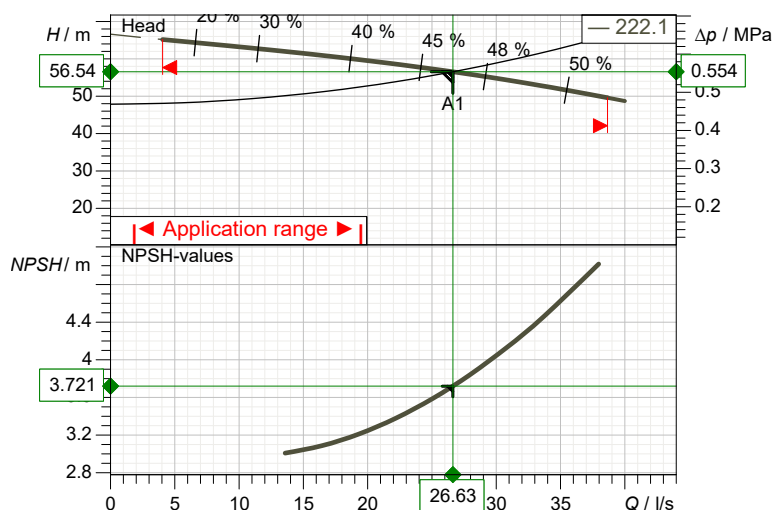


## Technical specification

**3~ 50 Hz**



## Pump

|               |                      |
|---------------|----------------------|
| Series        | UNIQA                |
| Pump name     | ZUG V100A 37/2HWR230 |
| Configuration | PAAABB304Y5T0NNNN    |
| Standard      | CE                   |

## Motor data

|                            |            |
|----------------------------|------------|
| Rated voltage              | 400 V      |
| Frequency                  | 50 Hz      |
| Motor phases               | 3~         |
| Number of poles            | 2          |
| Rated power P2             | 37.00 kW   |
| Incoming power P1          | 40.10 kW   |
| Rated current              | 64.1 A     |
| rpm                        | 2930 1/min |
| Efficiency                 | 92.3 %     |
| cos φ                      | 0.900      |
| Rated torque               | 120.6 Nm   |
| Start*                     | Star-delta |
| Starting current           | 150.0 A    |
| Starting torque            | 118.2 Nm   |
| Degree of protection       | IP 68      |
| Insulation class           | H          |
| Motor efficiency class ref | IE2        |
| Motor size                 | M12N       |

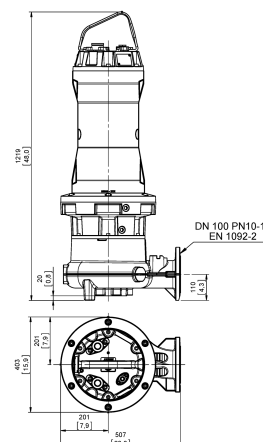
**\*use soft start, inverter or star/delta method to start and stop the pump if the power is greater than or equal to 30 kW.**

## Hydraulic

|                           |                          |
|---------------------------|--------------------------|
| Free passage              | 100 mm                   |
| Impeller type             | Set-back Vortex impeller |
| No. of vanes              |                          |
| Nominal impeller size     | 222.1 mm                 |
| Max. hydraulic efficiency |                          |
| Suction                   | DN 100 UNDRILLED         |
| Discharge                 | DN 100 EN 1092-2         |
| Curve tolerance           | UNI EN ISO 9906:2012     |

Characteristic curves according to UNI EN ISO 9906:2012  
 22<10kW: paragraph 4.4.2  
 10kW<P2<100kW: Grade 3B  
 22>100kW: Grade 2B

for pumps with standard material combination



**Operating limits (standard pumps)**

|                                           |                     |
|-------------------------------------------|---------------------|
| Max. ambient temperature                  | 40 °C               |
| Max. density treated liquid               | 1100 kg/m³          |
| pH treated liquid                         | 6 ÷ 14              |
| Max. start per hour (equally distributed) | 15                  |
| Wet/dry use                               | WET                 |
| Max. acoustic pressure level              | 70 dB               |
| Operating mode                            | S1 - Continuous use |

## Construction materials

|           |                                     |
|-----------|-------------------------------------|
| Case      | Cast iron EN-GJL 250                |
| Shaft     | AISI 431                            |
| Hydraulic | Cast iron EN-GJL 250                |
| Impeller  | Cast iron EN-GJL 250                |
| Painting  | Bi-epoxy 200 µm sea water resistant |
| Screws    | Stainless steel A2-70               |
| Gaskets   | NBR                                 |

## Construction features

|                           |                                       |
|---------------------------|---------------------------------------|
| Cooling jacket            | -                                     |
| Main cable                | 2 x 4G6                               |
| Cable length              | 30 m                                  |
| Mechanical seals          | 2 in sil.carbide (SiC) in oil chamber |
| Flushing valve - drilling | -                                     |
| Drilling variant          | PA                                    |
| Weight*                   | 308 kg                                |

\* cable and fixing system excluded

### Monitoring features

|                                                     |    |
|-----------------------------------------------------|----|
| Monitoring option                                   | BB |
| - n.3 bimetal thermal protectors (Klixon) in series |    |

- n.1 double leakage sensor , mechanical seals chamber and stator housing (1 signal)
- No bearing thermistors

- No vibration sensor



better together

Data sheet

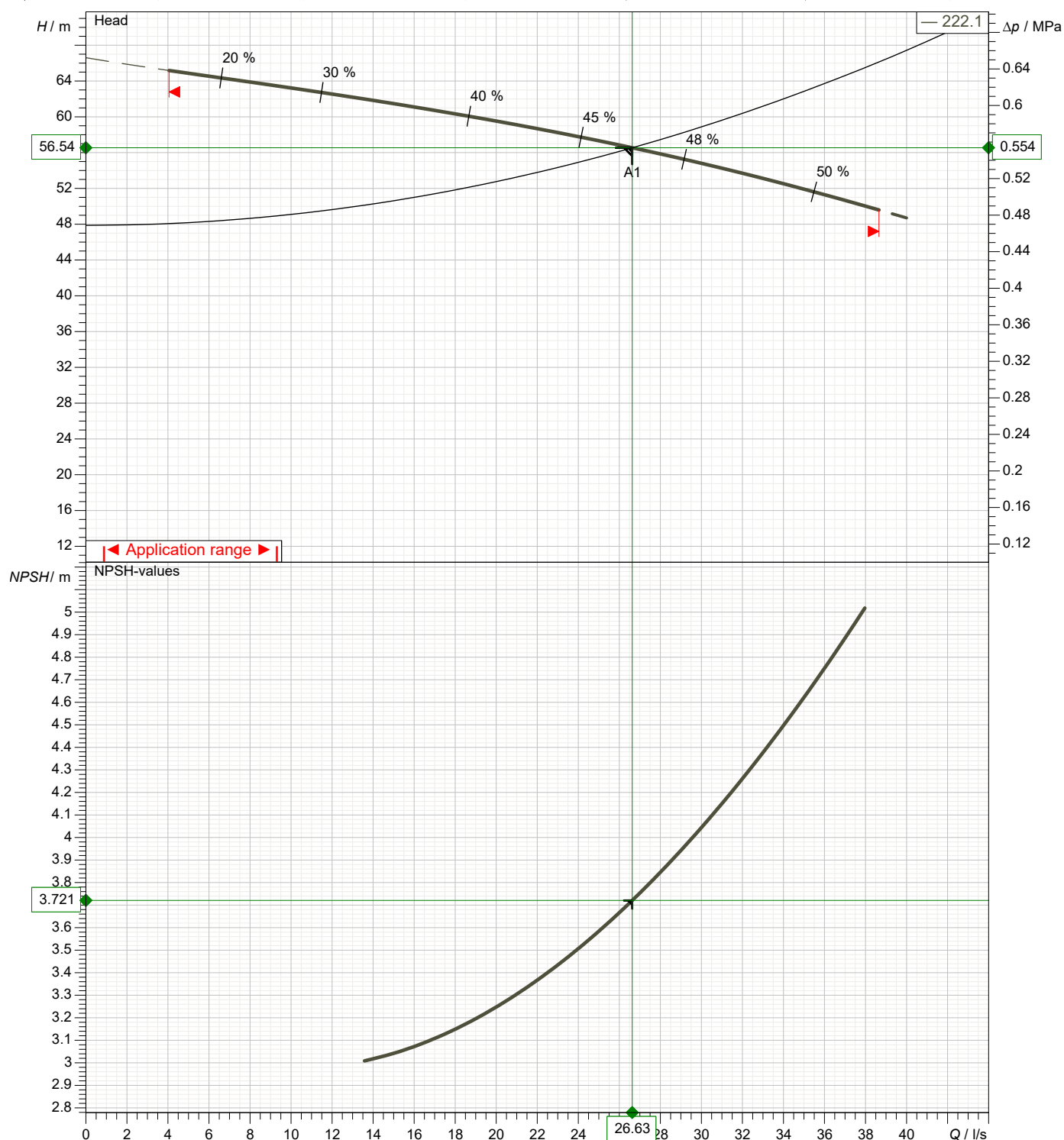
## ZUG V100A 37/2HWR230



### Pump performance curves

3 ~ 50 Hz

|                                                     |  |                                 |                                          |                                  |                               |                                  |                                   |                                       |  |                                   |  |                      |  |
|-----------------------------------------------------|--|---------------------------------|------------------------------------------|----------------------------------|-------------------------------|----------------------------------|-----------------------------------|---------------------------------------|--|-----------------------------------|--|----------------------|--|
| <b>Impeller type</b><br>Set-back Vortex<br>impeller |  |                                 | <b>Nominal impeller size</b><br>222.1 mm |                                  | <b>Free passage</b><br>100 mm |                                  | <b>Data version</b><br>01-06-2014 |                                       |  |                                   |  |                      |  |
| <b>Density</b><br>998.3 kg/m³                       |  | <b>Viscosity</b><br>1.005 mm²/s |                                          | <b>No. of vanes</b>              |                               | <b>Discharge</b><br>DN 100       |                                   | <b>Suction</b><br>DN 100              |  |                                   |  |                      |  |
| <b>DUTY POINT</b>                                   |  |                                 |                                          |                                  |                               |                                  |                                   |                                       |  |                                   |  |                      |  |
| <b>Flow</b><br>26.6 l/s                             |  | <b>Head</b><br>56.5 m           |                                          | <b>Shaft power P2</b><br>31.5 kW |                               | <b>Power input P1</b><br>33.6 kW |                                   | <b>Hydraulic efficiency</b><br>46.7 % |  | <b>Total efficiency</b><br>43.7 % |  | <b>NPSH</b><br>3.7 m |  |



Characteristic curves according to UNI EN ISO 9906:2012  
for pumps with standard material combination  
P2<10kW: paragraph 4.4.2  
10kW<P2<100kW: Grade 3B  
P2>100kW: Grade 2B



better together

# Data sheet

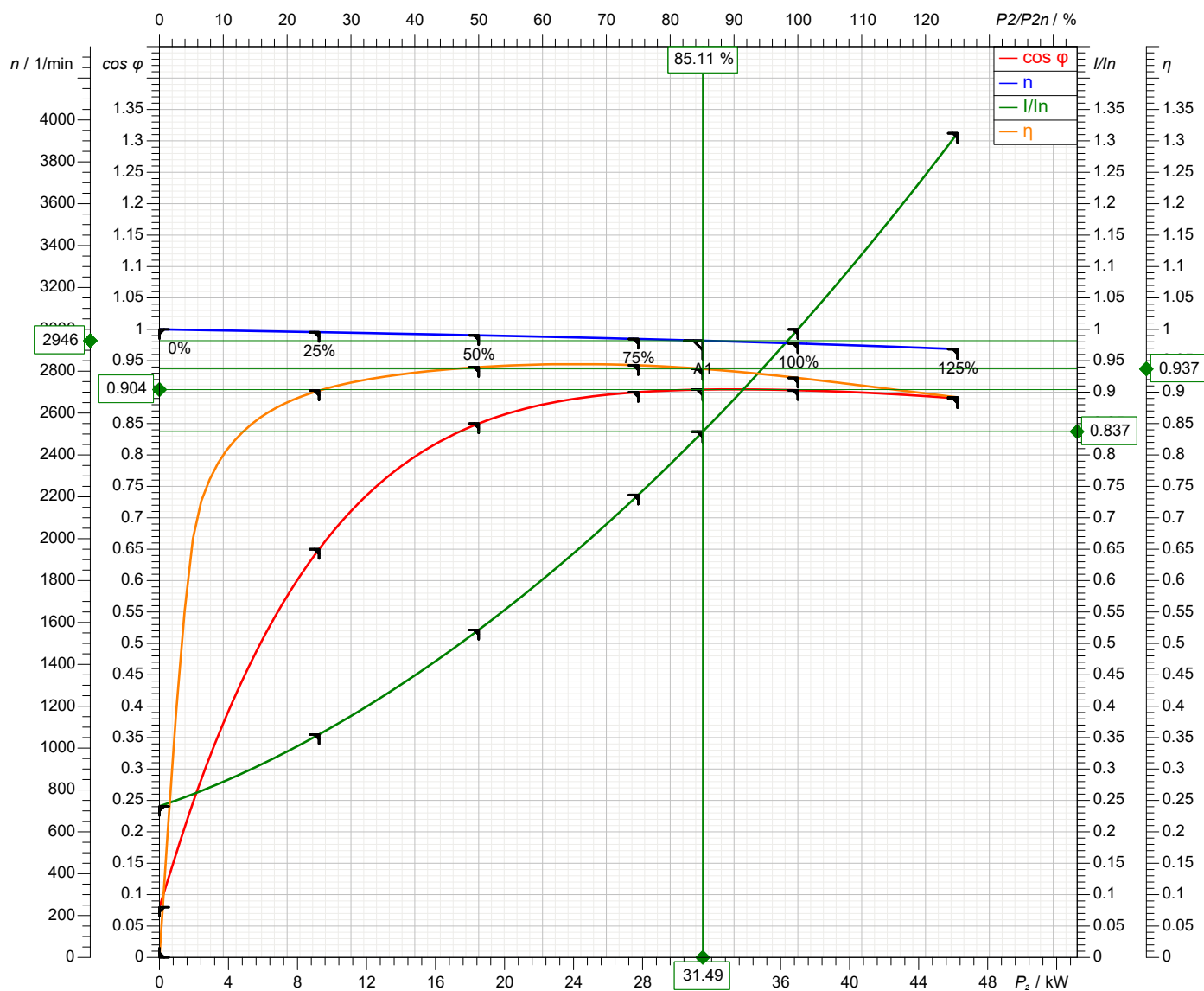
## ZUG V100A 37/2HWR230



### Motor performance curves

3 ~ 50 Hz

|                                    |                                    |                                 |                                   |                                   |
|------------------------------------|------------------------------------|---------------------------------|-----------------------------------|-----------------------------------|
| <b>Motor</b><br>37/2 HW            | <b>Rated power</b><br>37.0 kW      | <b>Rated voltage</b><br>400 V   | <b>Motor efficiency</b><br>92.3 % | <b>Data version</b><br>01-06-2014 |
| <b>Number of poles</b><br>2        | <b>Nominal Speed</b><br>2930 1/min | <b>Rated current</b><br>64.1 A  | <b>cos φ</b><br>0.90              |                                   |
| <b>Starting current</b><br>150.0 A | <b>Start</b><br>Star-delta         | <b>Rated torque</b><br>120.6 Nm |                                   |                                   |



| Symbol         | No load  | 25 %   | 50 %   | 75 %  | 100 % | 125 % |
|----------------|----------|--------|--------|-------|-------|-------|
| $P_2$ / kW     | 0        | 9.25   | 18.5   | 27.75 | 37    | 46.25 |
| $P_1$ / kW     | 0.855    | 10.25  | 19.69  | 29.44 | 40.1  | 51.86 |
| $n$ / 1/min    | 3000     | 2986   | 2971   | 2954  | 2932  | 2905  |
| $\cos \varphi$ | 0.08     | 0.65   | 0.85   | 0.9   | 0.903 | 0.89  |
| $I$ / A        | 15.43    | 22.76  | 33.43  | 47.21 | 64.1  | 84.11 |
| $s$ / %        | 0.003426 | 0.4562 | 0.9509 | 1.536 | 2.257 | 3.16  |
| $M$ / Nm       | 0        | 29.58  | 59.45  | 89.71 | 120.5 | 152   |
| $\eta$ / %     | 0        | 90.24  | 93.98  | 94.27 | 92.26 | 89.18 |

Tolerances according to EN 60034-1

Rev. 3 - 06-07-2018

Created on: 2022-03-01

All data shown are not binding. Zenit reserves the right to change data and dimensions without notice.

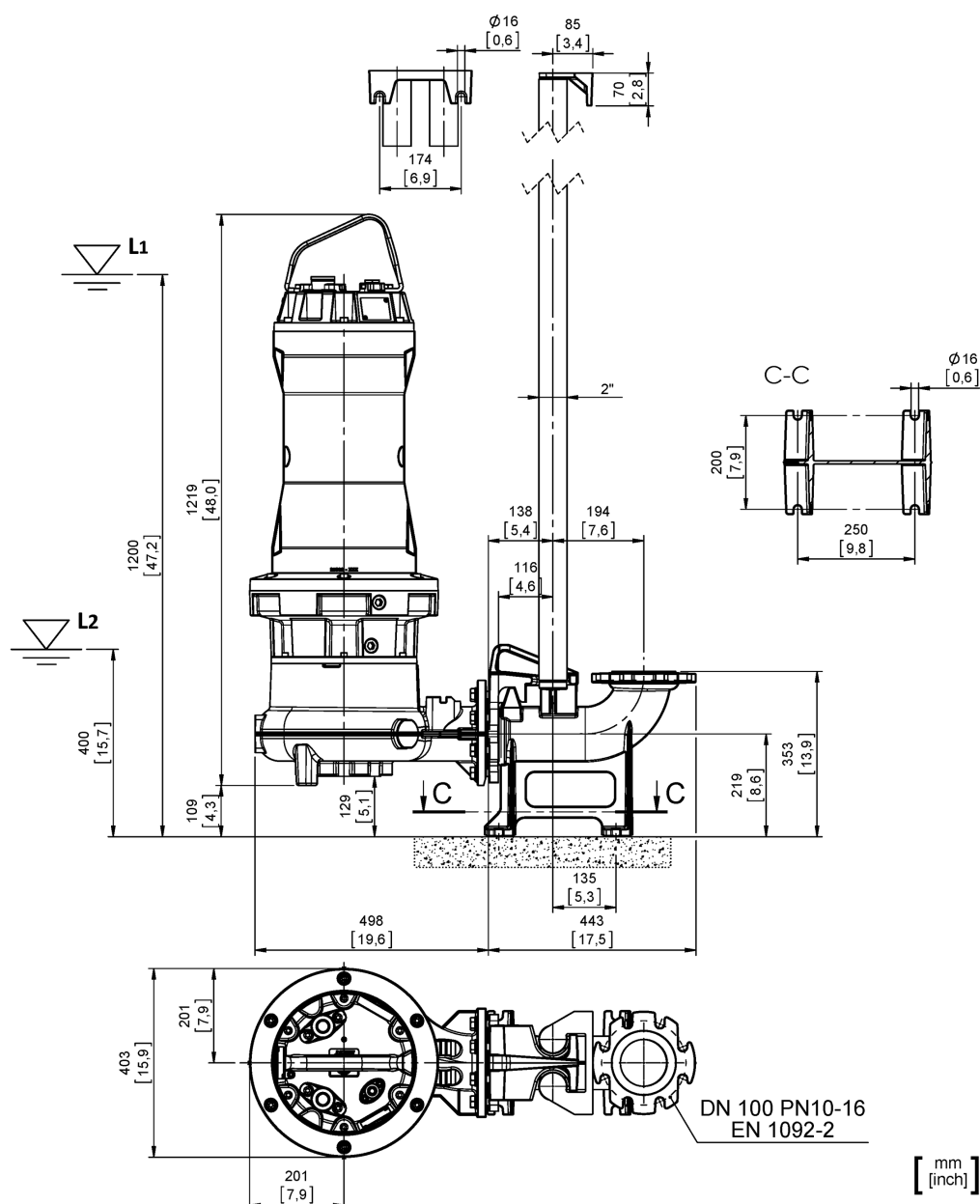
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## Dimensional drawing

**3 ~ 50 Hz**

|                                                                                                   |                                    |                                                        |
|---------------------------------------------------------------------------------------------------|------------------------------------|--------------------------------------------------------|
| <b>Installation type</b><br>P: bottom coupling device - vertical discharge DN100 - guide pipes 2" |                                    |                                                        |
| <b>Wet/dry use</b><br>WET                                                                         | <b>Drilling variant</b><br>PA      | <b>Flushing valve - drilling</b><br>-                  |
| <b>Discharge</b><br>DN 100 EN 1092-2                                                              | <b>Suction</b><br>DN 100 UNDRILLED | <b>Pressure rating (suction/discharge):</b><br>-/PN 10 |
| <b>Accessory</b><br>DAC 100/100V+KAF 116-2" EN (P)                                                | <b>Accessory code</b><br>9001.033  | <b>Accessory variant</b><br>Cast iron coupling device  |
| <b>Note: Accessory must be ordered separately</b>                                                 |                                    |                                                        |



The minimum indicated levels do not prevent the formation of vortices and/or cavitation

L1: Minimum operating level for continuous use

\* clearance from bottom suggested

L2: Minimum operating level for discontinuous use (excluding -EX/FM models)