

Semi-vortex Submersible Pumps

SVC

TERAL

50Hz



TERAL INC.

Applications

- Drainage of dirty water including sewage and solids in sewage tank of a building
- Relay tank for wastewater from factory and industrial facility
- Raw water and wastewater from sewage/sewage treatment plant
- Community plant (combined treatment)
- Drainage of other types of sewage/water including solids

Features

- ① Able to use the pump for a wide range of drainage applications such as sewage, miscellaneous drainage and sewage.
- ② Easy to install and handle the pump because of compact size and lightweight.
- ③ A built-in protector prevents motor burn-out due to overload, constraint or open phases.
- ④ The shaft seal part adopts a double mechanical seal to prevent water from entering the motor.
- ⑤ Adopting semi-vortex makes the size of solids that pass through smaller than the conventional full vortex, and the performance has improved tremendously.
- ⑥ Features limit load characteristics to prevent overload due to excessive flow rate.
- ⑦ SVCA and SVCT models are equipped with an automatic operation device that enables automatic operation in response to water level change. SVCT performs automatic alternate parallel operation using 2 pumps.

Description of types

50 SVC - 5 1.5 -S

- ① Bore diameter
 ② Model SVC: Non-automatic
 SVCA: Automatic
 SVCT: Automatic alternate parallel operation
 ③ Frequency 5 : 50Hz 6 : 60Hz
 ④ Output
 ⑤ Detachable device Blank: None
 -C: with C-type detachable device
 -S: with SEC-type detachable device

Standard specifications

Liquid handled	Liquid property... Sewage/waste/miscellaneous drainage
	Liquid temperature ... 0 ~ 40 °C, PH value: 5 ~ 9
Max. solids size for passage	Diameter ... 60 ~ 70% or less of nominal diameter
	Length ... 400% or less of nominal diameter
Structure	Semi-vortex
Material	Impeller ... FC200
	Main shaft ... SUS403(3.7kW or less) SUS420J ₁ (5.5kW or more)
	Casing ... FC200
Motor	Type ... Dry submerged
	Power ... 3-phase 200V
	Synchronous rotation speed: 3000min ⁻¹
	Protector ... Automatic reset type auto-cut
Cable	VCT × 4 cores
Mechanical seal	Double mechanical seal
	Material: Pump side – SiC vs SiC Motor side – Ceramic vs Carbon
Lubricant	Turbine oil VG32
Flange spec	Bore diameter 50 ... Special flange
	Bore diameter 65, 80 ... JIS 10K thin type or equivalent
Paint	Acrylic alkyd resin
	Munsell 7.5R4/14



※ Please note that some of the devices in the photo may differ from actual devices in coating color, etc.

Standard accessories

Cable	10m
Companion flange (packing, bolt and nut included)	1 set
Aboveground nameplate	1 pc

Special specifications

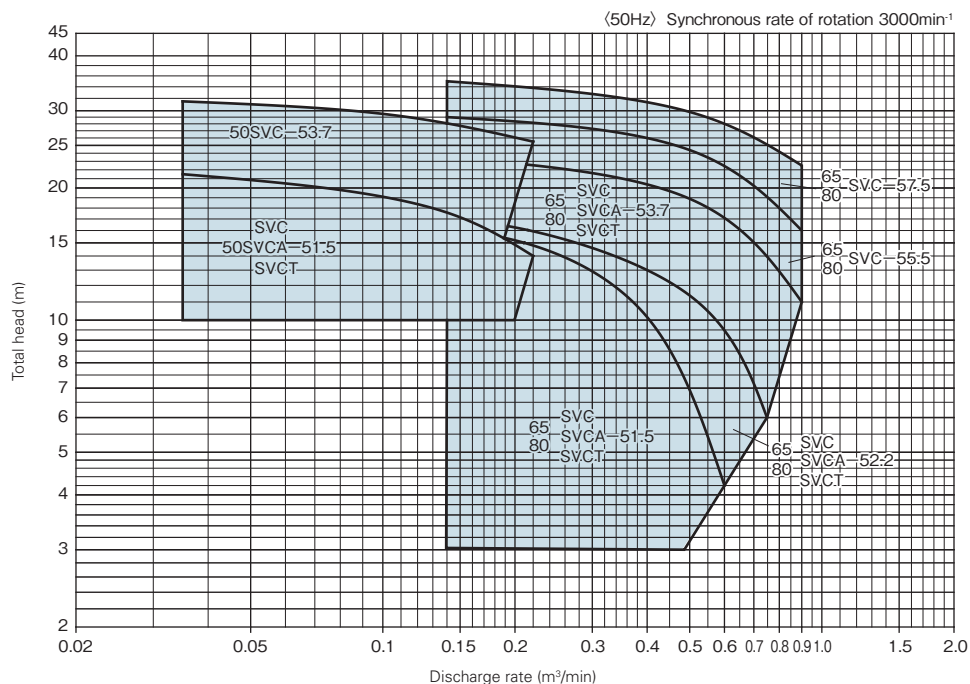
Motor	Power source	3-phase·380V / 3-phase·400V / 3-phase·415V
Lubricant		Liquid paraffin
Paint		Non-tar epoxy resin painting
Cable		Cable extension 20m / 30m

Special accessories

Control panel
 Free switch
 Detachable device

※ The material is FC. The entire material can be changed to SCS, or only the chain and foundation bolt can be changed to SUS as option. Also it is possible to attach the sliding guide and chain only.

■ Selection chart



(Note) If the discharge rate is 0.6m³/min or more, select it from the bore diameter 80.

■ Specifications

Operation method	Model	Bore diameter mm	Output kW	Specifications			
				Discharge rate m ³ /min	Total head m	Discharge rate m ³ /min	Total head m
Non-automatic	50SVC-51.5	50	1.5	0.035	21.5	0.22	14.0
	50SVC-53.7		3.7	0.035	31.5	0.22	25.5
	65SVC-51.5	65	1.5	0.140	16.0	0.60	4.2
	65SVC-52.2		2.2	0.140	17.0	0.75	6.0
	65SVC-53.7		3.7	0.140	23.5	0.90	11.0
	65SVC-55.5		5.5	0.140	29.0	0.90	16.0
	65SVC-57.5		7.5	0.140	35.0	0.90	22.5
	80SVC-51.5	80	1.5	0.140	16.0	0.60	4.2
	80SVC-52.2		2.2	0.140	17.0	0.75	6.0
	80SVC-53.7		3.7	0.140	23.5	0.90	11.0
Automatic	50SVCA-51.5	50	1.5	0.035	21.5	0.220	14.0
	※ 50SVCA-53.7		3.7	0.035	31.5	0.220	25.5
	65SVCA-51.5	65	1.5	0.140	16.0	0.600	4.2
	※ 65SVCA-52.2		2.2	0.140	17.0	0.750	6.0
	※ 65SVCA-53.7		3.7	0.140	23.5	0.900	11.0
	80SVCA-51.5	80	1.5	0.140	16.0	0.600	4.2
	※ 80SVCA-52.2		2.2	0.140	17.0	0.750	6.0
	※ 80SVCA-53.7		3.7	0.140	23.5	0.900	11.0

Operation method	Model	Bore diameter mm	Output kW×2	Specifications			
				Discharge rate m ³ /min	Total head m	Discharge rate m ³ /min	Total head m
Automatic alternate parallel operation	50SVCT-51.5	50	1.5	0.035	21.5	0.220	14.0
	※ 50SVCT-53.7		3.7	0.035	31.5	0.220	25.5
	65SVCT-51.5	65	1.5	0.140	16.0	0.600	4.2
	※ 65SVCT-52.2		2.2	0.140	17.0	0.750	6.0
	※ 65SVCT-53.7		3.7	0.140	23.5	0.900	11.0
	80SVCT-51.5	80	1.5	0.140	16.0	0.600	4.2
	※ 80SVCT-52.2		2.2	0.140	17.0	0.750	6.0
	※ 80SVCT-53.7		3.7	0.140	23.5	0.900	11.0

The models with "※" marked indicate special specification.

■ Motor specification table

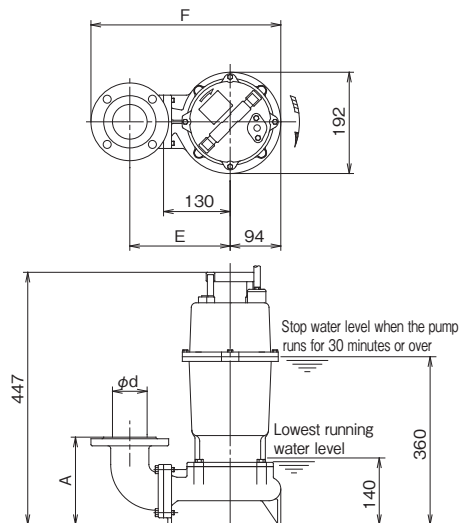
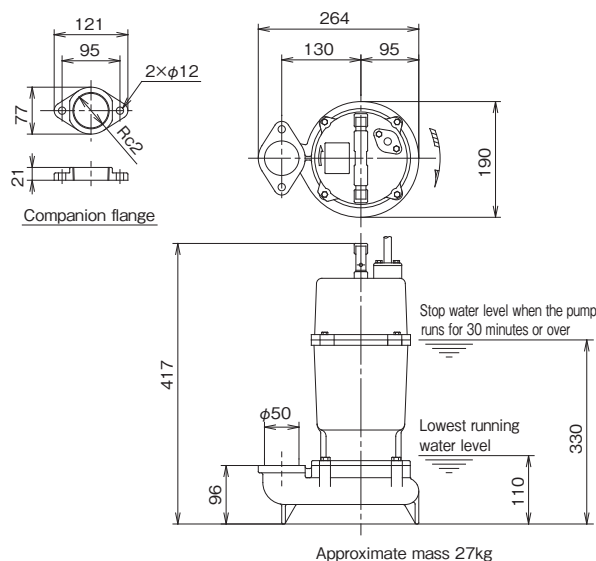
Output kW	Type	Number of poles P	Phase/voltage V	Rating		Starting		Thermal class	Protector	Cable				
				Current A	Rotation speed min ⁻¹	Method	Current A			Type	Number of cores	Size mm ²	Length m	Finishing outer diameter mm
1.5	Dry	2	3-phase/200V	6.5	2820	Direct-on-Line	38	E	○	VCT	4	1.25	10	11.1
2.2	Dry	2	3-phase/200V	9.6	2865	Direct-on-Line	62.6	B	○	VCT	4	1.25	10	11.1
3.7	Dry	2	3-phase/200V	15.6	2860	Direct-on-Line	109	F	○	VCT	4	2	10	11.8
5.5	Dry	2	3-phase/200V	21.5	2895	Direct-on-Line	137	B	○	VCT	4	3.5	10	13.9
7.5	Dry	2	3-phase/200V	29	2900	Direct-on-Line	194	B	○	VCT	4	3.5	10	16.5

Assembly drawing

☆Flange dimensions: JIS 10K thin type or equivalent

●Non-automatic 50SVC-51.5

●Non-automatic 65SVC-51.5/80SVC-51.5



Dimensions

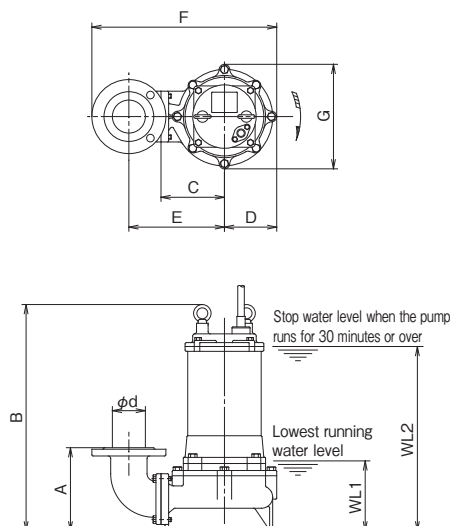
(Unit: mm)

Bore diameter d	Model	Output kW	Pump dimensions			Approx. mass kg
			A	E	F	
65	65SVC-51.5	1.5	184	210	392	36.5
80	80SVC-51.5	1.5	179	245	432	37

Assembly drawing

●Non-automatic 50SVC-53.7/65SVC-52.2, 53.7, 55.5, 57.5/ 80SVC-52.2, 53.7, 55.5, 57.5

☆Flange dimensions: JIS 10K thin type or equivalent



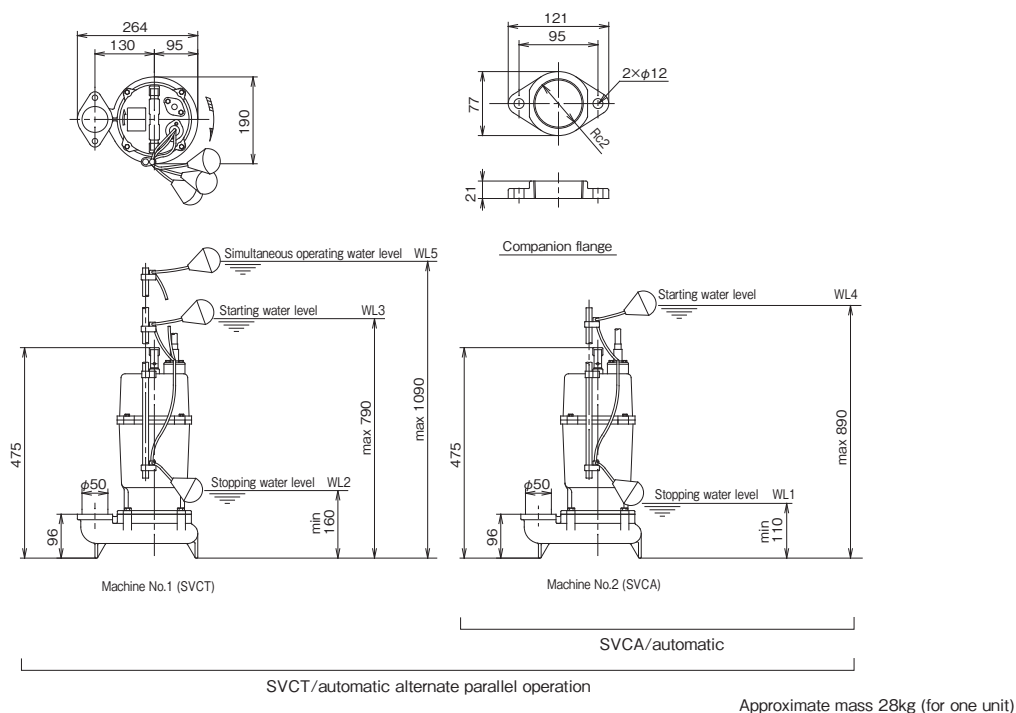
Dimensions

(Unit: mm)

Bore diameter d	Model	Output kW	Pump dimensions							Operating water level		Approx. mass kg
			A	B	C	D	E	F	G	WL1	WL2	
50	50SVC-53.7	3.7	183	510	140	115	221	413	229	125	404	48
65	65SVC-52.2	2.2	199	527	140	120	220	428	239	175	434	50.5
	65SVC-53.7	3.7	199	547	140	120	220	428	239	175	457	59.5
	65SVC-55.5	5.5	201	626	160	132	241	461	264	190	570	87
	65SVC-57.5	7.5	201	626	160	132	241	461	264	190	570	92
80	80SVC-52.2	2.2	194	527	140	120	255	468	239	175	434	51
	80SVC-53.7	3.7	194	547	140	120	255	468	239	175	457	60
	80SVC-55.5	5.5	196	626	160	132	276	501	264	190	570	88
	80SVC-57.5	7.5	196	626	160	132	276	501	264	190	570	93

Assembly drawing

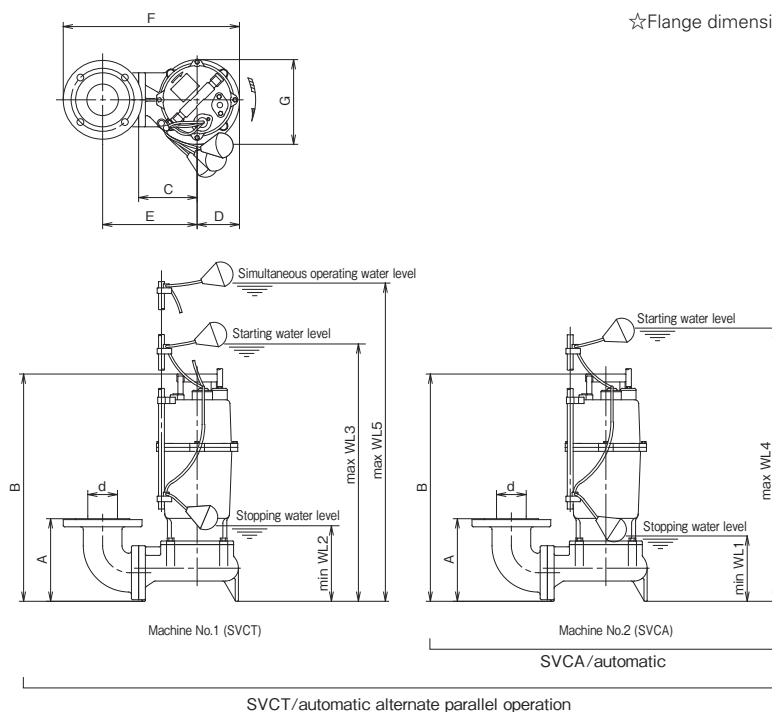
Automatic (automatic alternate parallel operation) 50SVCA(T)-51.5



Set the operating water level for SVCT model to $WL1 < WL2 < WL3 < WL4 < WL5$ and make the difference in water level of each float 50mm or more.

Assembly drawing

Automatic (automatic alternate parallel operation) 65SVCA(T)-51.5/80SVCA(T)-51.5



☆Flange dimensions: JIS 10K thin type or equivalent

Dimensions

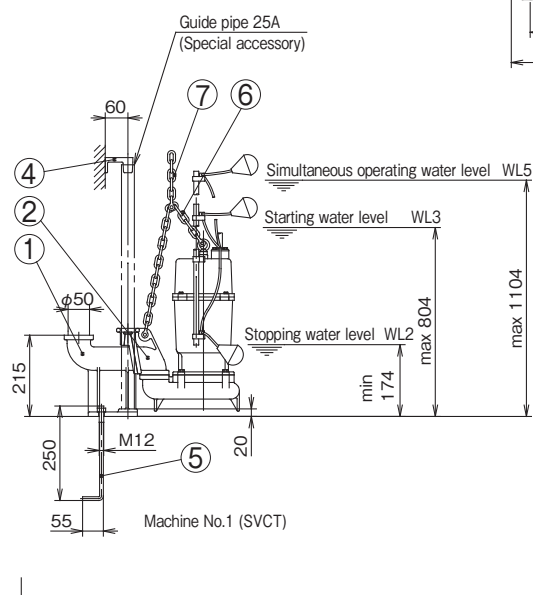
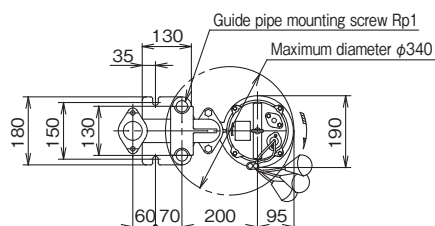
(Unit: mm)

Bore diameter d	Model	Output kW	Pump dimensions							Operating water level					Approx. mass kg
			A	B	C	D	E	F	G	WL1	WL2	WL3	WL4	WL5	
65	65SVCA(T)-51.5	1.5	184	505	130	94	210	392	192	140	190	820	920	1120	37.5
80	80SVCA(T)-51.5	1.5	179	505	130	94	245	432	192	140	190	820	920	1120	38

1. Set the operating water level for SVCT model to $WL1 < WL2 < WL3 < WL4 < WL5$ and make the difference in water level of each float 50mm or more.
2. Approximate mass is for one unit.

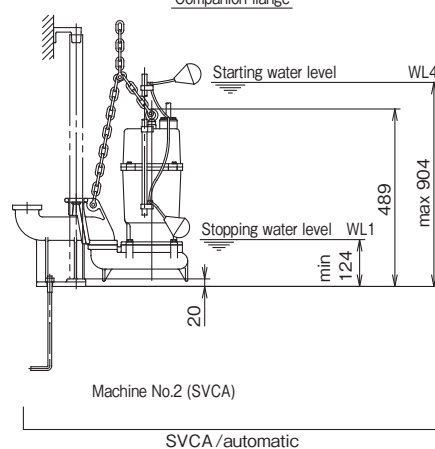
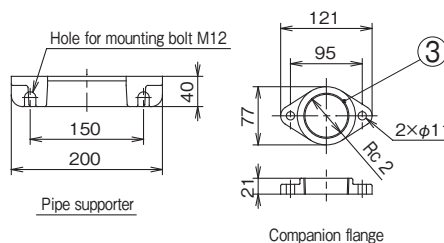
Assembly drawing

Automatic (Automatic alternate parallel operation) with SEC-type detachable device 50SVCT(A)-51.5-S



Parts list

No.	Part name	Qty	Material
1	Discharge pipe	1	FC200
2	Sliding guide	1	FCD450
3	Companion flange	1	FC200
4	Pipe supporter	1	FCD450
5	Foundation bolt	2	SS400
6	Balance chain	1	SS400
7	Hanging chain	6m	SS400

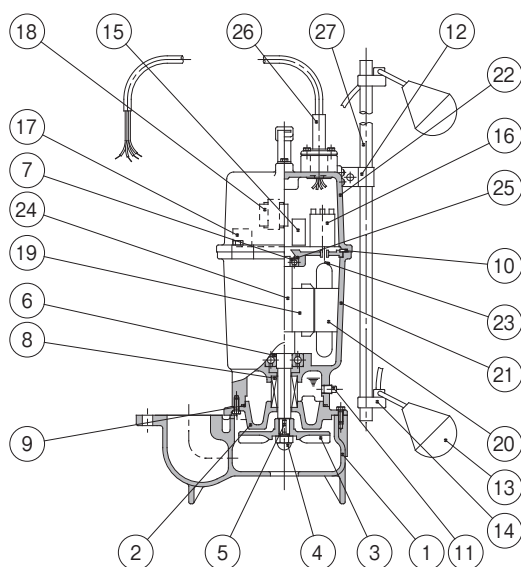


SVCT/automatic alternate parallel operation

Set the operating water level for SVCT model to $WL1 < WL2 < WL3 < WL4 < WL5$ and make the difference in water level of each float 50mm or more.
Lifting mass 36kg (this is approximate mass for one unit.)

Sectional drawing example

Automatic SVCA



Parts list

No.	Part name	Qty	Material
1	Casing	1	FC200
2	Seal cover	1	FC200
3	Impeller	1	FC200
4	Impeller nut	1	SUS304
5	Key	1	SUS420J1
6	Ball bearing	1	SUJ2
7	Ball bearing	1	SUJ2
8	Mechanical seal	1 set	SiC vs SiC Ceramic vs Carbon
9	O-ring	1	NBR
10	Flat ring	1	NBR
11	Plug	1	SUS304
12	Support metal	1	SUS304
13	Float switch	2	-
14	Float holder	2	ABS Resin
15	Magnetic contactor	1	-
16	Power relay	1	-
17	Protector	1	-
18	Transformer	1	-
19	Rotor	1	S40
20	Stator	1	S40
21	Motor frame	1	FC200
22	Upper bracket	1	FC200
23	Stator winding	1	Cu
24	Motor shaft	1	SUS403
25	Wave washer	1	SK5-CSP
26	Lead wire	1	VCT
27	Float supporter	1	PVC



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