



# Proven Performance and Reliability

## Alfa Laval SRU Rotary Lobe Pump

### Application

The SRU range of rotary lobe pumps has been designed for use on wide ranging applications within the Brewing, Dairy, Food, Pharmaceutical and Chemical industries. The SRU pump can handle from low to high viscosity media with its characteristic smooth, low shear pumping action being ideal for products such as creams, gels, emulsions, aerated mixtures, and delicate cells and organic solids in suspension.

The SRU range is suitable for CIP (Cleaning In Place) and conforms to USA 3-A Hygienic Standard. In addition the SRU pump range is certified by EHEDG (European Hygienic Equipment Design Group) as fully CIP cleanable to their protocol. The SRU pump range is also classified for use in potentially explosive atmospheres under the ATEX Directive 94/9/EC Group II, Categories 2 & 3, with temperature classification T1 to T4. The SRU range is compact in size and highly efficient, capable of flow rates up to 106 m<sup>3</sup>/h and pressures up to 20 bar. The modular design provides for greater application flexibility and cost effective maintenance.

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### Standard Design

#### Pump Gearbox

The SRU pump with its conventional lobe pump design concept has a robust cast iron gearbox, which provides maximum shaft rigidity and easy oil seal replacement. The SRU range in series 1-4 has a universal gearbox design. This gives the flexibility of mounting pumps with the inlet and outlet ports in either a vertical or horizontal plane by changing the foot and its position. The SRU range in series 5 & 6 has dedicated gearbox castings, which also allows the inlet and outlet ports to be in either the vertical or horizontal plane.

#### Pump head Construction

The SRU in standard specification has hygienic design full bore inlet and outlet ports to International Standards, maximising inlet and outlet port efficiency and NPSH characteristics. Enlarged diameter and rectangular ports are also available to handle very high viscosity products.

The SRU in standard specification has tri-lobe rotors with the option of bi-lobe rotors for handling fluids containing large delicate solids. All rotors are available in three temperature ratings allowing the pump to be operated at maximum process temperatures of 70°C, 130°C and 200°C for both fluid pumped and CIP.



### Maximum Solid Size Capability

	Max. size of spherical solids (in.)	
	Bi-lobe rotors	Tri-lobe rotors
SRU1N	.31	.24
SRU1W	.31	.24
SRU2N	.31	.24
SRU2W	.51	.35
SRU3N	.51	.35
SRU3W	.63	.43
SRU4N	.63	.43
SRU4W	.87	.59
SRU5N	.87	.59
SRU5W	1.06	.71
SRU6N	1.06	.71
SRU6W	1.46	.94

### Materials of Construction

Pump gearbox - high quality grey cast iron.

Pumphead - product wetted components in 316L .

Product wetted elastomers of EPDM, NBR, FPM all FDA conforming.  
Also PTFE for chemical applications.

### Weight

	Bare Shaft Pump (kg)	
	Horizontal porting	Vertical porting
SRU1/005	15	16
SRU1/008	17	18
SRU2/013	28	30
SRU2/018	29	31
SRU3/027	53	56
SRU3/038	56	59
SRU4/055	105	111
SRU4/079	110	116
SRU5/116	152	152
SRU5/168	160	160
SRU6/260	260	260
SRU6/353	265	265

### Shaft Seal Options

- Single or single flush/quench.  
R90 or Hyclean type mechanical seals.
- Double R90 type mechanical seal for flush (steam barrier for aseptic application).
- Packed gland (unflushed or flushed versions).

Note: EHEDG compliance only for Hyclean type mechanical seals.

### Materials for Mechanical Seals

Carbon/Stainless steel, Tungsten Carbide/Tungsten Carbide, Silicon Carbide/Silicon Carbide or variations of these materials to suit fluid being pumped and/or application requirements. (N.B. Material variants are not available on all R90/Hyclean seal types)

### Pump Sizing

In order to correctly size a rotary lobe pump some essential information is required. Provision of this information listed below enables our Technical Support personnel to obtain the optimum pump selection.

### Product/Fluid Data

- Fluid to be pumped
- Viscosity
- SG/Density
- Pumping temperature, minimum, normal and maximum
- Cleaning in Place temperature(s), minimum, normal and maximum

### Performance Data

- Flow rate, minimum, normal and maximum
- Discharge head/pressure (closest to pump outlet)
- Suction condition

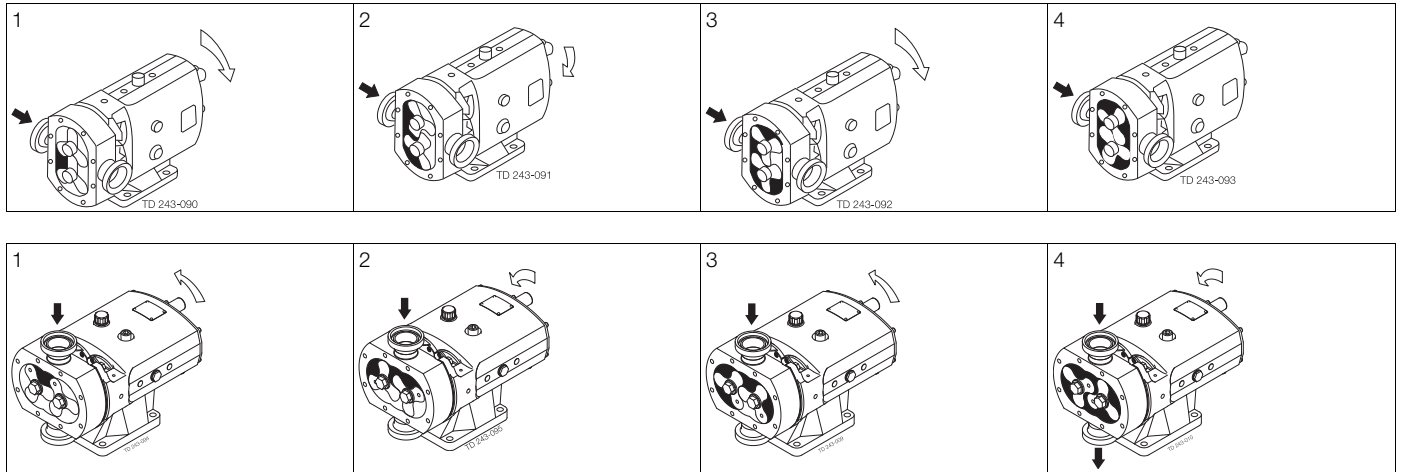
### Standard Specification Options

- Specification of inlet and outlet ports (Screwed male to BSP, DIN11851, Rdg, SMS, ISS/IDF, RJT, IAMD/3A, or Flanged to BS4504/DIN2533, ASA/ANSI 150, BS10E and other standards)
- Rotorcase Cover with integral Pressure Relief Valve.
- Heating/Cooling Saddle Jackets for Rotorcase and Jacket for Rotorcase Cover (not available when relief valve fitted).
- Bi-lobe Rotors in stainless steel and non-galling alloy.
- Electropolished product wetted components.
- Full material traceability on request to BS EN10204 3.1
- Electroless nickel plated gearbox.
- ATEX compliance.
- Complete pump unit comprising: Pump + Baseplate (mild or stainless steel) + coupling with guard + Geared electric motor suitable for (or supplied with) frequency speed control or manual variable speed drive (advise motor enclosure and electrical supply)

## Working Principle

The positive displacement of the SRU pump is provided by non-contacting, contra rotating tri-lobe or bi-lobe rotors within a fully swept pump chamber. All SRU pumps are capable of bi-rotational flow without modification.

Fig. 1



## Flows/Pressures/Connections

SRU Series	Build Selection			SRU Model	Displacement			Inlet and Outlet Connection				Differential Pressure		Maximum Speed
	Pump Head Code	Gear-box	Shaft		Litres/rev	Imp gall/ 100 rev	US gall/ 100 rev	Size		Size		bar	psi	
								Hygienic	Enlarged	mm	in			
1	005	L or H	D	SRU1/005/LD or HD	0.053	1.17	1.4	25	1	-	-	8	115	1000
	008	L or H	D	SRU1/008/LD or HD	0.085	1.87	2.25	25	1	40	1.5	5	75	1000
2	013	L or H	S	SRU2/013/LS or HS	0.128	2.82	3.38	25	1	40	1.5	10	145	1000
	013	L or H	D	SRU2/013/LD or HD	0.128	2.82	3.38	25	1	40	1.5	15	215	1000
	018	L or H	S	SRU2/018/LS or HS	0.181	3.98	4.78	40	1.5	50	2	7	100	1000
	018	L or H	D	SRU2/018/LD or HD	0.181	3.98	4.78	40	1.5	50	2	10	145	1000
3	027	L or H	S	SRU3/027/LS or HS	0.266	5.85	7.03	40	1.5	50	2	10	145	1000
	027	L or H	D	SRU3/027/LD or HD	0.266	5.85	7.03	40	1.5	50	2	15	215	1000
	038	L or H	S	SRU3/038/LS or HS	0.384	8.45	10.15	50	2	65	2.5	7	100	1000
	038	L or H	D	SRU3/038/LD or HD	0.384	8.45	10.15	50	2	65	2.5	10	145	1000
4	055	L or H	S	SRU4/055/LS or HS	0.554	12.19	14.64	50	2	65	2.5	10	145	1000
	055	L or H	D	SRU4/055/LD or HD	0.554	12.19	14.64	50	2	65	2.5	20	290	1000
	079	L or H	S	SRU4/079/LS or HS	0.79	17.38	20.87	65	2.5	80	3	7	100	1000
	079	L or H	D	SRU4/079/LD or HD	0.79	17.38	20.87	65	2.5	80	3	15	215	1000
5	116	L or H	S	SRU5/116/LS or HS	1.16	25.52	30.65	65	2.5	80	3	10	145	600
	116	L or H	D	SRU5/116/LD or HD	1.16	25.52	30.65	65	2.5	80	3	20	290	600
	168	L or H	S	SRU5/168/LS or HS	1.68	36.95	44.39	80	3	100	4	7	100	600
	168	L or H	D	SRU5/168/LD or HD	1.68	36.95	44.39	80	3	100	4	15	215	600
6	260	L or H	S	SRU6/260/LS or HS	2.60	57.20	68.70	100	4	100	4	10	145	600
	260	L or H	D	SRU6/260/LD or HD	2.60	57.20	68.70	100	4	100	4	20	290	600
	353	L or H	S	SRU6/353/LS or HS	3.53	77.65	93.26	100	4	150	6	7	100	600
	353	L or H	D	SRU6/353/LD or HD	3.53	77.65	93.26	100	4	150	6	15	215	600

L - Horizontal Porting

H - Vertical Porting

S - Stainless Steel

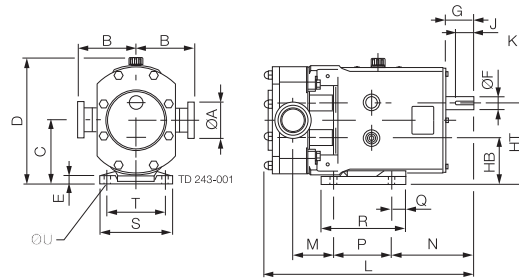
D - Duplex Stainless Steel

Note 1. These pressure ratings may vary for pumps with certain threaded connections.

## Dimensions

### Horizontally ported

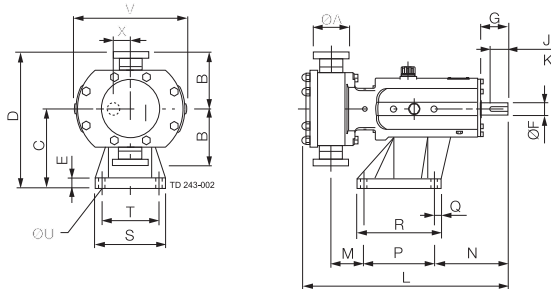
- A1 denotes hygienic port dimension  
 A2 denotes enlarged port dimension



PUMP	A1	A2	B	C	D	E	F	G	HB	HT	J	K	L	M	N	P	Q	R	S	T	U
SRU1/005/L	25	-	95	90.5	189	10	16	40	68	113	30	5	285	42	124	80	10	100	100	80	10
SRU1/008/L	25	40	95	90.5	189	10	16	40	68	113	30	5	295	48	124	80	10	100	100	80	10
SRU2/013/L	25	40	105	115	233	15	22	50	85	145	32	6	339	60	131	100	19	132	124	100	12
SRU2/018/L	40	50	105	115	233	15	22	50	85	145	32	6	348	63	131	100	19	132	124	100	12
SRU3/027/L	40	50	125	137.5	273	18	28	61	100	175	40	8	437	82.5	176	125	30	181	154	125	14
SRU3/038/L	50	65	125	137.5	273	18	28	61	100	175	40	8	450	87	176	125	30	181	154	125	14
SRU4/055/L	50	65	150	163	325	20	38	80	115	211	63	10	541	101	224	150	35	202	184	150	14
SRU4/079/L	65	80	150	163	325	20	38	80	115	211	63	10	558	110	224	150	35	202	184	150	14
SRU5/116/L	65	80	175	195	376	20	45	110	135	255	70	14	627	97	279	180	35	275	210	180	14
SRU5/168/L	80	100	175	195	376	20	45	110	135	255	70	14	650	108	279	180	35	275	210	180	14
SRU6/260/L	100	100	190	225	429	20	48	110	155	295	70	14	748	124.5	266	260	40	370	220	190	14
SRU6/353/L	100	150	190	225	429	20	48	110	155	295	70	14	777	140	266	260	40	370	220	190	14

### Vertically ported

- A1 denotes hygienic port dimension  
 A2 denotes enlarged port dimension



PUMP	A1	A2	B	C	D	E	F	G	J	K	L	M	N	P	Q	R	S	T	U	V	X
SRU1/005/H	25	-	95	113	208	15	16	40	30	5	285	49	117	80	22	114	104	80	10	179	22.5
SRU1/008/H	25	40	95	113	208	15	16	40	30	5	295	55	117	80	22	114	104	80	10	179	22.5
SRU2/013/H	25	40	105	147	252	15	22	50	32	6	339	67	124	100	12	124	124	100	12	219	30
SRU2/018/H	40	50	105	147	252	15	22	50	32	6	348	70	124	100	12	124	124	100	12	219	30
SRU3/027/H	40	50	125	175	300	22	28	61	40	8	437	67.5	161	155	15	185	155	125	14	253	37.5
SRU3/038/H	50	65	125	175	300	22	28	61	40	8	450	72	161	155	15	185	155	125	14	253	37.5
SRU4/055/H	50	65	150	213	363	25	38	80	63	10	541	78	197	200	17	234	184	150	14	307	48
SRU4/079/H	65	80	150	213	363	25	38	80	63	10	558	87	197	200	17	234	184	150	14	307	48
SRU5/116/H	65	80	175	256.5	431.5	30	45	110	70	14	627	91.5	264	200	20	240	220	180	14	345	60
SRU5/168/H	80	100	175	256.5	431.5	30	45	110	70	14	650	103	264	200	20	240	220	180	14	345	60
SRU6/260/H	100	100	190	295	485	30	48	110	70	14	748	124	267	260	20	300	250	210	14	400	70
SRU6/353/H	100	150	190	295	485	30	48	110	70	14	777	139	267	260	20	300	250	210	14	400	70





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