

SUBMERSIBLE PUMPS SILVER LINE SERIES - 50Hz



An ISO 9001 Company

CE

* For specific models only
* Products bearing CE mark
are only CE certified





T H E B E G I N N I N G

of C.R.I., way back in 1961, was a resolute attempt to produce a few irrigation equipments using the limited facilities of an in-house foundry. Eventually the founder's dream was coming true as the small production unit he started kept growing rapidly. Now, after more than five eventful decades, it is an enormous, widely reputed organization, which produces more than 2300 varieties of perfectly engineered pumps and motors and sells its products in numerous countries spread across 6 continents.

C . R . I . I S O N E A M O N G

the few pioneers in the world to produce 100% stainless steel submersible pumps. Having achieved a record production capacity of over 2 million pumps per annum, today C.R.I. is rubbing its shoulders with the best brands in the world, with advanced technology and safety standards as its hallmarks.

T H E I N F R A S T R U C T U R E

of C.R.I. is pretty comprehensive with state-of-the-art machineries and high potential in-house R&D recognised by the ministry of science and technology, Govt. of India - all within its own covered area of 300,000 square metres. The production environment is accredited with ISO 9001 certifications and the products are CE, CSA, IEC, TSE & ISI certified. The R&D team always stays in tune with the changing scenario and seldom fails in coming up with outstanding solutions every time.

N E E D L E S S T O S A Y ,

behind this legendary growth lies the untiring, innovative, enthusiastic and dedicated team work. and, of course, a flawlessly maintained value system too. The name C.R.I. itself encapsulates the company's ethos: " Commitment, Reliability, Innovation".





Vision, Mission and values

To be the industry leader providing best - in - class fluid management solutions to individual and institutional customers and societies in our chosen markets.

We will achieve this through our dedicated efforts to enhance the welfare of all our stakeholders and by living by our values of commitment, reliability and Innovation.

C O N T E N T S

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GENERAL INFORMATION

SILVERLINE SERIES

PERFORMANCE CURVE CONDITIONS

- a. The Performance curve shows the pump performance at rated speed, voltage and @ 3 metre minimum submergence.

The nominal speed of pump

4" : n = 2850 rpm

6" : n = 2870 rpm

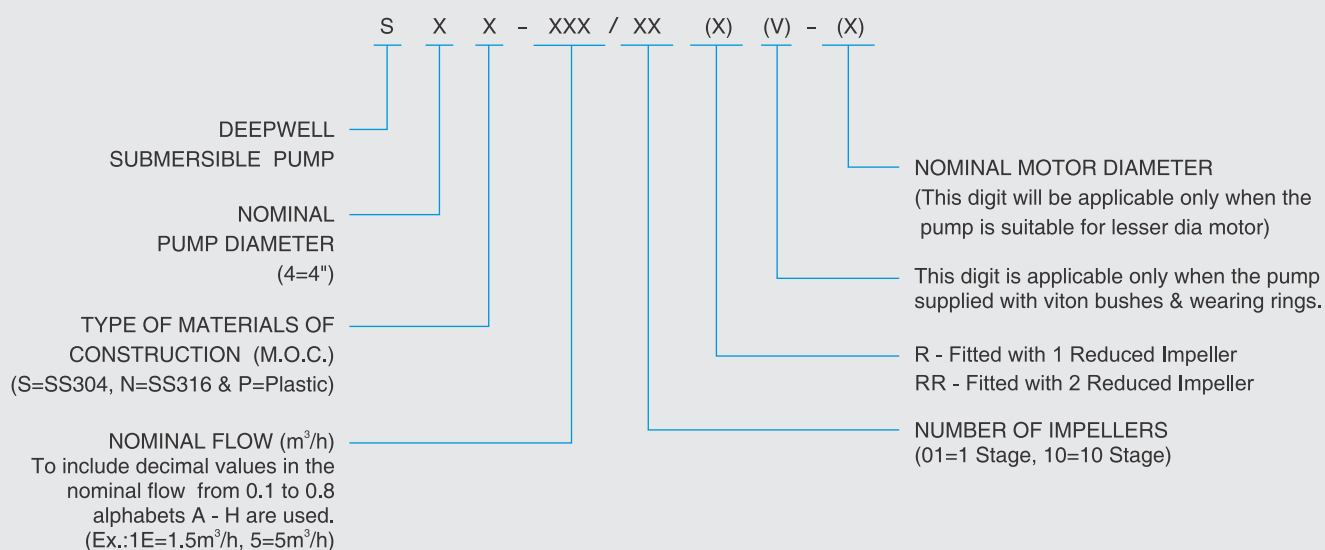
8" & 10" : n = 2900 rpm

- b. The measurements were made with airless water at 20°C and specific gravity of 1. When pumping liquids with a density higher than that of water, motor with correspondingly higher output must be used.
- c. Pipe friction losses have not been included in the performance curves and tables.
- d. The bold curve indicates the recommended operating range.
- e. Q/H : The curves are inclusive of check valve and suction inter-connector losses at the rated speed.
- f. Efficiency curve: " η %" shows pump stage efficiency.
- g. Performance curve tolerances are as per HI : 14.6/ISO : 9906, Grade -3B
- h. All mounting dimensions are in accordance with NEMA/International standards.
- i. The pump outlet threads are as per BSP standard.
- j. Available type of materials of construction S (SS 304) and N (SS 316). Type N the third digit of the pump model. "S" will be replaced with "N". The given performance curves are common for type S & N.
- k. The performance readings were taken at rated voltage and are only indicative. Actual discharge may vary depends on availability of water, height of water column above pump and operating voltage.

GENERAL INFORMATION

SILVER LINE SERIES MODEL IDENTIFICATION CODE

DEEPWELL SUBMERSIBLE PUMP



DEEPWELL SUBMERSIBLE PUMP SET (Pump + Motor)

PUMP MODEL	+	MOTOR MODEL
S X X - XXX / XX	+	X X X - XXX X

DEEPWELL SUBMERSIBLE PUMP SET (Pump + Motor)

PUMP MODEL	+	MOTOR MODEL
S4P - 18 / 04	+	W4A - 22 T

Sample Description:

S4P-10/15 : 3.0kW, 2" BSP Sub.Pump ~ 4", 50Hz

Submersible Pumps

SILVER LINE SERIES

C.R.I. Silver line series pumps are designed for pumping liquid from deep wells. These pumps are of multistage centrifugal type supplied with radial or mixed flow engineering thermoplastic impellers and diffusers for higher head and flow requirements. All the metal and non-metal components that come into contact with the liquid are made of stainless steel and food grade engineering thermoplastic. The optimized hydraulic design offers maximum efficiency at deeper installations. Floating impeller design can handle little higher sand than the normal pump and reduce the down thrust load that is transferred to motor. These pumps are offered in P and V type construction suitable for 4" and above diameter borewells. In "P" type construction, suction inter connector and check valve housings are supplied in stainless steel material and "V" type pumps are offered with nylon. All mounting dimensions are in accordance with NEMA standards.

Design Features :

- High efficiency
- Wide hydraulic ranges
- Floating impeller design
- Stainless steel suction inter connector and non-return valve

Applications :

- Ground water supply to residences and commercial buildings
- Agriculture
- Pressure boosting system
- Fountains
- Gardens
- Landscaping
- Livestock watering

SILVER LINE SERIES

Pumped Liquids

Clear, Thin, Non-aggressive, Non explosive, Clear, Cold, Fresh Water without abrasives, Solid particles or fibre having the following characteristics

a)	Temperature	35 °C (max.)
b)	Permissible amount of sand	50 g/m ³ (max.))1-5 m ³ 100 g/m
c)	Chlorine ion density	500 ppm (max.)
d)	Allowable solids	100 ppm (max.)
e)	Specific gravity	1.004 (max.)
f)	Hardness (Drinking water)	300 (max.)
g)	Kinematic viscosity	1 mm ² /s (1cSt) (max.)
h)	Turbidity	50 ppm silica scale(max.)
i)	pH	6.5 to 8.5

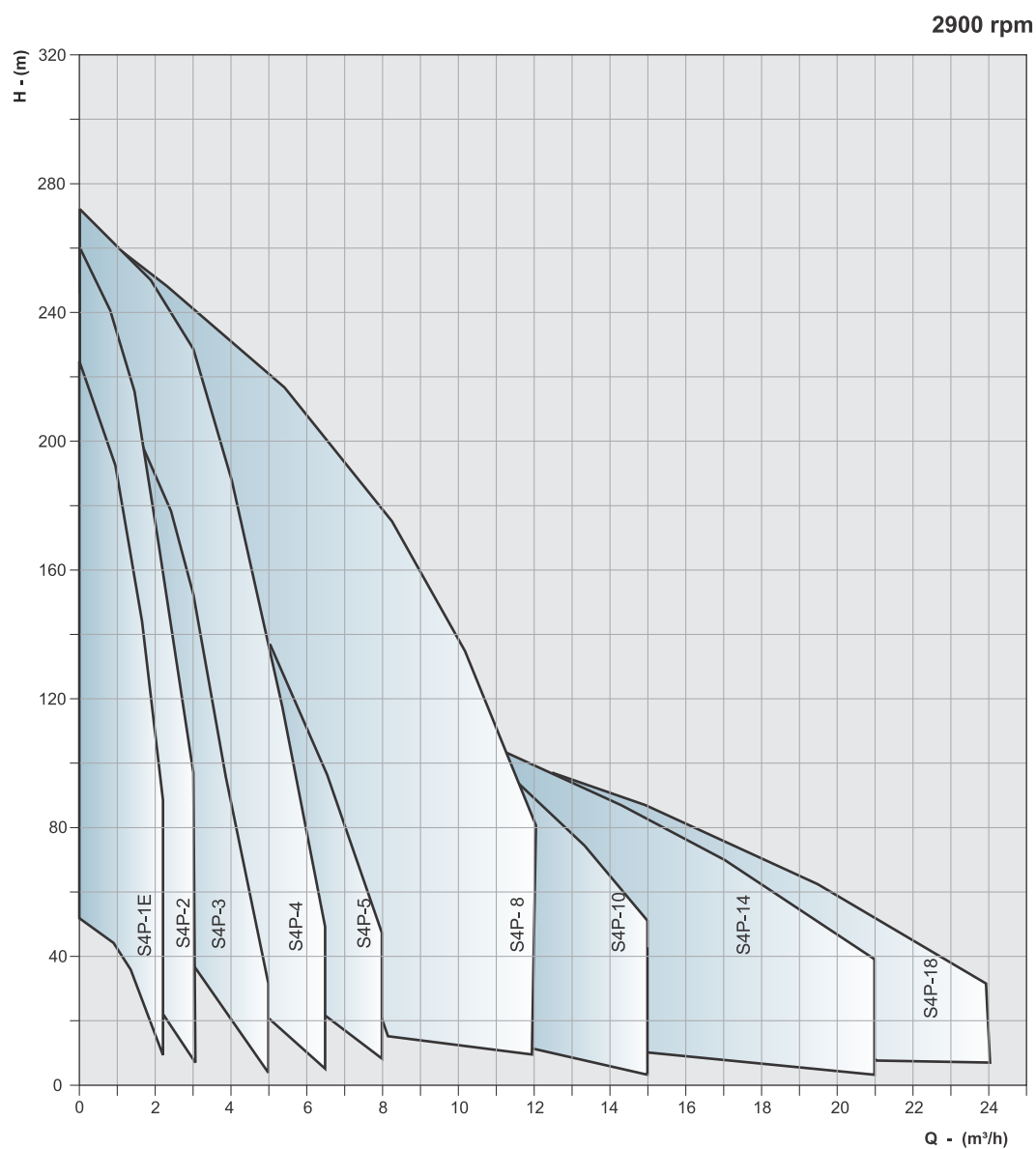
Pump Operating Limitations		
Nominal Diameter		4"(100mm)
Power Range		0.37 - 7.5 kW
Speed		2900 rpm
Discharge Range	m ³ /h	0.75 - 24
	lps	0.20 - 6.66
Total Head Range	m	4.0 - 250
	ft	13.0 - 820
Outlet Size in Inches		1¼, 1½ & 2

Maximum Temperature of Pumped Liquid

Motor	Minimum cooling flow along the motor	Vertical installation	Horizontal installation minimum 30° angle
3" & 4"	0.15 m/s	35°C	35°C

SILVER LINE SERIES

Group Performance Curves - 4" (Floating Impeller Designs)



Performance curve tolerances are as per HI : 14.6 / ISO : 9906, Grade 3B.

In view of continuous developments, the informations / descriptions / specifications / illustrations are subject to change without notice.

SILVER LINE SERIES

Material of Construction

PART NAME	MATERIAL - (S4P)		
	EUROPEAN	DIN	AISI/SAE
Check valve Housing / Suction inter Connector	X5CrNi 18 9	1.4308	ASTM A743 CF8
Check valve	Delrin	Delrin	Delrin
Check valve seat	Standard - NBR (Buna - N)	Standard - NBR (Buna - N)	Standard - NBR (Buna - N)
Outer shell	X5CrNi 18 9	1.4301	ASTM A240 AISI 304
Impeller	1E - 5m³/h - Delrin 8 - 18m³/h - Noryl	1E - 5m³/h - Delrin 8 - 18m³/h - Noryl	1E - 5m³/h - Delrin 8 - 18m³/h - Noryl
Diffuser chamber	14m³/h - Poly Carbonate Other Models - Noryl	14m³/h - Poly Carbonate Other Models - Noryl	14m³/h - Poly Carbonate Other Models - Noryl
Intermediate Bearing (sleeve / bush)	1E - 5m³/h (upto 1.5kW) - X12Cr13 / Standard - NBR (Buna - N) 1E - 5m³/h (Above 2.2kW) - X5CrNi 18 10 / Standard - NBR (Buna - N) 8 - 18m³/h - X5CrNi 18 10 / Standard - NBR (Buna - N)	1E - 5m³/h (upto 1.5kW) - 1.4006 / Standard - NBR (Buna - N) 1E - 5m³/h (Above 2.2kW) - 1.4301 / Standard - NBR (Buna - N) 8 - 18m³/h - 1.4301 / Standard - NBR (Buna - N)	1E - 5m³/h (upto 1.5kW) - ASTM A276 AISI 410 1E - 5m³/h (Above 2.2kW) - ASTM A276 AISI 304 8 - 18m³/h - ASTM A276 AISI 304
Inlet screen	X5CrNi 18 9	1.4301	ASTM A240 AISI 304
Pump shaft	1E - 5m³/h (upto 1.5kW) - X12Cr13 1E - 5m³/h (Above 2.2kW) - X5CrNi 18 10 8 - 18m³/h - X5CrNi 18 10	1E - 5m³/h (upto 1.5kW) - 1.4006 1E - 5m³/h (Above 2.2kW) - 1.4301 8 - 18m³/h - 1.4301	1E - 5m³/h (upto 1.5kW) - ASTM A276 AISI 410 1E - 5m³/h (Above 2.2kW) - ASTM A276 AISI 304 8 - 18m³/h - ASTM A276 AISI 304
Coupling	1E - 5m³/h (upto 1.5kW) - X12Cr13 1E - 5m³/h (Above 2.2kW) - X5CrNi 18 10 8 - 18m³/h - X5CrNi 18 10	1E - 5m³/h (upto 1.5kW) - 1.4006 1E - 5m³/h (Above 2.2kW) - 1.4301 8 - 18m³/h - 1.4301	1E - 5m³/h (upto 1.5kW) - ASTM A276 AISI 410 1E - 5m³/h (Above 2.2kW) - ASTM A276 AISI 304 8 - 18m³/h - ASTM A276 AISI 304
Spline	1E - 5m³/h (upto 1.5kW) - NA 1E - 5m³/h (Above 2.2kW) - X3CrNiMo 27 5 8 - 18m³/h - X3CrNiMo 27 5	1E - 5m³/h (upto 1.5kW) - NA 1E - 5m³/h (Above 2.2kW) - 1.4460 8 - 18m³/h - 1.4460	1E - 5m³/h (upto 1.5kW) - NA 1E - 5m³/h (Above 2.2kW) - ASTM A276 AISI 329 8 - 18m³/h - ASTM A789 AISI 329
Cable guard	X5CrNi 18 9	1.4301	ASTM A240 AISI 304

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SILVER LINE SERIES

Material of Construction

PART NAME	MATERIAL - (S4V) - 1E to 5m³/h & upto 1.5 kW		
	EUROPEAN	DIN	AISI / SAE
Check valve Housing / Suction inter Connector	Nylon-6 (Polyamide)	Nylon-6 (Polyamide)	Nylon-6 (Polyamide)
Check valve	Delrin	Delrin	Delrin
Check valve seat	Standard - NBR (Buna - N)	Standard - NBR (Buna - N)	Standard - NBR (Buna - N)
Outer shell	X5CrNi 18 9	1.4301	ASTM A240 AISI 304
Impeller	1E - 5m³/h - Delrin	1E - 5m³/h - Delrin	1E - 5m³/h - Delrin
Diffuser chamber	Noryl	Noryl	Noryl
Intermediate Bearing (Sleeve / Bush)	1E - 5m³/h - X12Cr13 / Standard - NBR (Buna - N)	1E - 5m³/h - 1.4006 / Standard - NBR (Buna - N)	Standard - NBR (Buna - N)
Inlet screen	X5CrNi 18 9	1.4301	ASTM A240 AISI 304
Pump shaft	1E - 5m³/h - X12Cr13	1E - 5m³/h - 1.4006	1E - 5m³/h - ASTM A276 AISI 410
Coupling	1E - 5m³/h - X12Cr13	1E - 5m³/h - 1.4006	1E - 5m³/h - ASTM A276 AISI 410
Spline	1E - 5m³/h - NA	1E - 5m³/h - NA	1E - 5m³/h - NA
Locking Strap	X5CrNi 18 9	1.4301	ASTM A240 AISI 304
Cable guard	X5CrNi 18 9	1.4301	ASTM A240 AISI 304

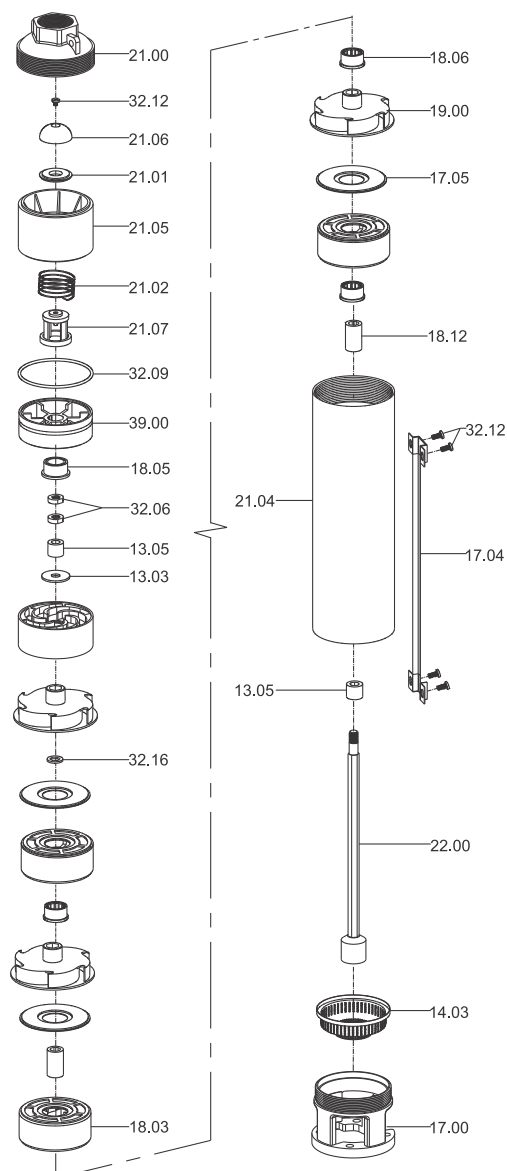
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SILVER LINE SERIES

Exploded View

S4P (1E-5m³/h)

Part No.	Part Name
13.03	Upthrust Washer / Stop Ring
13.05	Sleeve
14.03	Inlet Screen
17.00	Suction Inter-Connector
17.04	Cable Guard
17.05	Diffuser Plate
18.03	Diffuser Chamber
18.05	Bush - CT Pad

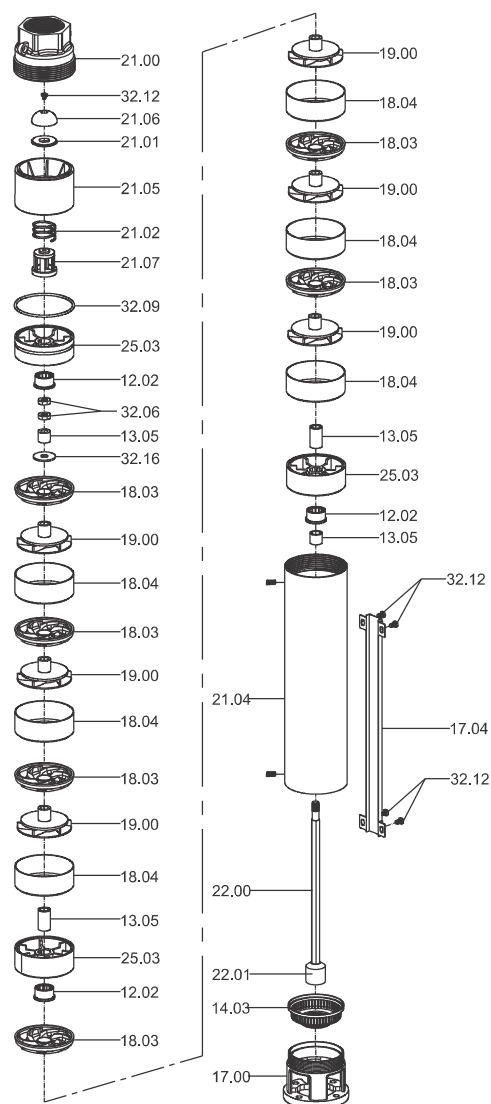
Part No.	Part Name
18.06	Bush-Diffuser Chamber
18.12	Spacer Sleeve
19.00	Impeller
21.00	Check Valve Housing
21.01	Check Valve Seat
21.02	Check Valve Spring
21.04	Outer Shell
21.05	Check Valve Bracket

Part No.	Part Name
21.06	Check Valve Disc
21.07	Check valve
22.00	Pump Shaft with Coupling
32.06	Lock Nut
32.09	O-Ring
32.12	Screw
32.16	Washer
39.00	Chamber-Bracket

SILVER LINE SERIES

Exploded View

S4P - 8m³/h

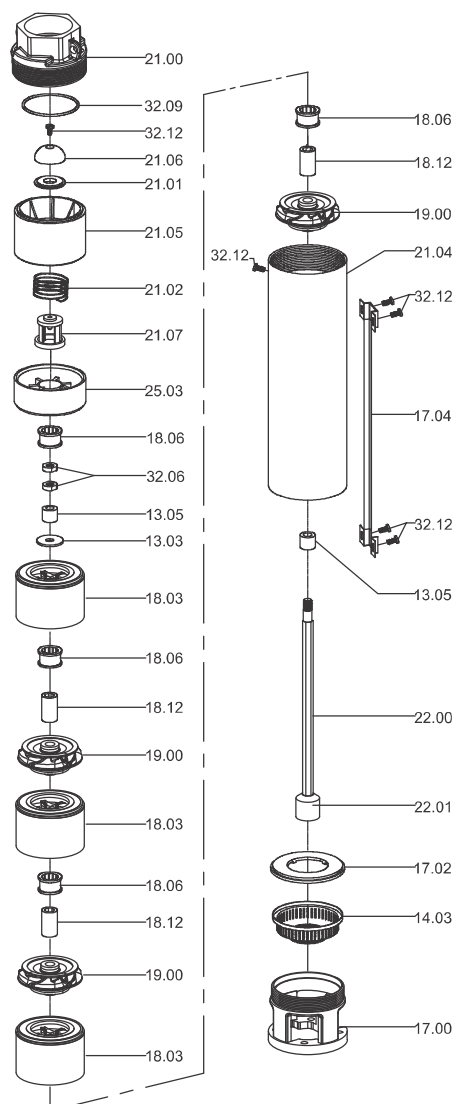


Part No.	Description
12.02	Bush-LTB
13.05	Sleeve
14.03	Strainer
17.00	Suction Inter Connector
17.04	Cable Guard
18.03	Diffuser
18.04	Chamber Cover

Part No.	Description
19.00	Impeller
21.00	Valve Housing
21.01	Valve Seat
21.02	Valve Spring
21.04	Pump Shell
21.05	Valve Bracket
21.06	Valve Disc

Part No.	Description
21.07	Valve
22.00	Pump Shaft
22.01	Coupling
25.03	Bracket
32.06	Lock Nut
32.09	O-Ring
32.12	Screw
32.16	Washer

S4P - 10m³/h



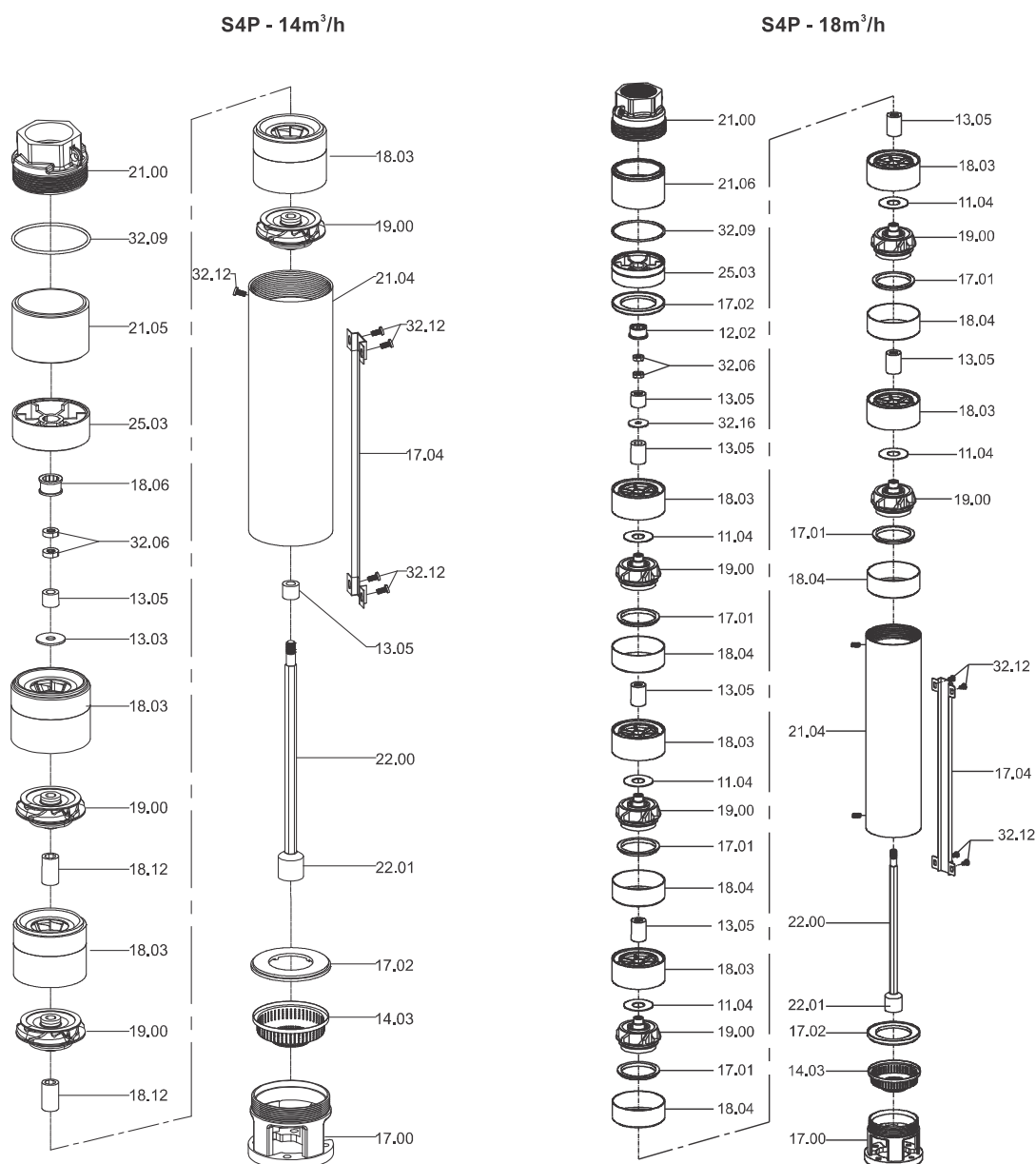
Part No.	Description
13.03	Up Thrust Washer
13.05	Sleeve
14.03	Strainer
17.00	Suction Inter Connector
17.02	Suction inter Connector plate
17.04	Cable Guard

Part No.	Description
18.03	Diffuser
18.06	Bush-Rubber
18.12	Spacer
19.00	Impeller
21.00	Valve Housing
21.01	Valve Seat
21.02	Valve Spring
21.04	Pump Shell
21.05	Valve Bracket

Part No.	Description
21.06	Valve Disc
21.07	Suction valve
22.00	Pump Shaft
22.01	Coupling
25.03	Bracket
32.06	Lock Nut
32.12	Screw
32.09	O Ring

SILVER LINE SERIES

Exploded View



S4P-14 & 18 models are not equipped with internal check valve, so external check valve must be fitted to the pump outlet to avoid back spin and water hammer effect.

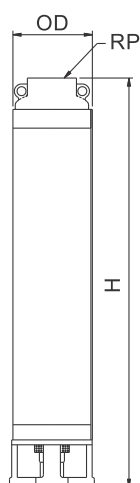
Part No.	Description
12.02	Bush-LTB
13.03	Up Thrust Washer
13.05	Sleeve
14.03	Strainer
17.00	Suction Inter Connector
17.04	Cable Guard
11.04	Thrust Pad
18.03	Diffuser
17.01	Wearing Ring

Part No.	Description
18.12	Spacer
19.00	Impeller
21.00	Valve Housing
21.01	Valve Seat
21.02	Valve Spring
21.04	Pump Shell
21.05	Valve Bracket
21.06	Valve Disc
18.04	Chamber Cover

Part No.	Description
21.07	Valve
22.00	Pump Shaft
22.01	Coupling
25.03	Bracket
32.06	Lock Nut
32.09	O-Ring
32.12	Screw
32.16	Washer
17.02	Suction Inter Connector Plate

SILVER LINE SERIES

FLOATING IMPELLER MODEL

Nominal Diameter : **4**Nominal Flow : **1.5m³/h**Outlet Size : **1 1/4"**

Dimensions & Weight Data

PUMP MODEL	POWER		DIMENSIONS (mm)			NET WEIGHT (kg)
	kW	HP	OD	RP	H	
S4P-1E/08	0.37	0.5	98	32	414	3
S4P-1E/13	0.55	0.75	98	32	524	4
S4P-1E/17	0.75	1	98	32	654	5
S4P-1E/18	0.75	1	98	32	679	5
S4P-1E/25	1.1	1.5	98	32	860	9
S4P-1E/26	1.1	1.5	98	32	882	9
S4P-1E/33	1.5	2	98	32	1036	12
S4P-1E/34	1.5	2	98	32	1058	12

Performance Table

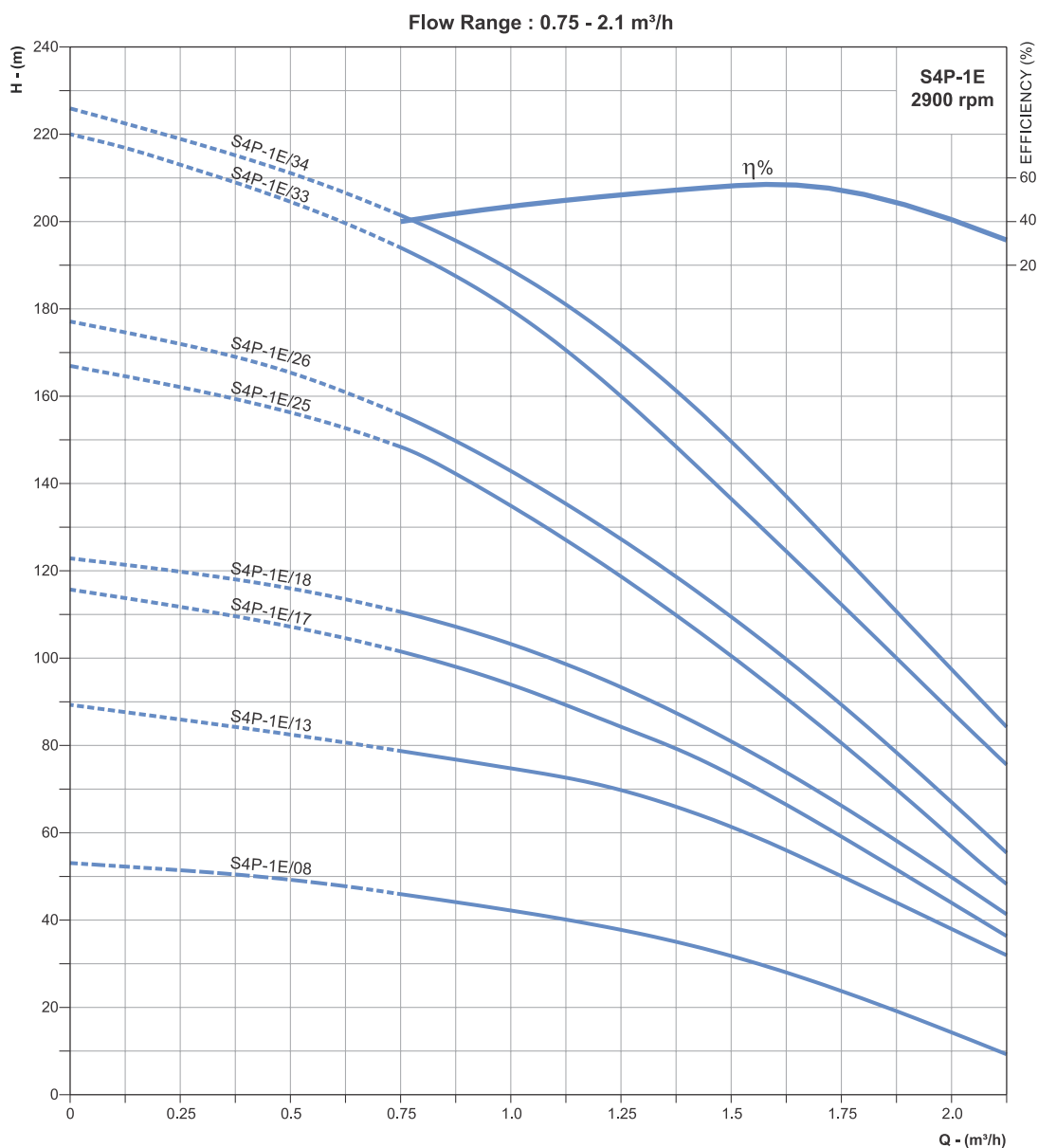
PUMP MODEL	POWER (kW)	lps	0	0.20	0.27	0.34	0.41	0.48	0.55
		m ³ /h	0	0.75	1.0	1.25	1.50	1.75	2.0
S4P-1E/08	0.37	HEAD (m)	54	46	42	38	32	24	15
S4P-1E/13	0.55		89	78	75	70	61	50	38
S4P-1E/17	0.75		116	101	94	84	73	59	43
S4P-1E/18	0.75		122	111	102	93	81	67	49
S4P-1E/25	1.1		166	148	135	118	101	81	59
S4P-1E/26	1.1		177	156	143	127	109	89	68
S4P-1E/33	1.5		220	199	179	160	136	112	88
S4P-1E/34	1.5		226	202	188	172	149	124	98

SILVER LINE SERIES

FLOATING IMPELLER MODEL

Nominal Diameter : **4"**Nominal Flow : **1.5m³/h**Outlet Size : **1 1/4"**

Performance Curves

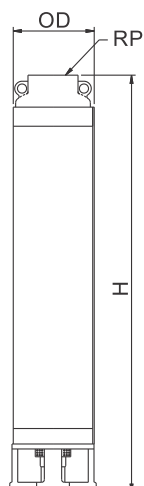


Performance curve tolerances are as per HI : 14.6 / ISO : 9906, Grade 3B.

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SILVER LINE SERIES

FLOATING IMPELLER MODEL

Nominal Diameter : **4"**Nominal Flow : **2m³/h**Outlet Size : **1 1/4"**

Dimensions & Weight Data

PUMP MODEL	POWER		DIMENSIONS (mm)			NET WEIGHT (kg)
	kW	HP	OD	RP	H	
S4P-2/05	0.37	0.5	98	32	354	3
S4P-2/07	0.55	0.75	98	32	400	3
S4P-2/11	0.75	1	98	32	493	4
S4P-2/16	1.1	1.5	98	32	651	7
S4P-2/22	1.5	2	98	32	790	8
S4P-2/30	2.2	3	98	32	1006	11

Performance Table

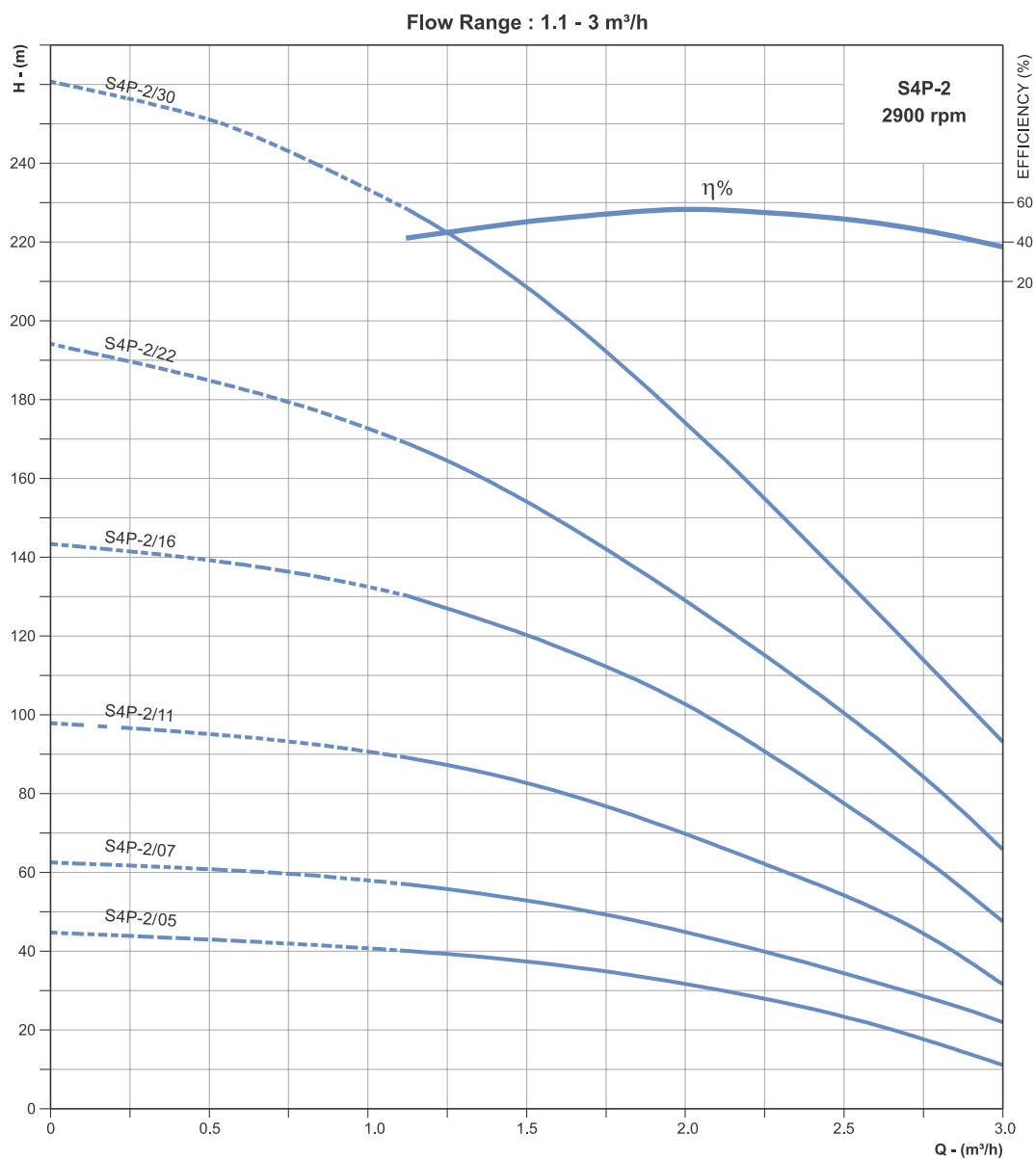
PUMP MODEL	POWER (kW)	lps	0	0.27	0.41	0.55	0.69	0.83
		m ³ /h	0	1.0	1.5	2.0	2.5	3.0
S4P-2/05	0.37	HEAD (m)	44	40	38	31	25	13
S4P-2/07	0.55		62	59	52	45	34	22
S4P-2/11	0.75		98	90	82	70	53	35
S4P-2/16	1.1		143	131	119	100	78	48
S4P-2/22	1.5		194	172	153	129	100	65
S4P-2/30	2.2		260	232	209	172	135	92

SILVER LINE SERIES

FLOATING IMPELLER MODEL

Nominal Diameter : **4"**Nominal Flow : **2m³/h**Outlet Size : **1 1/4"**

Performance Curves



Performance curve tolerances are as per HI : 14.6 / ISO : 9906, Grade 3B.

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SILVER LINE SERIES

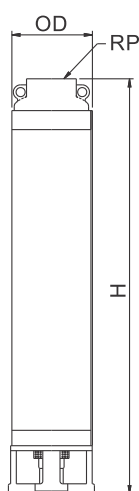
FLOATING IMPELLER MODEL

Nominal Diameter : **4"**

Nominal Flow : **3m³/h**

Outlet Size : **1 1/4"**

Dimensions & Weight Data



PUMP MODEL	POWER		DIMENSIONS (mm)			NET WEIGHT (kg)
	kW	HP	OD	RP	H	
S4P-3/07	0.55	0.75	98	32	426	3
S4P-3/08	0.55	0.75	98	32	453	3
S4P-3/11	0.75	1	98	32	533	4
S4P-3/15	1.1	1.5	98	32	671	5
S4P-3/20	1.5	2	98	32	818	8
S4P-3/21	1.5	2	98	32	844	8
S4P-3/28	2.2	3	98	32	1063	11
S4P-3/30	2.2	3	98	32	1117	12

Performance Table

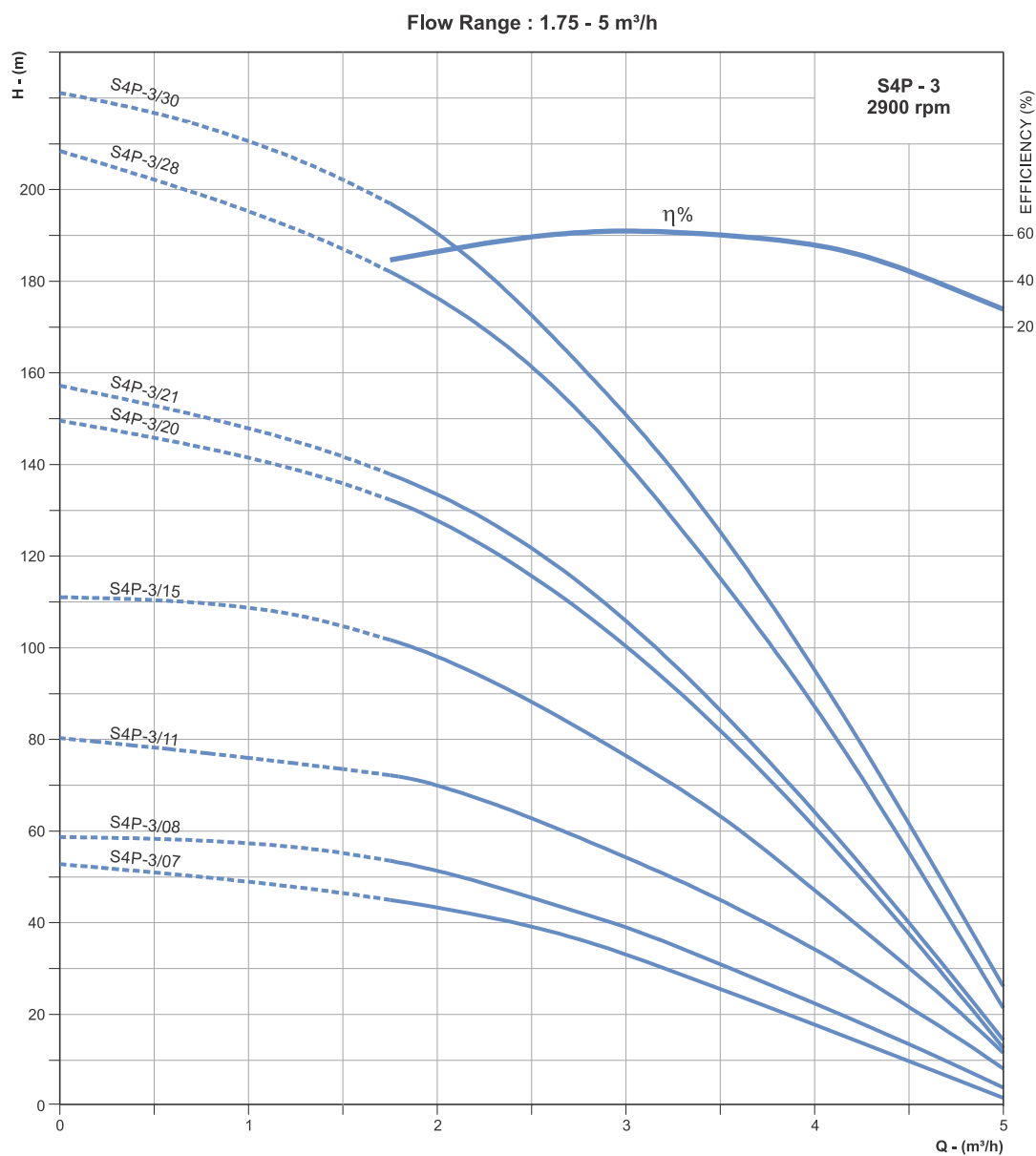
PUMP MODEL	POWER (kW)	lps	0	0.55	0.69	0.83	0.97	1.11	1.25
		m ³ /h	0	2.0	2.5	3.0	3.5	4.0	4.5
S4P-3/07	0.55	HEAD (m)	52	42	38	33	26	18	10
S4P-3/08	0.55		59	52	45	39	31	22	13
S4P-3/11	0.75		80	70	62	54	45	34	22
S4P-3/15	1.1		111	98	88	77	63	48	30
S4P-3/20	1.5		150	128	116	101	82	61	38
S4P-3/21	1.5		157	133	121	107	86	63	40
S4P-3/28	2.2		208	177	161	141	115	88	55
S4P-3/30	2.2		221	190	172	151	125	96	62

SILVER LINE SERIES

FLOATING IMPELLER MODEL

Nominal Diameter : **4"**Nominal Flow : **3m³/h**Outlet Size : **1 1/4"**

Performance Curves

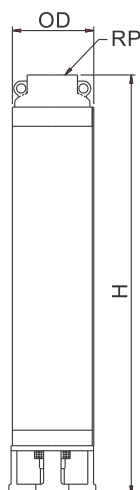


Performance curve tolerances are as per HI : 14.6 / ISO : 9906, Grade 3B.

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SILVER LINE SERIES

FLOATING IMPELLER MODEL

Nominal Diameter : **4"**Nominal Flow : **4m³/h**Outlet Size : **1 1/4"**

Dimensions & Weight Data

PUMP MODEL	POWER		DIMENSIONS (mm)			NET WEIGHT (kg)
	kW	HP	OD	RP	H	
S4P-4/05	0.55	0.75	98	32	383	2
S4P-4/06	0.55	0.75	98	32	412	2
S4P-4/07	0.75	1	98	32	441	3
S4P-4/10	1.1	1.5	98	32	528	4
S4P-4/11	1.1	1.5	98	32	557	4
S4P-4/14	1.5	2	98	32	674	6
S4P-4/15	1.5	2	98	32	703	6
S4P-4/20	2.2	3	98	32	860	8
S4P-4/22	2.2	3	98	32	918	9
S4P-4/27	3	4	98	32	1093	11
S4P-4/35	3.7	5	98	32	1325	14

Performance Table

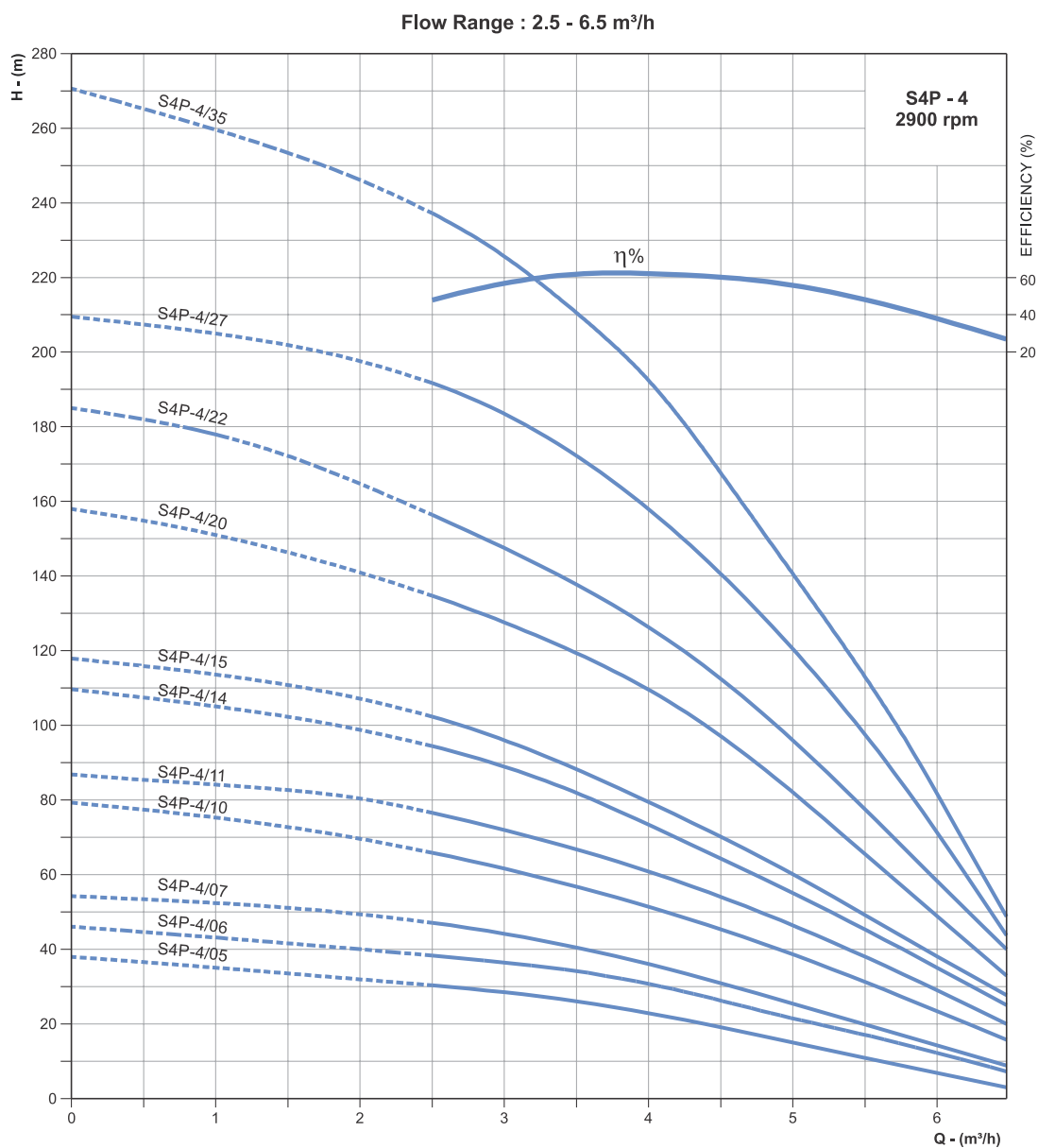
PUMP MODEL	POWER (kW)	lps	0	0.55	0.83	1.11	1.39	1.66	1.80
		m ³ /h	0	2	3	4	5	6	6.5
S4P-4/05	0.55	HEAD (m)	38	32	28	22	15	8	4
S4P-4/06	0.55		46	40	37	31	21	12	8
S4P-4/07	0.75		54	49	44	37	25	14	9
S4P-4/10	1.1		79	69	62	51	39	22	16
S4P-4/11	1.1		86	77	72	61	47	29	20
S4P-4/14	1.5		110	99	89	73	55	35	26
S4P-4/15	1.5		118	108	96	79	60	38	28
S4P-4/20	2.2		158	141	128	110	82	49	34
S4P-4/22	2.2		185	165	148	128	98	58	40
S4P-4/27	3		210	198	183	159	120	71	44
S4P-4/35	3.7		270	248	228	192	140	81	49

SILVER LINE SERIES

FLOATING IMPELLER MODEL

Nominal Diameter : **4"**Nominal Flow : **4m³/h**Outlet Size : **1 1/4"**

Performance Curves



Performance curve tolerances are as per HI : 14.6 / ISO : 9906, Grade 3B.

In view of continuous developments, the informations / descriptions / specifications / illustrations are subject to change without notice.

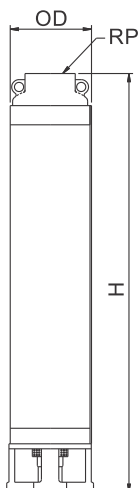
SILVER LINE SERIES

FLOATING IMPELLER MODEL

Nominal Diameter : **4"**

Nominal Flow : **5m³/h**

Outlet Size : **1½"**



Dimensions & Weight Data

PUMP MODEL	POWER		DIMENSIONS (mm)			NET WEIGHT (kg)
	kW	HP	OD	RP	H	
S4P-5/06	0.75	1	98	40	459	3
S4P-5/08	1.1	1.5	98	40	533	3
S4P-5/09	1.1	1.5	98	40	570	4
S4P-5/11	1.5	2	98	40	643	4
S4P-5/12	1.5	2	98	40	680	9
S4P-5/17	2.2	3	98	40	907	7
S4P-5/21	3.0	4	98	40	1054	8
S4P-5/27	3.7	5	98	40	1306	11

Performance Table

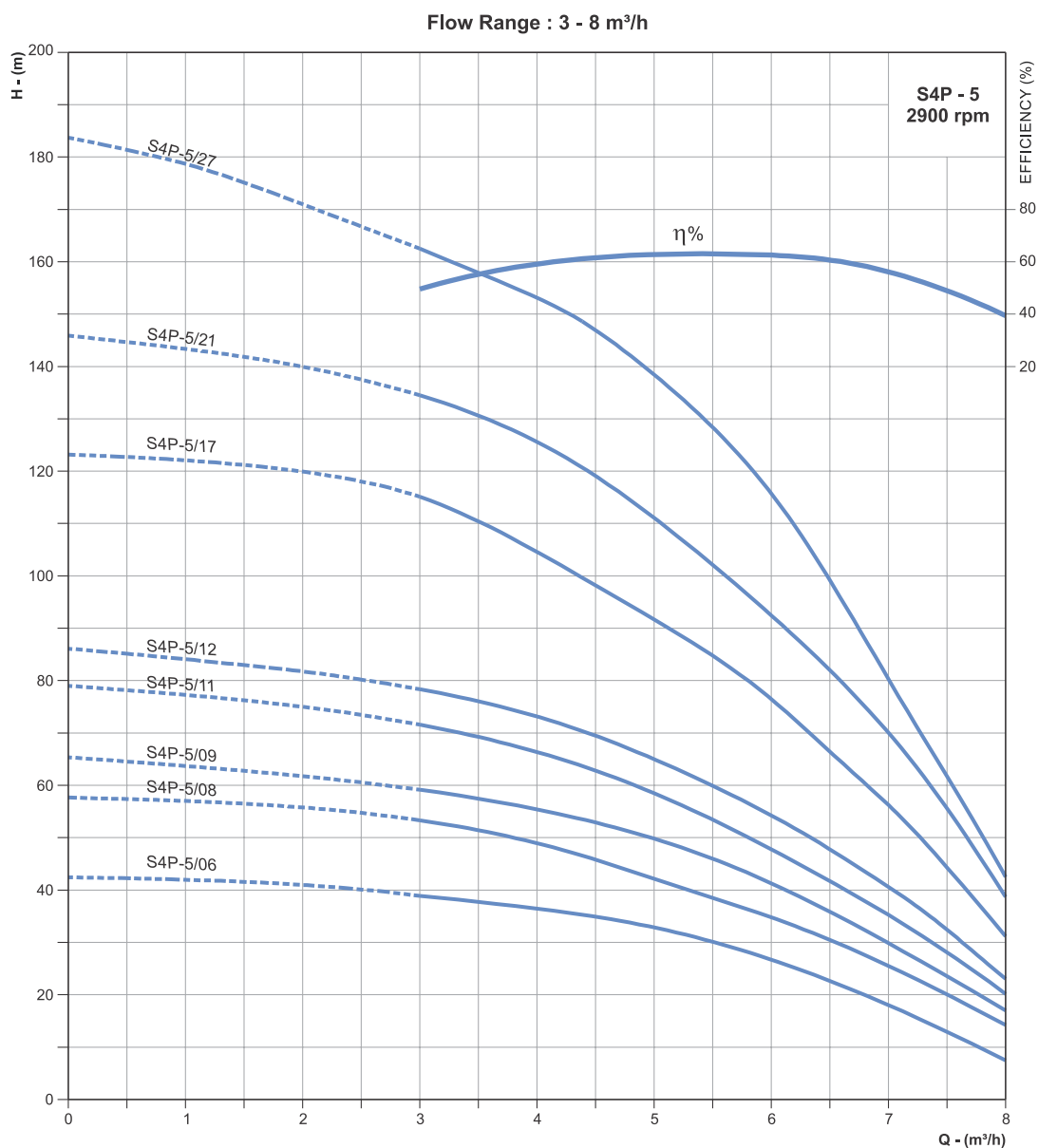
PUMP MODEL	POWER (kW)	HEAD (m)	lps	0	0.83	1.11	1.39	1.66	1.94	2.22
			m ³ /h	0	3	4	5	6	7	8
S4P-5/06	0.75			42	39	37	32	27	18	9
S4P-5/08	1.1			58	53	49	42	34	25	15
S4P-5/09	1.1			65	59	55	50	41	31	17
S4P-5/11	1.5			79	72	67	58	48	35	20
S4P-5/12	1.5			86	78	73	65	55	42	25
S4P-5/17	2.2			123	115	105	91	76	57	31
S4P-5/21	3			145	135	126	111	92	70	39
S4P-5/27	3.7			184	163	158	138	116	80	42

SILVER LINE SERIES

FLOATING IMPELLER MODEL

Nominal Diameter : **4"**Nominal Flow : **5m³/h**Outlet Size : **1½"**

Performance Curves

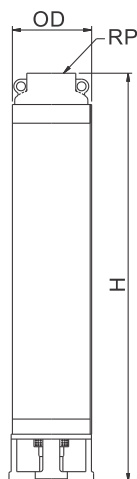


* These Models are available in Type - "V" construction as well.

Performance curve tolerances are as per HI : 14.6 / ISO : 9906, Grade 3B.

In view of continuous developments, the informations / descriptions / specifications / illustrations are subject to change without notice.

SILVER LINE SERIES

Nominal Diameter : **4"**Nominal Flow : **8m³/h**Outlet Size : **2"**

Dimensions & Weight Data

PUMP MODEL	POWER		DIMENSIONS (mm)			NET WEIGHT (kg)
	kW	HP	OD	RP	H	
S4P-8/04	0.75	1.0	98	50	374	4
S4P-8/06	1.1	1.5	98	50	436	4
S4P-8/08	1.5	2.0	98	50	498	3
S4P-8/13	2.2	3.0	98	50	653	7
S4P-8/17	3.0	4.0	98	50	807	8
S4P-8/23	4.0	5.5	98	50	993	10
S4P-8/32	5.5	7.5	98	50	1302	13
S4P-8/43	7.5	10	98	50	1643	18

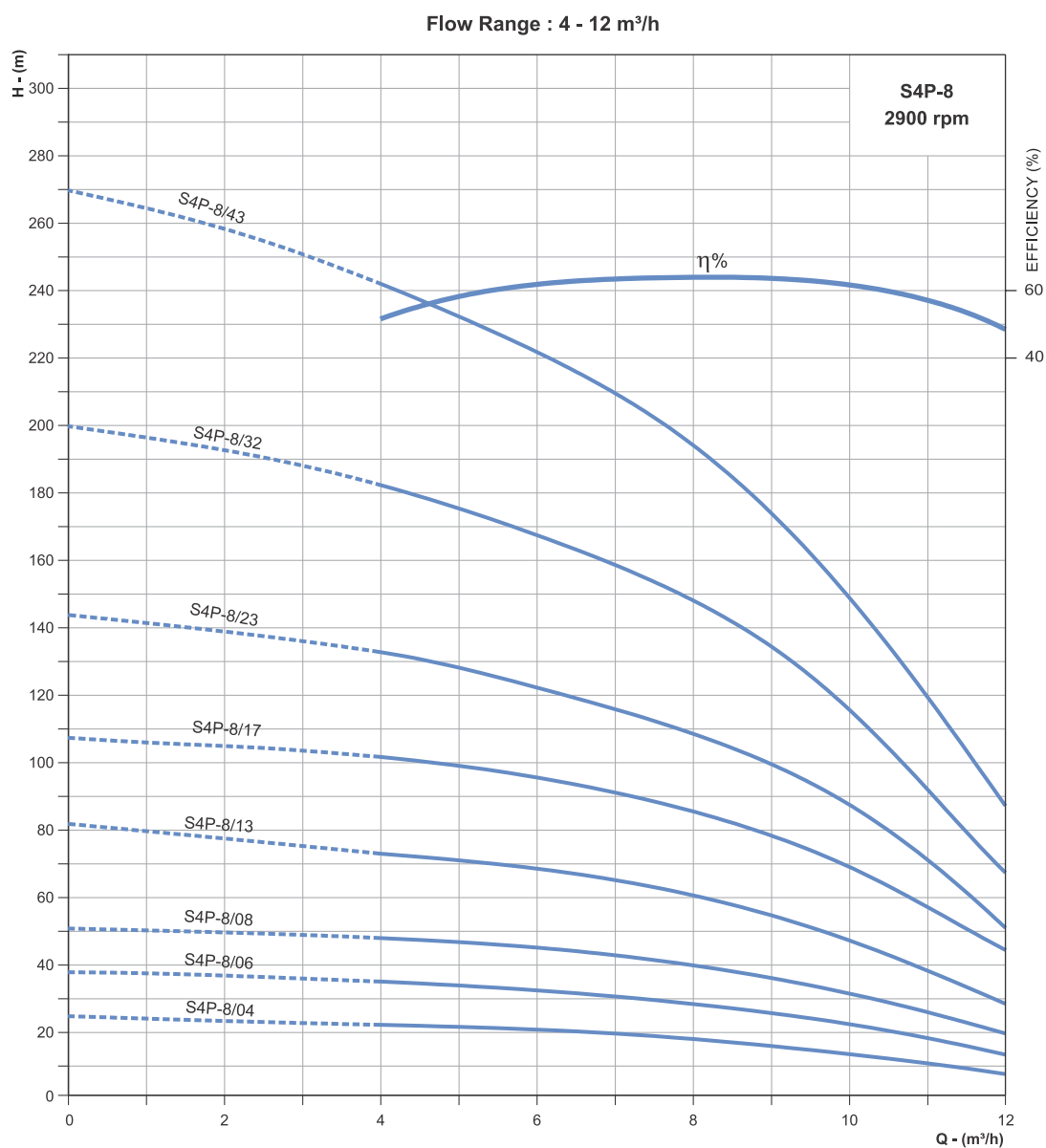
Performance Table

PUMP MODEL	POWER (kW)	lps	0	1.11	1.66	2.22	2.78	3.33
		m ³ /h	0	4	6	8	10	12
S4P-8/04	0.75	HEAD (m)	25	21	20	19	14	8
S4P-8/06	1.1		38	35	32	28	22	13
S4P-8/08	1.5		51	48	45	40	31	20
S4P-8/13	2.2		82	72	69	61	48	29
S4P-8/17	3.0		108	101	96	85	69	43
S4P-8/23	4.0		143	132	122	109	88	52
S4P-8/32	5.5		200	182	168	148	116	68
S4P-8/43	7.5		270	242	221	193	149	88

SILVER LINE SERIES

Nominal Diameter : **4"**Nominal Flow : **8m³/h**Outlet Size : **2"**

Performance Curves



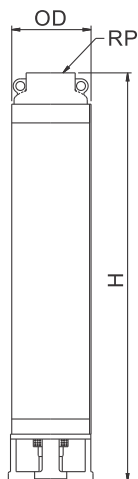
Performance curve tolerances are as per HI : 14.6 / ISO : 9906, Grade 3B.

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SILVER LINE SERIES

Nominal Diameter : **4"**Nominal Flow : **10m³/h**Outlet Size : **2"**

Dimensions & Weight Data



PUMP MODEL	POWER		DIMENSIONS (mm)			NET WEIGHT (kg)
	kW	HP	OD	RP	H	
S4P-10/03	0.75	1	98	50	448	3
S4P-10/04	0.75	1	98	50	450	3
S4P-10/05	1.1	1.5	98	50	562	4
S4P-10/06	1.1	1.5	98	50	570	5
S4P-10/07	1.5	2	98	50	676	5
S4P-10/08	1.5	2	98	50	690	6
S4P-10/10	2.2	3	98	50	790	8
S4P-10/12	2.2	3	98	50	904	9
S4P-10/15	3	4	98	50	1075	11
S4P-10/17	3	4	98	50	1189	13
S4P-10/20	4	5.5	98	50	1360	15
S4P-10/22	4	5.5	98	50	1474	17
S4P-10/26	5.5	7.5	98	50	1702	20
S4P-10/28	5.5	7.5	98	50	1816	21

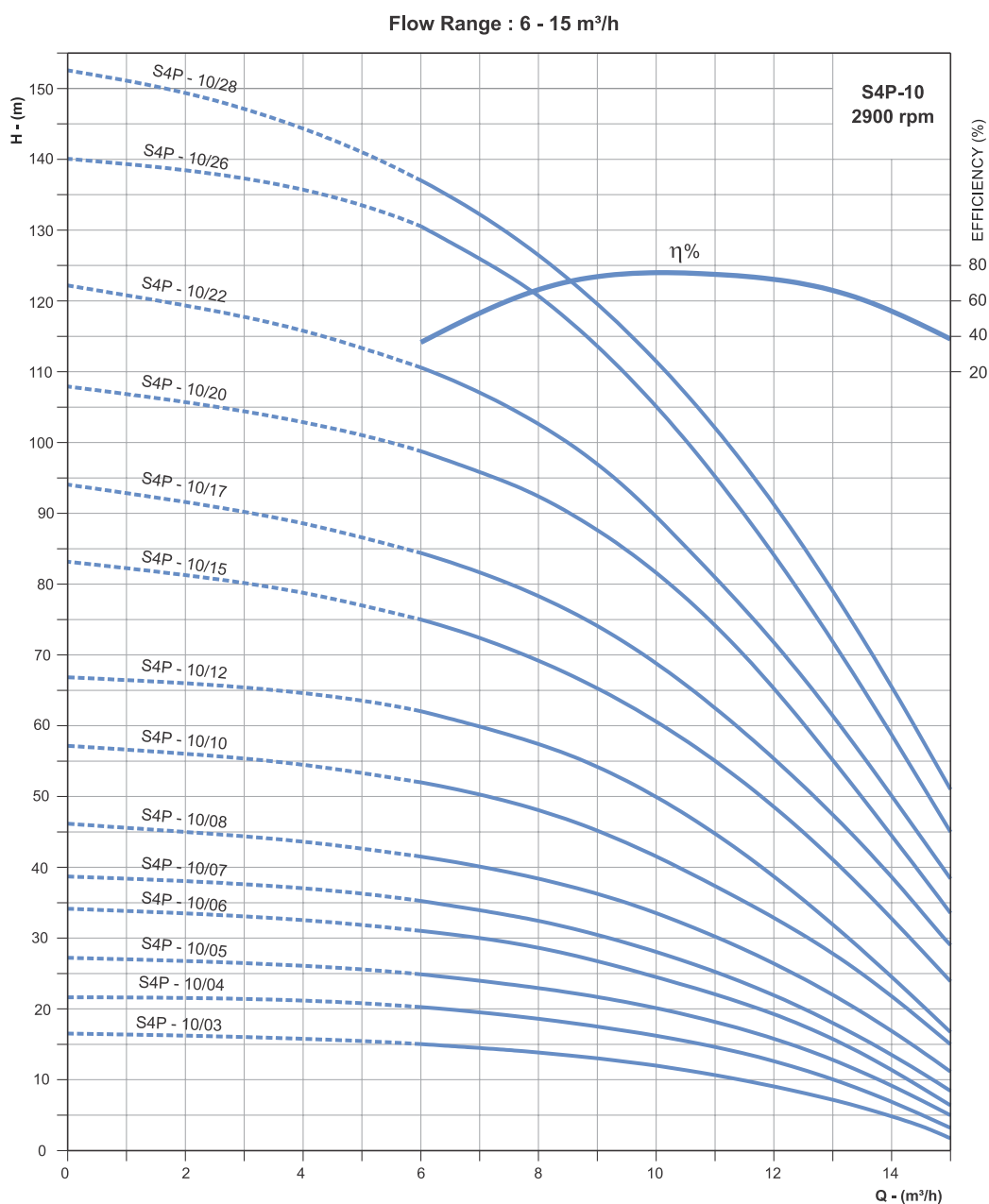
Performance Table

PUMP MODEL	POWER kW	lps m ³ /h	0	1.11	1.66	2.22	2.78	3.33	3.89
			0	4	6	8	10	12	14
S4P-10/03	0.75	HEAD (m)	17	16	15	14	12	9	5
S4P-10/04	0.75		22	21	20	18	16	13	7
S4P-10/05	1.1		27	26	25	23	20	16	9
S4P-10/06	1.1		34	33	31	28	24	19	12
S4P-10/07	1.5		39	37	35	33	28	22	14
S4P-10/08	1.5		46	43	42	38	33	27	18
S4P-10/10	2.2		57	54	52.5	48	42	33	22
S4P-10/12	2.2		66	64	62.5	57	50	39	25
S4P-10/15	3		83	78	75	69	61	48	33
S4P-10/17	3		94	88	84	78	69	55	39
S4P-10/20	4		107	102	98	92.5	82	65	45
S4P-10/22	4		122	116	111	102.5	90	72	50
S4P-10/26	5.5		140	136	130	122	107	85	59
7S4P-10/28	5.5		153	144	137	127	112	91	65

SILVER LINE SERIES

Nominal Diameter : **4"**Nominal Flow : **10m³/h**Outlet Size : **2"**

Performance Curves



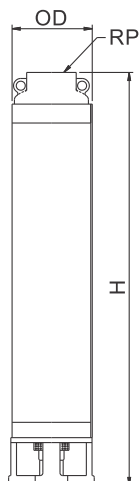
Performance curve tolerances are as per HI : 14.6 / ISO : 9906, Grade 3B.

In view of continuous developments, the informations / descriptions / specifications / illustrations are subject to change without notice.

SILVER LINE SERIES

Nominal Diameter : **4"**Nominal Flow : **14m³/h**Outlet Size : **2"**

Dimensions & Weight Data



PUMP MODEL	POWER		DIMENSIONS (mm)			NET WEIGHT (kg)
	kW	HP	OD	RP	H	
S4P-14/03	0.75	1	98	50	463	3
S4P-14/05	1.1	1.5	98	50	610	4
S4P-14/07	1.5	2	98	50	775	6
S4P-14/10	2.2	3	98	50	1009	9
S4P-14/11	2.2	3	98	50	1087	10
S4P-14/12	3.0	4	98	50	1165	10
S4P-14/13	3.0	4	98	50	1243	11
S4P-14/16	3.7	5	98	50	1477	14
S4P-14/17	3.7	5	98	50	1555	14
S4P-14/22	5.5	7.5	98	50	1945	29
S4P-14/24	5.5	7.5	98	50	2101	33

Performance Table

PUMP MODEL	POWER (kW)	lps	0	2.22	2.78	3.33	3.89	4.44	5.00	5.56
		m ³ /h	0	8	10	12	14	16	18	20
S4P-14/03	0.75	HEAD (m)	17	14	13	12	9	7	-	-
S4P-14/05	1.1		28	24	22	19	16	14	9	6
S4P-14/07	1.5		38	33	30	26	22	18	14	9
S4P-14/10	2.2		59	49	45	40	34	29	22	15
S4P-14/11	2.2		64	59	50	45	39	33	25	17
S4P-14/12	3		69	59	55	48	43	34	27	18
S4P-14/13	3		74	65	58	52	44	36	29	20
S4P-14/16	3.7		89	77	69	62	53	44	34	24
S4P-14/17	3.7		98	85	77	68	59	49	38	27
S4P-14/22	5.5		123	104	93	82	70	57	43	29
S4P-14/24	5.5		134	114	104	92	78	64	49	33

Note: S4P-14 & 18 models are not equipped with check valve, so external check valve must be fitted to the pump outlet to avoid back spin and water hammer effect.

In view of continuous developments, the informations / descriptions / specifications / illustrations are subject to change without notice.

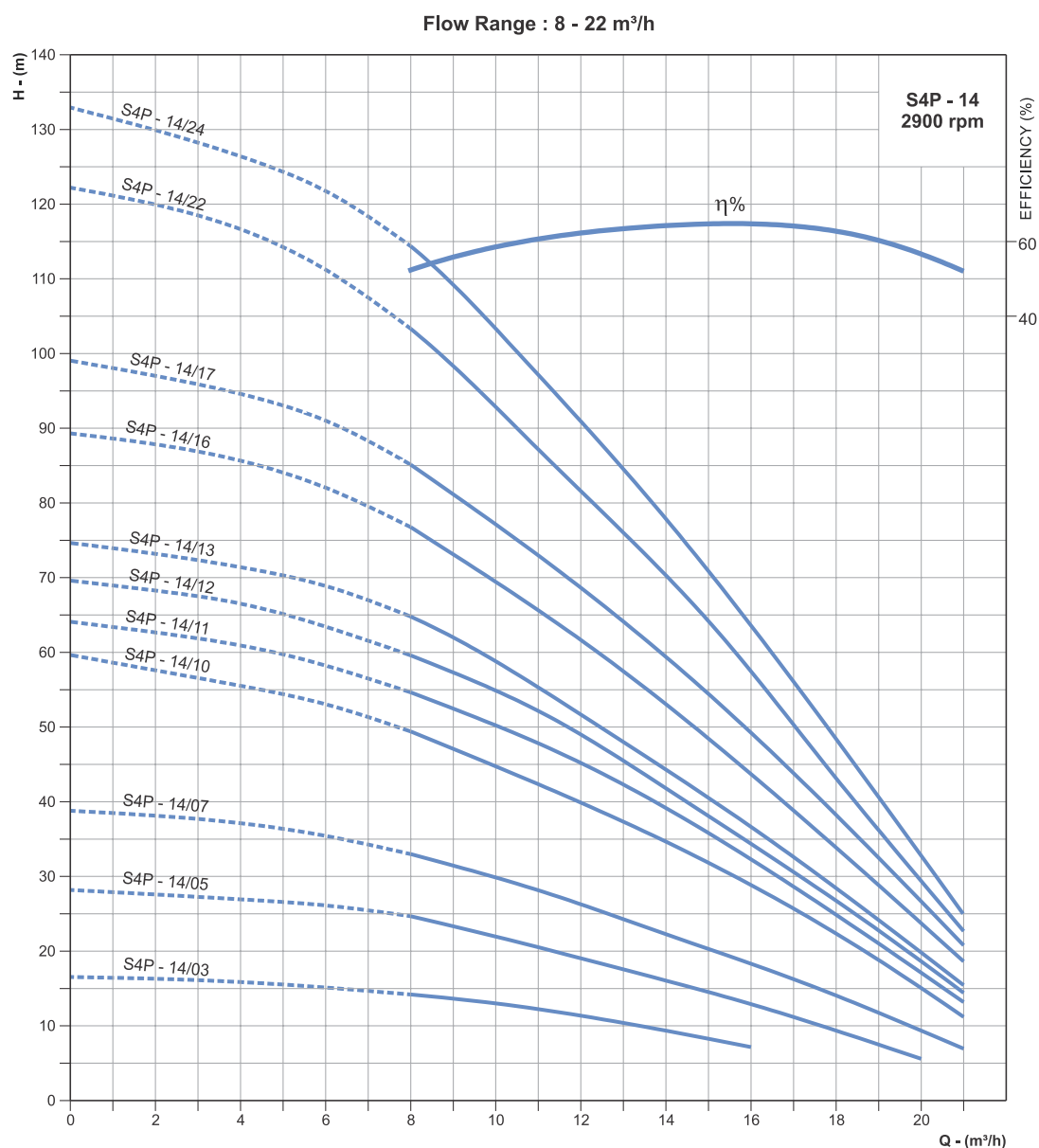
SILVER LINE SERIES

Nominal Diameter : 4"

Nominal Flow : **14m³/h**

Outlet Size : 2"

Performance Curves

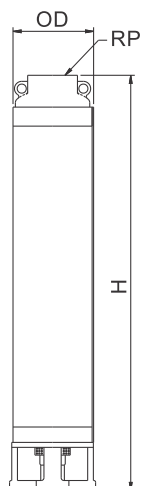


Note: S4P-14 & 18 models are not equipped with check valve, so external check valve must be fitted to the pump outlet to avoid back spin and water hammer effect.

Performance curve tolerances are as per HI : 14.6 / ISO : 9906, Grade 3B.

In view of continuous developments, the informations / descriptions / specifications / illustrations are subject to change without notice.

SILVER LINE SERIES

Nominal Diameter : **4"**Nominal Flow : **18m³/h**Outlet Size : **2"**

Dimensions & Weight Data

PUMP MODEL	POWER		DIMENSIONS (mm)			NET WEIGHT (kg)
	kW	HP	OD	RP	H	
S4P-18/04	1.1	1.5	98	50	407	4
S4P-18/06	1.5	2.0	98	50	648	5
S4P-18/09	2.2	3.0	98	50	860	7
S4P-18/13	3.7	5.0	98	50	1142	10
S4P-18/14	4.0	5.5	98	50	1213	11
S4P-18/20	5.5	7.5	98	50	1637	16
S4P-18/22	5.5	7.5	98	50	1778	18
S4P-18/26	7.5	10.0	98	50	2060	19
S4P-18/28	7.5	10.0	98	50	2201	22

Performance Table

PUMP MODEL	POWER (kW)	lps	0	2.78	3.33	3.86	4.44	5	5.56	6.11
		m ³ /h	0	10	12	14	16	18	20	22
S4P-18/04	1.1	HEAD (m)	17	14	13	11	10	9	8	6
S4P-18/06	1.5		26	19	18	17	16	14	11	9
S4P-18/09	2.2		38	31	29	27	24	21	17	14
S4P-18/13	3.7		54	45	42	38	34	28	24	20
S4P-18/14	4		58	48	44	41	37	33	27	23
S4P-18/20	5.5		81	68	63	57	52	46	38	30
S4P-18/22	5.5		89	74	71	61	55	48	41	32
S4P-18/26	7.5		106	90	84	76	67	57	47	38
S4P-18/28	7.5		116	97	89	82	73	64	54	43

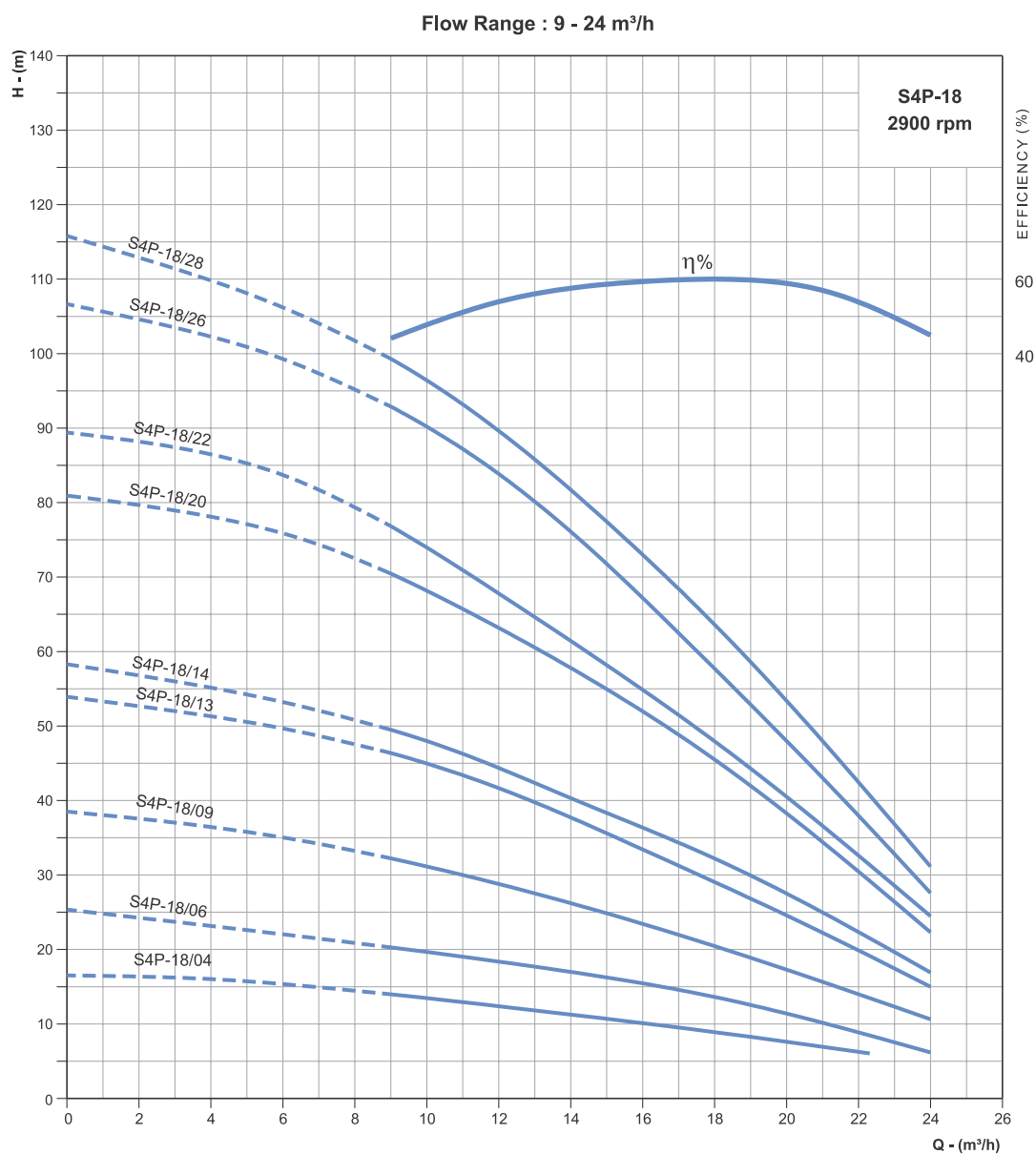
Note: S4P-14 & 18 models are not equipped with check valve, so external check valve must be fitted to the pump outlet to avoid back spin and water hammer effect.

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SILVER LINE SERIES

Nominal Diameter : **4"**Nominal Flow : **18m³/h**Outlet Size : **2"**

Performance Curves



Note: S4P-14 & 18 models are not equipped with check valve, so external check valve must be fitted to the pump outlet to avoid back spin and water hammer effect.

Performance curve tolerances are as per HI : 14.6 / ISO : 9906, Grade 3B.

In view of continuous developments, the informations / descriptions / specifications / illustrations are subject to change without notice.

CABLE SELECTION TABLE

FOR SINGLE PHASE 3 WIRE (D.O.L) MOTOR MAXIMUM LENGTH OF COPPER CABLE

Motor Rating			Cable Size in Square Millimetres						MAXIMUM LENGTH IN METRES
VOLTS	kW	HP	1.5	2.5	4	6	10	16	
230 VOLT 50Hz	0.37	0.5	120	200	320	480	810		
	0.55	0.75	80	130	220	320	550		
	0.75	1	60	100	170	250	430		
	1.1	1.5	40	70	120	180	300		
	1.5	2	30	60	90	130	230	360	
	2.2	3		40	60	90	150	230	

FOR THREE PHASE 6 WIRE (S/D) MOTOR MAXIMUM LENGTH OF COPPER CABLE

Voltage drop - 3%

Motor Rating			Cable Size in Square Millimetres																			
VOLTS	kW	HP	1.5	2.5	4	6	10	16	25	35	50	70	95	120	150	185	240	300	400	500	630	
380-415 VOLT 50Hz	5.5	7.5	91	143	234	351	572	896	1377	1884												
	7.5	10	65	104	169	260	403	650	974	1338												
	9.3	12.5		91	143	221	364	572	870	1182	1624											
	11	15		78	130	182	299	481	714	974	1377	1832										
	13	17.5			104	143	260	403	611	844	1156	1533										
	15	20			91	130	221	351	533	740	1026	1364	1741									
	18.5	25				104	182	273	429	585	799	1065	1364	1624								
	22	30					156	234	364	494	688	922	1169	1403	1650							
	26	35					130	195	299	403	572	792	1000	1221	1429	1650						
	30	40					117	169	273	364	520	675	870	1013	1208	1390	1624					
	37	50						143	221	299	416	546	701	831	974	1117	1312	1494				
	45	60							182	247	338	468	598	727	870	1013	1208	1377				
	55	75								208	286	377	494	611	714	831	987	1137				
	63	85								188	260	299	442	546	637	740	870	1000				
	75	100									208	286	377	455	533	611	727	831	974			
	93	125										234	299	364	429	494	585	662	779			
	110	150											260	312	377	429	520	598	701	786		
	130	175												221	266	325	377	442	520	598	688	760
	150	200													234	279	325	390	455	539	604	669
	166	225														234	286	338	390	455	520	578
	185	250															260	312	364	429	481	539
	220	300																247	286	331	372	410
	260	350																	247	286	325	357
	300	400																		214	247	273

These are maximum length of cable in METRES from POWER SOURCE to MOTOR. Exceeding these length will void warranty.

In view of continuous developments, the informations / descriptions / specifications / illustrations are subject to change without notice.

CABLE SELECTION TABLE

FOR THREE PHASE 3 WIRE (D.O.L.) MOTOR MAXIMUM LENGHT OF COPPER CABLE

Voltage drop - 3%

Motor Rating			Cable Size in Square Millimetres																		
VOLTS	kW	HP	1.5	2.5	4	6	10	16	25	35	50	70	95	120	150	185	240	300	400	500	630
380-415 VOLT 50Hz	0.37	0.5	473	788	1260																
	0.55	0.75	398	660	1050																
	0.75	1	311	518	825																
	1.1	1.5	203	338	533	795															
	1.5	2	161	270	428	638															
	2.2	3	113	188	300	450	731														
	3	4	86	143	233	345	566	885													
	3.7	5	71	120	188	285	465	735													
	4	5.5	67	113	176	263	435	683	1043												
	4.5	6	64	105	169	255	420	653	998	1358											
	5.5	7.5	53	83	135	203	330	518	795	1088											
	7.5	10	38	60	98	150	233	375	563	773											
	9.3	12.5		53	83	128	210	330	503	683	938										
	11	15		45	75	105	173	278	413	563	795	1058									
	13	17.5			60	83	150	233	353	488	668	885									
	15	20			53	75	128	203	308	428	593	788	1005								
	18.5	25				60	105	158	248	338	461	615	788	938							
	22	30					90	135	210	285	398	533	675	810	953						
	26	35					75	113	173	233	330	458	578	705	825	953					
	30	40					68	98	158	210	300	390	503	585	698	803	938				
	37	50						83	128	173	240	315	405	480	563	645	758	863			
	45	60							105	143	195	270	345	420	503	585	698	795			
	55	75								120	165	218	285	353	413	480	570	656			
	63	85								109	150	173	255	315	368	428	503	578			
	75	100									120	165	218	263	308	353	420	480	563		
	93	125										135	173	210	248	285	338	383	450		
	110	150											150	180	218	248	300	345	405	454	
	130	175											128	154	188	218	255	300	345	398	439
	150	200												135	161	188	225	263	311	349	386
	166	225													135	165	195	225	263	300	334
	185	250														150	180	210	248	278	311
	220	300															143	165	191	215	237
	260	350																143	165	188	206
	300	400																124	143	158	180

MAXIMUM LENGTH IN METRES

These are maximum length of cable in METRES from POWER SOURCE to MOTOR. Exceeding these length will void warranty.

PIPE FRICTION LOSS TABLE

FRICTION LOSS IN METERS FOR 10 METERS LONG NEW STEEL GALVANIZED PIPE (C = 140)

Nominal Pipe Outer dia In mm / inches	25/ 1"	32/ 1¼"	40/ 1½"	50/ 2"	65/ 2½"	80/ 3"	100/ 4"	125/ 5"	150/ 6"
Volume rate of flow lps									
0.50	0.364								
1.00	1.315	0.341							
1.25	1.988	0.516	0.246						
1.60	3.140	0.814	0.388						
2.00		1.231	0.587						
2.50		1.861	0.888	0.282					
3.2		2.940	1.402	0.446	0.126				
4.0			2.120	0.674	0.190				
5.0			3.205	1.019	0.288				
8.0				2.433	0.887	0.313			
10.0				3.678	1.038	0.474	0.131		
12.5					1.570	0.716	0.198		
16					2.479	1.131	0.312	0.111	
20					3.747	1.710	0.472	0.167	
25						2.585	0.713	0.253	0.106
32						4.033	1.127	0.400	0.157
40							1.704	0.605	0.252
50							2.576	0.914	0.351
60								1.281	0.534
80								0.182	0.910
100								3.299	1.376
125									0.051

FRICTION LOSS IN METERS FOR 10 METERS LONG NEW RPVC PIPE (C = 150)

Nominal Pipe Outer dia In mm / inches	40/ 1½"	50/ 2"	63/ 2½"	75/ 3"	90/ 3½"	110/ 4¼"	125/ 5"	140/ 5½"	160/ 6¼"
Volume rate of flow lps									
0.50	0.074								
1.00	0.268								
1.25	0.405	0.131							
1.60	0.640	0.211							
2.00	0.967	0.310							
2.50	1.462	0.483	0.150						
3.20	2.309	0.762	0.250	0.106					
4.0	3.491	1.153	0.377	0.160					
5.0		1.742	0.571	0.242					
8.0		4.161	1.363	0.577	0.237				
10.0			2.060	0.873	0.358	0.133			
12.5			3.114	1.319	0.542	0.201			
16			4.919	2.084	0.856	0.317	0.172		
20				3.151	1.293	0.479	0.260		
25					1.955	0.725	0.392	0.225	0.117
32					3.089	1.145	0.020	0.355	0.184
40						1.731	0.937	0.537	0.279
50						2.617	1.416	0.812	0.421
60						3.008	1.985	1.138	0.590
80							3.382	1.939	1.006
100								2.931	1.521
125									2.299

PIPE FRICTION LOSS TABLE

PERMISSIBLE RANGE OF VOLUME RATES OF FLOW IN I/S THROUGH GALVANIZED STEEL PIPE TO LIMIT FRICTION LOSSES TO 10 PERCENT OF THE PIPE LENGTH

Grade ➡	Light	Medium	Heavy
Nominal pipe dia in mm ↓	Rate of flow in lps	Rate of flow in lps	Rate of flow in lps
40	1.90 - 2.74	1.79 - 2.67	1.59 - 2.41
50	2.74 - 5.24	2.67 - 4.95	2.41 - 4.54
65	5.24 - 9.97	4.95 - 9.80	4.54 - 9.17
80	9.97 - 15.54	9.80 - 14.97	9.17 - 14.20
100	15.54 - 30.84	14.97 - 30.0	14.20 - 28.67
125	-	30.0 - 52.50	28.67 - 51.37
150	-	52.50 - 84.18	51.37 - 82.63

PERMISSIBLE RANGE OF VOLUME RATES OF FLOW IN I/S THROUGH RPVC PIPE TO LIMIT FRICTION LOSSES TO 10 PERCENT OF THE PIPE LENGTH

Grade ➡	Class (0.25Mpa)	Class (0.4Mpa)	Class (0.6Mpa)
Nominal pipe dia in mm ↓	Rate of flow in lps	Rate of flow in lps	Rate of flow in lps
40	-	-	Up to 2.04
50	-	-	2.04 - 3.70
63	-	3.80 - 7.24	3.70 - 6.77
75	-	7.24 - 11.47	6.77 - 10.76
90	11.50 - 19.58	11.47 - 18.50	10.76 - 17.41
110	19.58 - 33.25	18.59 - 31.71	17.41 - 29.75
125	33.25 - 46.63	31.71 - 44.33	29.75 - 41.44
140	46.63 - 62.92	44.33 - 59.79	41.44 - 55.97
160	62.92 - 89.28	59.79 - 84.95	55.97 - 79.76

CONVERSION TABLE

FLOW RATE

litre per second l/s	litre per minute l/min	cubic meter per hour m³/h	cubic foot per hour ft³/h	cubic foot per minute ft³/min	Imp.gallon per minute Imp.gal./min	US gallon per minute US gal./min	Us barrel per day ls barrel/d (Petroleum)
1	60	3.6	127.133	2.1189	13.2	15.85	543.439
0.017	1	0.06	2.1189	0.0353	0.22	0.264	9.057
0.278	16.667	1	35.3147	0.5886	3.666	4.403	150.955
0.008	0.472	0.0283	1	0.0167	0.104	0.125	4.275
0.472	28.317	1.6990	60	1	6.229	7.480	256.475
0.076	4.546	0.2728	9.6326	0.1605	1	1.201	41.175
0.063	3.785	0.2271	8.0209	0.1337	0.833	1	34.286
0.002	0.110	0.0066	0.2339	0.0039	0.024	0.029	1

LIQUID

Cubic meter m³	litre l	Milli litre ml	Imp. gallon Imp. Gal	US gallon US gal	cubic foot ft³
1	1000	1 x 10 ⁶	220	264.2	35.3147
0.001	1	1000	0.22	0.2642	0.0353
1 x 10 ⁻⁶	0.001	1	2.2 X 10 ⁻⁴	2.642 x 10 ⁻⁴	3.53 x 10 ⁻⁶
0.00455	4.546	4546	1	1.201	0.1605
0.00378	3.785	3785	0.8327	1	0.1337
0.0283	28.317	28317	6.2288	7.4805	1

LIQUID HEAD AND PRESSURE

newton per square meter N/m² (Pa)	kilo pascal kPa	bar bar	kilogram force per square centimeter Kg/cm2	pound force per square inch psi	foot for water ft H ₂ O	meter of water m H ₂ O	millimeter of mercury mm Hg	inch of mercury in Hg
1	0.001	1 x 10 ⁻⁵	1.02 x 10 ⁻⁵	1.45 x 10 ⁻⁴	3.35 x 10 ⁻⁴	1.02 x 10 ⁻⁴	0.0075	2.95 x 10 ⁻⁴
1000	1	0.01	0.0102	0.145	0.335	0.102	7.5	0.295
1 x 10 ⁻⁵	100	1	1.02	14.5	33.52	10.2	750.1	29.53
98.067	98.07	0.981	1	14.22	32.81	10	735.6	28.96
6895	6.895	0.069	0.0703	1	2.31	0.703	51.72	2.036
2984	2.984	0.03	0.0305	0.433	1	0.305	22.42	0.882
9789	9.789	0.098	0.1	1.42	3.28	1	73.42	2.891
133.3	0.133	0.0013	0.0014	0.019	0.045	0.014	1	0.039
3386	3.386	0.0338	0.0345	0.491	1.133	0.0345	25.4	1

LENGTH

millimeter mm	centimeter cm	meter m	inch in	foot ft	yard yd
1	0.1	0.001	0.0394	0.0033	0.0011
10	1	0.01	0.3937	0.0328	0.0109
1000	100	1	39.3701	3.2808	1.0936
25.4	2.54	0.0254	1	0.0833	0.0278
304.8	30.48	0.3048	12	1	0.3333
914.4	91.44	0.9144	36	3	1

1 Kilometer = 1000 metres = 0.62137 miles 1 mile = 1609.37 metres = 1.60934 kilometers

MASS

kilogram kg	pound lb	hundred weight (cwt)	tonne t	ton long tn	short ton sh tn
1	2.205	0.0197	0.001	9.84 x 10 ⁻⁴	0.0011
0.454	1	0.0089	4.54 x 10 ⁻⁴	4.46 x 10 ⁻⁴	5.0 x 10 ⁻⁴
50.802	112	1	0.0508	0.05	0.056
1000	2204.6	19.684	1	0.9842	1.1023
1016	2240	20	1.0161	1	1.102
907.2	2000	17.857	0.9072	0.8929	1

TEMPERATURE

To Convert From	To	Use Formula
Temperature Celsius, tc	Temperature Kelvin, tk	K = tc + 273.15
Temperature Fahrenheit, tf	Temperature Kelvin, tk	K = (tf + 459.67 / 1.8)
Temperature Celsius, tc	Temperature Fahrenheit, tf	F = 1.8 tc + 32
Temperature Fahrenheit, tf	Temperature Celsius, tc	C = (tf - 32) / 1.8
Temperature Kelvin, tk	Temperature Celsius, tc	C = tk - 273.15
Temperature Kelvin, tk	Temperature Fahrenheit, tf	F = 1.8tk - 459.67

W I N N I N G W A Y S

When you have a good thing going it is quite in the fitting of things that recognitions come our way. Several prestigious awards, which decorate our shelf, say it all. These rewards not only acknowledge our position as a leader in the water pump industry but also serve as reminders about what the customer expects from a winner. And we, as ever, have our ears perfectly tuned to customer expectations.



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