



SP

Non-clogging Self-priming Sewage Pump



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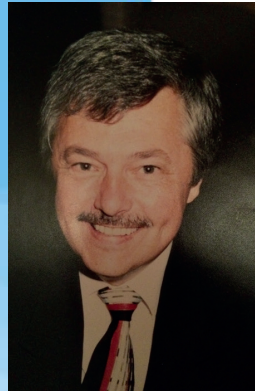
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HISTORY

Founder 1981



Flo Fab was established in 1981 by Denis Gauvreau who created and developed the product line, which is constantly being perfected by Marc Gauvreau and a team of professional engineers and designers. It is a combination of existing designs from several renowned products and the innovative ideas of a new generation professionals.

Through the years, Flo Fab has acquired several companies and service entities including: AQUA-PROFAB (ASME Tanks manufacturer), MÉNARD, LÉONARD ÉLECTRIQUE, PMA. Moreover, Flo Fab also purchased equipment, fabrication designs and patterns from IDEALCO, a manufacturer of shell and tube type heat exchangers.

The after-sales services, sales, engineering, R&D, production, quality control, accounting and administration departments of all the above companies share the same location.

In December 2014, Marc Gauvreau, son of the founder, acquired all of the company's shares. Flo Fab and is constantly investing in new state-of-the-art innovations, new products like the XRI series and Prefab Skid for Hydronic Heating 8 cooling system and pumping systems. This has allowed Flo Fab to retain our competent and qualified staff of professionals with a variety of specialized skills that continually work on improving our existing products and adding new engineered solutions that exceed customers' expectations .

Flo Fab has grown quite rapidly and now proudly offers of a wide range of products available directly from one manufacturer. This includes pumps and pump packages, tanks, heat ex-changers and hydronic accessories. This allows each project's stakeholders to enjoy economical savings, peace of mind, best value for their investment and optimized total cost of ownership.

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● Features

SP Non-clogging self-priming sewage pump is our latest developed product, and issuitable for the treatment project of municipal sewage and industrial sewage as well as stage treatment and concentrated treatment system of various sewages. It's known as “King of Self-priming Sewage Pump” , and it is the most ideal new-generation sewage product.

- Stable performance, reliable operation.
- Rapid self-priming, high suction head.
- Back-pull-out construction: Convenient for maintenance and troubleshooting. Daily maintenance can be performed rapidly by common tools, saving time and labor.
- Semi-open impeller structure and non-clogging design: Strong passing capacity. Diameter of maximum passing grain for SP-6 is 76mm.
- Convenient usage: The pump can be mounted near cesspit with only the suction pipe down in the liquid. (The pump shall be filled with water for first start).

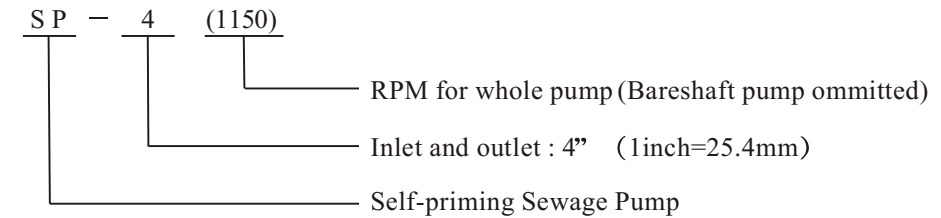
● Operating limits

- Liquid temperature: 0 °C~40 °C, medium density $\leq 1.2 \times 10^3 \text{kg/m}^3$, pH5~9.
- Volume ratio of solids in the medium $\leq 2\%$.
- Diameter of maximum grain: SP-2 38mm, SP-3 63mm, SP-4/SP-6/SP-8/SP-10 76mm.
- Ambient temperature: ≤ 40 °C.
- Altitude: Max. 1,000m.
- Flow range: $10\text{m}^3/\text{h} \sim 750\text{m}^3/\text{h}$.
- Head range: 3m~38m.
- Power: 1.1kW~90kW.
- Max. Working pressure: See Performance Curve.
- Max. Suction head: See Performance Table.

● Application

- Non-flammable and non-explosive liquid.
- Rain water and common sewage.
- Municipal drainage project, construction site, drainage station of people's air defense system.
- Industrial sewage of light industry, paper mill, textile, food processing plant, chemical industry, electric utility, mines, etc.
 - Sewage discharge in the residential area.
 - Sewage and deposit of water purifying system.
 - Tanning industry, sewage of slaughter house, fish breeding in the river and pond.
 - Wine and sugar industry.
 - Discharge not strongly corrosive but seriously polluted sewage.

● Definition of model



● Installation conditions

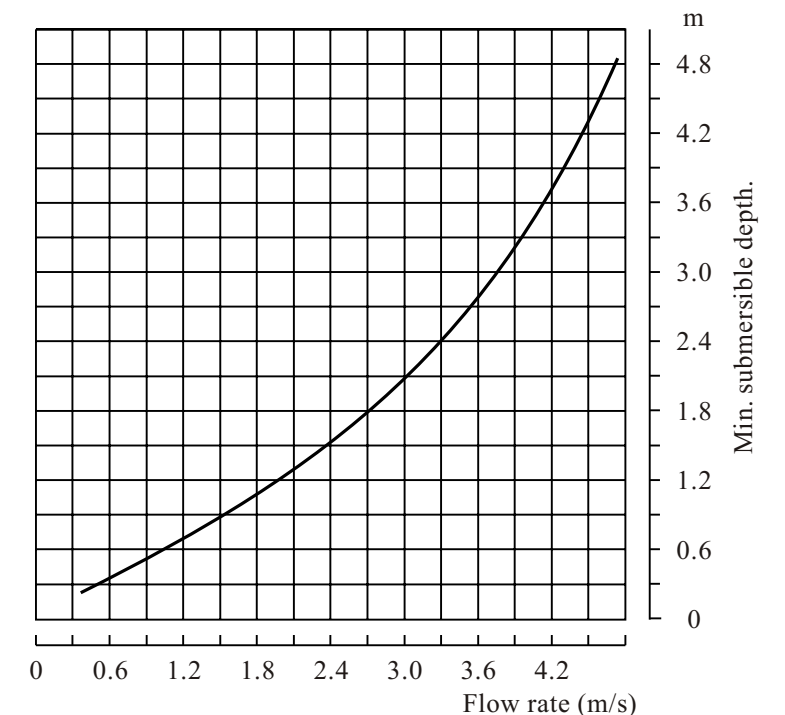
- Suction pipe can be soft pipe or hard pipe, the material of pipes shall be suitable for the pumped liquid. Soft pipe shall be hard enough to prevent from flat when suction.
- Suction pipe shall be short and straight, use less joints and accessories as less as possible. For joints, the radius shall be bigger.
- The distance between the submersible suction pipe in the sump and the wall of the sump shall be 1.5 times than the radius of the pipe. Suction pipe shall not installed in the sump near the whirlpool. If there is, there shall be one baffle between suction pipe and water. The distance shall be 1.5 times than the radius of the pipe..
- If there are two suction in the sump, the pipe distance shall be three times than the radius of the pipe.
- Submersible depth of the submersible suction pipe:

The submersible depth of the suction pipe relates to the flow rate in the pipe. See drawing one

To reduce the submersible depth, we can enlarge the pipe radius or reduce the flow rate of the water. We can use increasing joint to enlarge the radius pipe. The suggested times is 1.3 times to 1.5 times.

- In flooded status, there is inlet pressure. It shall not exceed 50% of the max. working pressure.

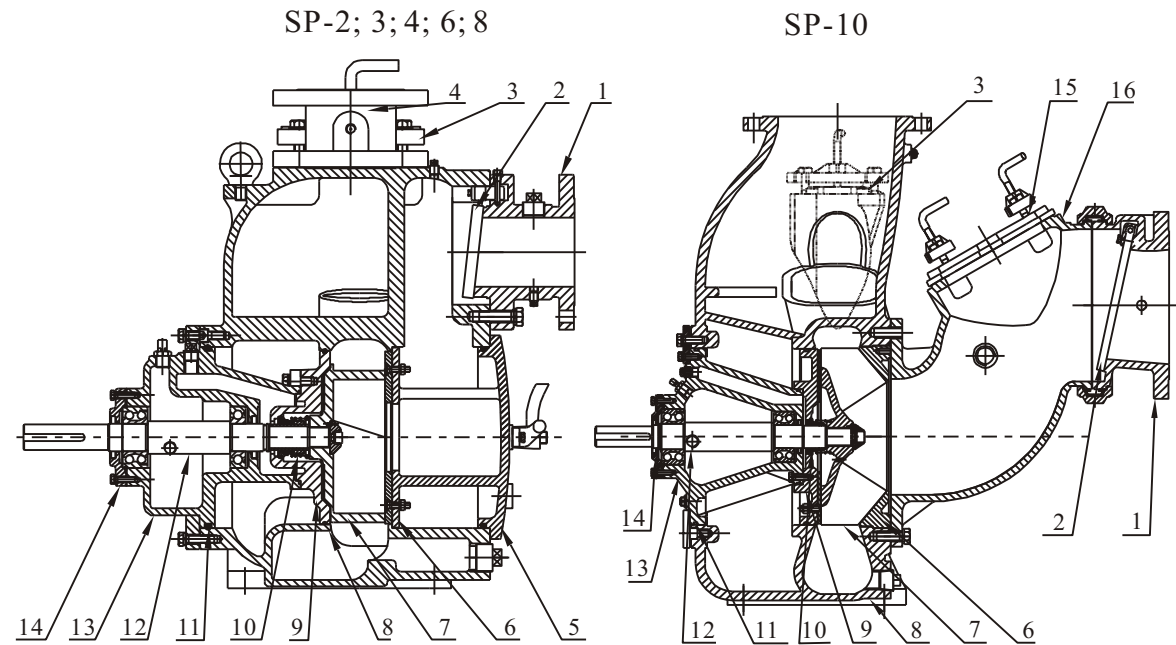
- If use the strainer, the face area of the strainer shall be 4 to 6 times than the radius of the pipe. And ensure the max. dia. of the strainer hole to pass granules shall be less than the granule pump allowed.



$$\text{Flow rate (m/s)} = \frac{\text{Flow (m}^3/\text{h)}}{\text{Section surface of the pipe (m}^2\text{)}}$$

Suggested suction pipe submersible depth VS flow rate

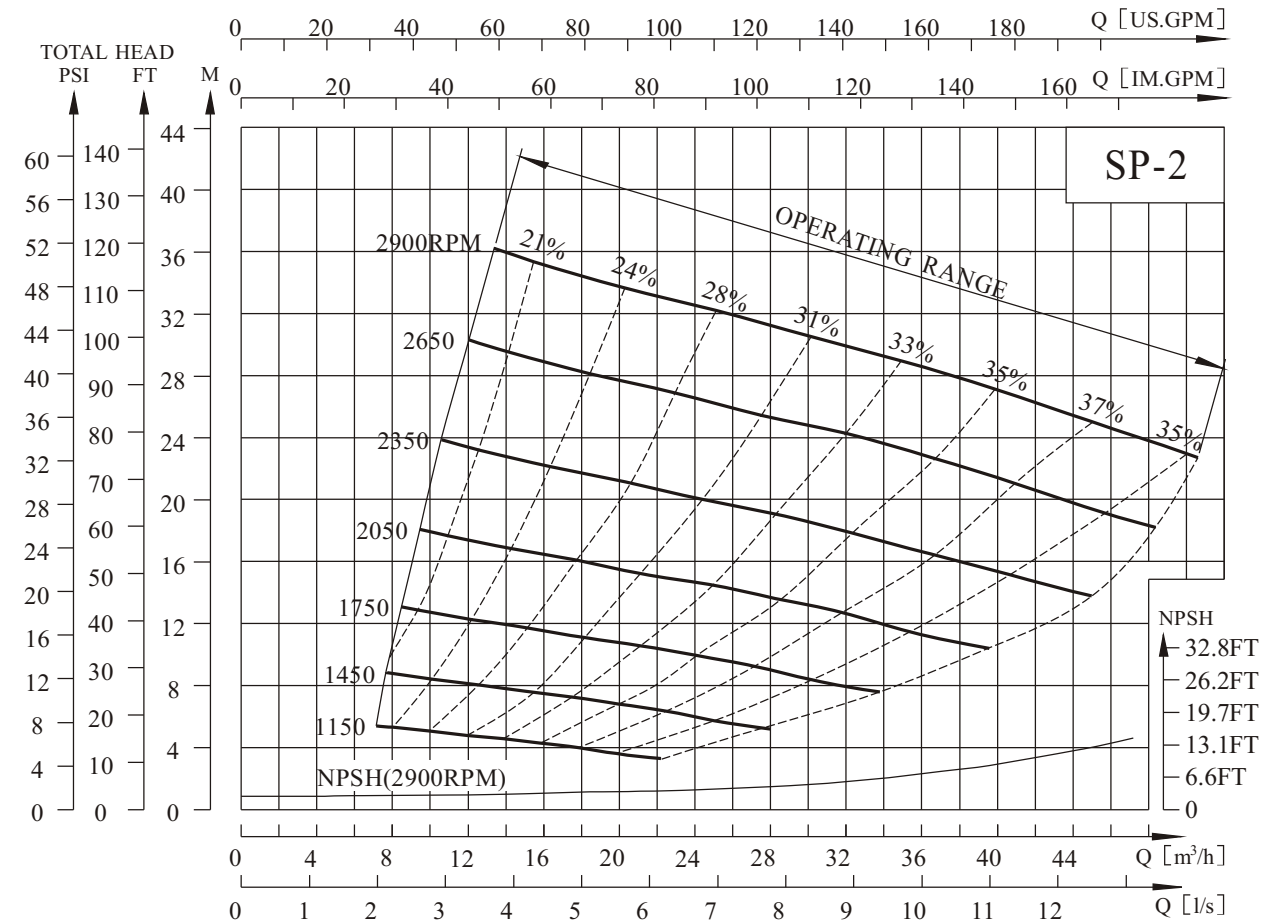
● Section drawing



● Material

NO.	Parts	Material
1	Suction Inlet	Cast iron
2	Flap Valve	NBR+ Carbon steel
3	Infusion Cover	Cast iron
4	Discharge Outlet	Cast iron
5	End Cover	Cast iron
6	Wear Plate	Carbon steel
7	Impeller	DCI Cast steel
8	Volute	Cast iron
9	Impeller Cover	Cast iron
10	Mechanical Seal	WC/ WC
11	O-Ring	NBR/FPM
12	Shaft	Stainless steel
13	Bearing Body	Cast iron
14	Bearing Cover	Cast iron
15	Inlet cover	Cast iron
16	Inlet	Cast iron

● Performance curve



● SP-2 Performance Table

Model	RPM	Q		H (m)	Motor		Inlet & Outlet	Max.Solids (mm)	Max.Suction Head (m)
		(m ³ /h)	(l/s)		(kW)	(HP)			
SP-2	1150	15	4.2	4.0	1.1	1.5	50 (2')	38	5.0
	1450*	20	5.6	6.5	1.5	2			6.5
	1750	25	6.9	9.5	3	4			6.5
	2050	28	7.8	13.5	4	5.5			6.5
	2350	32	8.9	18.0	7.5	10			6.5
	2650	35	9.7	23.0	7.5	10			6.5
	2900*	40	11.1	27.0	9.2	12.5			6.5

● SP-2 Operating Table

Model	RPM	Q (m ³ /h)	H (m)										
			10	12.5	15	17.5	20	25	30	35	40	45	
SP-2	1150	H (m)	5.1	4.7	4.0	3.8	3.5						
	1450*		8.4	8.1	7.6	7.3	6.5	5.8					
	1750		12.6	12.2	11.8	11.3	10.8	9.5	8.5				
	2050		17.9	17.2	16.7	16.1	15.5	14.5	13.2	11.6			
	2350			23.2	22.5	21.8	21.2	19.9	18.6	17.2	15.3		
	2650			30.1	29.2	28.4	27.6	26.2	24.8	23.0	21.6	19.4	
	2900*				35.6	34.5	33.7	32.1	30.4	29	27.0	25.3	

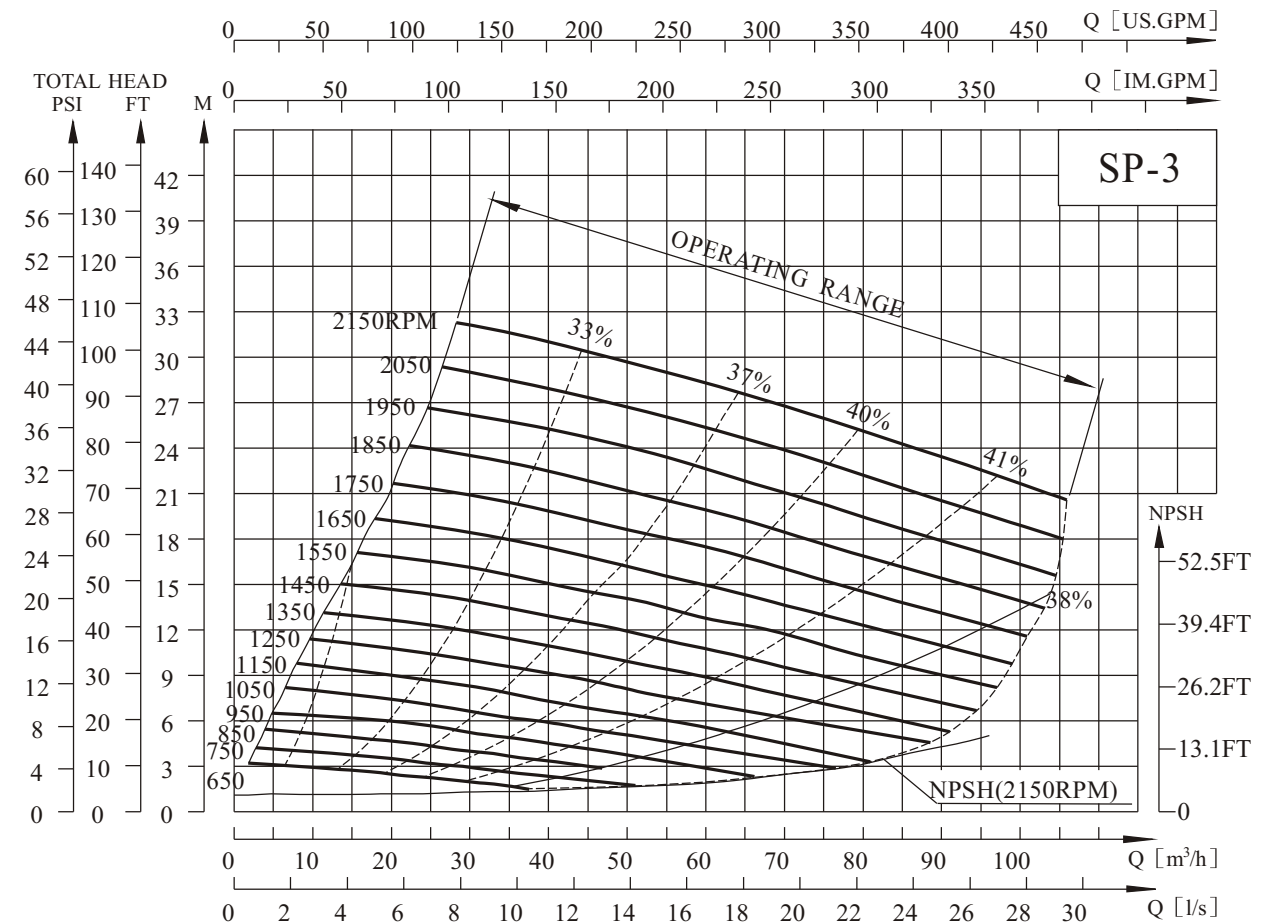
● Note: (Suit for SP-1, 3, 4, 6, 8, 10)

1)The performance is based on pumping clean water under normal temperature and min suction head is measured on sea level. For different installation way of pump, pump performance vary from flow rate, specific gravity, altitude, temperature. If the specific gravity of pumped medium is bigger than 1.2kg/dm³, please contact us.

2)For the rpm with '*' in the table, pump can be coupled with Y2 B3 series standard motor.

3)For other rpm, pump can be driven by triangle belt sheave.

● Performance curve



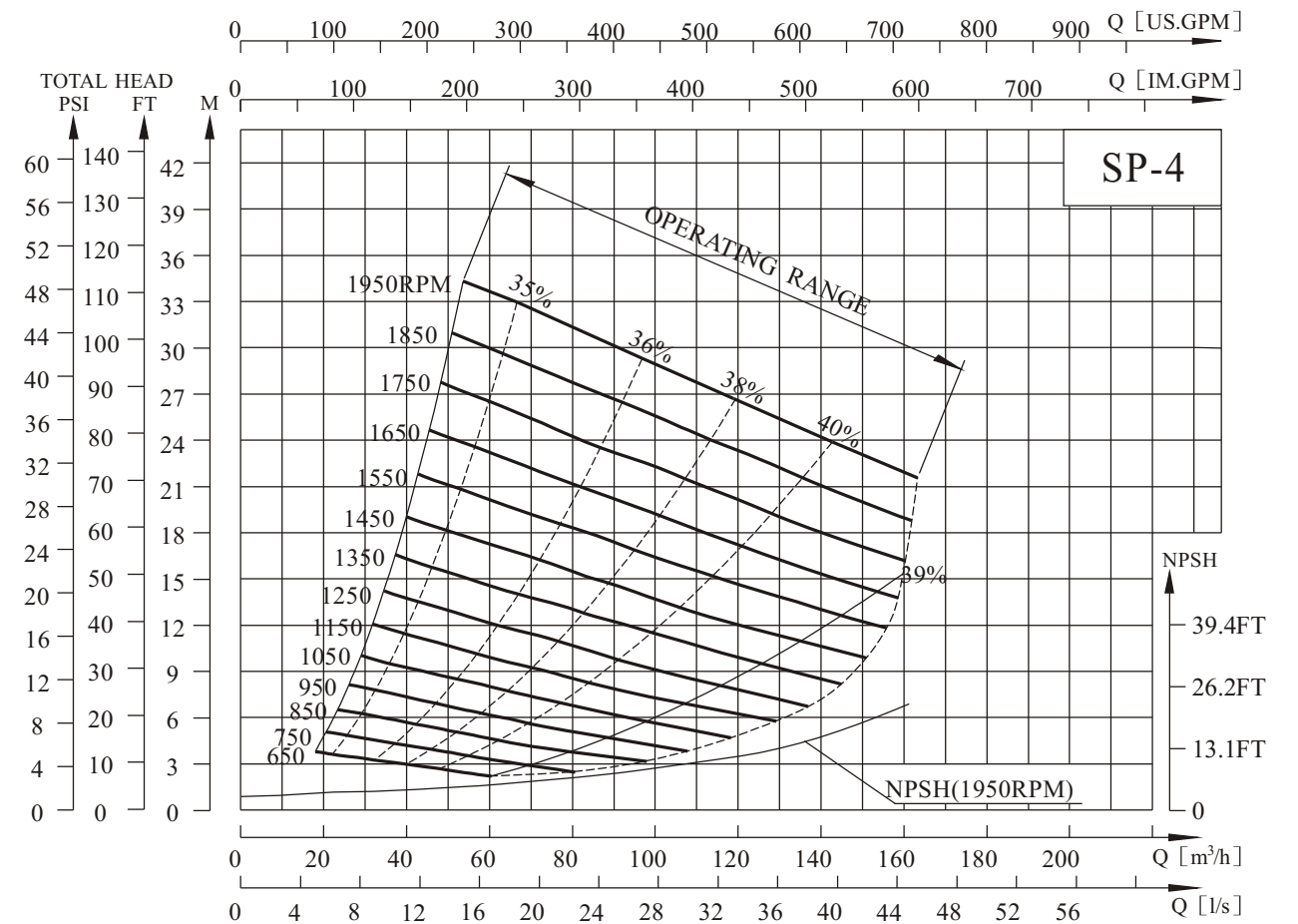
● SP-3 Performance Table

Model	RPM	Q		H (m)	Motor		Inlet & Outlet	Max.Solids (mm)	Max.Suction Head (m)
		(m ³ /h)	(l/s)		(kW)	(HP)			
SP-3	650	25	6.9	2	0.75	1	80 (3')	63	1.5
	750*	30	8.3	3	1.5	2			1.8
	850	32.5	9.0	4	1.5	2			2.4
	950*	40	11.1	4.5	1.5	2			3.0
	1050	42.5	11.8	5.5	3	4			4.0
	1150	45	12.5	7	4	5.5			4.9
	1250	50	13.9	8	4	5.5			5.5
	1350	52.5	14.6	10	5.5	7.5			5.8
	1450*	55	15.3	11.5	5.5	7.5			6.4
	1550	60	16.7	12.5	7.5	10			6.4
	1650	65	18.1	14.5	11	15			6.7
	1750	70	19.4	16	11	15			6.7
	1850	72.5	20.1	18	15	20			7.6
	1950	75	20.8	20	15	20			7.6
	2050	80	22.2	22.5	18.5	25			7.6
2150	85	23.6	24.5	18.5	25	7.6			

● SP-3 Operating Table

Model	RPM	Q (m ³ /h)	H (m)												
			10	20	30	40	50	60	70	80	90	100			
SP-3	650		2.9	2.5	2.0										
	750*		3.9	3.5	3.0	2.3									
	850		5.2	4.7	3.9	3.4									
	950*		6.4	6.0	5.2	4.5	3.8								
	1050		7.9	7.4	6.7	5.9	5.0	4.3							
	1150		9.7	9.0	8.3	7.4	6.5	5.6							
	1250		11.3	10.7	10.0	9.1	8.0	7.1	6.2						
	1350			12.6	11.9	11.0	10.0	9.0	7.7						
	1450*			14.7	14.0	12.9	12.0	10.8	9.6	8.3					
	1550			16.8	16.1	15.1	14.0	12.5	11.7	10.4	9.1				
	1650			19.3	18.5	17.4	16.2	15.0	13.6	12.3	11.1				
	1750					20.9	19.7	18.7	17.5	16.0	14.5	13.2	11.8		
	1850					23.5	22.5	21.2	20.0	18.4	16.9	15.3	14.0		
	1950					26.2	25.3	24.1	22.7	21.0	19.6	17.9	16.4		
	2050					29.0	28.0	26.8	25.3	24.0	22.5	20.5	18.9		
2150					32.1	31.0	29.7	28.2	26.8	25.1	23.4	21.7			

● Performance curve



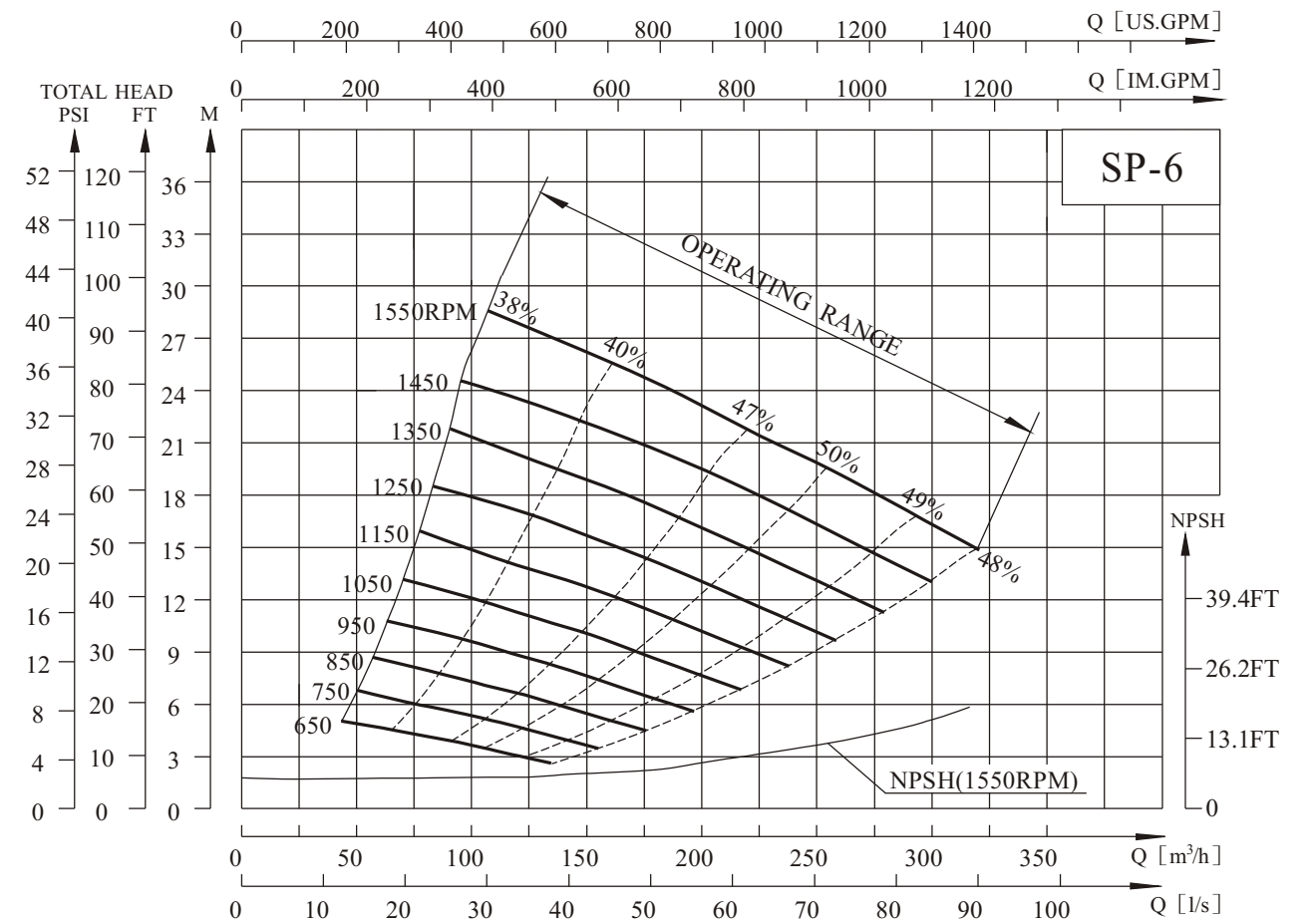
● SP-4 Performance Table

Model	RPM	Q		H (m)	Motor		Inlet & Outlet	Max.Solids (mm)	Max.Suction Head (m)
		(m ³ /h)	(l/s)		(kW)	(HP)			
SP-4	650	40	11.1	3	1.5	2	100 (4')	76	1.5
	750*	45	12.5	4	1.5	2			2.4
	850	53	14.7	5	2.2	3			4.9
	950*	60	16.7	6	3	4			5.8
	1050	65	18.1	7.5	5.5	7.5			6.7
	1150	72	20.0	9	5.5	7.5			7.3
	1250	80	22.2	10.5	7.5	10			7.6
	1350	85	23.6	12.5	11	15			7.6
	1450*	100	27.8	13.5	11	15			7.6
	1550	110	30.6	15.5	15	20			7.6
	1650	115	31.9	18	18.5	25			7.6
	1750	120	33.3	20	22	30			7.6
	1850	130	36.1	22.5	30	40			7.6
1950	135	37.5	25	30	40	7.6			

● SP-4 Operating Table

Model	RPM	Q (m ³ /h)	H (m)																	
			20	32	48	64	80	96	112	128	144	160								
SP-4	650		3.8	3.3	2.6															
	750*			4.5	3.7	3.0														
	850			6.0	5.3	4.5	3.5													
	950*			7.5	6.5	5.7	5.0													
	1050			9.7	8.7	7.8	6.8	5.9												
	1150			11.9	10.8	9.9	8.8	7.6												
	1250			14.2	13.2	12.0	10.8	9.5	8.4											
	1350			16.7	15.7	14.3	13.1	11.8	10.5											
	1450*					18.0	16.5	15.5	14.0	12.5	11.5									
	1550					20.9	19.8	18.3	16.9	15.4	13.8	12.6								
	1650					24.3	22.9	21.1	19.8	18.1	16.3	15.0								
	1750					27.6	26.2	24.4	22.9	21.3	19.3	17.5	16.2							
	1850					31.0	29.8	27.7	26.1	24.4	22.5	20.5	18.7							
1950					34.5	33.4	31.5	29.4	27.7	25.7	23.5	21.7								

● Performance curve



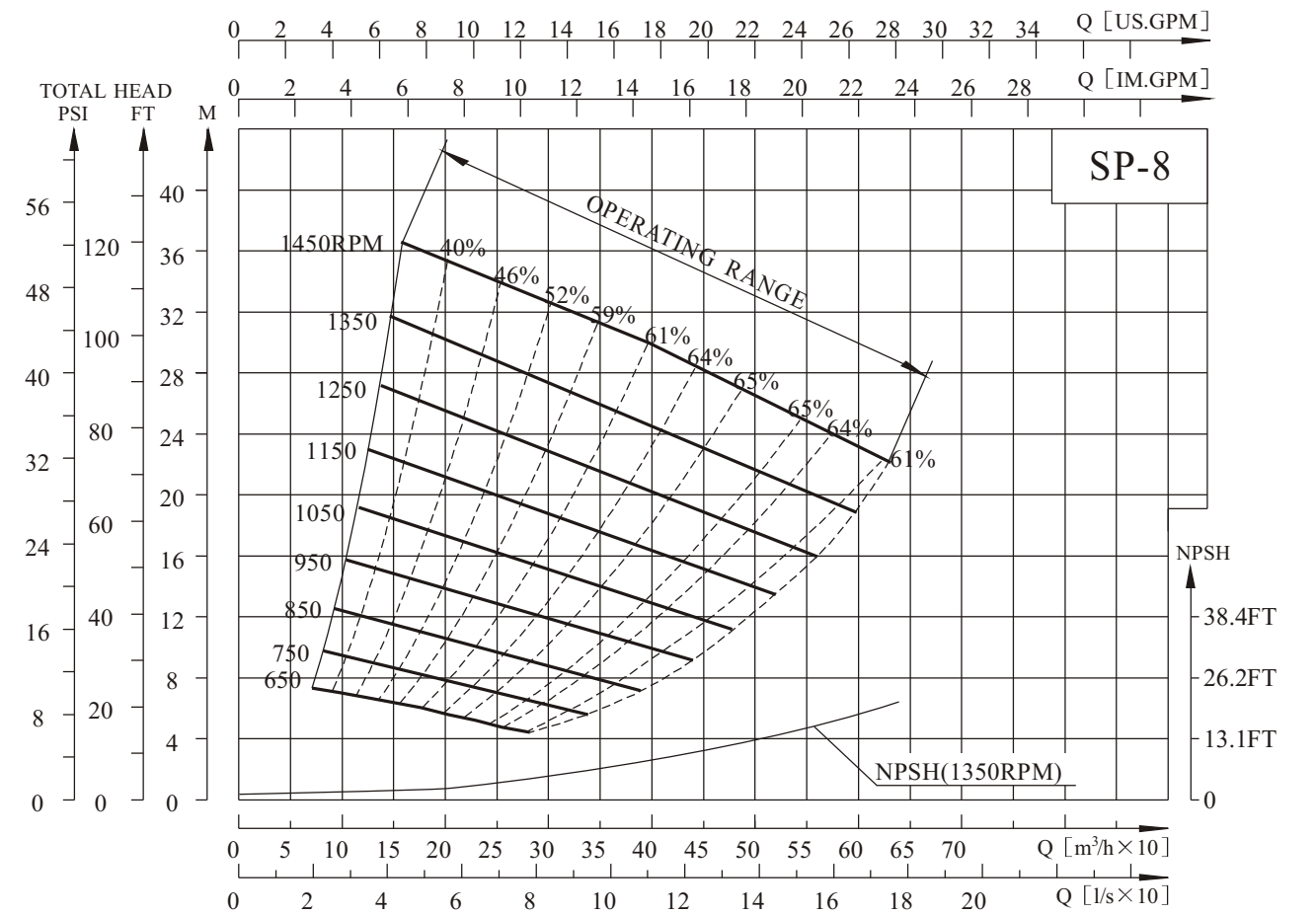
● SP-6 Performance Table

Model	RPM	Q		H (m)	Motor		Inlet & Outlet	Max.Solids (mm)	Max.Suction Head (m)
		(m ³ /h)	(l/s)		(kW)	(HP)			
SP-6	650	100	27.8	3.5	3	4	150 (6')	76	2.4
	750*	125	34.7	4.5	4	5.5			2.7
	850	150	41.7	5.5	7.5	10			3.6
	950*	160	44.4	7.5	7.5	10			4.2
	1050	180	50.0	9.0	11	15			5.5
	1150	200	55.6	10.0	15	20			6.4
	1250	220	61.1	12.5	22	30			6.4
	1350	230	63.9	15.0	30	40			6.7
	1450*	250	69.4	17.0	30	40			7.0
	1550	280	77.8	18.0	37	50			7.6

● SP-6 Operating Table

Model	RPM	Q (m ³ /h)	H (m)										
			50	80	120	150	180	210	240	270	300		
SP-6	650	H (m)	5.0	4.2	3.1								
	750*			6.0	4.7	3.6							
	850			8.0	7.0	5.5							
	950*			11.0	9.5	7.5	6.8						
	1050			13.0	11.0	10.0	9.0	7.5					
	1150			16.0	14.0	12.8	11.2	10.0	8.0				
	1250				17.0	15.5	14.0	12.7	10.5				
	1350					20.5	19.0	17.5	15.5	14.0	12.0		
	1450*						24.0	22.0	21.0	19.0	17.0	15.0	13.0
	1550							28.0	26.0	24.5	22.7	20.5	18.5

● Performance curve



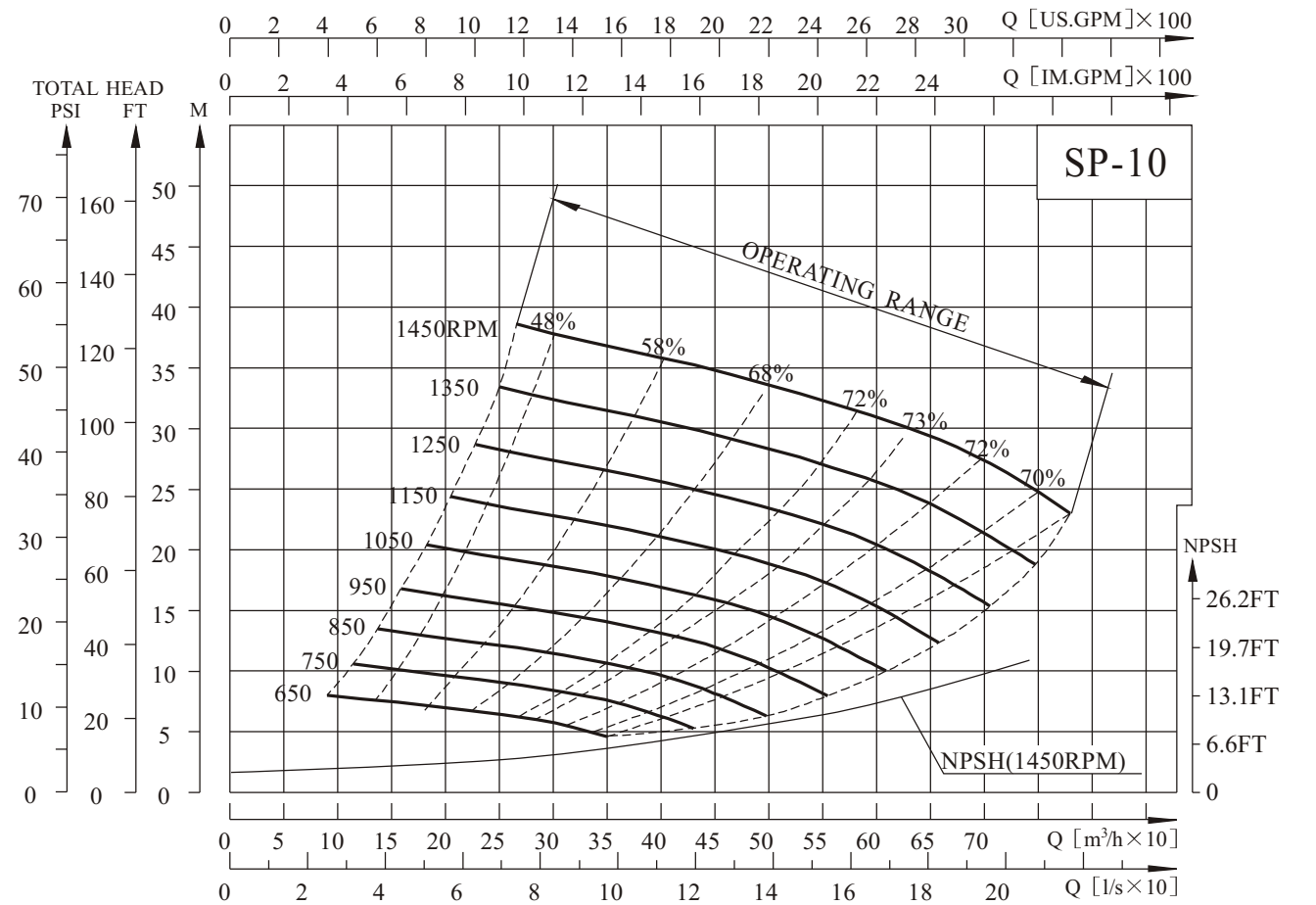
● SP-8 Performance Table

Model	RPM	Q		H (m)	Motor		Inlet & Outlet	Max.Solids (mm)	Max.Suction Head (m)
		(m ³ /h)	(l/s)		(kW)	(HP)			
SP-8	650	200	55.6	6	7.5	10	200 (8')	76	2.7
	750*	230	63.9	8	11	15			3.7
	850	260	72.2	10	15	20			4.6
	950*	300	83.3	12	22	30			5.2
	1050	320	88.9	15	30	41			6.1
	1150	350	97.2	18	37	50			6.4
	1250	400	111.1	20	55	75			6.7
	1350	450	125.0	23	75	102			7
	1450*	500	138.9	26	75	102			7

● SP-8 Operating Table

Model	RPM	Q (m ³ /h)	H (m)												
			100	150	200	250	300	350	400	450	500	580			
SP-8	650		7.0	6.5	6.0	5.0									
	750*			8.8	8.5	7.5	6.5								
	850			11.5	11.0	10.0	9.0	8.0							
	950*			15.0	14.0	13	12.0	11.0							
	1050			18.5	17.5	16.5	15.5	14.0	13.0						
	1150				21.5	20.3	19.0	18.0	16.5	15.5					
	1250				25.5	24.5	23.0	22.0	20.0	19.0	18.0				
	1350				30.5	29.0	27.8	26.0	25.0	23.0	22.0				
	1450*				35.5	34.0	32.0	31.0	30.0	28.0	26.0	23.0			

● Performance curve



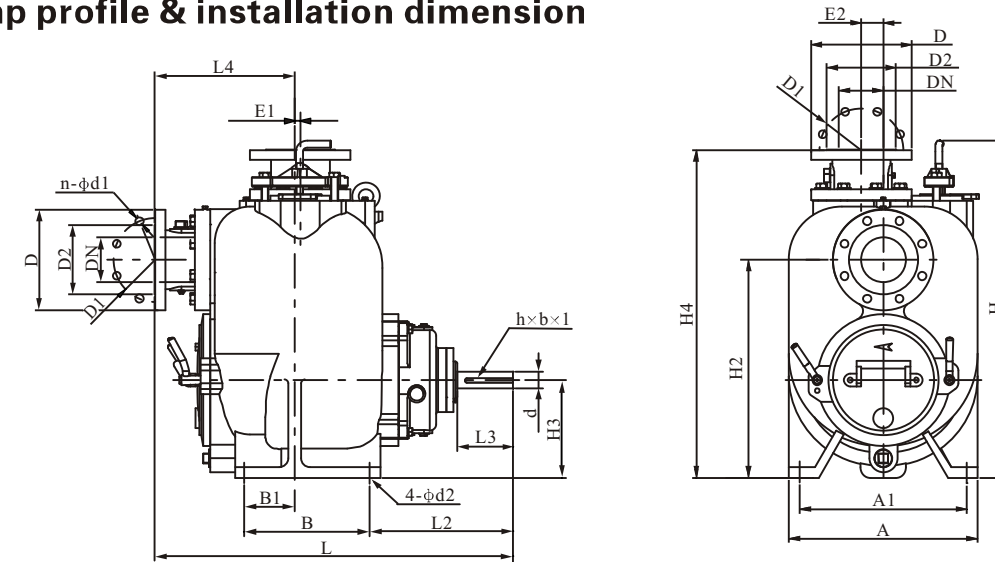
● SP-10 Performance Table

Model	RPM	Q		H (m)	Motor		Inlet & Outlet	Max.Solids (mm)	Max.Suction Head (m)
		(m³/h)	(l/s)		(kW)	(HP)			
SP-10	650	250	69	6.5	11	15	250 (10')	76	2.1
	750*	300	83	8.5	15	20			3.4
	850	350	97	11	22	30			4.3
	950*	400	111	13	30	41			5.2
	1050	450	125	16	45	61			5.5
	1150	500	139	19	55	75			5.5
	1250	525	146	23	75	102			5.8
	1350	550	153	27	90	122			6.7
	1450*	600	167	31	90	122			6.7

● SP-10 Operating Table

Model	RPM	Q (m³/h)	H (m)												
			200	300	400	450	500	550	600	650	700	750			
SP-10	650	H (m)	7.0	6.5											
	750*		10.0	8.5	6.0										
	850		13.0	11.5	10.0	8.0									
	950*		16.0	15.0	13.0	12.0	10.0								
	1050		20.0	19.0	17.0	16.0	14.5	12.5							
	1150			23.0	21.0	20.0	19.0	17.5	15.0						
	1250			27.5	25.5	24.5	23.5	22.0	20.5	18.0					
	1350			32.5	30.5	29.5	28.0	27.0	25.5	23.5	21.5				
	1450*			38.0	36.0	35.0	33.5	32.0	31.0	29.5	27.5	24.5			

● Pump profile & installation dimension



Item	SP-2	SP-3	SP-4	SP-6	SP-8	SP-10
PN	PN0.6MPa / Class 150 lb		PN1.0MPa / Class 150 lb		PN1.6MPa / Class 150 lb	
DN	50/2'	80/3'	100/4'	150/6'	200/8'	250/10'
D	140/6'	190/7.5'	228.6/9'	285/11'	340/13.5'	405/16'
D1	110/4.75'	150/6'	180/7.5'	240/9.5'	295/11.75'	355/14.25'
D2	90/3.6'	127/5'	158/6.19'	212/8.3'	266/10.62'	320/12.75'
n-d1	4-14/0.75'	4-19/0.75'	8-19/0.75'	8-23/0.88'	8-23/0.88'	12-26/1'
h x b x l	10 x 5 x 95	10 x 5 x 80	10 x 5 x 90	10 x 5 x 95	14 x 3.5 x 127	14 x 3.5 x 120
	0.38' x 0.19' x 3.74'	0.38' x 0.19' x 3'	0.38' x 0.19' x 3.5'		0.38' x 0.19' x 5'	
H2	318/12.51'	431.8/17'	495.3/19.5'	574.3/22.61'	723.8/28.5'	639.8/25.19'
A	308/12.13'	377/14.84'	428/16.85'	580/22.83'	716/28.19'	705/27.75'
A1	281/11.06'	328/12.91'	373/14.69'	527/20.75'	635/25'	635/25'
B	163.2/6.42'	228.6/9'	279.4/11'	279.4/11'	304.8/12'	304.8/12'
B1	54/2.12'	76.2/3'	110/4.33'	77.8/3.06'	101.6/4'	101.6/4'
L2	274.8/10.82'	285/11.22'	326/12.83'	294/11.57'	407.1/16.03'	320.6/12.63'
d2	14/0.55'	18/0.71'	18/0.71'	18/0.71'	24/0.88'	24/0.88'
H3	151.5/5.96'	190.5/7.5'	222.2/8.75'	257.2/10.13'	330.2/13'	355.6/14'
L3	104/4.09'	102/4.02'	127/5'	127/5'	170/6.69'	123/4.84'
d	38/1.50'	38/1.5'	38/1.5'	38/1.5'	48/1.75'	48/1.75'
H	552/21.73'	697.5/27.46'	760/29.92'	875/34.45'	989/38.94'	1017/40.04'
Am	321/12.64'	389/15.31'	429/16.89'	580/22.83'	716/28.19'	786/30.94'
H4	502/19.16'	652/25.67'	735/28.94'	887.7/34.95'	1069.3/42.06'	1047.8/41.25'
L	615/24.21'	712.2/28.04'	813.5/32.03'	906.6/35.69'	1023/40.28'	1244.7/49'
L4	233/9.17'	277/10.91'	318/12.52'	411/16.18'	412.8/16.25'	720.9/28.38'
E1	27.5/1.08'	15/0.59'	13/0.51'	0	0	0
E2	70/2.76'	50/2'	50/2'	50/2'	0	0
Wt. (kg/lbs)	99/218	190/419	275/606	438/966	655/1445	705/1555

