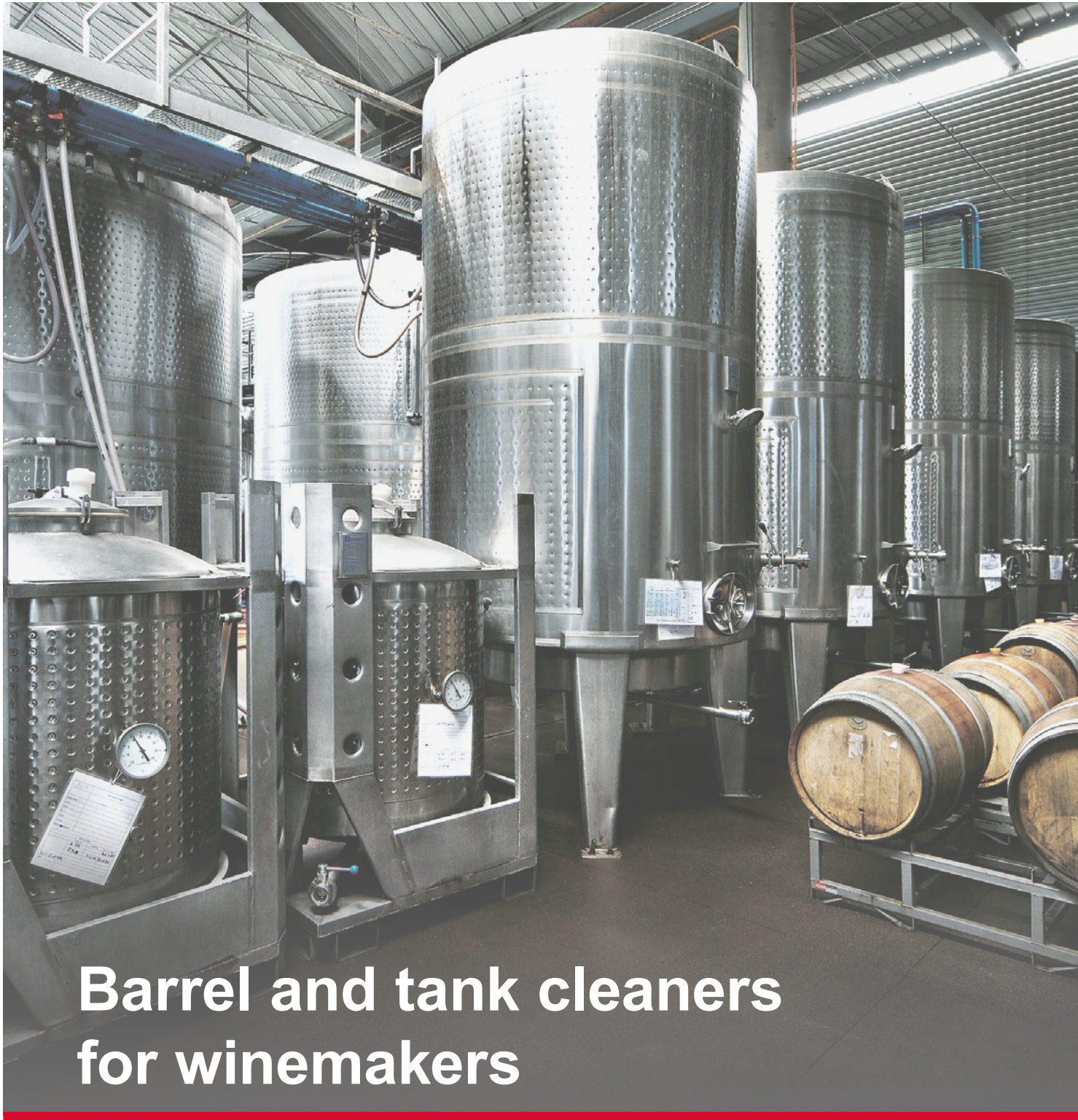


MOOG
CLEANING SYSTEMS 



Barrel and tank cleaners for winemakers

More effective | more efficient | more reliable

Contents

The company	4
Viniculture	5
Barrel cleaning systems	6
BRA barrel cleaners	8
BRM	10
FR1	11
FR2 Standard	12
FR2 Automatic	13
FR Duplex	14
Linerique	15
Internal tank cleaners	16
E-series internal tank cleaners	18
H-series internal tank cleaners	20
Tank mount	22
Cleaning wooden casks without chemicals	23

The company

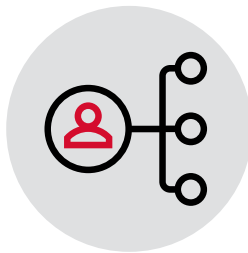
MOOG Cleaning Systems is a Swiss family-run business with more than 50 years of experience in cleaning technology. Moog supports food and drink manufacturers with the cleaning of their reactors, mixers, tanks, transport containers, pipelines and production areas.



Swiss quality

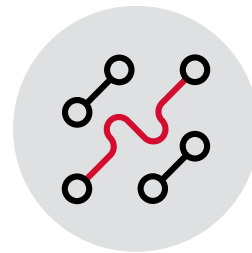
As a Swiss family-run business, we combine tradition and precision with innovation. Our work is governed by high quality, a strong customer focus and conservation of resources – from development and production to customer services.

Our high-pressure systems and cleaning devices are developed, assembled and tested in-house. The components required are produced in Switzerland on state-of-the-art machines, using premium materials and the highest standards. Low-pressure cleaning heads are sourced from selected partners and are manufactured for MOOG in Germany according to the highest quality standards.



Comprehensive expertise

With over 50 years in professional cleaning technology, MOOG has extensive specialist experience – in equipment engineering and production as well as application engineering. We are well-versed in the specific requirements of the food industry – and we have learned a lot from many years of cooperation with our loyal customers.



High flexibility

MOOG Cleaning Systems is able to access crucial components in-house when designing and constructing cleaning systems. This not only secures the outstanding cleaning performance and high reliability of these systems, but it also allows us to respond flexibly to specific customer requirements.

Customer benefits

- Specialist in innovative cleaning solutions
 - Swiss quality and reliability
 - Many years of international experience
 - Flexibility of a mid-sized business
-





Viniculture

For many years, winemakers from every wine region of note have used MOOG tank and barrel cleaners to automatically clean and disinfect their wine barrels and wine tanks.

Container	Application	Benefits
Barrels (225–600 liters)	Automatic, thorough, gentle and consistent removal of deposits (residual skins, tartar, etc.)	• Saves staffing costs • Saves time and water • Conserves value of barrels • Reliable results
	Automatic disinfection using superheated steam	• Prevents/removes brettanomyces, etc. in the wood
Fermentation/Piece barrels (up to 100 hectoliters)	Automatic, thorough, gentle and consistent removal of deposits (residual skins, tartar, fermentation foam, etc.)	• Saves staffing costs • Saves time and water • Conserves value of barrels • Consistently good results
Variable-capacity tanks (up to 60 hectoliters)	Automatic and thorough removal of deposits (residual skins, fermentation foam, etc.)	• Saves staffing costs • Saves time and water • Reliable results
Storage tanks made from stainless steel, concrete, wood, etc. (up to 100 hectoliters)	Automatic and thorough removal of deposits (tartar, etc.)	• Saves staffing costs • Saves time and water • No chemicals used

+ Excellent results

High-pressure cleaning with hot/cold water for a thorough clean. Reproducible results thanks to programmed jet spray.

+ High reliability

High-quality materials, sturdy design, precision production and simple maintenance ensure reliable operation and a long service life.

+ Occupational safety/ergonomics

Automation eliminates the need to climb into tanks and improves ergonomics for employees. Enhanced safety with no chemicals used.

+ Outstanding value for money

Saves on staffing, time and resource requirements.

+ Conservation of resources

Low water consumption, no use of chemical cleaning agents.

+ Comprehensive product range

From hand-held devices for smaller wineries to fully automatic cleaning lines for barrels of different sizes along with containers and tanks. MOOG offers the most comprehensive product range.

Barrel cleaning systems

Barrel cleaning systems by MOOG for gentle and effective cleaning of your barrels. Use only the best cleaning devices – it's what your barrels deserve!

All MOOG barrel cleaning systems use a three-dimensionally rotating spray head, guaranteeing effective and gentle cleaning of the entire internal surface of the wine barrel with a defined 360-degree spray pattern.

The slowly rotating spray head tackles deposits without damaging the surface of the wood.

Barrel cleaners without an integrated high-pressure unit can be used with any professional high-pressure cleaner, whether stationary or mobile.

With BRA HD and HD Flex, MOOG has introduced the first barrel cleaners to be powered by water hydraulics. They offer the same impressive cleaning results as electrically powered devices, but with even greater occupational safety (no cables).

MOOG barrel cleaning systems deliver the following benefits:

- **The right device for businesses of all sizes and all types of barrel storage**
- **Low water consumption thanks to precise jet spray**
- **Premium quality, sturdy construction**
- **Automatic, semi-automatic or manual loading and positioning**
- **Steam disinfection available as an option for many systems**
- **Comprehensive range of options and accessories**





BRA

1 barrel



BRM

1 barrel on rack



FR1

1 barrel



FR2 Standard

2 barrels on rack



FR2 Automatic

2 barrels on rack



FR Duplex

2 barrels



LINERIQUE

3–8 barrels

Overview	BRA	BRM	FR1	FR2	FR Duplex	Linerique
For 225–300-liter barrels	●	●	●	●	●	●
For 300–500/600-liter barrels	○		○	○	○	○
Cold-water cleaning	●	●	●	●	●	●
Hot-water cleaning	●	●	●	●	●	●
Use of steam			○	○	○	○
Suction removal of waste water	●					
Waste water runs off via bunghole		●				
Waste water runs off via collecting tray			●	●	●	●

● Standard equipment

○ Available as accessory/option

BRA barrel cleaners

MOOG Cleaning Systems invented this product category back in 1999. Since then, more than 5,000 devices have been supplied to winemakers worldwide.

Excellent cleaning results, a superior range of functions, premium components and the widest product range on offer position MOOG as the global market leader for hand-held barrel cleaning devices.

Highlights

- Thorough, complete and gentle 360° interior cleaning
- For all 225–300- and 600-liter barrels
- Easy insertion for bunghole diameters from 37 mm
- Integrated waste water suction removal with visual monitoring
- Secure attachment to barrel using patented support stand
- Cordless model powered by water hydraulics



BRA Simplex



BRA Reference



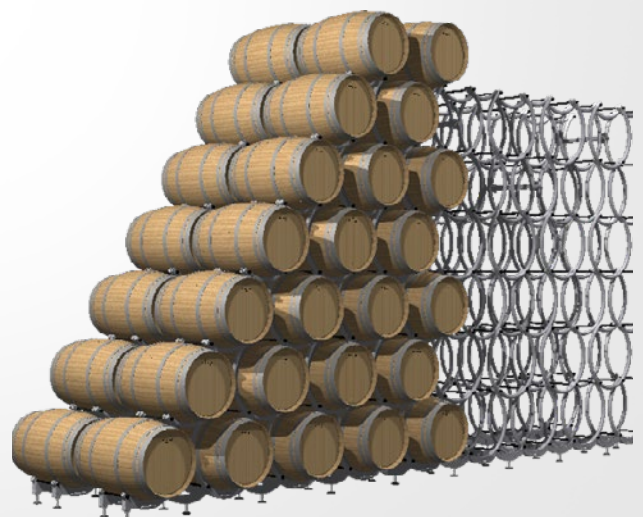
BRA Reference Flex



BRA HD



BRA HD Flex



Overview	BRA Simplex	BRA Reference	BRA HD	BRA Reference Flex	BRA HD Flex
Barrels stored in rows	●	●	●	●	●
Barrels stored in stacks				●	●
Barrel sizes 225–300 l	●	●	●		
Barrel sizes 225–228 l				●	●
Barrel sizes up to 600 l	◊	◊	◊		
Bunghole size	≥37 mm	≥37 mm	≥37 mm	≥37 mm	≥37 mm
Water quantity	13–20 l/min	13–20 l/min	15–20 l/min	13–20 l/min	15–20 l/min
Water pressure	80–120 bar	80–120 bar	80–120 bar	80–120 bar	80–120 bar
Pressure limitation	◊	◊	◊	◊	◊
Water temperature	<95° C	<95° C	<90° C	<95° C	<90° C
Speed	17 rpm	17 rpm	17 rpm	17 rpm	17 rpm
Material for water circulation	Inox 316L	Inox 316L	Inox 316L	Inox 316L	Inox 316L
Unbreakable inspection glass		●	●	●	●
Adjustable barrel support stand		●	●	●	●
Flexible suction tube				●	●
Jet nozzles gentle on wood	5° fan jet	5° fan jet	5° fan jet	5° fan jet	5° fan jet
Wall power supply	●				
Integrated power supply		●		●	
Cordless (water hydr.)			●		●
Stainless steel casing		●	●	●	●
Tumbler switch	●				
Push button with LED		●		●	
Water inlet	M22 x 1.5	M22 x 1.5	M22 x 1.5	M22 x 1.5	M22 x 1.5
Electric	115/230 V	115/230 V		115/230 V	
Weight	5.3 kg	6.8 kg	8.9 kg	6.8 kg	8.9 kg

● Standard equipment ◊ Available as accessory/option

BRM

The world's only barrel cleaning device for maximum efficiency. Barrels stay on the rack while the barrel cleaner is inserted straight into the barrel from below.

The device is powered by water hydraulics and is therefore cordless, with cleaning initiated by opening the ball valve. The unique and incredibly compact high-pressure, ball-shaped spray head allows the device to be inserted into the bunghole quickly without causing any damage.



BRM

BRM Compact

Equipment features

- For 225–300-liter barrels on rack
- MOOG RK high-pressure spray head
- Cleaning head powered by water hydraulics
- Wheel-mounted for high mobility
- Single-lever operation
- BRM Compact is shorter with no handle

Accessories

- Loading stand for barrels with no rack

Highlights

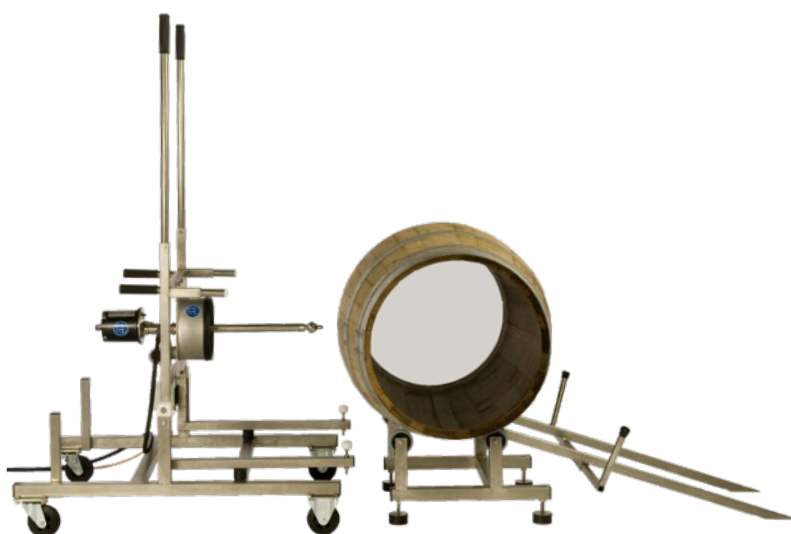
- No need to relocate for cleaning; barrels stay on their rack.
- Easy insertion into barrel using swiveling, rounded cleaning head.
- Little space required (between barrel base and floor/between rack struts) thanks to small wheels and narrow safety guard.
- No electric cable, just one supply line as powered by water hydraulics.

Technical data		BRM	BRM Compact
Barrel sizes	l	225–300	225–300
Bunghole size	mm	≥38	≥38
Water quantity	l/min	13–20	13–20
Water pressure	bar	80–120	80–120
Water temperature	°C	≤90	≤90
Spray head rotation	rpm	17	17
Jet nozzles		5°	5°
Water connection		M22x1.5	M22x1.5

Weight depends on shaft length and equipment

FR1

Mobile barrel cleaning system for manual loading. Barrels are simply rolled over a flat ramp onto the loading stand and tilted by hand into the cleaning position. An adjustable Combi version is available for larger barrels of up to 600 liters.



FR1

Equipment features

- For 225–300-liter barrels
- Incredibly easy loading and positioning
- Sturdy construction for many years of use
- Fits all barrels with bungholes >38 mm
- Collecting tray for waste water

Accessories and options

- Adjustable Combi version for barrel sizes from 225 to 600 liters
- Timer switch with automatic shutdown

Highlights

- **Sturdy device for straightforward operation**
- **Low investment and operating costs**
- **Unique MOOG RK spray head**

Technical data		FR1	FR1C
Barrel sizes	l	225–300	225–600
Bunghole size	mm	≥38	≥38
Water quantity	l/min	13–20	13–20
Water pressure	bar	80–120	80–120
Water temperature	°C	≤90	≤90
Spray head rotation	rpm	17	17
Jet nozzles		5°	5°
Water connection		3/8"	3/8"
Steam connection		Ja	Ja
Electr. cable	VAC	230	230
Weight	kg	50	65

Weight depends on shaft length and equipment

FR2 Standard

Simultaneous cleaning of two barrels on rack, fast loading and unloading by forklift. MOOG RK spray heads are inserted by hand with the help of spring tension.

New version of the tried-and-tested FR2 model: programmable cleaning process (residual yeast, cold/hot water, steam, draining) using state-of-the-art control technology, depending on the options selected. Operation and programming via touchscreen.



Equipment features

- For two 225–300-liter barrels
- Stored on rack, loading/unloading by forklift
- Manual positioning and insertion of the spray heads
- Programmable cleaning process
- Integrated high-pressure supply
- High or low-pressure hot water inlet (up to 60°C)
- High-temperature pump up to 80°C
- Four wheels (including two with brakes) for ease of movement

Accessories and options

- Combi version for different barrel sizes (225–600 liters)
- Adjustable rack mounting
- Residual yeast collection
- Connection for external hot water high-pressure cleaner
- Connection for steam disinfection
- Quick-release connectors

Highlights

- **Cost-efficient and thorough barrel cleaning**
- **Automatic loading and unloading, manual positioning of barrels**
- **Unique MOOG RK spray heads**

Technical data

FR2 Standard

FR2 Combi

Technical data		FR2 Standard	FR2 Combi
Barrel sizes	l	225–300	225–600
Bunghole size	mm	≥38	≥38
Water quantity	l/min	21	21
Water pressure	bar	80–120	80–120
Water temperature	°C	≤80	≤80
Spray head rotation	rpm	17	17
Jet nozzles		5°	5°
Water connection		3/8"	3/8"
Steam connection		Yes	Yes
Electr. cable	VAC	400	400
Weight	kg	280	350

Weight depends on shaft length and equipment

FR2 Automatic

Fully automatic cleaning of two barrels stored on rack. Fast loading and unloading by forklift. Automatic positioning of barrels and insertion of spray heads.

Programmable cleaning process (residual yeast, cold/hot water, steam, drying) using state-of-the-art control technology, depending on the options selected. Operation and programming via touchscreen.



Equipment features

- For two 225–300-liter barrels
- Stored on rack, loading/unloading by forklift
- Automatic barrel positioning and spray-head insertion
- Programmable cleaning process
- Integrated high-pressure supply
- High or low-pressure hot-water inlet (up to 80°C)

Accessories and options

- Combi version for different barrel sizes (225–600 liters)
- Adjustable rack mounting
- Automatic residual yeast collection
- Connection for steam disinfection
- Four wheels (including two with brakes) for ease of movement
- Connection for remote servicing

Highlights

- Thorough barrel cleaning with very high throughput
- Fully automatic operation
- Unique MOOG RK spray heads

Technical data

FR2 Automatic FR2 Automatic Combi

Technical data		FR2 Automatic	FR2 Automatic Combi
Barrel sizes	l	225–300	225–600
Bunghole size	mm	≥38	≥38
Water quantity	l/min	21	21
Water pressure	bar	80–120	80–120
Water temperature	°C	≤80	≤80
Spray head rotation	rpm	17	17
Jet nozzles		5°	5°
Water connection		3/8"	3/8"
Steam connection		Yes	Yes
Electr. cable	VAC	400	400
Weight	kg	580	620

Weight depends on shaft length and equipment

FR Duplex

Barrels are loaded and positioned by hand while cleaning is fully automatic. The cleaning process is freely programmable, with cold and hot water high-pressure cleaning, steam disinfection and air drying available.

A touchscreen allows the system status to be managed and monitored and the different stages of the cleaning process to be programmed.



Equipment features

- For two 225–300-liter barrels
- Barrel trolley and wheels for easy barrel positioning
- MOOG RK high-pressure spray heads
- Integrated high-pressure supply
- Touchscreen with 5 m cable, freely positionable

Accessories and options

- Combi version for barrels from 225 to 500 liters
- Hot water inlet LP with integrated HT pump
- Hot water inlet HP with activation of external device
- Steam connection for steam generator with steam pressure >1 bar
- Warm air connection for air drying
- Residual yeast collection
- Removable lees reservoir for collecting residual yeast

Highlights

- Automatic, simultaneous cleaning of two barrels
- Ramp with gentle incline for ease of loading and unloading
- Comprehensive cleaning options, now also with steam disinfection and drying
- State-of-the-art system control, operated entirely via touchscreen

Technical data		FR Duplex	FR Duplex Combi
Barrel sizes	l	225–300	225–500
Bunghole size	mm	≥38	≥38
Water quantity	l/min	21	21
Water pressure	bar	80–120	80–120
Water temperature	°C	≤80	≤80
Spray head rotation	rpm	17	17
Jet nozzles		5°	5°
Water connection		3/8"	3/8"
Steam connection		Yes	Yes
Electr. cable	VAC	400	400
Weight	kg	250	320

LINERIQUE

LINERIQUE is a highly modular system that can be configured to suit customer requirements.

The number and type of different cleaning stations, along with the manner of loading and unloading can be selected by the customer.



Equipment features

- For 225–300-liter barrels
- Different options for loading and unloading
- Stations for residual yeast collection, cold/hot water cleaning, disinfection, drying
- Number and type of stations are freely selectable
- Fully automatic process, peak operating safety
- Large touchscreen with modern user interface for full system monitoring
- Integrated high-pressure supply

Accessories and options

- Automated barrel movement
- Tilt/lift mechanism for loading and unloading
- Remote servicing

Highlights

- Thorough barrel cleaning with maximum throughput
- Fully automatic cleaning line
- Modular system with many configuration options
- Sturdy and safe mechanism for lifting and moving the barrels
- Unique MOOG RK spray heads

Technical data

LINERIQUE

Barrel sizes	l	225–300
Bunghole size	mm	≥38
Water pressure	bar	80–120
Water temperature	°C	≤80
Spray head rotation	rpm	17
Jet nozzles		5°
Steam connection		Yes
Electr. cable	VAC	400
Weight	kg	Dependent on the number of stationsstations

Weight depends on shaft length and equipment

Internal tank cleaners

Three-dimensionally rotating spray heads with defined jet spray. Delivering the most cost-effective, high-performance and reliable clean for the inside of wine tanks.

All MOOG Cleaning Systems tank cleaners use a three-dimensionally rotating spray head developed and manufactured in Switzerland.

Its defined jet spray with a 360-degree spray pattern guarantees effective and reliable cleaning of the entire internal surface very quickly and using little water.

The spray heads, connecting tubes and power units are modular in design and can be combined as required. The tank cleaners can be used together with any professional high-pressure cleaner – mobile or stationary.

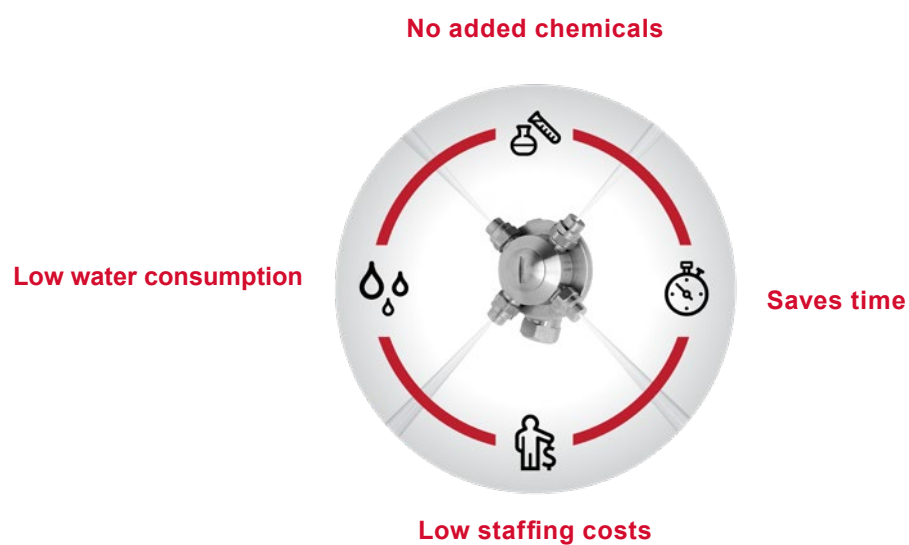
The tank cleaners from MOOG Cleaning Systems offer the following benefits:

- **Operating pressure up to 250 bar**
- **Defined jet spray and maximum leak-tight construction for excellent performance and low water consumption**
- **Top-quality construction and production, premium stainless steel grades**
- **Eight standard lengths from 140 to 2,000 mm, custom lengths from 170 to 4,000 mm**
- **Compact design and low weight**
- **Simple to use, low maintenance costs**
- **Comprehensive range of accessories**

With its H-series tank cleaners, MOOG provides unparalleled cleaning devices powered by water hydraulics.

A high-pressure supply line alone is enough to turn the spray head and generate high-pressure jets at the nozzles.





Overview		E-series	H-series
Electrically powered		♣	
Powered by water hydraulics			♣
Max. operating pressure	bar	250	200
Max. flow rate	l/min	80	80
Max. operating temperature	°C	120	90
Variable rotation speed			♣
Fixed rotation speed		♣	
Splashproof power unit		♢	♣
Ease of maintenance		High	Very high
Noise emissions		Low	Low

♣ Standard equipment

♢ Available as accessory/option

Internal tank cleaners E-series

These devices deliver the most cost-effective solution with outstanding cleaning performance wherever electric power units can be used.

They are suitable for carrying out all kinds of tank cleaning in the wine cellar thanks to the different MOOG cleaning heads and connecting tube lengths combined with motor casings made from sturdy plastic or stainless steel.

Highlights

- Electric power unit for 230, 115, 48 or 24 V alternating current
- Excellent value for money
- Fixed speeds of 11, 17, 24 or 33 revolutions per minute
- Long service intervals, low maintenance costs

Accessories

- Stainless steel casing for IP 65
- Rubber safety cover for standard casing
- On/off switch
- Mechanical spray head protection
- Solvent-resistant seals



ER-55 / ER-40

ERK-37



Technical data

ER-40 / ER-55

ERK-37

Max. operating pressure	bar	250	180
Max. flow rate	l/min	50	30
Max. operating temperature	°C	120	120
Jet spray coverage	Degrees	360°	360°
Rotation speed	rpm	11 / 17 / 24 / 33	
Type of current	VAC	230 / 115 / 48 / 24	
Weight	kg	Weight depends on shaft length and equipment	

ER-40

ER-55

ERK-37

Stainless steel 316L	♠	♠	♠
Number of nozzles	2•3•4	2•3•4	2
Shaft length	300 to 4,000 mm, special lengths on request		
Minimum opening size/mm	50	54	38
Viton seals	♠	♠	♠
Solvent-resistant seals	⊖	⊖	⊖
EPDM seals	⊖	⊖	⊖
FDA	⊖	⊖	⊖
Water connection 3/8"	♠	♠	♠
Water connection M22 x 1.5	⊖	⊖	⊖
Nozzle thread	M6	1/8"	M4
Point-jet nozzles 0°	♠	♠	♠
Flat-jet nozzles 5°/15°	⊖	⊖	⊖

♠ Standard equipment

⊖ Available as accessory/option

Internal tank cleaners H-series

The use of water at high pressure not just for cleaning, but for simultaneously powering a turbine that in turn powers the cleaning head is still rare.

For more than 10 years, MOOG has supplied a water-hydraulic power unit developed in-house that simplifies and expands usage of the tank cleaner without impairing cleaning quality.

Highlights

- **Just one supply line for maximum simplicity in installation**
- **Rotation of the head synchronizes directly with the high-pressure supply**
- **Different speeds between 10 and 30 revolutions per minute**
- **Long maintenance intervals, low servicing costs**
- **Highest occupational safety standards**



HR-55 / HR-40



HRK-37



Technical data

HR-40 / HR-55

HRK-37

Max. operating pressure	bar	200	180
Max. flow rate	l/min	50	30
Max. operating temperature	°C	90	90
Jet spray coverage	Degrees	360°	360°
Rotation speed	rpm	10–30, adjustable	
Weight	kg	Weight depends on shaft length and equipment	

HR-40

HR-55

HRK-37

Stainless steel 316L	●	●	●
Number of nozzles	2•3•4	2•3•4	2
Shaft length	140 to 2,000 mm, custom lengths up to 4,000 mm on request		
Minimum opening size/mm	50	54	38
Viton seals	●	●	●
Solvent-resistant seals	○	○	○
EPDM seals	○	○	○
FDA	○	○	○
Water connection M22 x 1.5	●	●	●
Water connection 1/2"	○	○	○
ATEX version	○	○	○
Nozzle thread	M6	1/8"	M4
Point-jet nozzles 0°	●	●	●
Flat-jet nozzles 5°/15°	○	○	○

● Standard equipment

○ Available as accessory/option

Tank mount

Quick, reliable and versatile fastening of cleaning devices at tanks is key to allow for fast and easy installation at different tanks.

MOOG offers a universal clamping unit which can be adjusted in three dimensions for perfect positioning of the cleaning head in the center of the tank. This works very well with different tanks and tank openings.

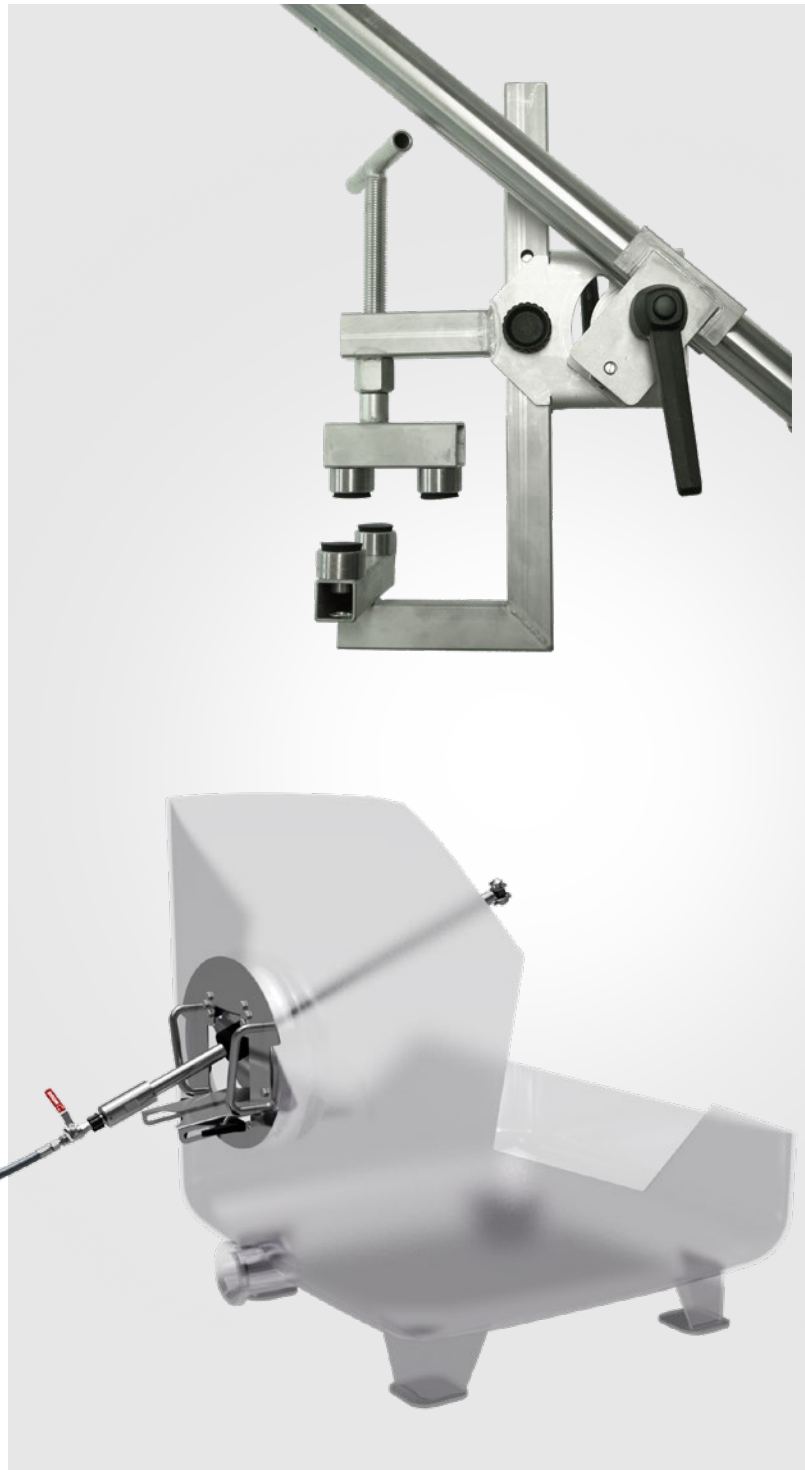
A special attachment is also available that completely replaces Moeschle tank openings for cleaning. This mount is very easy to attach to the tank, allowing quick and full positioning of the cleaning head in three directions. The fixture also offers protection against splashing water during the cleaning process.

Equipment features

- **Sturdy construction for many years of use**
- **Manufactured in stainless steel/special plastic**

Highlights

- **Quick installation**
- **Reliable attachment**
- **Three-dimensional positioning**



Cleaning wooden casks without chemicals

MOOG supplies devices for automatically cleaning the inside of wooden fermentation casks from 10 to 100 hectoliters – without any added chemicals. Depending on the opening, the cleaning device can be inserted into a wooden cask as follows:

- Via the fermentation opening in the lid
- Through an inspection opening in the side
- Via an opening from below

This significantly reduces the time and effort required, and reliably prevents accidental damage to the surface of the wood, as can be the case with manual use of a pressure washer lance.



Example:

The MOOG HR55 spray head powered by water hydraulics, with a shaft length of 140 mm and running on a professional high-pressure cleaner with 1,000 to 1,200 liters per minute at 180 bar, is perfect for cleaning tanks with diameters of up to 2,300 mm. The device is suspended on a high-pressure hose and is simply lowered through the opening in the wooden cask lid into the center of the cask from above and then fixed in place with a hose clamp.

The time required for cleaning depends on the size of the wooden cask and the level of contamination. Based on experience, 30 minutes is plenty to achieve excellent cleaning results.



Your MOOG dealer



MOOG Cleaning Systems AG

Neufeldstrasse 11
CH-3076 Worb
T +41 31 838 19 19
info@moog.ch
www.moog.swiss