



# SUPERPOWER PUMP

LIGHT VERTICAL  
MULTISTAGE  
CENTRIFUGAL PUMPS

SPLV SERIES: 1450 & 2900 RPM

Pumps  
Catalogue



30<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 30 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 60 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

SPLV series is a series of Superpower Light Vertical Multistage Centrifugal Pumps. The product is a high-pressure vertical multistage pump featured with up-feed and booster pumps of 1450 rpm and 2900 rpm respectively. It is non-self priming and driven by a standard electric motor. The motor output shaft directly connects with the pump shaft through a coupling. SPLV series is small in size with self-alignment function. Its low noise level and durability help to reduce the environmental impact in society.

This kind of pump can be made from different material such as stainless steel 316, stainless steel 304 and cast iron. Each type of material used is designed for various purposes and requirements. For special application and operation condition, it can be equipped with an intelligent protector to effectively prevent it from dry-running, out-of-phase and overload.

## APPLICATION

SPLV series is a kind of multifunctional products. It can be used to convey various type of liquid from potable water to mild corrosive liquid at different temperature and with different flow rate and pressure. The product is suited for a variety of application, depending on the material chosen.

### Systems:

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

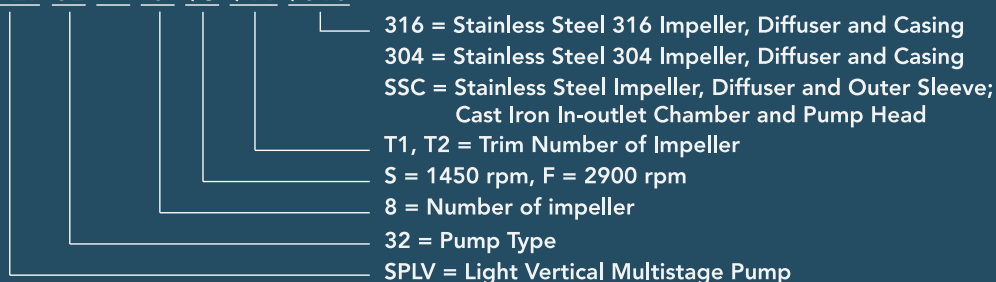
### Operating Conditions:

Capacity up to 110 m<sup>3</sup>/hr  
Total Head up to 300 meter  
Pump Speed 1450 rpm & 2900 rpm  
Normal Temperature Type: -15°C to +70°C  
Hot Water Type: +70°C to +120°C  
Ambient temperature: + 40°C  
Altitude: up to 1000m

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

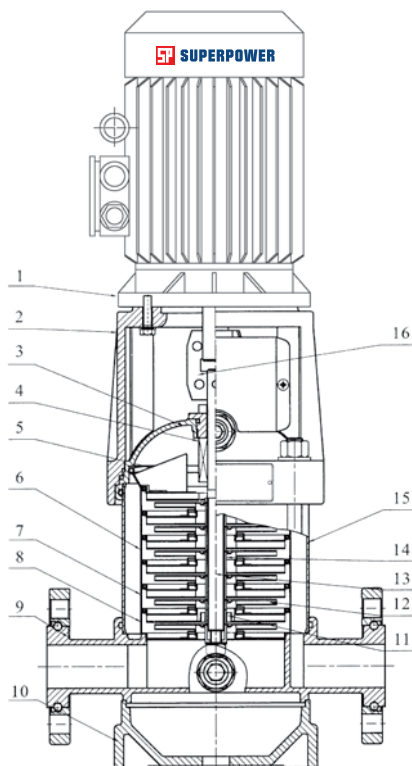
## DEFINITION OF MODEL

**SPLV 32 - 8 /S /T1 /316**



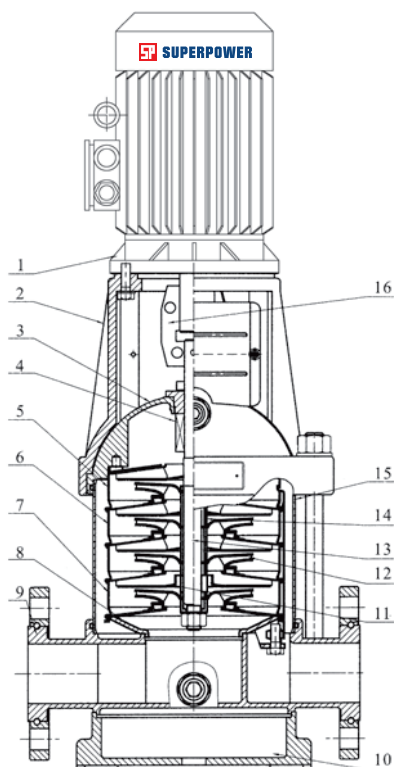
## STRUCTURE

Sectional Drawing SPLV 02 and SPLV 04



1. Motor
2. Motor Bracket
3. Pump Head
4. Mechanical Seal
5. Top Diffuser
6. Diffuser
7. Support Diffuser
8. Inducer
9. Inlet And Outlet Chamber
10. Base Plate
11. Bearing
12. Impeller
13. shaft
14. Impeller Sleeve
15. Outer Sleeve
16. Coupling

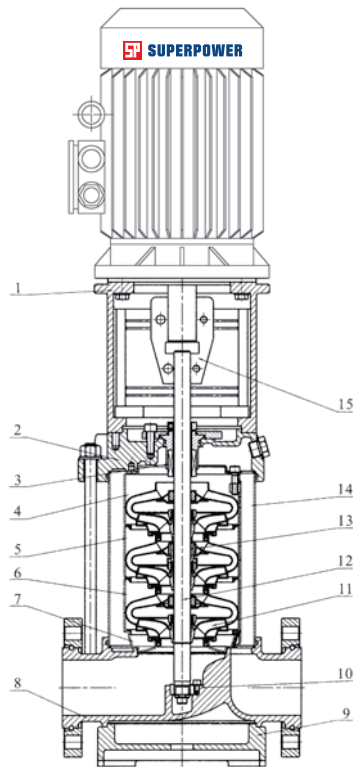
Sectional Drawing SPLV 08, SPLV 16, and SPLV 20



1. Motor
2. Motor Bracket
3. Pump Head
4. Mechanical Seal
5. Top Diffuser
6. Diffuser
7. Support Diffuser
8. Inducer
9. Inlet And Outlet Chamber
10. Base Plate
11. Bearing
12. Impeller
13. shaft
14. Impeller Sleeve
15. Outer Sleeve
16. Coupling

# STRUCTURE

Sectional Drawing SPLV 32, SPLV 42, SPLV 65, and SPLV 85

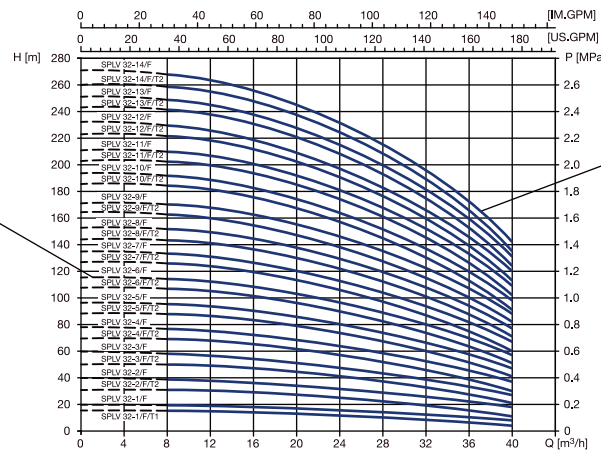


1. Motor Bracket
2. Pump Head
3. Mechanical Seal
4. Top Diffuser
5. Support Diffuser
6. Diffuser
7. Inducer
8. Inlet And Outlet Chamber
9. Base Plate
10. Bottom Bearing
11. Impeller
12. Shaft
13. Intermediate Bearing
14. Outer Sleeve
15. Coupling

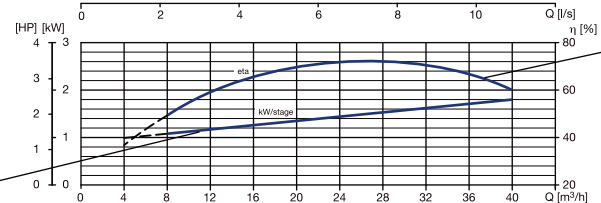
# CURVE ILLUSTRATION

SPLV32 / F

32 = Pump Type  
7 = Number of impeller  
F = 2900rpm  
T2 = Trim Number of Impeller

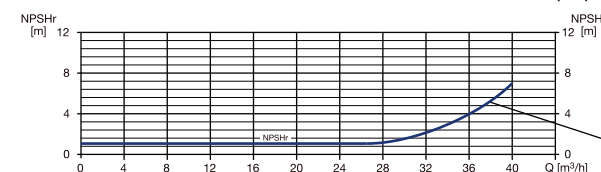


Pump Q-H curve, the thickened line presents recommended performance region



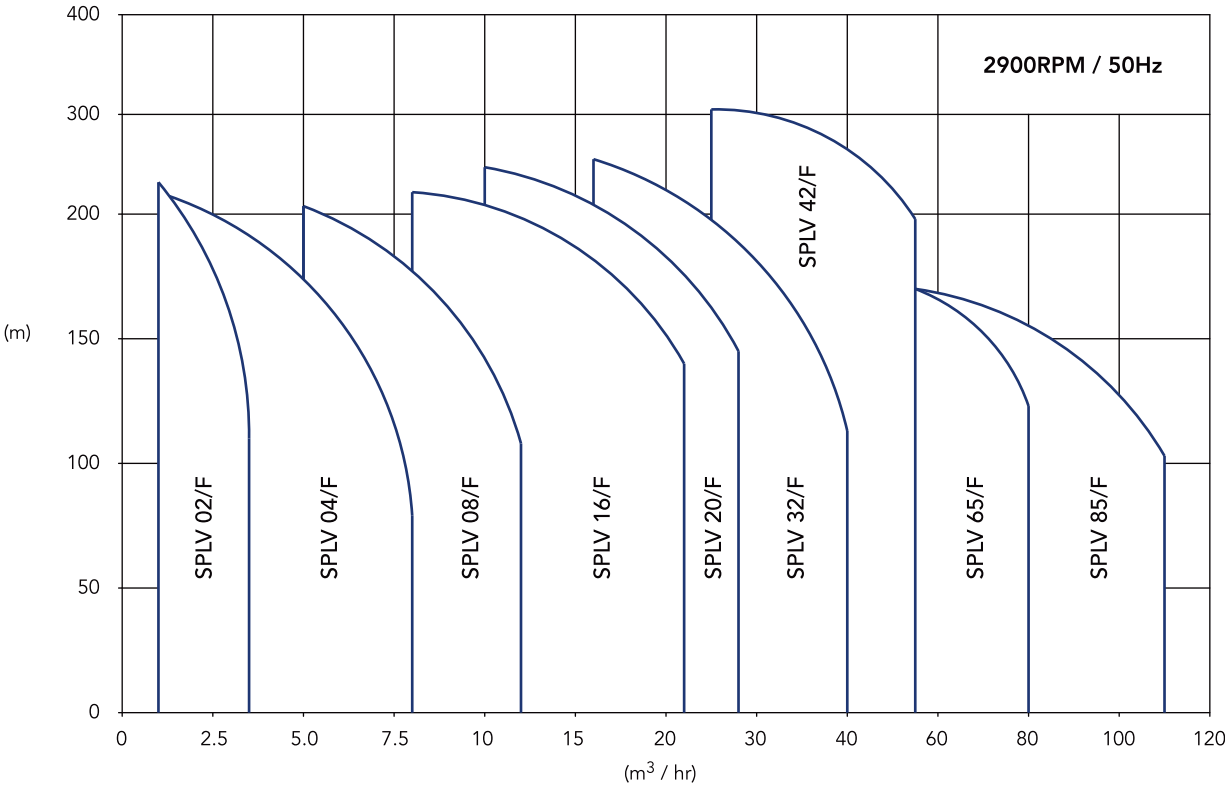
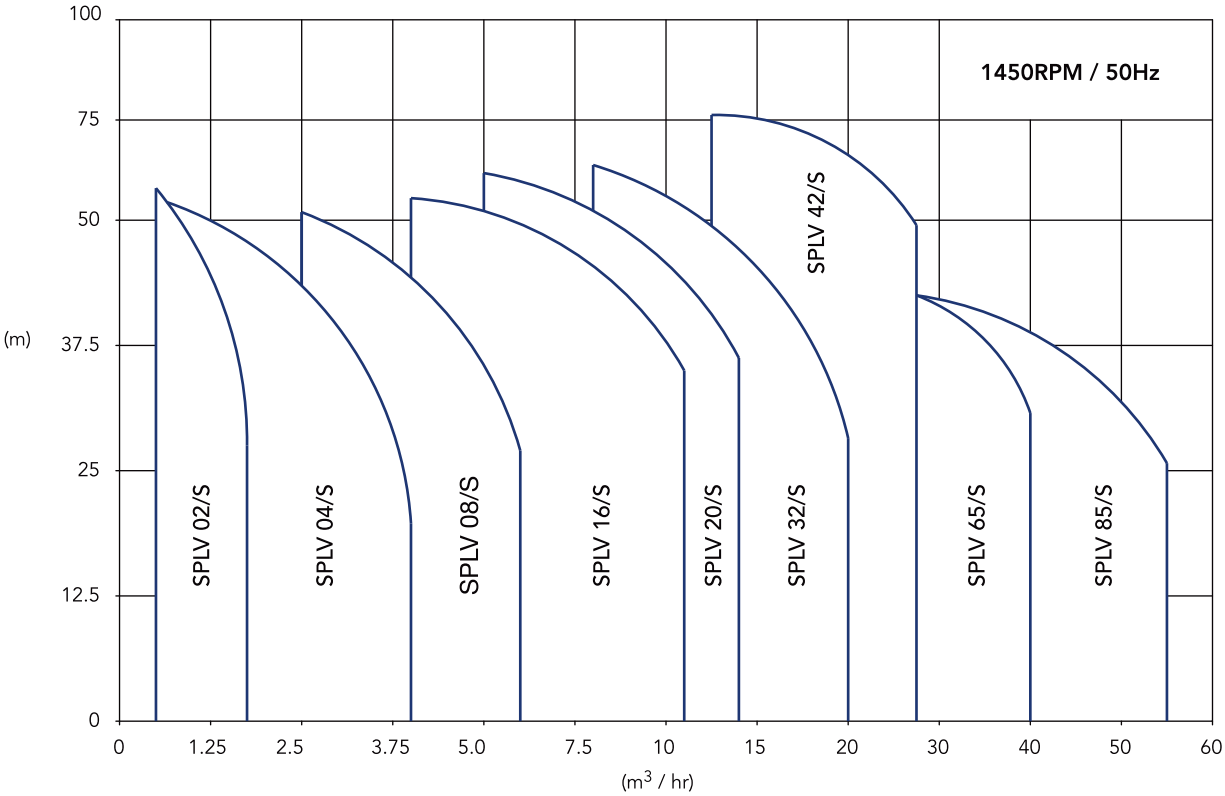
Eta curve presents efficiency of the pump.

The power curve presents the input power of each stage.



NPSH curve expresses the average value of all curves of this series. A safety margin of 0.5m shall be taken into consideration when making selection.

SELECTION CHARTS - 2900RPM



## SELECTABLE MATERIALS

SPLV series of 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 and cast iron etc.

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

Item	Description	Available Materials	American Standard
1	Impeller	Stainless Steel 304 Stainless Steel 316	AISI304 AISI316
2	Impeller Sleeve	Stainless Steel 304 Stainless Steel 316	AISI304 AISI316
3	Diffuser	Stainless Steel 304 Stainless Steel 316	AISI304 AISI316
4	Top Diffuser	Stainless Steel 304 Stainless Steel 316	AISI304 AISI316
5	Support Diffuser	Stainless Steel 304 Stainless Steel 316	AISI304 AISI316
6	Inducer	Stainless Steel 304 Stainless Steel 316	AISI304 AISI316
7	Outer Sleeve	Stainless Steel 304 Stainless Steel 316	AISI304 AISI316
8	Shaft	Stainless Steel 304 Stainless Steel 316	AISI304 AISI316
9	Pump Head	Stainless Steel 304 Stainless Steel 316 Cast Iron	AISI304 AISI316 ASTM25B
10	Inlet and Outlet Chamber	Stainless Steel 304 Stainless Steel 316 Cast Iron	AISI304 AISI316 ASTM25B
11	Motor Bracket	Cast Iron	ASTM25B
12	Base Plate	Cast Iron	ASTM25B
13	Shaft Seal	Mechanical Seal	
14	Bearing	Tungsten Carbide	

## 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  
 Supply Frequency: 50Hz  
 Insulation Class: F  
 Protection Class: IP55  
 Operating Speed: 1450 rpm to 2900 rpm  
 Rating: 0.37 kW to 45 kW

## MINIMUM INLET PRESSURE – NPSH

To avoid cavitation occurring, a net positive suction head (NPSH) is required to provide the 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 Require (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 an inlet pressure of minimum (H) meters head.





**SPV SERIES**



**SPLV SERIES**



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



**SPE, SPI, SPS SERIES**



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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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