

# Service Manual

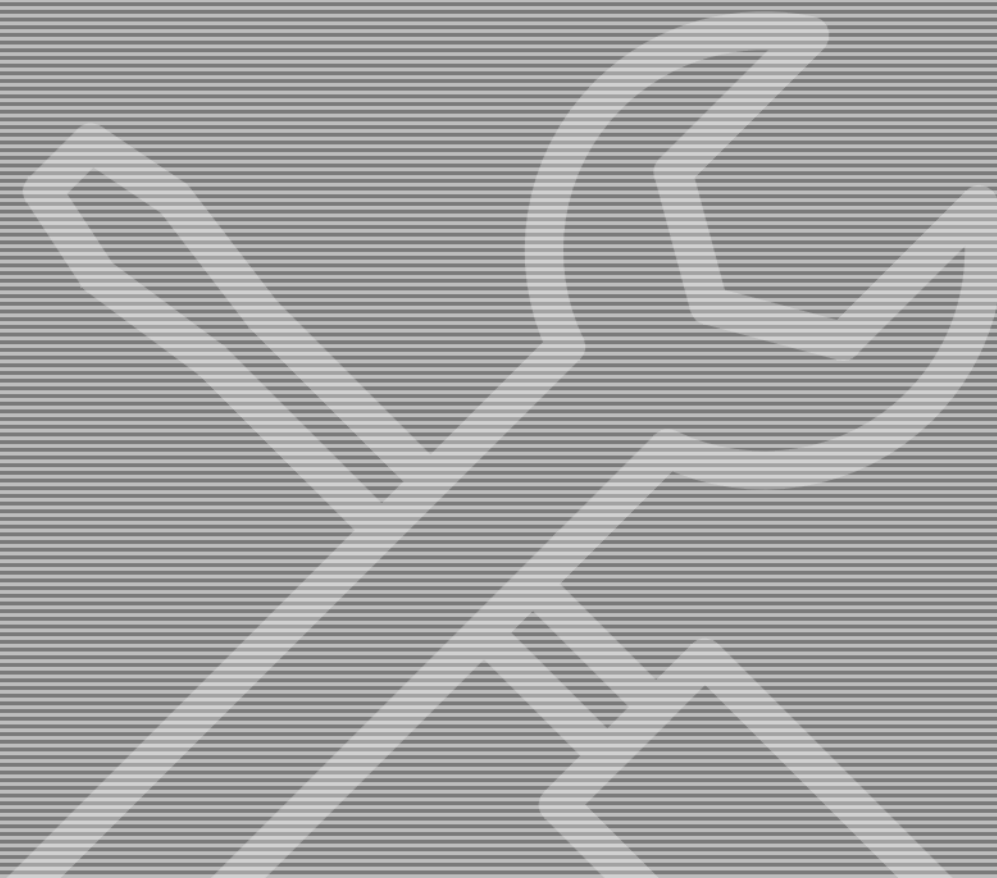


Plate Processors  
85-125 Supreme

GLUNZ & JENSEN 

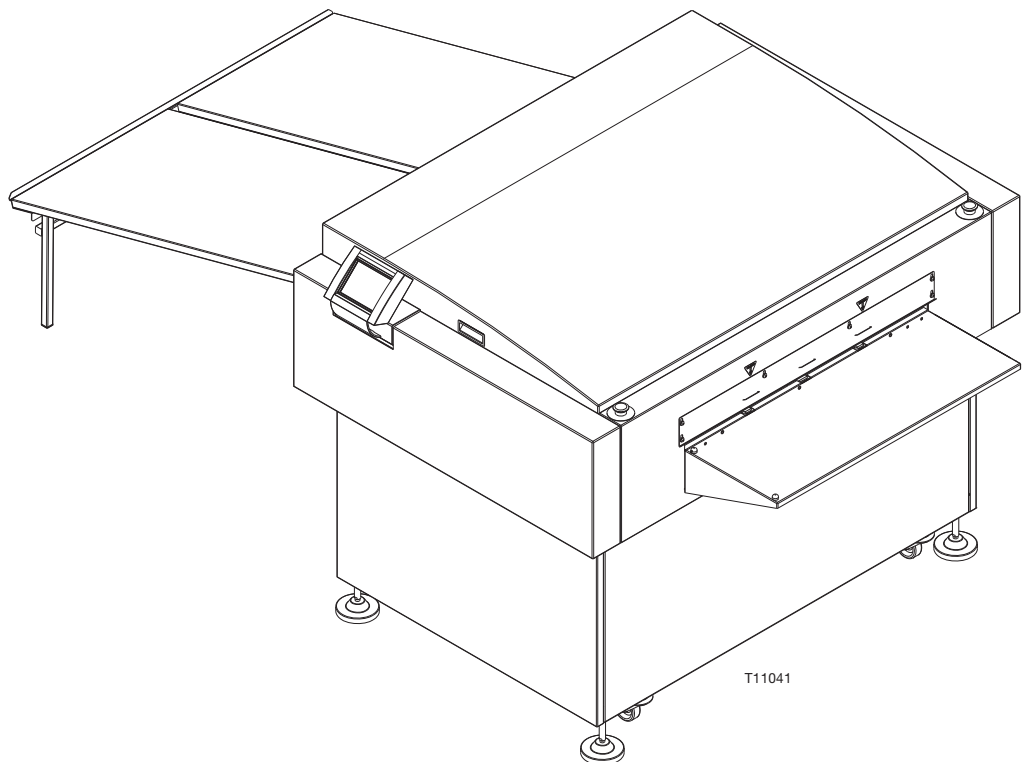
GLUNZ & JENSEN



# Service manual

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## Plate Processors 85-125 Supreme



**Edition CA, February 2009**  
**This book has part No. 51518**

# Part 0: General information

## This manual

### Products covered

This manual is valid for:

**Plate Processor 85** from serial no **94273-0001**.

**Plate Processor 125** from serial no **94274-0015**.

The serial number is specified on the processor name plate located on the rear end of the tank on the left side.



**This manual is for Service Technicians only.**

**The directions given must not be followed by unauthorized personnel.**

**Always read the *Safety Instruction Manual part No 21741* before installing the equipment.**

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## Other manuals

Please see description of "Manuals available for the plate processor" later in this chapter.

## Reservations




- This manual was written and illustrated using the best possible information available at the time of publication.
- Any differences between this manual and the equipment reflect improvements introduced after the publication of the manual.
- Changes, technical inaccuracies and typographic errors will be corrected in subsequent editions.
- As a part of our policy of continuous improvement, we reserve the right to alter design and specifications without further notice.

## Notes, Cautions, and Warnings !

Throughout the manual notes, cautions, and warnings are written in bold like the example below:



**Always replace a fuse with one of the same size and rating as the old one.**

Symbol	Meaning	Explanation
	<b>Note</b>	The operator should observe and/or act according to the information in order to obtain the best possible function of the equipment.
	<b>Caution</b>	The operator must observe and/or act according to the information in order to avoid any mechanical or electrical damage to the equipment.
	<b>Warning</b>	The operator must observe and/or act according to the information in order to avoid any personnel injury.

## The processor

### Approvals

- Approvals will appear from the labels attached to the name plate or the frame part of the processor.

### Intended use of the equipment

- Development of photographic materials as specified in "Technical specifications" in Part 1 in this manual.

## Installation

- Never install the processor in explosive environments.
- It is the responsibility of the owner and operator/s of this processor that the installation is made in accordance with local regulations, and by engineers authorized to carry out plumbing and electrical installations.
- Installation, service and repair must be performed only by service technicians who are trained in servicing the equipment. The installation procedure is described in the separate "Installation manual".
- The manufacturer cannot be held responsible for any damage caused by incorrect installation of this processor.

## Technical data

- Observe technical data from the processor name plate and from Part 1 in this manual.

## Chemicals

- It is the responsibility of the owner of this equipment that data is available concerning possible health risk from the chemicals used with the equipment.

## "End of lifetime" disposal

The equipment is designed for easy disassembling. All disposal of parts from the machine must be made according to local regulations with special regards to following parts:

- For recycling purposes significant components are marked with material specification according to the ISO 11469 standard.
- PVC, tank etc., must be sent to a waste deposit with recycling in view. Alternatively the PVC can be incinerated at a suitable incinerating plant.
- PCB's and other electric equipment must be sent to a suitable waste deposit.

## Service assistance

- If help is needed to correct any problem with the equipment, please contact your local supplier.

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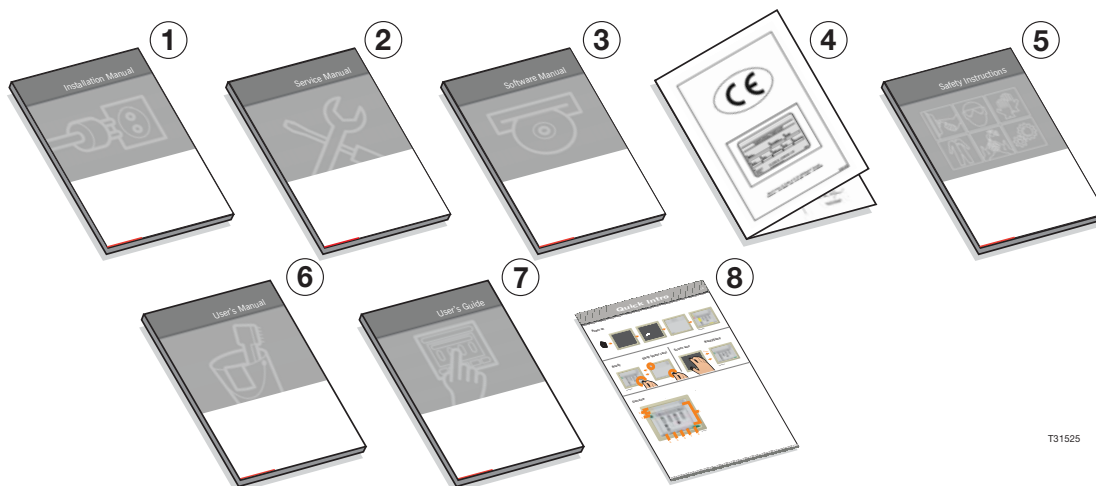
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## Manuals

Manuals available for the plate processor:



T31525

### Service manuals

Service manuals available for the plate processor:

The manuals listed below are for service technicians only. In addition the service technicians will need the manuals listed opposite as "User's Manuals".

#### Processor Installation Manual (1)

Language: English

Contents: Installation of the processor

#### Processor Service Manual (2)

Language: English

Contents: Technical Specifications  
Functional Description  
Service Information  
Service Maintenance  
Trouble Shooting  
Spare Parts  
Electrical Diagrams

#### Software Service Information (3)

Language: English

Contents: Menu structure (service menus)  
Control Panel, Service Information  
Calibration Procedures

## **User manuals**

User manuals available for the plate processor:

### **CE Declaration Of Conformity (4)**

Language: Various

Contents: Survey of the directives to which the products conform

### **Safety Instruction Manual (5)**

Language: Various

Contents: General Safety Information

### **User's Manual, Processor (6)**

Language: 4

Contents: Operating and cleaning procedures.

### **User's Guide, Control Panel (7)**

Language: 4

Contents: Functional description  
Menu structure (user available)  
Operation and programming  
Alarm list

### **Quick Intro (8)**

Language: 4

Contents: Quick intro to Control Panel user functions

**Keep the manuals with the machine for reference at all times.**



# Part 1: Technical specifications

## General environmental information

### The processor does not contain

- Ozone depleting substances according to Montreal protocol.
- Asbestos.
- Polychlorinated biphenyl or Poly-Cyclohexylenedimethylene Terephthalate.
- Mercury.
- Cadmium.
- Lead as additive to plastic parts.

The processor complies with the RoHS directive (2002/95/EC).

### Plastic parts

Significant plastic parts are marked according to ISO 11469.

### Batteries

No batteries in this equipment.

### End of life

Estimated product life: 10 years  
Spare parts and service period: 7 years after last sales.

### Recycling

The processor should be disposed at a certified appliance recycling centre or processing centre.  
Recycling Passport with specifications of components and materials used in this processor is available on [www.glunz-jensen.com/support](http://www.glunz-jensen.com/support).

### Packaging

Plastic packaging materials are marked according to ISO 11469.

### Noise emission

Acoustical noise according to ISO 11201:1996

Sound pressure level  
Operational mode: 64 dB  
Stand-by mode: < 64 dB

## Chemical emissions

Ozone:	0 mg/m <sup>3</sup>
Dust:	0 mg/m <sup>3</sup>
Styrene:	0 mg/m <sup>3</sup>

## Heat emission

See "Power consumption" at page 1-7.

## Mechanical specifications

### Performance

	85	125
<b>Plate types</b>	Single sided thermal offset plates	
<b>Plate width</b> min.- max.	200-850 mm (7.9-33.5")	200-1250 mm (7.9-49.2")
<b>Plate length</b> min.- max.	285-1100 mm (11.2"-(43.3")	350-1500 mm (13.8"-(43.3")
<b>Plate thickness</b> min.- max.	0.15-0.50 mm (0.006-0.02")	
<b>Plate speed</b>	40-150 cm/min (15.7-59.1"/min)	70-230 cm/min (27.6-90.6"/min)
<b>Brush speed</b> at 50 Hz at 60 Hz	80 rpm (revolutions per min.) 96 rpm	

### Tank capacities

	85	125
<b>Developer, total</b> ex. filter, pumps etc.	28.5 l (7.5 US gal.)	71.0 l (18.8 US gal.)
<b>Gum</b> ex. filter, pumps etc.	3.5 l (0.9 US gal.)	6.0 l (1.6 US gal.)



## Temperatures

	85	125
<b>Developer</b> Min. - Max.	18 - 35 °C (64.4 - 95 °F)	
<b>Dryer, process</b>	Fixed	

## Water requirements

	85	125
<b>Pressure</b> Min. - max.	2 - 6 bar (29 - 87 psi)	

## Water consumption

	85	125
<b>Operation</b> (if no wash recirc.)	8 l/min (2.1 US gal/min)	12 l/min (3.2 US gal/min)
<b>Stand-by</b> (if no wash recirc.)	0.0 l/min (0.0 US gal/min)	

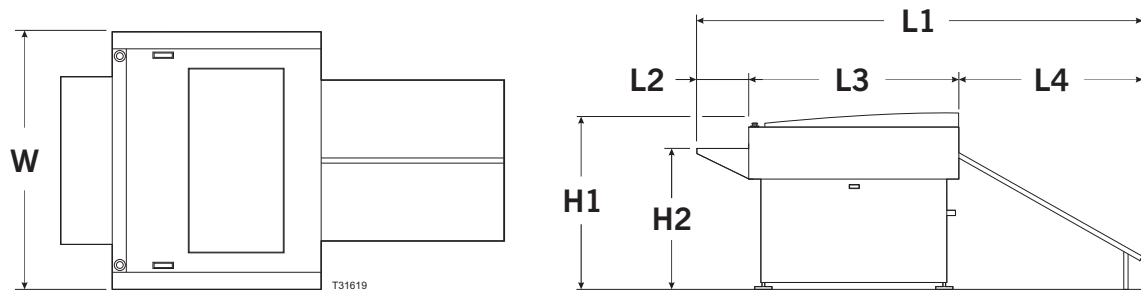
## Hose connections

	85	125
<b>Water supply</b> inside diameter	10 mm (0.39")	

## Drain connections

	85	125
<b>Dev</b>	20 mm (0.79")	
<b>Wash</b>	20 mm (0.79")	
<b>Gum</b>	20 mm (0.79")	

## Dimensions



Processor type	85	125
<b>Width (W)</b>	152.5 cm (60.0")	195.0 cm (76.8")
<b>Length (L1)</b>	243.8 cm (96.0"), or 253.8 cm (99.9")	326.8 cm (128.7"), or 386.8 cm (152.3")
<b>Length (L2)</b>	30.0 cm (11.8"), or 40.0 cm (15.7")	40.0 cm (15.7"), or 100.0 cm (39.4")
<b>Length (L3)</b>	107.0 cm (42.1")	141.0 cm (55.5")
<b>Length (L4)</b>	106.8 cm (42.0")	145.8 cm (57.4")
<b>Height (H1) *</b>	108.5 cm* (42.7")*	114.5 cm* (45.1")*
<b>Height (H2) *</b>	79.8 cm* (31.4")*	80.6 cm* (31.7")*
*) Height is adjustable up to approx. 6 cm (2.4") upwards from measurements listed above. Some processors have foot extensions. Heights will in those cases increase accordingly.		

## Weights

Processor type	85	125
<b>Weight, empty</b>	324 kg (714 lbs)	610 kg (1345 lbs)

## Electrical specifications

### Installation requirements for power supply

	Supply/Fuse	Recom. cable type	85	125
EUR	1W + N + PE, 230V AC, 1x20 Amps, 50/60 Hz	Min. 3 x 1.5 mm <sup>2</sup> , type H07 RNF	●	
	1W + N + PE, 230V AC, 1x30 Amps, 50/60 Hz	Min. 3 x 4 mm <sup>2</sup> , type H07 RNF		●
	3W + N + PE, 400V AC, 3x16 Amps, 50/60 Hz	Min. 5 x 1.5 mm <sup>2</sup> , type H07 RNF	●	
	3W + N + PE, 400V AC, 3x16 Amps, 50/60 Hz	Min. 5 x 1.5 mm <sup>2</sup> , type H07 RNF		●
US	2W + PE, 230V AC, 2x20 Amps, 50/60 Hz	Min. 3 x 12 AWG, type SJO	●	
	2W + PE, 230V AC, 2x30 Amps, 50/60 Hz	Min. 3 x 10 AWG, type SJO		●
	3W + PE, 230V AC, 3x15 Amps, 50/60 Hz	Min. 4 x 14 AWG, type SJO	●	
	3W + PE, 230V AC, 3x20 Amps, 50/60 Hz	Min. 4 x 12 AWG, type SJO		●
All	Voltage tolerance +10%/-10%		●	●

\*) Power cord must be in accordance with local regulations.



**Please be aware of double pole/neutral fusing.**

See also specifications of actual power consumption below.

### Power consumption

	Max power consumption at ...	85	125
EUR/ US	230/400 V AC operation: 3400 Watt / 11600 BTU/hour	●	
	230/400 V AC operation: 5700 Watt / 19400 BTU/hour		●
	Stand-by: 500 Watt / 1710 BTU/hour	●	●

### Noise level

See "General environmental information" on page 1-1.



# Part 2: Functional description

## General

### Processor sections

The basis processor contains four major sections:

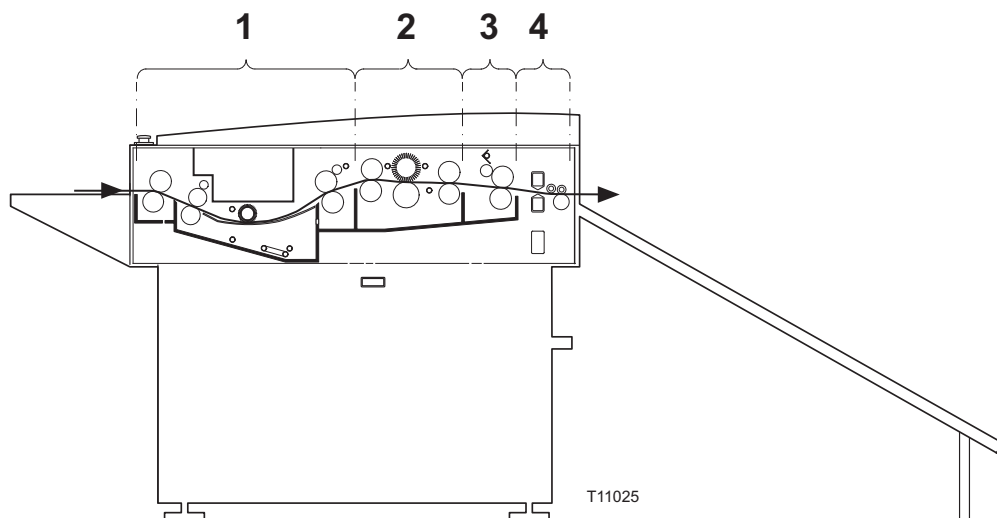


Fig.: Processor for short plates with front drive

1	<b>Developer</b>	Developing of the plate and removing of the remaining unexposed/-exposed emulsion.
2	<b>Wash</b>	Washing off the developer chemicals from the developed plate.
3	<b>Gum</b>	Application of a thin layer of gum onto the developed and washed plate to protect it from oxidation, dirt, fingerprints etc.
4	<b>Dryer</b>	Drying of the plate to ensure immediate handling of the plate.

The processor sections are described in detail on the following pages.

### Control panel

Processor functions, settings and alarms are controlled from the control panel.

The control panel functions are described in the **Control Panel**.

## Developer section

(Detailed plumbing configuration schematics are shown later in this chapter.)

In the developer section the plate is developed.

### Configuration

Roller configuration will vary depending on processor model. See also the description of "Transport" later in this chapter and schematics with configurations for flow and drains.

### Circulation

A circulation pump recirculates the developer in the section. The solution passes through a filter to clean it from impurities and make the solution last longer.

### Level control/temperature

The developer bath is equipped with a min. level detector circuit, and to keep the temperature in range, a heater, a thermostat and for some models an external chiller unit. The chiller unit is a closed system in which water is cooled and circulated through the developer bath.

### Replenishment/anti-oxidation system

The replenishment system automatically adds fresh developer to the developer section to compensate for chemicals expended during processing and for lost activity caused by plate development.

The processor measures the plate size to determine the correct amount of replenisher for each plate.



**Plate sizes must be entered in the "PLATE SIZES" menu in order to obtain exact calculation of replenishment.**

The time replenish system adds fresh developer or replenish concentrate to the developer section to compensate for lost activity caused by oxidation and evaporation. The replenish amounts can be set individually for stand-by mode (heated bath) and off mode (unheated bath).

The replenishment system also features an "off replenishment" function which adds an amount of developer into the developer bath when the processor is turned on after being turned off for a long period.

The replenishment/anti-oxidation developer is added to the section by means of a pump.

## Wash section

(Detailed plumbing configuration schematics are shown later in this chapter.)

In the wash section the developer solution is washed off the developed plate.

When the plates pass through the section, water is applied onto both sides of the plate through 3 spray tubes, 2 above and 1 underneath the plate.

## Gum

(Detailed plumbing configuration schematics are shown later in this chapter.)

In the gum section a thin layer of gum is applied to the developed and washed plate to protect it from oxidation, dirt, fingerprints etc.

Later, when the plate is fixed in the printing machine, the layer will be rinsed off.

If the plate has been corrected or if it has to be used again on a later occasion it should be rewashed and regummed (optional feature for some processors).

### Circulation

The gum solution is pumped from the gum container into a distributing tube and onto the plate. The gum section, pump and container are connected in a closed system. The gum returns to the section into the container and keeps recycling.

The gum circulation system is equipped with a bypass valve for adjustment of the circulation flow. Adjustment of the gum circulation bypass valve is described in Part 3 "Cleaning and maintenance".

### Gum distribution roller

The gum distribution roller ensures a uniform distribution of gum. The roller must be lifted to upper position and cleaned at each shut-down and again lowered to process position at each start-up. See Part 3 "Cleaning and maintenance".

## Dryer section

(Detailed plumbing configuration schematics are shown later in this chapter.)

In the dryer section the plate is dried, and so further handling of the plate is possible immediately after it exits the processor.

A fan blows hot air through a pair of air tubes and dries the plate on both sides.

## Transport system

The plate is transported through the processor by a series of rollers and roller guides. The rollers are driven by a drive motor and a sprocket/chain drive system.

The plate is transported through the processor by a series of rollers and guides. The rollers are driven by a drive motor and a worm gear drive system.

The rollers at the developer section entrance always run dry to ensure a homogeneous development. The guide and rollers ensure that the plate is transported correctly through the developer solution and underneath the brush roller and the guide underneath the brush roller leads the plate to the rollers at the developer tank exit.

In the wash section the residual emulsion is washed off the plate by means of a brush roller and spray bars. The wash section entrance rollers prevent that the wash water runs back into the developer section. Water is squeezed off the plate by the wash section exit rollers.

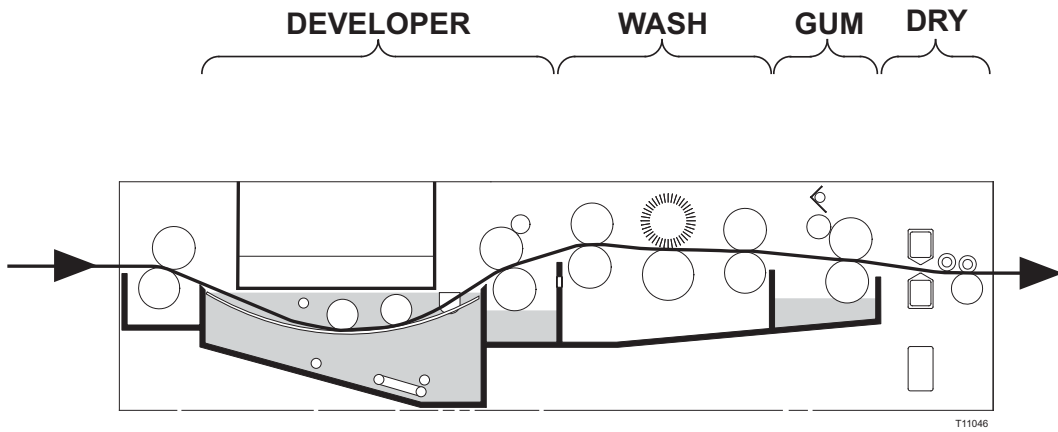
The gum section contains one roller pair and a smaller roller situated close to the upper roller. The gum solution from the application tube forms a small bath between these two rollers and a thin layer of gum is applied to the plate. The extra gum returns to the main replenisher container and recirculates.

In the dryer section the plate is dried which makes it ready for immediate handling afterwards. The exit roller pair takes the plate when dry and leads it out of the processor.

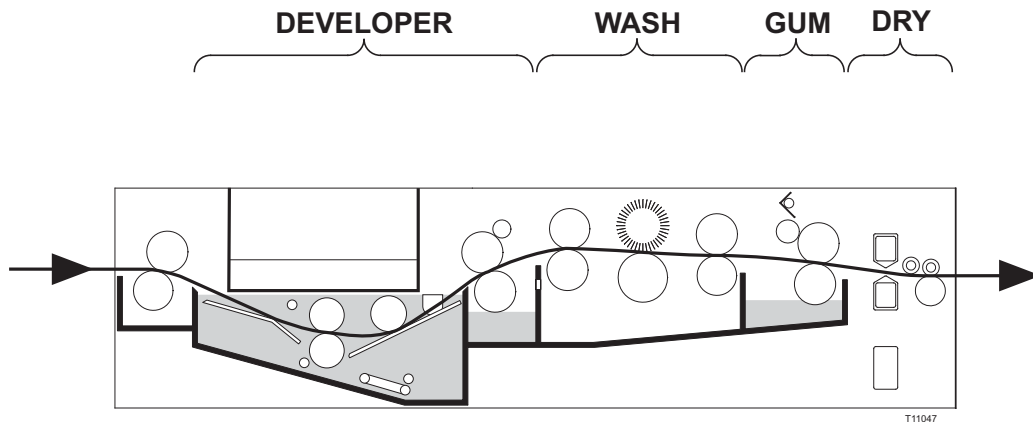
The processor will be equipped with one of the two transport systems illustrated opposite:



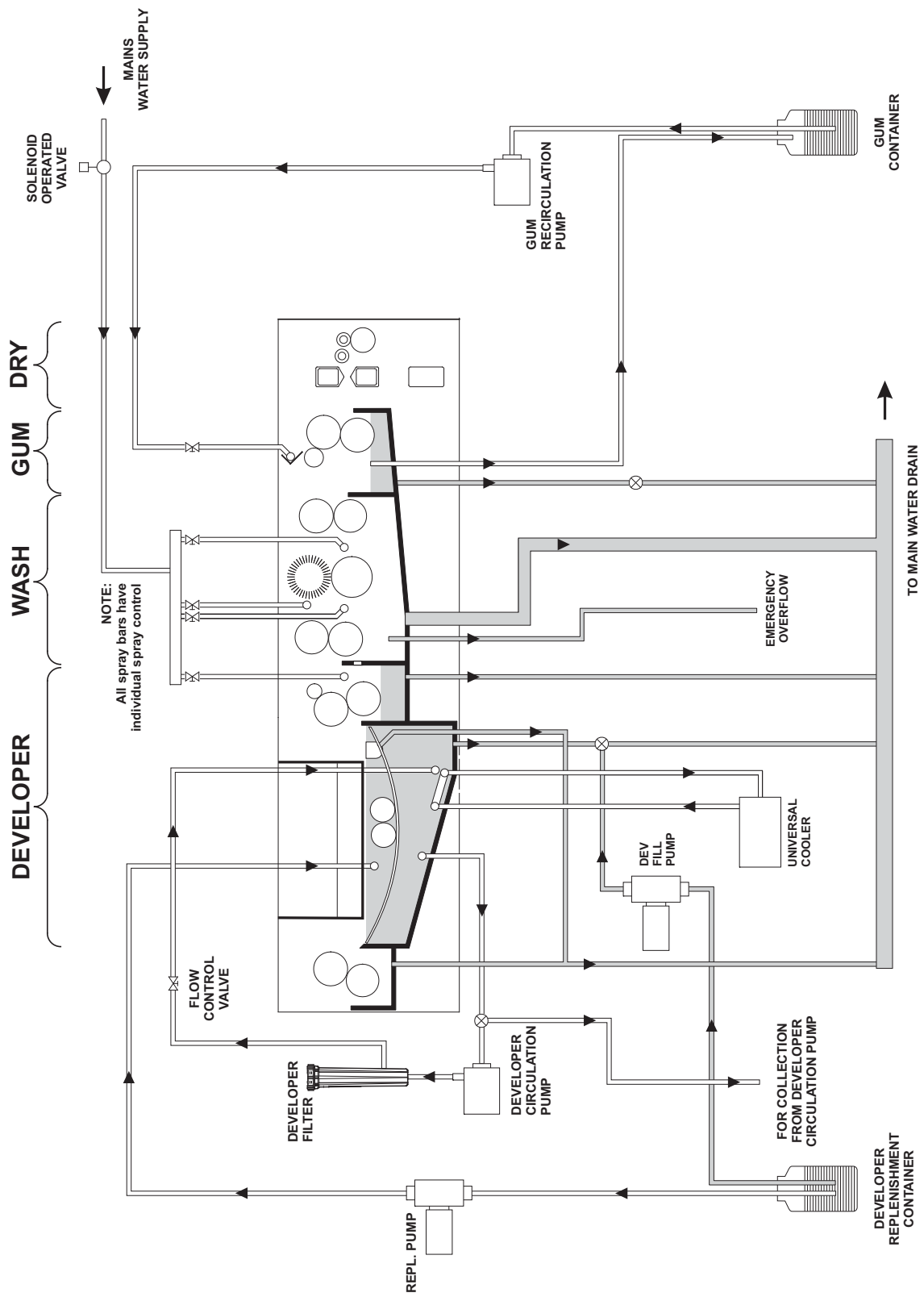
SP 85



CD 125



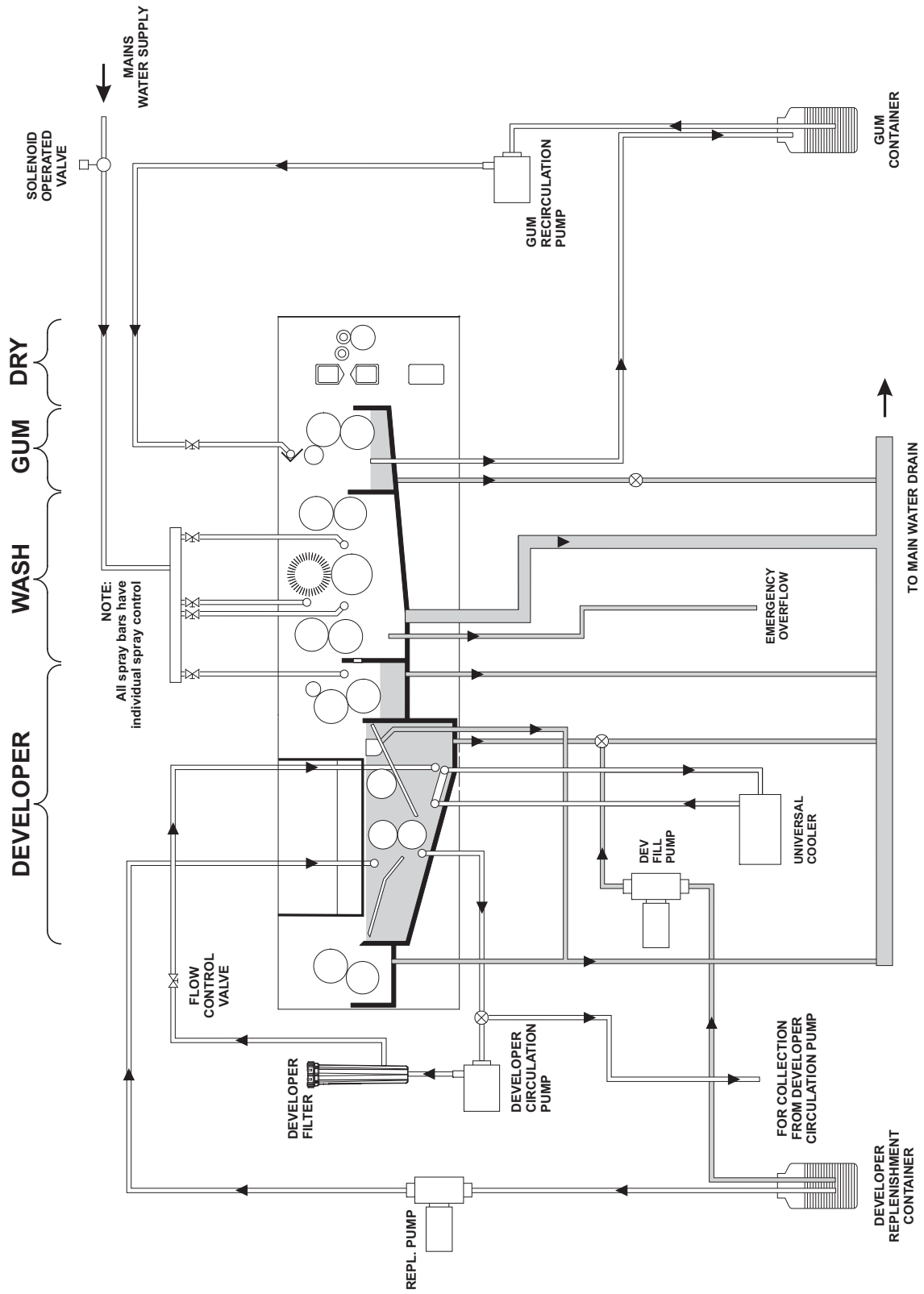
## SP 85 Processor



**Processor 85**

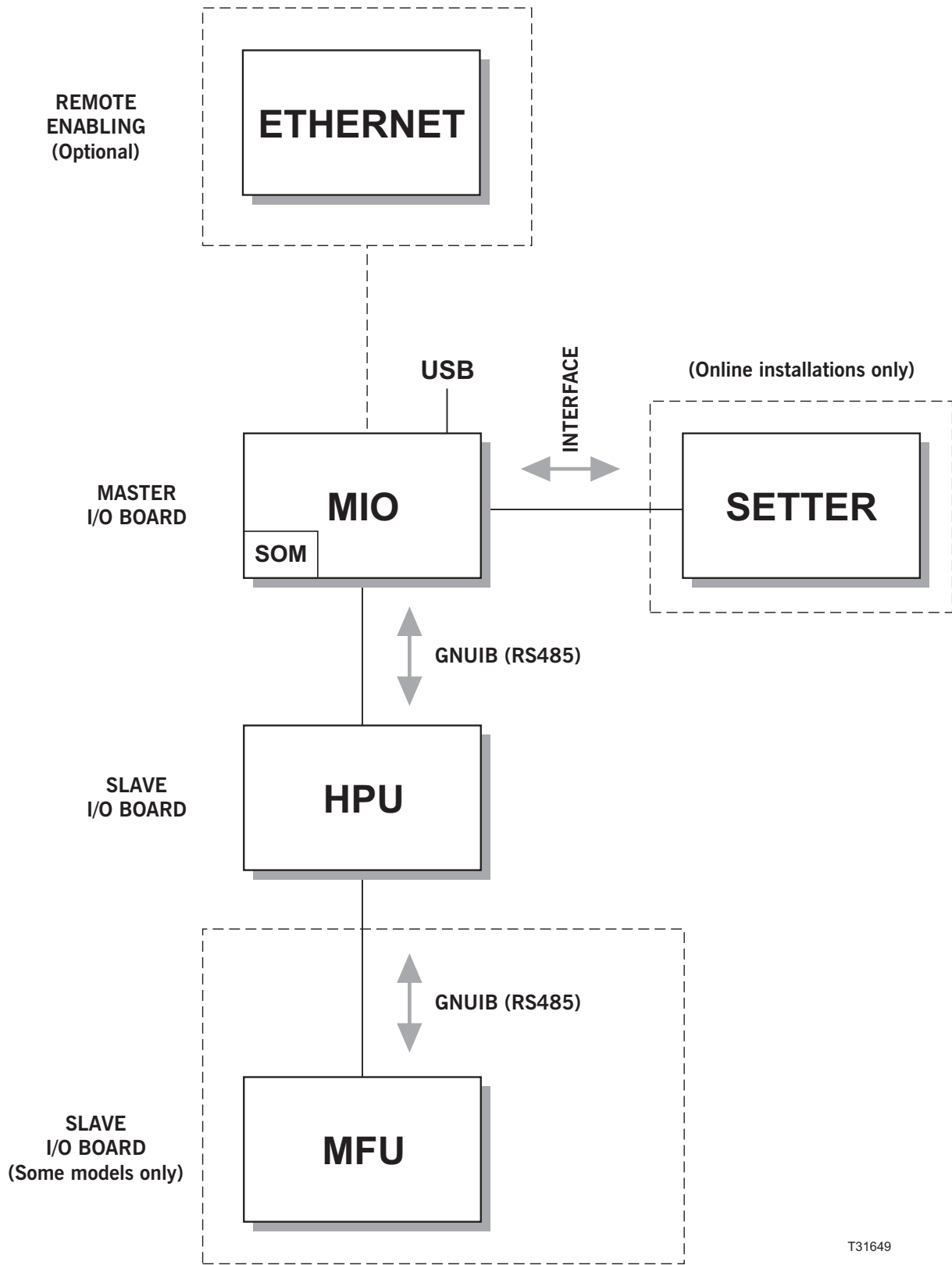
T11042

## CD 125 Processor



# Processor 125

T11045



T31649

## Electronic control

See illustration opposite. The electrical control system consists of:

### Master Input/Output Unit (MIO)

The electrical control system is controlled by the MIO board via the SOM (System on Module).

There are two separate communication lines (buses):

- **GNUIB** for all internal communication in the processor (RS485).
- **ETHERNET** for Remote Enabling System.

The MIO-board is equipped with a platesetter interface for communication between the processor and platesetter.

### High Power Unit (HPU)

The HPU-board holds all the high voltage in- and outputs for the control of heaters, motors etc.

### Motor Filter Unit (MFU)

The MFU board is a slave controlling speed and current flow of one DC motor only. Often placed very close to the motor itself.

All commands and power supply for the board are received via the GNUIB RS485 cable whereas power supply for motor control is received via a separate cable.

### Touch Screen Control Panel

A graphical user interface colour display. The processor is operated on the touch screen display. Control panel service information is described in the Software Manual.







# Part 3: Cleaning and Maintenance

## General

This chapter holds the special service information such as adjusting procedures, cleaning of pumps etc.

For software related service information please refer to the separate "Software Service Information" manual.

For user related maintenance and cleaning procedures refer to the Plate Processor User Manual.

### **WARNING!**

Please note that where this label appears on the processor electrical shock hazard still exists when main switch is turned off.



ELECTRICAL SHOCK HAZARD

DISCONNECT ALL EXTERNAL POWER  
SUPPLY BEFORE SERVICING

TO BE SERVICED BY AUTHORIZED PERSONNEL ONLY

RISQUE DE CHOC ÉLECTRIQUE

AVANT TOUTE INTERVENTION,  
DÉBRANCHER TOUTES LES SOURCES DE COURANT

MAINTENANCE PAR PERSONNEL  
AUTORISÉ SEULEMENT

### **WARNING!**

When performing any service, maintenance, calibration, or trouble shooting etc. it may be necessary to override the function of the processor's interlock switches.

In these cases please be aware, that the processor's JOG-function is still active, making the drive system run idle at intervals.

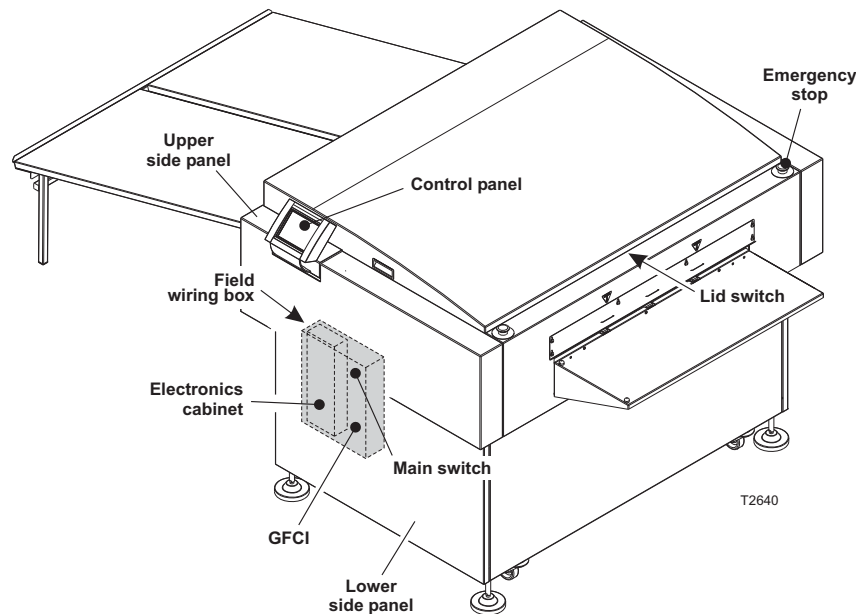
There will be NO advice when the JOG function starts.

## Safety check

**i** Below described safety check should be performed at least once a year.

### Electrical

- Check proper function of:
  - **Lid switch:**  
The processor must stop when the switch is deactivated. The "COVER OPEN" message must appear in the control panel display.
  - **Main switch:**  
The processor must turn off when set to "0" (off).
  - **Emergency stop:**  
The processor must turn off when activated.
  - **GFCI (F10):**  
The processor must turn off when activating the yellow button.



### Mechanical

- Check proper function/location of:
  - **Upper side panels, left/right:**  
Make sure the fenders are properly secured with 2 screws each.
  - **Lower side panels, left/right.**
  - **Covers, electronics cabinets:**  
Make sure covers are secured by screws.

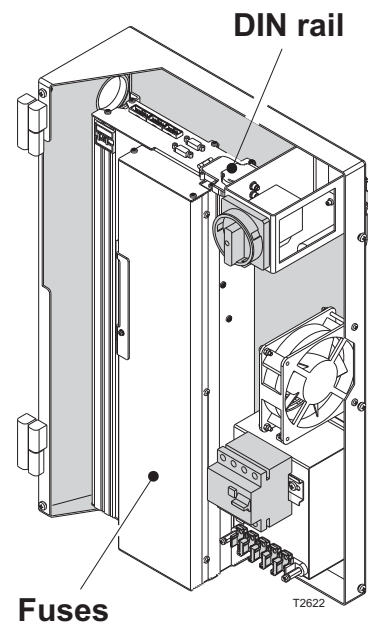
## Fuses

Fuses F20 for brush motor (M4) is placed on the motor behind the left fender. Fuse F19 for drive motor (M1) is placed on the DIN rail (see fig.) in the electronics cabinet.

Other fuses for the various functions are located on the fuse PCB in the electronics cabinet (see fig.) behind the left side panel. A fuse label on the inside of the lid shows the position and rate of the fuses.



**When changing a fuse, first switch off all power to the machine. Always ensure that the new fuse is of the correct rating according to the label.**



## Cleaning

Cleaning and maintenance procedures to be carried out on a regular basis are described in the "User's Manual" for plate processors.

### Cleaning accessories



Never use any hard tools or abrasive materials when cleaning any part of the processor.

#### **Apron, rubber gloves and eye goggles.**

For personal protection

#### **Lint-free cloth, sponge and soft brush.**

For cleaning of rollers, guides, tank walls, and all surfaces, especially the exit table and the feed table (if fitted).

#### **Long-handled bottle brush and thin wire (i.e. Paper clip).**

For cleaning the inside and the holes of the spray tubes.

### Cleaning agents



Never use cleaning agents containing chlorinated solvents or acetic or phosphoric acid. These constitute a health hazard and could damage the processor.



Cleaning components with anything other than a mild detergent or a recommended cleaning agent may cause irreversible damage and invalidate any warranty.

### Standard recommendations

#### **Warm water 35-40°C (95-104°F).**

For normal cleaning purposes and to rinse after using other cleaning agents.

#### **Citric acid 10%/Nitric acid 5%**

For major cleaning purposes.

#### **Commercially available biocide/strong alkalic liquid**

For cleaning off heavy algae-, fungal- or bacterial growth in the wash section.

### Special recommendations

As some chemicals may require special cleaning agents, contact your chemicals supplier for recommendations about cleaning agents for your processor.

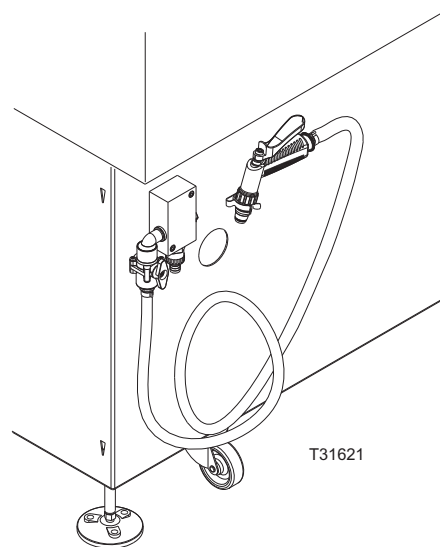
## Hand shower

A hand shower is located on the rear left hand side of the base frame. Use the hand shower for cleaning purposes.



**Only use the hand shower when all power has been disconnected from the processor.**

Ensure that the hand shower tap is closed when the hand shower is not in use.



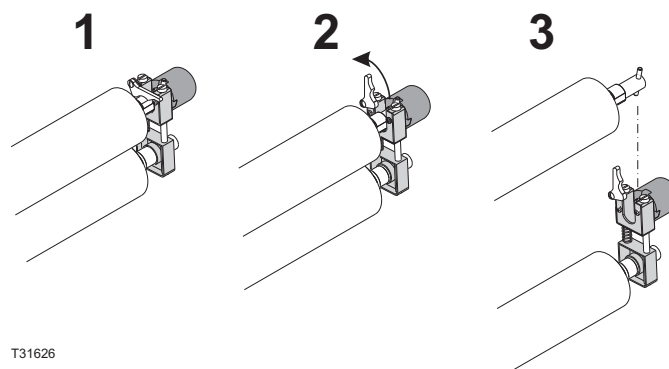
## Container contents



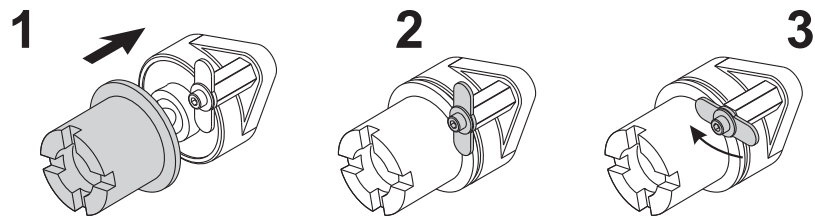
**When one or more containers have been exchanged it is very important that the correct hoses are connected to them.**

- Check that the replenish containers are sufficiently filled. Refill or replace if necessary.
- Empty/replace waste containers.
- Replace gum if it is dirty, too thin or too thick.

## Removing rollers from block bearings



## Removing rollers from clutch bearings



T31627

## Developer section

### Major cleaning

Follow the procedure described for cleaning in the User's Manual but use a solution of tank cleaner if needed.

## Wash section

### Major cleaning

Follow procedure described for cleaning in the User's Manual, but use a 10% citric acid solution instead of water.

## Gum section

### Daily cleaning

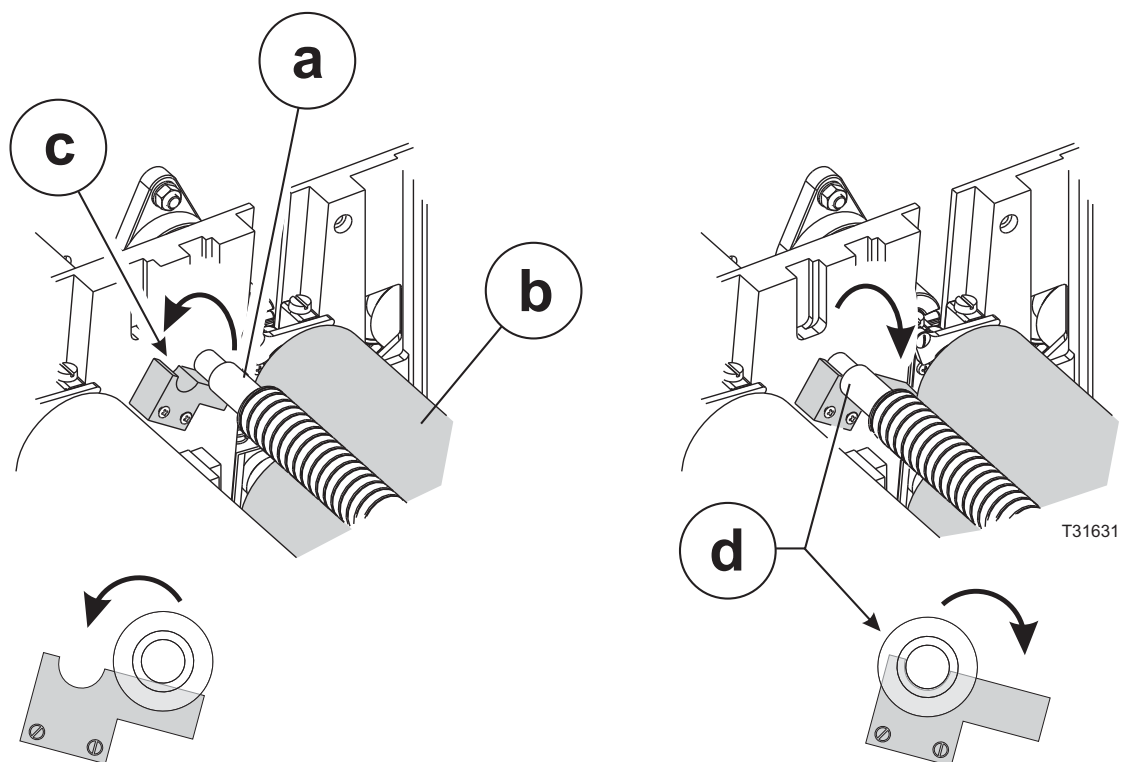
The gum applicator roller ensures a uniform distribution of gum on the gum roller. The applicator roller needs to be cleaned each time the processor is shut down in order to ensure proper distribution of gum to the plates. Follow the steps below:

#### Shut down:

- Press the stand-by key to shut down the processor.
- Lift up the top cover.
- Lift the gum applicator roller (a) out and clean it.
- Clean the upper gum roller (b) with a moist cloth.
- Place the gum applicator roller in upper position ©) ready to next start-up.
- Close the top cover.

#### Start-up:

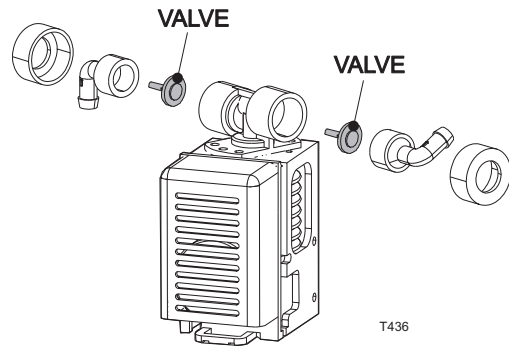
- Lift up the top cover.
- Lower the gum applicator roller (a) to process position (d).
- Close the top cover.
- Press the stand-by key on the control panel to switch the processor to stand-by mode.



## Cleaning of valves in the replenish pumps

If a replenishment pump ceases to function properly, run it with some warm water in order to clear the pump of chemicals.

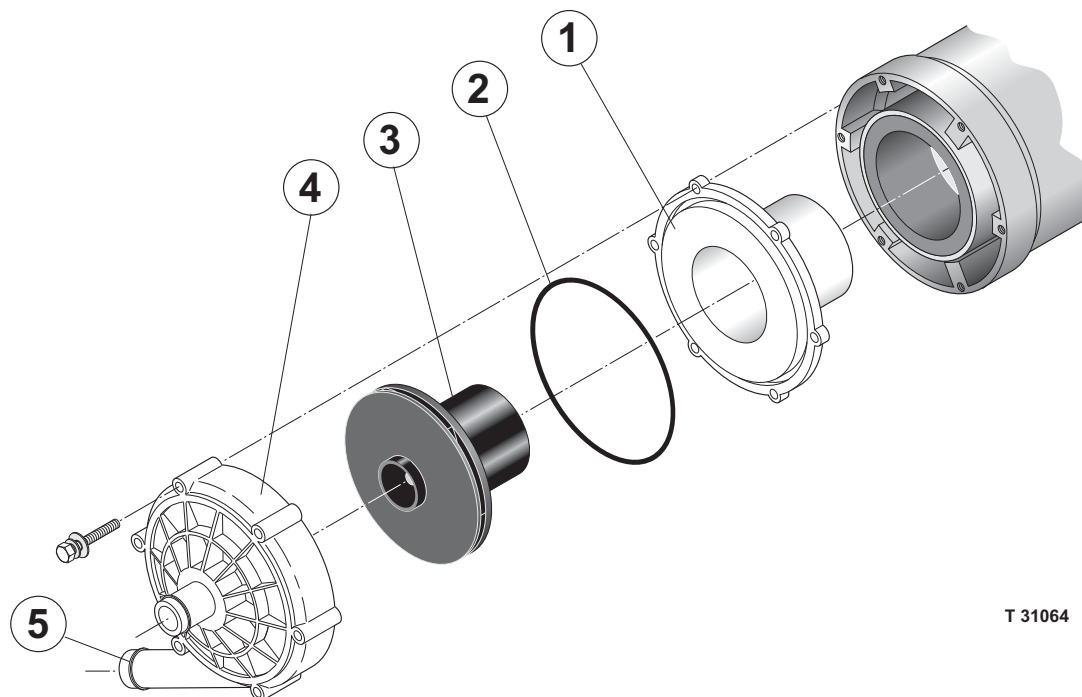
If this does not help, take the pump apart and clean both of the small valves in warm water.



## Cleaning of the circulation pumps

If the circulation pump ceases to function properly clean the pump following this description.

- Cut off the power to the unit by removing the top cover.
- Empty the tank section.
- Dismount the hoses from the pump. Be careful not to spill the chemicals on the floor.
- Note the position of the outlet nozzle (5).
- Dismount the pump.
- Dismount the cover (4) and pull out the impeller (3) and the impeller housing (1).
- Clean the inside of the cover, the impeller and the impeller housing in warm water.
- Reinstall in reverse order, observing that the outlet nozzle (5) of the cover is placed as it was before dismounting it, and that the O-ring (2) is placed correctly in the groove of the impeller housing (1).





## Maintenance

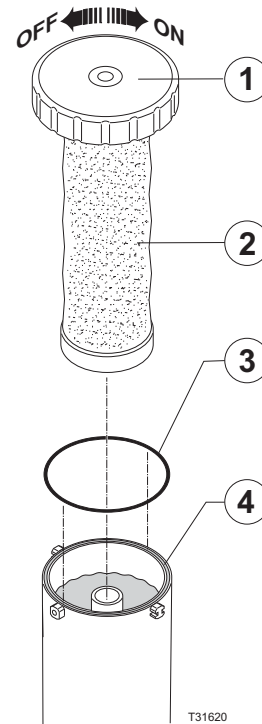
### Changing developer filter

The developer filter unit is located underneath the top cover in the right side of the processor.

- Lift up the top cover.
- Unscrew the filter cover (1) (counterclockwise) and slowly lift it off. The filter element (2) will hang on to the cover.
- Mount a new filter element underneath the cover and lower it **slowly** into the vessel to avoid splashing.
- Make sure that the O-ring (3) is fitted properly in the filter vessel groove (4) then tighten the cover (1) (clockwise).
- Reset the filter area:  
Enter the "☑️ -> Manual task" and select the "DEV filter replaced" dialog.



Pressing "Confirm replace" will reset filter area counter.

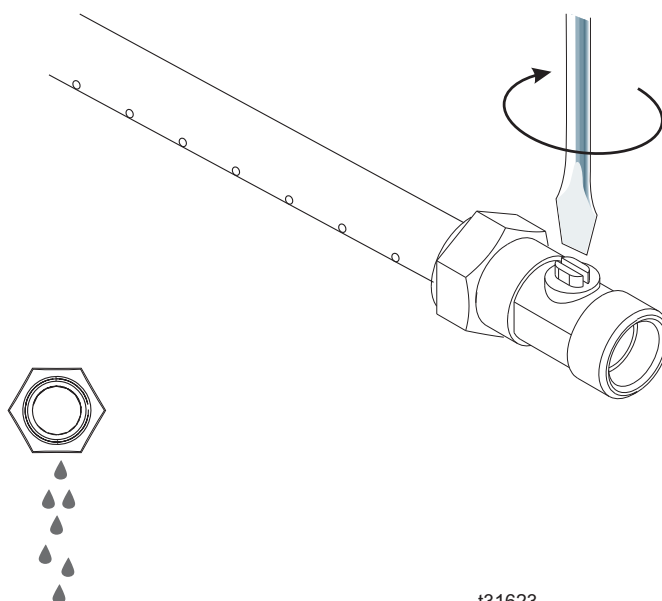


T31620

### Adjustment of spray tubes

The pressure in the spray tubes can be adjusted to obtain the best possible application of water to the plate. Pressure is adjusted as shown on the illustration below.

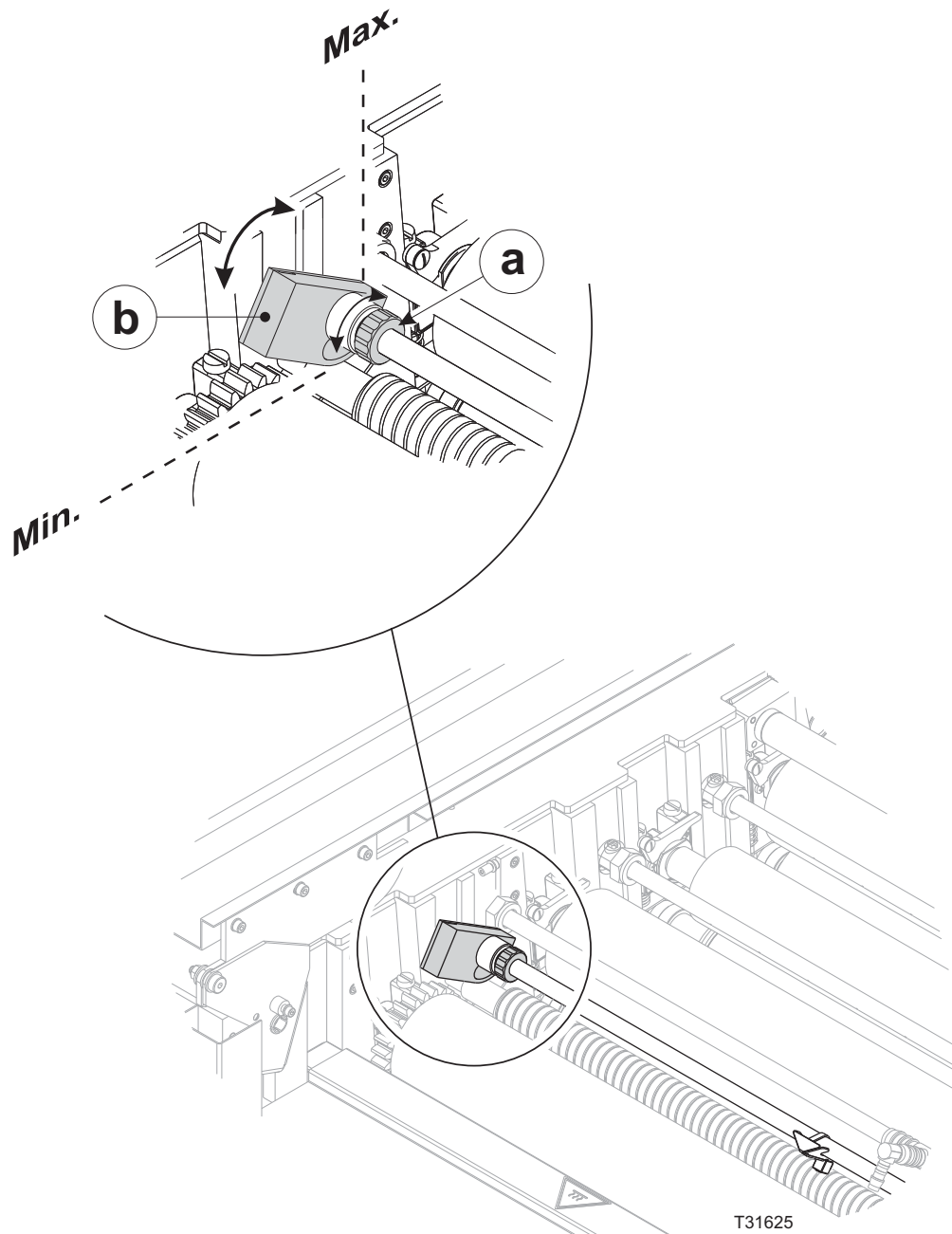
The valve is fully open from the factory. Normally no adjustments are necessary.



t31623

## Adjustment of gum flow

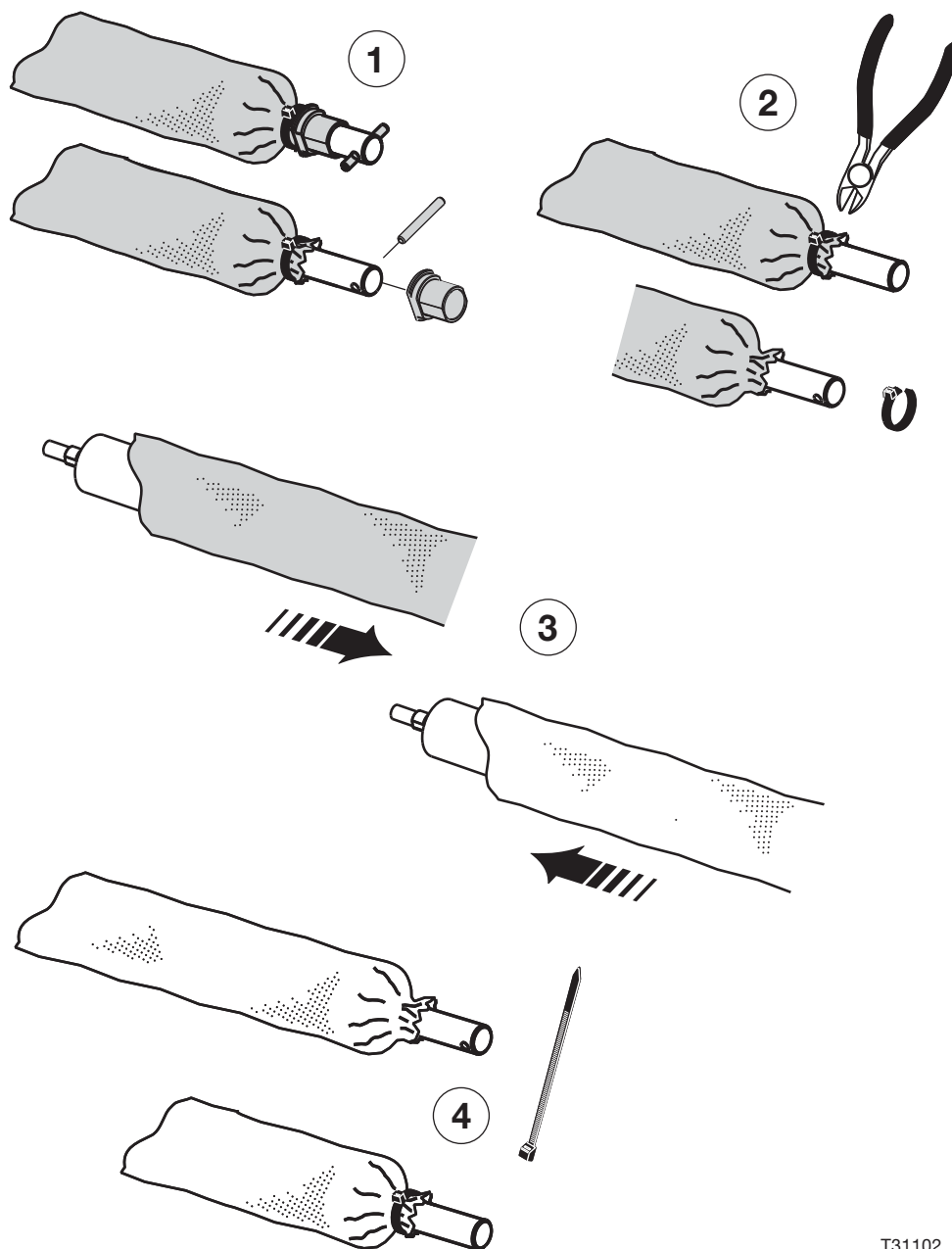
The gum distribution bar is adjusted from the factory. If further adjustment is needed loosen the nut (a) and then turn the block (b) downward for adding less gum to the gum roller or upwards for adding more gum.



## Changing the brush roller cloth

The brush roller cloth can be replaced in case of heavy fouling or wear.

- Take out the brush roller.
- (1) remove the pin and the bearing.
- (2) remove the strip holding the cloth.
- (3) pull off the cloth and apply the new cloth (use talcum).
- (4) wrap it round the roller edge and fasten it with a strip.
- Stretch the cloth to obtain a smooth fit along the roller, wrap it round the other roller edge and hold it tight while fastening with a strip.
- Mount the pin and bearing (1).
- Reinstall the brush roller.



T31102...

## Setting rollers and brush rollers

### Installation of rollers



Make sure to align the gears on the upper and lower rollers. The gear on the lower rollers has a plate/guide that must fit into the gear of the upper rollers.

### Drive/scrub chain

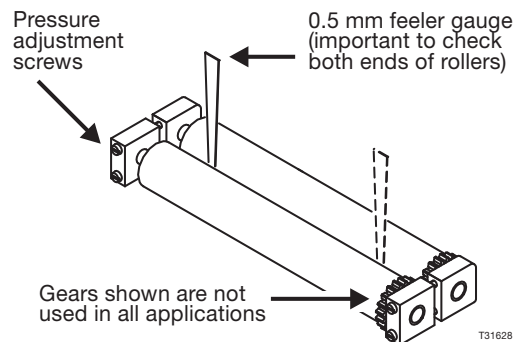
The drive/scrub chain should be lightly lubricated with SAE 20/50 Oil, and the tension checked and reset if required every 6-12 months. All of the bearings are sealed and require no maintenance.

### Roller pressure

If the pressure between each pair of rollers is excessive then an undue load is applied to the drive motor and the rollers will bow. This will result in the middle of the plates becoming wet, and a possible drive motor failure. If the pressure is too slack, the plates will slip on their way through the processor, and the plates will be wet all over. Both situations will allow residues to carry over between tank sections resulting in an uneven wash.

### Adjusting gap between the rollers

- Ensure the machine is switched off.
- Lift the top cover.
- Remove the roller and upon reassembling as pairs lay it flat on the top edges of the tank.
- The initial setting of a uniform gap of 0.5 mm. (0.020") between the rollers is essential to set the correct pressure. This gap should be checked with a feeler gauge, which should touch both rollers without rotating them.




### Drive rollers pressure

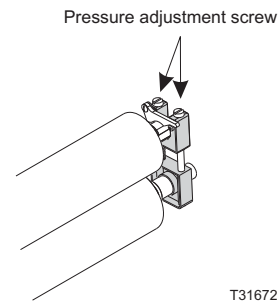
To set the pressure for the drive rollers do the following:

- |                 |  |
|-----------------|--|
| 85 models:      | Tighten each adjusting screw 1 turn.                   |
|                 | Tighten the drive rollers in the gum section 1¼ turns. |
| 125-165 models: | Tighten each adjusting screw 1 ¼ turns.                |
|                 | Tighten the drive rollers in the gum section 1½ turns. |

### Scrub roller in wash section


For adjustment of scrub roller follow the procedure below:

- Press  on the control panel and press "Eject plate". Then press "Forward". Define the "touch point" (the point where the scrub roller is just touching the lower support roller). The touch point is defined as follows:



- All four adjustment screws (see figure ) need to be loosened anti-clockwise so that the scrub roller is NOT causing the support roller to rotate.
  - Each adjusting screw is then adjusted clockwise until the Support Roller starts to rotate. Once the support roller has started to rotate the adjusting screw must be adjusted anti-clockwise until the support roller just stops rotating. This procedure is repeated for all four adjusting screws.
  - Procedure described for "b" is then repeated in order to ensure accurate "base point".
- Adjust the final scrub roller pressure as follows:
 

<b>Plush cover roller</b>	Adjust roller down to just before touch point and then turn the screws ¼ turn clockwise.
---------------------------	--

 Please do never exceed ½ of a turn clockwise as this may potentially cause plate jam in the WASH section.

**Bristle brush roller** The scrub roller pressure is then finally defined by adjusting each of the four adjusting screws ½ of a turn clockwise.

 Please do never exceed 1 of a turn clockwise as this may potentially cause plate jam in WASH section.

### Roller reassembling

Replace the roller assemblies in the tank. Once the rollers are replaced and no further adjustments are necessary, repeat the "Preparation for Processing" section of this manual to check the correct transport of the plate through the processor before use.

The overall height of the drive/gum rollers and scrub roller is determined by the slot depth in the tank side walls and is therefore not adjustable.

## Chain maintenance

Regular chain maintenance is important if maximum life is to be achieved.

The following maintenance schedule is suggested:

### After processing 400 hours/6,500 m<sup>2</sup>

... whatever comes first:

- Check chain adjustment and rectify if necessary.

### After processing 2,500 hours/80,000 m<sup>2</sup>

... whatever comes first:

- Carry out above check
- Check for wear on side plates of the chain link.
- Check for chain elongation
- Check cleanliness of components.
- Remove any accumulations of dirt or foreign materials.
- Check for shaft and sprockets alignment.
- Check for wear on sprockets.
- Check the conditions of the lubricant.

### Lubrication:

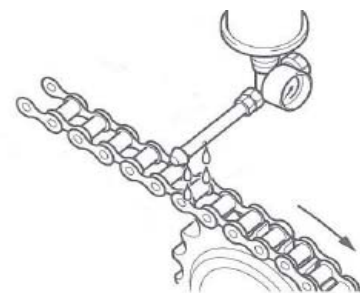
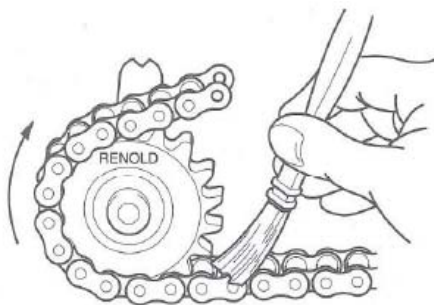
Chain drive should be protected against dirt and moisture and be lubricated with good quality, non-detergent petroleum based oil. A periodic change of oil is desirable.



**Heavy oils and greases are generally too stiff to enter the chain working surfaces and should NOT be used.**

**A multi grade SAE 20/50 oil would be suitable.**


Care must be taken to ensure that the lubricant reaches the bearing area of the chain. This can be done by directing the oil into the clearances between the inner and outer link plates, preferably at the point where the chain enters the sprocket on the bottom strand. Please see below:

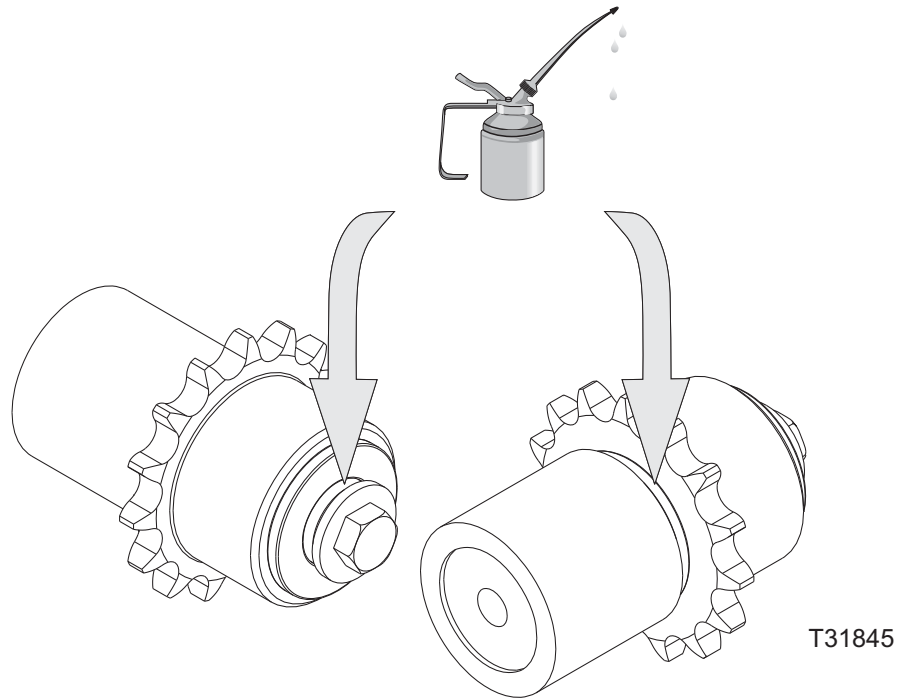


T31682

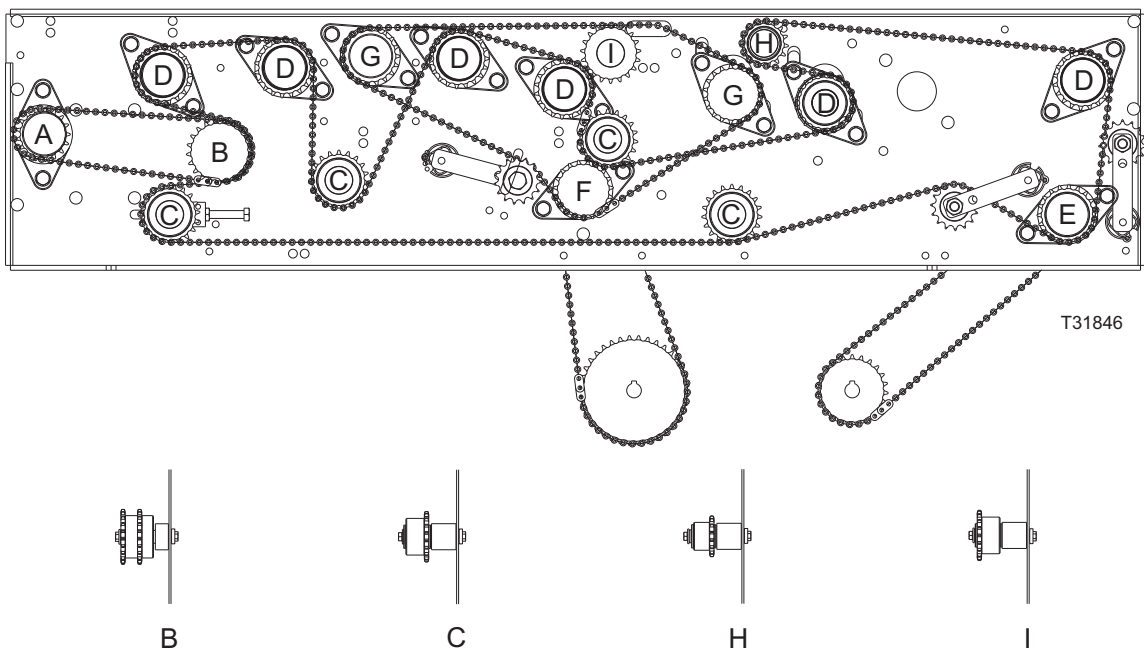
### Idler sleeve bearings maintenance

Once a year or for every 1,000 hours the idler sleeve bearings have to be lubricated as show on the illustration below. Recommended oil type: Mineral Oil to ISO VG (SAF30).

 Normally self-lubricating bearings are considered maintenance free, however, we recommend a drop of mineral oil to be applied to each bearing on an annual basis.



The illustration below shows the idler sleeve bearings to be lubricated.

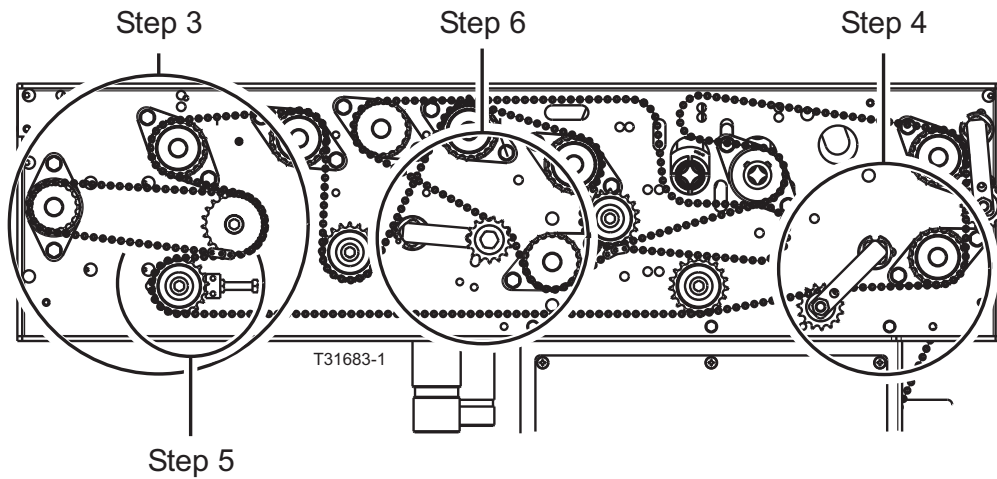


## Chain adjustment procedure

Follow the procedure below when chain adjustment is needed.

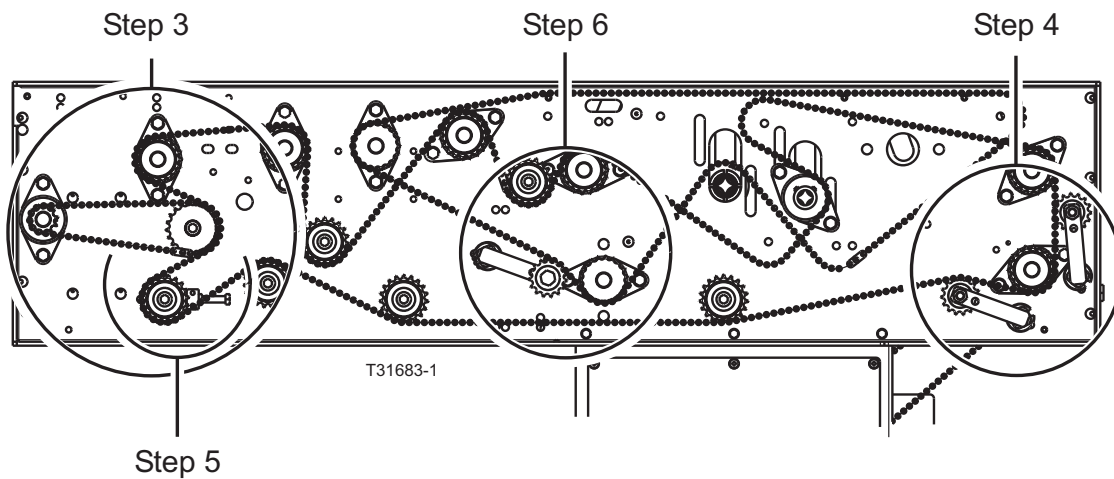
### 1. Total view - Processor 85:

Refer to the steps described later and indicated in the drawing below.



### Total view - Processor 125-150-165:

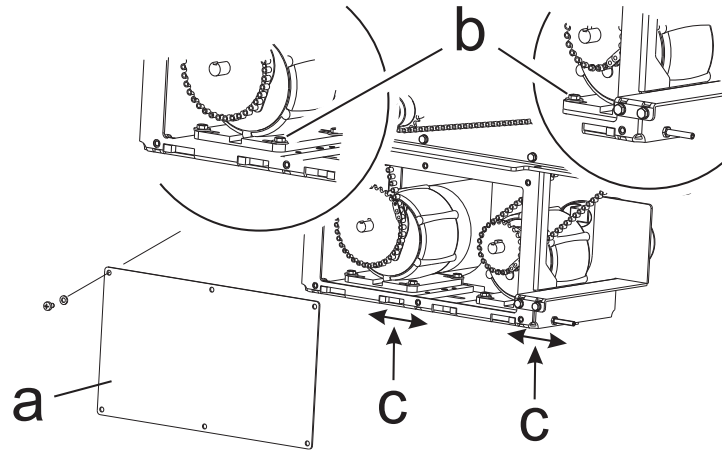
Refer to the steps described later and indicated in the drawing below.





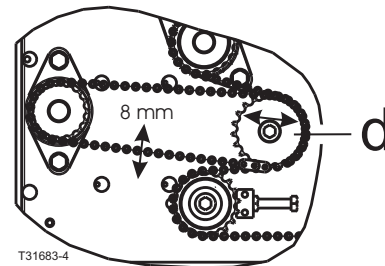
**2. Main motor and chain motor:**

- Dismount the cover (a).  
Loosen the screws holding the motor (b).
- Adjust motors sideways position on eccentric (c) in order to adjust chain slack. Slack should be 8 mm.
- Tighten screws (b) and mount the cover (a).



**3 Final chain:**

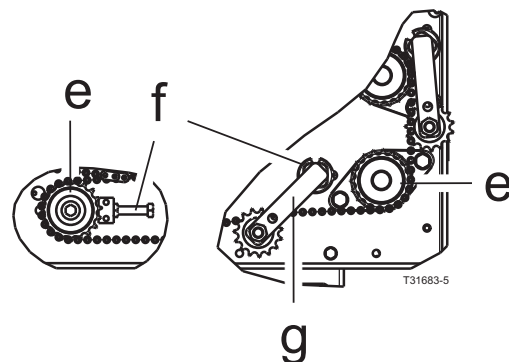
- Loosen the big sprocket (d) from the back side of the drive plate.
- Adjust the sprocket sideways in the slot in order to adjust the chain slack. Slack should be 8 mm.
- Fasten sprocket.



T31683-4

**4 Main chain:**

- Loosen sprocket (e) on drive plate backside. Loosen lock nut.
- Adjust chain tension on adjustment screw (f). Chain tension must be between 10° and 15° measured on tension scale on lower chain tensioner (g).
- Fasten lock nut and fasten sprocket.

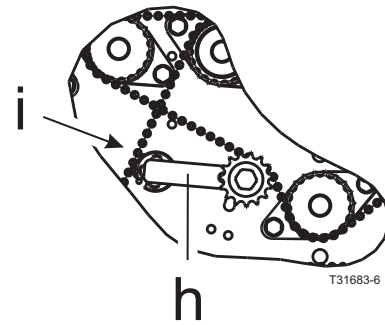


T31683-5

### 5 Scrub chain:

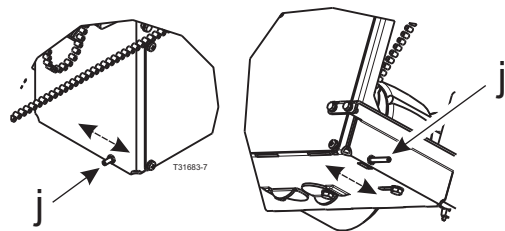
- Adjust the chain tensioner (**h**) until the notch is aligned with thread M5 (**i**). Chain tension must be between 10° and 22.5°.
- Mount the lock screw and fasten the chain tensioner.

Position of scrub chain tensioner may vary from one processor model to another but tensioning method is the same.



### 6 Motors and drive plate:

- Motors must be aligned with the drive plate when the chains have been tightened.
- Align the motors with the drive plate by turning the screws (**j**) until motors are aligned with drive plate.

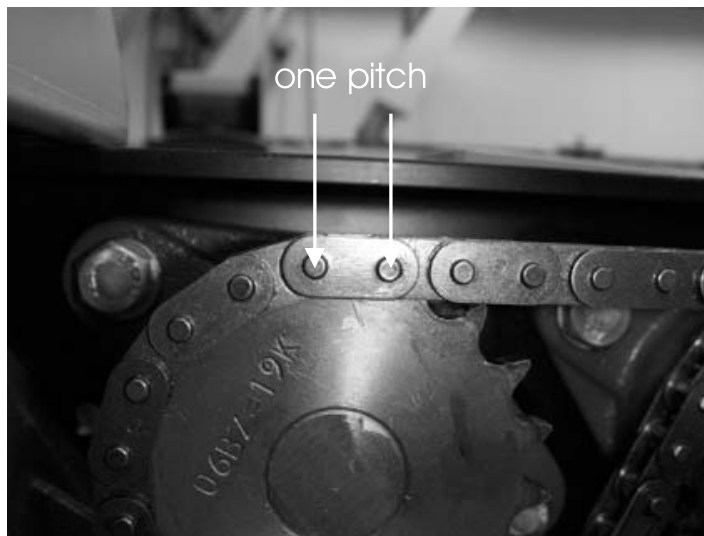


## How to check for potential chain wear

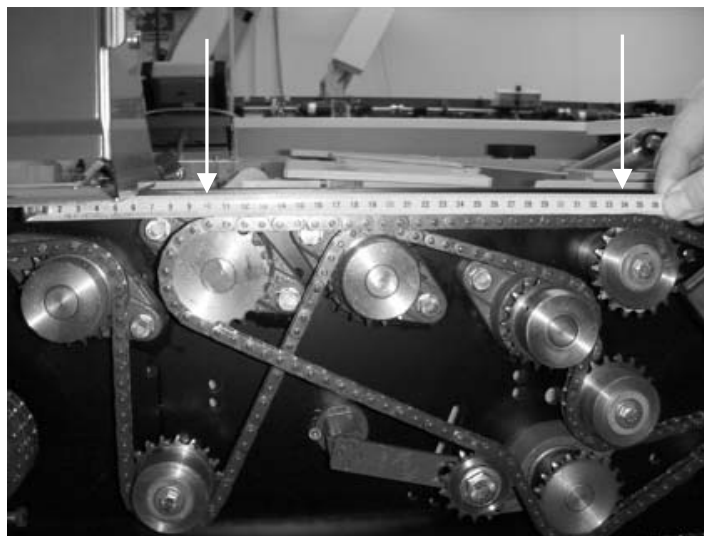
The below guides line should be followed after processing 2,500 hours/80,000 m<sup>2</sup> of plates.

Measure the length of the chain between the given number (see latter illustrations) of pitches.

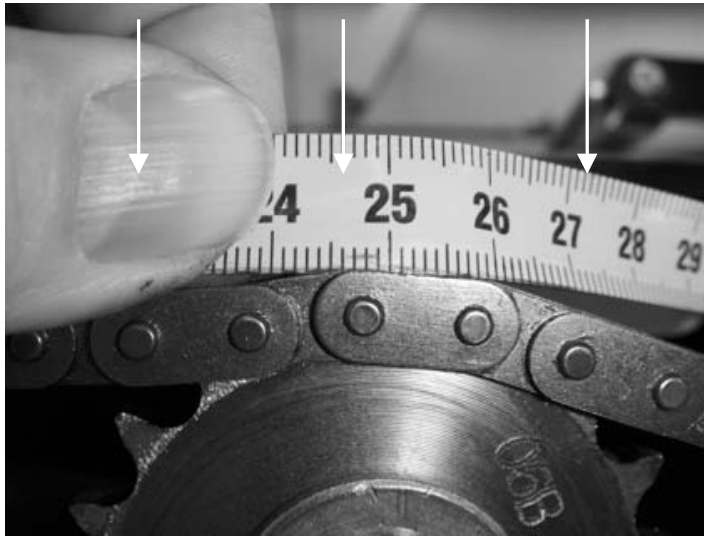
### Measurement point



### Measure between two given numbers of pitches



## Control the length



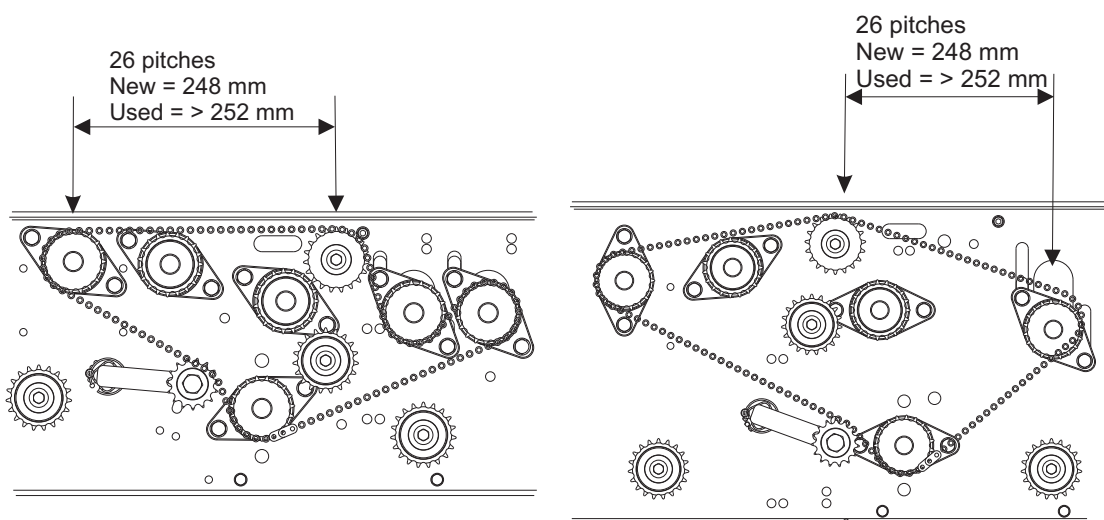
- Control the length of the chain to measure the extension of the chain.
- This needs to be done each year or after 80,000 m<sup>2</sup> plates.
- Measure the chain extension between the given numbers of pitches.
- See the recommendation under each drawing later in this chapter.
- If the chain is over the given maximum length between the given numbers of pitches, it is time for changing.



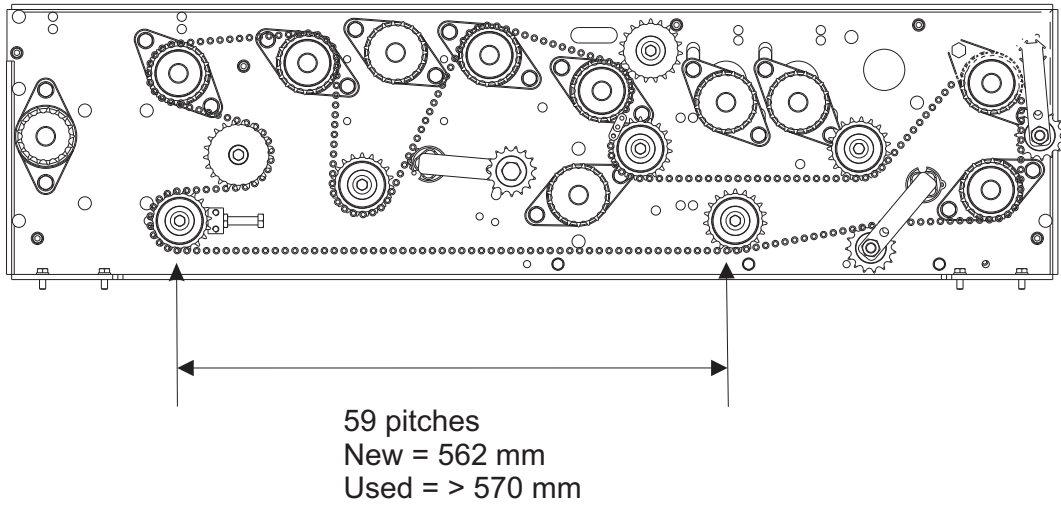
Please be aware that in case either the chain or the gears are worn out, both chain and gears have to be replaced.

### Chain Kit Scrub drives 85

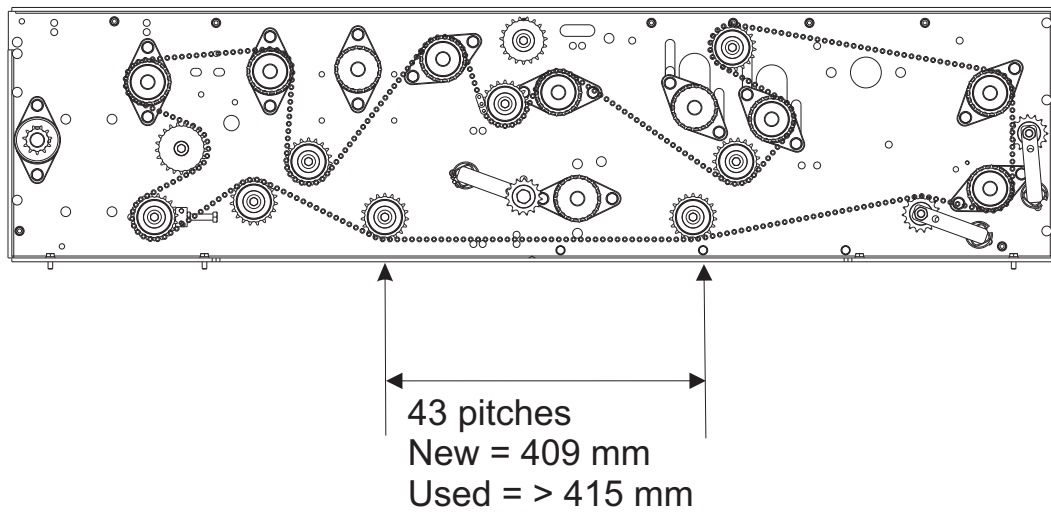
### Chain Kit Scrub drives 125



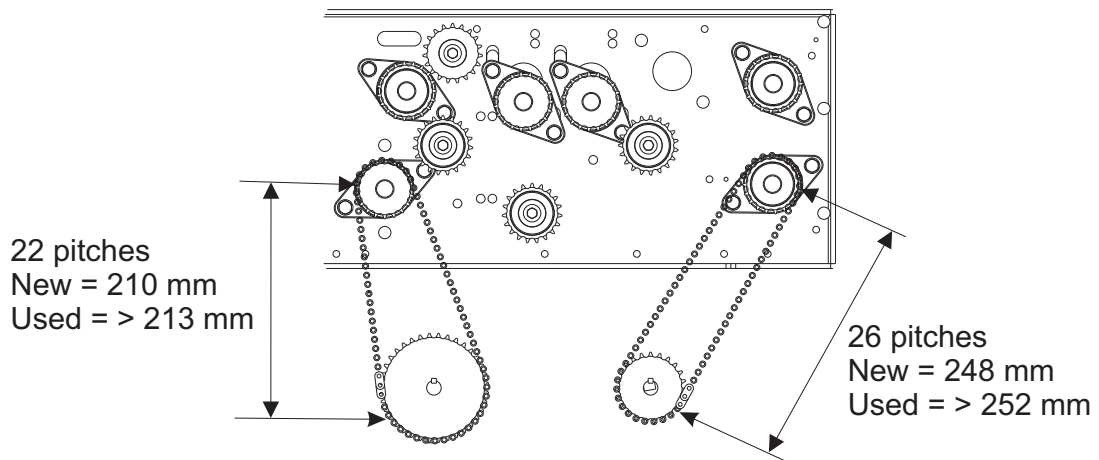
Chain Kit Roller drives 85



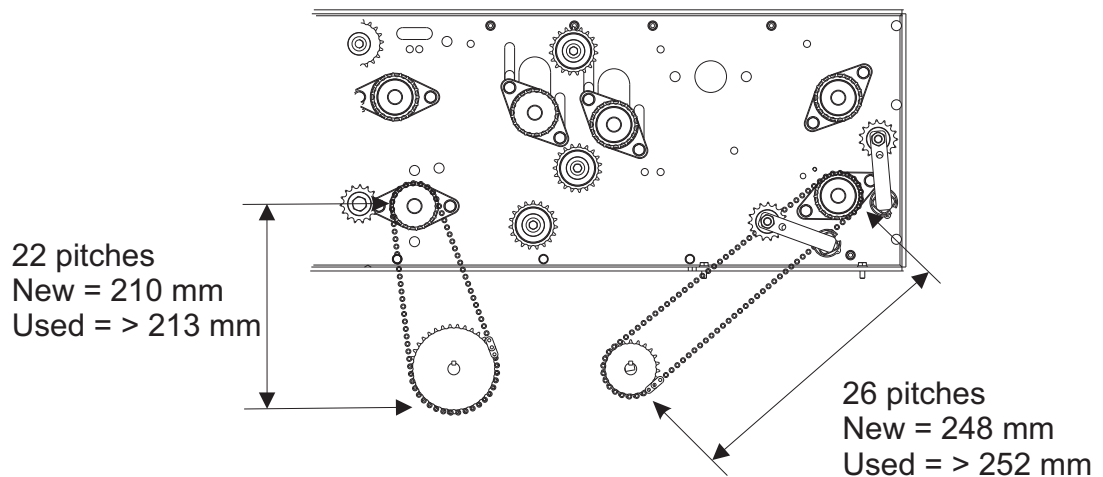
Chain Kit Roller drives 125



## Chain Kit Roller/Scrub motor 85



## Chain Kit Roller/Scrub motor 125

**Changing roller bearing**

- All the roller bearings need to be changed after 2,500 production hours or 80,000 m<sup>2</sup> plate what ever coming first.
- To secure the roller drive stability it is necessary to change the complete bottom part of the bearing and not just the inner bearing part.

**Roller bearing kit 85 - 125**

Item	Specification	Quantity
1	MILLED, BEARING, ROLLER, D54	2
2	BEARING, TURCITE L=50 MM	10*/12
3	BEARING, TURCITE L=45 MM	2*
4	BEARING, TURCITE "A" D20.15 / D25	12

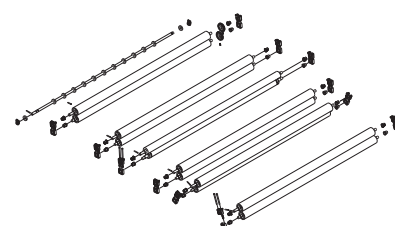
\* models 85 only

**Kit picture**

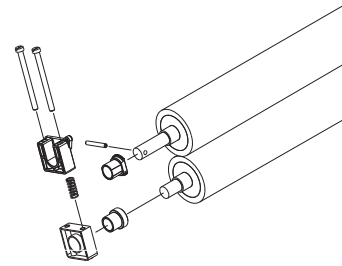


**Roller bearing kit 85 - 125**

- 1. Drain the processor from chemistry and water.
- 2. Take all the transport rollers, plush scrub roller and segment roller out of the processor. See illustration opposite.

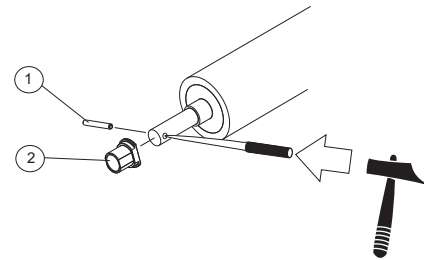


- 3. Remove the complete roller bearings and disassemble the bearings, as it is shown in the illustration opposite. Mount the new bottom part of the bearing in where the new "Turcite" bearing is mounted together with the old top part of the bearing.

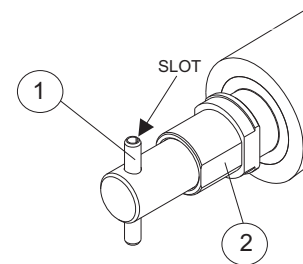


- 4. The bottom part of the roller bearing at the roller pair in the gum section is 5 mm shorter than the rest of the bearings. Be sure that they are mounted in the right position again. (Valid only for 85 model.)

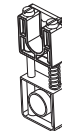
- 5. Remove the tubular pin (item 1 in the illustration) from the top roller and then remove the "turcite" bearing (item 2). Use a 6 mm mandrel to drive out the pin.



- 6. Mount the new "turcite" bearing (item 2) part number Press the tubular pin (item 1) back again and be sure that the pin is centred in shaft, and the slot must be point opposite the shaft end.

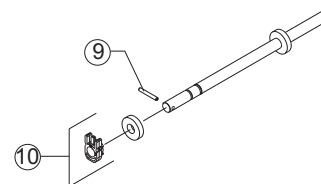


- 7. Mount the complete roller bearings again at each roller pair. See bullet no 4 regarding the gum roller bearing. (Valid only for 85 model.)



- 8. Adjust the transport roller pressure according to the instruction in the service manual. See page 3.15.

- 9. Mount the new milled bearing (item 10) part number at the segment roller in drier section. (see bullet no 5 and 6 regarding the tubular pin - item 9).



- 10. Fill up the processor again and start up the processor.
- 11. Adjust the plush scrub roller according to the service manual. See page 3.16.



# Part 4: Trouble shooting

## General

If the processor does not work properly, refer to the following pages to find the paragraph that comes closest to your problem.

The trouble shooting guide is divided into 2 sections:

**a. Problems with the processor**

**b. Problems with processed material**

For information about alarm messages see the "Control Panel" manual.

For cleaning and maintenance subjects see the processor user manual.

Use the "Test functions" parameters on the control panel to test individual components. See the "Software Service Information" manual.

The electrical diagrams are located in Appendix A.



**To change a fuse, switch off all power to the machine first.**

**Always ensure that the new fuse is of the correct rating according to the diagram.**

### **WARNING!**

**When performing any service, maintenance, calibration, or trouble shooting etc. it may be necessary to override the function of the processor's interlock switches.**

**In these cases please be aware, that the processor's JOG-function is still active, making the drive system run idle at intervals.**

**There will be NO advice when the JOG function starts.**

## Before starting trouble shooting

### IMPORTANT!

Plates and chemicals are very sensitive materials and correct storage is vital to obtain a satisfactory production result. Incorrect storage may very well result in unsatisfactory processing quality etc.

Contact your local supplier for information about storage requirements for plates and chemicals.

**Before making adjustments of the equipment make sure that incorrect storage of plates and chemicals can be excluded.**

## Problems with the processor

SYMPTOM	PROBABLE CAUSE	REMEDY
<i>NO FUNCTION ACTIVE</i>	<ul style="list-style-type: none"> <li>• Mains switch turned off or power cable not connected to main power outlet.</li> <li>• Fuse(s) blown.</li> </ul>	<ul style="list-style-type: none"> <li>• Connect cable to main power outlet and/or turn main switch on.</li> <li>• Replace fuse.</li> </ul>
<i>PROCESSOR CANNOT INITIALIZE</i>	<ul style="list-style-type: none"> <li>• Configuration error. (If main power has been cut off temporarily the processor switches to off mode - green led flashes).</li> <li>• Defective PCB.</li> <li>• Cables not properly connected.</li> </ul>	<ul style="list-style-type: none"> <li>• Reload software.</li> <li>• Replace PCB.</li> <li>• Check cables and make proper connections.</li> </ul>
<i>MACHINE WILL NOT START UP</i>	<ul style="list-style-type: none"> <li>• MMU-PCB defective.</li> </ul>	<ul style="list-style-type: none"> <li>• Replace defective part.</li> </ul>
<i>MACHINE DOES NOT START WHEN A PLATE IS INSERTED</i>	<ul style="list-style-type: none"> <li>• Input sensor (s) defective.</li> </ul>	<ul style="list-style-type: none"> <li>• Replace defective sensor.</li> </ul>
<i>NO WASH WATER ALTHOUGH MACHINE IS IN "PROCESS" MODE.</i>	<ul style="list-style-type: none"> <li>• Water tap closed.</li> <li>• Water solenoid valve defective.</li> <li>• Water solenoid valve filter clogged.</li> <li>• Processor with filter: Filter valve closed.</li> <li>• Processor with level sensor: Level sensor in wash dirty or defective.</li> <li>• Electronics defective.</li> </ul>	<ul style="list-style-type: none"> <li>• Open water tap.</li> <li>• Replace valve.</li> <li>• Clean filter.</li> <li>• Open valve.</li> <li>• Check sensors and clean/-replace whatever is necessary. Replace defective electronics.</li> </ul>

<b><i>DRYER BLOWER WORK, HEATER DOES NOT</i></b>	<ul style="list-style-type: none"> <li>• Fuse(s) blown.</li> <li>• Temperature sensor defective.</li> <li>• Heating element defective.</li> <li>• Electronics defective.</li> </ul>	<ul style="list-style-type: none"> <li>• Replace fuse.</li> <li>• Replace temperature sensor.</li> <li>• Replace heating element.</li> <li>• Replace defective electronics.</li> </ul>
<b><i>DRYER BLOWER DOES NOT WORK.</i></b>	<ul style="list-style-type: none"> <li>• Fuse(s) blown.</li> <li>• Blower defective.</li> <li>• Electronics defective.</li> </ul>	<ul style="list-style-type: none"> <li>• Replace fuse.</li> <li>• Replace blower.</li> <li>• Replace defective electronics.</li> </ul>
<b><i>NO GUM ALTHOUGH MACHINE IS IN "PROCESS" MODE.</i></b>	<ul style="list-style-type: none"> <li>• Gum container empty.</li> <li>• Gum hose blocked.</li> <li>• Pump valves blocked or defective.</li> <li>• Pump defective.</li> <li>• Fuse(s) blown.</li> <li>• Electronics defective.</li> </ul>	<ul style="list-style-type: none"> <li>• Refill container.</li> <li>• Clean hose.</li> <li>• Clean or replace valve.</li> <li>• Replace pump.</li> <li>• Replace fuse.</li> <li>• Replace defective electronics.</li> </ul>
<b><i>GUM PUMP RUNS BUT NO FINISHER. (NO ALARMS)</i></b>	<ul style="list-style-type: none"> <li>• Gum hose blocked.</li> <li>• Pump valves blocked or defective.</li> </ul>	<ul style="list-style-type: none"> <li>• Clean hose.</li> <li>• Clean or replace valve.</li> </ul>
<b><i>DEVELOPER REPLENISHMENT PUMP DOES NOT WORK.</i></b>	<ul style="list-style-type: none"> <li>• Fuse(s) blown.</li> <li>• Pump defective.</li> <li>• Electronics defective.</li> </ul>	<ul style="list-style-type: none"> <li>• Replace fuse.</li> <li>• Replace pump.</li> <li>• Replace defective electronics.</li> </ul>
<b><i>DEVELOPER REPLENISHMENT PUMP RUNS BUT NO REPLENISHMENT.</i></b>	<ul style="list-style-type: none"> <li>• Replenishment hose blocked.</li> <li>• Pump valves blocked or defective.</li> <li>• Replenish container empty.</li> </ul>	<ul style="list-style-type: none"> <li>• Clean hose.</li> <li>• Clean or replace valves.</li> <li>• Refill container.</li> </ul>
<b><i>REPLENISHMENT SYSTEM DOES NOT WORK ALTHOUGH THE MACHINE IS IN "PROCESS" MODE.</i></b>	<ul style="list-style-type: none"> <li>• Replenishment parameters settings not correct.</li> <li>• Electronics defective.</li> </ul>	<ul style="list-style-type: none"> <li>• Make correct settings.</li> <li>• Replace defective electronics.</li> </ul>
<b><i>NO DEVELOPER CIRCULATION</i></b>	<ul style="list-style-type: none"> <li>• Replenish container empty.</li> <li>• Fuse(s) blown.</li> <li>• Processors with filter: Filter clogged.</li> <li>• Processors with filter: Filter valve closed.</li> <li>• Developer circulation pump defective.</li> </ul>	<ul style="list-style-type: none"> <li>• Fill replenish container.</li> <li>• Replace fuse.</li> <li>• Replace filter insert.</li> <li>• Open valve.</li> <li>• Replace pump.</li> </ul>

<i>NO WATER CIRCULATION.</i>	<ul style="list-style-type: none"> <li>• Pump defective or clogged.</li> <li>• Water filter clogged.</li> <li>• Water spray bar clogged.</li> <li>• Fuse blown.</li> <li>• Level sensor in wash dirty or defective.</li> </ul>	<ul style="list-style-type: none"> <li>• Clean and/or repair pump.</li> <li>• Replace filters.</li> <li>• Clean spray bar. See Part 3.</li> <li>• Replace fuse.</li> <li>• Check sensor and clean/-replace whatever is necessary.</li> </ul>
<i>ROLLER DRIVE MOTOR RUNS, BUT NO PLATE TRANSPORT.</i>	<ul style="list-style-type: none"> <li>• Drive gears and/or worms defective.</li> </ul>	<ul style="list-style-type: none"> <li>• Check all gears and worms gears on rollers, and make sure they move freely. Replace any defective part.</li> </ul>

## Problems with processed material

<b>SYMPTOM</b>	<b>PROBABLE CAUSE</b>	<b>REMEDY</b>
<i>PLATE IS NOT COMPLETELY DRY</i>	<ul style="list-style-type: none"> <li>• Dryer temperature is set too low.</li> <li>• Gum section applying to much gum.</li> <li>• Dryer section is malfunctioning.</li> </ul>	<ul style="list-style-type: none"> <li>• Set dryer temperature a little higher.</li> <li>• Check gum section.</li> <li>• Check dryer section.</li> </ul>
<i>PLATE HAS STRIPES LENGTH-WISE OR CROSSWISE</i>	<ul style="list-style-type: none"> <li>• Defective or dirty rollers or guides.</li> <li>• Wash spray tubes clogged.</li> </ul>	<ul style="list-style-type: none"> <li>• Take rollers and/or guides out, inspect and wash them. Rollers with dents or other marks must be changed.</li> <li>• Clean the spray tubes. See Part 3.</li> </ul>
<i>WASHING NOT SUFFICIENT</i>	<ul style="list-style-type: none"> <li>• Spray tube clogged.</li> <li>• Brush not turning.</li> <li>• Brush pressure not sufficient.</li> <li>• Water circulation pump does not run.</li> <li>• Rollers dirty in wash section.</li> </ul>	<ul style="list-style-type: none"> <li>• See earlier in this chapter. Clean spray tube.</li> <li>• Check the brush and fix the problem.</li> <li>• Adjust brush pressure.</li> <li>• See "Cleaning of the pumps" in Part 4.</li> <li>• Clean rollers.</li> </ul>
<i>PLATE HAS AN UNEVEN GUM</i>	<ul style="list-style-type: none"> <li>• Gum container nearly empty.</li> <li>• Gum rollers dirty.</li> <li>• Gum distributing roller not in place.</li> <li>• Gum pump clogged.</li> </ul>	<ul style="list-style-type: none"> <li>• Refill container.</li> <li>• Take rollers out and clean them.</li> <li>• Correct the placement of the roller.</li> <li>• Take pump apart and clean valves.</li> </ul>

# Part 5: Spare parts

## General

### Spare parts kit

A small kit consisting of the most needed spare parts is delivered with the processor. For further need of spare parts please refer to the spare part lists in this chapter with iso-metric drawings, descriptions and part numbers.

### Ordering spare parts

When ordering spare parts:

**Please state carefully the spare part number, the specification and the number of items wanted.**

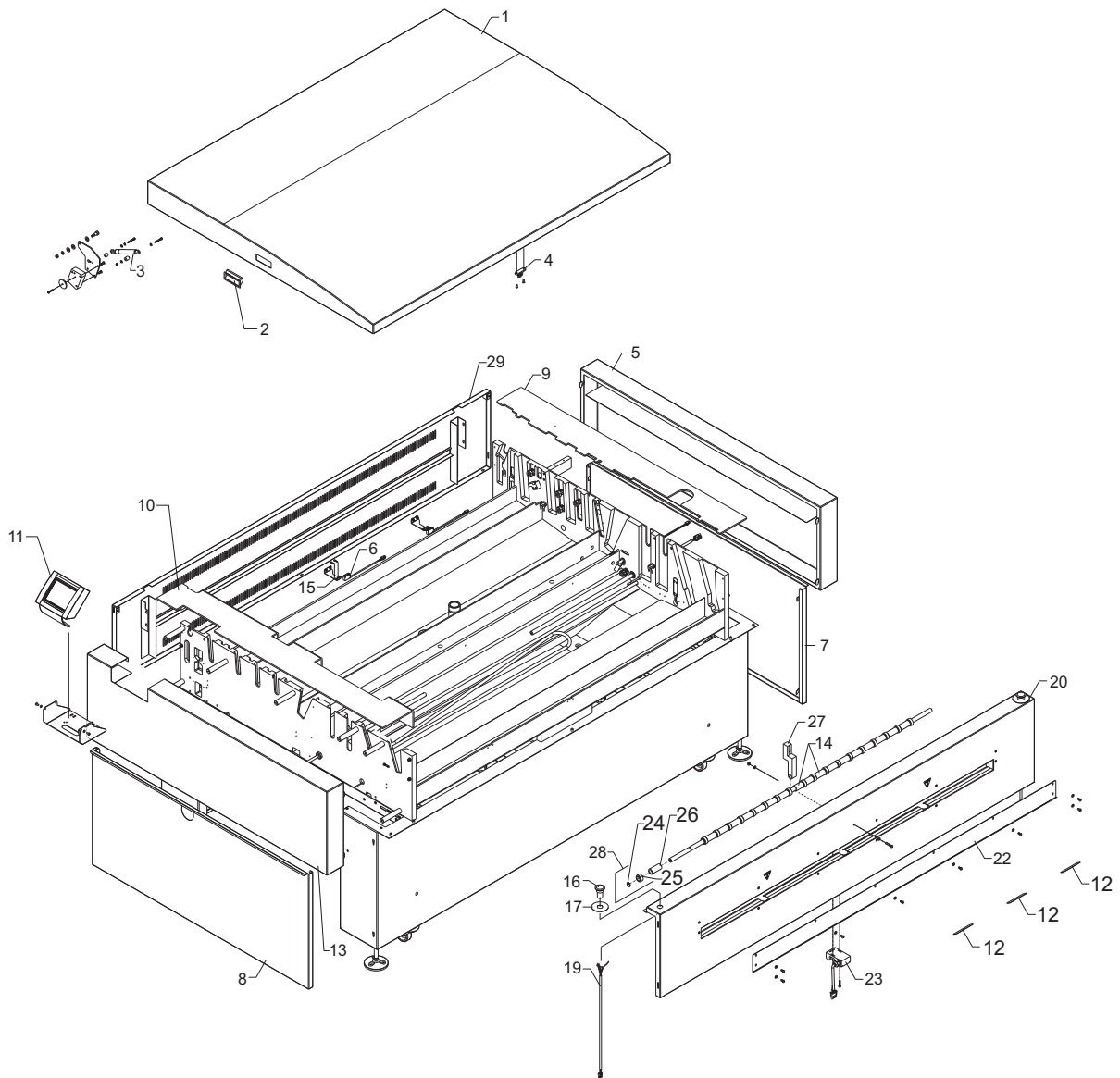
### Special spare parts

Some of the spare parts (covers, panels etc.) are available in different colors. In these cases please refer to Appendix A "Additional spare parts" for the correct numbers for your specific processor.

### PCB's and software

#### **IMPORTANT!**

All spare part PCB's with software proms will be delivered *without software installed*. Contact the processor supplier for information about software.

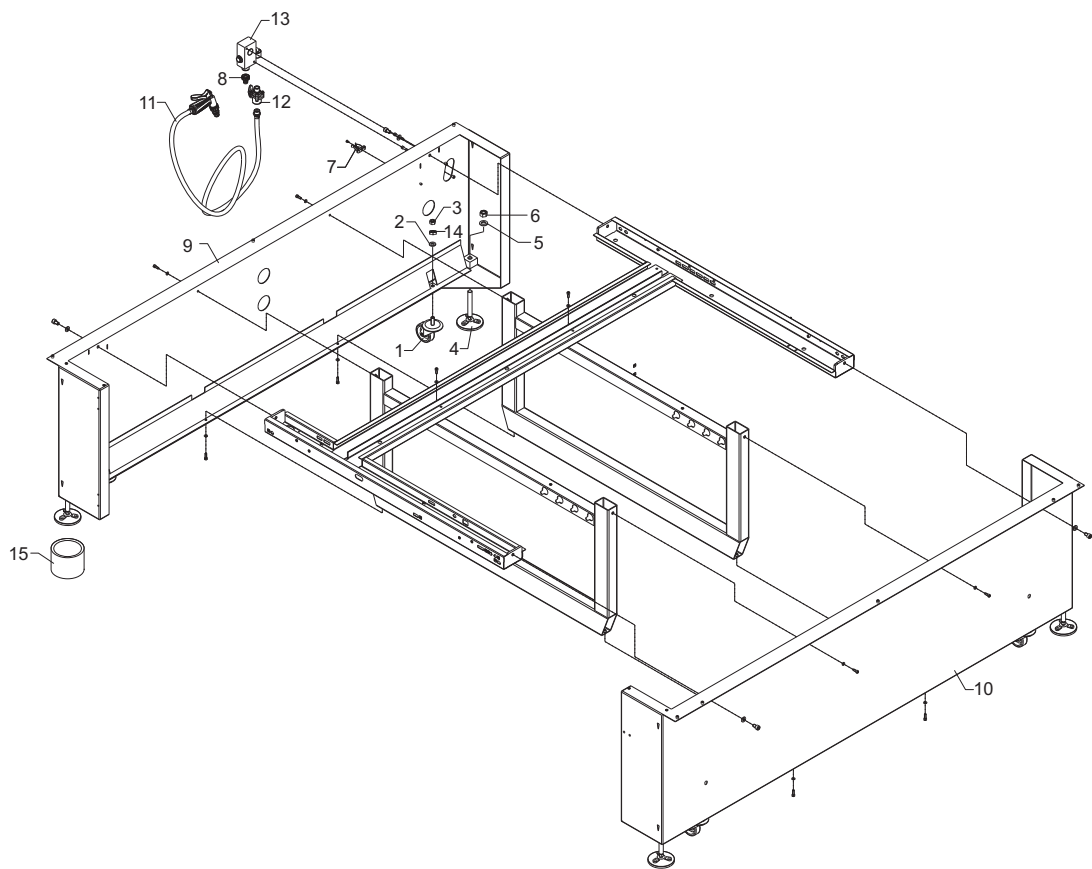


T8574

PANELS

# Panels

Pos.	85	125	Specification
1	10026005	10024856	COVER, TOP, COMPLETE W. SPRING
2	35362	35362	HANDLE
3	45764		SPRING,GAS 200N
		21108780	SPRING, GAS 500N D8/D19
4	21041091	21041091	ACTUATOR, SWITCH, SAFETY
5			<b>SEE APPENDIX A</b>
6	10031354	10031354	SENSOR, OPTO, 60MM, CABLE, COMPLETE
7	10038499	10038496	PANEL ,SIDE ,FRAME ,RIGHT
8	10038501	10038497	PANEL, SIDE, FRAME, LEFT
9	10030464	10032426	COVER, PLUMB, RH
10	10030238	10032427	COVER, DRIVE, LH,
11	10039870	10039870	DISPLAY, COMPLETE
12	10037729	10037729	BLACK, TAPE, 1.5", VELCRO, LOOP, LONG
13			<b>SEE APPENDIX A</b>
14	21839033	21839033	TUBE, SPACING, LONG
15	10031346	10031346	BRACKET, SENSOR, REAR
16	10040558	10040558	SWITCH, EMERGENCY STOP
17	21080333	21080333	DISC, YELLOW, EMERGENCY STOP, D70
18			
19	10040560	10040560	CABLE, EMERGENCY STOP
20	10040092	10039978	PANEL, FRONT
21			
22	21113212	21113172	FINGER, GUARD
23	10021826	10021826	COVER, SWITCH, LID, COMPLETE
24	35598	35598	CIRCLIP, D14, A2, DIN 471
25	0180202	0180202	GUIDE, SILICONE D25 INCL.BUSHING
26	10051708	10051708	TUBE, SPACING
27	21113708	21113708	SUPPORT, ROLLER, SHAFT
28	21113165	21113149	ROLLER, ASSY, INFEED, COMPLETE
29	10040089	10040052	PANEL, REAR



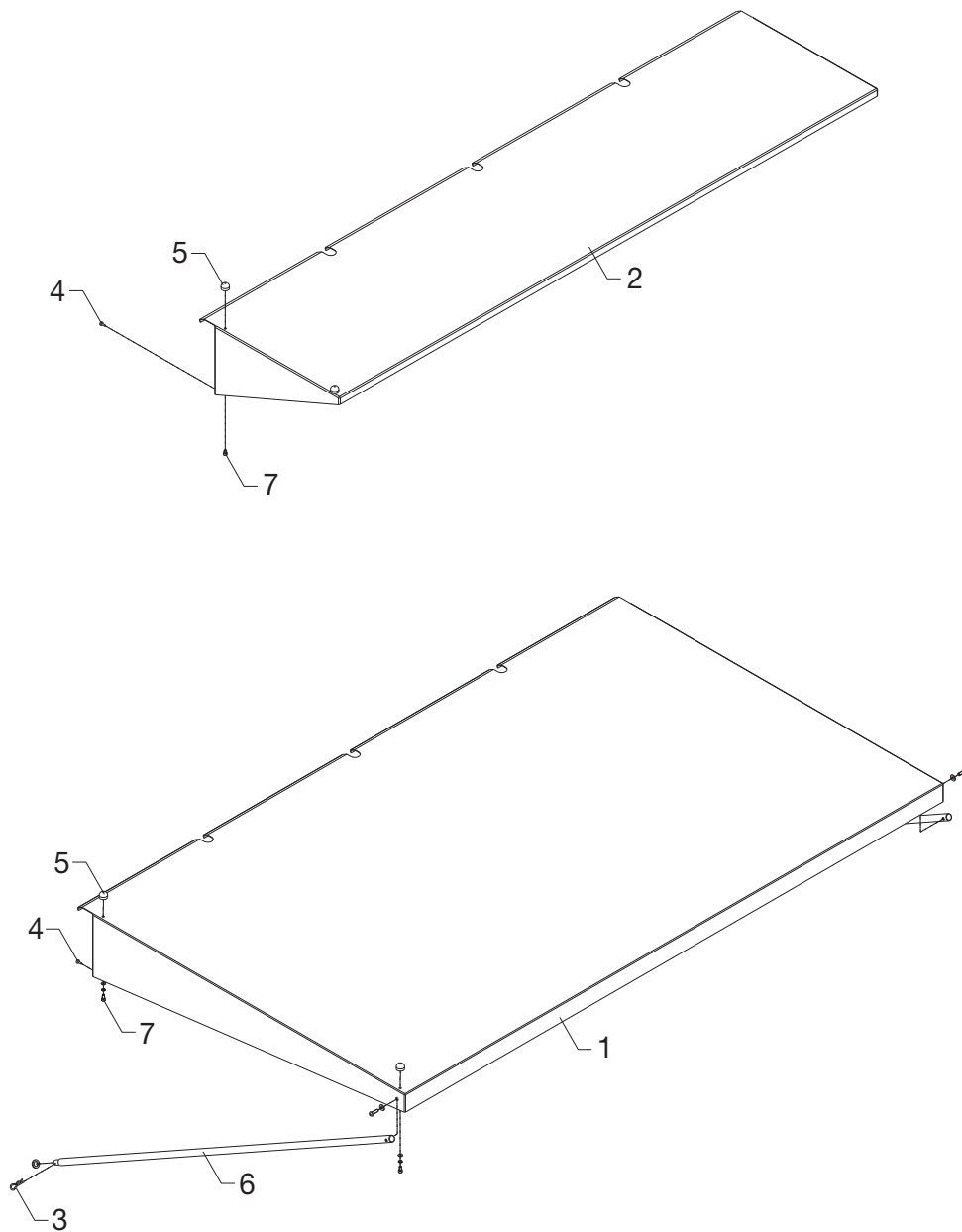
T8575

STAND



# Stand

Pos.	85	125	Specification
1	21050957	21050957	CASTOR, SWIVEL
2	35933	35933	WASHER D13/24X2, 5 A4
3	35122	35122	NUT M12 HE 4
4	21050996	21050996	FOOT, STANDARD 135 HIGH, 16MM THREAD
5	15078	15078	WASHER D17/30X3 4
6	15435	15435	NUT M16 HE 4
7	21050207	21050207	CLIP, SPRING, POLY, COAT
8	21060339	21060339	BRASS, HOSE, TAIL, 3/4", BSPx1/2"
9	10025109	10022931	PANEL, REAR, BASE
10	10025768	10022927	PANEL, FRONT, BASE
11	21050039	21050039	SPRAY GUN, NOZZLE
12	0011361	0011361	FITTING, VALVE, BALL 1/2" MA/FE
13	10017951	10017951	MANIFOLD, MAINS WATER, COMPLETE
14	15427	15427	NUT M12 HE TH 4
15	21114285	21114285	JACKING BLOCK, 110 MM DIA. X 80 MM HIGH
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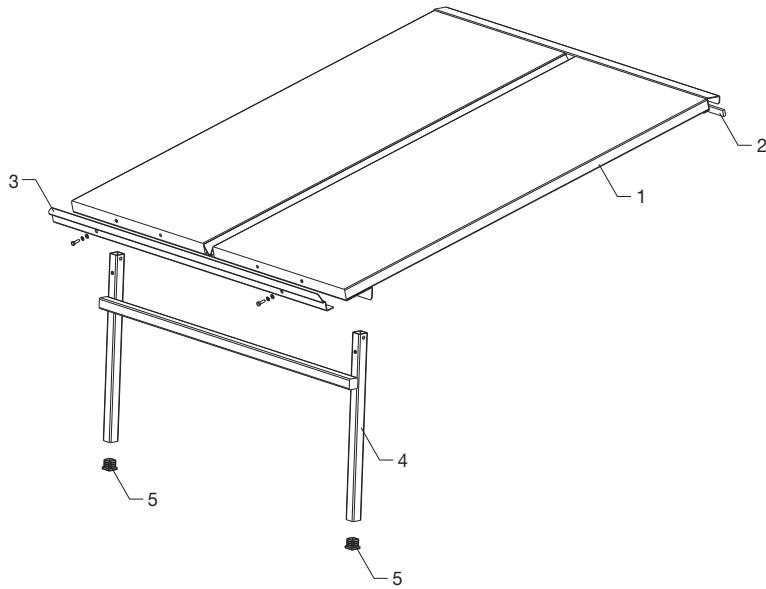


T8576

**FEED TABLE**

# Feed, table

Pos.	85	125	Specification
1		21114763	TABLE, INPUT, LARGE, 1000 MM
2	21114758	21113957	TABLE, INPUT, 400 MM
	21113399		TABLE, INPUT, 300MM
3	21050972	21050972	CLIP 1/4", RETAINING, GEAR
4	21110018	21110018	BUFFER, SKIFFY 049 0800 11407
5	22934224	22934224	LID, STOP
6		21800144	STAY, TABLE, INPUT
7	21070166	21070166	SCREW, M5X6, HE, SO, CH, DIN912
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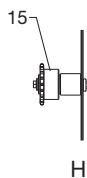
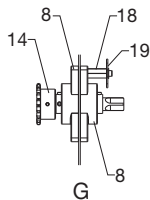
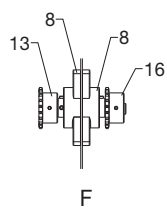
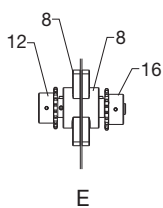
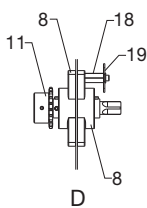
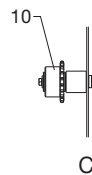
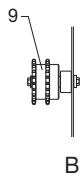
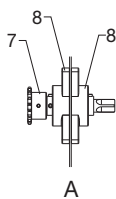
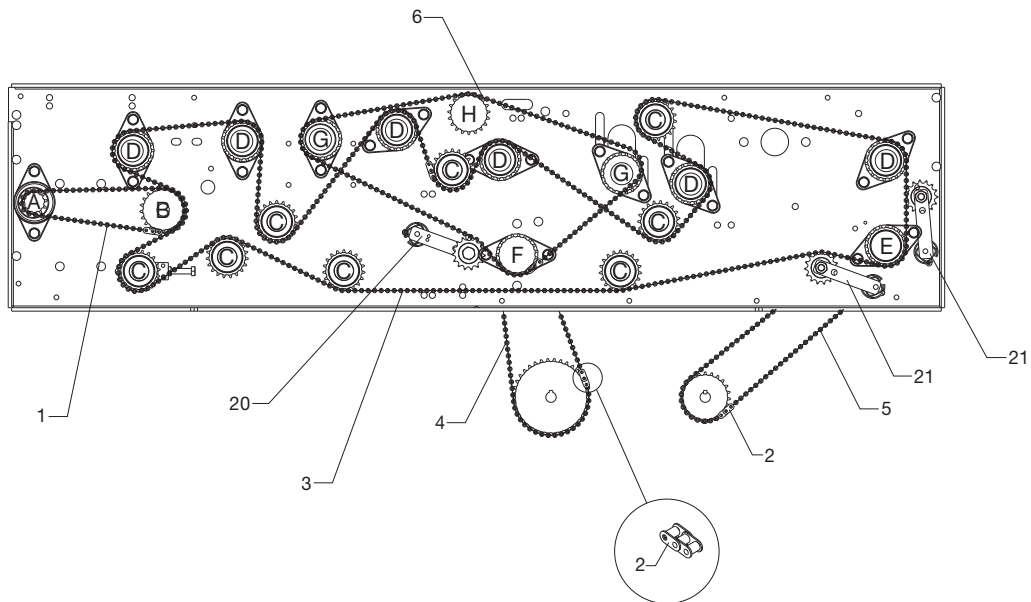


T8589

DELIVERY TABLE

# Delivery, table

Pos.	85	125	Specification
1	21107631		TABLE, TOP, DELIVERY
2	10021577		FOAM, STRIP, 15x6
3	21107633		TABLE, DELIVERY, STOP
4	21107632		LEG, TABLE, DELIVERY
5	21020129		SILICONE, RED, 1.5MM X 50MM, ROLL
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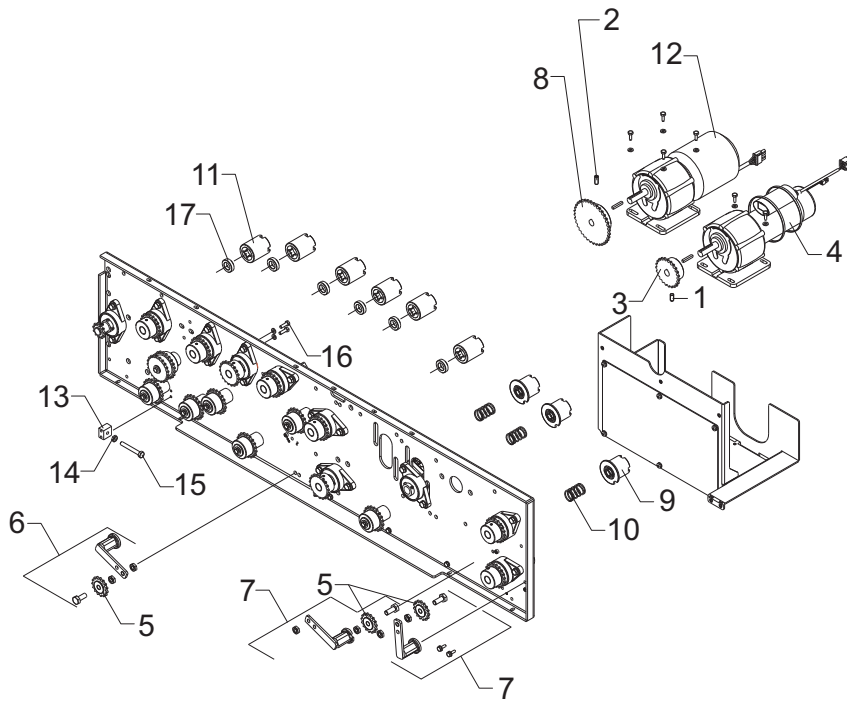


T8577

DRIVE PLATE (CD)

## Drive plate (CD 125)

Pos.	125	Specification
1	21108632	FINAL DRIVE CHAIN, 125/150, 53 PITCHES
2	22602316	LINK, CHAIN, No.26, 3/8"x7/32 SIMPLEX"
3	10022028	CHAIN, MAIN, CD, 369 PITCHES
4	10021666	CHAIN, MOTOR SCRUB, 73 PITCHES
5	10021662	CHAIN, MOTOR, MAIN, 93 PITCHES
6	10032141	CHAIN, SINGLE/TWIN SCRUB, 123 PITCHES
7	10017451	SPROCKET, 11T
8	21050120	BEARING 22 SFT 3/4"
9	21101816	SPROCKET, 21T DUPLEX, CONCENTRIC
10	10021642	IDLER, MAIN, DRIVE, 19Z
11	10016630	DRIVE, SHAFT, ASSY, 19Z
12	21050094	DRIVE, SHAFT, ASSY, 19Z
13	21050091	SCRUB, SHAFT, ASSY, 19Z
14	10016631	SCRUB, SHAFT, ASSY, 19Z
15	10021661	IDLER, SCRUB, DRIVE, 19Z
16	21050089	SPROCKET, 19Z 06B-1, M8 BORE
17		
18	10025418	SHAFT, LOCK, CLUTCH
19	10025802	BRACKET, LOCK, CLUTCH
20	10025415	CHAIN, TENSIONER, SE11, SCRUBCHAIN, COMPLETE
21	10025416	CHAIN, TENSIONER, SE11, DRIVECHAIN, COMPLETE
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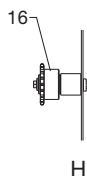
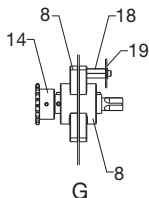
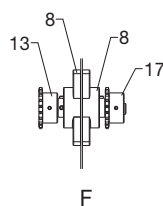
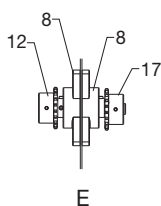
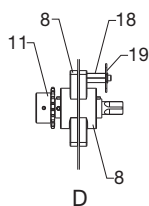
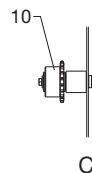
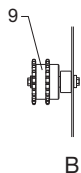
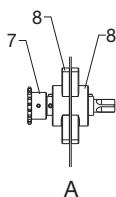
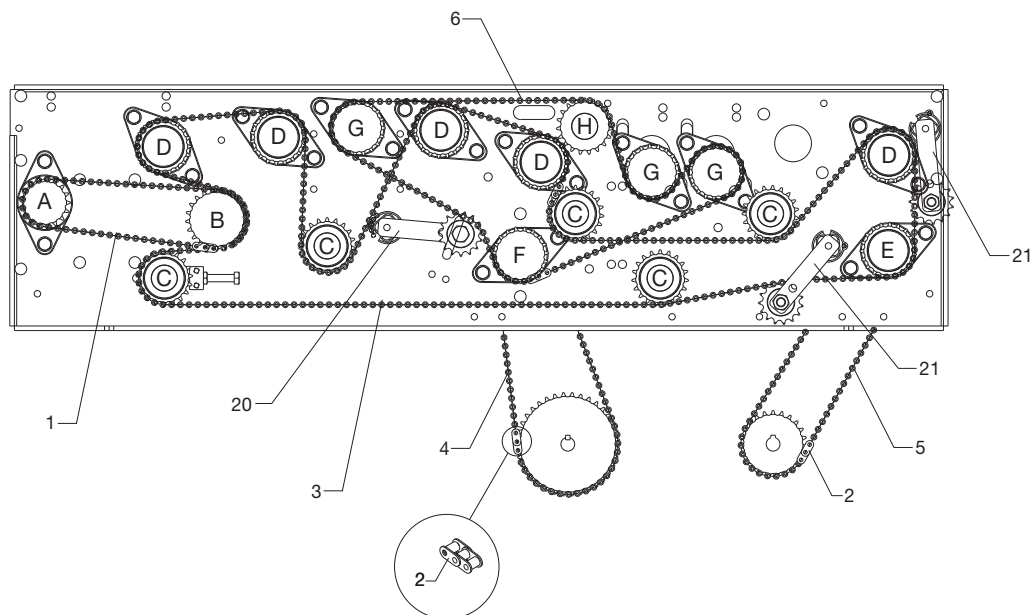
T8578

**CHAIN DRIVE PLATE (CD)**



## Chain drive plate (CD 125)

Pos.	125	Specification
1	35113	SCREW, M8X16 HE SO CP 4
2	35114	SCREW, M8X20 HE SO CP 4
3	21113578	SPROCKET, 23Z 06B-1,15 MM BORE
4	10024646	MOTOR, PARVALUX, PM6D LIS, 9 RPM
5	10021315	SPROCKET, CHAIN, TENSIONER, KS06(1)15-10
6	10025415	TENSIONER, CHAIN, SE11, SCRUB, COMPLETE
7	10025416	TENSIONER, CHAIN, SE11, DRIVE, COMPLETE
8	10022306	SPROCKET, 36TX3/8"P, 15 MM BORE W. KEY
9	10024291	CLUTCH, CASE, SCRUB
10	10026003	SPRING, COMPRESSION, DI23X1.75X40.4
11	10022224	CLUTCH, CASE, DRIVE
12	10024649	MOTOR, SD13 LIS, WIRED
13	10038304	BLOCK, CHAIN, TENSIONER
14	1516	NUT M8 HE THIN 4
15	5111X086000	SET SCREW M8 X 60 DIN 933
16	5234	SCREW M6X20
17	10037749	SPACER, CLUTCH, DRIVE
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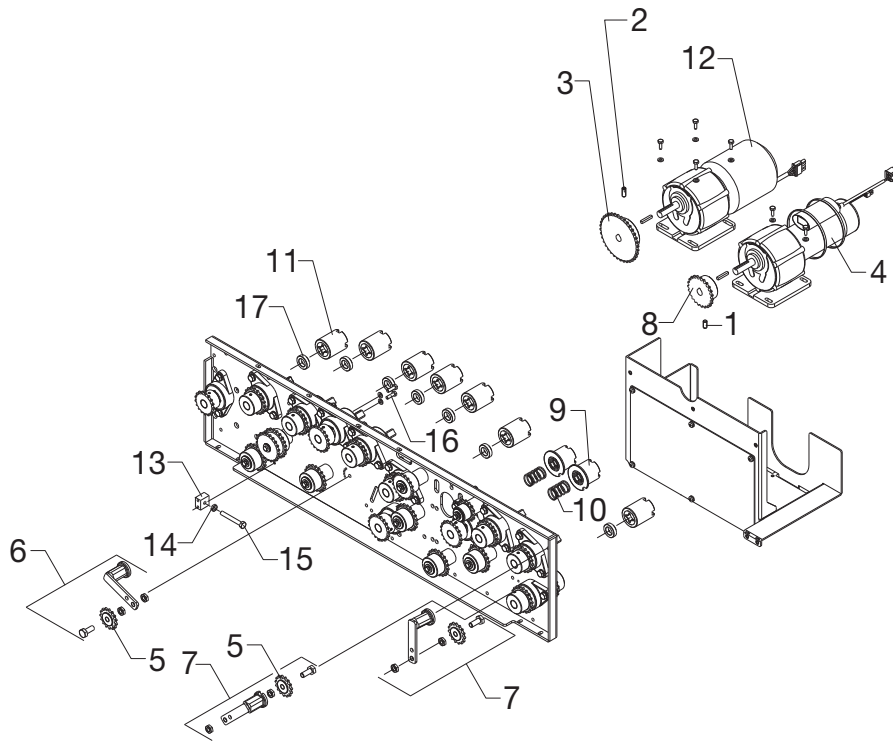


T8577

DRIVE PLATE (DOUBLE SCRUB)

## Drive plate (double scrub 85)

Pos.	85	Specification
1	10032142	CHAIN, FINAL DRIVE, 57 PITCHES
2	22602316	LINK, CHAIN, No.26,3/8"x7/32 SIMPLEX"
3	10023774	CHAIN, MAIN, 275 PITCHES
4	10024015	CHAIN, MAIN SCRUB, 73 PITCHES
5	10024014	CHAIN, MOTOR MAIN, 73 PITCHES
6	10023772	CHAIN, DOUBLE SCRUB, 119 PITCHES
7	10032146	SCRUB, SHAFT, ASSY, 17Z
8	21050120	BEARING 22 SFT 3/4"
9	21101816	SPROCKET, 21T DUPLEX, CONCENTRIC
10	10021642	IDLER, MAIN, DRIVE, 19Z
11	10016630	DRIVE, SHAFT, ASSY, 19Z
12	21050094	DRIVE, SHAFT, ASSY, 19Z
13	21050091	SCRUB, SHAFT, ASSY, 19Z
14	10016631	SCRUB, SHAFT, ASSY, 19Z
15		
16	10021661	IDLER, SCRUB, DRIVE, 19Z
17	21050089	SPROCKET, 19Z 06B-1, M8 BORE
18	10025418	SHAFT, LOCK, CLUTCH
19	10025802	BRACKET, LOCK, CLUTCH
20	10025415	CHAIN, TENSIONER, SE11, SCRUBCHAIN, COMPLETE
21	10025416	CHAIN, TENSIONER, SE11, DRIVECHAIN, COMPLETE
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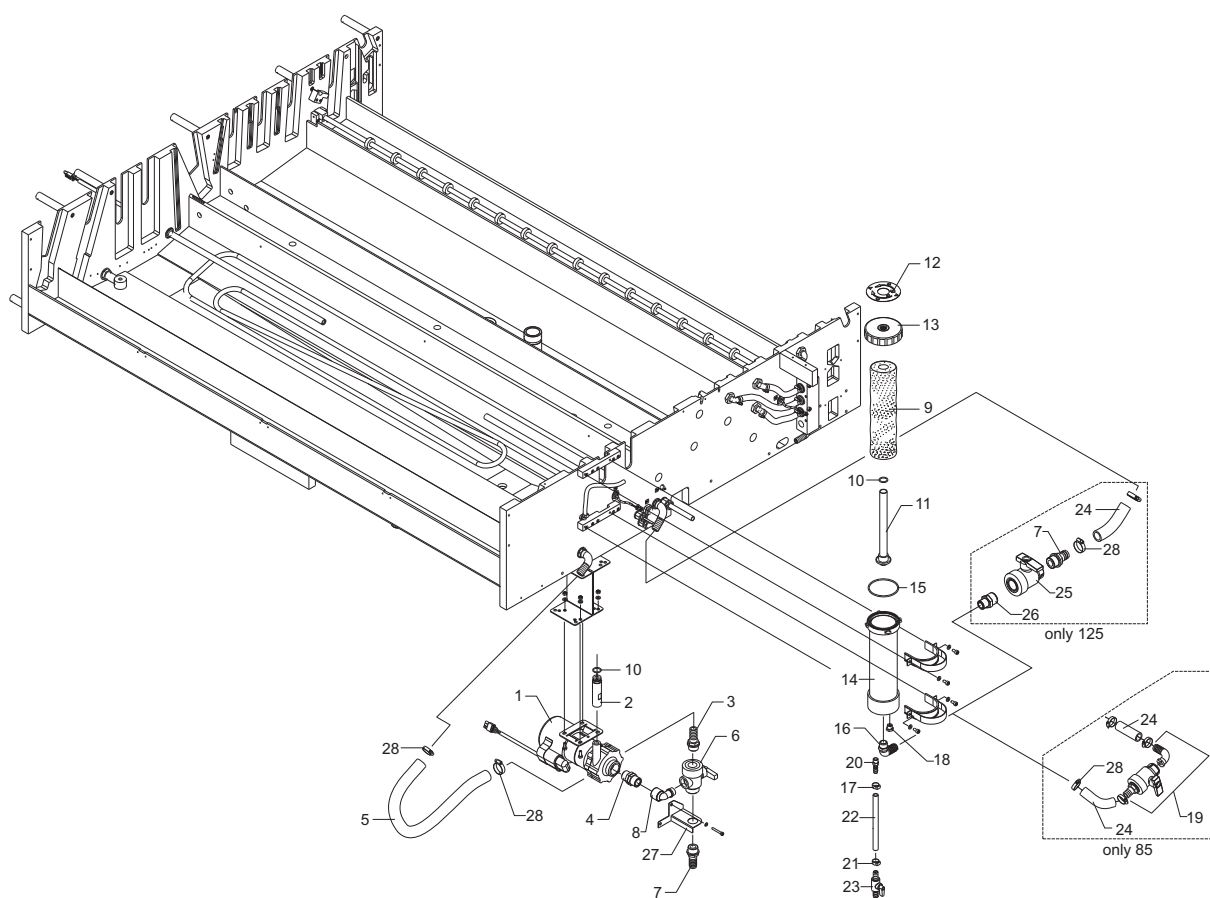


T8578

**CHAIN DRIVE PLATE (DOUBLE SCRUB)**

## Chain drive plate (double scrub 85)

Pos.	85	Specification
1	35113	SCREW, M8X16 HE SO CP 4
2	35114	SCREW, M8X20 HE SO CP 4
3	10022306	SPROCKET, 36TX3/8"P, 15 MM BORE W. KEY
4	10024646	MOTOR, PARVALUX, PM6D LIS, 9 RPM
5	10021315	SPROCKET, CHAIN, TENSIONER, KS06(1)15-10
6	10025415	TENSIONER, CHAIN, SE11, SCRUB, COMPLETE
7	10025416	TENSIONER, CHAIN, SE11, DRIVE, COMPLETE
8	21113578	SPROCKET, 23Z 06B-1,15 MM BORE
9	10024291	CLUTCH, CASE, SCRUB
10	10026003	SPRING, COMPRESSION, DI23X1.75X40.4
11	10022224	CLUTCH, CASE, DRIVE
12	10024649	MOTOR, SD13 LIS, WIRED
13	10038304	BLOCK, CHAIN, TENSIONER
14	1516	NUT M8 HE THIN 4 439
15	5111X086000	SET SCREW M8 X 60 DIN 933
16	5234	SCREW M6X20
17	10037749	SPACER, CLUTCH, DRIVE
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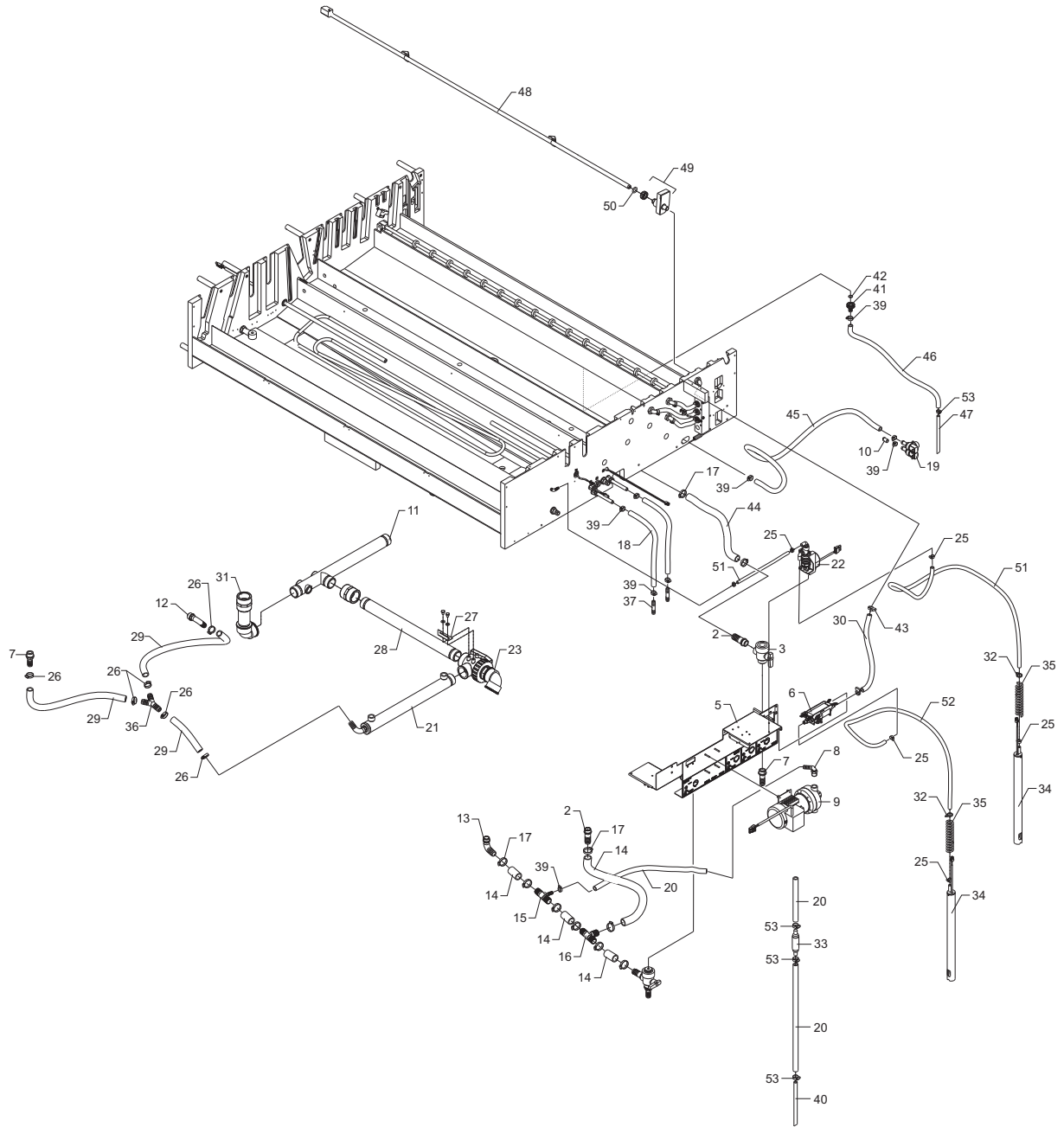


T8579

GROUP FILTER DEV AC-5P

## Group filter dev ac-5c

Pos.	85	125	Specification
1	10031098	21109444	AC-5C, PUMP, WIRED ASSY, ENCAP., IMPELLER
2	10035422	10035423	CONNECTOR, FILTER/PUMP
3	21114286		FITTING, HOSETAIL, 3/4"BSP x 3/4", MODIFIED
		21060057	HOSE ADAPTOR 3/4" 90 DEG
4	22080199		FTG ADAPTOR 3/4 X 3/4 M
		22086216	FITTING, REDUCER, 1"BSP M X3/4"BSP M
5	22070447	22070447	HOSE CHEM EPDM 3/4 IN
6	10048114	10048114	BALL, VALVE, 3/4"BSP, 3WAY, MODIFIED
7	21060040	21060040	ADAPTOR HOSE, PP 3/4"X3/4"
8	21112093	21112093	FIT, ELBOW, 3/4"BSP M/F, 10MM THREAD
9	57727	57727	FILTER, INSERT, 9 7/8", 150 MIC, REUSE
10	35385	35385	O-RING, D19.3X2.4, FPM
11	21792259	21792259	TUBE, INNER, FILTER, 10"
12	21110139	21110139	LABEL, FILTER, TOP
13	10017804	10017804	LID, FILTER, COMPLETE
14	10035355	10035355	FILTER, HOUSING, 10"
15	21110489	21110489	O-RING, 77MMX3MM, VITON, SHORE 70
16	22085147	22085147	FITTING, ELBOW, 1/2" BSP, 3/4" HOSE
17	15847	15847	CLAMP, HOSE D12.0-13.7
18	21060186	21060186	FITTING, PLUG, 1/4"BSP, PP
19	10031290	10031290	VALVE, 3/4" BSP, FITTING
20	21060422	21060422	FITTING, HOSETAIL, 1/4" BSP x 10MM
21	5313	5313	CLAMP, HOSE D13.7-15.3 PL SNP8
22	10030528	10030528	HOSE, SILICONE, D10/D14
23	21060150	21060150	VALVE, FP 226-8B-8B-F, SPE 5741890
24	21060674	21060674	HOSE, BRAIDED, 3/4", RED
25	-	22086380	VALVE 3/4BSP(FM) - PP
26	-	21114286	FITTING, HOSETAIL, 3/4"BSP x 3/4", MODIFIED
27	21792146	21792146	BRACKET, FILTER DRAIN VALVE, AC3C
28	6323	6323	CLAMP, HOSE D13-27



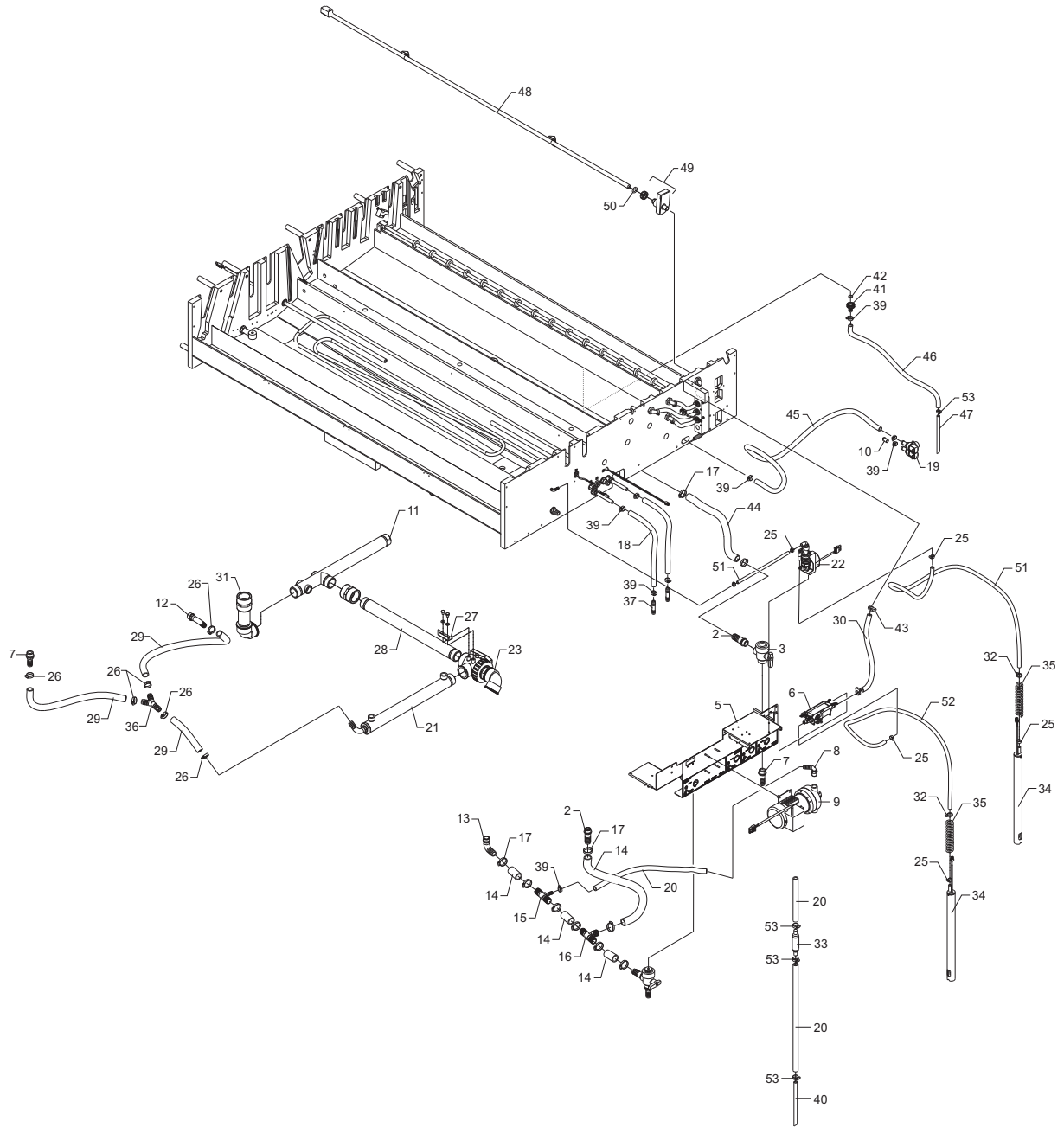
T8580

PUMP / CIRCULATION



## Pump / circulation

Pos.	85	125	Specification
1			
2	22085504	22085504	FTG, HOSETAIL, 3/4"BSP X 25, PP
3	10046848	10046848	VALVE, BALL, 2 WAY, 3/4" 90°ANGLE
4			
5	10026036	10026036	BRACKET, PUMPS AND TAPS, W/LABEL
6	10031094	10031094	PUMP, OSC, GUM, COMPLETE
7	21060040	21060040	ADAPTOR, HOSE, PP 3/4"X3/4"
8	22085087	22085087	FITTING, ELBOW, 1/2" BSPx1/2" HOSE
9	10022908	10022908	PUMP, AD 550, WITH PLUG,
10	10031426	10031426	CAP, SEAL, MH57, M12
11	10032143	10032418	DRAIN, MANIFOLD
12	21060057	21060057	ADAPTOR, HOSE, 3/4" 90 DEG
13	22085528	22085528	FITTING, ELBOW 90, 3/4"BSPx25 HOSE
14	21060678	21060678	HOSE, BRAIDED, 1", RED
15	21060690	21060690	FITTING, TEE, HOSE, 25MM, BARB
16	21060685	21060685	FITTING, TEE, HOSE, 25MM, BARB
17	6062	6062	CLAMP, HOSE D18-38
18	22085544	22085544	HOSE WIRE REINF PVC 10ID
19	21109550	21109550	VALVE, SOLENOID, TWIN, SDT 180 ,24V,DC
20	21060670	21060670	HOSE, BRAIDED, 1/2", RED
21	10032370	10032370	DRAIN, MANIFOLD, COMPLETE
22	21107092	21107092	PUMP, BELLOWS, DEV, M8, GRI, EPDM, COMPLETE
23	10032366	10032366	VALVE, BALL, 3-WAY, 1-1/2", BSP, COMPLETE
24			
25	6332	6332	CLAMP, HOSE D09-16
26	6323	6323	CLAMP, HOSE D13-2790
27	10026012	10026012	BRACKET, VALVE
28	21240223	21154228	PIPE, DRAIN, 355 LG (14")
29	21060674	21060674	HOSE, BRAIDED, 3/4", RED
30	10034866	10034866	HOSE, SILICONE, D10/D17

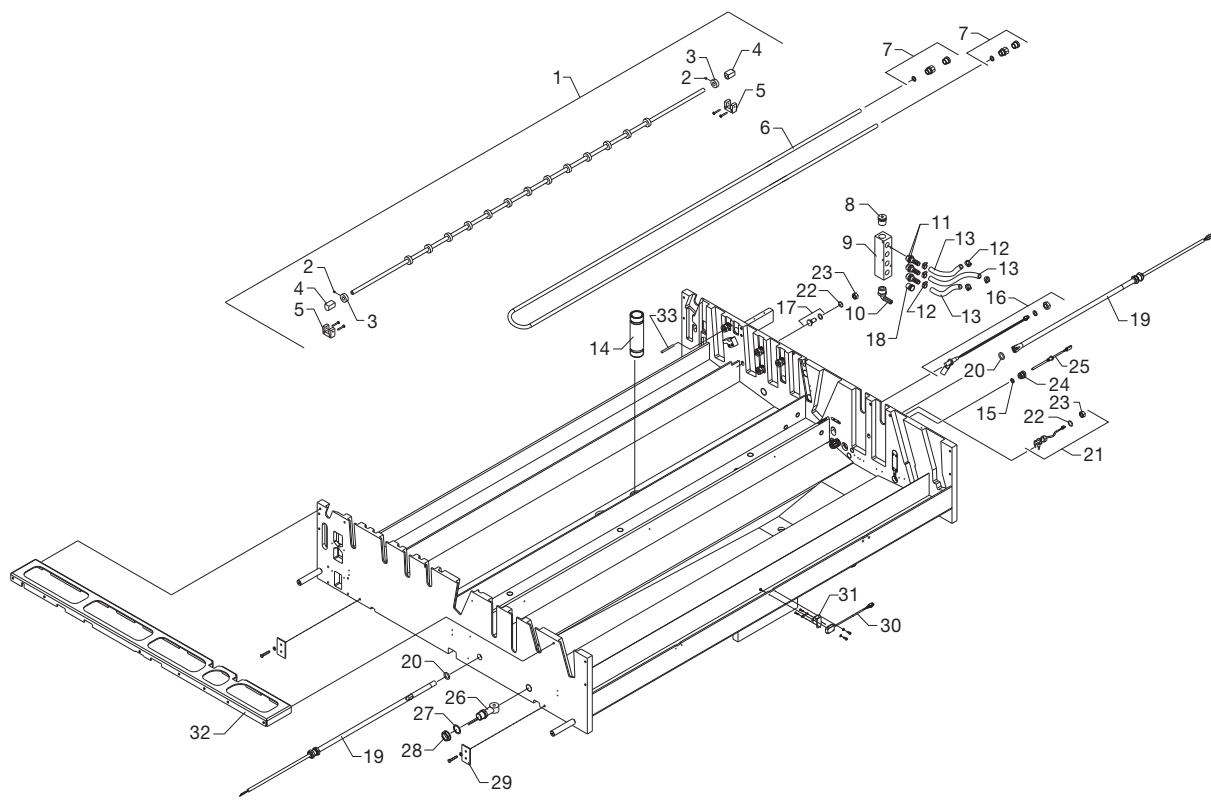


T8580

PUMP / CIRCULATION

## Pump / circulation

Pos.	85	125	Specification
31	10018312	10018312	FTTTING, WASTE, WASH, COMPLETE
32	5371	5371	CABLE-TIE 150X3.5 T30R
33	10040880	10040880	SINGLE, CHECK, VALVE, 1/2" HOSE
34	10017014	10017014	SUCTION, SENSOR, 2-PIN
35	26138	26138	HOSE, SPIRAL D25/30
36	21060239	21060239	HOSE Y, 3/4"
37			
38			
39	6019	6019	CLAMP, HOSE, D8-22
40	21060176	21060176	TUBE, REPLENISH, BOTTLE, 1/2" DIA
41	21060128	21060128	HOSE, ADAPTOR, FEMALE, 3/4"BSP, TO, 13
42	45592	45592	O-RING, D15.54x2.62, EPDM
43	15862	15862	CLAMP, HOSE D16.8-18.4 SNP12
44	21060679	21060679	HOSE, BRAIDED, 1", BLUE
45	6080	6080	HOSE 1/2", REINFORCED (PER M)
46	21060671	21060671	HOSE, BRAIDED, 1/2" BLUE
47	21060176	21060176	TUBE, REPLENISH, BOTTLE, 1/2" DIA
48	10041041	10041042	TUBE, SPRAY, NOZZLE, GUM
49	10036016	10036016	FLOWREGULATOR, GUM
50	21059084	21059084	O-RING, D12.29X3.53
51	6341	6341	HOSE, D10/D14, PVC, RED, PER METER
52	6342	6342	HOSE, D10/D14, PVC, BLUE, PER METER
53	15510	15510	CLAMP, HOSE D11-18MM
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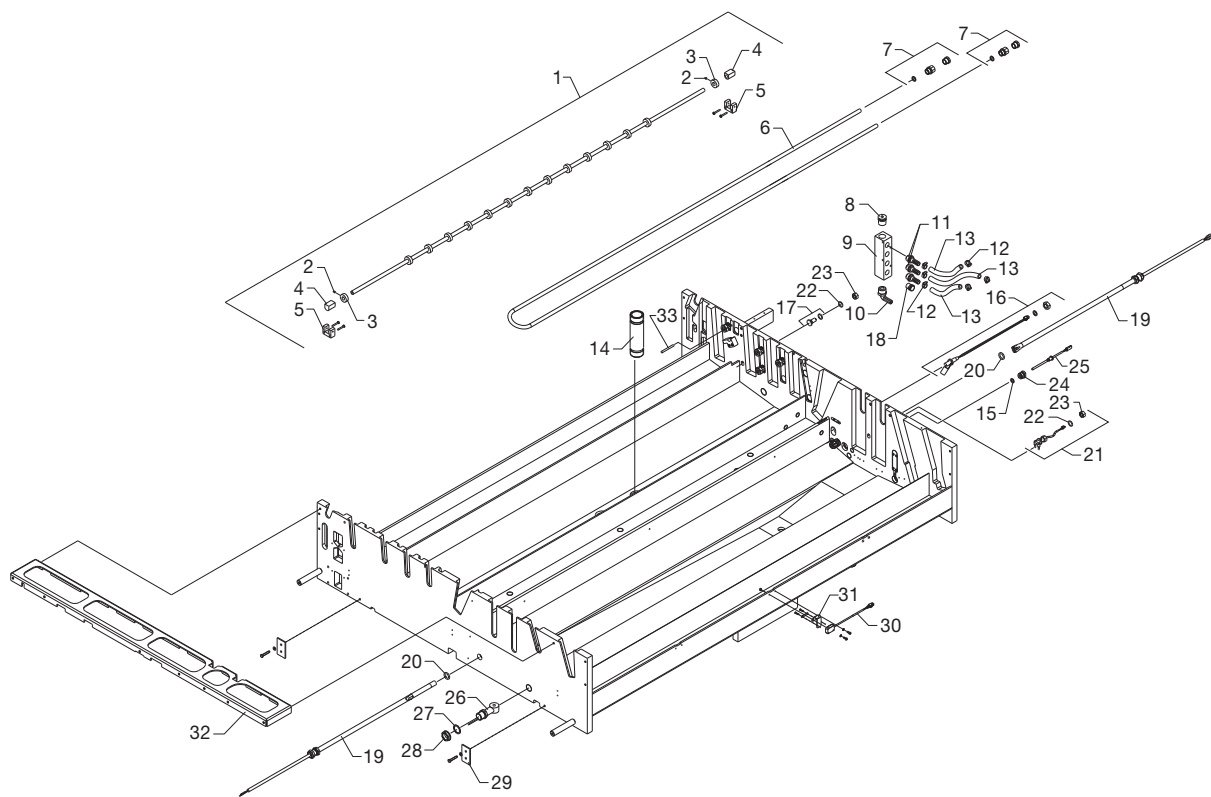


T8581

TANK BASE

# Tank base

Pos.	85	125	Specification
1		21116265	PLATE, GUIDE, COMPLETE
2		5124	SCREW M5X6 HE SO CP
3		21050028	FINAL DRIVE COLLAR 1/2"
4		21655209	BLOCK, SPRAYBAR, END
5		21153206	SUPPORT, BLOCK
6	21153150	21154132	TUBE, CHILLER
7	21040073	21040073	CABLE GLANDS, M20, 8-13MM
8	21060178	21060178	BSP HEX PLUG 3/4"
9	21253216	21253216	MANIFOLD, DISTRIBUTION, BLOCK
10	10014671	10014671	FITTING, ELBOW, 3/4"RG(BSP), 1/2" HOSE
11	21112247	21112247	FITTING, HOSETAIL, 1/2"
12	15510	15510	CLAMP, HOSE D11-18 MM
13	6080	6080	HOSE 1/2", REINFORCED, PER METER
14	10025918	10025918	STACKPIPE, DRAIN
15	35355	35355	O-RING D5.0X2.5 EPDM
16	10040806	10040806	SWITCH, FLOAT, 15KOHM, COMPLETE
17	88820	88820	STOPPER, TANK, D12
18	21060191	21060191	PLUG, HEX, 1/2", BSP
19	21106975	21106975	HEATER, TANK, COMPLETE
20	25302	25302	O-RING 19X4 46 6051
21	87520	87520	SENSOR, LEVEL, 90, DEGREE, COMPLETE
22	35386	35386	O-RING D16.3X2.4 FPM
23	10037727	10037727	NUT M12 HE 4
24	44968	44968	FITTING, BUSHING, 1/2"RG-D6
25	43724	43724	SENSOR, TEMP NTC (90MM CABLE)
26	10023498	10023498	SENSOR, CONDUCTIVITY, DIGITAL
27	10023497	10023497	WASHER, NITRILE, SENSOR
28	10023496	10023496	NUT, 3/4", BSP, PLASTIC
29	21793104	21793104	BRACKET, TANK, BASE
30	10031354	10031354	SENSOR, OPTO, 60MM, CABLE

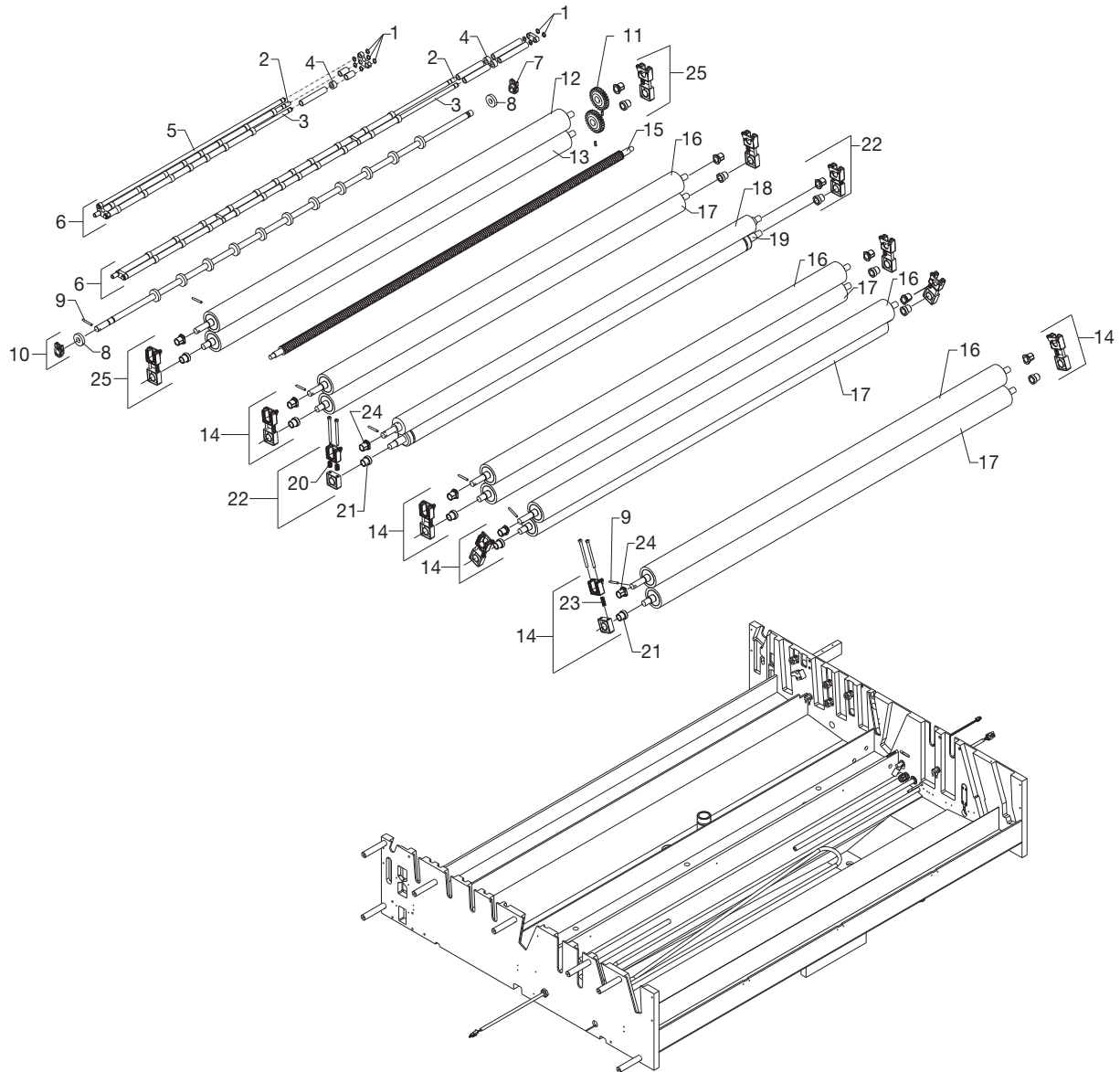


T8581

TANK BASE

# Tank base

Pos.	85	125	Specification
31	10024911	10024911	BRACKET, SENSOR, MOUNTING
32	-	10041028	PLATE, DRIVE, SUPPORT
33	10043228	10043228	PIN, DOWEL, D6h8 X 60
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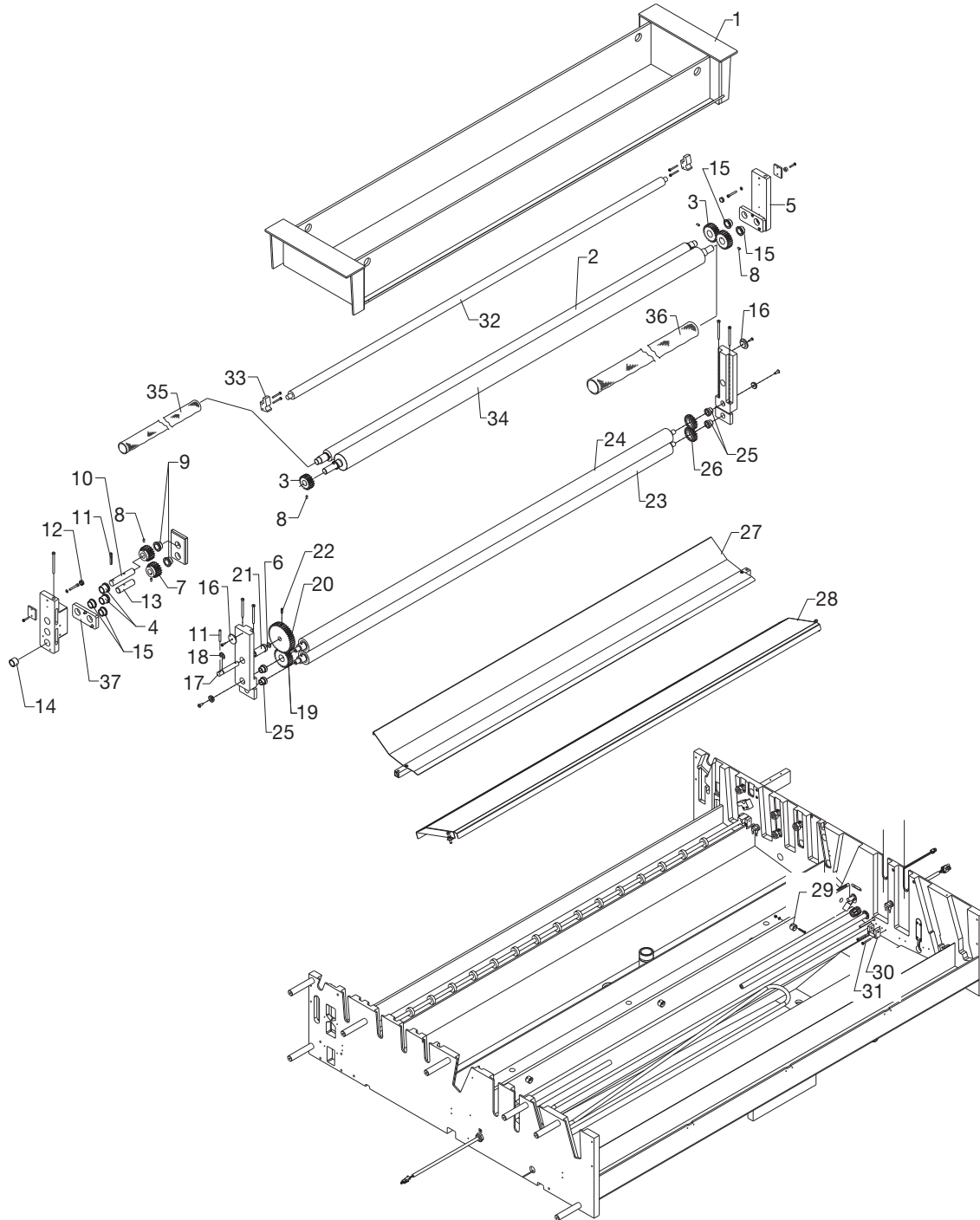
T8582

GROUP ROLLER



## Group roller

Pos.	85	125	Specification
1	35598	35598	CIRCLIP, D14, A2, DIN 471
2	21114912	21114922	SHAFT, IDLER, LONG
3	21839023	21793020	SHAFT, IDLER, SHORT
4	10042645	10042645	ROLLER, GUIDE, NYLON D25
5	21114911	-	SHAFT, IDLER, SHORT
6	10037188	10037189	IDLER, DRIVE, BAR, NYLON, COMPLETE
7	10046059	10046059	BEARING ,ROLLER, D54
8	21050125	21050125	FINAL, DRIVE, WHEEL 3/4", RUBBER
9	10017387	10017387	PIN, TUBULAR D6X45, DIN 1481
10	10017500	10019189	FINAL, DRIVE, BAR, COMPLETE
11	10026001		GEAR, 2.5M, 19 TEETH, SS, WITH GRUBSCREW
		21050172	GEAR, DRIVE, 78 PCD, M3, 26 TEETH
12	10018253	10019286	ROLLER, GUM, W/PIN, UPPER, COMPLETE
13	10018095	21722302	ROLLER, DRIVE, LOWER
14	10019170	10018180	BLOCK, BEARING, QUICK RELEASE, COMPLETE
15	21103503	21103630	ROLLER, SPREADER, GUM
16	10018251	10019284	ROLLER, DRIVE, W/PIN, UPPER, COMPLETE
17	10018089	21250301	ROLLER, DRIVE, LOWER
18	10018252	10019285	ROLLER, BRISTLE, W/PIN, COMPLETE
19	10035958	10035952	ROLLER, SLICK, LOWER
20	21050783	21050783	SPRING, 1/2"X3/4" 0.064
21	10037392	10037392	BEARING, TURCITE "A" D20.35 / D25.33
22	10019179	10019179	BLOCK, BEARING, BRUSH, QUICK, COMPLETE
23	-	54316	SPRING, D12.6/1.2, L=42
24	10037393	10037393	BEARING, TURCITE "A" D20.15 / D25
25	10044377	10018180	BLOCK, BEARING, QUICK RELEASE, COMPLETE
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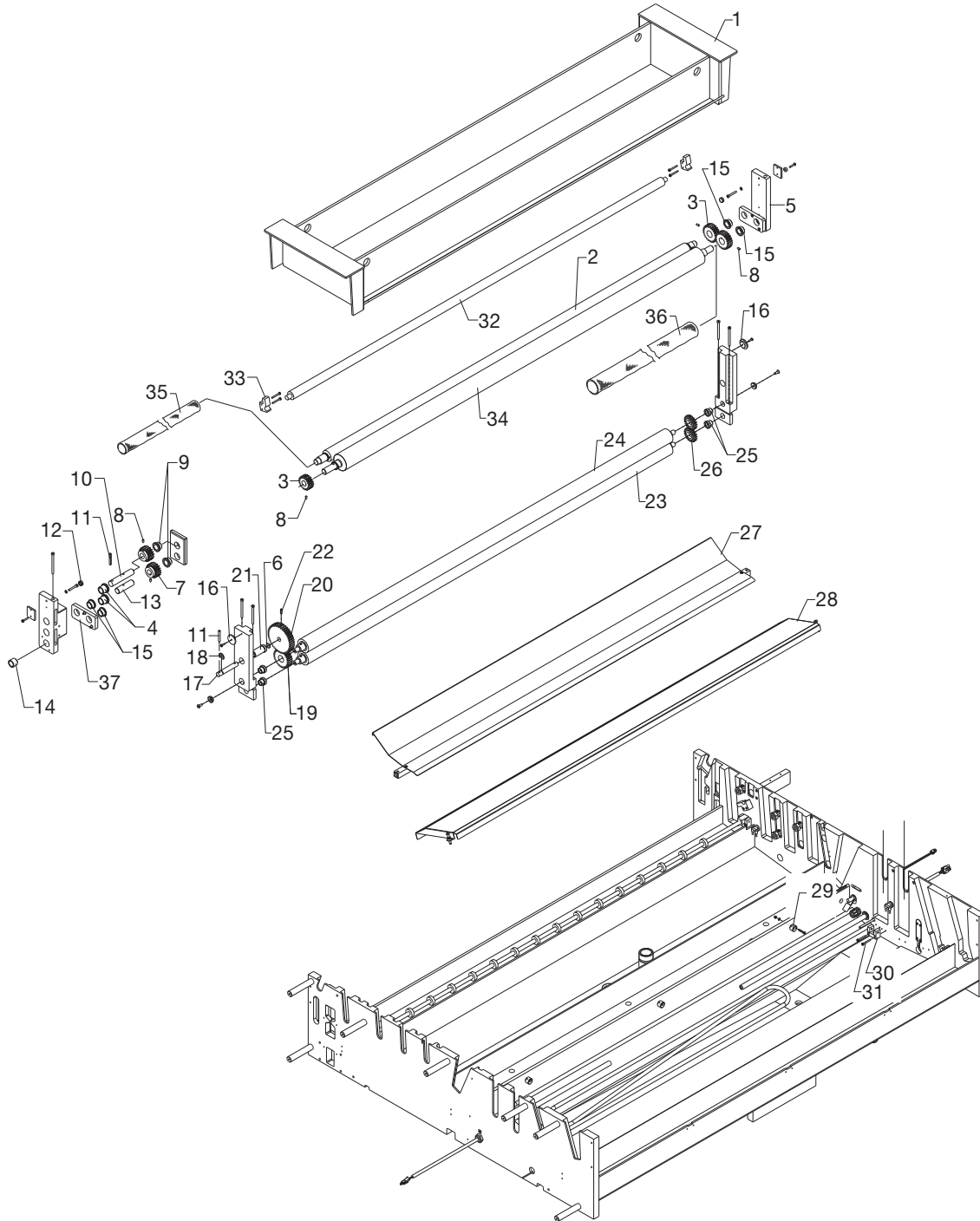


T8584

GROUP DEV KIT CD TWIN-SCRUB

## Group dev kit cd twin scrub

Pos.	125	Specification
1	10025705	LID, DEVELOPER
2	21793302	ROLLER, DEVELOPER, ¥40, TWIN SCRUB
3	21050064	GEAR, 23T, 25 MM BORE, DELRIN
4	10044445	BUSH, LONG, GEARBOX TURCITE
5	10025397	BEARING, BLOCK
6	35434	O-RING 13.3x2.4 EPDM
7	21050123	GEAR, 18T, SS, 45, PCD
8	15074	SCREW M5X10
9	10041446	BUSH, SHORT, GEARBOX TURCITE
10	10022037	SHAFT, LONG, GEARBOX
11	10017387	PIN, TUBULAR D6X45, DIN 1481
12	6191	BUSHING D5/13X6
13	21150403	SHAFT, GEARBOX, SHORT
14	21982594	BUSH, RING, TURCITE
15	21982595	BUSH, FLANGE, TURCITE
16	21450218	GEAR BOX, RETAINER (SHORT)
17	10022045	SHAFT, GEAR, DRIVE
18	10022104	CIRCLIP, D12X1.3, A2, DIN6799
19	21050997	GEAR, 26T, ROLLER
20	21050993	GEAR, 41T
21	21050992	BUSH, FLANGE, 52 LONG
22	21073397	GRUB SCREW, M5x16, HE, SO, CP, DIN916
23	21545304	ROLLER, DRIVE, LOWER
24	21545303	ROLLER, DRIVE, UPPER
25	10041447	TURCITE BUSH-SCRUB & RUBBER ROLLERS
26	10026001	GEAR, 2.5M, 19 TEETH, SS, WITH GRUB SCREW
27	10031301	GUIDE, DEV, REAR
28	21112908	GUIDE, FRONT, DEV
29	21050220	RE-ENTRY CAM
30	21153206	SUPPORT, BLOCK

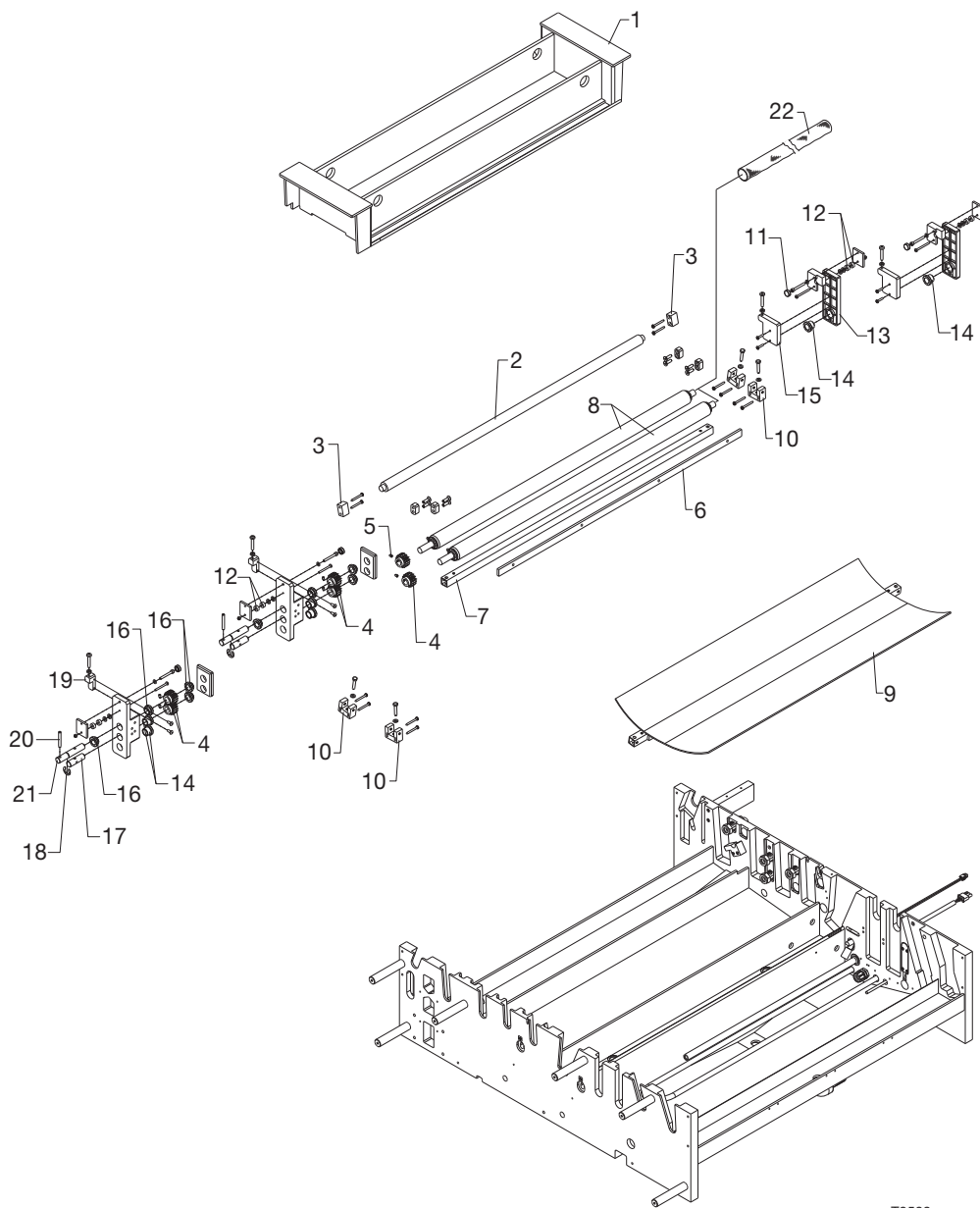


T8584

GROUP DEV KIT CD TWIN-SCRUB

## Group dev kit cd twin scrub

Pos.	125	Specification	
31	21072912	NO 8 X 1 1/2, S/TAP, PAN, HD, SCREW S/S	
32	21585301	ROLLER, DEV EXIT, LAY ON, COMPLETE	<i>NOT ALL MODELS</i>
33	21982567	BLOCK, WEDGE, ROLLER	<i>NOT ALL MODELS</i>
34	21793301	ROLLER, DEVELOPER, D60	
35	21112957	SCRUB, COVER	
36	10023254	SCRUB, COVER, D60	
37	21793220	BLOCK, ARM, ROLLER, SCRUB	
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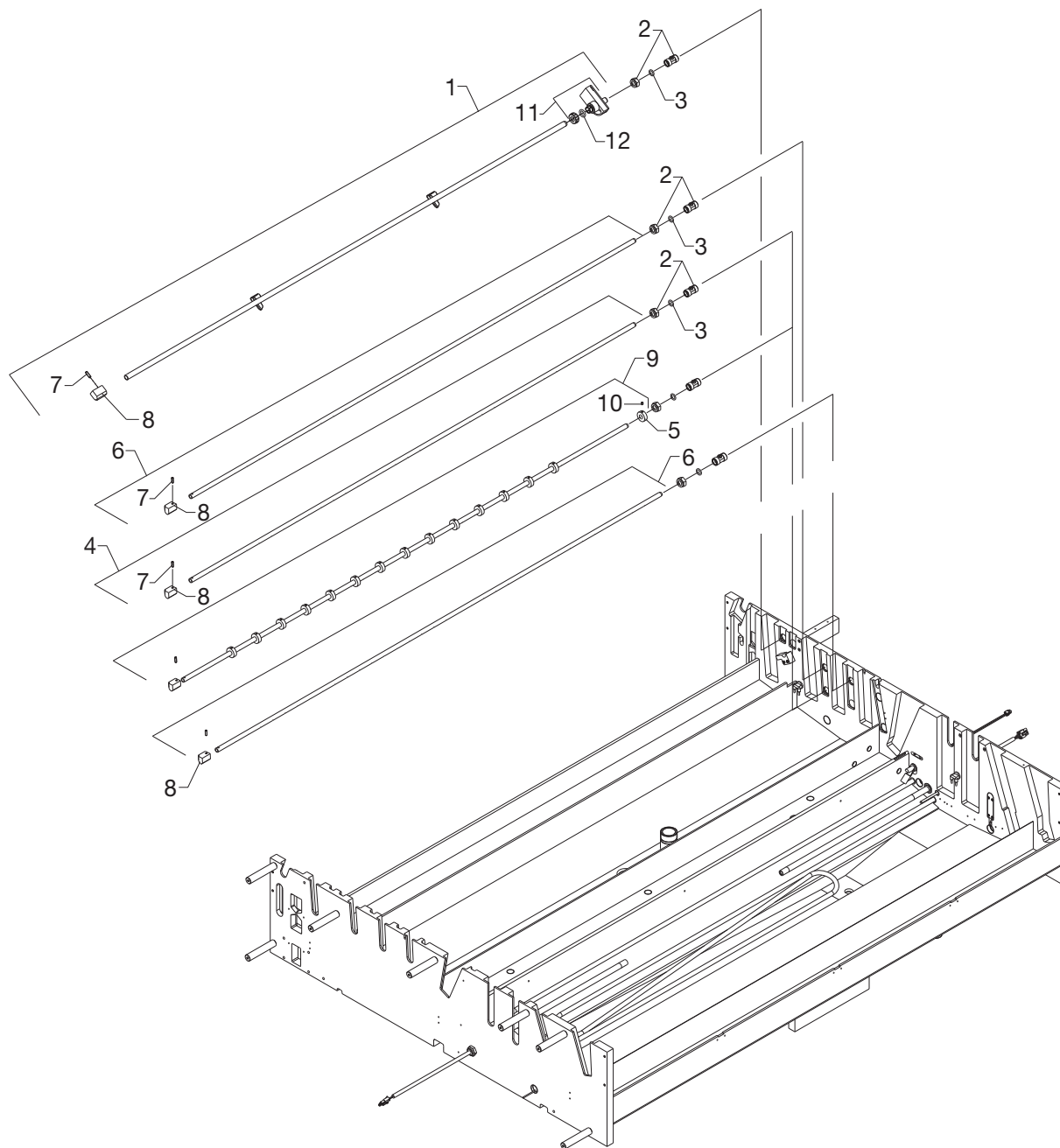


T8588

GROUP DEV KIT DOUBLE SCRUB

## Group dev kit double scrub

Pos.	85	Specification
1	10025720	LID, DEVELOPER
2	10025998	ROLLER, DEV EXIT, LAY ON
3	21792220	BLOCK, BEARING, ROLLER
4	21113447	GEAR, 15T, 30 PCD, STAINLESS STEEL
5	5124	SCREW M5X6 HE SO CP
6	21792263	SUPPORT, STRIP, DEVELOPER, MESH
7	21153115	PRESSURE, PLATE, SUPPORT (NP)
8	21005120	DEV, ROLLER, ASSY
9	10030126	MESH, DEVELOPER, LONG
10	21153206	SUPPORT, BLOCK
11	15038	NUT M5 KN BK PL
12	6191	BUSHING D5/13X6
13	10030974	SLAVE, BEARING, BLOCK, DRILLED
14	10041444	GEARBOX BUSH, LONG 85 TURCITE
15	21109996	BLOCK, SLAVE, SINGLE, ADJUST
16	10041443	GEARBOX BUSH, SHORT 85 TURCITE
17	21850403	SHAFT SHORT, GEARBOX
18	10022104	CIRCLIP, D12X1.3, A2, DIN6799
19	21109258	BLOCK, GEARBOX, ADJUSTMENT
20	10017387	PIN, TUBULAR D6X45, DIN 1481
21	10023915	SHAFT, GEARBOX, (LONG)
22	10024519	SCRUB, COVER, D35
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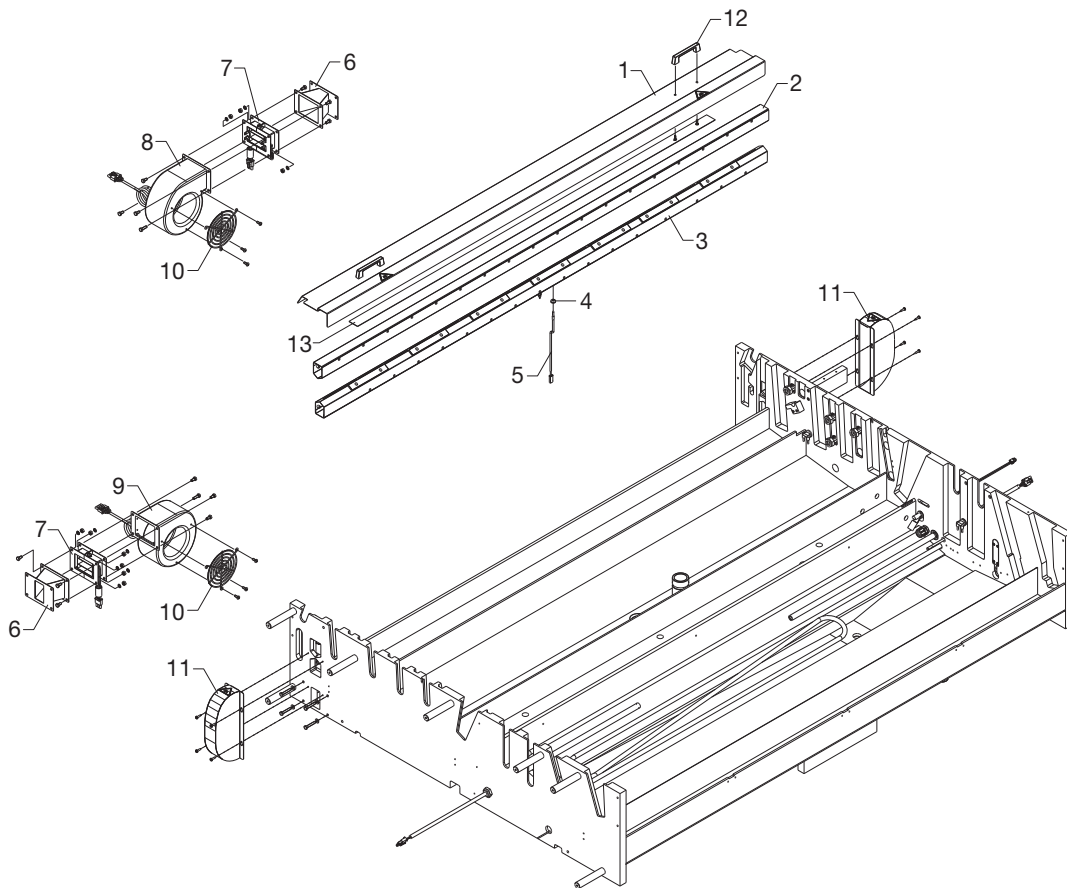
T8583

GROUP TUBE SPRAY WATER GUM



## Group tube spray water gum

Pos.	85	125	Specification
1	10035138	10035280	TUBE, GUM
2	21107930	21107930	VALVE, BALL, 1/2 BSP MALE PLUS ONE NUT
3	21107931	21107931	O-RING 13 I/D X 3 WALL EPDM
4	10024865		TUBE, WATER, SINGLE
5		21050028	FINAL, DRIVE COLLAR 1/2
6	10020204	21107870	TUBE, SPRAY, WATER, DOUBLE, COMPLETE
7	5127	5127	SCREW, GRUB 5 X 16 MM
8	21801115	21801115	BLOCK, SPRAY BAR, END
9	-	21107871	TUBE, SPRAY, WATER, COMPLETE
10	-	5124	SCREW M5X6 HE SO CP
11	10036016	10036016	FLOWREGULATOR,GUM
12	21059084	21059084	O-RING, D12.29X3.53
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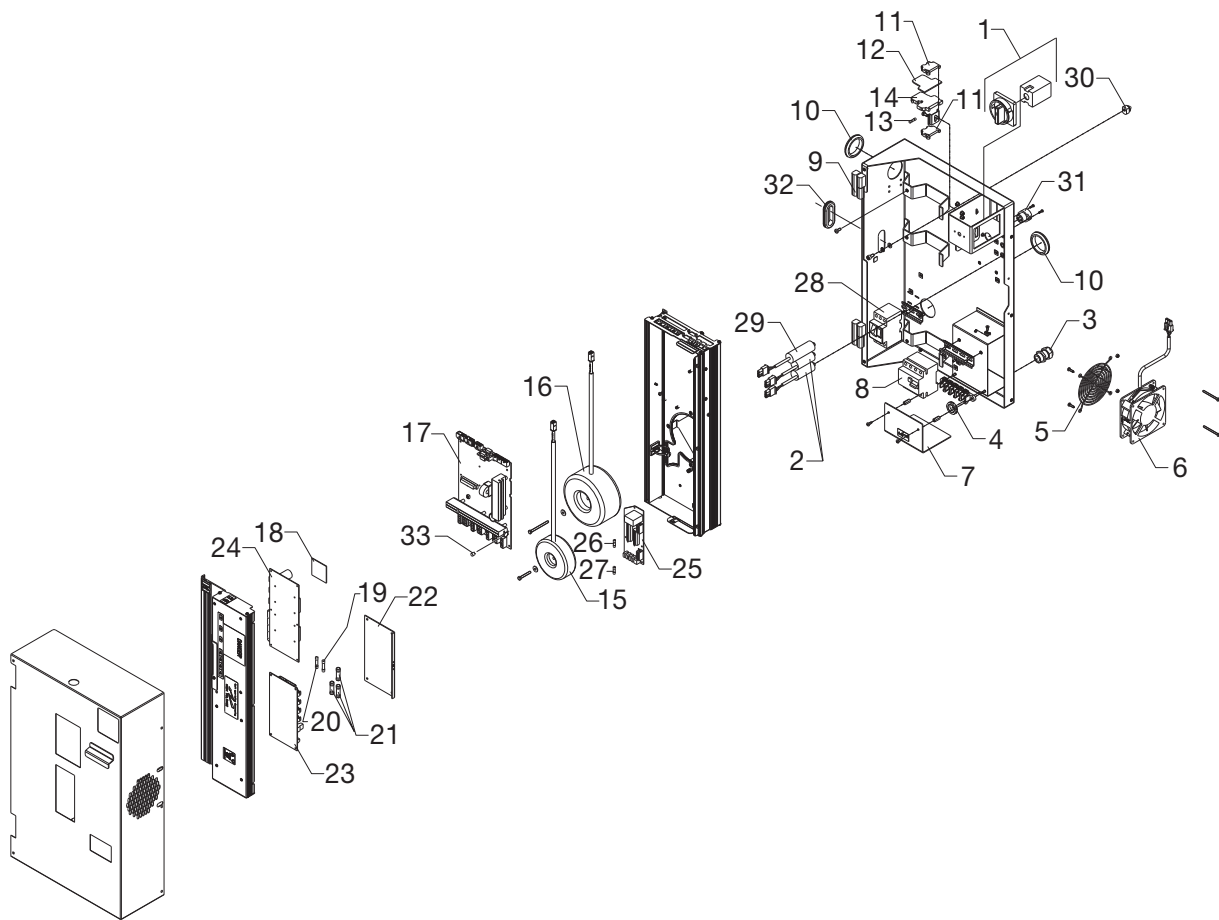


T8585

GROUP DRYER

# Dryer

Pos.	85	125	Specification
1	10025859	10025858	COVER, GUARD, AIRTUBE, COMPLETE
2	21839009	10024952	DRYER, TUBE, TOP, COMPLETE
3	10040234	10025864	DRYER, TUBE, BOTTOM, COMPLETE
4	6295	6295	GROMMET D6/9X1.5
5	26385	26385	SENSOR, TEMP THERMISTOR, PLASTIC
6	21835086	21835086	DUCT, DRYER
7	10017818	10017818	HEATER, ELEMENT, COMPLETE
8	-	10017894	FAN, RIGHT, DRYER
9	10017895	10017895	FAN, LEFT, DRYER
10	35396	35396	GUARDS, FINGER
11	10023607	10024370	COVER, DUCT, DRYER
12	6293	6293	HANDLE, BLACK
13	10040356	10040357	BLACK, TAPE, 30MM, VELCRO, LOOP
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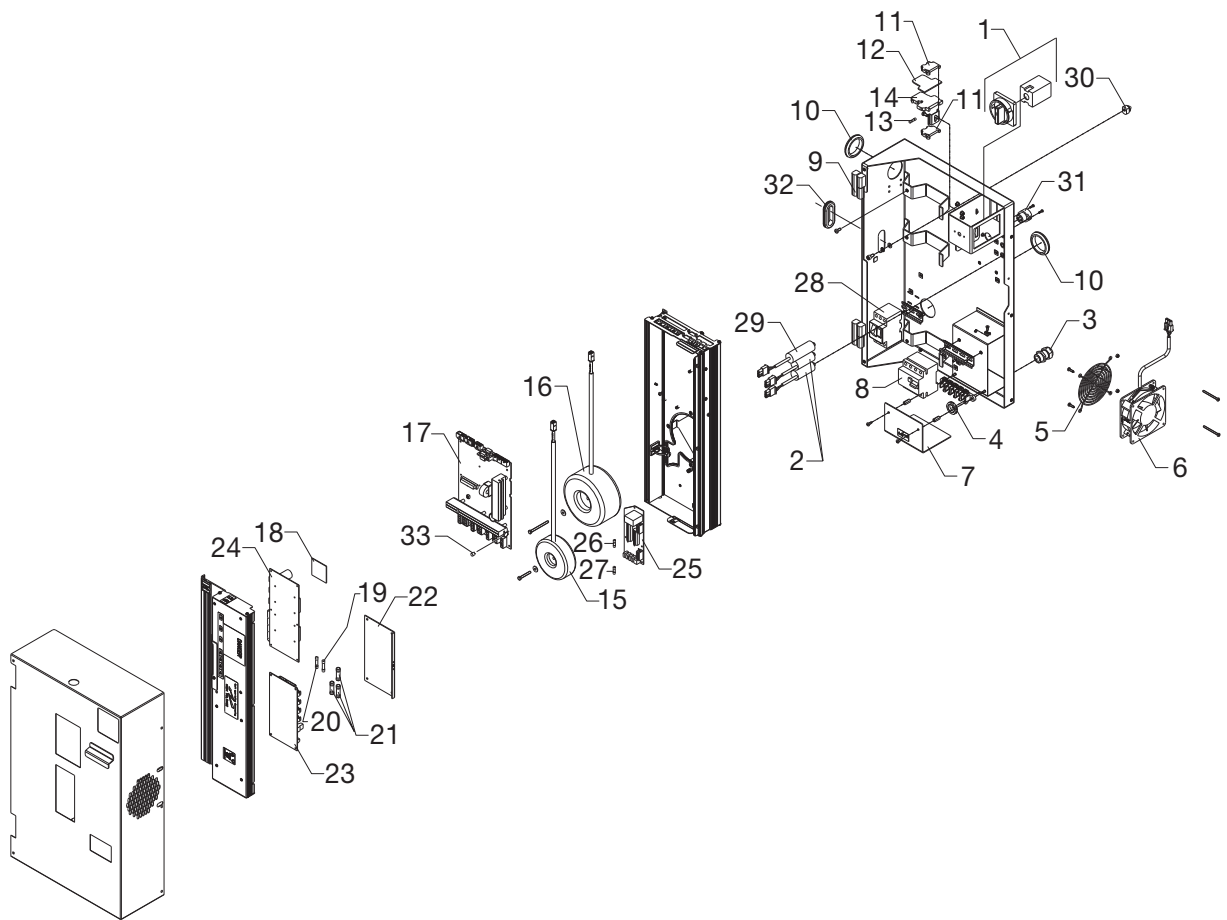


ENCLOSURE ELECTRICS

T8586

# Electrical

Pos.	85	125	Specification
1	16414	16414	SWITCH, 194L-16, 66.5X66.5
2	54563	54563	CAPACITOR, 2MF,CA-250, COMPLETE
3	36501	36501	GLAND,CABLE,ST-M 32x1.5
4	36500	36500	LOCKNUT FOR CABLE GLAND M32x1,5
5	10019245	10019245	GUARD, METAL, FAN, (FG-12), 120X120
6	10015202	10015202	BLOWER, COMPLETE
7	10017988	10017988	SHIELD
8	10030625	10030625	GFCI, RELAY, COMPLETE
9	45926	45926	HINGE, SOUTHCO, 96-50-510-50
10	45865	45865	BUSHING, 258-68, D45/50X1.6
11	10007152	10007152	TERMINAL, LOCK, WAGO249-116
12	10007158	10007158	TERMINAL, BLIND, FUSEHOLDER, WAGO, 281-311
13	70158	70158	FUSE, 4A, 5x20
14	10007154	10007154	TERMINAL, FUSEHOLDER, WAGO, 281-611
15	10033257	10033257	TRANSFORMER, 9.5V/4A+24V/3.5A, 36X108MM
16	10015147	10015147	TRANSFORMER
17	10035096	10035096	PCB, HPU-V, SPAREPART
18	10039871	10039871	PCB, SYSTEM-ON-MODULE, SOM
19	6716	6716	FUSE 2A, 6.3X32 MM S/B
20	6896	6896	FUSE 4A, 6.3X32 MM
21	26508	26508	FUSE 15A SC15
22	53794	53794	COVER, PANEL, FUSE
23	36563	36563	PCB, FUSE, F. SINGLE HPU, W. VARISTOR
24	10019350	10019350	PCB, GNUC-II, MIO
25	10030889	10030889	PCB, FILTER, 2xTRANSFORMER, 4A-PTC-RESISTOR
26	10011111	10011111	FUSE, 5X20MM, 3.15AT
27	10040265	10040265	FUSE, 5X20MM, 0.63AT
28	10040488	10040488	RELAY, MOTOR, OVERLOAD, 0.63-1A
29	10017780	10017780	CAPACITOR, 5uF440V AC
30	10021365	10021365	LOCKING, PIN



ENCLOSURE ELECTRICS

T8586

# Electrical

Pos.	85	125	Specification
31	26364	26364	PLUG, FEMALE, 4-POL.
32	74048	74048	GROMMET, 5/4"
33	10011284	10011284	FUSE, 1AT, 5.08 MM, VDE
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# Appendix B: Electrical diagrams

This chapter includes all electrical diagrams for the processor.

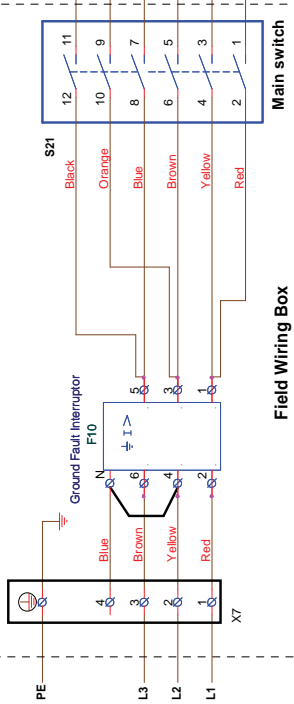
The diagrams cover:

- Main Power Distribution, Fuse panel and Interlocks
- High Voltage Wiring , 230V AC Control Devices, HPU
- Low Voltage Wiring, Sensors and Control Devices
- Motors and Internal Bus Wiring, 8, 24 and 35 VAC Distribution

## Main Power Distribution

### Fuse panel and Interlocks

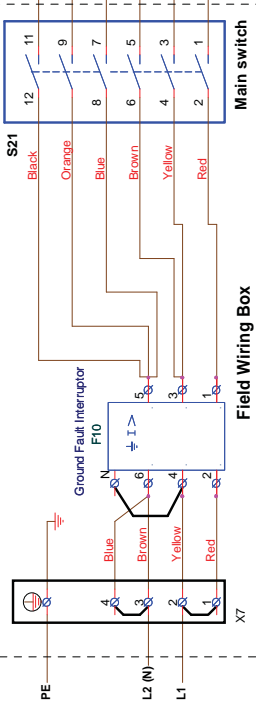
**Three Phases Without Neutral, 230V, 3 W + PE**



**Field Wiring Box**

**Main switch**

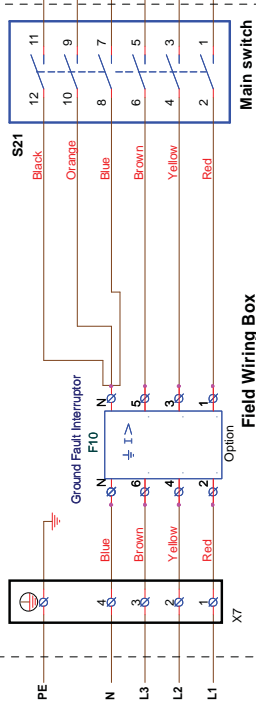
**Single Phase, 230V, 2 W + PE or 1 W + N + PE**



**Field Wiring Box**

**Main switch**

**Three Phases With Neutral, 400V, 3 W + N + PE**



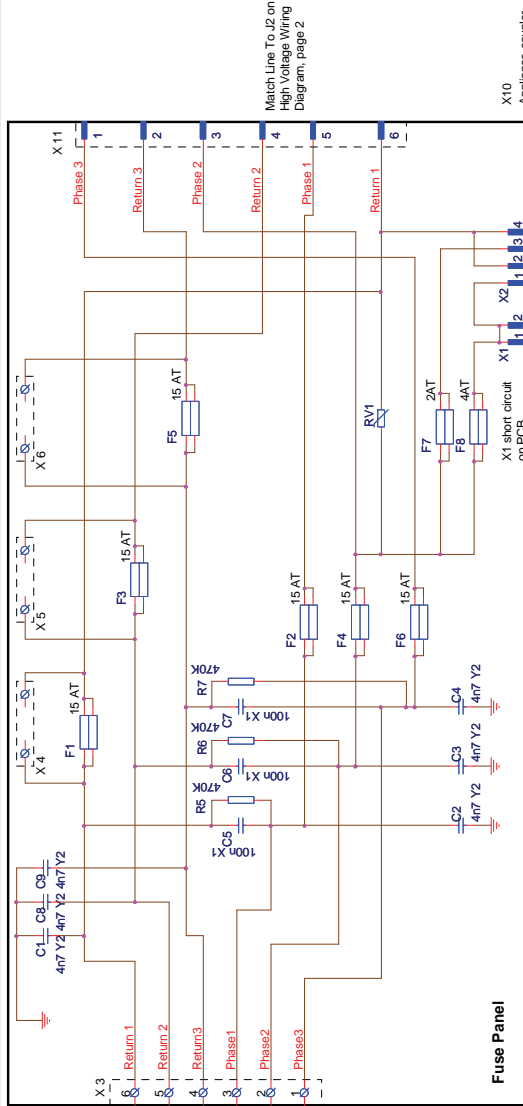
**Field Wiring Box**

**Main switch**

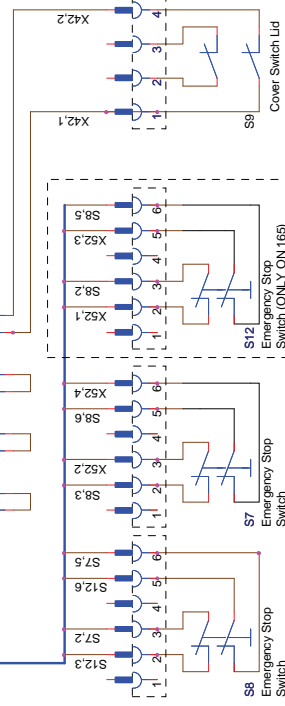
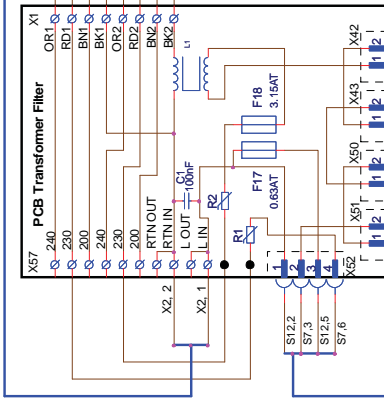
**IMPORTANT**  
Check wiring at Main Terminal X7, Ground Fault Interruptor F10 and Main Switch S21 before the power supply is switched on. Rewire if necessary according to attached column on schematics. Also set jumpers as shown in table below.

**Jumper Settings:**

Line Voltage:	Terminal Strip, X7	Fuse PCB
Three Phases Without Neutral, 230V, L1, L2, L3 + PE	No Jumpers 1	X4, X5 and X6 open
Single Phase, 230V, L1, L2 + PE or L1, N + PE	Jumpers between 1 and 2 Jumpers between 3 and 4	X4, X5 and X6 open
Three Phases With Neutral, 400V, L1, L2, L3, N + PE	No Jumpers 1	X4, X5 and X6 closed



**Fuse Panel**



Date: Thursday, July 05, 2007

Constructor: KEL

Approval: \_\_\_\_\_

Page: 1 Of: 5

Function: Main Power Distribution

Function: Fuse Panel And Interlocks

Number: 10025469

Rev.: D

Doc. No.: \_\_\_\_\_

Project: \_\_\_\_\_

Client: \_\_\_\_\_

Company: GLUNZ & JENSEN

Electronic and Mechanical Engineering

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## High Voltage Wiring

230V AC, Control Devices, HPU

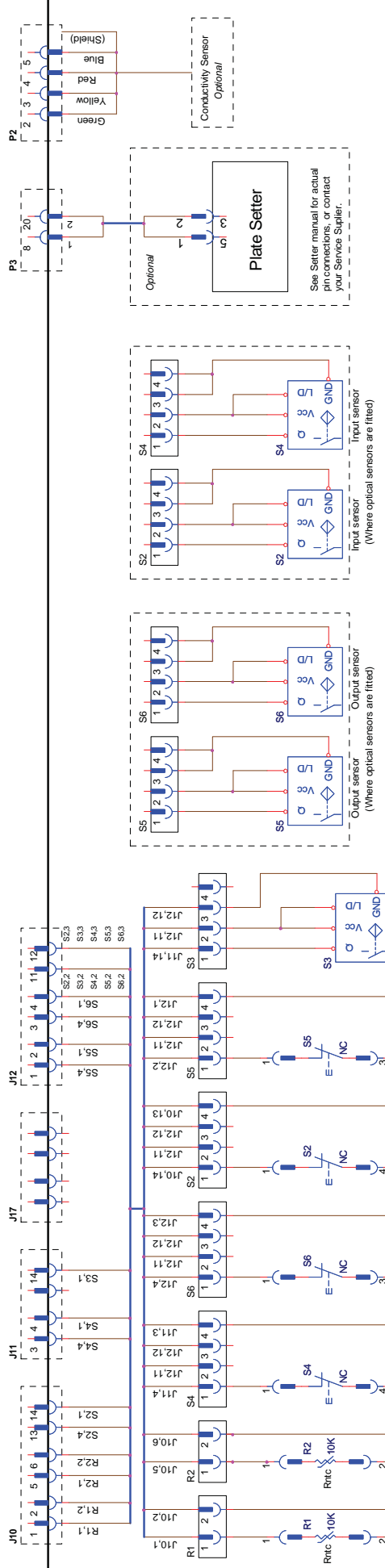




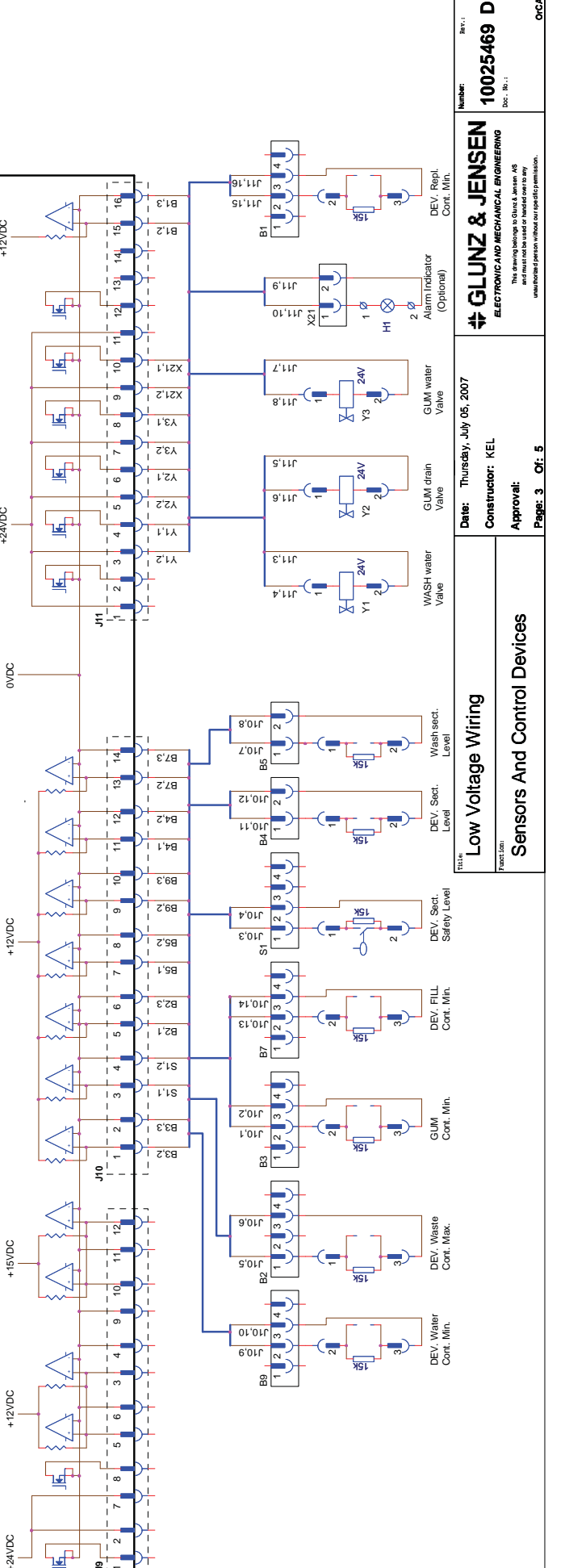
## Low Voltage Wiring

### Sensors and Control Devices

# Main Processor Unit, MIO

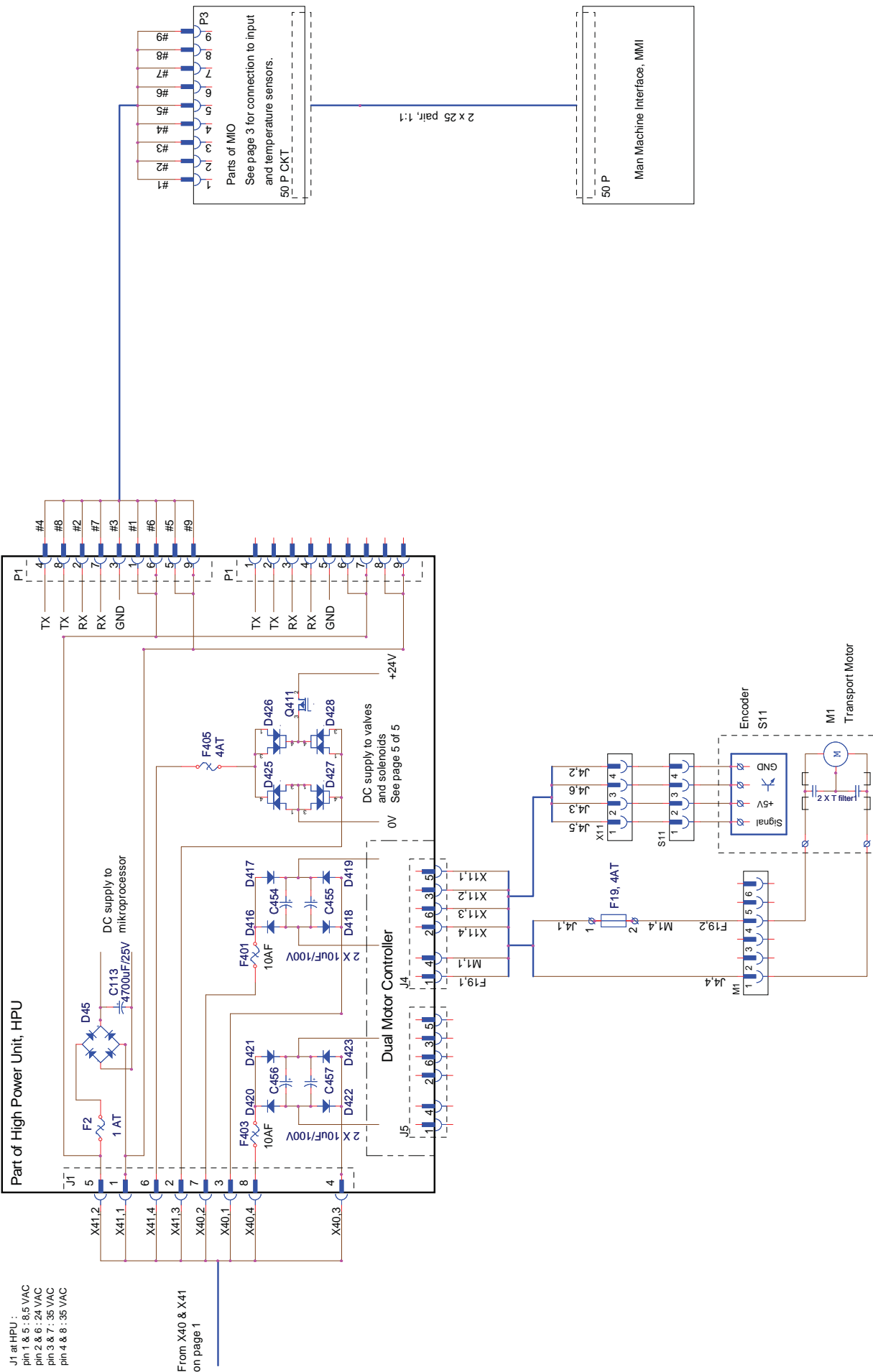


# High Power Unit, HPU



## Motors and Internal Bus Wiring

8, 24 and 35 VAC Distribution



J1 at HPU :  
 pin 1 & 5 : 8.5 VAC  
 pin 2 & 6 : 24 VAC  
 pin 3 & 7 : 35 VAC  
 pin 4 & 8 : 35 VAC

From X40 & X41  
 on page 1

Parts of MIO  
 See page 3 for connection to input  
 and temperature sensors.  
 50 P\_CKT

Man Machine Interface, MMI  
 50 P

