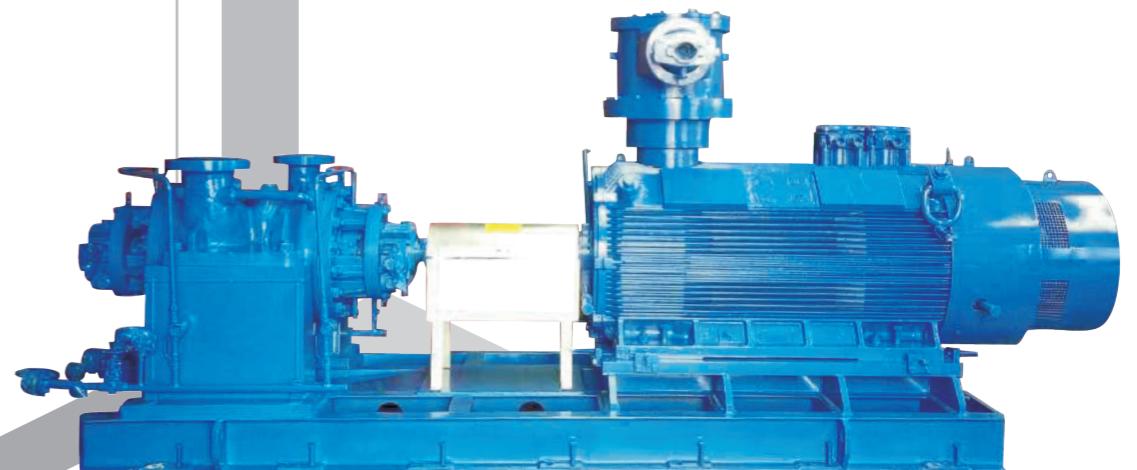




# SLDB系列重工位石油化工流程泵

## SLDB SERIES OF HEAVY-DUTY PETROCHEMICAL PROCESS PUMP



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连成集团  
连成集团微信订阅号

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## 产品概述 Production overview

SLDB型泵是根据API610《石油、重化学和天然气工业用离心泵》标准设计的径向剖分，单级、两级或三级两端支撑卧式离心泵，中心支撑，泵体为蜗壳结构。

该泵安装维修方便，运行稳定，强度高，使用寿命长，可以满足较为苛刻的工况条件。

两端轴承是滚动轴承或滑动轴承，润滑方式为自润滑或者强制润滑。轴承体上可按要求设置温度和震动监视仪表。

泵的密封系统按照API682《离心泵及回转泵轴封系统》进行设计，可配置各种形式的密封及冲洗、冷却方案，也可根据客户的要求进行设计。

该泵的水力设计采用先进的CFD流场分析技术，效率高，汽蚀性能好，节能方面可以达到国际先进水平。

泵通过联轴器由电动机直接驱动，联轴器为叠片式挠性形式，只需拆除中间节即可对驱动端轴承和密封进行维修或更换。

SLDB-type pump is based on API610 "oil, heavy chemical and natural gas industry with centrifugal pump" standard design of the radial split, single, two or three ends support horizontal centrifugal pump, the central support, the pump body structure .

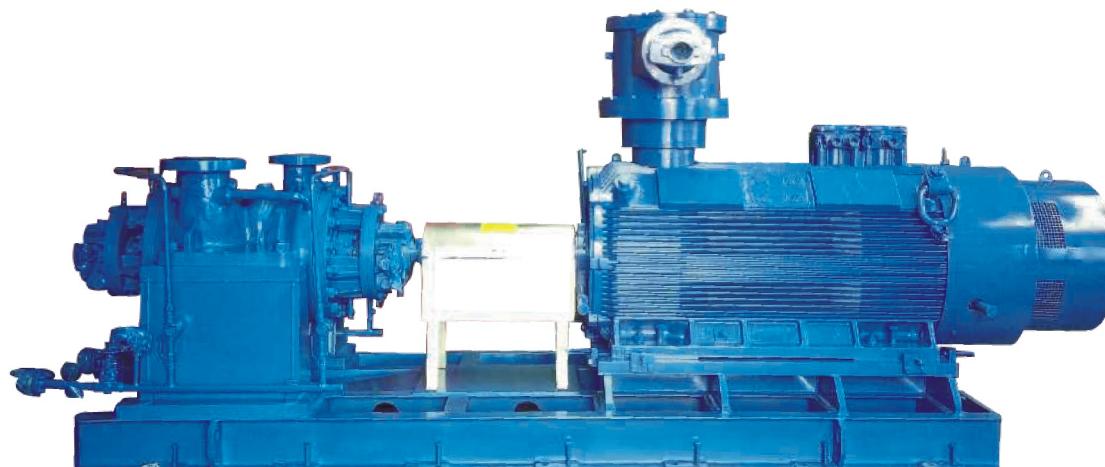
The pump easy installation and maintenance, stable operation, high strength, long service life, to meet the more demanding working conditions.

Both ends of the bearing is a rolling bearing or sliding bearing, lubrication is self-lubricating or forced lubrication. The temperature and vibration monitoring instruments can be set on the bearing body as required.

Pump sealing system in accordance with API682 "centrifugal pump and rotary pump shaft seal system" design, can be configured in various forms of sealing and washing, cooling program, can also be designed according to customer requirements.

The pump hydraulic design using advanced CFD flow field analysis technology, high efficiency, good cavitation performance, energy saving can reach the international advanced level.

The pump is driven directly by the motor via a coupling. The coupling is a laminated version of the flexible version. The drive end bearing and seal can be repaired or replaced simply by removing the intermediate section.



## 应用范围 Application range

产品主要应用于石油精制、原油输送、石油化工、煤化工、天然气工业、海上钻井平台等工业流程中，可以输送清洁或含有杂质的介质、中性或有腐蚀性介质、高温或高压的介质。

典型工况有：炼油装置中的急冷油循环泵、急冷水泵、盘油泵、高温塔底泵，合成氨装置的贫液泵、富液泵、进料泵，煤化工中的黑水泵、循环泵，海上平台中的冷却水循环泵等。

The products are mainly used in the oil refining, crude oil transportation, petrochemical, coal chemical industry, natural gas industry, offshore drilling platform and other industrial processes, can transport clean or impurity medium, neutral or corrosive medium, high temperature or high pressure medium.

The typical working conditions are: the quench oil circulating pump, quench water pump, plate oil pump, high temperature tower bottom pump, ammonia pump, liquid pump, feed pump, coal chemical black water pump, circulating pump, Offshore platforms in the cooling water circulation pump.

## 型号说明 About the model

SLDB	150	-	280	/	2	
泵级数 Number of pumps						
泵总扬程 Total pump head						
泵设计点流量 Pump design point flow						
产品系列代码号 Product family code number						

## 泵用材料 Pump materials

### SLDB标准材料配置 SLDB standard material configuration

零件名称 Part Name	符合API610 11th 标准材料等级 Comply with API610 11th standard material grade						
	S-5	S-6	C-6	A-7	A-8	D-1	D-2
承压壳体 Pressure shell	ZG230-450	ZG230-450	ZG1Cr13Ni	ZG07Cr19Ni9	ZG07Cr19Ni11 Mo2	ZG0Cr26Ni6Mo2 Cu3	A890 5A
叶轮 Impeller	ZG230-450	ZG1Cr13Ni	ZG1Cr13Ni	ZG07Cr19Ni9	ZG07Cr19Ni11 Mo2	ZG0Cr26Ni6Mo2 Cu3	A890 5A
轴 Axis	42CrMo	42CrMo	30Cr13	05Cr17Ni4Cu4 Nb	05Cr17Ni4Cu4 Nb	022Cr22Ni5Mo3N	022Cr25Ni7Mo4W Cu
壳体口环 Shell ring	1Cr13MoS	1Cr13MoS	1Cr13MoS	06Cr19Ni10 表面硬化 Surface hardening	06Cr17Ni12Mo2 表面硬化 Surface hardening	022Cr22Ni5Mo3N 表面硬化 Surface hardening	022Cr25Ni7Mo4WCu 表面硬化 Surface hardening
叶轮口环 Impeller ring	30Cr13	30Cr13	30Cr13	06Cr19Ni10 表面硬化 Surface hardening	06Cr17Ni12Mo2 表面硬化 Surface hardening	022Cr22Ni5Mo3N 表面硬化 Surface hardening	022Cr25Ni7Mo4WCu 表面硬化 Surface hardening

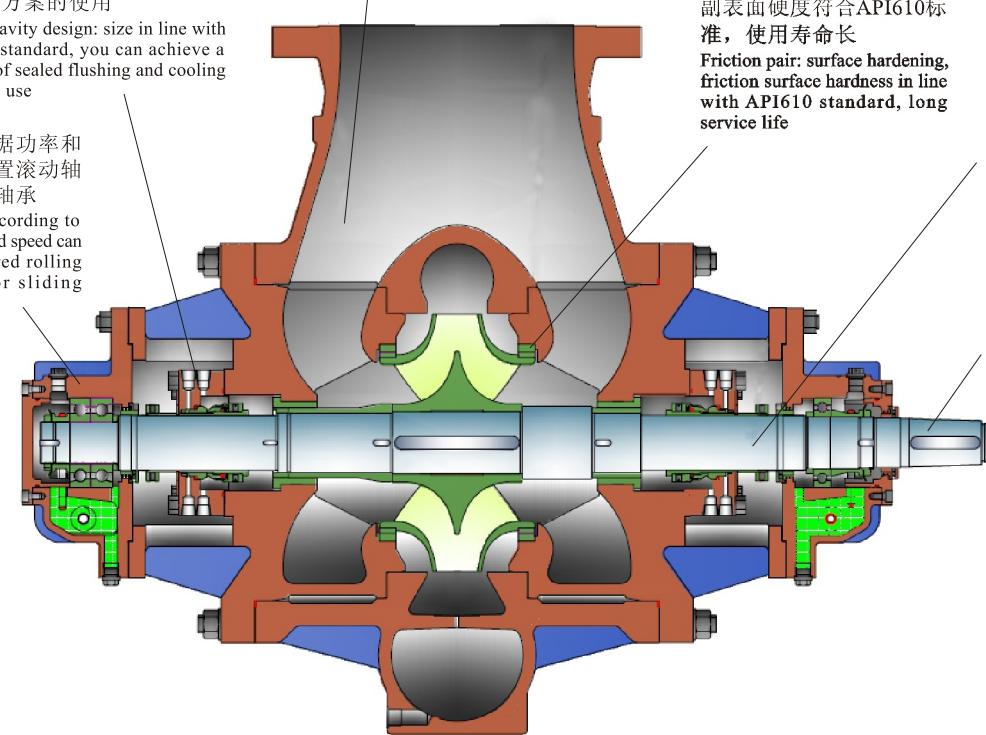
## SLDB SERIES OF HEAVY-DUTY PETROCHEMICAL PROCESS PUMP

## SLDB泵结构图 SLDB pump structure drawing

在不移动进出口管路的前提下，可完成内芯的拆卸与检修，便于维修  
Do not move the import and export pipeline under the premise of the core to complete the demolition and maintenance, easy maintenance

密封腔设计：尺寸符合API682  
标准，可以实现多种密封冲洗及冷却方案的使用  
Sealed cavity design: size in line with  
API682 standard, you can achieve a  
variety of sealed flushing and cooling  
program use

轴承：根据功率和  
转速可配置滚动轴  
承或滑动轴承  
Bearing: According to  
the power and speed can  
be configured rolling  
bearings or sliding  
bearings



摩擦副：表面硬化，摩擦  
副表面硬度符合API610标  
准，使用寿命长  
Friction pair: surface hardening,  
friction surface hardness in line  
with API610 standard, long  
service life

轴：采用刚性轴设计，  
保证运转的可靠性  
Axis: the use of rigid shaft  
design to ensure the reliabil-  
ity of operation

轴伸：采用锥形轴伸，  
符合API610标准，拆  
卸方便，便于维修  
Shaft extension: the use  
of conical shaft extension,  
in line with API610 stand-  
ard, easy to disassemble,  
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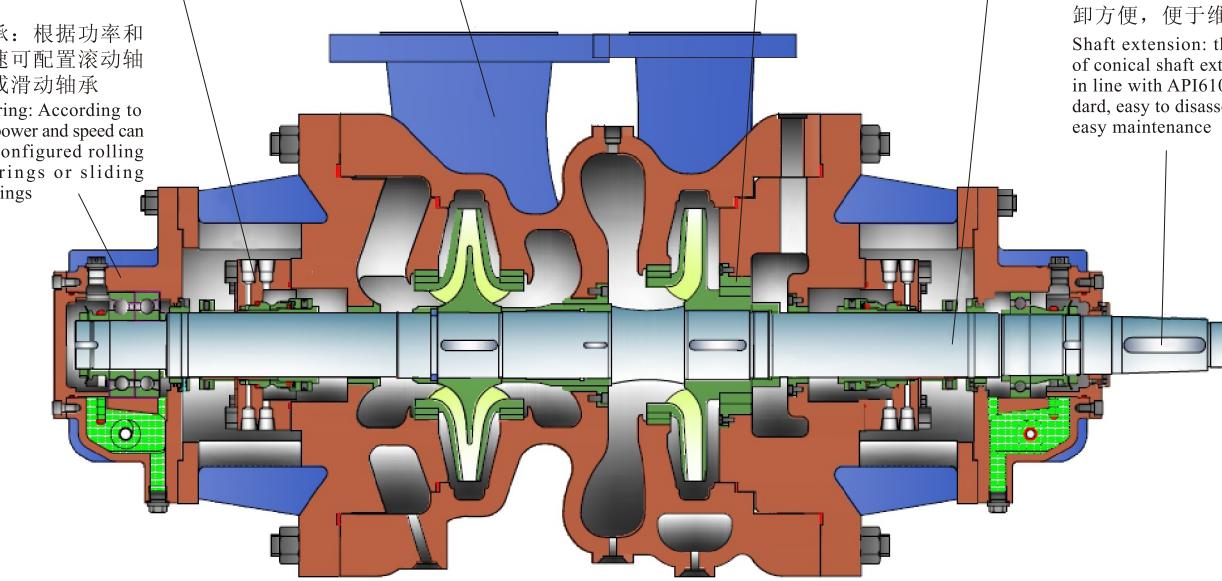
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## 可选设计 Optional design

### 1) .轴承冷却形式

轴承的冷却可以提供风扇冷却或者水冷却，用户可以根据现场实际情况进行选择。

### 2) .轴承润滑形式

根据功率和转速不同，可以选择油环润滑或者强制润滑两种方式对轴承进行润滑。

### 3) .泵进出口方向

进出口方向可以按用户要求设计成上进或者侧进，上出或者侧出，以满足用户装置的需求。

## 设计方法 Design method

在产品设计过程中，水力及零部件均采用国内领先的研发设计手段，保证产品性能及质量。

1) .水力设计采用CFD仿真技术，进行流场分析，优化产品水力性能。

2) .采用有限元分析软件对零件强度进行分析，保证产品运行的安全可靠性。

### 1). Bearing cooling form

The cooling of the bearing can provide fan cooling or water cooling, the user can choose according to the actual situation of the scene.

### 2). Bearing lubrication form

According to the power and speed are different, you can choose the oil ring lubrication or forced lubrication in two ways to lubricate the bearing.

### 3). Pump import and export direction

Import and export direction can be designed according to user requirements into or into the side, out or side out to meet the needs of the user device.

In the product design process, the hydraulic and spare parts are using the leading domestic R & D design means to ensure product performance and quality.

1). Hydraulic design using CFD simulation technology, flow analysis, optimization of product hydraulic performance.

2). Using finite element analysis software to analyze the strength of parts to ensure the safety and reliability of product operation.

## 质量保证 Quality assurance

### 1) .零部件生产

叶轮可采用精密铸造工艺，严格控制水力部件的过流尺寸，从而保证产品的水力性能，保证产品效率；

### 2) .产品材质

泵用材料入厂时均严格按标准验收，进行化学成分和力学性能检测，轴需进行超声波无损探伤，确保零部件材质的合格和安全可靠性；

### 3) .转子部件

转子部件均按精度等级2.5级做动平衡实验，确保产品运行的稳定可靠性；

### 1). Parts production

Impeller can be used precision casting process, and strictly control the hydraulic components of the over-flow size, so as to ensure the hydraulic performance of products to ensure product efficiency;

### 2). Product material

Pump materials into the factory are strictly in accordance with the standard acceptance, the chemical composition and mechanical properties of the test, the shaft to be ultrasonic non-destructive testing to ensure that the parts of the material qualified and safe and reliable;

### 3). Rotor parts

Rotor parts are according to the accuracy level 2.5 to do the dynamic balance experiment to ensure the stability of product operation reliability;

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### 4) .泵性能试验

在泵装配完毕后，需要进行性能试验，并得出试验数据，严格按照API610和GB/T 3216-2005《回转动力泵水力性能验收试验》一级要求进行验收。

### 4). Pump performance test

After the pump assembly is completed, the need for performance testing, and test data, in strict accordance with API610 and GB / T 3216-2005 "rotary power pump hydraulic performance acceptance test" level requirements for acceptance.

## 配套系统 Supporting system

### 1) .监测系统

根据用户要求，可对泵配置进出口压力检测仪表、轴承测温仪表、震动检测仪表、转速检测仪表等辅助仪表和装置。

### 2) .传动设备

根据要求传动装置可选择联轴器直联、液力偶合器、变速齿轮箱等。

### 3) .原动机

原动机可以选配电动机、柴油机、汽轮机、液力透平等。

### 1). Monitoring system

According to user requirements, the pump can be equipped with import and export pressure detection instruments, bearing temperature measuring instruments, vibration detection instruments, speed detection instruments and other auxiliary instruments and devices.

### 2). Transmission equipment

According to the requirements of the transmission device can choose coupling directly, hydraulic coupling, variable speed gear box and so on.

### 3) the original motive

The prime mover can be equipped with motor, diesel, steam turbine, hydraulic turbine and so on.

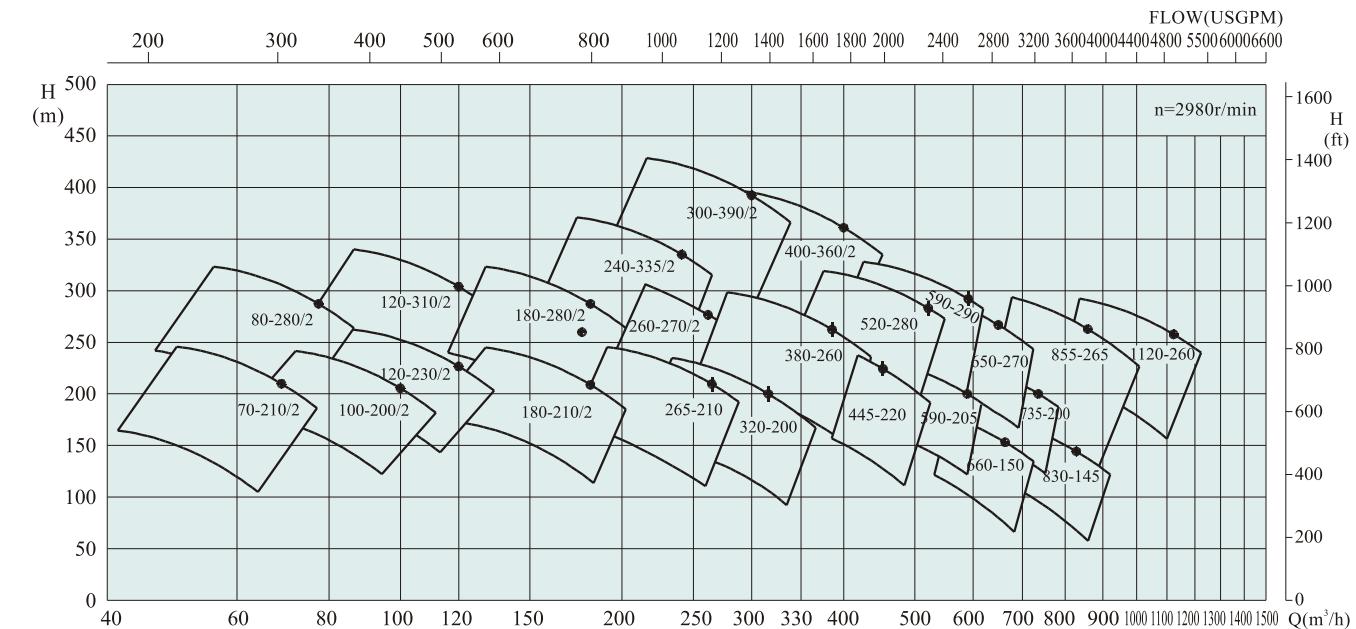
## 型谱图 Atlas of style

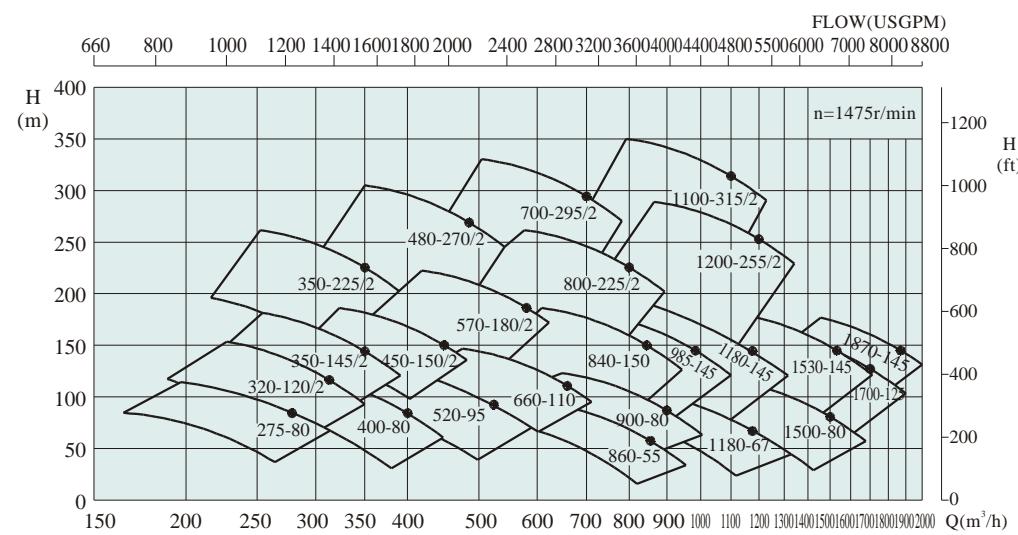
流量范围 Flow range: (Q) 20~2000 m<sup>3</sup>/h

扬程范围 Head range: (H) 可达500m

设计压力 Design pressure: (P)15MPa(max)

温度 Temperature: (t)-60~450°C



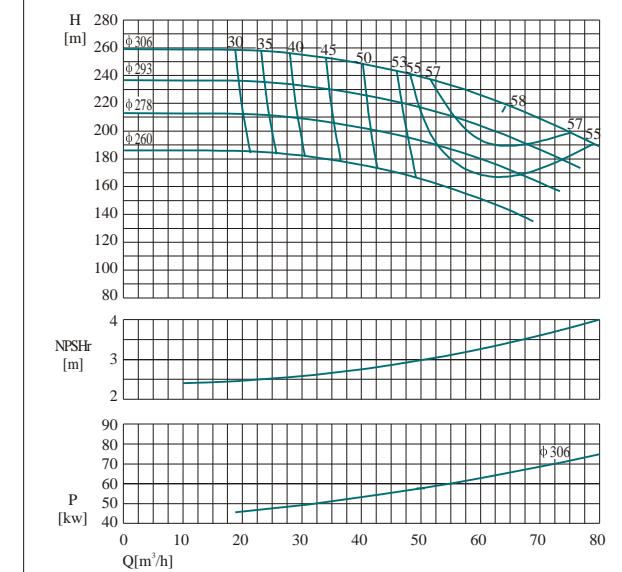
**型谱图 Atlas of style**

**性能参数表 Performance data**

型号 Model	流量 Flow (m³/h)	扬程 Head (m)	转速 Speed (r / min)	效率 Eff. (%)	汽蚀 Cavitation (m)
SLDB 70-210/2	67	212	2980	58	3.5
SLDB 80-280/2	77	280	2980	52	4.5
SLDB 100-200/2	100	206	2980	68	4
SLDB 120-230/2	119	231	2980	68	4.5
SLDB 120-310/2	119	310	2980	60	5.5
SLDB 180-210/2	181	212	2980	74	6.5
SLDB 180-280/2	182	280	2980	70	5
SLDB 260-270/2	261	271	2980	75	8
SLDB 240-335/2	241	337	2980	69	3.5
SLDB 300-390/2	300	390	2980	70	4
SLDB 400-360/2	401	361	2980	77	11
SLDB 265-210	265	208	2980	71	4
SLDB 320-200	318	198	2980	73	5.5
SLDB 380-260	378	260	2980	73.5	6
SLDB 445-220	445	224	2980	78	5
SLDB 520-280	517	283	2980	76	6
SLDB 590-290	592	292	2980	79.5	7
SLDB 590-205	589	206	2980	78.5	7
SLDB 660-150	658	153	2980	82	7
SLDB 650-270	652	267	2980	78	7
SLDB 735-200	735	194	2980	82	7.5
SLDB 830-145	833	146	2980	83.5	8
SLDB 855-265	856	264	2980	80.5	9
SLDB 1120-260	1117	260	2980	82	10

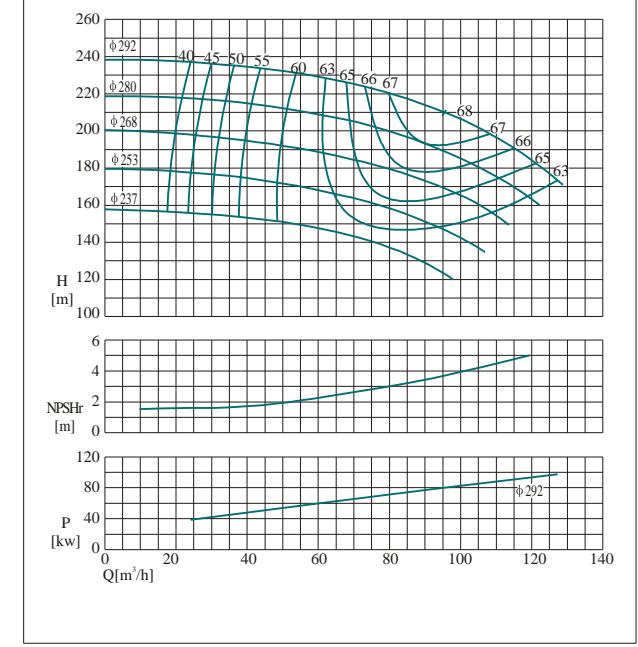
型号 Model	流量 Flow (m³/h)	扬程 Head (m)	转速 Speed (r / min)	效率 Eff. (%)	汽蚀 Cavitation (m)
SLDB 275-80	277	83	1475	74.5	1.6
SLDB 320-120/2	322	123	1475	74	1.6
SLDB 350-145/2	346	146	1475	75.5	1.8
SLDB 350-220/2	350	219	1475	67.5	2
SLDB 400-80	407	78	1475	76	2.6
SLDB 450-150/2	449	153	1475	75	2
SLDB 480-270/2	480	270	1475	69.5	2.5
SLDB 520-95	533	94	1475	78	3
SLDB 570-180/2	572	180	1475	77	2.5
SLDB 660-110	663	108	1475	79	3.8
SLDB 700-295/2	700	295	1475	72.5	3
SLDB 800-225/2	800	225	1475	78	3
SLDB 840-150	842	149	1475	78	3.5
SLDB 860-55	862	55	1475	86.5	3.2
SLDB 900-80	908	79	1475	84	3
SLDB 985-145	985	146	1475	79	3.5
SLDB 1100-315/2	1100	315	1475	79.5	4
SLDB 1180-145	1183	146	1475	82	4
SLDB 1180-67	1183	67	1475	87	7
SLDB 1200-255/2	1200	255	1475	80.5	4.4
SLDB 1500-80	1503	78	1475	87	8
SLDB 1530-145	1533	146	1475	84	5
SLDB 1700-125	1704	125	1475	85	6
SLDB 1870-145	1875	142	1475	84	5

**SLDB SERIES OF HEAVY-DUTY PETROCHEMICAL PROCESS PUMP**
**性能曲线图 Performance curve**

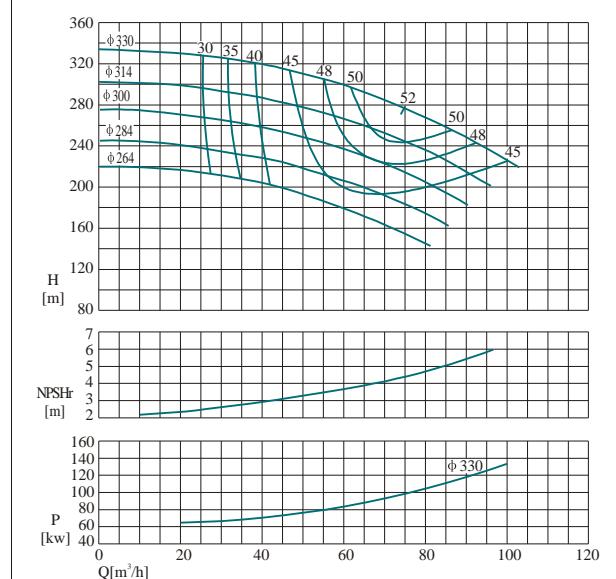
型号 Model	SLDB70-210/2	吸入口径 Suction branch	80mm
转速 Speed	2980r/min	排出口径 Discharge branch	50mm



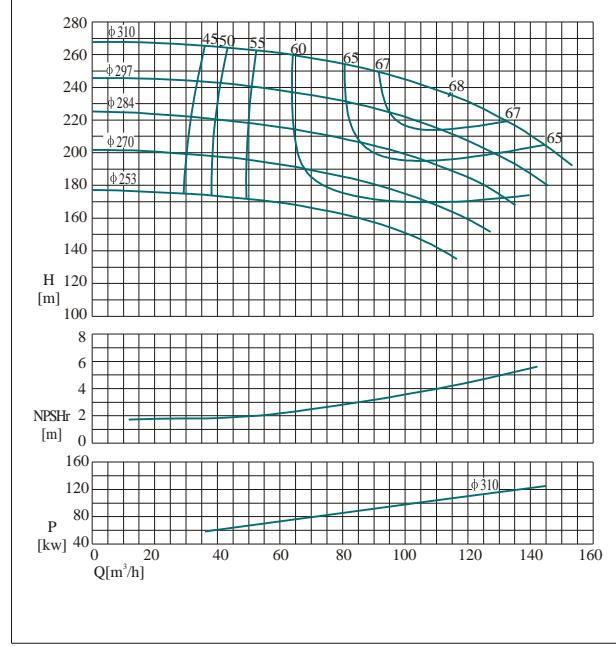
型号 Model	SLDB100-200/2	吸入口径 Suction branch	100mm
转速 Speed	2980r/min	排出口径 Discharge branch	80mm

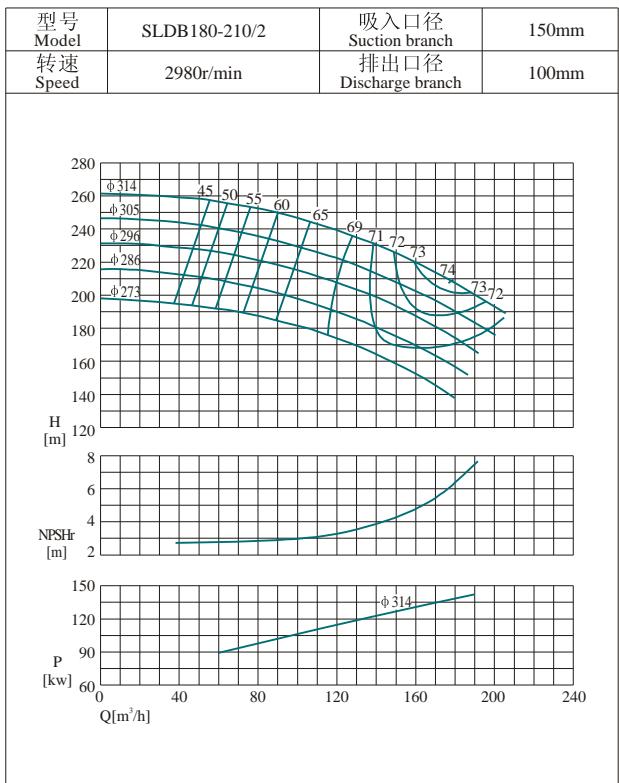
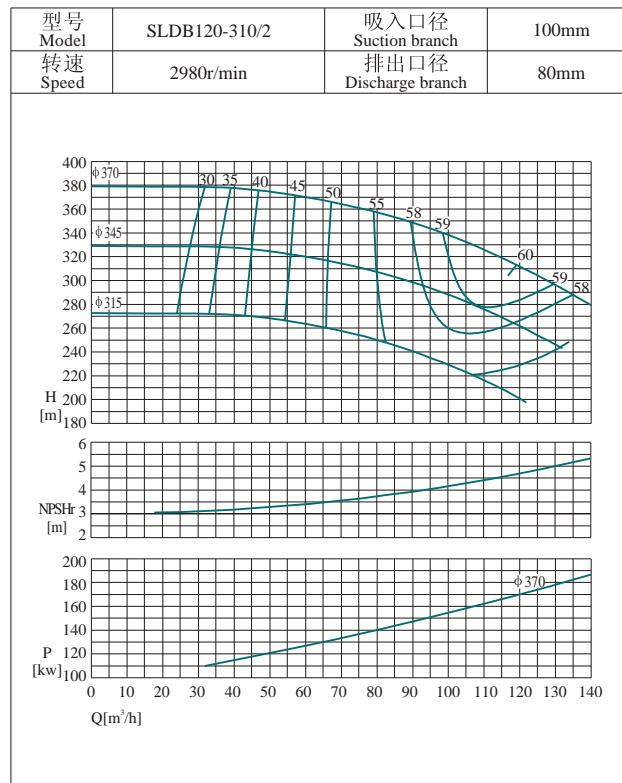
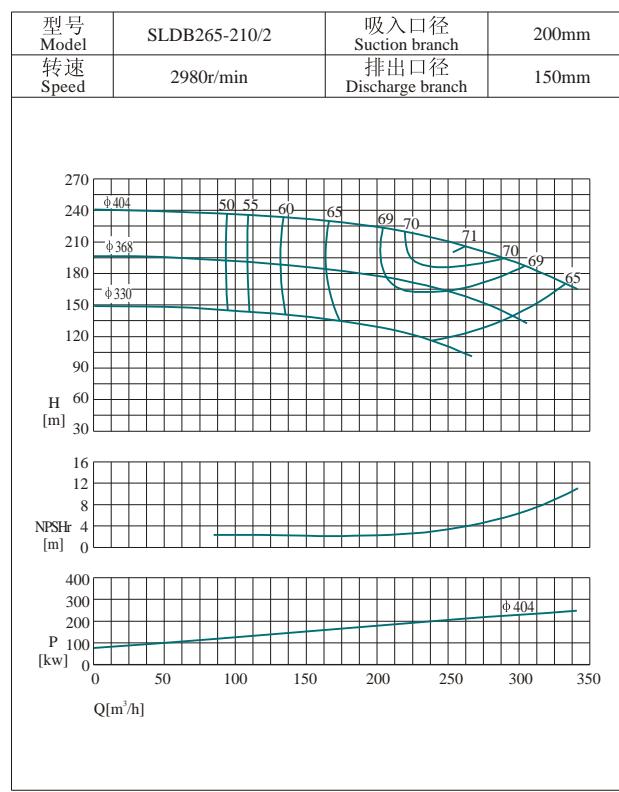
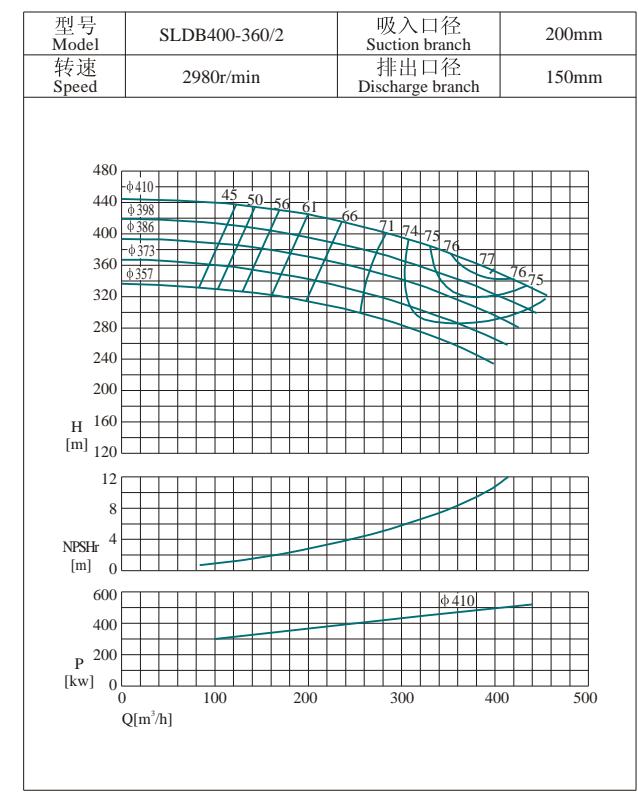
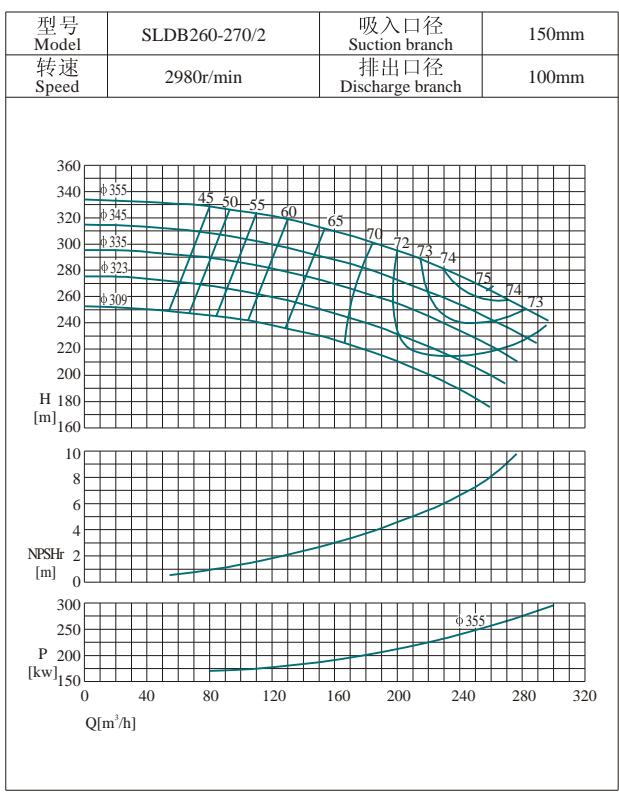
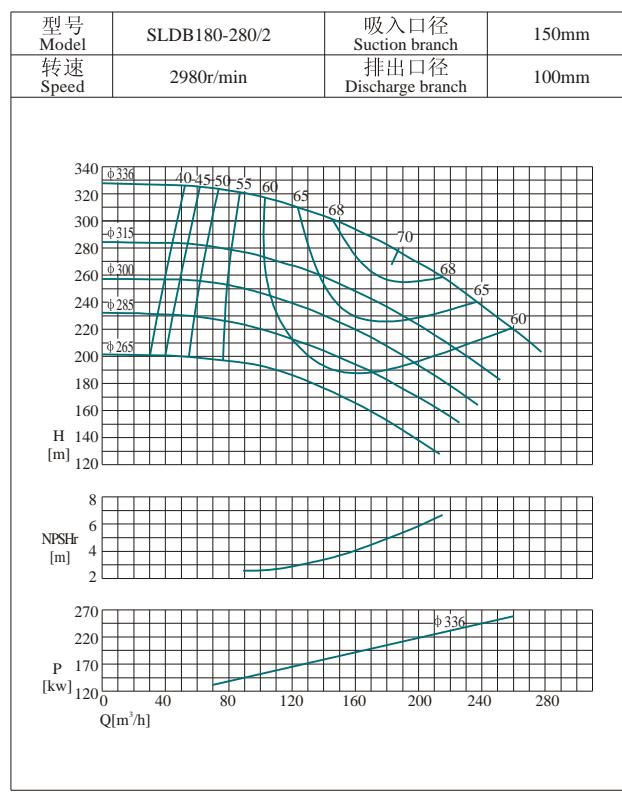
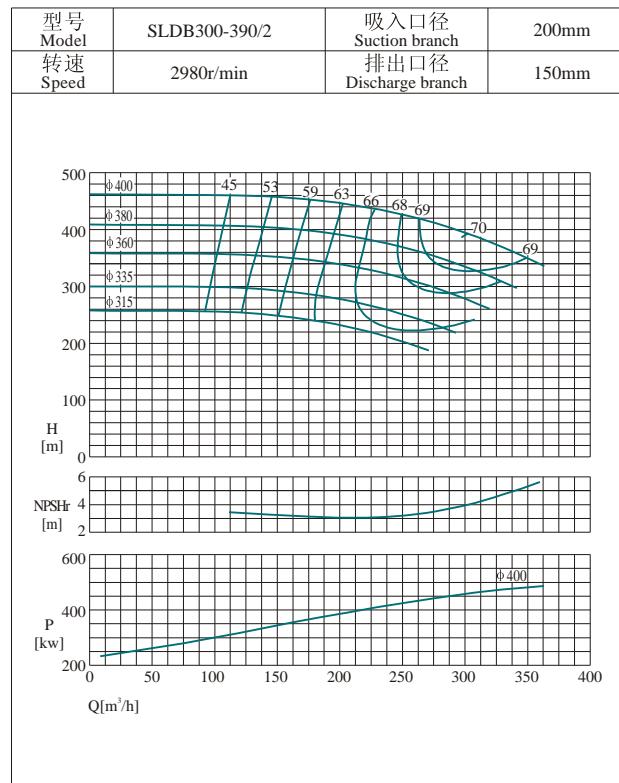
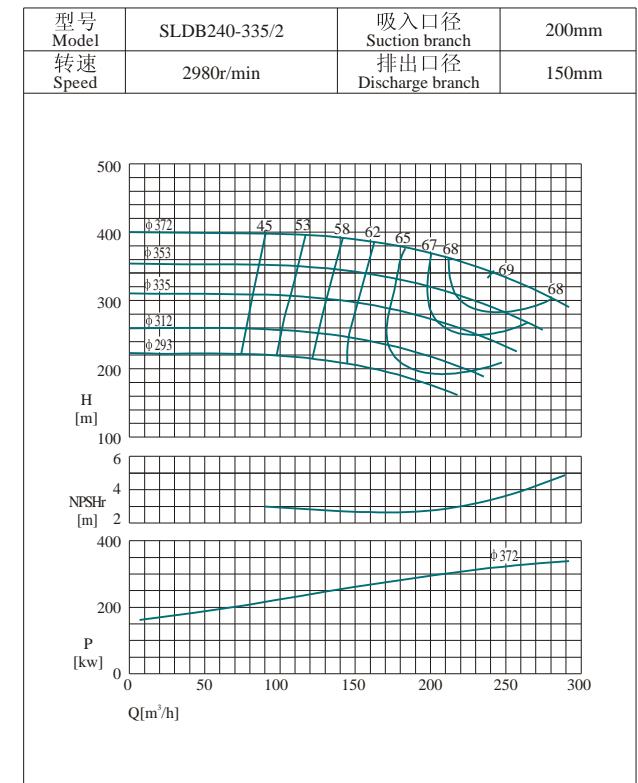


型号 Model	SLDB80-280/2	吸入口径 Suction branch	100mm
转速 Speed	2980r/min	排出口径 Discharge branch	50mm



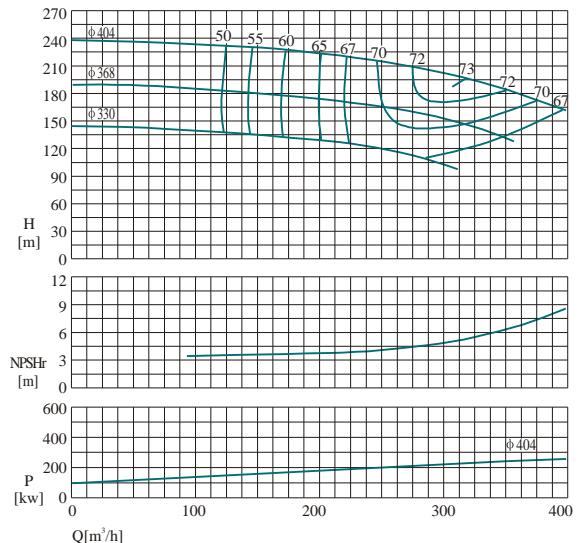
型号 Model	SLDB120-230/2	吸入口径 Suction branch	100mm
转速 Speed	2980r/min	排出口径 Discharge branch	80mm



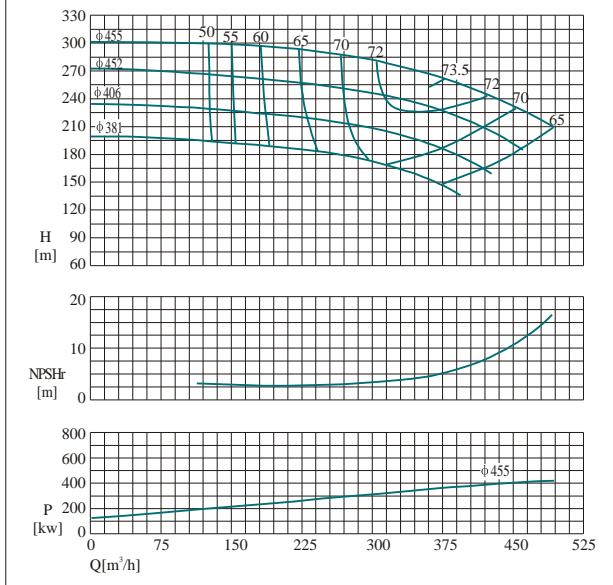
**性能曲线图 Performance curve**

**SLDB SERIES OF HEAVY-DUTY PETROCHEMICAL PROCESS PUMP**
**性能曲线图 Performance curve**


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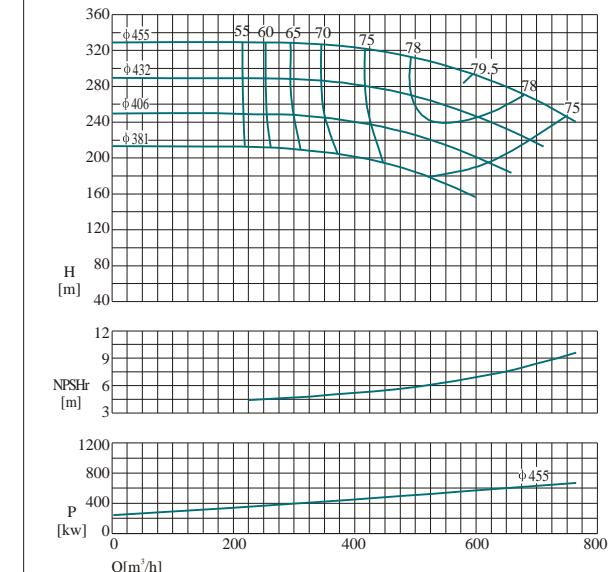
型号 Model	SLDB320-200/2	吸入口径 Suction branch	200mm
转速 Speed	2980r/min	排出口径 Discharge branch	150mm



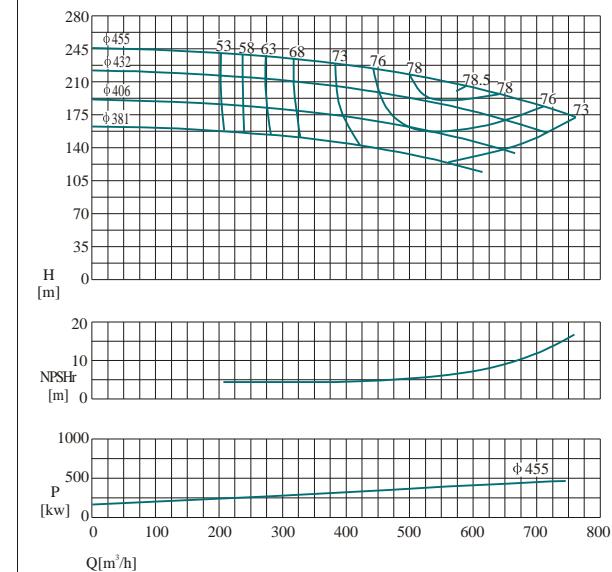
型号 Model	SLDB380-260	吸入口径 Suction branch	200mm
转速 Speed	2980r/min	排出口径 Discharge branch	150mm


**SLDB SERIES OF HEAVY-DUTY PETROCHEMICAL PROCESS PUMP**
**性能曲线图 Performance curve**

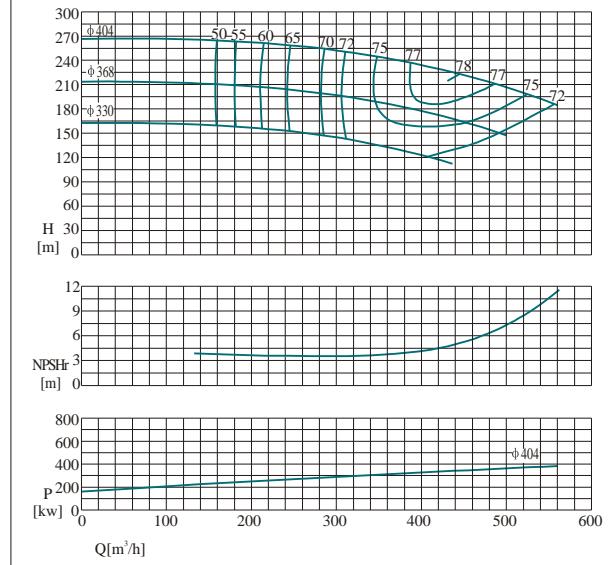
型号 Model	SLDB590-290	吸入口径 Suction branch	250mm
转速 Speed	2980r/min	排出口径 Discharge branch	200mm



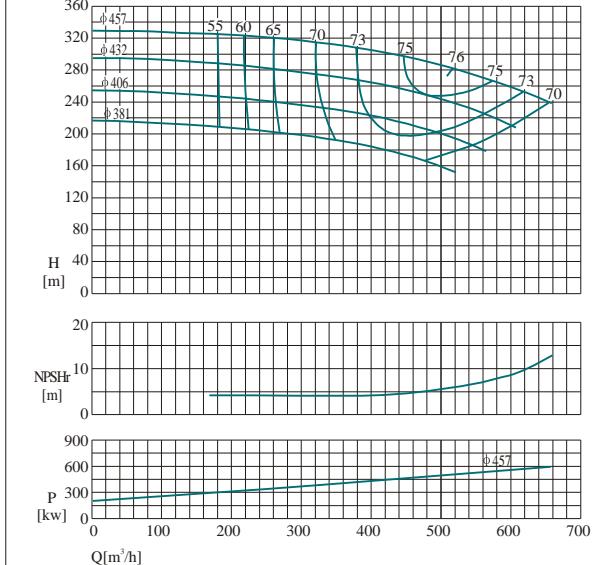
型号 Model	SLDB590-205	吸入口径 Suction branch	250mm
转速 Speed	2980r/min	排出口径 Discharge branch	200mm



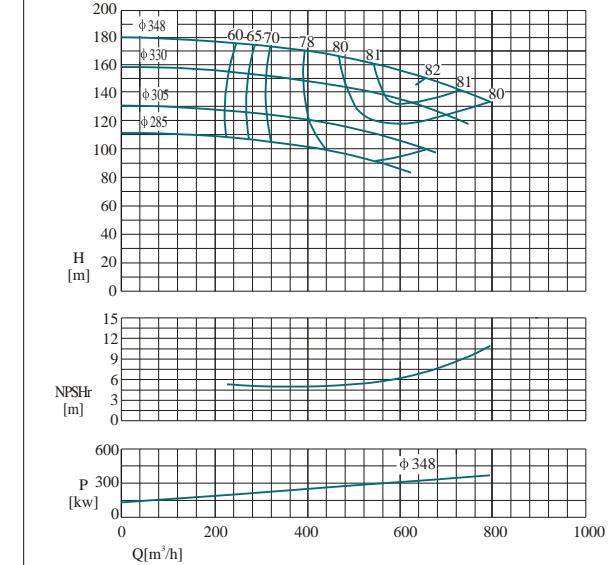
型号 Model	SLDB445-220	吸入口径 Suction branch	200mm
转速 Speed	2980r/min	排出口径 Discharge branch	150mm



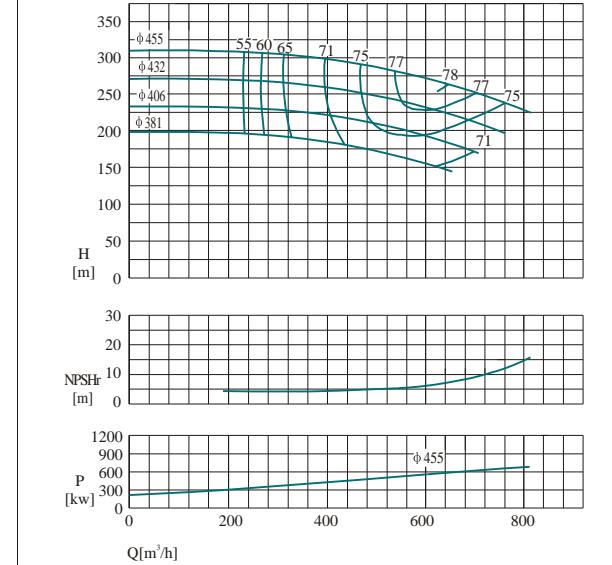
型号 Model	SLDB520-280	吸入口径 Suction branch	200mm
转速 Speed	2980r/min	排出口径 Discharge branch	150mm

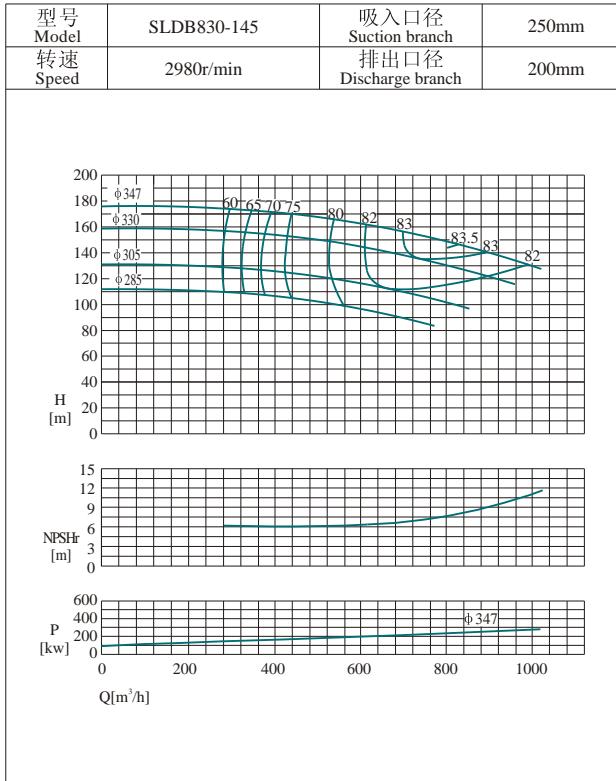
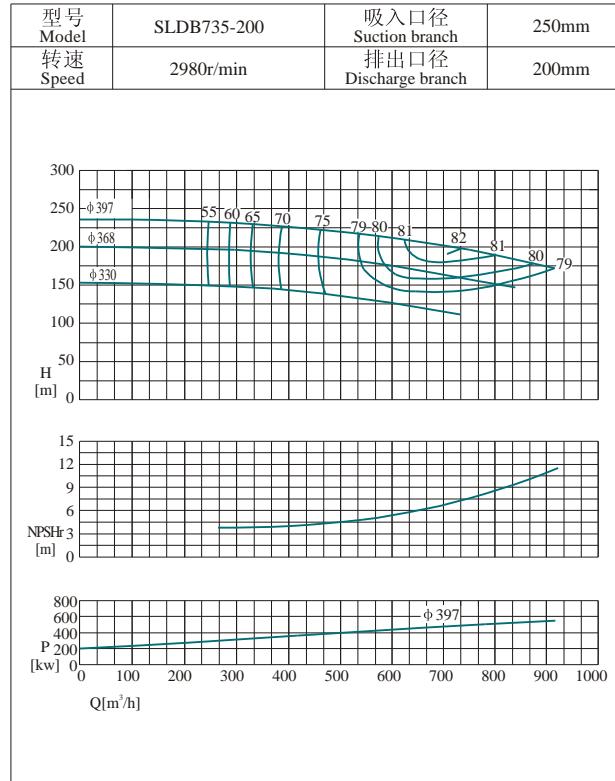
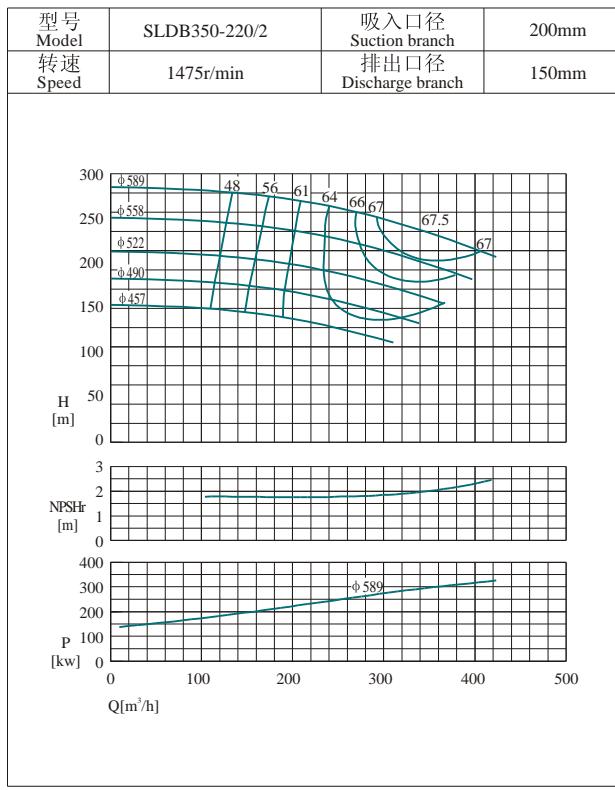
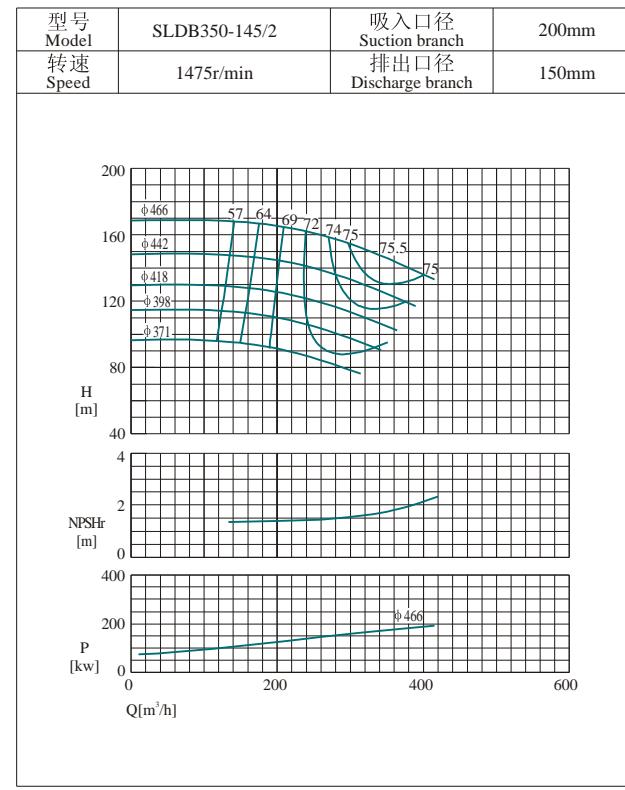
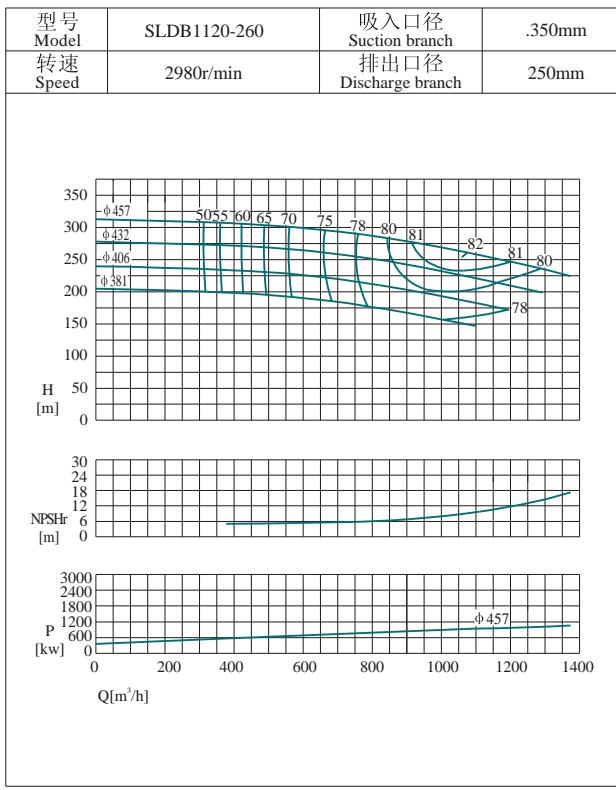
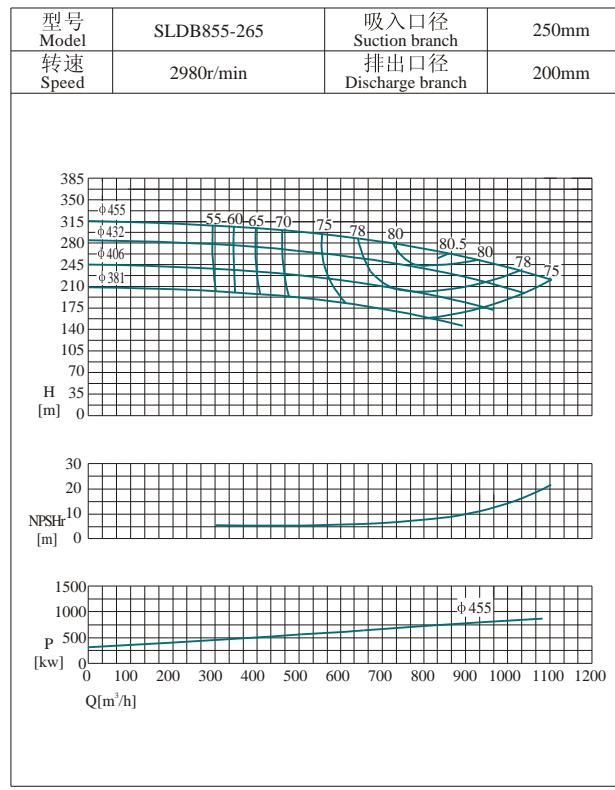
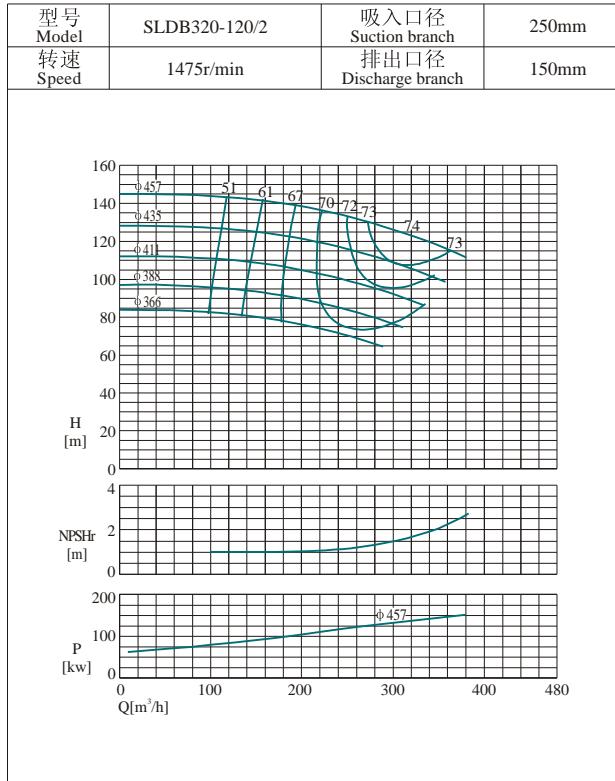
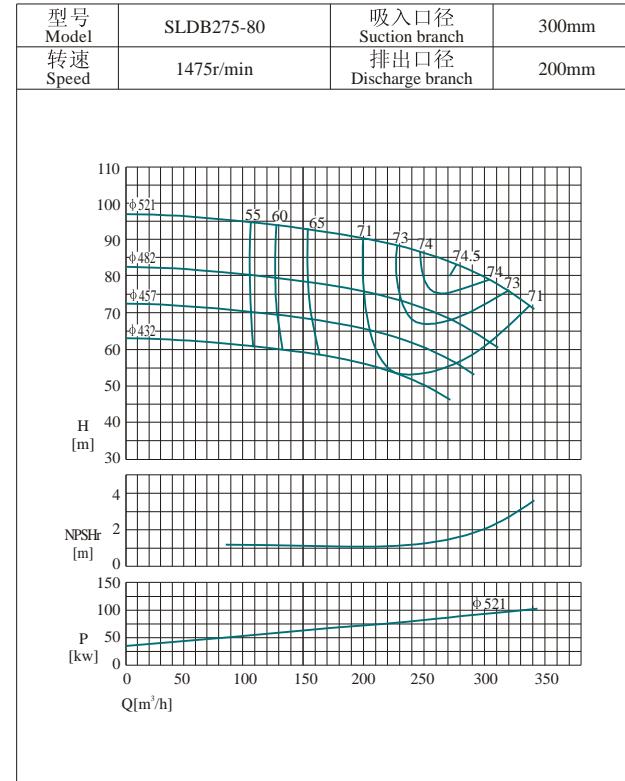


型号 Model	SLDB660-150	吸入口径 Suction branch	250mm
转速 Speed	2980r/min	排出口径 Discharge branch	200mm



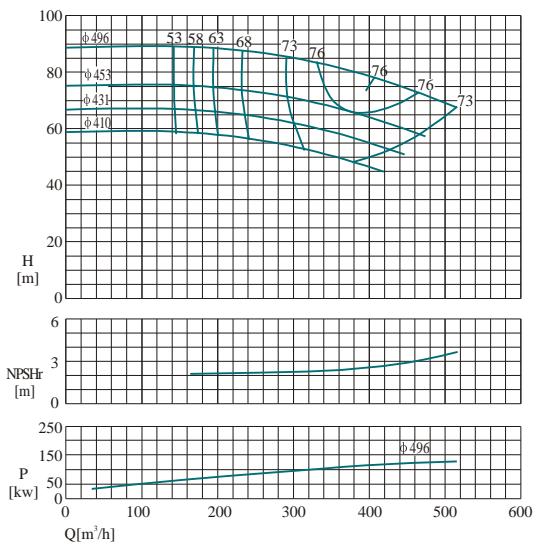
型号 Model	SLDB650-270	吸入口径 Suction branch	250mm
转速 Speed	2980r/min	排出口径 Discharge branch	200mm



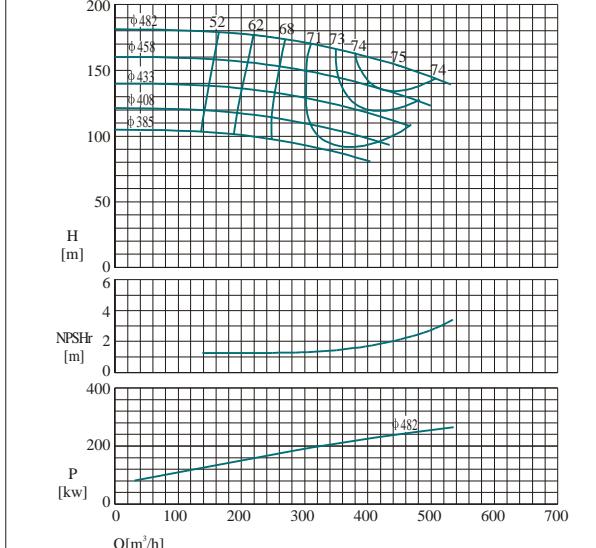
**性能曲线图 Performance curve**

**SLDB SERIES OF HEAVY-DUTY PETROCHEMICAL PROCESS PUMP**
**性能曲线图 Performance curve**


**性能曲线图 Performance curve**

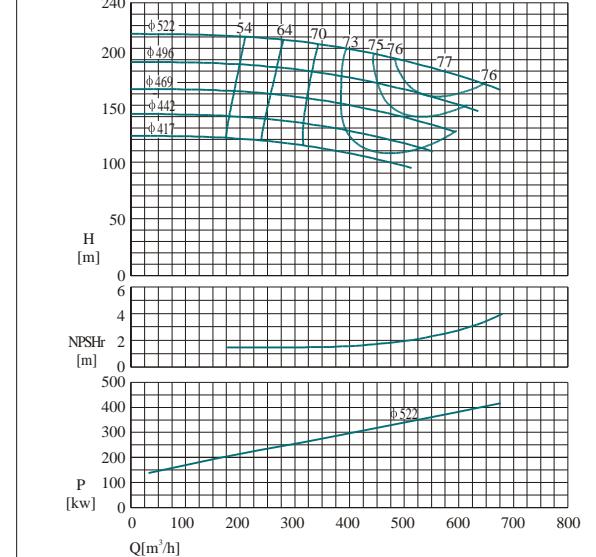
型号 Model	SLDB400-80	吸入口径 Suction branch	250mm
转速 Speed	1475r/min	排出口径 Discharge branch	200mm



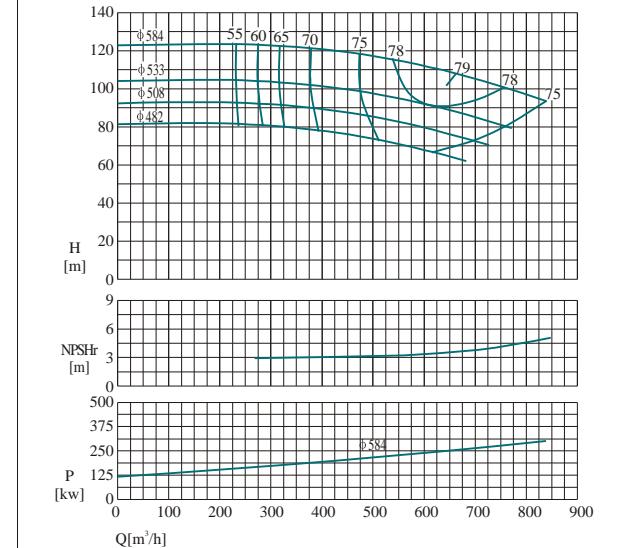
型号 Model	SLDB450-150/2	吸入口径 Suction branch	250mm
转速 Speed	1475r/min	排出口径 Discharge branch	150mm


**性能曲线图 Performance curve**

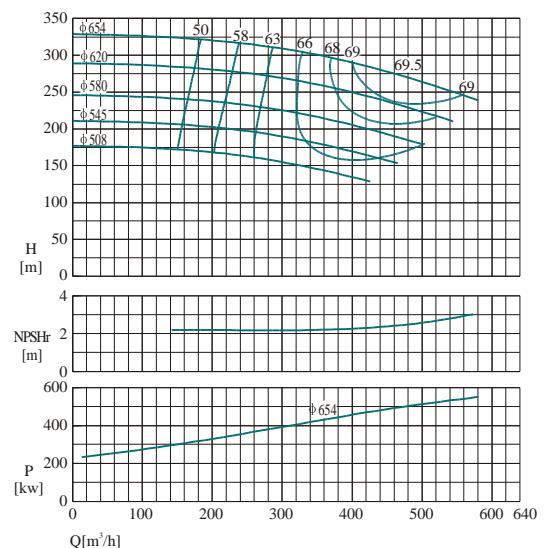
型号 Model	SLDB570-180/2	吸入口径 Suction branch	300mm
转速 Speed	1475r/min	排出口径 Discharge branch	200mm



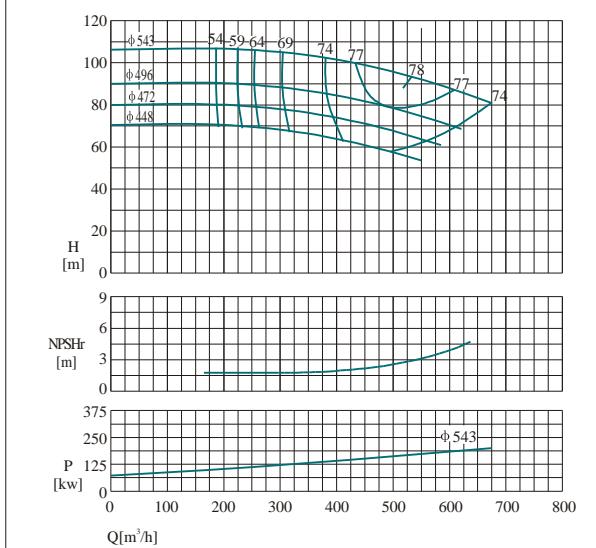
型号 Model	SLDB660-110	吸入口径 Suction branch	300mm
转速 Speed	1475r/min	排出口径 Discharge branch	200mm



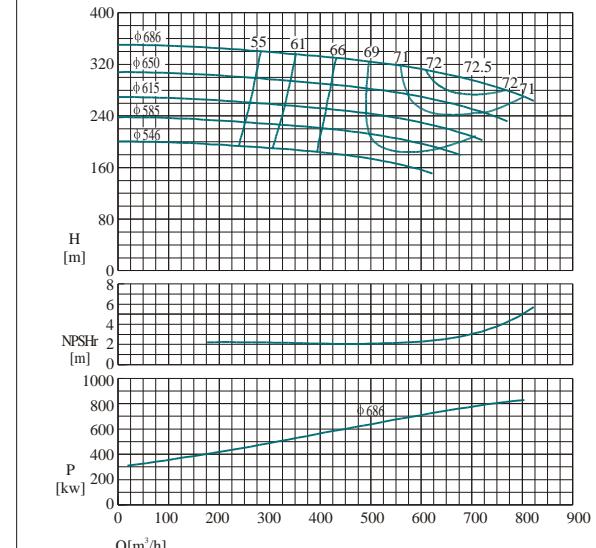
型号 Model	SLDB480-270/2	吸入口径 Suction branch	200mm
转速 Speed	1475r/min	排出口径 Discharge branch	150mm



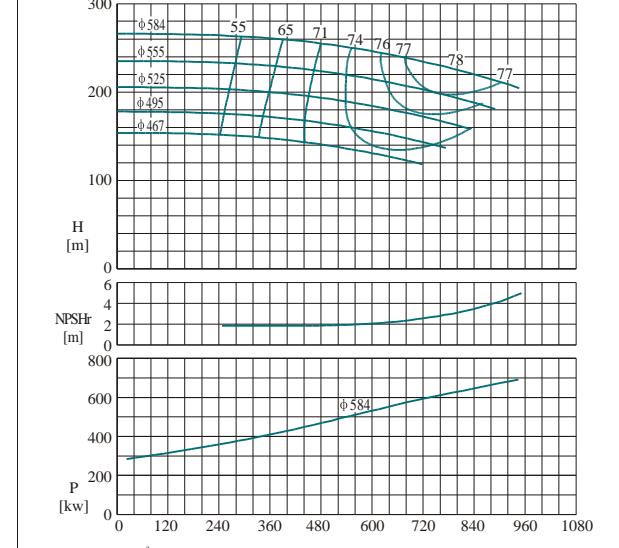
型号 Model	SLDB520-95	吸入口径 Suction branch	250mm
转速 Speed	1475r/min	排出口径 Discharge branch	200mm



型号 Model	SLDB700-295/2	吸入口径 Suction branch	300mm
转速 Speed	1475r/min	排出口径 Discharge branch	200mm



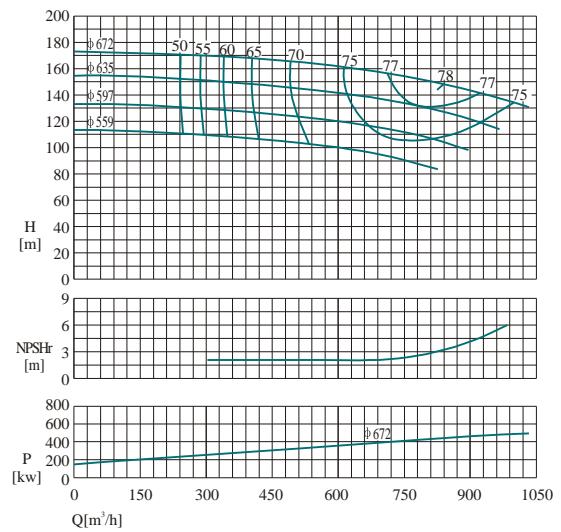
型号 Model	SLDB800-225/2	吸入口径 Suction branch	300mm
转速 Speed	1475r/min	排出口径 Discharge branch	200mm



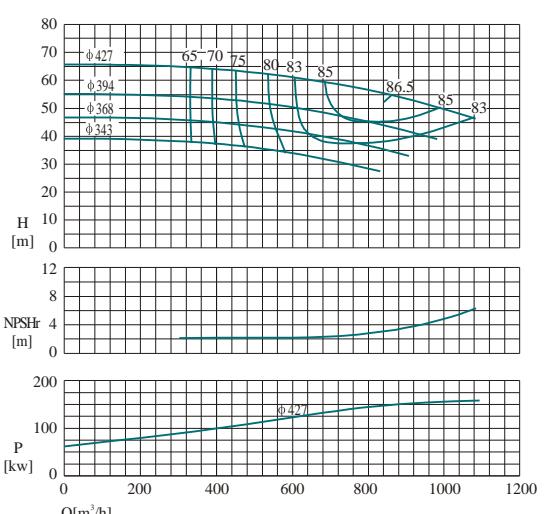
## SLDB系列重工位石油化工流程泵

### 性能曲线图 Performance curve

型号 Model	SLDB840-150	吸入口径 Suction branch	300mm
转速 Speed	1475r/min	排出口径 Discharge branch	250mm



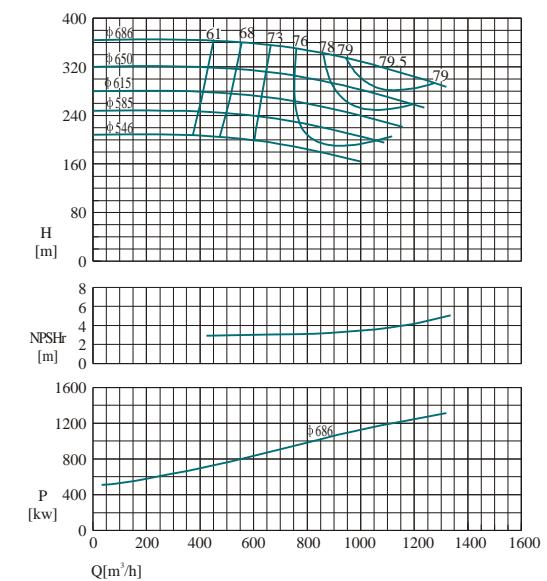
型号 Model	SLDB860-55	吸入口径 Suction branch	350mm
转速 Speed	1475r/min	排出口径 Discharge branch	250mm



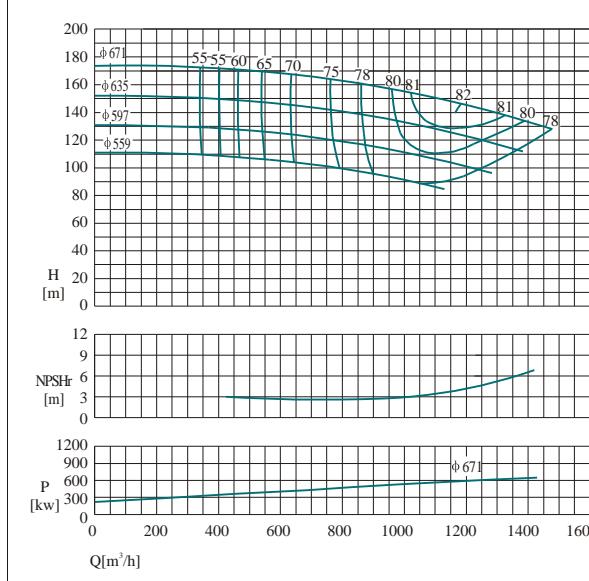
## SLDB SERIES OF HEAVY-DUTY PETROCHEMICAL PROCESS PUMP

### 性能曲线图 Performance curve

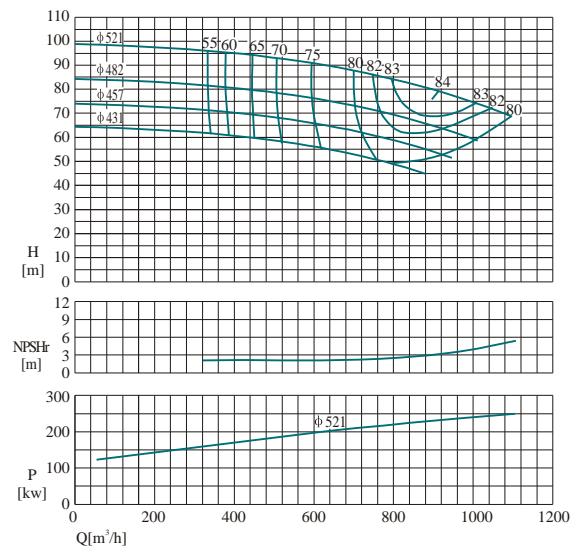
型号 Model	SLDB1100-315/2	吸入口径 Suction branch	300mm
转速 Speed	1475r/min	排出口径 Discharge branch	200mm



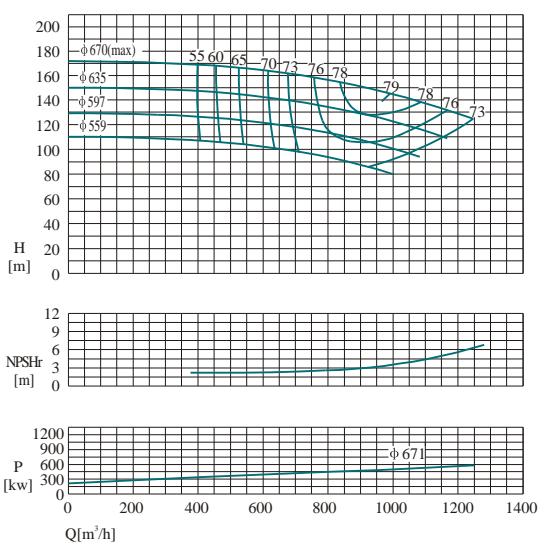
型号 Model	SLDB1180-145	吸入口径 Suction branch	300mm
转速 Speed	1475r/min	排出口径 Discharge branch	250mm



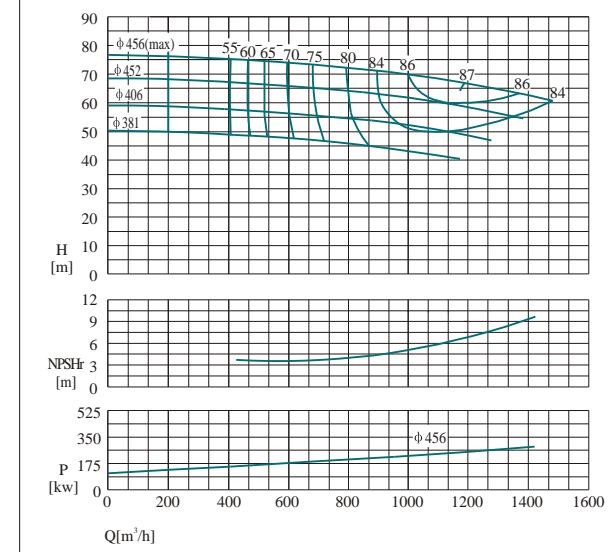
型号 Model	SLDB900-80	吸入口径 Suction branch	300mm
转速 Speed	1475r/min	排出口径 Discharge branch	200mm



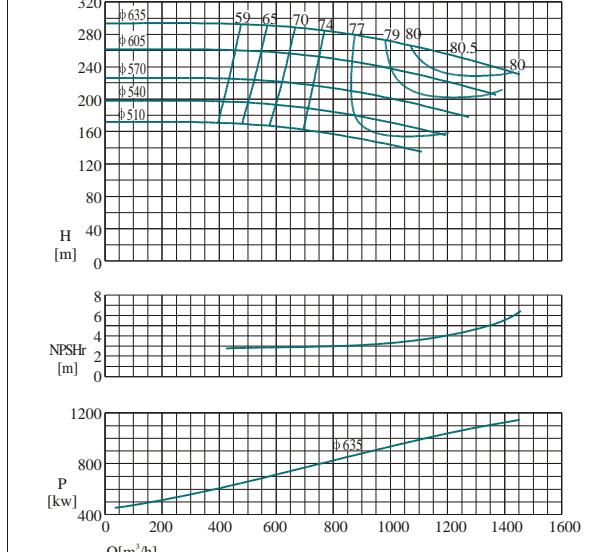
型号 Model	SLDB985-145	吸入口径 Suction branch	300mm
转速 Speed	1475r/min	排出口径 Discharge branch	250mm



型号 Model	SLDB1180-67	吸入口径 Suction branch	350mm
转速 Speed	1475r/min	排出口径 Discharge branch	250mm



型号 Model	SLDB1200-255/2	吸入口径 Suction branch	350mm
转速 Speed	1475r/min	排出口径 Discharge branch	250mm



## SLDB系列重工位石油化工流程泵

### 性能曲线图 Performance curve

