

Progressing cavity process pump, designed 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 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 cake 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

- 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

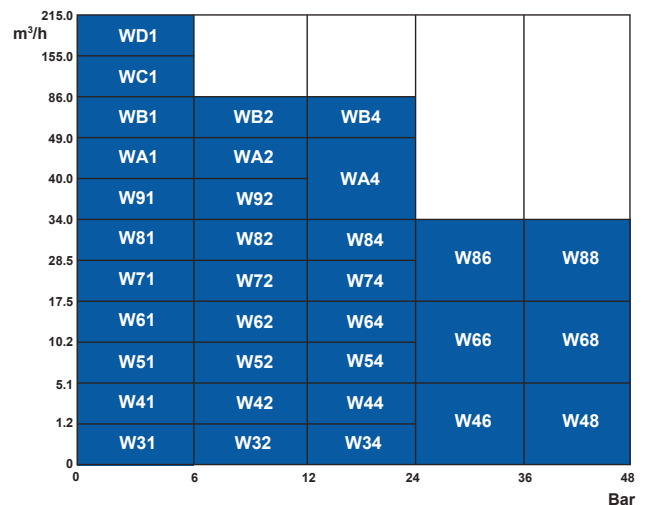
- Robust drives, specially selected drives and gearboxes for longer life. Options include electric motor drive units supplied as direct-coupled or variable speed drives with mechanical variable speed or frequency inverter.
- Low running speeds, reduced wear for a longer working pump life which extends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



Performance

Capacity, for flows up to 215 m³/h and differential pressure up to 48 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 and wear part weights (kg)

Model	Close coupled pump	Bareshaft pump	Stator	Rotor	Auger / Conveyor	Shaft
Standard auger:						
W32	32.0	40.0	1.5	1.4	2.1	0.7
W34	44.0	57.0	3.5	3.0	2.6	1.6
W41	65.0	78.0	2.0	2.8	4.4	0.7
W42	54.0	67.0	3.8	4.7	4.4	1.6
W44	77.0	90.0	7.8	9.3	3.2	2.9
W51	75.0	83.0	4.2	5.4	2.5	1.6
W52	85.0	98.0	8.3	9.3	4.6	2.9
W54	128.0	151.0	16.2	16.8	7.1	4.4
W61	112.0	125.0	7.6	9.3	4.6	2.9
W62	141.0	163.0	14.5	15.7	8.9	4.4
W64	208.0	238.0	28.2	29.2	14.3	4.4
W71	139.0	161.0	10.3	14.7	16.8	4.4
W72	167.0	190.0	19.5	24.5	16.8	4.4
W74	286.0	319.0	38.0	49.3	15.4	8.7
W81	138.0	178.0	13.9	19.9	16.8	4.4
W82	221.0	251.0	26.4	34.4	15.4	8.7
W84	347.0	381.0	51.4	66.4	17.7	9.5
W91	220.0	250.0	21.8	28.5	18.3	8.7
W92	288.0	318.0	41.4	48.3	18.3	8.7
WA1	257.0	287.0	29.4	43.6	18.3	8.7
WA2	369.0	402.0	55.8	71.1	29.1	9.5
WB1	377.0	410.0	55.0	75.2	28.4	9.5
Large auger:						
W42	85.0	97.0	3.8	4.7	13.2	1.6
W44	106.0	119.0	7.8	9.3	13.2	2.9
W52	111.0	123.0	8.3	9.3	18.2	2.9
W54	150.0	171.0	16.2	16.8	18.2	4.4
W62	180.0	220.0	14.5	15.7	38.2	4.4
W64	243.0	272.0	28.2	29.2	34.8	4.4
W72	221.0	243.0	19.5	24.5	42.6	4.4
W74	350.0	370.0	38.0	49.3	42.6	8.7
W82	302.0	331.0	26.4	34.4	65.9	8.7
W84	441.0	450.0	51.4	66.4	65.9	9.5
W92	351.0	379.0	41.1	48.3	77.4	8.7
WA2	-	520.0	55.8	71.1	105.3	9.5
WA4	-	665.0	2 x WA2	160.0	77.4	23.4
WB2	-	670.0	136.0	141.0	77.4	23.4
WB4	-	940.0	2 x WB2	270.0	77.4	52.0
WC1	-	635.0	90.0	152.0	66.6	23.4
WC4	-	-	2 x 186	500.0	-	44.0
WD1	-	700.00	120.0	183.0	66.6	23.4

Motor / Baseplate dimensions (mm)

Model	Standard and Bridge breaker			Standard	Bridge breaker	Large auger				All models
	Y	A	V x W	S	S1	Y	A	V x W	S	D
W32	720	1156	320 x 170	185	-	-	-	-	-	*
W34	750	1638	320 x 170	212	-	-	-	-	-	50
W41	835	1324	350 x 250	232	-	-	-	-	-	65
W42	835	1523	350 x 250	232	412	770	1842	750 x 250	282	65
W44	890	1987	350 x 250	245	425	880	2293	750 x 250	295	80
WC1	1045	1594	500 x 250	247	-	-	-	-	-	80
W52	1050	1859	500 x 250	260	435	770	2010	750 x 250	310	80
WC4	1100	2500	500 x 250	285	460	765	2657	750 x 250	335	100
WD1	1265	1845	650 x 360	285	-	-	-	-	-	100
W62	1270	2249	650 x 360	310	515	1030	2484	1000 x 360	375	100
W64	1330	2964	650 x 360	320	525	1035	3212	1000 x 360	395	125
W71	1300	2034	650 x 360	330	-	-	-	-	-	125
W72	1300	2402	650 x 360	330	525	1025	2675	1000 x 360	415	125
W74	1410	3395	650 x 360	405	600	1035	3665	1000 x 360	465	125
W81	1300	2078	650 x 360	330	-	-	-	-	-	125
W82	1370	2581	650 x 360	340	550	1040	2865	1000 x 360	505	125
W84	1440	3590	650 x 360	405	615	1030	3847	1000 x 360	505	150
W91	1550	2407	800 x 450	360	-	-	-	-	-	150
W92	1550	2869	800 x 450	360	575	1045	3053	1000 x 450	505	150
WA1	1550	2485	800 x 450	360	-	-	-	-	-	150
WA2	1625	3153	800 x 450	405	655	1042	3410	1000 x 450	550	150
WB1	1600	2784	800 x 450	450	-	-	-	-	-	200

* 1½" BSP outlet provided.

Dimension "Y" is the recommended dismantling space.

