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 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.

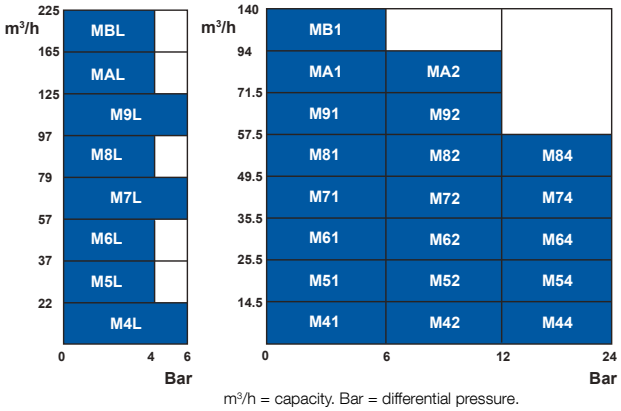
Motor / drives

- 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 225 m^3/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



m^3/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 general guidance only. For specific material options and pump selection please contact Sulzer.

Pump coding

Range	Transfer Perform	**M**							
Size	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**						
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:		**M**	**4**	**L**	**C**	**3**	**A**	**R**	**M**	**2**

Pump and wear part weights (kg)

Model	Pump	Stator	Rotor	Coupling rod / Joint	Coupling rod / Joint	Shaft
M41	34.0	3.5	2.6	1.2	1.3	1.7
M42	46.0	7.1	4.5	1.2	1.3	1.7
M44	72.0	14.0	9.2	2.4	2.7	3.1
M4L	42.0	7.1	4.5	1.2	1.3	1.7
M51	50.0	6.3	4.9	1.2	1.3	1.7
M52	70.0	12.4	9.1	2.4	2.7	3.1
M54	106.0	24.5	18.0	4.9	4.9	4.4
M5L	57.0	12.3	8.8	1.2	1.3	1.7
M61	77.0	11.0	8.4	2.4	2.7	3.1
M62	100.0	21.5	15.4	4.9	2.7	4.4
M64	186.0	42.5	30.2	12.3	17.9	8.7
M6L	94.0	5.0	15.3	2.4	2.7	3.1
M71	107.0	17.4	13.3	4.9	4.9	4.3
M72	150.0	34.3	24.5	4.6	4.9	4.3
M74	258.0	68.0	48.9	15.3	21.7	8.7
M7L	148.0	34.3	24.5	4.6	4.9	4.3
M81	112.0	23.1	17.9	6.2	4.9	4.3
M82	176.0	24.6	33.7	12.3	17.9	8.7
M84	297.0	87.0	65.7	15.3	21.7	9.5
M8L	171.0	45.0	33.0	6.2	4.9	4.3
M91	181.0	41.7	25.8	12.3	17.9	8.7
M92	292.0	65.9	47.6	12.3	17.9	8.7
M9L	276.0	67.2	47.6	12.3	17.9	8.7
MA1	221.0	37.4	38.8	12.3	17.9	8.7
MA2	361.0	74.4	72.4	15.3	21.7	9.5
MAL	307.0	74.4	71.4	12.3	17.9	8.7
MB1	355.0	64.5	68.1	15.3	21.7	9.5
MBL	479.0	122.9	126.8	15.3	21.7	9.5

Dimensions (mm)

Dimension	Model						
	M41	**M42**	**M44**	**M4L**	**M51**	**M52**	**M54**
A	1456	1665	2137	1665	1517	1834	2762
B	551	756	1185	756	622	882	1457
C	227	227	245	227	232	245	280
D	112	112	125	112	112	125	150
	M5L	**M61**	**M62**	**M64**	**M6L**	**M71**	**M72**
A	1777	1635	2341	3225	1947	2066	2464
B	882	724	1036	1813	1036	830	1198
C	232	255	280	320	255	310	310
D	112	125	150	160	125	150	150
	M74	**M7L**	**M81**	**M82**	**M84**	**M8L**	**M91**
A	3672	2464	2202	2788	3830	2640	2440
B	2224	1198	966	1374	2384	1374	1079
C	410	310	310	320	410	310	345
D	225	150	150	160	225	150	160
	M92	**M9L**	**MA1**	**MA2**	**MAL**	**MB1**	**MBL**
A	2902	2902	2522	3205	3053	2840	3481
B	1541	1541	1161	1757	1692	1366	2009
C	345	345	345	410	345	450	450
D	160	160	160	225	160	225	225