3.3 Rotary Lobe Pumps

The Rotary Lobe Pumps from Alfa Laval are able to handle low, medium and high viscosity media. These pumps are used where gentle, sanitary processing is a requirement.

Competitive Reliability

OptiLobe Rotary Lobe Pump

Application

The OptiLobe range of rotary lobe pumps combines cost-effective simplicity with Alfa Laval quality and reliability. The OptiLobe range has been developed for general applications within the Dairy, Beverage and Food Industries.

The 'OptiLobe' pump range has been certified by EHEDG (European Hygienic Equipment Design Group) as fully CIP cleanable to their protocol, and therefore is ideally suited for applications where cleanability is paramount.

Also the OptiLobe pump range conforms to USA 3-A Sanitary Standard and all media contacting components are FDA compliant.

The pump features the "EasyFit" front loading seal which allows quick and easy inspection or replacement without the need for pipework disassembly.

The 'OptiLobe' pump range is compact, efficient and capable of flow rates up to 48 m^3/h and pressures up to 8 bar.

TECHNICAL DATA

Pump Sizing

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

Materials

Gear canister	304 stainless steel.
Bearing housing	electroless nickel plated cast iron.
Shafts	duplex stainless steel.
Pumphead	product wetted components in 316L.
Product wetted elastomers	EPDM, FPM all FDA conforming.
Mechanical Seals	Carbon/Stainless Steel, Carbon/Silicon Carbide or Silicon Carbide/Silicon Carbide.

OPERATING DATA

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

Weight

Pump Model	22	23	32	33	42	43
Bare Shaft Pump (kg)	20.5	21.5	33.5	34.5	60.0	63.0

Shaft Seal Options

- EasyFit type single or single flush/quench mechanical seals.

All sealing options are fully front loading and fully interchangeable. Specialised seal setting of the mechanical seal is not required as the seal is dimensionally set on assembly. This feature further enhances fast and efficient on-site seal interchangeability.

Standard Design

Pump Gearbox

The OptiLobe pump range has a universal gearbox design with the flexibility of mounting inlet and outlet ports in either a vertical or horizontal plane by simply changing the foot position. A stainless steel gear canister and electro-less nickel plated bearing housing provides a clean, paint free corrosion resistant external finish.

Pump head Construction

The OptiLobe pump range has sanitary design full bore inlet and outlet ports to International Standards, maximising inlet and outlet port efficiency and NPSH characteristics. Pumps are fitted with tri-lobe rotors rated to 130°C facilitating use with CIP processes.

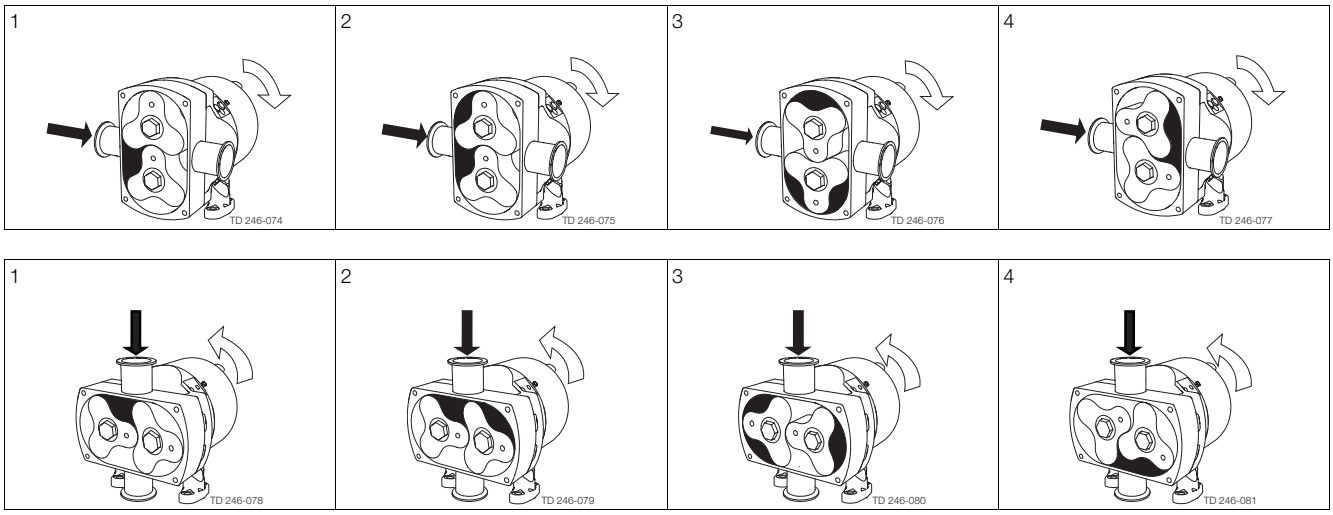
Standard Specification Options

- Specification of inlet and outlet ports (Screwed male to DIN11851 to BS 4825, SMS, ISS/IDF, RJT and Tri-clamp).
- 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 OptiLobe pump is provided by non-contacting, contra rotating tri-lobe rotors within a fully swept pump chamber. All OptiLobe pumps are capable of bi-rotational flow without modification.

Fig. 1



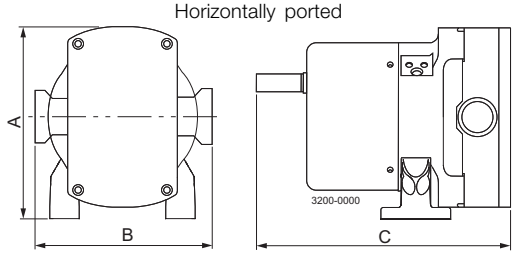
Flows/Pressures/Connections

OptiLobe Model	Displacement			Inlet and Outlet Connection Size		Differential Pressure		Maximum Speed
	Litres/rev	Imp gall/ 100 rev	US gall/ 100 rev	mm	in	bar	psi	rev/min
22	0.17	3.74	4.49	40	1.5	8	115	1000
23	0.21	4.62	5.55	40	1.5	8	115	1000
32	0.32	7.04	8.45	50	2	8	115	1000
33	0.40	8.80	10.57	50	2	8	115	1000
42	0.64	14.08	16.91	65	2.5	8	115	1000
43	0.82	18.04	21.66	80	3	8	115	1000

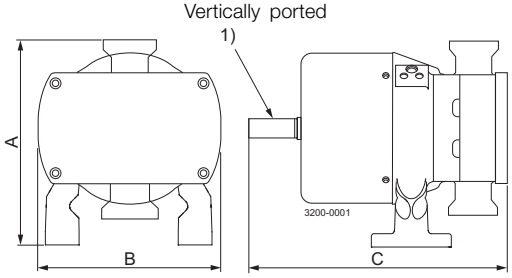
3.3

Dimensions (mm)

Horizontally ported



Vertically ported



	Horizontally ported						Vertically ported					
Pump model	22	23	32	33	42	43	22	23	32	33	42	43
A	216	216	251	251	294	294	216	216	256	256	289	297
B	192	192	240	240	260	276	162	162	192	192	235	235
C	275	286	304	316	370	366	275	286	304	316	370	386

Proven Performance and Reliability

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 Sanitary 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^3/h and pressures up to 20 bar. The modular design provides for greater application flexibility and cost effective maintenance.

The SRU range is compact in size and highly efficient, capable of flow rates up to 106 m^3/h and pressures up to 20 bar. 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 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 sanitary 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.

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 (steam barrier for aseptic application) R90 or Hyclean type mechanical seals.
- Double R90 type mechanical seal for flush.
- 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

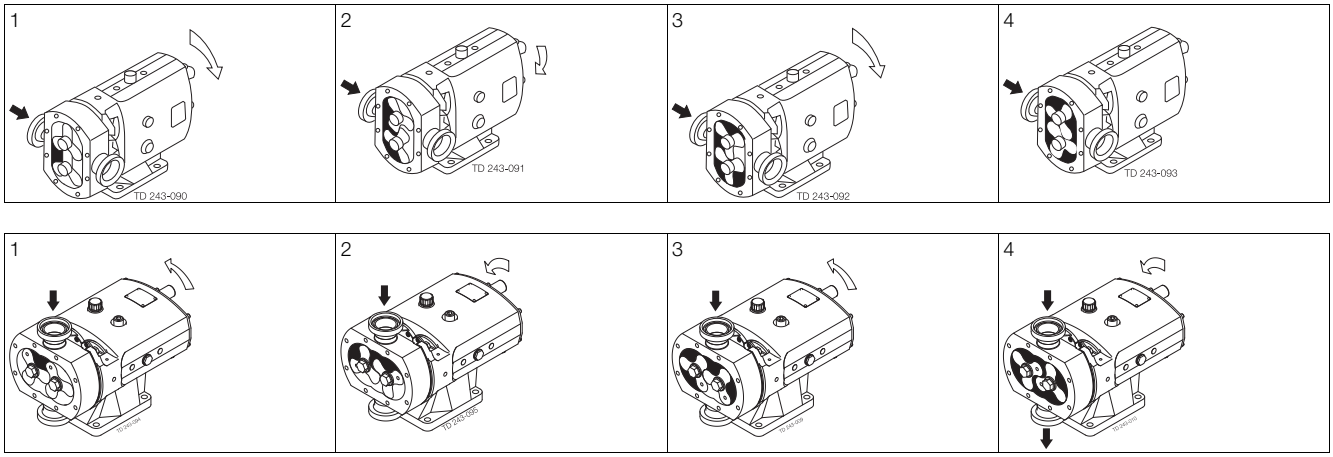
Performance Data
- Flow rate, minimum, normal and maximum
- Discharge head/pressure (closest to pump outlet)
- Suction condition

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 Size				Differential Pressure (see note 1)		Maximum Speed
	Pump Head Code	Gear-box	Shaft		Litres/rev	Imp gall/ 100 rev	US gall/ 100 rev	Sanitary		Enlarged		bar	psi	rev/min
								mm	in	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

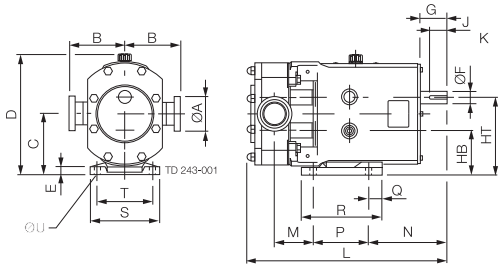
Note 1. These pressure ratings may vary for pumps with certain threaded connections.

3.3

Dimensions

Horizontally ported

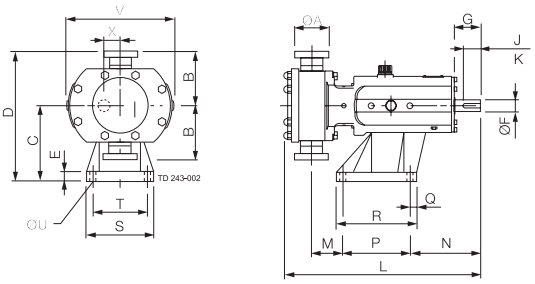
A1 denotes sanitary port dimension
A2 denotes enlarged port dimension



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 sanitary 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

The Optimum Choice for Ultra-Clean Processes

SX Rotary Lobe Pump

Application

The SX range of rotary lobe pumps has been designed for use on wide ranging applications within the Pharmaceutical, Biotechnology, Fine Chemical and Speciality Food industries. Being certified by EHEDG (European Hygienic Equipment Design Group) as fully CIP cleanable to their protocol, the SX range is ideally suited to applications where cleanability and corrosion resistance is paramount.
In addition the SX pump range also conforms to USA 3-A Sanitary Standard and all media contacting components are FDA compliant. The SX pump operates with a high efficiency, low shear pumping action for assured gentle handling of delicate and sensitive media.

The SX 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 SX range is compact in size, capable of flow rates up to 115 m^3/h and pressures up to 15 bar.

Standard Design

Pump Gearbox

The SX 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 SX 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 SX 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. The SX series 7 has a dedicated gearbox casting allowing inlet and outlet ports in a vertical plane only.

Pump head Construction

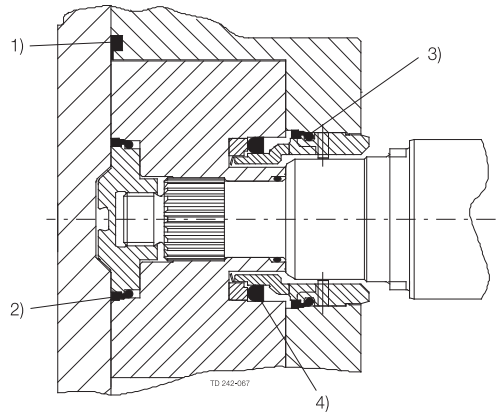
The SX pump has sanitary design full bore inlet and outlet ports to International Standards, maximising inlet and outlet port efficiency and NPSH characteristics. Vertical porting and unique rotorcase internal profile enhances self-draining and self venting while maintaining optimum volumetric efficiency.

The SX pump has four lobe rotors, designed using CFD (Computational Fluid Dynamics) to develop the optimum rotor geometry - possibly the first rotary lobe pump to be developed using this technology. All rotors are rated to 150°C facilitating use with CIP/SIP processes.

Materials of Construction

Pump gearbox - high quality grey cast iron.
Pumphead - product wetted components in 316L.
Product wetted elastomers of EPDM, MVQ, FPM all FDA conforming.
All media contacting elastomers are controlled compression joints, the latest technology where static and dynamic elastomer seals are used to prevent pumped media leaking to atmosphere.

All product wetted rubberparts are in compliance with FDA section 21 CFR 177.2600 & section 21 CFR 177.1550 (PTFE). EPDM Elastomers are furthermore in compliance with USP Class VI section 88 biological reactivity test, in Vivo.



1. Front cover compression joint
2. Spline sealing cup seal
3. Cup seal
4. Squad ring

Weight

Model	Bare Shaft Pump (kg)	
	Horizontal porting	Vertical porting
SX1/005	15	16
SX1/007	16	17
SX2/013	32	33
SX2/018	33	34
SX3/027	57	59
SX3/035	59	61
SX4/046	107	110
SX4/063	113	116
SX5/082	155	155
SX5/115	165	165
SX6/140	278	278
SX6/190	290	290
SX7/250	-	340
SX7/380	-	362

Shaft Seal Options

- Single or single flush/quench (steam barrier for aseptic application) R00 type mechanical seals.
- Double R00 type mechanical seal for flush.

All sealing options are fully front loading and fully interchangeable without the need for additional housings or pump component changes. Specialised seal setting of the mechanical seal is not required as the seal is dimensionally set on assembly. This feature further enhances fast and efficient on-site seal interchangeability.

Materials for Mechanical Seals

Carbon/Stainless Steel, Silicon Carbide/Silicon Carbide or variations of these materials to suit fluid being pumped and/or application requirements. The seal seat and face material combinations are all EHEDG compliant.

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

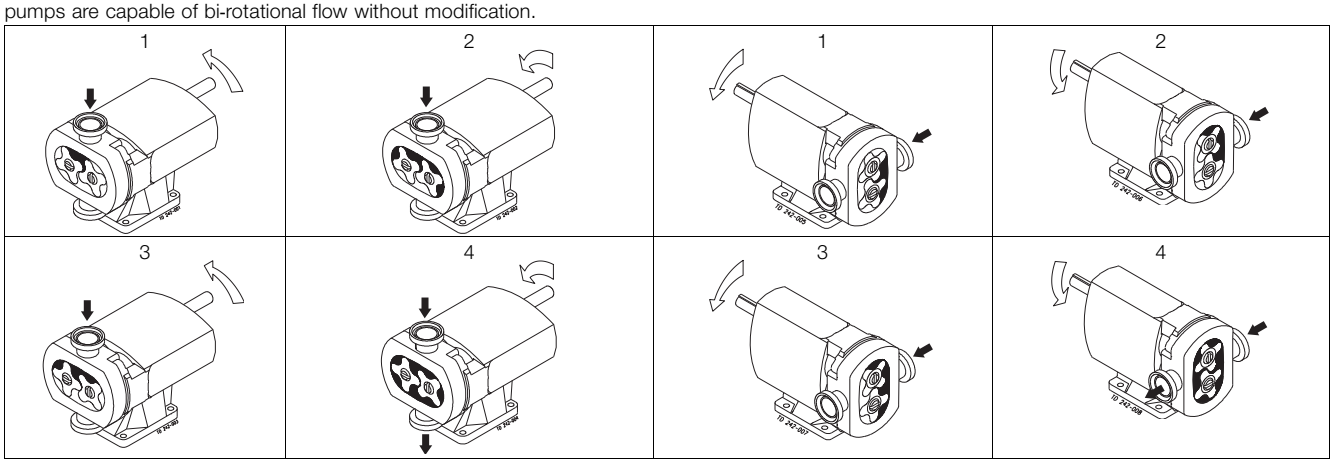
- Flow rate, minimum, normal and maximum
- Discharge head/pressure (closest to pump outlet)
- Suction condition

Standard Specification Options

- Screwed male inlet and outlet ports to DIN11851, SMS, ISS/IDF, RJT or Tri-clamp.
- Heating/Cooling Jacket for Rotorcase Cover.
- Electropolished product wetted components.
- Full material traceability on request to EN 10204.3.1.
- 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 SX pump is provided by non-contacting, contra rotating four lobe rotors within a fully swept pump chamber. All SX pumps are capable of bi-rotational flow without modification.



Flows/Pressures/Connections

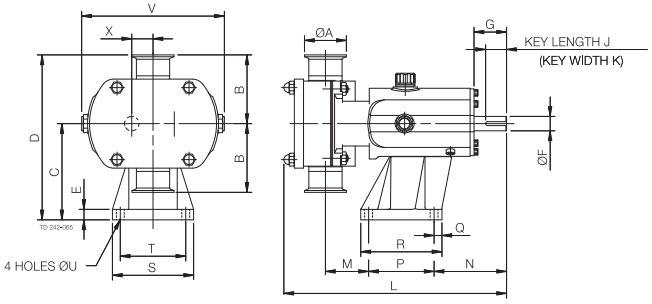
SX Model	Displacement			Inlet and Outlet Connection Size		Differential Pressure (see note 1)		Maximum Speed
	Litre/rev	Imp gall/100 rev	US gall/100 rev	mm	in	bar	psi	rev/min
SX1/005	0.05	1.11	1.32	25	1	12	175	1200
SX1/007	0.07	1.54	1.85	40	1.5	7	100	1200
SX2/013	0.128	2.82	3.38	40	1.5	15	215	1000
SX2/018	0.181	3.98	4.78	50	2	7	100	1000
SX3/027	0.266	5.85	7.03	50	2	15	215	1000
SX3/035	0.35	7.70	9.25	65	2.5	7	100	1000
SX4/046	0.46	10.12	12.15	50	2	15	215	1000
SX4/063	0.63	13.86	16.65	65	2.5	10	145	1000
SX5/082	0.82	18.04	21.67	65	2.5	15	215	600
SX5/115	1.15	25.30	30.38	80	3	10	145	600
SX6/140	1.40	30.80	36.99	80	3	15	215	500
SX6/190	1.90	41.80	50.20	100	4	10	145	500
SX7/250	2.50	55.00	66.05	100	4	15	215	500
SX7/380	3.80	83.60	100.40	150	6	10	145	500

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

3.3

Bareshaft Pump Dimensions

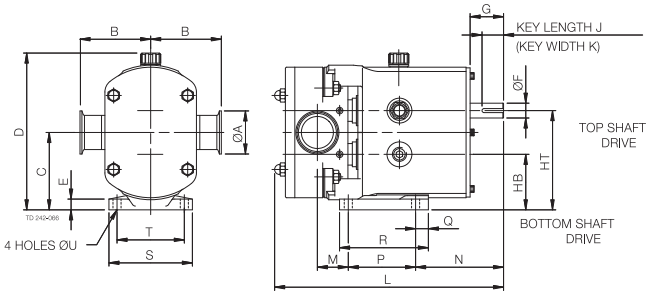
Vertically ported



All dimensions in mm

PUMP	A	B	C	D	E	F	G	J	K	L	M	N	P	Q	R	S	T	U	V	X
SX1/005	25	95	113	208	15	16	40	30	5	281	53	100	80	22	114	104	80	10	174	23.5
SX1/007	40	95	113	208	15	16	40	30	5	294	60	100	80	22	114	104	80	10	174	23.5
SX2/013	40	105	147	252	15	22	50	32	6	325	59	111	110	12	124	124	100	12	213	32.5
SX2/018	50	105	147	252	15	22	50	32	6	341	66	111	110	12	124	124	100	12	213	32.5
SX3/027	50	125	175	300	22	28	61	40	8	431	71	142	155	15	185	155	125	14	246	37.5
SX3/035	65	125	175	300	22	28	61	40	8	447	77	142	155	15	185	155	125	14	246	37.5
SX4/046	50	150	213	363	25	38	80	63	10	514	74	174	200	17	234	184	150	14	301	49.5
SX4/063	65	150	213	363	25	38	80	63	10	533	81	174	200	17	234	184	150	14	301	49.5
SX5/082	65	175	256.5	431.5	30	45	110	70	14	599	61	264	200	20	240	220	180	14	344	60
SX5/115	80	175	256.5	431.5	30	45	110	70	14	629	81	264	200	20	240	220	180	14	344	60
SX6/140	80	190	295	485	30	48	110	70	14	687	77	267	260	20	300	250	210	14	400	70
SX6/190	100	190	295	485	30	48	110	70	14	715	89	267	260	20	300	250	210	14	400	70
SX7/250	100	205	365	570	30	60	110	90	18	763	94	288	280	25	330	290	240	18	475	81.5
SX7/380	150	205	365	570	30	60	110	90	18	817	121	288	280	25	330	290	240	18	475	81.5

Horizontally ported

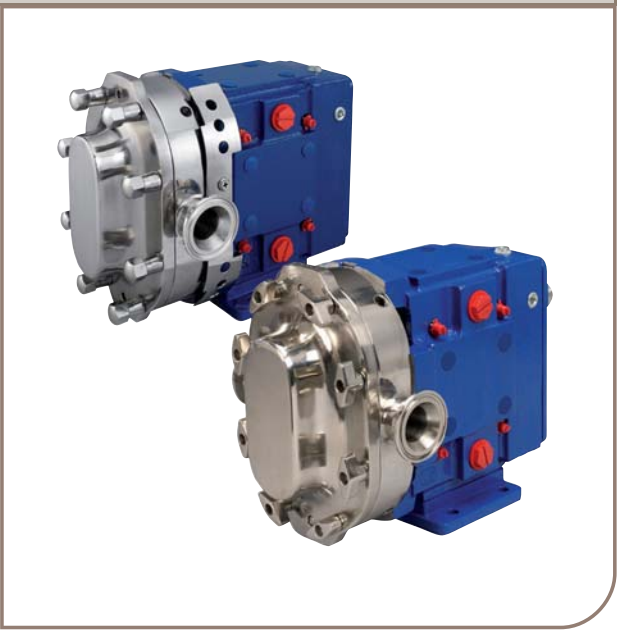


All dimensions in mm

PUMP	A	B	C	D	E	F	G	HB	HT	J	K	L	M	N	P	Q	R	S	T	U
SX1/005	25	95	90.5	189	10	16	40	67	114	30	5	281	29	124	80	10	100	100	80	10
SX1/007	40	95	90.5	189	10	16	40	67	114	30	5	294	36	124	80	10	100	100	80	10
SX2/013	40	105	115	233	15	22	50	82.5	147.5	32	6	325	39	131	100	19	132	124	100	12
SX2/018	50	105	115	233	15	22	50	82.5	147.5	32	6	341	46	131	100	19	132	124	100	12
SX3/027	50	125	137.5	272	18	28	60	100	175	40	8	431	68	175	125	30	181	154	125	14
SX3/035	65	125	137.5	272	18	28	60	100	175	40	8	447	74	175	125	30	181	154	125	14
SX4/046	50	150	163	325	20	38	80	113.5	212.5	63	10	514	74	225	150	35	202	184	150	14
SX4/063	65	150	163	325	20	38	80	113.5	212.5	63	10	533	81	225	150	35	202	184	150	14
SX5/082	65	175	195	376	20	45	110	135	255	70	14	599	46	279	180	35	275	210	180	14
SX5/115	80	175	195	376	20	45	110	135	255	70	14	626	66	279	180	35	275	210	180	14
SX6/140	80	190	225	429	20	48	110	155	295	70	14	687	78	266	260	40	370	220	190	14
SX6/190	100	190	225	429	20	48	110	155	295	70	14	715	90	266	260	40	370	220	190	14

Proven Performance and Reliability

SCPP 1 Circumferential Piston Pump



Application
The SCPP range of positive displacement pumps has been designed for use in a wide range of applications within:
Dairy, Food, Beverage, Pharma and Personal Care markets. The highly efficient design is particularly suited to applications that are low in viscosity with medium to high discharge pressures.

Standard Design
Pump Gearbox The SCPP pump with its circumferential piston pump design concept has a cast iron gearbox which provides maximum shaft ridgity. Gear box is powder-coated. Stainless steel gear box is optional on models 006, 015, 018, 030, 045, 060 & 130. One-piece 316L stainless steel shafts are standard on models 006, 015 & 018. High-strength 17-4 PH one-piece shafts are standard on models 030, 045, 060, 130, 220 & 320. Four-way mounting allows horizontal or vertical porting and provides mounting flexibility.

Pumphead Construction The SCPP in standard specification has pump casing in AISI 316 stainless steel with an internal surface finish of Ra 32/Ra 0.8 complying to 3A standards. Rotors are made of special non-galling alloy and are available as standard with twin-wing form or optionally with single wing for handling large solids. Seal options include single O-ring seal, single mechanical seal, double O-ring seal with flush, or double mechanical seal with flush.

SCPP 1 Model	Nominal Capacity		Displacement per Revolution		Maximum Pressure		Temperature Range		Standard Ports		Optional Ports		Maximum Speed
	M^3/hr	US GPM	Litre	US Gal.	Bar	PSI	Deg. C	Deg. F	mm	in.	mm	in.	(RPM)
006	1.3	6.0	0.030	0.008	14	200	-40° to 150°	-40° to 300°	25	1.0	38.0	1.5	800
015	2.0	9.0	0.052	0.014	14	200	-40° to 150°	-40° to 300°	38	1.5	-	-	700
018	3.8	17.0	0.110	0.030	14	200	-40° to 150°	-40° to 300°	38	1.5	51.0	2.0	600
030	8.2	36.0	0.230	0.060	14	200	-40° to 150°	-40° to 300°	38	1.5	51.0	2.0	600
045	13.3	59.0	0.380	0.100	27	400	-40° to 150°	-40° to 300°	51	2.0	-	-	600
060	20.4	90.0	0.580	0.150	14	200	-40° to 150°	-40° to 300°	64	2.5	76.0	3.0	600
130	34.1	150.0	0.960	0.250	14	200	-40° to 150°	-40° to 300°	76	3.0	-	-	600
220	70.4	310.0	1.980	0.520	14	200	-40° to 150°	-40° to 300°	102	4.0	-	-	600
320	102.0	450.0	2.850	0.750	14	200	-40° to 150°	-40° to 300°	152	6.0	-	-	600

SCPP 1 Rectangular Flange Model	Nominal Capacity		Displacement per Revolution		Maximum Pressure		Temperature Range		Inlet (W x L)		Outlet		Maximum Speed
	M^3/hr	US GPM	Litre	US Gal.	Bar	PSI	Deg. C	Deg. F	mm	in.	mm	in.	(RPM)
034	5.4	24.0	0.22	0.06	14	200	-40° to 150°	-40° to 300°	44.50 x 171.45	1.75 x 6.75	50.8	2.0	400
064	13.6	60.0	0.57	0.15	14	200	-40° to 150°	-40° to 300°	56.90 x 224.03	2.24 x 8.82	57.2	2.5	400
134	22.7	100.0	0.96	0.25	14	200	-40° to 150°	-40° to 300°	75.44 x 234.95	2.97 x 9.25	76.2	3.0	400
224	45.4	200.0	1.97	0.52	14	200	-40° to 150°	-40° to 300°	98.30 x 279.40	3.87 x 11.00	101.6	4.0	400

Hot clearances required for high temperature operation.