

## 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 m<sup>3</sup>/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/m<sup>3</sup>.
- **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**

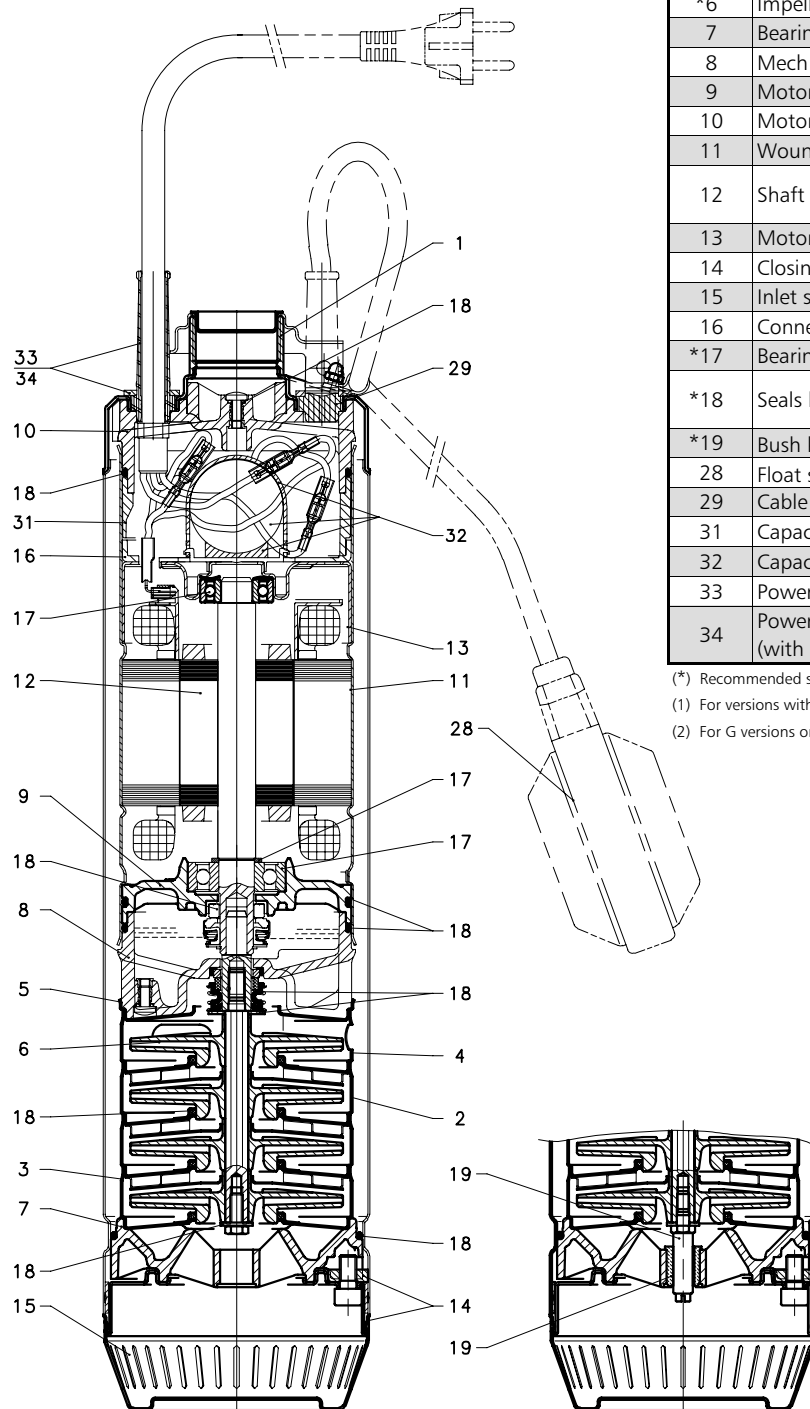
☐ **Compact**

☐ **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 <sup>(1)</sup>                  |
| 28      | Float switch kit <sup>(2)</sup>          |
| 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

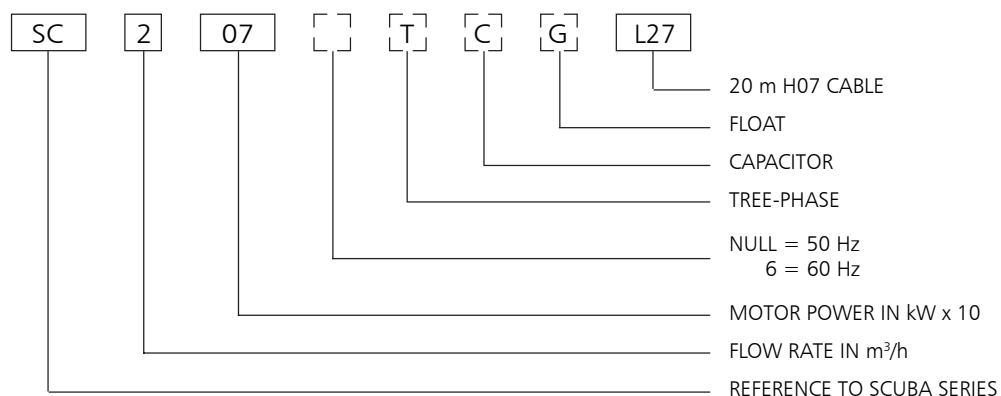
## SCUBA SERIES

### 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



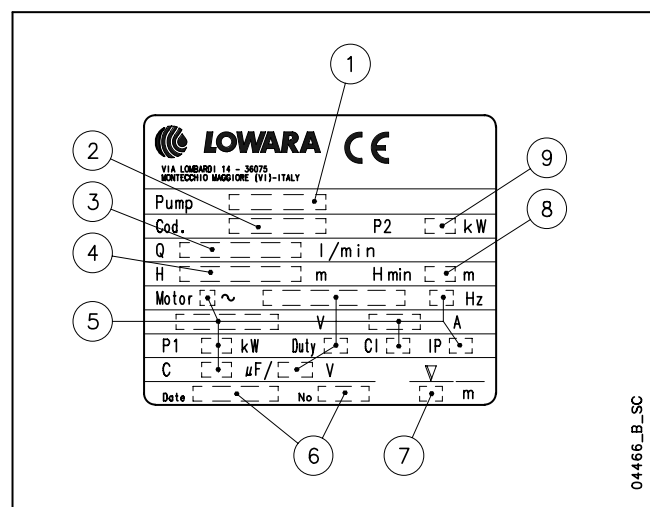
EXAMPLE : SC207CGL27

SCUBA PUMP :

FLOW RATE 2 m<sup>3</sup>/h; 0,75 kW; 50 Hz;

INTERNAL CAPACITOR; FLOAT; 20 m of H07 CABLE

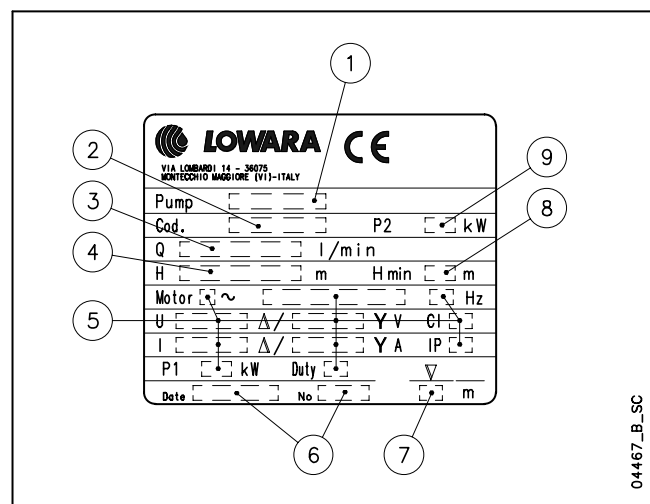
## SINGLE-PHASE RATING PLATE

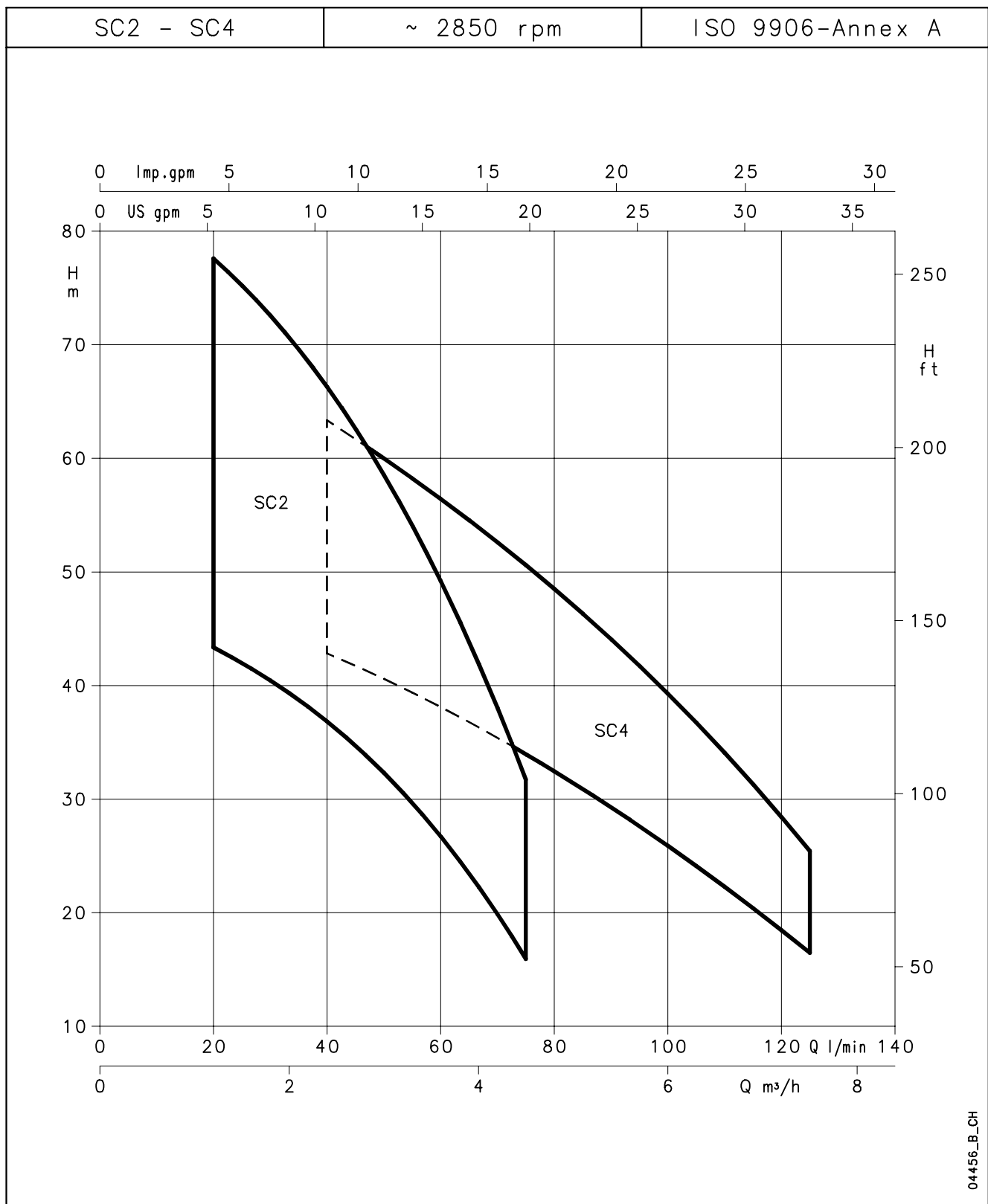


## LEGEND

- 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 |        |

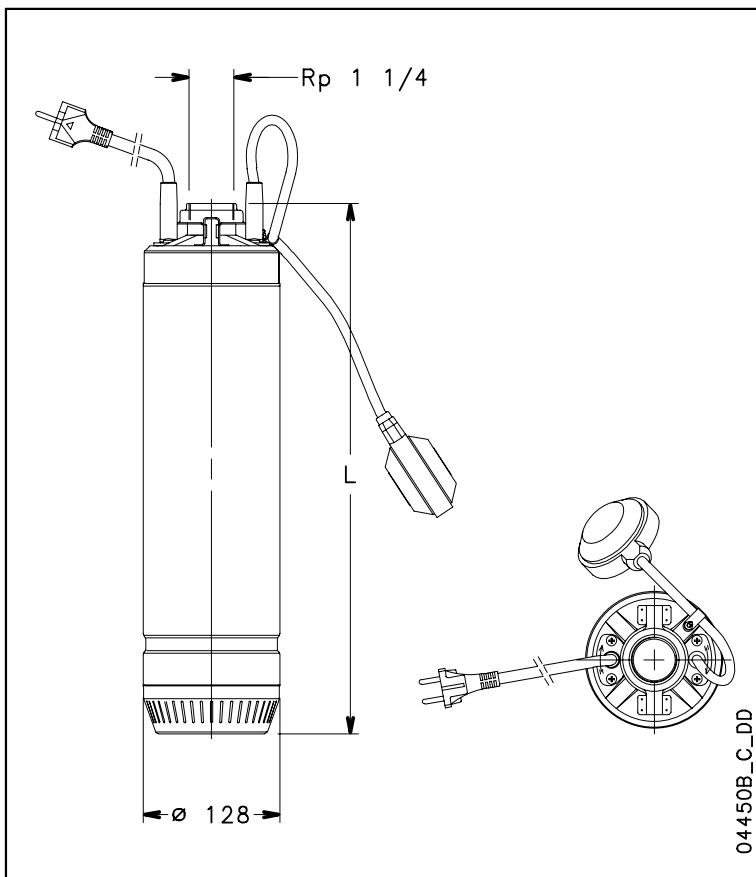
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| PUMP TYPE | SECTION | CABLE TYPE | CABLE LENGHT |
|-----------|---------|------------|--------------|
| SC205C    | 3G1     | H07RN-F    | 20 m         |
| SC207C    | 3G1     | H07RN-F    |              |
| SC209C    | 3G1,5   | H07RN-F    |              |
| 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    |              |

scuba-sc2-sc4-2p50-en\_c\_tc

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  |
|                 | 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 |

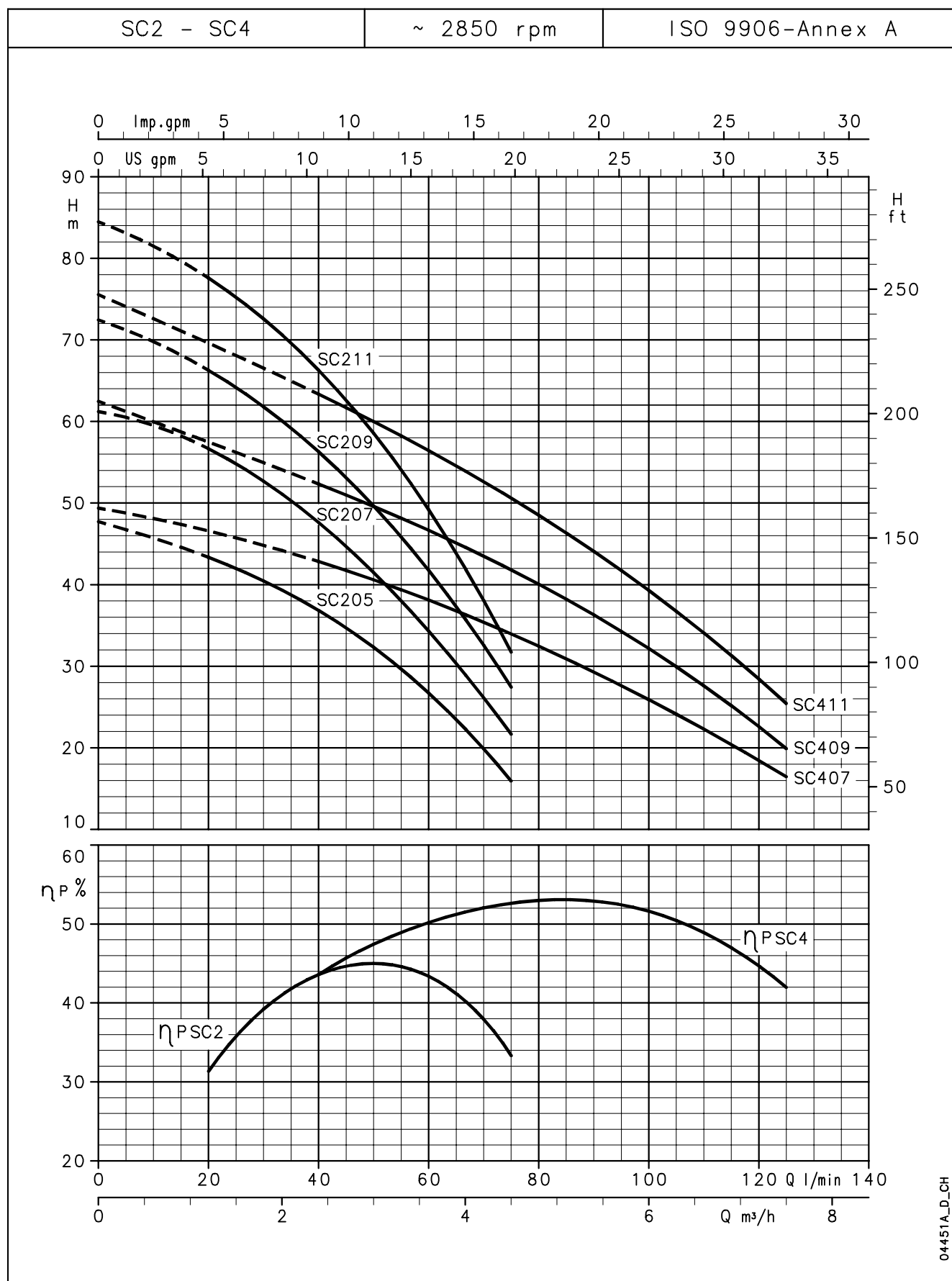
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| PUMP TYPE    | ABSORBED POWER* | ABSORBED POWER* | CAPACITOR  |
|--------------|-----------------|-----------------|------------|
| SINGLE-PHASE |                 | 220-240 V       |            |
|              | kW              | A               | 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         |

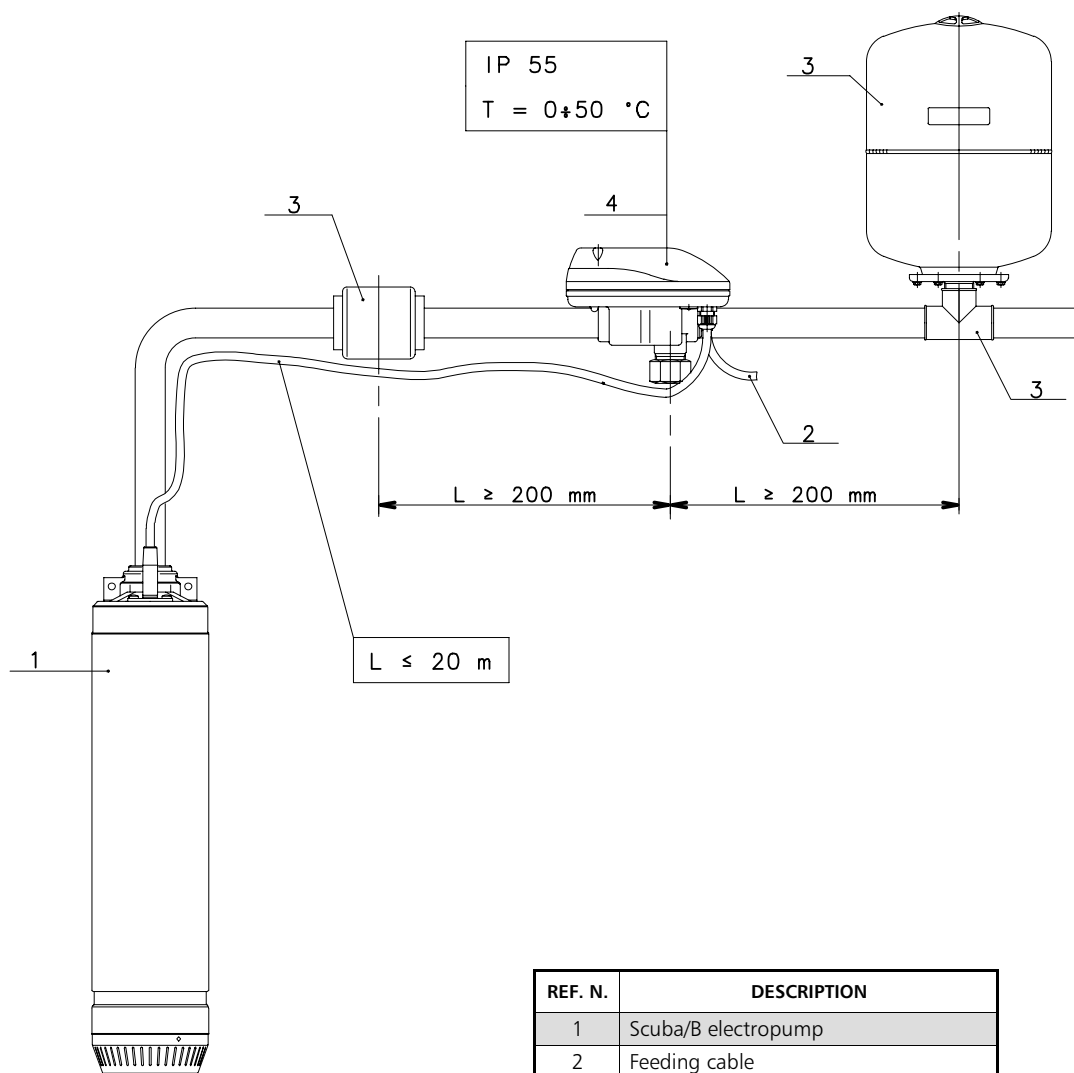
\*Maximum values within operating range-

| 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**


## EXAMPLE OF INSTALLATION OF A SCUBA PUMP CONTROLLED BY AN INVERTER (HYDROVAR® WATERCOOLED)



| REF. N. | DESCRIPTION                    |
|---------|--------------------------------|
| 1       | Scuba/B electropump            |
| 2       | Feeding cable                  |
| 3       | Hydraulic kit HVW              |
| 4       | Hydrovar® Watercooled inverter |

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