

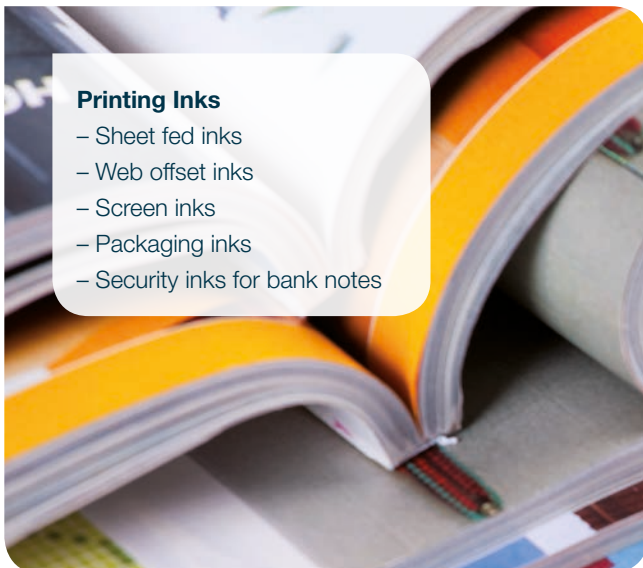
A close-up photograph of a three-roll mill. The image shows the curved, polished metal surfaces of the rolls. A yellow and green adjustment arm is visible at the top, with a clear tube connected to it. The lighting creates strong highlights and shadows on the metallic surfaces.

SD three-roll mills.  
**For top-quality  
requirements.**

# SD three-roll mills.

## Efficient processes for numerous industries.

SD three-roll mills are suitable for universal use and meet the highest quality requirements. They are characterized by straight-forward, user-friendly operation as well as quick and easy cleaning. Areas of application include low-viscosity to high-viscosity masses such as printing inks, artist's paints, industrial and architectural paints, toners, coating masses, greases and products used in the electronics, cosmetics and pharmaceutical industries.



### Printing Inks

- Sheet fed inks
- Web offset inks
- Screen inks
- Packaging inks
- Security inks for bank notes



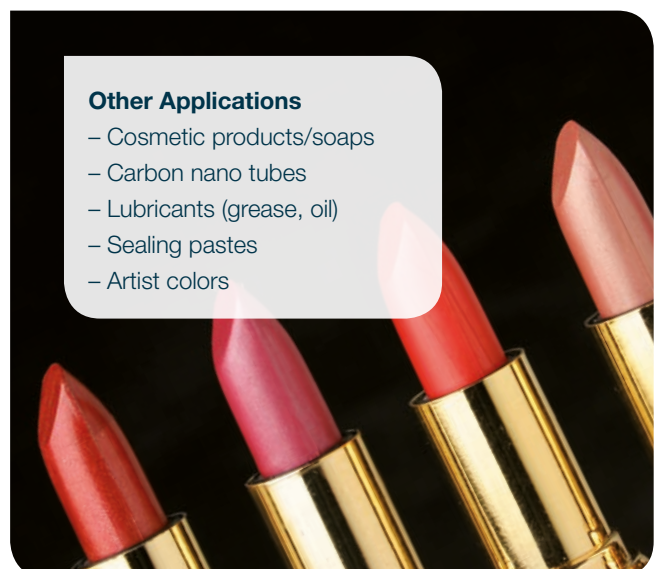
### Solar Technology

- Silver pastes
- Aluminium pastes
- Titanium dioxide pastes
- Glass solder pastes



### Electronic Industry

- Glass pastes for displays and plasma screens
- Phosphor pastes
- Metal pastes (Ni, Cu, Pt)
- PCB (Printed Circuit Boards)



### Other Applications

- Cosmetic products/soaps
- Carbon nano tubes
- Lubricants (grease, oil)
- Sealing pastes
- Artist colors



# Machine design. **Functional and safe.**



## **Hydrodynamic roll pressing system.**

This system guarantees a high throughput and constant, reproducible roll pressure in the three-roll mill's milling gap.



## **Manual roll-gap setting.**

An adjustment mechanism allows the gap size between the rolls to be defined precisely. This makes it possible to produce high-viscosity, medium-viscosity and low-viscosity products efficiently, in line with precise specifications.



## **CE-compliant safety concept.**

The wide range of protective devices allow a safe feeding of the rolls using a pump, a press-out or tub-tilting device, or manually. The electrically detected collecting trough protects the pinch point under the apron. The cleaning guard increases the safety of the operators.



## **Individual roll cooling.**

Open and closed cooling systems are available for our SD three-roll mills. The cooling capacity and processing temperature of each roll can be set individually.

## Overview of the machine series.

# The appropriate solution for any requirement.



### **SDY.**

#### **Economic batch size 1–50 kg.**

The SDY is the ideal solution for the laboratory, pilot projects and small batches. This three-roll mill has centrifugally cast rolls, comprises a continuous flow cooling system and is driven by a 2.2 kW motor. The roll gap is set manually and an explosion-proof version can be ordered as an option.



### **SDX.**

#### **Economic batch size 2–150 kg.**

The SDX is suitable for small to medium-sized production batches. The system is available with centrifugally cast rolls or alternatively with VIVA rolls. Motors with a capacity of 7.5 to 13.5 kW can be supplied. The three-roll mill can be explosion-proof and various protective devices are available.



### **SDW.**

#### **Economic batch size 150–250 kg.**

The SDW is used for the production of medium-sized batches. It has centrifugally cast rolls, comprises an automatic roll cooling system and is driven by a 30 kW motor. The roll gap is set manually. An explosion-proof version, product level monitoring, loading control and further technical enhancements can be ordered as an option.



## SDV.

### **Economic batch size 300–1000 kg.**

The SDV is a powerful three-roll mill for large production batches. This system has centrifugally cast rolls and various protective devices. Motors with a capacity of 55 or 75 kW can be supplied. An explosion-proof version can be ordered as an option.



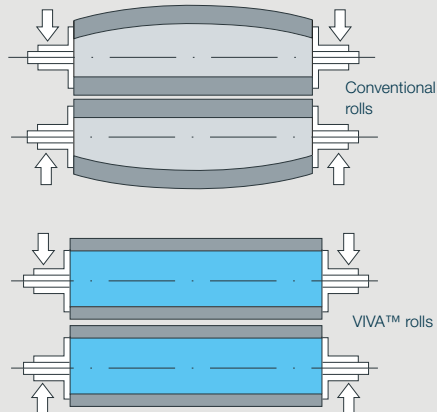
## SDVE.

### **Economic batch size 300–1000 kg.**

A programmable logic control system and electronically controlled roll cooling increase production reliability. The system is available with centrifugally cast rolls or alternatively with VIVA rolls.

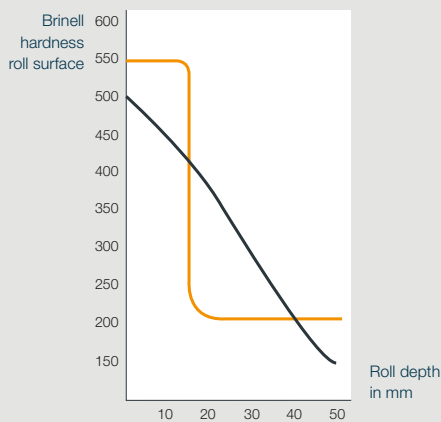
# Bühler rolls.

## Technology from the market leader.



### VIVA camberless rolls.

Three-roll mills without a camber work reliably – even when subject to changing requirements and different roll pressures. In contrast to conventional rolls, camberless VIVA roll technology can be used to cover the entire range of pressing forces. The camberless VIVA roll technology makes it possible to achieve a constant product quality over the entire roll length, regardless of the pressing force. This results in easily reproduced product qualities and increased efficiency.



### Roll hardness.

Thanks to a special casting process, Bühler rolls are very durable.

- Hardness curve of the Bühler centrifugally cast roll: the hardness remains constant up to a depth of 10–15 mm and only then decreases to the hardness of the soft gray cast iron.
- Hardness curve of the statically cast roll: the hardness curve falls directly after the roll surface.



### Ceramic rolls.

This type of roll is particularly suitable for metal-free applications and abrasive products. Furthermore, ceramic rolls are excellent for cooling, which means that they are exceptionally well-suited for the production of temperature-sensitive products.

Automation.

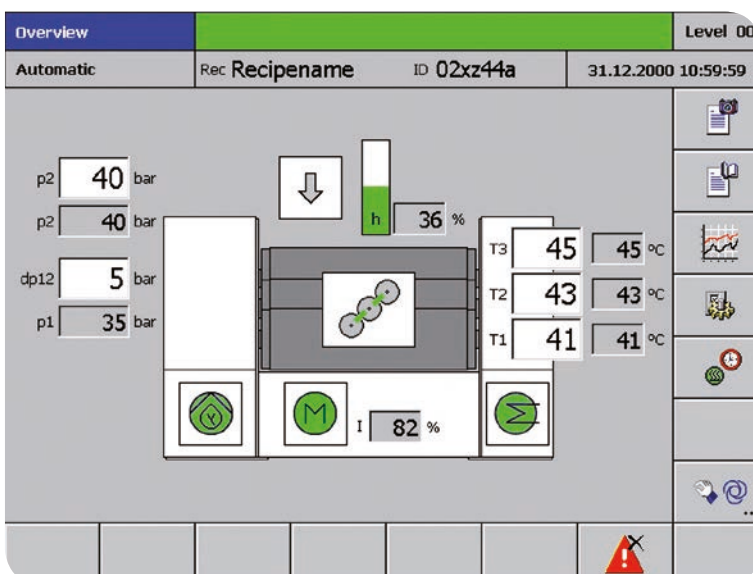
## Practice-oriented control concepts.

Manual control of SD three-roll mills is appropriate for simple requirements and constant recipes. A PLC control unit is available for demanding tasks and frequently changing recipes.



### Comfort control.

A compact Siemens control is used to set all process parameters on the machine manually. Operation is straight-forward and transparent.



### Premium control.

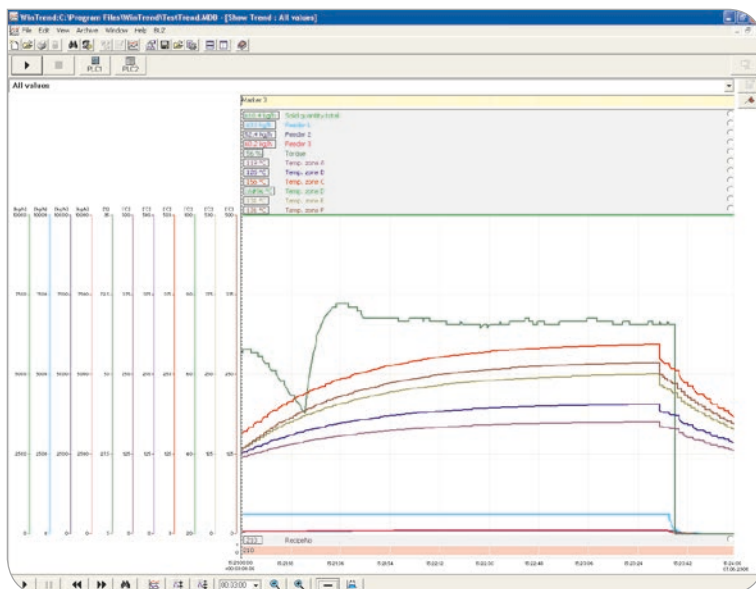
This control concept, based on the PLC Simatic S7, is highly practical. The graphical user interface with a touch panel is designed in a clear, straight-forward way, making it easy to train operators. Once all production data has been entered, the machine can be operated fully automatically. Easily understandable control circuits ensure reliable, reproducible machine operation.



# Automation.

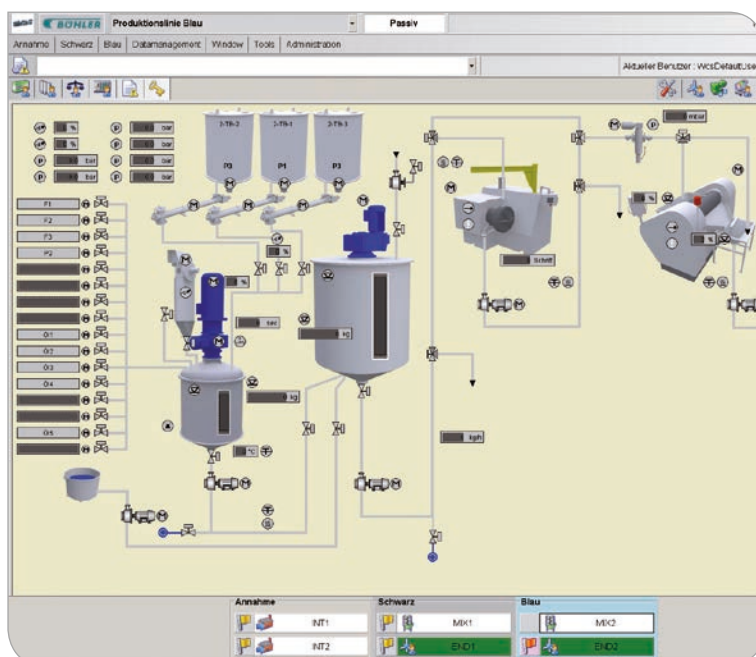
## Practice-oriented control concepts.

With batch tracking, reproducible product qualities and integration into fully automated production systems, our software solutions provide useful features for improving plant efficiency.



### Recording data with WinTrend.

WinTrend is a powerful software product that facilitates the task of recording measurements such as pressure, temperature or speed. Process data can be entered, represented graphically, exported and evaluated. Thanks to its flexibility and performance, the product can be used in a wide range of data recording situations.



### Interface to the control system.

The interface to the control system plays a key role for integration into fully automated production plants. The Bühler plant control system transfers the target value specifications to the machine control unit and receives the latest actual values. These values can be recorded as trend data, evaluated and archived. End-to-end production data acquisition is ensured. Operating effort is significantly reduced.



Press-out device.

**Increased productivity for your processes.**

This press-out device supplies three-roll mills with medium-viscosity to high-viscosity products. The reliable, tried and tested system is controlled by the three-roll mill's level control.



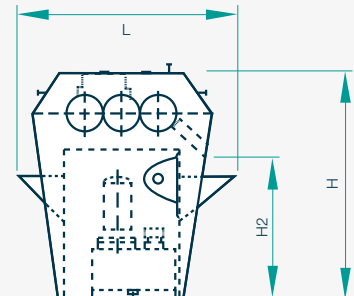
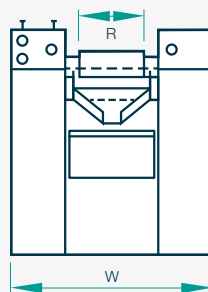
# SD three-roll mills machine series.

## Technical data.

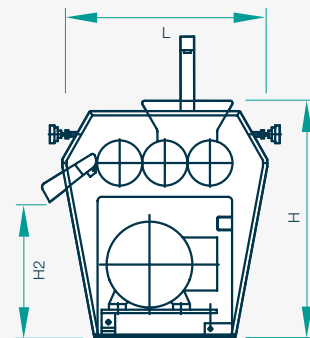
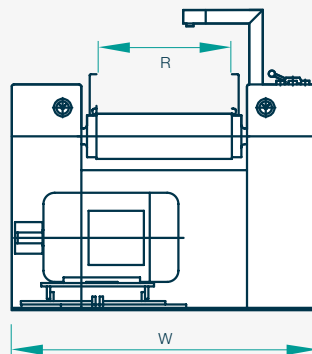
Specification	SDY200	SDX300	SDX600	SDW800	SDV1300	SDVE1300
<b>Drive</b>	2.2 kW	7.5 kW	13.5 / 17.5 kW	37.5 kW	55 / 75 kW	55 / 75 kW
<b>Rolls</b>	Open	Open, VIVA-C	Open, VIVA-S, VIVA-C	Open	Open	Open, VIVA-S
<b>Roll diameter</b>	150 mm	200 mm	200 mm	300 mm	400 mm	400 mm
<b>Cooling</b>	Open / open with tempering device	Open / circuit cooling	Open / circuit cooling	Open / open with tank	Open / open with tank	Open / open with tank / circuit cooling
<b>Max. speed for 3<sup>rd</sup> roll</b>	300 rpm	500 rpm	500 rpm	500 rpm	400 rpm	400 rpm, 500 rpm (VIVA only)
<b>Automation</b>	Comfort	Comfort	Comfort	Comfort	Comfort	Premium
<b>Design</b>	non Ex / ATEX	non Ex / ATEX	non Ex / ATEX	non Ex / ATEX	non Ex / ATEX	non Ex
<b>Regulation of gap size</b>	Mechanically	Mechanically	Mechanically	Mechanically	Mechanically	–
<b>Protective device</b>	Protective hood / draw-in guard	Protective hood / draw-in guard	Protective hood / draw-in guard	Protective hood / draw-in guard	Protective hood / draw-in guard	Protective hood / draw-in guard
<b>Cleaning guard</b>	Included	Included	Included	Included	Included	Included
<b>Dimensions</b>						
Length – L	990 mm	900 mm	900 mm	1410 mm	1740 mm	1740 mm
Width – W	810 mm	1055 mm	1355 mm	1910 mm	2560 mm	256 mm
Height machine – H	1000 mm	1070 mm	1070 mm	1355 mm	1585 mm	1585 mm
Height incl. protective hood – H1	--	--	--	1520 mm	1540 mm	1540 mm
Height apron – H2	655 mm	595 mm	595 mm	656–668 mm	780–795 mm	780–795 mm
Roll length – R	200 mm	300 mm	600 mm	800 mm	1300 mm	1300 mm
<b>Weight<sup>(1)</sup></b>	Approx. 536 kg	Approx. 1035 kg	Approx. 1285 kg	Approx. 3015 kg	Approx. 4700 kg	5000–5700 kg

All data constitutes approximations. Specifications subject to change.

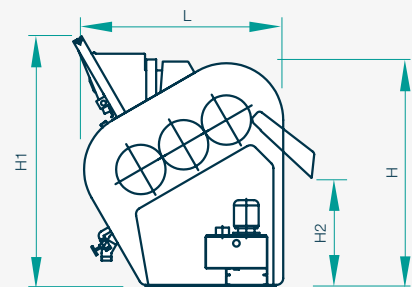
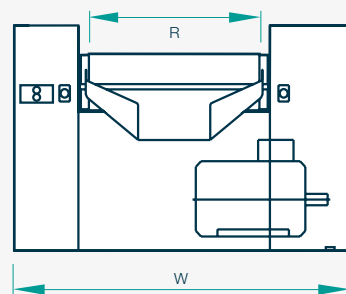
**SDY200**



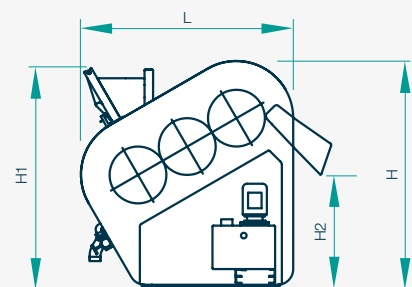
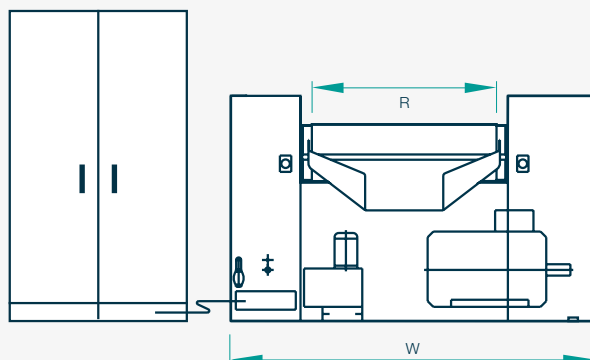
**SDX300 and 600**



**SDW800**



**SDV1300 and SDVE1300**



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191210\_SD\_Three-Roll Mills\_EN\_A4