

# Dosing and Injection Packages



# An experienced and reliable partner for dosing and injection pump package solutions

Since 50 years SEKO has linked its success to a wide range of industrial fields by supplying complete dosing pumps and packages throughout the world.

SEKO develops its own projects to best solve metering and pumping problems relating to different fluid properties and plant operating conditions.



## Committed to customer satisfaction

SEKO, as a technological leader, partners each individual customer from the preliminary stage of the project through to the ordering, design, manufacturing and after sales technical assistance.

A team of skilled engineers, operating with sophisticated CAD stations, 3D modelling and FE software, currently provides for the design

and engineering of systems according to the most demanding international standards, such as ASME, ANSI, BS and API as required by the customer project specifications.

A total engineering and comprehensive supply approach can be undertaken according to clients' requirements.

## Organization and services

Components for the systems construction are purchased via our world-wide logistic platform as per the contract vendor list.

All pumps and controllers are produced by SEKO to its own proprietary designs, covering a wide range of performances:

- Solenoid driven pumps with or without patented electronic stroke length regulation for flow rates up to 54 L/h and pressures up to 20 bar;
- Motor driven pumps plunger or mechanical membrane type with patented assisted return for flow rates up to 2000 L/h and pressures up to 20 bar;

- Plunger metering pumps (according to API 675) for flow rates up to 15000 L/h and pressures up to 2000 bar;
- Diaphragm metering pumps (according to API 675) for flow rates up to 15000 L/h and pressure up to 300 bar;
- Reciprocating Triplex process pumps (according to API 674) for flow rates up to 57000 L/h and pressures up to 1,150 bar.

SEKO is currently operating according to UNI EN ISO 9001:2000 Quality System's audited and certified by DET NORSKE VERITAS (DNV).

## Logistics

A network of subsidiaries, agents and distributors around the world completes the range of technical and commercial services provided in the most interesting areas for the industrial applications of the "packages" supplied by SEKO.



## Application areas

The main industrial application areas for the dosing/injection packages designed and produced by SEKO are:

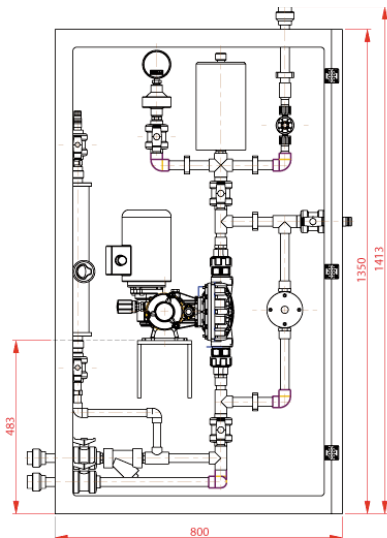
- Water treatment (municipalities, wastewater)
- Industrial sectors (steel, ceramics, food & beverages, detergents, paper, textile and pharmaceutical industries)
- Energy (boilers, desalination, cooling towers, environment)
- Petrochemical
- Oil & Gas (on-shore, off-shore, FPSO).



## Advantages of Seko chemical dosing/injection packages

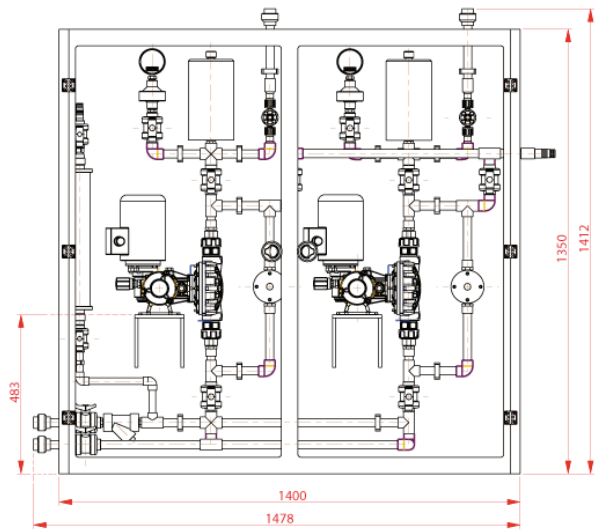
- Various working fluids with application from the water treatment to oil and gas area to the food industry
- Products designed, manufactured and commercialized by Seko - Group in the entire world
- Design and execution of systems, from mechanical installations to electrical and automation systems and turnkey projects, carried out with professionalism
- Opening and targeting to new product development and collaborations
- The structure of the dosing systems involves essential elements in the operation: calibration pots, shut off valves, safety valves, pulsation dampers, instrumentation, etc
- Diversity on plant parameterization (different pressures and flow rates, adverse environmental conditions, marine environment, ATEX / NON ATEX environment etc)
- Safety of processes guaranteed through professional design programs, software and personnel
- Optional accessories: atomizers, instrumentation, custom connections, heating systems etc.
- Own maintenance service, prompt interventions, warranty of maintenance.

# Dosing packages



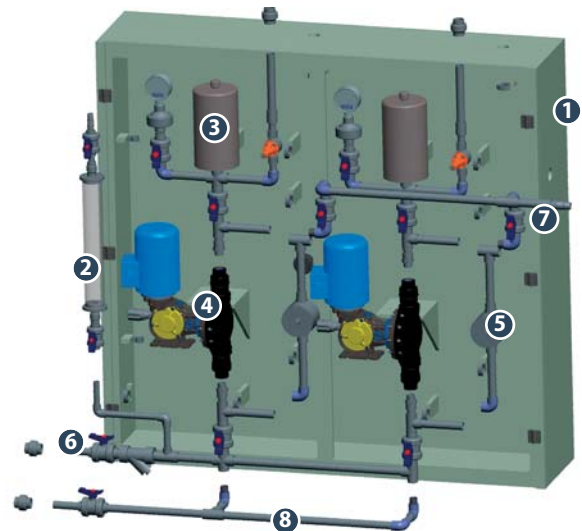
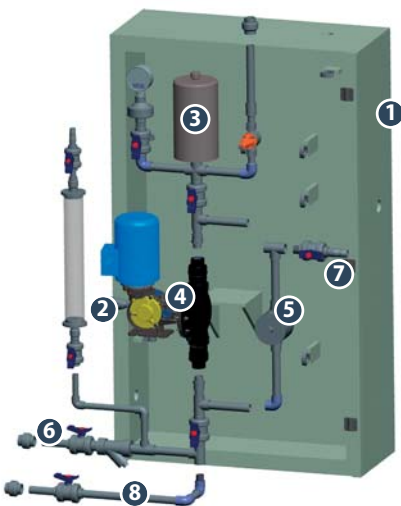
## SCS111...

- 1 pump
- 1 suction line
- 1 delivery



## SCS212...

- 2 pumps
- 1 suction line
- 2 deliveries

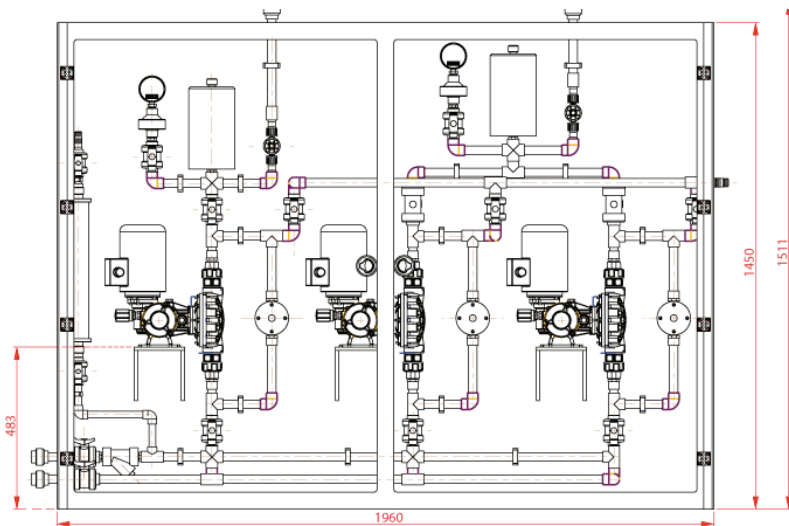


### SEKO METERING PUMPS

- ① Box baseframe
- ② Calibration pot
- ③ Discharge line
- ④ Mechanical Diaphragm Metering Pumps

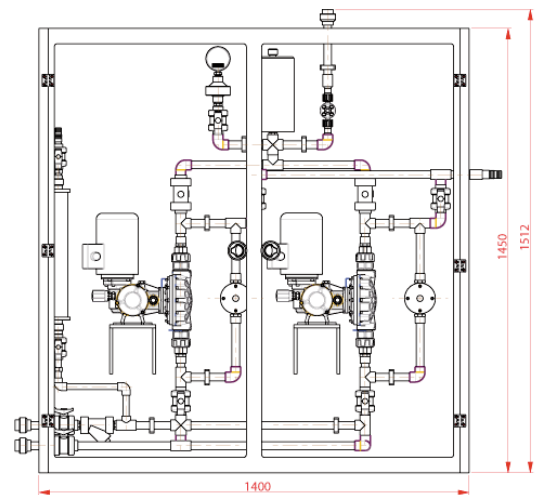
- ⑤ Overpressure valve module
- ⑥ Suction line hydrostatic pressure
- ⑦ Washing discharge line
- ⑧ Suction washing line hydrostatic pressure

# Dosing packages



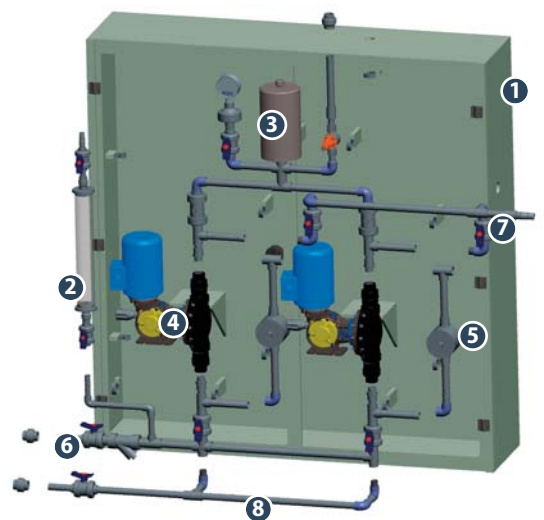
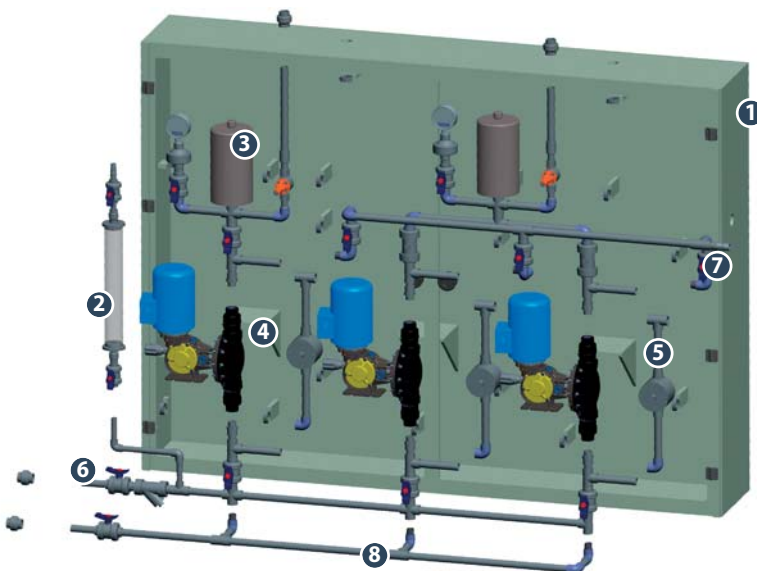
## SCS312...

- 3 pumps
- 1 suction line
- 2 deliveries



## SCS211...

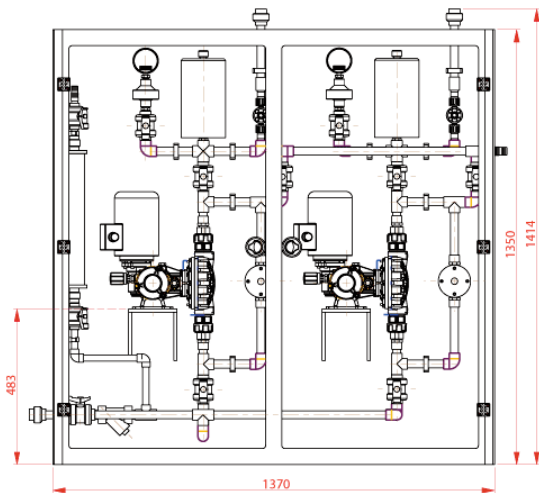
- 2 pumps
- 1 suction line
- 1 delivery



### SEKO METERING PUMPS

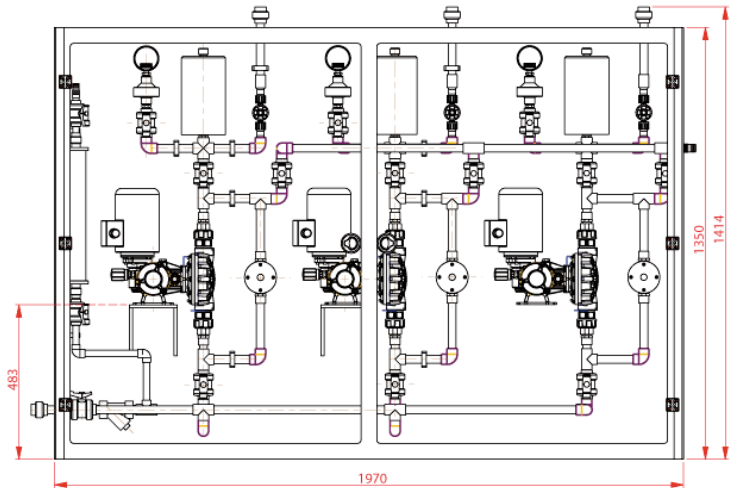
- ① Box baseframe
- ② Calibration pot
- ③ Discharge line
- ④ Mechanical Diaphragm Metering Pumps
- ⑤ Overpressure valve module
- ⑥ Suction line hydrostatic pressure
- ⑦ Washing discharge line
- ⑧ Suction washing line hydrostatic pressure

# Dosing packages



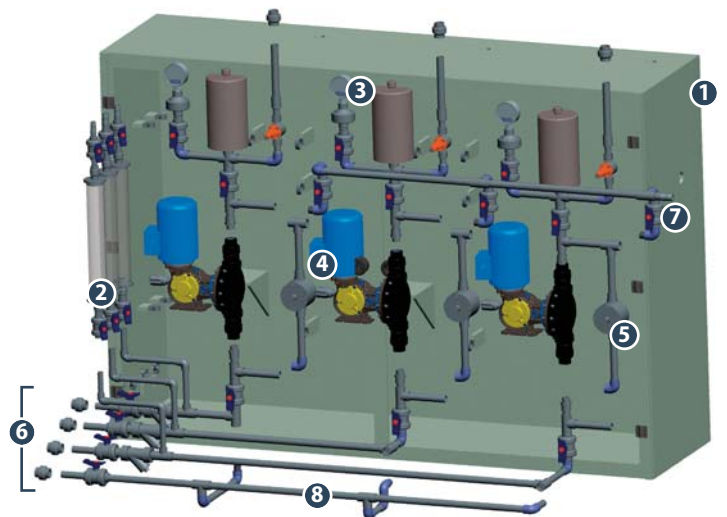
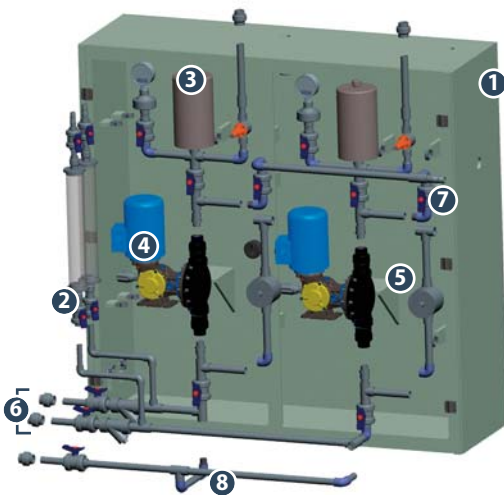
## SCS222...

- 2 pumps
- 2 suction line
- 2 deliveries



## SCS333...

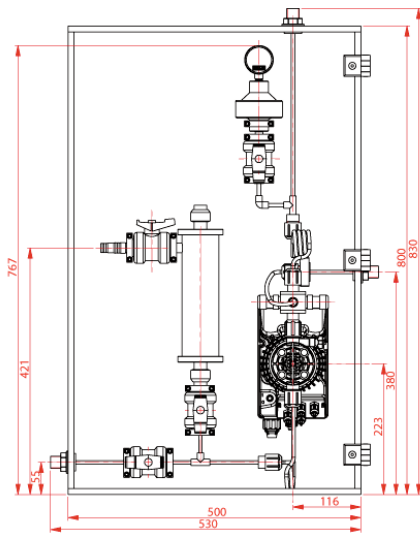
- 3 pumps
- 3 suction line
- 3 deliveries



### SEKO METERING PUMPS

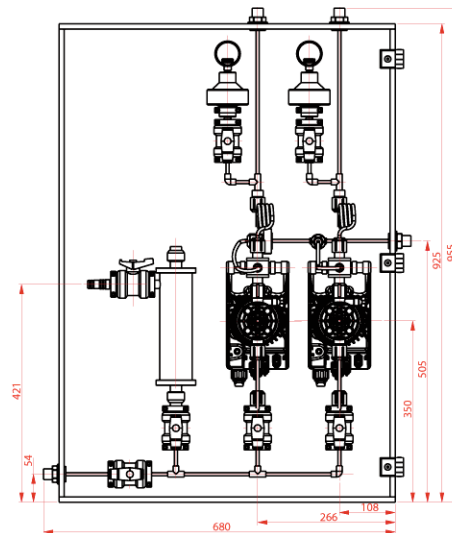
- ① Box baseframe
- ② Calibration pot
- ③ Discharge line
- ④ Mechanical Diaphragm Metering Pumps
- ⑤ Overpressure valve module
- ⑥ Suction line hydrostatic pressure
- ⑦ Washing discharge line
- ⑧ Suction washing line hydrostatic pressure

# Dosing packages



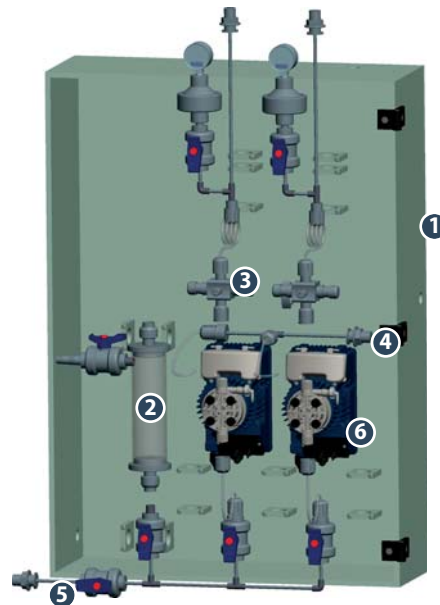
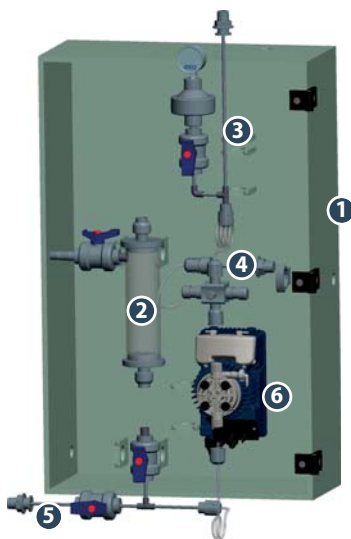
**SCT111...**

- 1 pump
- 1 suction line
- 1 delivery



**SCT212...**

- 2 pumps
- 1 suction line
- 2 deliveries

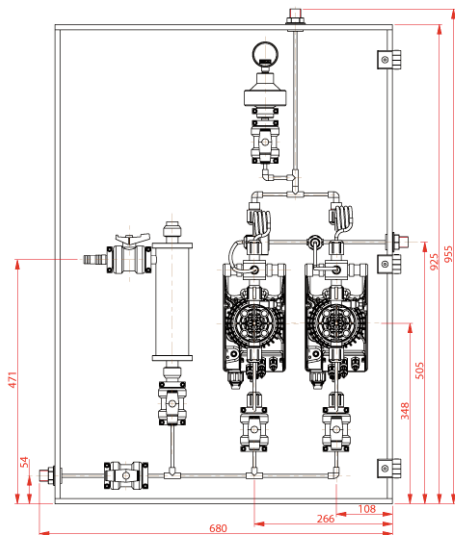


## SEKO METERING PUMPS

- ① Box baseframe
- ② Calibration pot
- ③ Discharge line

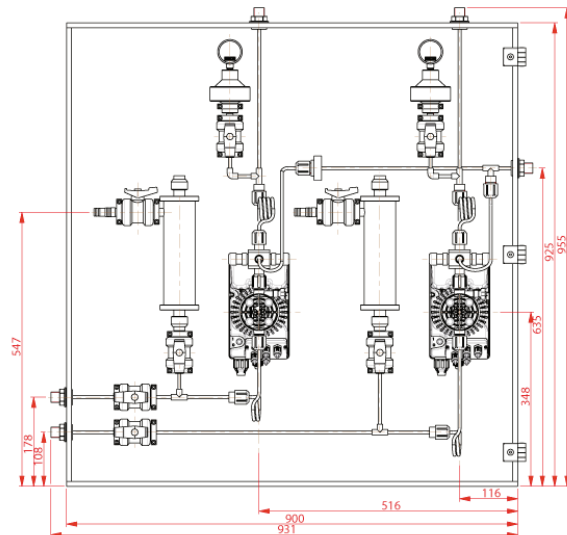
- ④ Multifunction valve discharge
- ⑤ Suction line hydrostatic pressure
- ⑥ Solenoid Dosing Metering Pumps

# Dosing packages



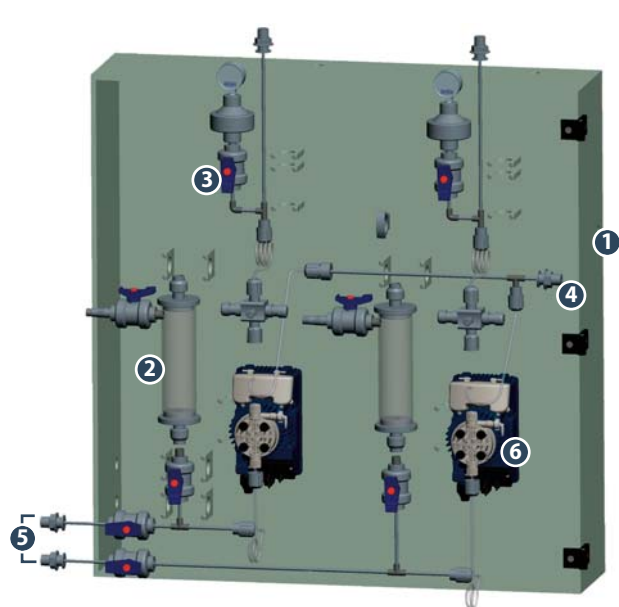
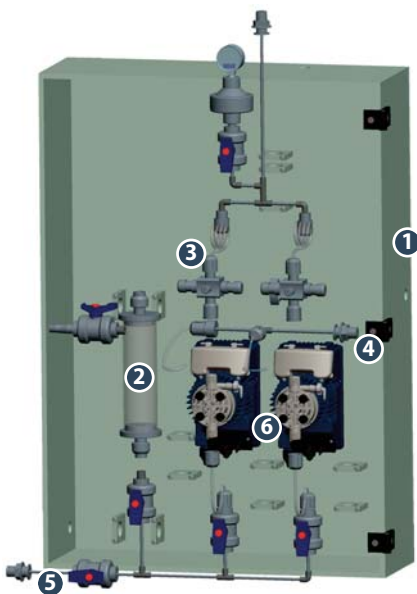
**SCT211...**

- 2 pumps
- 1 suction line
- 1 delivery



**SCT222...**

- 2 pumps
- 2 suction line
- 2 deliveries



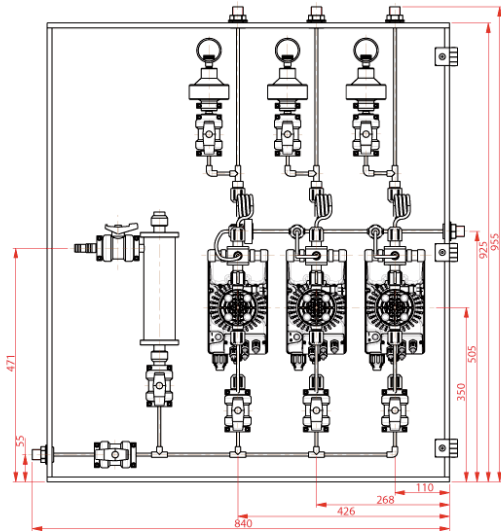
## SEKO METERING PUMPS

- ① Box baseframe
- ② Calibration pot
- ③ Discharge line

- ④ Multifunction valve discharge
- ⑤ Suction line hydrostatic pressure
- ⑥ Solenoid Dosing Metering Pumps

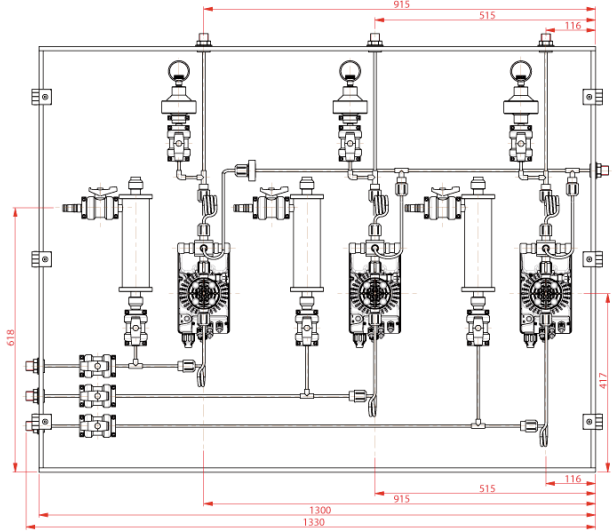


# Dosing packages



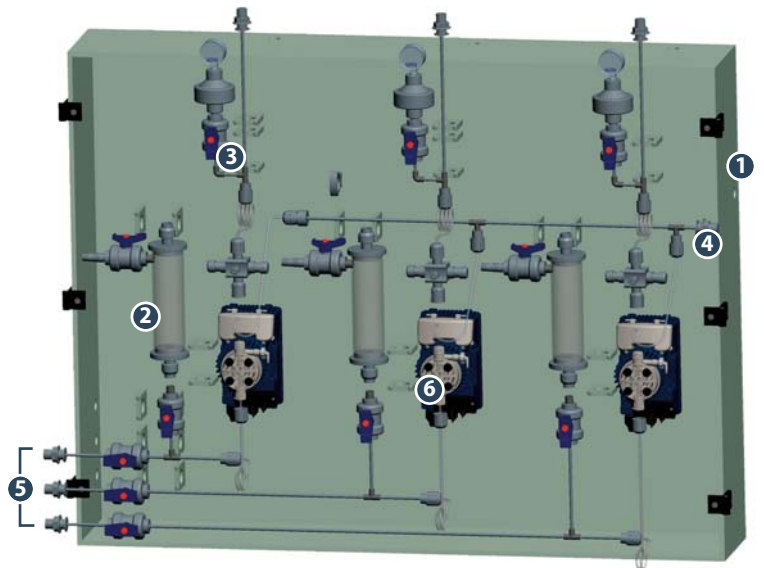
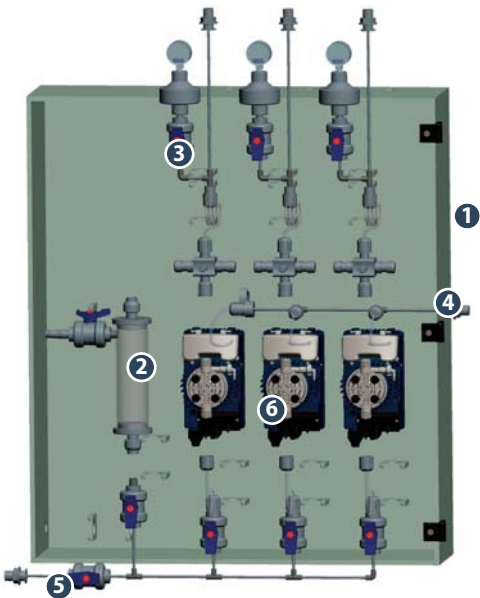
## SCT311...

- 3 pumps
- 1 suction line
- 1 delivery



## SCT333...

- 3 pump
- 3 suction line
- 3 deliveries



### SEKO METERING PUMPS

- ① Box baseframe
- ② Calibration pot
- ③ Discharge line

- ④ Multifunction valve discharge
- ⑤ Suction line hydrostatic pressure
- ⑥ Solenoid Dosing Metering Pumps

# Injection packages



Injection Package



Solar Skid



Phosphate Injection Package



Corrosion inhibitor, Antifoam and Antiscaling Injection Package



Phosphate, Oxygen Scavenger, Amine and Corrosion Inhibitor Dosing Packages



Chemical dosing package

# Injection packages



Glycol and Corrosion Inhibitor Injection Package



Antifoam, Antiscale, Ferrous Sulphate and Sodium Sulphite Dosing Package

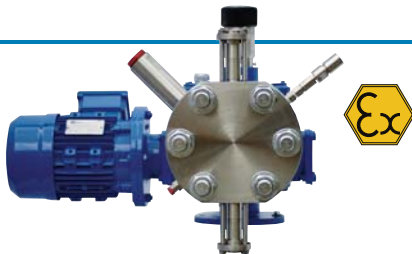


Antifoam and Antiscale Dosing Package



Sulphuric Acid, Biodispersant, Scale Inhibitor and Biocide Dosing Package

# Metering & Process pumps



## Tork Series Hydraulic double diaphragm metering pumps

Double Diaphragm pumps with fully engaged mechanism for heavy duty. The experience cumulated with SEKO Exacta series pumps in the heavy duty applications has been utilized for the industrialized design of this series. High flexibility in the pump configuration and easy maintenance allow to customize the pump also after the installation.

- Flow rate up to 2610 L/h
- Pressure up to 200 bar
- Liquid end : AISI 316L; PP; PVDF
- API 675 Standards – ATEX marking



## Stark Series Hydraulic diaphragm metering pumps

Hydraulic diaphragm dosing pumps designed according to API 675 Standards; the conformity to the API Standards implies a "heavy duty" design, high safety and severe controls during the performance tests. The broad variety of heads execution offers a wide selection of dosing pumps to cover practically any application needs.

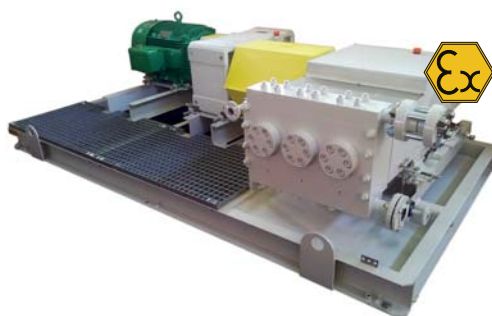
- Flow rate up to 660 l/h
- Pressure up to 124 bar
- Liquid end : AISI 316L; PP; PVDF; PVC



## Spring Series Plunger piston and mechanical diaphragm metering pumps

Three sizes of mechanism and a wide selection of models with different performances allow the user to find the appropriate solution for almost any application.

- Flow rate up to 1000 l/h
- Pressure up to 20 bar
- Liquid end : AISI 316L; PVC; PP



## 3C TRIPLEX Exacta series Three Plunger Reciprocating Pumps

3C Triplex pumps designed according to API 674 Standards, represent the result of SEKO's long experience in applications such as heavy and continuous industrial processes where reliability and durability are essential conditions.

- Flow rate up to 60.000 l/h
- Pressure up to 1.200 bar
- Liquid end : SS 316 L, 304 SS or C.S. ...
- Double head execution
- API 674 standard – ATEX marking

# Solenoid dosing pumps



## Maxima Series Foot mounting solenoid driven dosing pumps

The advanced design and manufacturing process allow the diaphragm to have a unique life expectancy. Made of pure solid PTFE, the diaphragm is compatible with most chemicals.

Thanks to electronic stroke, length regulation allows to have a careful dosage, setting it is easy thanks to an intuitive interface: analogic or digital depending on the model.

- Flow rate up to 54 l/h
- Pressure up to 20 bar
- Liquid end : PVDF
- Analogue and Digital range with constant or proportional dosage
- Electronic stroke length regulation



## Tekna Series Solenoid driven dosing pumps


The innovative Tekna EVO series electronic metering pumps is the result of working closely with our world-wide customers. These multifunctional metering pumps maintain the high reliability that is synonymous with SEKO quality.

- Flow rate up to 54 l/h
- Pressure up to 20 bar
- Liquid end : PVDF
- Analogue and Digital range with constant or proportional dosage



## Tekna ATEX Solenoid driven dosing pumps

State of art Pump with special enclosure designed to withstand requirements.

CE  II 3GD  
Ex icnQ IIa Y3 Gc  
Ex tc IIIC T120 °C Dc IP65

- Flow rate up to 54 l/h
- Pressure up to 20 bar
- Liquid end : PVDF or AISI 316

# Measuring and control instruments



## Kontrol 500-502 Single and double parameter control instruments

The Kontrol 500/502 series are advanced controllers designed for high-end applications. The units feature independent proportional PID-enabled control outputs, RS 485 serial port with MODBUS protocol, USB port on request, probe quality checking, a variety of outputs and full data logging capability. The user has full programming authority.

- pH / ORP range : 0÷14,00 pH / ± 1500 mV
- Conductivity range : 0÷20 /200 /2.000 /20.000 /200.000 µS
- Inductive Conductivity range : 0÷10.000 /10.000 /100.000 /999.999 µS
- Dissolved Oxygen range : 0÷20,0 ppm or mg/l - 0÷200% SAT
- Chlorine and Chlorine Dioxide range : 0÷0,50/1,00 /2,00 /5,00 /10,0 /20,0 /200,0 ppm
- Hydrogen Peroxide range : 0÷500 /1000 /2000 /10.000 /100.000 ppm
- Ozone range : 0÷0,5 /2,00 /5,00 /10,00 ppm
- Peracetic Acid range : 0÷500 /2000 /10.000 /20.000 ppm
- Turbidity range : 0,00÷1,00 /10,0 /100 NTU/FTU
- Suspended Solids Turbidity range : 0,0÷4,00 /40,0 /400 /4.000NTU/FTU - 0÷30 gr/l
- Temperature range : with PT100/PT1000 0÷100°C (32÷212 °F)

### Kontrol 500 Single parameter

- Kontrol PR 500 for pH or ORP values
- Kontrol CD 500 for Conductivity values
- Kontrol ID 500 for Inductive Conductivity values
- Kontrol OX 500 for Dissolved Oxygen values
- Kontrol CL 500 for Chlorine values
- Kontrol TB 500 for Turbidity values
- Kontrol TS 500 for Suspended Solid Turbidity values

### Kontrol 502 Double parameters

- Kontrol PR-PR 502 for pH/ORP - pH/ORP values
- Kontrol PR-CD 502 for pH/ORP - Conductivity values
- Kontrol PR-OX 502 for pH/ORP - Dissolved Oxyge values
- Kontrol PR-CL 502 for pH/ORP - Chlorine values
- Kontrol CD-CL 502 for Conductivity - Chlorine values
- Kontrol TB-OX 502 for Turbidity - Dissolved Oxygen values
- Kontrol TS-OX 502 for Suspended Solids Turbidity - Dissolved Oxygen values
- Kontrol PR-ID 502 for pH/ORP - Inductive Conductivity values

# Photometric systems



**Kontrol 800** Panel version with transparent Modular Probe Holder PSS-Plexi

## Kontrol 800

Multi-parameter control instrument

The Kontrol 800 is a dedicated multi-parameter controller for complex applications that require a number of chemical parameters to be checked at the same time.

The unit features independent proportional control output measures, two programmable frequency outputs, RS 485 serial port with MODBUS protocol, three relays outputs, probe quality checking and Data logging capability.

- pH / ORP range : 0÷14,00 pH / ± 1500 mV
- Conductivity range : 1 ÷ 200/10 ÷ 2000/100 ÷ 20.000 µS
- Chlorine range : 0÷5,00 ppm (Amperometric Cell)
- Chlorine and Chlorine Dioxide range : 0÷0,50 /1,00 /2,00 /5,00 /10,0 /20,0 /200,0 ppm (Potentiostatic Cell)
- Temperature range : with PT100/PT1000 0÷100°C (32÷212 °F)

### Single parameter

- Kontrol CL 800 for Amperometric Chlorine values
- Kontrol CL<sub>P</sub> 800 for Free and Total Potentiostatic Chlorine values

### Double parameters

- Kontrol PR 800 for pH/ORP - pH/ORP values
- Kontrol PC 800 for pH/Amperometric Chlorine values
- Kontrol PRC 800 for pH/ORP - Amperometric Chlorine values
- Kontrol PR+EC 800 for pH/ORP - Conductivity values
- Kontrol PC<sub>P</sub> 800 for pH + Potentiostatic Chlorine values
- Kontrol PRC<sub>P</sub> 800 for pH /ORP + Potentiostatic Chlorine values
- Kontrol PRC<sub>P</sub>+C<sub>A</sub>800 for pH/ORP + Pot. and Amperometric Chlorine values

## Photometer

Multi-parameter control instrument

The Seko Photometer System is a DPD reference point for Chlorine control. The combination of water sampling and reagents ensure maximum measurement precision. The unit itself is a compact miniature analysis laboratory dedicated to Chlorine measurement.

- pH / ORP range : 0÷14,00 pH / ± 1500 mV
- Chlorine range : 0÷5,00 ppm (Photometric chamber) with DPD Method
- Temperature range : with PT100/PT1000 0÷100°C (32÷212 °F)

### Single parameter

- Photometer Free Chlorine
- Photometer Total Chlorine

### Double parameters

- Photometer Free Chlorine and pH
- Photometer Free Chlorine, pH and Redox
- Photometer Free, Total and Combined Chlorine, pH, Redox



## A Worldwide Group at your service

**seko** is an International Group, developing, manufacturing and delivering its products in more than 50 countries, through its subsidiaries and an extended network of distributors, agents and authorized dealers.

**seko** is a leading manufacturer of dosing pumps and dosing systems with more than 40 years experience. This long activity allowed **seko** to acquire a vast experience in diversified applications and to confirm its international success in many industrial fields through the supply of reliable solutions for the dosing, injection and transfer of liquids.



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