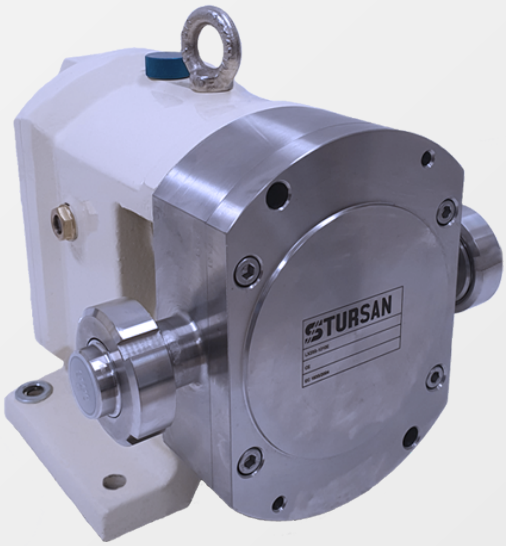
Series LX Catalog

Lobe Pumps

STURSAN



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Contents

Typical applications

Food & Beverage

Soup, stew, ketchup, vegetables, condiments, chocolate, fat and oil, cream filling, brewery, wort, soft drink/fruit juice

Dairy

Cream, milk, cheese curds and whey, cottage cheese, yogurt

Medicine/Cosmetic

Ointment, syrup, extractive, Serum, Face Creams & Lotions, Hair Styling Gels % Liquids, Dyes and alcohols, Soap, Cosmetic.

Chemical/Industrial

Solvent, paint, fuel, resin, polymer & sludge, oil & lubricant.

Lobe Pumps

Stursan LX Series stainless steel rotary lobe pumps operate at the heart of process industries worldwide fulfilling a wide range of application requirements throughout Chemical, Food, Pharmaceutical and other related industries.

Handling from low to high viscosity pumped media the characteristic smooth, low shear pumping action is ideal for delicate media and where organic solids in suspension, creams, froths, gels, emulsions and mixtures are to be pumped.

LX Series pumps are designed according to various standards and directives such as US FDA Sanitary, EC 1935/2004.

In standard construction all metallic pumped media wetted components are manufactured from 316L stainless steel and pumps are fitted with tri-lobe rotors allowing the pump to be operated at maximum temperatures of 130°C in process and 90-95 °C CIP (Cleaning in Place), other rotors design is available.

Pump has a robust cast iron gearbox with an Epoxy painting.

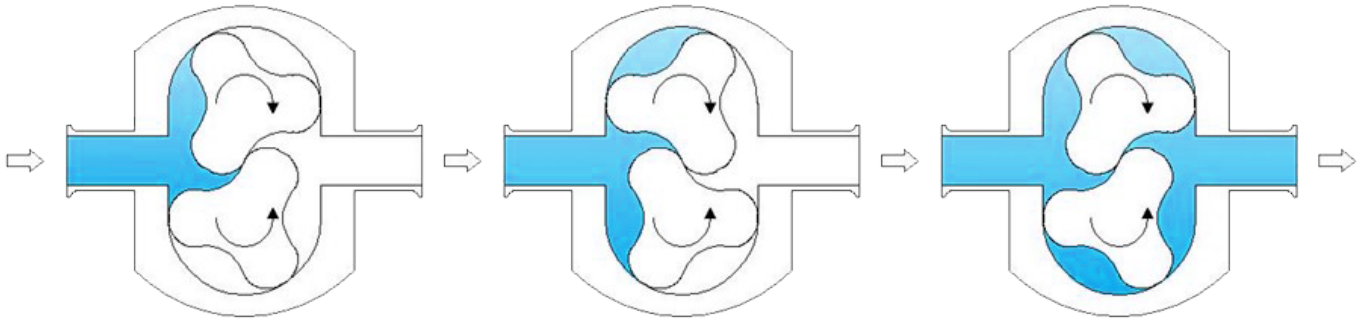
Technical Specifications

Max. flow	200 m^3/h/880 GPM
Max. pressure	12 bar/170 Psi
Max. temperature	130 °C/266 °F
Max. rev	720 rpm
Surface treatment	≤ Ra 0.8 µm, ≤ Ra 0.6 µm, ≤ Ra 0.4 µm
Material	316L,1.4404, ASME BPE 316L, 1.4435 NB2 Fe ≤ 0.5%
Certification	CE ; FDA : EC 1935/2004
Viscosity	From 1 to 1.000.000 cps

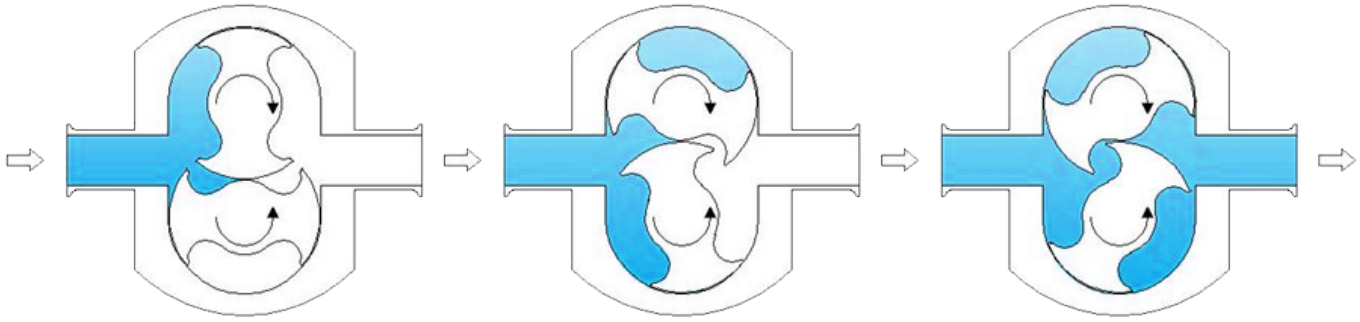
Principle of Operation

Stursan LX Series have 2 rotors which turn in opposite directions. Fluid enters the pump from the inlet port and fills the space between the rotors. This fluid is carried around the outside of the rotors and is forced out of the discharge port as the rotor lobes mesh together (see Figure below). Each rotor is supported on a shaft and when the pump is running within its operating limits, the rotors never touch the inside of the rotor case, or each other.

Trilobe

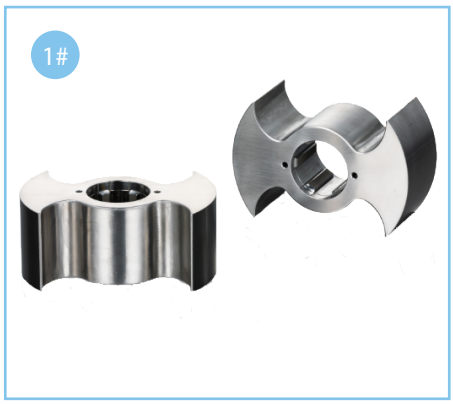


Bi-wing



Rotor Configurations

Butterfly rotor (optional)



With low particle crushing rate and small pulses, suitable for conveying materials with particles (recommended)

3-lobes rotor (standard)

With higher particle crushing rate and smaller pulses than the butterfly rotor, suitable for conveying all kinds of materials.

Single butterfly rotor (optional)

4#

With low large particle crushing rate, big pulses, low pressure and small volume, suitable for conveying materials with large particle.

2-lobes rotor (optional)

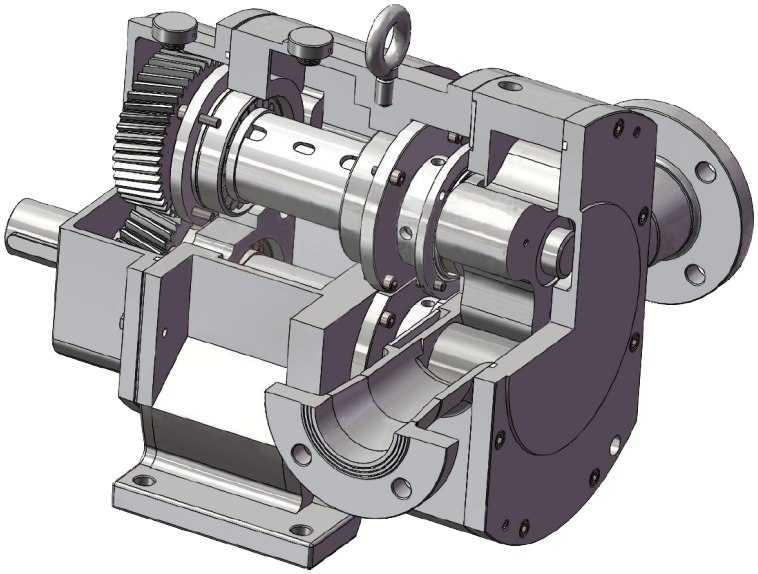
5#

With normal particle crushing rate, large pulse, low pressure and small volume, suitable for conveying all kinds of materials.

Multimpeller (optional)

6#

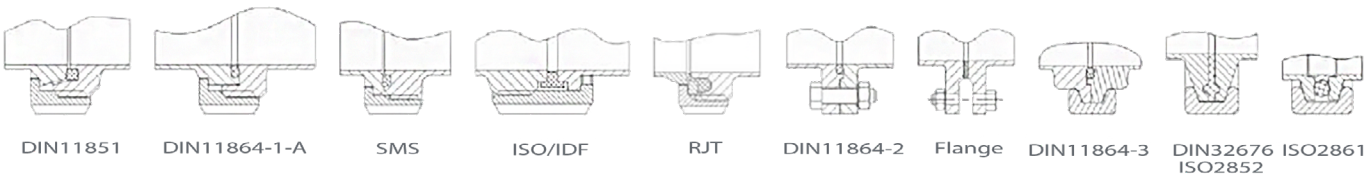
With high particle crushing rate, very small pulse and smaller flow, suitable for conveying all kinds of materials.

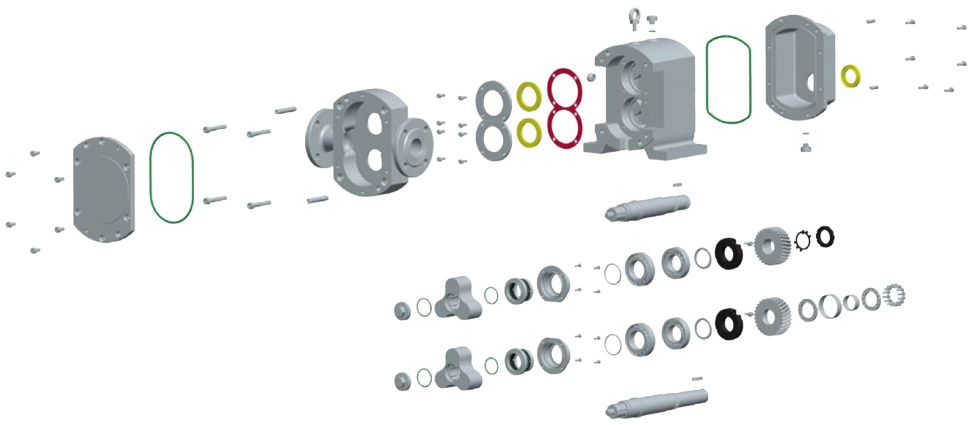


Inlet and Outlet Connections

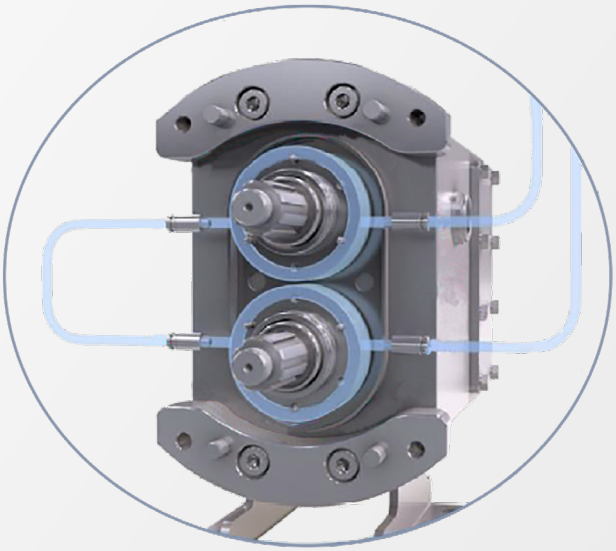
Clamp | Union Nut | Threaded | Industrial Flange | Sanitary Flange

Pump Inlet/Outlet Connections Standard





Lobe Pumps Mechanical Seal Design



STURSAN mechanical seal design is optimized so that repair and maintenance do not require professionals or tools. This can save costs, improve efficiency, and provide many material configurations to choose from.

Mechanical Seal Configurations

SIC/C/EPDM	SIC/SIC/EPDM	TC/TC/EPDM
SIC/C/FKM	SIC/SIC/FKM	TC/TC/FKM

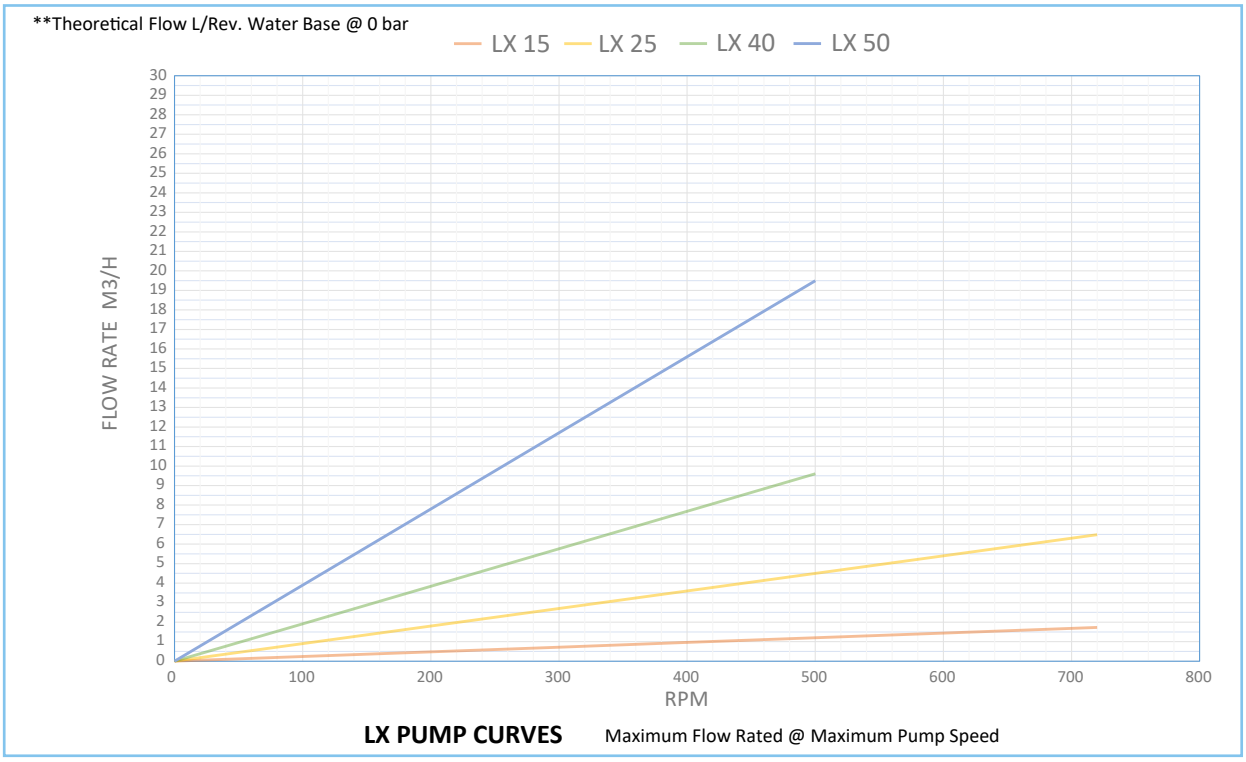
Note: The above configuration is suitable for both single seal and double seal.

Lobe Pumps Selection Table

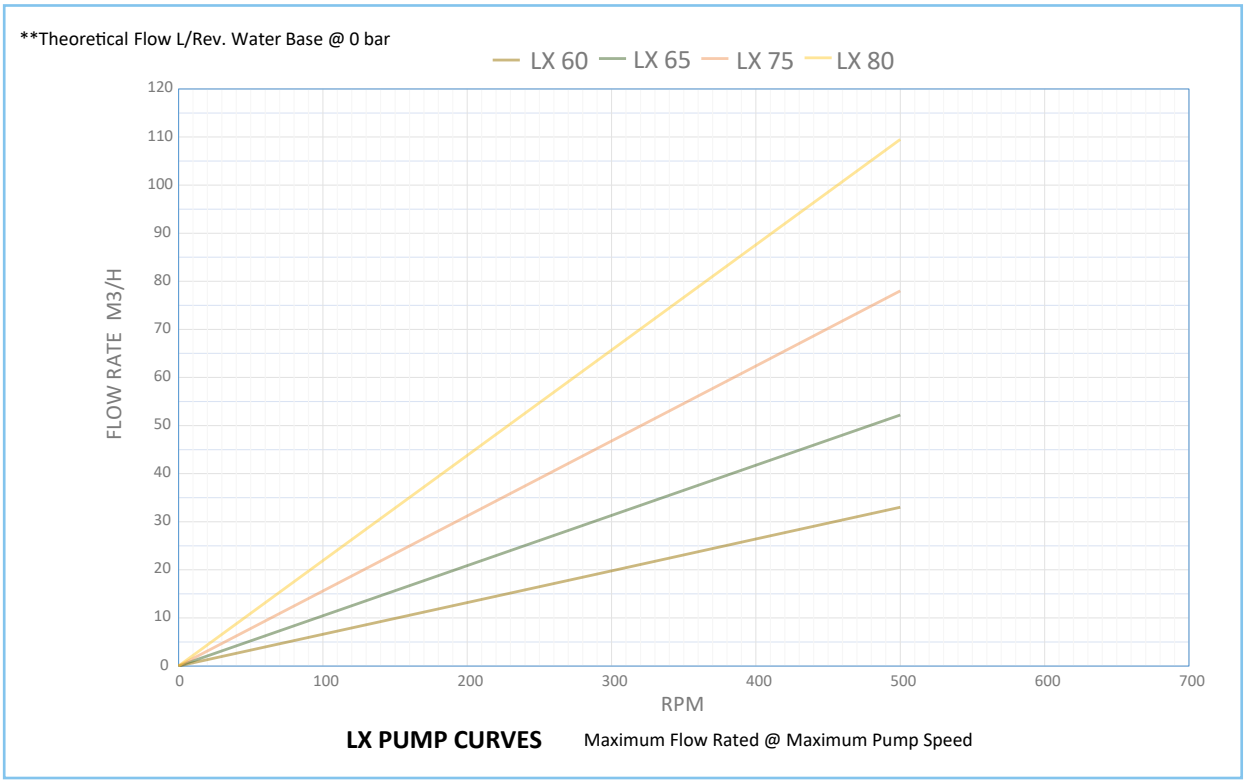
Pump Model	Capacity for tri-rotor (L/r)	Rotation speed (r/min)	Rated flow (m^3/h)	Max. Discharge Pressure bar	Standard Port Size DN (mm)	Enlarged Port Size DN (mm)
LX15	0,04	10-720	0,5	12	15	25
LX25	0,15	10-720	2,0	12	25	40
LX40	0,32	10-500	5,0	12	40	50
LX50	0,65	10-500	10,0	12	50	65
LX60	1,1	10-500	15,0	12	65	80
LX65	1,74	10-500	20,0	12	65	80
LX75	2,6	10-500	30,0	12	80	100
LX80	3,65	10-500	40,0	12	100	125
LX100	5,20	10-500	60,0	12	125	150
LX125	6,80	10-500	80,0	12	125	150
LX140	9,80	10-400	120,0	12	150	200
LX150	12,80	10-400	150,0	12	150	200
LX200	16,00	10-300	200,0	12	200	250

Operating parameters

The maximum pressure and speed operating data are given in the table below. In practice these performance data can be limited by the nature of the pumped media and/or the design of the system in which the pump is installed.

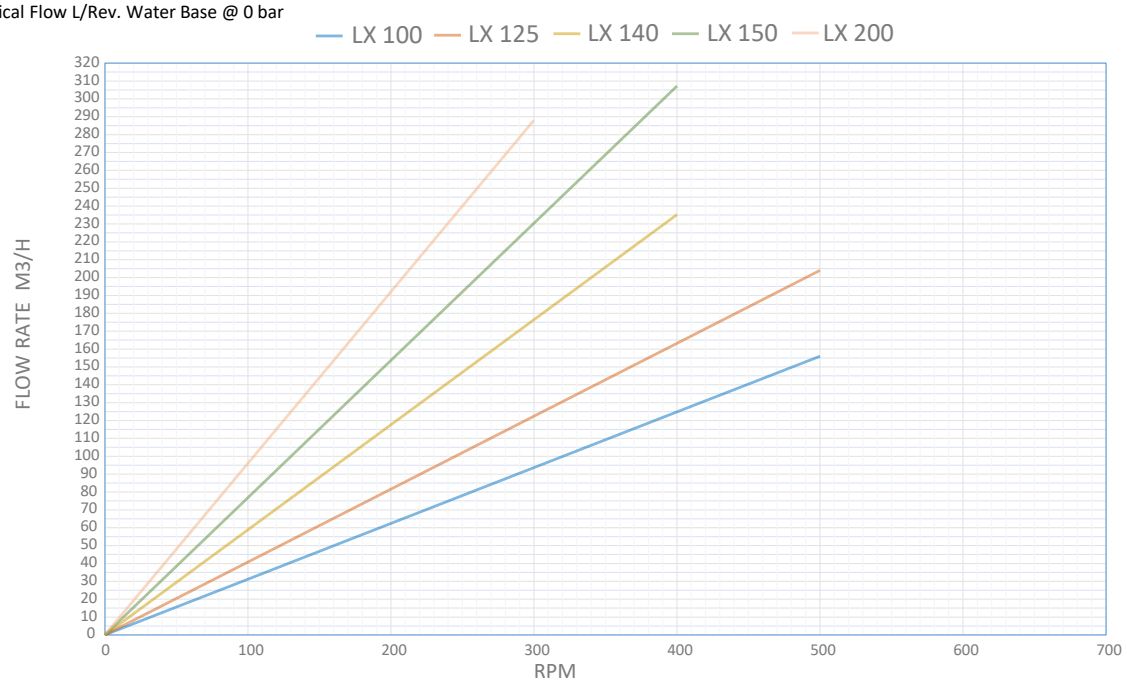


LX PUMP CURVES Maximum Flow Rated @ Maximum Pump Speed



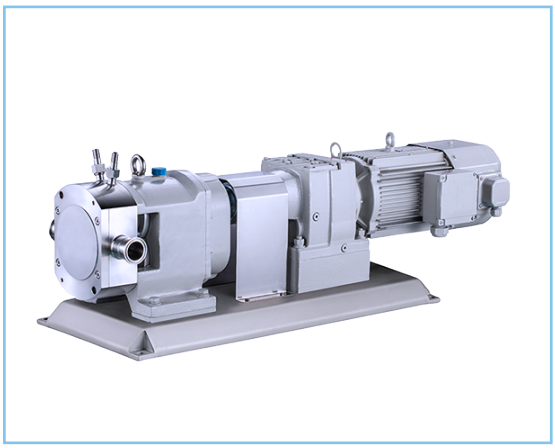
LX PUMP CURVES Maximum Flow Rated @ Maximum Pump Speed

**Theoretical Flow L/Rev. Water Base @ 0 bar



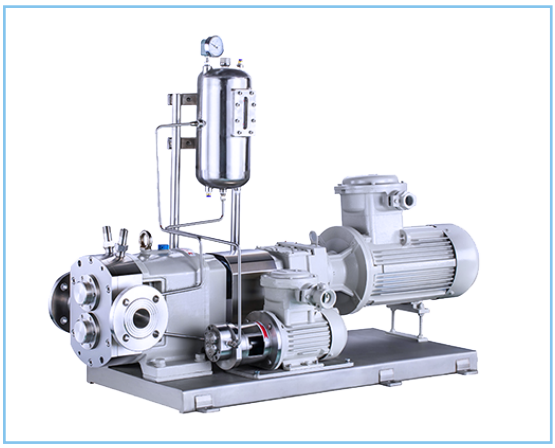
LX PUMP CURVES Maximum Flow Rated @ Maximum Pump Speed

Lobe Pumps, Various Configurations



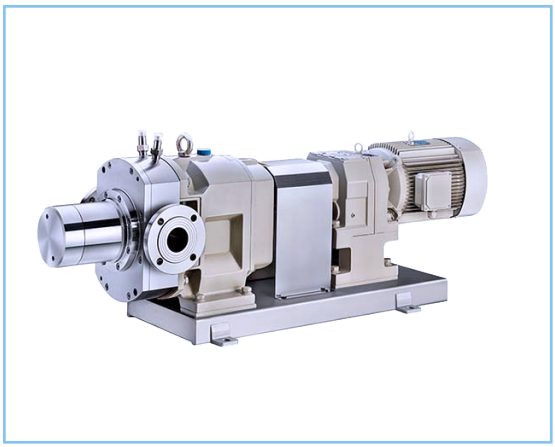
Lobe pump with heat jacket

Lobe pump with heat jacket is widely used for conveying materials which will solidify or perish at room temperature, such as chocolate, candy, gum, etc. According to process requirements, a front cover thermal insulation or surrounding thermal insulation structure can be installed.



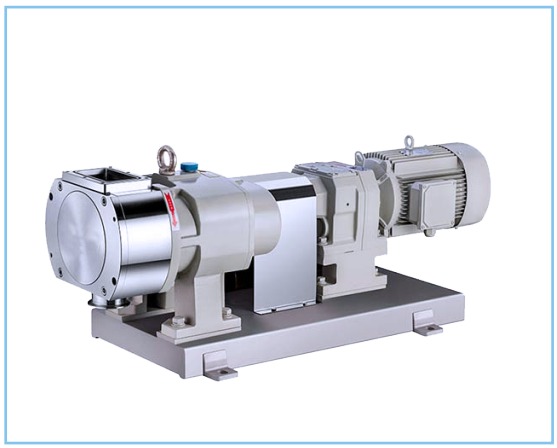
Double mechanical seal (water-cooled flushing) lobe pump

Lobe pump with water-cooled flushing mechanical seal is suitable for high temperature, high viscosity and continued operation. It is an ideal choice when there is sudden stop of liquid while the machine is running. Make sure the coolant is circulating.



Lobe pump with built-in safety valve

Lobe pump with built-in safety valve effectively reduces the possibility of pump failure due to pipeline pressure exceeding the safety value or other equipment faults during conveyance.



Lobe pump with Hopper Rectangle connection

Lobe pump with rectangle connection, is specially designed for mediaum with por fluidity. Rectangle inlet, can effectively enlarging the inlet diameter to facilitate médium come into the pump chamber

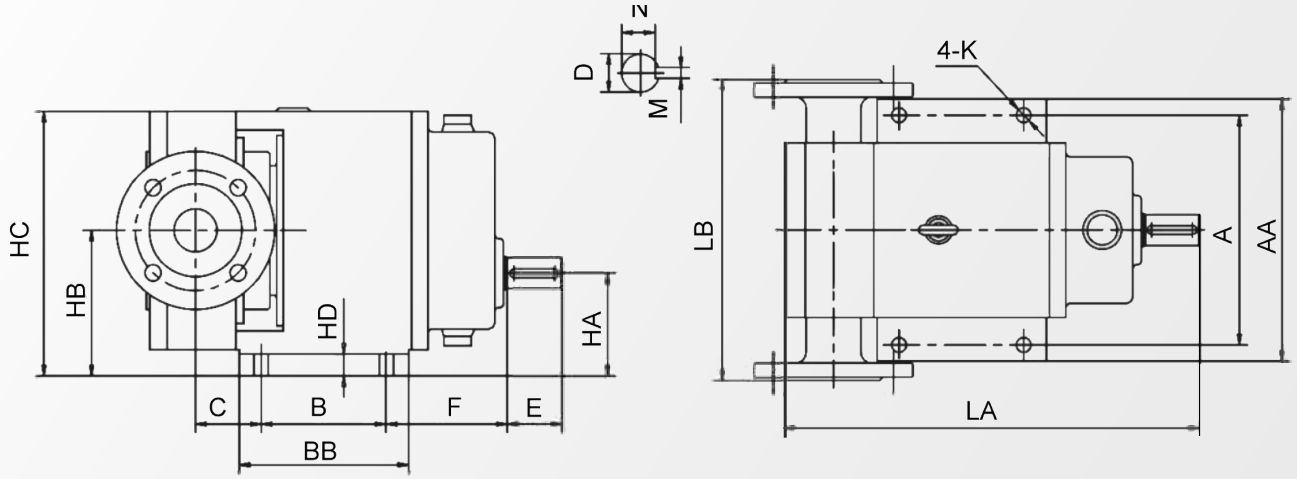
Model Descriptions

LX40S-1200E

Pump Size	PORTS SIZES = Last character of the base code (e.g. L25L-)	CODE	PORTS STANDARD = First digit of the build code	CODE	SEALS OPTIONS = Second digit	CODE	ROTORS OPTIONS = Third digit	CODE	END COVERS OPTIONS = Fourth digit	CODE	PUMP HEAD ELASTOMERS OPTIONS=Suffix letters	CODE	MISCELLANEOUS OPTIONS	CODE
LX15	Standard ports	**S**	DIN 11851	**1**	Double mechanical seal, Flushed SiC/ SiC primary, C/SiC secondary	**1**	Tri-Lobe	**0**	Plain	**0**	EPDM	**E**	Horizontal ports / bottom shaft drive	**B**
LX25	Reduced ports	**R**	SMS	**2**	Single SiC/SiC mechanical seal	**2**	Butterfly (Scimitar)	**1**	Pressure Relief Valve	**1**	FKM	**F**	Vertical ports & self-drain rotor case	**U**
LX40	Enlarged ports	**L**	DIN 11864-1-A	**3**	Single C/SiC mechanical seal	**3**	Bi-wing	**2**	Pump Head Jackets Heating/ cooling	**2**			Electro-polishing to 0.5 micron	**Y**
LX50	Hopper (Rectangle)	**H**	Flange DIN 11864-2	**4**	Double mechanical seal, Flushed TC/ TC primary, TC/TC secondary	**4**	Single Butterfly	**3**	Relief valve and Pump head jackets	**3**			Internal polish & electro-polish to 0.5 micron	**Z**
LX60			Clamp DIN 11864-3	**5**	Single TC/TC mechanical seal	**5**	2-Leaves	**4**					Certification (Cert. of Conformance, 3.1B material certs, test curve)	**&**
LX65			Clamp DIN 32676	**6**	Single Flushed Sic/ Sic mechanical seal	**7**	5-Leaves	**5**						
LX70			Clamp BEP	**7**	Single Flushed TC/ TC mechanical seal	**8**	6-Leaves	**6**						
LX80			Clamp ISO 2852	**8**										
LX100			Other Requirements	**X**										
LX125														
LX140														
LX150														
LX200														

Basic part number 316L with standard ports and upper shaft /Mechanical polishing to 0.8 micron

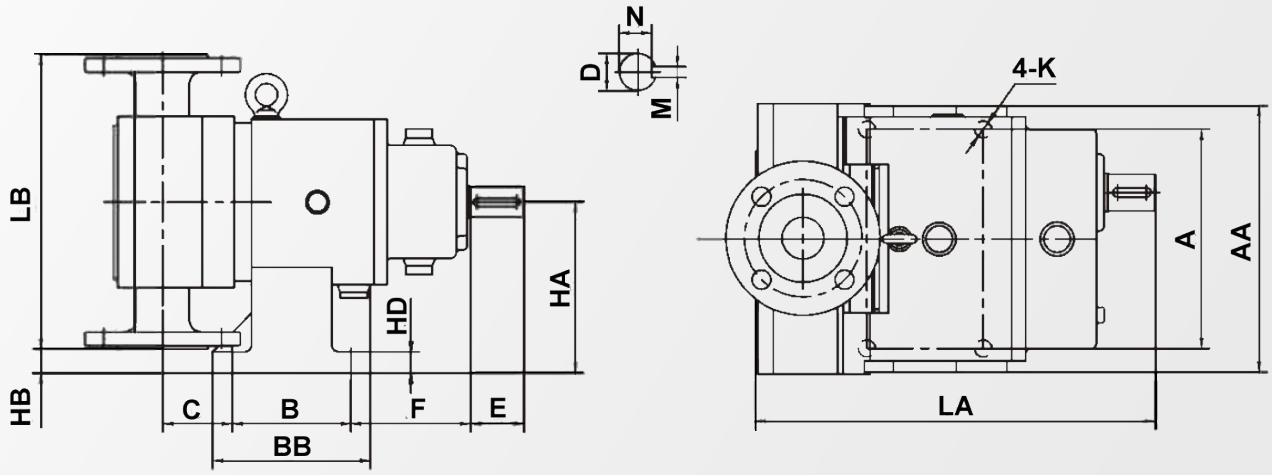
Series LX (horizontal)



Type	A	AA	B	BB	C		D	E	F	M	N
					Standard seal	Water flush seal					
LX15	140	170	67	99.5	41.5		Ø17	20	92	5	14
LX25	185	220	108	144	50.5	61.5	Ø22	50	98	6	18.5
LX40	210	240	114	154.5	60	71	Ø28	50	111	8	24
LX50	246	284	125	175	71	82	Ø38	50	130	10	33
LX60	270	310	138	178	92	103	Ø45	80	133	14	39.5
LX65	300	338	155	198	105	117	Ø50	80	138.5	14	44.5
LX75	334	372	188	244	103	118	Ø55	80	160	16	49
LX80	362	400	199	250	112.5	130.5	Ø60	80	164	18	53
LX100	350	410	220	280	136	151	Ø70	110	178.5	20	62.5
LX125	376	430	255	322	146	161	Ø75	110	193	20	67.5
LX140	410	480	260	365	163.5	183.5	Ø95	140	231	25	86
LX150	450	520	290	386	175	197	Ø110	140	245.5	28	100
LX200	450	520	290	386	200	222	Ø110	140	245.5	28	100

Type	HA	HB	HC	HD	K	LA	LB			Bare pump weight (kg)
							Flange	Clamp	Screw	
LX15	70	94	169	18	Ø14	252	180	160	160	15
LX25	84	119	222	20	Ø14	345	245	220	220	30
LX40	94	133	245	20	Ø14	380	275	260	260	60
LX50	109.25	158	303	25	Ø18	426	320	308	308	95
LX60	137.5	200	370	30	Ø18	505	350	350	350	173
LX65	140	207.5	399.5	25	Ø18	543	400	400	400	175
LX75	148	224	434.5	25	Ø18	543	430	430	430	175
LX80	160	242	471	30	Ø18	635	480	480	480	285
LX100	182	280	550	30	Ø24	730.5	510	510	510	396
LX125	193.5	297.5	587.5	35	Ø24	796	530	530	530	460
LX140	212.5	330	650	30	Ø28	935	645	645	645	620
LX150	235	361	710	40	Ø28	970	750	750	750	820
LX200	235	361	710	40	Ø28	1020	750	750	750	850

Series LX (vertical)

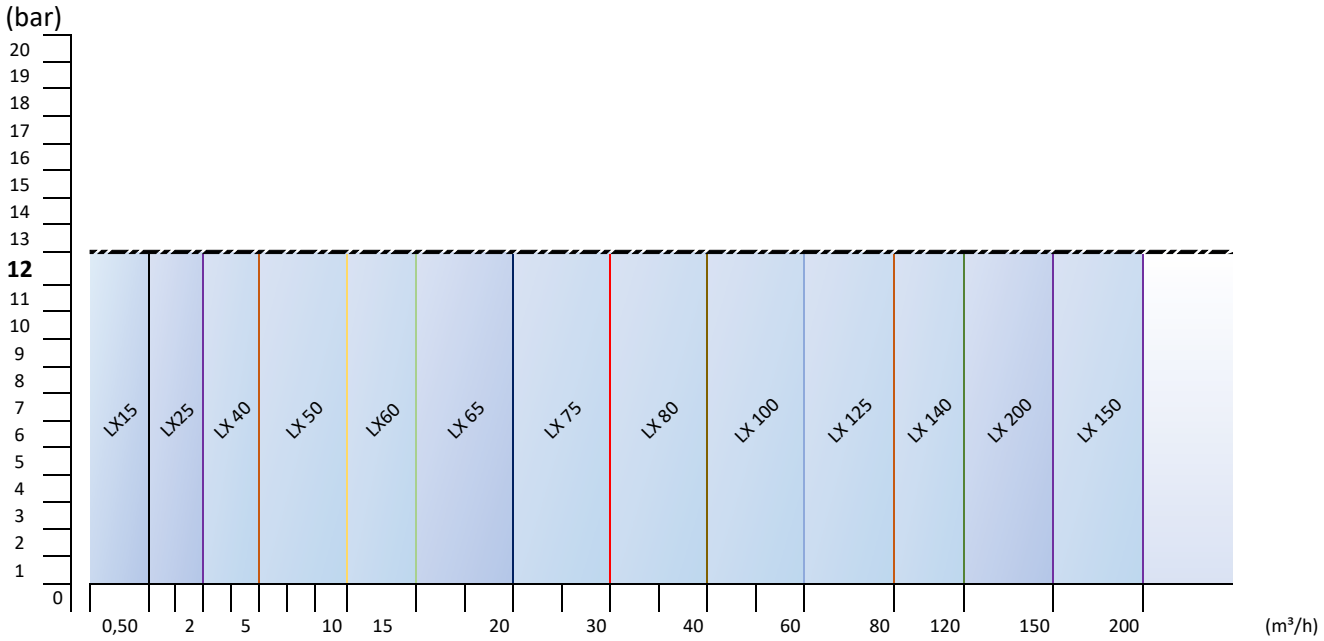


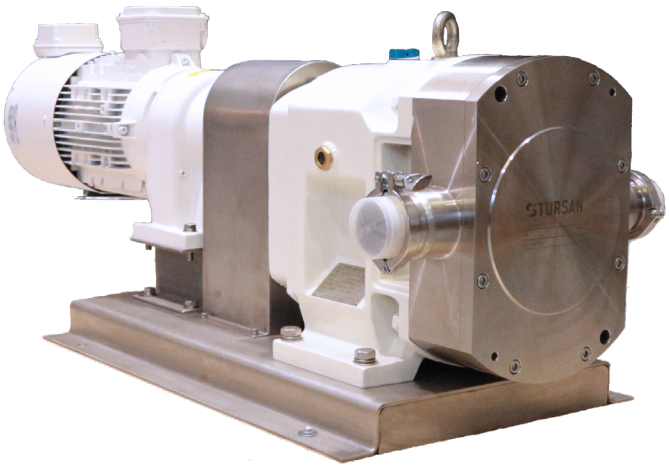
Type	A	AA	B	BB	C		D	E	F	M	N
					Standard seal	Water flush seal					
LX15	140	170	67	99.5	41.5		Ø17	20	93	5	14
LX25	154	190	100	135	59	70	Ø22	50	97.5	6	18.5
LX40	170	210	117	147	62	73	Ø28	50	109	8	24
LX50	230	280	122	172	73	84	Ø38	50	131	10	33
LX60	270	330	160	200	68	79	Ø45	80	131	14	39.5
LX65	320	380	175	225	81.5	92.5	Ø50	80	142	14	44.5
LX75	376	426	213	264	117	133	Ø60	80	152	18	53
LX80	380	450	214	264	98	116	Ø60	80	164	18	53
LX100	430	520	227	308	121	136	Ø70	110	186.5	20	62.5
LX125	463	553	260	345	130.5	145.5	Ø75	110	203.5	20	67.5

Type	HA	HB	HD	K	LA	LB			Bare pump weight (kg)
						Flange	Clamp	Screw	
LX15	110	20	15	Ø14	252	180	160	160	15
LX25	150	27.5	18	Ø14	345	245	220	220	30
LX40	160	22.5	20	Ø14	380	275	260	260	60
LX50	210	50	20	Ø18	426	320	308	308	95
LX60	225	49.5	25	Ø18	481	350	350	350	150
LX65	250	50	25	Ø18	543	400	400	400	175
LX75	250	35	30	Ø18	641	430	430	430	230
LX80	300	60	25	Ø18	635	480	480	480	285
LX100	350	95	30	Ø24	730.5	510	510	510	400
LX125	350	85	30	Ø24	796	530	530	530	460

Operating parameters

The maximum pressure and speed operating data are given in the table below. In practice these performance data can be limited by the nature of the pumped media and/or the design of the system in which the pump is installed.





sturhygienic@stursan.com

www.stursan.com

TECHNIQUES DES FLUIDES
7 rue de la Fosse aux Loups
95100 ARGENTEUIL
Tel. : 01 34 11 13 73
Fax : 01 34 11 96 35
www.techniquesfluides.fr

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