SAVE FOR FUTURE

C.R.I. PUMPS

Pumping trust. Worldwide.

DEEPWELL SUBMERSIBLE PUMPS

EVERGREEN & STAINLESS STEEL

GRAND SERIES - 50Hz

An ISO 9001 & ISO 14001 Company

EVERGREEN
GRAND SERIES

GENERAL INFORMATION

DEEPWELL SUBMERSIBLE PUMPS
EVERGREEN - GRAND SERIES

C.R.I. always equips itself in advance to face the exponentially growing technological challenges across the industry and to gain high level of customer satisfaction.

C.R.I. Introduced wide range of Evergreen-Grand Series Submersible Pumps to satisfy the increasing demand of both high flow and high head applications. These pumps are designed and developed using advanced technologies and integrated quality control programs backed by 50 years of profound experience which ensure low life cycle cost. These pumps are manufactured with highest levels of standardization and efficiency of use.

This Evergreen Grand series pumps are available in 8", 10", 12" & 14" nominal diameters with a maximum flow upto 540 m^3/h and maximum head upto 490 meters. These pumps are offered with different materials of constructions & variants that are customized to suit customers specific applications in different segments including casted SS impeller constructions.

Features : I Best operating efficiency I Extremely hardwearing water lubricated bearings I Highly durable I Can be easily dismantled and repaired I Can handle more upthrust loads.

Applications : I Irrigation I Civil Water Supply I Industrial & Rural Water Supply I Fire Fighting I Pressure Boosting Units I Sprinkler Systems I Mining.

EVERGREEN GRAND SERIES

Model Identification Code

MODEL IDENTIFICATION CODE
DEEPWELL SUBMERSIBLE PUMP - 50 HZ

S X X - XXX / XX X - X M

- **S** — Deepwell Submersible Pump
- **X** — Nominal Pump Dia. in Inch
- **X** — Type of Materials of Construction (M.O.C)

Chamber / NRV & SIC / Diffuser / Impeller

CC -	CI	CI	CI	CI
CS -	CI	CI	CI	SS 304
CN -	CI	CI	CI	SS 316
C -	CI	CI	CI	Bronze

- **XXX** — Nominal Flow in m^3/h (Actual Value to be mentioned. Ex. 60 = $60m^3/h$, 400 = $400m^3/h$)
- **XX** — Number of Impellers
- **X** — Impeller Dia. (A-O)
- **-X** — Nominal Motor Dia. in Inch (This digit will be applicable only when the pump is suitable for lesser / higher dia motor)
- **M** — Mining Application (This digit will be applicable only for the the pumps suitable for mining application)

Pumped liquids

Clean, thin, non-aggressive, non explosive, clear, cold, fresh water without abrasives, solid particles or fibre having the following characteristics.

a)	Temperature	30°C (max.)
b)	Permissible amount of sand	40 g/m^3 (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 (max.)
g)	Viscosity	1 mm^2/sec
h)	Turbidity	50 ppm silica scale(max.)
i)	pH	6 to 10

Maximum Temperature of Pumped Liquid

Motor	Minimum cooling flow along the motor	Vertical installation	Horizontal installation minimum 30°angle
8"-14"	0.16 m/s	30°C	30°C

Maximum operating pressure	
8" & 10" Submersible pump	4.9Mpa (49 bar)
12" Submersible pump	3.2Mpa (32 bar)
14" Submersible pump	1.0Mpa (10 bar)

Pump Operating Limitations					
Nominal diameter		8"(150mm)	10"(250mm)	12"(300mm)	14"(350mm)
Power Range in kW		7.5 - 110	11 - 185	45 - 250	37 - 110
Speed in rpm		2900	2900	2900	2900
Max. Discharge	m^3/h	192	420	540	540
	lps	53	117	150	150
Max. Head	m	488	489	320	106
	ft	1600	1604	1050	348
Outlet Size (BSP)		5"	6"	7"	8"

GENERAL INFORMATION

Materials of Construction

PART NAME	PART No.	NOMINAL DIA . 8”	NOMINAL DIA . 10”	NOMINAL DIA . 12”	NOMINAL DIA . 14”
CHECK VALVE HOUSING	21.00	CI	CI	CI	CI
CHECK VALVE DISC	21.06	SS	CI	CI	CI
DIFFUSER CHAMBER	18.00	CI	CI	CI	CI
IMPELLER	19.00	CI / SS 304 (CASTED) / BRONZE*	CI / SS 304 (CASTED) / BRONZE*	CI / SS 316 (CASTED)	CI
JOURNAL BEARING	18.07	RUBBER	RUBBER	RUBBER	RUBBER
BUSH	18.06	BRASS (GROME PLATED)	BRASS (GROME PLATED)	BRONZE	BRASS (GROME PLATED)
WEAR RING	17.01	RUBBER	RUBBER	BRONZE	BRONZE
SUCTION INTER CONNECTOR	17.00	CI	CI	CI	CI
INLET SCREEN	18.17	SS	SS	SS	SS
PUMP SHAFT	22.00	SS	SS	SS	SS
CABLE GUARD	17.04	SS	SS	SS	SS
COUPLING	22.01	SS	SS	SS	SS

* Optional only for S8CC & S10CC 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.

b. The measurements were made with cold water (20°C) at atmospheric pressure (1bar). 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. Q/H : The curves are inclusive of suction inter-connector losses at the actual speed.

e. "Y- Curve" indicates the NRV loss to be considered while selecting pump.

f. Efficiency curve : “η %” shows pump stage efficiency.

g. Curve tolerance according to ISO : 9906, Grade 3B.

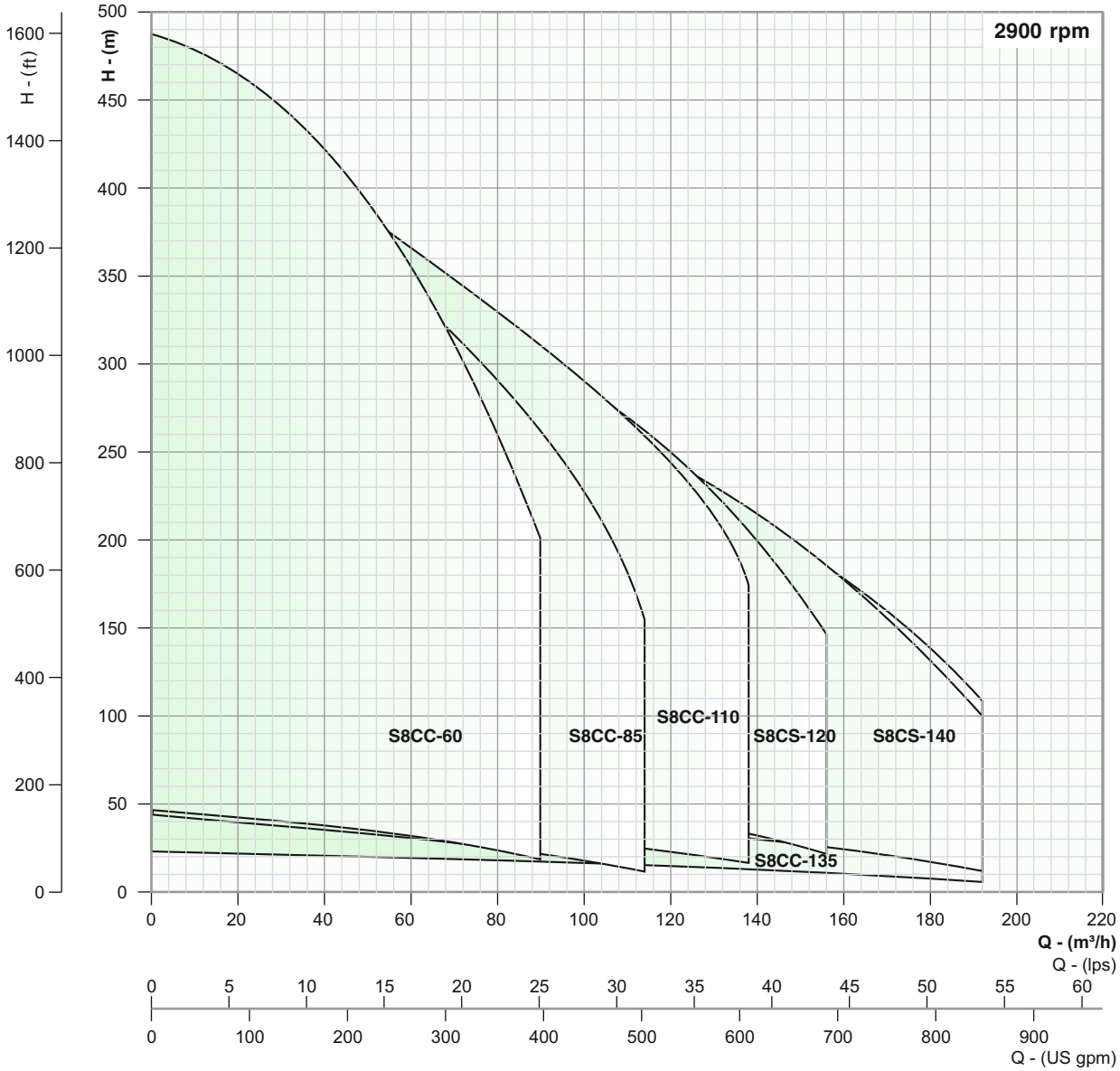
h. The performances are at rated voltage and are only Indicative. Actual discharge depends on availability of water in well, based on strength of water source, height of water column, submergence of pump, etc.,.

i. The given performances are for specific materials of construction of pump.

j. The outlet size of the pumps are as per GAS / BSP standard.

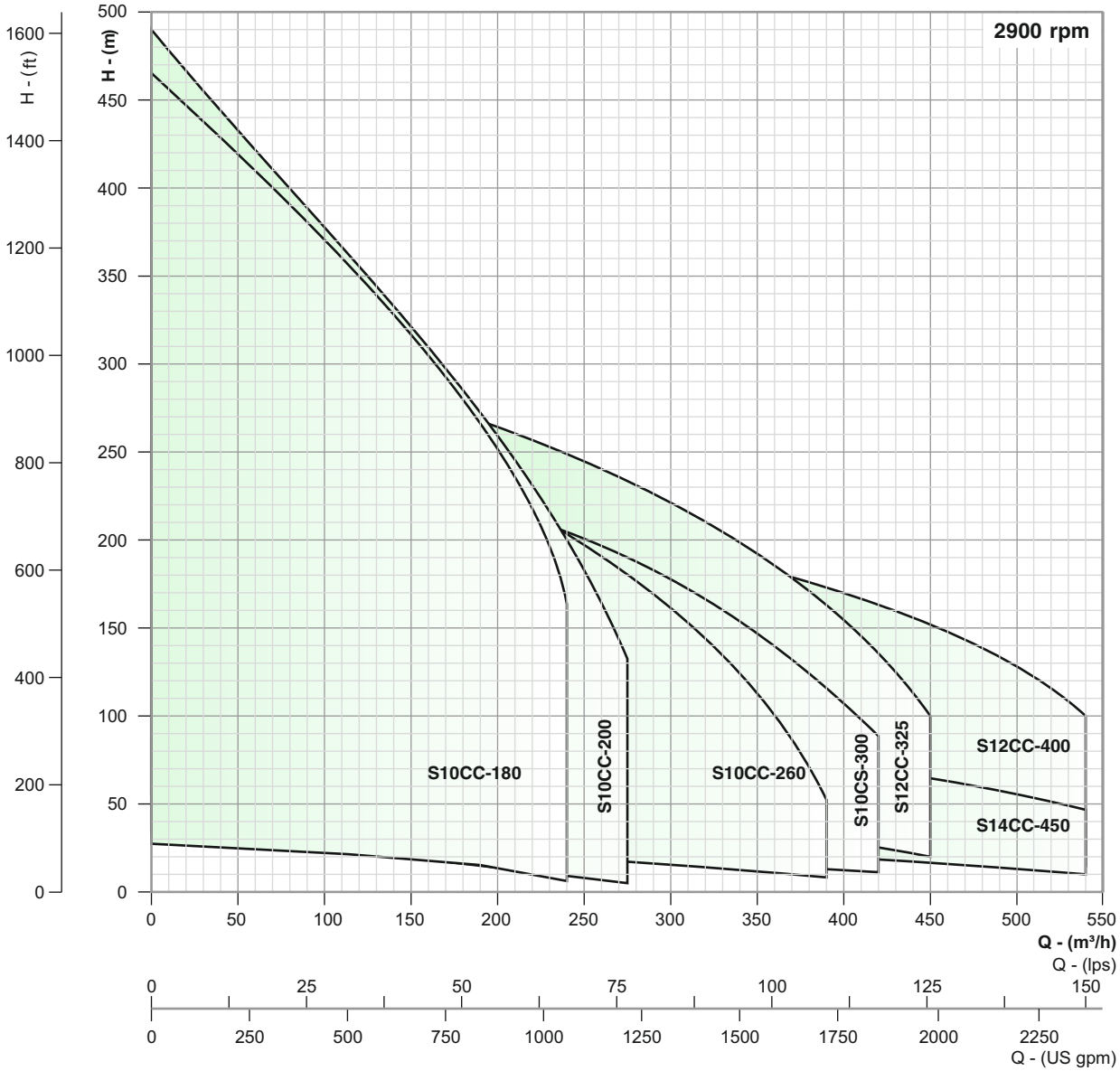
EVERGREEN GRAND SERIES

Group Performance Curves - 8"



GENERAL INFORMATION

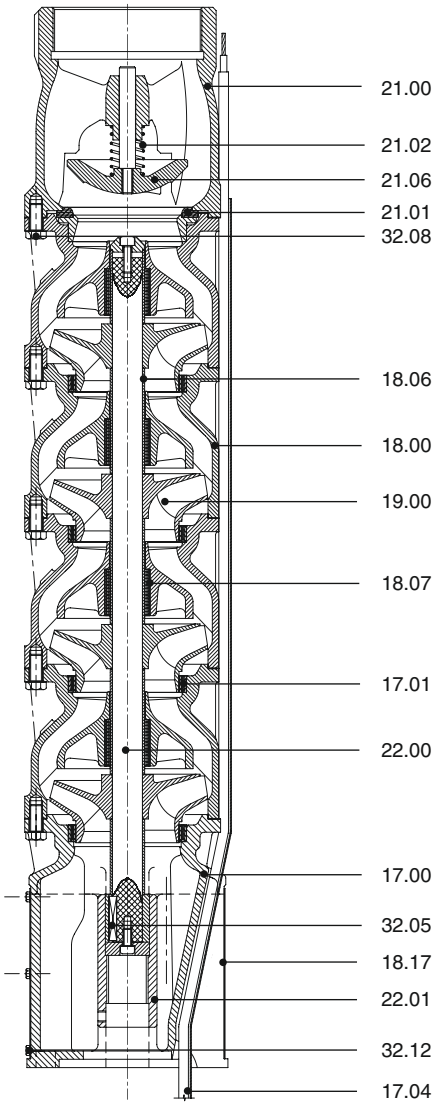
Group Performance Curves - 10", 12" & 14"



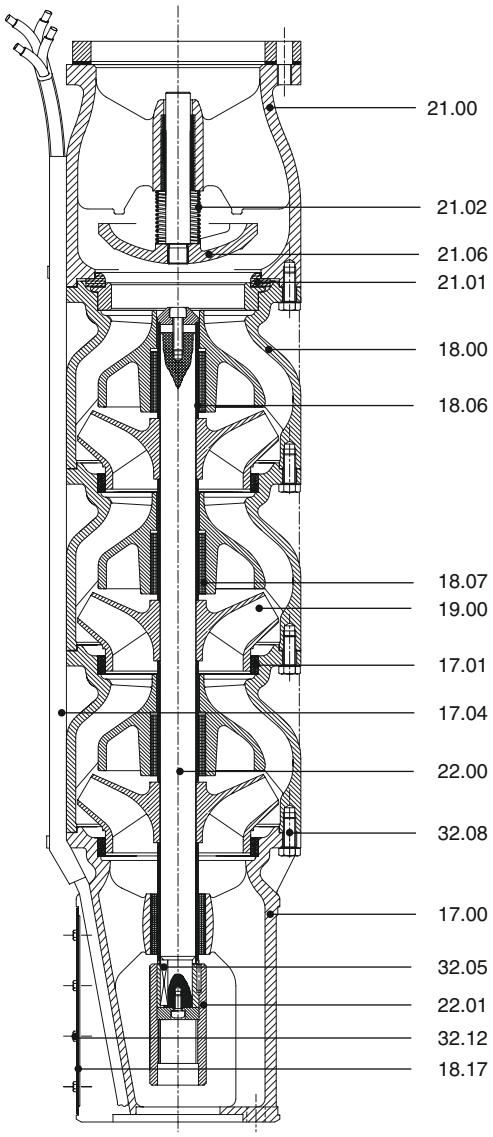
EVERGREEN GRAND SERIES

Cross Sectional Drawing

8" (200mm)



10" (250mm)



Part No.	Part Name
17.00	Suction Inter Connector
17.01	Wear Ring
17.04	Cable Guard
18.00	Diffuser Chamber
18.06	Bush
18.07	Journal Bearing

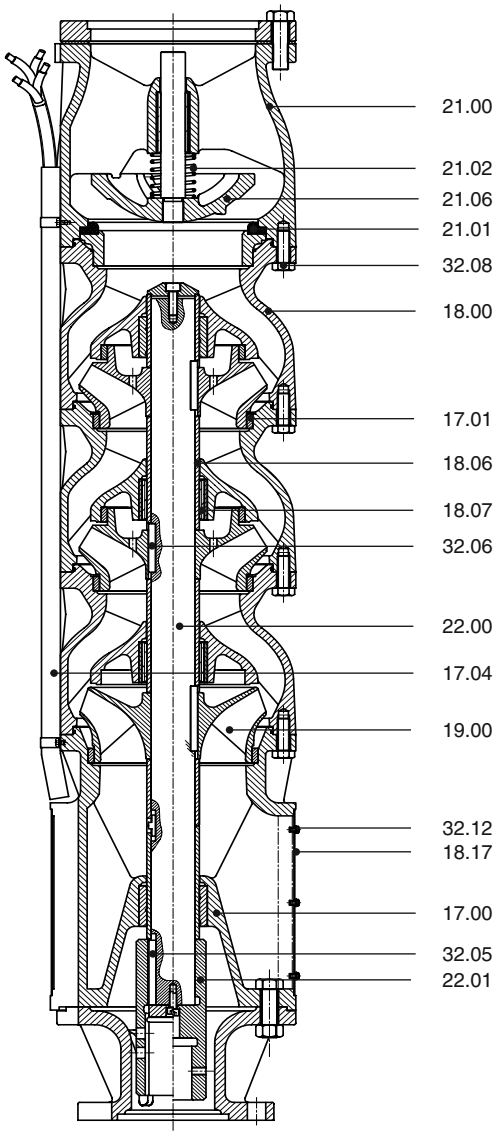
Part No.	Part Name
18.17	Inlet Screen
19.00	Impeller
21.00	Check Valve Housing
21.01	Check Valve Seat
21.02	Check Valve Spring
21.06	Check Valve Disc

Part No.	Part Name
22.00	Pump Shaft
22.01	Coupling
32.05	Coupling Key
32.08	Bolt
32.12	Screw

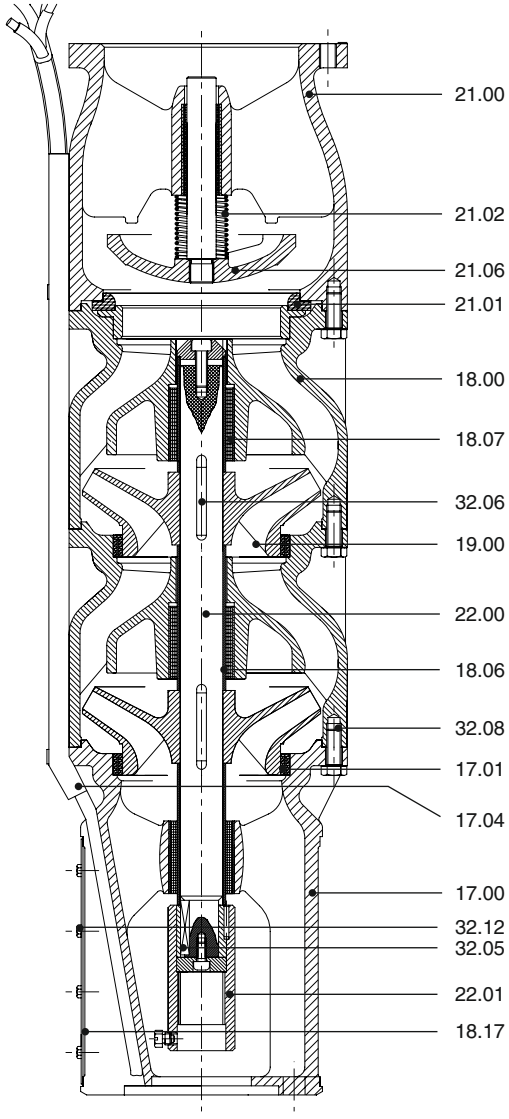
GENERAL INFORMATION

Cross Sectional Drawing

12" (300mm)



14" (350mm)



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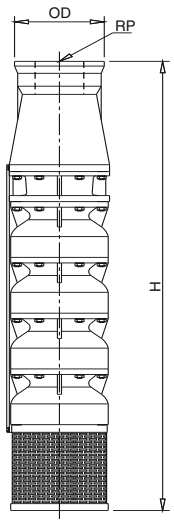
Part No.	Part Name
22.00	Pump Shaft
22.01	Coupling
32.05	Coupling Key
32.08	Bolt
32.12	Screw

EVERGREEN GRAND SERIES

Nominal Diameter : **8"** | Nominal Flow : **60m³/h** | Outlet Size : **5"**

Dimensions & Weight Table

DIMENSIONS



PUMP MODEL	Required Motor Power		H in mm	RP in Inch	OD Max. in mm	Weight in kg
	kW	HP				
S8CC-60/2F-6	7.5	10	687	5”	196	42
S8CC-60/4H-6	11	15	959	5”	196	63
S8CC-60/4F-6	15	20	959	5”	196	63
S8CC-60/5F-6	18.5	25	1095	5”	196	74
S8CC-60/7G-6	22	30	1367	5”	196	95
S8CC-60/8G-6	26	35	1503	5”	196	105
S8CC-60/8F-6	30	40	1503	5”	196	106
S8CC-60/9E-6	33	45	1639	5”	198	117
S8CC-60/10E-6	37	50	1775	5”	198	128
S8CC-60/11D	45	60	1911	5”	198	140
S8CC-60/13D	55	75	2183	5”	198	161
S8CC-60/15C	66	90	2455	5”	200	183
S8CC-60/16B	75	100	2591	5”	200	195
S8CC-60/19B	92	125	2999	5”	202	227

Performance Table

PUMP MODEL	MOTOR kW	lps	0	6.7	8.3	10	11.7	13.3	15	16.7	18.3	20	21.7	23.3	25
		m³/h	0	24	30	36	42	48	54	60	66	72	78	84	90
S8CC-60/2F-6	7.5	TOTAL MANOMETRIC HEAD IN METRES - (COLUMN WATER)	47	41	39.5	38.5	37	36	34	32	29.5	27	24	21	18.5
S8CC-60/4H-6	11		79.5	69.5	68	65.5	62	58.5	54.5	50.5	45.5	40	35	28	21.5
S8CC-60/4F-6	15		93	82	80	78	75	72	68	64.5	59	53.5	47	41	35
S8CC-60/5F-6	18.5		115	103	100	96.5	93	89	84	79	72.5	65	57	49.5	41.5
S8CC-60/7G-6	22		146	128	125	121	116	112	106	99	89.5	78.5	67	56	45
S8CC-60/8G-6	26		167	146	144	138	133	128	122	113	102	89.5	77	64	51
S8CC-60/8F-6	30		184	164	160	155	149	142	136	127	116	104	91.5	79.5	66.5
S8CC-60/9E-6	33		207	185	180	174	167	160	152	142	130	117	103	89.5	75
S8CC-60/10E-6	37		230	205	200	194	186	178	169	158	145	130	114	99	83.5
S8CC-60/11D	45		272	241	237	230	221	212	202	189	173	156	136	117	98
S8CC-60/13D	55		321	285	280	272	261	251	238	223	204	184	161	139	117
S8CC-60/15C	66		375	340	334	324	313	300	287	270	247	222	194	164	135
S8CC-60/16B	75		411	382	374	363	349	333	316	298	278	255	228	200	170
S8CC-60/19B	92		488	453	444	431	415	396	376	354	330	303	271	238	202