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Technical data

FA 50.21D
With motor
FK 42.1-8/50

Project ID Untitled project 2025-03-30 11:34:50.544
Project name
Installation location
Customer pos. No.

Date 2025-03-30

Pump

Pump type	FA 50.21D
Installation type	Suspension device
	DN500/2RK
Free passage	130 mm
Nominal speed	1,000 1/min
Rated frequency	50 Hz
Impeller type	Three-channel
Impeller construction	Closed

Impeller size

max. possible	486 mm
min. possible	430 mm
standard	486 mm
designed	486 mm

Suction port

Rated diameter	DN600
Pressure rating	PN10
Standard	EN1092-2-S

Discharge port

Rated diameter	DN500
Pressure rating	PN10
Standard	EN1092-2-D

Weights

Weight	max. 1237 kg
Weight of motor	1345 kg
Weight of unit	max. 2686 kg

Materials

Pump housing	EN - GJL 250
Stationary wear ring	1.4462/1.4470
Impeller	EN - GJL 250
Mobile wear ring	1.4301
Suction ports	EN-GJL-250

Motor

Motor name	FK 42.1-8/50
Number of poles	8
Rated power	90 kW
Rated speed	725 1/min
Power input with rated power	102.3 kW
Rated voltage	400 ~3 V
Current input with rated power	180 A
Efficiency with rated power	88 %
cos phi with rated power	0.82
cos phi with starting	
Rated frequency	50 Hz
Operation type wet	S1
Operation type dry	S1
Starting current, direct starting	950 A
Starting current, star-delta	316.7 A
Starting torque	1405244 Nm
Inertia moment	3.2772 kg m ²
Degree of protection	IP 68
Sel. explosion protection	
Ex-designation	
Ex-number	
Motor connection cable	2X 4x25 + 4x1,5 NSSHÖU
Max. fluid temperature	40 °C
Starts per hour max.	10

Duty point data

Volume flow	
Head	
Shaft power P ₂	
Hydr. efficiency η _{hyd.}	
Power input P ₁	
Fluid	Water
Required pump NPSH	
Rotational speed	727.3 1/min
Total efficiency	$= \frac{P_2 * \text{Hydr. efficiency } \eta_{\text{hyd.}}}{P_1}$



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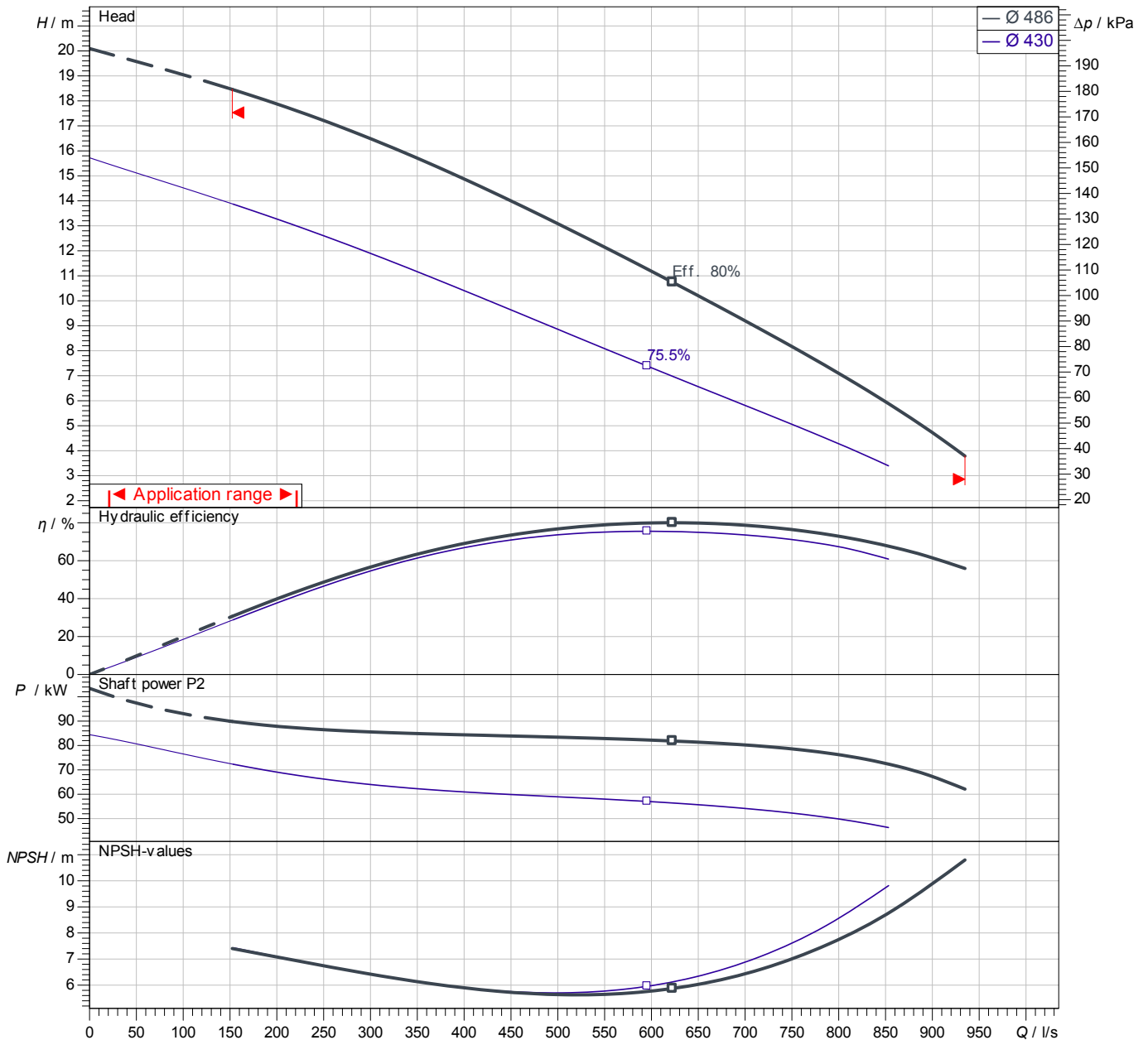
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Performance curves

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Power data referred to: Water; 20°C; 998.3kg/m³; 1.005mm²/s
Tolerance as per ISO 9906 / Annex A.2

Pump

Impeller Ø	designed	486 mm
Nominal speed		725 1/min
Frequency		50 Hz
Impeller type		Three-channel

Motor

Rated power	90 kW
Sel. explosion protection	

Duty point data

Volume flow	
Head	
Shaft power P2	
Hydr. efficiency η hyd.	
Power input P1	
Required pump NPSH	
Rotational speed	727 1/min

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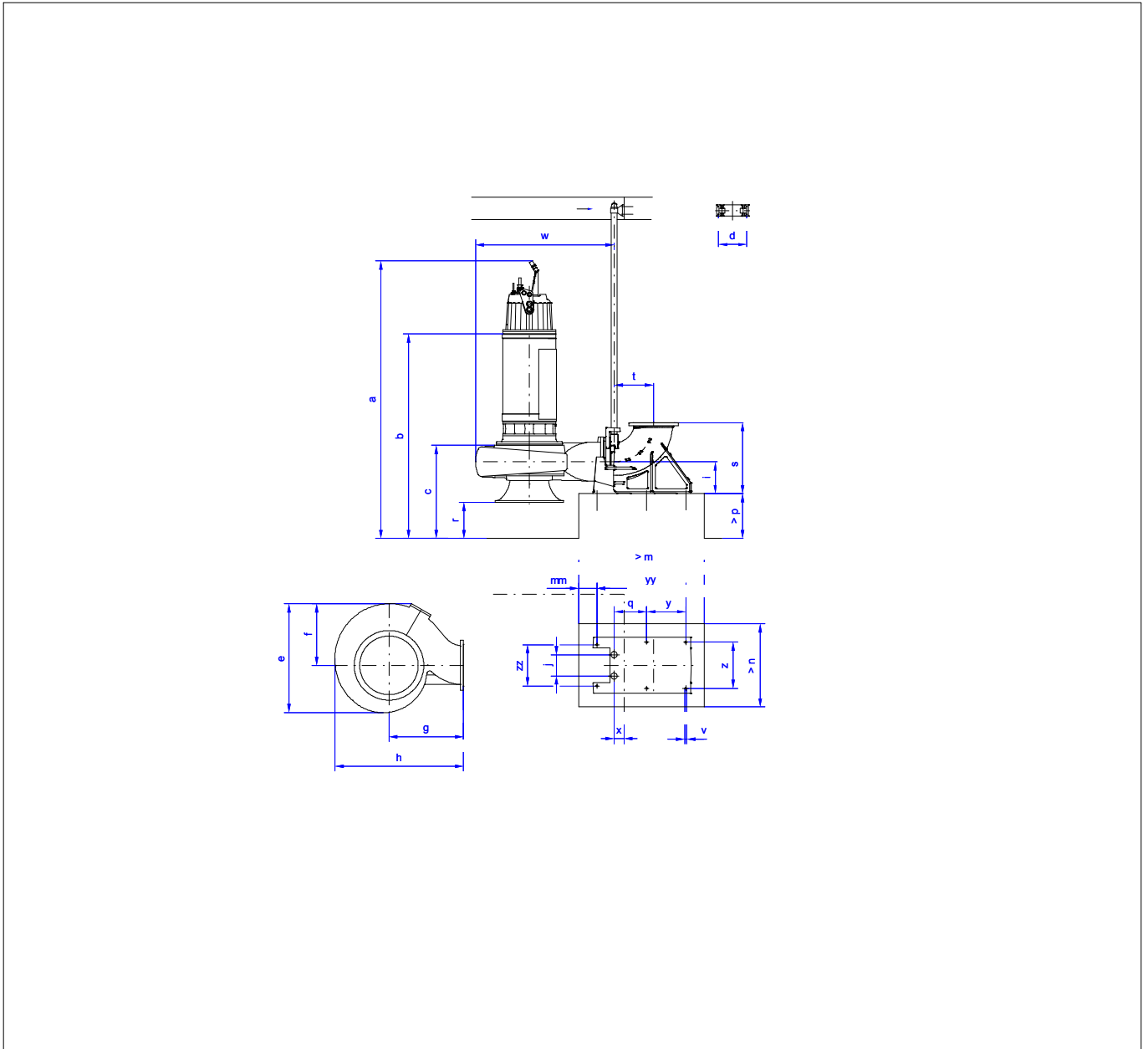
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Dimensions

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Dimensions

Name	Value	Name	Value
a	2,895 mm	m	1,770 mm
b = min. water level	1,228 mm	mm	260 mm
c	1,228 mm	n	1,170 mm
d	400 mm	p	500 mm
e	1,345 mm	q	459 mm
f	807 mm	r	500 mm
g	950 mm	s	1,000 mm
h	1,595 mm	t	556 mm
i	450 mm	v	26 mm
j	300 mm	w	1,740 mm

Connections

Suction port	DN600 PN10
Discharge port	DN500 PN10
Suspension device	DN500/2RK