Procon performance

- **Up to 15 Procon-terminals can be connected through network (TCP/IP) to Procon.**
  These terminals can be used as In-/Out handling terminals, monitoring terminals or parallel Procon computers in the surface treatment plant.

- **Protocol support exists for PLC-systems.**
  Telemecanique, Siemens, Mitsubishi and SATT Control. Support Modbus TCP.
  Very easy adaptation for other brands of PLCs.

- **Procon has a unique function for flow control that controls the flow in one or more sections of the surface treatment plant to obtain optimal production.**
  Own condition functions to advanced control the different flows in the plant.

- **Buffer with queues of raw and processed goods and the work order.**
  The operator can arbitrarily move orders in the queues for changing priority of the production. Different types of goods may have different priorities in the buffer queue. Queues can also have fully optimization activated for maximum flow in the line.

- **Procon follows the manual drive and move/restores all goods/recipes. Production is recovered with full capacity.**

- **Dynamic change of language in the entire program.**
  Swedish, Norwegian, Danish, Finnish, English, German and French is available. Different set of parameters can be defined in two different languages for easy service of the plant in desired language. Via a simple translation system is it very easy to change texts or too add a new language.

- **300 baths / stations.**

- **60 carriers. Standard, side, transfer, discharge etc.**

- **Up to 200 different station types / processes.**

- **35 different process blocks in a recipe.**

- **Up to 120 Way / Time steps in a process block .**

- **Program recipe for arbitrary configurable station and / or carrier operations. Ex. tilt recipe, drum rotation.**

- **10 weight dosage equipment linked to Procon via PLC.**

- **100 Rectifiers in different bath/stations can be controlled.**
  The rectifier is controlled by an article based recipe. These rectifiers can be of different types and brands. Pulse rectifiers can be controlled.

- **150 dosing pumps arbitrarily connected to different stations.**
  Many different dosing principles Ah / Goods Carrier / Precipitation etc.. Different type of alarms for analysis and filling.

- **150 temperature regulators, PLC or external. Different types of alarm for each regulator including temperature and gradient alarm.**

- **150 different measurement signals. Voltage, current, pH, manual values, etc.**

- **Data log for rectifiers, dosing pumps, temperatures and measurement signals.**
  Condition for logging is totally configurable. A report generator easily shows demanded data and curves.

- **1000 alarm from PLC .**

- **1000 alarm from Procon. Monitoring of rectifiers, dosing pumps, times in bath etc..**

- **Alarm logs and statistics on number of alarms.**

- **Send alarms through E-Mail/SMS to responsible personal.**

- **Process statistic showing the process way for the article, all times, voltages, currents, temperatures etc., in all bath for an article.**
  Both set points and actual values in the stations are shown. Any deviations are indicated by colors and more. The statistics also show the current time in station, time since entry in system, alarm limits, special events and more.

PROCON

ADVANCED CONTROL PROGRAM FOR SURFACE

TREATMENTS PLANTS

Procon

Procon an advanced control system for all types of surface treatment plants. A configurable totally open system. Procon is an independent control system used by many different suppliers and producers. Procon is developed and managed by Turntech AB in Sweden.

PROGATEC AB
SURFACE TREATMENT SOLUTIONS
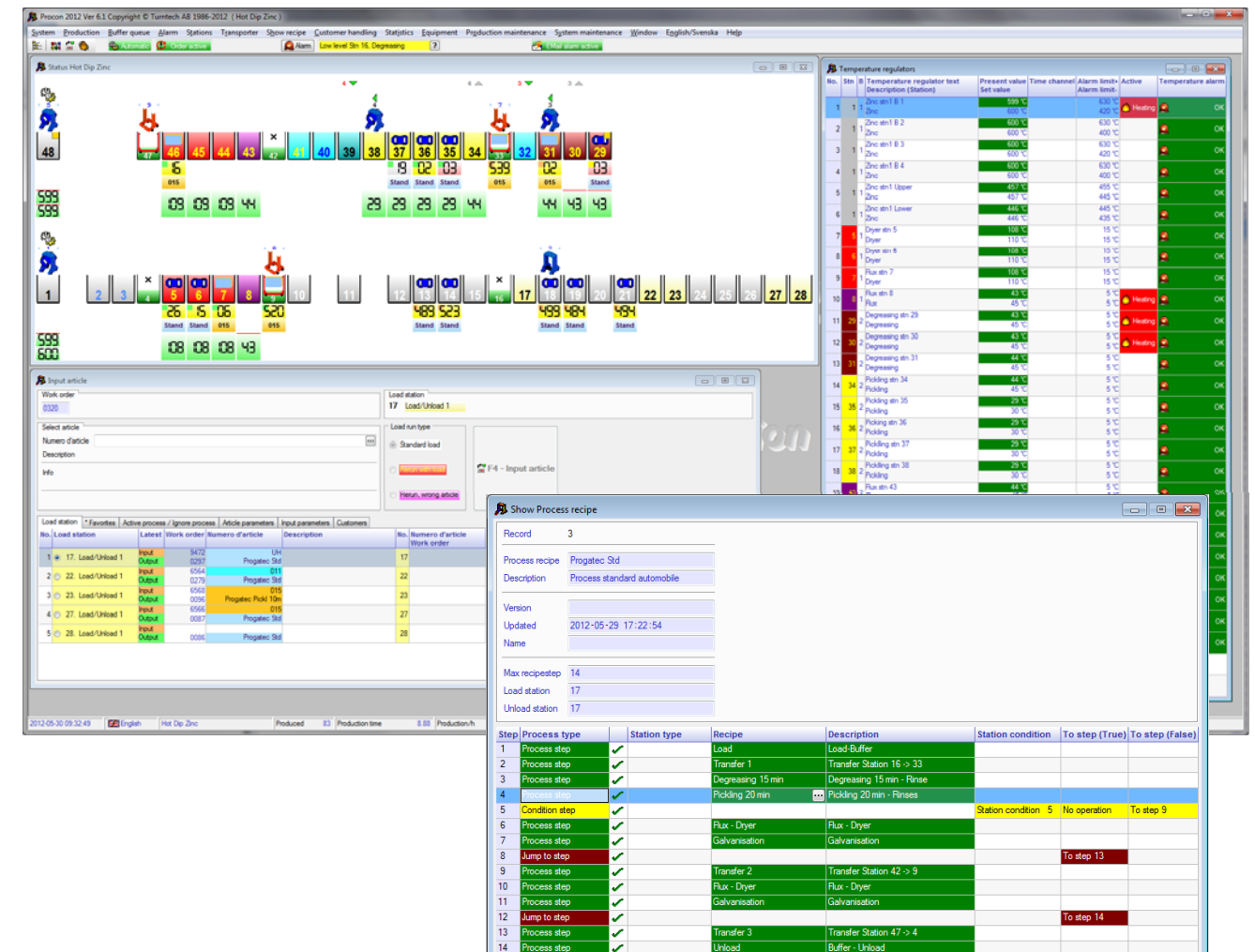
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Advantages

- **Independent of supplier.**

- **Procon is delivered to all suppliers of surface treatment facilities.**
  The program communicates with the PLC-system through a well-defined protocol that should be implemented by selected PLC supplier.

- **Manage the system yourself.**

- **Procon system is completely open and it is possible for the user to modify and optimize the process itself.**
  At reconstruction, it is free to reconfigure the plant. This is of course dependent on how much knowledge the user has in the system.

- **Rapidly changing / adding process / plant.**

- **As the system is completely open the user can often modify and add new things without involvement of the supplier. This means minimal loss of time and minimal costs.**

- **Simulation.**
  Procon has the possibility to run the plant without the PLC connected. It can run in a separate computer at speeds up to 500 times the real time. In this way can the plant capacity be tested and logical errors be detected in the process depending on changes made. Startup time is minimized.

- **High production capacity.**
  - The advanced flow control ensures that Procon keeps configured process times.
  - Automatic compensation functions for instance incorrect temperatures and bath qualities gives better goods quality.
  - The built-in traceability means that any error can be quickly found.

- **Handles manual/automatic changeover.**
  The Procon PLC protocol enables tracking of the goods even when the operator run the system manually. The system is very easy to use when switching between manual / automatic run mode. Note! that Procon makes optimal process decisions immediately after switching to automatic mode.

- **Extremely flexible.**
  More than 20 years development time has resulted in an abundant of features that are designed for all possible situations. Handles everything from simple to very complex processes / lines.
  The program supports all types of surface treatment processes.

- **Backward compatibility.**
  New software versions are backward compatible. This means that old plants can assimilate new optimizations, functions, features and corrections that continuously improve the program. Support for new versions of operating systems will also ensure support for new computers when old ones are broken.

- **High and consistent quality with traceability.**
  - The advanced flow control ensures that Procon keeps configured process times.
  - Automatic compensation functions for instance incorrect temperatures and bath qualities gives better goods quality.
  - The built-in traceability means that any error can be quickly found.

Procon key features

- **Procon is a Windows based system.**
  Procon is compatible with the operating systems Windows 7, Vista / XP / and Windows 2000. The aim for Procon is to be compatible with new coming operating systems.

- **All types of processes, Hot dip galvanization, Electrolytic, PCB, Anodizing etc., uses the same Procon control program.**
  The advantage of all plants having the same program is that future improvements of Procon can improve old plants. Procon development started in 1990 and even these old plants can be upgraded.

- **New software versions are backward compatible.**
  About 300 new features / improvements or corrections are added per year.

- **Procon is a configurable open system to which different types of hardware for controlling and monitoring the system is connected.**
  Through a separate program part (Procon Systems Design) key parameters for the installation such as number of stations, transporters, etc. are configured. Many configurations can, by qualified personnel, be changed directly inside Procon. These changes can normally be done during system operation. Procon is a completely open system and can be optimized and modified by authorized personnel at the end user. This option may be blocked if so desired.

- **Several Procon computers (In/Out handling terminals, report or control computers) can be linked together to exchange information on the network.**
  The Procon PC gets surrounding status and gives order to the plant control system PLC that executes and acknowledges control orders. In addition to input or output goods, block stations, acknowledge alarms, etc., the Procon terminal, can also follow dynamically any movement in the plant. Its also configurable, to allow the terminals to change station, enter the goods directly to the station, control the rectifier, maintain recipes and more. You can define which terminals that should have the desired functionality.

- **The Procon PC gets surrounding status and gives order to the plant control system PLC that executes and acknowledges control orders.**
  At Procon start, plant based parameters are downloaded to the PLC. The PLC thereafter continuously update Procon with necessary status signals. (Input / Output, voltage, current, temperature, weight, etc.) Transporters motion is determined entirely by Procon after an article defined recipe. Motions are passed as orders to PLC The PLC executes the order and acknowledges that the order is completed.

- **Process operation for different articles are defined freely in different unique Recipes.**
  The process for the different articles is freely defined in various recipes. The article main recipe contains several sub recipes such as a process, weight, voltage, current, power conversion, logic etc.. Recipe management is very easy to handle, while providing the opportunity to re-use recipes to minimize recipe maintenance.

- **Recipes and statistics are stored in a database.**
  The database (Paradox) provides opportunities for advanced data processing and for processing in other Windows-based programs. Statistics are saved for all time that Procon has been in operation.

- **Procon contains a large number of advanced functions.**
  Examples of functions are Rectifier control, Chemical dosing, Time channels, Weight dosage, Statistics, Data storage, SMS, E-mail etc..

- **Procon can be run in simulation mode without the PLC connected.**
  Simulation gives the opportunity to try different sets and recipes in a separate PC to quickly verify production capacity, times etc. Batch simulation of different combinations of goods for instance one days typical production is possible to do. The simulation can be run with up to 500 times faster time scale.

- **Procon handle dynamic change of language.**
  Dynamic change of language in the whole program. Swedish, Norwegian, Danish, Finnish, English, German and French are available. Different set of parameters can be defined in two different languages. This makes it easier to service the facility in desired language. Via a simple translation systems, it is very easy to add new languages and new texts.