

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

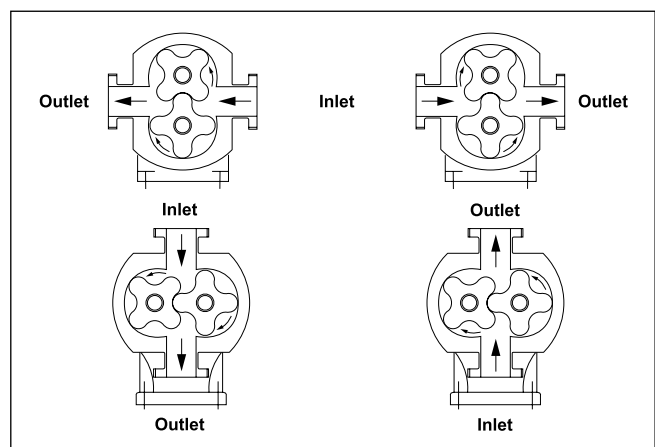
SSP Series X stainless steel rotary lobe pumps provide the ultimate in clean pumping. Series X pumps complement the SSP Series S pumps, which are used throughout industrial and clean processes worldwide. Series X pumps are EHEDG accredited (European Hygienic Equipment Design Group) for the highest level 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 (Sterilisation In Place) and conform to USA 3A Sanitary Standard.

Operation

The positive displacement of the Series X pump is provided by non-contacting, contra 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 0.05 litres/rev to 3.80 litres/rev.
- Flow rates up to 115 m³/h
 - Differential pressures up to 15 bar
 - Port sizes from 25 mm to 150 mm 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 150°C 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 synchronisation.

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.

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 crystallisation/solidification. This may also be used for cooling purposes when required.

Surface finish

The standard surface finish of 0.8µm Ra for the pumphead and rotors can be enhanced for overall cleanability by electro polishing ≤ 0.8µm Ra with option of 0.5µm Ra 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.

Motorised pump units

Pumps may be supplied fully motorised 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 petrol 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.

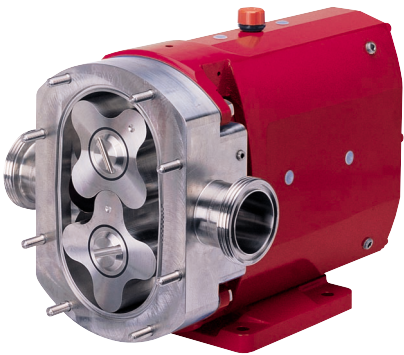
Connections

- 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).

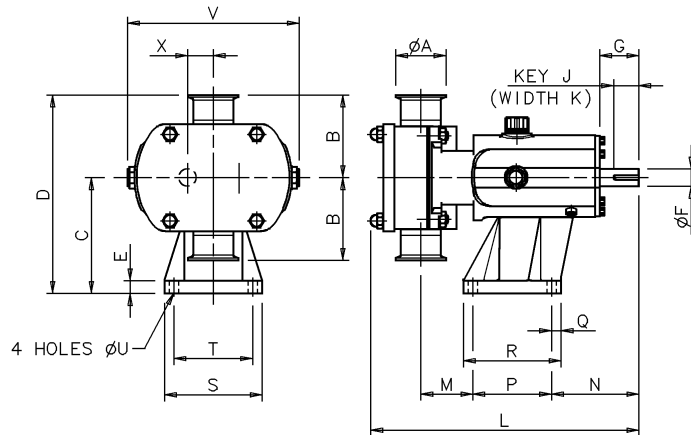
Pump Model	Inlet and Outlet Connection size (International Standards) mm	Displacement litres/rev	Differential Pressure bar	Maximum Speed rev/min	Weight Bare Shaft Pump	
					Horizontal Porting kg	Vertical Porting kg
X1-0005- * 12	25	0.05	12	1400	15	16
X1-0007- * 07	40	0.07	7	1400	16	17
X2-0013- * 15	40	0.128	15	1000	32	33
X2-0018- * 07	50	0.181	7	1000	33	34
X3-0027- * 15	50	0.266	15	1000	57	59
X3-0035- * 07	65	0.35	7	1000	59	61
X4-0046- * 15	50	0.46	15	1000	107	110
X4-0063- * 10	65	0.63	10	1000	113	116
X5-0082-V15	65	0.82	15	600	-	155
X5-0115-V10	80	1.15	10	600	-	165
X6-0140-V15	80	1.40	15	500	-	278
X6-0190-V10	100	1.90	10	500	-	290
X7-0250-V15	100	2.50	15	500	-	340
X7-0380-V10	150	3.80	10	500	-	362

* = U or V
U = Universal Mounting (non EHEDG approved)
V = Vertical Porting (EHEDG approved)

Series X

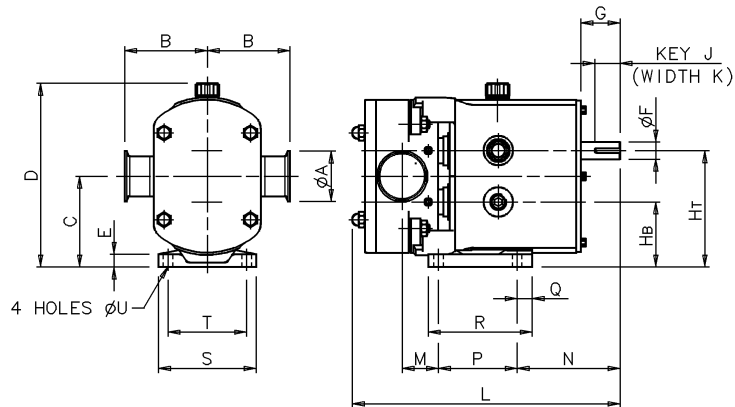


Bareshaft Pump Dimensions



Vertically ported
All dimensions in mm

Pump Model	A	B	C	D	E	F	G	J	K	L	M	N	P	Q	R	S	T	U	V	X
X1-0005-U12 or V12	25	95	113	208	15	16	40	30	5	281	53	100	80	22	114	104	80	10	174	23.5
X1-0007-U07 or V07	40	95	113	208	15	16	40	30	5	294	60	100	80	22	114	104	80	10	174	23.5
X2-0013-U15 or V15	40	105	147	252	15	22	50	32	6	325	59	111	100	12	124	124	100	12	213	32.5
X2-0018-U07 or V07	50	105	147	252	15	22	50	32	6	341	66	111	100	12	124	124	100	12	213	32.5
X3-0027-U15 or V15	50	125	175	300	22	28	61	40	8	431	71	142	155	15	185	155	125	14	246	37.5
X3-0035-U07 or V07	65	125	175	300	22	28	61	40	8	447	77	142	155	15	185	155	125	14	246	37.5
X4-0046-U15 or V15	50	150	213	363	25	38	80	63	10	514	74	174	200	17	234	184	150	14	301	49.5
X4-0063-U10 or V10	65	150	213	363	25	38	80	63	10	533	81	174	200	17	234	184	150	14	301	49.5
X5-0082-V15	65	175	256.5	431.5	30	45	110	70	14	599	61	264	200	20	240	220	180	14	344	60
X5-0115-V10	80	175	256.5	431.5	30	45	110	70	14	626	81	264	200	20	240	220	180	14	344	60
X6-0140-V15	80	190	295	485	30	48	110	70	14	687	77	267	260	20	300	250	210	14	400	70
X6-0190-V10	100	190	295	485	30	48	110	70	14	715	89	267	260	20	300	250	210	14	400	70
X7-0250-V15	100	205	365	570	30	60	110	90	18	763	94	288	280	25	330	290	240	18	475	81.5
X7-0380-V10	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 Model	A	B	C	D	E	F	G	HB	HT	J	K	L	M	N	P	Q	R	S	T	U
X1-0005-U12	25	95	90.5	189	10	16	40	67	114	30	5	281	29	124	80	10	100	100	80	10
X1-0007-U07	40	95	90.5	189	10	16	40	67	114	30	5	294	36	124	80	10	100	100	80	10
X2-0013-U15	40	105	115	233	15	22	50	82.5	147.5	32	6	325	39	131	100	19	132	124	100	12
X2-0018-U07	50	105	115	233	15	22	50	82.5	147.5	32	6	341	46	131	100	19	132	124	100	12
X3-0027-U15	50	125	137.5	272	18	28	60	100	175	40	8	431	68	175	125	30	181	154	125	14
X3-0035-U07	65	125	137.5	272	18	28	60	100	175	40	8	447	74	175	125	30	181	154	125	14
X4-0046-U15	50	150	163	325	20	38	80	113.5	212.5	63	10	514	74	225	150	35	202	184	150	14
X4-0063-U10	65	150	163	325	20	38	80	113.5	212.5	63	10	533	81	225	150	35	202	184	150	14

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