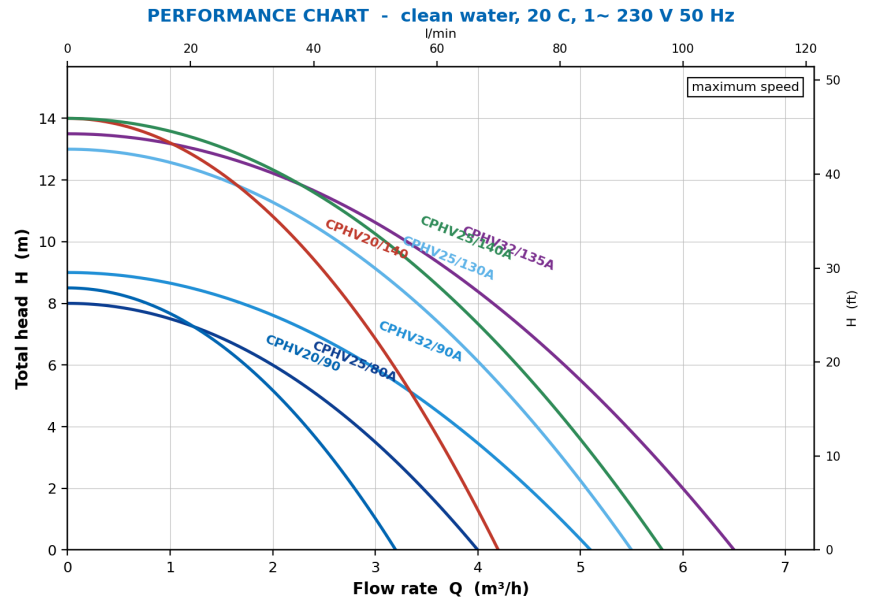


SATTE CPHV

Variable-Speed Circulator Pump (VFD)



SATTE CPHV



Curves show the published flow range for each model. Clean water at 20 C, tolerances to ISO 9906 Annex A.

Typical Applications

- Domestic and commercial hydronic heating with thermostatic radiator valves or zone control, where demand varies.
- Boiler, calorifier and solar thermal primary circuits.
- Air-conditioning and chilled-water secondary circulation.
- Hot-water recirculation and constant-temperature loops.
- Retrofit of fixed-speed circulators to reduce electrical consumption and valve noise.

Operating Conditions

- Suitable fluids: heating water (to VDI 2035), clean water, water/glycol mixtures to a maximum mixing ratio of 1:1. Not for solids-bearing, aggressive or explosive liquids.
- Liquid temperature range -10 C to +110 C; maximum ambient temperature +40 C.
- Maximum system working pressure 10 bar.
- Power supply 1~ 220-240 V, 50 Hz; enclosure class IP44, insulation class F.
- Integrated frequency inverter with automatic (proportional-pressure) mode, constant-pressure and constant-speed modes selected on the control panel; LED display of actual input power.
- Wet-rotor, glandless canned-motor design: the pumped liquid lubricates the ceramic bearings and cools the motor. Never run dry.
- Install with the pump shaft horizontal and the terminal box / control panel not facing downwards; maintain a minimum inlet pressure to prevent cavitation noise at high liquid temperatures.

SATTE CPHV

Variable-Speed Circulator Pump (VFD)

Materials of Construction

- **Pump body:** Cast iron
- **Impeller:** PP (polypropylene)
- **Shaft:** Ceramic
- **Bearings:** Ceramic
- **Rotor can / motor:** Stainless steel can, wet-rotor canned motor
- **Connection:** Threaded union (BSP)

Technical Data

	W	Voltage	Current (A)		m ³ /h	l/min	m	Inch	mm	mm
Model	P1 max	Supply	In	Ist	Max Q	Max Q	Max H	Connection	Port to port	Packing L x W x H
CPHV20/90	60	1~230 V	0.29	0.29	3.2	53	8.5	G1	130	310x280x288
CPHV20/140	120	1~230 V	0.58	0.58	4.2	70	14.0	G1	130	310x280x288
CPHV25/80A	45	1~230 V	0.22	0.22	4.0	67	8.0	G1 1/2	130 / 180	310x280x288 / 404x280x300
CPHV25/130A	90	1~230 V	0.43	0.43	5.5	92	13.0	G1 1/2	130 / 180	310x280x288 / 404x280x300
CPHV25/140A	120	1~230 V	0.58	0.58	5.8	97	14.0	G1 1/2	130 / 180	310x280x288 / 404x280x300
CPHV32/90A	60	1~230 V	0.29	0.29	5.1	85	9.0	G2	130 / 180	310x280x288 / 404x280x300
CPHV32/135A	120	1~230 V	0.58	0.58	6.5	108	13.5	G2	130 / 180	310x280x288 / 404x280x300

Max. flow and max. head are the published values at maximum speed. Flow is the free-delivery (zero-head) flow; head is the shut-off (zero-flow) head. P1 max is the maximum motor input power; consumption falls with speed under inverter control. Tolerances to ISO 9906 Annex A.

Currents are calculated nominal values at 1~ 230 V: In is the full-load running current at maximum speed (P1 max / 230 V x 0.90 power factor). The inverter soft-starts the motor, so the starting current Ist does not exceed In. Confirm against the motor nameplate before sizing cable, fuse and protection.

Models listed with two port-to-port lengths are available in a 130 mm or a 180 mm body; packing dimensions are shown in the same order.

Select the duty point within the published range: operating at free delivery (far right) gives no useful head and operating near shut-off causes heat build-up in the pump.

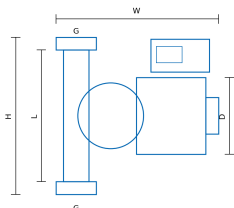
Performance Table

Total head H (m) against flow rate Q (m³/h), clean water at 20 C, tolerances to ISO 9906 Annex A.

Model	Power	Q (m ³ /h)												
	W	0	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6
CPHV20/90	60	8.5	8.3	7.7	6.6	5.2	3.3	1.0						
CPHV20/140	120	14.0	13.8	13.2	12.2	10.8	9.0	6.9	4.3	1.3				
CPHV25/80A	45	8.0	7.9	7.5	6.9	6.0	4.9	3.5	1.9	0.0				
CPHV25/130A	90	13.0	12.9	12.6	12.0	11.3	10.3	9.1	7.7	6.1	4.3	2.3	0.0	
CPHV25/140A	120	14.0	13.9	13.6	13.1	12.3	11.4	10.3	8.9	7.3	5.6	3.6	1.4	
CPHV32/90A	60	9.0	8.9	8.7	8.2	7.6	6.8	5.9	4.8	3.5	2.0	0.3		
CPHV32/135A	120	13.5	13.4	13.2	12.8	12.2	11.5	10.6	9.6	8.4	7.0	5.5	3.8	2.0

Blank cells indicate flows beyond the free-delivery flow of that model / speed. Not suitable for solids-bearing liquids.

Dimensions



Model	L port-port	H over unions	W to motor end	D motor dia.	G union
CPHV20/90	130	140	125	100	G1
CPHV20/140	130	140	125	100	G1
CPHV25/80A	130 / 180	140 / 190	125 / 125	100 / 100	G1 1/2
CPHV25/130A	130 / 180	140 / 190	125 / 125	100 / 100	G1 1/2
CPHV25/140A	130 / 180	140 / 190	125 / 125	100 / 100	G1 1/2
CPHV32/90A	130 / 180	140 / 190	125 / 125	100 / 100	G2
CPHV32/135A	130 / 180	140 / 190	125 / 125	100 / 100	G2

Dimensions in mm; two values = 130 mm / 180 mm body. H, W and D are nominal for this size class of wet-rotor circulator; certified dimension drawings are available on request.