

# Surface finishing technologies for the coin industry





# Rösler provides total finishing solutions



When it comes to surface finishing, Rösler is known to offer complete, well-engineered process solutions. Based on our comprehensive knowledge of mass finishing and shot blasting technologies, we can provide our customers with practically unlimited finishing solutions. In our state-of-the-art test lab, we conduct meaningful test trials to develop the optimum finishing processes for our customers because only complete solutions yield the best results. We are not simply offering specific surface finishing processes but we also supply perfectly matched auxiliary equipment and consumables. This approach has proven to be highly successful and has established Rösler as the global technological and market leader, with groundbreaking innovations and extremely high quality standards.



In more than 60 countries we support our customers with a comprehensive network of Rösler sales branches and independent distributors.

Rösler is the only supplier in its field maintaining test labs all over the world, where we develop process solutions under actual operating conditions and select the most suitable equipment. This approach saves our customers not only long travel distances and high freight costs, but it also provides them with products and processes that have been extensively tested by our specialists under the most severe operating conditions.



DIN EN ISO 9001 and 50001

## Global network of test labs

Test labs for mass finishing and shot blasting at the Rösler headquarters in Untermerzbach:

- ▶ More than 95 mass finishing and shot blast machines.
- ▶ About 2,700 m² (27,000 sqft) of workspace

Our teams in USA, Great Britain, France, Netherlands, Belgium, Spain, Turkey, Romania, Italy, Austria, Switzerland, Russia, Brazil, Serbia and India provide similar test lab services.

## Complete solutions

Besides demanding high quality, environmentally safe and efficient products, our customers also prefer to purchase all process components from one single source. That is why we offer not merely the processing equipment but the complete package with perfectly matched consumables. This guarantees the best finishing results and absolute process safety. Our global service teams take care of the delivery and the installation for you. Qualified engineers train our customers right at their location. And, of course, our after-sales service members will answer all of your questions. Quick supply of all spare parts and professional consultation by our experienced process specialists ensure that your finishing processes are always running smoothly.

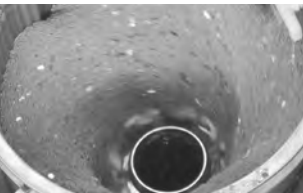
## Rösler Academy

Knowledge transfer in the fields of mass finishing and shot blasting from a single source

As the only supplier in the world that offers both mass finishing and shot blasting, we are committed to passing our knowledge and knowhow to our customers through seminars covering a wide range of surface finishing subjects. Gain in depth knowledge of how mass finishing works, how blast media passes through a shot blast machine, and how you can increase your efficiency and productivity with optimum control and testing methods for cleaning and recycling your process water. You can find a complete list of our training seminars for mass finishing and shot blasting using the following link: [www.rosler-academy.com](http://www.rosler-academy.com).



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# Finishing systems for the mints and the coin industry

## Fields of application

Rösler offers numerous innovative finishing solutions for the coin industry along with state-of-the-art equipment specifically designed for this field.

	Blanks – for circulation coins		Blanks – for collector and commemory coins and medals	Raw dies	Minting dies; final stage of the motive
Process	Degreasing (after blanking and rimming)	Cleaning (pickling) + polishing + passivation + drying (after blanking, rimming, plating and heat treatment)	Cleaning (mild pickling) + polishing + passivation + drying (after blanking, knurling and heat treatment)	Removing of the machining lines	Surface smoothing and polishing after machining
Mass finishing equipment	Coin polishing system, Rotary vibrator, Long Radius vibrator, Multi Channel vibrator or drum washing machine	Mint polishing system MPA.../A2	Mint polishing system MPA.../A2	Drag finisher or, alternatively, rotary vibrator, type "R...DL/2"	Rotary vibrator, type "R...DL/2", drag finisher
Media and compounds	Ceramic media	Stainless steel spheres and satellites, ceramic media	Stainless steel spheres and satellites, porcelain polishing media	Plastic and ceramic media, dry polishing media	Plastic and ceramic media, dry polishing media
Post treatment	Hot air rotary vibratory drier, rotary vibratory drier with "Supervelat" drying medium	Hot air rotary vibratory drier with "Supervelat" drying medium	Hot air rotary vibratory drier with "Supervelat" drying medium	---	---
Process water cleaning	Centrifuge	Evaporator or chemical wastewater cleaning system	Evaporator or chemical wastewater cleaning system	Centrifuge	Centrifuge



# Circulation coins

Globally, the professional surface finishing of blanks for circulation coins is done in fully automatic Rösler centrifugal disk finishing systems, type MPA. The equipment design, perfected down to the last detail, is available in different sizes and versions and can be adapted to a broad range of finishing tasks.



## Loading unit

Loading unit for the raw coin blanks consisting of a part bin discharge unit and a vibratory hopper on weighing cells.



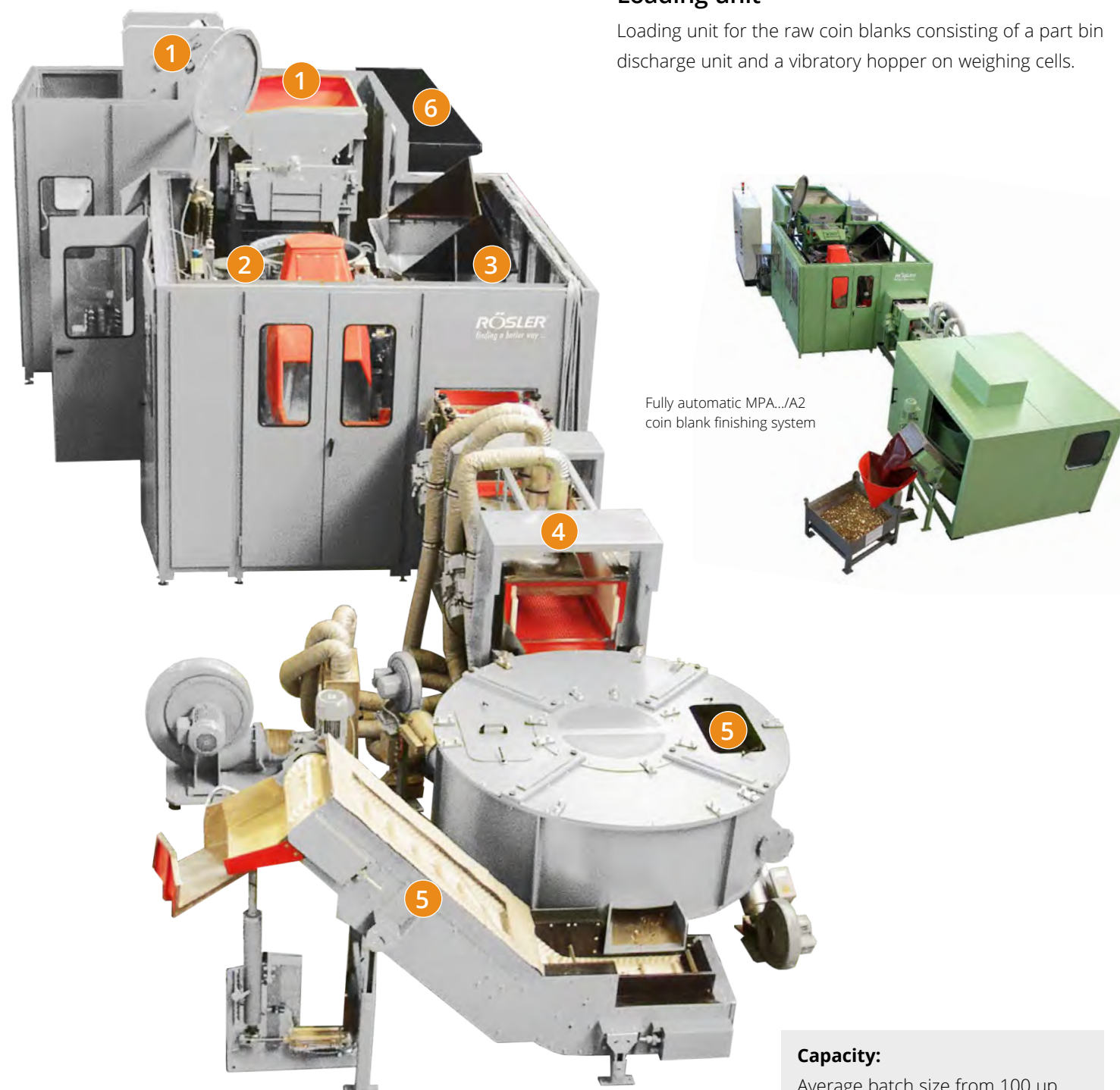
## Processing bowl

Designed for optimum material flow and is completely acid resistant



## Hot air rotary vibratory drier and work piece transfer

Continuous flow hot air drying system for stain- and dust-free drying of the finished coin blanks. Transport unit for transferring the finished blanks into special transport bins.



Fully automatic MPA.../A2 coin blank finishing system



## Intermediate ("vario") hopper/ vibratory screening machine

Intermediate vibratory hopper includes electronic controls for the inclination angle and vibratory speed. Vibratory screening machine equipped with large separation screens, tumbling steps, undersize media discharge system and work piece spray rinsing unit with water recycling.



## Dosing station for the pickling, polishing and passivation compounds

Dosing system with electronic volume adjustment and flow control.



## Intermediate step after the finishing process

Vibratory transport unit with spray rinsing system for demineralized water; contains a section for pre-drying the finished blanks with an ambient air blowing system.



## Controls

The intuitively designed visualization of the finishing system and the various process stages facilitates its utilization in line with the industry 4.0 standards.

### Capacity:

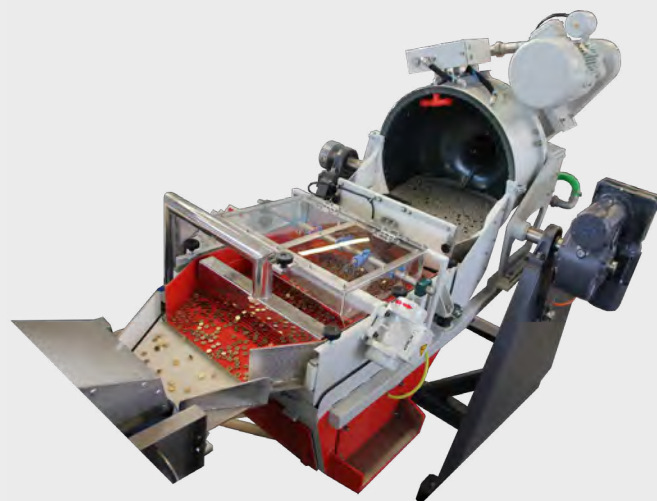
Average batch size from 100 up to 450 kg (220 up to 1,000 lbs.), depending on the machine size.



# Collector coins

The blanks for collector and commemory coins as well as medals require an extra careful finishing step prior to coining. Fully automatic processing with multiple treatment programs and extremely gentle work piece transfer without any tumbling steps allows the perfect, impingement-free processing of the most delicate blanks.

Processing unit, type MPA...E/SA

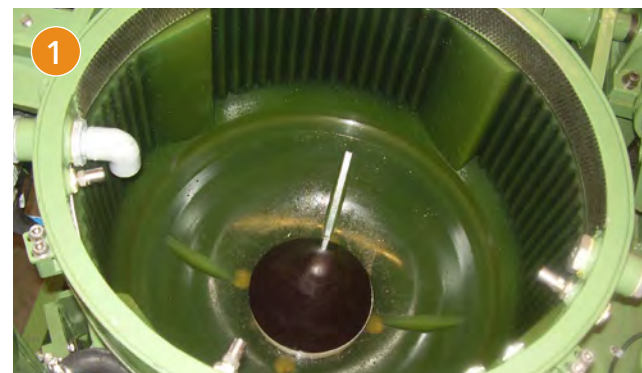
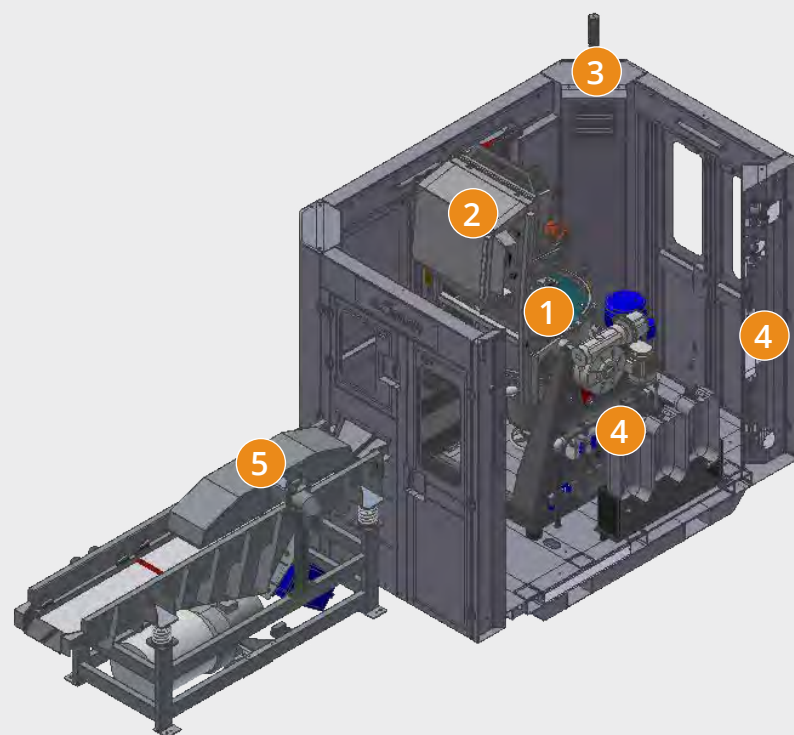


Compact and versatile...

Sturdy, easy to operate systems for small coin batches and special finishing tasks, for example, for blanks and bullions made from gold, etc.



Coin blank finishing center and Linear-textile-dryer



## Processing bowl

The special shape and profile of the rotating spinner and stationary work bowl ensures not only the intensive but also gentle movement of the blanks with all kinds of processing media.



## Separation unit

The transfer of the coin blank/media mix to the separation area takes place smoothly without any hazardous drops. Vibratory speed and dosing quantity are controlled by the respective treatment programs. Intermediate process stages like work piece cleaning and pre-drying are fully integrated into the overall system.



## Controls

Modern electronic components paired with specially developed software make the operation of the coin blank finishing systems easy and foolproof.



## Compound dosing unit with numerous safety features

Precise dosing of the compounds for the various process stages is controlled and monitored by PLC programs precisely adapted to a range of different coin blank types.



## Linear-textile-dryer

The finished coin blanks, embedded between two exchangeable sheets of moisture absorbing cloth, are gently transported through the linear vibratory drying tunnel. Even the most delicate coin blanks can be dried stain-free and dust-free without any nicking whatsoever.



# Coining dies

Perfect surface finishing of the coining dies is essential for achieving the desired coin qualities. Rösler has developed special surface smoothing and polishing methods for the hubs as well as for the dies with the final motive.

## Equipment features - drag finishers/rotary vibrators

Drag finishing, as well as processing in rotary vibrators with the work pieces mounted to special fixtures, offer a wide range of treatment options, from intensive cut-down to surface smoothing to high gloss polishing. Due to the fact that the hubs and dies are mounted to fixtures, they will not touch each other during the process.



Drag finisher

Hubs with a homogeneous high gloss finish are ideal for creating the final coining dies.

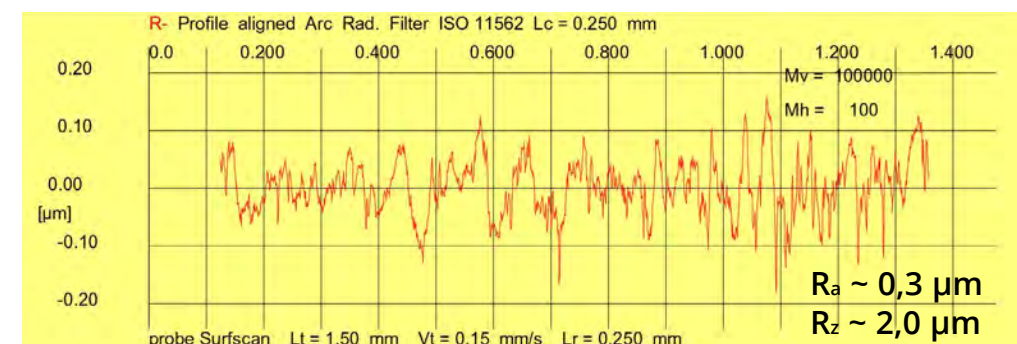


## Dies with the final motive

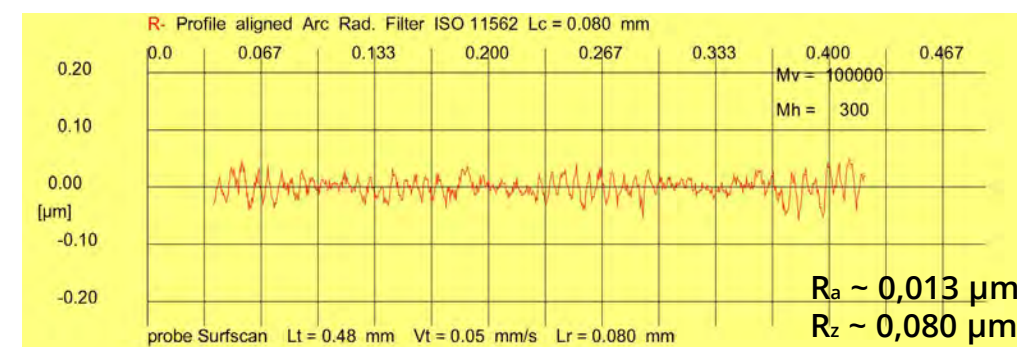
Defects, like too rough or irregular surfaces, are eliminated by a multi stage mass finishing process in special rotary vibrators. The result is a mirror polish without any defects whatsoever.



Raw die



Final die



Special rotary vibrator  
Up to 20 dies can be processed in one single batch. These special rotary vibrators can be used for polishing of the hubs as well as placing the final mirror finish on the dies with the final motive.





## Media and compounds

Different process technologies with different media and compounds are utilized for finishing the surface of coin blanks and coining dies. Rösler is the world's leading supplier of media and compounds, all made in-house. Our company strives to utilize the most modern, cost efficient manufacturing technologies combined with eco-friendly raw materials. Rösler consumables are designed to allow environmentally compatible process water recycling or the use of evaporators and chemical wastewater treatment systems.



Compounds, media and paste



Media for dry polishing



Drying media



Stainless steel satellites



Stainless steel spheres



Porcelain polishing media



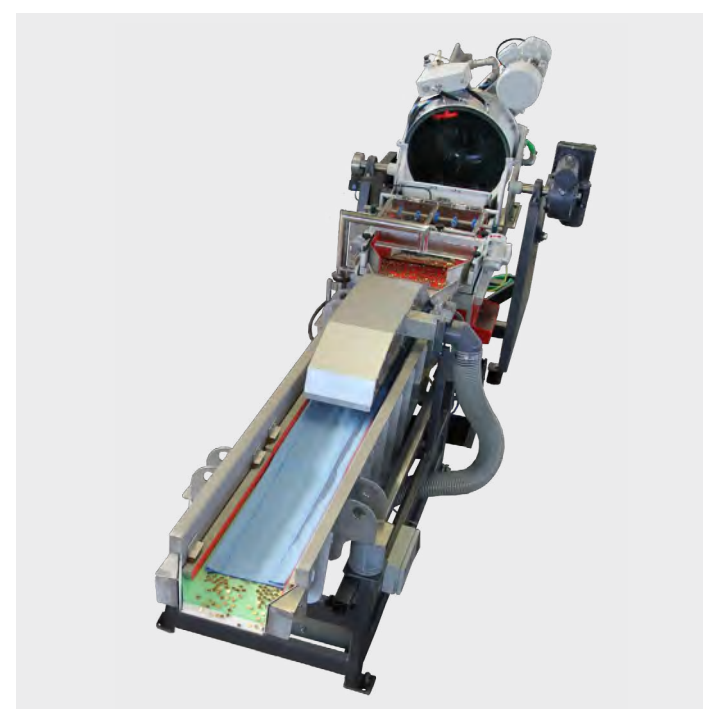
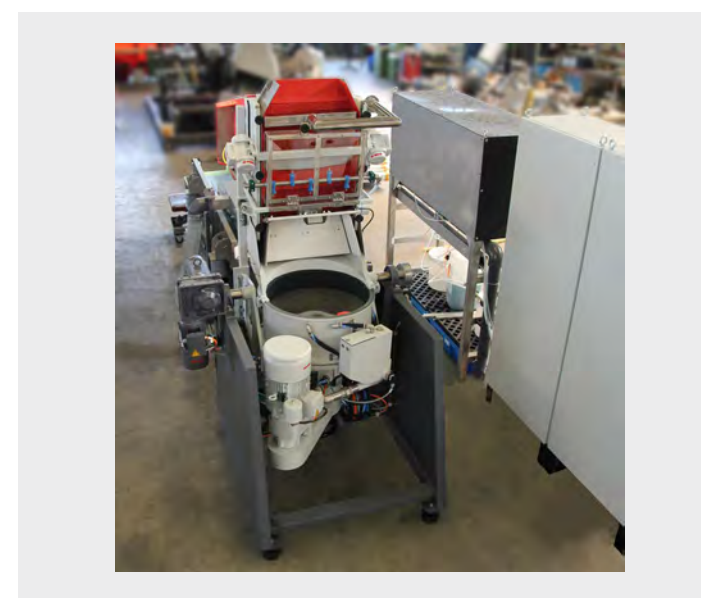
Ceramic media



Process water recycling systems

## Equipment technology

Rösler fully automatic systems for coin blanks and coining die finishing are in use all over the world. Our equipment is designed and built to meet the specific requirements of our customers.







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