

Wine tanks Fermenters

www.sk-skrlj.com



Brilliant products

Stainless steel tanks for every phase of the winemaking process (maceration, fermentation, mixing, clarification, maturation) make it relatively easy to control the vinification process and guide it in the desired direction by:

- helping maintain superior hygiene standards
- preserving wine freshness without unwanted aftertaste
- creating optimal conditions for wine maturation with oxygen level control



Comprehensive solutions

Škrli d.o.o. has been manufacturing winemaking equipment since 1985. Thanks to our experience in different advanced industrial fields and the technology transfer, we can manufacture wine tanks and fermenters of exceptional quality.

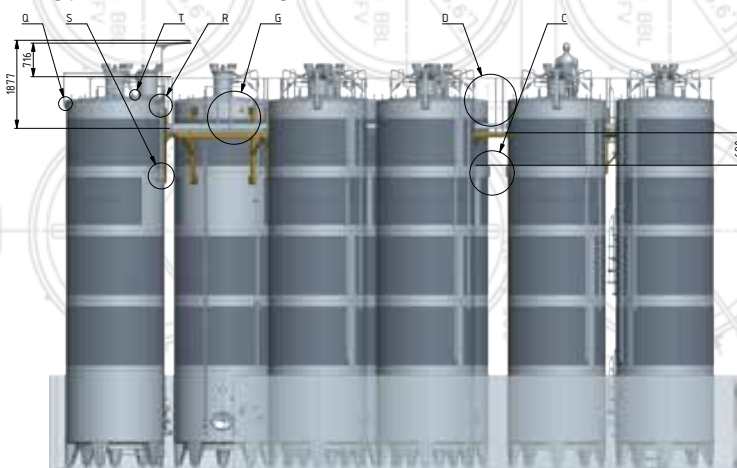
We are innovative, pragmatic, and always looking for the optimal and most comprehensive solution.

From concept ...

- reviewing all customer demands and product specifications;
- finding the optimal solution and creating a technical drawing in accordance with all applicable standards, keeping in mind customer demands;
- presenting the project with a detailed 3D model that provides detailed and valuable insight into the product and makes it easier to determine whether any adjustments should be made before production;
- using the most advanced CAD technology enables quick planning, precise tank equipment production, and detailed project documentation.

... to reality!

- tank equipment is manufactured in accordance with the highest quality and safety standards;
- only high-quality stainless steel is used: EN 1.4301, 1.4404, 1.4571, 1.4435, and others (on request);
- internal, external, and weld surface finishing is always adapted to purpose of use and customer demands (passivation, grinding, polishing);
- guaranteed material and technological process traceability during production to ensure high quality in every phase of the production process.



Closed cylindrical tanks

Classic cylindrical tanks

Classic cylindrical tanks are designed for must fermentation and wine storage under atmospheric pressure. The tank surface can be circle polished, ground, scotch brite, sandblasted, or polished. Smooth surfaces and weld finishing prevent the formation of potassium bitartrate and the accumulation of impurities inside the tank.

On customer request, the tanks can be equipped with a temperature regulation system (double jacket, plate heat exchanger, cooling coil, thermometers, and temperature regulators with computer control) and other technical equipment (different door and valve types, adjustable legs, agitators).

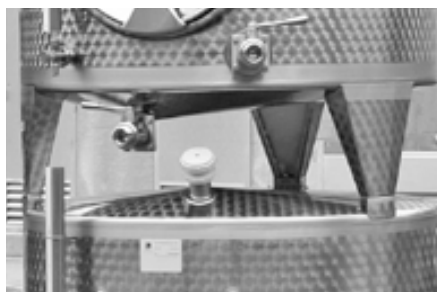
We help our customers design a layout for their winery and manufacture all equipment, including the platforms and drain channels. The entire project can be presented in the form of a 3D model.



Stackable tanks

Stackable tanks are recommended for winemakers who need smaller capacity storage tanks. Using special fittings, these tanks can be arranged into stacks to make better use of the space at disposal in the winery. Only tanks with the same diameter can be stacked, taking into account, of course, the maximum carrying capacity of the bottom tanks.

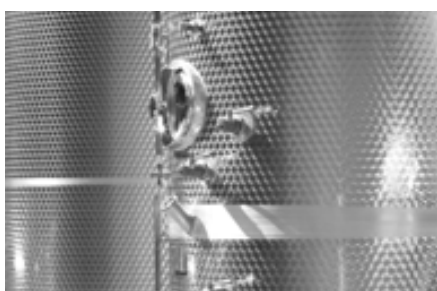
On request, the tanks can be equipped with a temperature regulation system (double jacket, plate heat exchanger, solenoid valves, temperature regulator) and other technical equipment.



Intermediate bottom tanks

Cylindrical intermediate bottom tanks are recommended for winemakers who need smaller capacity storage tanks and want to make best use of the space at disposal in their winery.

These tanks can be divided into two or more compartments. If the tank is divided into two parts, the intermediate bottom is usually placed in the middle. If the tank is divided differently, it is important to bear in mind that the jacket height of each part mustn't be lower than 750 mm.



Open top tanks

Open top cylindrical tanks are designed for wine storage under atmospheric pressure.

These tanks can be used to store different quantities of wine, as they are equipped with a floating lid. The floating lid adapts to the wine level in the tank, which means there is no need to add more wine. The floating lid gasket is inflated using the supplied pump and prevents uncontrolled air inflow. In order to easily lift and lower the floating lid, the tanks are equipped with a pulley; larger tanks also have a hand winch.

The reinforced upper rim of the storage tank (pipe reinforcement) gives strength and stability and prevents tank jacket deformations.

On request, the tanks can be equipped with temperature regulation elements (double jacket, temperature regulator) and other technical equipment (different door and valve types, adjustable legs).



Small floating lid tanks

Small floating lid tanks are used for the storage of small quantities of wine. They are only available in the standard design: type S (no legs, flat bottom) and type S-excl. (with legs and conical bottom). Their capacities range between 300 and 2400 L.

The floating lid adapts to the wine level in the tank, which means there is no need to add more wine. The inflated floating lid gasket blocks air inflow and, thus, prevents uncontrolled oxidation.

The flat and reinforced upper rim of the storage tank gives strength and stability and prevents tank jacket deformations. As the upper rim has no blind spots, dirt and liquid can't accumulate underneath it.

All tanks are equipped with an anti-dust cover.



Small tanks type S / flat bottom, no legs



Small tanks type S-excl. / conical bottom, 3 legs

Rectangular and oval tanks

Rectangular tanks

The main advantage of rectangular tanks is their space-saving ability, which makes them perfect for smaller and narrower wineries.

All internal edges are rounded and with no angle welds. The interior has no reinforcement elements, so the surface is smooth and easy to clean. The tank bottom is inclined, which enables easy liquid discharge and air outflow from the tank.

Rectangular tanks without edge reinforcements (P0)

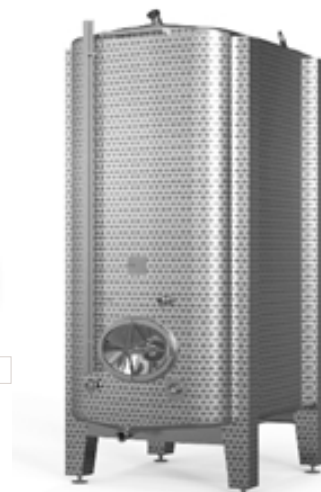
Tanks with same width and depth can be arranged into stacks using connection fittings.

Rectangular tanks with edge reinforcements (P4)

Tanks with same width and depth can be arranged into stacks without the use of connection fittings.



Tank without edge reinforcements



Tank with edge reinforcements

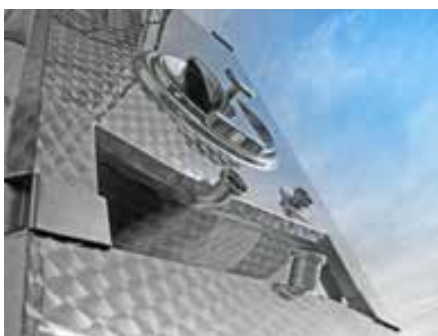


Small rectangular tanks

Small rectangular tanks are perfect for storing small quantities of wine. Standard tank capacities range between 190 and 2000 L. They are ideal for smaller and narrower wineries.

The tanks have a modular design, which means they are stackable. They are equipped with special built-in stacking fittings (on lids), so tanks with the same dimensions can be simply stacked one on top of the other. However, there are some design limitations to bear in mind:

- the maximum number of stacked tanks (3),
- the maximum weight of the entire stack (full tanks) can not exceed the carrying capacity of the bottom tank (3000 kg).



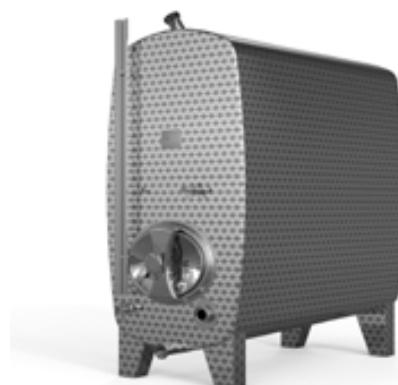
Oval tanks

Oval tanks are ideal for low-ceiling wineries.

All internal edges are rounded and with no angle welds. The interior has no reinforcement elements, so the surface is smooth and easy to clean.

The tank bottom is inclined, which enables easy liquid discharge and air outflow from the tank.

On request, the tanks can be equipped with a temperature regulation system and other technical equipment (valves, adjustable legs).



Maceration

Maceration is a very sensitive and extremely important vinification process, which demands extensive knowledge, constant supervision, and careful guidance. The only way to produce a wine with the right character (color, bouquet, taste) is to properly carry out the maceration process. Most importantly, this process should always be adapted to vine variety, grape characteristics and quality, and the type of wine you want to produce.

The fermenter is a modern enological and technical device, perfect for winemakers that do not want to leave this important process to chance. The fermenter is a helpful tool during the wine-making process:

- it reduces the amount of physical work and saves a lot of time,
- it can process large quantities of grapes at once,
- a software monitors the process day and night, so the winemaker's presence is not necessary at all times.

Each winemaker can choose the system that is ideal for him. While selecting a fermenter, it is important to take into account the work area (dimensions and layout), the estimated quantity of must (open fermenters are more suitable for small quantities), and the grape type (some require more aeration during maceration).

We offer various pump-over and punch-down fermenters, including a model that combines both systems.



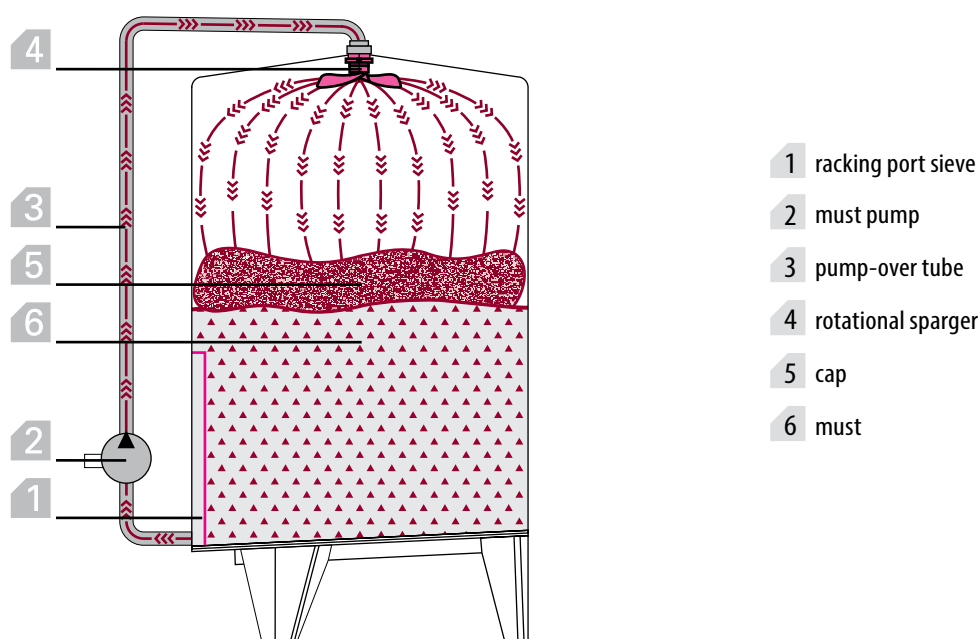
Maceration with pump-over system

During must fermentation, a cap is created inside the tank. The cap consists of the solid parts of the must - grape skins and pips. Liquid is pumped from the lower part of the tank and sprayed periodically over the cap surface using a rotating sparger.

This maceration type:

- ▶ enables constant contact between juice and grape skins,
- ▶ breaks down the created cap and enables intense pigment leaching from the grape skins.

The maceration process must be carried out at the right temperature. That is why our fermenters are equipped with a double jacket, bottom heaters, and cooling/heating medium flow regulation equipment.



Pump-over fermenters

Open pump-over fermenters

Due to their shape, open pump-over fermenters can also be used for small quantities of must.

The tank bottom is inclined, which enables good liquid discharge and easy tank emptying. The reinforced upper rim of the tank (pipe reinforcement) gives strength and stability and prevents tank jacket deformations.

The fermenter is easy to use. It can also be used as a classic wine storage tank, provided that the rotational sparger and the top (removable) part of the pump-over tube have been removed and that the lid opening has been closed with a blind nut.

On request, the fermenters can be equipped with a temperature regulation system and other technical equipment.



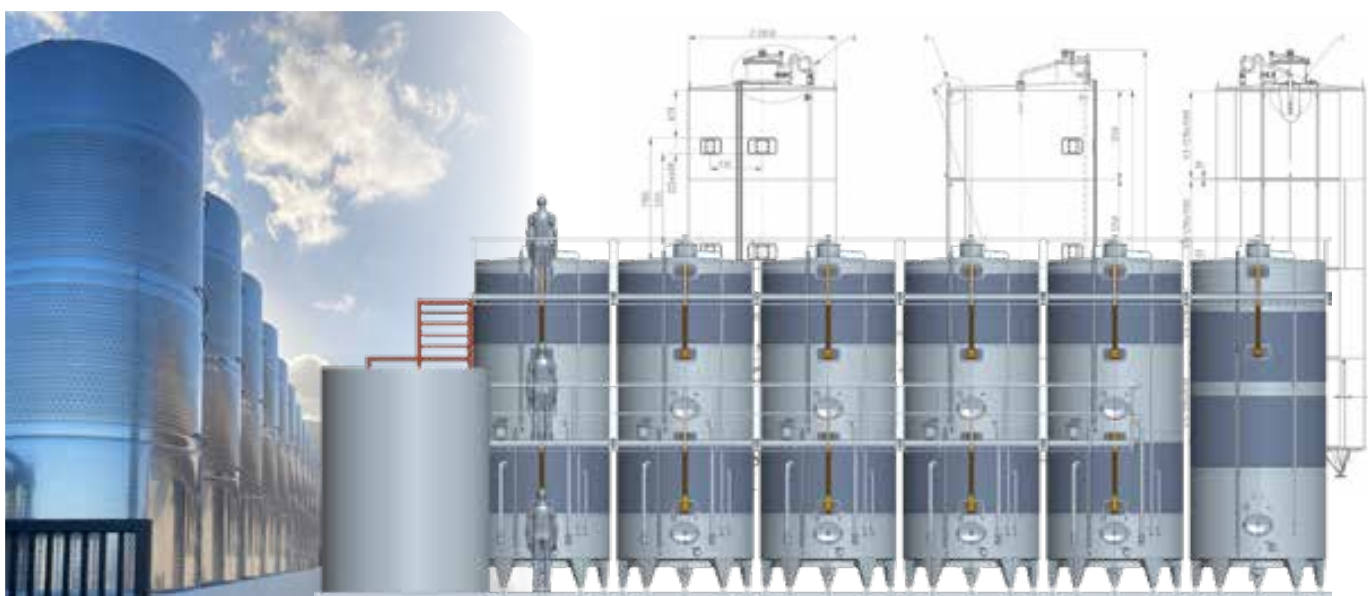
Closed pump-over fermenters

Closed pump-over fermenters are designed to carry out the maceration process using the pump-over system, but they can also be used as classic wine storage tanks.

They are suitable for use in low-ceiling wineries.

The tank bottom is inclined, which enables good liquid discharge and easy tank emptying. The fermenter's big rectangular door facilitates tank emptying and cleaning.

On request, the fermenters can be equipped with a temperature regulation system (laser welded plate heat exchanger, cooling coil, double bottom with heaters, thermometer or temperature regulator) and other technical equipment (door, valves, adjustable legs, agitators).



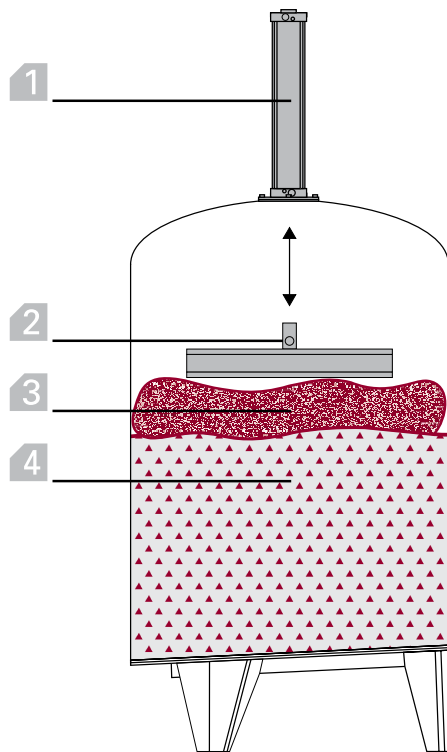
Maceration with cap submersion system

Punch-down fermenters are equipped with a cap submersion system, which consists of a punch-down agitator, a pneumatic cylinder, and a control unit. The punch-down mechanism is used to break down the cap that is created during the fermentation process and submerge it into the must.

The pneumatic cylinder (large fermenters have two) continuously pushes the punch-down agitator up and down; the agitator gently pierces the cap and submerges it into the must. The submersion cycles are carried out periodically in set intervals, which can be set in accordance with enological demands.

The maceration process must be carried out at the right temperature. That is why our fermenters are equipped with a double jacket, bottom heaters, and cooling/heating medium flow regulation equipment.

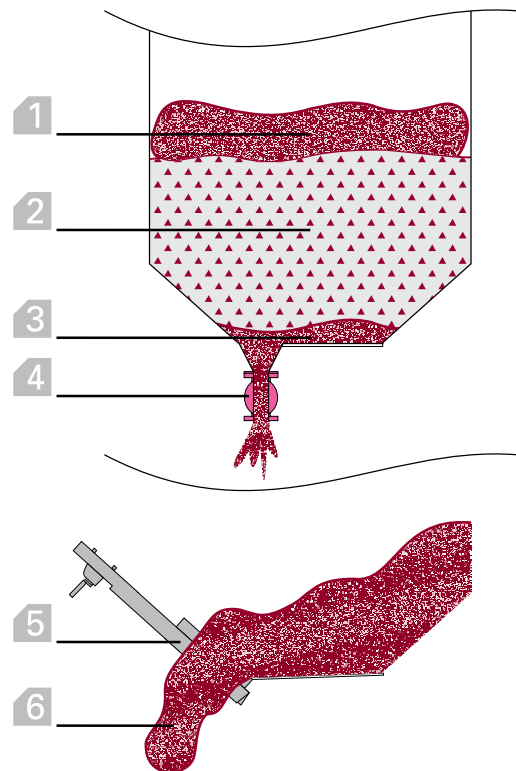
The inclined tank bottom and big rectangular door enable good liquid discharge and easy tank emptying. We offer open and closed punch-down fermenters and a special model – the punch-down fermenter with pip removal system.



- 1 pneumatic cylinder
- 2 punch-down agitator
- 3 cap
- 4 must



Punch-down fermenter with pip removal system



- 1 cap
- 2 must
- 3 pips
- 4 pip discharge valve
- 5 sliding hatch
- 6 pomace



Punch-down fermenters

Punch-down fermenters with removable lid

The removable lid can be lifted using a set of lifting attachments, located on top of it, and then secured in place on the reinforced upper tank rim. One lid can be used on multiple tanks, provided that they have the same diameter and a properly reinforced upper rim.

The removable lid is equipped with a cap submersion system (pneumatic cylinder, punch-down agitator), as well as pump-over and sparging connectors (pump-over tube, rotational sparger).

The control unit enables submersion cycle setup and modification, as well as must pump operation control (ON/OFF).



Punch-down fermenters

Punch-down fermenters enable both types of maceration: with cap submersion and with pump-over system.

The control unit enables submersion cycle setup and modification, must pump operation control (ON/OFF), and temperature regulation. It offers five factory preset programs that can be modified and adapted as needed, depending on the maceration process.

The inclined flat tank bottom and big rectangular door (option: sliding hatch) enable quick and easy tank emptying.

All cap submersion equipment can be removed and the fermenter can be used as a normal must fermentation or wine storage atmospheric tank.



Punch-down fermenters with pip removal system

These fermenters are equipped with a system that enables pip collection and removal from the must during the maceration process.

During must fermentation, the pips are deposited on the tank bottom. The scraper rotates and pushes the pips into the collection container at the bottom of the tank. Once full, the collection container can be emptied using the pneumatic valve. Pip removal during maceration and fermentation can significantly lower the release of bitter and unripe (green) tannins into the wine.

The control unit enables submersion cycle setup and modification, must pump operation control (ON/OFF), temperature regulation, as well as scraper and pneumatic pip discharge valve operation control. It offers five factory preset programs that can be modified and adapted as needed, depending on the maceration process.

The special tank bottom design (truncated cone) with a built-in scraper and sliding hatch enables quick and easy pip removal.



Insulated and pressure tanks

Insulated tanks

Insulated tanks are designed for wine storage, fermentation, clarification, stabilization, and all other enological processes that require the use of a tank with thermal insulation. These tanks are used under atmospheric pressure.

The tank jacket is equipped with multiple laser welded heat exchangers (pillow-plate).

The entire internal tank is surrounded by an insulation layer made of polyurethane foam and an external jacket. Standard insulation thickness is 50 mm.

The external jacket is welded and waterproof.



Sparkling wine tanks

Sparkling wine tanks are designed for the production of sparkling wine according to the tank method.

The tank method, also known as the Charmat method (named after its inventor, French winemaker Eugène Charmat), dictates that the secondary fermentation must be carried out in a special pressure tank. This process is much simpler and quicker than the classic method, where the secondary fermentation takes place inside the bottle.

Sparkling wine tanks are designed and manufactured in accordance with the PED Directive (2014/68/EU). These vertical cylindrical tanks are equipped with laser welded heat exchangers (pillow-plate).

They can be non-insulated or surrounded by an insulation layer (mechanically expanded polyurethane foam) and an external insulation jacket.

They are equipped with a valve, which is used to achieve isobaric conditions, a decanting valve for sediment removal, a safety valve, a level indicator, a manometer, an agitator, a thermometer, and other technical equipment (on request).



Materials and surface treatment

Basic material surfaces

2B (IIIc)	cold-rolled metal with 2B (IIIc) surface in accordance with EN 10088-2 (smooth, matte surface) surface irregularities that appear during the production process are tolerated metal roughness (before production): $0.1 \mu\text{m} < \text{Ra} < 0.5 \mu\text{m}$ product roughness is not inspected
2R (IIIId, BA)	cold-rolled metal with 2R (IIIId) surface in accordance with EN 10088-2, bright annealing (very smooth, bright, highly reflective surface) surface irregularities that appear during the production process are tolerated metal roughness (before production): $0.03 \mu\text{m} < \text{Ra} < 0.1 \mu\text{m}$ product roughness is not inspected
1D (IIa)	hot-rolled metal with 1D (IIa) surface in accordance with EN 10088-2 surface irregularities that appear during the production process are tolerated metal roughness (before production): $2 \mu\text{m} < \text{Ra} < 6 \mu\text{m}$ product roughness is not inspected



Surface treatment

no treatment [X]	- without further surface treatment or roughness control
no treatment, protective film [F]	- without further surface treatment or roughness control - metal is protected against scratches with protective film
passivated [CP]	- surface is chemically treated - passivated - without mechanical treatment or roughness control
circle polished [K]	- basic material surface used for circle polished finish is 2B or 2R - basic material surface irregularities and irregularities that appear during the production process are tolerated, product roughness is not inspected
scotch brite [SB]	- surface is brushed with scotch brite material - basic material surface irregularities and irregularities that appear during the production process are tolerated - final product surface roughness is not defined; brushing leads to a uniform and aesthetic surface finish
sandblasted [S]	- surface is sandblasted with CrNi beads in a sandblasting chamber - final product surface roughness is not defined
ground [BC] or [BK]	- surface is mechanically ground with abrasive belts - final surface roughness is not defined; grinding leads to a uniform and aesthetic surface finish
mechanically polished [PC] or [PK]	- surface is mechanically polished to a mirror finish - final surface roughness is not defined; grinding leads to a uniform and aesthetic surface finish

Weld treatment

passivated [CZN/CZZ]	- weld surface is chemically treated and cleaned, no further treatment - visible weld structure
striped [BP]	- weld surface is ground with abrasive flap wheel - weld zone is partially evened out with sheet metal surface - partially visible weld structure
polished no grinding [C]	- weld surface is chemically treated, cleaned, and polished, no grinding, - visible weld structure
ground [B_]	- weld surface is ground using abrasives with different grit sizes to achieve desired final surface roughness - weld zone is ground flush with sheet metal surface - weld structure not visible



... for safe access and work at height

We manufacture platforms, walkways, staircases, ladders with guardrails, and other walking structures made of stainless steel. These walking structures are suitable for wineries, breweries, and other industrial plants where safe and simple access to workstations at height is required.

All structures are designed and manufactured in accordance with the international standards **EN ISO 14122** and **EN 1090**.

The perforated walking surfaces ensure good protection against slipping and enable continuous water drainage.

Modular design

We offer a wide range of standard segments that enable different combinations, which means that each walking structure can be adapted to the space at disposal and to all preexisting objects.

Custom-made

Aside from the standard designs, we also manufacture custom-made walking structures. With the customer's help, we can design a layout and present the project in the form of a detailed 3D model, which gives additional insight into the structure and makes it easier to evaluate whether any adjustments should be made before production.

Stainless steel

All elements are made of high-quality stainless steel EN 1.4301 (AISI 304). All surfaces are pickled and passivated, if requested they can also be sandblasted with steel beads.



Drain channels

... for easier winery, brewery, and industrial plant cleaning

We design and manufacture drainage systems that consist of multiple channel segments, connected with one or multiple drains.

All elements are made of high-quality stainless steel EN 1.4301 (AISI 304) and can be incorporated into a concrete floor.

The 0.4 % channel slope (4 mm per meter) enables good waste water drainage and prevents the accumulation of impurities within the drain channels.

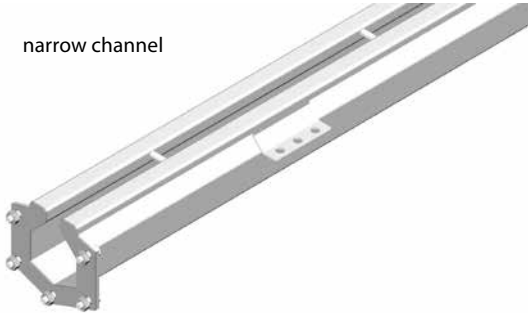
The channels are designed for use in wineries and industrial plants. We offer narrow drain channels and wide channels with gratings.

Main advantages:

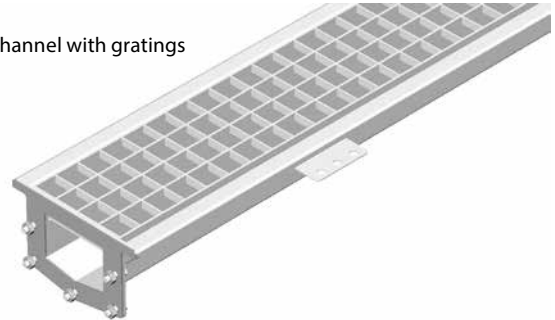
- simple cleaning
- corrosion resistance
- fast delivery of standard segments (up to 9 m in length) at low cost



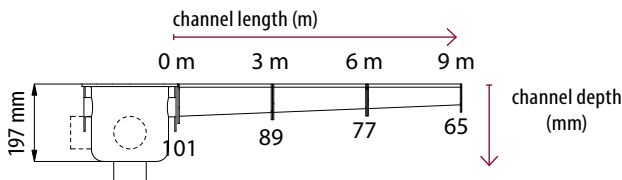
narrow channel



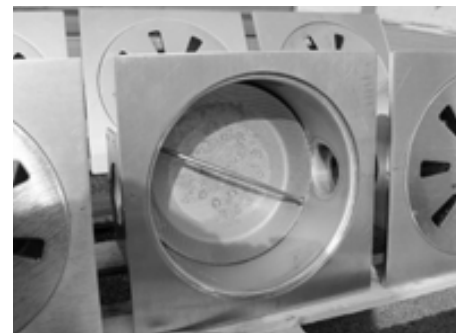
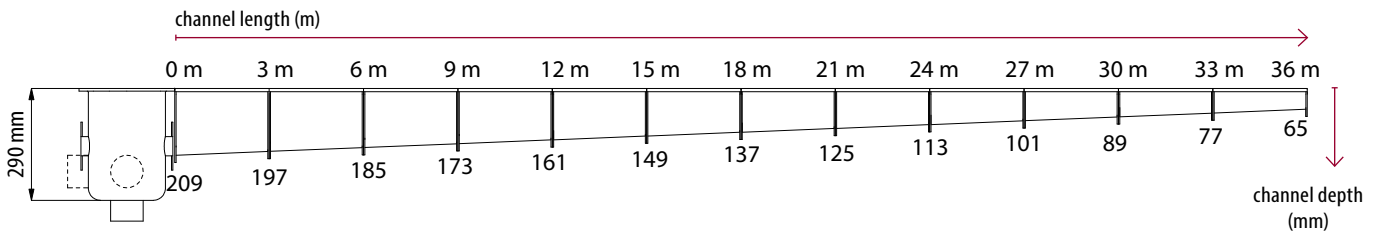
wide channel with gratings



Drain system with low gully, up to 9 m in length:



Drain system with high gully, up to 36 m in length:



About Škrlj d.o.o.



Škrlj d.o.o. is a business with a strong foundation that was built on rich family tradition and is today a valued European company with an established international market.

We design, manufacture, and sell stainless steel equipment for:

- winemaking
- beer brewing
- the food industry
- the pharmaceutical industry

In order to be able to efficiently adapt to the changes in the economy and to high market demands, we have to continuously modernize and technologically improve our products, services, and processes. Design and production must be quick to adapt; all technological processes and documentation have to be carried out and completed as efficiently as possible.

A large portion of our financial resources is dedicated to research and the purchase of materials that are needed for technological process optimization. We always keep an eye out for emerging new trends and industry demands. Our information and production technologies are updated regularly and guarantee material and production process traceability.

We offer the following range of services:

- sheet metal coil cutting line
- plain sheet polishing and grinding line
- internal and external grinding (tank and tank bottom)
- sheet metal bending, shaping
- manual, machine (linear and circular), and robotic welding (TIG, MIG/MAG, plasma)
- automatic sandblasting of larger products in special sandblasting chamber (using CrNi beads)
- passivation of finished products
- treatment with CNC processing machine
- abrasive water jet cutting
- 3D scanning
- 2D and 3D laser cutting
- laser welding
- electropolishing





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Winemaking



- wine tanks
- fermenters
- pneumatic presses
- temperature regulation equipment
- semiautomatic labeling machines

Beer brewing



- fermenters
- maturation tanks
- compact brewhouses
- microbreweries
- semiautomatic labeling machines

Food industry



- storage tanks (milk, yogurt)
- process tanks (milk, dairy products)
- production and storage tanks (alcoholic beverages)
- production and storage tanks (juice, soft drinks)
- storage tanks (water, oil, vinegar)

Pharmaceutical industry



- CIP / SIP tanks
- preparation tanks (sterile WFI water and purified PW water)
- storage tanks (sterile and non-sterile solutions)
- (bio)reactors
- fermenters
- mixing tanks

Other products



- chemical industry tanks
- bulk material storage silos (grain, flour, etc.)
- waste material storage containers
- walking structures: platforms, walkways, staircases, gratings
- drain channels
- other equipment (on request)



Address:

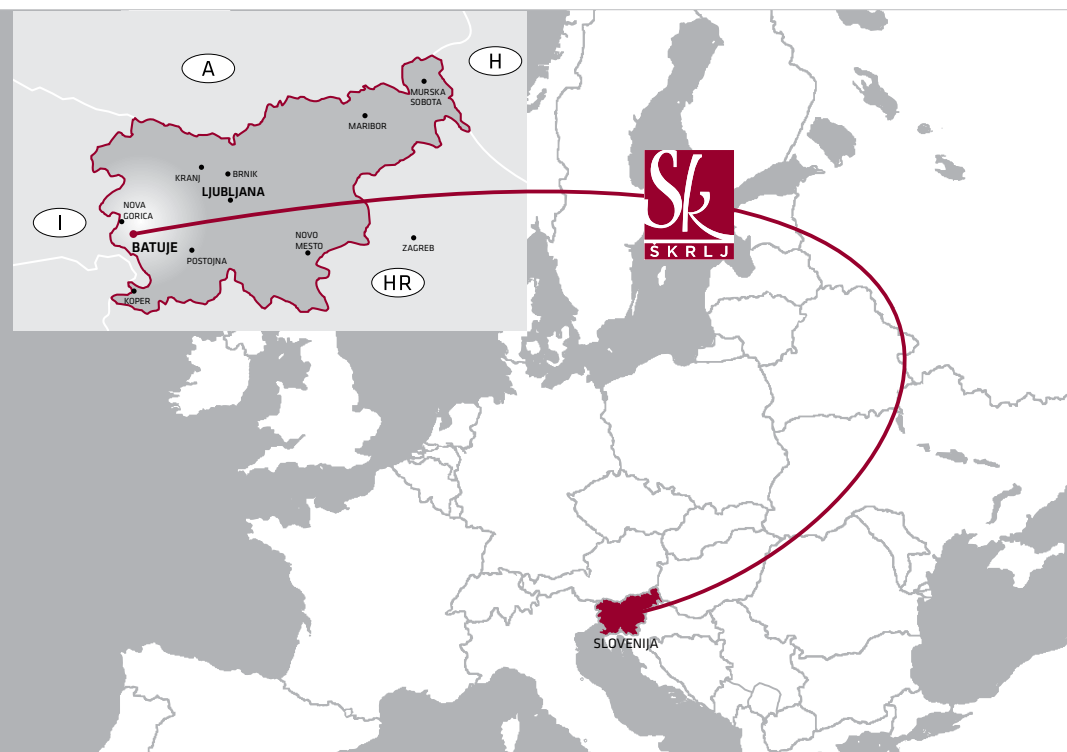
Škrlj d.o.o.
Dunajska cesta 196 · SI-1000 Ljubljana · Slovenia

Production and administration:

Škrlj d.o.o.
Batuje 90 · SI-5262 Črniče · Slovenia
Tel.: +386 5 364 35 00
Fax: +386 5 364 35 25
E-mail: sk@sk-skrlj.com
www.sk-skrlj.com

GPS:

13° 46' 16" E
45° 53' 08" N



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