

# ARIANA

Cool-Line-System

*This is where it belongs to!*

**CoolLine**<sup>®</sup>

*Cooling Lubricant Hose System*







ARIANA Industrie GmbH  
is market leader...

in the field of Cooling  
Lubricant Hose Systems with an extensive  
line accessories for the metal working industry.

ARIANA is accredited by DIN EN ISO 9001:2000.

**Research and Development**  
Research and development are the first  
priorities for ARIANA.

A long lasting experience influences all our  
products. The development takes place in a  
practical, application-oriented way and is  
matched to the requirements of its customers.

**CoolLine®**



Our technicians and application engineers  
are responsible for the optimal adaptability  
of the **ARIANA-Cool-Line-Systems** as well as  
for the implementation of special construction  
wishes.

**Production**  
ARIANA disposes through participation in own  
workshops with latest machinery and production facilities.  
Flexibility offers short terms of delivery and a permanent  
control ensures our high norm of quality.





## Comparison of compatibility



### The system with substantial advantages

ARIANA-Cool-Line is the only product on the market, which is compatible without adapter to 80% of all conventional available systems.

ARIANA-Cool-Line selling line is the most complete system on the market. ARIANA Cool-Line products are made of a high quality resin Hostaform® and are therefore more resistant than current products.

ARIANA-Cool-Line offers the advantage that its modules snap in closer. This effects a withstanding under higher pressure load and ensures a directional stability of the fluid jet.



## Emulsion care case

### Contents:

- Thermometer for determination of sample temperature
- Nitrite test strips (100 pcs)
- Nitrate test strips (100 pcs)
- Ph test strips (100 pcs)
- Water hardness test strips (100 pcs)
- Plastic cup for extraction of samples
- Plastic bottles for extraction of samples (3 pcs)
  
- Care plan for cooling lubricants
- Maintenance plan
- Technical regulations TRGS 611
- Manual for handheld refractometer  
(see inside the cover under the protective foam)





## Test Materials / Indicators

for Protection and Monitoring Measures According to TRGS 611

### Ph indicators 7.5 – 9.5

Submerge the test strip in the emulsion, wait a few seconds, then hold it up to the colour-coded comparison chart and read the results.

Order no. 0292050 (100-strip pack)



### Nitrite test strips 0 - 25 mg/l

Submerge the test strip in the emulsion and after approx. 30 seconds hold it up to the colour-coded comparison chart and read the results. The presence of nitrite ions is indicated by a change in colour to red.

Order no. 0292051 (100-strip pack)







## Nitrate test strips 0 - 500 mg/l

Submerge the test strip in the emulsion and after approx. 30 seconds hold it up to the colour-coded comparison chart and read the results.

The presence of nitrate ions is indicated by a change in colour to red.

Order no. 0292052 (100-strip pack)



## Water hardness test strips 0 - 28° dH (German degrees)

Submerge the test strip in the water and after approx. 30 seconds hold it up to the colour-coded comparison chart and read the results.

You can determine the water hardness based on the change in colour.

Order no. 0292053 (100-strip pack)





## Handheld Refractometer



Order no. 0521000 (0 - 32°)

Order no. 0521001 (0 - 15°)

The **ARIANA Handheld Refractometer** is an essential instrument for checking emulsions and grinding solutions. It allows for quick measurement of the emulsion concentration of liquid coolants and lubricants. In this way, liquids always have the optimum concentration.

### This provides the following advantages:

- Better utilisation of machine tools
- Longer tool service life
- Prevention of rust as a result of using emulsions that are too weak
- It is possible to adjust the concentration of the emulsion to suit requirements (TRGS-611)
- Cost reduction



The scale of the handheld refractometer is well-lit and readily legible.



## Digital Hand Refractometer



Order no. 0512005 (0 – 70°)

ARIANA-Digital Hand Refractometer is an important instrument for controlling emulsions and grinding abrasives. It allows quick control of the emulsion concentration of cooling and lubrication liquids. Thus it becomes possible to use these liquids at optimum concentrations.

### Following advantages will be achieved:

- Better utilization of tooling machines
- Longer service life of tools
- Avoiding rust because of too low grade of emulsion
- Possibility to vary the grade of emulsion concentrate according to requirements (TRGS- 611)
- Reduction of costs

The concentration can be read on the display of the hand refractometer.



## Special Mono Mixing Unit

A mixing unit is essential for mixing emulsions and grinding solutions. By means of a needle valve, the ARIANA Special Mono Mixing Unit allows for fast and precise adjustment of the emulsion concentration of liquid coolants and lubricants. In this way, it is possible to mix liquids using optimum concentrations.



Order no. 0512002

Special Mono Mixing Unit with barrel lid screw connection

The Special Mono Mixing Unit has one water inlet and one concentrate inlet. Once the optimum mixing ratio has been determined, the user can always rely on this ratio being the case. Of course, it is possible to change the mixing ratio at any time. For safety reasons, a return valve is installed on the water inlet side to prevent any suctioning into the potable water system.

The Special Mono Mixing Unit is the simplest version in the mixing unit range. Quick and simple installation on a barrel is possible thanks to the barrel lid screw connection set. The unit is compact and extremely easy to handle.



### Technical data

Water inlet	1/2"
Concentrate inlet	3/8"
Mixed liquid outlet	1/2"
Mixing volume (approx.) l/h	270

## Mono Mixing Unit



Order no. 0512000

The Mono Mixing Unit is the simplest version in the mixing unit range. Quick and simple installation at a barrel is possible thanks to the barrel lid screw connection set. The unit is compact and extremely easy to handle.

A mixing unit is essential for mixing emulsions and grinding solutions. By means of a needle valve, the ARIANA Mono Mixing Unit allows for fast and precise adjustment of the emulsion concentration of liquid coolants and lubricants. In this way, it is possible to mix liquids using optimum concentrations.

The Mono Mixing Unit has one water inlet and one concentrate inlet. Once the optimum mixing ratio has been determined, the user can always rely on this ratio being the case. Of course, it is possible to change the mixing ratio at any time. For safety reasons, a return valve is installed on the water inlet side to prevent any suctioning into the potable water system.



### Technical data

Water inlet	1/2"
Mixed liquid outlet	1/2"
Concentrate inlet	3/8"
Mixing volume (approx.) l/h	540





## Duo Mixing Unit



Order no. 0511000

A mixing unit is essential for mixing emulsions and grinding solutions. By means of two needle valves, the ARIANA Duo Mixing Unit permits fast and precise adjustment of the emulsion concentration of liquid coolants and lubricants. In this way, it is possible to produce liquids using optimum concentrations.

The Duo Mixing Unit has one water inlet and two concentrate inlets. Once the optimum mixing ratio has been determined, the user can always rely on this ratio being the case. Of course, it is possible to change the mixing ratio at any time. For safety reasons, a return valve is installed on the water inlet side to prevent any suctioning into the potable water system.

Unlike the Mono Mixing Unit, the Duo Mixing Unit has two concentrate inlets. This makes it possible to mix two different concentrates without having to reposition the mixing unit.



### Technical data

Water inlet	1/2"
Mixed liquid outlet	1/2"
Concentrate inlet	3/8"
Mixing volume (approx.) l/h	540

## Piston Mixer

A mixing unit is essential for mixing emulsions and grinding solutions. The recently developed ARIANA Piston Mixer is powered by water pressure; which causes the concentrate to be suctioned.



It is possible to set the required emulsion concentration of the liquid coolant and lubricant by means of the dosing screw. These liquids can thus be mixed using optimum concentrations. Once the optimum mixing ratio has been determined, the user can always rely on this ratio being the case. Of course, it is possible to change the mixing ratio at any time.

The Piston Mixer has one water inlet, one concentrate inlet and an outlet hose for the mixed emulsion or grinding solution. This hose can be extended indefinitely without resulting in a vacuum in the system.

For safety reasons, we recommend installing a system separator in front of the water inlet in order to protect against water contamination.

The mixer is mounted using a wall bracket. The mixer is extremely handy and compact.

Order no. 0514000 Mixing volume (approx.) l/h 600  
Order no. 0514001 Mixing volume (approx.) l/h 2.000  
Order no. 0514002 Mixing volume (approx.) l/h 10.000

### Technical data

Water inlet	1/2"
Concentrate inlet	3/8"
Mixed liquid outlet	1/2"



## Bandskimmer

Leaking oil fosters development of bacteria, allows sediment on machines and work pieces, leads to oil mist development and reduces cooling performance and oxygen absorption of the emulsion. The consequences are: increased disposal costs, corrosion, bacterial contamination, odour nuisance, poorer cooling effect, skin problems etc.

The **ARIANA Bandskimmer** provides the solution to remove oil sediment on the surface of the emulsion. Due to using a self cleaning, oil transporting special band the leaking oil will be removed from the surface and skimmed in the device. Neither filters nor micro porous membranes are required. Thus operating expenses and follow-up costs will be reduced. The Bandskimmer features oil separating facilities and guarantees a separation of foreign parts by up to 90%.



The Bandskimmer is fixed above the liquid tank by means of a magnetic disk, preferably on the opposite side of the liquid inlet. The base plate of the drive unit must be attached about 300 mm above the highest liquid level. The hose is connected to the outlet neck and guided to the sediment basin.

The Bandskimmer can be operated both permanently and also controlled by means of a time switch. It is recommended to use the device during operation of machine tools. The band moves through the floating oil film and separates it from the liquid, in the device the oil will be skimmed and flows into a collection tank outside the machine.

Order no. 0541022

### Technical data

Electrical connection with level switch  
Weight  
Band width  
Power approx.

V	230
kg	4.5
mm	40
L/h	3



## Hose Skimmer

Leak oils promote bacterial growth, form deposits on machine tools and work pieces, cause oil mist and reduce cooling capacity as well as the oxygen absorption of the emulsion. The consequences: higher costs for waste disposal, corrosion, bacterial contamination, unpleasant odours, poor cooling effect, skin problems, etc.

The **ARIANA Hose Skimmer** provides a solution by removing the oil that collects on the surface of the emulsion. The leak oil is removed from the surface and sloughed off in the unit by means of special self-cleaning, oil-conveying hoses. There is no need for filters or microporous membranes. This results in lower operating and follow-up costs. The hose skimmer has an oil separating unit and ensures that up to 90% of tramp oil is removed.



The hose skimmer is attached above the basin by means of a magnetic plate, ideally on the side opposite the liquid inlet. The base plate of the drive unit must be positioned about 300 mm above the maximum level of the liquid. The hose is positioned at the outlet support and fed into a sedimentation basin.

The hose skimmer can be used for continuous operation or controlled by means of a timer. Use of the unit during operation of the tool machine is recommended.

The hose moves through the floating oil film and separates it from the liquid. The oil is sloughed off in the unit and flows into a collecting tank outside the machine.

Order no. 0641021

### Technical data

Electric connection with level switch	V	230
Weight	kg	4.5
Hose diameter	mm	5
Capacity (approx.)	l/h	3



## Liquid level indicator



Order no. 0613501

Liquid level indicator: usable for commercial 60 l and 210 l barrels. Suitable for non corrosive liquids, such as cooling/lubrication concentrates, emulsions, oils, anti freeze, heating oil etc. and liquid media.

Ideally usable for more transparency when handling the barrel. The float is located inside the barrel on the liquid and indicates the barrel content permanently on the volume scale.

Since the Liquid level indicator is mounted on the 3/4" opening you can put a pump on the 2" - burghole at the same time, in order to allow pumping out the defined quantity.



## Deburring tools

- With changeable blade, prolongable about 125 mm, for easy and average deburring processes. All-purpose handle with end cap and room to store spare blades.
- Deburring Tool is complet with handle, holder and 10 blades A-100 for steel, aluminum, brass and plastic materials. Mountable with blades as can be seen in the table.



0554000 (Deburring Tool Set)



## Blades for deburring tool



A = well suited

A = very well suited

Item num.	Figure	Blade	Application											Material	Description											
0554030		A100	A	A														A	HSS blade for difficult deburring tasks Deburring of materials causing helicoidal chips.							
0554031		A101	A	A														A	A	A	HSS blade for deburring of holes with diameter up to 7 mm.					
0554032		A200	A	A														A	A	A	HSS blade for materials causing short chips. Turns clockwise and anticlockwise.					
0554034		A300			A													A	A	A	A	HSS blade for materials with helicoidal chips. Deburs simultaneously in- and outside of holes with diameter up to 6 mm.				
0554035		R10	A	A														A	A	A	A	Standard HSS blade for deburring of inside and outside edges.				
0554036		F00	A	A																A	A	A	HSS blade for brass and cast iron which can be used in either direction.			
0554037		F00			A													A	A	A	A		HSS blade for deburring of thin-wall materials, inside and outside.			
0554039		T25				A	A	A										A	A	A	A	A	A	at 4,5 x 25 mm, triangular HSS scraper for precision working, M5		
0554040		K20																A		A	A	A	A	A	A	Countersunk head for holes up to 20 mm diameter, M7
0554041		K30																A		A	A	A	A	A	A	Countersunk head for holes up to 30 mm diameter, M7



## Maintenance Station R-2000 for Cooling Lubricants

Cooling lubricants inevitably become contaminated with tramp oils and particulate matter during the production process.

The ARIANA Maintenance Station R-2000 makes it possible to clean and maintain emulsions or solutions during the production process. This greatly prolongs the service life and minimizes disposal costs.

### Application areas

- Lathes
- Milling machines
- Grinding machines
- Parts washers
- Quenching boxes

Order No. 0541020



### Advantages

- Removes tramp oils and particulate matter simultaneously
- Works automatically without an operator using the bypass principle
- Prevents unpleasant odours and risk of infection
- Increases the service life of lubricants and tools
- Reduces disposal costs



## Application

Cooling lubricants in wet-cutting machines are subject to high levels of contamination. Hydraulic oil, bedway oil and grease collect on the surface of the emulsion and, in high concentrations, prevent the necessary exchange of oxygen.

In connection with floating and deposited particulate matter, this provides an ideal breeding ground for bacteria and fungi, which degrade the cooling lubricant.

Ongoing maintenance with removal of these contaminants at regular intervals considerably prolongs the service life of the cooling lubricant and lowers disposal costs.

## How it works

The *ARIANA Maintenance Station R-2000* suctions off a mixture of oils and particulate matter from the surface of the emulsion.

This mixture is separated in the maintenance station, the cleaned emulsion is conducted back into the machine tool and the separated oil is collected in a separate disposal container.

The process of separating the emulsion and oil is purely physical and is so gentle that the emulsion is not negatively affected, e.g. as it would be a result of spinning. 97% of floating trash oil and trash oil subjected to turbulence is removed.

The emulsion is cleaned without the presence of an operator and without interrupting operation of the machine tool. No down time occurs.

## Technical features

Eccentric worm pump

Electric motor

Made of stainless steel material with powder coating

All hose connections with fast-action single-hand connectors

Station is completely assembled and ready for use, complete with accessories

### Technical data

Motor capacity	kWh	0.37
Voltage	V	230
Flow rate	l/h	350
Dimensions	mm	860 x 830 x 440 (H x L x W)
Weight empty	kg	65
Temperature of liquid	°C	40 (max.)
Filter fineness	(standard)	100 µ





## Maintenance Station R-3000 for Cooling Lubricants

Cooling lubricants inevitably become contaminated with tramp oil and particulate material during the production process.

The ARIANA Maintenance Station R-3000 makes it possible to clean and maintain emulsions or solutions during the production process. This greatly prolongs the service life and minimizes disposal costs.

### Application areas

- Lathes
- Milling machines
- Grinding machines
- Parts washers
- Quenching boxes

Order no. 0541000



### Advantages

- Removes tramp oil and particulate matter simultaneously
- Works automatically without an operator using the bypass principle
- Prevents unpleasant odours and risk of infection
- Increases the service life of lubricants and tools
- Reduces disposal costs



## Application

Cooling lubricants in wet-cutting machines are subject to high levels of contamination. Hydraulic oil, bedway oil and grease collect on the surface of the emulsion and, in high concentrations, prevent the necessary exchange of oxygen.

In connection with floating and deposited particulate matter, this provides an ideal breeding ground for bacteria and fungi, which degrade the cooling lubricant.

Ongoing maintenance with removal of these contaminants at regular intervals considerably prolongs the service life of the cooling lubricant and lowers disposal costs.

## How it works

The *ARIANA Maintenance Station R-3000* suctions off a mixture of oils and particulate matter from the surface of the emulsion.

This mixture is separated in the maintenance station, the cleaned emulsion is conducted back into the machine tool and the separated oil is collected in a separate disposal container.

The process of separating the emulsion and oil is purely physical and is so gentle that the emulsion is not negatively affected, e.g. as it would be a result of spinning. 97% of floating trash oil and trash oil subjected to turbulence is removed.

The emulsion is cleaned without the presence of an operator and without interrupting operation of the machine tool. No down time occurs.

## Technical features

Eccentric worm pump

Electric motor

Made of stainless steel material with powder coating

All hose connections with fast-action single-hand connectors

Station is completely assembled and ready for use, complete with accessories

## Technical data

Motor capacity	kWh	0.37
Voltage	V	230
Flow rate	l/h	550
Dimensions	mm	860 x 1200 x 470 (H x L x W)
Weight empty	kg	86
Temperature of liquid	°C	40 (max.)
Filter fineness	(standard)	100µ



## Cleaning System - Oil Filter Unit



Order no. 0541030

The ARIANA oil filter unit filters hydraulic oil (at operating viscosities of up to 250 mm<sup>2</sup>/s) and cleans up contamination resulting from particulate matter or slitting.

### Usage and application areas

Intermittent cleaning of hydraulic oils in order to meet target category purity levels.  
Prevention of dirt from entering when system is filled.

### Advantages

- Prolongs oil service life
- Reduces disposal costs
- Protects machine components

### Technical data

Electro motor with gerotor pump motor capacity	230 V 50 Hz
Capacity	up to 16 l/min
Operating pressure	up to 4 bar
Filter fineness	3, 5, 12 µ
Contamination indicator	pressure gauge





## Hot & Cold Gun



Order no. 0331000

The **ARIANA Hot & Cold Gun** uses compressed air for point-specific heating or cooling of metal and plastic parts at tool machines and features dual functionality: it generates hot as well as cold air. Hot air is used for fast drying and heat treating. Cold air is mainly used in applications in which lubricants and coolants are not recommended. The Hot & Cold Gun is also widely used in laboratories.

The performance of the Hot & Cold Gun varies depending on the humidity of the supplied compressed air; at a pressure 8 bar with relatively dry air (e.g. at +10°C) it is possible to cool supplied air down to -30°C and heat it up to +60°C.

The accessories for the Hot & Cold Gun include the flexible **ARIANA Cool Line System**.

## Cold Air Nozzle



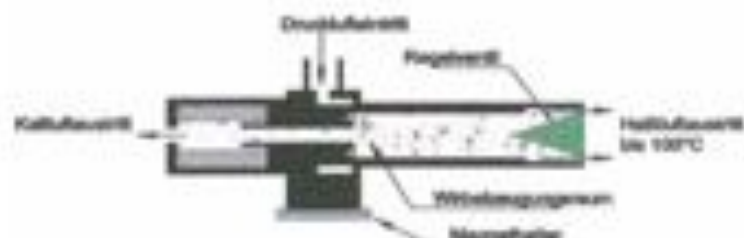
Order no. 0331001

The **ARIANA-Cold Air Nozzle** is used for cooling locations of metal and plastic parts on machine tools and features a double function: it generates both hot and also cold air. The cold air is primarily used at locations where no lubricants and cooling liquids are wanted. The Ariana cold air nozzle is also widely used in laboratories.

The **ARIANA-Cold Air Nozzle** is connected to compressed air supplies or operated with compressed air (3-8 bars), respectively. Mode of operation is based on the principle of a vortex tube, in which two opposite rotating air flows will be generated. At the blue component output of the internal flow as usable cold air (up to  $-25^{\circ}\text{C}$ ) takes place; at the red component output of the hot air (up to  $100^{\circ}\text{C}$ ) takes place. The needle valve allows adjustment of volume flow and portion of cold air.

Accessories for the Ariana cold air nozzle include the flexible **ARIANA-Cool-Line-System** and also a magnet plate, ball cock, grommet for quick coupling and also a sound absorber.

### Functional diagram



## Power Vac Pump



Order no. 0321000

The ARIANA Power Vac Pump is a dual-acting suction and pressure pump that uses compressed air. It is mainly used for filling and emptying lubricant and coolant tanks. The pump was designed for fast and trouble-free installation at standard barrels. It is screwed into the bunghole of the barrel and connected to the compressed air supply. A feed hose is attached at the other barrel opening.

The Power Vac Pump requires compressed air at approx. 8 bar. This makes it possible to fill or empty at approx. 60 l/min. An automatic closing valve serves as an inlet/outlet control and thus prevents overflows.

The Power Vac Pump generates a vacuum in the tank, as a result of which it is possible to suction used coolants, mud, metal residues, etc. out of machine tanks as well as excess liquids out of chemical tanks.

By simply turning a knob, the operator can reverse the function and generate overpressure in the tank, as a result of which it is possible to pump lubricants and coolants as well as liquid chemicals into the machine. The Power Vac Pump can also be used in explosion-protected areas.

The following accessories are included with the Power Vac Pump:

- Ascending pipe
- Threaded barrel connector 2"
- Fast-action connector
- Feed hose 3 m.
- Suction pipe



Order no. 0389001





## Micro-System



The ARIANA Micro System for minimum quantity lubrication uses a coaxial spray nozzle to produce a round spray with spraying angle. It is possible to produce different spray cones for many application areas by rotating the cap.

The coaxial spray nozzle is operated pneumatically and is supplied with the medium by means of a separate, unpressurized tank.

The spray nozzle has been adapted for hard to access applications with the ARIANA Cool Line System.

Many different liquid products can be sprayed thanks to the system's special jet technology, from water-miscible cooling lubricants to viscous cutting and drawing oils.

Order no. 0551000

### Technical data

Compressed air supply	approx. 8 bar
Medium	28 – 500 cSt
Flow rate	5 – 40 ml/min.
Air consumption at approx. 8 bar	100 l/min.

## Chip Hook



Order no. 0541500	Length 175 mm
Order no. 0541300	Length 300 mm
Order no. 0541400	Length 500 mm

Chip hook with guard  
and tip at 90° angle

### Application area:

For removing chips that are hard to reach.  
The guard protects your hand from injury.



## Barrel key



Order no. 0512115

### Barrel key

- made of steel
- fits all saleable bung lids
- safe and easy opening due to fitting tools





## Pneumatic High-Pressure Grease Gun



Order no. 0541090

Grease gun with high flow rate for fast filling flexibility thanks to mobile trolley. Regulated, precise lubrication is ensured.

**The following accessories are included with the pneumatic high-pressure gun:**

- Trolley for 180 kg grease drums
- Cover with follower plate and dust protection
- High-pressure grease gun with nozzle
- 3.5 m high-pressure grease hose

High-pressure grease gun for greases with consistency grades NLGI-00 to NLGI-3  
Required operating pressure: approx. 6 bar



## Pneumatic Oil Boost Pump



Order no. 0541091

Boost pump with high flow rate for simple and fast filling flexibility thanks to mobile trolley.

**The following accessories are included with the Pneumatic Oil Boost Pump:**

- Trolley for 180 kg drums
- Flow volumeter
- High-pressure gun
- 3.5 m high-pressure hose

Suitable for oils ranging from VG 10 to VG 460 at 40°C  
Required operating pressure: approx. 6 bar



# Zertifikat

Zertifikat über die Anerkennung eines Managementsystems nach DIN EN ISO 9001:2008

Certificate for an approval of a management system according to  
DIN EN ISO 9001:2008

Zertifikatsinhaber: **ARIANA Industrie GmbH**  
Holder of Certificate: **Zum Lausbühl 3**  
**79227 Schallstadt**

Geltungsbereich: **Entwicklung, Montage und Vertrieb von**  
Scope: **Kunststoff-Gelenkschlauchsystemen**  
**für Werkzeugmaschinen,**  
**Kühlschmierstoffwartungsanlagen und**  
**Dosiereinrichtungen**



Der Zertifikatsinhaber hat nach SES 45012 T2 alle notwendigen Nachweise erbracht,  
dass ein Managementsystem nach DIN EN ISO 9001:2008 wirksam ist.

The holder of certificate has adduced all required evidence according to the SES 45012 T2 in order to prove  
that an effective management system is implemented according to  
DIN EN ISO 9001:2008.

**SECert**

Hinter dem Dorfe 2b  
D-31163 Bad Salzdetfurth

Logo der Zertifizierungsstelle  
Dipl.-Ing. Stephan Ebernd

Ausgestellt am: 23.08.2010  
Issued at:

Gültig bis: 22.08.2013  
Valid to:





# ARIANA

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... A strong Team with our partners.

