

A photograph of five vertical submersible pumps of varying heights, arranged in a row from left to right, decreasing in height. They are made of a metallic material with a ribbed texture. The background is a dark, abstract pattern of concentric, overlapping circles in shades of teal, blue, and purple.

# C.R.I. SUBMERSIBLE PUMPS **60Hz**







**C.R.I. PUMPS**

Pumping trust. Worldwide.

## 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, ISO 14001 & OSHAS 18001 certifications and the products are CE, UR/UL, 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

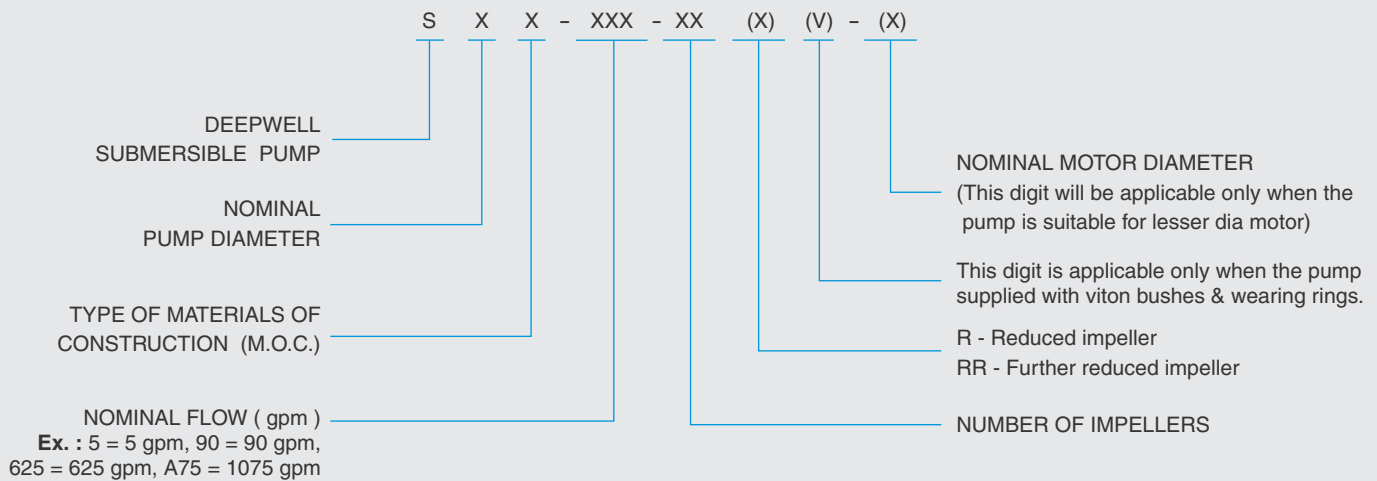
To be the industry leader providing best - in - class fluid management solutions to individual and institutional customers and societies in our chosen markets.

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**.

# GENERAL INFORMATION

## STAINLESS STEEL SERIES MODEL IDENTIFICATION CODE

### DEEPWELL SUBMERSIBLE PUMP



#### DEEPWELL SUBMERSIBLE PUMP SET (Pump + Motor)

<b>PUMP MODEL</b>	+	<b>MOTOR MODEL</b>
S X X - XXX - XX	+	X X X - XXX X

#### DEEPWELL SUBMERSIBLE PUMP SET (Pump + Motor)

<b>PUMP MODEL</b>	+	<b>MOTOR MODEL</b>
S6S - 90 / 03	+	W6A - 30 T

# GENERAL INFORMATION

## STAINLESS STEEL SERIES

### PERFORMANCE CURVE CONDITIONS

The conditions below apply to the curves shown on the following pages.

- a. The Performance curves show pump performance at rated speed, voltage and @ 10ft minimum submergence.

The nominal speed of motor

4" motor	:	n = 3450 rpm
6" motor	:	n = 3450 rpm
8" motor	:	n = 3450 rpm
10" motor	:	n = 3450 rpm

- b. The measurements were made with airless water at 68°F. When pumping liquids with a density higher than that of water, motors with correspondingly higher outputs must be used.
- c. Pipe friction losses have not been included in the performance curves and performance tables.
- d. The bold curves indicate the recommended performance range.
- e. Q/H : The curves are inclusive of check valve and suction inter-connector losses at the actual speed.
- f. Efficiency curve : "Eff" shows pump stage efficiency.
- g. Curve tolerance according to ISO : 9906, Grade-3B
- h. The performances are at rated voltage and are only Indicative. Actual discharge depends on availability of water in well, based on strength of water source, height of water column, submergence of pump, etc.,.
- i. The given performances are for specific materials of construction of pump.
- j. The outlet size of the pumps are as per NPT standard.

# STAINLESS STEEL S E R I E S



## GENERAL INFORMATION

C.R.I. Submersible Pumps are the products of the expertise gained from over five decades of experience, endurance and workmanship. These products are engineered to perfection with utmost care and stringent quality control at all stages to ensure a trouble free service.

**Description :** C.R.I. 4", 6", 8" & 10" Stainless steel series submersible pumps are made of corrosion resistance stainless steel with built in check valve. All vital components of these pump models are made of high quality 304 / 316 grade stainless steel and the shaft is of S.S 304 / 329 / 431. The optimal design of impellers and diffusers enables the best possible hydraulic efficiency.

These pumps are of multistage centrifugal type, which can be firmly coupled to a submersible electric motor, which operates submerged beneath the surface of water. Built in check valve prevents back flow, and reduces the risk of water hammer. All mounting dimensions of pumps and motors are in accordance with NEMA standards. C.R.I. submersible pumps can be offered with either C.R.I. 'W' series, water filled rewindable submersible motors / C.R.I. 'R' series, Resin Filled encapsulated (water lubricated) submersible motors / C.R.I. 'L' Series, food grade liquid filled submersible motors or any other NEMA standard motors.

### Features :

- Best operating efficiency
- Precise parts made of SS 304/316
- Highly durable & Hygiene
- Good resistance to sand
- Can be easily dismantled and repaired
- Can handle upthrust loads
- Available MOC : Type S&N
- Additional intermediate bearings in higher stage pumps
- Carbon thrust pad
- Rubber bush bearing in all stages
- SS 329 spline coupling for longer life

### Applications :

- Residential
- Irrigation
- Civil Water supply
- Fountains
- Industrial & Rural water supply
- Fire Fighting & Pressure Boosting units
- Gardens
- Sprinkler Systems
- Mining
- Oil & Gas
- De-watering
- Food processing industry
- Golf Course
- De-salination plants
- CBM



# STAINLESS STEEL SERIES

## Pumped Liquids

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

a)	Max. Temperature	NBR - 91.4°F (33°C) / VITON - 194°F (90°C)
b)	Permissible amount of sand	0.42 lb / 1000 gal (max)
c)	Chlorine ion density	500 ppm (max)
d)	Allowable solids	3000 ppm (max)
e)	Specific gravity	1.004 (max)
f)	Hardness (Drinking water)	300 ppm (max)
g)	Viscosity	1.75 x 10 <sup>-6</sup> m <sup>2</sup> /sec (max)
h)	Turbidity	50 ppm silica scale(max)
i)	pH	6.5 to 8.5

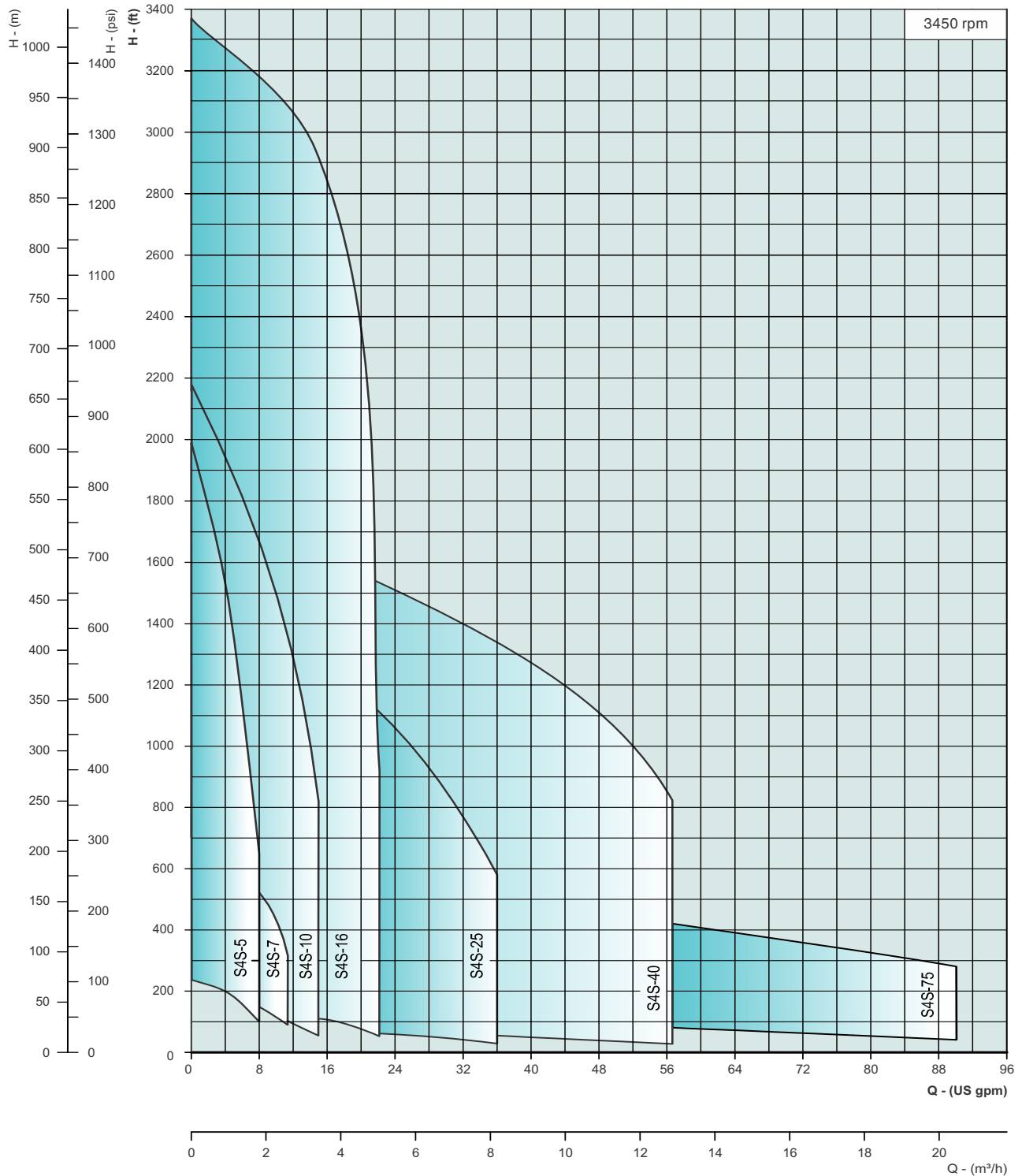
PUMP OPERATING LIMITATIONS						
NOMINAL DIAMETER		4"(100mm)	6"(150mm)	8"(200mm)	10"(250mm)	
POWER RANGE		¼ - 20HP	1½ - 85/100HP	7½ - 125HP	15 - 300HP	
SPEED		3450 rpm	3450 rpm	3450 rpm	3450 rpm	
DISCHARGE RANGE	US gpm	1.5 - 90	21 - 400	150 - 635	200 - 1465	
	m <sup>3</sup> /h	0.3 - 20	5 - 91	34 - 144	46 - 332	
TOTAL HEAD RANGE	ft	20 - 3366	10 - 2110	20 - 1400	25 - 1280	
	m	6 - 1026	3 - 643	6 - 427	8 - 390	
OUTLET SIZE IN INCHES		1, 1¼, 1½ & 2	2, 3 & 4	5	6	
SHAFT COUPLING		Splines	Splines	Splines	Keyway / Splines	

### Maximum temperature of pumped liquid

Motor	Minimum cooling flow along the motor	Vertical installation	Horizontal installation minimum 30° angle
4"	0.25 ft/s	91.4°F(33 °C)	91.4°F(33 °C)
6" & 8"	0.5 ft/s	91.4°F(33 °C)	91.4°F(33 °C)
10"	0.5 ft/s	91.4°F(33 °C)	91.4°F(33 °C)

# GENERAL INFORMATION

## Group Performance Curves - 4"

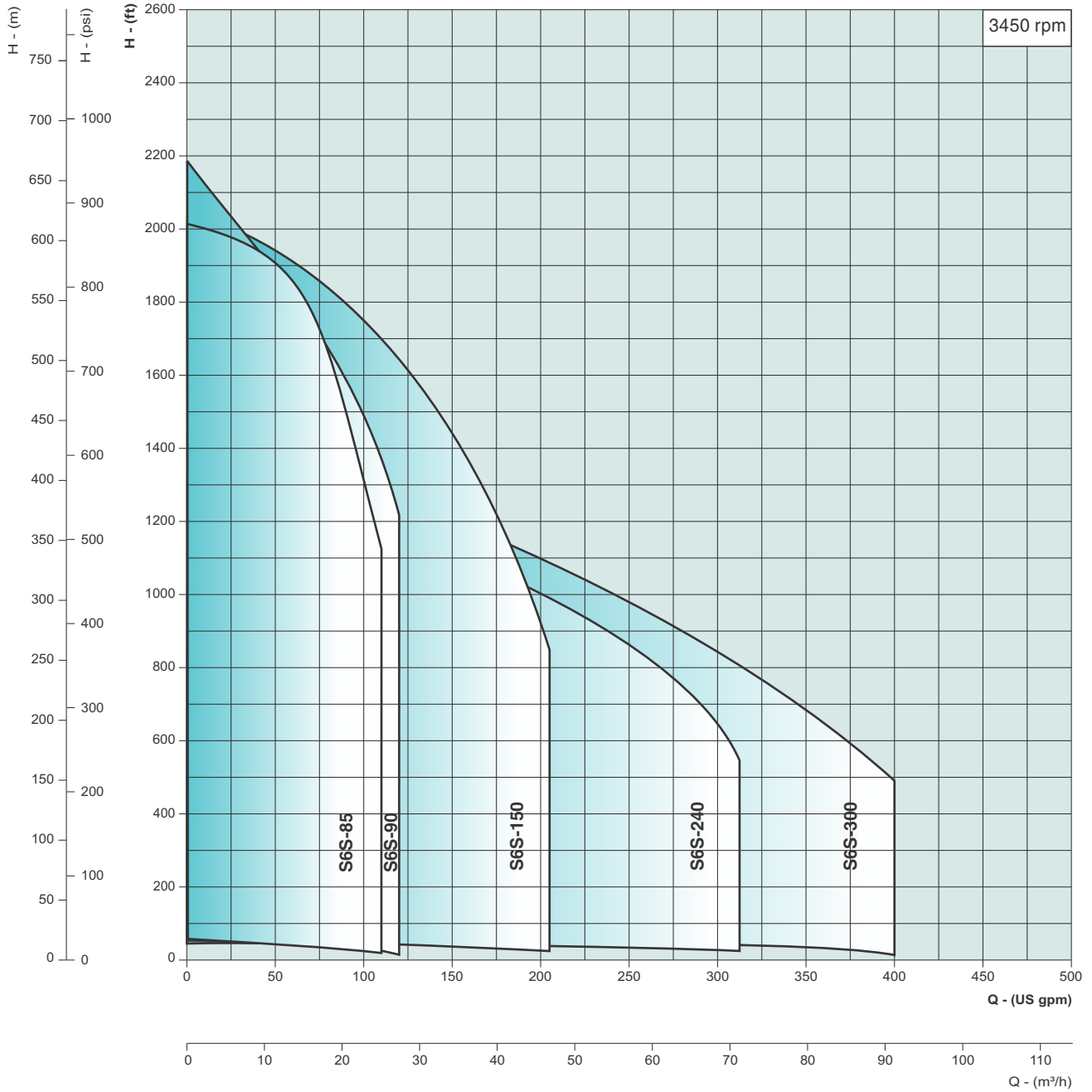


Refer general information for performance curve conditions and for other details.

Curve tolerances according to ISO 9906, Grade - 3B.

# STAINLESS STEEL SERIES

## Group Performance Curves - 6"

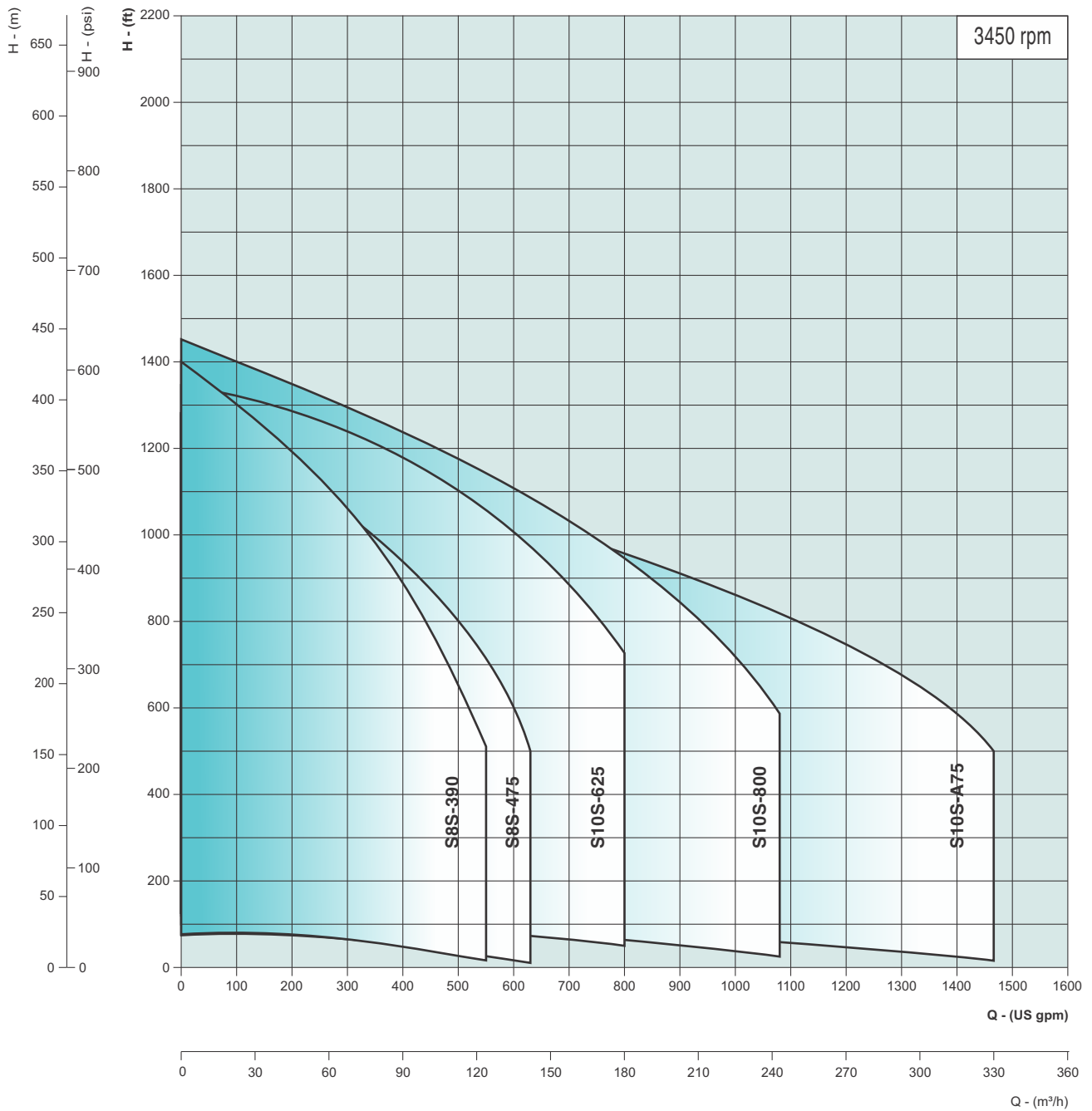


Refer general information for performance curve conditions and for other details.

Curve tolerances according to ISO 9906, Grade - 3B.

# GENERAL INFORMATION

## Group Performance Curves - 8" & 10"



Refer general information for performance curve conditions and for other details.

Curve tolerances according to ISO 9906, Grade - 3B.



# STAINLESS STEEL SERIES

## Materials of Construction

PART NAME	PART No.	NOMINAL DIA. 4"		NOMINAL DIA . 6", 8" & 10"	
		TYPE - S	TYPE - N	TYPE - S	TYPE - N
CHECK VALVE HOUSING	21.00	S.S - 304	S.S. - 316	S.S. - 304	S.S. - 316
CHECK VALVE DISC	21.06	S.S - 304	S.S. - 316	S.S. - 304	S.S. - 316
CHECK VALVE SEAT	21.01	NBR / VITON	NBR / VITON	NBR / VITON	NBR / VITON
DIFFUSER CHAMBER	18.03	S.S - 304	S.S. - 316	S.S. - 304	S.S. - 316
IMPELLER	19.00	S.S - 304	S.S. - 316	S.S. - 304	S.S. - 316
SPLIT CONE WITH NUT*	19.02	S.S - 304	S.S. - 316	S.S. - 304	S.S. - 316
IMPELLER WEAR RING / SEAL RING	17.01	NBR / VITON	NBR / VITON	NBR / VITON	NBR / VITON
UPTHRUST WASHER / UPTHURST SLEEVE	13.03	S.S - 420	S.S - 420	S.S 420 / S.S 431	S.S 420 / S.S 431
BUSH - CT PAD	18.05	LTB	LTB	LTB / TEFLON	LTB / TEFLON
BUSH - DIFFUSER CHAMBER	18.06	NBR / VITON	NBR / VITON	NBR / VITON	NBR / VITON
BUSH - BRACKET	18.07	LTB	LTB	LTB	LTB
SUCTION INTER CONNECTOR	17.00	S.S. - 304	S.S - 316	S.S. - 304	S.S. - 316
INLET SCREEN	14.03	S.S. - 304	S.S. - 316	S.S. - 304	S.S. - 316
PUMP SHAFT ^	22.00	S.S. - 431 <sup>#</sup>	S.S. - 329 <sup>#</sup>	S.S. - 431	S.S. - 431
COUPLING SPLINES	22.01	S.S. - 329	S.S - 329	S.S. - 431	S.S. - 431
LOCKING STRAPS	17.03	S.S. - 304	S.S - 316	S.S. - 304	S.S. - 316
CABLE GUARD	17.04	S.S. - 304	S.S - 316	S.S. - 304	S.S. - 316

<sup>#</sup> Provided only for 4", 75 gpm

\* Applicable for 4", 75 gpm and 6" 85 gpm to 300 gpm pump models.

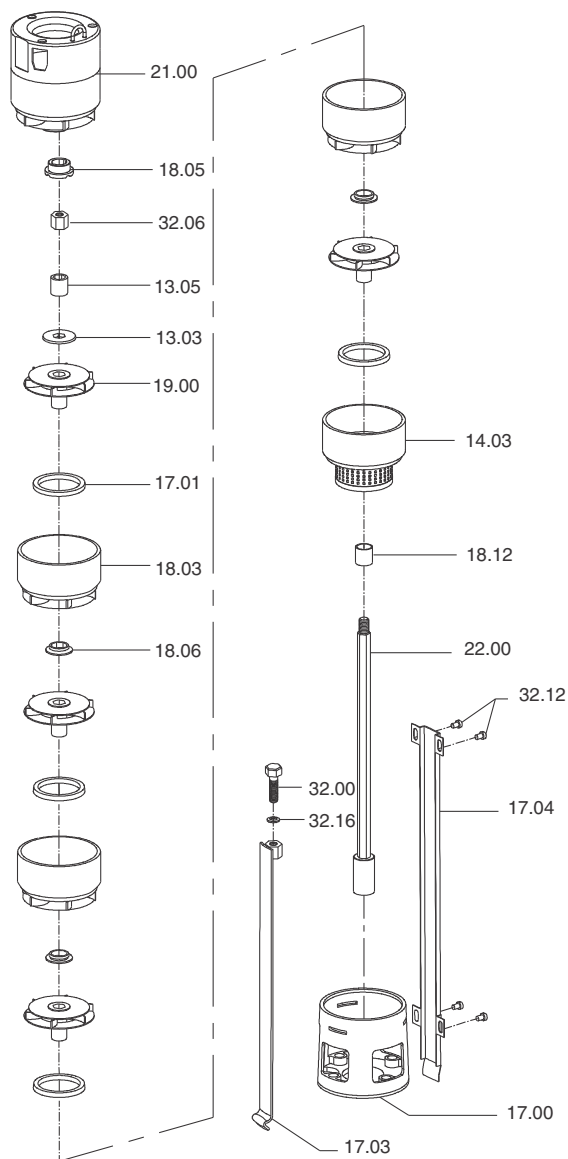
<sup>^</sup> 4" 5 gpm to 40 gpm pumps are provided with hexagonal shaft and other 4" & 6" pumps are with round shaft.

Note : VITON Components are optional

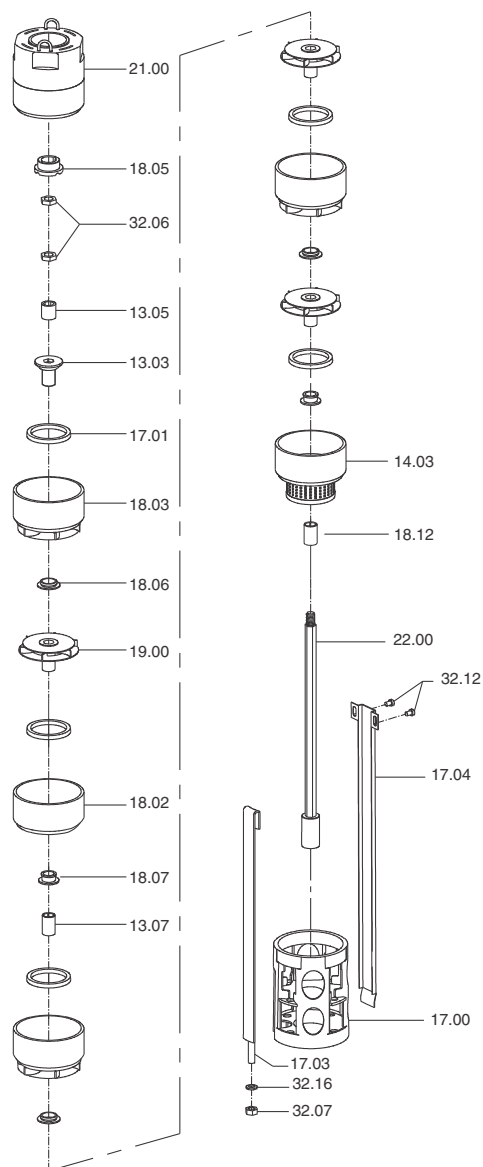
# GENERAL INFORMATION

## Exploded View

**S4S-5 / S4S-10 / S4S-16 (Upto 29 Stages)**



**S4S-5 / S4S-10 / S4S-16 (30 & above Stages)**



Part No.	Part Name	Part No.	Part Name
13.03	Upthrust Washer	18.06	Bush - Diffuser Chamber
13.05	Sleeve	18.12	Spacer Sleeve
14.03	Chamber-Inlet Screen	19.00	Impeller
17.00	Suction Inter-connector	21.00	Check Valve Housing
17.01	Wearing ring	22.00	Pump Shaft
17.03	Locking Straps	32.00	Bolt
17.04	Cable Guard	32.06	Lock Nut
18.03	Diffuser Chamber	32.12	Screw
18.05	Bush - CT Pad	32.16	Washer

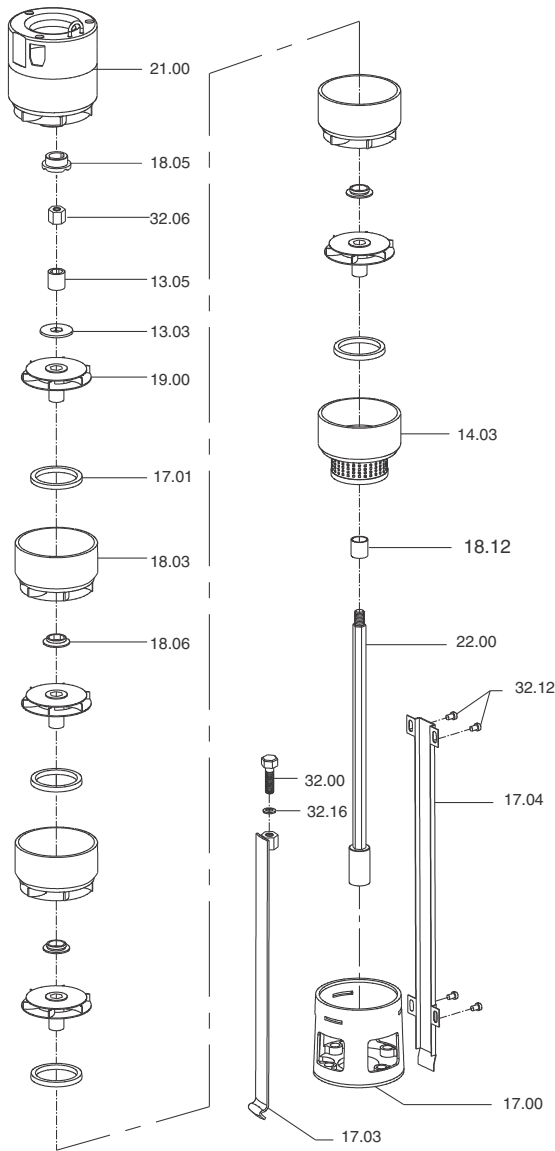
Part No.	Part Name	Part No.	Part Name
13.03	Upthrust Sleeve	18.06	Bush - Diffuser Chamber
13.07	Sleeve - Bracket	18.07	Bush - Bracket
13.05	Sleeve	18.12	Spacer Sleeve
14.03	Chamber-Inlet Screen	19.00	Impeller
17.00	Suction Inter-connector	21.00	Check Valve Housing
17.01	Wearing ring	22.00	Pump Shaft
17.03	Locking Straps	32.06	Lock Nut
17.04	Cable Guard	32.07	Nut
18.02	Chamber - Bracket	32.12	Screw
18.03	Diffuser Chamber	32.16	Washer
18.05	Bush - CT Pad		

All mounting dimensions are in accordance with NEMA Standards

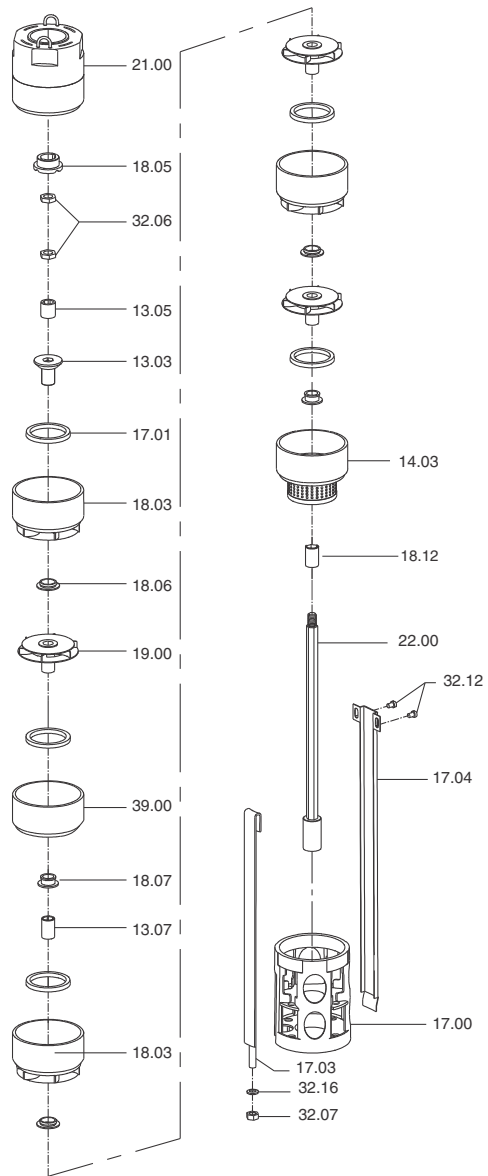
# STAINLESS STEEL SERIES

## Exploded View

S4S-25 (Upto 25 Stages)



S4S-25 ( 26 & Above Stages)



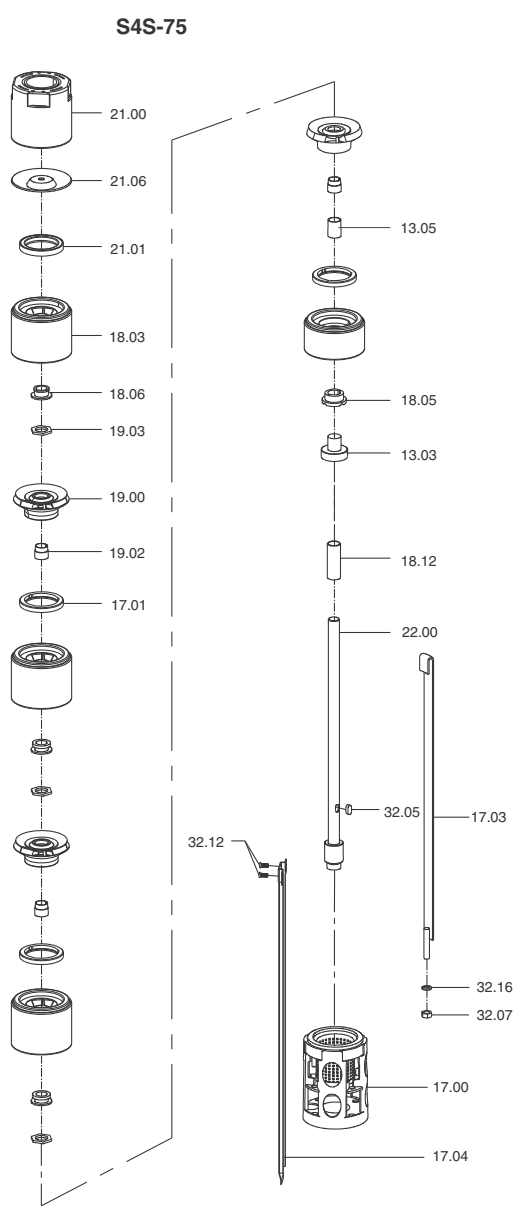
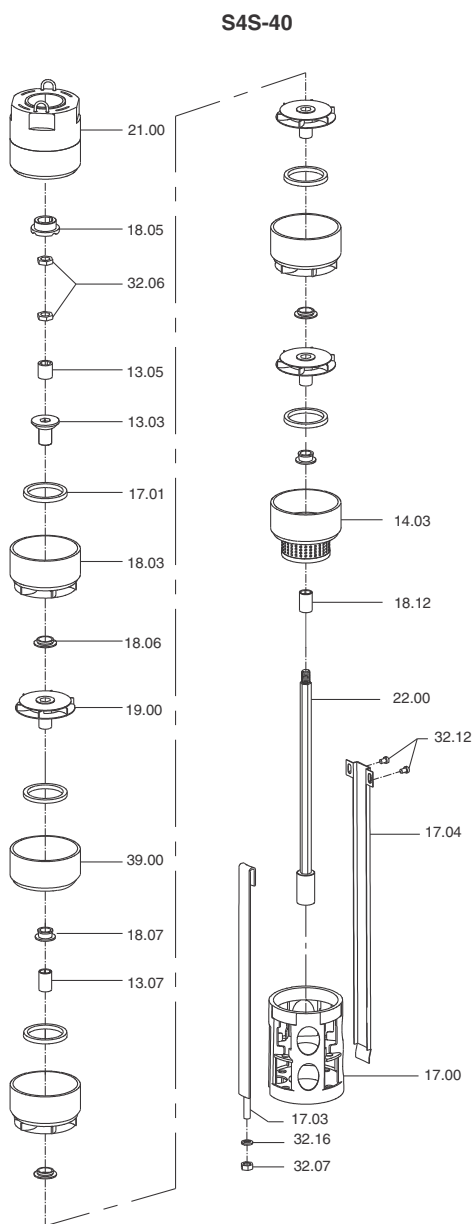
Part No.	Part Name	Part No.	Part Name
13.03	Upthrust Washer	18.06	Bush - Diffuser Chamber
13.05	Sleeve	18.12	Spacer Sleeve
14.03	Chamber-Inlet Screen	19.00	Impeller
17.00	Suction Inter-connector	21.00	Check Valve Housing
17.01	Wearing ring	22.00	Pump Shaft
17.03	Locking Straps	32.00	Bolt
17.04	Cable Guard	32.06	Lock Nut
18.03	Diffuser Chamber	32.12	Screw
18.05	Bush - CT Pad	32.16	Washer

Part No.	Part Name	Part No.	Part Name
13.05	Sleeve	18.07	Bush - Bracket
13.03	Upthrust Sleeve	18.12	Spacer Sleeve
13.07	Sleeve-Bracket	19.00	Impeller
14.03	Chamber-Inlet Screen	21.00	Check Valve Housing
17.00	Suction Inter-connector	22.00	Pump Shaft
17.01	Wearing ring	32.06	Lock Nut
17.03	Locking Straps	32.07	Nut
17.04	Cable Guard	32.12	Screw
18.03	Diffuser Chamber	32.16	Washer
18.05	Bush - CT Pad	39.00	Chamber - Bracket
18.06	Bush - Diffuser Chamber		

All mounting dimensions are in accordance with NEMA Standards

# GENERAL INFORMATION

## Exploded View



Part No.	Part Name	Part No.	Part Name
13.03	Uphrust Sleeve	18.07	Bush - Bracket
13.05	Sleeve	18.12	Spacer Sleeve
13.07	Sleeve-Bracket	19.00	Impeller
14.03	Chamber-Inlet Screen	21.00	Check Valve Housing
17.00	Suction Inter-connector	22.00	Pump Shaft
17.01	Wear ring	39.00	Chamber - Bracket
17.03	Locking Straps	32.06	Lock Nut
17.04	Cable Guard	32.07	Nut
18.03	Diffuser Chamber	32.12	Screw
18.05	Bush - CT Pad	32.16	Washer
18.06	Bush - Diffuser Chamber		

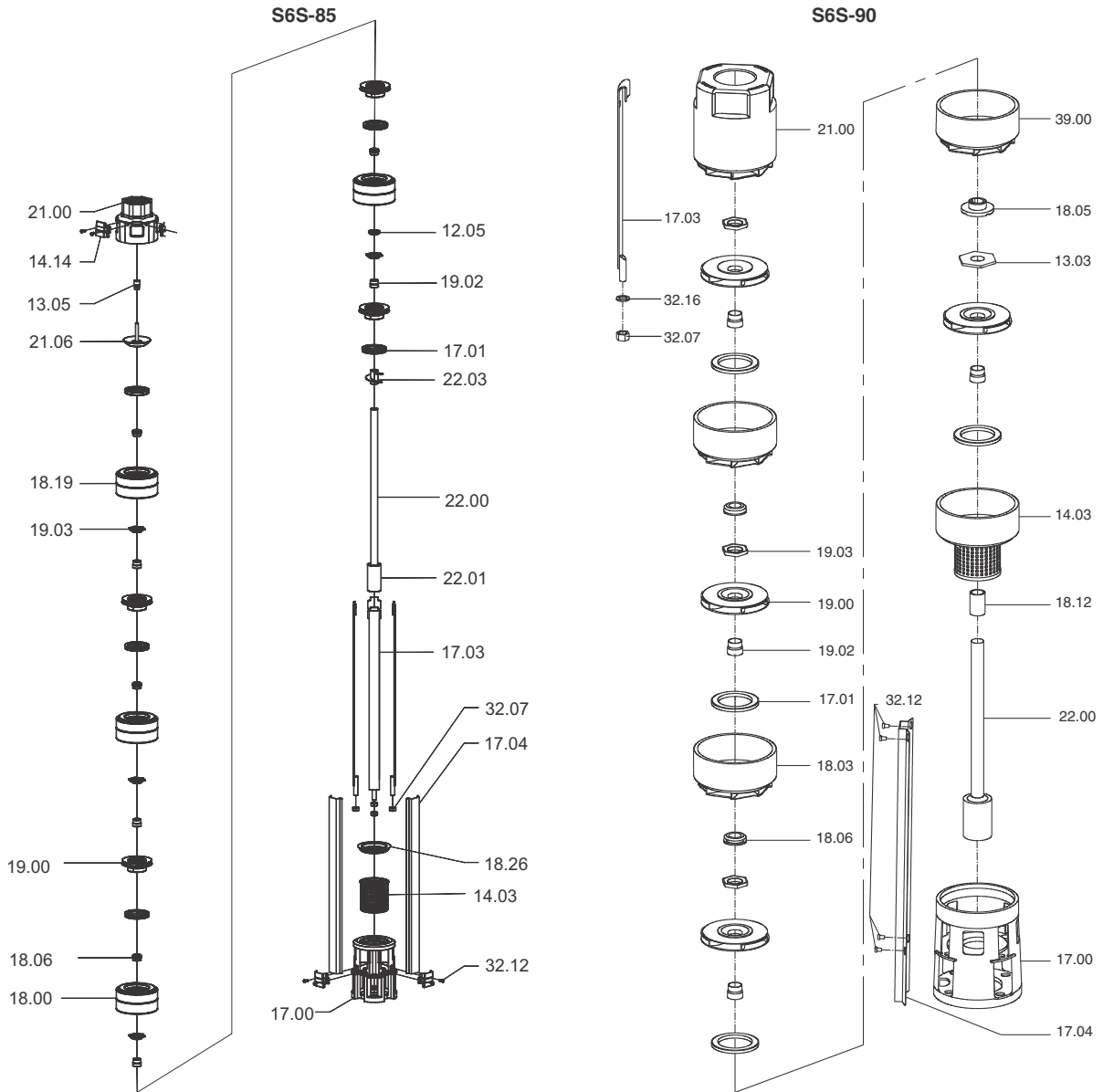
Part No.	Part Name	Part No.	Part Name
13.03	Uphrust Sleeve	19.02	Split Cone
13.05	Sleeve	19.03	Split Cone Nut
17.00	Suction Inter-connector	21.00	Check Valve Housing
17.01	Wear ring	21.01	Check Valve Seat
17.03	Locking Straps	21.06	Check Valve Disc
17.04	Cable Guard	22.00	Pump Shaft
18.03	Diffuser Chamber	32.05	Key
18.05	Bush - CT Pad	32.07	Nut
18.06	Bush - Diffuser Chamber	32.12	Screw
18.12	Spacer Sleeve	32.16	Washer
19.00	Impeller		

All mounting dimensions are in accordance with NEMA Standards



# STAINLESS STEEL SERIES

## Exploded View



Part No.	Part Name	Part No.	Part Name
12.05	Counter Thrust Ring	18.26	Wearing ring Guide
13.05	Sleeve	19.00	Impeller
14.03	Strainer	19.02	Split Cone
14.14	Cable Clamp	19.03	Split Cone Nut
17.00	Suction Inter Connector	21.00	Valve Housing
17.01	Wearing ring	21.06	Valve Disc
17.03	Locking Strap-Pump	22.00	Pump Shaft
17.04	Cable Guard	22.01	Coupling
18.00	Chamber - Rubber bush	21.06	Priming sleeve
18.06	Bush - Rubber	32.06	Lock Nut
18.19	Chamber - Top	32.07	Nut
		32.12	Screw

Part No.	Part Name	Part No.	Part Name
13.03	Upthrust Washer	19.00	Impeller
14.03	Chamber Inlet Screen	19.02	Split Cone
17.00	Suction Inter-connector	19.03	Split Cone Nut
17.01	Wear ring	21.00	Check Valve Housing
17.03	Locking Straps	22.00	Pump Shaft
17.04	Cable Guard	32.07	Nut
18.03	Diffuser Chamber	32.12	Screw
18.05	Bush - CT Pad	32.16	Washer
18.06	Bush - Diffuser Chamber	39.00	Chamber - Bracket
18.12	Spacer Sleeve		

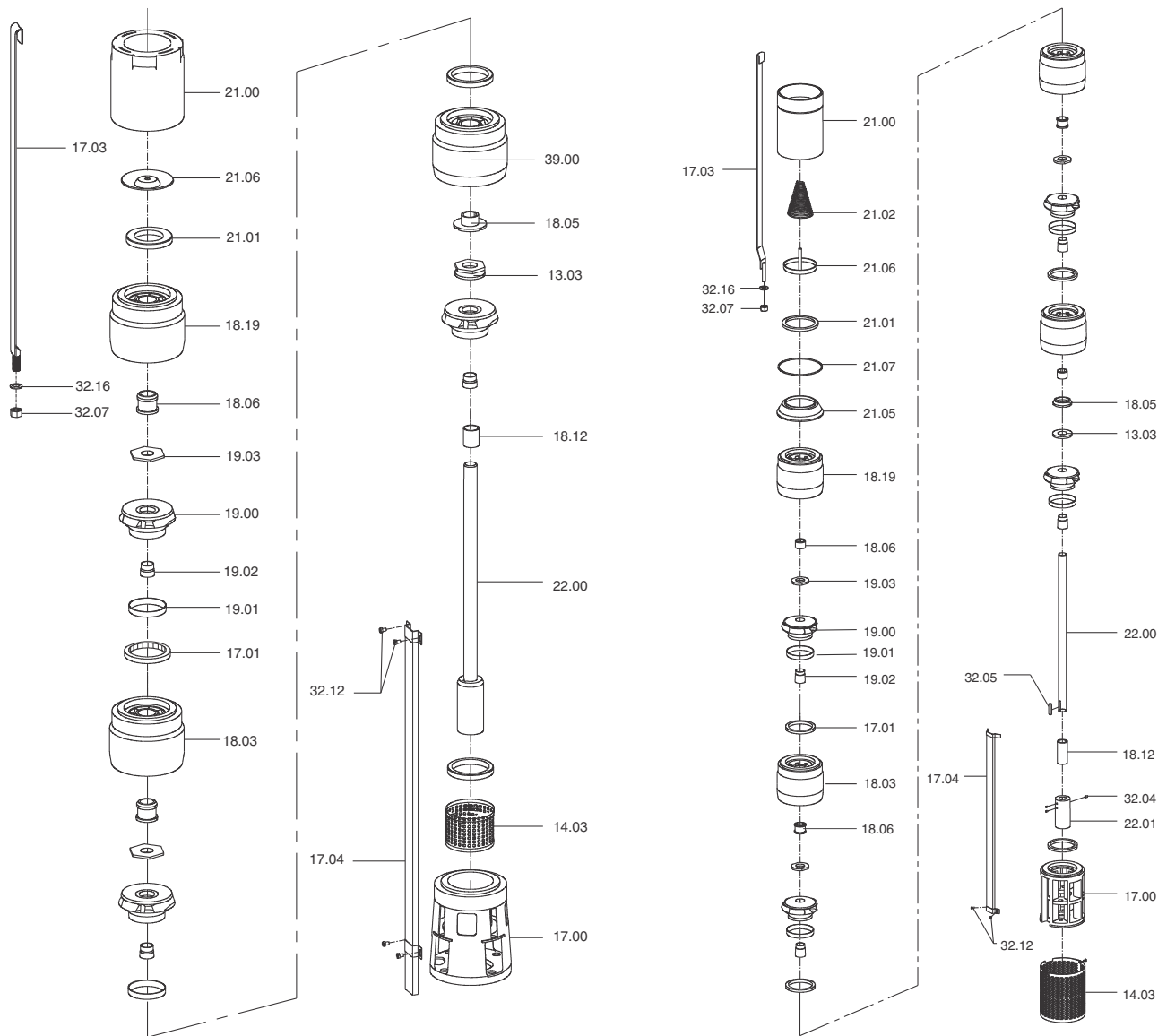
All mounting dimensions are in accordance with NEMA Standards

# GENERAL INFORMATION

## Exploded View

**S6S-150 / S6S-240 / S6S-300**

**S8S-390 / S8S-475 / S10S-625 / S10S-800 / S10S-A75**



Part No.	Part Name
13.03	Upthrust Washer
14.03	Inlet Screen
17.00	Suction Inter-connector
17.01	Wear ring
17.03	Locking Straps
17.04	Cable Guard
18.05	Bush - CT Pad
18.06	Bush - Diffuser Chamber
18.03	Diffuser Chamber
18.12	Spacer Sleeve
18.19	Diffuser Chamber Top
19.00	Impeller

Part No.	Part Name
19.01	Neck Ring
19.02	Split Cone
19.03	Split Cone Nut
21.00	Check Valve Housing
21.01	Check Valve Seat
21.06	Check Valve Disc
22.00	Pump Shaft
32.07	Nut
32.12	Screw
32.16	Washer
39.00	Chamber - Bracket

Part No.	Part Name
13.03	Upthrust Washer
14.03	Inlet Screen
17.00	Suction Inter-connector
17.01	Wear ring
17.03	Locking Straps
17.04	Cable Guard
18.03	Diffuser Chamber
18.05	Bush - CT Pad
18.06	Bush - Diffuser Chamber
18.12	Spacer Sleeve
18.19	Diffuser Chamber Top
19.01	Neck Ring
19.02	Split Cone
19.00	Impeller

Part No.	Part Name
19.03	Split Cone Nut
21.00	Check Valve Housing
21.01	Check Valve Seat
21.02	Check Valve Spring
21.05	Check Valve bracket
21.06	Check valve Disc
21.07	O-Ring
22.00	Pump Shaft
22.01	* Coupling
32.04	Crub Screw
32.05	Key
32.07	Nut
32.12	Screw
32.16	Washer

All mounting dimensions are in accordance with NEMA Standards

\* Upto 125HP - Splines coupling  
 150HP & Above - Keyway coupling (standard)  
 Splines coupling (optional)

# 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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