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Technical data

D 500 - 3

With motor
NU 121-4/90

Project ID Untitled project 2025-03-30 07:06:50.818

Project name

Installation location

Customer pos. No.

Date 2025-03-30

Operating data specification

Pumped fluid	Water
Operating temperature t A	20
pH at t A	
Density at t A	998.3 kg/m ³
Kin. viscosity at t A	1.005 mm ² /s
Rated frequency	50
Rated flow	
Rated head	
Geodetic head	
Max. inlet pressure	0 kPa
Installation type	Vertical installation

Duty point data

Volume flow	
Head	
Shaft power P ₂	P ₂
Hydr. efficiency η _{hyd.}	
Power input P ₁	P ₁
Required pump NPSH	
Rotational speed	1450 1/min

Pump

Make	WILO
Pump type	D 500
Frame size	18" (Ø432 - Ø470)
Sense of rotation	Counter clockwise
Max. operating pressure	9.3 bar
Stages	3
Impeller type	Semi axial impeller
Shut off head	94.5 m
Max. shaft power	121 kW
Weight of unit	1000 kg
(without detachable Accessories)	

Discharge port

Pressure rating	PN 10
Rated diameter	DN 250
Standard	EN 1092-2

Impeller Ø

Max.	308 mm
Min.	256 mm
designed	308 mm

According to IEC 60034-1

No test norm defined for this product

Flow

Referring to: Speed in operating point	
Nominal	146 l/s
Max-	201 l/s
Min-	50.3 l/s

Motor

Referring to: Rated speed	
Manufacturer / Type	NU 121-4/90
Specific design	NU (glycol filling)
Rated power	127 kW
Electric voltage	400 V
Power input with rated power	145 kW
Current input with rated power	261.6 A
Number of poles	4
Rated speed	1447 1/min
Load	125 / 100 / 75 / 50 / 25 %
cos phi	0.81/0.8/0.74/0.64/0.45
cos phi with starting	
Efficiency	85.4/87.6/88.3/85/78
Operation type (VDE 0530)	S1 immersed
Max. fluid temperature	30
Min. flow velocity	0.1
Starting curr. d-o-l/ YD	1,380 Å 460 A
Starting torque	1200 Nm
Inertia moment	0.5131 kg m ²
Starts per hour max.	10
Degree of protection	IP 68
Weight of motor	584 kg
Motor connection cable	3X 1X70 + 1X35 S07BB

Application limits for operation with frequency inverter:

- Max. voltage rise: 500 V/μs

- Max. overvoltage (phase - phase): 1000 V

Pump materials - Material design

A	
Suction piece	EN-GJL 250
Stage- /guide casing	EN-GJL-250
Impeller	G-CuAl10Ni
Stationary wear ring	1.4580
Pump shaft	1.4021
Shaft sleeve	1.4021
Pump end bearing	Brass + NBR
Connecting screws	A 2 - 70
Nuts	A 2 - 70

Motor materials

Material version:	A
Shaft sealing:	Mechanical seal
Stator tube:	St
Upper bearing housing:	EN - GJL 200
Lower bearing housing:	EN - GJL 200
Lower part:	EN - GJL 200
Shaft journal:	1.4462
Rubber parts:	EPDM
Screws and nuts:	A2 - 70



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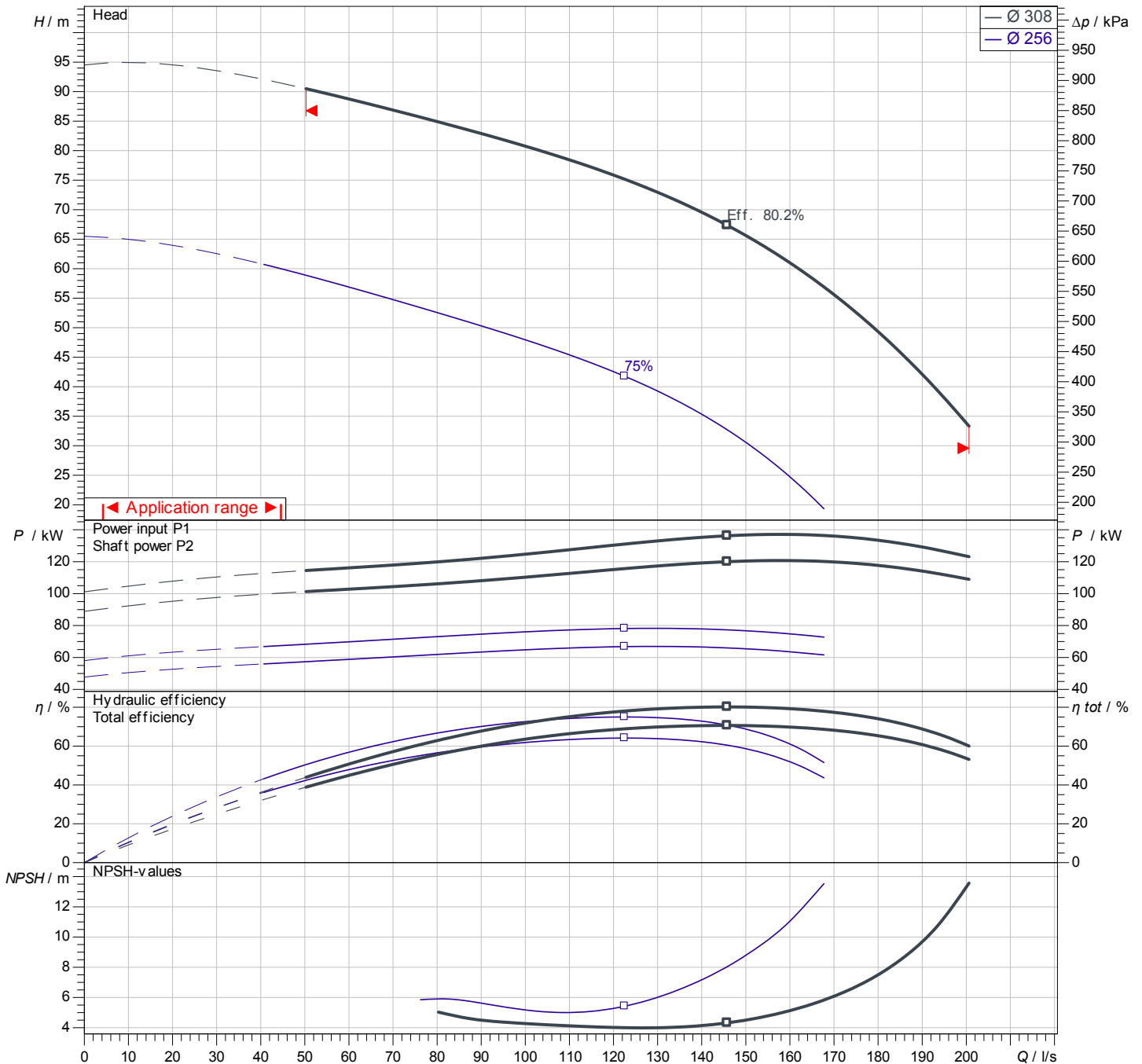
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Pump

Stages	3
Impeller Ø designed	308 mm
Nominal speed	1,400 1/min
Frequency	50 Hz
Impeller type	Semi axial impeller

Motor

Rated power	127 kW
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Sel. explosion protection

Subject to change

Duty point data

Volume flow	
Head	
Shaft power P2	P ₂
Hydr. efficiency η hyd.	
Power input P1	P ₁
Required pump NPSH	
Rotational speed	1450 1/min

Software version
Data version

Spaix® 5-2024.2 - 2024/09/19 (Build 140), 64 bit
20.02.2025

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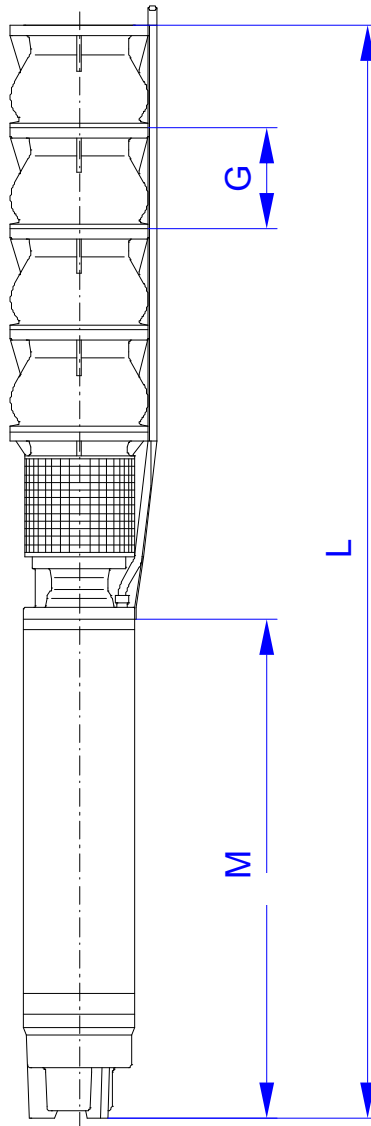
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Dimensions

Name	Value	Name	Value
G	300 mm		
L	3,233 mm		
M	1,930 mm		

Connections

Discharge port	DN 250 PN 10 PN 10
Intake piece	
Non-return valves	no