

PC Transfer Pump



Progressing cavity process pump, compact for space saving. For pumping wastewater sludge, effluents and shear sensitive fluids in municipal and industrial process applications.

Construction

Materials of construction, available in cast iron or stainless steel, with a choice of rotor and stator materials to suit individual applications e.g. hard chrome plated rotor or natural rubber stator.

Applications

Typical applications for the PC transfer pump include:

- Municipal and Industrial effluents.
- Sludge transfer processes.
- Shear sensitive processes.
- Hydrated lime slurry.
- Industrial chemicals and detergents.
- Paper stocks.
- Starch slurries.
- Ground water with manganese.
- Agricultural effluent and farm waste slurries.

Features

- As the drive forms an integral part of the unit, the pump is ideal for space-saving installations.
- Gentle pumping action, minimises shear and crush damage to the pumped product.
- Surface mounted, making it easier, cleaner and less hazardous for maintenance.
- Up to 8.5 m suction lift, deep sumps can be easily pumped.
- Plug-in shaft, ease of maintenance when assembling or dismantling, with extraction facility.
- Viscous fluid products can be supplied with a square inlet and conveyor to assist viscous slurries into the pumping element.
- Inspection cover, available for applications where known rag content is a problem.
- Supplied with a baseplate to ease installation, or option without baseplate.
- Sealed joints, fully sealed drive train to maximise life and minimise downtime.
- Shaft sealing options, packed gland or single and double mechanical seals are available.
- Versatile, can be installed vertically or horizontally to suit the application. Can be run in either direction.

Motor / drives

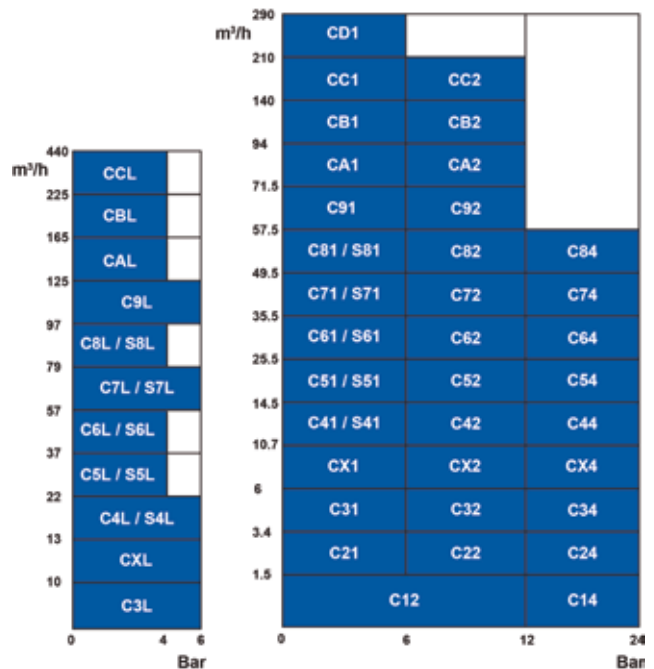
- Robust drives, specially selected drives and gearboxes for longer life. Options include electric motor drive units supplied as direct-coupled or variable speed drives with mechanical variable speed or frequency inverter.
- Low running speeds, reduced wear for a longer working pump life which extends the periods between routine maintenance. Important in abrasive applications.



Performance

Capacity, for flows up to 440 m³/h and differential pressure up to 24 bar, to operate in a range of process temperatures from -10 °C, up to 100 °C.

Performance data



m³/h = capacity. Bar = differential pressure.

Materials

Description	Material
Pump casing	Cast iron, BS EN 1561 grade EN-GJL-HB195, or cast stainless steel, BS 3100 grade 316C 16F
Rotor	Alloy steel, BS970 grade 708M40T/ 709M40T, with HCP 0.25 mm, or 316 stainless steel BS EN 10088 grade X2CrNiMo17-12-2
Stator	See pump coding table, page 2.
Drive shaft	Stainless steel BS EN 10088 grade X12Cr13/X2CrNi18-9
Coupling rod	Steel BS EN 10277, grade 20NiCrMoS2-2 hardened to 650-800Hv, or 316 stainless steel BS EN 10088, grade X2CrNiMo17-12-2
Mechanical seals	Silicon carbide faces, viton o-rings (EPDM by special request), stainless steel 316 springs

For guidance on material options and pump selection please contact Sulzer.

Pump coding

Range	Transfer	C								
	Transfer Square Inlet	S								
Size	1.3 m³/h @ 1750 rpm									1
	3.3 m³/h @ 1750 rpm									2
	10 m³/h @ 1500 rpm									3
	13 m³/h @ 1500 rpm									X
	22 m³/h @ 1000 rpm									4
	37 m³/h @ 800 rpm									5
	57 m³/h @ 700 rpm									6
	79 m³/h @ 600 rpm									7
	97 m³/h @ 500 rpm									8
	125 m³/h @ 450 rpm									9
	165 m³/h @ 400 rpm									A
	225 m³/h @ 350 rpm									B
	440 m³/h @ 270 rpm									C
	310 m³/h @ 250 rpm									D
450 m³/h @ 250 rpm									E	
Stages (max. pressure)	Single stage extended pitch, 4 - 6 Bar									L
	Single stage, 6 Bar									1
	Two stage, 12 Bar									2
	Four stage, 24 Bar									4
Casing material	Cast iron									C
	Stainless steel									S
Rotating parts	Alloy steel with HCP									1
	Stainless steel AISI 316									2
	Stainless steel AISI 316 + HCP									3
Rotor size	Mk 0 (oversized)									Z
	Mk 1 (standard)									A
	Mk 3 (temperature)									C
	Mk 5 (temperature)									E
Stator material	Natural									A
	EPDM									E
	High nitrile									J
	Nitrile NBR									R
	Fluoroelastomer / Viton									V
	Hypalon									H
	White NBR									W
	Polyester based urethane									K
	Polyether based urethane									Y
Seal type	Mechanical seal									M
	Packed gland									P
Build option	A-size body									1
	B-size body									2

Example:

C X L C 3 A R M 2

Pump and wear part weights (kg)

Model	Pump	Stator	Rotor	Coupling rod / Joint	Shaft
C12	12.5	1.2	0.4	0.2	0.6
C14	14.5	2.6	0.8	0.2	0.6
C21	12.5	1.2	0.4	0.2	0.6
C22	14.5	2.6	0.8	0.2	0.6
C24	23.0	5.5	1.6	0.4	0.7
C31	18.0	1.3	1.5	0.4	0.7
C32	20.0	2.6	1.5	0.4	0.7
C3L	20.0	2.6	1.5	0.4	0.7
C34	32.0	5.3	2.9	1.2	1.7
CX1	28.0	2.1	1.6	0.4	0.7
CX2	31.0	5.6	2.8	0.4	0.7
CX4	57.0	10.4	5.5	2.6	3.1
CXL	32.0	5.1	2.7	0.4	0.7
C41 / S41	34.0 / 36.0	3.5	2.6	1.2	1.7
C42	46.0	7.1	4.5	1.2	1.7
C44	72.0	14.0	9.2	2.4	3.1
C4L / S4L	42.0 / 50.0	7.1	4.5	1.2	1.7
C51 / S51	50.0 / 49.0	6.3	4.9	1.2	1.7
C52	70.0	12.4	9.1	2.4	3.1
C54	106.0	24.5	18.0	4.9	4.4
C5L / S5L	57.0 / 56.0	12.3	8.8	1.2	1.7
C61 / S61	77.0 / 75.0	11.0	8.4	2.4	3.1
C62	102.0	21.5	15.4	4.9	4.4
C64	180.0	42.5	30.2	12.3	8.7
C6L / S6L	94.0 / 84.0	5.0	15.3	2.4	3.1
C71 / S71	107.0 / 103.0	17.4	13.3	4.9	4.3
C72	150.0	34.3	24.5	4.6	4.3
C74	252.0	68.0	48.9	15.3	8.7
C7L / S7L	148.0 / 146.0	34.3	24.5	4.6	4.3
C81 / S81	113.0 / 108.0	23.1	17.9	6.2	4.3
C82	170.0	24.6	33.7	12.3	8.7
C84	291.0	87.0	65.7	15.3	9.5
C8L / S8L	172.0 / 167.0	45.0	33.0	6.2	4.3
C91	175.0	41.7	25.8	12.3	8.7
C92	286.0	65.9	47.6	12.3	8.7
C9L	270.0	67.2	47.6	12.3	8.7
CA1	215.0	37.4	38.8	12.3	8.7
CA2	355.0	74.4	72.4	15.3	9.5
CAL	301.0	74.4	71.4	12.3	8.7
CB1	349.0	64.5	68.1	15.3	9.5
CB2	650.0	130.0	132.5	21.7	35.4
CBL	473.0	122.9	126.8	15.3	9.5
CC1	650.0	85.0	129.1	21.7	35.4
CC2	950.0	186.1	263.6	21.9	35.4
CCL	950.0	186.1	263.8	21.9	35.4
CD1	680.0	121.4	171.3	21.7	35.4
CD2	862.0	176.0	186.0	21.7	35.4
CE2	1,213.0	451.0	262.0	21.7	35.4

Motor / Baseplate dimensions (mm)

Dimension	Model													
	CXL	C4L	C5L	C6L	C7L	C8L	C9L	CAL	CBL	C34	CX1	CX2	CX4	C41
A	1304	1665	1777	1947	2464	2640	2902	3053	3481	1835	1120	1329	2038	1456
B	304	475	475	488	609	609	649	649	537	475	304	304	488	475
C	300	300	360	360	360	420	420	420	520	360	300	300	420	300
D	190	227	232	255	310	310	345	345	450	227	190	227	245	227
E	85	112	112	125	150	150	160	160	225	112	85	112	125	112
F	593	756	882	1036	1198	1374	1541	1692	2009	930	409	592	1086	551
	C42	C44	C51	C52	C54	C61	C62	C64	C71	C72	C74	C81	C82	C84
A	1665	2137	1517	1834	2762	1635	2341	3225	2066	2464	3672	2202	2788	3830
B	475	488	475	488	609	488	609	472	584	609	727	584	649	537
C	300	360	300	360	420	360	420	520	360	360	520	360	420	520
D	227	245	232	245	280	255	280	320	310	310	410	310	320	410
E	112	125	112	125	150	125	150	160	150	150	225	150	160	225
F	756	1185	622	882	1457	724	1306	1813	830	1198	2224	966	1374	2384
	C91	C92	CA1	CA2	CB1	CB2	CC1	CC2	CCL	CD1	C12	C14	C21	C22
A	2440	2902	2522	3205	2840	4350	4025	4900	4900	4350	984	1149	984	1149
B	649	649	649	727	727	892	892	943	943	892	304	304	304	304
C	420	420	420	520	520	752	752	778	778	752	300	300	300	300
D	345	345	345	410	450	475	511	511	511	511	144	144	144	144
E	160	160	160	225	225	250	250	250	250	250	85	85	85	85
F	1079	1541	1161	1756	1366	2009	1611	2489	2489	1912	296	440	296	440
	C24	C31	C32	C3L	S41	S4L	S51	S5L	S61	S6L	S71	S7L	S81	S8L
A	1544	1084	1234	1234	1456	1665	1517	1777	1635	1947	2066	2464	2202	2640
B	304	304	304	304	475	475	475	475	488	488	584	609	584	609
C	300	300	300	300	300	300	300	360	360	360	360	360	360	420
D	148	148	148	148	236	236	236	236	260	260	310	310	310	310
E	85	85	85	85	112	112	112	112	125	125	150	150	150	150
F	822	383	528	528	526	731	587	847	674	986	777	1145	912	1320

