



Mattoni 1873 a.s. zavod Mattoni
Kyselka 44, 362 72 KYSELKA U KARLOVYCH VARU, CZECH REPUBLIC

offer / technical specification of 21.11.2023
30233132 / Layout PL155161B0000001

KRONES bottle washingmachine
type E3
with a nominal capacity of 26.000 bph
referring to 1,0 l bottle.

KRONES AG
BohmerwaldstraÙe 5
93073 Neutraubling
Tel. +49 9401 70-0
Fax +49 9401 70-2488
sales@krones.com

Sales representative/Subsidiary
Jan Jansky
KRONES S.R.O.
150 54 PRAHA 5
CZECH REPUBLIC
Tel. 420 257 315 663
Fax 420 257 315 662
jansky@krones.cz

Internal contact person
Axel Brug
Neutraubling
Tel. 9401-70 1053
Fax 9401-70 911053
Axel.Brug@krones.com



Table of contents

I. Your project - overview

Design features	3
Reference production programme	4
Price list	5

II. Your project - detailed overview

1. Single-end bottle washer LAVATEC E3.RCS.Y3111.....	6
2. Dosing unit	20
3. Container conveyor SYNCO S.....	22
4. Conveyor lubrication SYNCO	25
5. Material of electrical supply system	26
6. Installation of electrical power supply system	29
7. Mechanical installation/commissioning/acceptance test	31
8. Information on installation	37
9. Technical documentation	38
10. Packaging	41
11. Freight and insurance DAP	42

III. Attachments

Performance data	46
Customer object list	52
Container/Decoration overview	55
Further production programmes (SKU)	59
Media list.....	68
Electrical line components	70

Design features

	KRONES standard	Customer-specific values
Geographical data		
Geographic installation height above M.S.L.	200 m	451 m
PGA value (from GSHAP data base)	0,800 m/s ²	0,898 m/s ²
Cs, standard value x R	0,320	0,351
Cs, project value x R	--	0,330
Minimum ambient temperature at machine installation area - wet part	8 °C	
Maximum ambient temperature at machine installation area - wet part	35 °C	
Minimum ambient temperature at machine installation area - dry part	8 °C	
Maximum ambient temperature at machine installation area - dry part	35 °C	
Minimum relative humidity - wet part	40 %	
Maximum relative humidity - wet part	75 %	
Minimum relative humidity - dry part	40 %	
Maximum relative humidity - dry part	75 %	
Electrical specifications		
Rated operating voltage in customer's network	400 V	
Supply voltage frequency	50 Hz	
Voltage fluctuations in customer's network	+/-10%	
Neutral conductor in the connected customer's network	A neutral conductor is provided and may be loaded for asymmetrical loads.	
Network in customer's network	TN-S network	
Other specifications		
Protection type of drive motors	IP 55	
Finish colour for machine column	RAL 5013 (Cobalt blue)	
Finish colour for visible three-phase motors and their mounted gears or pumps in the wet line section	RAL 9018 (papyrus white)	
Language	English	Czech

Reference production programme

Production programme (SKU)		GPP - 1. 1l Mattoni
to be considered for		Commissioning Acceptance
Container		1
Container type		Bottle
Container description		Water bottle
Material		Glass
Nominal volume		1,000 l
Product		1
Product group		Carbonated soft drinks
Filling temperature (°C)		20 °C
Label		1
Label type		Precut label, cold glue
Label designation		Body label
Label		2
Label type		Precut label, cold glue
Label designation		Back label
Machines		
Single-end bottle washer LAVATEC E3.RCS.Y3111		20.800 (104%) Containers/h

Price list

Filling and packing technology

1 Single-end bottle washer LAVATEC E3.RCS.Y3111

Finest filtration main caustic (included)

Heat recovery to reduce the energy and water consumption..... (included)

2 Dosing unit**3 Container conveyor SYNCO S**

Subtotal EUR 1.029.975,-

Third-party machine

4 Conveyor lubrication SYNCO

Subtotal EUR 2.295,-

Material

5 Material of electrical supply system

Subtotal EUR 15.979,-

Services

6 Installation of electrical power supply system

The installation is performed as full assembly

7 Mechanical installation/commissioning/acceptance test

The installation is performed as KRONES full

Commissioning includes 10 Production program(s) (SKU)

Acceptance includes 1 Production program(s) (SKU)

9 Technical documentation**10 Packaging****11 Freight and insurance DAP**

Subtotal EUR 252.587,-

Total amount according to list price EUR 1.300.836,-

Special final net price for Mattoni Tender

EUR 1.130.000,-

1. Single-end bottle washer LAVATEC E3.RCS.Y3111

Prices

Conveyor

- Translation of the touch-screen/monitor texts included
- Single-end machine, modular designed for most modern requirements according to system description, consisting of:
 - Multi-stage cleaning process with pre-, main and post-treatment areas
 - Efficient container treatment with interior and exterior sprayings
 - Electrical components ready for connection including control cabinet and pipe system with counter flanges and/or connection pieces
 - Safety-monitored container infeed and discharge
 - Automated filtration and/or debris and label removal unit
 - Ergonomically designed machine structure including catwalk on pump side with stairs
- Drive system with servo motors for pre- and post-treatment
- Servo motors for further treatment zones
- Chain with plastic bush, for lowest driving forces, lowest friction value and prevention of slip-stick effect
- Bottle carrier and bottle pockets made of steel with plastic neck finish inserts
- Number of machine parts for the loading: 3 parts plus separate infeed

Necessary amplifications

Expansions

- Neck ring label spraying for systematic separation of the overlapping and underlapping neck ring labels
- Further handling parts at guidance parts including separating devices
- Steam-operated condensate pump
- Pressure reducer at fresh water main connection: material design in stainless steel
- Control of additional infeed and discharge conveyors

Expansions

- Interface for NaOH dosing.
 - One automatic dosing valve with additional check valve per caustic bath except the post-caustic. Interface for dosing with quantity recording and LOTO shut-off valve once for the machine
- Interface for additive dosing. One automatic dosing valve per caustic bath except the post-caustic. Interface for dosing with quantity

1. Single-end bottle washer LAVATEC E3.RCS.Y3111

recording and LOTO shut-off valve once for the machine.

- Interface for defoamer dosing. One automatic dosing valve per caustic bath except the post-caustic. Interface for dosing with quantity recording and LOTO shut-off valve once for the machine
- Oval gear meter station for the oval gear meters for additive and defoamer
- Interface for dosing descaler. One pressure retention valve and one automatic dosing valve for posttreatment, with quantity recording and LOTO shut-off valve.
- Interface for dosing disinfection post-treatment in operation. One pressure retention valve and one automatic dosing valve per cold water zone, with quantity recording and LOTO shut-off valve.
- Oval gear meter station for the oval gear meters for fur prevention, acid and disinfection

Customer-related expansions

Expansions

- Automatic inspection of missing plastic inserts of the bottle pockets and plastic pockets to increase the availability and operational security of the bottle washer. The risk of damage to the carriers and the machine due to bottles falling out is thus minimised.
- Accessories for infeed (exterior): push rod, pillow block and lever made of rust-proof stainless steel/chrome nickel steel (similar to AISI 304)
- Main drive shaft discharge made of rust-proof stainless steel/chrome nickel steel (similar to AISI 304)
- Main drive shaft pre-treatment made of rust-proof stainless steel/chrome nickel steel (similar to AISI 304)
- Machine supports: plastic (black) with stainless steel spindle
- Crate washer connection to warm water 1
- Additional charge for frequency control for recirculation pump, caustic 1
- Automatic pressure control for fresh water spraying to adapt the fresh water consumption quantities to machine output and bottle type, consisting of IFM and control valve.
- Divided fresh water spraying to adapt the fresh water consumption quantities to machine output and bottle type
- Heat recovery to reduce the energy and water consumption
- Rinser operation with adapted temperatures, caustic concentrations and frequency control of caustic recirculation pump for

1. Single-end bottle washer LAVATEC E3.RCS.Y3111

processing new glass

- Roof rail design in stainless steel with railing and square pipe. The access is possible via ladder.
- Automatic chain adjustment program
- Automatic system for rinsing or disinfection of the areas head part/discharge provided from the cold water tank (without cross operation)
- Central lubrication make: Lincoln, type: progressive manifold
- Motor pump with low-level signal for central lubrication
- Lubricant manifold of central lubrication made of rust-proof stainless steel/chrome nickel steel (similar to AISI 304)
- Blower in stainless steel for fume extraction system at the discharge
- Draining of pre-treatment automatically via control at touch-screen
- Conductivity meter and control
- Downtime spraying system for wetting the bottles in the main caustic area during machine downtime.
Note: During downtimes nearly all bottles are sprayed time-controlled in the caustic area by the downtime spraying system in offer to avoid surface drying with caustic. Nevertheless, caustic surface dryings may occur. These bottles have to be rejected out of the production after expertise.
- Sieve case with automatic debris removal unit for post caustic including chute
- Worm press, make: KRONES, housing in stainless steel with steel worm
- Finest filtration main caustic
Filter system, make: Boll
- Clearance discharge: The bottles are transfered completely from the discharge onto the discharge conveyor.
- Cover above the discharge conveyor over the entire machine width
- Stable machine arrangement for sites which are endangered by earthquake. KRONES scope of supply: insulation plate and mounting material for fastening the machine housing on customer's supporting construction. For the configuration KRONES dimension specification for the connection point have to be considered.
The bases with anchoring, supporting construction or steel plate and static have to be provided by the customer. The static must correspond to the regional and local conditions.

1. Single-end bottle washer LAVATEC E3.RCS.Y3111

Energy and media meas. integrated in mach. with touch-screen display

- Flow meter for recording the water consumption quantities at the main connection for filling and fresh water spraying. The complete quantity is saved in the PLC, the data are displayed on the colour display as current display (ml/bottle for spraying) and as total display.
- Recording of heat energy consumption by flow meter on steam side according to KRONES standard. The data are displayed on the touch-screen display.
- Flow meter for recording the NaOH consumption quantities

Auxiliaries

- Insulation main caustic
- Insulation of heating pipe system, without fittings
- Supply pipe of dosing points of NaOH
- Supply pipe of dosing points for additive and defoamer
- Moveable label collecting bin, design adapted to the respective removal system

Additional electrical equipment

- Sockets according to CEE 7/7 (France)
- Cooling unit for integrated control cabinet, make: according to KRONES in rust-proof stainless steel/chrome nickel steel (similar to AISI 304)

Customer requirement

- Small bottle in large pitch 430/110

Extension guide with adapted profile holders (discharge profile + Plug)

1. Single-end bottle washer LAVATEC E3.RCS.Y3111

Machine data

Machine design

■ Drive side	right (looking at discharge)
■ Infeed (seen from discharge side)	from right
■ Discharge (seen from discharge side)	to the right side
■ Operator panel infeed (seen from discharge side)	right (seen from discharge side)
■ Discharge height	standard
■ Infeed type	Infeed system with double spiral finger Pivoting transfer for gentle feeding of the containers into the cell and from the main operator station with re-settable safety disconnections Drive by separate functional servo drive
■ Type of bump-infeed table	Standard
■ Discharge type	Remover discharge: The bottles are transferred from the discharge unit completely onto the discharge conveyor.
■ Drive system	Servo drive system with torque monitoring
■ Material of bottle carrier	steel
■ Type of main drive chain	Chain with plastic bush, for lowest drive power, lowest coefficients of friction and avoiding the slip stick effect
■ Machine supports	Plastic (black) with stainless steel spindle
■ Residual draining	Beverage residues are drained off via a rinsed trough
■ Design of explosion protection	is not included in KRONES scope of supply. Machine operation in potentially explosive areas or with potentially explosive material only allowed after KRONES approval

Technical data

■ Pressure equipment specifications according to	European pressure equipment directive
■ Rated output	26.000 cph
■ Cycle time	3,46 s
■ Processing time	16,23 min
■ Pocket pitch	110 mm
■ Chain pitch	165 mm
■ Bottle pocket material	Steel bottle pocket with plastic insert.
■ Number of bottles per carrier	25 PCE
■ Number of bottles per machine	7.025 PCE
■ Min. bottle length	150,0 mm
■ Max. bottle length	343,0 mm
■ Min. bottle diameter (2)	54 mm
■ Max. bottle diameter (2)	95 mm
■ Total amount of bottle carriers	289

Treatment Times

■ Pre-soak tank immersed only exterior	0,23 min
■ Pre-soak tank immersed	0,38 min
■ High-pressure pre-jetting	0,07 min
■ Soak time of main caustic bath 1	9,00 min
■ Immersion with label removal unit	7,78 min

1. Single-end bottle washer LAVATEC E3.RCS.Y3111

■ Temperature of main caustic 1 (6)	80 °C
■ Fill soak	1,21 min
■ Time for subcaustic to surge	3,58 min
■ Time for submersion to surge	8,53 min
■ Jetting	0,12 min
■ Submerge and jet	7,90 min
■ Submerge, jet and fill	9,11 min
■ Post-caustic jetting	0,12 min
■ Warm water jetting 1	0,12 min
■ Warm water jetting 2	0,12 min
■ Cold water jetting	0,12 min
■ Fresh water jetting	0,12 min
Summary of treatment times	
■ Treatment with (6)	80 °C
■ Caustic soak	7,78 min
■ Internal caustic jetting	0,24 min
■ Interior spraying water	0,55 min
■ Soak time	9,00 min
■ Caustic treatment time	9,23 min
■ Caustic contact time	10,38 min
Consumption data	
■ Consumption data related to bottle volume	1,000 l
■ Bottle weight	560 g
■ Water consumption	6,25 m ³ /h
■ per bottle	0,25 l/cont
Required heat production	
■ without insulation approx.	1.561.000 kJ/h
■ per bottle	62,46 kJ
Required heat in pre-heating phase	
■ Caustic bath of	15 °C
■ to	80 °C
■ without insulation approx.	10.693.000 kJ
Liquid contents	
■ Sieve case high-pressure pre-jetting	0,17 m ³
■ Pre-soak tank	3,09 m ³
■ Main caustic bath 1	34,66 m ³
■ Post-caustic	1,19 m ³
■ Warm water 1	0,88 m ³
■ Warm water 2	0,79 m ³
■ Cold / fresh water	0,98 m ³
Weights and dimensions	
■ Empty weight	48 t

1. Single-end bottle washer LAVATEC E3.RCS.Y3111

■ Operating weight	93 t
■ Machine length	12.770 mm
■ Width of housing without modules	3.136 mm
■ with modules, normal design	6.066 mm
■ Machine height without ground clearance (5)	3.200 mm
■ Ground clearance	340 mm
■ Min. adjustment range of the machine supports	90 mm
■ Max. adjustment range of the machine supports	90 mm
■ Infeed conveyor height	1.241 mm
■ Discharge conveyor height	2.017 mm
■ related to max. bottle diameter	85 mm
■ Note:	

(1) Consumption values are related to the line rated output.

Treatment times are related to the machine rated output.

The mechanical control range relates to the mechanical configuration of the main drive of the bottle washer. If values differ from the rated machine output within the control range, all treatment parameters in the control range change. All upstream and downstream machines have to be designed for differing outputs.

(2) Possible bottle dimensions after inspection

(3) The given consumption data can vary depending on certain circumstances like fresh water temperature, quality and additives.

Consumption data "with insulation" are only valid in connection with a complete insulation of the caustic section according to KRONES standards concerning roof, floor, sidewalls and piping.

- without fume extraction

- without oxyhydrogen extraction

(4) During certain operations (heating, draining, filling) alternating load, together with the static behaviour of the floor, could lead to unbalanced load per footpad.

(5) The machine height without ground clearance is not equivalent to the actual housing height. Certain machine designs are equipped with extensions or superstructures at the housing base or top. It is essential to observe the stated opening dimensions for transport of the machine into the hall.

(6) Temperatures are prognostic data. Temperatures are subject to operational fluctuations with a tolerance of approx. +/- 3 °C.

Labels must be removed from the bottle within a removal time of maximum 180 seconds. If 180 seconds are exceeded, an increased label carry-over can be considered. The test conditions are defined according to DIN 16524-6.

Treatment times, data and temperatures are subject to a close examination using an original sample bottle.

Expansions

■ High-pressure pre-jetting	with automatic debris removal unit
■ Necessary expansion(s)	- Neck-around label spraying for selective separation of overlapping / underlapping glued neck-around labels

1. Single-end bottle washer LAVATEC E3.RCS.Y3111

■ Number of additional handling parts	- Further handling parts for guidance parts including separating devices 4 PCE
Heating system	
■ Heating medium	Steam
■ Dehydrated steam	The customer must guarantee that the steam pipe to the machine is free from condensate under all possible operating conditions.
■ Heat exchanger heater	Design with countercurrent heat exchanger and fittings (manual shut-off valve, dirt trap and control valve).
■ Heating with low heating temperature	no
■ Heat-up phase of machine approx. +/- 1 hour	5 h
■ Condensate drain pipe	Steam-operated condensate pump trap
■ Steam pressure reduction	no
■ Heat control valves	Heat control valve with pneumatic drive
Material	
■ Standard material design	<ul style="list-style-type: none"> - Housing infeed made of rust-proof stainless steel / chrome nickel steel (similar to AISI 304) - Interior parts of infeed: infeed finger support, shafts, lever and tube shafts made of rust-proof stainless steel / chrome nickel steel (similar to AISI 304) - Housing of pre-treatment made of rust-proof stainless steel / chrome nickel steel (similar to AISI 304) - Housing of caustic, end part, painted steel - Main drive shaft main caustic, painted steel - Housing of caustic, centre part bottom, painted steel - Housing of post-treatment (water zones) made of rust-proof stainless steel/chrome nickel steel (similar to AISI 304) - Housing of discharge made of rust-proof stainless steel/chrome nickel steel (similar to AISI 304) - Interior parts of discharge made of rust-proof stainless steel/chrome nickel steel (similar to AISI 304) - Accessories discharge (exterior) made of rust-proof stainless steel/chrome nickel steel (similar to AISI 304) - Catwalk with galvanised running surfaces, rails and lateral plates in rust-proof stainless steel/chrome nickel steel (similar to AISI 304) - Sieving conveyor label removal made of rust-proof stainless steel / chrome nickel steel (similar to AISI 304) - Housing of centrifugal pumps in the caustic made of grey cast - Tubular heat exchanger in painted steel including head exchanger head, base plate and sheathing. Inner pipes in stainless steel rust-proof and acid-proof/chrome molybdenum steel (similar to AISI 316)

1. Single-end bottle washer LAVATEC E3.RCS.Y3111

■ Material design differing from standard

- Pipe system of the heating system made of steel
- Glide strips bump-infeed table made of plastic
- Add-on parts of infeed (exterior): push rod, warehouse block and lever in rust-proof stainless steel / chrome nickel steel (similar to AISI 304)
- Main drive shaft discharge, made of rust-proof stainless steel / chrome nickel steel (similar to AISI 304)
- Main drive shaft pre-treatment, made of rust-proof stainless steel / chrome nickel steel (similar to AISI 304)

Ressource management

■ Insulation of main caustic

- Insulation of sidewalls and backwalls in main caustic area consisting of bonded liquid-repellent rigid foam panels, cased with angle sections, covered with stainless steel sheeting.
- Insulation of machine base in main caustic area, consisting of liquid-repellent rigid foam panels, covered with stainless steel sheeting.
- Insulation of machine roof in main caustic area, consisting of liquid-repellent rigid foam panels, covered with stainless steel sheeting.
- Insulation of roof cover in main caustic area
- Insulation of pipe system in main caustic area. Excluded are fittings, flange connections, guides at pumps or at the sidewall, auxiliary aggregates, pumps, man-holes, hatches, operating elements and pipes for which an insulation is not reasonable.

■ Insulation heating pipe system

Excepted are fittings, flange connections, pivoting bends at pumps, pumps, water pocket pipes, quick drains, pipe supports, valve heads, operating components and pipes where an insulation is not practical due to technical reasons.

■ Design of crate washer connection

From warm water 1 with automatic valve. The supply is performed at intervals (adjustable at touch-screen), provided that the bath level of the bottle wascher allows an outflow. This depends on the operating status of the bottle washer. A shut-off valve has to be provided at the crate washer for maintenance works.

■ Design of caustic sedimentation

Collective draining main caustic with manual draining valves, prepared for caustic sedimentation with support for pump, stub for separate draining valve into the sewage system and stub for low-level probe

■ Consumption measurement

- Flow meter for recording water consumption quantity at the main connection for filling and fresh water spraying. The total quantity is saved in the PLC, it is displayed on the coloured display as current consumption (ml/b for spraying) and as total consumption.
- Recording of heat energy consumption by flow meter

1. Single-end bottle washer LAVATEC E3.RCS.Y3111

<ul style="list-style-type: none">■ Frequency-controlled pumps■ Pressure reducer fresh water■ Controlled fresh water spraying■ Divided fresh water spraying■ Ressource management - others	<p>on steam side according to KRONES standard. Display on touch-screen display</p> <ul style="list-style-type: none">- Flow meter for recording the NaOH consumption quantities <p>Recirculation pump caustic 1</p> <p>at fresh water main connection, material design in stainless steel</p> <p>Automatic pressure control for fresh water spraying to adapt the fresh water consumption quantities to machine output and bottle type, consisting of inductive flow meter (IFM) and control valve.</p> <p>to adapt the fresh water consumption quantities to machine output and bottle type</p> <ul style="list-style-type: none">- Heat recovery of pre-jetting unit against post-caustic including heat exchanger- Rinser operation with adapted temperatures, caustic concentrations and frequency control of caustic recirculation pump to handle new glass
<p>Operation</p> <ul style="list-style-type: none">■ Platforms/panels/rails■ Special effort catwalk■ Access at drive side■ Access at pump side■ Lighting■ Jetting pressure display■ Temperature display■ Operation - others■ Selector lever at infeed table	<p>Roof rail completely circumferential, design in stainless steel with railing and square pipe. The access is possible via ladder.</p> <p>no</p> <p>Ladder and hanger at the drive side for visual inspections</p> <p>continuous operator platform at the pump side</p> <ul style="list-style-type: none">- LED lighting in infeed area- LED hand lamp(s) at the machine (with cable) to light the machine interior <p>Display of jetting pump pressure on site incl. dry-running protection by limit contact</p> <p>Display of temperature on site</p> <p>automatic chain adjusting programme</p> <p>Adjusting possibility to adjust the pick-up point to different bottle diameters: manually (locking lever)</p>
<p>Maintenance</p> <ul style="list-style-type: none">■ Interior cleaning■ Revision opening bottle slide discharge (= rear hatch)■ Lubrication■ Pump central lubrication■ Central lubrication■ Lubricant manifold	<p>automatic system for rinsing or disinfection of the areas head/discharge provided from the cold-water tank (without cross operation)</p> <p>stainless steel doors</p> <p>All important lubrication lines are supplied by a central lubrication system.</p> <p>motor pump with empty signal</p> <p>Make: Lincoln</p> <p>Typ: progressive distributor</p> <p>made of rust-proof stainless steel/chrome nickel steel (similar to AISI 304)</p>

1. Single-end bottle washer LAVATEC E3.RCS.Y3111

- Lubrication lines
- Lubricant design
- Note to lubricant

made of plastic, as far as possible layed in cable ducts
KRONES standard design
Differing from the line standard the bottle washer is not continuously filled with food-grade lubricant.

Automation

- Fume extraction system pre-soak
- Fume extraction system discharge
- Silencer fume extraction system
- Measure and control
- Concentration reduction post-caustic

Fan made of stainless steel for digester gases extraction in the pre-soak area
Blower for fume extraction at the discharge, including throttle valve and shut-off function
no
Conductivity measurement and control per main caustic bath
Conductivity-controlled reduction of post-caustic alkalinity including measurement and control devices. Note: under certain operation conditions the temperature or the pH value of the waste water may increase.

- Dosing type

- The dosing of the dosing medium additive and/or defoamer is made quantity proportional to the NaOH flow rate.
- The dosing of the dosing medium additive and/or pre-scaler is made quantity proportional to the fresh water flow rate.

- Dosing

- Interface for NaOH dosing
One automatic dosing valve per caustic bath except the post-caustic. Interface for dosing with LOTO shut-off valve once for the machine
- Interface for additive dosing
One automatic dosing valve with additional check valve per caustic bath except the post-caustic. Interface for dosing with quantity recording and LOTO shut-off valve once for the machine
- Interface for defoamer dosing
One automatic dosing valve with additional check valve per caustic bath except the post-caustic. Interface for dosing with quantity recording and LOTO shut-off valve once for the machine
- Interface for fur prevention dosing
One mechanic dosing valve for the post-treatment. Interface for dosing with quantity recording and LOTO shut-off valve.
- Interface for dosing disinfection post-treatment in operation
One mechanic dosing valve for the cold water area. Interface for dosing with quantity recording and LOTO shut-off valve
- automatically in post-treatment areas
- The post-treatment areas are combined to a commun

- Draining

1. Single-end bottle washer LAVATEC E3.RCS.Y3111

<ul style="list-style-type: none"> ■ Draining pre-treatment ■ Inspection system(s) 	<p>draining point. automatically via control system at touch-screen Automatic inspection of missing plastic inserts in the bottle pockets or plastic pockets to increase the availability and operational reliability of the bottle washer. The risk of damages at the carrier and the machine by bottles which fall out, is thus minimised.</p>
<ul style="list-style-type: none"> ■ Downtime spraying system 	<p>for wetting the bottles in the main caustic area during machine downtime. Note: During downtimes nearly all bottles are sprayed time-controlled in the caustic area by the downtime spraying system in order to avoid surface drying with caustic. Nevertheless, surface dryings with caustic may occur. These bottles have to be rejected from the production process after expertise.</p>
<p>Removal</p> <ul style="list-style-type: none"> ■ Removal unit pre-treatment ■ Removal unit main treatment ■ Removal unit post-treatment 	<p>Sieve case with automatic debris removal unit for high-pressure jetting label removal unit in the main caustic - Suction tanks with automatic backflushing, except post-caustic - Sieve case with automatic debris removal unit for post-caustic</p>
<ul style="list-style-type: none"> ■ Label compression main caustic 	<p>Worm press, make: according to KRONES, housing in stainless steel with steel worm</p>
<ul style="list-style-type: none"> ■ Collecting systems 	<p>- Label collecting bin pre-treatment, movable, with 1 grid insert, plastics - Label collecting bin (1 piece) post-treatment, movable, with 1 grid insert, plastics</p>
<ul style="list-style-type: none"> ■ Number of label collectors pre-treatment ■ Finest filtration main caustic 	<p>1 PCE Filter system, make Boll</p>
<p>Conveyors</p> <ul style="list-style-type: none"> ■ Conveyor pitch (infeed) ■ Number of lanes infeed conveyor ■ Drive of infeed conveyor ■ Graduation infeed conveyor in the machine area ■ Graduation of the infeed conveyor ■ Number of infeed drives ■ Drive type ■ Rated drive performance ■ Supplier of infeed conveyor ■ Conveyor lubrication bump-infeed unit ■ Conveyor lubrication of the discharge conveyor 	<p>85,00 mm 6 PCE KRONES graded 3/3 lanes, graduated 2 frequency-controlled 1,50 kW KRONES yes Nozzle assembly and control valve for connection to customer's conveyor lubrication</p>
<ul style="list-style-type: none"> ■ Conveyor control ■ Number of control, additional infeed conveyors ■ Number of control, additional discharge conveyors 	<p>Bottle washer 1 PCE 1 PCE</p>

1. Single-end bottle washer LAVATEC E3.RCS.Y3111

■ Conveyor pitch (discharge)	85,00 mm
■ Number of lanes discharge conveyor	4 PCE
■ Discharge conveyor drive	KRONES
■ Drive type	frequency-controlled
■ Rated drive performance	1,50 kW
■ Supplier of discharge conveyor	KRONES
■ Displacement / discharge	Cover above the discharge conveyor via the complete machine width
■ Type conveyor chain discharge conveyor	steel chain
■ Drip pans at container conveyor in the machine area	not included
■ Covers at container conveyor in the machine area	are supplied
Finish - pneumatic components - lubrication system	
■ Machine finish colour in wet line section	RAL 9018 (papyrus white)
■ Finish colour for visible three-phase motors and their mounted gears or pumps in the wet line section	RAL 9018 (papyrus white)
■ Finish colour of separate control cabinets of machines in wet line section	RAL 9018 (papyrus white)
■ Design Style Guide	yes
■ Finish colour for machine column	RAL 5013 (Cobalt blue)
■ Manufacturer pneumatic system components	make: Festo
■ Manufacturer pneumatic maintenance unit	Make: Festo
	Customer compressed air quality according to ISO 8573-1 class 6.3.1.
	Oil-free compressed air supply with a particle size of max. 40µm
Positioning	
■ Ingress	according to KRONES specifications!
■ Machine multiple part for loading/transport/positioning	three parts, plus infeed separately
■ Ingress at the customer's site	at the floor
■ Instruction for the ingress	All transport and access routes as well as the access to the hall have to be inspected for columns, crossheads and other constructional features in advance
■ Min. required room height	5.000 mm
■ Installation opening height	4.000 mm
■ Installation opening width	5.500 mm
■ Crossheads	no
■ Static controlled	no - control static!
Customer data	
■ Floor descending gradients	must be designed by the customer in a way that the feet adjustment range mentioned in the chapter "technical data" is sufficient.
■ Base clearance / installation height	standard

Media data

1. Single-end bottle washer LAVATEC E3.RCS.Y3111

■ Data on site water analysis	according to DIN 8784 attachment A
Acceptance	
■ Performance of acceptance	In-house machine acceptance without customer
Notes	
■ Requirements on the empties	Foreign objects (e.g. straws, packing strings etc.) in the supplied empties can cause a reduction of the machine efficiency. KRONES can not assume any liability in this case.
■ Materials	KRONES exclusively uses high-quality materials. However, corrosion may occur due to the water quality, certain metering processes, the chemicals used, or faulty operation! KRONES will deny any liability in these cases.

2. Dosing unit

Prices

Basic machine

- Software connection dosing

Customer-related expansions

Expansions

- Dosing station including wall bracket and base frame for fresh batch and increase of concentration of liquid caustic including control
- Seismic mitigations at the caustic daily tank
- Dosing station incl. wall bracket and base frame for fresh batch or concentration increase of additive including control
- Dosing station including wall bracket and base frame for fresh batch and increase of concentration of defoamer including control
- Dosing station including wall bracket and base frame for increase of concentration of descaler
- Dosing station including wall bracket and base frame for increase of concentration of disinfectants during operation

2. Dosing unit

Machine data

Machine design

■ Dosing of NaOH	Dosing unit including wall bracket and base frame for fresh batch and increase of concentration of liquid caustic including control
■ Dosing of additive	Dosing station incl. wall bracket and base frame for fresh batch or concentration increase of additive including control
■ Dosing of defoamer	Dosing unit including wall bracket and base frame for fresh batch and increase of concentration of defoamer including control
■ Note to fresh batch	For a fresh batch of a caustic bath with NaOH, additives and defoamer a higher time effort must be considered when using these dosing units.
■ Dosing of descaler	Dosing unit including wall bracket and base frame for increase of concentration of descaler including control
■ Dosing of disinfectant post-treatment zones in operation	Dosing unit including wall bracket and base frame for fresh batch of disinfectants including control
■ Installation of dosing station	The connection pipe system between dosing unit and bottle washer are not included in the scope of the dosing system.
■ Commissioning of dosing station	The commissioning (adjusting works and calibration) of the dosing units is performed by the customer.
■ Design of explosion protection	is not included in KRONES scope of supply. Machine operation in potentially explosive areas or with potentially explosive material only allowed after KRONES approval
Finish - pneumatic components - lubrication system	
■ Finish colour for visible three-phase motors and their mounted gears or pumps in the wet line section	RAL 9018 (papyrus white)
■ Finish colour of separate control cabinets of machines in wet line section	RAL 9018 (papyrus white)
■ Manufacturer pneumatic system components	make: Festo
■ Manufacturer pneumatic maintenance unit	Make: Festo
	Customer compressed air quality according to ISO 8573-1 class 6.3.1.
	Oil-free compressed air supply with a particle size of max. 40µm
■ Special pneumatic components	no

3. Container conveyor SYNCO S

Prices

Conveyor

- Container conveyor, drive and control technology included
- Mass conveyor for low-wear chain guide
- SEW Movigear drive with central FD technology
- Drives and electrical components manufactured to KRONES electrical design standards
- PLC programme and control according to KRONES

Customer-related expansions

- Conveyor cover with a gable roof. From a width of 9 lanes the gable wall is closed with a plate to increase the stability.
- Complete sprocket, divided
- Double rail section

Additional electrical equipment

- Engineering for integration

Notes

A continuous coefficient of friction ranging between 0.07 and 0.12 (measured between container and chain) must be maintained. Regular chain cleaning performed by the customer ensures efficient conveyor operation. Only those conveyor lubricants recommended by the supplier of the conveyor lubrication system should be used.

For a container tilting angle below 12° or in case of an output exceeding 50,000 b/h the coefficient of friction must be below 0.10.

For a container tilting angle below 11°, high speed and PET hot fill lines as well as for pressure-sensitive containers the coefficient of friction must be below 0.08.

For a container tilting angle below 9° a trouble-free operation at the container conveyor is not possible.

In case of using lane conveyors the coefficient of friction must be below 0.08 and the lubricant must be silicone-free.

The container conveyor is operated by a central operator panel with visualisation. Should further operating devices be necessary for safety reasons, project-specific subordinate operator panel (without visualisation) are planned.

Due to the geographical location and its seismic classification, no wall and ceiling suspension can be offered for the transport roadway.

The technical characteristics of the conveyor depends on the layout situation and is only then definite when no more changes are made in the respective layout plan.

3. Container conveyor SYNCO S

Machine data

Conveyors

- Design of shaft bearing 2-hole sheet metal cage with food-grade grease
- Axis or shaft diameter 30 mm or 40 mm, depending on load

Conveyor category -1-

- Design of conveyor body Sectional frame construction
- Conveyor support made of stainless steel with plastic footpad
- Axle design fixed axle bearing
- Disassembly of axes and shafts on bearing pull shaft axially

Drive Technology

- Drive type permanent magnetic excited gear motor
- Gear type efficiency-optimised spur flat gear
- Gear manufacturer Make: SEW
- Manufacturer of synchronous motor make: SSB
- Motor manufacturer make: SEW
- Design of permanent magnet excited drive, conveyor Steel hollow shaft
- Motor allowance IEC approval
- Design of explosion protection is not included in KRONES scope of supply. Machine operation in potentially explosive areas or with potentially explosive material only allowed after KRONES approval

Rail category -1-

- Design of guide rail Shackle support with base material 40x8
- Horizontal rail adjustment fixed, adjustable at machine infeed
- Container guidance by highly-wear-resistant plastic profile
- Number of lanes 1

Rail category -2-

- Design of guide rail Shackle support with base material 40x8
- Horizontal rail adjustment fixed, adjustable at machine infeed
- Container guidance by double-row wear strip
- Number of lanes 1

Chain category -1-

- Conveyor chain type flat-top chain
- Chain material Stainless steel
- Manufacturer of conveyor chain make Regina
- Chain thickness 3,15 mm
- Chain width 82,50 mm

Chain category -2-

- Conveyor chain type flat-top chain
- Chain material Stainless steel
- Manufacturer of conveyor chain make Rexnord / MCC
- Chain thickness 2,50 mm

3. Container conveyor SYNCO S

■ Chain width	83,80 mm
Chain operating conditions, category 1	
■ Lubrication of chain	wet lubrication
■ Material of chain wear strips	plastic modified
■ Chain return of mass-flow conveyors	Roller
■ High-speed chain return system	Rubber-coated roller
Chain operating conditions, category -2-	
■ Lubrication of chain	wet lubrication
■ Material of chain wear strips	plastic modified
■ Chain return of mass-flow conveyors	Roller
■ High-speed chain return system	Rubber-coated roller
Finish - pneumatic components - lubrication system	
■ Finish colour for visible three-phase motors and their mounted gears or pumps in the wet line section	RAL 9018 (papyrus white)
■ Finish colour of separate protective devices in wet line section	RAL 9018 (papyrus white)
■ Finish colour of machine housings in wet line section	RAL 9018 (papyrus white)
■ Manufacturer pneumatic maintenance unit	Make: Festo Customer compressed air quality according to ISO 8573-1 class 6.3.1. Oil-free compressed air supply with a particle size of max. 40µm
■ Manufacturer pneumatic system components	make: Festo
■ Note to lubricant	Differing from the line standard the conveyor bearings are not continuously filled with food-grade lubricant.
Accessories	
■ Roofs	in individual parts of the line
■ Drip pans	at crossings and passages
■ Drip pans design	plastic drain valve
■ Mounting position of electrical components	This conveyor section is not equipped with an individual electrical system or connection diagram.
■ Note: mounting position - control unit	The electrical components of this conveyor are integrated into the control cabinet/box of:
■ Machine	Bottle washer
■ Offer number, equipment	K671-397
■ Control	of frequency inverters in bus technology (Profinet)

4. Conveyor lubrication SYNCO

Prices

Basic machine

- Engineering
- Nozzle assemblies with pipe system in rust-proof stainless steel/chrome nickel steel (similar to AISI 304) for water-reduced conveyor lubrication system

Notes

A continuous coefficient of friction ranging between 0.07 and 0.12 (measured between container and chain) must be maintained. Regular chain cleaning performed by the customer ensures efficient conveyor operation. Only those conveyor lubricants recommended by the supplier of the conveyor lubrication system should be used.

For a container tilting angle below 12° or in case of an output exceeding 50,000 b/h the coefficient of friction must be below 0.10.

For a container tilting angle below 11°, high speed and PET hot fill lines as well as for pressure-sensitive containers the coefficient of friction must be below 0.08.

For a container tilting angle below 9° a trouble-free operation at the container conveyor is not possible.

In case of using lane conveyors the coefficient of friction must be below 0.08 and the lubricant must be silicone-free.

wet lubrication without dosing unit

Machine data

- | | |
|---------------------------------------|--|
| ■ Supplier of conveyor lubrication | Diversey |
| ■ Design of supply line | Individual line in stainless steel, feed line in stainless steel |
| ■ Scope of supply for wet lubrication | Pipe and application system without dosing centre |

5. Material of electrical supply system

Prices

General - installation

- Planning and project planning

Supply of cable routes

- Cable trays
- Cable tray fastenings
- Vertical cable trays
- Cable ducts

Supply of connection cables

- Connection lines

5. Material of electrical supply system

General - Assembly

■ The electrical installation material is supplied by	KRONES
■ Project planning is made by	KRONES
■ Electrical installation plan	included

Supply of incoming feeders

■ Design of electrical incoming feeders	Power cables according to HD 603.1 and IEC 60502, testing voltage 4 kV, rated voltage U 0/ U 0,6/1 kV, conductor material copper
■ Main incoming feeders	customer
■ The incoming feeders from the energy distributor to the machines	Customer

Supply of cable routes

■ Cable trays	KRONES
■ Cable tray type	wide-span cable tray without cover
■ The design of the cable trays	is performed with partition
■ The material of the cable trays is	Continuously galvanised (sendzimir galvanised) EN 10346
■ Cable tray height is	3,50 m
■ Cable tray fastenings	KRONES
■ The fastening type of base supports for cable trays	is made of rustproof stainless steel / chrome nickel steel (similar to AISI 304)
■ Vertical cable trays	KRONES
■ The type of vertical cable tray is	Basket cable tray without cover
■ The design of the vertical cable trays	is with partition
■ The vertical cable tray material is	rust-proof stainless steel / chromium nickel steel (similar to AISI 304)
■ Cable ducts	KRONES
■ The cable duct is made of	rustproof stainless steel / chrome nickel steel (similar to AISI 304)
■ The cable duct at the container conveyor is necessary	yes
■ Design of cable routing at the container conveyor	basket cable tray with cover
■ Connection type of cable duct	clipped
■ The design of cable duct at the container conveyor	is with partition
■ The cable conduits at the container conveyors are designed as	basket cable tray 40 * 40, with cover, rustproof stainless steel / chrome nickel steel (similar to AISI 304)
■ The cable duct at the pack conveyor is necessary	no
■ The cable duct at the pallet conveyor is necessary	no
■ The cable duct at the air conveyor is necessary	no

Supply of control cabinets

■ Energy distributor	Customer
----------------------	----------

Supply of connection cables

5. Material of electrical supply system

- Design of electrical connection lines which are guided outside the machines via cable trays PVC sheathed cable according to requirements EN 60204-1, resistant to ambient conditions at the area of installation, testing voltage 2 kV/5 min., rated voltage U0/U 300/500 V.
- Connection lines KRONES

Notes

6. Installation of electrical power supply system



Installation of cable routes

- Cable trays

- Cable tray fastenings

- Vertical cable trays

- Cable ducts

Installation of connection cables

- Laying connection lines

- Connect connection lines

Installation of control cabinets

- Control cabinet

6. Installation of electrical power supply system

General - Assembly

- | | |
|---|-----------------------------------|
| ■ Execution of the electrical installation | full assembly |
| ■ The invoicing of the electrical installation | is made according to a flat rate. |
| ■ The installation of the identification of the electrical components is performed by | KRONES |

Installation of incoming feeders

- | | |
|--|--------------|
| ■ Laying of main incoming feeders | the customer |
| ■ The main power lines are connected by | the customer |
| ■ Laying incoming feeders from the energy distributor to the machines | Customer |
| ■ Connection of the incoming feeders from the energy distributor to the machines | Customer |

Installation of cable routes

- | | |
|-------------------------|--------|
| ■ Cable trays | KRONES |
| ■ Cable tray fastenings | KRONES |
| ■ Vertical cable trays | KRONES |
| ■ Cable ducts | KRONES |

Installation of control cabinets

- | | |
|-----------------------------|----------|
| ■ Separate control cabinets | KRONES |
| ■ Energy distributor | Customer |

Installation of connection lines

- | | |
|---|--------|
| ■ Laying of connection lines between separate control cabinets and the components of the machines | KRONES |
| ■ Connection of the connection lines between the separate control cabinets and the machine components | KRONES |

7. Mechanical installation/commissioning/acceptance test

Prices

Basic services

- Installation, supervision by KRONES site manager or KRONES specialist
- KRONES site management for installation by KRONES site manager or KRONES specialist
- KRONES site management for commissioning by KRONES site manager or KRONES specialist
- KRONES site management for acceptance by KRONES site manager or KRONES specialist
- Third-party machines, installation
- KRONES specialist for commissioning, production program (SKU) 1
- KRONES specialist for acceptance, production program (SKU) 1

Customer specific services

- KRONES specialist for commissioning, production program (SKU) 2
- KRONES specialist for commissioning, production program (SKU) 3
- KRONES specialist for commissioning, production program (SKU) 4
- KRONES specialist for commissioning, production program (SKU) 5
- KRONES specialist for commissioning, production program (SKU) 6
- KRONES specialist for commissioning, production program (SKU) 7
- KRONES specialist for commissioning, production program (SKU) 8
- KRONES specialist for commissioning, production program (SKU) 9
- KRONES specialist for commissioning, production program (SKU) 10

Overview production programs (SKU)

Identification	Production programme (SKU)	Sequence	Commissioning	Acceptance
Reference PP1	GPP - 1. 1l Mattoni	1	KRONES	KRONES
PP2	Programm 02	2	KRONES	not included
PP3	Programm 03	3	KRONES	not included
PP4	Programm 04	4	KRONES	not included
PP5	Programm 05	5	KRONES	not included
PP6	Programm 06	6	KRONES	not included
PP7	Programm 07	7	KRONES	not included

7. Mechanical installation/commissioning/acceptance test

PP8	Programm 08	8	KRONES	not included
PP9	Programm 09	9	KRONES	not included
PP10	Programm 10	10	KRONES	not included

7. Mechanical installation/commissioning/acceptance test

General - Assembly

■ Mechanical installation	KRONES
■ Invoicing of the mechanical installation according to	flat rate
■ The working time per week is	55 h. / Monday - Friday each 10 hours / Saturday 5 hours.
■ Commissioning/acceptance	KRONES
■ Invoicing of commissioning/acceptance	flat rate
■ The working time per week is	55 h. / Monday - Friday each 10 hours / Saturday 5 hours.
■ The working time per week is	55 h. / Monday - Friday each 10 hours / Saturday 5 hours.
■ Integration of new scope of supply into an existing line	not necessary
■ Flight	not included
■ Organisation of transfer from hotel to the site	KRONES
■ Transfer costs from the hotel to the site	included
■ Organisation of hotel/accommodation	KRONES
■ Costs for hotel / accommodation	included
■ Calculation of allowance according to	KRONES flat rate, according to travel policy
■ Sundays and holidays are	subject to authorisation
■ Provision of toilets and washing rooms	Customer
■ Provision of lockable, equipped office(s)	Customer
■ Provision of lockable storage room	customer
■ Parking area at the customer to be used by KRONES	existing
■ Workshops at the customer to be used by KRONES	existing
■ Provision of work platform(s) for assembly	Customer
■ Visa	necessary
■ Letter of invitation from the customer	not necessary
■ Work permit	not necessary
■ Special codes of behaviour at the customer to consider	not existing
■ Local safety regulations	according to standard "Germany"
■ Special safety regulations at the customer	not existing
■ KRONES specialist for operational safety	not included
■ Medical examination(s)	not included
■ Site surveillance	not included
■ Interpreter	not included
■ Logistician	not included
■ Controller	not included
■ Waste removal	customer
■ Return transport of the tools	customer
■ Production support	not included
■ Description of opening for installation	Opening on one level as the unloading
■ Mechanical installation of customer machine	not included
Unloading	
■ Unloading of machines	Customer
■ Provision of auxiliaries for unloading	Customer
■ Description of unloading area:	place of delivery is in front of opening for installation (distance < 100 m)

7. Mechanical installation/commissioning/acceptance test

Bringing-in and transport to machine position

■ Unpacking and transport of the machines to the opening for installation	Customer
■ The bringing-in route is	continuously accessible
■ The floor protection is	not necessary
■ Provision of auxiliaries for ingress	Customer
■ Transverse transport of the machines from the opening for installation to the position	KRONES
■ The transport route is	continuously loadable
■ Height modification in the transport way to machine positioning	no
■ Provision of auxiliaries for the transverse transport of the machines	KRONES

Assembly

■ Positioning and orientation of the machines	KRONES
■ Provision of aids for positioning and orientation of the machine	KRONES

Disassembly

■ Disassembly of mechanical installation	Customer
--	----------

Re-assembly

■ Reassembly of the mechanical installation	Customer
---	----------

Commissioning

■ Name of the commissioning of the production program (SKU) 1	GPP - 1. 1L MATTONI
■ Status of commissioning of production program (SKU) 1	reference
■ Performance of commissioning of production program (SKU) 1	KRONES
■ Invoicing of commissioning of production program (SKU) 1	flat rate
■ Name of the commissioning of the production program (SKU) 2	PROGRAMM 02
■ Performance of commissioning of production program (SKU) 2	KRONES
■ Invoicing of commissioning of production program (SKU) 2	flat rate
■ Name of the commissioning of the production program (SKU) 3	PROGRAMM 03
■ Performance of commissioning of production program (SKU) 3	KRONES
■ Invoicing of commissioning of production program (SKU) 3	flat rate

7. Mechanical installation/commissioning/acceptance test

■ Name of the commissioning of the production program (SKU) 4	PROGRAMM 04
■ Performance of commissioning of production program (SKU) 4	KRONES
■ Invoicing of commissioning of production program (SKU) 4	flat rate
■ Name of the commissioning of the production program (SKU) 5	PROGRAMM 05
■ Performance of commissioning of production program (SKU) 5	KRONES
■ Invoicing of commissioning of production program (SKU) 5	flat rate
■ Name of the commissioning of the production program (SKU) 6	PROGRAMM 06
■ Performance of commissioning of production program (SKU) 6	KRONES
■ Invoicing of commissioning of production program (SKU) 6	flat rate
■ Name of the commissioning of the production program (SKU) 7	PROGRAMM 07
■ Performance of commissioning of production program (SKU) 7	KRONES
■ Invoicing of commissioning of production program (SKU) 7	flat rate
■ Name of the commissioning of the production program (SKU) 8	PROGRAMM 08
■ Performance of commissioning of production program (SKU) 8	KRONES
■ Invoicing of commissioning of production program (SKU) 8	flat rate
■ Name of the commissioning of the production program (SKU) 9	PROGRAMM 09
■ Performance of commissioning of production program (SKU) 9	KRONES
■ Invoicing of commissioning of production program (SKU) 9	flat rate
■ Name of the commissioning of the production program (SKU) 10	PROGRAMM 10
■ Performance of commissioning of production program (SKU) 10	KRONES
■ Invoicing of commissioning of production program (SKU) 10	flat rate
Acceptance test	
■ Name of the acceptance of the production program (SKU) 1	GPP - 1. 1L MATTONI
■ Status of acceptance of production program (SKU) 1	reference

7. Mechanical installation/commissioning/acceptance test

- Performance of acceptance of production program (SKU) 1 KRONES
- Invoicing of acceptance of production program (SKU) 1 flat rate
- Duration and output, acceptance of production program (SKU) 1 Line efficiency EN 415-11, 16 hours net production time
- Date of acceptance test is performed directly after commissioning

Notes

Offer

- For the mechanical installation of the KRONES scope of supply the KRONES guidelines have to be observed. They can be requested for the respective machines at the KRONES sales dept. or service dept. - if they have not been supplied automatically.

8. Information on installation

General - Assembly

■ Supply of material for pipe system media	customer
■ Scope of supply insulating material	customer
■ Supply of shut-off valve transfer point	customer
■ Scope of supply pipe material for media	No connections specified

General - Assembly

■ Assembly of pipe material	customer
■ Assembly insulating material	customer
■ Performance of pressure test	Customer
■ Performance of endoscopy	Customer
■ Performance of documentation	Customer

Notes

- For the pipe system of KRONES scope of supply the KRONES guidelines for pipe systems have to be observed. They are based on valid standards and apply essentially to:
 - Welding process WIG manual (H) or alternatively WIG orbital welding (O) is made by examined welders with test certificate according to DIN EN 287-1. The site manager on site may ask for welding samples if necessary.
 - Welding gas: Argon purity 99,996 (protective gases according to DIN EN 439).
 - Weld seam preparation: The pipes, fittings and special-shaped pieces are examined for their perfect condition before and after welding. Weld seam preparation according to DIN EN 29692.
 - Weld seam post-treatment: To reduce the corrosion risk the temper colours are removed. The weld seam fronts are cleaned by stainless steel or plastic brushes and pickled with pickling paste.
 - Oxidation and heating according to DIN 50930 part 4 (exterior pickling and brushing or polishing, in the pipe interior discolouration max. straw-coloured).
 - For each material the approved welding additives according to DIN EN 12022 have to be applied.
 - Tacking of weld seams: The connection parts must be tacked manually among forming gas without additives. Please consider fit, minimum width of gap, parallel edges and axial orientation.
 - When using closed welding guns the tacking is not necessary.
 - Welding supervision acc. to EN 719
 - Welding seam design according to DIN EN 5817 / assessment group B.
 - Tacking and welding only after reaching the pre-rinsing time, form as long as the temperature in the weld seam area drops below 250° C.

9. Technical documentation

Prices

Basic documentation

- Operation documentation: KRONES folder
- eCat on data storage medium

9. Technical documentation

User documentation set 1

■ Delivery date:	with machine delivery
■ Output medium:	paper KRONES file
■ Quantity	1
■ Shipment:	to consignee
■ Supply	separately per machine
■ Operation documentation	-----
■ Language	Czech
■ Edition:	final documentation
■ Format:	A4 KRONES file

User documentation Set 2

■ Delivery date:	for line commissioning
■ Output medium:	CD in eCat format
■ Quantity	1
■ Shipment:	to consignee
■ Supply	per offer
■ Operation documentation	-----
■ Language	- Czech
	- German
	- English
■ Edition:	final documentation
■ Format:	KRONES eCat
■ Spare parts documentation	-----
■ Language	English
■ Edition:	as-delivered documentation
■ Format	KRONES eCat

User documentation Set 3

■ Delivery date:	12 weeks after final line acceptance
■ Output medium:	CD in eCat format
■ Quantity	1
■ Shipment:	to consignee
■ Supply	per offer
■ Operation documentation	-----
■ Language	- Czech
	- German
	- English
■ Edition:	final documentation
■ Format:	KRONES eCat
■ Spare parts documentation	-----
■ Language	English
■ Edition:	final documentation
■ Format	KRONES eCat
■ Electrical documentation	-----
■ Language	English
■ Edition:	final documentation

9. Technical documentation

■ Format:	KRONES eCat
User documentation Set 4	
■ Delivery date:	with machine delivery
■ Output medium:	in WEB archive
■ Quantity	1
■ Shipment:	to consignee
■ Supply	per offer
■ Operation documentation	-----
■ Language	- Czech - German - English
■ Edition:	final documentation
■ Format:	KRONES eCat

10. Packaging

Prices

Packaging

Packing

■ Type of packing

All machines and/or equipment are mounted on planks or on a wooden platform and are covered with film. Special packings, such as crate, seaworthy packing or similar are carried out only upon written request and only at additional charge.

■ Packaging class

Truck-worthy packaging without corrosion protection; accessories packed in cardboard boxes

- The prices are based on the current packaging rates as per quotation date. KRONES shall be entitled to an adequate increase of the stated prices, if the actual packaging rates at the time of the packaging increase substantially in relation to the packaging rates as per quotation date.

Packaging rate increases shall be deemed substantial if these rates increase by three or more per cent (based on the **price of wood index "HPE Holzpreisindex | HPE e.V."** or similar applicable packaging indices). Upon request, KRONES shall furnish proof for such increases to Customer.

11. Freight and insurance DAP

Prices

■ Incoterms

Delivered at Place, delivered
defined location

Main transport

Transport insurance

Freight and insurance

■ Incoterms

■ Named place

■ Type of main carriage

■ Transport insurance

Delivered at Place, delivered defined location
Kyselka u Karlových Varů

by truck

The usual transport insurance (according to Incoterm) exists until the place of delivery determined by the offerer.

- The prices are based on the current freight rates as per quotation date. KRONES shall be entitled to an adequate increase of the stated prices, if the actual freight rates at the time of the shipment increase substantially in relation to the freight rates as per quotation date. Freight rate increases shall be deemed substantial if these rates increase by three or more per cent (based on the Xeneta Shipping Index or similar applicable shipping indices). Upon request, KRONES shall furnish proof for such increases to Customer.

Responsible for	Customer	KRONES
Basic logistic agreement		
Delay of shipment: Where shipment is delayed due to reasons beyond KRONES' control, the CUSTOMER shall be liable for any additional costs that arise during transport or storage, including but not limited to the costs of container detention, truck waiting time, demurrage, dead freight and storage charges.	X	
Packing and Transport preparation		
Application for overseas transport: Containers are deemed to be shipping line containers (COC = carriers own container), if not otherwise agreed in writing. Containers shall be returned in empty condition within the agreed maximum time of 7 calendar days after arrival of the ocean vessel in the port of destination. In the event that the agreed maximum time of 7 calendar days is exceeded any additional costs for demurrage (storage) and / or container detention (container overtime) are to be borne and paid by the CUSTOMER.	X	
Applicable for land transport: The agreed maximum free time for truck detention during customs clearance and unloading on CUSTOMER's site: In the EU: until 3 hours after arrival Outside of the EU: until 12 hours after arrival	X	

11. Freight and insurance DAP

Responsible for	Customer	KRONES
In the event that the agreed maximum time of 24 hours is exceeded due to reasons beyond KRONES' control, the CUSTOMER shall be liable for any additional costs that arise during transport and/or storage, including but not limited to truck waiting time (detention), and storage charges.		
Issuing of packing lists: Printout as per KRONES standards		X
Special requirements with regard to export marking of packages and transport packages: These need to be advised 8 weeks prior to EXW (ex works) date of the first delivery at the latest.	X	
Export formalities: Special requirements such as pre-inspection need to be named. The corresponding date has to be 8 weeks prior to EXW (ex works) date of the first delivery at the latest.	X	
Shipping instructions: Shipping instructions, such as but not limited to: supplementary instructions with regard to Incoterm, CMR / Bill of Lading / AWB instructions, jobsite access, safety and delivery regulations, shall be notified to KRONES 6 weeks prior to EXW (ex works) date of the first delivery at the latest.	X	
Definition of laydown area and storage place at the final place of delivery - storage place for containers and break bulk in flood protected and secure area at site on solid ground, easy accessible during installation.: The definition need to be defined and communicated 4 weeks before EXW (ex works) date.		X
Transport		
Applicable for land transport: Deviations to the agreed Incoterm have to be named and the additional costs shall be deemed by customer, such as, but not limited to: convoy routing, importation requirements, multistopp delivery.		X
Applicable for airfreight transport: Deviations to the agreed Incoterm to be named		X
Applicable for overseas transport: Krones shall be authorized to designate the port of departure and port of destination.		X
Import customs clearance, including import licenses: Special requirements which are important for the CUSTOMER for importation, shall be notified to Krones 6 weeks prior to EXW (ex works) date of the first delivery at the latest.	X	
Import execution according to Incoterm: CUSTOMER has to do the customs clearance according to the incoterms. In the event that the specified time of customs clearance is exceeded (as agreed with project schedule), the CUSTOMER shall be liable for any additional demurrage costs.	X	
Execution of the temporary import of equipment, tools and other items required on site: CUSTOMER has to do the customs clearance for temporary import. After	X	

11. Freight and insurance DAP

Responsible for	Customer	KRONES
close-up at jobsite, CUSTOMER has to reexport the equipment to KRONES Germany according to the "Guidelines for creating pro forma invoices". The originally delivery no. by KRONES has to be mentioned as reference number on the proforma invoice.		
<p>Import customs clearance of the material shipped to Customer's site in fulfillment of KRONES obligations within the Defects Liability Period:</p> <p>In cases, the CUSTOMER cannot do the Customs clearance, the obligation to issue a power of attorney has to be given from the CUSTOMER to the forwarding company or the customs broker - in offer to authorize them to execute the customs clearance on behalf of the CUSTOMER.</p> <p>If the CUSTOMER is entitled for pre-tax-deduction, the VAT has to be billed to the customer. Fees and duties can be covered by KRONES Germany. This will only be happen in exceptional cases which has to be discussed with KRONES AG before delivery.</p> <p>In the event that the power of attorney authorizing to execute the customs clearance on behalf of the CUSTOMER is not issued by the CUSTOMER, it is the responsibility of the CUSTOMER to execute the customs clearance. KRONES Germany is not available to do the customs clearance in the country of destination!</p>	X	
On-site activities		
<p>Access to the final installation position and/or unloading/storage area on site:</p> <p>Obligation to grant free and unrestricted access to the final installation position and/or laydown area on site in accordance with the valid shipping schedule and from the first delivery for all applied means of transportation (including but not limited to low-bed-truck, truck, container) and logistics personnel.</p> <p>Gates wide enough to pass with delivered goods, prepared surface of the jobsite roads, prepared and accessible roads from the laydown areas to the final installation position.</p>	X	
<p>As required, access to the laydown area off-site including but not limited to defined temporary buffer areas or warehouses:</p> <p>Obligation to grant free and unrestricted access to the laydown area off-site in accordance with the valid shipping schedule and from the first delivery for all applied means of transportation (including but not limited to low-bed-truck, truck, container) and logistics personnel.</p> <p>Free and unrestricted access and fully prepared roads to the laydown / off-loading areas off-site for all applied means of transportation (including but not limited to low-bed-truck, truck, container).</p> <p>Gates wide enough to pass with delivered goods, prepared surface of the roads at the laydown area.</p>	X	
<p>Provision of laydown area/stock area at the final place of destination in accordance with Krones requirements:</p> <p>Sufficient equipped as per KRONES request, as per definition of laydown</p>	X	

11. Freight and insurance DAP

Responsible for	Customer	KRONES
area (in square meters as per request, laydown area at the final place of destination on site suitable for low-bed-truck, truck, crane and forklift traffic). In particular: storage place for containers, break bulk or any packages in flood protected and secure area at site on solid ground, easy accessible during installation, incl. insurance, securing and guarding of the goods after arrival.		
As required, provision of laydown area off-site including but not limited to defined temporary buffer areas or warehouses in accordance with Krones requirements. Sufficient equipped as per KRONES request, as per item 2.7. (in square meters as per request, laydown area off-site suitable for low-bed-truck, truck, crane and forklift traffic). In particular: storage place for containers, break bulk or any packages in flood protected and secure area off-site on solid ground, easy accessible during installation, incl. insurance, securing and guarding of the goods after arrival.	X	
Applicable for break bulk and truck cargo and / or shippers owned containers (SOC): Off-loading of arriving goods from means of transportation (e.g. truck) at the laydown area and as required off-site of the jobsite. Provision of crane equipment, fork lift trucks, labor force for unloading, safety process	X	
Applicable for shipping line containers (COC): Unstuffing and handling of containers: Provision of crane equipment, fork lift trucks, labor force for unloading, safety process	X	
Examination of the delivered goods upon its arrival for visible faults and deviations: Visible damage of the delivered goods shall be notified to KRONES immediately upon delivery. Hidden damage of the delivered goods shall be notified to KRONES upon their discovery, however not later than within 7 calendar days after delivery.	X	
Return of recyclable packaging, according to packaging category		X
Return (re-transport) of temporarily imported equipment, tools and other items required on site.		X
Re-exportation of temporarily imported equipment, tools and other items required on site	X	
Return (re-transport) of surplus material after installation.		X
Re-exportation of surplus material after installation	X	

Performance data

Machine	Equipment	R/O	Line output	Factor	Machine output	Unit	Customer objects
1. Single-end bottle washer LAVATEC E3.RCS.Y3111	01.01	R	20.000	1,04	20.800	cont/h	1) Water bottle 1,000 l 1) Body label 135,000 mm x 56,000 mm 2) Back label 88,000 mm x 56,000 mm 1) Carbonated soft drinks 20 °C 9,0 g/l 1) screw cap, aluminium (roll-on)
	02.01		25.000	1,04	26.000	cont/h	2) Water bottle 0,330 l 3) Special-shape shoulder label 43,000 mm x 20,000 mm 4) Back label 55,000 mm x 70,000 mm 1) Carbonated soft drinks 20 °C 9,0 g/l 1) screw cap, aluminium (roll-on)
	02.02		25.000	1,04	26.000	cont/h	2) Water bottle 0,330 l 5) Brustformetikett 0,33l new 6) Special format back label 76,000 mm x 28,700 mm 1) Carbonated soft drinks 20 °C 9,0 g/l 1) screw cap, aluminium (roll-on)
	03.01		25.000	1,04	26.000	cont/h	3) Water bottle 0,330 l 3) Special-shape shoulder label 43,000 mm x 20,000 mm 4) Back label 55,000 mm x 70,000 mm 1) Carbonated soft drinks 20 °C 9,0 g/l 1) screw cap, aluminium (roll-on)
	03.02		25.000	1,04	26.000	cont/h	3) Water bottle 0,330 l 5) Brustformetikett 0,33l new 6) Special format back label 76,000 mm x 28,700 mm 1) Carbonated soft drinks 20 °C 9,0 g/l 1) screw cap, aluminium (roll-on)
	04.01		25.000	1,04	26.000	cont/h	4) Water bottle 0,750 l 4) Back label 55,000 mm x 70,000 mm 7) Special-shape shoulder label 105,000 mm x 45,000 mm 1) Carbonated soft drinks 20 °C 9,0 g/l 1) screw cap, aluminium (roll-on)
	04.02		25.000	1,04	26.000	cont/h	4) Water bottle 0,750 l 6) Special format back label 76,000 mm x 28,700 mm

Performance data

Machine	Equipment	R/O	Line output	Factor	Machine output	Unit	Customer objects
							7) Special-shape shoulder label 105,000 mm x 45,000 mm 1) Carbonated soft drinks 20 °C 9,0 g/l 1) screw cap, aluminium (roll-on)
	05.01		25.000	1,04	26.000	cont/h	5) Water bottle 0,750 l 4) Back label 55,000 mm x 70,000 mm 7) Special-shape shoulder label 105,000 mm x 45,000 mm 1) Carbonated soft drinks 20 °C 9,0 g/l 1) screw cap, aluminium (roll-on)
	05.02		25.000	1,04	26.000	cont/h	5) Water bottle 0,750 l 6) Special format back label 76,000 mm x 28,700 mm 7) Special-shape shoulder label 105,000 mm x 45,000 mm 1) Carbonated soft drinks 20 °C 9,0 g/l 1) screw cap, aluminium (roll-on)
	07.01		25.000	1,04	26.000	cont/h	7) Water bottle 0,330 l 3) Special-shape shoulder label 43,000 mm x 20,000 mm 4) Back label 55,000 mm x 70,000 mm 1) Carbonated soft drinks 20 °C 9,0 g/l 2) crown
	07.02		25.000	1,04	26.000	cont/h	7) Water bottle 0,330 l 5) Brustformetikett 0,33l new 6) Special format back label 76,000 mm x 28,700 mm 1) Carbonated soft drinks 20 °C 9,0 g/l 2) crown
	08.02		25.000	1,04	26.000	cont/h	8) Water bottle 0,330 l 5) Brustformetikett 0,33l new 6) Special format back label 76,000 mm x 28,700 mm 1) Carbonated soft drinks 20 °C 9,0 g/l 2) crown
	08.03		25.000	1,04	26.000	cont/h	8) Water bottle 0,330 l 4) Back label 55,000 mm x 70,000 mm 3) Special-shape shoulder label 43,000 mm x 20,000 mm 1) Carbonated soft drinks 20 °C 9,0 g/l

Performance data

Machine	Equipment	R/O	Line output	Factor	Machine output	Unit	Customer objects
							2) crown
	09.01		25.000	1,04	26.000	cont/h	9) Water bottle 0,330 l 3) Special-shape shoulder label 43,000 mm x 20,000 mm 4) Back label 55,000 mm x 70,000 mm 1) Carbonated soft drinks 20 °C 9,0 g/l 2) crown
	09.02		25.000	1,04	26.000	cont/h	9) Water bottle 0,330 l 5) Brustformetikett 0,33l new 6) Special format back label 76,000 mm x 28,700 mm 1) Carbonated soft drinks 20 °C 9,0 g/l 2) crown
	10.01	U	25.000	1,04	26.000	cont/h	10) 0,33l Aquila Verde 3) Special-shape shoulder label 43,000 mm x 20,000 mm 4) Back label 55,000 mm x 70,000 mm 1) Carbonated soft drinks 20 °C 9,0 g/l 2) crown
	10.02	U	25.000	1,04	26.000	cont/h	10) 0,33l Aquila Verde 5) Brustformetikett 0,33l new 6) Special format back label 76,000 mm x 28,700 mm 1) Carbonated soft drinks 20 °C 9,0 g/l 2) crown
	11.01	U	25.000	1,04	26.000	cont/h	11) Schweppes bottle 0,250 l 8) Brustetikett 0,25l 9) Rückenetikett 0,25l 1) Carbonated soft drinks 20 °C 9,0 g/l 2) crown
3. Container conveyor SYNCO S	01.01	R	20.000	1,04	20.800	cont/h	1) Water bottle 1,000 l 1) Body label 135,000 mm x 56,000 mm 2) Back label 88,000 mm x 56,000 mm 1) Carbonated soft drinks 20 °C 9,0 g/l 1) screw cap, aluminium (roll-on)
	02.01		25.000	1,04	26.000	cont/h	2) Water bottle 0,330 l 3) Special-shape shoulder label 43,000 mm x 20,000 mm

Performance data

Machine	Equipment	R/O	Line output	Factor	Machine output	Unit	Customer objects
							4) Back label 55,000 mm x 70,000 mm 1) Carbonated soft drinks 20 °C 9,0 g/l 1) screw cap, aluminium (roll-on)
	02.02		25.000	1,04	26.000	cont/h	2) Water bottle 0,330 l 5) Brustformetikett 0,33l new 6) Special format back label 76,000 mm x 28,700 mm 1) Carbonated soft drinks 20 °C 9,0 g/l 1) screw cap, aluminium (roll-on)
	03.01		25.000	1,04	26.000	cont/h	3) Water bottle 0,330 l 3) Special-shape shoulder label 43,000 mm x 20,000 mm 4) Back label 55,000 mm x 70,000 mm 1) Carbonated soft drinks 20 °C 9,0 g/l 1) screw cap, aluminium (roll-on)
	03.02		25.000	1,04	26.000	cont/h	3) Water bottle 0,330 l 5) Brustformetikett 0,33l new 6) Special format back label 76,000 mm x 28,700 mm 1) Carbonated soft drinks 20 °C 9,0 g/l 1) screw cap, aluminium (roll-on)
	04.01		25.000	1,04	26.000	cont/h	4) Water bottle 0,750 l 4) Back label 55,000 mm x 70,000 mm 7) Special-shape shoulder label 105,000 mm x 45,000 mm 1) Carbonated soft drinks 20 °C 9,0 g/l 1) screw cap, aluminium (roll-on)
	04.02		25.000	1,04	26.000	cont/h	4) Water bottle 0,750 l 6) Special format back label 76,000 mm x 28,700 mm 7) Special-shape shoulder label 105,000 mm x 45,000 mm 1) Carbonated soft drinks 20 °C 9,0 g/l 1) screw cap, aluminium (roll-on)
	05.01		25.000	1,04	26.000	cont/h	5) Water bottle 0,750 l 4) Back label 55,000 mm x 70,000 mm 7) Special-shape shoulder label 105,000 mm x 45,000 mm 1) Carbonated soft drinks 20 °C 9,0 g/l

Performance data

Machine	Equipment	R/O	Line output	Factor	Machine output	Unit	Customer objects
							1) screw cap, aluminium (roll-on)
	05.02		25.000	1,04	26.000	cont/h	5) Water bottle 0,750 l 6) Special format back label 76,000 mm x 28,700 mm 7) Special-shape shoulder label 105,000 mm x 45,000 mm 1) Carbonated soft drinks 20 °C 9,0 g/l 1) screw cap, aluminium (roll-on)
	07.01		25.000	1,04	26.000	cont/h	7) Water bottle 0,330 l 3) Special-shape shoulder label 43,000 mm x 20,000 mm 4) Back label 55,000 mm x 70,000 mm 1) Carbonated soft drinks 20 °C 9,0 g/l 2) crown
	07.02		25.000	1,04	26.000	cont/h	7) Water bottle 0,330 l 5) Brustformetikett 0,33l new 6) Special format back label 76,000 mm x 28,700 mm 1) Carbonated soft drinks 20 °C 9,0 g/l 2) crown
	08.02		25.000	1,04	26.000	cont/h	8) Water bottle 0,330 l 5) Brustformetikett 0,33l new 6) Special format back label 76,000 mm x 28,700 mm 1) Carbonated soft drinks 20 °C 9,0 g/l 2) crown
	08.03		25.000	1,04	26.000	cont/h	8) Water bottle 0,330 l 4) Back label 55,000 mm x 70,000 mm 3) Special-shape shoulder label 43,000 mm x 20,000 mm 1) Carbonated soft drinks 20 °C 9,0 g/l 2) crown
	09.01		25.000	1,04	26.000	cont/h	9) Water bottle 0,330 l 3) Special-shape shoulder label 43,000 mm x 20,000 mm 4) Back label 55,000 mm x 70,000 mm 1) Carbonated soft drinks 20 °C 9,0 g/l 2) crown
	09.02		25.000	1,04	26.000	cont/h	9) Water bottle 0,330 l 5) Brustformetikett 0,33l new

Performance data

Machine	Equipment	R/O	Line output	Factor	Machine output	Unit	Customer objects
							6) Special format back label 76,000 mm x 28,700 mm 1) Carbonated soft drinks 20 °C 9,0 g/l 2) crown
	10.01	U	25.000	1,04	26.000	cont/h	10) 0,33l Aquila Verde 3) Special-shape shoulder label 43,000 mm x 20,000 mm 4) Back label 55,000 mm x 70,000 mm 1) Carbonated soft drinks 20 °C 9,0 g/l 2) crown
	10.02	U	25.000	1,04	26.000	cont/h	10) 0,33l Aquila Verde 5) Brustformetikett 0,33l new 6) Special format back label 76,000 mm x 28,700 mm 1) Carbonated soft drinks 20 °C 9,0 g/l 2) crown
	11.01	U	25.000	1,04	26.000	cont/h	11) Schweppes bottle 0,250 l 8) Brustetikett 0,25l 9) Rückenetikett 0,25l 1) Carbonated soft drinks 20 °C 9,0 g/l 2) crown

R/O = Reference and/or optional equipment, A/M = Line output and/or required output

Customer object list

Container	1 reference	2	3	4
Container type	Bottle	Bottle	Bottle	Bottle
Container description	Water bottle	Water bottle	Water bottle	Water bottle
Container drawing no.	XZ00255225	XZ00255250	XZ00255263	XZ00255364
Material number	0906848729	0906849152	0906850275	0906854268
Material	Glass	Glass	Glass	Glass
Use	Returnable	Non-returnable	Non-returnable	Non-returnable
Nominal volume	1,000 l	0,330 l	0,330 l	0,750 l
Outer diameter	85,40 mm	62,00 mm	62,40 mm	79,00 mm
Total container height (mm)	310,00 mm	235,20 mm	233,00 mm	290,00 mm
Empty weight	560,00 g	314,00 g	275,00 g	470,00 g
Body shape	parallel	conical	parallel	conical
Body cross section	circular	circular	circular	circular
Base shape	Normal shape	Normal shape	Normal shape	Normal shape
Container orientation	none	none	none	none
Applied ceramic label	no	no	no	no
Volume/weight unit	Liter (l)	Liter (l)	Liter (l)	Liter (l)
Neck finish drawing no.	0903660029	0902092005	809908G002	0902092005
Footprint diameter	60,00 mm	51,10 mm	51,61 mm	62,80 mm
Tilting angle filled	13 deg	15 deg	16 deg	14 deg
Tilting angle empty	12 deg	14 deg	15 deg	13 deg

Container	5	7	8	9
Container type	Bottle	Bottle	Bottle	Bottle
Container description	Water bottle	Water bottle	Water bottle	Water bottle
Container drawing no.	XZ00255372	XZ00255391	XZ00255357	XZ00255282
Material number	0906854514	0906854868	0906853798	0906850819
Material	Glass	Glass	Glass	Glass
Use	Non-returnable	Non-returnable	Non-returnable	Non-returnable
Nominal volume	0,750 l	0,330 l	0,330 l	0,330 l
Outer diameter	79,00 mm	62,00 mm	62,00 mm	60,80 mm
Total container height (mm)	290,00 mm	233,00 mm	233,00 mm	230,00 mm
Empty weight	470,00 g	310,00 g	327,00 g	230,00 g
Body shape	conical	conical	conical	conical
Body cross section	circular	circular	circular	circular
Base shape	Normal shape	Normal shape	Normal shape	Normal shape
Container orientation	none	none	none	none
Applied ceramic label	no	no	no	no
Volume/weight unit	Liter (l)	Liter (l)	Liter (l)	Liter (l)
Neck finish drawing no.	0902092005	0902036609	0902036609	0902092005

The information with a frame are supposed data.

Customer object list

Footprint diameter	62,80 mm	48,50 mm	50,00 mm	48,40 mm
Tilting angle filled	15 deg	14 deg	15 deg	14 deg
Tilting angle empty	14 deg	13 deg	14 deg	13 deg

Container	10 not clarified	11
Container type	Bottle	Bottle
Container description	0,33l Aquila Verde	Schweppes bottle
Container drawing no.	XXX	XZ00125725
Material number	0906820219	0903275806
Material	Glass	Glass
Use	Returnable	Returnable
Nominal volume	0,330 l	0,250 l
Outer diameter	57,00 mm	58,70 mm
Total container height (mm)	233,00 mm	198,90 mm
Empty weight	310,00 g	280,00 g
Body shape	parallel	parallel
Body cross section	circular	circular
Base shape	Normal shape	Normal shape
Container orientation	none	none
Applied ceramic label	no	no
Volume/weight unit	Liter (l)	Liter (l)
Neck finish drawing no.	XY	809908G002
Footprint diameter	57,00 mm	48,70 mm
Tilting angle filled	11 deg	16 deg
Tilting angle empty	11 deg	15 deg

Product	1 reference
Product group	Carbonated soft drinks
Filling technology	standard
Filling temperature (°C)	20 °C

Label	1 reference	2	3	4
Label type	Precut label, cold glue	Precut label, cold glue	Precut label, cold glue	Precut label, cold glue
Label designation	Body label	Back label	Special-shape shoulder label	Back label
Material	Paper	Paper	Paper	Paper
Material number	0906855478	0906855501	0906855395	G000168190
Label drawing no.	0906855478	0906855501	0906855395	G000168190

The information with a frame are supposed data.

Customer object list

Label	5	6	7	8
Label type	Precut label, cold glue	Precut label, cold glue	Precut label, cold glue	Precut label, cold glue
Label designation	Brustformetikett 0,33l new	Special format back label	Special-shape shoulder label	Brustetikett 0,25l
Material	Paper	Paper	Paper	Paper
Material number	G000100460	0906855139	0906855407	G017121120
Label drawing no.	G000100460	0906855139	0906855407	G017121120

Label	9 not clarified
Label type	Precut label, cold glue
Label designation	Rückenetikett 0,25l
Material	Paper
Material number	0906597749

Cap	1 reference	2
Cap designation	unknown	KK 26 H-Pry Off
Material number	0902302407	0900029491

The information with a frame are supposed data.

Container/Decoration overview

Label decoration	01.01 reference	02.01	02.02	03.01
included in production program (SKU)		Programm 02	Programm 02	Programm 03
Container	1	2	2	3
Container description	Water bottle	Water bottle	Water bottle	Water bottle
Material	Glass	Glass	Glass	Glass
Nominal volume	1,000 l	0,330 l	0,330 l	0,330 l
Outer diameter	85,40 mm	62,00 mm	62,00 mm	62,40 mm
Total container height (mm)	310,00 mm	235,20 mm	235,20 mm	233,00 mm
Product	1	1	1	1
Product group	Carbonated soft drinks	Carbonated soft drinks	Carbonated soft drinks	Carbonated soft drinks
Label	1	3	5	3
Label type	Precut label, cold glue	Precut label, cold glue	Precut label, cold glue	Precut label, cold glue
Label designation	Body label	Special-shape shoulder label	Brustformatkett 0,33l new	Special-shape shoulder label
Label drawing no.	0906855478	0906855395	G000100460	0906855395
Application height	1,0 mm	1,0 mm	1,0 mm	1,0 mm
Label	2	4	6	4
Label type	Precut label, cold glue	Precut label, cold glue	Precut label, cold glue	Precut label, cold glue
Label designation	Back label	Back label	Special format back label	Back label
Label drawing no.	0906855501	G000168190	0906855139	G000168190
Application height	1,0 mm	1,0 mm	1,0 mm	1,0 mm
Cap	1	1	1	1
Cap designation	unknown	unknown	unknown	unknown
Single-end bottle washer LAVA-TEC E3.RCS.Y3111				
Infeed temperature	12,0 °C	12,0 °C	12,0 °C	12,0 °C
Labelling	in full condition	in full condition	in full condition	in full condition
Container conveyor SYNCO S				
Infeed temperature	12,0 °C	12,0 °C	12,0 °C	12,0 °C
Labelling	in full condition	in full condition	in full condition	in full condition

Label decoration	03.02	04.01	04.02	05.01
included in production program (SKU)	Programm 03	Programm 04	Programm 04	Programm 05
Container	3	4	4	5
Container description	Water bottle	Water bottle	Water bottle	Water bottle
Material	Glass	Glass	Glass	Glass
Nominal volume	0,330 l	0,750 l	0,750 l	0,750 l

Container/Decoration overview

Outer diameter	62,40 mm	79,00 mm	79,00 mm	79,00 mm
Total container height (mm)	233,00 mm	290,00 mm	290,00 mm	290,00 mm
Product	1	1	1	1
Product group	Carbonated soft drinks	Carbonated soft drinks	Carbonated soft drinks	Carbonated soft drinks
Label	5	4	6	4
Label type	Precut label, cold glue	Precut label, cold glue	Precut label, cold glue	Precut label, cold glue
Label designation	Brustformetikett 0,33l new	Back label	Special format back label	Back label
Label drawing no.	G000100460	G000168190	0906855139	G000168190
Application height	1,0 mm	1,0 mm	1,0 mm	1,0 mm
Label	6	7	7	7
Label type	Precut label, cold glue	Precut label, cold glue	Precut label, cold glue	Precut label, cold glue
Label designation	Special format back label	Special-shape shoulder label	Special-shape shoulder label	Special-shape shoulder label
Label drawing no.	0906855139	0906855407	0906855407	0906855407
Application height	1,0 mm	1,0 mm	1,0 mm	1,0 mm
Cap	1	1	1	1
Cap designation	unknown	unknown	unknown	unknown
Single-end bottle washer LAVA-TEC E3.RCS.Y3111				
Infeed temperature	12,0 °C	12,0 °C	12,0 °C	12,0 °C
Labelling	in full condition	in full condition	in full condition	in full condition
Container conveyor SYNCO S				
Infeed temperature	12,0 °C	12,0 °C	12,0 °C	12,0 °C
Labelling	in full condition	in full condition	in full condition	in full condition

Label decoration	05.02	07.01	07.02	08.02
included in production program (SKU)	Programm 05	Programm 06	Programm 06	Programm 07
Container	5	7	7	8
Container description	Water bottle	Water bottle	Water bottle	Water bottle
Material	Glass	Glass	Glass	Glass
Nominal volume	0,750 l	0,330 l	0,330 l	0,330 l
Outer diameter	79,00 mm	62,00 mm	62,00 mm	62,00 mm
Total container height (mm)	290,00 mm	233,00 mm	233,00 mm	233,00 mm
Product	1	1	1	1
Product group	Carbonated soft drinks	Carbonated soft drinks	Carbonated soft drinks	Carbonated soft drinks
Label	6	3	5	5
Label type	Precut label, cold glue	Precut label, cold glue	Precut label, cold glue	Precut label, cold glue
Label designation	Special format back label	Special-shape shoulder label	Brustformetikett 0,33l new	Brustformetikett 0,33l new

Container/Decoration overview

Label drawing no.	0906855139	0906855395	G000100460	G000100460
Application height	1,0 mm	1,0 mm	1,0 mm	1,0 mm
Label	7	4	6	6
Label type	Precut label, cold glue	Precut label, cold glue	Precut label, cold glue	Precut label, cold glue
Label designation	Special-shape shoulder label	Back label	Special format back label	Special format back label
Label drawing no.	0906855407	G000168190	0906855139	0906855139
Application height	1,0 mm	1,0 mm	1,0 mm	1,0 mm
Cap	1	2	2	2
Cap designation	unknown	KK 26 H-Pry Off	KK 26 H-Pry Off	KK 26 H-Pry Off
Single-end bottle washer LAVA-TEC E3.RCS.Y3111				
Infeed temperature	12,0 °C	12,0 °C	12,0 °C	12,0 °C
Labelling	in full condition	in full condition	in full condition	in full condition
Container conveyor SYNCO S				
Infeed temperature	12,0 °C	12,0 °C	12,0 °C	12,0 °C
Labelling	in full condition	in full condition	in full condition	in full condition

Label decoration	08.03	09.01	09.02	10.01 not clarified
included in production program (SKU)	Programm 07	Programm 08	Programm 08	Programm 09
Container	8	9	9	10
Container description	Water bottle	Water bottle	Water bottle	0,33l Aquila Verde
Material	Glass	Glass	Glass	Glass
Nominal volume	0,330 l	0,330 l	0,330 l	0,330 l
Outer diameter	62,00 mm	60,80 mm	60,80 mm	57,00 mm
Total container height (mm)	233,00 mm	230,00 mm	230,00 mm	233,00 mm
Product	1	1	1	1
Product group	Carbonated soft drinks	Carbonated soft drinks	Carbonated soft drinks	Carbonated soft drinks
Label	4	3	5	3
Label type	Precut label, cold glue	Precut label, cold glue	Precut label, cold glue	Precut label, cold glue
Label designation	Back label	Special-shape shoulder label	Brustformatikett 0,33l new	Special-shape shoulder label
Label drawing no.	G000168190	0906855395	G000100460	0906855395
Application height	1,0 mm	1,0 mm	1,0 mm	1,0 mm
Label	3	4	6	4
Label type	Precut label, cold glue	Precut label, cold glue	Precut label, cold glue	Precut label, cold glue
Label designation	Special-shape shoulder label	Back label	Special format back label	Back label
Label drawing no.	0906855395	G000168190	0906855139	G000168190
Application height	1,0 mm	1,0 mm	1,0 mm	1,0 mm

Container/Decoration overview

Cap	2	2	2	2
Cap designation	KK 26 H-Pry Off	KK 26 H-Pry Off	KK 26 H-Pry Off	KK 26 H-Pry Off
Single-end bottle washer LAVA-TEC E3.RCS.Y3111				
Infeed temperature	12,0 °C	12,0 °C	12,0 °C	12,0 °C
Labelling	in full condition	in full condition	in full condition	in full condition
Container conveyor SYNCO S				
Infeed temperature	12,0 °C	12,0 °C	12,0 °C	12,0 °C
Labelling	in full condition	in full condition	in full condition	in full condition

Label decoration	10.02 not clarified	11.01 not clarified
included in production program (SKU)	Programm 09	Programm 10
Container	10	11
Container description	0,33l Aquila Verde	Schweppes bottle
Material	Glass	Glass
Nominal volume	0,330 l	0,250 l
Outer diameter	57,00 mm	58,70 mm
Total container height (mm)	233,00 mm	198,90 mm
Product	1	1
Product group	Carbonated soft drinks	Carbonated soft drinks
Label	5	8
Label type	Precut label, cold glue	Precut label, cold glue
Label designation	Brustformetikett 0,33l new	Brustetikett 0,25l
Label drawing no.	G000100460	G017121120
Application height	1,0 mm	1,0 mm
Label	6	9
Label type	Precut label, cold glue	Precut label, cold glue
Label designation	Special format back label	Rückenetikett 0,25l
Label drawing no.	0906855139	
Application height	1,0 mm	1,0 mm
Cap	2	2
Cap designation	KK 26 H-Pry Off	KK 26 H-Pry Off
Single-end bottle washer LAVA-TEC E3.RCS.Y3111		
Infeed temperature	12,0 °C	12,0 °C
Labelling	in full condition	in full condition
Container conveyor SYNCO S		
Infeed temperature	12,0 °C	12,0 °C
Labelling	in full condition	in full condition

Further production programmes (SKU)

Production programme (SKU)	Programm 02
to be considered for	Commissioning
Container	2
Container type	Bottle
Container description	Water bottle
Material	Glass
Nominal volume	0,330 l
Product	1
Product group	Carbonated soft drinks
Filling temperature (°C)	20 °C
Label	3
Label type	Precut label, cold glue
Label designation	Special-shape shoulder label
Label	4
Label type	Precut label, cold glue
Label designation	Back label
Label	5
Label type	Precut label, cold glue
Label designation	Brustformetikett 0,33l new
Label	6
Label type	Precut label, cold glue
Label designation	Special format back label
Machines	
Single-end bottle washer LAVATEC E3.RCS.Y3111	26.000 (104%) Containers/h
Single-end bottle washer LAVATEC E3.RCS.Y3111	26.000 (104%) Containers/h

Further production programmes (SKU)

Production programme (SKU)	Programm 03
to be considered for	Commissioning
Container	3
Container type	Bottle
Container description	Water bottle
Material	Glass
Nominal volume	0,330 l
Product	1
Product group	Carbonated soft drinks
Filling temperature (°C)	20 °C
Label	3
Label type	Precut label, cold glue
Label designation	Special-shape shoulder label
Label	4
Label type	Precut label, cold glue
Label designation	Back label
Label	5
Label type	Precut label, cold glue
Label designation	Brustformetikett 0,33l new
Label	6
Label type	Precut label, cold glue
Label designation	Special format back label
Machines	
Single-end bottle washer LAVATEC E3.RCS.Y3111	26.000 (104%) Containers/h
Single-end bottle washer LAVATEC E3.RCS.Y3111	26.000 (104%) Containers/h

Further production programmes (SKU)

Production programme (SKU)	Programm 04
to be considered for	Commissioning
Container	4
Container type	Bottle
Container description	Water bottle
Material	Glass
Nominal volume	0,750 l
Product	1
Product group	Carbonated soft drinks
Filling temperature (°C)	20 °C
Label	4
Label type	Precut label, cold glue
Label designation	Back label
Label	6
Label type	Precut label, cold glue
Label designation	Special format back label
Label	7
Label type	Precut label, cold glue
Label designation	Special-shape shoulder label
Machines	
Single-end bottle washer LAVATEC E3.RCS.Y3111	26.000 (104%) Containers/h
Single-end bottle washer LAVATEC E3.RCS.Y3111	26.000 (104%) Containers/h

Further production programmes (SKU)

Production programme (SKU)	Programm 05
to be considered for	Commissioning
Container	5
Container type	Bottle
Container description	Water bottle
Material	Glass
Nominal volume	0,750 l
Product	1
Product group	Carbonated soft drinks
Filling temperature (°C)	20 °C
Label	4
Label type	Precut label, cold glue
Label designation	Back label
Label	6
Label type	Precut label, cold glue
Label designation	Special format back label
Label	7
Label type	Precut label, cold glue
Label designation	Special-shape shoulder label
Machines	
Single-end bottle washer LAVATEC E3.RCS.Y3111	26.000 (104%) Containers/h
Single-end bottle washer LAVATEC E3.RCS.Y3111	26.000 (104%) Containers/h

Further production programmes (SKU)

Production programme (SKU)	Programm 06
to be considered for	Commissioning
Container	7
Container type	Bottle
Container description	Water bottle
Material	Glass
Nominal volume	0,330 l
Product	1
Product group	Carbonated soft drinks
Filling temperature (°C)	20 °C
Label	3
Label type	Precut label, cold glue
Label designation	Special-shape shoulder label
Label	4
Label type	Precut label, cold glue
Label designation	Back label
Label	5
Label type	Precut label, cold glue
Label designation	Brustformetikett 0,33l new
Label	6
Label type	Precut label, cold glue
Label designation	Special format back label
Machines	
Single-end bottle washer LAVATEC E3.RCS.Y3111	26.000 (104%) Containers/h
Single-end bottle washer LAVATEC E3.RCS.Y3111	26.000 (104%) Containers/h

Further production programmes (SKU)

Production programme (SKU)	Programm 07
to be considered for	Commissioning
Container	8
Container type	Bottle
Container description	Water bottle
Material	Glass
Nominal volume	0,330 l
Product	1
Product group	Carbonated soft drinks
Filling temperature (°C)	20 °C
Label	3
Label type	Precut label, cold glue
Label designation	Special-shape shoulder label
Label	4
Label type	Precut label, cold glue
Label designation	Back label
Label	5
Label type	Precut label, cold glue
Label designation	Brustformetikett 0,33l new
Label	6
Label type	Precut label, cold glue
Label designation	Special format back label
Machines	
Single-end bottle washer LAVATEC E3.RCS.Y3111	26.000 (104%) Containers/h
Single-end bottle washer LAVATEC E3.RCS.Y3111	26.000 (104%) Containers/h

Further production programmes (SKU)

Production programme (SKU)	Programm 08
to be considered for	Commissioning
Container	9
Container type	Bottle
Container description	Water bottle
Material	Glass
Nominal volume	0,330 l
Product	1
Product group	Carbonated soft drinks
Filling temperature (°C)	20 °C
Label	3
Label type	Precut label, cold glue
Label designation	Special-shape shoulder label
Label	4
Label type	Precut label, cold glue
Label designation	Back label
Label	5
Label type	Precut label, cold glue
Label designation	Brustformetikett 0,33l new
Label	6
Label type	Precut label, cold glue
Label designation	Special format back label
Machines	
Single-end bottle washer LAVATEC E3.RCS.Y3111	26.000 (104%) Containers/h
Single-end bottle washer LAVATEC E3.RCS.Y3111	26.000 (104%) Containers/h

Further production programmes (SKU)

Production programme (SKU)	Programm 09
to be considered for	Commissioning
Container	10
Container type	Bottle
Container description	0,33l Aquila Verde
Material	Glass
Nominal volume	0,330 l
Product	1
Product group	Carbonated soft drinks
Filling temperature (°C)	20 °C
Label	3
Label type	Precut label, cold glue
Label designation	Special-shape shoulder label
Label	4
Label type	Precut label, cold glue
Label designation	Back label
Label	5
Label type	Precut label, cold glue
Label designation	Brustformetikett 0,33l new
Label	6
Label type	Precut label, cold glue
Label designation	Special format back label
Machines	
Single-end bottle washer LAVATEC E3.RCS.Y3111	26.000 (104%) Containers/h
Single-end bottle washer LAVATEC E3.RCS.Y3111	26.000 (104%) Containers/h

Further production programmes (SKU)

Production programme (SKU)	Programm 10
to be considered for	Commissioning
Container	11
Container type	Bottle
Container description	Schweppes bottle
Material	Glass
Nominal volume	0,250 l
Product	1
Product group	Carbonated soft drinks
Filling temperature (°C)	20 °C
Label	8
Label type	Precut label, cold glue
Label designation	Brustetikett 0,25l
Label	9
Label type	Precut label, cold glue
Label designation	Rückenetikett 0,25l
Machines	
Single-end bottle washer LAVATEC E3.RCS.Y3111	26.000 (104%) Containers/h

Media list

Waste water	Value	min.	max.
Waste water			
Recovery water			

Chemicals	Value	min.	max.
Caustic - solutions (< 10 %)			
Temperature in °C		20 °C	40 °C
Pressure [bar]		2,0 bar	7,0 bar
Concentration %			10,00 %
Chloride [mg/l]			50,0 mg/l
Caustic - concentrates (> 10 %)			
Temperature in °C		20 °C	40 °C
Pressure [bar]		2,0 bar	7,0 bar
Concentration %	50,00 %	10,00 %	50,00 %
Chloride [mg/l]			50,0 mg/l
Hydrogen peroxide			
Pressure [bar]		2,0 bar	7,0 bar
Concentration %	35,00 %	35,00 %	37,00 %
Descaler without pH value reduction			
Additives			
Defoamer			
Disinfection - chlorine			
Concentration %	5,00 %		
Caustic soda concentrated			
Concentration %		20,00 %	50,00 %

Heating media	Value	min.	max.
Steam (saturated steam with additions)			
Temperature pre-run °C		144 °C	176 °C
Pressure [bar]	6,0 bar	4,0 bar	8,0 bar
Condensate			
Pressure [bar]	0,0 bar	0,0 bar	1,0 bar

Air	Value	min.	max.
Compressed-air class 6.4.1			
Temperature in °C		5 °C	50 °C
Pressure [bar]	6,0 bar	6,0 bar	10,0 bar
Exhaust air			
Temperature in °C		5 °C	50 °C
Pressure [bar]		0,0 bar	1,0 bar
Exhaust air MAK relevant			
Temperature in °C		5 °C	50 °C
Pressure [bar]		0,0 bar	1,0 bar

Media list

Water	Value	min.	max.
Soft water			
Temperature in °C	15 °C	5 °C	25 °C
Pressure [bar]	3,0 bar	3,0 bar	5,0 bar
Chloride [mg/l]			50,0 mg/l
Process water			
Temperature in °C	15 °C	5 °C	50 °C
Pressure [bar]	3,0 bar	3,0 bar	4,5 bar
Chloride [mg/l]			20,0 mg/l
Low-grade product water			
Temperature in °C	15 °C	5 °C	30 °C
Pressure [bar]	3,0 bar	3,0 bar	5,0 bar
Chloride [mg/l]			50,0 mg/l

The information with a frame are supposed data.

Electrical line components

Electrical line components

- The electrical equipment of KRONES machines and line parts is designed, manufactured and finally inspected according to IEC 60204-1. The inspection results are documented and supplied with the electrical equipment. All machines and line parts which are constructed for the EU market, as defined in the EC machine directives obtain the EU Declaration of Conformity with the respective CE marking. Therewith, KRONES confirms the observing of the respective EU directives and the hereunder harmonised EN standards.

Due to standards or directives which are in accordance with the country's requirements the design and/or equipment can differ from the design/equipment valid for the EU market. KRONES does not issue the Declaration of Conformity for deliveries outside the EU, even though, eventually, the necessary requirements may be fulfilled. All machines and line parts for that market are not furnished with the CE marking.

Operation of the electrical equipment:

KRONES indicates and supposes that the supplied electrical equipment is generally only designed for connection to a clockwise rotating field and has to be operated within the limits of the maximum allowed net parameters of IEC 60204-1, item 4.3. For machines supplied in the EC member states the requirements of EN 50160 must also be obtained with a supply voltage of 400/230 V. World-wide, in addition to IEC 60204-1 the requirements of IEC 61000-2-4 (environment class 2) must be respected for trouble-free operation of the electrical equipment.

Material :

For the KRONES standard equipment variant well-proved and high-quality branded products with the necessary approvals and characteristics are applied for the electrical equipment.

- Note on safety technology:

Safety parts of controls are designed especially according to the standard specifications EN ISO 13849 and EN 62061. For risk assessment, the contents of standard EN ISO 12100 are applied.

The technology of KRONES machines and lines is designed up to the maximum performance level "d" (according to EN ISO 13849) and up to SIL 2 (according to EN 62061).

The individual performance level and/or SIL for the respective safety function at the machine is determined individually by a risk assessment and accordingly planned.

Reservation

- All specifications for electronic components and equipment are valid for the entire quotation and/or the offer. Deviations for technical reasons are possible. All deviations from the specifications are explicitly stated for each quoted item and are regarded as mandatory in their changed version. Items described "according to KRONES design" are electronic components or equipment which cannot be determined until the execution of the contract. In those cases, KRONES reserves the right to change the make / manufacturer or equipment types of the used electrical components without extraordinary information for the customer.

Electrical connection data

- | | |
|---|--|
| ■ Network in customer's network | TN-S network |
| ■ Rated operating voltage in customer's network | 400 V |
| ■ Supply voltage frequency | 50 Hz |
| ■ Voltage fluctuations in customer's network | +/-10% |
| ■ Neutral conductor in the connected customer's network | A neutral conductor is provided and may be loaded for asymmetrical loads. |
| ■ The adaptation of the electrical power supply | is not effected. The electrical components will be sized for each available non-standard main voltage, if possible. If, for technical reasons, electrical components with different voltage specifications are used, corresponding transformers are necessary in the machine electric. A network type allowed for the operation of Krones line |

Electrical line components

<ul style="list-style-type: none"> ■ Connection of KRONES machines and line system parts 	<p>components (TT network, TN-C network, TN-S network) must be provided.</p> <p>Power is supplied to KRONES machines and system parts via the TN-S network with 5-conductors system (3 phases, neutral conductor and protective earth conductor, TN-S network). The incoming-feeder bays are also structured as 5-conductors system. Please make sure that the connection piece between neutral conductor connection and PE connection has been removed in the incoming-feeder bay. The required operating voltages for electric components whose operating voltage is not provided by the customer's power supply system are generated by additional transformers in the machines and line system parts.</p>
<ul style="list-style-type: none"> ■ Rated operating voltage for line components of KRONES scope of supply. ■ Voltage fluctuations at the supply units of the line components and/or power subdistribution included in KRONES scope of supply. ■ Neutral conductor at the connection of KRONES machines and line components ■ Single-phase rated operating voltage for all line components of the KRONES scope of supply ■ Supply of uninterruptible power supply (UPS) 	<p>400 V</p> <p>+/-10%</p> <p>A neutral conductor is provided and may be loaded for asymmetrical loads.</p> <p>230 V</p> <p>no additional UPS. Production counter and settings are kept during a power failure. From the time of failure, the sensor components and counter are no longer active. When the power is recovered, operating system and control systems are restarted.</p>
<p>Contactors and disconnectors</p> <ul style="list-style-type: none"> ■ Main and auxiliary contactor ■ Motor safety device ■ Time relay ■ Relay <ul style="list-style-type: none"> ■ Overvoltage protection after machine power supply <ul style="list-style-type: none"> ■ Main switch ■ Main switch design <ul style="list-style-type: none"> ■ Main switch cut-off ■ Hardware safety switching devices ■ Manufacturer of mechanical position switch ■ Safety switch design ■ Safety switch without interlocking 	<p>make: Siemens</p> <p>make: Siemens</p> <p>Make: Siemens</p> <p>Print and/or miniature relay according to industrial standard</p> <p>The basic, medium and fine protection components of the overvoltage protection system are not included in the KRONES scope of supply. The customer provides all necessary measures for an overvoltage protection system are taken.</p> <p>make: Siemens</p> <p>load-breaker up to 63 A. In case of 80 A and more power circuit breakers with circumvention-proof door-lock.</p> <p>3 pins</p> <p>make: Pilz</p> <p>make: Schmersal</p> <p>without interlocking</p> <p>make: Schmersal</p>

Electrical line components

- Safety switch with interlocking
- Additional operator protection
- Circuit breaker DC
- Circuit breaker AC
- Manufacturer of fuse holders

make: Schmersal
Without additional personal protection
make: Heinemann
Make: Siemens
Make: Wöhner

Sensors

- Light sensors
- Proximity detector

KRONES applies standard and high-quality sensors which are adapted optimally to the respective use. Determined by function and requirements, make Pepperl & Fuchs, IFM and Turck are used.

Power supply

- Power supply unit, controlled
- Control voltage, D.C.

Make: Siemens
24 V

Display and operation

- Operating and signalling devices with a diameter of 22.5 mm
- Operating system design
- Manufacturer of operating system touch-screen
- Minimum size and/or type of the touch-screen used for machine operation.
- Design of touch-screen operation

Make: Eaton/Moeller, RMO Titan

The components used are explicitly indicated in the machines.

make: B&R, visualisation software ZenOn: KRONES is in the process of converting the visualisation from Zenon to VisiWin. The visualisation is defined during the offer processing at KRONES. The configuration is determined by KRONES for each machine.

The screen sizes used are explicitly indicated in the machines.

Task-oriented visualisation with optimised operator guidance as well as solution-oriented message and diagnostics system according to style guide of the KRONES AG. Operating system: Windows 10 IoT 2016 LTSB

Make: Werma

- Manufacturer of signal beam

- Following functions are defined for the standard KRONES signal beams:

Visual signal red : Continuous light for malfunction, flash lamp for emergency stop or protective device open, actuated.

Visual signal orange: Continuous light to take action, blinking light for raw, processing and operating materials approaching the end, operator intervention necessary.

Visual signal green: Continuous light for production mode, flash lamp for production process interrupted (waiting status)

Visual signal yellow: Flash lamp for attention restart of process unit.

Visual signal white: Muting signals the actual safe overriding of a contact-free safety device This lamp is usually integrated in the safety device.

Visual signal light blue: Set-up tasks for type change-over during production (LineXpress)

Acoustic signal message: Automatic restart, general malfunction

Further specific functions are indicated in the respective operating manual of the process unit.

Electrical line components

The structure of the signal beam depends on the type and function of the process unit and is indicated explicitly in the unit.

Transformers

- Thermistor protection

Make: Siemens

Cables and connections

- Design of socket for programming units
- Terminals
- Design of the electrical lines, for the internal machine installation

according to CEE 7/5 (designed for France)

make: Phönix

sheathed cable according to requirements IEC 60204-1, resistant to ambient conditions at the area of installation, testing voltage 2 kV/5 min., rated voltage U0/U 300/500V.

- Design of electrical connection cables which are guided outside the machine by trays.

sheathed cable according to requirements IEC 60204-1, resistant to ambient conditions at the area of installation, testing voltage 2 kV/5 min., rated voltage U0/U 300/500V.

- Design of electrical lines

Power cable according to HD 603.1 and IEC 60502, testing voltage 4 kV, rated voltage U0/U 0,6/1 kV, conductor material copper

- Electric lines

according to KRONES design. The manufacturer is determined by KRONES depending on the application.

- Line screw connections
- Line identification plates
- Cable protection design

make: Lapp

make: Murrplastik

Protective hoses are installed at machines infeed and discharge, adjacent to aggregates and turning machine parts. This, however, is not the case with aseptic design parts of the line or with using lattice trays according to KRONES, based on country-specific standards

- Wire colours

- Main circuit AC outer conductor L1
- Main circuit AC outer conductor L2
- Main circuit AC outer conductor L3
- Excluded electric circuit AC ahead of main switch, outer conductor
- Main circuit AC neutral conductor N
- Protective earth conductor, equipotential bonding conductor PE
- Main circuit AC outer conductor according to Transformer La
- Main circuit AC return conductor according to Transformer Lb earthed
- Excluded electric circuit AC ahead of main switch, outer conductor after transformer La
- Excluded electric circuit AC ahead of main switch, outer conductor after transformer Lb earthed
- Control circuit DC outer conductor, positive + 24 V
- Control circuit DC, return conductor neutral 0V

black

black

black

orange

light blue

green/yellow

brown

brown/white

orange

orange/white

dark blue

dark blue/white

Electrical line components

■ Control circuit AC/DC external voltage	orange
■ Control circuit AC/DC external voltage return conductor earthed	orange/white
■ Control circuit AC/DC measuring lines	white
■ Minimum core cross section with three-phase current	1,50 mm ²
■ Minimum core cross section with alternating current	1,00 mm ²
■ Minimum wire cross section in control circuits inside housings	Wiring with single wires 1.0 mm ² . With ready-made or sheathed cables may the cross section differ.
■ Minimum wire cross section in control circuits outside of housings	0,5 mm ² , for power supply lines, and frequently moved lines 1.0 mm ² . With ready-made or permanently attached lines the cross section may differ and cannot be changed.
■ The identification of individual cores is ensured	by using the existing identification of the terminals or devices in compliance with the connection diagram. Additionally, KRONES uses cables marked with colour-code or imprinted numbers which can be clearly identified by the corresponding terminal diagram. The cores are not continuously marked.

Drive technology in general

■ Machine drive motors	make: SEW
■ Synchronous motors for machine drive	make: CEDS DURADRIIVE
■ Servo motors for machine drive	make: SEW
■ Gear motors for machine drive	according to KRONES design. The manufacturers are determined by KRONES in dependence upon the application.
■ Conveyor drives	The frequency converters are installed in central design. All frequency converters are in the control cabinet.
■ Drive motors for container conveyor	make: SEW
■ Synchronous motors for conveyor drives	make: CEDS DURADRIIVE
■ Other drive units	according to KRONES design. The manufacturer is determined by KRONES depending on the application.
■ Protection type of drive motors	IP 55
■ Protection type of the pump motors	IP 55
■ Motor start conditions	Soft-start equipment for three-phase asynchronous motors from 5.5. kW upwards
■ Insulation class of drive motors	F
■ Protection against restart of the drives during maintenance is ensured	by switching off and locking the main switch or the maintenance switch on site.
■ Frequency inverter for conveyors in own conveyor serial (com.) numbers (SynCo, PalCo, MultiCo and AirCo)	Make: Danfoss
■ Control	of frequency inverters in bus technology (Profinet) for serial (com.) number of conveyors (SynCo, PalCo, MultiCo)
■ Frequency inverter	make: Danfoss
■ Frequency inverter - manual input board	Each make of frequency inverter gets one manual input board per machine, block or conveyor commission.
■ Frequency inverter for synchronous motors	make: Danfoss

Electrical line components

■ Manufacturer of decentralized frequency inverter motor - machine	make: Danfoss
■ Frequency inverter for servo motor	Due to constructional limits the manufacturer of the frequency inverter for servo motors is determined by KRONES and is described with the respective machines. according to KRONES design. The manufacturer is determined by KRONES depending on the application.
■ Soft start equipment	
Automation technology	
■ Automation system	designed according to KRONES.
■ Manufacturer of programmable logic control unit (PLC)	Make: Siemens
■ Series of programmable logic control unit (PLC)	Siemens S7-1500
■ Programming software of programmable logic control unit (PLC)	Version 17
■ Power supply of programmable logic control (PLC)	provided by KRONES
■ Reserved space at the input and output ports	10 %
■ Machine internal switches for Ethernet network of PLC with touch-screen (HMI) and subsystems (Data-line)	not programmable (unmanaged), make: KRONES
■ Field bus design	Profinet
■ Switches field bus level	for Profinet, make: Siemens, series: Scalance 200
■ Sensor/actuator design	depending on the function, according to the degree of automation
Housing and cooling	
■ Location of the electrical components	is set by KRONES due to constructional reasons
■ Acceptance	according to IEC/EN (EC conformity)
■ Housing protection type	IP 55 (By new or additional installation of components in the housing wall, the protection type may be modified.)
■ Material of the integrated control cabinet	Sheet steel (only for machines in the dry section)
■ The cable infeeds of the integrated control cabinet	are performed according to KRONES.
■ Design	of the stand-alone control cabinets according to KRONES
■ Stand-alone control cabinets	make: Bader
■ Material of stand-alone control cabinet(s)	sheet steel
■ Width of stand-alone control cabinets	800 mm
■ Height of stand-alone control cabinets	1.800 mm
■ Depth of stand-alone control cabinets	400 mm
■ Stand-alone control cabinets	Make: Bader, type RXG 8/18/4, sheet steel
■ Stand-alone control cabinets	with base
■ Material of bases of stand-alone control cabinets	sheet steel
■ Base height of stand-alone control cabinets	200 mm
■ Base of stand-alone control cabinets	Complete housing with mounted base
■ Side part of stand-alone control cabinets	make: Bader, type 18/4 sheet steel
■ Cable inlet into the stand-alone control cabinets	in the control cabinet base from the side
■ Max. transportation unit of the control cabinets	3.200 mm
■ Food pad levelling supports of stand-alone control cabinets	for installation against the wall

Electrical line components

■ Reserve space for electrical components in stand-alone control cabinets or in the mounting plate	10 %
■ Manufacturer of lighting for integrated control panel and the stand-alone control cabinets	according to KRONES. Lamps with energy-saving LED technology are applied. The orientation of the light beam is limited possible by turning the support.
■ The stand-alone control cabinets	are delivered with doors.
■ Door latch of integrated control panel and free-standing control cabinets	with double bit key
■ The doors of the mounted control cabinet and the stand-alone control cabinets	are without interlock.
■ Control cabinet door	for an aperture angle of 130 degrees
■ Turning on the lighting of the integrated control panel and the stand-alone control cabinets	By opening the door the lamp is turned on automatically.
■ Control cabinet ventilation	according to KRONES design. The manufacturer is determined by KRONES depending on the application.
■ Control cabinet ventilation	continuous operation, without thermostat
■ Fans of separate control cabinets	installation at bottom, escape of air on top (overpressure)
■ Cooling unit design	according to KRONES. Manufacturer, type and installation are determined by KRONES depending on the application.
■ Control panel material	according to KRONES design
■ Material of the sub-control panel	steel plate
■ Material of the housing of the indicating and control devices	plastic
■ Material of terminal boxes / receptacles	according to KRONES

Equipment

■ Marking of electrical components outside the housings is made according to the international standard specifications	with yellow film sticker
■ Marking of electrical components in the housing	with yellow film stickers at the object
■ Analog signal exchange between the machines of this line	4 - 20 mA DC

Deviating for machines is applied:

1. Single-end bottle washer LAVATEC E3.RCS.Y3111

Electrical connection data

■ Identifier of process unit for connection diagram	=RB7
■ Full-load current Ib max.	84 A
■ Rated connected apparent power	58,1 kVA
■ Rated connected active power	52,30 kW
■ Power factor cosinus phi	0,90

Electrical documentation

■ Electrical connection diagram sturcture	according to IEC with CAD system RACOS-EL
■ Provision of circuit diagram	in eCat

Electrical line components

Contactors and disconnectors

- Design of safety technology

with hardware switching devices The logics of the safety technology is only implemented in the connection of hardware devices.

make: Zander Aachen

- Safety switch without interlocking

Display and operation

- Design of operating system

Control of the machine / the conveyors is effected via a touch-screen. For safety functions as well as main activation functions additional indicating and control devices are used.

- Type and/or size of the touch-screen used

15" Clean Design - colour display in stainless steel housing with ZenOn visualisation software

- Structure of signal beacon post

Bottom-up: illuminating indicator green, orange, red, acoustic signal

Automation technology

- Automation technology
- CPU - type of programmable logic control (PLC)
- Field bus design

Programmable Logic Control (PLC)

CPU 1517-3 PN/DP

Profibus-DP/Profinet

Housing and cooling

- Installation place of electrical components
- Material of the integrated control cabinet
- Number of stand-alone control cabinets
- Cooling for separate control cabinet
- Cooling of control panel, control cabinet and control desk
- Design of cooling unit of mounted control cabinet
- Cooling unit for mounted control cabinet
- Material of the cooling unit of the mounted control cabinet
- Control panel design
- Control panel material

in stand-alone control cabinets

rust-proof stainless steel/chrome nickel steel (similar to AISI 304)

4

with fan

with cooling unit

according to KRONES. The installation is determined by KRONES depending on the application.

make: KRONES

rust-proof stainless steel/chrome nickel steel (similar to AISI 304)

pivotable

rust-proof stainless steel/chrome nickel steel (similar to AISI 304)

2. Dosing unit

Electrical connection data

- Identifier of process unit for connection diagram

=RCD7

Electrical documentation

- Electrical connection diagram structure
- Provision of circuit diagram

according to IEC with CAD system RACOS-EL in eCat

Electrical line components

3. Container conveyor SYNCO S

Electrical connection data

- | | |
|---|---------|
| ■ Identifier of process unit for connection diagram | =TBB7 |
| ■ Rated connected apparent power | 2,0 kVA |
| ■ Rated connected active power | 2,07 kW |

Electrical documentation

- | | |
|---|---|
| ■ Electrical connection diagram sturcture | according to IEC with CAD system RACOS-EL |
| ■ Provision of circuit diagram | in eCat |

Contactors and disconnectors

- | | |
|-------------------------------|--|
| ■ Design of safety technology | with hardware switching devices The logics of the safety technology is only implemented in the connection of hardware devices. |
|-------------------------------|--|

Automation technology

- | | |
|--------------------------|--------------|
| ■ Sensor/actuator design | conventional |
|--------------------------|--------------|

Housing and cooling

- | | |
|--|--|
| ■ Material of the terminal boxes / receptacles | rust-proof stainless steel/chrome nickel steel (similar to AISI 304) |
|--|--|

4. Conveyor lubrication SYNCO

Electrical connection data

- | | |
|---|------|
| ■ Identifier of process unit for connection diagram | =FM7 |
|---|------|