

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.
- 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 28 ft (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

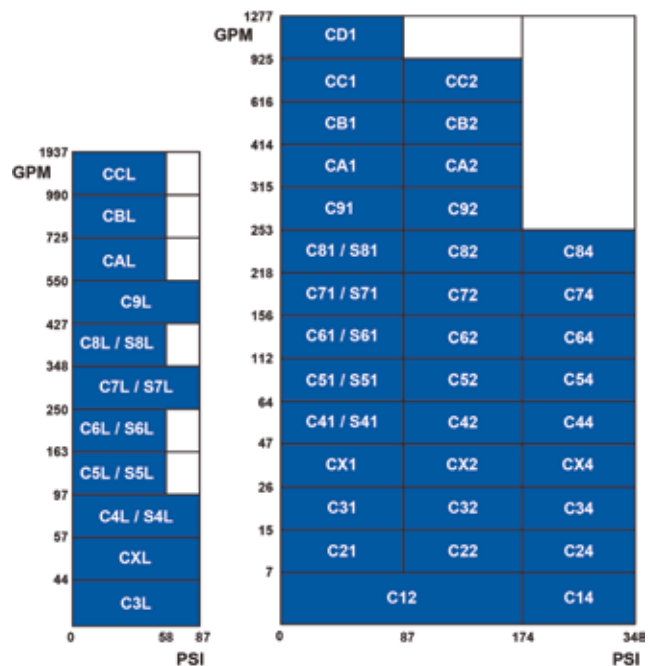
- Robust drives, specially selected drives and gearboxes for longer life. Options include electric motor drive units supplied as direct-coupled or variable speed drives with mechanical variable speed or frequency inverter.
- Low running speeds, reduced wear for a longer working pump life which extends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



Performance

Capacity, for flows up to 1937 gpm (440 m³/h) and differential pressure up to 350 psi (24 bar), to operate in a range of process temperatures from 14 °F (-10 °C), up to 212 °F (100 °C).

Performance data



GPM = capacity. PSI = 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	5.7 gpm (1.3 m ³ /h) @ 1750 rpm									1
	14.5 gpm (3.3 m ³ /h) @ 1750 rpm									2
	44 gpm (10 m ³ /h) @ 1500 rpm									3
	57 gpm (13 m ³ /h) @ 1500 rpm									X
	97 gpm (22 m ³ /h) @ 1000 rpm									4
	163 gpm (37 m ³ /h) @ 800 rpm .									5
	251 gpm (57 m ³ /h) @ 700 rpm									6
	348 gpm (79 m ³ /h) @ 600 rpm									7
	427 gpm (97 m ³ /h) @ 500 rpm									8
	550 gpm (125 m ³ /h) @ 450 rpm									9
	726 gpm (165 m ³ /h) @ 400 rpm									A
	991 gpm (225 m ³ /h) @ 350 rpm									B
	1937 gpm (440 m ³ /h) @ 270 rpm									C
	1365 gpm (310 m ³ /h) @ 250 rpm									D
	1981 gpm (450 m ³ /h) @ 250 rpm									E
Stages (max. pressure)	Single stage extended pitch, 58-87 psi								L	
	Single stage, 87 psi (6 Bar)								1	
	Two stage, 174 psi (12 Bar)								2	
	Four stage, 348 psi (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 lbs (kg)

Model	Pump	Stator	Rotor	Coupling rod / Joint	Shaft
C12	27.5 (12.5)	2.6 (1.2)	0.9 (0.4)	0.4 (0.2)	1.3 (0.6)
C14	32.0 (14.5)	5.7 (2.6)	1.8 (0.8)	0.4 (0.2)	1.3 (0.6)
C21	27.5 (12.5)	2.6 (1.2)	0.9 (0.4)	0.4 (0.2)	1.3 (0.6)
C22	32.0 (14.5)	5.7 (2.6)	1.8 (0.8)	0.4 (0.2)	1.3 (0.6)
C24	51.0 (23.0)	12.1 (5.5)	3.5 (1.6)	0.9 (0.4)	1.5 (0.7)
C31	40.0 (18.0)	2.9 (1.3)	3.3 (1.5)	0.9 (0.4)	1.5 (0.7)
C32	44.0 (20.0)	5.7 (2.6)	3.3 (1.5)	0.9 (0.4)	1.5 (0.7)
C3L	44.0 (20.0)	5.7 (2.6)	3.3 (1.5)	0.9 (0.4)	1.5 (0.7)
C34	70.5 (32.0)	11.7 (5.3)	6.4 (2.9)	2.6 (1.2)	3.7 (1.7)
CX1	62.0 (28.0)	4.6 (2.1)	3.5 (1.6)	0.9 (0.4)	1.5 (0.7)
CX2	68.0 (31.0)	12.3 (5.6)	6.2 (2.8)	0.9 (0.4)	1.5 (0.7)
CX4	126.0 (57.0)	22.9 (10.4)	12.1 (5.5)	5.7 (2.6)	6.8 (3.1)
CXL	70.5 (32.0)	11.2 (5.1)	5.9 (2.7)	0.9 (0.4)	1.5 (0.7)
C41 / S41	75.0/79.0 (34.0/36.0)	7.7 (3.5)	5.7 (2.6)	2.6 (1.2)	3.7 (1.7)
C42	101.0 (46.0)	15.7 (7.1)	9.9 (4.5)	2.6 (1.2)	3.7 (1.7)
C44	159.0 (72.0)	30.9 (14.0)	20.2 (9.2)	5.3 (2.4)	6.8 (3.1)
C4L / S4L	92.5/110.0 (42.0/50.0)	15.7 (7.1)	9.9 (4.5)	2.6 (1.2)	3.7 (1.7)
C51 / S51	110.0/108.0	13.9 (6.3)	10.8 (4.9)	2.6 (1.2)	3.7 (1.7)
C52	154.0 (70.0)	27.3 (12.4)	20.1 (9.1)	5.3 (2.4)	6.8 (3.1)
C54	234.0 (106.0)	54.0 (24.5)	39.7 (18.0)	10.8 (4.9)	9.7 (4.4)
C5L / S5L	126.0/123.0	27.0 (12.3)	19.4 (8.8)	2.6 (1.2)	3.7 (1.7)
C61 / S61	170.0/165.0	24.3 (11.0)	18.5 (8.4)	5.3 (2.4)	6.8 (3.1)
C62	224.9 (102.0)	47.4 (21.5)	34.0 (15.4)	10.8 (4.9)	9.7 (4.4)
C64	396.8 (180.0)	93.7 (42.5)	66.6 (30.2)	27.1 (12.3)	19.2 (8.7)
C6L / S6L	207.2/185.2	11.0 (5.0)	33.7 (15.3)	5.3 (15.3)	6.8 (3.1)
C71 / S71	236.0/227.0	38.4 (17.4)	29.3 (13.3)	10.8 (4.9)	9.5 (4.3)
C72	330.7 (150.0)	75.6 (34.3)	54.0 (24.5)	10.1 (4.6)	9.5 (4.3)
C74	555.6 (252.0)	149.9 (68.0)	107.8 (48.9)	5.3 (15.3)	19.2 (8.7)
C7L / S7L	326.0/322.0	75.6 (34.3)	54.0 (24.5)	10.1 (4.6)	9.5 (4.3)
C81 / S81	249.0/238.0	50.9 (23.1)	39.5 (17.9)	13.7 (6.2)	9.5 (4.3)
C82	374.8 (170.0)	54.2 (24.6)	74.3 (33.7)	27.1 (12.3)	19.2 (8.7)
C84	641.5 (291.0)	191.8 (87.0)	144.8 (65.7)	5.3 (15.3)	20.9 (9.5)
C8L / S8L	379.0/368.0	99.2 (45.0)	72.8 (33.0)	13.7 (6.2)	9.5 (4.3)
C91	385.8 (175.0)	91.2 (41.7)	56.9 (25.8)	27.1 (12.3)	19.2 (8.7)
C92	630.5 (286.0)	145.3 (65.9)	104.9 (47.6)	27.1 (12.3)	19.2 (8.7)
C9L	595.2 (270.0)	148.2 (67.2)	104.9 (47.6)	27.1 (12.3)	19.2 (8.7)
CA1	474.0 (215.0)	82.5 (37.4)	85.5 (38.8)	27.1 (12.3)	19.2 (8.7)
CA2	782.6 (355.0)	164 (74.4)	159.6 (72.4)	5.3 (15.3)	20.9 (9.5)
CAL	663.6 (301.0)	164 (74.4)	157.4 (71.4)	27.1 (12.3)	19.2 (8.7)
CB1	769.4 (349.0)	142.2 (64.5)	150.1 (68.1)	5.3 (15.3)	20.9 (9.5)
CB2	143.3 (650.0)	286.6 (130.0)	292.1 (132.5)	47.8 (21.7)	78.0 (35.4)
CBL	1042.8 (473.0)	270.9 (122.9)	279.5 (126.8)	5.3 (15.3)	20.9 (9.5)
CC1	1433.0 (650.0)	187.4 (85.0)	284.6 (129.1)	47.8 (21.7)	78.0 (35.4)
CC2	2094.4 (950.0)	410.3 (186.1)	581.1 (263.6)	48.3 (21.9)	78.0 (35.4)
CCL	2094.4 (950.0)	410.3 (186.1)	581.6 (263.8)	48.3 (21.9)	78.0 (35.4)
CD1	1499.1 (680.0)	267.6 (121.4)	377.7 (171.3)	47.8 (21.7)	78.0 (35.4)
CD2	1900.4 (862.0)	388.0 (176.0)	410.1 (186.0)	47.8 (21.7)	78.0 (35.4)
CE5	2674.2 (1213.0)	994.3 (451.0)	577.6 (262.0)	47.8 (21.7)	78.0 (35.4)

Motor / Baseplate dimensions (inches)

Dimension	Model													
	CXL	C4L	C5L	C6L	C7L	C8L	C9L	CAL	CBL	C34	CX1	CX2	CX4	C41
A	51.3	65.5	70.0	76.7	97.0	103.9	114.3	120.2	137.0	72.2	44.1	52.3	80.2	57.3
B	12.0	18.7	18.7	19.2	24.0	24.0	25.6	25.6	21.1	18.7	12.0	12.0	19.2	18.7
C	11.8	11.8	14.2	14.2	14.2	16.5	16.5	16.5	20.5	14.17	11.8	11.8	16.5	11.8
D	7.5	8.9	12.7	10.0	12.2	12.2	13.6	13.6	17.7	8.9	7.5	8.9	9.6	8.9
E	3.3	4.4	4.4	4.9	5.9	5.9	6.3	6.3	8.9	4.4	3.3	4.4	4.9	4.4
F	23.3	29.8	34.7	40.8	47.2	54.1	60.7	66.6	79.1	36.6	16.1	23.3	42.8	21.7
	C42	C44	C51	C52	C54	C61	C62	C64	C71	C72	C74	C81	C82	C84
A	65.6	84.1	59.7	72.2	108.7	64.4	92.2	127.0	81.3	97.0	144.6	86.7	109.8	150.7
B	18.7	19.2	18.7	19.2	24.0	19.2	24.0	18.6	23.0	24.0	28.6	23.0	25.6	21.1
C	11.8	14.2	11.8	14.2	16.5	14.2	16.5	20.5	14.2	20.5	14.2	14.2	16.5	20.5
D	8.9	9.6	9.1	9.6	11.0	10.0	11.0	12.6	12.2	12.2	16.1	12.2	12.6	16.1
E	4.4	4.9	4.4	4.9	5.9	4.9	5.9	6.3	5.9	5.9	8.9	5.9	6.3	10.0
F	29.8	46.7	24.5	34.7	57.4	28.5	51.4	71.4	32.7	47.2	87.6	38.0	54.1	93.9
	C91	C92	CA1	CA2	CB1	CB2	CC1	CC2	CCL	CD1	C12	C14	C21	C22
A	96.1	114.3	99.3	126.2	111.8	171.3	158.5	192.9	192.9	171.3	38.7	45.2	38.7	45.2
B	25.6	25.6	25.6	28.6	28.6	35.1	35.1	37.1	37.1	35.1	12.0	12.0	12.0	12.0
C	16.5	16.5	16.5	20.5	20.5	29.6	29.6	30.6	30.6	29.6	11.8	11.8	11.8	11.8
D	13.6	13.6	13.6	16.1	17.7	18.7	20.1	20.1	20.1	20.1	5.7	5.7	5.7	5.7
E	6.3	6.3	6.3	8.9	8.9	9.8	9.8	9.8	9.8	9.5	3.3	3.3	3.3	3.3
F	42.5	60.7	45.7	69.1	53.8	79.1	63.4	98.0	98.0	75.3	11.7	17.3	11.7	17.3
	C24	C31	C32	C3L	S41	S4L	S51	S5L	S61	S6L	S71	S7L	S81	S8L
A	60.8	72.7	48.6	48.6	57.3	65.6	59.7	70.0	64.4	76.7	81.3	97.0	86.7	103.9
B	12.0	12.0	12.0	12.0	18.7	18.7	18.7	18.7	19.2	19.2	23.0	24.0	23.0	24.0
C	11.8	11.8	11.8	11.8	11.8	11.8	11.8	14.2	14.2	14.2	14.2	14.2	14.2	16.5
D	5.8	5.8	5.8	5.8	9.3	9.3	9.3	9.3	10.2	10.2	12.2	12.2	12.2	12.2
E	3.3	3.3	3.3	3.3	4.4	4.4	4.4	4.4	4.9	4.9	5.9	5.9	5.9	5.9
F	32.4	15.1	20.8	20.8	20.7	28.8	23.1	33.3	26.5	38.8	30.6	45.1	35.9	52.0

