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# PULSAR DRY 5" SUBMERSIBLE PUMPS



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## GENERAL DATA

### Applications

The PULSAR DRY pumps are used in lifting and pressurisation systems for water from primary collection tanks or wells and are suitable for providing pressurised water in domestic systems, small-scale farming and sprinkler systems for gardens and vegetable gardens. The pump is extremely silent and this feature makes it suitable for use with pressurisation systems in unventilated rooms or in areas prone to flooding.

### Constructional features of the pump

Single-piece multi-stage bore-hole pump or of surface with hydraulic assembly positioned under the motor which is cooled by the pumped liquid. Impellers, diffusers, filter and oil sump in abrasion-proof thermoplastic. Pump liner, stator sleeve, upper head with sleeve and sealing ring in AISI 304 steel. Upper and lower bearing supports in dezincification-proof pressed brass. Rotor shaft extension in AISI 304. Elastomers in NBR. Stainless steel hardware. Double mechanical seal separated by an oil chamber, in ceramic/carbon on the motor side and carborundum/carborundum on the pump side. The sealing system ensures the motor remains airtight and the mechanical seal holds even after brief periods of no-water operation.

### Constructional features of the motor

Continuous service asynchronous submersible motor. Stator incorporated in an AISI 304 stainless steel airtight casing with a cover housing the cables and capacitor. Rotor mounted on oversized ball bearings to ensure silent running and long life. Incorporated thermal current protection and permanently connected capacitor in the single-phase version. As regards three-phase protection, a motor overload cut out should be fitted, in accordance with current standards. Built to IEC 2-3 and IEC 61-69 (EN 60335-2-41).

Protection level of motor: IP 68

Insulation class: F

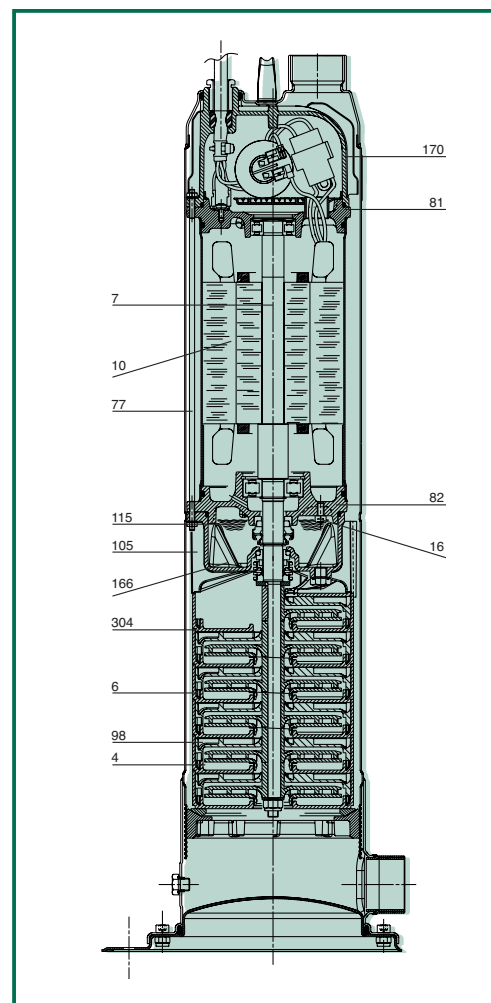
Standard voltage: Single-phase 220/240V - 50 Hz Three-phase 400V - 50 Hz

Standard cables: 15 m of HO7 RN F cable complete with SCHUKO EEC 7-VII-UNEL 47166-68 plug for the single-phase version. The single-phase versions can be supplied with or without floats for automatic operation.

# TECHNICAL DATA

| N.   | PARTS                          | MATERIALS                              |
|------|--------------------------------|--|
| 4*   | IMPELLER                       | TECHNOPOLYMER                          |
| 6*   | DIFFUSER                       | TECHNOPOLYMER                          |
| 7*   | SHAFT WITH ROTOR               | AISI 304 ( In contact with the liquid) |
| 10*  | MOTOR CASING WITH STATOR       | AISI 304                               |
| 16*  | COMPLETE UPPER MECHANICAL SEAL | NBR/CERAMIC/CARBON                     |
| 16b  | COMPLETE LOWER MECHANICAL SEAL | NBR/SILICON/SILICON                    |
| 77*  | PUMP LINER                     | AISI 304                               |
| 81*  | UPPER BEARING SUPPORT          | BRASS                                  |
| 82*  | LOWER BEARING SUPPORT          | BRASS                                  |
| 98*  | DIFFUSER BOX                   | TECHNOPOLYMER                          |
| 105* | OIL SUMP                       | TECHNOPOLYMER                          |
| 115  | SEAL LUBRICANT                 | ESSO MARCOL 172 OIL                    |
| 170* | CABLE SLOT COVER               | TECHNOPOLYMER                          |
| 304* | REAR DISK                      | TECHNOPOLYMER                          |

\*In contact with the pumped liquid

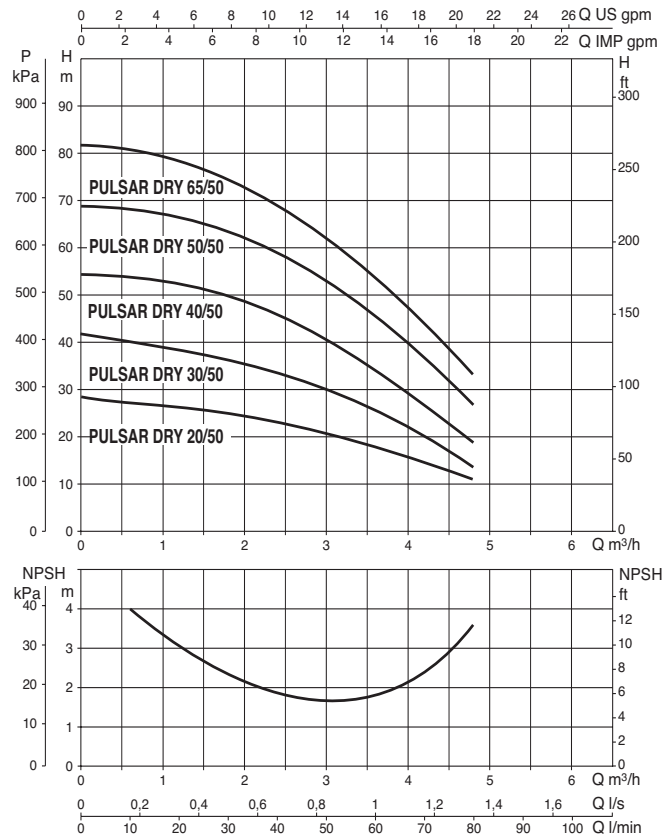
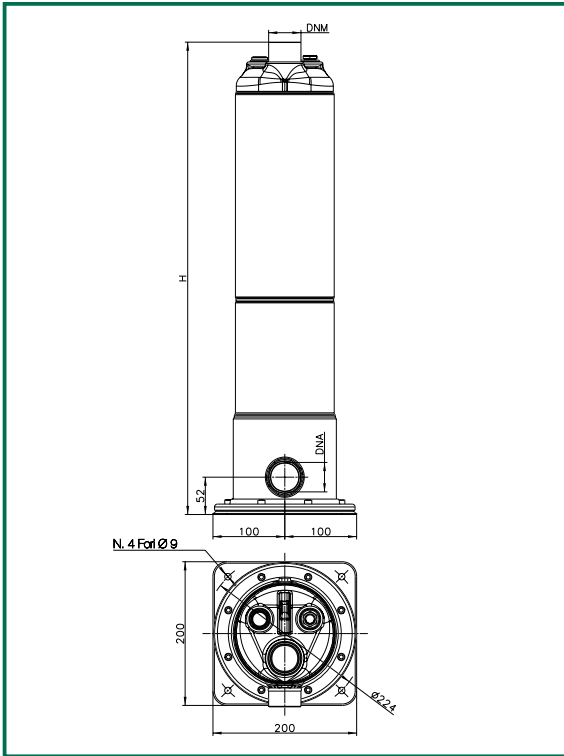


- Operating range: from 0.9 to 7.2 m<sup>3</sup>/h with a head of up to 86 m.
- Pumped liquid: clean, without solid or abrasive substances, not aggressive.
- Max. quantity of sand in water: 50 gr/m<sup>3</sup>
- Liquid temperature range: from 0°C to +40°C
- Maximum depth of immersion: 20 metres
- Protection level of motor: IP 68
- Protection class of motor: F
- Maximum operating pressure: 10 bar
- Installation: fixed or portable, horizontal or vertical.
- Operation: manual or automatic (continuous operation with pump totally submerged)
- Diameter of delivery connection: 1" 1/4 GAS
- Maximum diameter of pump: 138 mm

The performance curves are based on the kinematic viscosity values = 1 mm<sup>2</sup>/s and density equal to 1000 Kg/m<sup>3</sup>. Curve tolerance according to ISO 9906.

# PULSAR DRY 50

Liquid temperature range: from 0°C to +40°C



| MODEL            | Ø (mm) | HEIGHT H (mm) | DNM DNA  | PACKING DIMENSIONS (mm) |     |     | VOLUME m <sup>3</sup> | WEIGHT Kg |      |
|------------------|--------|---------------|----------|-------------------------|-----|-----|-----------------------|-----------|------|
|                  |        |               |          | L/A                     | L/B | H   |                       | MNA*      | TNA* |
| PULSAR DRY 20/50 | 224    | 603           | 1" 1/4 G | 780                     | 240 | 265 | 0,049                 | 16,5      | 17   |
| PULSAR DRY 30/50 | 224    | 603           | 1" 1/4 G | 780                     | 240 | 265 | 0,049                 | 16,7      | 17,3 |
| PULSAR DRY 40/50 | 224    | 603           | 1" 1/4 G | 780                     | 240 | 265 | 0,049                 | 17        | 17,5 |
| PULSAR DRY 50/50 | 224    | 670           | 1" 1/4 G | 780                     | 240 | 265 | 0,049                 | 18        | 18,5 |
| PULSAR DRY 65/50 | 224    | 697           | 1" 1/4 G | 780                     | 240 | 265 | 0,049                 | 19        | 19,5 |

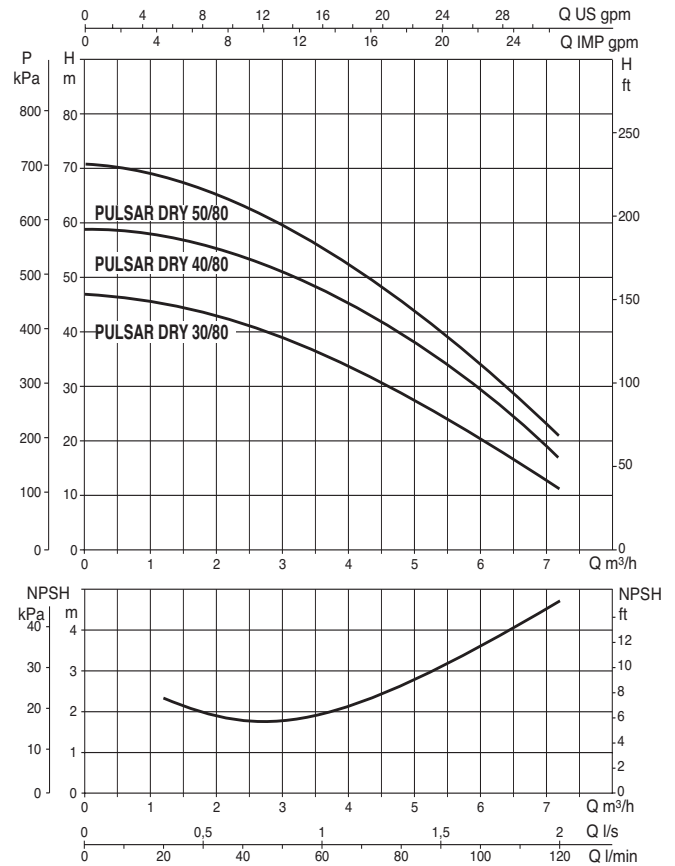
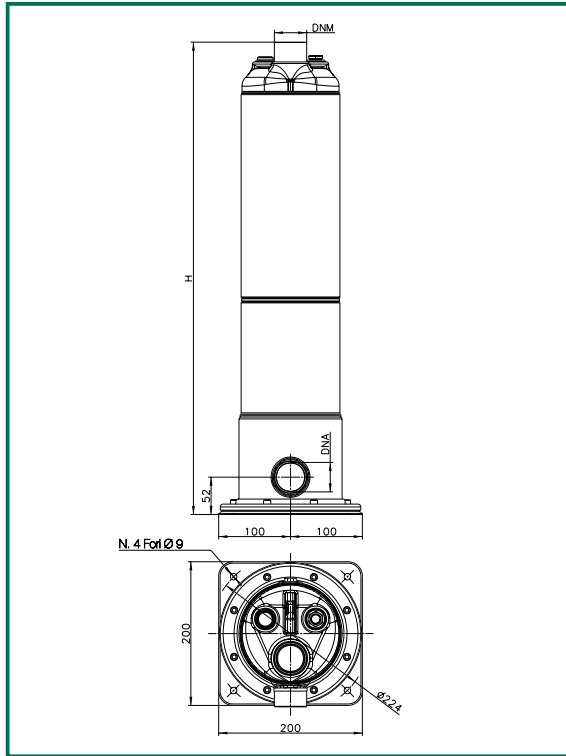
| MODEL                 | ELECTRICAL DATA |       |      |      |      |           |     | HYDRAULIC DATA  |    |           |           |           |           |
|-----------------------|-----------------|-------|------|------|------|-----------|-----|-----------------|----|-----------|-----------|-----------|-----------|
|                       | VOLTAGE 50 Hz   | P1 kW | P2   |      | In A | CAPACITOR |     | Q m³/h<br>l/min | 0  | 1,2<br>20 | 2,4<br>40 | 3,6<br>60 | 4,8<br>80 |
|                       |                 |       | kW   | HP   |      | µF        | Vc  |                 |    |           |           |           |           |
| PULSAR DRY 20/50 M-NA | 220-240 V~      | 0,78  | 0,55 | 0,75 | 3,7  | 20        | 450 | H (m)           | 29 | 27        | 23,2      | 17,2      | 10,3      |
| PULSAR DRY 20/50 T-NA | 400 V~          | 0,6   | 0,55 | 0,75 | 1,62 | -         | -   |                 |    |           |           |           |           |
| PULSAR DRY 30/50 M-NA | 220-240 V~      | 1,0   | 0,55 | 0,75 | 4,5  | 20        | 450 |                 |    |           |           |           |           |
| PULSAR DRY 30/50 T-NA | 400 V~          | 0,9   | 0,55 | 0,75 | 1,8  | -         | -   |                 |    |           |           |           |           |
| PULSAR DRY 40/50 M-NA | 220-240 V~      | 1,2   | 0,75 | 1    | 5,5  | 20        | 450 |                 |    |           |           |           |           |
| PULSAR DRY 40/50 T-NA | 400 V~          | 1,1   | 0,75 | 1    | 2    | -         | -   |                 |    |           |           |           |           |
| PULSAR DRY 50/50 M-NA | 220-240 V~      | 1,5   | 1    | 1,36 | 7    | 25        | 450 |                 |    |           |           |           |           |
| PULSAR DRY 50/50 T-NA | 400 V~          | 1,4   | 1    | 1,36 | 2,6  | -         | -   |                 |    |           |           |           |           |
| PULSAR DRY 65/50 M-NA | 220-240 V~      | 1,8   | 1,2  | 1,6  | 8    | 30        | 450 |                 |    |           |           |           |           |
| PULSAR DRY 65/50 T-NA | 400 V~          | 1,7   | 1,2  | 1,6  | 3,1  | -         | -   |                 |    |           |           |           |           |

\* NA = non automatica

The performance curves are based on the kinematic viscosity values = 1 mm<sup>2</sup>/s and density equal to 1000 Kg/m<sup>3</sup>. Curve tolerance according to ISO 9906.

# PULSAR DRY 80

Liquid temperature range: from 0°C to +40°C



| MODEL                   | Ø (mm) | HEIGHT H (mm) | DNM DNA  | PACKING DIMENSIONS (mm) |     |     | VOLUME m <sup>3</sup> | WEIGHT Kg |      |
|-------------------------|--------|---------------|----------|-------------------------|-----|-----|-----------------------|-----------|------|
|                         |        |               |          | L/A                     | L/B | H   |                       | MNA*      | TNA* |
| <b>PULSAR DRY 30/80</b> | 224    | 603           | 1" 1/4 G | 780                     | 240 | 265 | 0,049                 | 17        | 17,5 |
| <b>PULSAR DRY 40/80</b> | 224    | 670           | 1" 1/4 G | 780                     | 240 | 265 | 0,049                 | 18        | 18,5 |
| <b>PULSAR DRY 50/80</b> | 224    | 697           | 1" 1/4 G | 780                     | 240 | 265 | 0,049                 | 19        | 19,5 |

| MODEL                        | ELECTRICAL DATA |       |      |      |      |           | HYDRAULIC DATA |                     |       |      |      |      |      |      |      |  |
|------------------------------|-----------------|-------|------|------|------|-----------|----------------|---------------------|-------|------|------|------|------|------|------|--|
|                              | VOLTAGE 50 Hz   | P1 kW | P2   |      | In A | CAPACITOR |                | Q m <sup>3</sup> /h | H (m) |      |      |      |      |      |      |  |
|                              |                 |       | kW   | HP   |      | µF        | Vc             |                     | 0     | 1,2  | 2,4  | 3,6  | 4,8  | 6    | 7,2  |  |
| <b>PULSAR DRY 30/80 M-NA</b> | 220-240 V~      | 1,2   | 0,75 | 1    | 5,4  | 20        | 450            | H (m)               | 0     | 20   | 40   | 60   | 80   | 100  | 120  |  |
| <b>PULSAR DRY 30/80 T-NA</b> | 400 V~          | 1,2   | 0,75 | 1    | 2    | -         | -              |                     | 46,8  | 46   | 42   | 35,3 | 30   | 20   | 11   |  |
| <b>PULSAR DRY 40/80 M-NA</b> | 220-240 V~      | 1,5   | 1    | 1,36 | 7    | 25        | 450            |                     | 59,2  | 58,5 | 54   | 46,9 | 40   | 29   | 17   |  |
| <b>PULSAR DRY 40/80 T-NA</b> | 400 V~          | 1,4   | 1    | 1,36 | 2,5  | -         | -              |                     | 70,7  | 68,2 | 63,3 | 54,9 | 45,8 | 34,5 | 20,3 |  |
| <b>PULSAR DRY 50/80 M-NA</b> | 220-240 V~      | 1,8   | 1,2  | 1,6  | 8,2  | 30        | 450            |                     |       |      |      |      |      |      |      |  |
| <b>PULSAR DRY 50/80 T-NA</b> | 400 V~          | 1,6   | 1,2  | 1,6  | 3    | -         | -              |                     |       |      |      |      |      |      |      |  |

\* NA = non automatica