

Alfa Laval SRU Rotary Lobe Pump

Proven Performance and Reliability

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 low to high viscosity media, is suitable for CIP (Cleaning In Place), and conforms to USA 3A Hygienic Standard. The characteristic smooth, low shear pumping action is ideal for products such as creams, gels, emulsions, aerated mixtures, delicate cells and organic solids in suspension.

The SRU range is compact in size and highly efficient, capable of flow rates up to 466 gpm and pressures up to 290 psi. The new improved modular design provides for greater application flexibility and cost effective easy maintenance.

Standard Design

Pump Gearbox

The SRU pump with its conventional lobe pump design concept has a robust gearbox, which provides maximum shaft rigidity and easy oil seal replacement. The SRU range has a universal gearbox design which enables 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.

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 158°F, 266°F and 392°F for both fluid pumped and CIP.



Maximum Solid Size Capability

	Max. size of spherical solids			
	Bi-lobe rotors		Tri-lobe rotors	
	mm	in	mm	in
SRU1/005	8	0.31	6	0.24
SRU1/008	8	0.31	6	0.24
SRU2/013	8	0.31	6	0.24
SRU2/018	13	0.51	9	0.35
SRU3/027	13	0.51	9	0.35
SRU3/038	16	0.63	11	0.43
SRU4/055	16	0.63	11	0.43
SRU4/079	22	0.87	15	0.59
SRU5/116	22	0.87	15	0.59
SRU5/168	27	1.06	18	0.71
SRU6/260	27	1.06	18	0.71
SRU6/353	37	1.46	24	0.94

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Materials of Construction

Pump gearbox - stainless steel 304 (series 1 - 6)
 Pumphed - product wetted components in 316L .
 Product wetted elastomers of EPDM, NBR, FPM all FDA conforming.
 Also FFPM/PTFE for chemical applications.

Weight

	Bare Shaft Pump (lbs)	
	Horizontal porting	Vertical porting
SRU1N	37	39
SRU1W	41	44
SRU2N	66	70
SRU2W	68	72
SRU3N	121	127
SRU3W	127	134
SRU4N	242	256
SRU4W	254	267
SRU5N	326	408
SRU5W	344	425
SRU6N	503	573
SRU6W	514	584

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

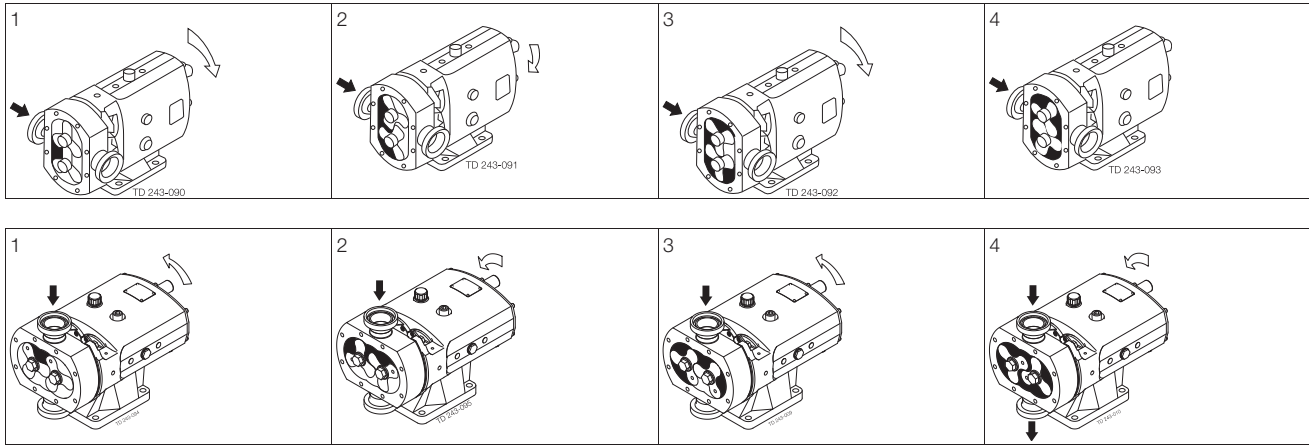
Standard Specification Options

- Tri-clamp inlet and outlet ports standard
- Specification of inlet and outlet ports (Screwed male to BSP, DIN11851, SMS, ISS/IDF, RJT, or Flanged to EN1092-1 B1 PN16, 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.
- 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 (see note 1)		Maximum Speed rev/min	
	Pump Head Code	Gear-box	Shaft		Litres/rev	Imp gall/ 100 rev	US gall/ 100 rev	Size		Size		bar	psi		
								mm	in	mm	in				
1	005	L or H	D	SRU1NLD	0.053	1.17	1.4	25	1	-	-	8	115	1000	
	008	L or H	D	SRU1WLD	0.085	1.87	2.25	25	1	40	1.5	5	75	1000	
2	013	L or H	S	SRU2NLS	0.128	2.82	3.38	25	1	40	1.5	10	145	1000	
	013	L or H	D	SRU2NLD	0.128	2.82	3.38	25	1	40	1.5	15	215	1000	
	018	L or H	S	SRU2WLS	0.181	3.98	4.78	40	1.5	50	2	7	100	1000	
	018	L or H	D	SRU2WLD	0.181	3.98	4.78	40	1.5	50	2	10	145	1000	
3	027	L or H	S	SRU3NLS	0.266	5.85	7.03	40	1.5	50	2	10	145	1000	
	027	L or H	D	SRU3NLD	0.266	5.85	7.03	40	1.5	50	2	15	215	1000	
	038	L or H	S	SRU3WLS	0.384	8.45	10.15	50	2	65	2.5	7	100	1000	
	038	L or H	D	SRU3WLD	0.384	8.45	10.15	50	2	65	2.5	10	145	1000	
4	055	L or H	S	SRU4NLS	0.554	12.19	14.64	50	2	65	2.5	10	145	1000	
	055	L or H	D	SRU4NLD	0.554	12.19	14.64	50	2	65	2.5	20	290	1000	
	079	L or H	S	SRU4WLS	0.79	17.38	20.87	65	2.5	80	3	7	100	1000	
	079	L or H	D	SRU4WLD	0.79	17.38	20.87	65	2.5	80	3	15	215	1000	
5	116	L or H	S	SRU5NLS	1.16	25.52	30.65	65	2.5	80	3	10	145	600	
	116	L or H	D	SRU5NLD	1.16	25.52	30.65	65	2.5	80	3	20	290	600	
	168	L or H	S	SRU5WLS	1.68	36.95	44.39	80	3	100	4	7	100	600	
	168	L or H	D	SRU5WLD	1.68	36.95	44.39	80	3	100	4	15	215	600	
6	260	L or H	S	SRU6NLS	2.60	57.20	68.70	100	4	100	4	10	145	600	
	260	L or H	D	SRU6NLD	2.60	57.20	68.70	100	4	100	4	20	290	600	
	353	L or H	S	SRU6WLS	3.53	77.65	93.26	100	4	150	6	7	100	600	
	353	L or H	D	SRU6WLD	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

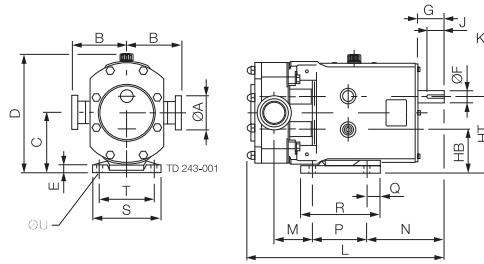
Note 1. These pressure ratings may vary for pumps with certain threaded connections.

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Dimensions

Horizontally ported

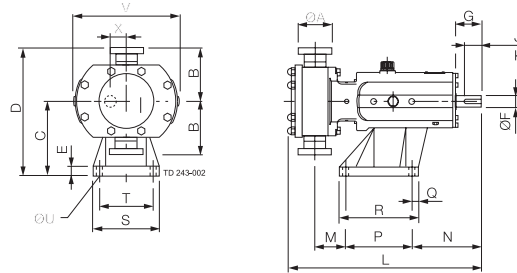
- A1 denotes hygienic port dimension
- A2 denotes enlarged port dimension



PUMP	A1	A2	B	C	D	E	F	G	HB	HT	J	K	L	M	N	P	Q	R	S	T	U
SRU1N	1.00	-	3.74	3.56	7.44	0.39	0.63	1.57	2.68	4.45	1.18	0.2	11.18	1.65	4.88	3.15	0.39	3.94	3.94	3.15	0.39
SRU1W	1.00	1.50	3.74	3.56	7.44	0.39	0.63	1.57	2.68	4.45	1.18	0.2	11.57	1.89	4.88	3.15	0.39	3.94	3.94	3.15	0.39
SRU2N	1.00	1.50	4.13	4.53	9.17	0.63	0.87	1.97	3.35	5.71	1.26	0.24	13.35	2.36	5.16	3.94	0.75	5.20	4.88	3.94	0.47
SRU2W	1.50	2.00	4.13	4.53	9.17	0.63	0.87	1.97	3.35	5.71	1.26	0.24	13.74	2.50	5.16	3.94	0.75	5.20	4.88	3.94	0.47
SRU3N	1.50	2.00	4.92	5.41	10.71	0.71	1.10	2.36	3.94	6.89	1.57	0.31	17.28	3.25	6.93	4.92	1.18	7.13	6.06	4.92	0.55
SRU3W	2.00	2.50	4.92	5.41	10.71	0.71	1.10	2.36	3.94	6.89	1.57	0.31	17.80	3.43	6.93	4.92	1.18	7.13	6.06	4.92	0.55
SRU4N	2.00	2.50	5.91	6.42	12.80	0.79	1.49	3.15	4.53	8.31	2.48	0.39	21.30	3.98	8.82	5.91	1.38	7.95	7.24	5.91	0.55
SRU4W	2.50	3.00	5.91	6.42	12.80	0.79	1.49	3.15	4.53	8.31	2.48	0.39	21.97	4.33	8.82	5.91	1.38	7.95	7.24	5.91	0.55
SRU5N	2.50	3.00	6.89	7.68	15.04	0.87	1.77	4.33	5.31	10.04	2.76	0.55	24.76	3.80	10.98	7.09	1.38	9.45	8.27	7.09	0.55
SRU5W	3.00	4.00	6.89	7.68	15.04	0.87	1.77	4.33	5.31	10.04	2.76	0.55	25.67	4.25	10.98	7.09	1.38	9.45	8.27	7.09	0.55
SRU6N	4.00	-	7.48	8.86	17.17	0.87	1.89	4.33	6.10	11.61	2.76	0.55	29.45	4.88	10.51	10.24	0.79	11.81	8.66	7.48	0.55
SRU6W	4.00	6.00	7.48	8.86	17.17	0.87	1.89	4.33	6.10	11.61	2.76	0.55	30.63	5.49	10.51	10.24	0.79	11.81	8.66	7.48	0.55

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
SRU1N	1.00	-	3.74	4.45	8.19	0.59	16	1.57	1.18	5	11.18	1.93	4.61	3.15	0.87	4.49	4.09	3.15	0.39	6.85	0.89
SRU1W	1.00	1.50	3.74	4.45	8.19	0.59	16	1.57	1.18	5	11.57	2.17	4.61	3.15	0.87	4.49	4.09	3.15	0.39	6.85	0.89
SRU2N	1.00	1.50	4.13	5.79	9.92	0.63	22	1.97	1.26	6	13.35	2.64	4.88	3.94	0.47	4.88	4.88	3.94	0.47	8.39	1.18
SRU2W	1.50	2.00	4.13	5.79	9.92	0.63	22	1.97	1.26	6	13.74	2.78	4.88	3.94	0.47	4.88	4.88	3.94	0.47	8.39	1.18
SRU3N	1.50	2.00	4.92	6.89	11.81	0.87	28	2.36	1.57	8	17.28	2.66	6.34	6.10	0.59	7.28	6.10	4.92	0.55	9.69	1.48
SRU3W	2.00	2.50	4.92	6.89	11.81	0.87	28	2.36	1.57	8	17.80	2.83	6.34	6.10	0.59	7.28	6.10	4.92	0.55	9.69	1.48
SRU4N	2.00	2.50	5.91	8.39	14.29	0.98	38	3.15	2.48	10	21.30	3.07	7.76	7.87	0.67	9.21	7.24	5.91	0.55	11.85	1.89
SRU4W	2.50	3.00	5.91	8.39	14.29	0.98	38	3.15	2.48	10	21.97	3.43	7.76	7.87	0.67	9.21	7.24	5.91	0.55	11.85	1.89
SRU5N	2.50	3.00	6.89	10.12	17.01	1.06	45	4.33	2.76	14	24.76	3.60	10.39	7.87	0.79	9.45	8.66	7.09	0.55	13.82	2.36
SRU5W	3.00	4.00	6.89	10.12	17.01	1.06	45	4.33	2.76	14	25.67	4.05	10.39	7.87	0.79	9.45	8.66	7.09	0.55	13.82	2.36
SRU6N	4.00	-	7.48	11.61	19.09	1.06	48	4.33	2.76	14	29.45	4.88	10.51	10.24	0.79	11.81	9.84	8.27	0.55	15.75	2.76
SRU6W	4.00	6.00	7.48	11.61	19.09	1.06	48	4.33	2.76	14	30.63	5.49	10.51	10.24	0.79	11.81	9.84	8.27	0.55	15.75	2.76

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