

PC Cake Perform Pump



Progressing cavity process pump, designed to be maintained in place without disconnecting from pipework. For pumping of highly viscous materials such as sludges, slurries, thick non-flowing pastes and dewatered sludge cake, in municipal and industrial process applications.

Construction

Materials of construction, available in cast iron, 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 cake perform pump include:

- Heavy sludge cake transfer for greater than 30% dry solids concentration.
- Dewatered and thickened sludge transfer.
- Sludge blending.
- Imported and organic waste sludge transfer.
- Industrial process sludge with high percentage dry solids concentration.

Features

- Maintain-in-place design allows for quick and easy removal of rotating parts, and clearing of rag build-up, without disconnecting from pipework.
- An auger screw conveyor for efficient feeding of the pump when handling high percentage dry solid sludge concentrations.
- Gentle pumping action, minimises shear and crush damage to the pumped product.
- Supplied with a baseplate to ease installation, or optional without.
- Fully sealed drive train to maximise life and minimise downtime.
- Hard faced, single mechanical seal as standard, with packed gland as an option.
- Designed to accommodate optional hopper or bridge breaker attachments.

Motor / drives

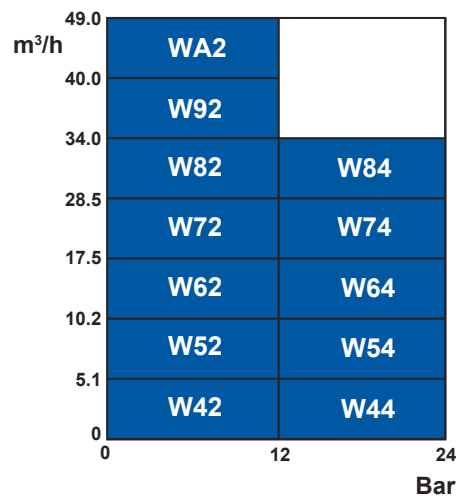
- Robust drives, specially selected drives and gearboxes for longer life. Options include electric motor drive units supplied as direct-coupled or variable speed drives with mechanical variable speed or frequency inverter.
- Low running speeds, reduced wear for a longer working pump life which extends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



Performance

Capacity, for flows up to 49 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
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

Body	Cast iron	C																			
Pump design	Wide Inlet Perform		W																		
Nominal pump capacity at max. speed and zero pressure	5.1 m³/h @ 350 rpm																			4	
	10.2 m³/h @ 350 rpm																			5	
	17.5 m³/h @ 350 rpm																			6	
	28.5 m³/h @ 350 rpm																			7	
	34.0 m³/h @ 300 rpm																			8	
	40.0 m³/h @ 250 rpm																			9	
	49.0 m³/h @ 200 rpm																			A	
Pump stages	Two																			2	
	Four																			4	
Prime mover arrangements and build selection	Options																			A	
																				B	
																				C	
																				D	
	Bareshaft																			H	
Mechanical seal type design pump	Standard auger																			J	
	Large auger																			H	
	Ribbon auger																			K	
	Bridge breaker drive options																				D
																					E
Packed gland type design pump	Standard auger																			S	
	Large auger																			L	
	Ribbon auger																			R	
	Bridge breaker drive options																				B
																					C
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	
Rotating parts	Alloy steel with HCP																			1	
Prime mover and port options	Standard close coupled																			G	
	Standard bareshaft																			H	
	Bareshaft																			C	
	ANSI + access ports																			A	
	Standard ANSI																			E	
	Japan																			J	

Example:

C W 5 4 H K J 1 G

Pump and wear part weights (kg)

Model	Close coupled pump	Bareshaft pump	Stator	Rotor	Auger / Conveyor	Shaft
W42	90.0	100.0	3.8	4.7	13.2	1.6
W44	110.0	125.0	7.8	9.3	13.2	2.9
W52	115.0	130.0	8.3	9.3	18.2	2.9
W54	155.0	180.0	16.2	16.8	18.2	4.4
W62	185.0	230.0	14.5	15.7	38.2	4.4
W64	250.0	285.0	28.2	29.2	34.8	4.4
W72	230.0	255.0	19.5	24.5	42.6	4.4
W74	360.0	380.0	38	49.3	42.6	4.4
W82	302.0	340.0	26.4	34.4	65.9	8.7
W84	450.0	460.0	51.4	66.4	65.9	9.5
W92	360.0	380.0	41.4	48.3	77.4	8.7
W94	435.0	470.0	2 x 41.4	119.0	77.4	9.5
WA2	495.0	530.0	55.8	71.1	105.3	9.5

Motor / Baseplate dimensions (mm)

Model	A	B	C	D	E	F	G	H
W42	1845	1468	168	750	250	112	282	270
W44	2293	1907	177	750	250	125	295	270
W52	2006	1623	174	750	250	125	310	320
W54	2655	2182	204	750	250	150	335	320
W62	2485	2012	204	1000	360	150	375	320
W64	3212	2691	232	1000	360	160	382	320
W72	2679	2202	208	1000	360	175	415	320
W74	3670	3089	263	1000	360	225	465	320
W82	2873	2343	241	1000	360	225	505	350
W84	3851	3268	265	1000	360	225	505	350
W92	3057	2535	233	1000	360	225	505	350
WA2	3418	2834	266	1000	360	250	550	350

