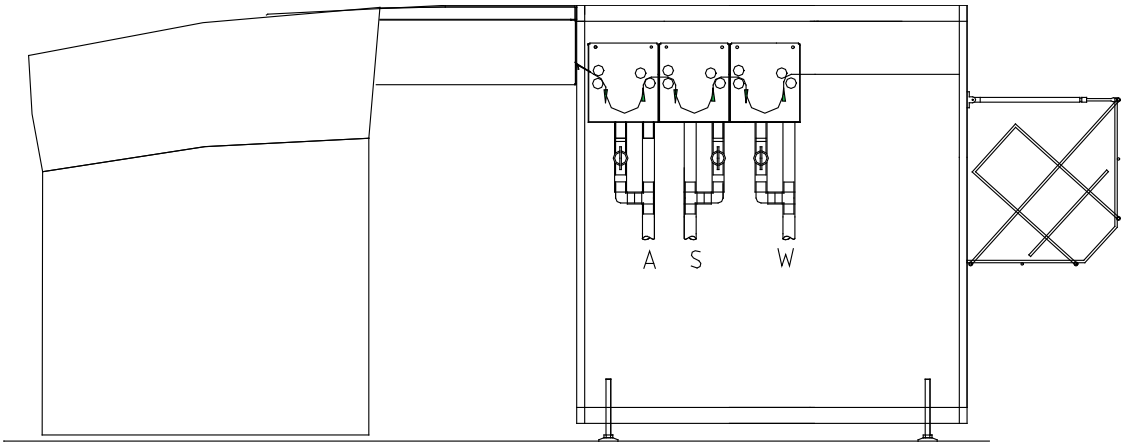
Important

Your on-line processor has a built in exhaust blower. If the main switch is switched off, the blower is disconnected and chemical fumes can damage conveyor/imagesetter. Use the bulid in timer to control on/off/night mode of the processor to ensure that the exhaust blower is always running.



Heidelberg
Primesetter 74
Primesetter 102

Hope/Carnfeldt
EP 900
EP 1140

8.1 General

This section contains the processor's basic operating instructions for working on-line with an imagesetter.

Before operating the processor on-line, the procedures in section three Installation must be performed. Read this entire section and section four (Operation) before attempting to operate the processor.

8.2 Installation of On-Line Section

Special care should be taken when the processor is connected to an imagesetter. It is advisable to install the Primesetter first. The imagesetter should be "levelled" and be put in its final position before the processor is connected.

Install the processor as described in section three. Level the processor to its final position before chemistry is added.

Connect the 25 pin interface cable to the conveyor. Turn power on and test the installation.

Contents

Edition: 7 Nov 2002
Product numbers:

464820
464920

8.3 Conveyor Operation

To indicate the operation of the conveyor the left icon changes according to the ➡signal coming from the Primesetter and to the position of the film. Please observe the conveyor icons:


Empty conveyor, ready.


Film is being transported to the conveyor.


Film is being cut.


Film is in the conveyor.


Film has entered the processor.

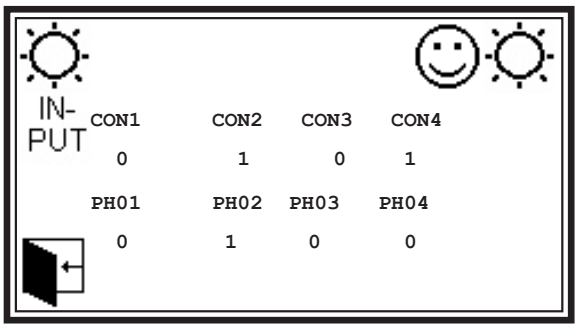

Off-line feed.

Settings of timer and conveyor speed are adjusted in the service menu. To access the service menu please see section 5.7

Conveyor Timer Settings

Communication Signals

To display the signals from the Primesetter use the information screen shown below. To access from the main menu push S ⬚ ➡ . For more information see section four Operation.



CONX - Status conveyor switches.
PHOX - Status signals from imagesetter.

PH01 - **Ready** - Ready = 1
PH02 - **Cut** - Cut = 0
PH03 - **Feed** - Feed = 1
PH04 - Not used

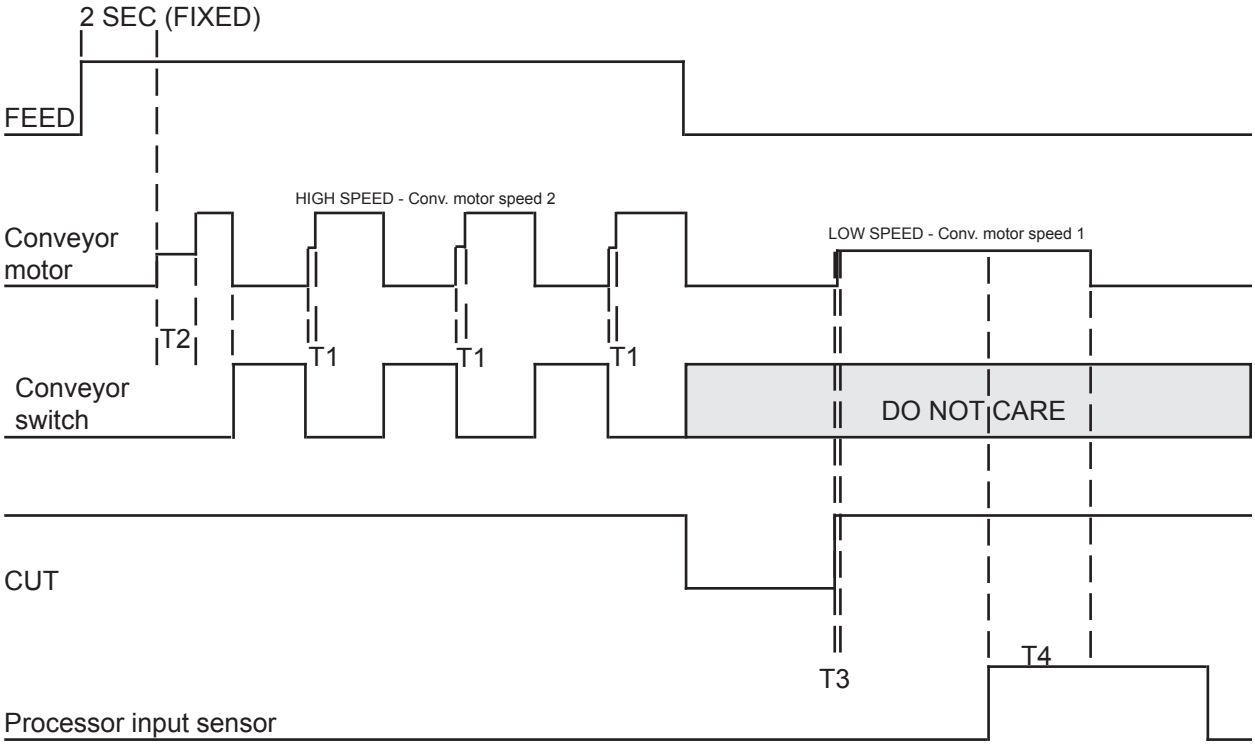
The signals can also be displayed on the Mido PCB. See page 8.98.

Number	Settings	Units	Description
Conv. Timer 1	1	0,1 Sec	**Must not be changed.**
Conv. Timer 2	10	0,1 Sec	**Ignore switch time:** The time in which a feed signal is ignored if the conveyor switch is activated.
Conv. Timer 3	5	0,1 Sec	**Cut delay**: Should not be changed
Conv. Timer 4	3	0,1 Sec	**No feed delay**: The time from activation of the inlet sensor to the conveyor motor stops.
Conv. Timer 5	40	Sec	**Conv**: Time out, error time out.
Conveyor/Photoset	8. Heidelberg		**On-Line Type**
	Mk3/Mk4 (Mk3= Sw ver 2.xx (no units) / MK4= Sw ver 4.xx)		
Conv. motor speed1	100/100	mm/s	**Speed after CUT**
Conv. motor speed2	255/160	mm/s	**Speed during FEED**

SECTION 8

8.4 On-Line Drawings and Settings

Conveyor Timing Diagram



The FEED signal from imagesetter. The feed signal is ON when the Primesetter feeds material out in the conveyor. If the FEED signal is missing and the material is feed out without the conveyor starting, ask a Heidelberg engineer to check the parameters in the Primesetter.

The conveyor motor starts and stops depending on activation of the inlet switch in the conveyor. When the switch is not activated the conveyor motor is on and if switch is activated the conveyor motor is off.

The CUT signal from the Primesetter is normally “1” but it changes to “0” when film is cut in the imagesetter.

The processor input sensor stops the conveyor after a small delay (timer 4).

Working with Speedway Communication

The software in your Hope/Carnfeldt on-line processor includes serial communication between the Primesetter and the processor. The Speedway Communication is working between the on-line processor through the Primesette and further on to the Graphical User Interface (GUI) on the RIP. When the Speedway Communication is activated much data is sent.

Among others the Speedway Communication enables the operator to monitor the following by displaying:

* Temperature and settings on the GUI.
* Processor errors and warnings.
* Low-level messages on the GUI (see on-line figure on the right).

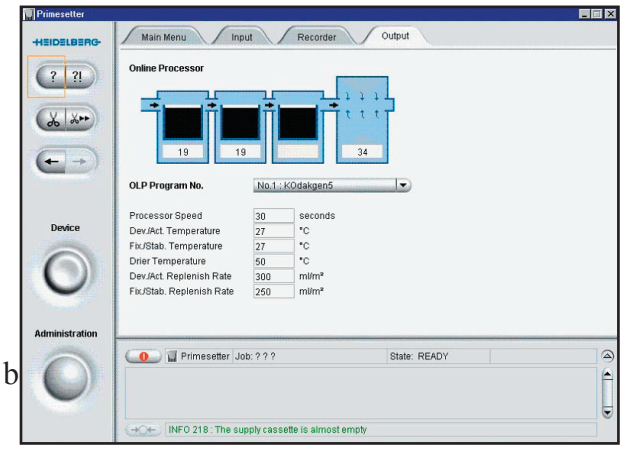
For example the Hope/Carnfeldt on-line processor receives data as shown below:

* Film data with information about the size and black clearance proportion in percentage. This information can b used to control the amount of chemistry replenished (external replenishment).

To gain access to external replenishment press S , , INFO

EXT REPL Means that the processor will use the information from the Primesetter to calculate the amount of replenishment.

EXT REPL Means that the inlet sensor will be used to calculate the replenishment.



Definition of Speedway Replenishment

When using the speedway information to calculate optimum replenishment it is thorugh the following parameters, which are sent from the Primesetter:

Length of the sheet (ex. 0.7 m)
Width of the sheet (ex. 0.7 m)
Black clearance proportion in percentage (ex. 40%)

If you are using polyester plate in an EP or EGP processor the black clearance proportion is not used.

The following information must be adjusted on the processor:

Replenishment cc/m^2 and AOX of developer
Replenishment cc/m^2 of fixer.

Please find below an example where a sheet of the above size is sent:

Dev. replenishment is set to 400 cc/m^2
Fix. replenishment is set to 400 cc/m^2

The area of the sheet is: 0.7 m x 0.7 m = 0.5 m^2

When processing film the processor will replenish as follows:

Dev.: 0.5 m^2 x 400 cc/m^2 x 40% = 80 cc
Fix.: 0.5 m^2 x 400 cc/m^2 x 60% = 120 cc (100%-40%=60%)

When processing polyester plate the processor will replenish as follows:

Act.: 0.5 m^2 x 400 cc/m^2 = 200 cc
Stab.: 0.5 m^2 x 400 cc/m^2 = 200 cc

If the speedway replenishment is disabled at the processor, the processor calculates the length with the inlet sensor. It will always use the full width, which is

EG 900/901 = 0.91 m
EG 1140/1141 = 1.14 m

Based on the above it will replenish as follows:

EG 900/EG 901:
Dev.: 0.91 m x 0.7 m x 400cc/m^2 = 254.8 cc
Fix.: 0.91 m x 0.7 m x 400cc/m^2 = 254.8 cc

EG 1141/EG 1140:
Dev.: 1.14 m x 0.7 m x 400cc/m^2 = 319.2 cc
Fix.: 1.14 m x 0.7 m x 400cc/m^2 = 319.2 cc

The processor will pump in fresh chemistry in portions of 200 cc for all types of processors with our without speedway.

OLP Settings without Speedway

By installation please make sure that the OLP parameters are set up for Hope/ Carnfeldt on-line bridge. The following PID parameters should be checked:

OLP Settings with Speedway

With speedway communication you can display the Hope/Carnfeldt processor´s program settings on the Primsetter main menu. Please ensure that the PID parameters are changed to:

21013 "1"	**Use Online Developer**	**21013 "1"**
21014 "1"	**Mode Output device**	**21014 "1"**
21310 "0"	**Mode OLP Communication**	**21310 "2"**
21304 "0"	**Use OLP SpeedWay**	**21304 "1"**
21437 "1"	**Use OLP Feed Signal**	**21437 "1"**

Seriel communication with the imagesetter is supported from software version 2.0. The settings can be changed.

When the PID changes have been made the system most be rebooted. For further information please check the documentation of the Primesetter.

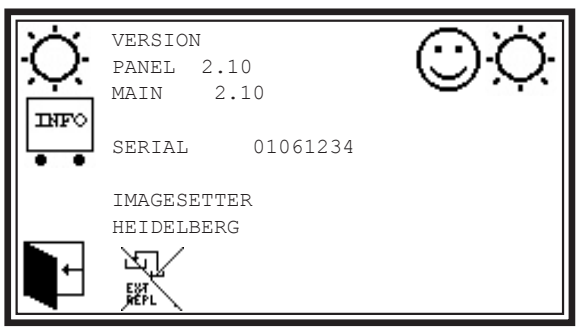
If these parameters are set incorrectly some of the following problems may occur:

- Conveyor problems (conveyor does not start up before film enters)
- Diverter problems in Combi processors (no automatic change between film and plate)
- No indication of OLP programme / temperature on the "GUI control"(only with Speedway activated)
- Incorrect replenishment of dev. and fix. (only with Speedway activated)

The Hope/Carnfeldt processor should <u>always</u> be switched on first!

After critical film jams in the Primesetter you should reboot the Primesetter!
For further information please contact your Hope/Carnfeldt service partner.
If any parameters are changed the Primesetter and Hope/Carnfeldt processor should be rebooted.

If there are problems with replenishment try to deactivate the external replenishment control. Please turn to the "INFO" menu :



Software version and serial

You can deactivate the external replenishment control as follows:

EXTRA REPL Replenish via Speedway activated.

EXT REPL Replenish via Speedway not activated.
Please also refer to page 8-93.

Processing Polyester Plates

High-quality printwork and uniform results are only possible if the processing conditions are absolutely consistent. Scratch-free, uniform processing is essential. You can check whether or not your processor processes uniformly with the aid of an unexposed silver plate.

Process an unexposed silver plate at 20, 25 and 30 sec. Then look for the best compromise of the brightest silver image. The one with the most uniform colour over the printing area usually has the best development. Remember that the first end (up to 60mm) and the last end (up to 30mm) is used for clamping in the press and will not be printed. On some of these parts you can expect scratches due to the transport in the processor (see drawing of plate page 93).

Please follow these guidelines to ensure unproblematic operation with polyester. Note the following, when working with Mitsubishi material and chemistry:

Plate material
- Polyester plate should be stored in dry and stable temperature conditions.
- The plate should not be stored more than one year.

Activator SLM-AC
- Activator temperature should be between 28-31°C.
- Processing time should be between 20 to 30 sec. (Agfa 20)
- pH value approximately 13,7. Replace it if less then 12,8.
- Replenishment rate about 150 cc/sqm. (AGFA G5200b 120 cc/sqm. Don`t mix !)

Stabilizer SLM-ST
- Stabilizer temperature should be about room temperature.
- Processing time should be between 20 to 30 sec. (Agfa 20)
- pH value approximately 6,0 – Replace if more than 7,0.
- Replenishment rate about 200 cc/sqm. (AGFA G5400b 120 cc/sqm.)

Wash
- Ensure that the wash section is clean from algae.
- Drain the wash tank and let it stay dry over weekends.
- Do not use chlorine (bleach) for cleaning.

Dryer
- The drying temperature should be about 40-50 °C.

General use

The result will change in case of abnormal conditions such as:
- Long time where the chemistry has not been used. If it has not been used, the result can change (it might not be visible). A complete change of the chemistry is advisable every month.
- If there are problems, you may benefit by adding a little old chemistry to the new fresh chemistry (the new can be too active on the first 5-8 sheets).
- High evaporation will cause changes of the final result.
- If the laser intensity is adjusted too low, longer processing time cannot correct the quality of the overall result (density numbers of prints eg.).

- Different batches of plate material may have different emulsion. A calibration of exposure and processing should therefore be performed when changing batch.

If one or more of the conditions are not correct, you can sometimes see problems such as:

- Transport problems: Scratches, white lines on the silver part.
- Reduced print capacity, e.g. only 5000 prints.
- Increased sensitivity: Fingerprints are easily seen on the silver part of the plate (the plates are always sensitive).
- Problems with density.

These are only a few of the parameters that will influence the work with polyester plate.
Echo Graphic only has influence on the developing part. Basically, only the manufacturers of the plate can evaluate the result. When using materials not mentioned here please contact the manufacturer for developing parameters. More information about the entire process with Silver Digiplate can be obtained in the technical guide from Mitsubishi.

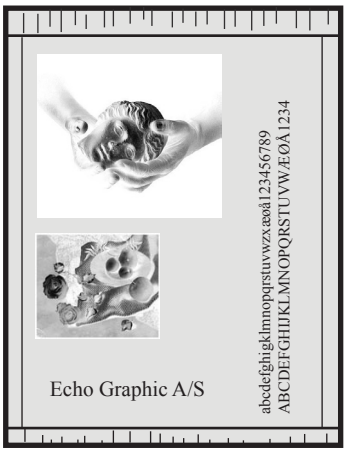
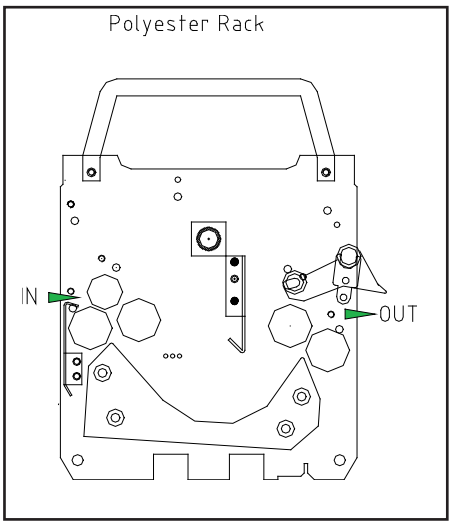
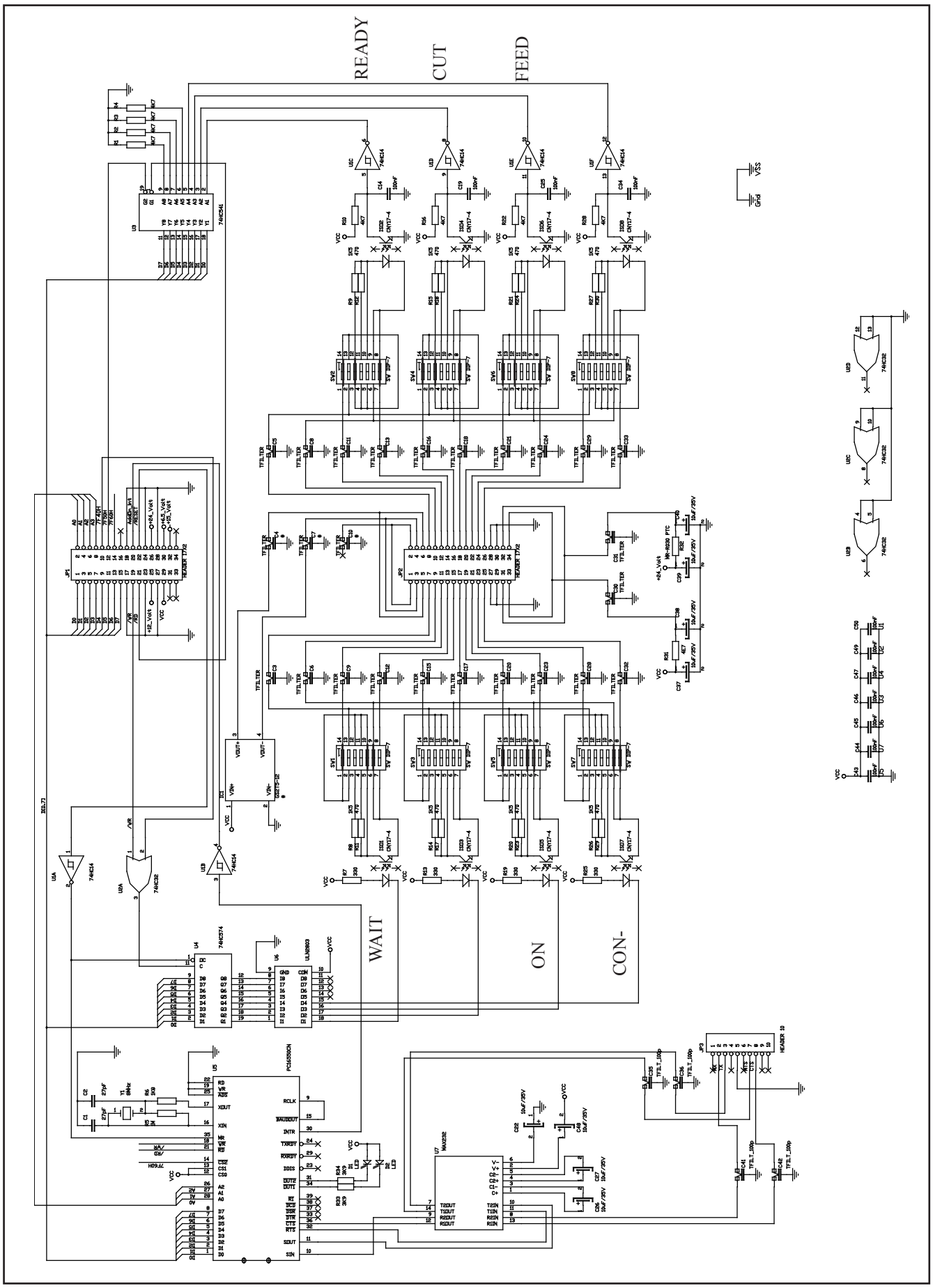


Plate drawing

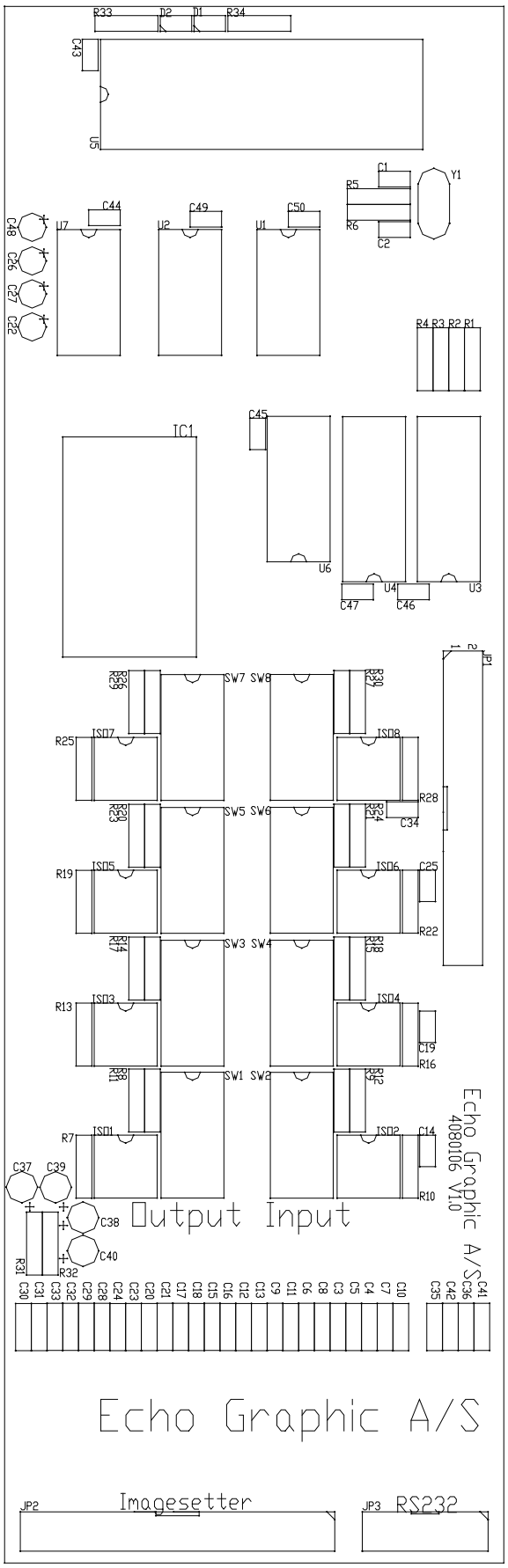
↓ Direction through processor



Side view of the newest version of polyester racks with blade guides. Imagesetters with a feed where the emulsion is down can be different (like the conventional rack).



Interface Diagram, Drawing 4080106a



Jumper Settings with Heidelberg Primesetter

SWITCH	POS 1	POS 2	POS 3	POS 4	POS 5	POS 6	POS 7
SW1	ON			ON	ON		
SW2	ON		ON			ON	
SW3							
SW4	ON		ON			ON	
SW5	ON			ON	ON		
SW6	ON		ON			ON	
SW7					ON	ON	
SW8							

Interface Board Location Drawing 4080106b

SECTION 8

Mido Description

The Mido PCB controls the IR communication between the Heidelberg Primesetter and the Hope/Carnfeldt Celis electronics. The PCB controls both the seriel and the HW communication.

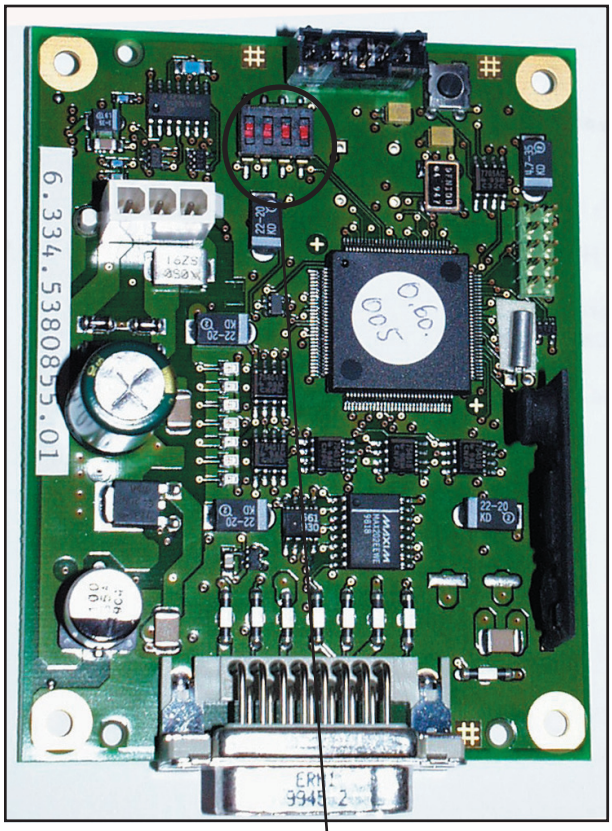
Setting up the Mido Interface

Before operating the system please ensure that the settings are correct. The settings are as follows:

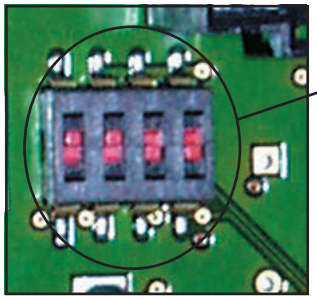
Default settings

S1 Reset of Mido interface

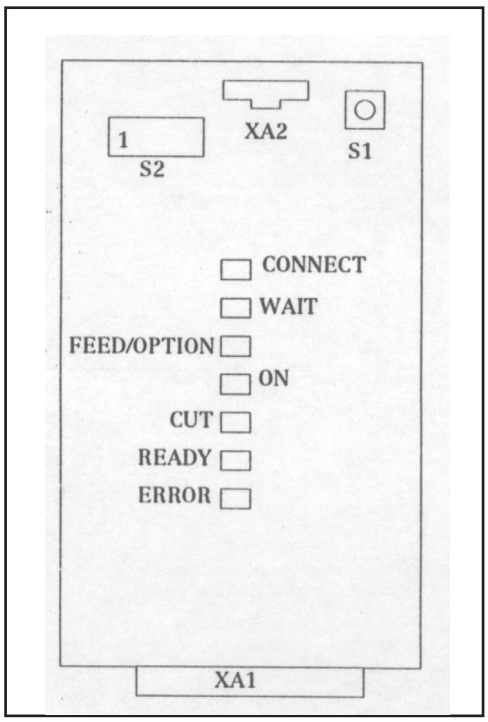
S2
1 ON Int. IRDA ON
2 ON Ext. MIRDA Disabled
3 OFF Test inactive
4 OFF Option inactive



Mido Interface



S2 settings



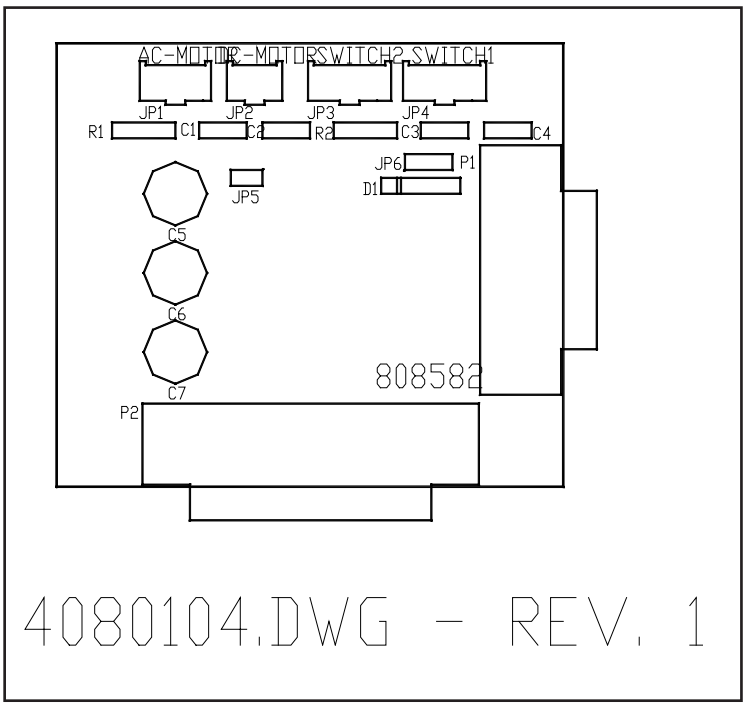
Diodes Mido Interface 464405A

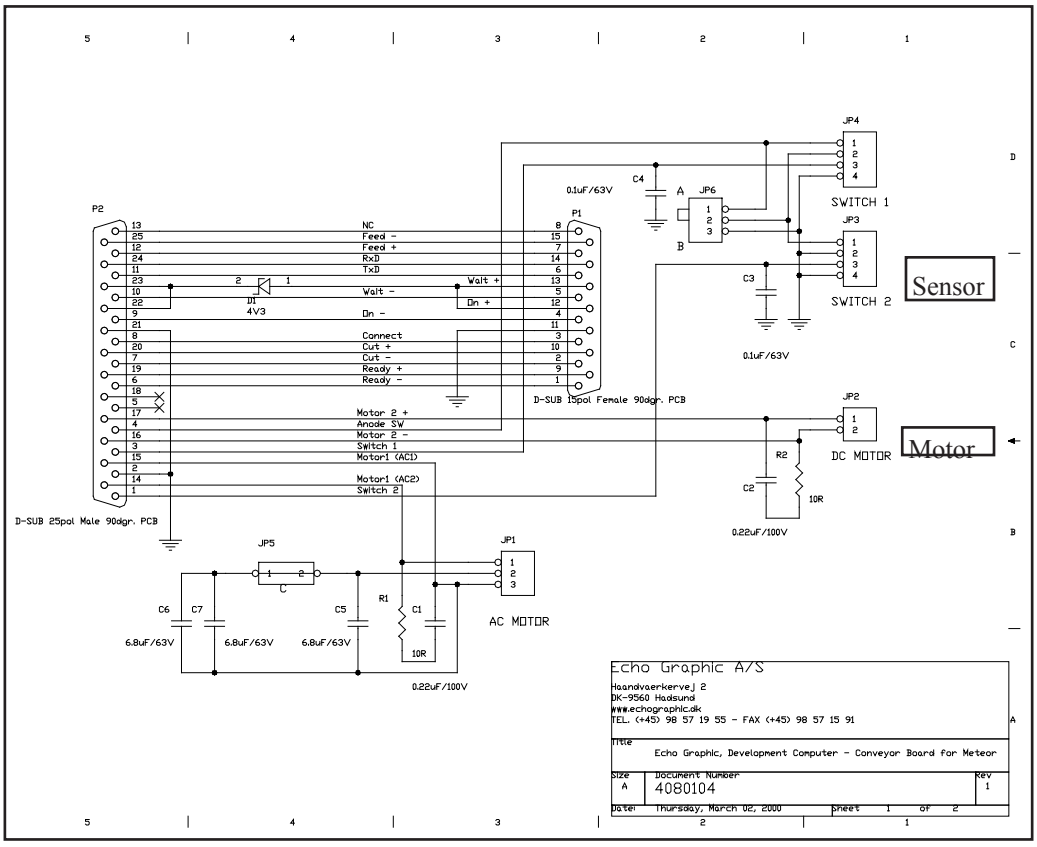
Diode Description

CONNECT: On-line conveyor is connected.
WAIT: On-line conveyor is not ready.
FEED/OPTION: On when film is sent.
ON: On-line conveyor is on.
CUT: Film is being cut.
READY: Primesetter is ready.
ERROR: Film jam or other error.

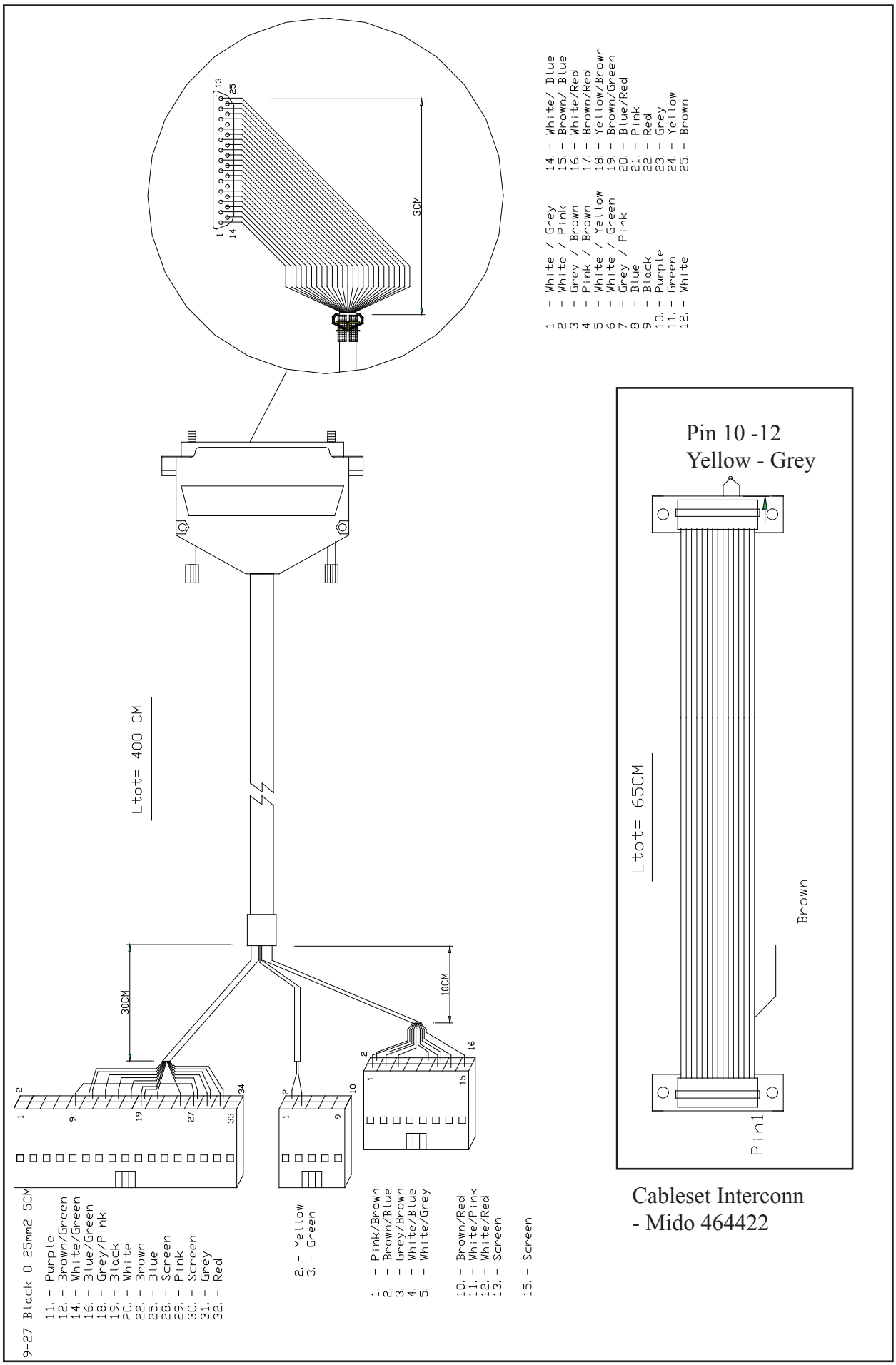
When the Mido PCB #464405 has power some of the diodes will always be on!!!

Conveyor diagram Primesetter





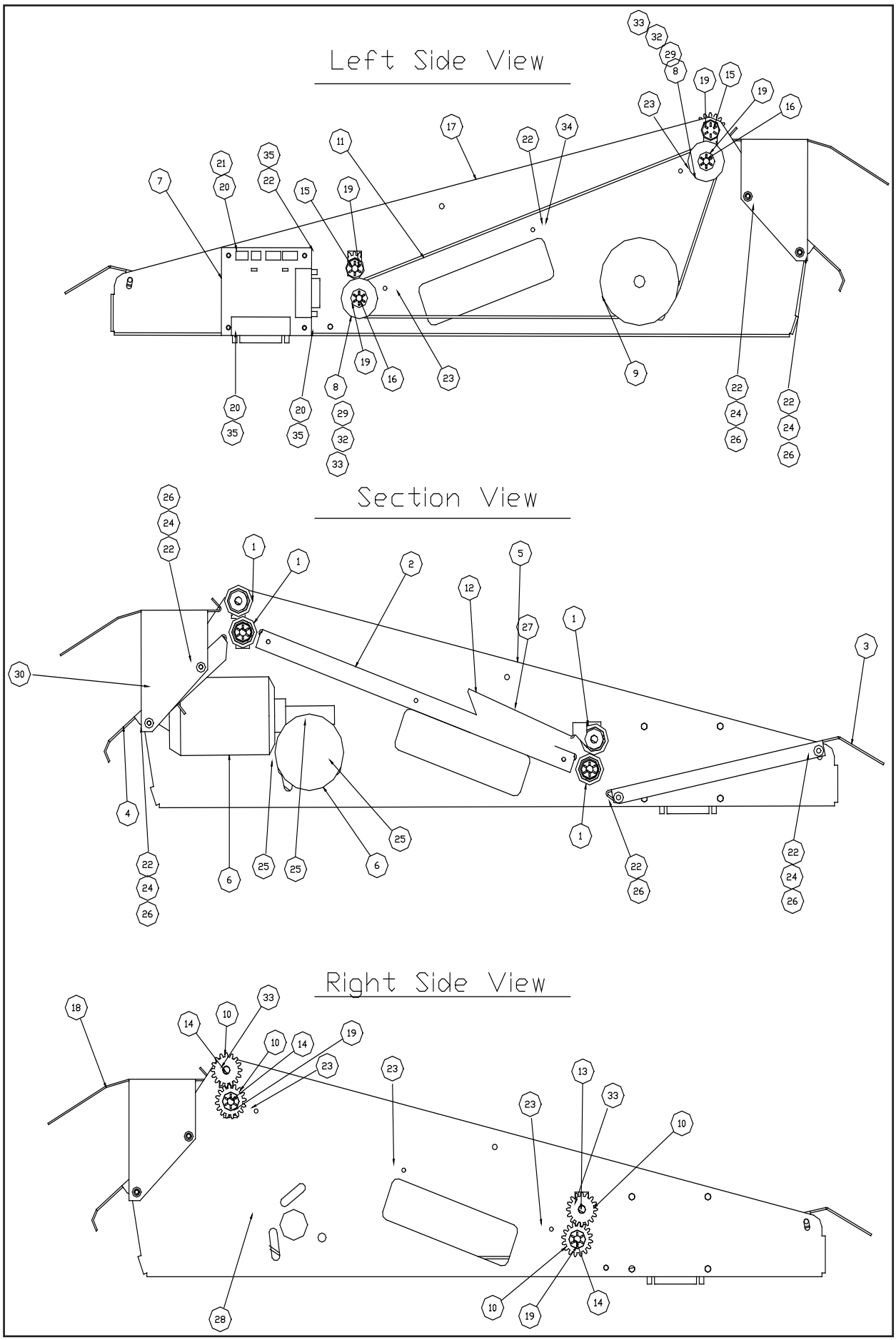
Interconnection Modul, Drawing 464609



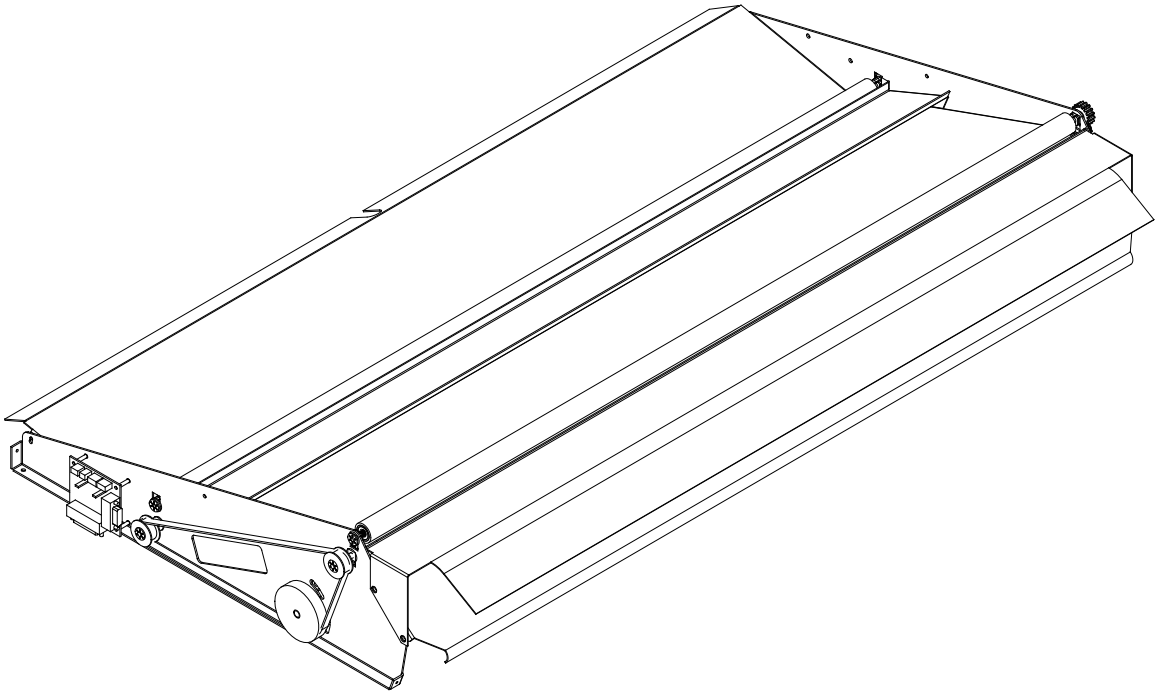
Cableset Interconn
- Mido 464422

Cableset Conveyor C-box- 464424

SECTION 8

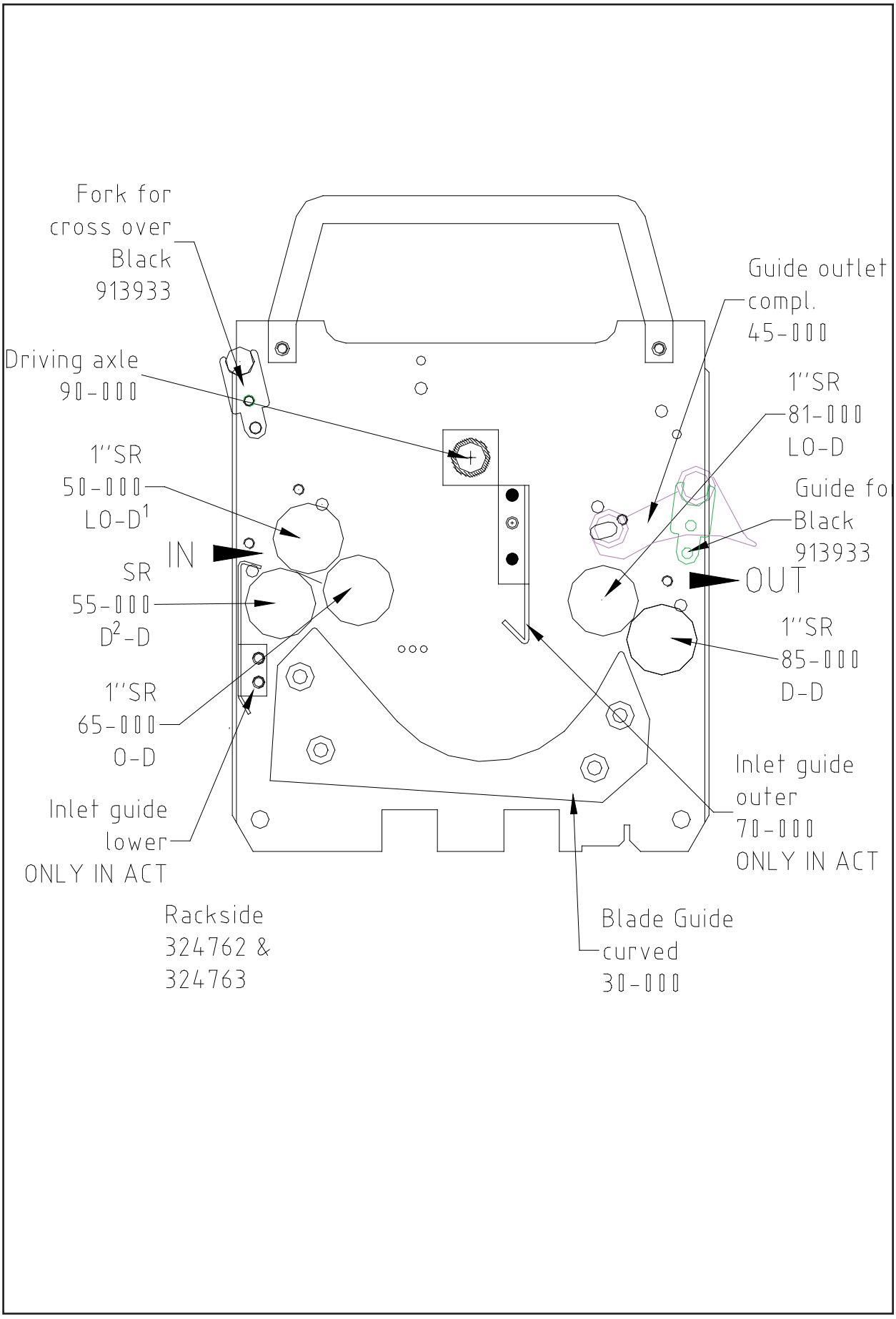


Conveyor, Drawing 464580

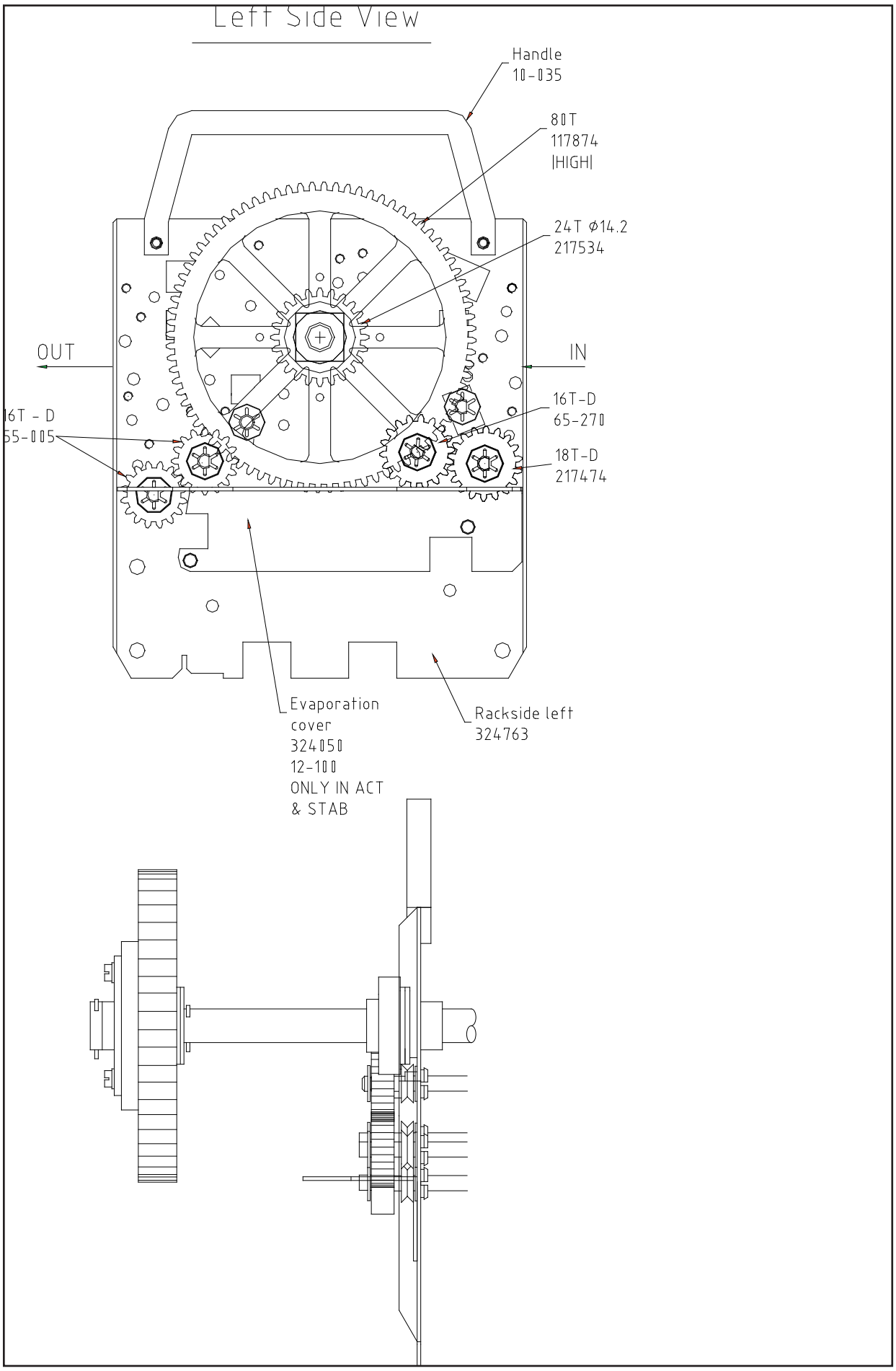


Styklist						
Pos.	Tegn.nr.: Primesetter 102	Tegn.nr.: Primesetter 74	Seq.nr	Navn Primesetter 102	Navn Primesetter 74	Stk.
1	330354	136354	10-040	Roller soft EPDM 1" x 1143	Roller soft EPDM 1"x36"	4
2	464582	464082	10-070	Midlow guide Primesetter 102	Midlow guide Primesetter 74	1
3	464581	464081	10-065	Outlet guide Primesetter 102	Outlet guide Primesetter 74	1
4	464585	464085	10-085	Low inletguide Primesetter 102	Low inletguide primesetter 74	1
5	464471		10-000	Rackside Primesetter 74/102		1
6	70161		10-115	DC motor Bo. 42RPM 600Ncm 24V		1
7	464609		10-609	Intercon mondule w. plugs prime		1
8	317514		10-035	Timing Pulley 16T		2
9	129335		10-020	Timing Belt Pulley 44xL037 key		1
10	65270		10-100	Gearwheel 16T 1/4 In D		4
11	464476		10-060	Timing Belt 320xL037		1
12	464583	464083	10-075		Midupper guide Primesetter 74	1
13	217184		10-025	1/4" x12x12 Bearing		8
14	235234		10-030	Axle-D 1/4 IN, Long f. 1.G.W		4
15	65386		10-110			2
16	448554		10-050			2
17	464491		10-005			1
18	464584	464084	10-080		Top inletguide Primesetter 74	1
19	117337		10-015	Starlock 1/4" Stainless		6
20	88001		10-165	Screw MG 3x6 A4 Din 84		6
21	888002		10-160	Lock Disc 3,2 MM A4 Din 6798		1
22	88201		10-155	Spring Washer 4mm A4 Din 127B		11
23	88392		10-150	Pop Rivet Type SS/D/43SS		6
24	88212		10-145	Flatwasher 4.3x9x08MM A4 125A		6
25	88104		10-135	Screw Set MG 6x10 A4 Din 933		3
26	88102		10-130	Screw Set Mg 4x10 A4 Din 933		8
27	7094		10-125	Sensor Arrow		1
28	7061		10-120	Modification Label		1
29	65274		10-105	Pulleys 1/4in Ø		4
30	6096		10-095	Microsw. Reed ang. 59200-020		1
31	464400		10-055	Cableset conv.primeset.74/102		1
32	448507		10-045	Bearing clutch one way Ø10xØ6		2
33	117336		10-010	Starlock Ø5 stainless		2
34	88021		10-170	Screw PHRX 4x6 A4 Din 7985		1
35	88200		10-175	Spring Washer 3MM A4 Din 127B		3

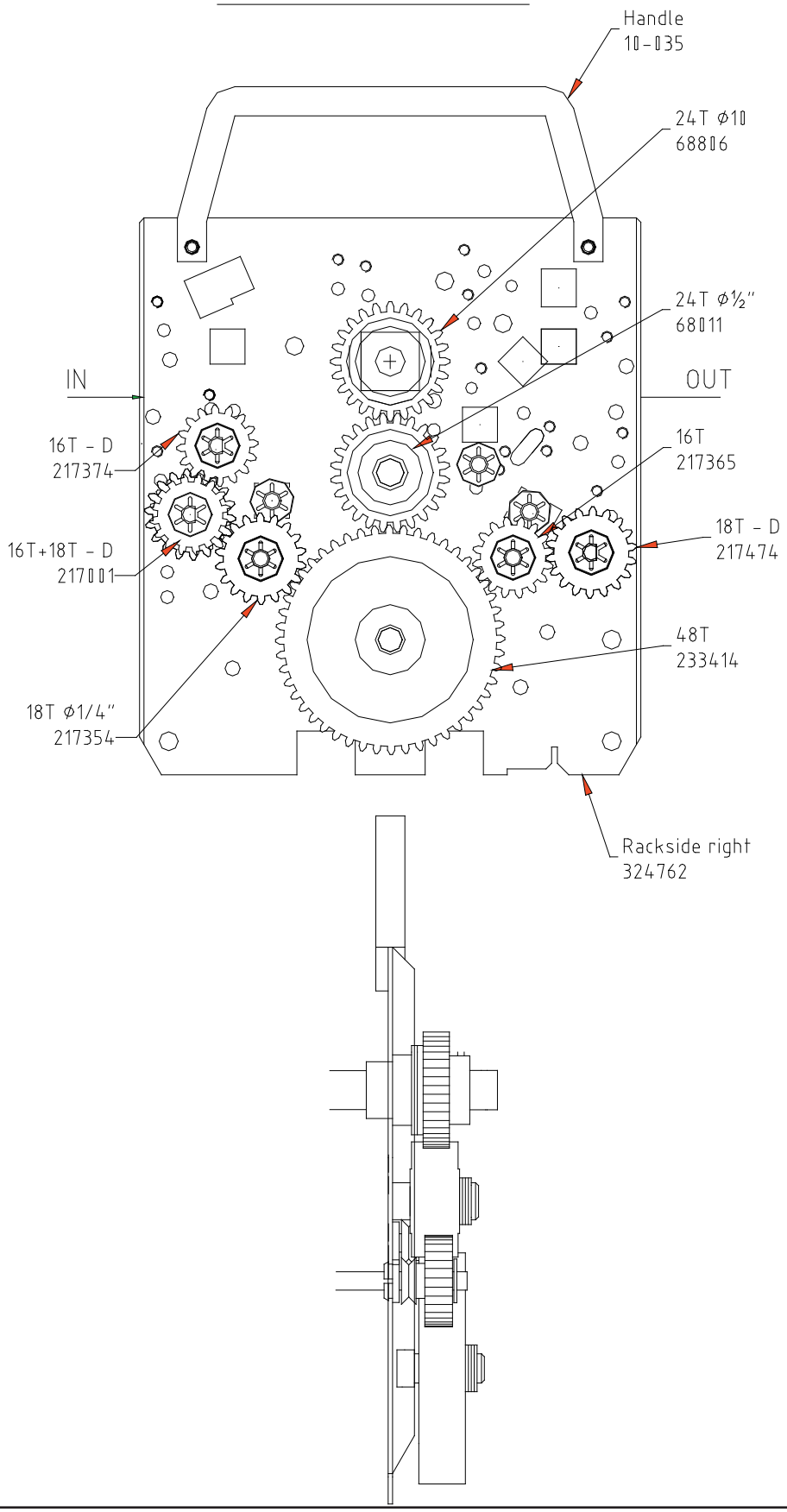
Conveyor Drawing 464580



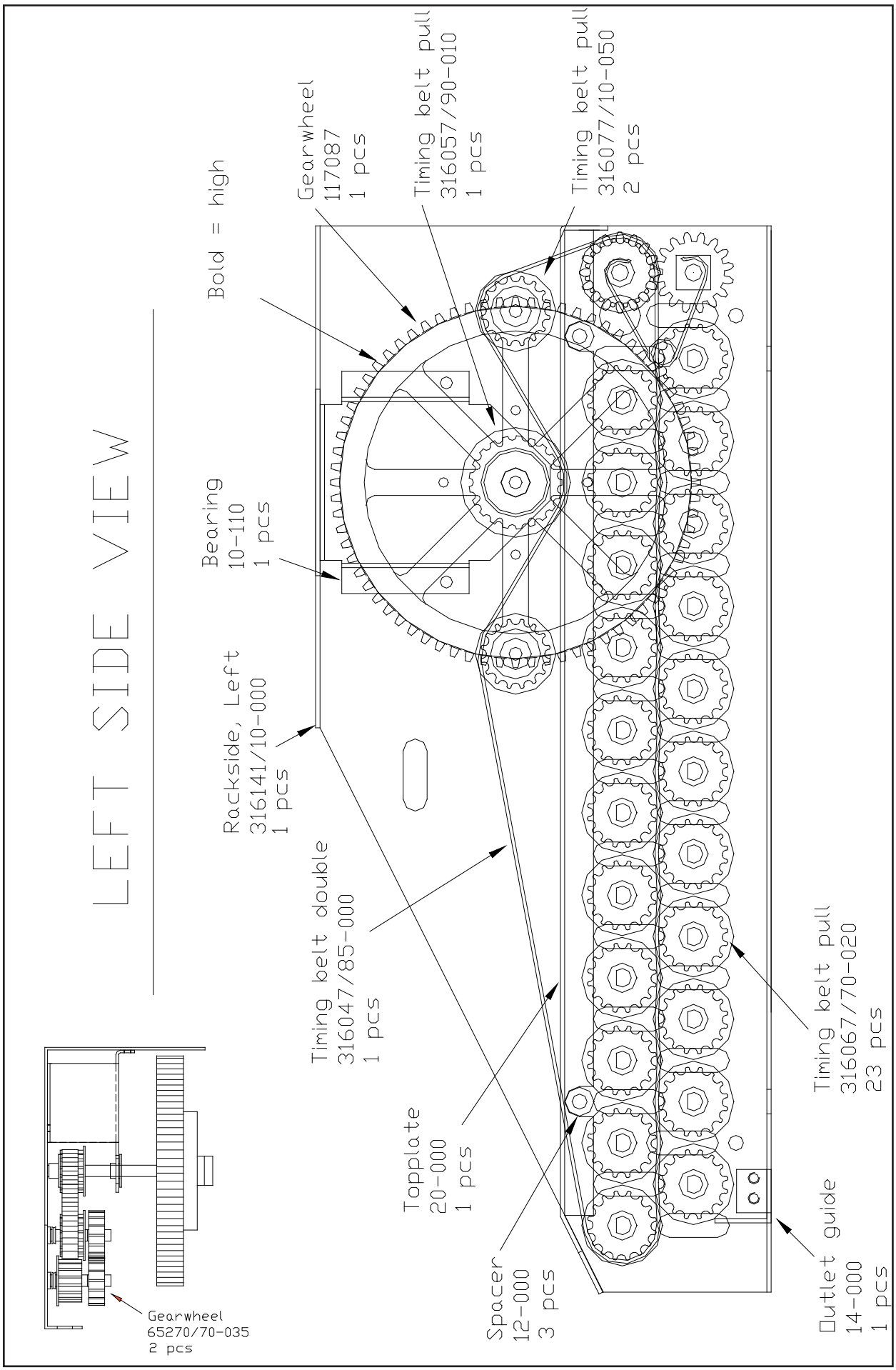
Roller Pos. R18 Pl-guide, Drawing 5975d



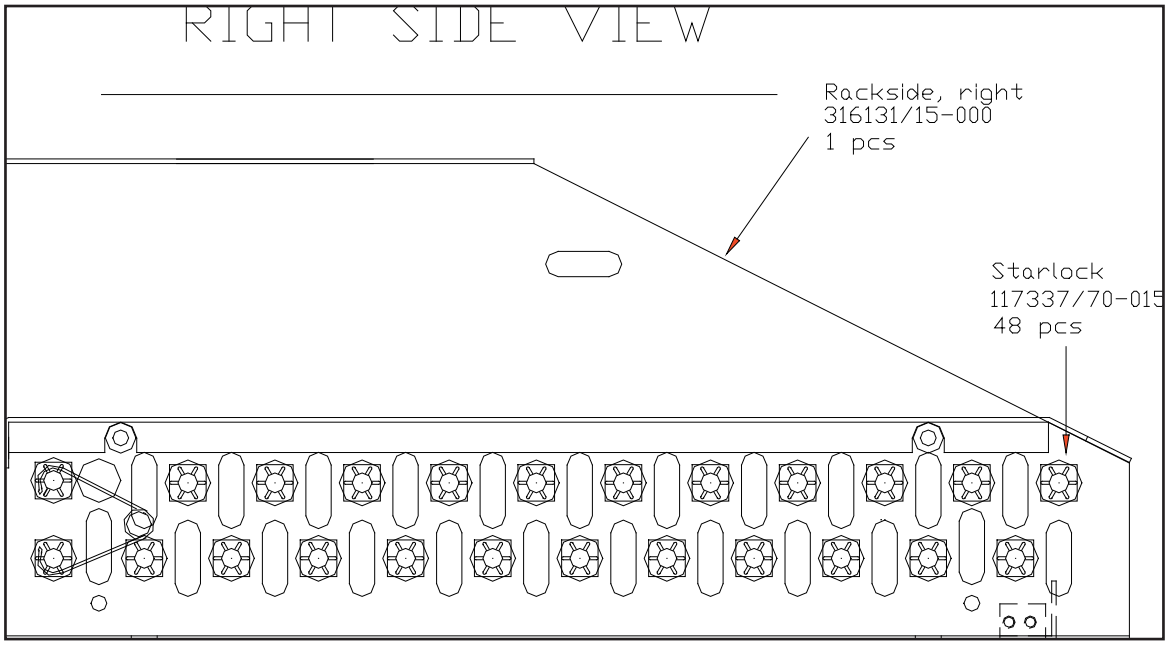
Rack Side l.w.Gears R18, Drawing 324615

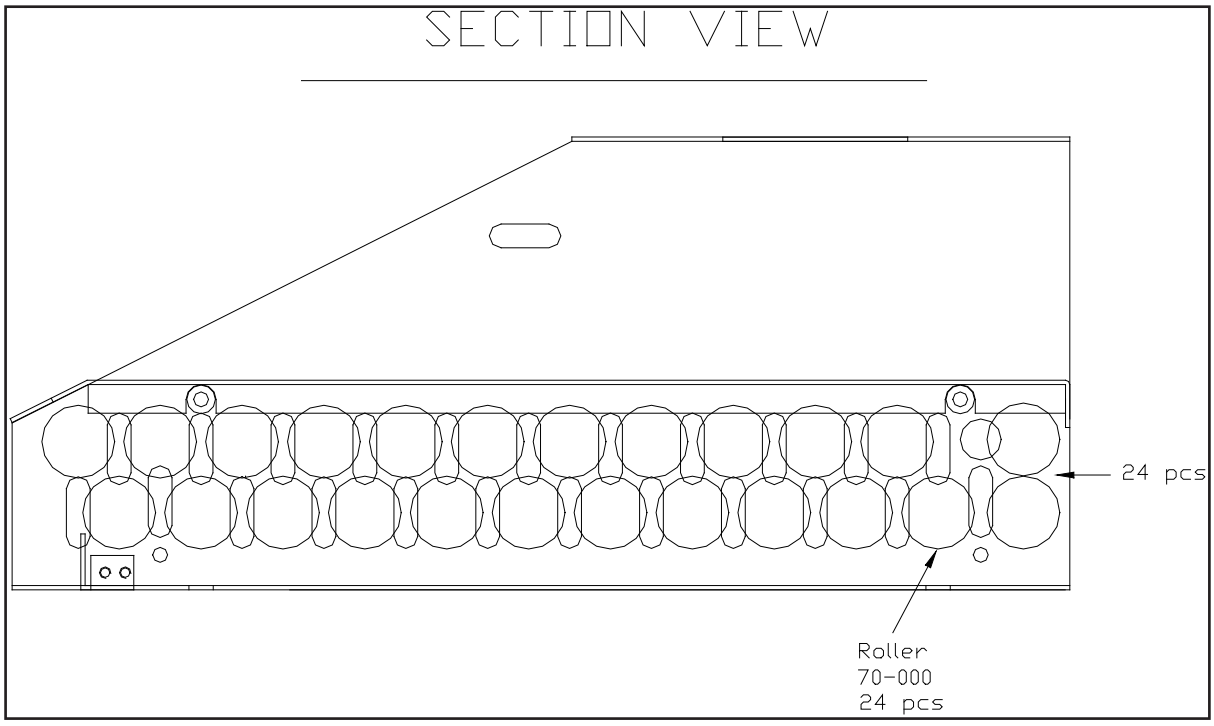


Rack Side r.w.Gears R18, Drawing 324625

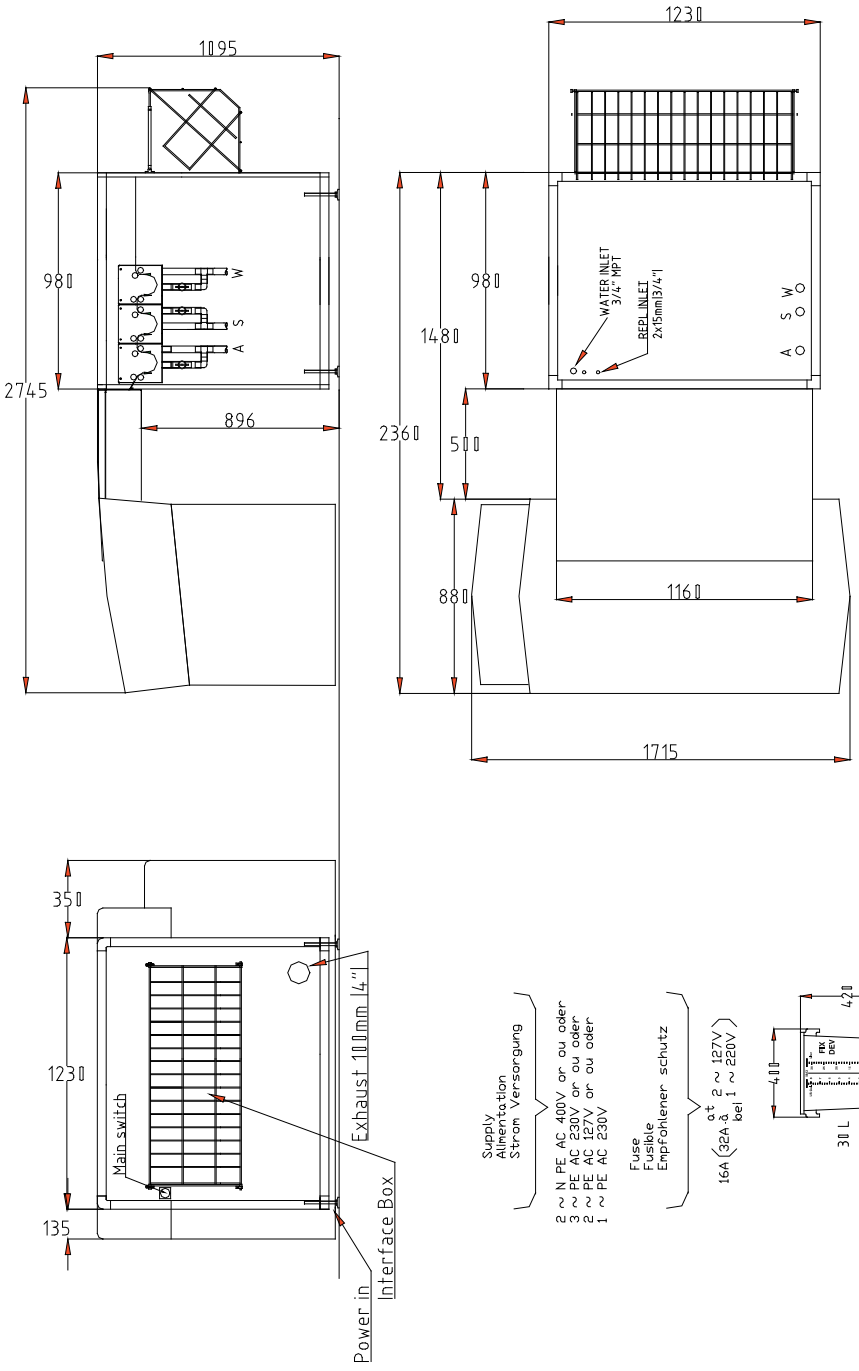


Rack Side Right Dry R38, Drawing 316108





Rack Side Section View Right/Left Dry R38, Drawing 316108



Design/Draw : UN/UN | Scale : 1 : 30 | Date : 24-02-00

Installation view EP 900

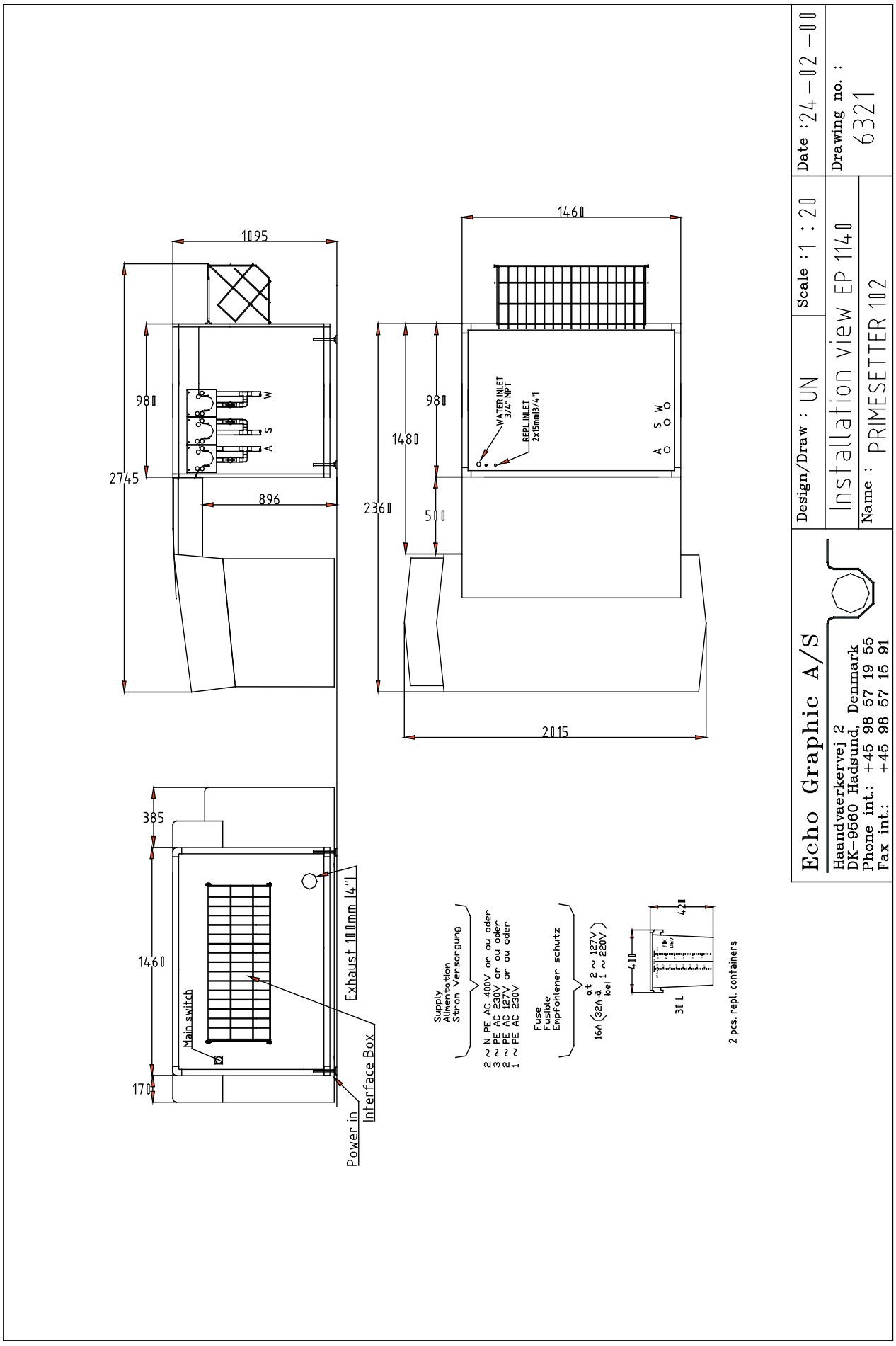
Name : PRIMESETTER 74

Drawing no. : 6320

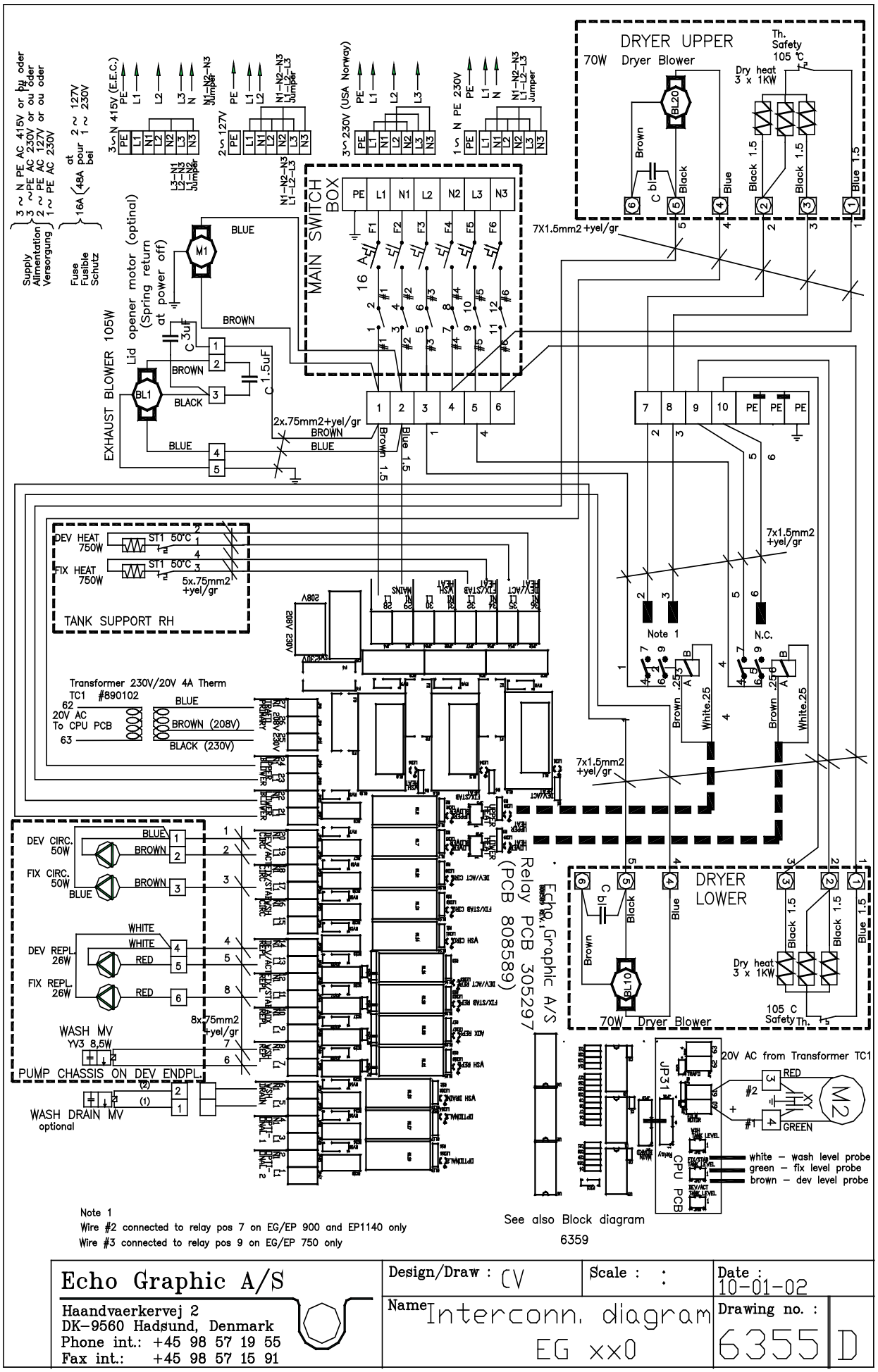
Echo Graphic A/S
Haandvaerkervej 2
DK-9560 Hadsund, Denmark
Phone int.: +45 98 57 19 55
Fax int.: +45 98 57 15 91

Installationview 6320

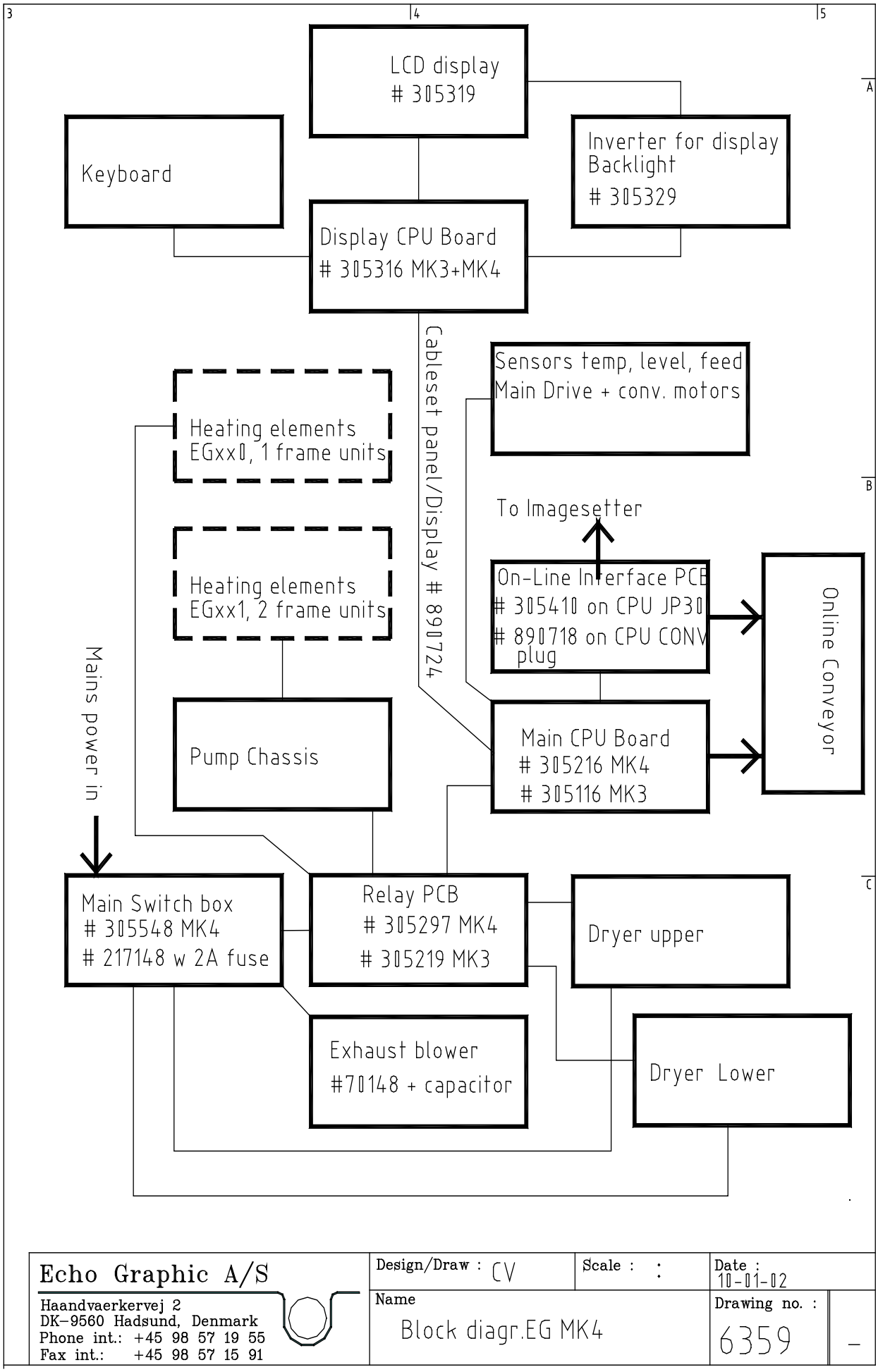
SECTION 8



Installationview 6321



Echo Graphic A/S Haandvaerkervej 2 DK-9560 Hadsund, Denmark Phone int.: +45 98 57 19 55 Fax int.: +45 98 57 15 91	Design/Draw : CV	Scale : :	Date : 10-01-02
	Name Interconn. diagram EG xx0		Drawing no. : 6355 D


LCD display
305319
Keyboard
Inverter for display
Backlight
305329
Display CPU Board
305316 MK3+MK4
Cableset panel/Display # 890724
Sensors temp, level, feed
Main Drive + conv. motors
Heating elements
EGxx0, 1 frame units
Heating elements
EGxx1, 2 frame units
To Imagesetter
On-Line Interface PCB
305410 on CPU JP30
890718 on CPU CONV
plug
Online Conveyor
Mains power in
Pump Chassis
Main CPU Board
305216 MK4
305116 MK3
Main Switch box
305548 MK4
217148 w 2A fuse
Relay PCB
305297 MK4
305219 MK3
Dryer upper
Exhaust blower
#70148 + capacitor
Dryer Lower
Echo Graphic A/S
Haandvaerkervej 2
DK-9560 Hadsund, Denmark
Phone int.: +45 98 57 19 55
Fax int.: +45 98 57 15 91
Design/Draw : CV
Scale : :
Date : 10-01-02
Name
Block diagr.EG MK4
Drawing no. :
6359
-

Hope / Carnfeldt On-Line Processor for Heidelberg Primesetter 74

	EG 901, film	EG 900, film	EP 900, poly	EGP 901, combi
Dimensions of on-line system				
Length	296 cm / 116.5”	274 cm / 107.9”	275 cm / 108.3”	355 cm / 139.8”
Width	172 cm / 67.7”	172 cm / 67.7”	172 cm / 67.7”	172 cm / 67.7”
Height	110 cm / 43.3”	110 cm / 43.3”	110 cm / 43.3”	110 cm / 43.3”
Shipping dimensions				
Length	175 cm / 68.9”	175 cm / 68.9”	175 cm / 68.9”	228 cm / 89.8”
Width	142 cm / 55.9”	142 cm / 55.9”	142 cm / 55.9”	142 cm / 55.9”
Height	129 cm / 50.8”	129 cm / 50.8”	129 cm / 50.8”	137 cm / 53.9”
Weight				
Net	365 kg / 805 lb.	300 kg / 661 lb.	250 kg / 551 lb.	585 kg / 1290 lb.
Gross	460 kg / 1014 lb	380 kg / 838 lb.	340 kg / 750 lb.	680 kg / 1500 lb.
Specifications				
Inlet width	91 cm / 36”	91 cm / 36”	91 cm / 36”	91 cm / 36”
Tank capacity	29 l/7.7 US gal.	29 l/7.7 US gal.	16 l/4.3 US gal.	29/16 l/7.7/4.3 US gal
Rack length dev.	44 cm / 17.3”	32 cm / 12.6”	20 cm 7.9”	44/20 cm/17.3/12.6”
Developing time min.-max.	15 – 90 sec.	20 – 80 sec.	15 – 90 sec.	15 – 90 sec.
Speed at 30 sec. dev. time	88 cm/min. 34.6”/min	64 cm/min. 25.2”/min	-	88 cm/min. 34.6”/min
Speed at 20 sec. dev. time	-	-	60 cm/min. 23.6”/min	60 cm/min.
Max. film length off-line	10 m / 32.8 ft	10 m / 32.8 ft	2 m / 6.6 ft	-
Min. film size off-line	30 x 42 cm 11.8 x 16.5”	30 x 42 cm 11.8 x 16.5”	30 x 42 cm 11.8 x 16.5”	30 x 42 cm 11.8 x 16.5”
Max. format (set by imagesetter)	76 x 86 cm 29.9 x 33.9”	76 x 86 cm 29.9 x 33.9”	76 x 86 cm 29.9 x 33.9”	76 x 86 cm 29.9 x 33.9”
Dev./fix./wash temperature range	20 - 45°C 68 - 113°F	20 - 45°C 68 -113°F	20 - 45°C 68 - 113°F	20 - 45°C 68 - 113°F
Exhaust blower	Built in	Built in	Built in	Built in
Exhaust connection	Ø 10 cm	Ø 10 cm	Ø 10 cm	Ø 10 cm
Circulation rate dev., fix.	22 l/min. 5.8 US gal	10 l/min. 2.7 US gal	10 l/min. 2.7 US gal	22 l/min/10 l/min. 5.8 /2.7 US gal
Water consumption (operate)	3.5 l/min. 0.9 US gal	3.5 l/min. 0.9 US gal	3.5 l/min. 0.9 US gal	3.5 l/min. 0.9 US gal
Emission of heat to room (operate)	3000 W	3000 W	3000 W	3000 W
Water connection	¾” pipe thread	¾” pipe thread	¾” pipe thread	¾” pipe thread
Drain connection	3x1”hose nipple	3x1”hose nipple	3x1”hose nipple	6x1” hose nipple
Repl. containers (dev. and fix.)	30 l/ 8 US gal.	30 l / 8 US gal.	30 l /8 US gal.	4 x 30 l./ 8 US gal.
Max. power consumption	5900 VA	5900 VA	5900 VA	7600 VA
Average power consumption:				
Operate	5000 W	5000 W	5000 W	6200 W
Power save	1000 W	1000 W	1000 W	1000 W
Night mode	600 W	600 W	600 W	1100 W
Power supply:				
1x230ACV+/-10% / 50/60Hz	30 amp	30 amp	30 amp	40 amp
3x230ACV+/-10% / 50/60Hz	3 x 16 amp	3 x 16 amp	3 x 16 amp	3 x 16 amp

Hope / Carnfeldt On-Line Processor for Heidelberg Primesetter 102

	EG 1140, film	EG 1141, film	EP 1140, poly	EGP 1141, combi
Dimensions of on-line system				
Length	274 cm / 107.9”	296 cm / 116.5”	275 cm / 108.3”	355 cm / 139.8”
Width	172 cm / 67.7”	202 cm / 79.5”	202 cm / 79.5”	202 cm / 79.5”
Height	110 cm / 43.3”	110 cm / 43.3”	110 cm / 43.3”	110 cm / 43.3”
Shipping dimensions				
Length	175 cm / 68.9”	175 cm / 68.9”	175 cm / 68.9”	191 cm / 75.2”
Width	142 cm / 55.9”	158 cm / 62.2”	142 cm / 55.9”	185 cm / 72.8”
Height	129 cm / 50.8”	129 cm / 50.8”	129 cm / 50.8”	132 cm / 52.0”
Weight				
Net	300 kg / 661 lb.	400 kg / 882 lb.	370 kg / 816 lb.	650 kg / 1433 lb.
Gross	380 kg / 838 lb.	560 kg / 1235 lb.	470 kg / 1036 lb.	770 kg / 1698 lb.
Specifications				
Inlet width	114 cm / 45”	114 cm / 45”	114 cm / 45”	114 cm / 45”
Tank capacity	36 l/9,5 US gal.	36 l / 9.5 US gal.	18 l / 7.1 US gal.	36/18 l 9.5/7.1 US gal
Rack length dev.	32 cm / 12.6”	44 cm / 17.3”	20 cm / 7.9”	44/20 cm / 17.3/7.9”
Developing time min.-max.	20 – 80 sec.	15 – 90 sec.	15 – 90 sec.	15 – 90 sec.
Speed at 30 sec. dev. time	64 cm/min. 25.2”/min	88 cm/min 34.6”/min.	-	88 cm/min 34.6”/min
Speed at 20 sec. dev. time		-	60 cm/min./. 23.6”/min	60 cm/min / 23.6”/min
Max. film length off-line	10 m / 32.8 ft	10 m / 32.8 ft	2 m / 32.8 ft	2 m / 32.8 ft
Min. film size off-line	30 x 42 cm	30x42 cm / 11.8x16.5”	30x42 cm / 11.8x16.5”	30x42cm 11.8x16.5”
Max. format (set by imagesetter)	108x86 cm / 42.5x33.9”	108x86 cm / 42.5x33.9”	108x86 cm / 42.5x33.9”	108x86 cm 42.5x33.9”
Dev./fix./wash temperature range	20 - 45°C 68 -113°F	20-45°C/68-113°F	20-45°C/68-113°F	20-45°C/68-113°F
Exhaust blower	Built in	Built in	Built in	Built in
Exhaust connection	Ø 10 cm	Ø 10 cm	Ø 10 cm	Ø 10 cm
Circulation rate dev., fix.	10 l/min. 2.7 US gal	22 l/min. 5.8 USgal	10 l/min. 2.7 US gal	22/10 l/min. 5.8 /2.7 US gal
Water consumption (operate	3.5 l/min.	3.5 l/min.	3.5 l/min.	3.5 l/min.
Max)	0.9 US gal	0.9 US gal.	0.9 US gal.	0.9 US gal
Emission of heat to room	3000 W	3000 W	3000 W	3000 W
(operate)	879 BTU/hr.	879 BTU/hr.	879 BTU/hr.	879 BTU/hr.
Water connection	¾” pipe thread	¾” pipe thread	¾” pipe thread	¾” pipe thread
Drain connection	3x1”hose nipple	3 x 1” hose nipple	3 x 1” hose nipple	6 x 1” hose nipple
Replenishment containers	30 l / 8 US gal.	30 l / 8 US gal.	30 l / 8 US gal.	4x30 l. / 4x8 US gal.
Max. power consumption	5900 VA	5900 VA	5900 VA	7600 VA
Average power consumption:				
Operate	5000 W	5000 W	5000 W	6200 W
Power save	1000 W	1000 W	1000 W	1000 W
Night mode	600 W	600 W	600 W	1100 W
Power supply:				
1x230ACV+/-10% / 50/60Hz	30 amp	40 amp	40 amp	40 amp
x230ACV+/-10% / 50/60Hz	3 x 16 amp	3 x 16 amp	3 x 16 amp	3 x 16 amp

Technical Specifications for Primesetter 102