

ShinMaywa

Submersible Pumps

(Non-Clogging Vortex Type)

CV/CVH·CVS·CVC·CVM Series



Non-Clogging Vortex Type

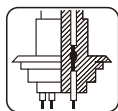
Even sewage containing foreign matter does not "clog" or cause "entanglement" in the pump

There are **MANY ADVANTAGES** with ShinMaywa Submersible Pump.

● Features And Construction

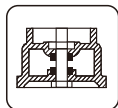
Cable outlet with core sealer

The self-contained core sealer of the cable outlet shuts the water out from penetrating into the motor chamber through the core wires even if the cable tip is immersed in water or the sheath is damaged.



Shaft seal

A highly wear resistant silicon carbide double mechanical seal positively prevents the water from penetrating into the motor chamber. Besides, combined use of an oil seal further extends the service life of the mechanical seal.



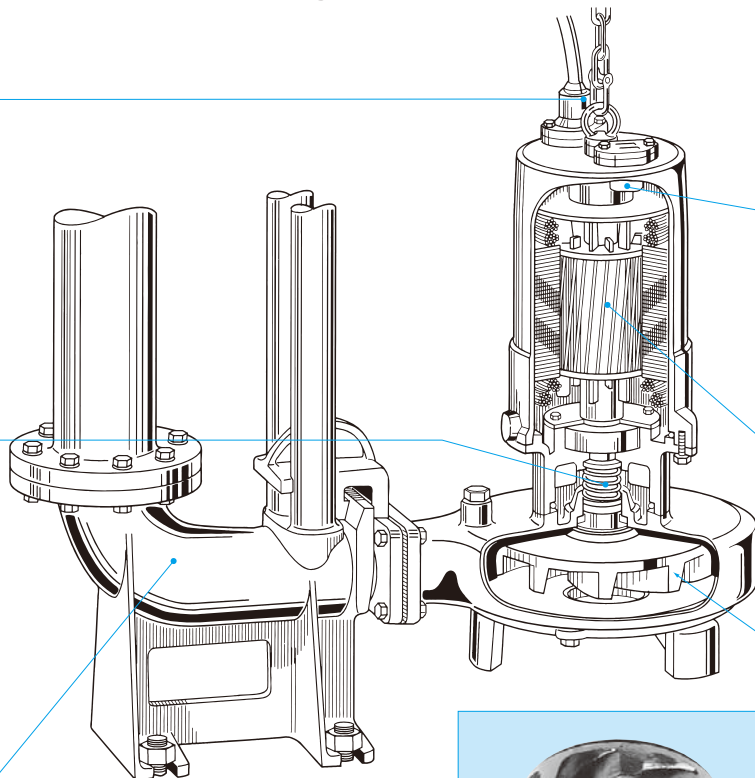
Discharge connection

When the auto-connection type submersible pump is lowered along with the guide pipe, the pump is automatically connected to the discharge pipe with the discharge connection.

Applications

For sewage and sanitary sewage containing a lot of fibrous debris

- For use at relay pump stations or manholes to relay raw water.
- For discharging sludge and scum at industrial waste water treatment plants, etc.
- For use at food processing factories or livestock production facilities to discharge sewage and sludge.
- For controlling flow rate and discharging at night soil treatment plants, etc.
- For controlling flow rate and discharging at combined treatment plants.

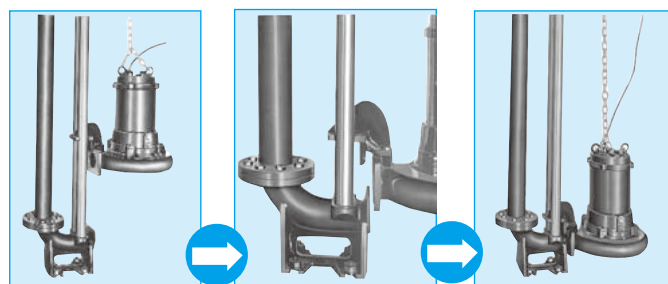


Features of vortex type

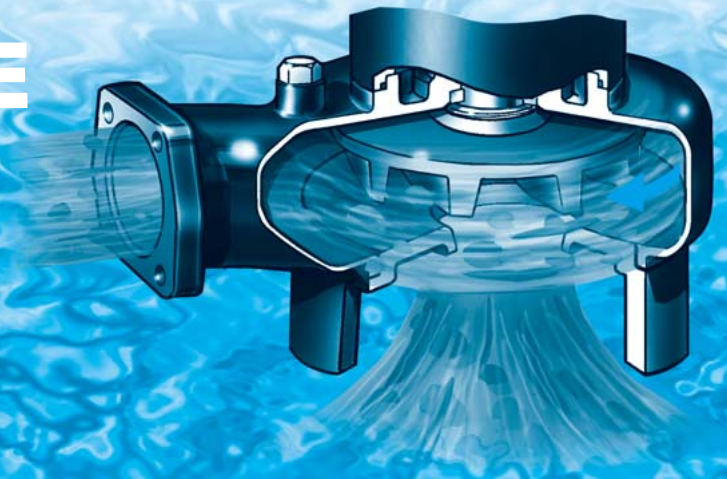
As illustrated, a vortex type impeller provides a broad area for passage, thereby eliminating the possible clogging, winding and/or entanglement of solids, fibrous matter, etc.

Sewage or sludge does not directly pass through the interior of an impeller. As a result, the vortex type impeller scarcely abrades while showing an excellent level of durability.

Auto-connection type

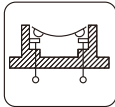


VORTEX TYPE



Motor protector

A built-in automatic-reset type motor protector (automatic cutoff or thermal protector) positively protects the motor from burnout due to overload, impeller clogging and open phase.



Motor

Dry type motor with Class E (or Class F) Insulation is employed.

Impeller

A vortex type impeller most suitable for each application is employed. Also, dynamic and static balance of impeller adjusted.

CV/ CVH

2Poles
(1.5kW or under)
4Poles
(5.5kW or over)

Impeller Passage:43.3~70%

Bore (mm)	40	50	65	80	100	150
Output(kW) 0.15						
0.25						
0.4		•	•			
0.75		•	•			
1.5		•	•	•		
5.5						•
7.5						•
11					•	•
15					•	•
22					•	•

CV/CVH

CVS

2Poles

Impeller Passage:30~56%

Bore (mm)	40	50	65	80	100	150
Output(kW) 0.15						
0.25	•	•				
0.4		•				
0.75		•				
1.5			•	•		
2.2			•	•		
3.7			•	•	•	
5.5				•	•	•
7.5				•	•	•
11				•	•	
15					•	
22						

CVS

CVC

4Poles

Impeller Passage:70%

Bore (mm)	40	50	65	80	100	150
Output(kW) 0.15						
0.25		•				
0.4		•	•			
0.75		•	•			
1.5			•	•		
2.2			•	•	•	
3.7			•	•	•	
5.5				•	•	•
7.5				•	•	
11						
15						
22						

CVC

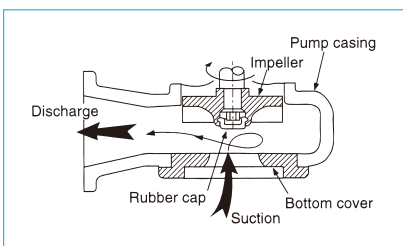
CVM

4Poles

Impeller Passage:100%
(CVM150:83%)

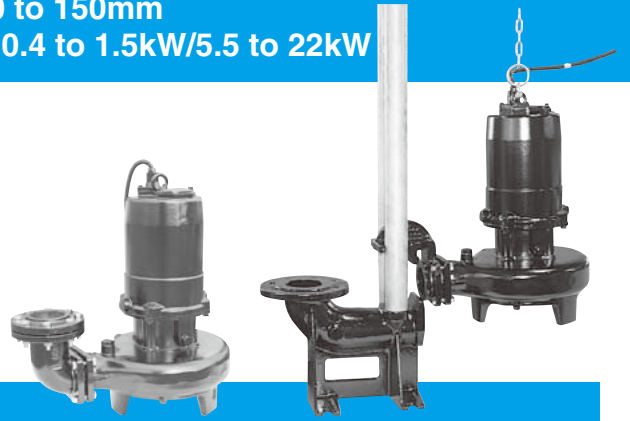
Bore (mm)	40	50	65	80	100	150
Output(kW) 0.15						
0.25						
0.4		•				
0.75		•				
1.5			•	•	•	
2.2			•	•	•	
3.7			•	•	•	
5.5				•	•	•
7.5				•	•	•
11						
15						
22						

CVM



CV/CVH Series

<Bore> 50 to 150mm
<Output> 0.4 to 1.5kW/5.5 to 22kW

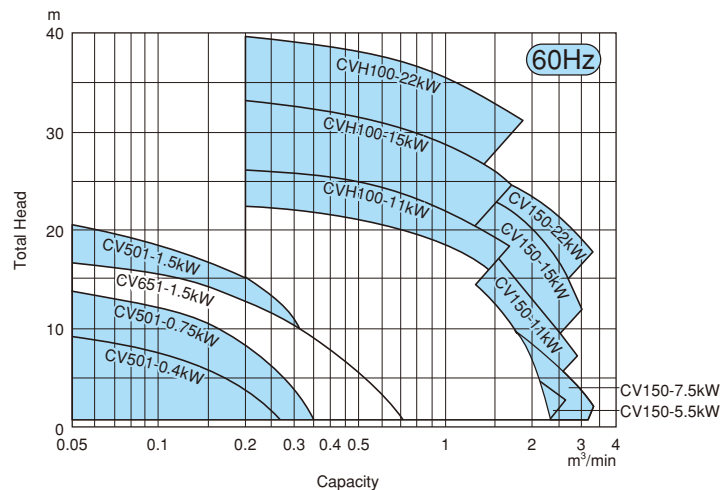
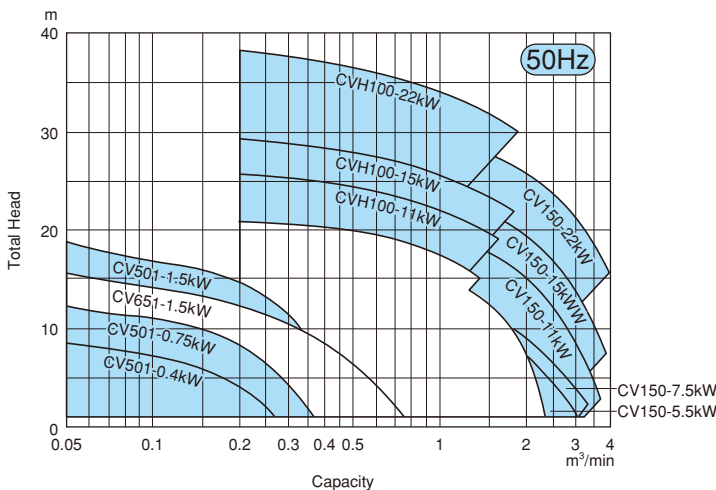


2Poles
(under 1.5kW)
4Poles
(over 5.5kW)

Standard Specifications

Bore mm	Pump Model	Connection Part No.		Output kW	No. of poles	Capacity—Total Head		Impeller Passage Size		Weight (Pump) kg
		Auto-connection	Free standing			50Hz m ³ /min — m	60Hz m ³ /min — m	mm	%	
50	CV501T	P50	F50	0.4	2	0.15 — 5.9	0.15 — 5.9	35	70	17
	0.75			0.2 — 8.5		0.2 — 8.5	18			
	1.5			0.2 — 14.7		0.2 — 15.2	26			
65	CV501T	P65B	F65B	0.4	2	0.15 — 5.9	0.15 — 5.9	35	53	17
	0.75			0.2 — 8.5		0.2 — 8.5	18			
	1.5			0.2 — 14.7		0.2 — 15.2	26			
	CV651	P65	F65	1.5	2	0.4 — 8.7	0.4 — 8.2	46	70	29
80	CV651	P80	F80	1.5	2	0.4 — 8.7	0.4 — 8.2	46	57	29
100	CVH100	P100C	F100B	11	4	0.8 — 23	0.86 — 23	54	54	192
				15		0.94 — 26	0.9 — 29			208
				22		1.05 — 34	0.92 — 36			262
150	CV150	P150	F150	5.5	4	1.6 — 8.9	1.3 — 8.6	75	50	120
				7.5		1.9 — 9.4	1.6 — 10.5			132
				11		1.9 — 16	1.67 — 16			185
				15		2.15 — 19	2.05 — 20	65	43.3	197
				22		2.75 — 23	2.15 — 23	68	45.3	256

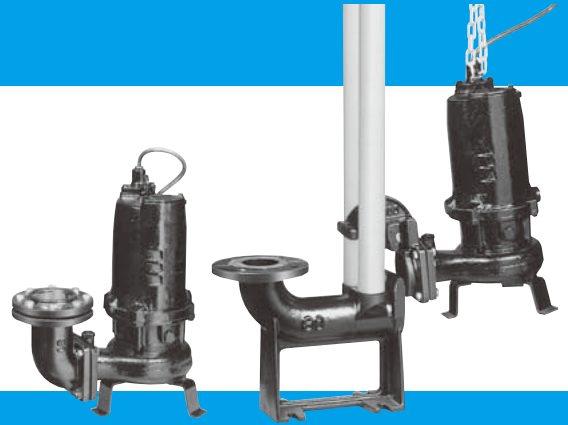
Performance Curves



CVS Series

<Bore> 40 to 100mm
<Output> 0.25 to 11kW

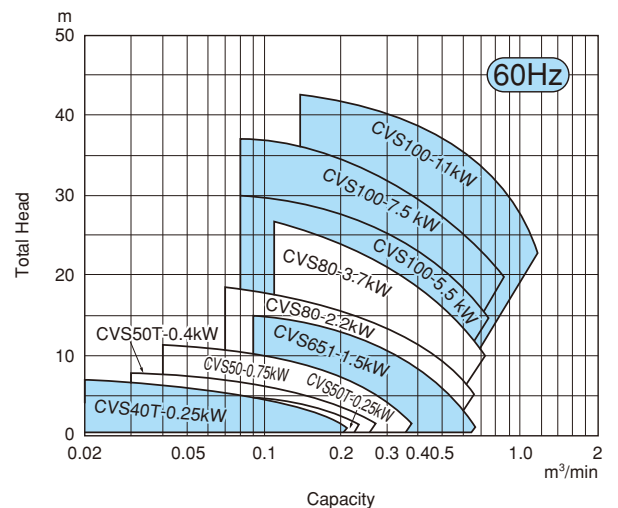
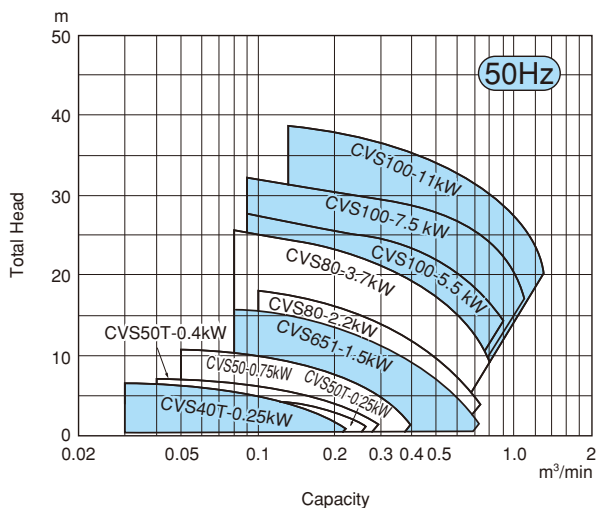
2Poles



Standard Specifications

Bore mm	Pump Model	Connection Part No.		Output kW	Capacity—Total Head		Impeller Passage Size		Weight (Pump) kg
		Auto-connection	Free standing		50Hz m ³ /min — m	60Hz m ³ /min — m	mm	%	
40	CVS40T	P40	F40	0.25	0.10 — 5.0	0.09 — 4.9	21	52.5	17
50	CVS50T	P50	F50	0.25	0.14 — 4.0	0.12 — 4.0	28	50	17
	0.4			0.14 — 5.3	0.14 — 5.0	18			
	0.75			0.17 — 8.5	0.17 — 8.3	21			
65	CVS651	P65	F65	1.5	0.42 — 9.0	0.38 — 9.0	30	46.2	28.5
	CVS80	P65	F65	2.2	0.44 — 11.0	0.42 — 11.0			46
				3.7	0.51 — 17.0	0.47 — 17.0			55
80	CVS651	P80	F80	1.5	0.42 — 9.0	0.38 — 9.0	30	37.5	28.5
	CVS80	P80	F80	2.2	0.44 — 11.0	0.42 — 11.0			46
				3.7	0.51 — 17.0	0.47 — 17.0			55
	CVS100	P80	F80	5.5	0.45 — 22.7	0.40 — 23.6	30	37.5	82
				7.5	0.55 — 27.2	0.45 — 28.5			92
				11	0.60 — 33.0	0.60 — 35.6			120
100	CVS80	P100	F100	3.7	0.51 — 17.0	0.47 — 17.0	30	30	55
				5.5	0.45 — 22.7	0.40 — 23.6			82
	CVS100	P100	F100	7.5	0.55 — 27.2	0.45 — 28.5			92
				11	0.60 — 33.0	0.60 — 35.6			120

Performance Curves

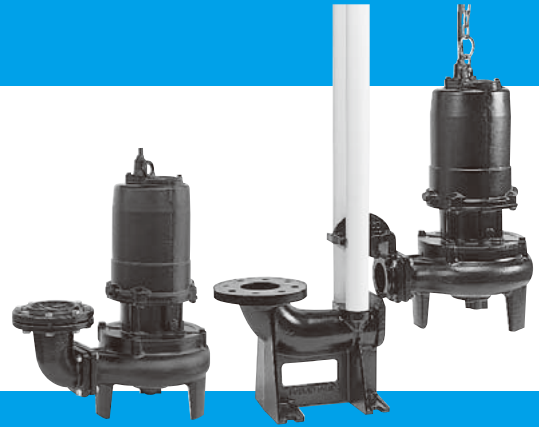


CVC Series

<Bore> 50 to 100mm
<Output> 0.25 to 7.5kW

4 Poles

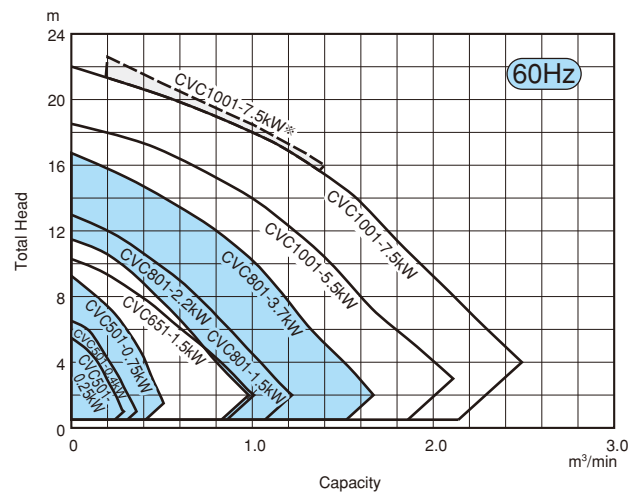
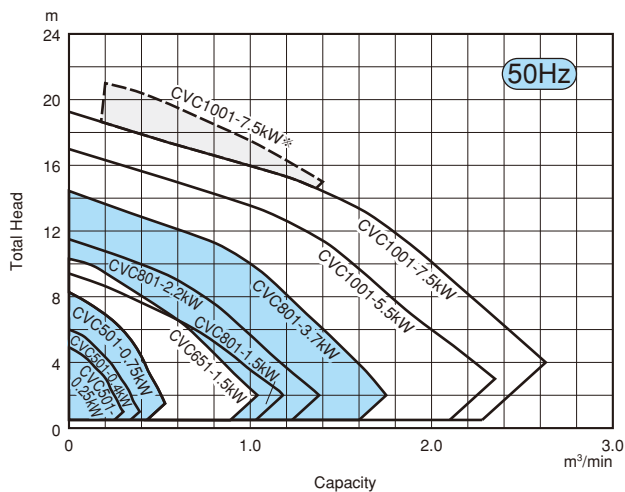
Impeller Passage:70%



Standard Specifications

Bore mm	Pump Model	Connection Part No.		Output kW	Capacity—Total Head		Impeller Passage Size mm	Weight (Pump) kg
		Auto-connection	Free standing		50Hz m ³ /min — m	60Hz m ³ /min — m		
50	CVC501	P50	F50	0.25	0.19 — 3.1	0.19 — 3.1	35	22
				0.4	0.18 — 4.4	0.18 — 4.6		25
				0.75	0.23 — 6.5	0.23 — 7.1		28
65	CVC501	P65B	F65B	0.4	0.18 — 4.4	0.18 — 4.6	35	25
				0.75	0.23 — 6.5	0.23 — 7.1		28
	CVC651	P65	F65	1.5	0.45 — 7.6	0.45 — 8.2	45	45
				3.7	0.8 — 11.3	0.8 — 11.9		69
	CVC801	P65	F65	1.5	0.52 — 7.0	0.52 — 6.7	56	45
				2.2	0.6 — 8.9	0.6 — 8.9		57
3.7				0.8 — 11.3	0.8 — 11.9	69		
7.5				1.3 — 14.8	1.3 — 16.0	105		
80	CVC651	P80	F80	1.5	0.45 — 7.6	0.45 — 8.2	45	45
				3.7	0.8 — 11.3	0.8 — 11.9		69
	CVC801	P80B	F80	1.5	0.52 — 7.0	0.52 — 6.7	56	45
				2.2	0.6 — 8.9	0.6 — 8.9		57
	CVC1001	P80B	F80	2.2	0.6 — 8.9	0.6 — 8.9	70	57
				3.7	0.8 — 11.3	0.8 — 11.9		69
				5.5	1.2 — 12.2	1.2 — 12.2		95
				7.5	1.3 — 14.8	1.3 — 16.0		105
100	CVC801	P100B	F100	2.2	0.6 — 8.9	0.6 — 8.9	56	57
				3.7	0.8 — 11.3	0.8 — 11.9		69
	CVC1001	P100B	F100	5.5	1.2 — 12.2	1.2 — 12.2	70	95
				7.5	1.3 — 14.8	1.3 — 16.0		105

Performance Curves



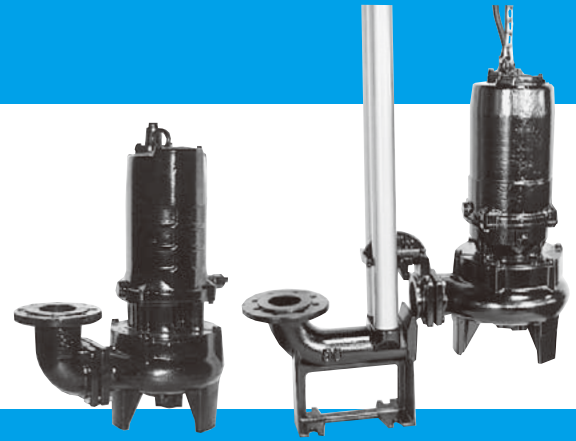
※ Upon consultation

CVM Series

<Bore> 50 to 150mm
<Output> 0.4 to 7.5kW

4 Poles

Impeller Passage: 100%
(CVM150: 83.4%)



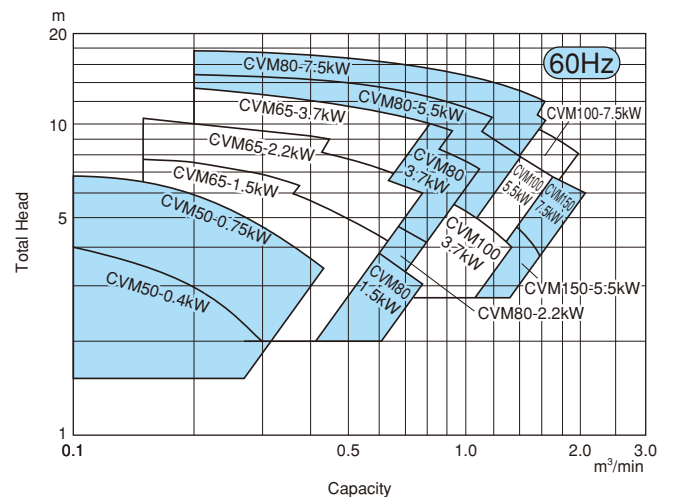
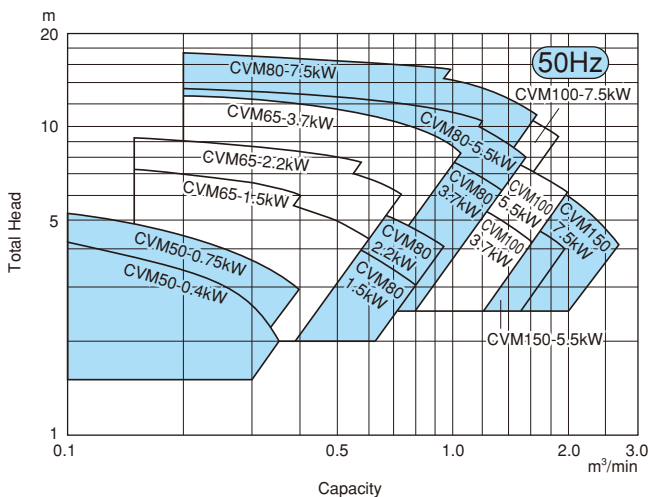
Standard Specifications

Bore mm	Pump Model	Connection Part No.		Output kW	Capacity—Total Head		Impeller Passage Size mm	Weight (Pump) kg
		Auto-connection	Free standing		50Hz m ³ /min — m	60Hz m ³ /min — m		
50	CVM50	P50	F50	0.4	0.18 — 3.55	0.17 — 3.3	50	25
				0.75	0.23 — 4.1	0.22 — 5.7		26
65 (80)	CVM65	P65 (P80)	F65 (F80)	1.5	[1] 0.21 — 6.9	[2] 0.20 — 7.5	65	43
				2.2	[3] 0.37 — 5.8	[4] 0.33 — 6.1		55
				3.7	[1] 0.28 — 8.8	[2] 0.20 — 10.0		69
80 (100)	CVM80	P80B (P100B)	F80 (F100)	1.5	[5] 0.2 — 6.5	[6] 0.16 — 6.9	80	46
				2.2	[7] 0.42 — 4.7	[8] 0.40 — 4.9		58
				3.7	[5] 0.26 — 7.2	[4] 0.25 — 7.5		72
				5.5	[7] 0.45 — 5.9	[6] 0.38 — 5.8		93
				7.5	[1] 0.42 — 11.0	[2] 0.46 — 11.2		106
100	CVM100	P100C	F100B	3.7	[3] 0.66 — 9.2	[4] 0.57 — 10.0	100	73
				5.5	[5] 0.62 — 10.8	[6] 0.44 — 12.0		97
				7.5	[7] 1.02 — 8.9	[8] 0.86 — 9.4		111
150	CVM150	P150	F150	5.5	[5] 0.52 — 14.6	[6] 0.80 — 13.2	125	107
				7.5	[7] 0.96 — 12.0	[8] 1.05 — 11.8		123
					[7] 0.51 — 7.6	[8] 0.55 — 7.3		
					[9] 0.80 — 6.5	[10] 0.64 — 6.2		
					[9] 0.92 — 9.4	[8] 0.78 — 9.7		
					[11] 1.32 — 7.6	[10] 1.04 — 8.1		

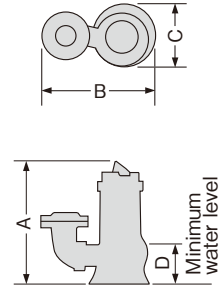
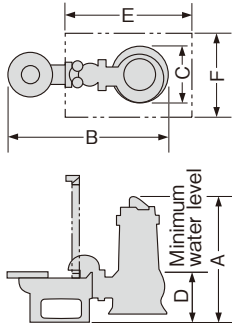
() : Also available

[] : Impeller No.

Performance Curves



Dimensions



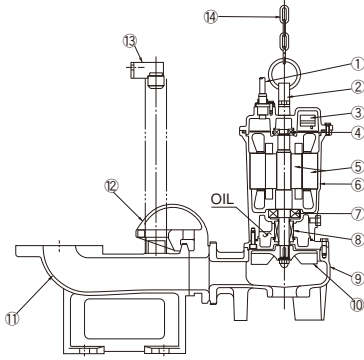
Auto-connection

Free standing

	Auto-connection									Free standing								
	Pump Model	Connection Part No.	Output kW	A	B	C	D	E	F	Pump Model	Connection Part No.	Output kW	A	B	C	D		
CV / CVH	CV501(T)	P50	0.4 · 0.75	461	427	156	180	550	350	CV501(T)	F50	0.4 · 0.75	415	229	156	135		
		P65B			500						F65B			324				
	CV501	P50	1.5	501	448	176	195	550	350	CV501	F50	1.5	455	250	176	150		
		P65B			521						F65B			345				
	CV651	P65	1.5	539	627	182	235	550	350	CV651	F65	1.5	474	382	182	170		
		P80			703						F80			397				
	CVH100	P100C		11	861	1,110	486	335	900	700	CVH100	F100B		11	782	846	486	256
				15										15				
				22										22				
				22										22				
CV150	P150		5.5	779	1,094	400	325	900	700	CV150	F150		5.5	713	836	400	260	
			7.5										7.5					
			11										11					
			15										15					
CVS40T	P40		0.25	441	443	188	170	550	350	CVS40T	F40		0.25	370	245	188	100	
			0.25										0.25					
			0.4 · 0.75										0.4 · 0.75					
			0.4 · 0.75										0.4 · 0.75					
CVS	CVS50(T)	P50	0.4 · 0.75	461	443	188	175	550	350	CVS50(T)	F50	0.4 · 0.75	403	245	188	115		
																	0.25	0.25
	CVS651	P65	1.5	516	663	192	200	550	350	CVS651	F65	1.5	440	418	192	125		
					556									433				
	CVS80	P65		2.2	580	697	200	550	350	CVS80	F65		2.2	538	452	266	160	
				3.7									3.7					
				2.2									2.2					
				3.7									3.7					
	CVS100	P80		5.5	698	803	248	255	700	600	CVS100	F80		5.5	616	497	248	173
				7.5										7.5				
				11										11				
				11										11				
CVS80	P80		2.2	621	773	266	240	550	350	CVS80	F80		2.2	538	467	266	160	
			3.7										3.7					
			3.7										3.7					
			3.7										3.7					
CVS100	P100		5.5	698	816	248	255	700	600	CVS100	F100		5.5	616	514	248	173	
			7.5										7.5					
			11										11					
			11										11					
CVC	CVC501	P50	0.4 · 0.75	437	490	204	180	550	350	CVC501	F50	0.4 · 0.75	391	292	204	135		
																	0.4	0.4
																	0.75	0.75
																	0.4	0.4
	CVC651	P65B	1.5	587	670	247	235	550	350	CVC651	F65B	1.5	526	425	247	175		
					627									440				
	CVC801	P65	1.5	592	693	253	245	550	350	CVC801	F65	1.5	557	448	253	210		
					2.2									2.2				
					3.7									3.7				
		P80B	1.5	632	769	253	285	550	350		CVC801	F80	1.5	557	463	253	210	
					2.2										2.2			
					3.7										3.7			
P100B	2.2	650	825	297	290	600	500	CVC801	F100	2.2	574	505	297	215				
															3.7	3.7		
CVC1001	P80B		5.5	758	850	334	305	700	600	CVC1001	F80		5.5	702	544	334	250	
			7.5										7.5					
			5.5										5.5					
			7.5										7.5					
CVM	CVM50	P50	0.4 · 0.75	506	475	188	195	550	350	CVM50	F50	0.4 · 0.75	486	277	188	172		
																	1.5	1.5
	CVM65	P65	1.5	601	637	219	243	550	350	CVM65	F65	1.5	572	392	219	230		
					2.2									2.2				
		P80	1.5	641	713	219	283	550	350		CVM65	F80	1.5	572	407	219	230	
					2.2										2.2			
	CVM80	P80B	1.5	659	758	230	301	550	350	CVM80	F80	1.5	573	452	230	258		
					2.2									2.2				
					3.7									3.7				
					5.5									5.5				
		P100B	1.5	659	771	230	301	600	500		CVM80	F100	1.5	573	470	230	258	
					2.2										2.2			
3.7					3.7													
5.5					5.5													
CVM100	P100C	3.7	803	817	280	376	600	500	CVM100	F100	3.7	740	515	280	313			
				5.5									5.5					
CVM150	P150	5.5	854	907	304	399	700	600	CVM150	F150	5.5	828	649	304	373			
				7.5									7.5					

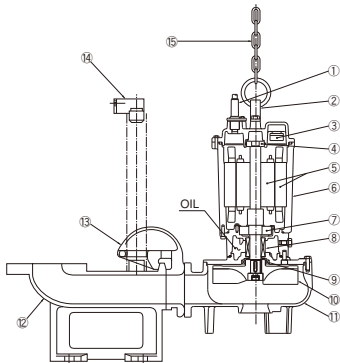
Sectional View

CV651



No.	Part Name	Material
1	Cable	VCT
2	Handle	SUS304
3	Auto Cut	—
4	Ball Bearing(Upper)	—
5	Motor	Shaft=SUS420J2
6	Stator Casing	FC200
7	Ball Bearing(Lower)	—
8	Mechanical Seal	Upper SiC/SiC Lower SiC/SiC
9	Pump Casing	FC200
10	Impeller	FC200
11	Connection	FC200
12	Sliding Bracket	FC200
13	Guide Holder	SCS13
14	Lifting Chain	SS400

CVC651



No.	Part Name	Material
1	Cable	VCT
2	Handle	SUS304
3	Auto Cut	—
4	Ball Bearing(Upper)	—
5	Motor	Shaft=SUS420J2
6	Stator Casing	FC200
7	Ball Bearing(Lower)	—
8	Mechanical Seal	Upper SiC/SiC Lower SiC/SiC
9	Oil Seal	N.B.R
10	Impeller	FC200
11	Pump Casing	FC200
12	Connection	FC200
13	Sliding Bracket	FC200
14	Guide Holder	SCS13
15	Lifting Chain	SS400

*Note:VCT:Polyvinyl-chloride sheathed cable SUS:Stainless steel SS:Mild steel FC:Gray iron casting SCS:Stainless steel casting

Auto-connection Set

- Connection
- Guide holder (with bolts and nuts)
- Sliding bracket
- Pump lifting chain (6m) (with bolts and nuts)

Bore mm	Connection Part No.	Pump Model				Weight (kg)	
		CV/CVH	CVS	CVC	CVM	Set	Connection
40	P40	—	CVS40T	—	—	11	4.5
50	P50	CV501(T)	CVS50(T)	CVC501	CVM50	11	4.5
65	P65B	CV501(T)	—	CVC501	—	20	14.5
	P65	CV651	CVS651 CVS80	CVC651 CVC801	CVM65	24	15
80	P80	CV651	CVS651 CVS80	CVC651	CVM65	31.5	20.5
	P80B	—	—	CVC801 CVC1001	CVM80	31.5	18
100	P100	—	CVS80 CVS100	—	—	40.5	27
	P100B	—	—	CVC801 CVC1001	CVM80	40.5	27
	P100C	CVH100	—	—	CVM100	55	37
150	P150	CV150	—	—	CVM150	60	42

Free standing Set

- Discharge side flange
- Companion flange (with bolts,nuts and packing)

Bore mm	Connection Part No.	Pump Model				Set Weight (kg)
		CV/CVH	CVS	CVC	CVM	
40	F40	—	CVS40T	—	—	★
50	F50	CV501(T)	CVS50(T)	CVC501	CVM50	★
65	F65B	CV501(T)	—	CVC501	—	5.5
	F65	CV651	CVS651 CVS80	CVC651 CVC801	CVM65	7
80	F80	CV651	CVS651 CVS80 CVS100	CVC651 CVC801 CVC1001	CVM65 CVM80	9.5
100	F100	—	CVS80 CVS100	CVC801 CVC1001	CVM80	11
	F100B	CVH100	—	—	CVM100	12
150	F150	CV150	—	—	CVM150	30

★ : Built-in with the pump proper

Main Specification

Handling Liquid	Kind of Liquid	Waster water and Sewage or Water Including Sludge
Material	Cable	VCT(Over 11kW:2PNCT)
	Motor Shaft	SUS420J2
	Pump Casing	FC200
	Impeller	FC200(CVM65-80-100-150 : FCD500)
Electric Motor	Type	Dry-type Sumersible Induction Motor
	Motor Insulation	Class E(or Class F)
	Enclosure	IP68
	Phase	3-ph
	Voltage	According to the specifications.

Special Specification

Cable Extension	Length of Cable 15-20-30m		
Material Change	Pump Series	CV/CVH-CVS	CVC-CVM
	Impeller	SCS13	SCS13, High-chrome alloyed iron casting
	Base Cover	SCS13(SUS304)	—
	Lifting Chain	SUS304	

Standard Accessories

- Cable (7.5kW or under)1pc.
- Cable (11kW or over)3pcs.
- 6m for 0.75kW or under
- 8m for 1.5kW to 22kW

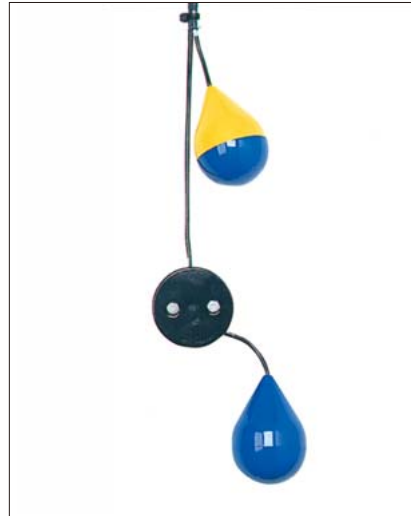
Special Accessories

Liquid Level Regulators - All models are non-mercury structure for earth environment.

LC "Level Switch"



MS "Mini Switch"



FV "Oval Float"



Features

LC Useful for drinking water, waste water and sewage containing the suspended solids. Hardly affected by corrosion or rust even if it is immersed in a corrosive liquid for a long time.

MS Useful for waste water and sewage containing a few suspended solids. The MS is available in two types, MS11 (single float) and MS21 (double float).

FV Useful for the fresh water as well as waste water not containing suspended solids. A single FV is able to control both the upper and lower liquid levels.

Specifications

Model	LC12	MS11, MS21	FV11
Switch	Micro Switch	Lead Switch	Lead Switch
Specific gravity of liquid	0.95~1.15	0.95~1.10	0.95~1.10
Liquid Temp	0~60°C	0~40°C	0~60°C
Voltage	AC/DC30V or under		
Current	5A or under	0.5A or under	0.6A
Cable Length	6m, 13m, 20m, 30m, 40m, 50m (further cable extension at interval of 10m)		
Cable Type	0.75mm ² ×3 cores, Flat Type	0.2mm ² ×2 cores×φ4.7mm	0.5mm ² ×2 cores×φ5.8mm
Weight (including cable)	1.2kg (6m cable)	0.6kg (MS11, 6m cable)	1.0kg (6m cable)
Material	Case	Polypropylene resin	Polypropylene resin
	Cable	VCTFK	PVC resin (soft type)
	Others	Chain: SUS304	Sinker: Cast iron with PVC resin coating

Specifications and dimensions are subject to change without notice.

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