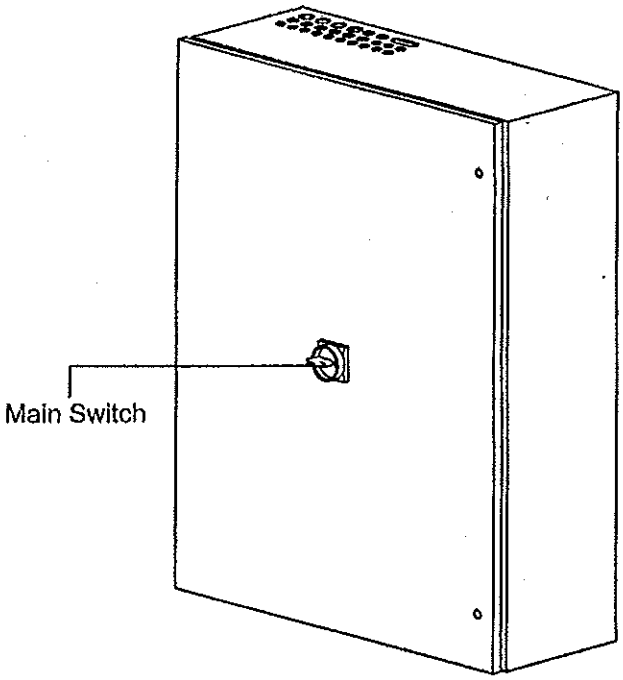


Figure : 4 - Electricity Panel

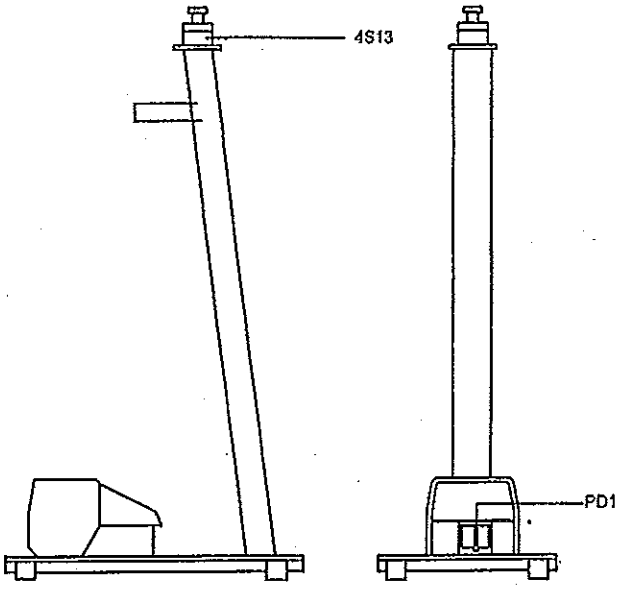


Figure : 5 - Foot Pedal Command

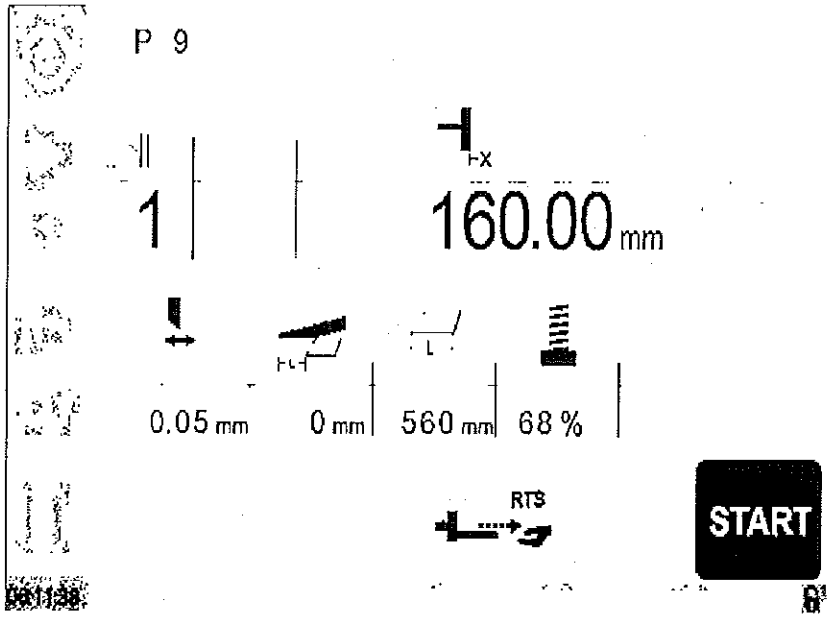


Figure : 6 - Command Panel

4.4 - Operation Of The Machine

1- Position the main switch (1Q1) on the electrical panel from "0" to "1"
2- Press the "TEST BUTTON" on the control panel and the led gets on.
3- Press the "START BUTTON" and the main motor starts to work.
4- Easy Cut screen comes to view. If anotherscreen comes to view, you should press "STOP" and 1 together. If password is asked, press 1 key three times and press TEACH button. Then press the Main Menu (the most right) in the page selection section.
5- On Easy Cut page, enter the material type (St 42), enter the sheet thickness and press "START" button.
Cutting angle and blade gap will be adjusted automatically.
6- By entering the requested value to X3 (Back gauge), back gauge goes to the entered value.
7- Operation is completed by writing the width of the sheet on "LAR" section. If nothing is written on this section top blade is lowered completely
8- Propiate thickness of sheet is put on the machine and cut.

! Note : Please read operator panel user manual for detailed information.

4.4.1 - Splitting

For this operation please take the protections on the sides of the machine.
While top beam is at up position, place the sheet from right side. Desired cut distance will be the distance between left side of the sheet and right end of the blade
Cut is made by lowering the top beam. Width of the cut is limited by throath gap of the machine.

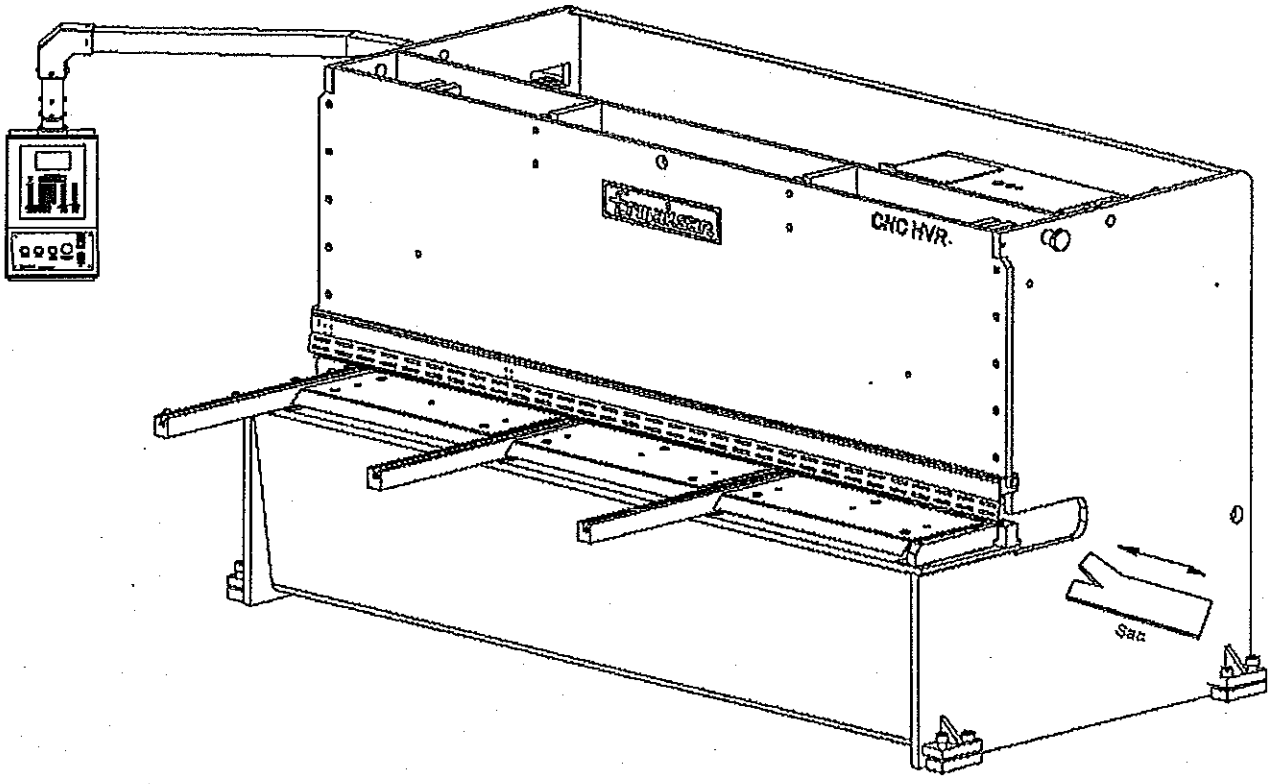


FIGURE : 7 - Splitting

4.5. - Adjustment

To enter parameter page: Press"STOP" and "3" buton together (Figure:6) Or "3" numbered buton could be pressed 3 times. And "TEACH" buton is pressed.

4.5.1 - Backgauge Adjustment

Backgauge is adjusted at factory. But in the case of adjustment is lost, you can make the followings;

a)- If the paralelism of backgauge carriers no:1 and 2 is lost:
Paralelism of backgauge carriers are obtained by tension shaft no:3 (Fig.8) When paralelism is lost nut (4) at the end of the shaft is tightened and nut (5) is loosened. After adjusting paralellism between two carriers (no:1 and no:2) nut no:4 is loosened and nut no:5 is tightened.

b)- If the backgauge perpendicularity to ground and vertical parallelism to bottom blade is lost;
Backgauge bar is brought near to bottom blade by runing the backgauge. Nut no:9 is loosened then setscrew no:8 is looseneed. (Fig.8) While top beam is in top position a sqaring ruler is put on bottom tool lama. Ruler is pushed until the other side is touched to backgauge bars' surface. then bars perpendicularity is adjusted.(Fig.10) setscrews no:8 and nuts no:9 are tightened.

c)- If horizontal paralellism of backgauge to bottom blade is lost;
Backgauge bar is brought near to bottom blade by runing the backgauge until there is 0,5-1 mm distance left to bottom blade. Screw no:1 and adjustment nut no:2 are loosened (Fig.9). Then backgauge bar is touched to bottom blade. The nut no:2 and screw no:1 is tightened.

d)- If horizontal and verical paralellism of backgauge to bottom blade is lost (small amount);
There are adjustment imbus screws no:10 and set screws no:11 in front of backgauge bar (Fig.8). Fine adjustment of backgauge bar paralellism is made from these screws.

e)- Backgauge lifting system adjustment;
If a sheet wider than max. backgauge stroke is intended to be cut in the machine, backgage bar (3) is moved to backwards. At the end of the stroke elongation part in the bar pushes suspending system arm to backwards. And suspending system lift the backgage carrier blocks (1), (2) and bar to upwards (Fig 8). So work sheet continues through backwards when placed for cutting. The distance between backgauge and centering arm must be around 5-6 mm to run the system.This is adjusted in factory. If lifting is not enough tension stud no:6 must be tightened by a open wrench.

Recalibration of backgauge
Entrace Menu is reached by pressing "MAIN MENU" buton on the right end of "PAGE SELECTION" section (Fig. 6). Number "7" is entered and save buton is pressed. Then "STOP" and "2" butons are pressed together. Then "TEACH" buton is pressed. If password is asked "222" is entered.Then TEACH buton is pressed again. Backgauge real value is entered to "SET MAIN" axis section and save buton is pressed. Then "STOP" and "1" butons are pressed together. Then by pressing "MAIN MENU" "EASY CUT" page is opened.

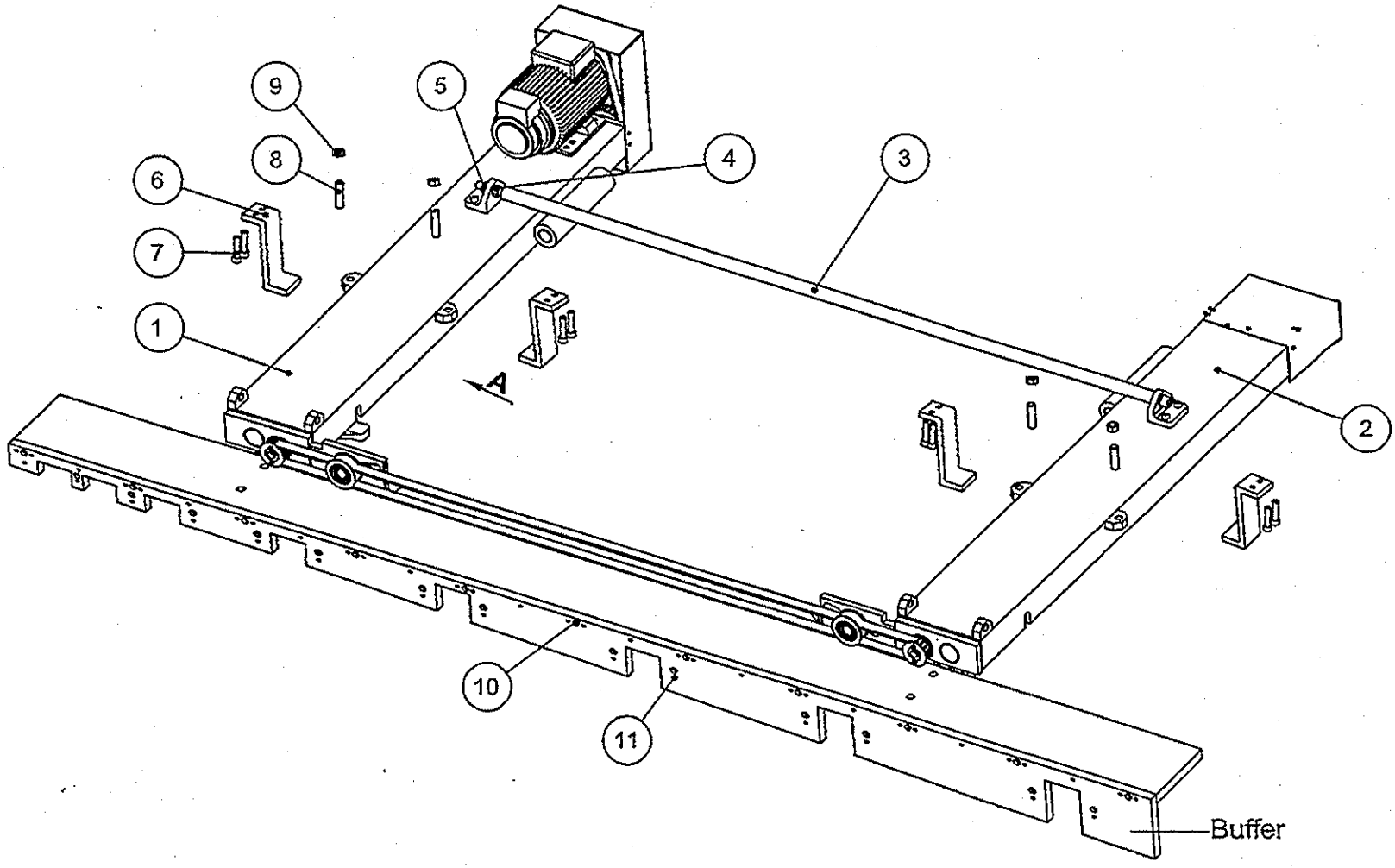


Figure : 8 - Back Gauge System

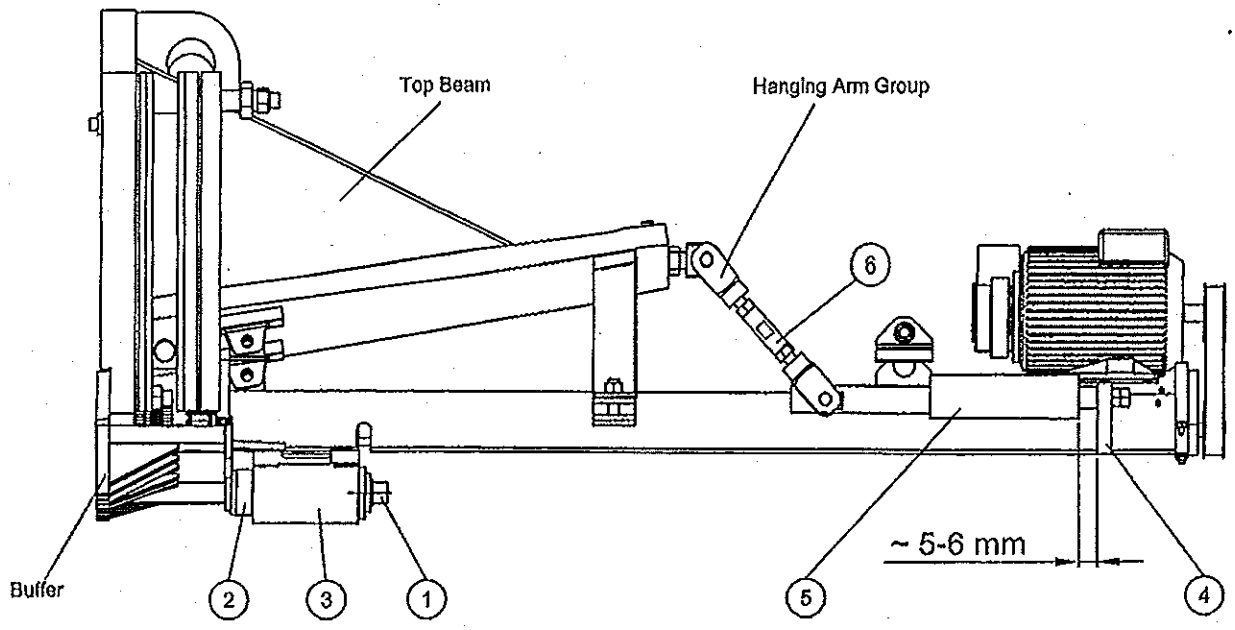


Figure : 9 - Back Gauge System (A View)

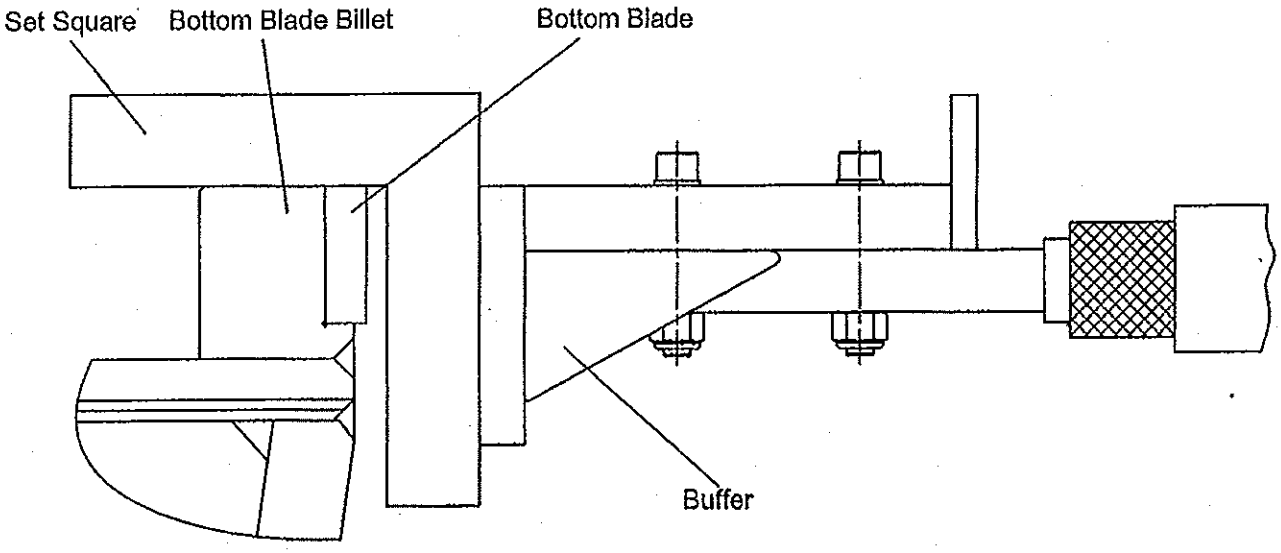


Figure : 10 - Back Gauge Buffer Paralellism Adjustment

4.5.2 - Blade Gap Adjustment

CNC HVR type cutting angle adjustable shear is designed to make Blade Gap Adjustment automatically. When work sheet material (steel,stainless) and thickness is entered machine adjusts cutting angle and blade gap distance by itself.
Top beam ; is guided by slide system fixed on the feet of the machine (Fig.11). Digital controlled blade gap adjustment cylinder (1) moves blade gap adj. arm (2) up and down and turns the eccentric hub (3). Eccentric hub is turned around blade gap adj. shaft which is fixed to the feet. During this turn blade gap adj. bearing (4) moves up and down between blade gap adj. slide-rear (5) and front (6). At the same time it moves main slide body (7) forward and backward, so blade gap distance is decrease or increase (Fig.12). Table-1 shows blade gap distance values according to sheet material and thickness.(page 4/13)
After blades are sharpened or if adjustment is lost somehow it can be readjusted as followings; Spaces are eliminated in main slide body (7) by means of screws (9) and (10). Spaces in blade gap adj.bearing (4) could be eliminated by means of screws (11). Then screws (12) and counter nuts are loosened. Connection screws between bl.gap.adj. hub (3) and arm (4) are taken out. eccentric hub (3) is turned to forward until other hole is colnside and fixed. So blade gap is decreased. Blade gap adj. cylinder is moved up and down until blade gap reaches to 0.1 mm . then screws (12) are fixed to avoid main body (7) to go forward. And therefore blade hiting is also avoided.

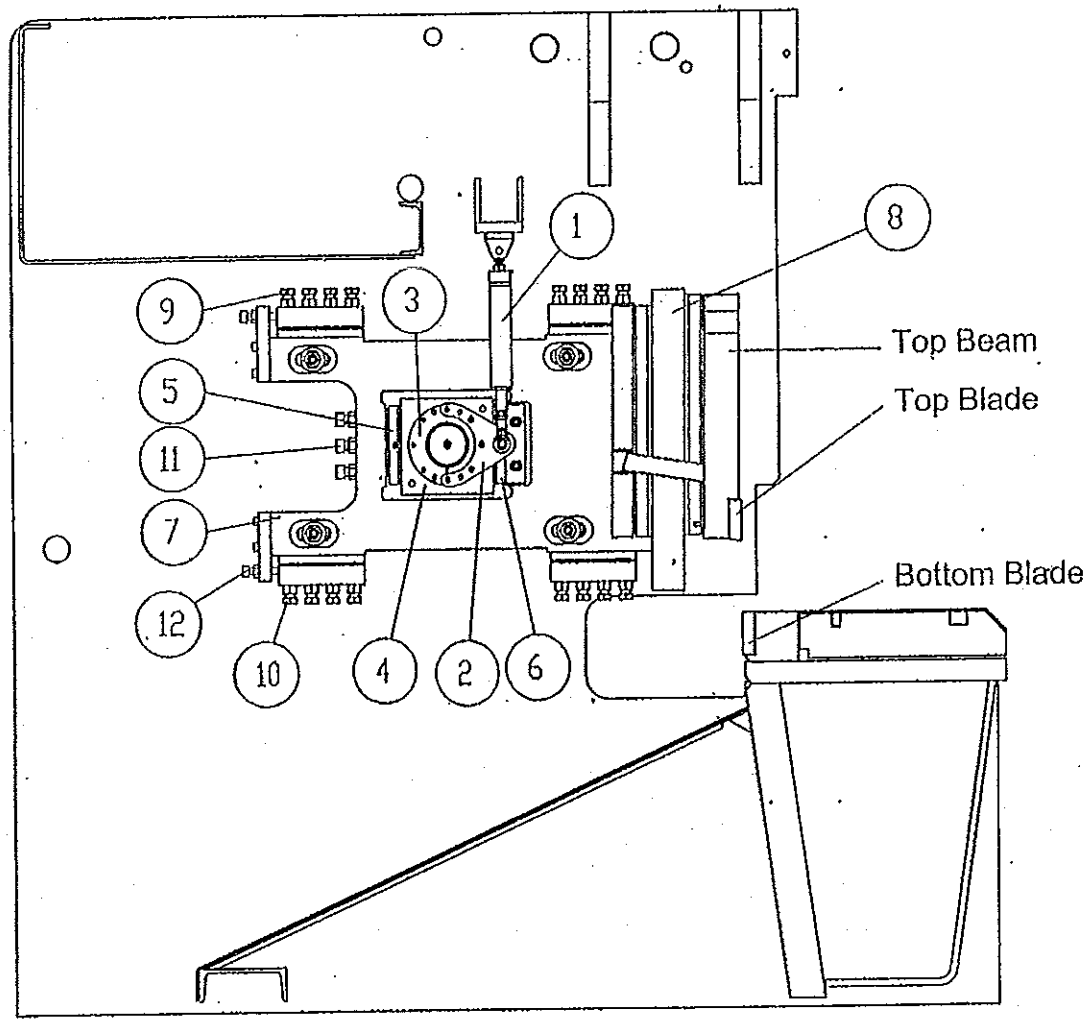


Figure :11 - Centile Adjust System and Sledge System

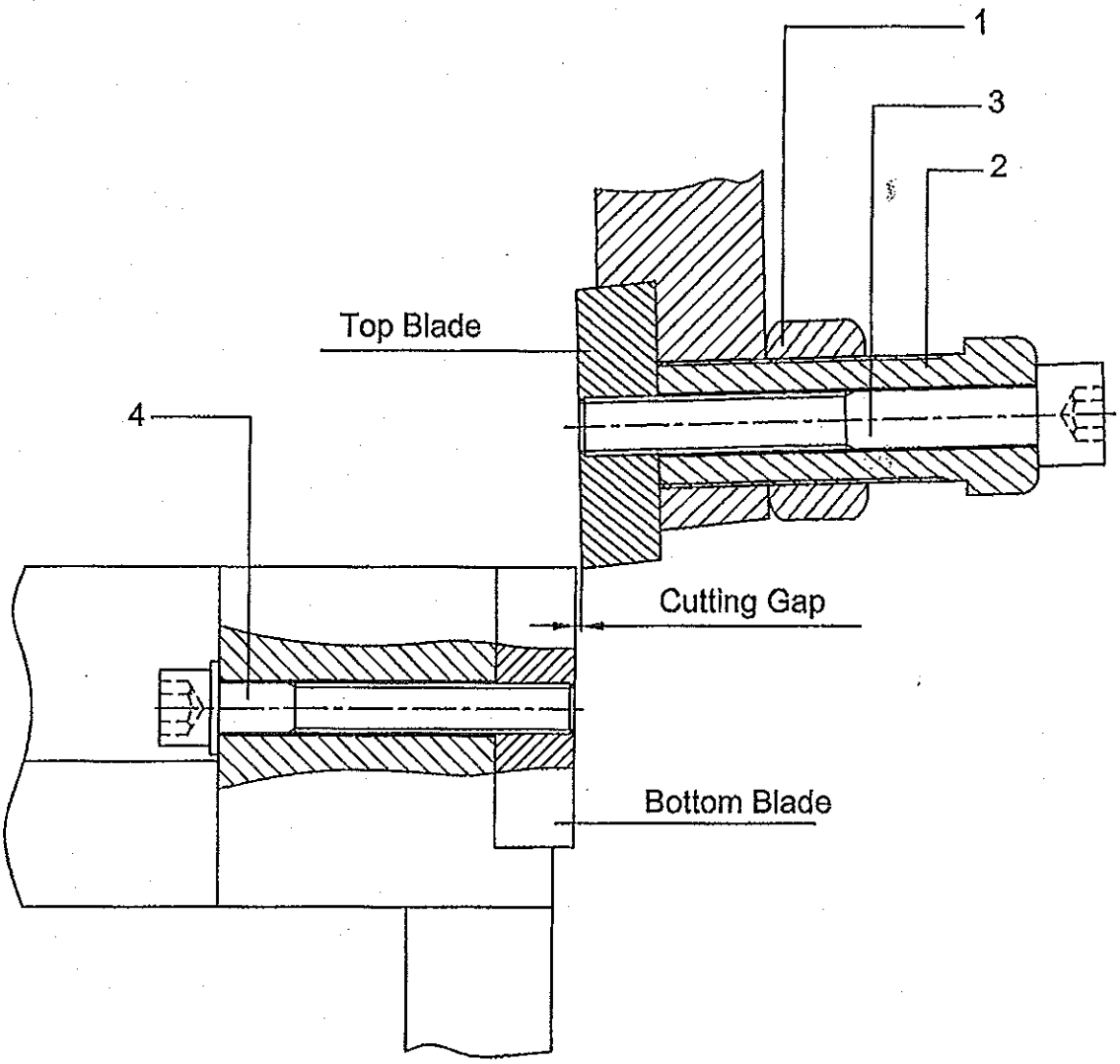


Figure : 12 - Cutting Gap

THICKNESS	CARBON STEEL			STAINLESS STEEL			MILD ALUMINIUM	ALUMINIUM ALLOY			COPPER AND COPPER ALLOY (BRASS)		
	330 ÷ 370	370 ÷ 500	500 ÷ 700	450 ÷ 660	600 ÷ 800	800 ÷ 950	90 ÷ 110	110 ÷ 250	250 ÷ 350	350 ÷ 510	210 ÷ 350	350 ÷ 550	550 ÷ 710
	350 N/mm²	450 N/mm²	600 N/mm²	550 N/mm²	700 N/mm²	850 N/mm²	100 N/mm²	200 N/mm²	300 N/mm²	450 N/mm²	300 N/mm²	450 N/mm²	650 N/mm²
	SAE 1005	SAE 1015	SAE 1040	430	316	301	Al 99.0	AlMn1Cu	AlMg3	AlZn6MgCu	Cu-ETP	CuAg 0.1(P)	CuSn8
	St 33	St 37	St 60	304	305	431	Al 99.5	AlMg1	AlMg4	AlCu4SiMg	Cu-DLP	CuCr1	CuAl8
0.25	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.02	0.01	0.02	0.02
0.50	0.03	0.03	0.04	0.04	0.04	0.05	0.02	0.02	0.03	0.03	0.03	0.03	0.04
0.80	0.05	0.05	0.06	0.06	0.07	0.07	0.02	0.04	0.04	0.05	0.04	0.05	0.06
1.00	0.06	0.07	0.08	0.07	0.08	0.10	0.03	0.05	0.06	0.07	0.06	0.07	0.08
1.50	0.09	0.10	0.12	0.11	0.13	0.14	0.05	0.07	0.08	0.10	0.08	0.10	0.12
1.80	0.11	0.12	0.14	0.13	0.15	0.16	0.06	0.08	0.10	0.12	0.10	0.12	0.14
2.00	0.12	0.13	0.16	0.15	0.17	0.18	0.06	0.09	0.11	0.13	0.11	0.13	0.16
2.50	0.15	0.17	0.19	0.19	0.21	0.23	0.08	0.11	0.14	0.17	0.14	0.17	0.20
3.00	0.18	0.20	0.23	0.22	0.25	0.25	0.10	0.13	0.16	0.20	0.16	0.20	0.24
4.00	0.30	0.34	0.39	0.37	0.42	0.47	0.16	0.22	0.27	0.34	0.27	0.34	0.40
5.00	0.42	0.47	0.54	0.52	0.58	0.59	0.22	0.31	0.38	0.47	0.38	0.47	0.59
6.00	0.53	0.60	0.70	0.65	0.75	0.85	0.28	0.40	0.49	0.60	0.49	0.60	0.75
7.00	0.65	0.74	0.85	0.81	0.92	1.03	0.35	0.49	0.60	0.74	0.60	0.74	0.92
8.00	0.78	0.87	1.01	0.95	1.10	1.25	0.41	0.58	0.71	0.87	0.71	0.87	1.16
9.00	0.90	1.01	1.16	1.10	1.25	1.40	0.48	0.67	0.82	1.01	0.82	1.01	1.29
10.00	1.00	1.14	1.32	1.25	1.42	1.59	0.54	0.76	0.93	1.14	0.93	1.14	1.42
12.00	1.24	1.41	1.63	1.55	1.76	1.97	0.66	0.94	1.15	1.41	1.15	1.41	1.69
13.00	1.44	1.65	1.85	1.70	1.95	2.20	0.78	1.12	1.37	1.68	1.37	1.68	1.96
15.00	1.60	1.81	2.10	1.95	2.26	2.57	0.85	1.21	1.48	1.81	1.48	1.81	2.18
18.00	1.95	2.21	2.56	2.40	2.76	3.12	1.04	1.47	1.81	2.21	1.81	2.21	2.66
20.00	2.20	2.50	2.87	2.70	3.10	3.50	1.17	1.65	2.03	2.48	2.03	2.48	2.98
22.00	2.43	2.75	3.18	3.04	3.43	3.83	1.30	1.83	2.25	2.75	2.25	2.75	3.31
25.00	2.78	3.15	3.64	3.48	3.89	4.30	1.49	2.10	2.58	3.15	2.58	3.15	3.77

Table : 1 - Cutting Blade Gap Chart

5 - MAINTENANCE

5.1 - General Maintenance

CONTROL	FREQUENCY	RESPONSIBLE
-Greasing	See section 5.5	Machine Operator
-Lubrication of blades	Daily	Machine Operator
-Damage control of guards	Daily	Machine Operator
-Oil leakage of cylinders	Daily	Machine Operator
-Hydraulic oil level	Weekly	Machine Operator
-Leakage of hydraulic elements and connections	Weekly	Machine Operator
-Looseness of cylinder connection bolts	Weekly	Machine Operator
-Looseness of blade connection bolts	Weekly	Machine Operator
-Looseness of limit switches	Weekly	Machine Operator
-Electricity connection	Annual	Electrician

5.2 - Hydraulic System

The adjustments for the hydraulic elements are made during comissioning. Please don't change the hydraulic element adjustments.

Check the hydraulic oil level periodically. Clean the hydraulic circuit materials.
During the control of hydraulic system, no dust or dirt should enter into it. Change the defective or corrosive taps.

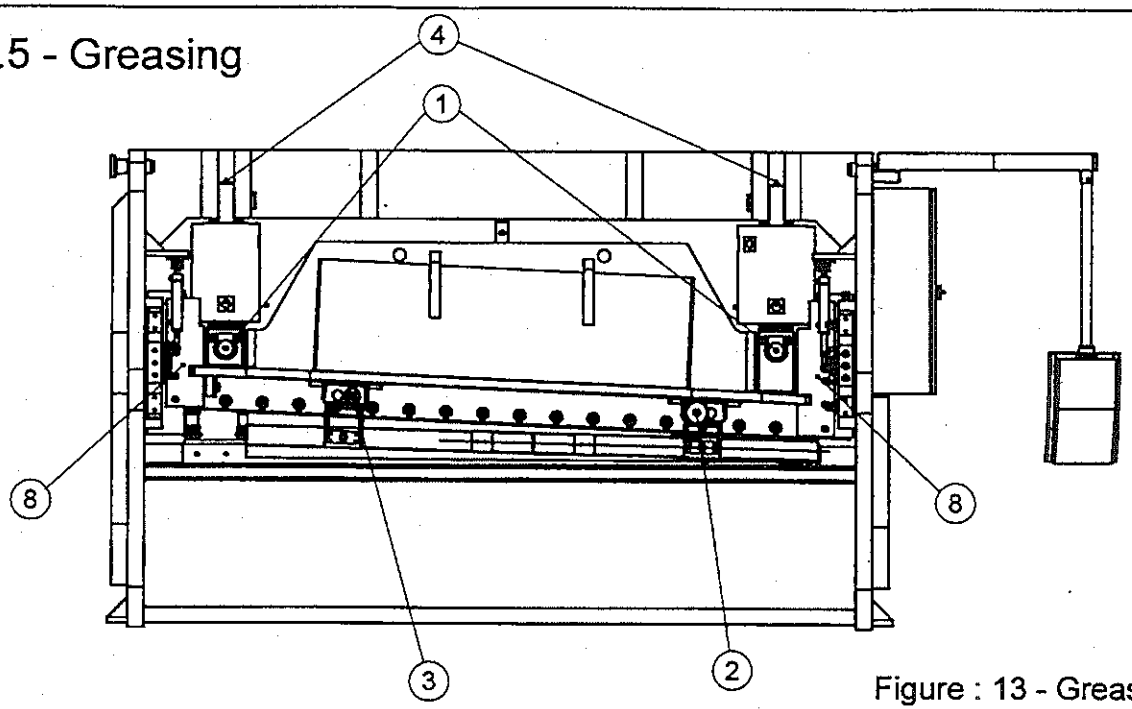
5.3 - Oil Changing

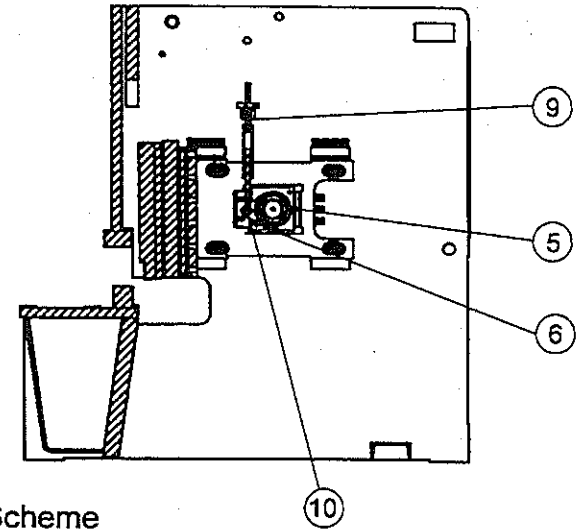
The first change for the oil inside the tank should be after 1000 hours' running time. The next changes should be after 2500 hours' running time. The hydraulic oil can get old or dirty after some time. In that time it should be changed. Sedimented turbid oils should be changed. For changing the oil, the top beam is taken to the lowest position and the switch on the panel is taken to Pos-0. To pour the oil out, a sufficient container is placed under the tank. The oil is poured into the container on the ground by placing a hose to the valve under the tank. To make the oil flow faster, one of the covers on the tak is opened. Avoid that the dirt is going into the tank. After pouring the oil, please clean the tank. Close the pouring calve. Refill the tank with oil.

5.4 - Equivalence Hydraulic Oil

AMBIENT TEMPERATURE	
0°C / +20°C	**20°C / +40°C**
ARAL VITAM GF 32	ARAL VITAM GF 46
BP ENERGOL HLP 32	BP ENERGOL HLP 46
CASTROL HYSPIN AWS 32	CASTROL HYSPIN AWS 46
MOBIL D.T.E. 32	MOBIL D.T.E. 46
PEGA ARELOIL 32	PEGA ARELOIL 46
PETROL OFISI HYDRO OIL HD 32	PETROL OFISI HYDRO OIL HD 46
SHELL TELLUS 32	SHELL TELLUS 46
VALVOLINE ULTRAMAX 32	VALVOLINE ULTRAMAX 46

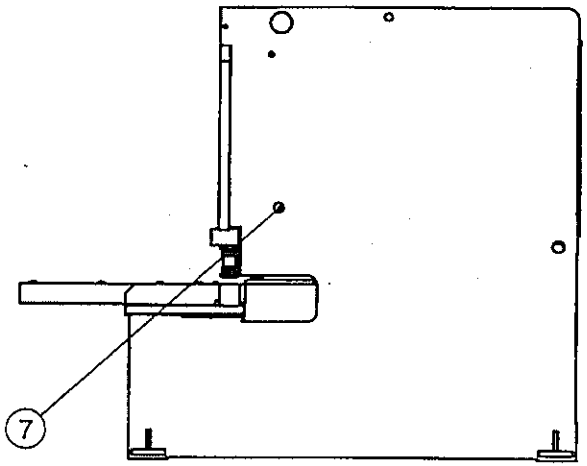
5.5 - Greasing





(Grease Nipple is under the blade gap lever.)

Figure : 13 - Greasing Scheme



NO	QTY	PART NAME	FREQUENCY	OIL TYPE
1	2	Piston Ankle Axis	Weekly	BELGIN GRESON LKM-2
2	1	Left Backgauge Screwed Axis	,,	MUSCLE PL - 10
3	1	Right Backgauge Screwed Axis	,,	,,
4	2	Cylinder Ankle Axis	,,	BELGIN GRESON LKM-2
5	2	Centile Adjustment Sledge - Back	,,	,,
6	2	Centile Adjustment Sledge - Front	,,	,,
7	2	Sledge Body - Front	,,	,,
8	2	Sledge Body - Back	,,	,,
9	2	Centile Adjust Cylinder Top Ankle	Weekly	BELGIN GRESON LKM-2
10	2	Centile Adjust Cylinder Bottom Ankle	Weekly	,,

4.5.2 - Sharpening The Blades

Blades can be blunted by time. Sharpness of blades must be controlled regulary. Top blade is angled with 2 corners is possible. Bottom blade is disangled and cutting with 4 corners is possible. Two corners of top blade and four corners of bottom blade must be sharpened. Wide surfaces must be sharpened in less uses, narrow surfaces must be sharpened in lot uses. The space formed after sharpening must be feeded. Otherwise blade and bolts can be damaged. Feeding part must be steal and must be the same size with blade. (Figure - 14) Control centile adjust after blades sharpened and put into their places.

4.5.5 - Take of The Blades and Changing of Them

During changing the blades two people must be present because of safety. Hands and fingers may be hurted during changing blades. Gloves must be used for this reason.

4.5.5.1- Changing of Top Blade and Precise Adjustment

Backgauge is send away from blades, main shalter is closed. Finger guard is taken out. Main worker and second person should work back side of the machine. Take out all other screws(3) beside the ones on both end which should only loosened. (Fig.12). But not much it can fall down. both worker must hold the blade by one hand and take out screws with other hand.
By reverse method the new one is placed.
During this process it is possible blade gap is changed, so it is better to adjust it.
Parameter page is entered on operator panel. Top beam is lowered with manual buton. (until first adjustment screw). Check blade gap with a filler gauge.
If gap is bigger than 0.05-0.07 mm no:3 blade fixing screws and no:1 nuts are loosened, no: 2 fine adjustment screws are tightened until you get 0.05-0.07 mm gap. Otherwise no: screw is loosened. After that no:1 nut and no:3 fixing screw is tightened.
This procedure is repeated from left to right on every adjustment screw. 0,5-1.0 mm sheet is cut for trial and cheched for chips. If there are chips adjustment procedure is repeated on this section.
Finally after adjusting blade gap sheet is cut in maximum sheet thickness

Warning ! Avoid to have collision between two blades.

4.4.5.2- Changing of Bottom Blade

For bottom tool only fixing screws no:4 are taken out and with two person blade is changed.

Warning ! Blades and holding places must be cleaned well.

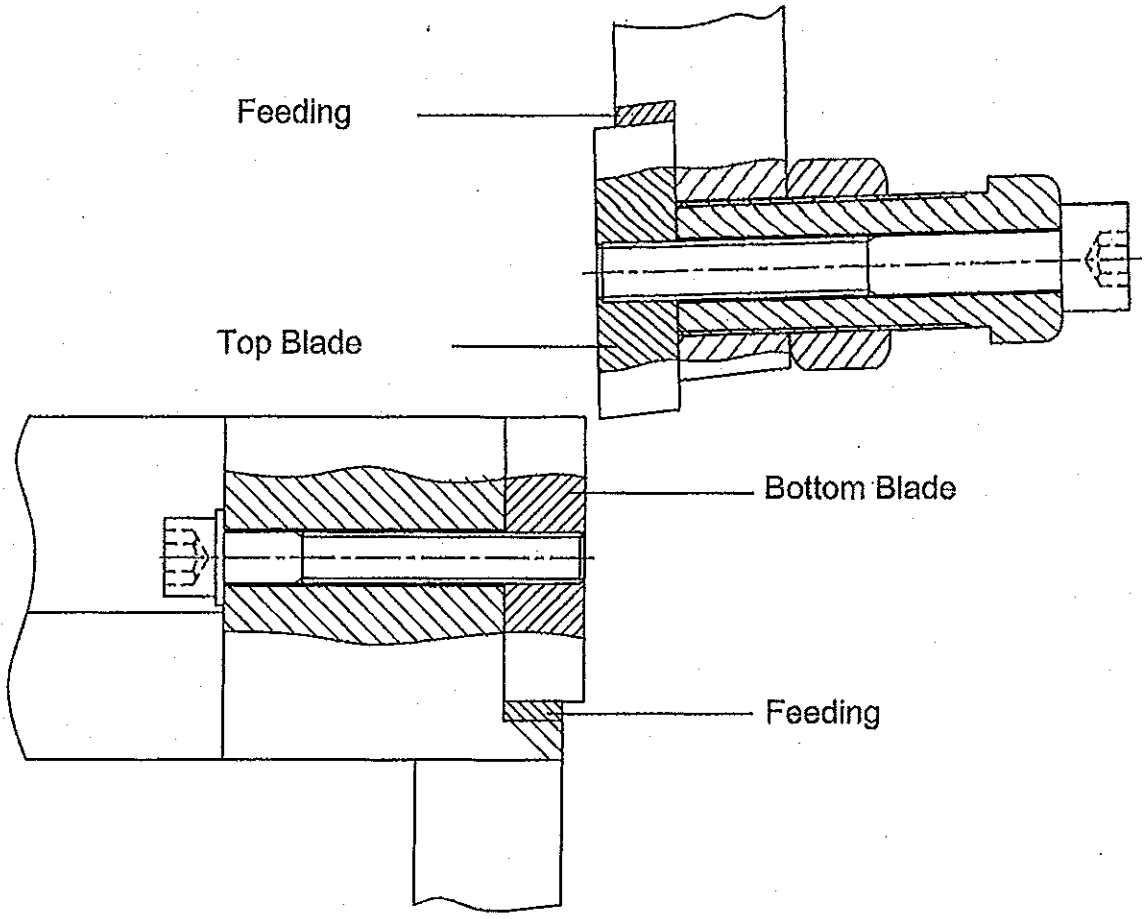


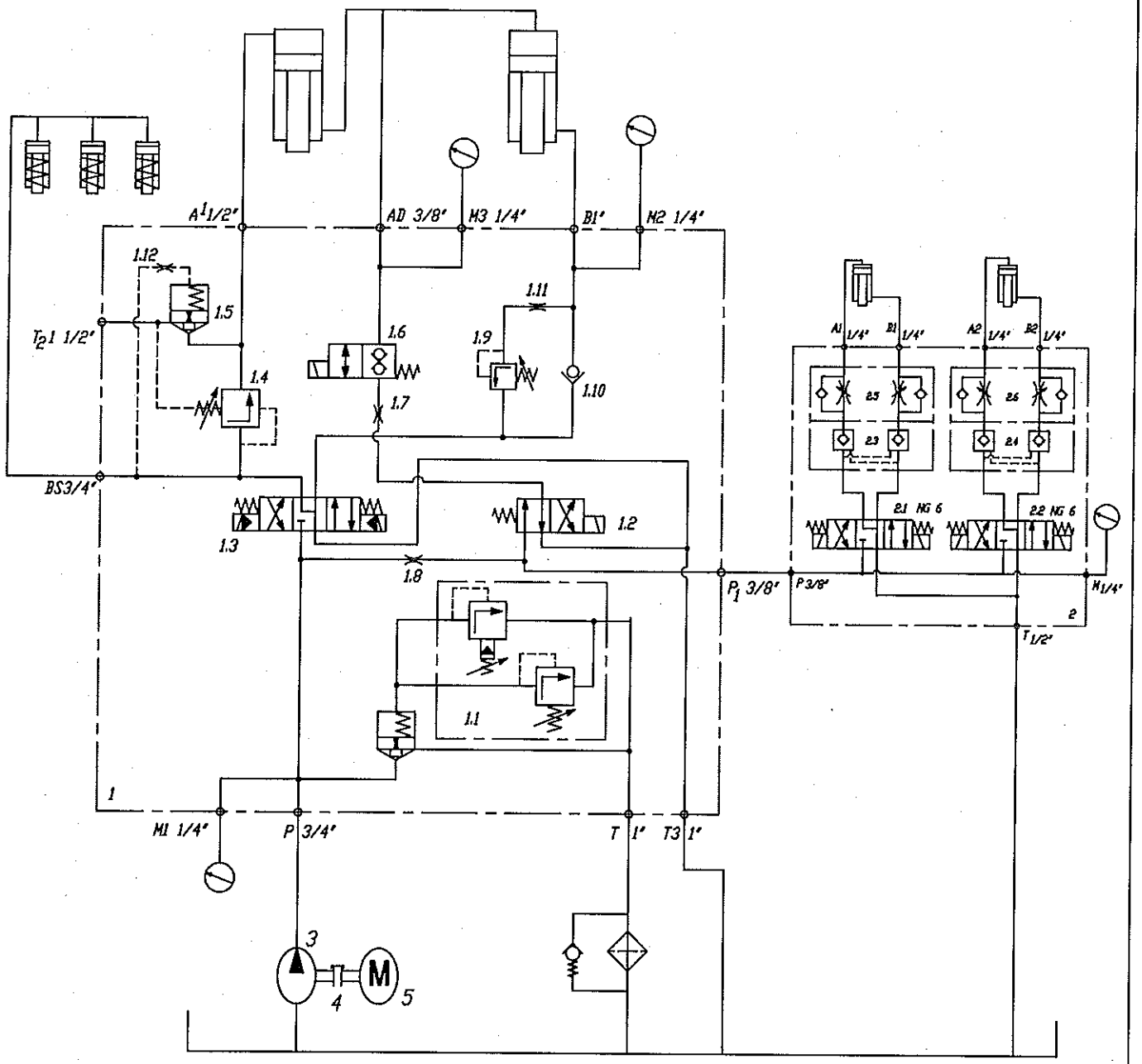
Figure : 14 - Assembly of Blades After Grinding

6 - TROUBLESHOOTING

PROBLEM	CAUSE	SOLUTION
Sheets are chipped	-Inappropriate centile adjustment	-Make centile adjustment
	-Blades get blunted	-Sharpen the blades
Beam does not go down (no or low pressure in cylinder)	-Pump is defective	-Find defectiveness or change the pump
	-Emission filter is blocked	-Clean the filter
	-Pressure security valve is blocked	-Clean the valve
	-Pressure security valve is defective	-Change the valve
	-Direction valve is blocked	-Clean the valve
	-Direction valve coil is burned out	-Change the coil
	-Leakage in tube lines or in cylinder	-Find the leakage and remove
Top beam doesn't stop neither in down stroke nor up stroke.	-Switches are defective	-Check Bottom Limit Switch (5S2) and Top Limit Switch (5S1). Their lights should illuminate when they see the metal object and they should stop the top beam. Top and Bottom Limit Switches shouldn't be moved.
	-Switches can be moved.	
Oil leakage under the cylinder	-Cylinder seals are defective	-Change the seals
Oil leakage from pressure cylinders	-Pressure seals are defective	-Change the seals
	-O-Ring in throat is defective	-Change the O-Ring
Oil leakage in hydraulic connection parts	-Looseness in connection parts	-Tighten them.
Main Motor doesn't run when the Button "START" is pressed.	-Fuse can be OFF	-Place the Fuse to ON position. Make the suitable adjustment (1Q1)
	-Front Guard Switches can be disconnected. (5LS9) (5LS10)	-Check the Switches.
	Energy Input Voltage and Motor Voltage can be different.	-Check the Input Voltage and the Motor Voltage.
"TEST" Button doesn't illuminate when it is pressed.	-Phase order is not correct.	-Check the Phase Order Relay (1F6) inside the electrical panel. If it illuminates green, there is no problem in Phase Order Relay. If there is no light, replace two phases on Energy Input Clemenses. Energise again and see the light illuminate.
	-Energy Input Voltage is not suitable.	-Check the voltages in Energy Input. It should be 380V to the phases and 220V between the phases and the neutral.
	-Photocells can't see each other or energy with suitable voltage can't come the photocells.	-Check the Photocells. They should see each other and illuminate red. There should be no objects between them. Check the relay 3K1.
	-One of the Emergency Inputs can be pressed.	-Check the Emergency Inputs. Check the relay 3A1.

PROBLEM	CAUSE	SOLUTION
Cutting Angle Adjustment and Centile Adjustment can't be made although the Motor is running.	-	-Switch the machine off and on again.
		-Check the user manuals for the machine and the controller.
Backgauge doesn't move altough the "START" Button is pressed.	-Driver Fuse can be OFF.	-Take the Driver Fuse to position-1.
	-Driver can be in fault condition.	-Turn the Fuse off, wait for 10 seconds and turn on again.
	-There can be disconnections between the connections.	-Check the Driver Parameters and Backgauge Motor Circuit.
	-The Parameters can be changed in negative way.	
	-The Brake on Motor doesn't get open.	-Check the Brake connections.
		-Check if the brake lining is stuck or not.

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OTOMASYON + HİDROLİK

ÖLÇEK	HVR 10-13 MM.MAKAS BLOĞU	BLOK NO
-		BHB 2699-11A/2012

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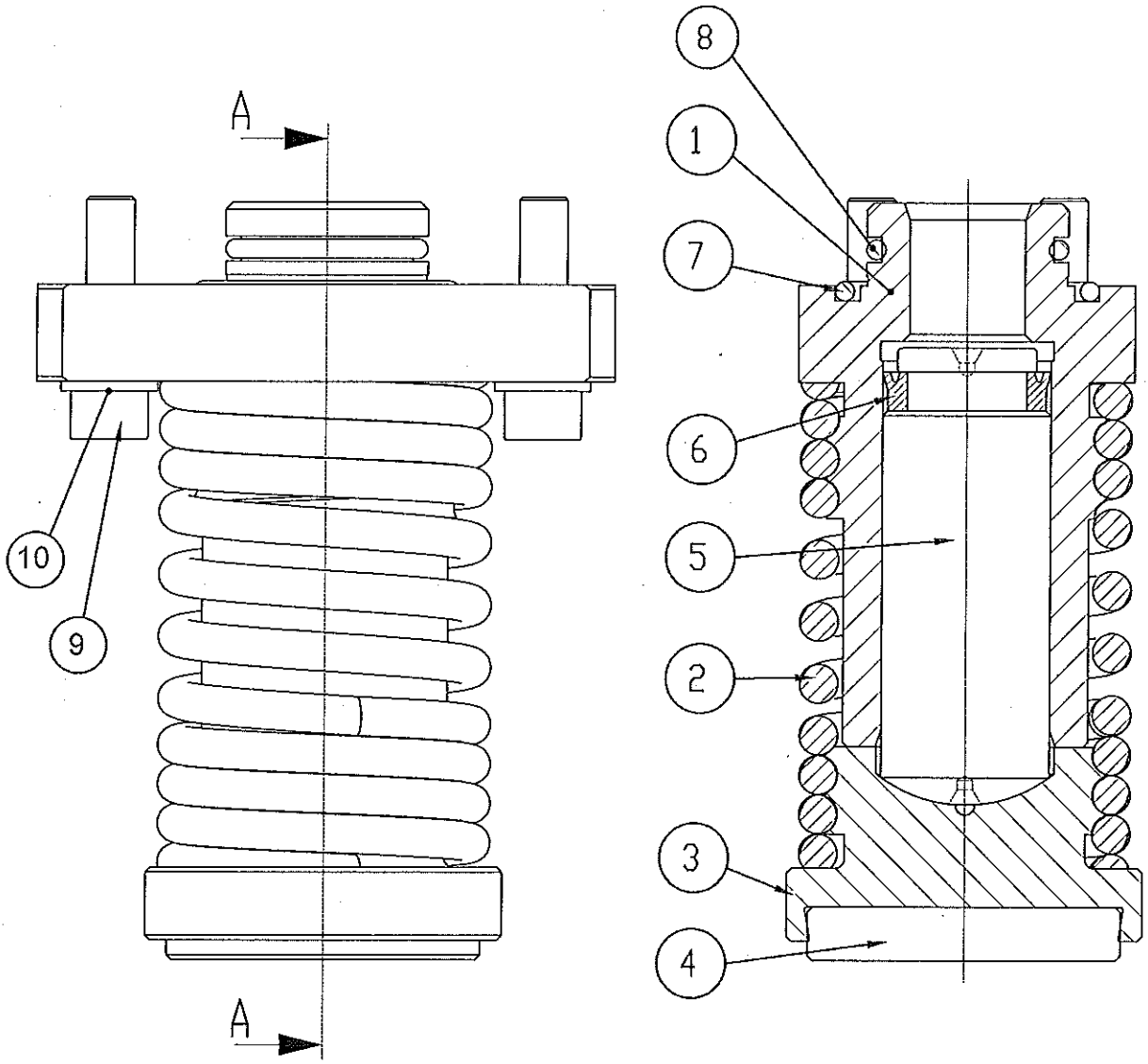
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MATERIAL LIST

POS. NO.	MATERIAL NAME	Producer	CODE	Qt.		
HVR 10-13 MM.MAKAS						
.1.0	MAIN BLOCK	BTC	BHB2699-11A/12	1		
.1.1	MAIN PRESSURE VALVE		VPDBVE16E	1		
.1.2	NG6 DIRECTIONAL VALVE		TAM220PC06P	1		
.1.3	NG16 DIRECTIONAL VALVE		DG07-6C-T	1		
.1.4	PRESSURE SEQUENCER VALVEİ		SP-11A	1		
.1.5	NG 32 LOGIC VALF		CVSE32A10A	1		
.1.6	POPET VALF		SVN225BE08PD	1		
.1.7	ORIFICE		O=2,5mm	1		
.1.8	ORIFICE		O=3mm	1		
.1.9	COUNTER BALANCE VALVE		VDBE08ECSO986	1		
.1.10	CHECK VALVE		CV-10W-2017-N	1		
.1.11	ORIFICE		O=2.5mm	1		
.1.12	ORIFICE		O=1,5mm	1		
.1.13	NG 6 PILOT VALVE		TCM380PC06P	1		
.1.14	ORIFICE		O=0,8mm	1		
.1.15	ORIFICE		O=0,8mm	1		
.1.16	ORIFICE		O=0,8mm	1		
.2.0	AMPLIFIER CARD		MİCROSTAR	1		
.8.1	BLADE GAP ADJ. VALVE BLOCK	BTC	BHB.3079/2012	1		
.8.2	NG6 DIRECTIONAL VALVE		TCM380PC06P	1		
.8.3	NG6 DIRECTIONAL VALVE		TCM380PC06P	1		
.8.4	TWIN LOCK		DGMPC-03-W	1		
.8.5	TWIN LOCK		DGMPC-03-W	1		
.8.6	TWIN PRESSING		DGMTC-03W	1		
.8.7	TWIN PRESSING		DGMTC-03W	1		

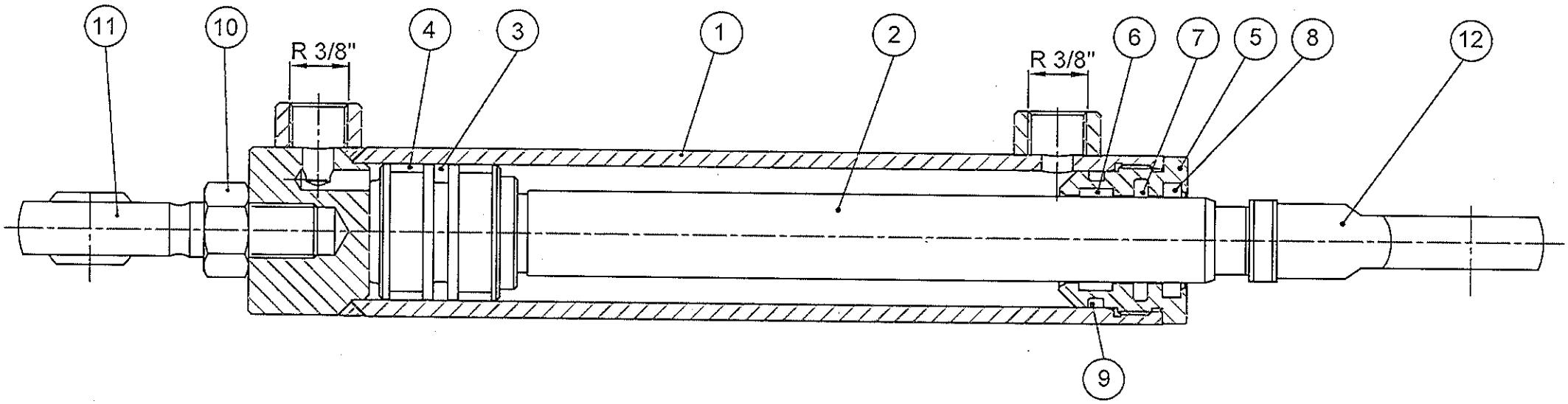
ÜRETİMLE İLGİLİ NOTLAR :



10	4	M10 RONDELA	DIN 128-A 12-FSt	-	5010103830
9	4	M10x40 BOLT	DIN 912	8,8	5010100600
8	1	O ring Ø34xØ4	KASTAŞ - KO-0340040İ	NBR	5010111944
7	1	O ring Ø47xØ4	KASTAŞ - KO-0470040İ	NBR	5010111945
6	1	U CUP Ø35xØ25x8	KASTAŞ K 21-025/5PU	POLİÜRETAN	5010111946
5	1	PRESSURE CYLINDER PIST	2231.03.03.05	Ç 1040	4012350181
4	1	PRESSURE BUFFER	2231.03.03.04	VULKOLEN	4012350173
3	1	PRESSURE SHOES	2231.03.03.03	Ç 1040	4012350165
2	1	PRESSURE ABSORBER	2231.03.03.02	55 Sİ 7 C KALİTE	4012350161
1	1	PRESSURE CYLINDER BAD	2231.03.03.01-FT	Ç 1040	4109000058
POZ NO	PIECE	MATERIAL NAME	PICTURE NO/STANDARD NO	GEREÇ	STOKNO

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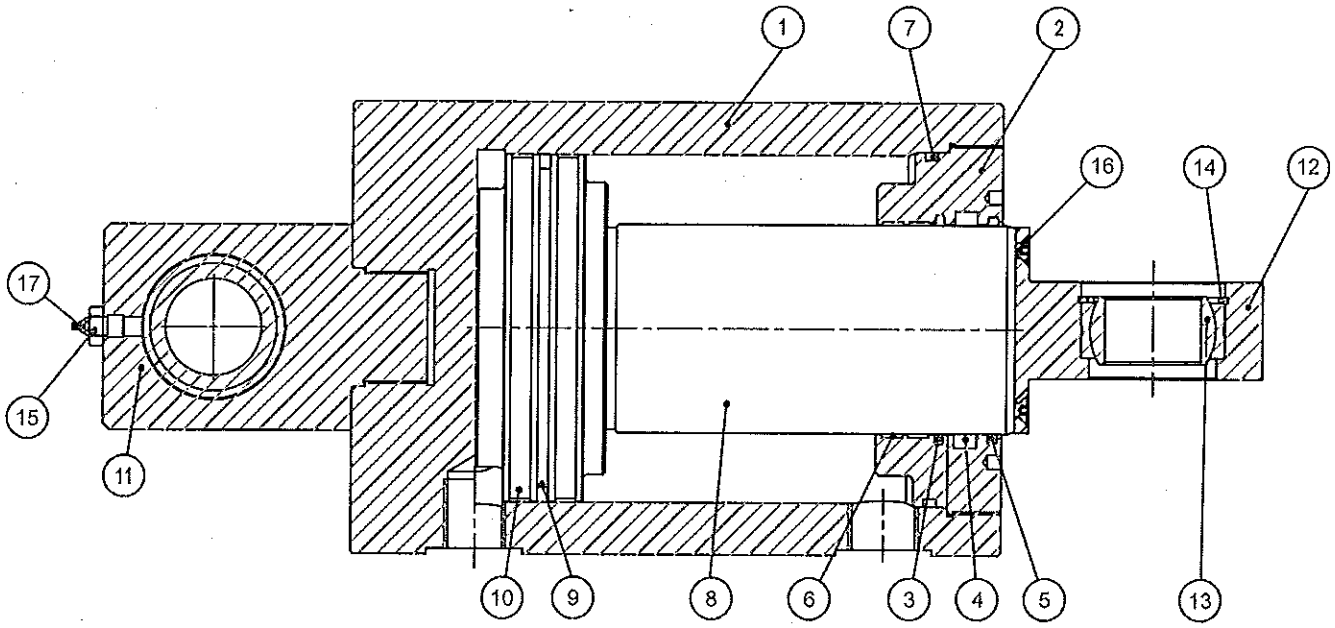
HGD / CNC HVR 10-13 mm. PRESSURE CYLINDER



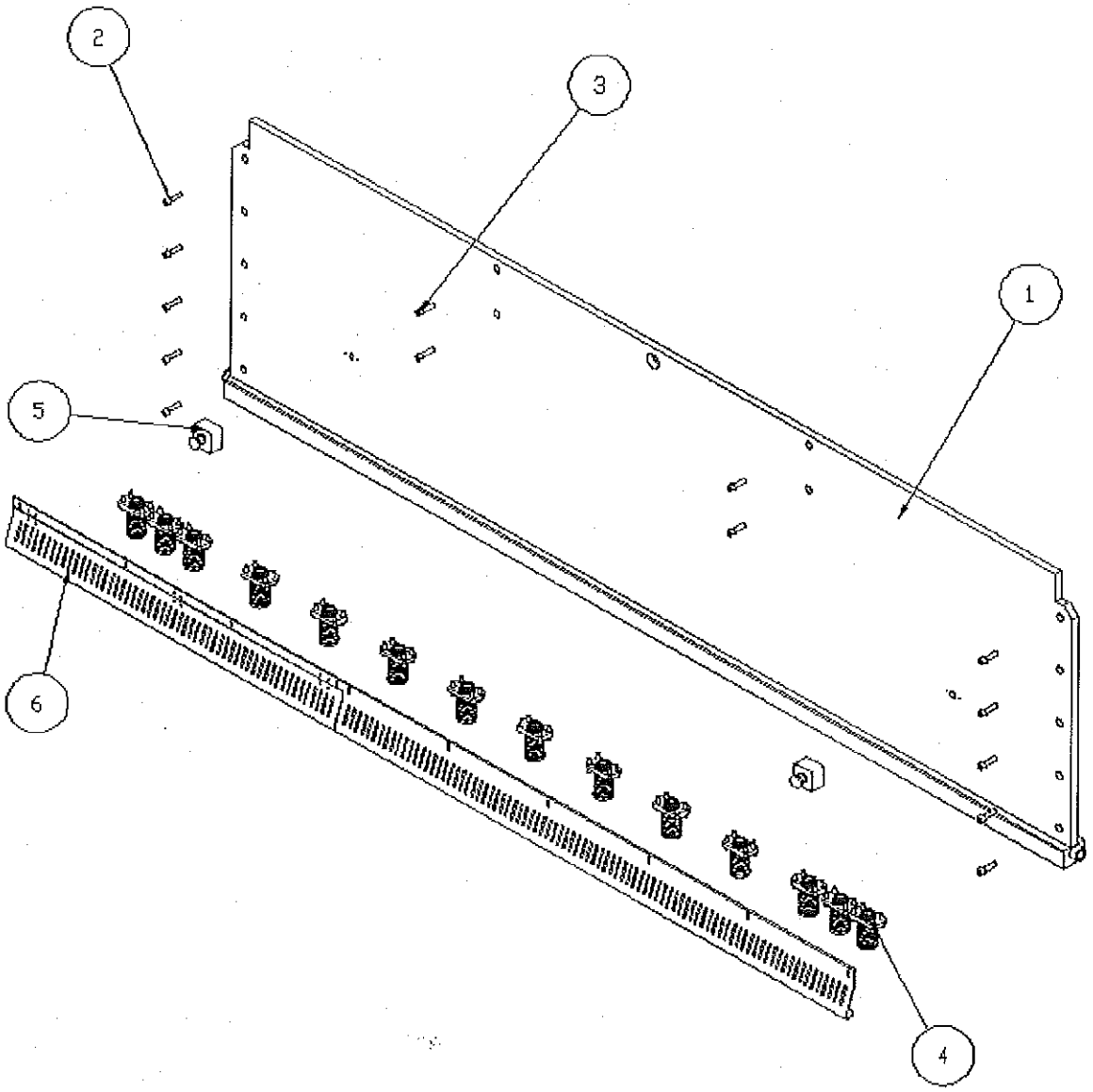
NO.	PART NAME	PIECE	EXPLANATION
1.	Centile Adjust Cylinder Body	1	2300.03.04.01
2.	Centile Adjust Piston	1	2300.03.04.04
3.	Omegat (Piston Seal)	1	Ø 40 x Ø 29 x 4.2
4.	Bearing Band	2	2.5 x 9.7 x 120
5.	Centile Adjust Cylinder Nut	1	2300.03.04.05
6.	Bearing Band	1	2.5 x 9.7 x 88
7.	Omegat (Throat Seal)	1	Ø 25 x Ø 35.7 x 4.2
8.	Dust Seal	1	Ø 25 x Ø 33 x 4/7 NBR
9.	O - Ring	1	Ø 34.52 x Ø 3.53
10.	Nut M16	1	DIN 934
11.	M16 Ankle (Man)	1	
12.	M16 Ankle (Woman)	1	

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CENTILE ADJUST CYLINDER



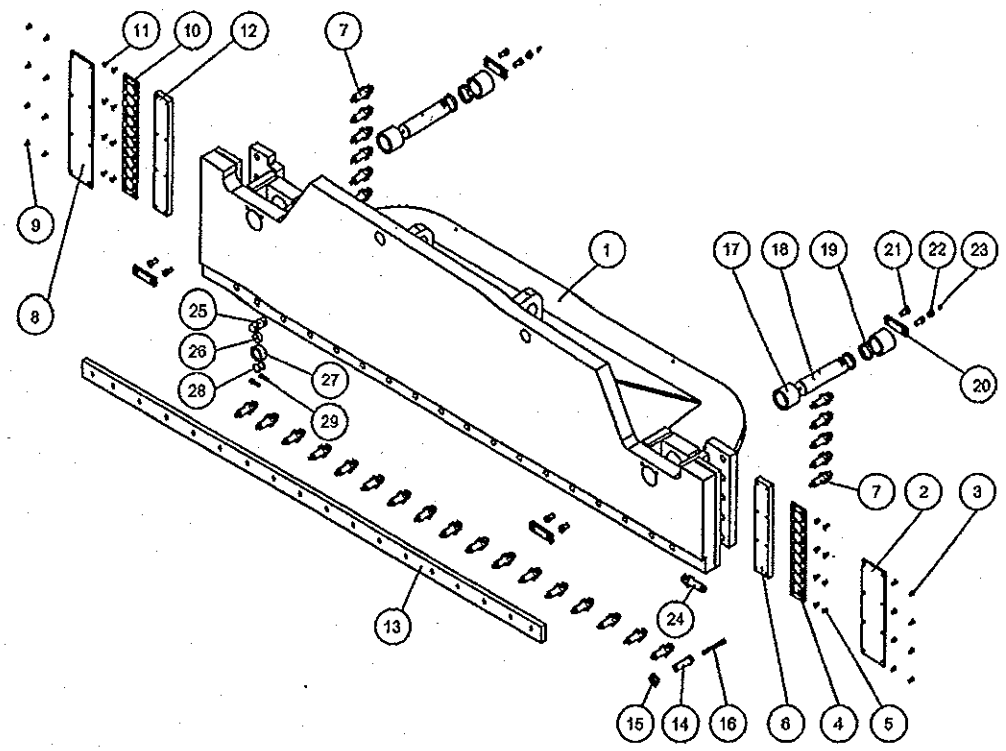
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			RIGHT CYLINDER	LEFT CYLINDER
1.	Cylinder Body	1	2332.03.02.01	2332.03.01.01
2.	Cylinder Nut	1	2332.03.02.04	2332.03.01.02
3.	Omegat (Throat Seal)	1	Ø 95x Ø 110.1 x 6.3	
4.	U - Cup (Throat Seal)	1	Ø 95 x Ø 105 x 12	
5.	Dust Seal	1	Ø 95 x Ø 107 x 7/17	
6.	Bearing Band	2	K 70 POM	
7.	O - Ring	1	Ø 6.99 x Ø 129,54	Ø 113.67 x Ø 5.33
8.	Piston	1	2332.03.02.03	2332.03.01.03
9.	Omegat (Piston Seal)	1	Ø 140 x Ø 119x 8.1	Ø 120 x Ø 99 x 8.1
10.	Bearing Band	2	K 70 POM	K 70 POM
11.	Cylinder Ankle	1	2330.03.00.01	
12.	Piston Ankle	1	2330.03.00.02	
13.	Bearing	2	GE 45 ES	
14.	Segment (Ø 55 x 2)	1	DIN 472	
15.	Special Bolt	1	2331.03.00.06	
16.	Bolt	4	DIN 7991	
17.	Grease Nipple	1	3/8" 24 UNF	



NO.	PART NAME	PIECE	EXPLANATION
1.	Front Table Sheet	1	
2.	Bolt	10	DIN 912
3.	Bolt	4	DIN 912
4.	Pressure Cylinder	14	
5.	Emergency Stop	2	
6.	Front Finger Guard	1	

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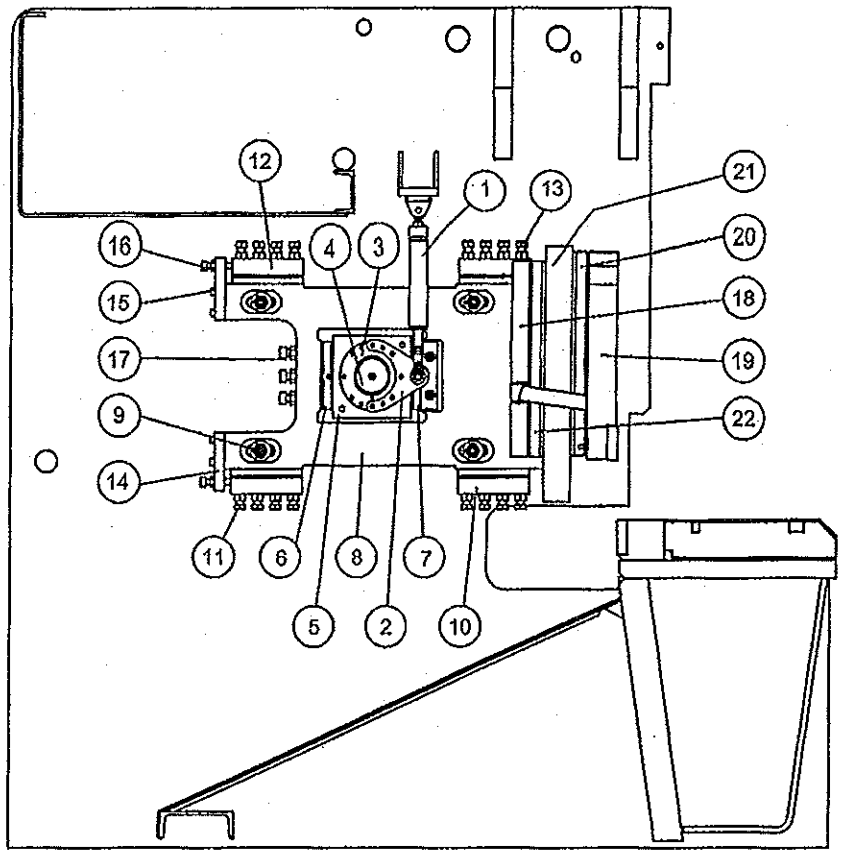
FRONT TABLE



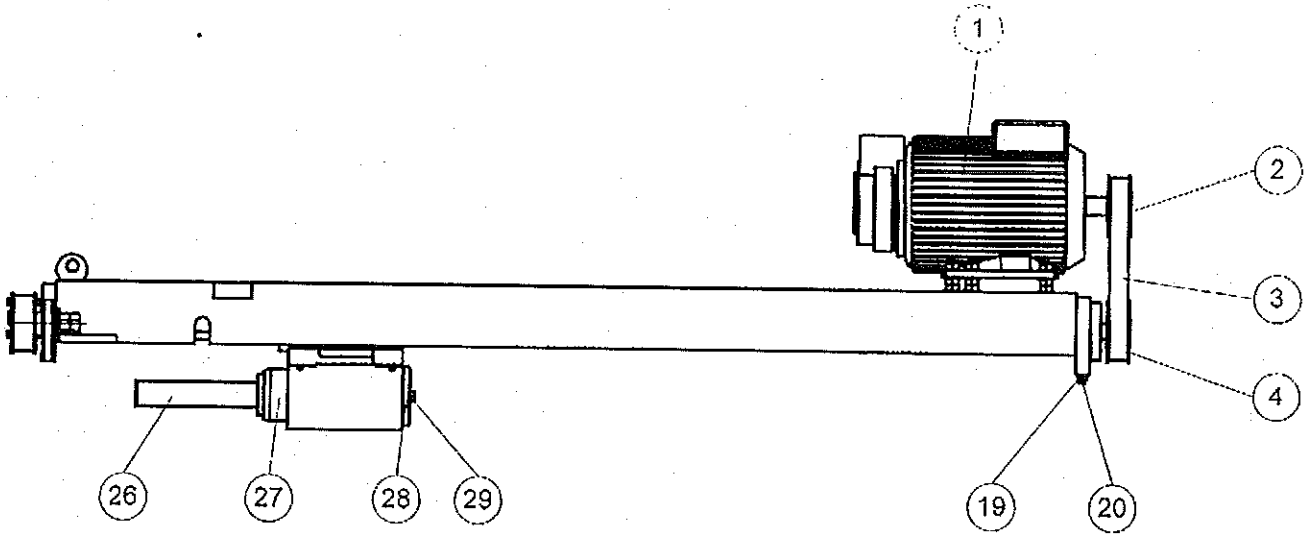
NO.	PART NAME	PIECE	EXPLANATION
1.	Top Beam	1	
2.	Sledge (Right - Front)	1	
3.	Bolt	8	DIN 7991
4.	Sledge (Right - Back)	1	
5.	Bolt	8	DIN 7991
6.	Sledge Base Fitting (Right - Back)	1	
7.	Adjustment Bolt		
8.	Sledge (Left - Front)	1	
9.	Bolt	8	DIN 7991
10.	Sledge (Left - Back)	1	
11.	Bolt	8	DIN 7991
12.	Sledge Base Fitting (Left - Back)	1	
13.	Top Blade	1	
14.	Adjustment Bolt		
15.	Nut of Adjustment Bolt		
16.	Top Blade Fixing Bolt		DIN 912
17.	Bush	4	
18.	Piston Ankle Axis	2	
19.	Ring	4	
20.	Axis Holder	4	
21.	Bolt	8	DIN 912
22.	Special Bolt	2	
23.	Grease Nipple	2	
24.	Right Side Support Bolt	1	
25.	Left Side Support Pin	1	
26.	Graphites Bush	1	
27.	Left Side Support Roller	1	
28.	Segment	2	DIN 471
29.	Bolt	2	

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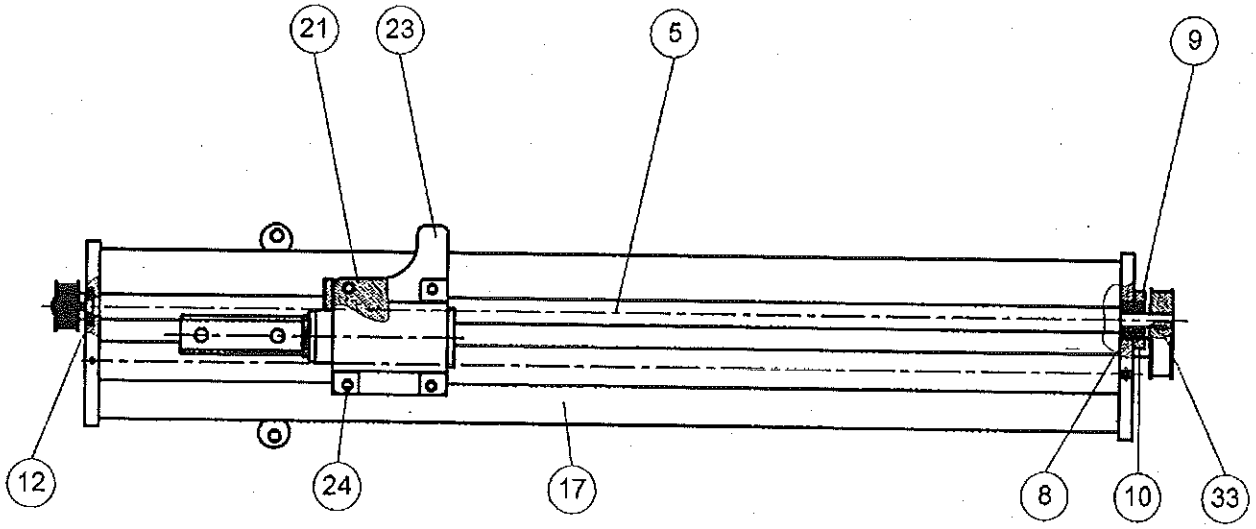
TOP BEAM GROUP



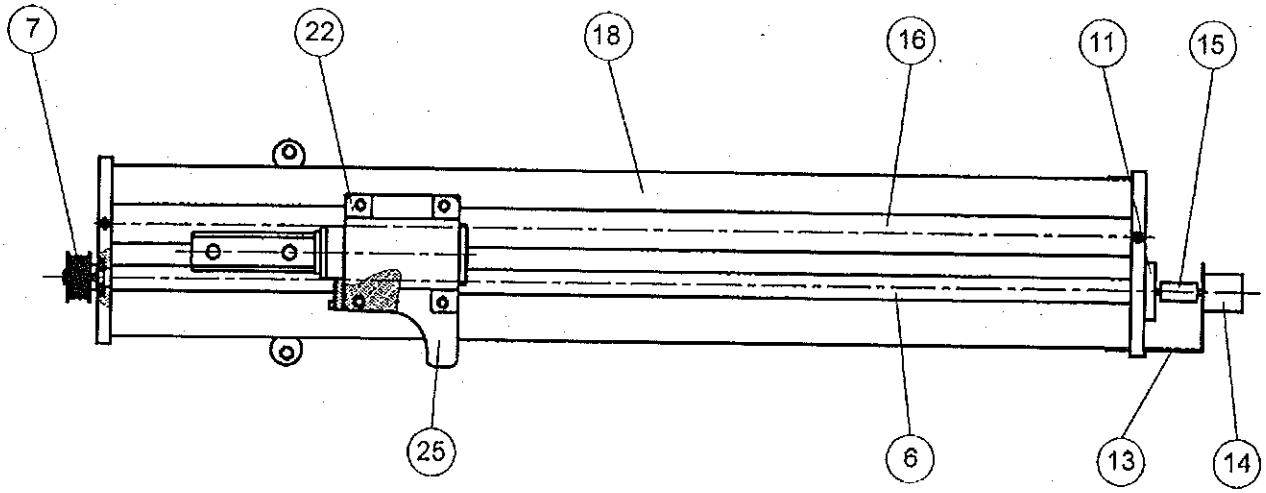
NO.	PART NAME	PIECE	EXPLANATION
1.	Centile Adjust Cylinder	1	
2.	Centile Adjust Ear	1	
3.	Eccentric Bearing	1	
4.	Centile Adjust Shaft	1	
5.	Centile Adjust Bearing	1	
6.	Centile Adjust Sledge (Back)	1	
7.	Centile Adjust Sledge (Front)	1	
8.	Sledge Body	1	
9.	Sledge Body Fixing Bolts	4	
10.	Fixed Sledge Lama (Bottom)	2	
11.	Adjustment Bolt	8	
12.	Fixed Sledge Lama (Top)	2	
13.	Adjustment Bolt	8	
14.	Centile Limiting Body	2	
15.	Fixing Bolt	4	
16.	Adjustment Bolt	2	
17.	Adjustment Bolts(Centile Adjust sledge - Back)	4	
18.	Top Beam Sledge (Front)	1	
19.	Top Beam	1	
20.	Top Beam Sledge Lama (Front)	1	
21.	Sledge Lama	1	
22.	Top Beam Sledge Lama (Back)	1	



Motor Driven Group (Side View)



Motor Driven Group (Bottom View)



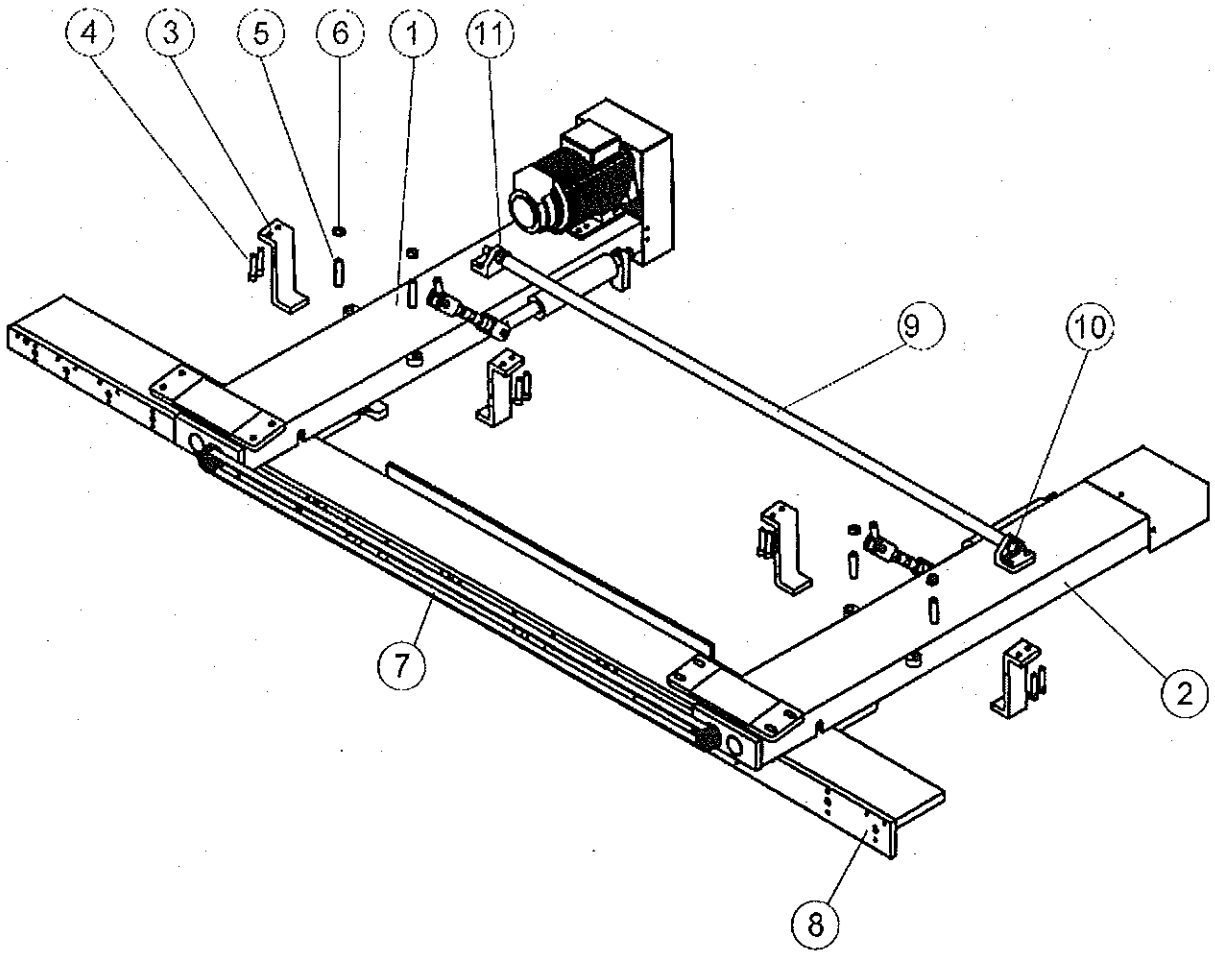
Driven Group (Bottom View)

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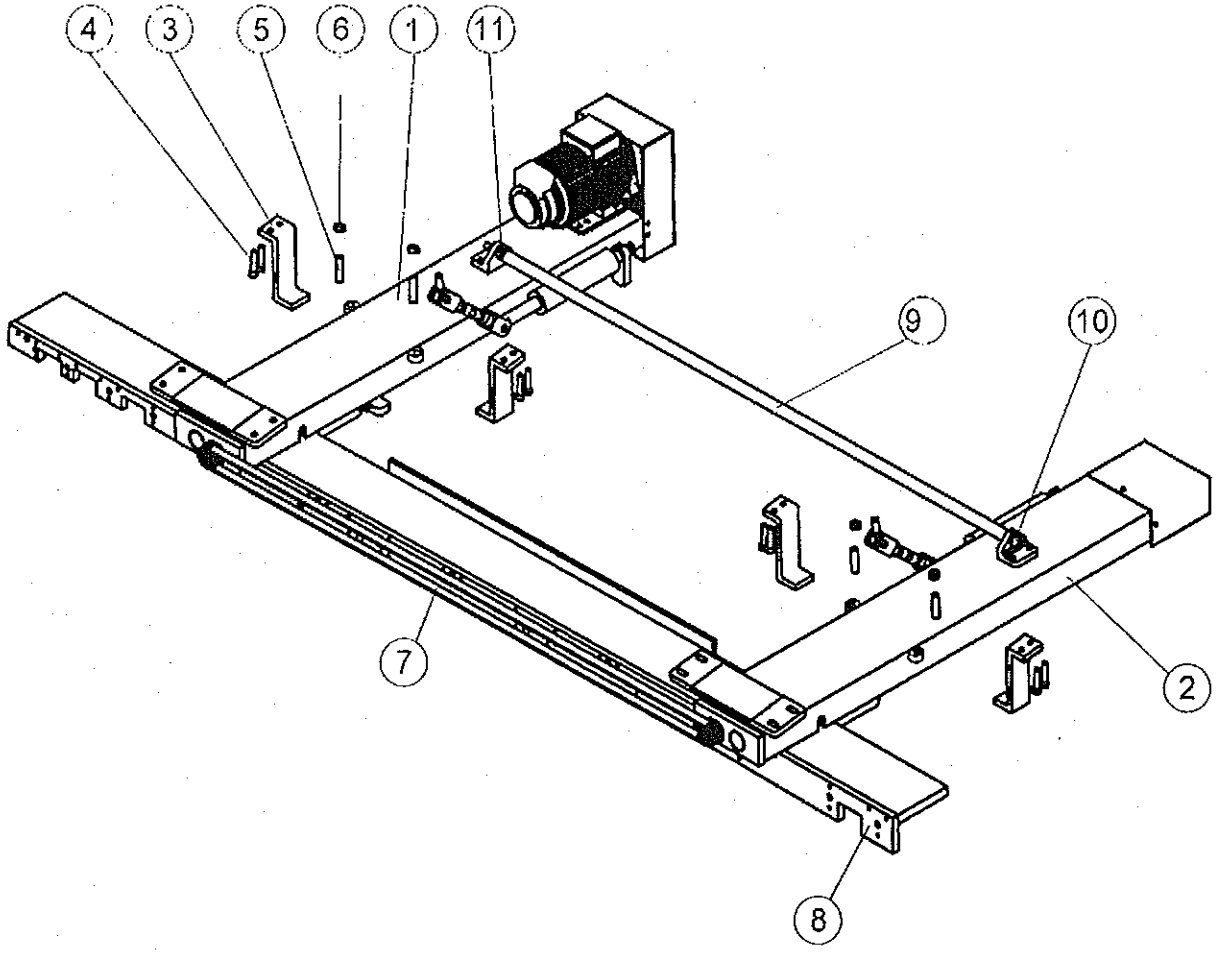
CNC HVR BACK GAUGE SYSTEM

NO	PART NAME	QTY	EXPLANATION
1	Brakes Motor	1	
2	Motor Pulley Group	1	1/2" - Z = 14
3	Synchronize Belt	1	
4	Entrance Pulley	1	1/2" - Z = 28
5	Screwed Shaft (Left)	1	
6	Screwed Shaft (Right)	1	
7	Transmission Pulley Group	2	1/2" - Z = 14
8	Bearing	2	3204
9	Security Sheet	2	MB4
10	Nut	2	KM4
11	Cover	2	
12	Bearing	2	6204 ZZ
13	Encoder Connection Shoe	1	
14	Encoder	1	
15	Coupling	1	
16	Guide Shaft	2	
17	Left Backgauge Body	1	
18	Right Backgauge Body	1	
19	Setscrew	2	
20	Nut	2	
21	Travelling Bearing Body (Left)	1	
22	Travelling Bearing Body (Right)	1	
23	Buffer Transporter Body (Left)	1	
24	Bolt	8	
25	Buffer Transporter Body (Right)	1	
26	Adjustment Shaft	2	
27	Adjustment Nut	2	
28	Bushing Cover	2	
29	Bolt	4	
30	Pulley Connection Shaft	2	

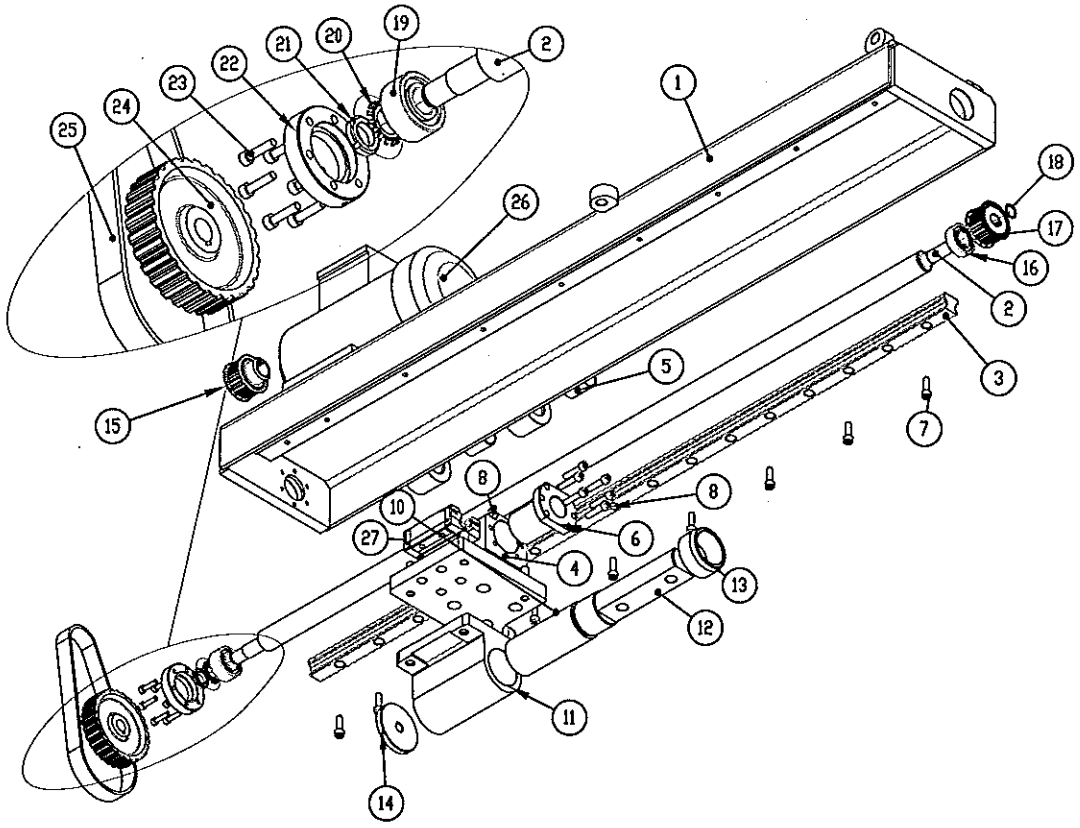
MODEL OF THE ACCORDING TO BACK GAUGE MOTORS AND BELT MEASUREMENT			
MACHINE TYPE	MOTOR	MOTOR BELT	TRANSMISSION BELT
CNC HVR 3100 - 6	0.75 kW 1500 d/d.	240 H-100 (b=25.4 mm.)	1400 H-100 (b=25.4mm.)
CNC HVR 3100 - 10	1.1 kW 1500 d/d.	240 H-100 (b=25.4 mm.)	1400 H-100 (b=25.4mm.)
CNC HVR 3100 - 13	1.1 kW 1500 d/d.	240 H-100 (b=25.4 mm.)	1400 H-100 (b=25.4mm.)
CNC HVR 3100 - 16	1.1 kW 1500 d/d.	240 H-100 (b=25.4 mm.)	1400 H-100 (b=25.4mm.)
CNC HVR 3100 - 20	1.1 kW 1500 d/d.	240 H-100 (b=25.4 mm.)	1400 H-100 (b=25.4mm.)
CNC HVR 3100 - 25	1.1 kW 1500 d/d.	240 H-100 (b=25.4 mm.)	1400 H-100 (b=25.4mm.)
CNC HVR 4100 - 6	0.75 kW 1500 d/d.	240 H-100 (b=25.4 mm.)	1400 H-100 (b=25.4mm.)
CNC HVR 4100 - 10	1.1 kW 1500 d/d.	240 H-100 (b=25.4 mm.)	1400 H-100 (b=25.4mm.)
CNC HVR 4100 - 13	1.1 kW 1500 d/d.	240 H-100 (b=25.4 mm.)	1400 H-100 (b=25.4mm.)
CNC HVR 4100 - 16	1.1 kW 1500 d/d.	240 H-100 (b=25.4 mm.)	1400 H-100 (b=25.4mm.)
CNC HVR 4100 - 20	1.1 kW 1500 d/d.	240 H-100 (b=25.4 mm.)	1400 H-100 (b=25.4mm.)
CNC HVR 4100 - 25	1.1 kW 1500 d/d.	240 H-100 (b=25.4 mm.)	1400 H-100 (b=25.4mm.)
CNC HVR 6100 - 6	1.1 kW 1500 d/d.	240 H-100 (b=25.4 mm.)	1700 H-100 (b=25.4mm.)
CNC HVR 6100 - 10	1.1 kW 1500 d/d.	240 H-100 (b=25.4 mm.)	1700 H-100 (b=25.4mm.)
CNC HVR 6100 - 13	1.1 kW 1500 d/d.	240 H-100 (b=25.4 mm.)	1700 H-100 (b=25.4mm.)
CNC HVR 6100 - 16	1.1 kW 1500 d/d.	240 H-100 (b=25.4 mm.)	1700 H-100 (b=25.4mm.)
CNC HVR 6100 - 20	1.1 kW 1500 d/d.	330 H-100 (b=25.4 mm.)	1700 H-100 (b=25.4mm.)
CNC HVR 6100 - 25	1.1 kW 1500 d/d.	330 H-100 (b=25.4 mm.)	1700 H-100 (b=25.4mm.)



NO.	PART NAME	PIECE	EXPLANATION
1.	Motor Driven Group	1	
2.	Driven Group	1	
3.	Adjusment L' s	4	
4.	Bolt	8	DIN 912
5.	Setscrew	4	
6.	Nut	4	DIN 934
7.	Time Strap	1	
8.	Tampon	1	
9.	Streching shaft	1	
10.	Bolt	1	DIN 912
11.	Nut	2	DIN 934



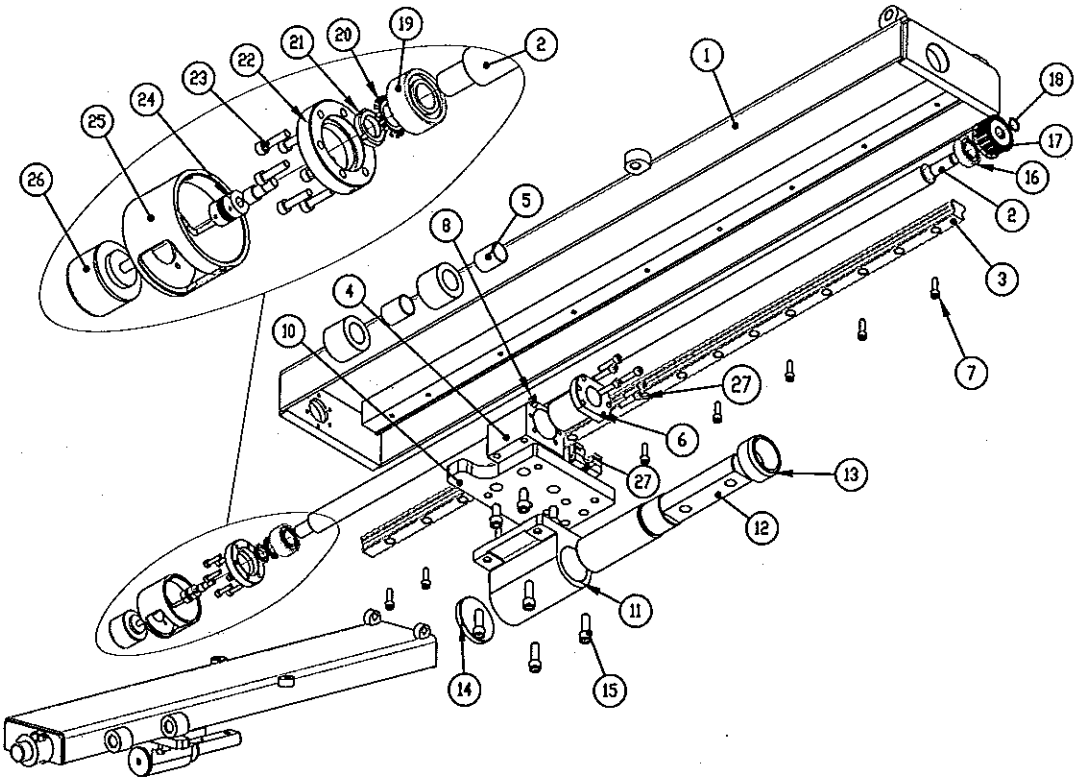
NO.	PART NAME	PIECE	EXPLANATION
1.	Motor Driven Group	1	
2.	Driven Group	1	
3.	Adjusment L' s	4	
4.	Bolt	8	DIN 912
5.	Setscrew	4	
6.	Nut	4	DIN 934
7.	Time Strap	1	
8.	Tampon	1	
9.	Streching shaft	1	
10.	Bolt	1	DIN 912
11.	Nut	2	DIN 934



NO	QTY	PART NAME	DRAWING NO/STANDARD	MATERIAL	STOCK NO
27	6	BOLT			
26	1	MOTOR 1.1 Kw			
25	1	BELT			
24	1	MOTOR PULLEY			
23	6	BOLT			
22	1	BEARING COVER			
21	1	SAFETY NUT			
20	1	SAFETY RING			
19	1	BEARING			
18	1	RING			
17	1	PULLEY			
16	1	BEARING			
15	1	PULLEY			
14	1	BUSH COVER			
13	1	ADJUSTMENT SHAFT NUT			
12	1	ADJUSTMENT SHAFT			
11	1	BACK GAUGE LIFTER			
10	1	MOVING MOUNTING BODY-2			
9	1	GUIDE			
8	1	GREASE FITTING			
7	10	BOLT			
6	1	SCREW BALL SHAFT NUT			
5	2	BUSHING			
4	1	MOVING MOUNTING BODY			
3	1	RAIL			
2	1	BALL SCREW LEFT			
1	1	LEFT BACK GAUGE BODY			

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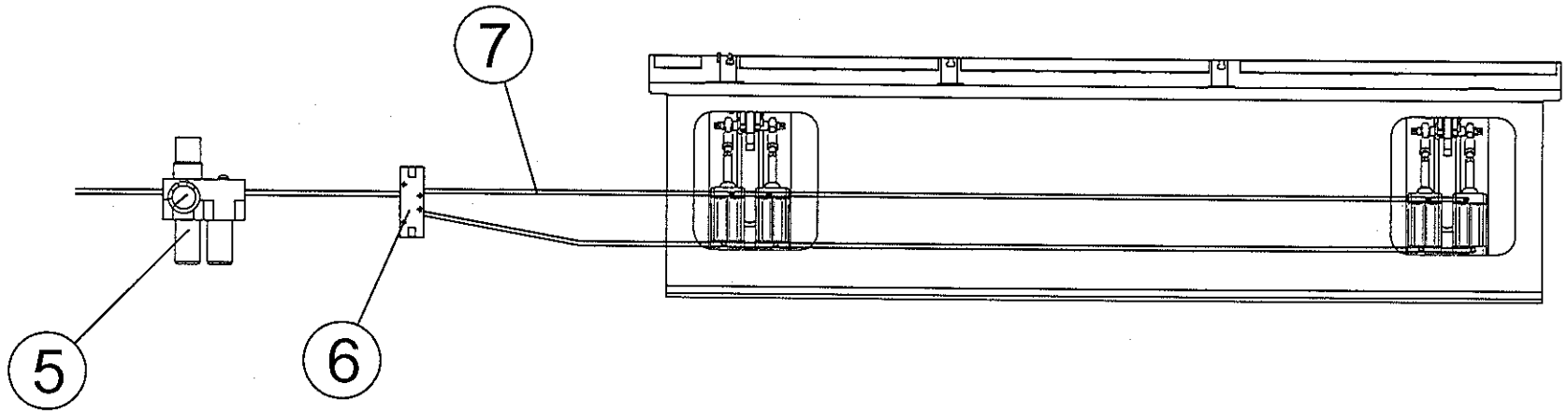
LEFT BACK GAUGE SYSTEM



NO	QTY	PART NAME	DRAWING NO/STANDARD	MATERIAL	STOCK NO
27	6	BOLT			
26	1	ENCODER			
25	1	ENCODER STABILIZER			
24	1	COUPLING			
23	6	BOLT			
22	1	BEARING COVER			
21	1	SAFETY NUT			
20	1	SAFETY RING			
19	1	BEARING			
18	1	RING			
17	1	PULLEY			
16	1	BEARING			
15	4	BOLT			
14	1	BUSH COVER			
13	1	ADJUSTMENT SHAFT NUT			
12	1	ADJUSTMENT SHAFT			
11	1	BACK GAUGE LIFTER			
10	1	MOVING MOUNTING BODY-1			
9	1	GUIDE			
8	1	GREASE FITTING			
7	10	BOLT			
6	1	BALL SCREWLİ MİL SOMUNU			
5	2	GRAFİTLİ BURÇ			
4	1	MOVING MOUNTING BODY			
3	1	RAIL			
2	1	BALL SCREW RIGHT			
1	1	RIGHT BACK GAUGE BODY			

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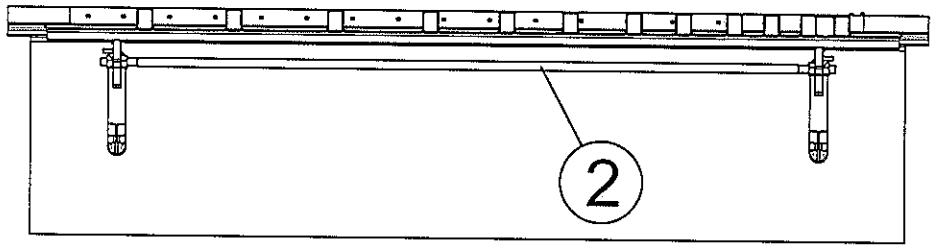
RIGHT BACK GAUGE SYSTEM

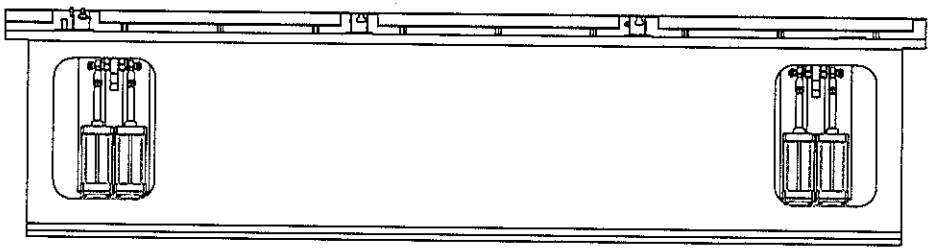


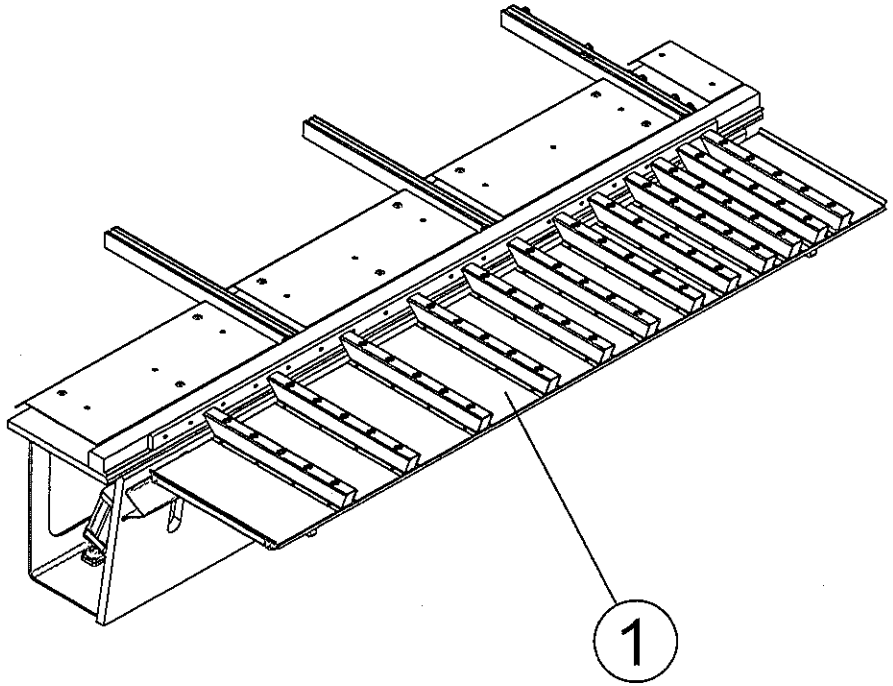
NO	PART NAME
7	PNAUMATIC HOSE
6	VALVE
5	PNAUMATIC SYSTEM CONDITIONER
4	PNAUMATIC CYLINDER
3	TABLE MOVING ARM
2	TENSION SHAFT
1	SHEET SUPPORT TABLE

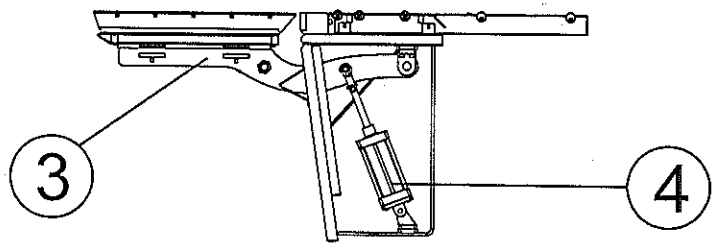
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HVR/HGD 10/.../13mm TABLE TYPE PNAUMATIC SHEET SUPPORT SYSTEM.









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HVR/HGD 10/.../13mm TABLE TYPE PNAUMATIC SHEET SUPPORT SYSTEM.

ALC 77P BATCH COUNTER



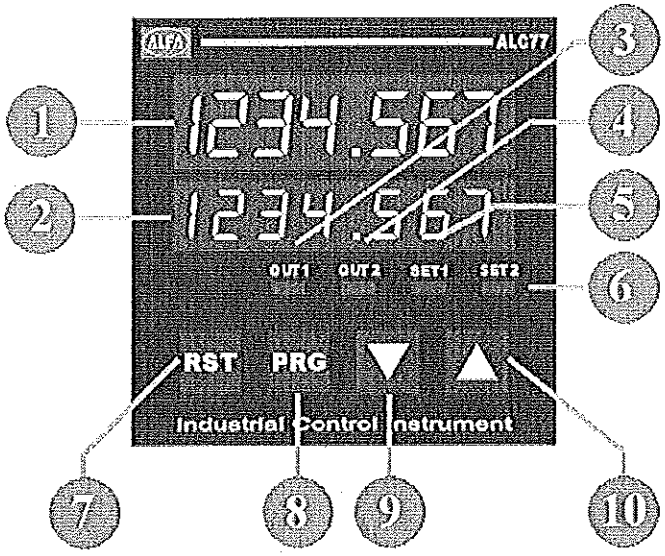
- 500 Hz max. Read Speed
- 2 lines, 7 digits display
- Counting Encoder A and B signals in quadrature mode.
- 2 double contact relays outputs
- Preset-1 may depend on Preset-2
- Prescale can be adjustable (0,000001 to 9999999)
- Decimal point can be select between 1. and 6. digits
- 5 VDC or 12 VDC encoder supply output
- 4 several output mode
- 8 several input mode
- Adds OFFSET to count value
- Password protection

Technical Specifications

Housing	
Dimensions	72 x 72 x 96 mm
Weight	400 gram
Box	Suitable for flush-panel mounting
Relative Humidity	80% up to 31°C decreasing linearly 50% at 40°C.
Operating Temperature	0 ile 50 ° C
Storage Temperature	-10 ile 60 ° C
Protection Class	IP 60 front panel, IP 20 rear panel
Electrical Characteristics	
Power Supply	230 VAC, 50 Hz 24 VAC or 24 VDC (depend on request)
Power Consumption	Max. 5,5 VA
Connections	2,5 mm² screw-terminals connection
Inputs	
Counting Frequency	5 Hz , 20 Hz , 100 Hz , 300 Hz , 500 Hz , 5 KHz
Input Channels	A, B counting inputs
Outputs	
Out-1 (Control Output)	Relay: 250 VAC, 3 A (for Resistive load) COM, NO and NC
Out-2 (Control Output)	Relay: 250 VAC, 3 A (for Resistive load) COM, NO and NC
Sensor Supply Output	5 VDC or 12 VDC, 200 mA

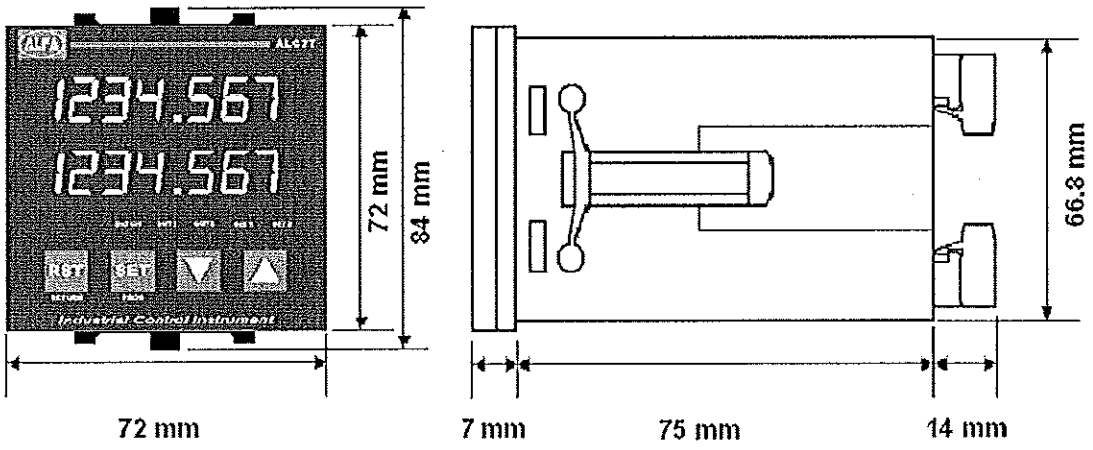
WARNING:

1. Use shielded sensor cable and connect shield to ground. Keep all signal cables away from circuit breakers, inductive loads, devices/cables emitting electrical noise and power cables.
2. Keep device away from circuit breakers, devices/cables emitting electrical noise and power cables. Take precautions against environmental conditions like humidity, vibration, pollution and high/low temperature during installation.
3. Use a fuse (i.e 220VAC) on supply input of the device. Use appropriate cables for supply connections. Apply safety regulations during installation.
4. While cleaning the device, solvents (thinner, benzine, acid etc.) or corrosive materials must not be used.
5. Do not use the device in locations subject to corrosive and flammable gases.

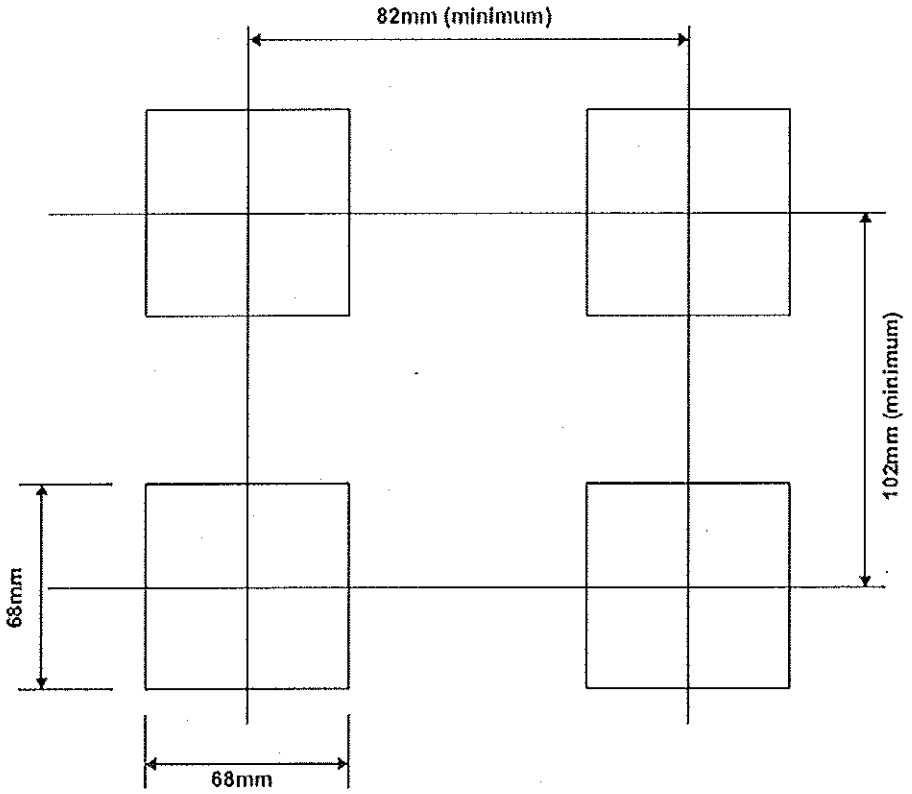


1. 7 Digits LED Display (9,2 mm): Counting value indicator (Counting Mode)
   Program parameter indicator (Programming Mode)
   7 Digit LED Display (7 mm): Set value indicator (Counting Mode)
   Program parameter value indicator (Programming Mode)
2. Out-1 output indicating LED: It indicates the state of Out-1 output.
3. Out-2 output indicating LED: It indicates the state of Out-2 output.
4. Set-1 indicating LED: It flashes when it is showed the Set-1 value in lower display.
5. Set-2 indicating LED: It flashes when it is showed the Set-2 value in lower display..
6. RESET Button (Counting mode): It is used to Reset the counting value.
   RETURN Button (Programming mode): It is used to return back without saving the entering parameter.
8. SET Button (Counting Mode): It is used for entering to programme.
   PROG Button (Programming mode):It is used to enter to selected parameter and save the value.
9. (Counting Mode): It is used to show the Set-1 value in lower display.
   (Programming mode): Decrement or parameter selection key.
10. (Counting Mode): It is used to show the Set-2 value in lower display.
    (Programming mode Increment or parameter selection key.

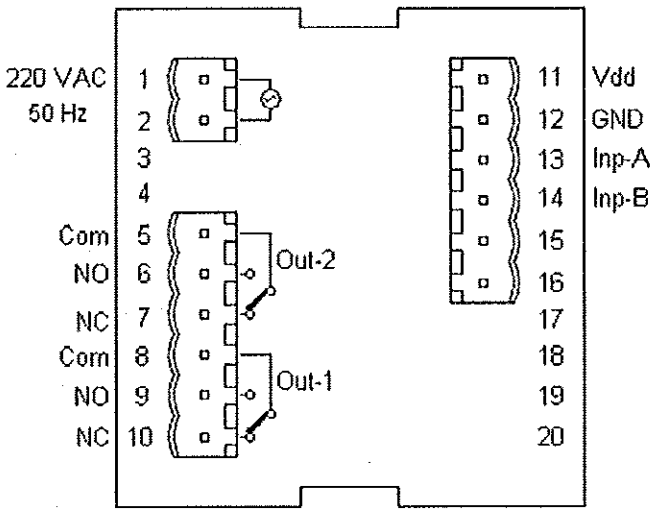
DIMENSIONS:



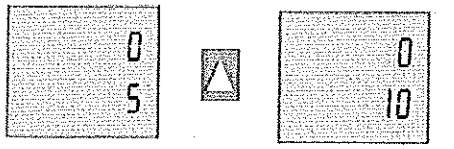
PANEL CROSS-SECTION:



CONNECTION DIAGRAM :



MENU SETTINGS:



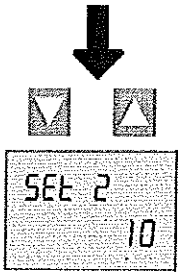
Counter and SET-1 Value

Counter and SET-2 Value

1. At the first switching of the device there will accure '0' value in the upper display and '5' in the lower display according to manifactoring settings. (upper display: counting value, lower display: SET-1 value.) Pressing (▲) button will be changed the lower displays value and it will be '10'. It is the SET-2 value. görülür.

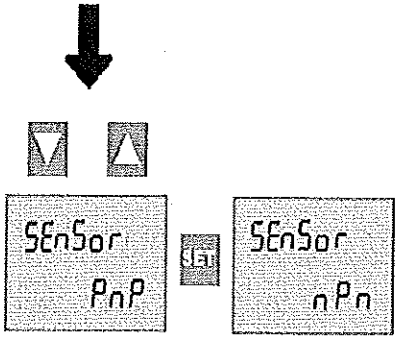


2. Press SET button to pass the PROGRAMME MODE and to select the MENU.

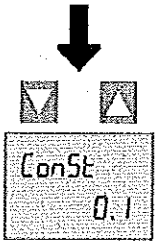


3. To change the parameter find the menu by (▲) and (▼) buttons and press SET (SET) button.

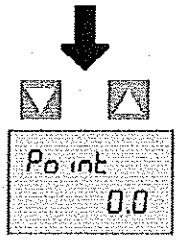
SET-1 ve SET-2 values designate the time of the output of OUT-1 ve OUT-2.



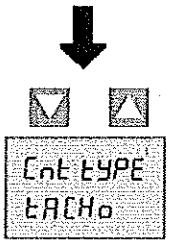
4. SENSOR MENU determine the sensor type. NPN and PNP Sensor types are the alternatives. NPN sensors increase the counter per decreasing side (↓) and PNP sensors makeit per increasing side (↑). Please look at NOTE 2.



5. CONSTANT: This menu multiplies the result with a constant. It can be set up between 000.1 and 999.



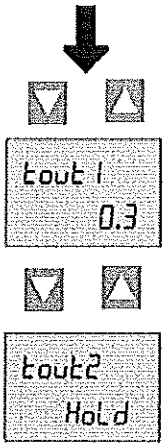
6. POINT: Decimal section. To select the section of the decimal degree. 3 Degree can be occure on the display after the point. (0-0,000)



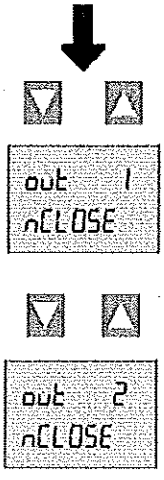
7. COUNT TYPE To select parameter of the counting type of the device. The Parameters are TACHO, RATIO, DIFFER, SPEED, INTERVAL, PULSE, COUNT_CYC and COUNT_PUL.You can see the details InPut Modes.



8. OUTPUT To select the output types.Output types including information about the working of the relays.There are 4 types of output modes. Please look at the OUTPUT MODES for the details



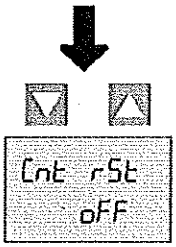
9. TIME OUT-1 and TIME OUT-2 Menus definite thetime of the relays. The unit is minute with decimal degrees. The manifactoring setting is TOUT-1 0,3minutes. If you set it to 0,0 value, it will be HOLDED. It can be reseted by (RESET) button.



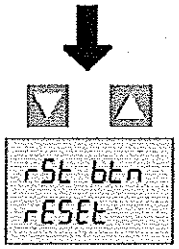
10. OUT-1 and OUT-2 Menus definite the types of the relays. There are 2 types working.Normalopen and normalclose..



11. INPUT FREQ Menu definites the input frequency. The parameter of input frequency supplies the leachings of the PALS over the determined. 100 Hz, 500 Hz, 1000 Hz, 2000 Hz ve 5000 Hz are the alternatives. If the 100 Hz frequency is sellected, the frequencies over than 100 Hz will not be accounted.



12. COUNTER RESET Menu, It lets the counter RESET. When it is on OFF (oFF) button can't reset the counter.When the parameter is on ON it can reset the counter if you push during 2 seconds.



13. RESET BUTON Menu, makes the RESET (rSt) button actiive or passive.
RESET: Active possition.
NORESET: Passive Possition



14. RESET INPUT Menu includes external reseting parameters.
RISE: Reseting on the increasing side.
FALL: Reseting on the decreasing side.
NO RESET: Passive external reseting.

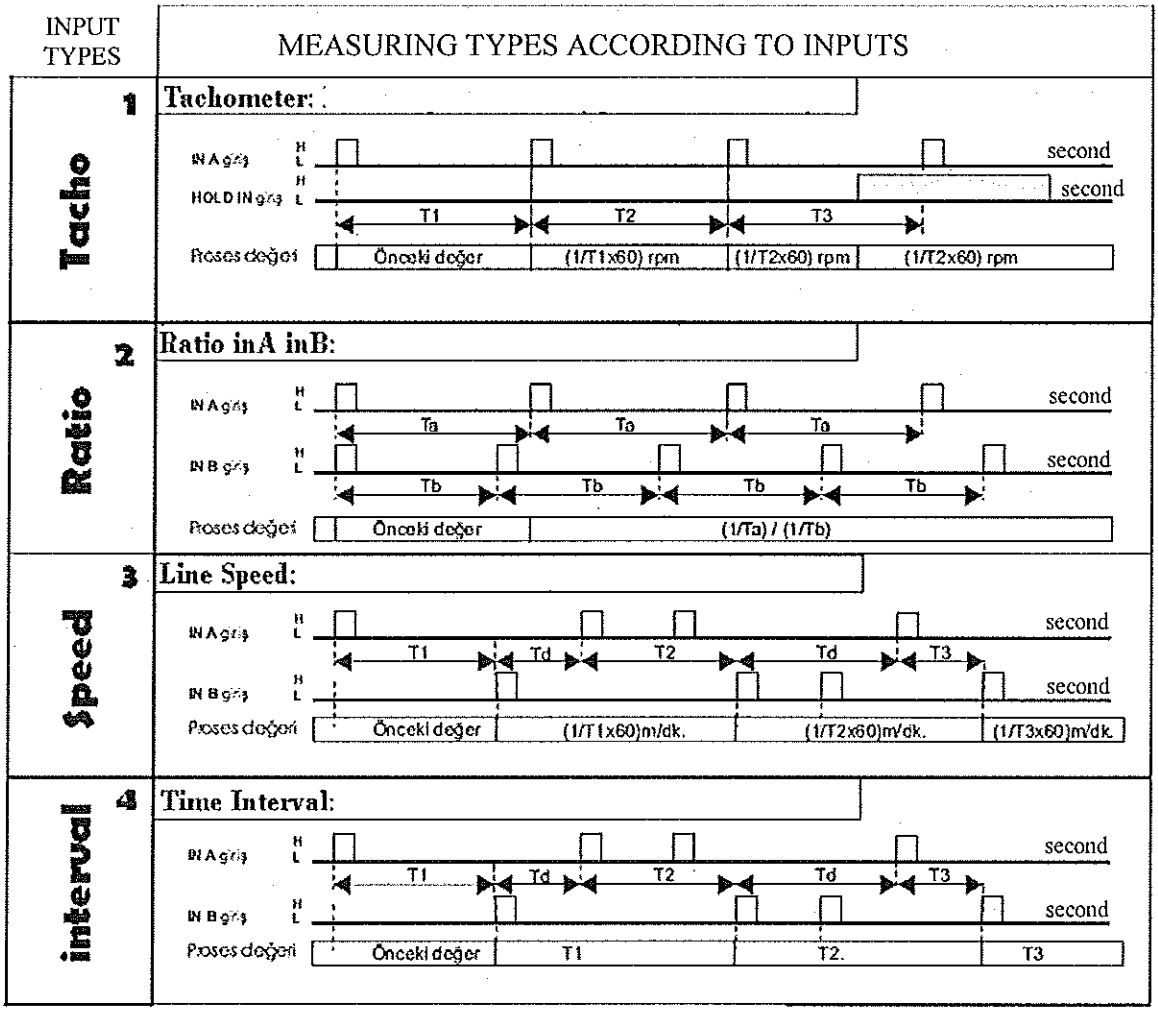
NOTS:

1. **Setting of SET-1 and SET-2 values:** The device is on the COUNTER MODE at first switching. Please enter the MENU mode by pushing SET button. The first menu is Set-1. You can pass other the menus by ▲-▼ buttons. While the SET-1 menu occures on the display you can make changes by pressing SET button. By this way you will see that the first degree of the SET-1 sings.You can SET the selected degree by ▲-▼ buttons and please SET button to pass other degree. All the degrees can be set by this way. Not to change the degree please press SET to pass other one. After the last degree The New SET-1 value will be saved.

   You can set SET-2, TOUT-1 and TOUT-2 values by the same way.

2. **Selection of the Other Menus' Parameters:** Please pass to the menu which belongs to parameter you want to changeby using ▲-▼ buttons. You can enter the menu by pressing SET button. To definite the parameter please use the ▲-▼ buttons and press SET button.
   For Example: To use NPN sensor type please press SET to pass PROGRAMME MODE. Find the SENSOR TYPE menu by using ▼ button. To enter the menu please press SET button. Please SET button again after finding the NPN alternative to save the selection.

INPUT TYPES:

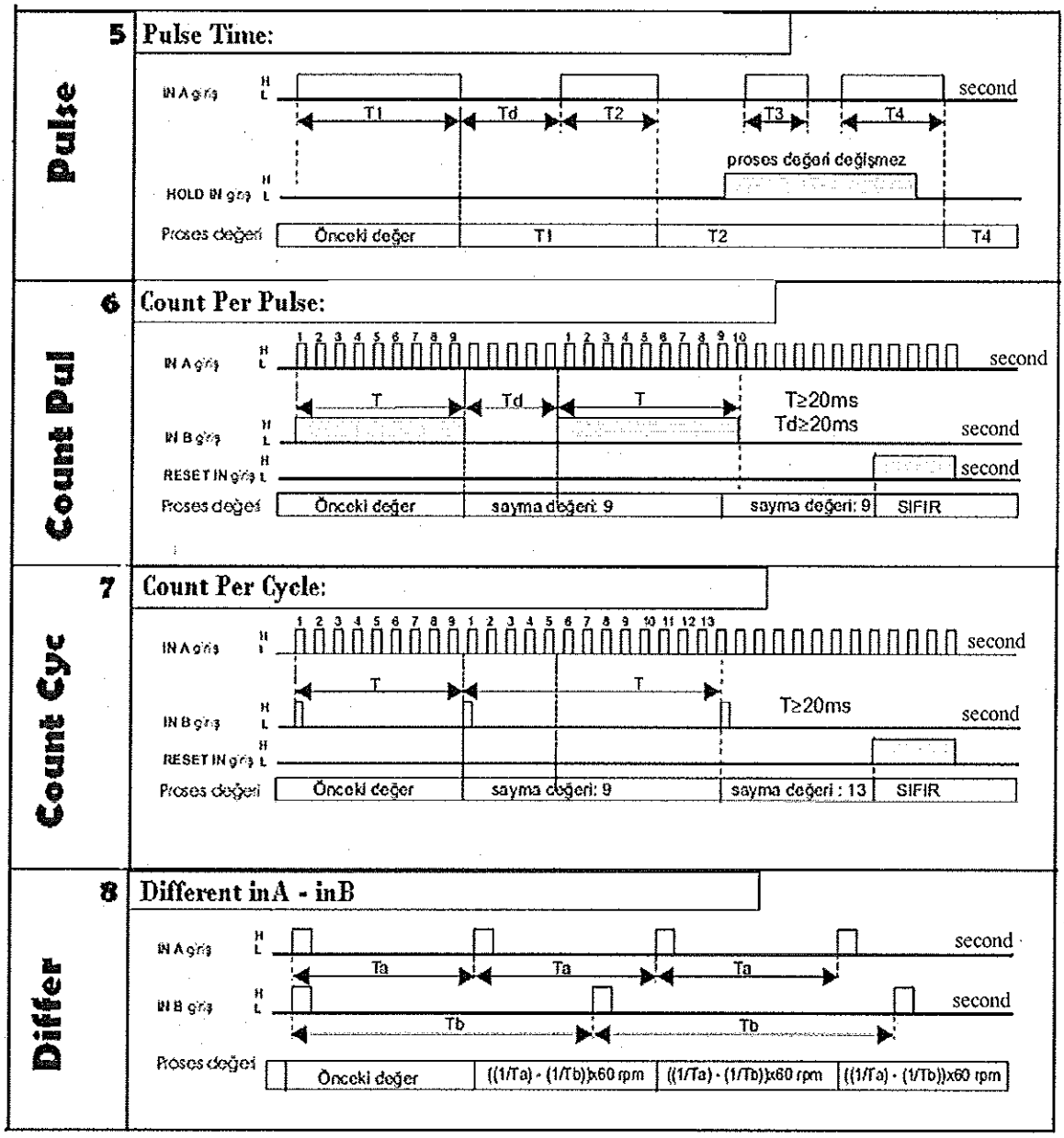


1.Tachometer: The sensor turns the signals on A input to frequancy and gives to the display.

2.Ratio inA inB: The sensor gives the ratio of A and B signals.

3.Line Speed: It gives the displacement to the display.

4.Time interval: It gives the time to the display between A Start Sensor and B Finish Sensor.



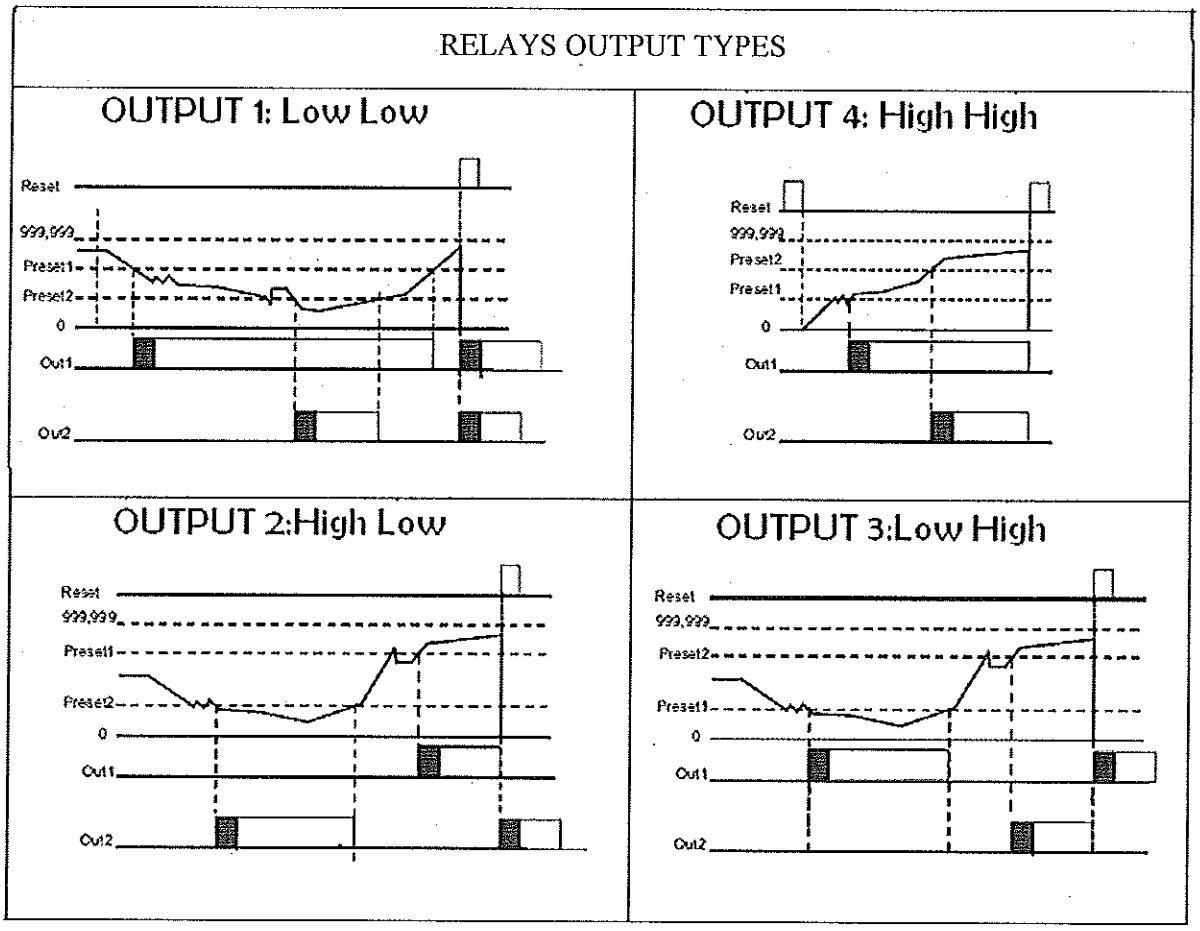
5.Pulse Time: The wideness of the A start signal is written to the display by unit second.

6.Count Per Pulse: The pals of A input pals are counted during the signal is present at the B input. When the B input signal disappears, the counted pals value occures on the display.

7.Count Per Cycle: The number of the A input pals occurs on the display per cycles of the pals B input.

8.Different inA inB: The arithmetic differance of the period A input and period B input occures on the display.

OUTPUT TYPES:



OUTPUT 1: (LOW LOW)

Relay 1 gives Output when the counter is below the SET1 value.
Relay 2 gives Output when the counter is below the SET1 value.

OUTPUT 2: (HIGH LOW)

Relay 1 gives Output when the counter is over the SET1 value.
Relay 2 gives Output when the counter is below the SET1 value.

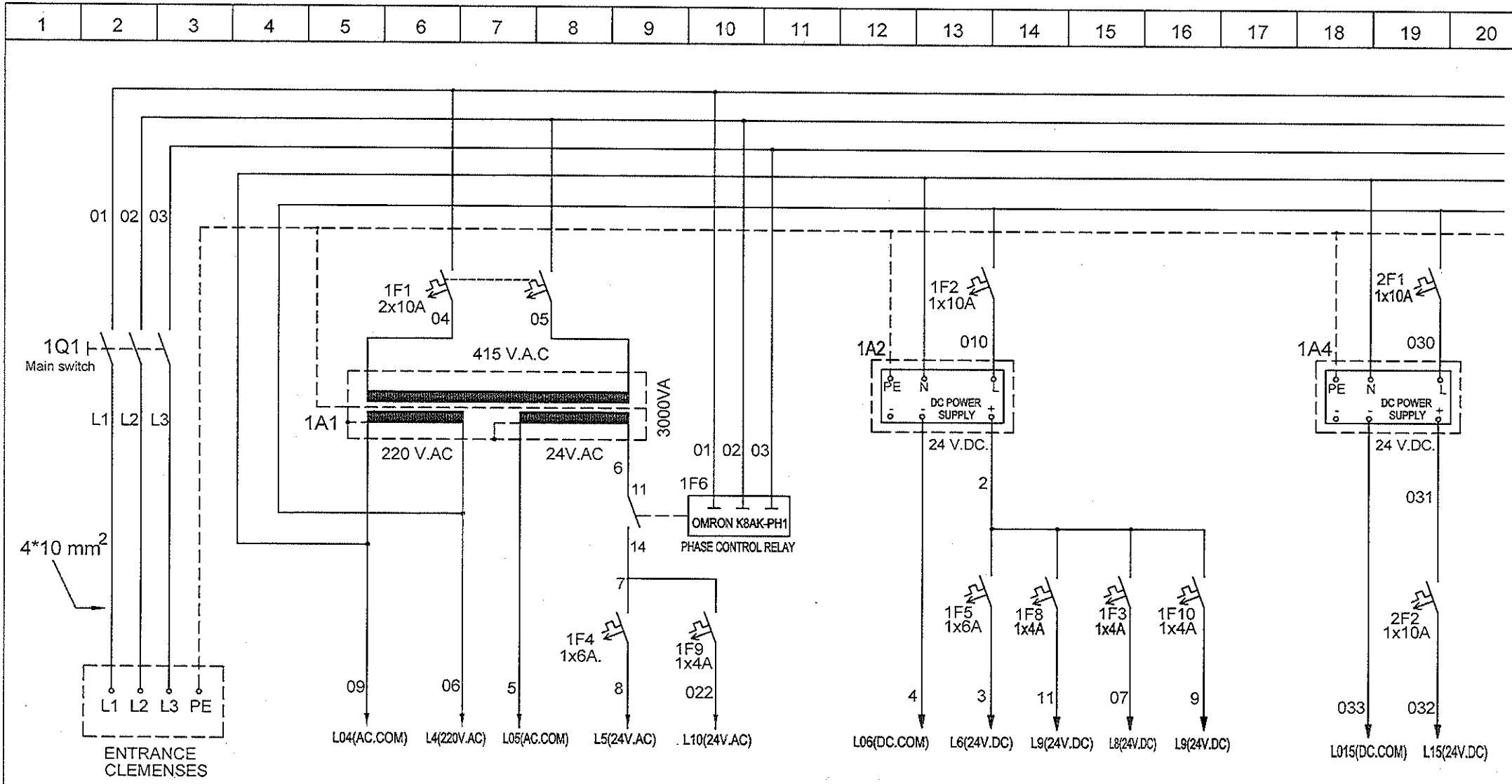
OUTPUT 3: (LOW HIGH)

Relay 1 gives Output when the counter is below the SET1 value.
Relay 2 gives Output when the counter is over the SET1 value.

OUTPUT 4: (HIGH HIGH)

Relay 1 gives Output when the counter is over the SET1 value.
Relay 2 gives Output when the counter is over the SET1 value.

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Tel : 0216 3994404 pbx Fax : 0216 399 44 02
Web: www.alfasanayi.com e-mail: info@alfasanayi.com

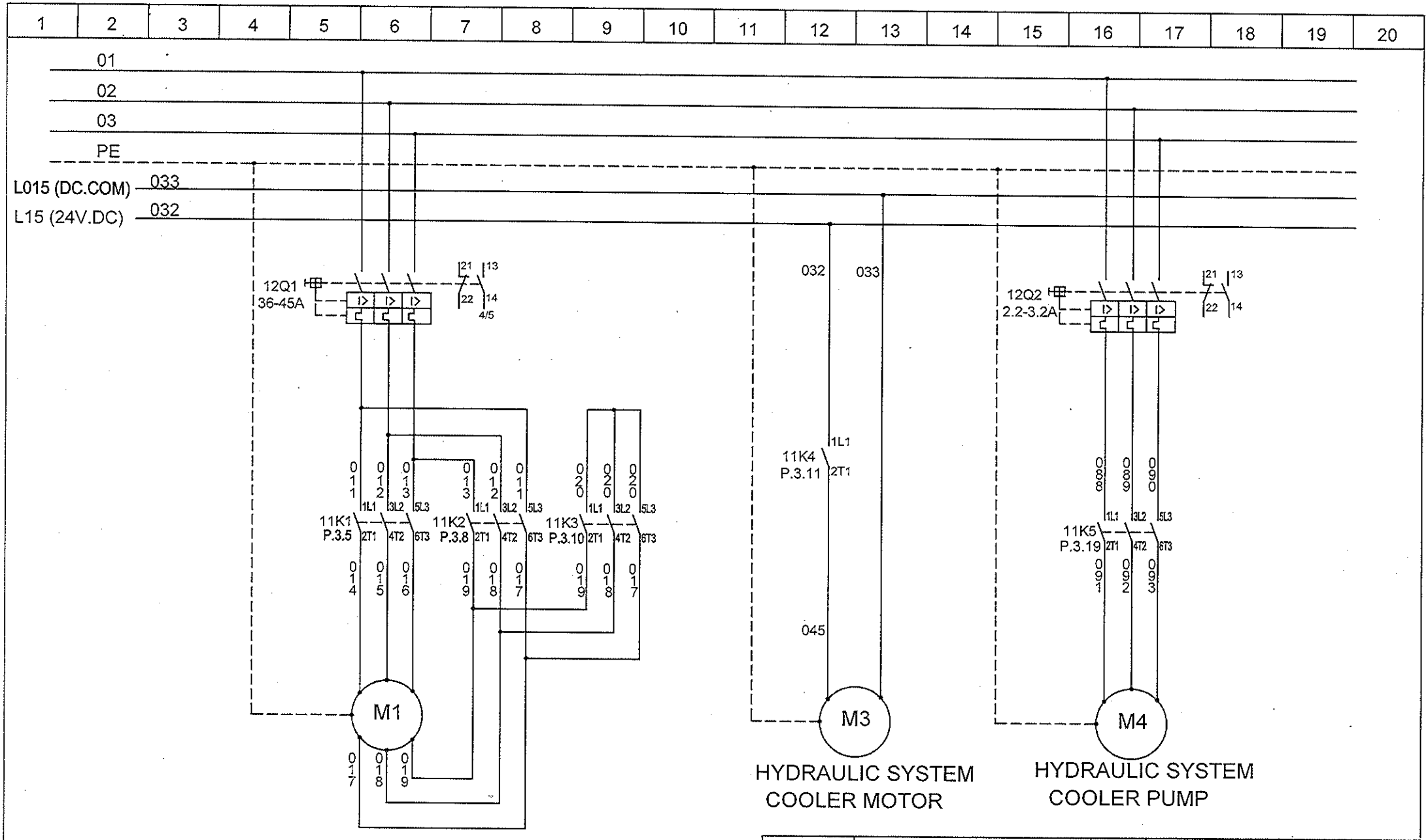


SUPPLY: 415V 50Hz 3Ph PE
NOMINAL CURRENT: 50A
ENTRANCE CABLE: 4*10 mm^2

Black Cable : 415V
Black Cable : 220V

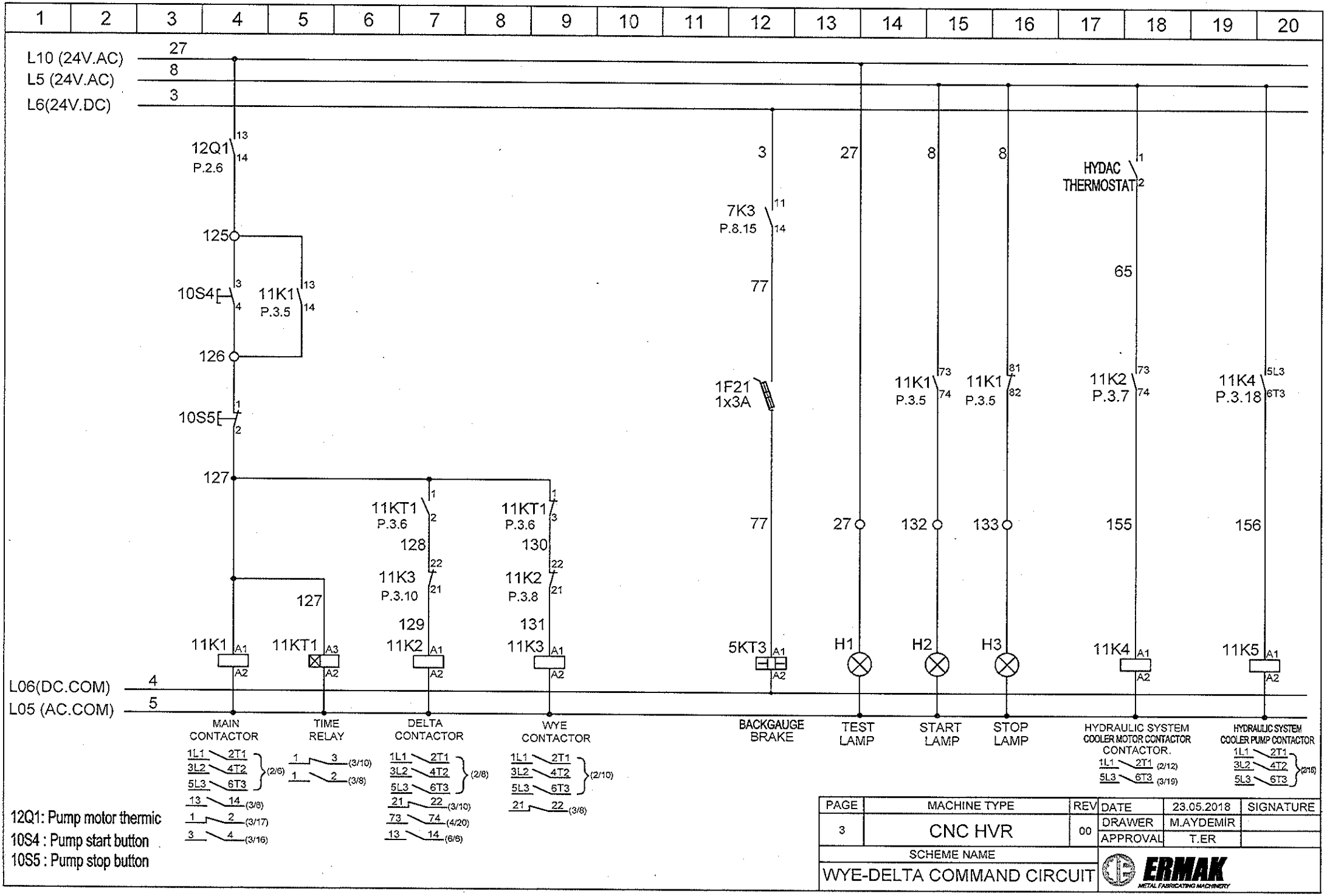
Red Cable : 24V.AC
Blue Cable : 24V.DC

PAGE	MACHINE TYPE	REV	DATE	23.05.2018	SIGNATURE
1	CNC HVR	00	DRAWER	M.AYDEMİR	
			APPROVAL	T.ER	
SCHEME NAME					
POWER CIRCUIT			ERMAK METAL FABRICATING MACHINERY		

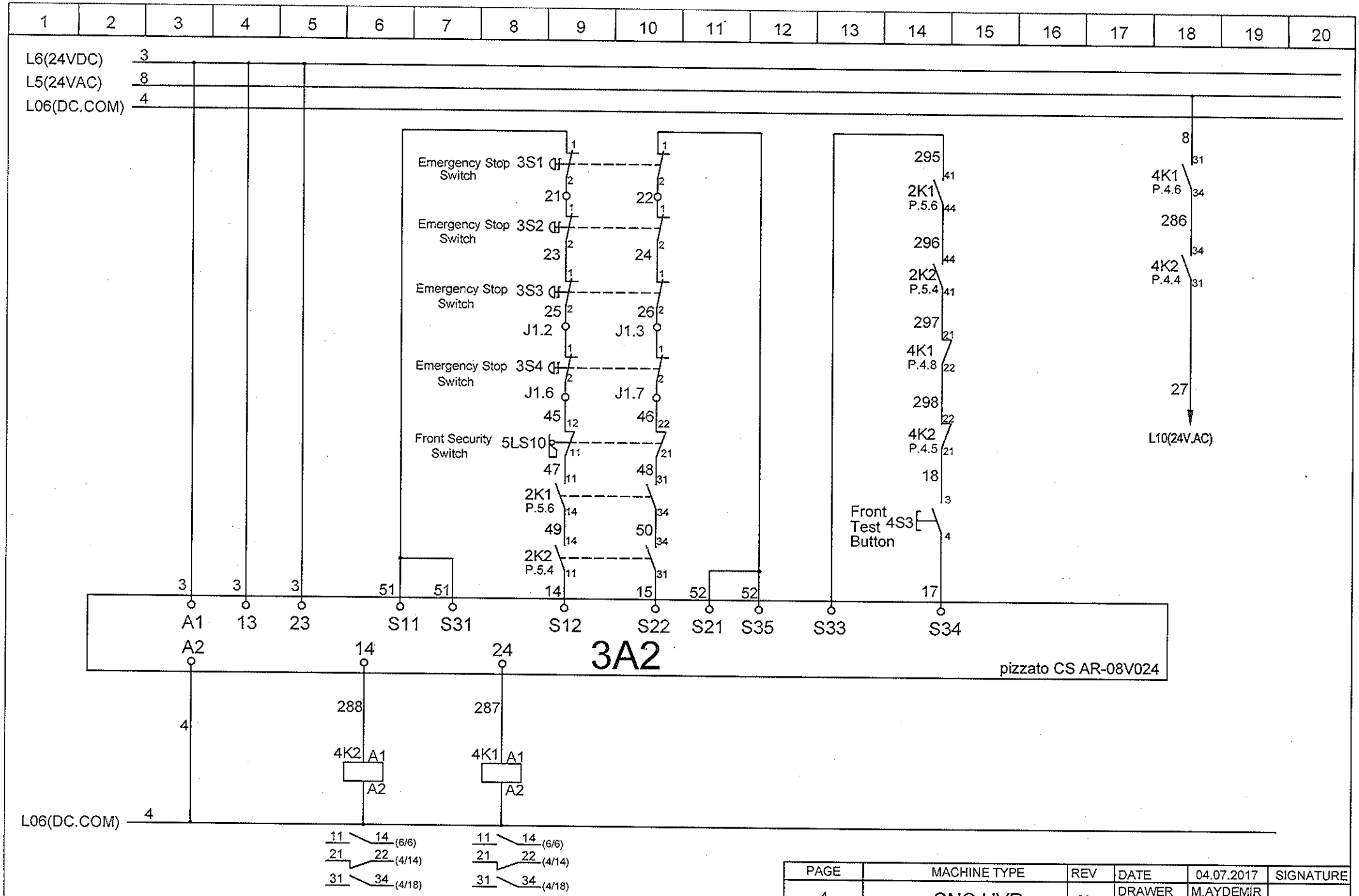


PAGE	MACHINE TYPE	REV	DATE	23.05.2018	SIGNATURE
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			APPROVAL	T.ER	
SCHEME NAME					
MOTOR POWER CIRCUIT					

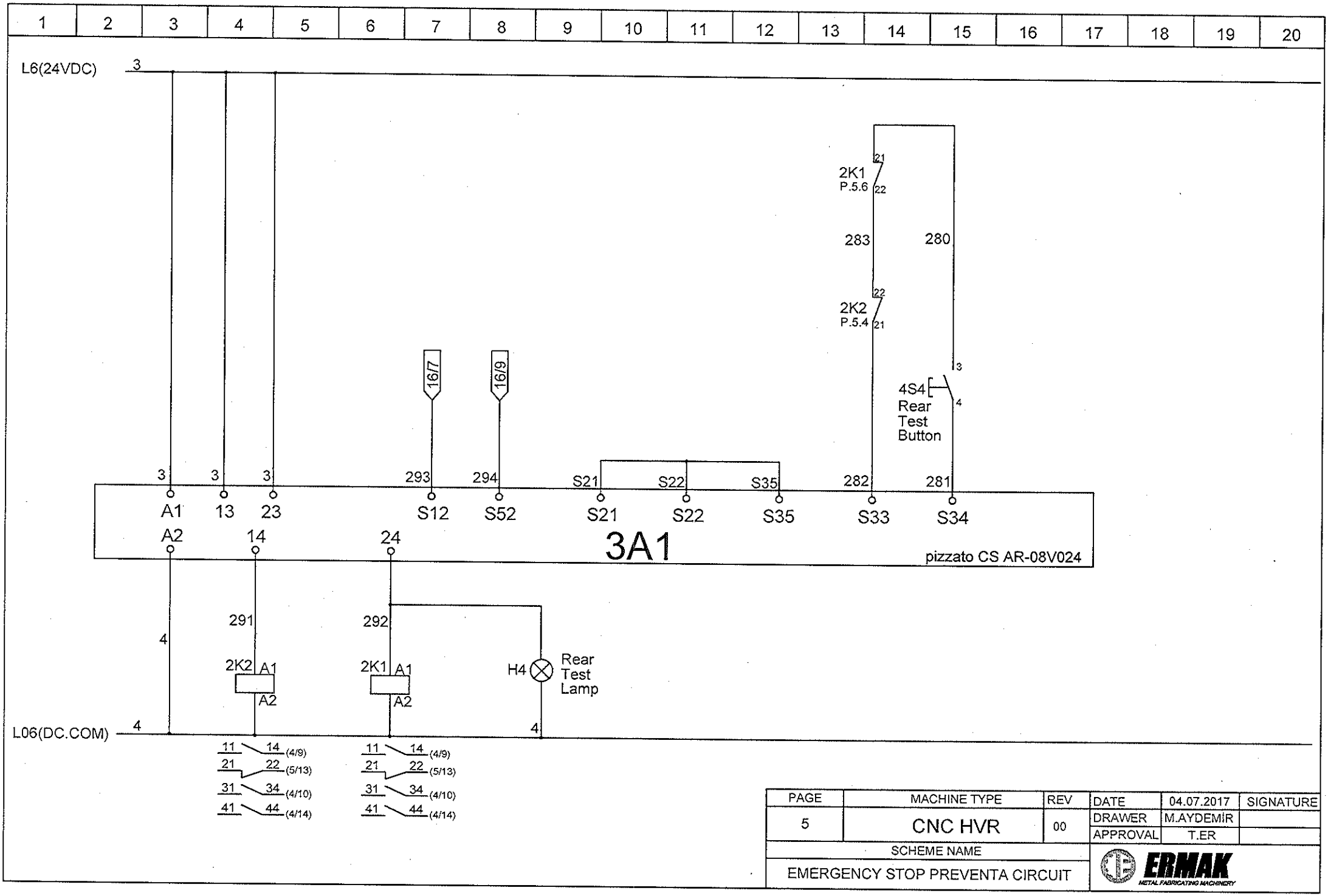
ERMAK
METAL FABRICATING MACHINERY

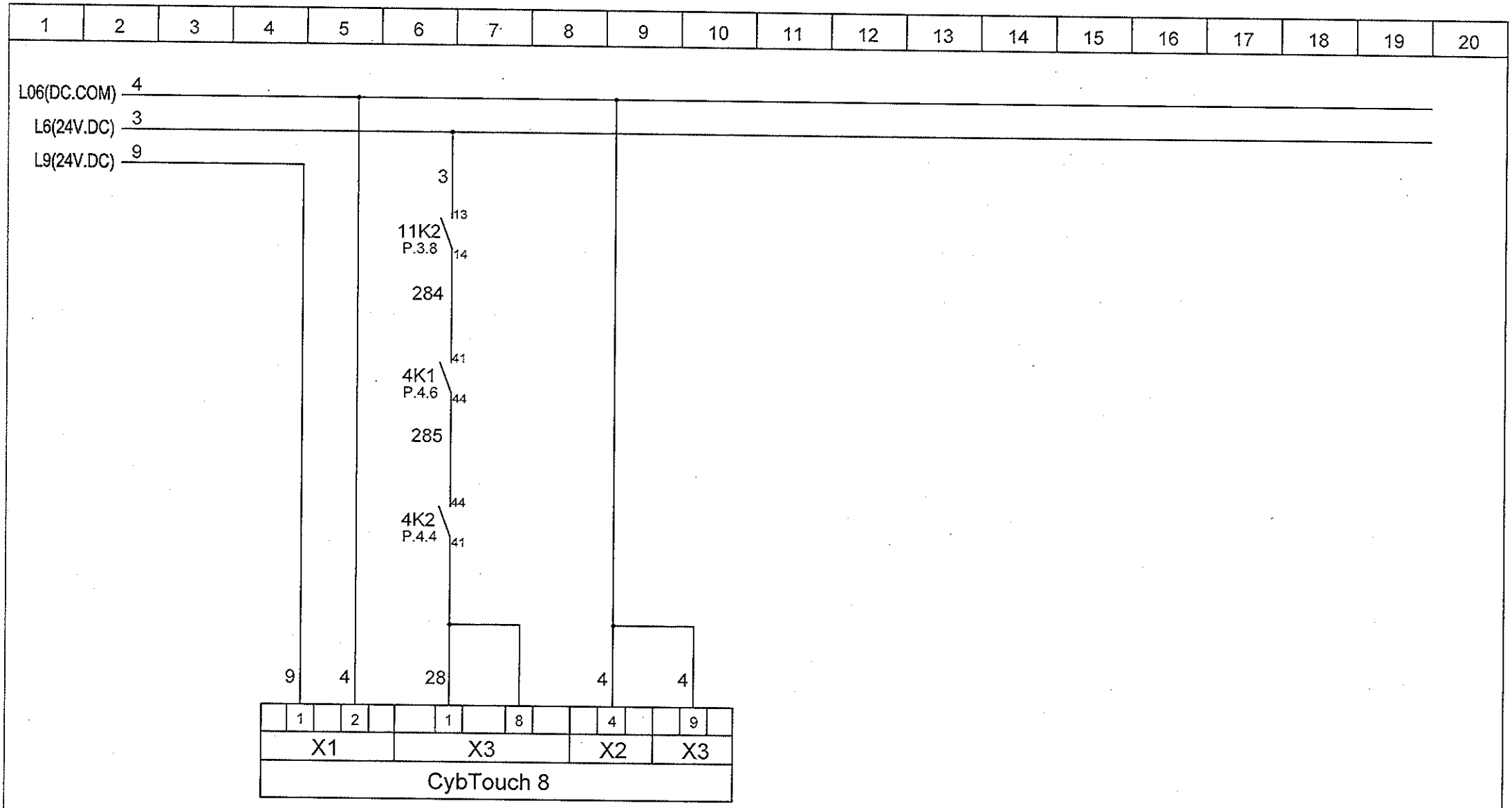


PAGE	MACHINE TYPE	REV	DATE	23.05.2018	SIGNATURE
3	CNC HVR	00	DRAWER	M.AYDEMIR	
			APPROVAL	T.ER	
SCHEME NAME			ERMAK METAL FABRICATING MACHINERY		
WYE-DELTA COMMAND CIRCUIT					



PAGE	MACHINE TYPE	REV	DATE	04.07.2017	SIGNATURE
4	CNC HVR	00	DRAWER	M.AYDEMİR	
			APPROVAL	T.ER	
SCHEME NAME					
EMERGENCY STOP PREVENTA CIRCUIT			ERMAK METAL FABRICATING MACHINERY		


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
L6(24VDC)
3
2K1
P.5.6
21
22
283
280
2K2
P.5.4
22
21
16/7
16/9
4S4
Rear
Test
Button
3
4
3 3 3 293 294 S21 S22 S35 282 281
A1 13 23 S12 S52 S21 S22 S35 S33 S34
A2 14 24
3A1
pizzato CS AR-08V024
291
292
4
2K2 A1
A2
2K1 A1
A2
H4
Rear
Test
Lamp
L06(DC.COM)
4
4
11 14 (4/9)
21 22 (5/13)
31 34 (4/10)
41 44 (4/14)
11 14 (4/9)
21 22 (5/13)
31 34 (4/10)
41 44 (4/14)
PAGE
5
MACHINE TYPE
CNC HVR
REV
00
DATE
04.07.2017
SIGNATURE
DRAWER
M.AYDEMİR
APPROVAL
T.ER
SCHEME NAME
EMERGENCY STOP PREVENTA CIRCUIT
ERMAK
METAL FABRICATING MACHINERY



CONTROLLER
24V DC
POWER SUPPLY

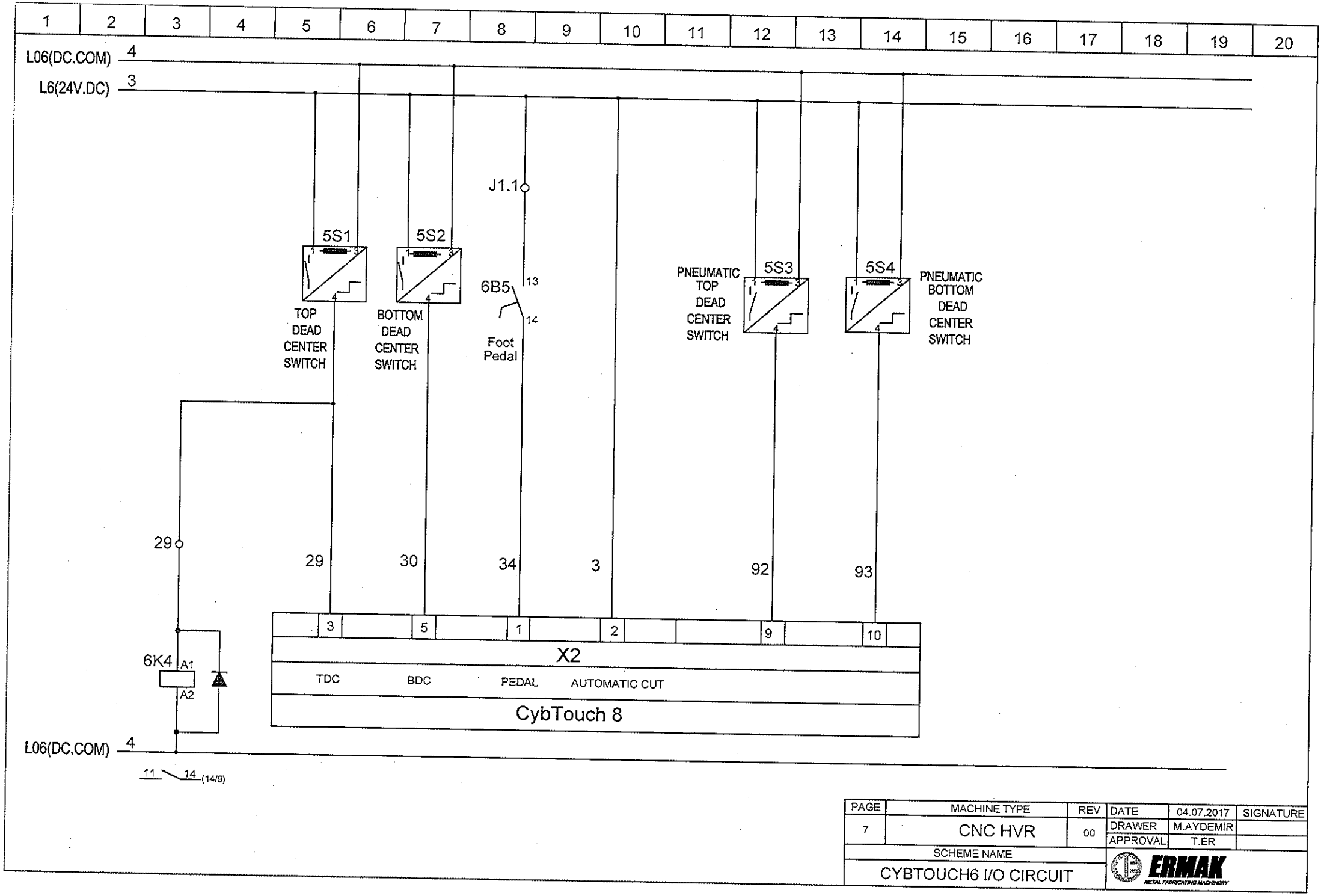
I / O
24V DC
POWER SUPPLY

PAGE	MACHINE TYPE	REV	DATE	04.07.2017	SIGNATURE
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			APPROVAL	T.ER	

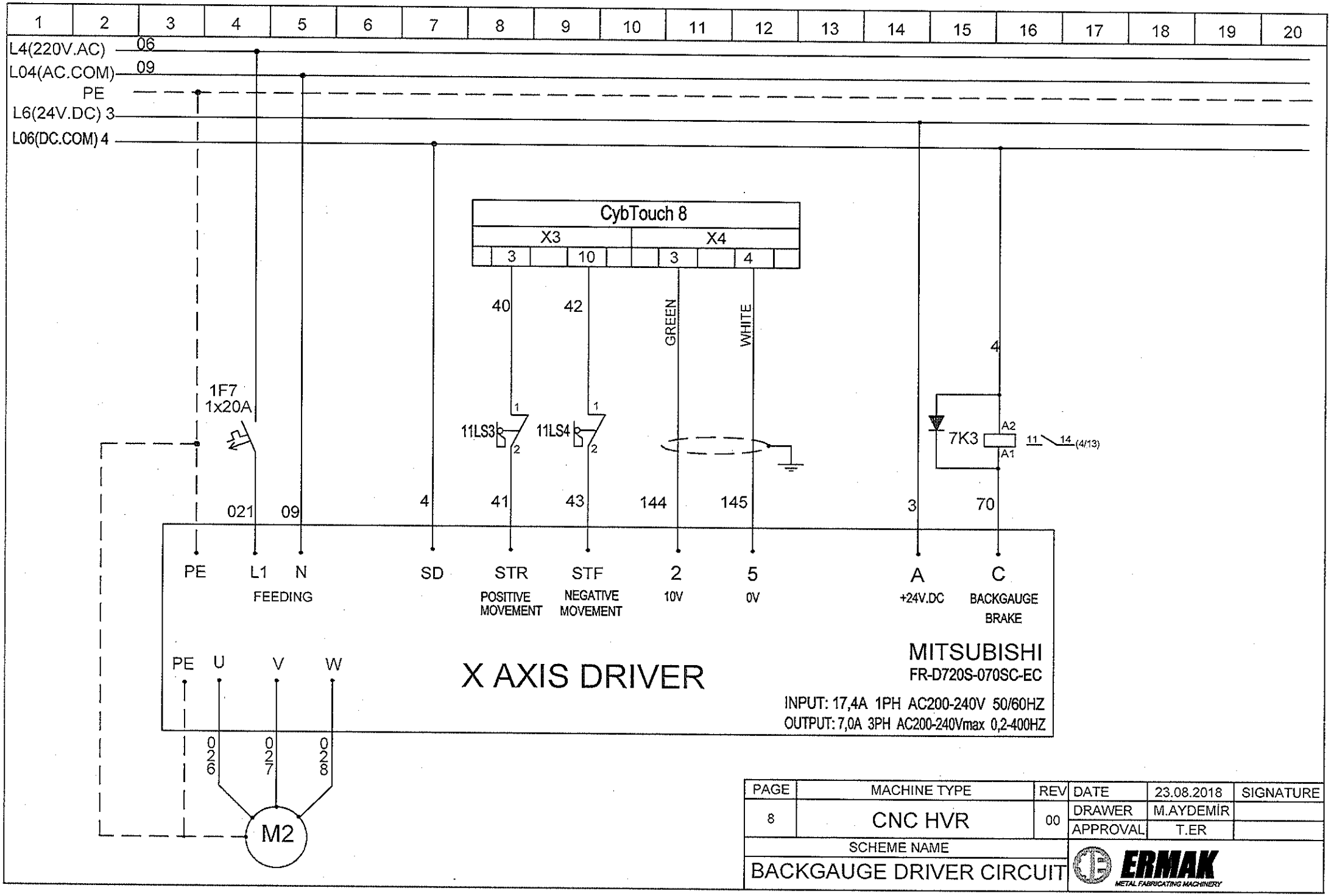
SCHEME NAME

CYBTOUCH6 FEEDING CIRCUIT

ERMAK
METAL FABRICATING MACHINERY



PAGE	MACHINE TYPE	REV	DATE	04.07.2017	SIGNATURE
7	CNC HVR	00	DRAWER	M.AYDEMİR	
			APPROVAL	T.ER	
SCHEME NAME					
CYBTOUCH6 I/O CIRCUIT			ERMAK METAL FABRICATING MACHINERY		

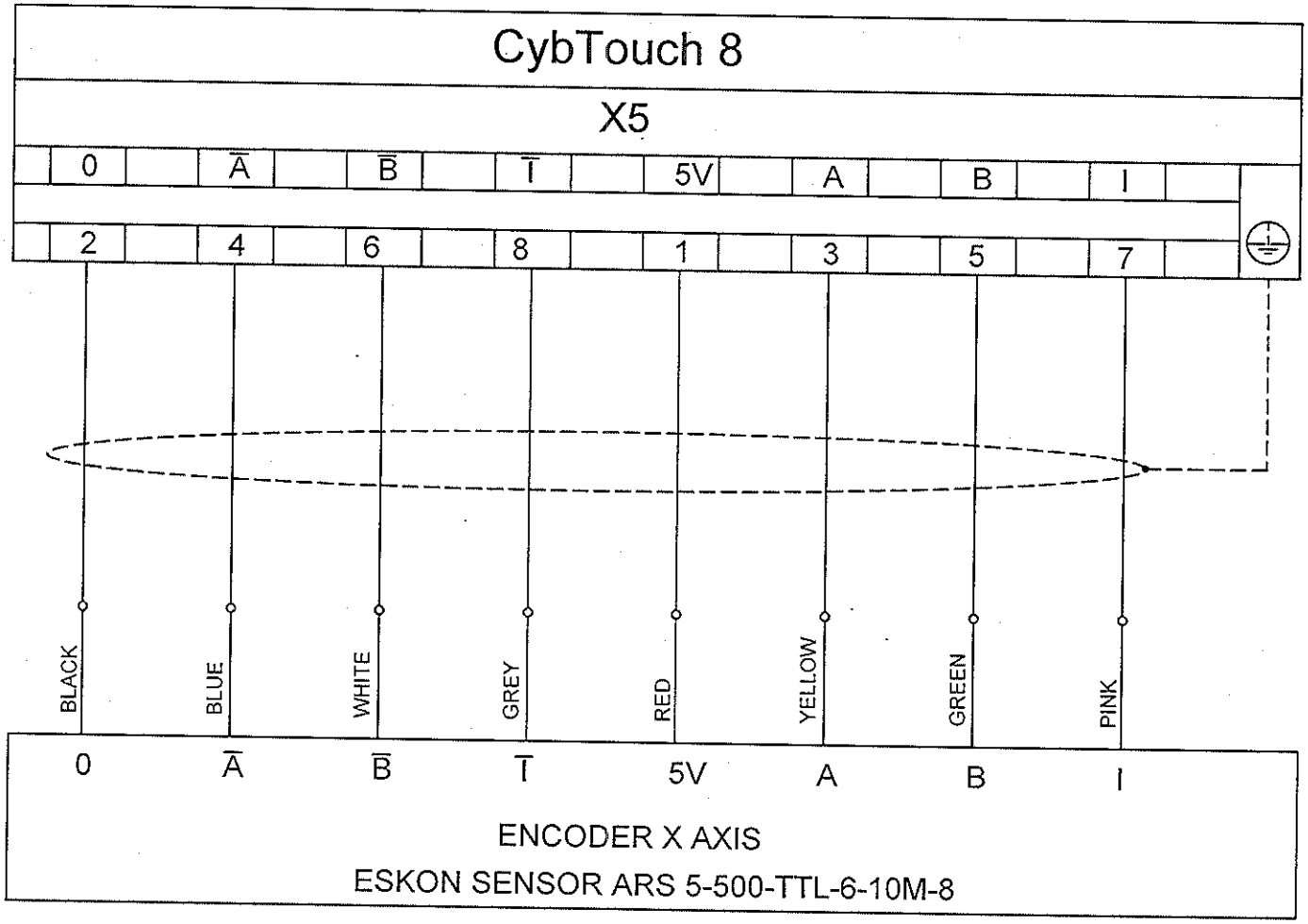


PAGE	MACHINE TYPE	REV	DATE	23.08.2018	SIGNATURE
8	CNC HVR	00	DRAWER	M.AYDEMİR	
			APPROVAL	T.ER	

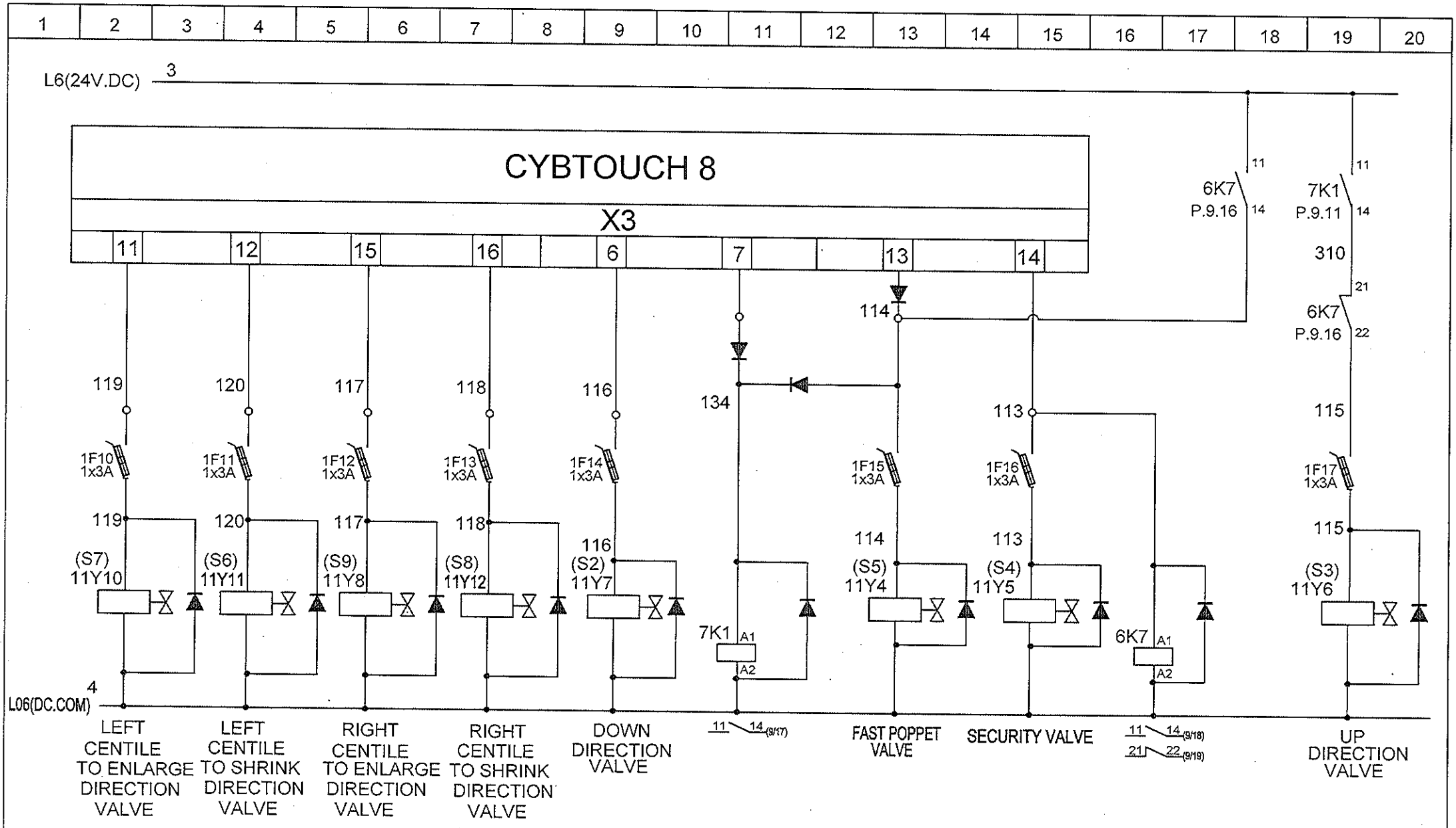
SCHEME NAME

BACKGAUGE DRIVER CIRCUIT

ERMAK
METAL FABRICATING MACHINERY



PAGE	MACHINE TYPE	REV	DATE	04.07.2017	SIGNATURE
8A	CNC HVR	00	DRAWER	M.AYDEMİR	
			APPROVAL	T.ER	
SCHEME NAME			ERMAK METAL FABRICATING MACHINERY		
CYBTOUCH6 ENCODER INPUT CIRCUIT					

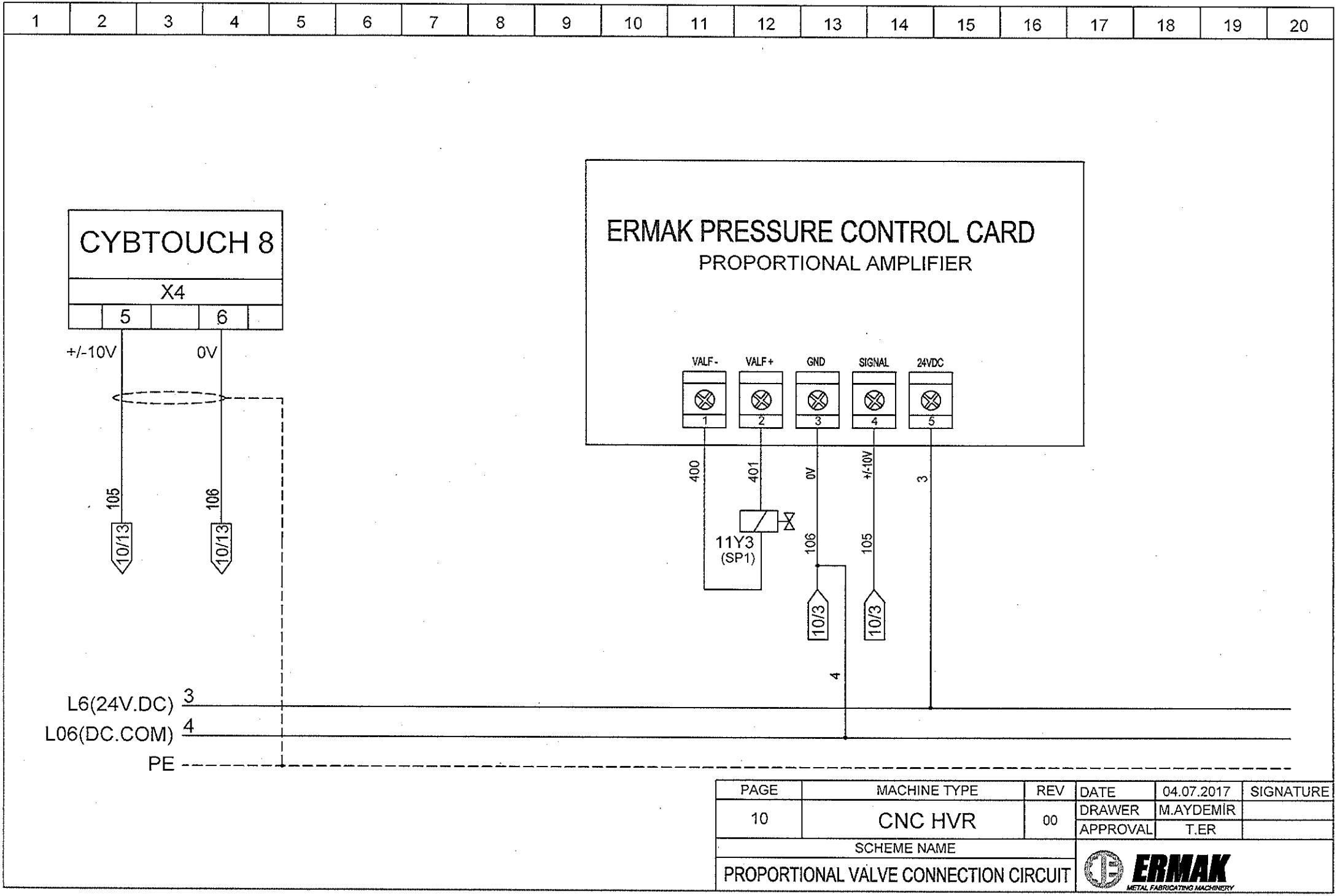


PAGE	MACHINE TYPE	REV	DATE	23.08.2018	SIGNATURE
9	CNC HVR	00	DRAWER	M.AYDEMİR	
			APPROVAL	T.ER	

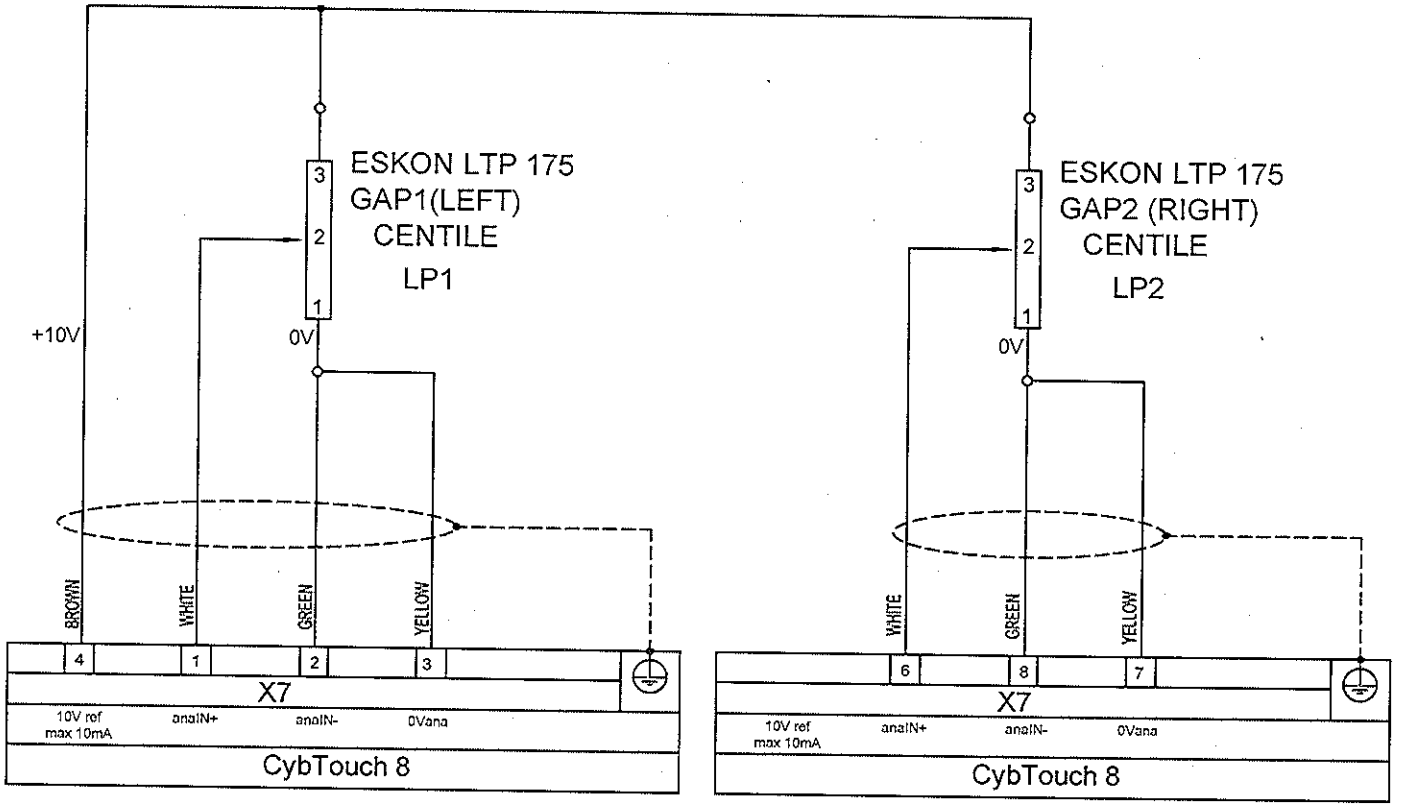
SCHEME NAME

VALVE CONNECTION CIRCUIT

ERMAK
METAL FABRICATING MACHINERY

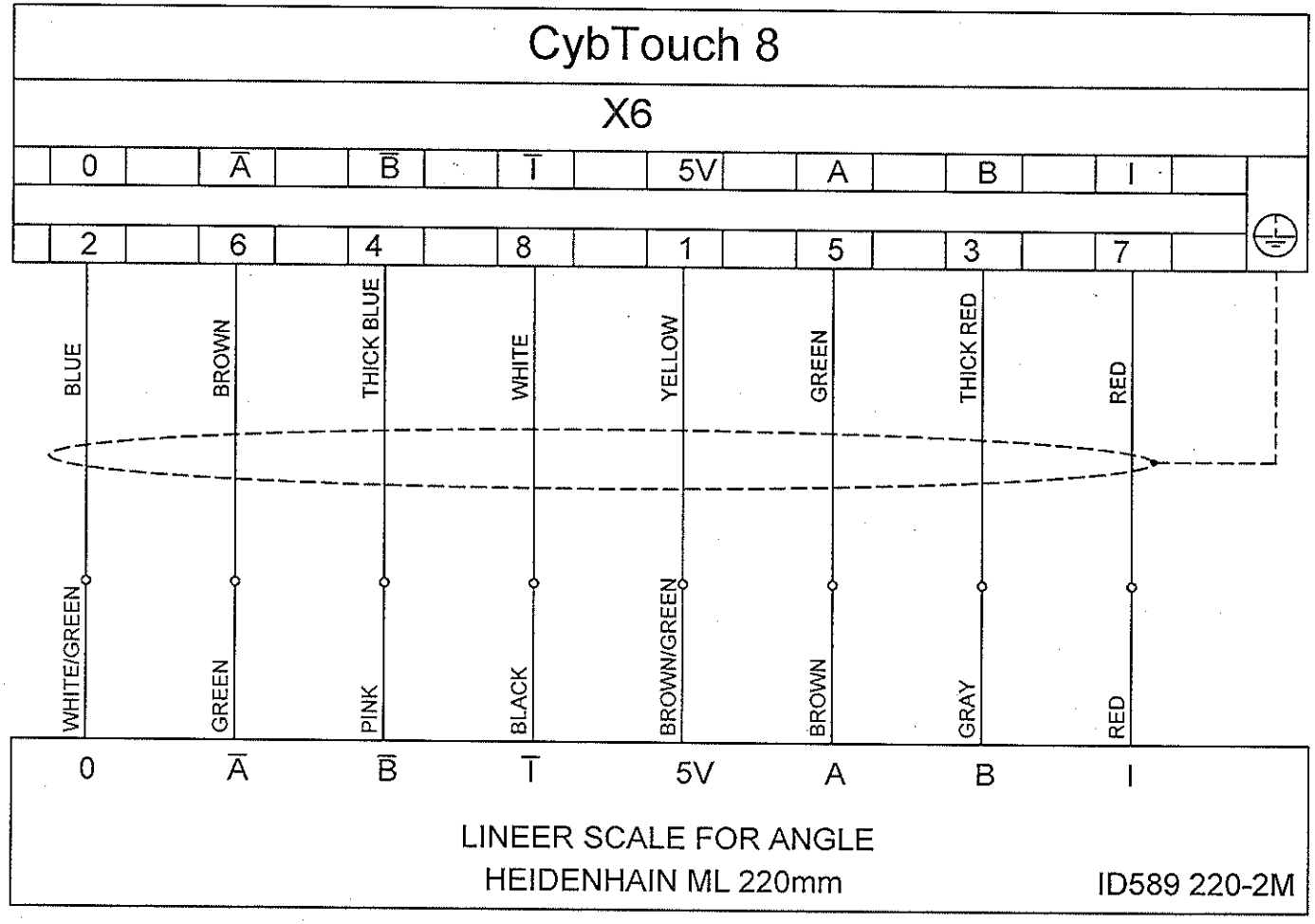


PAGE	MACHINE TYPE	REV	DATE	04.07.2017	SIGNATURE
10	CNC HVR	00	DRAWER	M.AYDEMİR	
			APPROVAL	T.ER	
SCHEME NAME					
PROPORTIONAL VALVE CONNECTION CIRCUIT			ERMAK METAL FABRICATING MACHINERY		

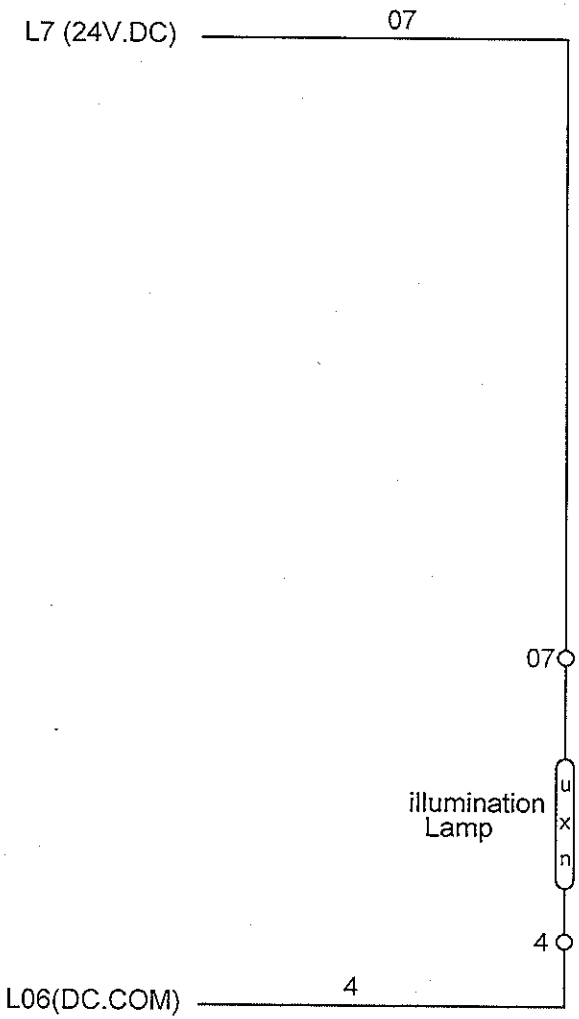


PAGE	MACHINE TYPE	REV	DATE	04.07.2017	SIGNATURE
11	CNC HVR	00	DRAWER	M.AYDEMİR	
			APPROVAL	T.ER	
SCHEME NAME					
CYBTOUCH ANALOG OUTPUTS CIRCUIT					

ERMAK
METAL FABRICATING MACHINERY

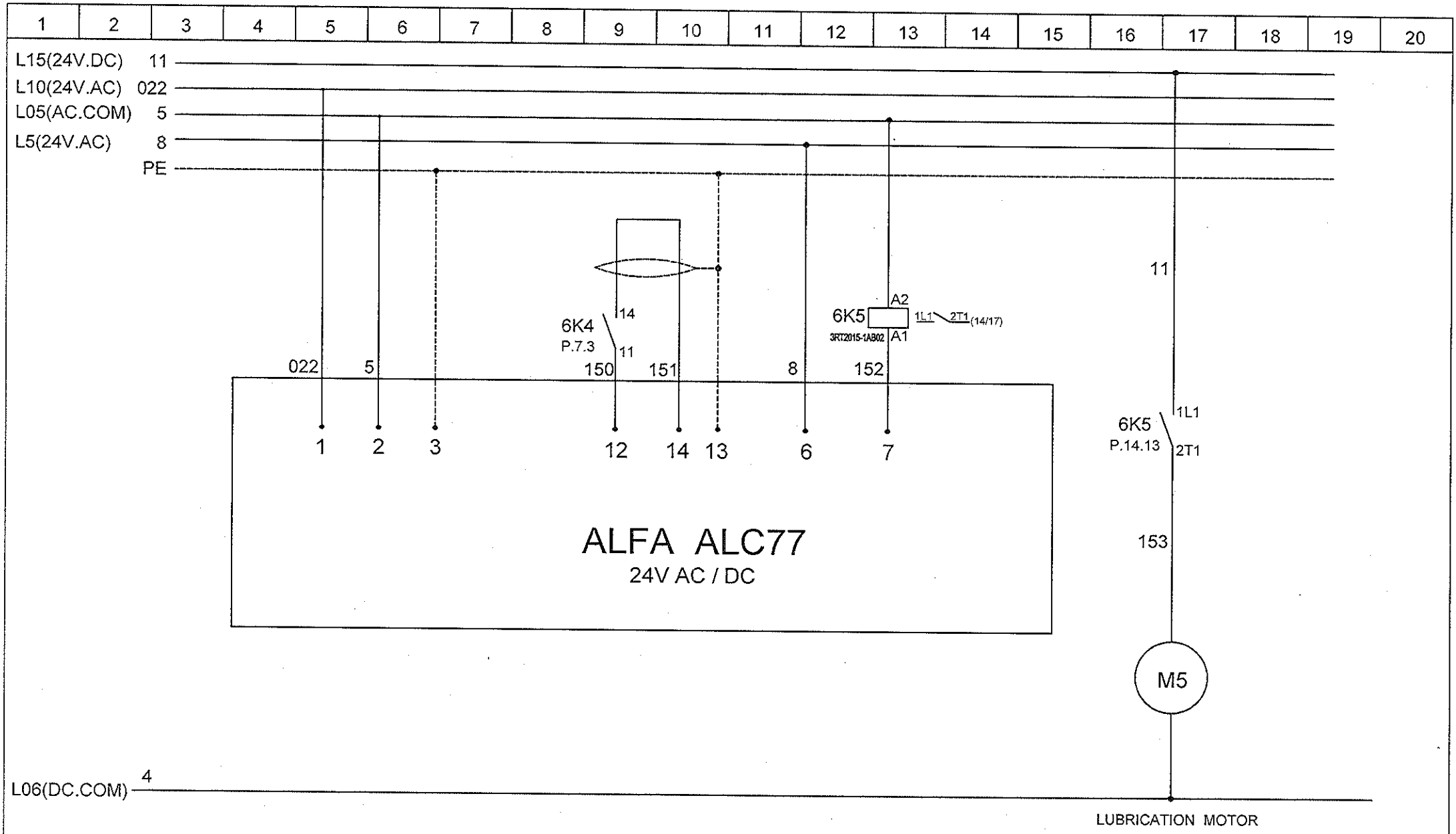


PAGE	MACHINE TYPE	REV	DATE	23.05.2018	SIGNATURE
12	CNC HVR	00	DRAWER	M.AYDEMİR	
			APPROVAL	T.ER	
SCHEME NAME			ERMAK METAL FABRICATING MACHINERY		
CYBTOUCH6 ANGLE SCALE INPUT CIRCUIT					



PAGE	MACHINE TYPE	REV	DATE	04.07.2017	SIGNATURE
13	CNC HVR	00	DRAWER	M.AYDEMİR	
			APPROVAL	T.ER	
SCHEME NAME					
LAMP CIRCUIT					

ERMAK
METAL FABRICATING MACHINERY

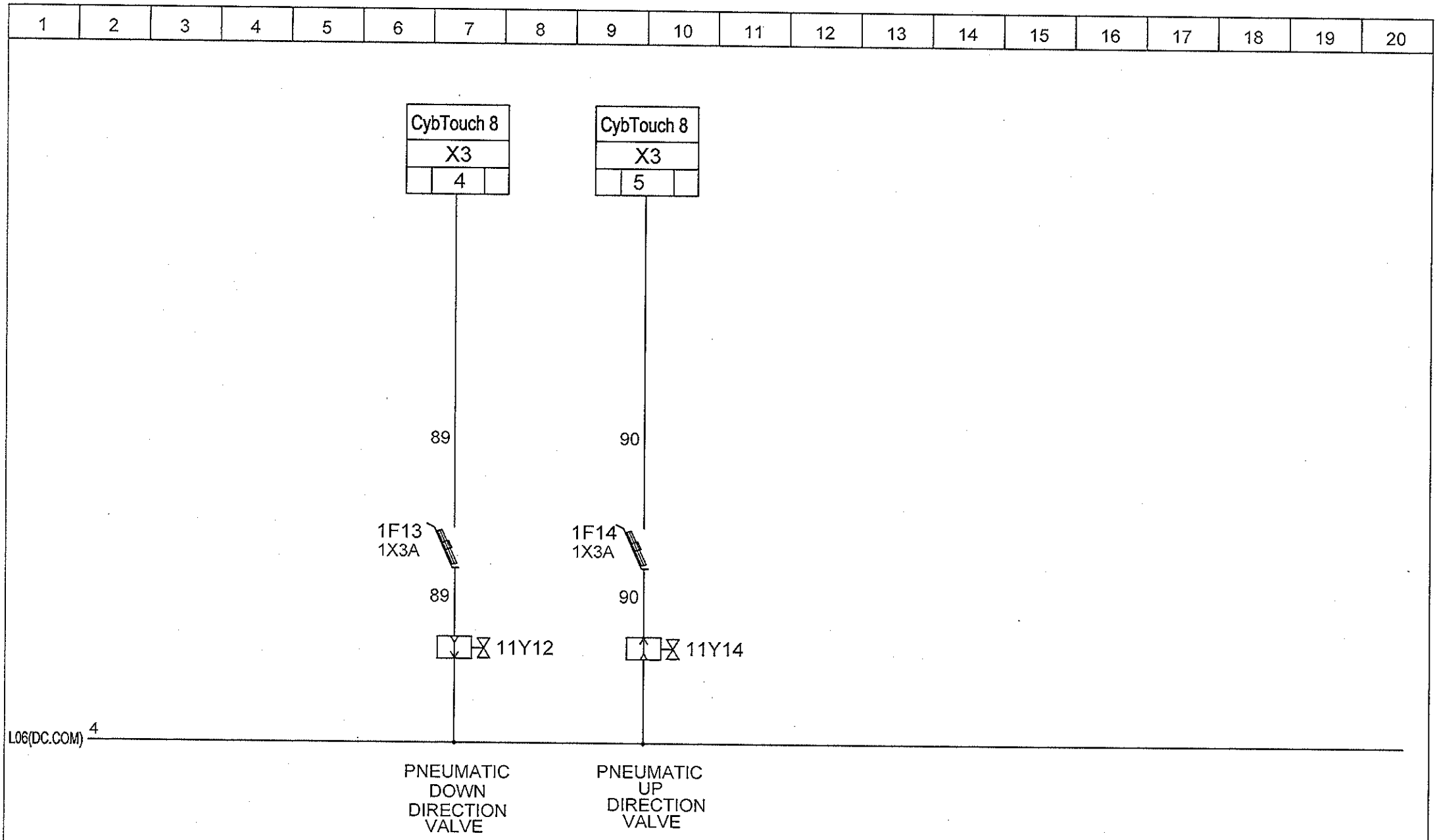


PAGE	MACHINE TYPE	REV	DATE	04.07.2017	SIGNATURE
14	CNC HVR	00	DRAWER	M.AYDEMİR	
			APPROVAL	T.ER	

SCHEME NAME

ALFA ALC77 CONNECTION

ERMAK
METAL FABRICATING MACHINERY

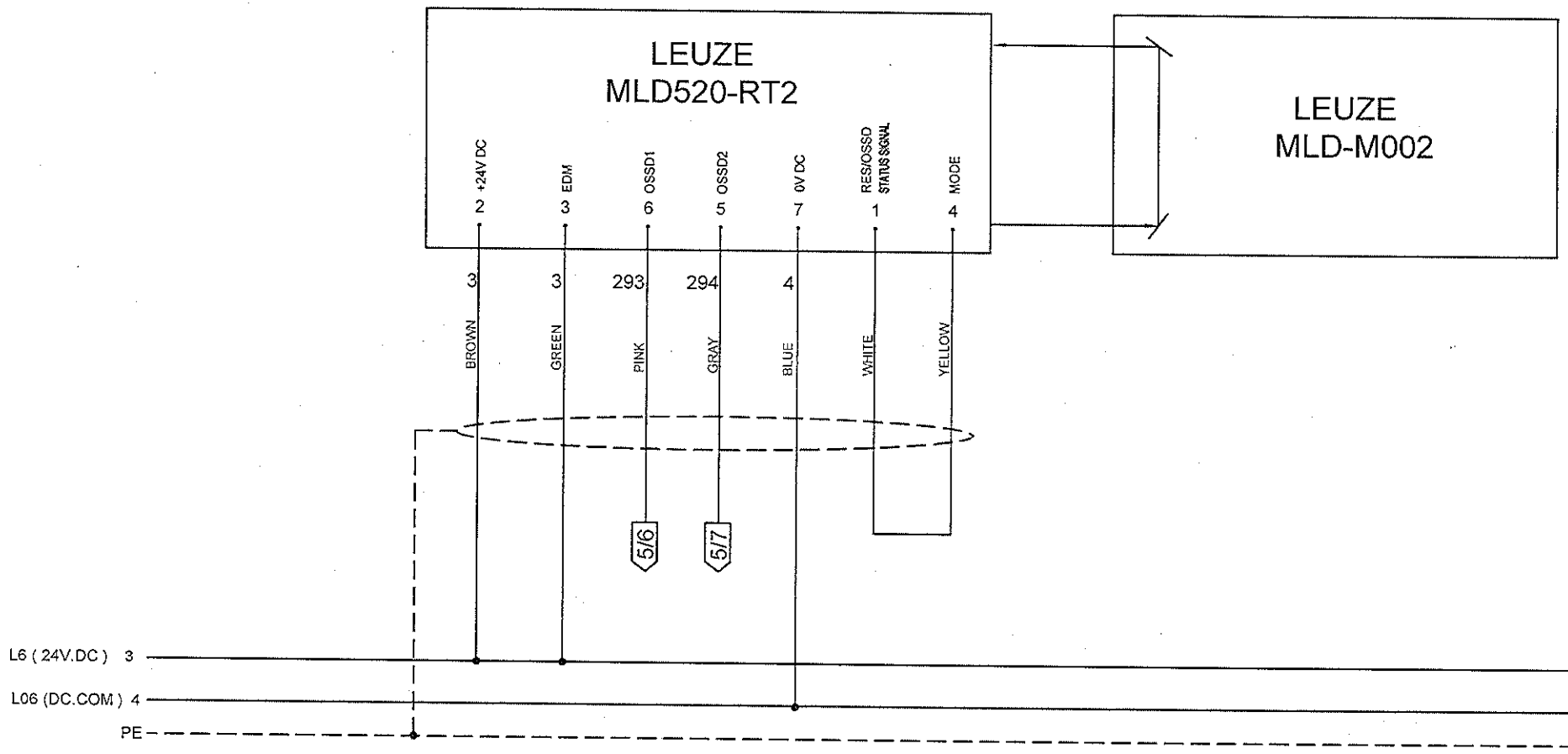


PAGE	MACHINE TYPE	REV	DATE	23.05.2018	SIGNATURE
15	CNC HGS	00	DRAWER	M.AYDEMİR	
			APPROVAL	T.ER	

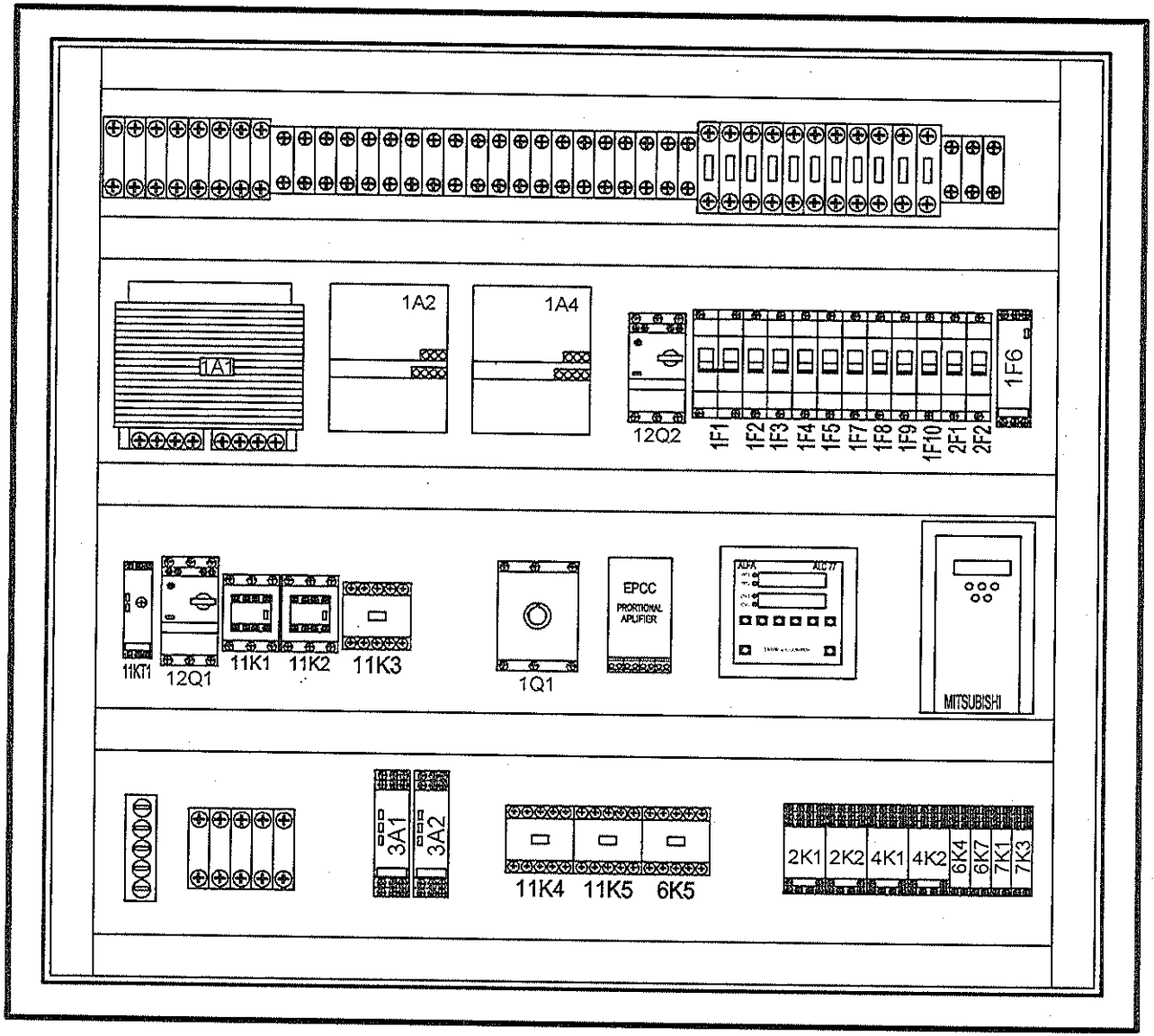
SCHEME NAME

PNEUMATIC COMMAND CIRCUIT

ERMAK
METAL FABRICATING MACHINERY



PAGE	MACHINE TYPE	REV	DATE	23.05.2018	SIGNATURE
16	CNC HVR	00	DRAWER	M.AYDEMİR	
			APPROVAL	T.ER	
SCHEME NAME					
LEUZE CONNECTION CIRCUIT			ERMAK		



PAGE	MACHINE TYPE	REV	DATE	23.05.2018	SIGNATURE
17	CNC HVR	00	DRAWER	M.AYDEMİR	
			APPROVAL	T.ER	
SCHEME NAME					
PANEL DESIGN DIAGRAM			ERMAK METAL FABRICATING MACHINERY		