

Close-coupled Submersible Electric Pumps

SCUBA Series



MARKET SECTORS

CIVIL, AGRICULTURAL, INDUSTRIAL.

APPLICATIONS

- Water supply from primary water supply tanks or reservoirs, 6" wells, basins and watercourses.
- Sprinkler irrigation systems.
- Pressure boosting with pump directly inserted in tank or well, to avoid suction problems and noise.

- Maximum number of **starts per hour**, evenly distributed:
25 for motors up to 0,9 kW.
20 for motors 1,1 kW.
- Maximum **temperature** of water in contact with the motor: **40°C** (continuous use).

MANUFACTURING FEATURES

Single-phase range with pre-assembled float switch (SCUBA G series).

Kit including pump + Hydrovar®

Watercooled inverter available for the following models:

HVW/SC207T and HVW/SC407T.

On request, different voltages and frequencies.

- AISI 304 stainless steel impellers available on request.

CONSTRUCTION CHARACTERISTICS

- Close-coupled, multiple impeller submersible electric pump. The liquid end is located underneath the electric motor, which is cooled by the pumped liquid.
- Impellers are radial centrifugal type, made of technopolymer.
- AISI 304 stainless steel diffusers.
- Outer sleeve, motor casing, suction screen and shaft extension are made of AISI 304 stainless steel.
- **Dry motor.**
The electric motor is protected by a double seal system with an oil chamber. The silicon carbide mechanical seal, highly resistant to abrasion and wear, together with the second mechanical seal, lubricated thanks to the special configuration of the oil chambers, guarantee long-lasting reliability. The oil used is according to standard for oils in contact with foodstuffs (F.D.A. - FOOD AND DRUG ADMINISTRATION).

SPECIFICATIONS PUMP

- **Delivery:** up to 7,5 m³/h at 2850 rpm.
- **Head:** up to 80 m at 2850 rpm.
- Maximum overall **diameter** of electric pump: 128 mm.
- **Maximum** immersion depth: 20 m.
- **Maximum** permissible quantity of suspended sand: 25 g/m³.
- **Passes** solids up to 2,5 mm.
- **Delivery** port: Rp 1 1/4.
- **Motor power** : 0,55 to 1,1 kW.

MOTOR

- **Single-phase version:**
220-240 V, 50 Hz 2 poles (2850 rpm).
- With built-in automatic reset overload protection.
- With built-in capacitor.
- **Three-phase version:**
380-415 V, 50 Hz 2 poles (2850 rpm); overload protection to be provided by user and installed in the control panel (see electric panel section).
- Maximum supply **voltage variations**: ±5%.
- **Classe F** insulation.
- Can also operate in **horizontal position**.

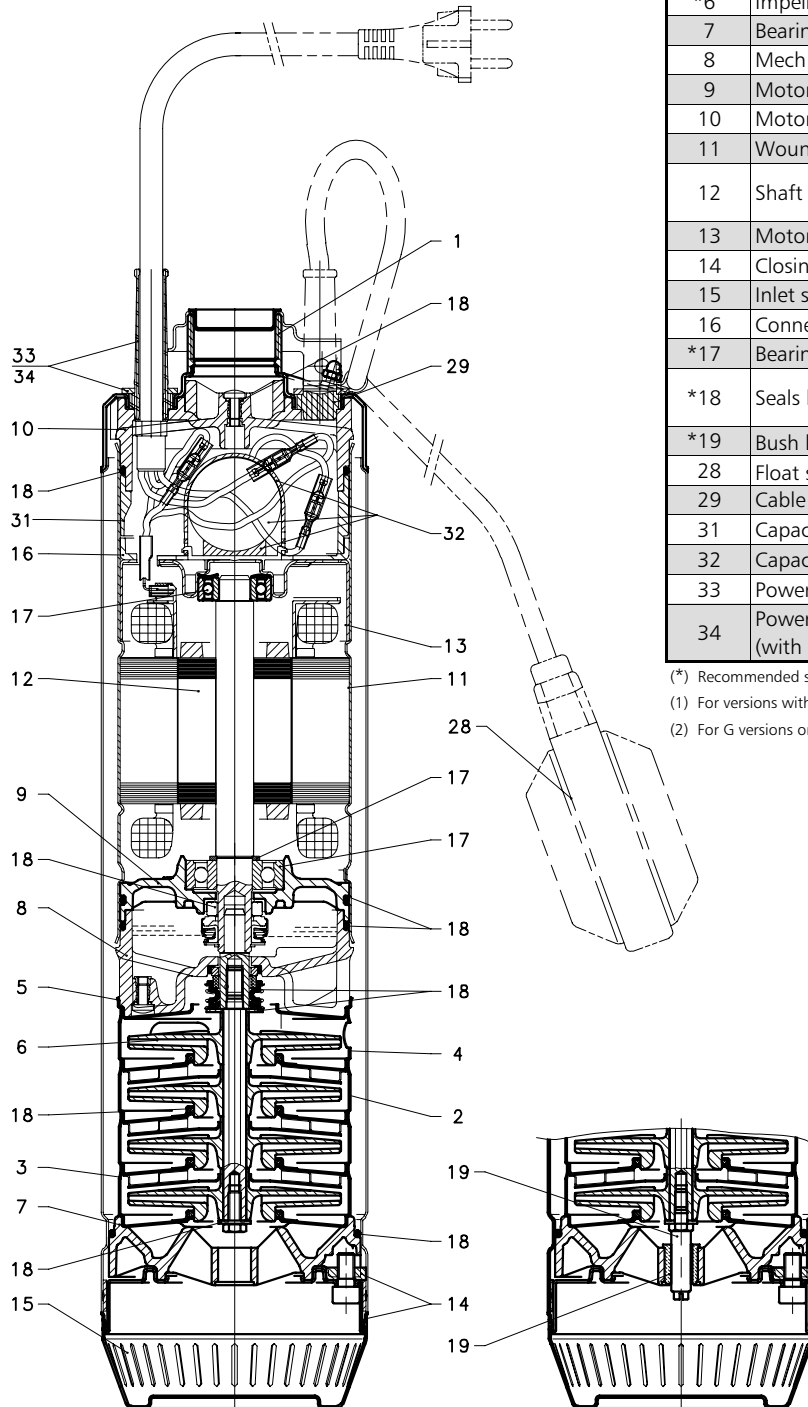
☐ **Innovative**

☐ **Compact**

☐ **With Double seal system**

☐ **Easy to install**

SCUBA SERIES PUMP SECTION AND LIST OF MAIN COMPONENTS



REF. N.	DESCRIPTION
1	Outer sleeve
*2	Diffuser
*3	Initial bowl
*4	Final diffuser
*5	Final bowl
*6	Impeller
7	Bearing spider
8	Mech seal housing
9	Motor lower bearing bracket
10	Motor head
11	Wound stator
12	Shaft kit (motor pump shaft + bearings)
13	Motor upper bearing bracket
14	Closing flange kit
15	Inlet strainer
16	Connection container
*17	Bearings kit
*18	Seals kit
*19	Bush kit ⁽¹⁾
28	Float switch kit ⁽²⁾
29	Cable entry plug kit
31	Capacitor housing spacer
32	Capacitor
33	Power cable three-phase kit
34	Power cable single-phase kit (with plug)

(*) Recommended spare parts

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(1) For versions with more than 4 impellers

(2) For G versions only

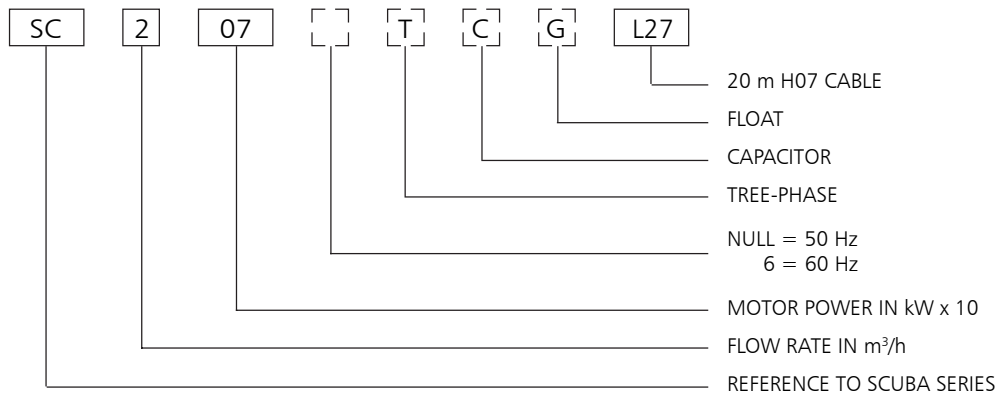
SCUBA SERIES

TABLE OF MATERIALS

NAME	MATERIAL	REFERENCE STANDARDS	
		EUROPE	USA
Sleeve with head	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
Upper bearing support	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
Sleeve with wound stator	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
Strainer	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
Shaft extension	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
Screws	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
Impeller	Noryl®		
Diffuser	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
Head	PPS Ryton®		
Lower head	PPS Ryton®		
Lower bearing support	Die-cast aluminium		
Bush support	PPS Ryton®		
Bush bearing	Laripur®		
Elastomers	Nitrile rubber (NBR)		
External mechanical seal	Silicon carbide		
Internal mechanical seal (fixed part)	Steatite		
Internal mechanical seal (rotary part)	Carbo-graphite		

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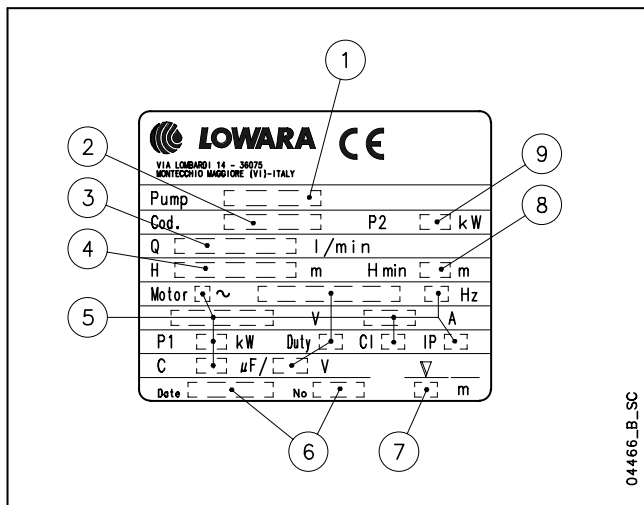
SCUBA SERIES IDENTIFICATION CODES



EXAMPLE : SC207CGL27

SCUBA PUMP :
FLOW RATE 2 m³/h; 0,75 kW; 50 Hz;
INTERNAL CAPACITOR; FLOAT; 20 m of H07 CABLE

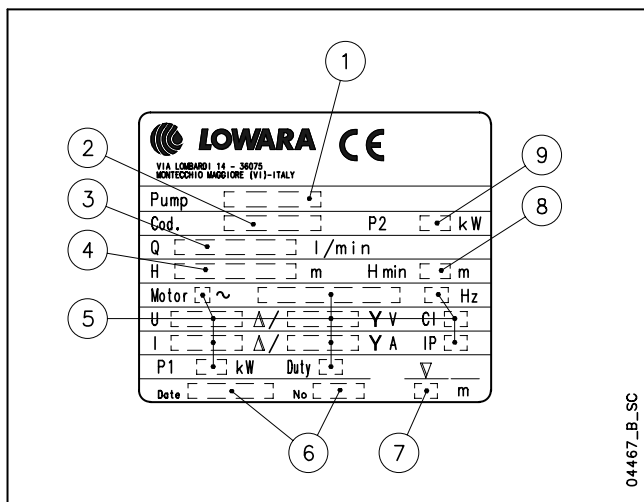
SINGLE-PHASE RATING PLATE



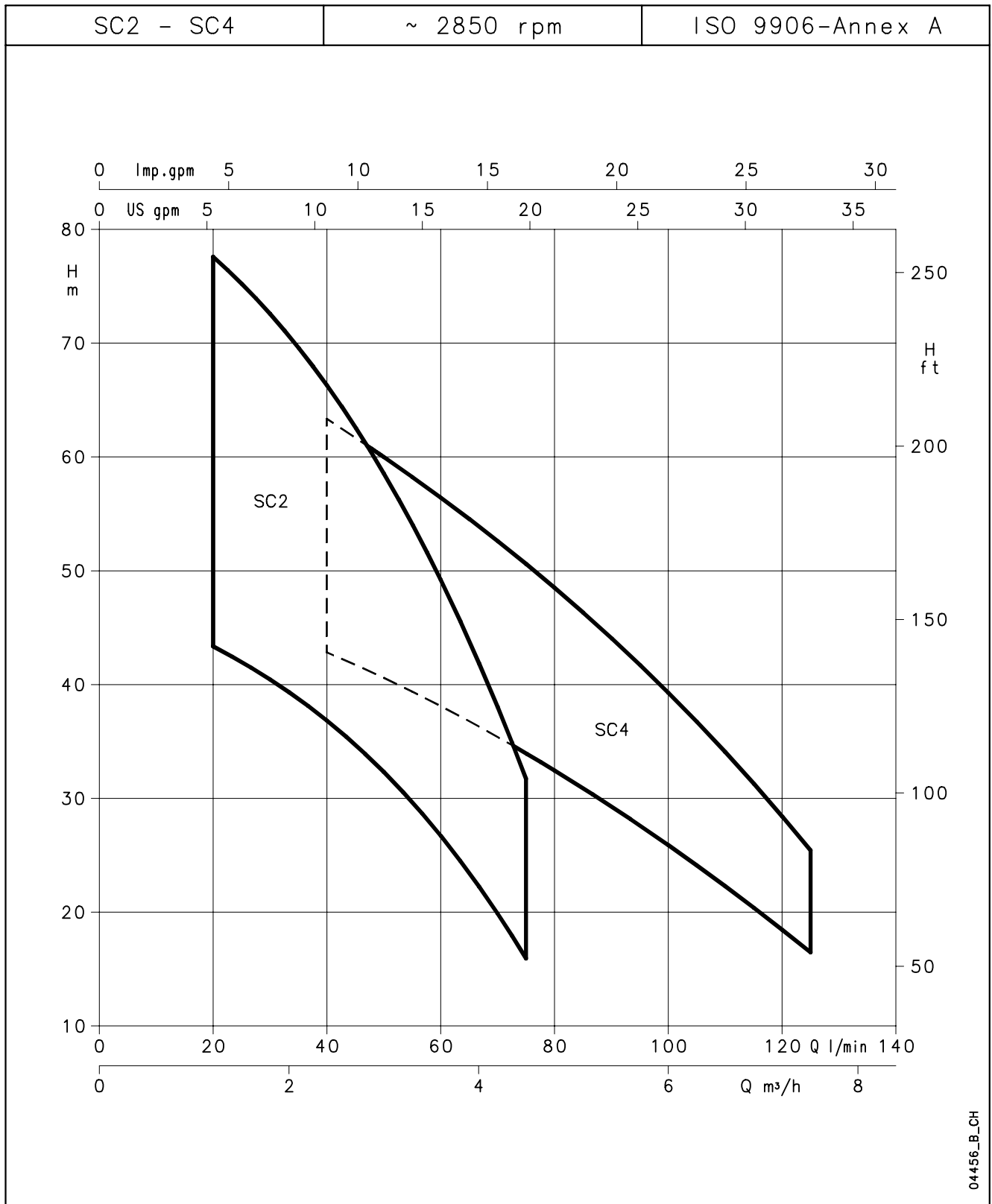
LEGEND

- 1 - Electric pump type
- 2 - Code
- 3 - Delivery range
- 4 - Head range
- 5 - Characteristics motor
- 6 - Manufacturing data and serial number
- 7 - Maximum immersion depth
- 8 - Minimum head
- 9 - Rated output

THREE-PHASE RATING PLATE



SCUBA SERIES
HYDRAULIC PERFORMANCE RANGE AT 50 Hz



SCUBA SERIES DIMENSIONS AND WEIGHTS AT 50 Hz

PUMP TYPE		N° OF STAGES	DIMENSIONS		WEIGHT
SINGLE-PHASE	THREE-PHASE		L mm	kg	
SC205C	SC205T	4	526	13,5	
SC207C	SC207T	5	566	15	
SC209C	SC209T	6	591	16	
SC211C	SC211T	7	636	18	
SC407C	SC407T	4	541	14,5	
SC409C	SC409T	5	566	15,5	
SC411C	SC411T	6	611	17,5	

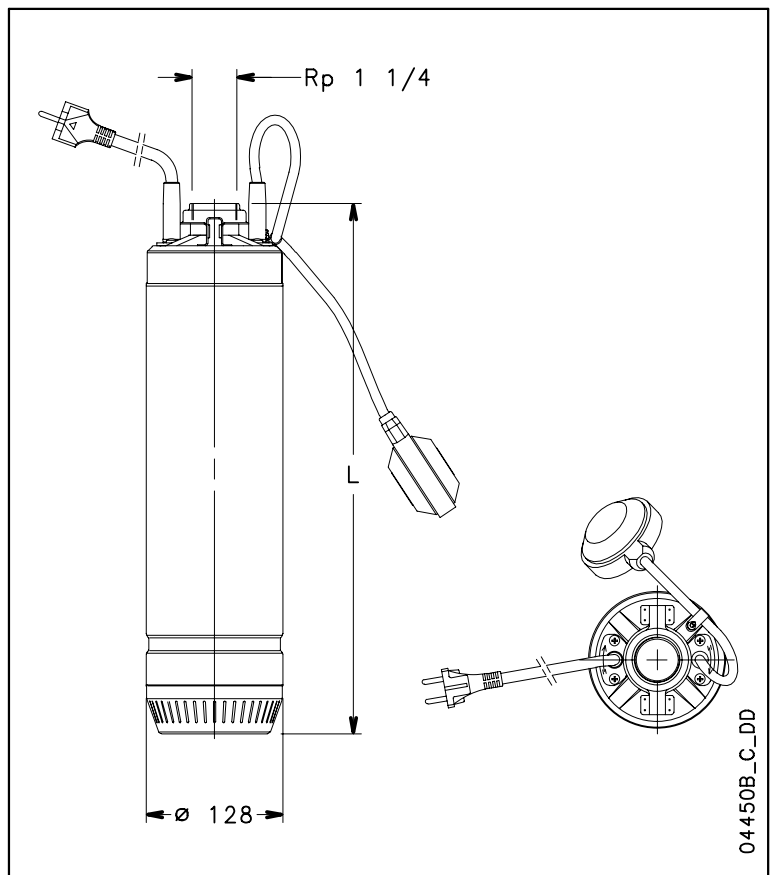
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PUMP TYPE	SECTION	CABLE TYPE	CABLE LENGHT
SC205C	3G1	H07RN-F	20 m
SC207C	3G1	H07RN-F	
SC209C	3G1,5	H07RN-F	
SC211C	3G1,5	H07RN-F	
SC407C	3G1	H07RN-F	
SC409C	3G1,5	H07RN-F	
SC411C	3G1,5	H07RN-F	
SC205T	4G1	H07RN-F	
SC207T	4G1	H07RN-F	
SC209T	4G1	H07RN-F	
SC211T	4G1	H07RN-F	
SC407T	4G1	H07RN-F	
SC409T	4G1	H07RN-F	
SC411T	4G1	H07RN-F	

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Single-phase range available with pre-assembled float (SCUBA G)

Versions with 10 meter cable available on request



HYDRAULIC PERFORMANCE TABLE AT 50 Hz

PUMP TYPE	RATED POWER		Q = DELIVERY										
			l/min	0	20	30	40	50	60	75	80	100	125
			m³/h	0	1,2	1,8	2,4	3	3,6	4,5	4,8	6	7,5
	kW	HP	H = TOTAL HEAD METRES COLUMN OF WATER										
SC205C - SC205T	0,55	0,75	47,7	43,4	40,5	36,8	32,3	26,7	15,9				
SC207C - SC207T	0,75	1	61,2	56,7	52,7	47,6	41,5	34,3	21,7				
SC209C - SC209T	0,9	1,2	72,4	66,3	61,8	56,3	49,6	41,8	27,4				
SC211C - SC211T	1,1	1,5	84,5	77,6	72,6	66,3	58,6	49,2	31,7				
SC407C - SC407T	0,75	1	49,4			42,8	40,6	38,1	34,0	32,5	25,9	16,5	
SC409C - SC409T	0,9	1,2	62,5			52,3	49,6	46,7	41,8	40,1	32,2	19,9	
SC411C - SC411T	1,1	1,5	75,5			63,4	60,0	56,4	50,6	48,5	39,3	25,4	

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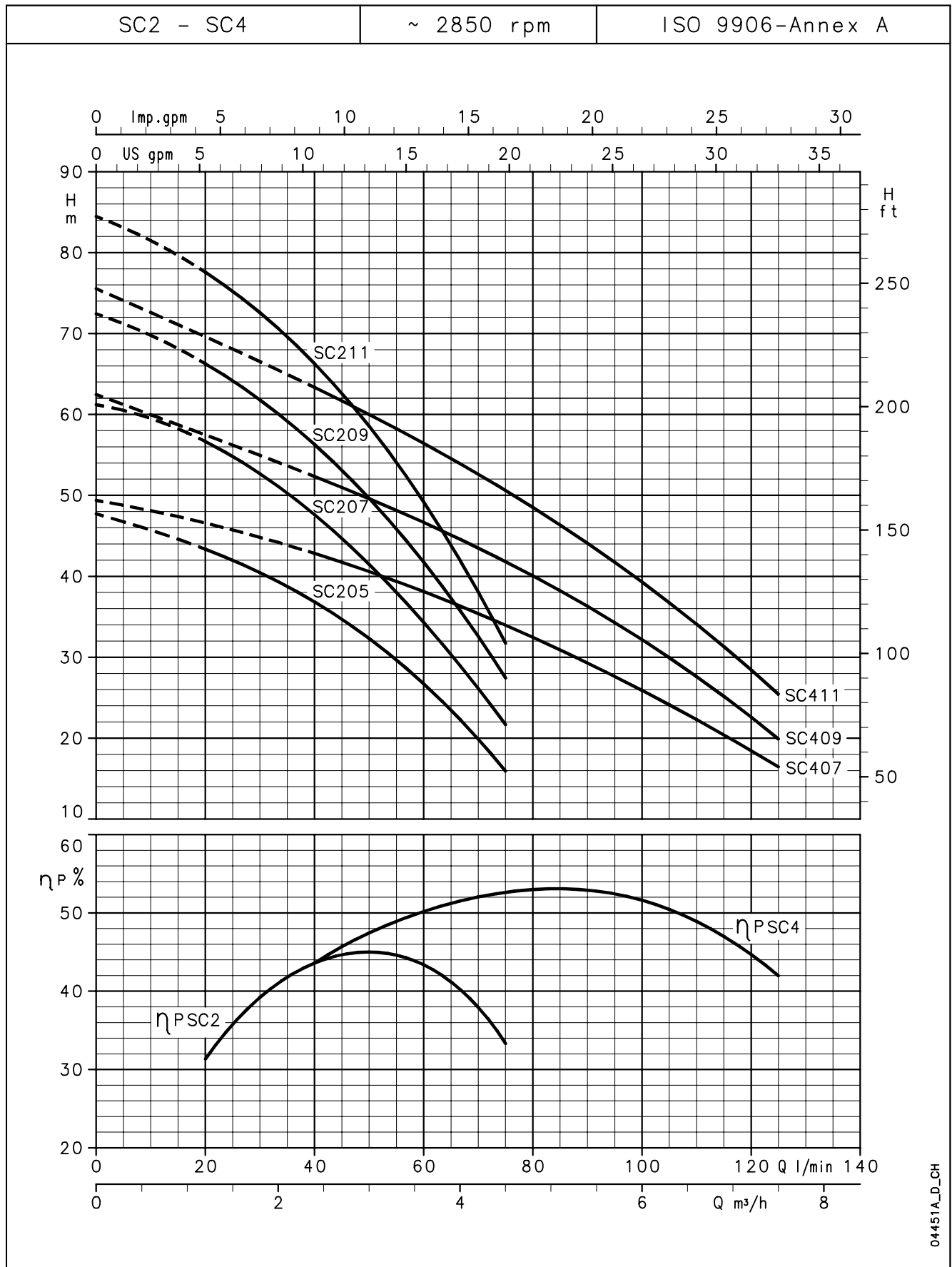
PUMP TYPE	ABSORBED POWER*	ABSORBED POWER*	CAPACITOR
SINGLE-PHASE		220-240 V	
	kW	A	µF / 450 V
SC205C	0,93	4,37	16
SC207C	1,15	5,19	25
SC209C	1,32	5,88	25
SC211C	1,63	7,25	30
SC407C	1,18	5,28	25
SC409C	1,38	6,17	25
SC411C	1,76	7,85	30

*Maximum values within operating range-

PUMP TYPE	ABSORBED POWER*	ABSORBED POWER*	ABSORBED POWER*
THREE-PHASE		220-240 V	380-415 V
	kW	A	A
SC205T	0,86	2,81	1,62
SC207T	1,09	4,12	2,38
SC209T	1,27	4,40	2,54
SC211T	1,45	4,68	2,70
SC407T	1,12	4,16	2,40
SC409T	1,33	4,50	2,60
SC411T	1,59	4,94	2,85

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SCUBA SERIES
OPERATING CHARACTERISTICS AT 50 Hz



These performances are valid for liquids with density $\rho = 1.0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.