

# LR1C Liquid Ring Vacuum Pump

edwardsvacuum.com

The LR1C series liquid ring pumps offer significant advantages when pumping wet gases and vapors, suction pressure can reach 33 mbar (97% vacuum). When the pump operating under a certain condition close to the ultimate vacuum ( i.e. the saturated vapor pressure of the sealing liquid), an anti-cavitation tube can be chosen to protect the pump.

The LR1C-EX series are designed to pumping explosive gases or work in the flammable and explosive environment.

The LR1C series has compact structure, stable operation, high efficiency, easy installation and service. All our liquid ring pumps are offered in a variety of configurations to suit your needs. They could be offered as a complete system including separator, heat exchanger, valves, gauges, anti-cavitation device, internal pipeline, etc. Such vacuum solution are believed to serve you better.

## Features and Benefits

Compact Design - Small footprint

Standard FKM Elastomer - Harsh application

Premium bearing - Stable and reliable

Exhaust valve plate design - efficient running

Stainless Steel Casting & Impeller - Anti-corrosive

Anti-Cavitation Device - Robust

Premium Mechanical Seal - Stable & Reliable

Customizable design - meeting different needs



High efficiency motor - energy-saving and environmentally friendly

## Safe Area Version (SA)

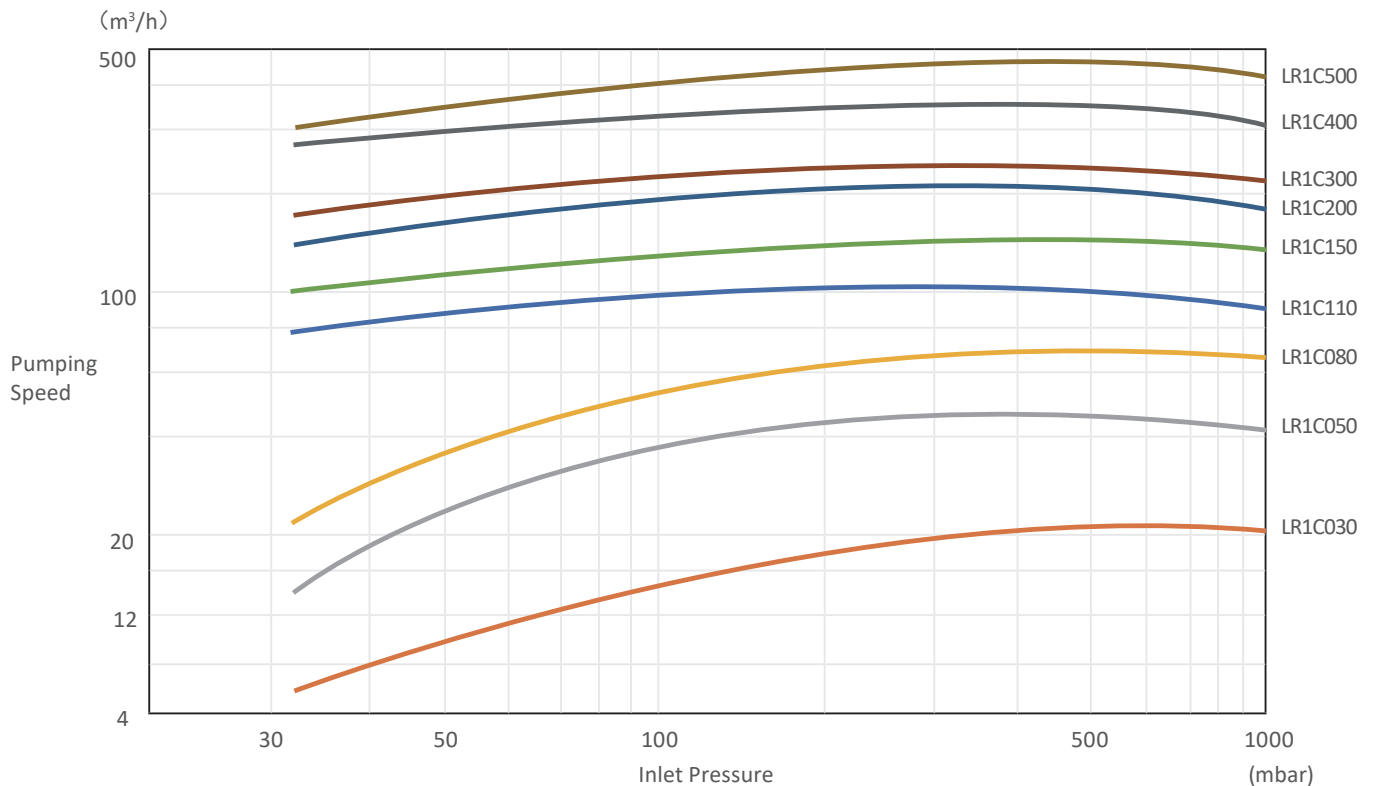
### Technical Datasheet

Model	Motor Power	Maximum Pumping Speed	Ultimate Pressure	Motor Speed	Service Liquid Flow	Noise Level	Weight	Inlet/Outlet	Service Liquid Inlet	Drain	Anti-cavitation
	kW	m <sup>3</sup> /h		rpm	m <sup>3</sup> /h	dB(A)		kg	N1 / N2	N3	N4
LR1C030 SA	0.81	27	33 mbar (-0.098MPa)	2840	0.15	62	31	Rp1"	Rp3/8"	Rp1/4"	Rp3/8"
LR1C050 SA	1.45	52		2840	0.15	65	36	Rp1"	Rp3/8"	Rp1/4"	Rp3/8"
LR1C080 SA	2.35	80		2860	0.18	66	56	Rp1½"	Rp3/8"	Rp1/4"	Rp3/8"
LR1C110 SA	3.85	110		2880	0.24	72	60	Rp1½"	Rp3/8"	Rp1/4"	Rp3/8"
LR1C150 SA	4.0	165		1440	0.43	63	105	DN50	Rp3/4"	Rp3/8"	Rp3/8"
LR1C200 SA	5.5	230		1440	0.53	68	126	DN50	Rp3/4"	Rp3/8"	Rp3/8"
LR1C300 SA	7.5	280		1440	0.66	69	149	DN65	Rp3/4"	Rp3/8"	Rp3/8"
LR1C400 SA	11	400		1460	0.96	73	195	DN65	Rp3/4"	Rp3/8"	Rp3/8"
LR1C500 SA	15	500		970	1.32	74	320	DN80	Rp3/4"	Rp3/8"	Rp3/8"

### Pump material

Items	Std. Package	SS304 Package	SS316L Package
Material	SS304 impeller, 2Cr13 shaft, process contact components HT200	SS304 impeller, 2Cr13 shaft, process contact components SS304	SS316L impeller, 2Cr13 shaft, Wetted Parts SS316L
Mechanical seal	John Crane / EagleBurgmann	John Crane / EagleBurgmann	John Crane / EagleBurgmann
Motor	IEC motor 380 V / 3 ph / 50 Hz	IEC motor 380 V / 3 ph / 50 Hz	IEC motor 380 V / 3 ph / 50 Hz

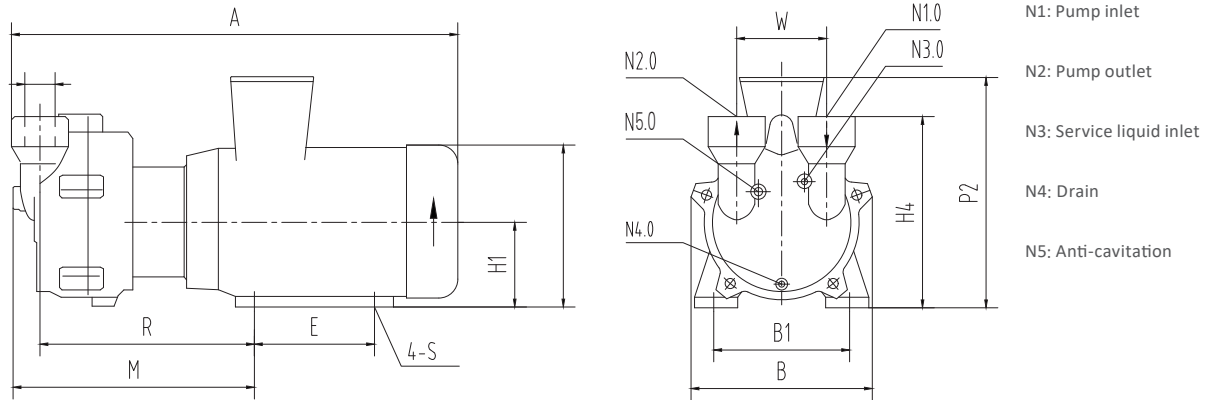
### Performance curves



Note: The performances as shown are based on operating conditions with saturated air at 20°C, the operating water at 15°C, and the exhaust pressure is a standard atmospheric pressure of 1,013.25 mbar. The performance tolerance is 10%.

Dimension

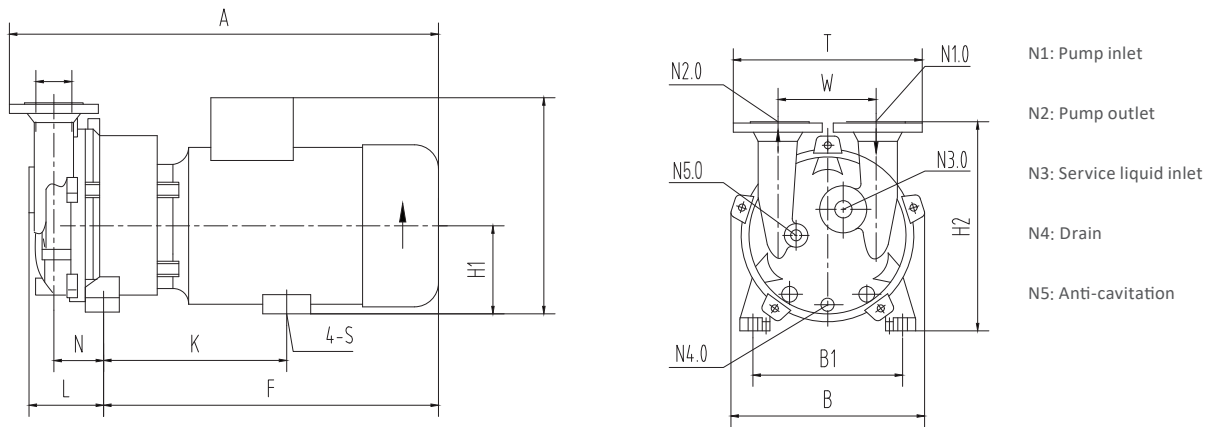
LR1C030 SA – LR1C110 SA



Unit: mm

Model	A	B	B1	R	E	M	H1	H4	P2	S	W
LR1C030 SA	485	190	140	217	100	244	90	196	236	Ø10	110
LR1C050 SA	525	190	140	236	100	263	90	196	236	Ø10	110
LR1C080 SA	563	230	160	253	140	280	100	236	262	Ø12	110
LR1C110 SA	603	230	182	279	140	306	112	248	288	Ø12	110

LR1C150 SA – LR1C500 SA



Unit: mm

Model	A	B	B1	H1	H2	K	L	F	N	S	W
LR1C150 SA	664	303	255	140	361	337	130	487	97	Ø12	180
LR1C200 SA	670	315	265	150	371	334	139	484	106	Ø12	180
LR1C300 SA	769	315	265	150	385	431	130	582	97	Ø12	200
LR1C400 SA	840	350	300	175	427	468	136	647	103	Ø14	200
LR1C500 SA	1030	480	370	211	522	570	200	793	137	Ø14	250

## Explosion-proof version (EX)

### Technical Datasheet

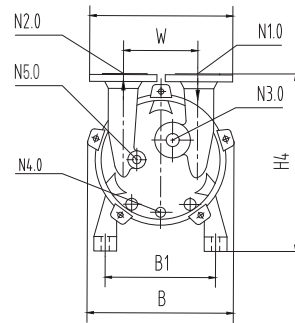
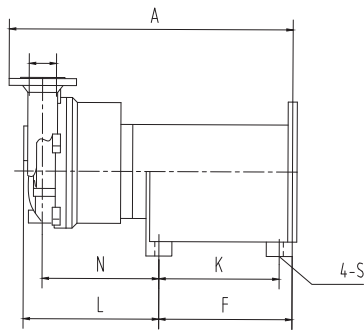
Model	Motor Power	Maximum Pumping Speed	Ultimate Pressure	Motor Speed	Service Liquid Flow	Noise Level	Weight	Inlet/Outlet	Service Liquid Inlet	Drain	Anti-cavitation
	kW	m <sup>3</sup> /h	mbar(MPa)	rpm	m <sup>3</sup> /h	dB(A)	kg	N1 / N2	N3	N4	N5
LR1C150 EX	4.0	165	33 mbar (-0.098MPa)	1440	0.43	63	150	DN50	Rp3/4"	Rp3/8"	Rp3/8"
LR1C200 EX	5.5	230		1440	0.53	68	200	DN50	Rp3/4"	Rp3/8"	Rp3/8"
LR1C300 EX	7.5	280		1440	0.66	69	230	DN65	Rp3/4"	Rp3/8"	Rp3/8"
LR1C400 EX	11	400		1460	0.96	73	280	DN65	Rp3/4"	Rp3/8"	Rp3/8"
LR1C500 EX	15	500		970	1.32	74	400	DN80	Rp3/4"	Rp3/8"	Rp3/8"

### Pump material

Items	Std. Package	SS304 Package	SS316L Package
Material	SS304 impeller, 2Cr13 shaft, process contact components component HT200	process contact components SS304	Wetted Parts SS316L
Mechanical seal	John Crane / EagleBurgmann	John Crane / EagleBurgmann	John Crane / EagleBurgmann
Motor	IEC (or EX) motor, 380 V / 3 ph / 50 Hz	IEC (or EX) motor, 380 V / 3 ph / 50 Hz	IEC (or EX) motor, 380 V / 3 ph / 50 Hz

### Dimension

#### LR1C150 EX – LR1C500 EX



- N1: Pump inlet
- N2: Pump outlet
- N3: Service liquid inlet
- N4: Drain
- N5: Anti-cavitation

Unit: mm

Model	A	B	B1	H1	H4	K	L	F	N	S	W
LR1C150 EX	651	303	255	160	381	250	315	289	282	Ø14	180
LR1C200 EX	768	344	279	180	401	310	368	353	335	Ø14	180
LR1C300 EX	795	340	279	180	415	310	383	353	350	Ø14	200
LR1C400 EX	910	374	320	215	467	410	393	461	360	Ø14	200
LR1C500 EX	980	480	320	215	526	410	482	461	419	Ø14	250

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