

PC Transfer Perform Pump



Progressing cavity process pump, designed to be maintained in place without disconnecting from pipework. 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

- Maintain-in-place design allows for quick and easy removal of rotating parts, and clearing of rag build-up, without disconnecting from pipework.
- 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.
- Positive torque split coupling rod reduces ragging and maintenance - less rag binding at the inlet to the pump hydraulic end.
- Stator support clamps reduces stator removal time - no tie rods to remove and replace during maintenance periods (single and two stage pumps only).
- 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.



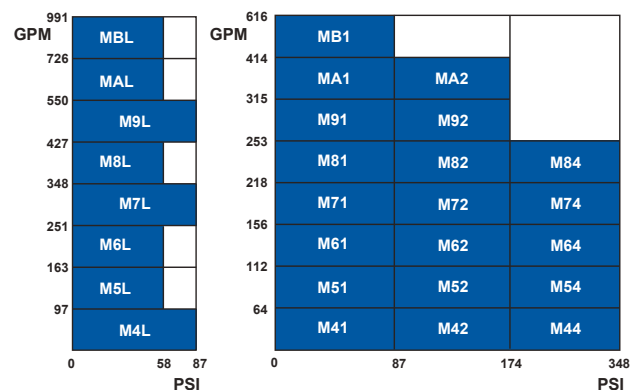
Motor / drives

- 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 990 GPM (225 m³/h) and differential pressure up to 348 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 general guidance only. For specific material options and pump selection please contact Sulzer.

Pump coding

Range	Transfer Perform	M																		
Size	101 gpm (22 m³/h) @ 1000 rpm		4																	
	163 gpm (37 m³/h) @ 800 rpm		5																	
	251 gpm (57 m³/h) @ 700 rpm		6																	
	348 gpm (79 m³/h) @ 600 rpm		7																	
	427 gpm (97 m³/h) @ 500 rpm		8																	
	550 gpm (125 m³/h) @ 450 rpm		9																	
	726 gpm (165 m³/h) @ 400 rpm		A																	
	990 gpm (225 m³/h) @ 350 rpm		B																	
Stages (max. pressure)	Single stage extended pitch, 58 - 87 psi									L										
	Single stage, 87 psi									1										
	Two stage, 174 psi									2										
	Four stage, 348 psi									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:

M 4 L C 3 A R M 2

Pump and wear part weights lbs (kg)

Model	Pump	Stator	Rotor	Coupling rod / Joint	Coupling rod / Joint	Shaft
M41	75.0 (34.0)	7.7 (3.5)	5.7 (2.6)	2.6 (1.2)	2.9 (1.3)	3.7 (1.7)
M42	101.4 (46.0)	15.7 (7.1)	9.9 (4.5)	2.6 (1.2)	2.9 (1.3)	3.7 (1.7)
M44	158.7 (72.0)	30.9 (14.0)	20.3 (9.2)	5.3 (2.4)	6.0 (2.7)	6.7 (3.1)
M4L	92.6 (42.0)	15.7 (7.1)	9.9 (4.5)	2.6 (1.2)	2.9 (1.3)	3.7 (1.7)
M51	110.3 (50.0)	13.9 (6.3)	10.8 (4.9)	2.6 (1.2)	2.9 (1.3)	3.7 (1.7)
M52	154.3 (70.0)	27.3 (12.4)	20.1 (9.1)	5.3 (2.4)	6.0 (2.7)	6.7 (3.1)
M54	233.7 (106.0)	54.0 (24.5)	39.7 (18.0)	10.8 (4.9)	10.8 (4.9)	9.7 (4.4)
M5L	125.7 (57.0)	27.1 (12.3)	19.4 (8.8)	2.6 (1.2)	2.9 (1.3)	3.7 (1.7)
M61	169.8 (77.0)	24.3 (11.0)	18.5 (8.4)	5.3 (2.4)	6.0 (2.7)	6.7 (3.1)
M62	220.5 (100.0)	47.4 (21.5)	34.0 (15.4)	10.8 (4.9)	6.0 (2.7)	9.7 (4.4)
M64	410.1 (186.0)	93.7 (42.5)	66.6 (30.2)	27.1 (12.3)	39.5 (17.9)	19.2 (8.7)
M6L	207.2 (94.0)	11.0 (5.0)	33.7 (15.3)	5.3 (2.4)	6.0 (2.7)	6.7 (3.1)
M71	235.9 (107.0)	38.4 (17.4)	29.3 (13.3)	10.8 (4.9)	10.8 (4.9)	9.5 (4.3)
M72	330.7 (150.0)	75.6 (34.3)	54.0 (24.5)	10.1 (4.6)	10.8 (4.9)	9.5 (4.3)
M74	568.8 (258.0)	149.9 (68.0)	107.8 (48.9)	33.7 (15.3)	47.8 (21.7)	19.2 (8.7)
M7L	326.3 (148.0)	75.6 (34.3)	54.0 (24.5)	10.1 (4.6)	10.8 (4.9)	9.5 (4.3)
M81	246.9 (112.0)	50.9 (23.1)	39.5 (17.9)	13.7 (6.2)	10.8 (4.9)	9.5 (4.3)
M82	388.0 (176.0)	54.2 (24.6)	74.3 (33.7)	27.1 (12.3)	39.5 (17.9)	19.2 (8.7)
M84	654.8 (297.0)	191.8 (87.0)	144.8 (65.7)	33.7 (15.3)	47.8 (21.7)	20.9 (9.5)
M8L	377.0 (171.0)	99.2 (45.0)	72.8 (33.0)	13.7 (6.2)	10.8 (4.9)	9.5 (4.3)
M91	399.0 (181.0)	91.3 (41.7)	56.9 (25.8)	27.1 (12.3)	39.5 (17.9)	19.2 (8.7)
M92	643.8 (292.0)	145.3 (65.9)	104.9 (47.6)	27.1 (12.3)	39.5 (17.9)	19.2 (8.7)
M9L	608.5 (276.0)	148.2 (67.2)	104.9 (47.6)	27.1 (12.3)	39.5 (17.9)	19.2 (8.7)
MA1	487.2 (221.0)	82.5 (37.4)	85.5 (38.8)	27.1 (12.3)	39.5 (17.9)	19.2 (8.7)
MA2	795.9 (361.0)	164.0 (74.4)	159.6 (72.4)	33.7 (15.3)	47.8 (21.7)	20.9 (9.5)
MAL	676.8 (307.0)	164.0 (74.4)	157.4 (71.4)	27.1 (12.3)	39.5 (17.9)	19.2 (8.7)
MB1	782.6 (355.0)	144.2 (64.5)	150.1 (68.1)	33.7 (15.3)	47.8 (21.7)	20.9 (9.5)
MBL	1056.0 (479.0)	270.9 (122.9)	279.5 (126.8)	33.7 (15.3)	47.8 (21.7)	20.9 (9.5)

Dimensions in inches (mm)

Dimension	Model						
	M41	M42	M44	M4L	M51	M52	M54
A	57.3 (1456)	65.6 (1665)	84.1 (2137)	65.6 (1665)	59.7 (1517)	72.2 (1834)	108.7 (2762)
B	21.7 (551)	29.8 (756)	46.7 (1185)	29.8 (756)	24.5 (622)	34.7 (882)	57.4 (1457)
C	8.9 (227)	8.9 (227)	9.6 (245)	8.9 (227)	9.1 (232)	9.6 (245)	11.0 (280)
D	4.4 (112)	4.4 (1112)	4.9 (125)	4.4 (112)	4.4 (112)	4.9 (125)	5.9 (150)
	M5L	M61	M62	M64	M6L	M71	M72
A	7.0 (1777)	64.4 (1635)	92.2 (2341)	127.0 (3225)	76.7 (1947)	81.3 (2066)	97.0 (2464)
B	34.7 (882)	28.5 (724)	40.8 (1036)	71.4 (1813)	40.8 (1036)	32.7 (830)	47.2 (1198)
C	9.1 (232)	10.0 (255)	11.0 (280)	12.6 (320)	10.0 (255)	12.2 (310)	12.2 (310)
D	4.4 (112)	4.9 (125)	5.9 (150)	6.3 (160)	4.9 (125)	5.9 (150)	5.9 (150)
	M74	M7L	M81	M82	M84	M8L	M91
A	144.6 (3672)	97.0 (2464)	86.7 (2202)	109.8 (2788)	150.8 (3830)	103.9 (2640)	96.1 (2440)
B	87.6 (2224)	47.2 (1198)	38.0 (966)	54.1 (1374)	93.9 (2384)	54.1 (1374)	42.5 (1079)
C	16.1 (410)	12.2 (310)	12.2 (310)	12.2 (320)	16.1 (410)	12.2 (310)	13.6 (345)
D	8.9 (225)	5.9 (150)	5.9 (150)	6.3 (160)	8.9 (225)	5.9 (150)	6.3 (160)
	M92	M9L	MA1	MA2	MAL	MB1	MBL
A	114.3 (2902)	114.3 (2902)	99.3 (2522)	126.2 (3205)	120.2 (3053)	111.8 (2840)	137.1 (3481)
B	60.7 (1541)	60.7 (1541)	45.7 (1161)	69.2 (1757)	66.6 (1692)	53.8 (1366)	79.1 (2009)
C	13.6 (345)	13.6 (345)	13.6 (345)	16.1 (410)	13.6 (345)	17.7 (450)	17.7 (450)
D	6.3 (160)	6.3 (160)	6.3 (160)	8.9 (225)	6.3 (160)	8.9 (225)	8.9 (225)

