



User Benefits

- High efficiency
- Low energy consumption
- Compact size
- Smooth flow
- Reversible operation
- Low shear pumping
- Minimal pumped media agitation
- Easy maintenance
- EHEDG accreditation
- Self draining

Series X



Rotary Lobe Pumps for high level cleanability

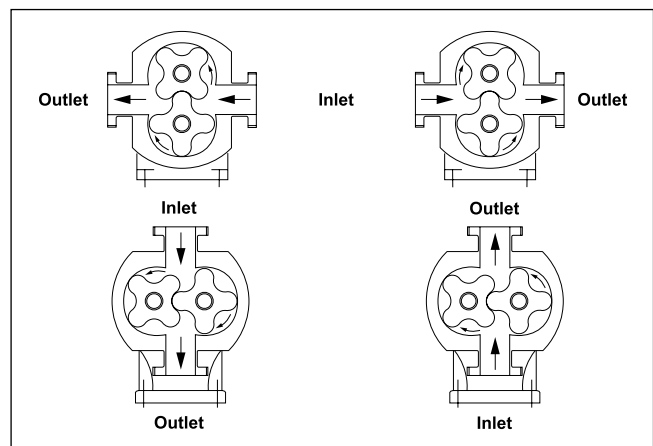
SSP brand Series X stainless steel rotary lobe pumps, from Alfa Laval Pumps Limited, provide the ultimate in clean pumping. Series X pumps complement the SSP Series S pumps, which are used throughout industrial and clean processes worldwide. Series X pumps are EHEDG accredited (European Hygienic Equipment Design Group) for the highest level of cleanability.

Handling from low to high viscosity pumped media the characteristic smooth, low shear pumping action is ideal for gentle transfer of delicate and sensitive media.

Series X pumps are suitable for CIP (Cleaning In Place) and SIP (Sterilization In Place) and conform to USA 3A Sanitary Standard.

Operation

The positive displacement of the Series X pump is provided by non-contacting, counter rotating four-lobe rotors within a fully swept pump chamber. All Series X pumps are capable of bi-rotational flow without modification.



Performance

The Series X pump range has fourteen pump head displacements ranging from 1.32 gallons/100 revs to 100.40 gallons/100 revs.

- Flow rates up to 505 gpm
- Differential pressures up to 215 psi
- Port sizes from 1" to 6" diameter

Computational Fluid Dynamics (CFD) has been used to establish mathematically exact geometry for the rotors and rotorcase, ensuring high efficiency transfer with low pulsation, low shear and low noise characteristics.

Low NPSH - The Series X pump has full through-bore inlet and outlet ports to International Standards. This reduces inlet and outlet port losses, thereby lowering NPSH requirements.

Basic Design

Pumphead - All metallic pumped media wetted components are manufactured in 316L stainless steel. The Series X has four-lobe rotors allowing the pump to be operated at a maximum temperature of 300°F for both process and CIP/SIP.

A unique self-cleaning design rotor retention device incorporates a high integrity cup seal to fully isolate splines from the pumped media. The precise involute splines ensure accurate rotor synchronization.

Shafts - Manufactured from high strength duplex stainless steel.

Gearbox - The Series X pump has a robust cast iron gearbox with a universal design for models X1 to X4. 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. For EHEDG design and installation compliance and conformity to the Machinery Safety Directive 89/392/EEC (1989), a dedicated vertical port option will be supplied.

Pump Model	Inlet and Outlet Connection size inches	Displacement US gal/100 rev	Differential Pressure psi	Maximum Speed rev/min	Weight Bare Shaft Pump	
					Horizontal Porting lb	Vertical Porting lb
X1-0005-*12	1.00	1.32	175	1400	33	36
X1-0007-*07	1.50	1.85	100	1400	36	38
X2-0013-*15	1.50	3.38	215	1000	71	73
X2-0018-*07	2.00	4.78	100	1000	73	75
X3-0027-*15	2.00	7.03	215	1000	126	130
X3-0035-*07	2.50	9.25	100	1000	130	135
X4-0046-*15	2.00	12.15	215	1000	236	243
X4-0063-*10	2.50	16.65	145	1000	250	256
X5-0082-V15	2.50	21.67	215	600	-	342
X5-0115-V10	3.00	30.38	145	600	-	364
X6-0140-V15	3.00	36.99	215	500	-	613
X6-0190-V10	4.00	50.20	145	500	-	640
X7-0250-V15	4.00	66.05	215	500	-	750
X7-0380-V10	6.00	100.40	145	500	-	800

* = U or V

U = Universal Mounting (non EHEDG approved)

V = Vertical Porting (EHEDG approved)

Series

Specification Options



Heating / Cooling device

A rotorcase cover jacket is used for heating the pumphead so as to maintain the pumped media viscosity and reduce risk of any crystallization/solidification. This may also be used for cooling purposes when required.

Surface finish

The standard surface finish of 32 cla for the pumphead and rotors can be enhanced for overall cleanability by electro polishing ≤ 32 cla with the option of 20 cla from mechanical and electro polishing. Higher surface finishes are available on request.

Full material traceability

To meet the stringent demands of sensitive applications requiring integrity of materials and/or safety, pumps may be supplied with full material traceability to BSEN 10204.

Motorized pump units

Pumps may be supplied fully motorized with fixed or variable speed drives including appropriate control systems if required, mounted on either mild or stainless steel baseplates. In addition to electric motor drives, hydraulic, pneumatic, diesel or gasoline powered prime movers can be fitted.

Pumped media seals

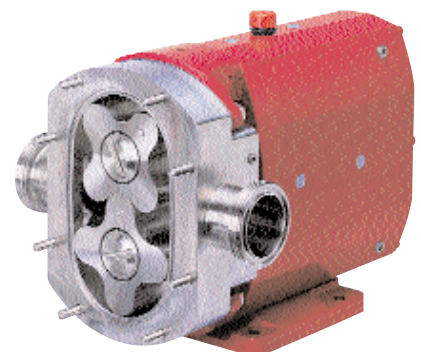
The optimum primary seal configuration and material combinations can be chosen to match the pumped media and duty conditions. All sealing options are fully front loading and fully interchangeable without the need for additional housings or pump component changes. This enhances cleanability, simplifies access and significantly reduces maintenance downtime. Single or double mechanical seals include flushed or aseptic variants. For arduous duties hard faced seal materials such as silicon carbide can be used. The seal seat/face material combinations and EPDM/FPM elastomers are all EHEDG compliant.

All pumped media wetted elastomers are controlled compression joints, the latest technology where static and dynamic elastomer seals are used to prevent pumped media leakage - materials are EPDM, MVQ, FPM all FDA conforming.

Connections

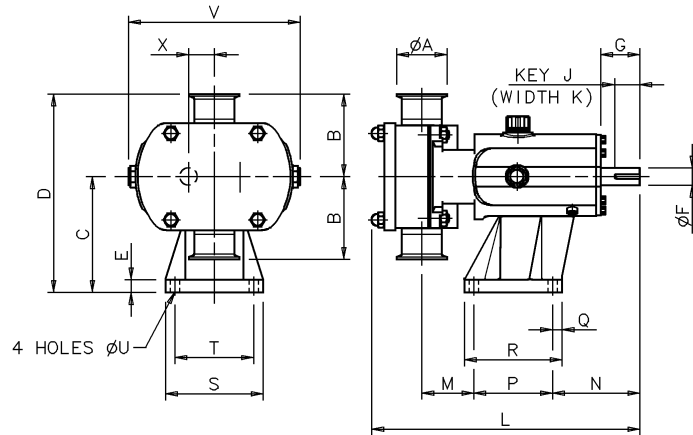
Comprehensive choice covering

- Screwed male connections to all major standards including DIN11851, ISS/IDF, RJT, SMS, and Tri-clamp.
- Aseptic male connections to DIN11864-1 Form A (ISO2037/BS4825).



esX

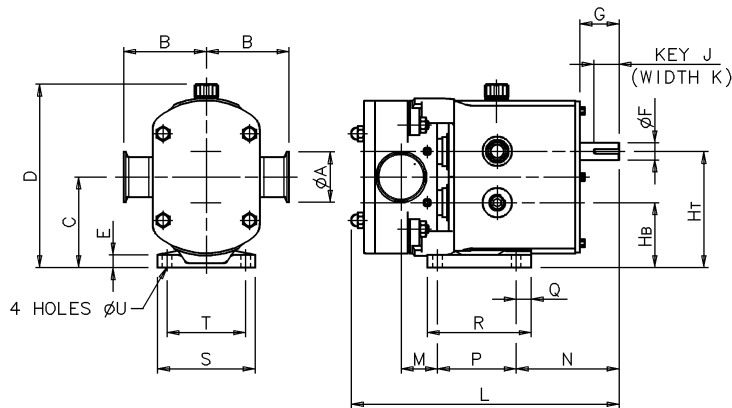
Bareshaft Pump Dimensions



Vertically ported

All dimensions in inches, unless otherwise noted

Pump Model	A	B	C	D	E	F (mm)	G	J (mm)	K (mm)	L	M	N	P	Q	R	S	T	U	V	X
X1-0005-U12 or V12	1.00	3.74	4.45	8.19	0.59	16	1.57	30	5	11.06	2.09	3.94	3.15	0.87	4.49	4.09	3.15	0.39	6.85	0.93
X1-0007-U07 or V07	1.50	3.74	4.45	8.19	0.59	16	1.57	30	5	11.57	2.36	3.94	3.15	0.87	4.49	4.09	3.15	0.39	6.85	0.93
X2-0013-U15 or V15	1.50	4.13	5.79	9.92	0.59	22	1.97	32	6	12.80	2.32	4.37	3.94	0.47	4.88	4.88	3.94	0.47	8.39	1.28
X2-0018-U07 or V07	2.00	4.13	5.79	9.92	0.59	22	1.97	32	6	13.43	2.60	4.37	3.94	0.47	4.88	4.88	3.94	0.47	8.39	1.28
X3-0027-U15 or V15	2.00	4.92	6.89	11.81	0.87	28	2.40	40	8	16.97	2.80	5.59	6.10	0.59	7.28	6.10	4.92	0.55	9.69	1.48
X3-0035-U07 or V07	2.50	4.92	6.89	11.81	0.87	28	2.40	40	8	17.60	3.03	5.59	6.10	0.59	7.28	6.10	4.92	0.55	9.69	1.48
X4-0046-U15 or V15	2.00	5.91	8.39	14.29	0.98	38	3.15	63	10	20.24	2.91	6.85	7.87	0.67	9.21	7.24	5.91	0.55	11.85	1.95
X4-0063-U10 or V10	2.50	5.91	8.39	14.29	0.98	38	3.15	63	10	20.98	3.19	6.85	7.87	0.67	9.21	7.24	5.91	0.55	11.85	1.95
X5-0082-V15	2.50	6.89	10.10	16.99	1.18	45	4.33	70	14	23.58	2.40	10.39	7.87	0.79	9.45	8.66	7.09	0.55	13.54	2.36
X5-0115-V10	3.00	6.89	10.10	16.99	1.18	45	4.33	70	14	24.65	3.19	10.39	7.87	0.79	9.45	8.66	7.09	0.55	13.54	2.36
X6-0140-V15	3.00	7.48	11.61	19.09	1.18	48	4.33	70	14	27.05	3.03	10.51	10.24	0.79	11.81	9.84	8.27	0.55	15.75	2.76
X6-0190-V10	4.00	7.48	11.61	19.09	1.18	48	4.33	70	14	28.15	3.50	10.51	10.24	0.79	11.81	9.84	8.27	0.55	15.75	2.76
X7-0250-V15	4.00	8.07	14.37	22.44	1.18	60	4.33	90	18	30.04	3.70	11.34	11.02	0.98	12.99	11.42	9.45	0.71	18.70	3.21
X7-0380-V10	6.00	8.07	14.37	22.44	1.18	60	4.33	90	18	32.17	4.76	11.34	11.02	0.98	12.99	11.42	9.45	0.71	18.70	3.21



Horizontally ported

All dimensions in inches, unless otherwise noted

Pump Model	A	B	C	D	E	F (mm)	G	HB	HT	J (mm)	K (mm)	L	M	N	P	Q	R	S	T	U
X1-0005-U12	1.00	3.74	3.56	7.44	0.39	16	1.57	2.64	4.49	30	5	11.06	1.14	4.88	3.15	0.39	3.94	3.94	3.15	0.39
X1-0007-U07	1.50	3.74	3.56	7.44	0.39	16	1.57	2.64	4.49	30	5	11.57	1.42	4.88	3.15	0.39	3.94	3.94	3.15	0.39
X2-0013-U15	1.50	4.13	4.53	9.17	0.59	22	1.97	3.25	5.81	32	6	12.80	1.54	5.16	3.94	0.75	5.20	4.88	3.94	0.47
X2-0018-U07	2.00	4.13	4.53	9.17	0.59	22	1.97	3.25	5.81	32	6	13.43	1.81	5.16	3.94	0.75	5.20	4.88	3.94	0.47
X3-0027-U15	2.00	4.92	5.41	10.71	0.71	28	2.36	3.94	6.89	40	8	16.97	2.68	6.89	4.92	1.18	7.13	6.06	4.92	0.55
X3-0035-U07	2.50	4.92	5.41	10.71	0.71	28	2.36	3.94	6.89	40	8	17.60	2.91	6.89	4.92	1.18	7.13	6.06	4.92	0.55
X4-0046-U15	2.00	5.91	6.42	12.80	0.79	38	3.15	4.47	8.37	63	10	20.24	2.91	8.86	5.91	1.38	7.95	7.24	5.91	0.55
X4-0063-U10	2.50	5.91	6.42	12.80	0.79	38	3.15	4.47	8.37	63	10	20.98	3.19	8.86	5.91	1.38	7.95	7.24	5.91	0.55

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The information contained herein is correct at the time of issue, but may be subject to change without prior notice

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