# Жидкостно-кольцевые вакуумные пластинчатые насосы и компрессоры одноступенчатые ELRi, LR1

## Технические характеристики

#### По вопросам продаж и поддержки обращайтесь:

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Россия +7(495)268-04-70

Беларусь +(375)257-127-884

Узбекистан +998(71)205-18-59

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Киргизия +996(312)96-26-47

эл.почта: ewc@nt-rt.ru || сайт: https://edwards.nt-rt.ru/

# ELREINTELLIGENT



# EDWARDS THE PARTNER OF CHOICE

Edwards is a world leader in the design, technology and manufacture of vacuum pumps for industrial applications with over 100 years' history.

We believe in delivering results that bring value to our customers by using our breadth of industry experience to identify and apply solutions. Using the most innovative and up-to date modelling techniques, we can optimise the pumping configuration for customers to provide a system design giving the maximum performance in the most reliable and cost-effective way.

# PROVEN TECHNOLOGY AND INTELLIGENCE IN A CLEVERLY ENGINEERED PACKAGE

Edwards range of liquid ring pumps continue to provide the optimum solutions for many rough vacuum applications in the chemical and process industries. Built to last, the general reliability and low maintenance of these pumps offer the best solution when it comes to pumping wet gases or particulates.

We have taken this proven liquid ring technology one-step further. By adding intelligence and an injecting innovation, we have now developed a new range of liquid ring pumps- ELRi series.

The ELRi is a single-stage, total recovery liquid ring vacuum pump available in pumping capacities - 750, 950 and 1050 m<sup>3</sup>/h. Based on proven Hick Hargreaves technology, the ELRi series is a compact powerhouse with improved performance.

The ELRi is available in two variants – Standard variant with Plates-type heat exchanger and the Heavy-Duty variant with a Tube and Shell heat exchanger for the more corrosive and dirty applications.





# PUMP TECHNOLOGY

### Revolutionising conventional Liquid Ring vacuum pump technology.

#### RELIABLE AND ROBUST

## Cleverly engineered in a smart design

- Stainless steel impellers and end plates supplied as standard
- Integrated non-return valve protects against backflow



#### INNOVATIVE INTERNAL DESIGN

## Highest degree of design build and quality

- Internal injection channels and mechanical seals for a stable sealing arrangement
- Lantern flange arrangement for ease of service



#### BUILT-IN INTELLIGENCE

## Twin Variable Speed Drives (VSD) with patented algorithm

- VSD motor with set point control to maintain and match vacuum levels
- VSD for the water circulation pump to optimise water flow and maintain stable vacuum

#### HIGH DEGREE OF PROTECTION

#### **Patented Anti-Cavitation Algorithm**

- Prevents the ELRi from operating in areas of cavitation
- Increases pump lifetime, reduces process downtime and maintenance costs

- Set point control
- VSD on main motor
- VSD driven circulation pump
- Spray nozzles
- Cavitation prevention
- Automatic seizure prevention
- Icon box and connectivity





#### IDEAL FOR HUMID APPLICATIONS

#### **Integrated Spray Nozzles**

- Water spray cools and condenses the inlet gas and vapour from the process
- Reduces energy consumption, increases impeller life and ensures stable pump temperature

#### IP RATED COMPACT CANOPY

## Compact canopy without sacrificing performance

- Ergonomically designed IP 54 rated canopy with a small footprint
- Dust and splash-proof with noise containment up to 69 dB

#### **REMOTE MONITORING VIA ICON BOX**

## Easily identify service requirements and plug gaps

- ICONS SERVICE Remote information of machine status
- ICONS UPTIME Be informed of pump performance and maintenance requirements via SMS/email notification
- ICONS ENERGY Energy savings report provided monthly

#### PATENTED ANTI-SEIZURE ALGORITHM

## Seizure Prevention after long periods of inactivity

- Automatic turning off the pump for few seconds after long periods of inactivity
- Auto-restart after voltage failure





INTELLIGENCE AND AN INNOVATIVE DESIGN WITH AIRLOGIC® CONTROL

# ELRI PUMP MAIN COMPONENTS

#### **Top canopy**



#### Internal



\*For the Heavy Duty ELRi vacuum pump, the plates-type heat exchanger is replaced with the Tube and Shell. The plugs, solenoid valves and connecting pipes are stainless steel. This is suited for the more corrosive and dirty applications.

#### ECOntrol



With our ECOntrol Box, you can connect, monitor and control multiple ELRi pumps as well as competitor pumps. You get all the information for the everyday management of your vacuum pump as well as the alarms, safety shutdowns and maintenance:

• Monitoring: Vacuum pump operating status, recording of running/stopped hours, programmable timers, temperature/pressure read-outs, set point control and other settings

- **Safety:** Warning indications, fault and shutdown indications
- Service: Service operations, remote control (optional)

#### Fixed speed versus VSD

The need for vacuum fluctuates depending on different factors such as process changes, the time of day, week or even month. The intelligent ELRi can deliver peak performance only when required enabling significant energy and maintenance cost reductions. Optimising the energy used to maintain process vacuum level results in improved process efficiency and performance.



# APPLICATIONS

The ELRi pumps are suitable for a range of applications in various industries including:

- Plastic Extrusion
- Rubber Vulcanisation
- Pulp and paper
- Drying
- Sterilisation
- Evaporation
- Filtration
- Pneumatic Conveying
- Chemical industry
- Pet food industry
- EPS Forming















## PERFORMANCE CURVES

#### **ELRI PERFORMANCE CURVES**





## **TECHNICAL SPECIFICATIONS**

		ELR750i	ELR950i	ELR1050i
	Dry-m³/h	740	940	1050
No. of collection of the	Dry-cfm	436	553	618
Nominal capacity	Saturated-m <sup>3</sup> /h	910	1090	1140
	Saturated-cfm	536	642	671
Ultimate processo (Abcolute)	mbar		25	
Offimate pressure(Absolute)	inch Hg		0.7	
Nominal installed motor	kW	18.5	26	37
Nominal installed motor	hp	24.8	34.9	49.6
Footprint	mm		1950 x 810 x 1020	
(WxDxH)	inch	76,8 x 31,9 x 40,2		
	Inlet / Outlet	EN1092-1/01/B1/DN100/PN10		
	Liquid fill / Manual drain	G 1/2" BSP(F)		
Connection	Overflow	G 1/2" BSP(F)		
	Cooler inlet / Outlet	ISO 228/1-G1"		
Dry weight	kg	820	885	900

## DRAWINGS AND DIMENSIONS



# SERVICE AND SUPPORT

To ensure your ELRi Liquid Ring vacuum pump maintains optimal performance and reliability, we offer a wide range of service solutions, tailored to meet your needs. Our Preventative Maintenance service packages are designed to keep your pump optimised at all times.

Thanks to the incorporated AirLogic<sup>®</sup> controller and ICON box connectivity, many servicing and maintenance actions can now be performed by the operator. The modular and accessible design of the pump makes these actions simple and saves you time.

#### Annual Service

A more comprehensive Annual Service ensures that the heat exchanger and separator remain clean. We fine-tune performance to ensure operating costs are minimised.

#### Overhaul

When required, the pump element can be overhauled with the replacement of bearings, port plates and mechanical seals. This can be achieved with minimal impact to you and your operations.

#### Spare Parts

Kits are available to aid routine maintenance. Selecting original spare parts ensures reliability is never compromised. Our service engineers only fit 100% genuine parts to ensure you receive the best result from each service provided.



## ORDERING INFORMATION

Part Number	Description
A75167100	ELR 750i Standard
A75167101	ELR 950i Standard
A75167102	ELR 1050i Standard
A75167110	ELR750i Heavy Duty, Stainless Steel version
A75167111	ELR950i Heavy Duty, Stainless Steel version
A75167112	ELR 1050i Heavy Duty, Stainless Steel version
A50862719	ECOntrol6v IEC
A50862720	ECOntrol6v UL,cUL
A50862721	ECOntrol16v IEC
A50862722	ECOntrol16v UL,cUL



# LR1A8000 - Liquid Ring Vacuum Pump Cl

Part Number: LR1A8000BA10

## Specifications

Connection Vacuum Inlet Flange	DN 300
Connection vacuum outlet flange	DN 300
Cooling Method	Water Cooling
Pressure Ultimate	3300.00 <u>Pa</u> 🗸
Power Total Rated	2.500 × 10⁵ <u>₩</u> ❤

#### Variant

	SHORT DESCRIPTION	PART NUMBER
0	LR1A8000 CI	LR1A8000BA10
$\bigcirc$	LR1A8000 SS fitted	LR1A8000BA50
$\bigcirc$	LR1A8000 SS	LR1A8000BA70

Liquid ring vacuum pumps are positive displacement pumps that use a ring of liquid to create a seal between the vanes or impeller and the pump housing, creating a vacuum and pumping gas or vapor out of a chamber. They are rugged, reliable and widely used in applications ranging from chemical processing, paper and pulp industry, power generation, and wastewater treatment. They excel at handling condensable vapors and liquid slugs, making them ideal for wet applications with high levels of contamination.

Discover our cutting-edge Liquid Ring Vacuum Pumps, EHR Series and SHR Series, meticulously designed by Edwards.

Tailored for the most demanding applications in process industries, our liquid ring pump range comprises both one and two-stage machines, ensuring optimum efficiency across a broad vacuum range. With capacities reaching up to 40,000 m3/h in one stage and 7,500 m3/h in two-stage models, these pumps deliver powerful performance.

# LR1A

For rough vacuum applications in the chemical and allied process industries

The LR Series, including LR1A and LR1B single-stage models, are tolerant of particulates and operate with minimal maintenance and noise, making them ideal for your continuous operations in the power, chemical and process industries.

## Features and Benefits

Efficiency and Power: Experience unparalleled efficiency with our one and two-stage liquid ring pumps, perfect for processes operating at various vacuum levels. Innovation Redefined: Explore our ELRi range, a revolutionary line of intelligent and connected liquid ring vacuum pumps, integrating years of expertise and innovative technical advancements.

Customized Solutions: Benefit from our extensive experience in designing, engineering, and assembling bespoke liquid ring pump and hybrid vacuum systems. We provide tailored solutions for diverse process applications, meeting unique customer requirements.

SPECIFICATIONS			
Classification			
Product Pressure Range	Rough Vac	uum: 1000 mbar - 1 mbar	
High / Medium / Rough Vacuum Classification	Rough Vac	uum Pump	
Dry or Wet Pump	Wet		
Vacuum Pump Technology	Liquid Ring	Liquid Ring Pump	
Variants			
variantLrpMaterialOf	Construction	CI	
		CI - Cast Iron	
General Product Info	ormation		
Connection Vacuum Inlet Flange		DN 300	
Weight		3750.00 <u>kg</u> ∽	
Connection vacuum outlet flange		DN 300	
Dimension Length		2.02 <u>m</u> 🗸	
IP Rating			

Supply Frequency		50 Hz
		60 Hz
Dimension Height		1.63 <u>m</u> 🗸
Dimension Width		1.40 <u>m</u> 🗸
Noise Level		85.00 db(A)
Cooling Method		Water Cooling
Connection Cooling		DN 65
connectionVacuumFla	angeCombined	DN 300 / DN 300
dimensionComments		The dimensions length, width and height try to describe the outer shape of this particular product in its typical orientation when standing on the ground. We always recommend checking the detailed dimensions given in 2D drawings in the instruction manual or the 3D shapes given in 3D models.
Performance Data		
Power Total Rated	2.500 × 10⁵ <u>W</u>	~
Power Total Rated @60Hz	2.500 × 10⁵ <u>W</u>	~
Power Total Rated @50Hz	2.500 × 10⁵ <u>W</u>	~
Rotational Speed @50Hz Nominal	8.83 <u>Hz</u> 🗸	
Pressure Ultimate	3300.00 <u>Pa</u> 🗸	
Rotational Speed @60Hz Nominal	8.83 <u>Hz</u> ∨	

Capacity Air / Nitrogen @50Hz Nominal	2.25 <u>m³/s</u> ∽
Capacity Air / Nitrogen @60Hz Nominal	2.25 <u>m³/s</u> ∽
Operation Conditions -	Limitations
Altitude Max.	1000.00 <u>m</u> 🗸
Temperature Inlet Gas M	Max. 353.15 <u>K</u> ✓
pressureOutletMaxCont	inous 1.200×10⁵ <u>Pa</u> ❤
Environmental Conditi	ions
Temperature Ambient Operation Max	323.15 <u>K</u> ✓
Temperature Ambient Operation Min.	253.15 <u>K</u> ✓
Temperature Ambient Storage Min.	243.15 <u>K</u> ✓
Temperature Ambient Storage Max.	323.15 <u>K</u> ✓
Material of Constructio	on
Material Of Construction	Grey cast iron, Carbon steel, Spheroidal graphite (ductile) cast iron (6), carbon steel (7), Stainless steel 420, Silicon carbide, Nitrile, Stainless steel 316, Flap, Stainless steel 304, PTFE, Compressed fibre, Polyester urethane, Ball, Brass
Lubricants	
Grease Type	DIN51825 K2K-30



# LR1A6500 - Liquid Ring Vacuum Pump Cl

Part Number: LR1A6500BA10

## Specifications

Connection Vacuum Inlet Flange	DN 250
Connection vacuum outlet flange	DN 250
Cooling Method	Water Cooling
Pressure Ultimate	3300.00 <u>Pa</u> 🗸
Power Total Rated	1.600 × 10⁵ <u>₩</u> ✓

#### Variant

	SHORT DESCRIPTION	PART NUMBER
0	LR1A6500 CI	LR1A6500BA10
$\bigcirc$	LR1A6500 SS fitted	LR1A6500BA50
$\bigcirc$	LR1A6500 SS	LR1A6500BA70

Liquid ring vacuum pumps are positive displacement pumps that use a ring of liquid to create a seal between the vanes or impeller and the pump housing, creating a vacuum and pumping gas or vapor out of a chamber. They are rugged, reliable and widely used in applications ranging from chemical processing, paper and pulp industry, power generation, and wastewater treatment. They excel at handling condensable vapors and liquid slugs, making them ideal for wet applications with high levels of contamination.

Discover our cutting-edge Liquid Ring Vacuum Pumps, EHR Series and SHR Series, meticulously designed by Edwards.

Tailored for the most demanding applications in process industries, our liquid ring pump range comprises both one and two-stage machines, ensuring optimum efficiency across a broad vacuum range. With capacities reaching up to 40,000 m3/h in one stage and 7,500 m3/h in two-stage models, these pumps deliver powerful performance.

# LR1A

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## Features and Benefits

Efficiency and Power: Experience unparalleled efficiency with our one and two-stage liquid ring pumps, perfect for processes operating at various vacuum levels. Innovation Redefined: Explore our ELRi range, a revolutionary line of intelligent and connected liquid ring vacuum pumps, integrating years of expertise and innovative technical advancements.

Customized Solutions: Benefit from our extensive experience in designing, engineering, and assembling bespoke liquid ring pump and hybrid vacuum systems. We provide tailored solutions for diverse process applications, meeting unique customer requirements.

SPECIFICATIONS			
Classification			
Product Pressure Range	Rough Vac	uum: 1000 mbar - 1 mbar	
High / Medium / Rough Vacuum Classification	Rough Vac	uum Pump	
Dry or Wet Pump	Wet		
Vacuum Pump Technology	Liquid Ring	Liquid Ring Pump	
Variants			
variantLrpMaterialOfConstruction		CI	
		CI - Cast Iron	
General Product Info	ormation		
Connection Vacuum	nlet Flange	DN 250	
Weight		2900.00 kg 🗸	
Connection vacuum o	outlet flange	DN 250	
Dimension Length		1.89 m 🗸	

	50 Hz
	60 Hz
	1.37 <u>m</u> 🗸
	1.11 <u>m</u> 🗸
	85.00 db(A)
	Water Cooling
	DN 50
geCombined	DN 250 / DN 250
	The dimensions length, width and height try to describe the outer shape of this particular product in its typical orientation when standing on the ground. We always recommend checking the detailed dimensions given in 2D drawings in the instruction manual or the 3D shapes given in 3D models.
1.600×10⁵ <u>W</u>	~
1.600×10⁵ <u>W</u>	~
1.600×10⁵ <u>W</u>	~
9.83 <u>Hz</u> 🗸	
3300.00 <u>Pa</u> 🗸	•
	geCombined 1.600 × 10 <sup>5</sup> ₩ 1.600 × 10 <sup>5</sup> ₩ 1.600 × 10 <sup>5</sup> ₩ 1.600 × 10 <sup>5</sup> ₩

Capacity Air / Nitrogen @50Hz Nominal	1.67 <u>m³/s</u> ∽
Capacity Air / Nitrogen @60Hz Nominal	1.67 <u>m³/s</u> ∽
Operation Conditions -	Limitations
Altitude Max.	1000.00 <u>m</u> 🛩
Temperature Inlet Gas M	1ax. 353.15 <u>K</u> ↔
pressureOutletMaxCont	inous 1.200×10⁵ <u>Pa</u> ❤
Environmental Conditi	ons
Temperature Ambient Operation Max	323.15 <u>K</u> ∽
Temperature Ambient Operation Min.	253.15 <u>K</u> ↔
Temperature Ambient Storage Min.	243.15 <u>K</u> ∽
Temperature Ambient Storage Max.	323.15 <u>K</u> ∽
Material of Constructio	on
Material Of Construction	Grey cast iron, Carbon steel, Spheroidal graphite (ductile) cast iron (6), carbon steel (7), Stainless steel 420, Silicon carbide, Nitrile, Stainless steel 316, Flap, Stainless steel 304, PTFE, Compressed fibre, Polyester urethane, Ball, Brass
Lubricants	
Grease Type	DIN51825 K2K-30



# LR1A5500 - Liquid Ring Vacuum Pump Cl

Part Number: LR1A5500BA10

## Specifications

Connection Vacuum Inlet Flange	DN 250
Connection vacuum outlet flange	DN 250
Cooling Method	Water Cooling
Pressure Ultimate	3300.00 <u>Pa</u> 🗸
Power Total Rated	1.600 × 10⁵ <u>₩</u> ❤

#### Variant

	SHORT DESCRIPTION	PART NUMBER
0	LR1A5500 CI	LR1A5500BA10
$\bigcirc$	LR1A5500 SS fitted	LR1A5500BA50
$\bigcirc$	LR1A5500 SS	LR1A5500BA70

Liquid ring vacuum pumps are positive displacement pumps that use a ring of liquid to create a seal between the vanes or impeller and the pump housing, creating a vacuum and pumping gas or vapor out of a chamber. They are rugged, reliable and widely used in applications ranging from chemical processing, paper and pulp industry, power generation, and wastewater treatment. They excel at handling condensable vapors and liquid slugs, making them ideal for wet applications with high levels of contamination.

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# LR1A

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## Features and Benefits

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Customized Solutions: Benefit from our extensive experience in designing, engineering, and assembling bespoke liquid ring pump and hybrid vacuum systems. We provide tailored solutions for diverse process applications, meeting unique customer requirements.

Lubricants		
Material Of Construction	Grey cast iron, Carbon steel, Spheroidal graphite (ductile) cast iron, Stainless steel 420, Silicon carbide, Nitrile, Stainless steel 316, Flap, Stainless steel 304, PTFE, Compressed fibre, Polyester urethane, Ball, Brass	
Material of Construc	tion	
		CI - Cast Iron
variantLrpMaterialOf	Construction	CI
Variants		
Vacuum Pump Technology	Liquid Ring Pump	
Dry or Wet Pump	Wet	
High / Medium / Rough Vacuum Classification	Rough Vacı	uum Pump
Product Pressure Range	Rough Vacı	uum: 1000 mbar - 1 mbar
Classification		
PECIFICATIONS		

General Product Info	rmation	
Connection Vacuum Ir	nlet Flange	DN 250
Weight		2400.00 <u>kg</u> 🛩
Connection vacuum o	utlet flange	DN 250
Dimension Length		1.75 <u>m</u> 🛩
IP Rating		IP54
Dimension Height		1.37 <u>m</u> 🛩
Dimension Width		1.11 <u>m</u> 🛩
Noise Level		85.00 db(A)
Cooling Method		Water Cooling
Connection Cooling		DN 50
connectionVacuumFla	angeCombined	DN 250 / DN 250
dimensionComments		The dimensions length, width and height try to describe the outer shape of this particular product in its typical orientation when standing on the ground. We always recommend checking the detailed dimensions given in 2D drawings in the instruction manual or the 3D shapes given in 3D models.
Performance Data		
Power Total Rated	1.600 × 10⁵ <u>W</u>	<b>~</b>
Power Total Rated @60Hz	$1.600 \times 10^5 $ <u>W</u>	*
Power Total Rated @50Hz	1.600×10⁵ <u>W</u>	*
Rotational Speed @50Hz Nominal	9.83 <u>Hz</u> ∽	
Pressure Ultimate	3300.00 <u>Pa</u> 🗸	

Rotational Speed @60Hz Nominal	9.83 <u>Hz</u> ✓
Capacity Air / Nitrogen @50Hz Nominal	1.47 <u>m³/s</u> ∽
Capacity Air / Nitrogen @60Hz Nominal	1.47 <u>m³/s</u> ∽
Operation Conditions	s - Limitations
Altitude Max.	1000.00 <u>m</u> 🗸
Temperature Inlet Gas	Max. 353.15 <u>K</u> <b>~</b>
pressureOutletMaxCor	ntinous 1.200×10⁵ <u>Pa</u> ❤
Environmental Condi	tions
Temperature Ambient Operation Max	323.15 <u>K</u> ✓
Temperature Ambient Operation Min.	253.15 <u>K</u> ✓
Temperature Ambient Storage Min.	243.15 <u>K</u> ✓
Temperature Ambient Storage Max.	323.15 <u>K</u> ✓



# LR1A5000 - Liquid Ring Vacuum Pump CI/SS

Part Number: LR1A5000BA50

## Specifications

Connection Vacuum Inlet Flange	DN 200
Connection vacuum outlet flange	DN 200
Cooling Method	Water Cooling
Pressure Ultimate	3300.00 <u>Pa</u> 🗸

#### Variant

	SHORT DESCRIPTION	PART NUMBER
$\bigcirc$	LR1A5000 CI	LR1A5000BA10
0	LR1A5000 SS fitted	LR1A5000BA50
$\bigcirc$	LR1A5000 SS	LR1A5000BA70

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Customized Solutions: Benefit from our extensive experience in designing, engineering, and assembling bespoke liquid ring pump and hybrid vacuum systems. We provide tailored solutions for diverse process applications, meeting unique customer requirements.

Count on Edwards for top-quality Liquid Ring Pumps, designed to excel in the most challenging industrial environments. Enhance your processes with our reliable, efficient, and customized vacuum solutions.

SPECIFICATIONS

Product Pressure Range	Rough Vacı	Rough Vacuum: 1000 mbar - 1 mbar	
High / Medium / Rough Vacuum Classification	Rough Vacı	Rough Vacuum Pump	
Dry or Wet Pump	Wet		
Vacuum Pump Technology	Liquid Ring	Liquid Ring Pump	
Variants			
variantLrpMaterialOfC	Construction	CI/SS	
		CI/SS - Stainless Fitted	
Material of Construct	tion		
Material Of	Grey cast ir	on, Stainless steel 316, Carbon steel	
Construction	(3), Silicon Ball	(3), Silicon carbide, FPM, Flap, PTFE, Anaerobic, Ball	
General Product Info	rmation		
Connection Vacuum Ir	nlet Flange	DN 200	
Weight		1886.00 <u>kg</u> 🗸	
Connection vacuum o	utlet flange	DN 200	
Dimension Length		1.70 <u>m</u> 🗸	
ID Pating		IP54	

>

Supply Frequency		50 Hz
		60 Hz
Dimension Height		1.19 <u>m</u> 🗸
Dimension Width		1.01 <u>m</u> 🗸
Noise Level		85.00 db(A)
Cooling Method		Water Cooling
Connection Cooling		DN 40
connectionVacuumFla	angeCombined	DN 200 / DN 200
dimensionComments		The dimensions length, width and height try to describe the outer shape of this particular product in its typical orientation when standing on the ground. We always recommend checking the detailed dimensions given in 2D drawings in the instruction manual or the 3D shapes given in 3D models.
Performance Data		
Power Total Rated	1.320×10⁵ <u>W</u>	~
Power Total Rated @60Hz	1.320 × 10⁵ <u>W</u>	~
Power Total Rated @50Hz	1.320 × 10⁵ <u>W</u>	~
Rotational Speed @50Hz Nominal	12.33 <u>Hz</u> 🗸	
Pressure Ultimate	3300.00 <u>Pa</u> 🗸	,
Rotational Speed @60Hz Nominal	12.33 <u>Hz</u> ∨	

Capacity Air / Nitrogen @50Hz Nominal	1.26 <u>m³/s</u> ∽
Capacity Air / Nitrogen @60Hz Nominal	1.26 <u>m³/s</u> ∽
<b>Operation Conditions</b>	- Limitations
Altitude Max.	1000.00 <u>m</u> 🗸
Temperature Inlet Gas	Max. 353.15 <u>K</u> 🗸
pressureOutletMaxCor	ntinous 1.200×10⁵ <u>Pa</u> ❤
Environmental Condi	tions
Temperature Ambient Operation Max	323.15 <u>K</u> ✓
Temperature Ambient Operation Min.	253.15 <u>K</u> ✓
Temperature Ambient Storage Min.	243.15 <u>K</u> ✓
Temperature Ambient Storage Max.	323.15 <u>K</u> ✓
Lubricants	
Grease Type	DIN51825 K2K-30



# LR1A4000 - Liquid Ring Vacuum Pump Cl

Part Number: LR1A4000BA10

## Specifications

Connection Vacuum Inlet Flange	DN 200
Connection vacuum outlet flange	DN 200
Cooling Method	Water Cooling
Pressure Ultimate	3300.00 <u>Pa</u> 🗸
Power Total Rated	1.100 × 10⁵ <u>₩</u> ❤

#### Variant

	SHORT DESCRIPTION	PART NUMBER
0	LR1A4000 CI	LR1A4000BA10
$\bigcirc$	LR1A4000 SS fitted	LR1A4000BA50
$\bigcirc$	LR1A4000 SS	LR1A4000BA70

Liquid ring vacuum pumps are positive displacement pumps that use a ring of liquid to create a seal between the vanes or impeller and the pump housing, creating a vacuum and pumping gas or vapor out of a chamber. They are rugged, reliable and widely used in applications ranging from chemical processing, paper and pulp industry, power generation, and wastewater treatment. They excel at handling condensable vapors and liquid slugs, making them ideal for wet applications with high levels of contamination.

Discover our cutting-edge Liquid Ring Vacuum Pumps, EHR Series and SHR Series, meticulously designed by Edwards.

Tailored for the most demanding applications in process industries, our liquid ring pump range comprises both one and two-stage machines, ensuring optimum efficiency across a broad vacuum range. With capacities reaching up to 40,000 m3/h in one stage and 7,500 m3/h in two-stage models, these pumps deliver powerful performance.

# LR1A

For rough vacuum applications in the chemical and allied process industries

The LR Series, including LR1A and LR1B single-stage models, are tolerant of particulates and operate with minimal maintenance and noise, making them ideal for your continuous operations in the power, chemical and process industries.

## Features and Benefits

Efficiency and Power: Experience unparalleled efficiency with our one and two-stage liquid ring pumps, perfect for processes operating at various vacuum levels. Innovation Redefined: Explore our ELRi range, a revolutionary line of intelligent and connected liquid ring vacuum pumps, integrating years of expertise and innovative technical advancements.

Customized Solutions: Benefit from our extensive experience in designing, engineering, and assembling bespoke liquid ring pump and hybrid vacuum systems. We provide tailored solutions for diverse process applications, meeting unique customer requirements.

Count on Edwards for top-quality Liquid Ring Pumps, designed to excel in the most challenging industrial environments. Enhance your processes with our reliable, efficient, and customized vacuum solutions.				
SPECIFICATIONS				
Classification				
Product Pressure Range	Rough Vacuum: 1000 mbar - 1 mbar			
High / Medium / Rough Vacuum Classification	Rough Vacuum Pump			
Dry or Wet Pump	Wet			
Vacuum Pump Technology	Liquid Ring Pump			
Variants				
variantLrpMaterialOfC	Construction	CI		
		CI - Cast Iron		
Material of Construct	tion			
Material Of	Grey cast ir	Grey cast iron, Carbon steel, Spheroidal graphite		
Construction	(ductile) ca carbide, Nit Stainless st Polyester u	(ductile) cast iron, Stainless steel 420, Silicon carbide, Nitrile, Stainless steel 316, Flap, Stainless steel 304, PTFE, Compressed fibre, Polyester urethane, Ball, Brass		
General Product Info	ormation			
Connection Vacuum Inlet Flange		DN 200		
	e			

Connection vacuum or	utlet flange	DN 200
Dimension Length		1.58 <u>m</u> 🗸
IP Rating		IP54
Supply Frequency		50 Hz
		60 Hz
Dimension Height		1.19 <u>m</u> 🗸
Dimension Width		1.01 <u>m</u> 🗸
Noise Level		85.00 db(A)
Cooling Method		Water Cooling
Connection Cooling		DN 40
connectionVacuumFla	ngeCombined	DN 200 / DN 200
dimensionComments		The dimensions length, width and height try to describe the outer shape of this particular product in its typical orientation when standing on the ground. We always recommend checking the detailed dimensions given in 2D drawings in the instruction manual or the 3D shapes given in 3D models.
Performance Data		
Power Total Rated	1.100 × 10 <sup>5</sup> W	· •
Power Total Rated @60Hz	1.100×10⁵ <u>W</u>	· ·
Power Total Rated @50Hz	1.100×10⁵ <u>W</u>	<u>·</u> •
Rotational Speed @50Hz Nominal	12.33 <u>Hz</u> ∽	

Pressure Ultimate	3300.00 <u>Pa</u> 🗸
Rotational Speed @60Hz Nominal	12.33 <u>Hz</u> ∽
Capacity Air / Nitrogen @50Hz Nominal	1.11 <u>m³/s</u> ✓
Capacity Air / Nitrogen @60Hz Nominal	1.11 <u>m³/s</u> ∽
Operation Conditions -	Limitations
Altitude Max.	1000.00 <u>m</u> 🗸
Temperature Inlet Gas M	ax. 353.15 <u>K</u> 🗸
pressureOutletMaxConti	nous 1.200×10⁵ <u>Pa</u> ∽
Environmental Condition	ons
Temperature Ambient Operation Max	323.15 <u>K</u> ∽
Temperature Ambient Operation Min.	253.15 <u>K</u> ∽
Temperature Ambient Storage Min.	243.15 <u>K</u> ✓
Temperature Ambient Storage Max.	323.15 <u>K</u> ∽
Lubricants	


# LR1A2500 - Liquid Ring Vacuum Pump Cl

Part Number: LR1A2500BA10

### Specifications

Connection Vacuum Inlet Flange	DN 150
Connection vacuum outlet flange	DN 150
Cooling Method	Water Cooling
Pressure Ultimate	3300.00 <u>Pa</u> ❤
Power Total Rated	75000.00

#### Variant

	SHORT DESCRIPTION	PART NUMBER
0	LR1A2500 CI	LR1A2500BA10
$\bigcirc$	LR1A2500 SS fitted	LR1A2500BA50
$\bigcirc$	LR1A2500 SS	LR1A2500BA70

Liquid ring vacuum pumps are positive displacement pumps that use a ring of liquid to create a seal between the vanes or impeller and the pump housing, creating a vacuum and pumping gas or vapor out of a chamber. They are rugged, reliable and widely used in applications ranging from chemical processing, paper and pulp industry, power generation, and wastewater treatment. They excel at handling condensable vapors and liquid slugs, making them ideal for wet applications with high levels of contamination.

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# LR1A

For rough vacuum applications in the chemical and allied process industries

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### Features and Benefits

Efficiency and Power: Experience unparalleled efficiency with our one and two-stage liquid ring pumps, perfect for processes operating at various vacuum levels. Innovation Redefined: Explore our ELRi range, a revolutionary line of intelligent and connected liquid ring vacuum pumps, integrating years of expertise and innovative technical advancements.

SPECIFICATIONS			
Classification			
Product Pressure Range	Rough Vacu	uum: 1000 mbar - 1 mbar	
High / Medium / Rough Vacuum Classification	Rough Vacı	Rough Vacuum Pump	
Dry or Wet Pump	Wet	Wet	
Vacuum Pump Technology	Liquid Ring	Liquid Ring Pump	
Variants			
variantLrpMaterialOf	Construction	CI	
	CI - Cast Iron		
Material of Construc	tion		
Material Of Construction	Grey cast ir (ductile) ca Stainless st Stainless st Compresse Brass	Grey cast iron, Carbon steel, Spheroidal graphite (ductile) cast iron, Stainless steel 420 (1), Stainless steel 420 (2), Tungsten (4), Nitrile, Stainless steel 316, Stainless steel 304, PTFE, Compressed fibre, Polyester urethane, Ball, Brass	
General Product Info	ormation		

Weight			924.00 <u>kg</u> 🗸
Connection vacuum outlet f	lange		DN 150
Dimension Length			1.38 <u>m</u> 🗸
IP Rating			IP54
Supply Frequency			50 Hz
			60 Hz
Dimension Height			1.04 <u>m</u> 🗸
Dimension Width			0.720 <u>m</u> 🛩
Noise Level			85.00 db(A)
Cooling Method			Water Cooling
Connection Cooling			1" BSPP (G) Female
connectionVacuumFlangeCo	ombined		DN 150 / DN 150
dimensionComments			The dimensions length, width and height try to describe the outer shape of this particular product in its typical orientation when standing on the ground. We always recommend checking the detailed dimensions given in 2D drawings in the instruction manual or the 3D shapes given in 3D models.
Performance Data			
Power Total Rated 75	000.00 <u>V</u>	<u>v</u> ~	
Power Total Rated 90 @60Hz	000.00 <u>V</u>	<u>v</u> ~	

Rotational Speed @50Hz Nominal	12.33 <u>Hz</u> ✓
Pressure Ultimate	3300.00 <u>Pa</u> 🗸
Rotational Speed @60Hz Nominal	14.83 <u>Hz</u> ∽
Capacity Air / Nitrogen @50Hz Nominal	0.681 <u>m³/s</u> ∽
Capacity Air / Nitrogen @60Hz Nominal	0.772 <u>m³/s</u> ∽
<b>Operation Conditions</b>	- Limitations
Altitude Max.	1000.00 <u>m</u> 🗸
Temperature Inlet Gas	Max. 353.15 <u>K</u> 🛩
pressureOutletMaxCon	ntinous 1.200 × 10⁵ <u>Pa</u> ❤
Environmental Condi	tions
Temperature Ambient Operation Max	323.15 <u>K</u> ✓
Temperature Ambient Operation Min.	253.15 <u>K</u> ✓
Temperature Ambient Storage Min.	243.15 <u>K</u> ✓
Temperature Ambient Storage Max.	323.15 <u>K</u> ✓
Lubricants	
Grease Type	DIN51825 K2K-30



# LR1A1600 - Liquid Ring Vacuum Pump Cl

Part Number: LR1A1600BA10

#### Specifications

Connection Vacuum Inlet Flange	DN 150
Connection vacuum outlet flange	DN 150
Cooling Method	Water Cooling
Pressure Ultimate	3300.00 <u>Pa</u> 🗸
Power Total Rated	45000.00 <u>W</u> 🗸

#### Variant

Explore the range of variants given below to compare the product

	SHORT DESCRIPTION	PART NUMBER
0	LR1A1600 CI	LR1A1600BA10
$\bigcirc$	LR1A1600 SS fitted	LR1A1600BA50
$\bigcirc$	LR1A1600 SS	LR1A1600BA70

 applications ranging from chemical processing, paper and pulp industry, power generation, and wastewater treatment. They excel at handling condensable vapors and liquid slugs, making them ideal for wet applications with high levels of contamination.

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#### Features and Benefits

Efficiency and Power: Experience unparalleled efficiency with our one and two-stage liquid ring pumps, perfect for processes operating at various vacuum levels.

Innovation Redefined: Explore our ELRi range, a revolutionary line of intelligent and connected liquid ring vacuum pumps, integrating years of expertise and innovative technical advancements. Customized Solutions: Benefit from our extensive experience in designing, engineering, and assembling bespoke liquid ring pump and hybrid vacuum systems. We provide tailored solutions for diverse process applications, meeting unique customer requirements.

Count on Edwards for top-quality Liquid Ring Pumps, designed to excel in the most challenging industrial environments. Enhance your processes with our reliable, efficient, and customized vacuum solutions.

SPECIFICATIONS		>
Classification		
Product Pressure Range	Rough Vacuum: 1000 mbar - 1 mbar	
High / Medium / Rough Vacuum Classification	Rough Vacuum Pump	
Dry or Wet Pump	Wet	
Vacuum Pump Technology	Liquid Ring Pump	

Variants	
variantLrpMaterialOfConstruction	n Cl
	CI - Cast Iron
General Product Information	
Connection Vacuum Inlet Flange	DN 150
Weight	887.00 <u>kg</u> 🛩
Connection vacuum outlet flange	2 DN 150
Dimension Length	1.23 <u>m</u> 🗸
IP Rating	IP54
Supply Frequency	50 Hz
	60 Hz
Dimension Height	1.04 <u>m</u> 🗸
Dimension Width	0.720 <u>m</u> 🗸
Noise Level	85.00 db(A)
Cooling Method	Water Cooling
Connection Cooling	1" BSPP (G) Female
connectionVacuumFlangeCombi	ned DN 150 / DN 150
dimensionComments	The dimensions length, width and height try to describe the outer shape of this particular product in its typical orientation when standing on the ground. We always recommend checking the detailed dimensions given in 2D drawings in the instruction manual or the 3D shapes given in 3D models.
Performance Data	
Power Total Rated 450	00.00 <u>W</u> ~
Power Total Rated 750 @60Hz	00.00 <u>W</u> ~

Power Total Rated @50Hz	45000.00 <u>W</u> ✓
Rotational Speed @50Hz Nominal	12.33 <u>Hz</u> ∽
Pressure Ultimate	3300.00 <u>Pa</u> 🗸
Rotational Speed @60Hz Nominal	14.67 <u>Hz</u> ∽
Capacity Air / Nitrogen @50Hz Nominal	0.472 <u>m³/s</u> ∽
Capacity Air / Nitrogen @60Hz Nominal	0.556 <u>m³/s</u> ∽
Operation Conditions - Lin	nitations
Altitude Max.	1000.00 <u>m</u> 🗸
Temperature Inlet Gas Max.	353.15 <u>K</u> ↔
pressureOutletMaxContino	us 1.200×10 <sup>5</sup> <u>Pa</u> ✓
Environmental Conditions	5
Temperature Ambient Operation Max	323.15 <u>K</u> ✓
Temperature Ambient Operation Min.	253.15 <u>K</u> ✓
Temperature Ambient Storage Min.	243.15 <u>K</u> ✓
Temperature Ambient Storage Max.	323.15 <u>K</u> ✓
Material of Construction	
Material Of Construction	Grey cast iron, Carbon steel, Spheroidal graphite (ductile) cast iron, Stainless steel 420 (1), Stainless steel 420 (2), Tungsten (4), Nitrile, Stainless steel 316, Stainless steel 304, PTFE, Compressed fibre, Polyester urethane, Ball, Brass
Lubricants	
Grease Type	DIN51825 K2K-30



# LR1A1300 - Liquid Ring Vacuum Pump Cl

Part Number: LR1A1300BA10

#### Specifications

Connection Vacuum Inlet Flange	DN 125
Connection vacuum outlet flange	DN 125
Cooling Method	Water Cooling
Pressure Ultimate	3300.00 <u>Pa</u> 🗸
Power Total Rated	37000.00 <u>W</u> 🗸

#### Variant

Explore the range of variants given below to compare the product

	SHORT DESCRIPTION	PART NUMBER
0	LR1A1300 CI	LR1A1300BA10
$\bigcirc$	LR1A1300 SS fitted	LR1A1300BA50
$\bigcirc$	LR1A1300 SS	LR1A1300BA70

► Constant Series In the series of the s

applications ranging from chemical processing, paper and pulp industry, power generation, and wastewater treatment. They excel at handling condensable vapors and liquid slugs, making them ideal for wet applications with high levels of contamination.

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#### Features and Benefits

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Innovation Redefined: Explore our ELRi range, a revolutionary line of intelligent and connected liquid ring vacuum pumps, integrating years of expertise and innovative technical advancements. Customized Solutions: Benefit from our extensive experience in designing, engineering, and assembling bespoke liquid ring pump and hybrid vacuum systems. We provide tailored solutions for diverse process applications, meeting unique customer requirements.

Count on Edwards for top-quality Liquid Ring Pumps, designed to excel in the most challenging industrial environments. Enhance your processes with our reliable, efficient, and customized vacuum solutions.

#### SPECIFICATIONS

>

#### **General Product Information**

Connection Vacuum Inlet Flange	DN 125
Weight	550.00 <u>kg</u> 🗸
Connection vacuum outlet flange	DN 125
Dimension Length	1.13 <u>m</u> 🗸
IP Rating	IP54

Supply Frequency		50 Hz	
		60 Hz	
Dimension Height		0.840 <u>m</u> 🗸	
Dimension Width		0.560 <u>m</u> 🛩	
Noise Level		85.00 db(A)	
Cooling Method		Water Cooling	
Connection Cooling		3/4" BSPP (G) Female	
connectionVacuumFlangeC	combined	DN 125 / DN 125	
dimensionComments		The dimensions length, width and height try to describe the outer shape of this particular product in its typical orientation when standing on the ground. We always recommend checking the detailed dimensions given in 2D drawings in the instruction manual or the 3D shapes given in 3D models.	
Performance Data			
Power Total Rated	37000.00	<u>w</u> ~	
Power Total Rated @60Hz	55000.00	<u>w</u> ~	
Power Total Rated @50Hz	37000.00	<u>w</u> ~	
Rotational Speed @50Hz Nominal	16.33 <u>Hz</u>	~	
Pressure Ultimate	3300.00 <u>P</u>	<u>a</u> ¥	
Rotational Speed @60Hz Nominal	19.50 <u>Hz</u>	~	
Capacity Air / Nitrogen @50Hz Nominal	0.342 <u>m³/</u>	<u>s</u> ¥	
Capacity Air / Nitrogen @60Hz Nominal	0.403 <u>m³/</u>	<u>s</u> •	
Operation Conditions - Lir	nitations		
Altitude Max.	1000.	00 <u>m</u> 🗸	

Temperature Inlet Gas Max.	353	8.15 <u>K</u> ✓	
pressureOutletMaxContinou	ıs 1.2	00×10⁵ <u>Pa</u> ✔	
Environmental Conditions			
Temperature Ambient Operation Max	323.15	<u>K</u> ~	
Temperature Ambient Operation Min.	253.15 <u>K</u> ∽		
Temperature Ambient Storage Min.	243.15	<u>K</u> ~	
Temperature Ambient Storage Max.	323.15 <u>K</u> ✓		
Classification			
Product Pressure Range	Rough V	′acuum: 1000 mbar - 1 mbar	
High / Medium / Rough Vacuum Classification	Rough V	acuum Pump	
Dry or Wet Pump	Wet		
Vacuum Pump Technology	Liquid Ring Pump		
Material of Construction			
Material Of Construction	Grey cast iron, Carbon steel, Spheroidal graphite (ductile) cast iron, Stainless steel 420 (1), Stainless steel 420 (2), Tungsten (4), Nitrile, Stainless steel 316, Stainless steel 304, PTFE, Compressed fibre, Polyester urethane, Ball, Brass		
Lubricants			
Grease Type	DIN5182	25 K2K-30	
Variants			
variantLrpMaterialOfConstruction		CI	
		CI - Cast Iron	



**Connection Vacuum Inlet Flange** 

Connection vacuum outlet flange

**Cooling Method** 

**Pressure Ultimate** 

Power Total Rated

DN 125

DN 125

Water Cooling

3300.00 <u>Pa</u> 🗸

37000.00 <u>W</u> 🗸

### LR1A1200 - Liquid Ring Vacuum Pump Cl

Part Number: LR1A1200BA10

#### Variant

Explore the range of variants given below to compare the product

	SHORT DESCRIPTION	PART NUMBER
0	LR1A1200 CI	LR1A1200BA10
$\bigcirc$	LR1A1200 SS fitted	LR1A1200BA50
$\bigcirc$	LR1A1200 SS	LR1A1200BA70

PRODUCT DETAILS

Liquid ring vacuum pumps are positive displacement pumps that use a ring of liquid to create a seal between the vanes or impeller and the pump housing, creating a vacuum and pumping gas or vapor out of a chamber. They are rugged, reliable and widely used in applications ranging from chemical processing, paper and pulp industry, power generation, and wastewater treatment. They excel at handling condensable vapors and liquid slugs, making them ideal for wet applications with high levels of contamination.

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#### SPECIFICATIONS

#### Classification

Product Pressure Range	Rough Vacuum: 1000 mbar - 1 mbar		
High / Medium / Rough Vacuum Classification	Rough Vacuum Pump		
Dry or Wet Pump	Wet		
Vacuum Pump Technology	Liquid Ring Pump		
Variants			
variantLrpMaterialOfConstruc	ction Cl		
	CI - Cast Iron		

×

#### **General Product Information**

Connection Vacuum Inlet Fla	nge	DN 125
Weight		515.00 <u>kg</u> 🗸
Connection vacuum outlet fla	inge	DN 125
Dimension Length		1.09 <u>m</u> 🗸
IP Rating		IP54
Supply Frequency		50 Hz
		60 Hz
Dimension Height		0.840 <u>m</u> ¥
Dimension Width		0.560 <u>m</u> 🗸
Noise Level		85.00 db(A)
Cooling Method		Water Cooling
Connection Cooling		3/4" BSPP (G) Female
connectionVacuumFlangeCon	mbined	DN 125 / DN 125
dimensionComments		The dimensions length, width and height try to describe the outer shape of this particular product in its typical orientation when standing on the ground. We always recommend checking the detailed dimensions given in 2D drawings in the instruction manual or the 3D shapes given in 3D models.
Performance Data		
Power Total Rated	37000.00	<u>w</u> ~
Power Total Rated @60Hz	45000.00	<u>w</u> ~
Power Total Rated @50Hz	37000.00	<u>w</u> ~

Rotational Speed @50Hz Nominal	16.33 <u>Hz</u> ✓
Pressure Ultimate	3300.00 <u>Pa</u> 🗸
Rotational Speed @60Hz Nominal	19.50 <u>Hz</u> 🛩
Capacity Air / Nitrogen @50Hz Nominal	0.300 <u>m³/s</u> ∽
Capacity Air / Nitrogen @60Hz Nominal	0.367 <u>m³/s</u> ✓

Operation Conditions - Limitations			
Altitude Max.	1000.00 <u>m</u> 🛩		
Temperature Inlet Gas Max.	353.15 <u>K</u> ↔		
pressureOutletMaxContinous	1.200×10⁵ <u>Pa</u> ✓		
Environmental Conditions			
Temperature Ambient Operation Max	323.15 <u>K</u> ✓		
Temperature Ambient Operation Min.	253.15 <u>K</u> ∽		
Temperature Ambient Storage Min.	243.15 <u>K</u> ∽		
Temperature Ambient Storage Max.	323.15 <u>K</u> ∽		
Material of Construction			
Material Of Construction	Grey cast iron, Carbon steel, Spheroidal graphite (ductile) cast iron, Stainless steel 420 (1), Stainless steel 420 (2), Tungsten (4), Nitrile, Stainless steel 316, Stainless steel 304, PTFE, Compressed fibre, Polyester urethane, Ball, Brass		
Lubricants			
Grease Type	DIN51825 K2K-30		



### LR1A1200 - Liquid Ring Vacuum Pump Cl

Part Number: LR1A1200BA10

#### Variant

Explore the range of variants given below to compare the product

SHORT DESCRIPTION	PART NUMBER
LR1A1200 CI	LR1A1200BA10
LR1A1200 SS fitted	LR1A1200BA50
C LR1A1200 SS	LR1A1200BA70

PRODUCT DETAILS

**Connection Vacuum Inlet Flange** 

Connection vacuum outlet flange

**Cooling Method** 

**Pressure Ultimate** 

Power Total Rated

### Liquid Ring Pumps Single-Stage Plate

DN 125

DN 125

Water Cooling

3300.00 <u>Pa</u> 🗸

37000.00 <u>W</u> 🗸

Liquid ring vacuum pumps are positive displacement pumps that use a ring of liquid to create a seal between the vanes or impeller and the pump housing, creating a vacuum and pumping gas or vapor out of a chamber. They are rugged, reliable and widely used in applications ranging from chemical processing, paper and pulp industry, power generation, and wastewater treatment. They excel at handling condensable vapors and liquid slugs, making them ideal for wet applications with high levels of contamination.

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# LR1A

For rough vacuum applications in the chemical and allied process industries

The LR Series, including LR1A and LR1B single-stage models, are tolerant of particulates and operate with minimal maintenance and noise, making them ideal for your continuous operations in the power, chemical and process industries.

#### Features and Benefits

Efficiency and Power: Experience unparalleled efficiency with our one and two-stage liquid ring pumps, perfect for processes operating at various vacuum levels.

Innovation Redefined: Explore our ELRi range, a revolutionary line of intelligent and connected liquid ring vacuum pumps, integrating years of expertise and innovative technical advancements.

Customized Solutions: Benefit from our extensive experience in designing, engineering, and assembling bespoke liquid ring pump and hybrid vacuum systems. We provide tailored solutions for diverse process applications, meeting unique customer requirements.

Count on Edwards for top-quality Liquid Ring Pumps, designed to excel in the most challenging industrial environments. Enhance your processes with our reliable, efficient, and customized vacuum solutions.

Classification		
Product Pressure Range	Roug	h Vacuum: 1000 mbar - 1 mbar
High / Medium / Rough Vacuum Classification	Roug	h Vacuum Pump
Dry or Wet Pump	Wet	
Vacuum Pump Technology	Liquid Ring Pump	
Variants		
variantLrpMaterialOfConstruction		CI
		CI - Cast Iron

#### **General Product Information**

Connection Vacuum Inlet Fla	nge	DN 125
Weight		515.00 <u>kg</u> 🗸
Connection vacuum outlet fla	inge	DN 125
Dimension Length		1.09 <u>m</u> 🗸
IP Rating		IP54
Supply Frequency		50 Hz
		60 Hz
Dimension Height		0.840 <u>m</u> ¥
Dimension Width		0.560 <u>m</u> 🗸
Noise Level		85.00 db(A)
Cooling Method		Water Cooling
Connection Cooling		3/4" BSPP (G) Female
connectionVacuumFlangeCon	mbined	DN 125 / DN 125
dimensionComments		The dimensions length, width and height try to describe the outer shape of this particular product in its typical orientation when standing on the ground. We always recommend checking the detailed dimensions given in 2D drawings in the instruction manual or the 3D shapes given in 3D models.
Performance Data		
Power Total Rated	37000.00	<u>w</u> ~
Power Total Rated @60Hz	45000.00	<u>w</u> ~
Power Total Rated @50Hz	37000.00	<u>w</u> ~

Rotational Speed @50Hz Nominal	16.33 <u>Hz</u> ✓
Pressure Ultimate	3300.00 <u>Pa</u> 🗸
Rotational Speed @60Hz Nominal	19.50 <u>Hz</u> 🛩
Capacity Air / Nitrogen @50Hz Nominal	0.300 <u>m³/s</u> ∽
Capacity Air / Nitrogen @60Hz Nominal	0.367 <u>m³/s</u> ✓

Operation Conditions - Limitations		
Altitude Max.	1000.00 <u>m</u> 🛩	
Temperature Inlet Gas Max.	353.15 <u>K</u> ↔	
pressureOutletMaxContinous	1.200×10⁵ <u>Pa</u> ✓	
Environmental Conditions		
Temperature Ambient Operation Max	323.15 <u>K</u> ✓	
Temperature Ambient Operation Min.	253.15 <u>K</u> ∽	
Temperature Ambient Storage Min.	243.15 <u>K</u> ∽	
Temperature Ambient Storage Max.	323.15 <u>K</u> ∽	
Material of Construction		
Material Of Construction	Grey cast iron, Carbon steel, Spheroidal graphite (ductile) cast iron, Stainless steel 420 (1), Stainless steel 420 (2), Tungsten (4), Nitrile, Stainless steel 316, Stainless steel 304, PTFE, Compressed fibre, Polyester urethane, Ball, Brass	
Lubricants		
Grease Type	DIN51825 K2K-30	



# LR1A800 - Liquid Ring Vacuum Pump Cl

Part Number: LR1A0800BA10

### Specifications

Connection Vacuum Inlet Flange	DN 125
Connection vacuum outlet flange	DN 125
Cooling Method	Water Cooling
Pressure Ultimate	3300.00
	<u>Pa</u> 🗸

#### Variant

	SHORT DESCRIPTION	PART NUMBER
0	LR1A800 CI	LR1A0800BA10
$\bigcirc$	LR1A800 SS fitted	LR1A0800BA50
$\bigcirc$	LR1A800 SS	LR1A0800BA70

Liquid ring vacuum pumps are positive displacement pumps that use a ring of liquid to create a seal between the vanes or impeller and the pump housing, creating a vacuum and pumping gas or vapor out of a chamber. They are rugged, reliable and widely used in applications ranging from chemical processing, paper and pulp industry, power generation, and wastewater treatment. They excel at handling condensable vapors and liquid slugs, making them ideal for wet applications with high levels of contamination.

Discover our cutting-edge Liquid Ring Vacuum Pumps, EHR Series and SHR Series, meticulously designed by Edwards.

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### Features and Benefits

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SPECIFICATIONS			
Classification			
Product Pressure Range	Rough Vac	uum: 1000 mbar - 1 mbar	
High / Medium / Rough Vacuum Classification	Rough Vac	uum Pump	
Dry or Wet Pump	Wet		
Vacuum Pump Technology	Liquid Ring Pump		
Variants			
variantLrpMaterialOf	Construction	CI	
		CI - Cast Iron	
General Product Info	ormation		
Connection Vacuum I	nlet Flange	DN 125	
Weight		433.00 <u>kg</u> ❤	
Connection vacuum c	outlet flange	DN 125	

Supply Frequency		50 Hz	
		60 Hz	
Dimension Height		0.840 <u>m</u> 🗸	
Dimension Width		0.560 <u>m</u> 🗸	
Noise Level		85.00 db(A)	
Cooling Method		Water Cooling	
Connection Cooling		3/4" BSPP (G) Female	
connectionVacuumFla	angeCombined	DN 125 / DN 125	
dimensionComments		The dimensions length, width and height try to describe the outer shape of this particular product in its typical orientation when standing on the ground. We always recommend checking the detailed dimensions given in 2D drawings in the instruction manual or the 3D shapes given in 3D models.	
Performance Data			
Power Total Rated	22000.00 <u>W</u> •	•	
Power Total Rated @60Hz	30000.00 <u>W</u> 丶	•	
Power Total Rated @50Hz	22000.00 <u>W</u> <b>\</b>	•	
Rotational Speed @50Hz Nominal	16.33 <u>Hz</u> ∽		
Pressure Ultimate	3300.00 <u>Pa</u> 🗸		
Rotational Speed @60Hz Nominal	19.50 <u>Hz</u> ∽		

Capacity Air / Nitrogen @50Hz Nominal	0.208 <u>m³/s</u> ∽
Capacity Air / Nitrogen @60Hz Nominal	0.247 <u>m³/s</u> ∽
<b>Operation Conditions</b>	s - Limitations
Altitude Max.	1000.00 <u>m</u> 🗸
Temperature Inlet Gas	Max. 353.15 <u>K</u> <b>~</b>
pressureOutletMaxCor	ntinous 1.200×10⁵ <u>Pa</u> ❤
Environmental Condi	tions
Temperature Ambient Operation Max	323.15 <u>K</u> ✓
Temperature Ambient Operation Min.	253.15 <u>K</u> ✓
Temperature Ambient Storage Min.	243.15 <u>K</u> ∽
Temperature Ambient Storage Max.	323.15 <u>K</u> ✓
Material of Construct	ion
Material Of Construction	Grey cast iron, Carbon steel, Spheroidal graphite (ductile) cast iron, Stainless steel 420 (1), Stainless steel 420 (2), Tungsten (4), Nitrile, Stainless steel 316, Stainless steel 304, PTFE, Compressed fibre, Polyester urethane, Ball, Brass
	Brass



# LR1A700 - Liquid Ring Vacuum Pump Cl

Part Number: LR1A0700BA10

### Specifications

Connection Vacuum Inlet Flange	DN 100
Connection vacuum outlet flange	DN 100
Cooling Method	Water Cooling
Pressure Ultimate	3300.00
	<u>Pa</u> 🗸

#### Variant

	SHORT DESCRIPTION	PART NUMBER
0	LR1A700 CI	LR1A0700BA10
$\bigcirc$	LR1A700 SS fitted	LR1A0700BA50
$\bigcirc$	LR1A700 SS	LR1A0700BA70

Liquid ring vacuum pumps are positive displacement pumps that use a ring of liquid to create a seal between the vanes or impeller and the pump housing, creating a vacuum and pumping gas or vapor out of a chamber. They are rugged, reliable and widely used in applications ranging from chemical processing, paper and pulp industry, power generation, and wastewater treatment. They excel at handling condensable vapors and liquid slugs, making them ideal for wet applications with high levels of contamination.

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SPECIFICATIONS			
Classification			
Product Pressure Range	Rough Vac	uum: 1000 mbar - 1 mbar	
High / Medium / Rough Vacuum Classification	Rough Vac	uum Pump	
Dry or Wet Pump	Wet		
Vacuum Pump Technology	Liquid Ring	Liquid Ring Pump	
Variants			
variantLrpMaterialOfConstruction		CI	
		CI - Cast Iron	
General Product Info	ormation		
Connection Vacuum I	Inlet Flange	DN 100	
Weight		260.00 <u>kg</u> 🗸	
Connection vacuum o	outlet flange	DN 100	
Dimension Length		0.900 m 🗙	

Supply Frequency		50 Hz
		60 Hz
Dimension Height		0.610 <u>m</u> 🗸
Dimension Width		0.480 <u>m</u> 🛩
Noise Level		85.00 db(A) Water Cooling 1/2" BSPP (G) Female
Cooling Method		
Connection Cooling		
connectionVacuumFla	angeCombined	DN 100 / DN 100
dimensionComments		The dimensions length, width and height try to describe the outer shape of this particular product in its typical orientation when standing on the ground. We always recommend checking the detailed dimensions given in 2D drawings in the instruction manual or the 3D shapes given in 3D models.
Performance Data		
Power Total Rated	18500.00 <u>W</u> 🔹	*
Power Total Rated @60Hz	30000.00 <u>W</u> •	*
Power Total Rated @50Hz	18500.00 <u>W</u> <b>\</b>	✓
Rotational Speed @50Hz Nominal	24.17 <u>Hz</u> ∽	
Pressure Ultimate	3300.00 <u>Pa</u> 🗸	•
Rotational Speed @60Hz Nominal	29.17 <u>Hz</u> ∽	

Capacity Air / Nitrogen @50Hz Nominal	0.167 <u>m³/s</u> ∽
Capacity Air / Nitrogen @60Hz Nominal	0.194 <u>m³/s</u> ∽
<b>Operation Condition</b>	s - Limitations
Altitude Max.	1000.00 <u>m</u> 🗸
Temperature Inlet Ga	s Max. 353.15 <u>K</u> 🗸
pressureOutletMaxCo	ontinous 1.200×10⁵ <u>Pa</u> ✓
Environmental Conc	litions
Temperature Ambient Operation Max	323.15 <u>K</u> ∽
Temperature Ambient Operation Min.	253.15 <u>K</u> ∽
Temperature Ambient Storage Min.	243.15 <u>K</u> ∽
Temperature Ambient Storage Max.	323.15 <u>K</u> ✓
Material of Construc	tion
Material Exposed To Vacuum	Grey cast iron, Carbon steel, Spheroidal graphite (ductile) cast iron, Stainless steel 420 (1), Stainless steel 420 (2), Tungsten (4), Nitrile, Stainless steel 316, Stainless steel 304, PTFE, Compressed fibre, Polyester urethane, Ball, Brass
ubricants	
irease Type	DIN51825 K2K-30



# LR1A500 - Liquid Ring Vacuum Pump Cl

Part Number: LR1A0500BA10

### Specifications

Connection Vacuum Inlet Flange	DN 100
Connection vacuum outlet flange	DN 100
Cooling Method	Water

Cooling

#### Variant

	SHORT DESCRIPTION	PART NUMBER
0	LR1A500 CI	LR1A0500BA10
$\bigcirc$	LR1A500 SS fitted	LR1A0500BA50
$\bigcirc$	LR1A500 SS	LR1A0500BA70

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SPECIFICATIONS			
Classification			
Product Pressure Range	Rough Vac	Rough Vacuum: 1000 mbar - 1 mbar	
High / Medium / Rough Vacuum Classification	Rough Vac	Rough Vacuum Pump	
Dry or Wet Pump	Wet		
Vacuum Pump Technology	Liquid Ring	Liquid Ring Pump	
Variants			
variantLrpMaterialOfConstruction		CI	
		CI - Cast Iron	
General Product Info	ormation		
Connection Vacuum Inlet Flange		DN 100	
Weight		225.00 <u>kg</u> 🛩	
Connection vacuum outlet flange		DN 100	
Dimension Length		0.840 <u>m</u> 🗸	

		50 Hz	
		60 Hz	
Dimension Height		0.610 <u>m</u> 🛩	
Dimension Width		0.480 <u>m</u> 🗸	
Noise Level		85.00 db(A)	
Cooling Method		Water Cooling	
Connection Cooling		1/2" BSPP (G) Female	
connectionVacuumFlangeCombined		DN 100 / DN 100	
dimensionComments	5	The dimensions length, width and height try to describe the outer shape of this particular product in its typical orientation when standing on the ground. We always recommend checking the detailed dimensions given in 2D drawings in the instruction manual or the 3D shapes given in 3D models.	
Material of Construc	tion		
Material Of Construction	Grey cast iron (ductile) cast Stainless stee Stainless stee	Grey cast iron, Carbon steel, Spheroidal graphite (ductile) cast iron, Stainless steel 420 (1), Stainless steel 420 (2), Tungsten (4), Nitrile, Stainless steel 316, Stainless steel 304, PTFE, Compressed fibre, Polyester urethane, Ball, Brass	
	Brass		
Lubricants	Brass		



# LR1A400 - Liquid Ring Vacuum Pump SS

Part Number: LR1A0400BA70

### Specifications

Connection Vacuum Inlet Flange	DN 65
Connection vacuum outlet flange	DN 65
Cooling Method	Water Cooling
Pressure Ultimate	3300.00 <u>Pa</u> ❤
Power Total Rated	11000.00 <u>₩</u> ❤

**PRODUCT DETAILS**
# Liquid Ring Pumps Single-Stage Plate

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## Features and Benefits

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Classification		
Product Pressure Range	Rough Vacu	um: 1000 mbar - 1 mbar
High / Medium / Rough Vacuum Classification	Rough Vacuum Pump	
Dry or Wet Pump	Wet	
Vacuum Pump Technology	Liquid Ring Pump	
Material of Constructio	'n	
Material Of Construction	Stainless steel 316, Stainless steel 316 (1) / carbon steel (2, 3), Stainless steel 316 (2), Silicon carbide, FPM, PTFE, Anaerobic, Ball	
Variants		
variantLrpMaterialOfCor	nstruction	SS
		SS - Stainless Steel
General Product Inforn	nation	SS - Stainless Steel
<b>General Product Inforn</b> Connection Vacuum Inle	<b>nation</b> et Flange	SS - Stainless Steel
<b>General Product Inforn</b> Connection Vacuum Inle Weight	<b>nation</b> et Flange	SS - Stainless Steel DN 65 190.00 kg ∽
<b>General Product Inforn</b> Connection Vacuum Inle Weight Connection vacuum out	<b>nation</b> et Flange let flange	SS - Stainless Steel DN 65 190.00 kg ∽ DN 65
<b>General Product Inforn</b> Connection Vacuum Inle Weight Connection vacuum out Dimension Length	<b>nation</b> et Flange let flange	SS - Stainless Steel DN 65 190.00 kg ✓ DN 65 0.800 m ✓

		50 Hz
		60 Hz
Dimension Height		0.560 <u>m</u> 🗸
Dimension Width		0.400 <u>m</u> 🗸
Noise Level		85.00 db(A)
Cooling Method		Water Cooling
Connection Cooling		1/2" BSPP (G) Female
connectionVacuumFlangeCombined		DN 65 / DN 65
dimensionComments		The dimensions length, width and height try to describe the outer shape of this particular product in its typical orientation when standing on the ground. We always recommend checking the detailed dimensions given in 2D drawings in the instruction manual or the 3D shapes given in 3D models.
Performance Data		
Power Total Rated	11000.00 <u>W</u> •	∽
Power Total Rated Power Total Rated @60Hz	11000.00 <u>W</u> · 15000.00 <u>W</u> ·	• •
Power Total Rated Power Total Rated @60Hz Power Total Rated @50Hz	11000.00 <u>W</u> · 15000.00 <u>W</u> · 11000.00 <u>W</u> ·	• •
Power Total Rated Power Total Rated @60Hz Power Total Rated @50Hz Rotational Speed @50Hz Nominal	11000.00 ₩ · 15000.00 ₩ · 11000.00 ₩ · 24.17 <u>Hz</u> ×	• •
Power Total Rated Power Total Rated @60Hz Power Total Rated @50Hz Rotational Speed @50Hz Nominal Pressure Ultimate	11000.00 W ↔ 15000.00 W ↔ 11000.00 W ↔ 24.17 Hz ↔ 3300.00 Pa ↔	• • •

Capacity Air / Nitrogen @50Hz Nominal	0.094 <u>m³/s</u> ∽
Capacity Air / Nitrogen @60Hz Nominal	0.114 <u>m³/s</u> ∽
<b>Operation Conditions</b>	- Limitations
Altitude Max.	1000.00 <u>m</u> 🗸
Temperature Inlet Gas	Max. 353.15 <u>K</u> <b>~</b>
pressureOutletMaxCor	ntinous 1.200×10⁵ <u>Pa</u> ∽
Environmental Condi	tions
Temperature Ambient Operation Max	323.15 <u>K</u> ❤
Temperature Ambient Operation Min.	253.15 <u>K</u> ∽
Temperature Ambient Storage Min.	243.15 <u>K</u> ✓
Temperature Ambient Storage Max.	323.15 <u>K</u> ∽
Lubricants	
Grease Type	DIN51825 K2K-30



# LR1A300 - Liquid Ring Vacuum Pump SS

Part Number: LR1A0300BA70

### Specifications

Connection Vacuum Inlet Flange	DN 65
Connection vacuum outlet flange	DN 65
Cooling Method	Water Cooling
Pressure Ultimate	3300.00 <u>Pa</u> ❤
Power Total Rated	7500.00 <u>₩</u> ❤

**PRODUCT DETAILS** 

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Classification		
Product Pressure Range	Rough Vacuum: 1000 mbar - 1 mbar	
High / Medium / Rough Vacuum Classification	Rough Vacuum Pump	
Dry or Wet Pump	Wet	
Vacuum Pump Technology	Liquid Ring Pump	
Material of Construc	tion	
Material Of Construction	Stainless steel 316, Stainless steel 316 (1) / carbon steel (2, 3), Stainless steel 316 (2), Silicon carbide, FPM, PTFE, Anaerobic, Ball	
Performance Data		
Power Total Rated	7500.00 <u>W</u> 🗸	
Power Total Rated @60Hz	11000.00 <u>W</u> 🗸	
Power Total Rated @50Hz	7500.00 <u>W</u> 🗸	
Rotational Speed @50Hz Nominal	24.17 <u>Hz</u> ∽	
Pressure Ultimate	3300.00 <u>Pa</u> 🗸	
Rotational Speed @60Hz Nominal	29.17 <u>Hz</u> ∽	
Capacity Air / Nitrogen @50Hz Nominal	0.041 <u>m³/s</u> ∽	
Capacity Air / Nitrogen @60Hz Nominal	0.081 <u>m³/s</u> ✓	

### Variants

variantLrpMaterialOfConstruction	SS	
	SS - Stainless Steel	
General Product Information		
Connection Vacuum Inlet Flange	DN 65	
Weight	175.00 <u>kg</u> 🛩	
Connection vacuum outlet flange	DN 65	
Dimension Length	0.750 <u>m</u> 🗸	
IP Rating	IP54	
Supply Frequency	50 Hz	
	60 Hz	
Dimension Height	0.560 <u>m</u> 🗸	
Dimension Width	0.400 <u>m</u> 🗸	
Noise Level	85.00 db(A)	
Cooling Method	Water Cooling	
Connection Cooling	1/2" BSPP (G) Female	
connectionVacuumFlangeCombined	DN 65 / DN 65	

dimensionComments	The dimensions length, width and height try to describe the outer shape of this particular product in its typical orientation when standing on the ground. We always recommend checking the detailed dimensions given in 2D drawings in the instruction manual or the 3D shapes given
	manual or the 3D shapes given in 3D models.

### **Operation Conditions - Limitations**

ax. nous ns 323.15 253.15	1000.00 <u>m</u> ✓ 353.15 <u>K</u> ✓ 1.200 × 10 <sup>5</sup> <u>Pa</u> ✓
ax. nous n <b>s</b> 323.15 253.15	353.15 <u>K</u> ✓ 1.200×10 <sup>5</sup> <u>Pa</u> ✓ <u>K</u> ✓
nous ns 323.15 253.15	1.200×10⁵ <u>Pa</u> ∽ <u>K</u> ∽
ns 323.15 253.15	<u>K</u> ~
323.15 253.15	<u>K</u> ~
253.15	
-	<u>K</u> ~
243.15	<u>K</u> ~
323.15	<u>K</u> ~
DIN518	25 K2K-30
	243.15 323.15 DIN518



# LR1A200 - Liquid Ring Vacuum Pump SS

Part Number: LR1A0200BA70

### Specifications

Connection Vacuum Inlet Flange	DN 50
Connection vacuum outlet flange	DN 50
Cooling Method	Water Cooling
Pressure Ultimate	3300.00 <u>Pa</u> ❤

### Variant

Explore the range of variants given below to compare the product

	SHORT DESCRIPTION	PART NUMBER
$\bigcirc$	LR1A200 CI	LR1A0200BA10
$\bigcirc$	LR1A200 SS fitted	LR1A0200BA50
0	LR1A200 SS	LR1A0200BA70

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The LR Series, including LR1A and LR1B single-stage models, are tolerant of particulates and operate with minimal maintenance and noise, making them ideal for your continuous operations in the power, chemical and process industries.

## Features and Benefits

Efficiency and Power: Experience unparalleled efficiency with our one and two-stage liquid ring pumps, perfect for processes operating at various vacuum levels. Innovation Redefined: Explore our ELRi range, a revolutionary line of intelligent and connected liquid ring vacuum pumps, integrating years of expertise and innovative technical advancements.

Customized Solutions: Benefit from our extensive experience in designing, engineering, and assembling bespoke liquid ring pump and hybrid vacuum systems. We provide tailored solutions for diverse process applications, meeting unique customer requirements.

Count on Edwards for challenging industria efficient, and custom	top-quality Liqui l environments. En ized vacuum solut	d Ring Pumps, designed to excel in the most nhance your processes with our reliable, tions.	
SPECIFICATIONS		>	
Classification			
Product Pressure Range	Rough Vacu	Rough Vacuum: 1000 mbar - 1 mbar	
High / Medium / Rough Vacuum Classification	Rough Vacı	Rough Vacuum Pump	
Dry or Wet Pump	Wet	Wet	
Vacuum Pump Technology	Liquid Ring	Liquid Ring Pump	
Material of Construc	tion		
Material Of Construction	Stainless st carbon stee carbide, FP	Stainless steel 316, Stainless steel 316 (1) / carbon steel (2, 3), Stainless steel 316 (2), Silicon carbide, FPM, PTFE, Anaerobic, Ball	
Variants			
variantLrpMaterialOf	Construction	SS	
		SS - Stainless Steel	
General Product Info	ormation		
Connection Vacuum	Inlet Flange	DN 50	
Weight		90.00 <u>kg</u> 🗸	
Connection vacuum o	outlet flange	DN 50	

Dimension Length		0.650 <u>m</u> 🛩
IP Rating		IP54
Supply Frequency		50 Hz
Dimension Height		0.360 <u>m</u> 🛩
Dimension Width		0.520 <u>m</u> 🛩
Noise Level		85.00 db(A)
Cooling Method		Water Cooling
Connection Cooling		1/2" BSPP (G) Female
connectionVacuumFlar	geCombined	DN 50 / DN 50
dimensionComments		The dimensions length, width and height try to describe the outer shape of this particular product in its typical orientation when standing on the ground. We always recommend checking the detailed dimensions given in 2D drawings in the instruction manual or the 3D shapes given in 3D models.
Performance Data		
Power Total Rated	5500.00 <u>W</u> 🗸	
Power Total Rated @60Hz	7500.00 <u>W</u> 🗸	
Power Total Rated @50Hz	5500.00 <u>W</u> 🗸	
Rotational Speed @50Hz Nominal	24.17 <u>Hz</u> ∽	
	2200 00 Do M	
Pressure Ultimate	3300.00 <u>Pa</u> ♥	

Capacity Air / Nitrogen @50Hz Nominal	0.047 <u>m³/s</u> ∽
Capacity Air / Nitrogen @60Hz Nominal	0.056 <u>m³/s</u> ∽
Operation Conditions - Limitations	
Altitude Max.	1000.00 <u>m</u> 🛩
Temperature Inlet Gas I	Max. 353.15 <u>K</u> 🗸
pressureOutletMaxCon	tinous 1.200×10⁵ <u>Pa</u> ∽
Environmental Condit	tions
Temperature Ambient Operation Max	323.15 <u>K</u> ✓
Temperature Ambient Operation Min.	253.15 <u>K</u> ✓
Temperature Ambient Storage Min.	243.15 <u>K</u> ↔
Temperature Ambient Storage Max.	323.15 <u>K</u> ✓
Lubricants	
Grease Type	DIN51825 K2K-30

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Россия +7(495)268-04-70

Казахстан +7(727)345-47-04 Беларусь +(375)257-127-884

Узбекистан +998(71)205-18-59

Киргизия +996(312)96-26-47

эл.почта: ewc@nt-rt.ru || сайт: https://edwards.nt-rt.ru/