

Etanorm 200-150-400 GG
ETN 200-150-400-GGSAA10 GSHGY4AHB

Operating point 1 Dimensioning operating point

Operating conditions (purchaser requirements)

Target flow rate	400 m ³ /h	Vapour pressure determined	0.02337 bar.a
Target head	38.48 m	Minimum inlet pressure required	-0.3 bar
Fluid	Water, contaminated water	Specified ambient temperature	20 °C
Fluid variant	Slightly contaminated water	Installation altitude above sea level	1,000 m
Specified fluid temperature	20 °C		
Density Fluid handled	998 kg/m ³		
Kinematic viscosity Fluid handled	1 mm ² /s		

Operating conditions (performance)

Flow rate	400.05 m ³ /h	Maximum power input at duty point	49.49 kW
Minimum permissible flow rate	59.56 m ³ /h	Maximum power input / curve	55.29 kW
Head	38.49 m	Pump speed	1,482 1/min
Shut-off head	49.05 m	Discharge pressure-max.	4.8 bar
Efficiency Pump	84.6 %		
NPSH required	2.93 m		

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Design data pump

Scope of supply Pump supplied by KSB	Bare-shaft pump	Mains voltage	400 V
Pump standard	EN 733	Mains frequency	50 Hz
Shaft axis position	Horizontal	Minimum efficiency index MEI	0.7
Pump design	Long-coupled (basepl-mounted)	Minimum permissible fluid temperature	0 °C
Pump system design	Single-pump system	Maximum permissible fluid temperature	60 °C
Specification of wetted parts	Manufactured without paint wetting impairment substances	Quantity Stages, single-entry	1
Pump direction of rotation, viewed from casing side	Counterclockwise	Casing wear ring design suction-side	Flat
Impeller diameter D2	357 mm	Casing wear ring design discharge-side	Flat
Impeller type	Radial, closed, multi-channel	Installation chamber Casing cover	Conical (A-type cover)
Free passage	23.8 mm	Bearing bracket size / shaft unit	55
Nut lock for Impeller	No	Bearing bracket type	Bearing bracket
Swirl break	No	Bearing bracket design	Medium
		Pump bearing type, non-drive end	Anti-friction bearing
		Pump bearing type, drive end	Anti-friction bearing
		Lubrication type	Grease lubrication
		Bearing seal Pump	V-ring
		Pump directive	CE

Nozzle connections pump

Nominal diameter Suction nozzle	DN 200	Nominal diameter Discharge nozzle	DN 150
Nominal pressure Suction nozzle	PN 10	Nominal pressure Discharge nozzle	PN 16
Suction nozzle position	Axial	Discharge nozzle position	0 deg
Suction nozzle design acc.to	EN1092-2	Discharge nozzle design acc.to	EN1092-2
Suction flange bolt hole pattern as per standard	EN1092-2	Discharge flange bolt hole pattern as per standard	EN1092-2
Flange facing type Inlet	Raised face (B,RF,C)		
Flange facing type Outlet	Raised face (B,RF,C)		

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Auxiliary connections pump

6B Fluid Drain	G 1/2 Drilled and plugged	1M Pressure gauge Discharge nozzle	Without Without
6D Fluid Filling and venting	G 1/2 Drilled and plugged	1M Pressure gauge Suction nozzle	Without Without
8B Leakage Drain	G 1/2 Drilled		

Shaft sealing

Shaft seal type	SMS A-type cover	Shaft seal code	Code 10
Piping plan	API plan 03	Shaft seal manufacturer inboard	KSB's choice
Determined pressure Seal chamber	-0.02 bar	Mechanical seal type inboard	1
		Material Shaft seal inboard	Q1Q1X4GG

Materials

Material Volute casing (102)	EN-GJL-250/A48 CL 35B	Material Bolts/Screws	8.8
Material Casing cover (161)	EN-GJL-250/A48 CL 35B	Hydraulic casing (902.01)	
Material Shaft (210)	C45+N	Material Screw plug Hydraulic casing (903.01)	ST
Material Impeller (230)	EN-GJL-250/A48 CL 35B	Material Static seal Screw plug Volute casing	A4/AISI 316
Material Casing wear ring suction-side (502.01)	JL/LAMELLAR GRAPHITE CAST IRON	Material Nut Impeller fastening (920.95)	(ST)
Material Casing wear ring discharge-side (502.02)	JL/LAMELLAR GRAPHITE CAST IRON	Material Key	C45+C/A311 GR 1045 CLASS A
Material Shaft protecting sleeve (523)	(CRNIMO ST INT)		
Material Bearing bracket (330)	EN-GJL-250/A48 CL 35B		
Material Static seal Discharge cover	DPAF DW001		

Driver

Electric motor	No	Rated speed Motor	1,480 1/min
Drive concept	With electric actuator	Number of motor poles	4
Drive standard, mechanical	IEC	Rated power Motor	55 kW
Drive standard electric	IEC		
Motor construction type	IM B3 (IM1001) IEC 60034-7		
Motor size	250M		

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Coating

Aggregate

Surface preparation
Properties Primer coat
Thickness Primer coat
Properties Top coat
Thickness Top coat
Colour Top coat

Free from dirt, grease, rust
Hydro dip primer, water-dilutable
60 µm
Acrylate dispersion water-thin
40 µm
RAL5002 Ultramarine Blue

Packaging

Suitable for transport	Truck transport
Suitable for storage	Indoor storage
Packaging category	KSB's choice (A0)

Nameplates

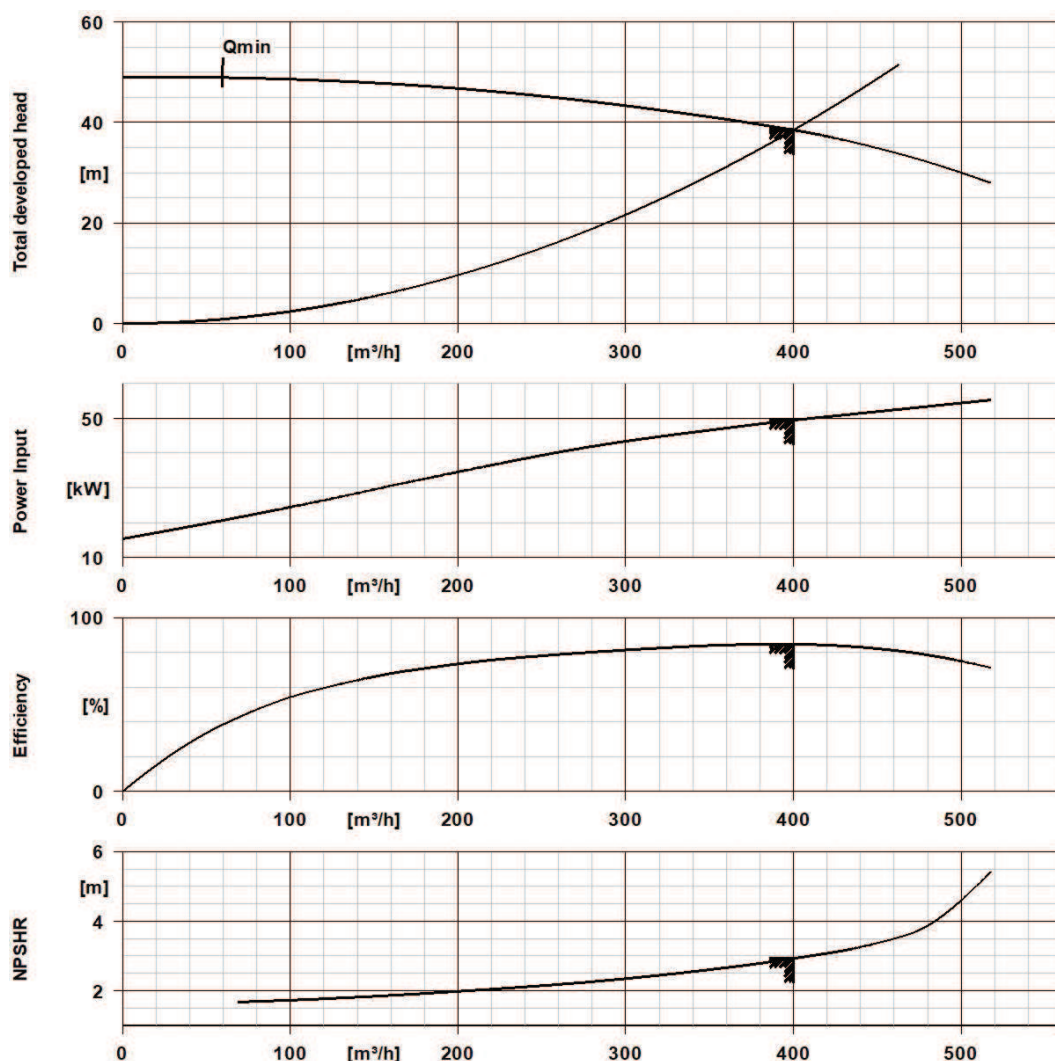
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Performance Curve (Pump)



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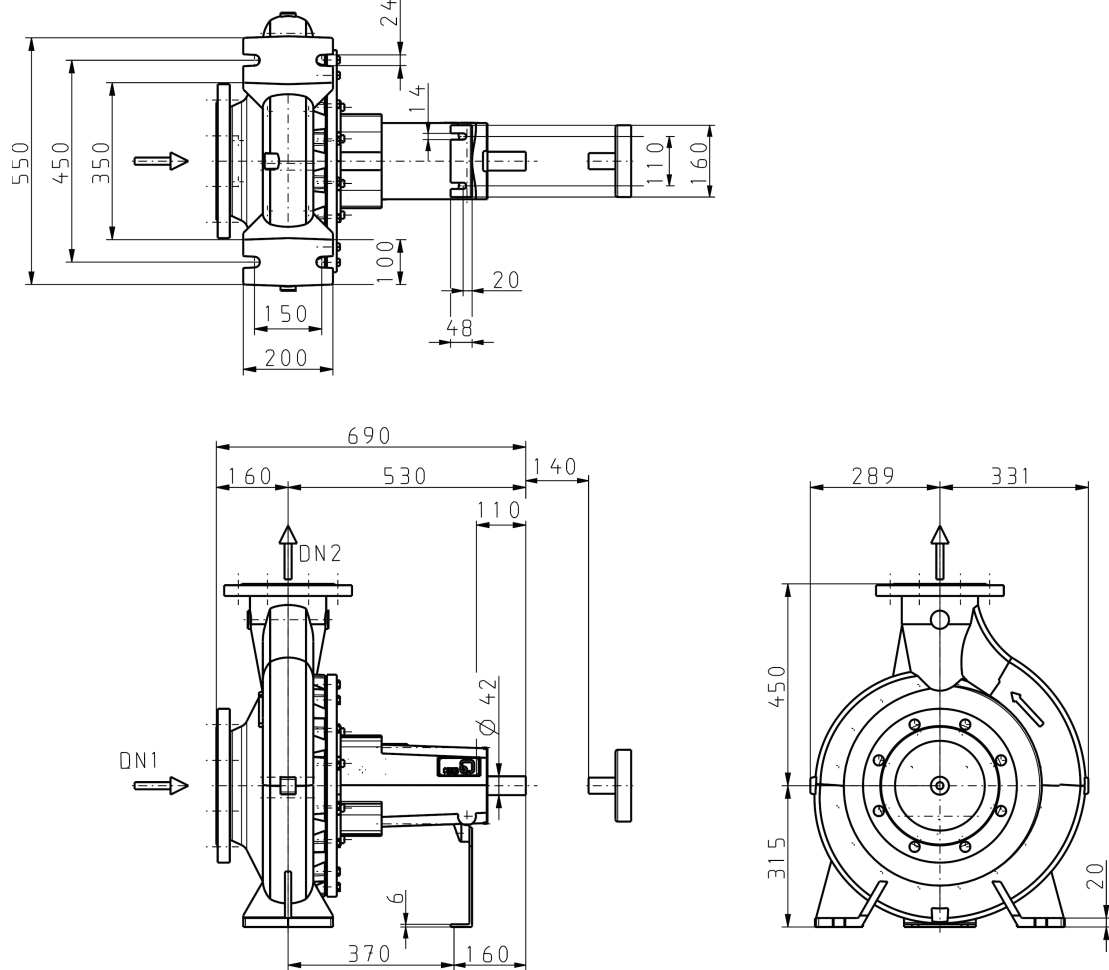
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Curve Data

Pump speed	1,482 1/min	Efficiency Pump	84.6 %
Density Fluid handled	998 kg/m^3	Minimum efficiency index MEI	0.7
Kinematic viscosity Fluid handled	1 mm^2/s	Maximum power input at duty point	49.5 kW
Flow rate	400 m^3/h	NPSH required	2.93 m
Head	38.5 m	Hydraulic impeller diameter	356.6 mm
		Hydraulic calculation according to standard/class	EN ISO 9906 Class 3B

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Drawing is not to scale.

Dimensions are given in mm

Motor

Rated power Motor	55 kW
Rated speed Motor	1,480 1/min

Connections

Nominal diameter Suction nozzle	DN 200
Suction flange bolt hole pattern as per standard	EN1092-2
Nominal diameter Discharge nozzle	DN 150
Discharge flange bolt hole pattern as per standard	EN1092-2
Nominal pressure Suction nozzle	PN 10
Nominal pressure Discharge nozzle	PN 16

Net weight

Total weight Pump	209 kg
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Connect pipelines stress-free

Plan for additional connections see extra drawing

Dimensional tolerances for shaft axis height: DIN 747

Dimensions without tolerances, middle tolerances to: ISO 2768-m

Connection dimensions for pumps: EN735

Dimensions without tolerances - welded parts: ISO 13920-B

Dimensions without tolerances - gray cast iron parts: ISO 8062-CT9