

Winemaking



*Brilliant products*

# Pneumatic presses





# Škrlj d.o.o.



The company Škrlj d.o.o. has been built on solid grounds of a rich family tradition and is now a renowned European company and an already established name on international markets.

The main activity of the company is research, development, production and selling of wine making and beer brewing equipment.

The long experience and freshly acquired knowledge are used in designing and production of equipment for food industry, pharmaceutical industry and chemical industry.

The company employs top-level professionals of various fields of expertise. They are constantly following the newest trends in the world industry, thus improving their knowledge and widening their horizons.

These bold, uncompromisingly demanding and precise planners are together with careful, conscientious and industrious workers a guarantee that each product from Škrlj d.o.o. is technologically and technically perfect.



# Brilliant products

*Sijajni izdelki*

With their advanced, yet simple design, the series M pneumatic presses meet in particular the needs of small and medium volume wine makers.

A broad range of accessories will satisfy both, those seeking simple operation and maintenance and those looking for a press adjusted to the processing characteristics (central filling, level switch, filling funnels, platforms).

Pneumatic presses series M, are available in two basic designs, basing on the system of pressing:

- **PSP model:** open pressing system, open drum with perforated surface
- **PST model:** closed pressing system, closed drum with interior draining channels

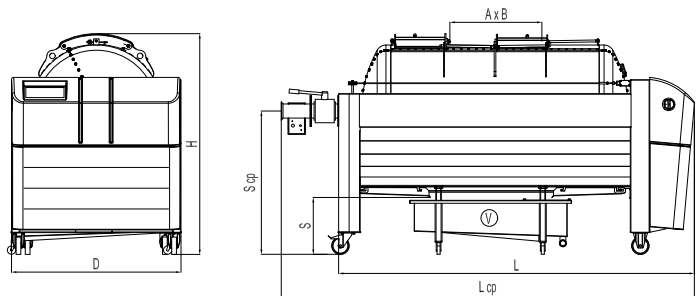


PST 12

ID		PSP 5	PST 5	PSP 8	PST 8	PSP10	PST 10	PSP 12	PST 12	PSP 16	PST 16
Drum volume	l	500		800		1000		1200		1600	
Length (L)	mm	1820		2320		2530		2575		3070	
Length (Lcp)	mm					2960		3005		3500	
Width (D)	mm	1000		1000		1220		1220		1220	
Height (H)	mm	1420		1420		1540		1600		1610	
Height (S)	mm	450		400		390		390		390	
Height (Scp)	mm					1035		1035		1045	
Hatch dimensions (A x B)	mm	345 x 425		345 x 425		345 x 650		345 x 650		345 x 900	
Weight approx.	kg	300		350		500		520		610	
Juice collection pan volume (V)	l	150		150		250		250		250	
Grid connection power (P)	kw	3,1 / 1,55		3,9 / 1,95		3,9 / 1,95		3,9 / 1,95		4,6 / 2,3	
Capacity	integral grapes	kg	250 - 400	400 - 650		500 - 800		600 - 950		800 - 1200	
	fresh lees	kg	700 - 1000	1100 - 1500		1400 - 1800		1650 - 2250		2400 - 4000	
	fermented lees	kg	1000 - 1600	1500 - 2500		1800 - 3100		2250 - 3750		3500 - 5500	

### STANDARD ACCESSORIES:

- AE automatics: 5 fix preset programs, manual and automatic operation mode
- vacuum pump
- integrated piston compressor
- sliding hatch
- safety cord
- draining channel electropolished (PST)
- drum electropolished (PSP)
- axial filling connector DN100, without valve (PS\_10,12,16)
- press and juice collection pan with wheels
- cleaning opening DN50 DIN11851 with plug (PSP\_10,12,16)
- main supply voltage 400V 50Hz, three-phase
- declaration of CE conformity / documentation PED (97/23/EC)



### OPTIONS:

- AV automatics (installed) or AVk automatics (on cable), keypad
- AT automatics (installed) or ATK automatics (on cable), touch screen
- integrated rotary vane compressor
- axial filling valve DN65, 80 or 100, thread DIN11851, Garolla or TC (PS\_10,12,16)
- overfilling signalisation
- strainer on the collection pan outlet
- level switch (only with AV automatics)
- press frame and juice pan leg extensions
- dumping hopper
- mains supply voltage 230V, single-phase (only with compressor)
- mains supply voltage other than 230/400V 50Hz

### EXTRA OPTIONS (PST):

- hatch opening cover and channel plugs (for maceration)
- cooling jacket (connections on the drum or with rotational entry)
- draining channel wash tube, 3 m





The series L pneumatic presses are designed for large volume and advanced medium volume wine makers. Sophisticated and simple, yet robust design guarantees long service life and easy maintenance.

The series L pneumatic presses enable the pressing of grapes at different time intervals, overpressures, with the presence or absence of oxygen, maceration of the grape mass. A wide range of additional accessories enables each winemaker to order the press that perfectly corresponds to his manner of production.

Pneumatic presses, series L, are available in three different designs, basing on the system of pressing:

- **PSP model:** open pressing system, open drum with perforated surface
- **PST model:** closed pressing system, closed drum with interior draining channels
- **PSH model:** closed pressing system, closed drum with interior draining channels, possibility of oxygen-free pressing

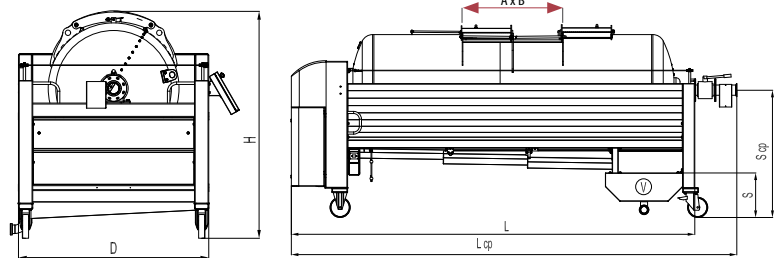


PST 21

ID		PSP 21	PST 21	PSP 29	PST 29	PSP 42	PST 42	PSP 55	PST 55
Drum volume	l	2100		2900		4200		5500	
Length (L)	mm	3250		4000		4415		4965	
Length (Lcp)	mm	3750		4500		4915		5465	
Width (D)	mm	1600		1600		1800		1905	
Height (H)	mm	1910		1910		2335		2435	
Height (S)	mm	500		500		680		750	
Height (Scp)	mm	1221		1221		1560		1630	
Hatch dimensions (A x B)	mm	470 x 900		470 x 900		490 x 900		490 x 900	
Weight approx.	kg	810		1120		1800		2200	
Juice collection pan volume (V)	l	220		220		500		500	
Grid connection power (P)	kw	5,4 / 3,1		9,6 / 4,2		11 / 5,6		14,1 / 7,7	
Capacity	integral grapes	kg	1100 - 1700		1500 - 2300		2100 - 3200		2600 - 4000
	fresh lees	kg	3300 - 5300		4500 - 7300		6500 - 11000		8500 - 14000
	fermented lees	kg	4800 - 7300		6700 - 10000		9700 - 15000		11000 - 19000

### STANDARD ACCESSORIES:

- AVk automatics (on cable): 10 preset programs, adjustable
- vacuum pump
- integrated rotary vane compressor
- sliding hatch
- safety cord
- draining channels electropolished (PST)
- wheels 200x50, 2 fix, 2 swivel with brake (PS\_21, 29)
- axial filling connector DN100, without valve
- fix juice collection pan, movable plateaus
- cleaning opening with plug
- main supply voltage 400V 50Hz, three-phase
- declaration of CE conformity ; documentation PED (97/23/EC)



### OPTIONS:

- ATK automatics (on cable), touch screen
- pneumatic sliding hatch drive; option - adjustable hatch opening
- auxiliary compressor (for hermetic hatch, pneumatic drive or must selector)
- axial filling valve DN65, 80 or 100, thread DIN11851, Garolla or TC
- axial filling pneumatic pinch valve (with auxiliary compressor only)
- overfilling signalisation
- juice collection pan with wheels and fixed plateau
- pneumatic drive of the movable plateaus
- strainer on the collection pan outlet
- wheels 200x50 mm (PS 42); wheels 250x60 mm (PS 55); additional option - motorized drive of the wheels
- must selector DN50, pneumatic
- level switch
- dumping hopper, platform
- main supply voltage other than 400V 50Hz

### EXTRA OPTIONS (PST):

- hermetic hatch 485x600 mm and channel plugs (for maceration)
- cooling jacket (connections on the drum or with rotational entry)
- connected draining channels, big draining surface
- draining channel wash tube, 3 m



The series X pneumatic presses meet in particular the needs of large volume wine makers. The press enables the pressing of grapes at different time intervals, overpressures, with the presence or absence of oxygen, maceration of the grape mass.

Sophisticated and simple, yet robust design of the press guarantees long service life and easy maintenance.

Pneumatic presses series X are available as the PST model – closed drum with interior draining channels (closed pressing system).

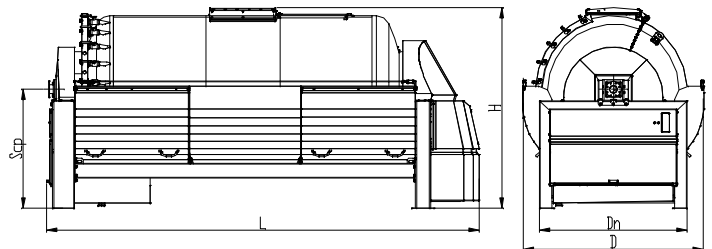


PST 100

ID		PST80	PST 100	PST 130	PST 150	PST 200	
Drum volume	l	8000	10000	13000	15000	20000	
Length (L)	mm	5980	5750	5810	6560	7500	
Width (D)	mm	2100	2300	2450	2450	2600	
Height (H)	mm	2550	2650	2750	2750	2730	
Height (Scp)	mm	1612	1612	1612	1612	1538	
Hatch dimensions (A x B)	mm	800 x 600	800 x 600	800 x 600	800 x 600	800 x 600	
Weight approx.	kg	3410	3580	4025	4220	4600	
Juice collection pan volume (V)	l	450	450	450	450	450	
Grid connection power (P)	kw	7,2	9	13	13	15	
Capacity	integral grapes	kg	4000 - 5600	5000 - 7000	6500 - 9000	7500 - 10500	10000 - 14000
	fresh lees	kg	12400 - 17600	15500 - 22000	20100 - 28600	23250 - 33000	30000 - 45000
	fermented lees	kg	20000 - 24000	25000 - 30000	32500 - 39000	37500 - 45000	50000 - 60000

### STANDARD ACCESSORIES:

- AVk automatics (on cable): 10 preset programs, adjustable (6 standard, 3 sequential, 1 special program)
- vakuum pump
- prepared for external compressor
- hermetic hatch 800x600mm, pneumatic drive
- electropolished draining channels
- auxiliary compressor (for hermetic hatch, pneumatic drive or must selector)
- safety cord
- axial filling connector DN125, without valve
- juice collection pan 450 l, fix
- main supply voltage 400V 50Hz, three-phase
- declaration of CE conformity
- documentation PED (97/23/EC)



### OPTIONS:

- ATK automatics (on cable), touch screen
- laser welded jacket (pillow-plate)
- cooling jacket connections on the drum
- cooling jacket connection with rotational entry
- axial filling pneumatic pinch valve DN125 DIN11851
- overfilling signalisation DN125
- cleaning opening DN100 DIN11851 with plug
- integrated rotary vane compressor
- adjustable hatch opening (closed\_partially open\_open)
- channel plug DN50 DIN11851 (7pcs)
- channel valve, manual (8 pcs)
- pressure washer, mounted with hose and nozzle
- must selector, pneumatic DN50
- level switch
- main supply voltage other than 400V 50Hz



## Hyperreductive technology

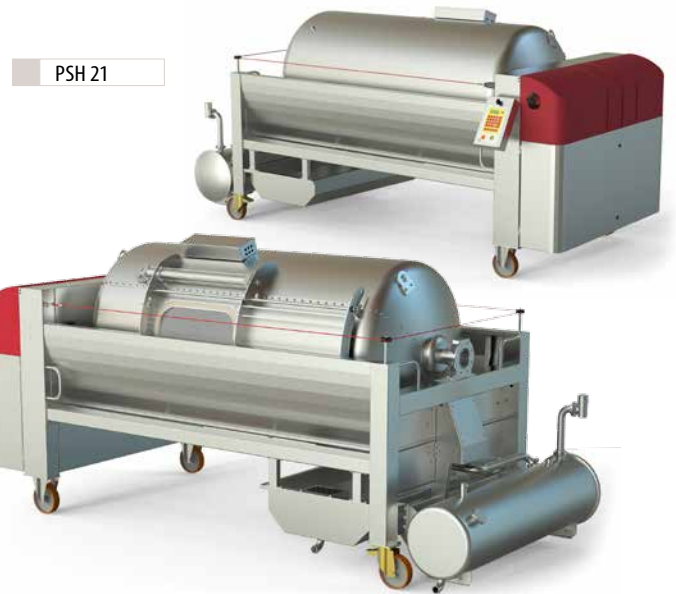
pressing of grapes under controlled presence of oxygen

During the processing of wine, oxygen plays a very important role, which can be either positive or negative. It is a known fact that exposure of must or wine to oxygen reduces the quality and exquisiteness of wine due to oxidation, loss of fruitiness, caramelization and other changes in characteristics of wine.

In recent years hyperreductive mode of processing is prevailing in the processing of white wines – the technology of vinification of white wines at the absence of oxygen.

### Advantages of hyperreductive technology:

- reduced use of sulphur
- more aromatic, fruitier and fresher white wines,
- increased elegance and softness of wine,
- prevents must oxidation of white wine varieties,
- reduced concentration of oxygen (less than 1% in wine press atmosphere) in the must during the grape processing reduces the enzymatic oxidation reactions and influences the increased content of phenols (hydroxycinnamic acids) and glutathione in the grape must. Hydroxycinnamic acids and glutathione – these important must antioxidants – oxidize quickly in the presence of oxygen and enzymes (polyphenoloxidase);
- glutathione plays an important role in the prevention of must oxidation; in conditions of a better glutathione preservation there exist better possibilities of preservation of aromatic characteristics of dry white wines;
- wines with a larger content of glutathione show lower levels of 2-aminocetofenon and sotolone – two very important compounds in sensing the oldness of wine. In hyperreductive processing of white wines higher levels of glutathione are preserved, therefore this technology it is very important in reducing the oldness of wines and prolonging their life-span.



## Hyperreductive press PSH

Hyperreductive wine press PSH enables pressing of grapes in the atmosphere below 1 % of oxygen throughout the grape-pressing process. During the entire pressing process, inert gas ( $N_2$ ,  $CO_2$ , Ar) is supplied into the system. The gas is supplied from a stack of gas bottles. The gas supply valve is located at the connector for central press filling.

Cost of nitrogen  $N_2$  supply during pressing is very low:

- approx. 15.00 € / 2000 l must
- approx. 0.75 € / hl wine
- approx. 0.01 € / bottle wine

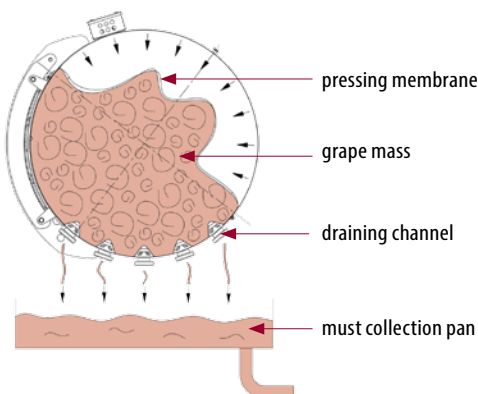
### Two systems in one press

Pneumatic press PSH combines two systems of pressing.

It can be used for the classical method of pressing (PST) or for the hyperreductive pressing (PSH). According to the quality and variety of grapes, the user can decide which system of grape pressing to use.

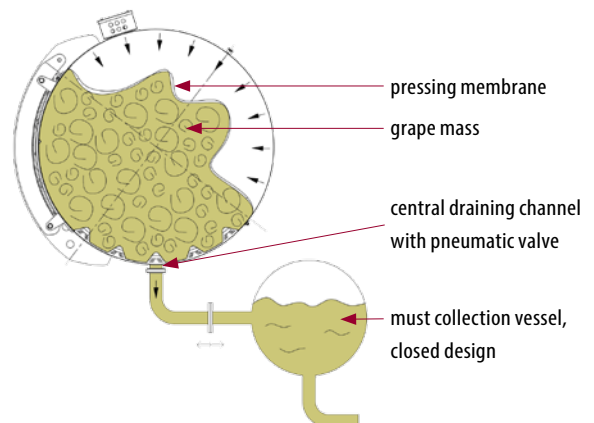
Switching from one system to the other is simple and easy.

### Classical pressing method (PST)



- inert gas supply is not provided
- must flows through all draining channels
- must is collected in the open collection pan
- presence of oxygen in the must (higher oxidation)

### Hyperreductive pressing method (PSH)

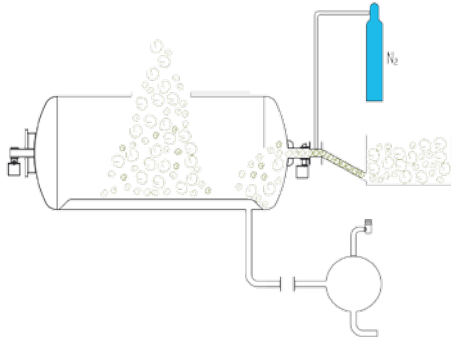


- inert gas supply is provided
- must flows only through the central draining channel
- must flows into the closed collection vessel at inert atmosphere
- absence of oxygen (no must oxidation)

# Hyperreductive pressing method – a graphic presentation

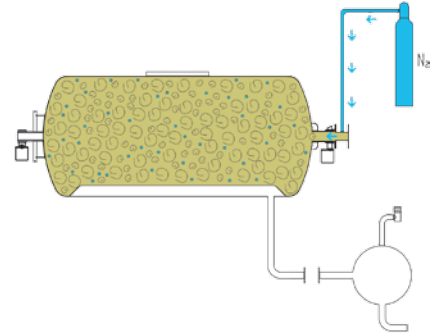
## 1 Filling of the press

The press is filled through the hatch on the drum or through the connector for the central filling. Inert gas supply connector is closed. When minimising the SO<sub>2</sub> concentration, the must oxidation is reduced, in spite of the classic press filling.



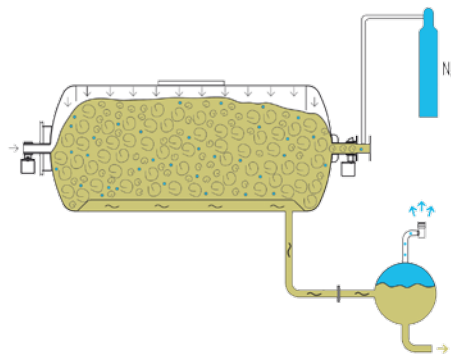
## 2 Replacement of oxygen with nitrogen

Before pressing oxygen is blown out from the press. The hatch is closed and the inert gas is supplied into the press.



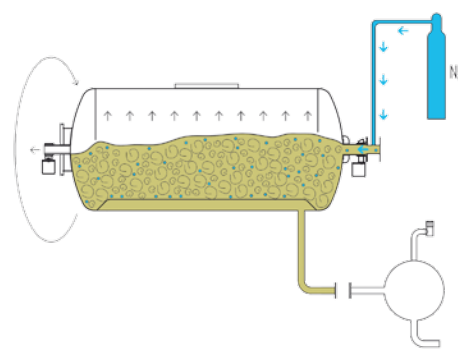
## 3 Pressing

The pressing is effectuated with pressed air through the impermeable membrane. Must flows through connected draining channels into the closed collection pan at inert atmosphere.



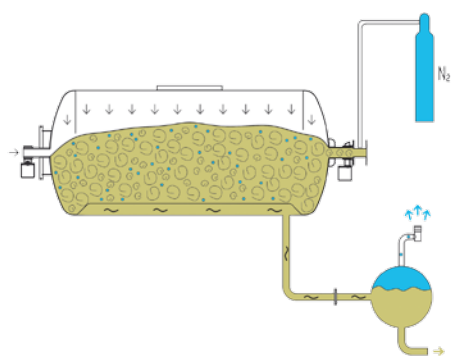
## 4 Crumbling

Before crumbling the connection of the drum with the must collection pan is automatically interrupted. The air is pumped out, inert gas is supplied into the space with grapes, the membrane is drawn to the inner walls. The drum rotates.



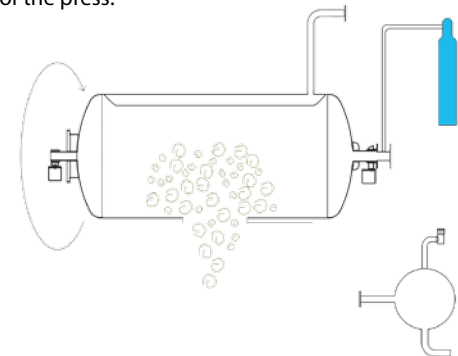
## 5 Pressing

The connection of the drum and the must collection pan is automatically restored. Must flows into the closed collection pan at inert atmosphere.



## 6 Emptying

The connection of the drum and the collection pan is interrupted. Inert gas supply connector is closed. The hatch is open and the drum rotates. When the drum rotates grape skins fall from the drum. The large hatch enables a fast and simple emptying of the press.





## Cooling jacket

On request, pneumatic presses with a closed PST system can be equipped with a cooling jacket and accompanying connectors to the cooling medium source. The cooling medium circulates in the space between the press drum jacket and the additional external jacket. The cooling system enables the user to actively interfere into processes, which evolve in the drum during grape pomace pressing and to guide them into the desired direction.

Pneumatic press with a cooling jacket enables cooling of the drum before its filling, cooling of grape pomace during pressing and adaption of temperature of grape mass in the drum according to oenological recommendations and demands.

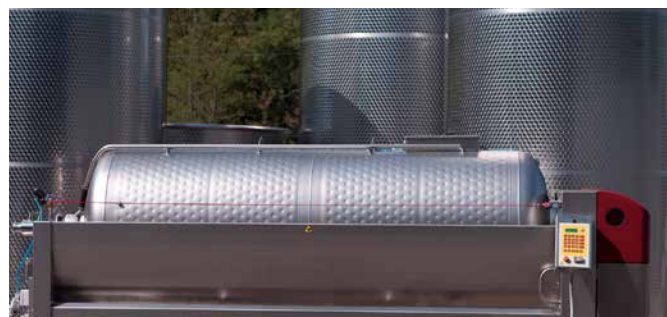
Press with a cooling jacket is also suitable for maceration. With maceration of grape pomace at low temperatures, a more intensive extraction of aromatic precursors can be influenced.

Technical data:

- operating pressure: 3 bar
- test pressure: 6 bar
- cooling medium: water, glycol
- inlet/outlet connectors: 3/4" quick couplings

Cooling surface (indicated values are approximate):

Pneumatic press	Drum volume (l)	Cooling jacket (m <sup>2</sup> )
PST 5	500	1,40
PST 8	800	2,25
PST 10	1000	2,30
PST 12	1200	2,75
PST 16	1600	3,50
PST 21	2100	3,95
PST 29	2900	7,60
PST 42	4200	9,60
PST 55	5500	11,25
PST 80	8000	15,70
PST 100	10000	16,65
PST 130	13000	18,85
PST 150	15000	23,20



### Cooling jacket connections on the drum

The cooling jacket is connected to the cooling medium through two connectors on the external drum surface. Each of the two connectors can be used as an inlet or outlet connector.



The cooling jacket can be connected to the cooling medium only when the drum does not rotate. Before the drum starts rotating, the supply of the cooling medium should always be disconnected, so that the inlet pipe does not roll on the moving drum.

### Cooling jacket connection with rotational entry

The connectors for the cooling medium source can also be placed on the central filling unit of the press. Such realization enables the cooling jacket to be connected to the cooling medium source also during the rotation of the drum.



## Automatics



### AE automatics

In the manual mode, the user starts and ends a particular operation by pressing a button (drum rotation, compressor, vacuum pump on/off).

In the automatic mode, the user can choose between five standard pressing programmes. The incorporated programmes result from many years of experience and are adjusted to different types of grapes.

The programmes are factory preset.



### AVk automatics

In the manual mode, the user starts and ends a particular operation by pressing a button.

In the automatic mode, the user can choose between 10 pressing programmes, which are adjusted, observing professional experience, to different grape types.

The user can set the pressing parameters and adjust them during the pressing process as required.



### ATk automatics \_ touch-screen

A large touch screen colour display enables graphical presentation of all program phases and gives information about the current press operation.

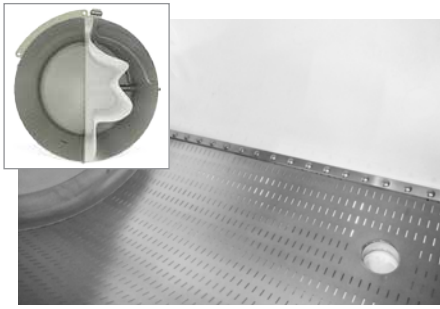
Easy programming and adjustment of pressing cycles (operating pressure, pressure holding time, drum rotation and other settings).

10 factory preset programs, possibility of entering additional 10 pressing programs, parameters can be changed and adjusted during the pressing process.

Reporting and recording of errors during the execution of the pressing program.

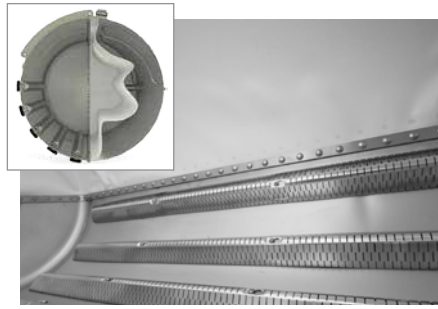


## Pneumatic press drum



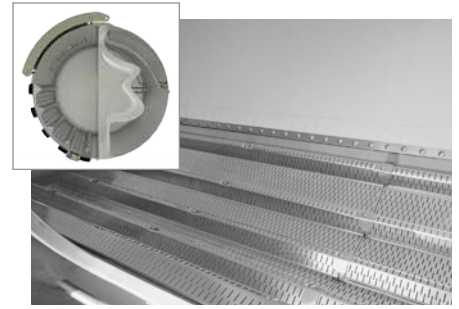
### Drum design PSP

- open drum
- half of the drum is covered by an impermeable membrane
- half of the drum is perforated
- electropolished drum for the presses PSP 5, 8, 10, 12, 16



### Drum design PST

- closed drum
- half of the drum is covered by an impermeable membrane
- half of the drum is equipped with perforated draining channels
- electropolished draining channels



### Drum design PST (connected draining channels)

- closed drum
- half of the drum is covered by an impermeable membrane
- half of the drum is equipped with perforated draining channels
- electropolished draining channels

### Electropolished surface:

- with electropolishing all impurities of the basic material are removed
- material surface irregularities are evened and cleaned
- glossy and shiny surface
- distinctively reduced surface roughness
- increased resistance to corrosion
- extended product life

### Drums and draining channels with electropolished surface

Sticking of grape pomace on the electropolished surface is reduced, which consequently leads to a better flow of must and liquid through drainage holes.

Better and faster cleaning of the surface, which also results in reduced water consumption.

Reduced possibility of building of coats on the material.

## Pneumatic press hatch

Pneumatic presses are equipped with large sliding hatches that allow fast and easy filling and emptying of the press drum. The execution and dimensions of the hatch depend on the press type.

Basic hatch versions:

- sliding hatch (one or two leaves)
- hermetic hatch



hermetic hatch - manual opening  
(only with drum design PST)



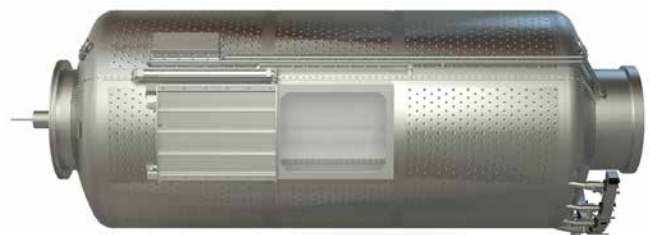
hermetic hatch with pneumatic drive  
(only with press drums PST\_21, 29, 42 and 55)



sliding hatch (two leaves)  
manual opening



sliding hatch (two leaves)  
pneumatic drive



hermetic hatch with pneumatic drive  
(only with press drums PST\_80, 100, 130, 150 and 200)

## Production capacities

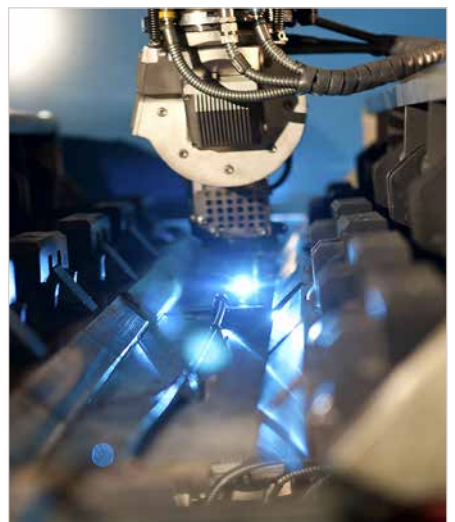


Our products, services and processes are constantly improved and modernised, to be able to efficiently adapt to changes in the economic environment and to high market demands. Production and planning have to be capable of adaptation and the whole process, as well as the preparation of the documentation, have to be carried out in an efficient way.

A large portion of financial resources are spent on research and material resources, which are needed for the optimisation of technological processes. New information and production technologies are being introduced.

We offer comprehensive solutions for the following production capacities:

- line for the cutting of sheet metal discs
- line for polishing and grinding of plain sheet
- machine for internal and external grinding of tank bottoms and containers
- bending and remodelling of sheet metal
- manual, machine (linear and circular) and robotic welding (TIG, MIG/MAG, plasma)
- automatic sandblasting of large products in the grinding chamber (using Cr-Ni beads)
- passivation of finished products
- treatment by CNC processing machines
- 2D- and 3D- laser cutting
- abrasive water jet cutting
- laser welding
- electropolishing





## Manufacturing programme

### Winemaking



- Wine storage tanks
- Fermenters
- Pneumatic presses
- Temperature regulating equipment
- Labelling machines

### Beer brewing



- Fermentation tanks
- Beer storage tanks
- Process vessels for use under atmospheric pressure
- Pressure vessels manufactured according to the PED Directive (97/23/EC)

### Food industry



- Storage tanks for milk and yoghurt
- Process vessels for milk and dairy products
- Tanks for production and storage of alcoholic drinks
- Tanks for production and storage of juices and fizzy drinks
- Storage tanks for water, oil and vinegar

### Pharma Biotechnology



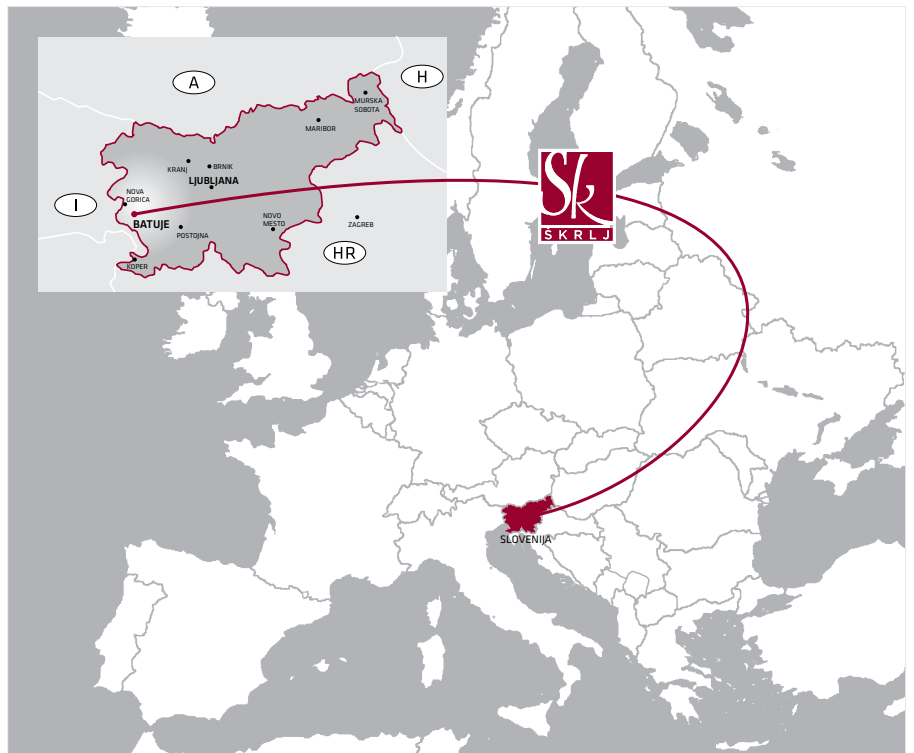
- CIP / SIP tanks
- Vessels for preparation of sterile water WFI and purified water PW
- Vessels for treatment of sterile and non-sterile solutions
- Reactors / bioreactors
- Fermenters
- Agitator vessels

### Other products



- Equipment for chemical industry
- Walk-on gratings, platforms and staircases
- Stainless steel drain channels
- Other stainless steel 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.: 00386 5 364 35 00  
Fax: 00386 5 364 35 25  
e-mail: [sk@sk-group.biz](mailto:sk@sk-group.biz)  
[www.sk-skrlj.com](http://www.sk-skrlj.com)

**GPS:**

13° 46' 16" E  
45° 53' 08" N

