



**SUPERPOWER PUMP**

**MULTISTAGE  
CENTRIFUGAL PUMPS**  
SPV SERIES: 1450 & 2900 RPM  
VERTICAL & HORIZONTAL TYPES

**Pumps  
Catalogue**



**40<sup>th</sup>**  
*Anniversary*



**Superpower Pumping Engineering**, established in 1977, engages mainly in water pumping design, manufacturing, installation and maintenance businesses. Having existed in the industry for over 40 years, Superpower is known to be the first company in Hong Kong that connected water pump designing, manufacturing, production, installation, maintenance and 24 hours emergency services.

Aiming to pursue high quality products and services to its valuable customers, and with the support from its parent company, Superpower invests substantial resources in product design, research and enhancement, human resources and business development. Such move will help satisfying customers' needs and ensuring the operation of water supply runs smoothly and will not be affected by external interruption.

Its continued dedication to the industry has enabled Superpower to earn accolades from the trade. In 2001, the award of ISO 9001:2000 certification by SGS, United Kingdom further proved its commitment leads to winning international acclaims and building a solid reputation.

Water pumps is the core product of the Company's manufacturing arm. Today, Superpower's different materials and functional pumps produced for the residential and commercial buildings are ranked as the most popular items in the market. The name of Superpower represents quality water pump and ranks the best selling items in the market.

Today, Superpower employs more than 80 staff overseeing water supply system for over 1000 properties in Hong Kong to provide better after sale services, including luxurious residences, large-scale residential estates, shopping malls, offices, hotels, schools, as well as property management companies. Superpower Pumps installed in Hong Kong including the Benchmark properties such as International Commerce Centre, The Leighton Hill, Manhattan Hill, Dynasty Heights and Grand Promenade.

Apart from the above prestigious buildings, Superpower also serves for some of the prominent property developer as its customers, such as Sun Hung Kai Properties, Henderson Land Development and Sino Land etc.



International Commerce Centre



## Introduction

SPV series (SUPERPOWER Multistage Centrifugal Pump) pump is known for its versatility. The product is a high-pressure multistage centrifugal pump featured with up-feed and booster pumps of 1,450rpm and 2,900rpm. Pump is total according to BS EN ISO 9906, and it can be used to convey various types of liquid, such as potable water, sea water and mildly corrosive liquid. The versatile compact structure of the product becomes its strength in the market. The products is small in size with self-alignment function. Its low noise level and durability helps to reduce the environmental impact in society.

Superpower pump can be made from different materials, such as stainless steel, zinc free bronze, bronze and cast iron. Each type of material used is designed for various purposes and requirements.

## Application

Superpower pump is designed to convey potable water, sea water and mildly corrosive liquids. It can be suited for a variety of applications, depending on the material chosen.

### Types of System

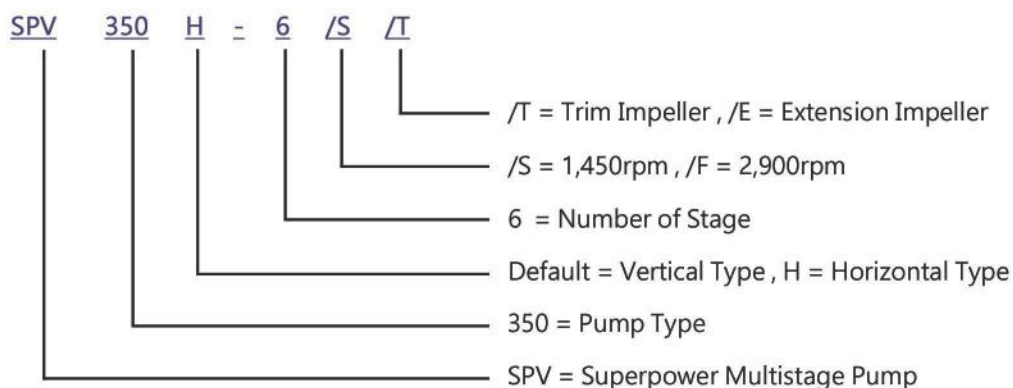
Water Supply System  
 Booster System  
 Irrigation System  
 Cleansing System  
 Cooling and Air-Conditioning System  
 Fire Services System  
 Boiler Water Supply and Condensing System  
 Industrial Water Supply, Booster and Circulation System

### Operating Conditions

Capacity up to 170m<sup>3</sup>/hr  
 Total Head up to 300m  
 Max. Casing Pressure 40bar  
 Speed 1,450rpm & 2,900rpm  
 Max. Temperature +80°C ( for normal)  
 +120°C (for Hot Water)

Further details are available for interested customers. Please contact the sales representative for more information.

## Definition of Model



## Selectable Materials

Superpower pump can be produced in various materials according to separate requirements, applications and operating conditions. Materials recommended include stainless steel 316, stainless steel 304, zinc-free bronze, bronze and cast iron etc.

Customers are advised to confirm the material selected prior to placing order.

Item	Description	Available Materials	International Standard
1.	Pump Casing	Duplex Stainless Steel Stainless Steel 316 Stainless Steel 304 Zinc Free Bronze Bronze Cast Iron	BS EN 10283 BS EN 10283 BS EN 10283 BS EN 1982 BS EN 1982 BS EN 1561
2.	Diffuser	Duplex Stainless Steel Stainless Steel 316 Stainless Steel 304 Zinc Free Bronze Bronze Cast Iron	BS EN 10283 BS EN 10283 BS EN 10283 BS EN 1982 BS EN 1982 BS EN 1561
3.	Impeller	Duplex Stainless Steel Stainless Steel 316 Stainless Steel 304 Zinc Free Bronze Bronze	BS EN 10283 BS EN 10283 BS EN 10283 BS EN 1982 BS EN 1982
4.	Shaft	Stainless Steel 316	BS EN 10088
5.	Shaft Seal	Mechanical Seal Packing Seal	

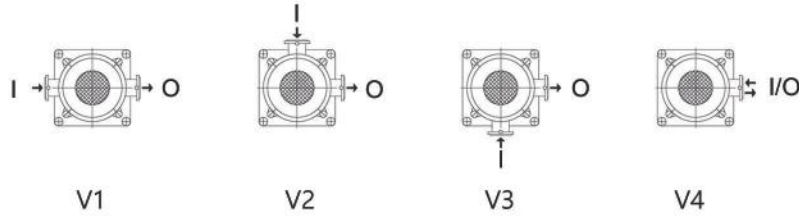
## Motor

The Superpower motor is a three-phase squirrel cage, totally-enclosed, self-ventilated and asynchronous motor. It is known for its high efficiency, energy saving, high starting torque, low noise, small vibration and reliability. The power rating and mounting dimensions of the motor comply fully with the IEC International Electrotechnical Commission standard.

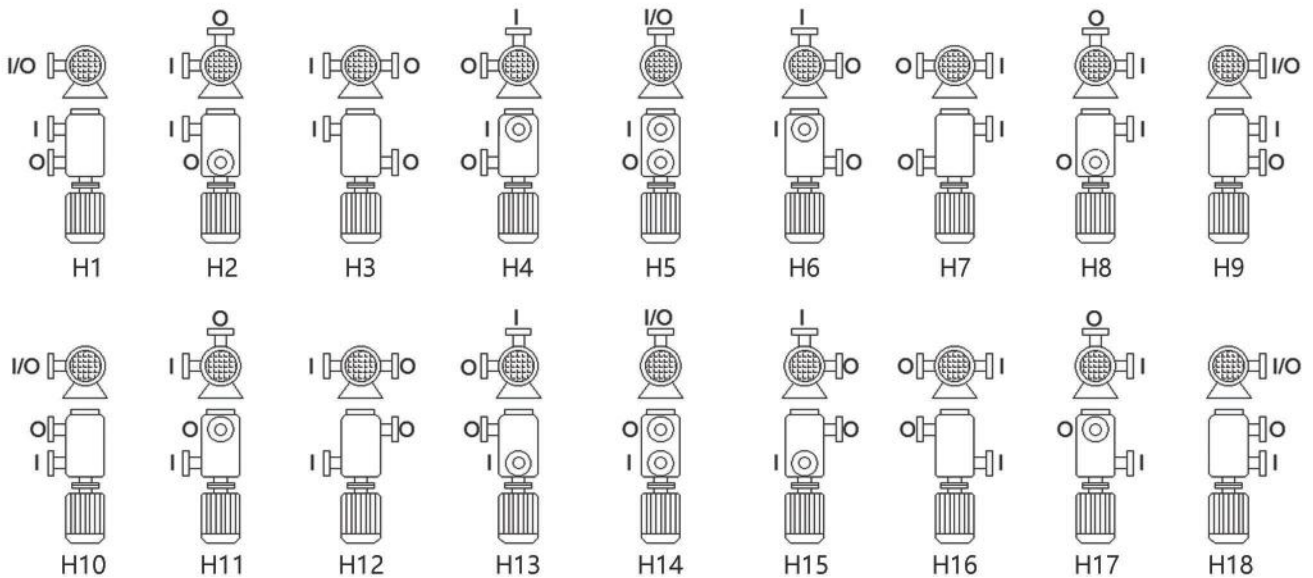
Supply Voltage:	380V / 415V
Supply Frequency:	50Hz
Insulation Class:	F
Protection Class:	IP55
Operating Speed:	1,450rpm & 2,900rpm
Rating:	0.55kW to 160kW
Optional Item:	Anti-Condensation Heater & Thermistor

## Inlet And Outlet Angles

SPV series can adopt a vertical structural design with water inlet located at the lower section; while the outlet is set at the upper section of the pump. Diagrams showing respective positions of vertical structural design are shown below with specific angles, namely V1-180°, V2-90°, V3-270° and V4-0°.



Diagrams showing respective positions of horizontal structural design are shown below with specific angles:



\* I = Inlet ; O = Outlet

## Minimum Inlet Pressure

To avoid cavitation occurring, a net positive suction head (NPSH) is required to provide minimum suction conditions for the pump. The maximum suction lift (H) in meters head can be calculated per the formula stated below.

$$H = H_{bar} - NPSH_r - H_{vap} - H_f - H_s$$

Where:

H<sub>bar</sub> - Barometric Head (Elevation at sea level - 10.33m)

NPSH<sub>r</sub> - Net Positive Suction Head Required (m)

H<sub>vap</sub> - Vapour Pressure (Water Temperature at 30°C - 0.43m)

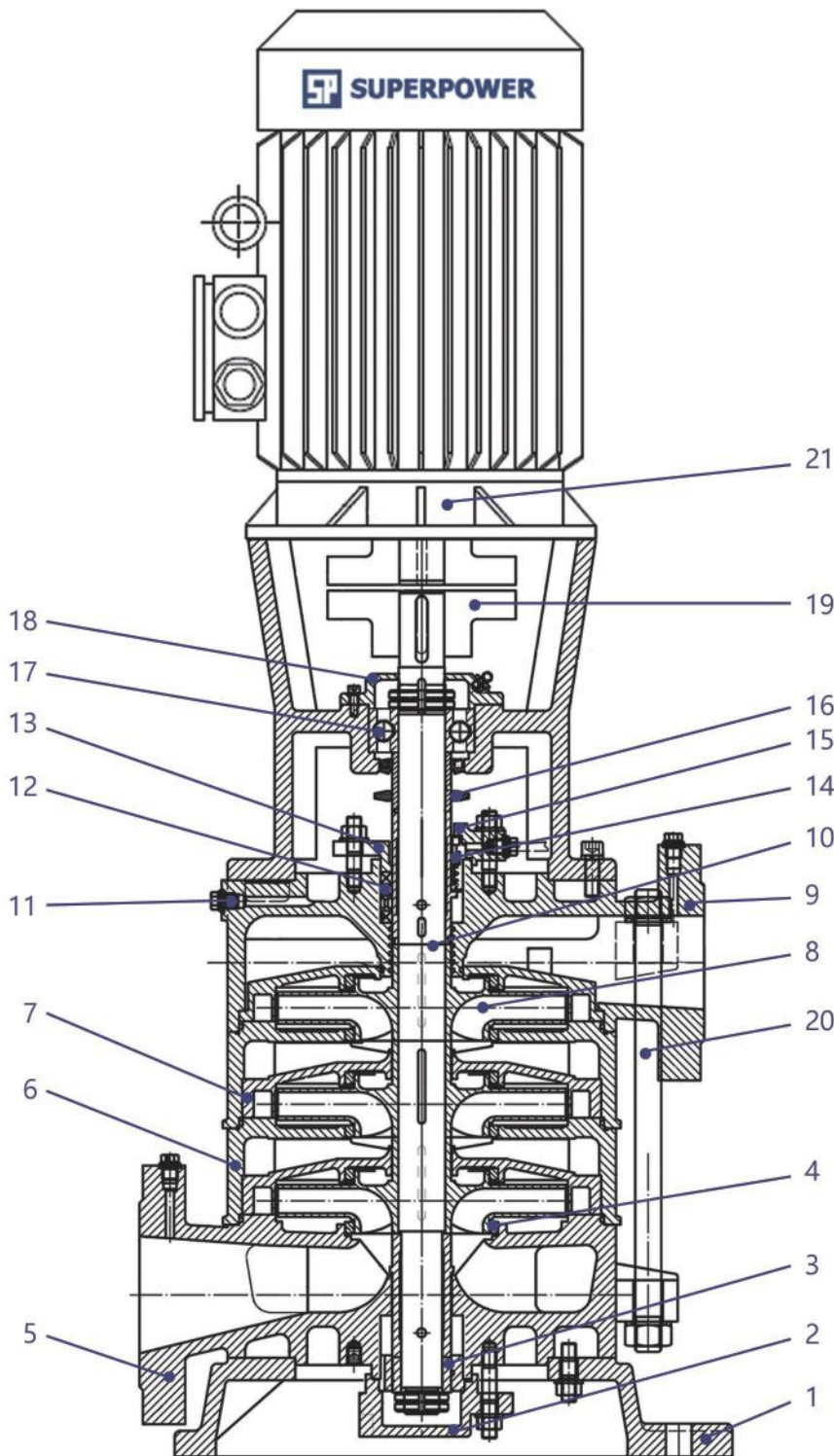
H<sub>f</sub> - Total Suction Pipe and Fitting Loss (m)

H<sub>s</sub> - Safety factor (At least 0.5m)

If the result of "H" is negative, the pump is required to operate at minimum inlet pressure "H" meters head.



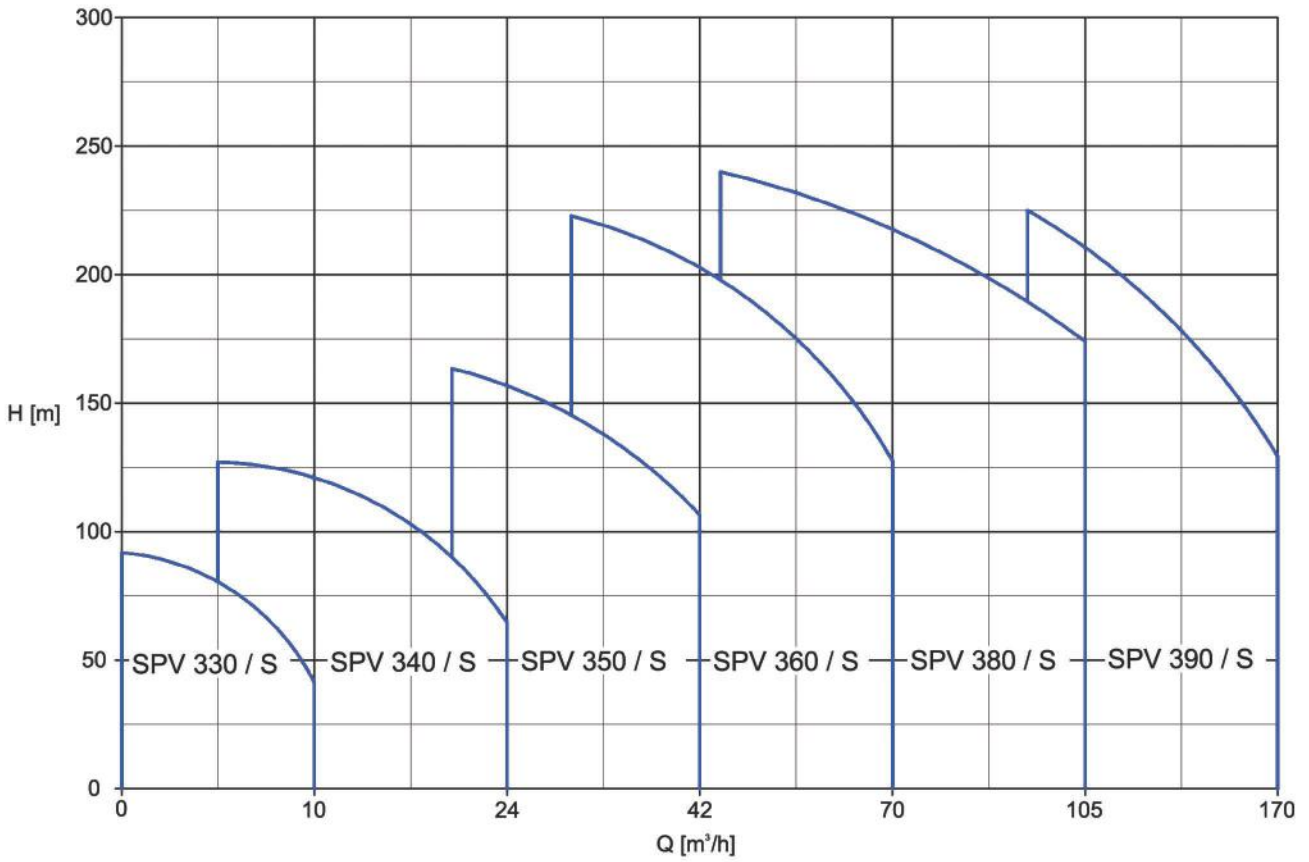
Structure



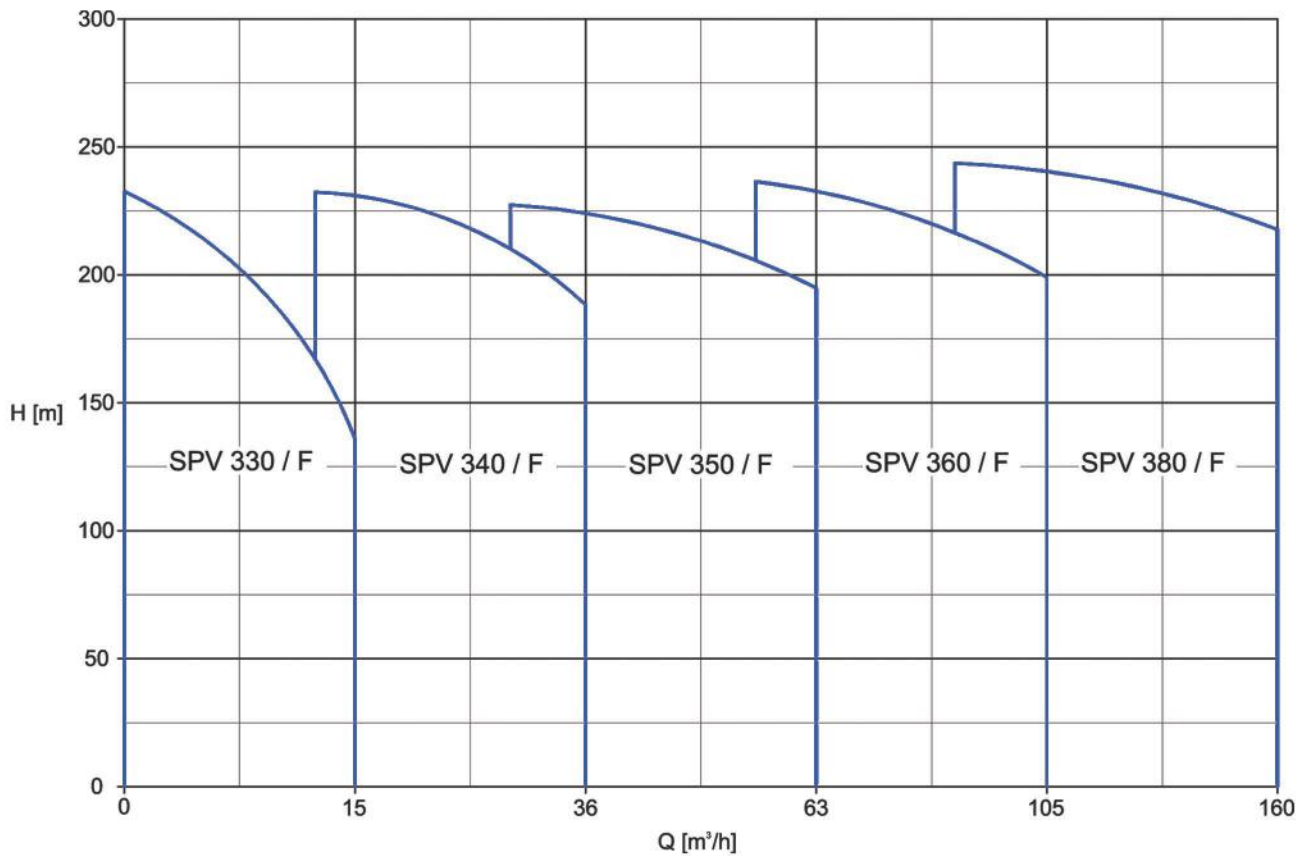
1. Base Plate
2. Sliding Bearing Cover
3. Sliding Bearing
4. Wear Ring
5. Suction Casing
6. Inter-stage Casing
7. Diffuser
8. Impeller
9. Discharge Casing
10. Shaft
11. Air Vent
12. Packing Seal
13. Packing Seal Cover
14. Mechanical Seal
15. Mechanical Seal Cover
16. Water Retaining Sleeve
17. Bearing
18. Bearing Cover
19. Coupling
20. Rod
21. Motor

## Selection Charts

SPV series - 1,450rpm



SPV series - 2,900rpm





**SPV SERIES**



**SPLV SERIES**



**SPU, SPB, SPC, SPD SERIES**



**SPE, SPI, SPS SERIES**



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ISO 9001



ISO 14001



OHSAS 18001

While the production techniques continue to improve, designs and materials used for the products may thus be varied from time to time. No further notice will be provided.



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