SVH / SVHT

VERTICAL MULTISTAGE CENTRIFUGAL PUMP

50Hz

G PUMP

PRODUCT FEATURES

Lower consumption

Reliable and durable.

High efficiency IE3 motor

High efficiency IE3 motor Multiple cinnections to meet different applications.

Applicable to variable frequency intelligent system.

Complete configuration of SS304,SS316 or Cast iron type.

PRODUCTION PERFORMANCE

Standard Siemens motor

Two-in-one flange connection

Hollow design protection board

Vertical Multistage Centrifugal Pump — SVH | SVHT

Introduction

SVH, SVHT is a high-efficiency and energy-saving vertical multi-stage centrifugal pump. The centrifugal force generated by the impeller of the rotary pump drives the fluid to transfer. Its pump body and motor are composed of main shaft, impeller, diffuser, pump case and mechanical seal, and connected by coupling.

AS, AC series can be used as booster pump alone or as auxiliary booster equipment in the booster system of construction and industry. Its piping structure ensures that the pump is directly installed in the same horizontal piping system with the same diameter in and out. This design makes the structure and piping of the pump more compact.

AS, AC series vertical multi-stage centrifugal pump can be installed vertically or horizontally on pipeline according to different installation space. In the case of horizontal installation, the pump needs to be added with fixed module to ensure the stability of the pump during operation.

Pipe connection

DIN flange, ANSI flange
Thread
Tri-Clamp
Oval flange

Pump material

Cast iron
Stainless steel(AISI304, AISI316)
Duplex stainless steel(2205)

Motor

Totally enclosed, fan-cooled, 2-pole standard motors
Enclosure class: IP55
Insulation class: F
Voltage: 3x220-240/380-415V
1x220-240V
Available with single-phase motors(0.37kW-2.2kW)

Liquid temperature °C

Normal temperature pump: -15°C to +70°C
Hot temperature pump: -15°C to +105°C

Performance curves

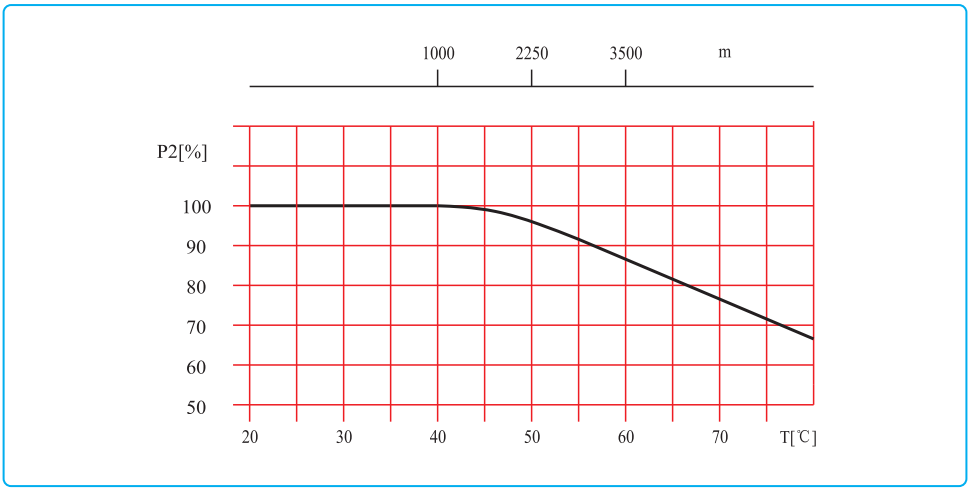
The motors used for the measurements are based on 2900rpm or 2950 rom
Tolerances to ISO 9906
Measurements have been made with airless water at a temperature of 20 °C
The curves apply to the following kinematic viscosity: = 1 mm^2/s
Select a best efficiency of the pump which is operating within the bold curve of the pump performance.

Pump operating conditions

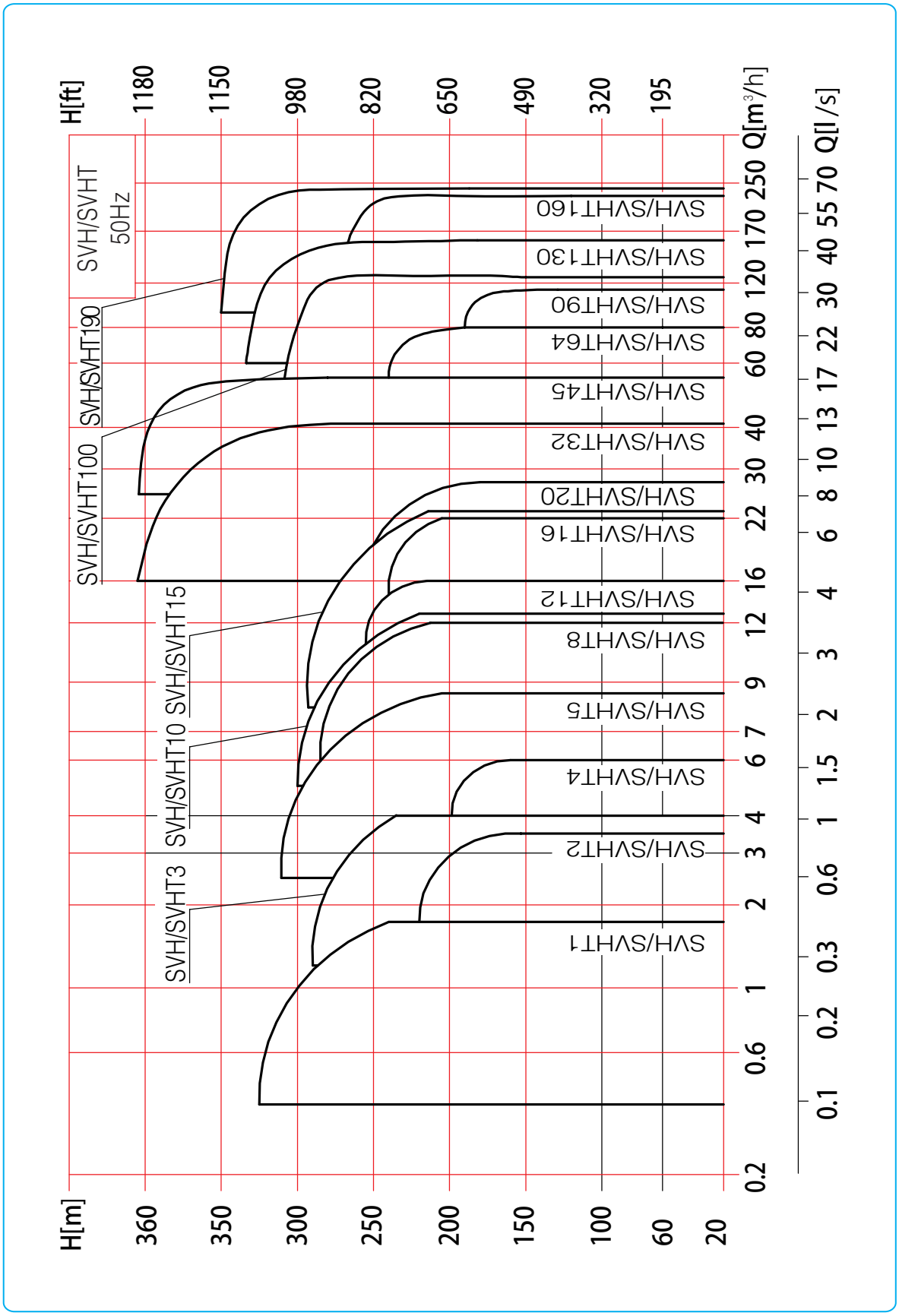
Pumping liquids which are thin, clean, non-flammable, non-combustible or non-explosive liquids, not containing solid particles or fibers.
Maximum ambient temperature: +40 °C
Maximum altitude above sea level: 1000 m

Ambient temperature

If the ambient temperature exceeds the 40 °C or the pump is installed at an altitude exceeding 1000 m, the motor output power P2 will decrease. In such cases, it necessary to use a motor with a higher rated output.



Pump Performance Range



Vertical Multistage Centrifugal Pump — SVH | SVHT

Model Specification

SVH,SVHT1/2/3/4/5/8/10/12/15/16/20

SVH S/C 10 – 120

- Vertical multistage centrifugal pump
- SVH is stainless steel type
- SVHT is cast iron type
- Rated capacity
- Number of stages×10

SVH,SVHT32/45/64/90

SVH S/C 45 – 50 – 2

- Vertical multistage centrifugal pump
- SVH is stainless steel type
- SVHT is cast iron type
- Rated capacity
- Series×10
- A small number of impeller

SVH,SVHT100/130/160/190

SVH S/C 100 – 50 – 2

- Vertical multistage centrifugal pump
- SVH is stainless steel type
- SVHT is cast iron type
- Rated capacity
- Series×10
- A small number of impeller

Applications

Water supply
- Water filter
- Supercharging
- Pressurization of hotels
- Industrial pressurization

Industrial boosting
- Cleaning system
- High pressure flushing system
- Firefighting system
- Car cleaning equipment

Industrial liquid transport
- Cooling air conditioning system
- Boiler feed water
- Condensing system and cooling tower
- Machine tool cooling lubrication system

Water treatment
- Ultrafiltration system
- Reverse osmosis system
- Distillation system
- Separator
- Swimming pool

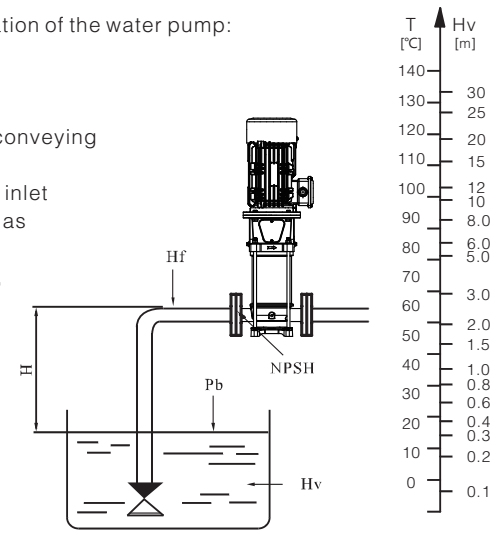
Irrigation
- Regional irrigation
- Sprinkler irrigation
- Drip irrigation
- Greenhouse irrigation

Minimum Inlet Pressure, NPSH

Cavitation may occur if the following conditions exist during the operation of the water pump:
- The water tank or pool is lower than the water pump inlet;

High liquid temperature;
- Actual flow significantly greater the rated flow;
- Pressure in the pump lower than the vaporization pressure of the conveying liquid.
- To avoid cavitation, make sure there is a minimum pressure on the inlet side of the pump. The maximum suction rage H (m) can be calculated as follows:

Pb=Atmospheric pressure (atmospheric pressure can be set to 1bar), in closed system, Pb is system pressure
Hf=Net positive suction head (can be read from the maximum possible flow rate of the pump on the NPSH curve)
Hf=Pipeline loss at inlet
Hv=Vaporization pressure
Hs=Safety margin=Minimum 0.5m head
If the calculated value of H is positive, the pump can be operated at the maximum suction rage H.
If the calculated H is negative, there must be a head with minimum inlet pressure H.



Minimum inlet pressure

Maximum Operating Pressure and Liquid Temperature

Connection type / Pump model	flange,thread,tri-Clamp	Oval flange
	Maximum permissible operating pressure	Maximum permissible operating pressure
SVH,SVHT1	33	16
SVH,SVHT2	23	16
SVH,SVHT3	30	16
SVH,SVHT4	21	16
SVH,SVHT5	32	16
SVH,SVHT8	29	16
SVH,SVHT10	30	16
SVH,SVHT12	27	16
SVH,SVHT15	30	16
SVH,SVHT16	25	16
SVH,SVHT20	25	16
SVH,SVHT32-10-1 ~ 32-70	16	/
SVH,SVHT32-80-2 ~ 32-120	26	/
SVH,SVHT32-160-2 ~ 32-170	37	/
SVH,SVHT45-10-1 ~ 45-60	16	/
SVH,SVHT45-70-2 ~ 45-90	24	/
SVH,SVHT45-100-2 ~ 45-140-2	37	/
SVH,SVHT64-10-1 ~ 64-50	15	/
SVH,SVHT64-60-2 ~ 64-80	25	/
SVH,SVHT90-10-1 ~ 90-50-2	15	/
SVH,SVHT90-50 ~ 90-70-2	22	/
SVH,SVHT100	31	/
SVH,SVHT130	34	/
SVH,SVHT160	28	/
SVH,SVHT190	36	/

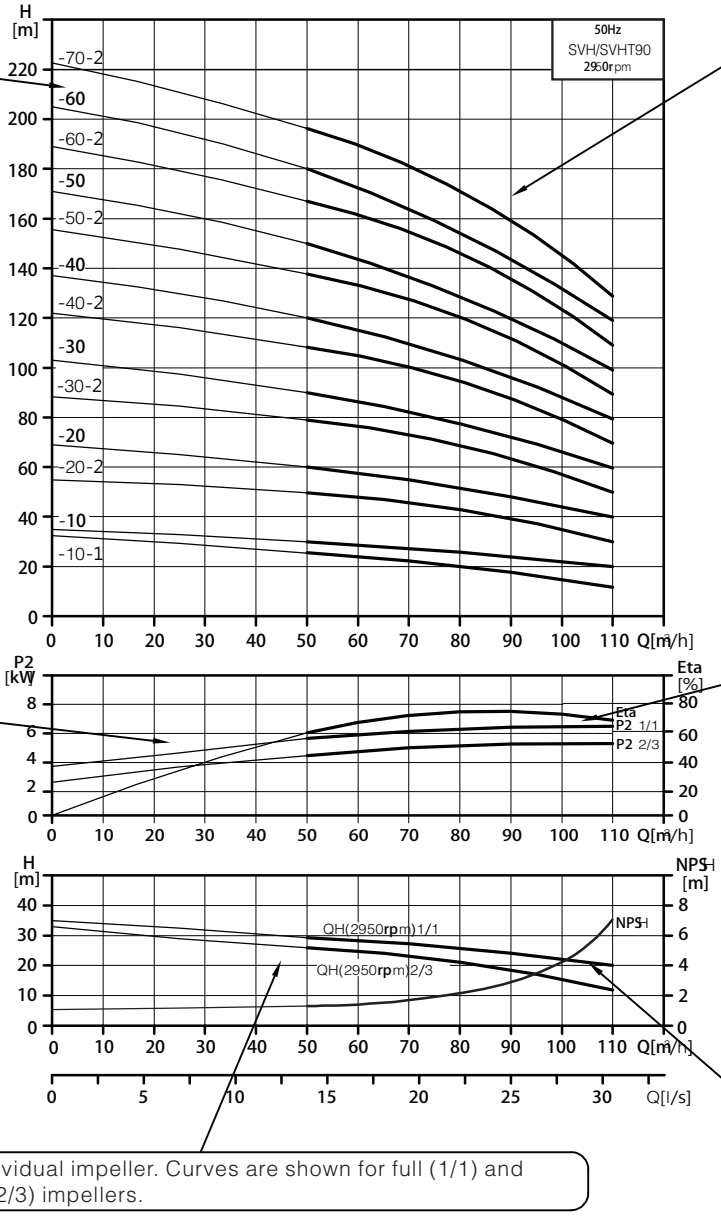
Product Range Introduction

Parameter	SVH/SVHT1	SVH/SVHT3	SVH/SVHT5	SVH/SVHT10	SVH/SVHT15	SVH/SVHT20
Rated flow rate [m³/h]	1	3	5	10	15	20
Rated flow rate [l/s]	0. 28	0. 83	1.39	2. 78	4. 17	5.6
Flow rate [m³/h]	0. 4~1.8	1.2~4	2. 5 ~8. 5	5~13	8~23	10 28
Flow rate [l/s]	0. 11~0.5	0. 33~1.1	0.69~2. 36	1. 39~3. 61	2.22~6.39	2.8~7.8
Maximum pressure [bar]	31	32	34	29	31	26
Power [kW]	0. 37~3	0. 37~5.5	0.55~7. 5	1.1~15	1. 5~22	1. 5 22
Temperature range [℃]	-15~105					
Highest efficiency [%]	54	57	66	68	68	68
SVH Pipe connection						
DIN flange	DN25	DN25	DN32	DN40	DN50	DN50
Thread	R1 1/4"	R1 1/4"	R1 1/4"	R1 2"	R1 2"	R1 2"
Clamp connection	DN32	DN32	DN32	DN50	DN50	DN50
SVHT Pipe connection						
DIN flange	DN25	DN25	DN32	DN40	DN50	DN50
Oval flange	Rp1	Rp1	Rp1 1/4	Rp1 1/2	Rp1 1/2	Rp1 1/2

Parameter	SVH/SVHT32	SVH/SVHT45	SVH/SVHT64	SVH/SVHT90	SVH/SVHT100	SVH/SVHT130	SVH/SVHT160	SVH/SVHT190
Rated flow rate [m³/h]	32	45	64	90	100	130	160	190
Rated flow rate [l/s]	8.9	12.5	17.8	25	27. 78	36. 11	44.44	52. 78
Flow rate [m³/h]	16 ~42	25 ~55	30 ~80	50 ~110	50 ~125	60 ~160	80~200	90 ~240
Flow rate [l/s]	4. 4~11	6. 9~15.3	8~22	14 ~30	14~34. 7	16. 7~44. 4	22. 2~55.6	25~66. 7
Maximum pressure [bar]	38	37	25	22	31	33	28	36
Power [kW]	2. 2~45	4~55	4~55	7.5~55	5. 5~75	11 ~110	11 ~110	18. 5~200
Temperature range [℃]	-15~105							
Highest efficiency [%]	75	75	75	76	79	80	80	80
Pipe connection								
DIN flange	DN65	DN80	DN100	DN100	DN100	DN150	DN150	DN200

Curve Charts Reading

Number of stages
First figure: number of stages*10
Second figure: number of reduced-diameter impellers



The bold curves indicate the recommended duty range for best efficiency.

The power curves indicate pump input power per stage. Curves are shown for full (1/1) and for reduced-diameter (2/3) impellers

The ETA curve shows the efficiency of a pump with an average number of stages. The efficiency of pumps with reduced-diameter impellers is approximately 2 % lower than the eta curve shown in the chat

The NPSH curve shows the efficiency of a pump with an average number of stages, a safety margin of at least 0.5m should be added in the selection

Q-H curve for each individual impeller. Curves are shown for full (1/1) and for reduced-diameter (2/3) impellers.