Technical Datasheet

Etanorm 250-200-435 GG
ETNE250-200-435-GGSAA44 GSKJV4BHB

Operating point 1 Dimensioning operating point

Operating conditions (purchaser requirements)

Target flow rate	500 m³/h	Vapour pressure determined	0.02337 bar.a
Target head	60 m	Minimum inlet pressure required	-0.3 bar.r
Fluid	Water	Specified ambient temperature	20 °C
Fluid variant	Clean water	Installation altitude above sea level	1,000 m
Specified fluid temperature	20 °C		
Density Fluid handled	998 kg/m³		
Kinematic viscosity Fluid handled	1 mm²/s		

Operating conditions (performance)

Flow rate	500.22 m³/h	Maximum power input at duty point	96.97 kW
Minimum permissible flow rate	189.83 m³/h	Maximum power input / curve	126.87 kW
Head	60.05 m	Pump speed	1,492 1/min
Shut-off head	63.57 m	Discharge pressure-max.	6.222 bar.r
Efficiency Pump	84.18 %		
NPSH required	4.16 m		

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Design data pump

Scope of supply Pump supplied by KSB	Pump + coupling	Mains voltage	400 V
		Mains frequency	50 Hz
Pump standard	Without	Minimum efficiency index MEI	0.5
Shaft axis position	Horizontal	Minimum permissible fluid temperature	0 °C
Pump design	Long-coupled (basepl-mounted)	Maximum permissible fluid temperature	60 °C
Pump system design	Single-pump system		
Pump direction of rotation, viewed from casing side	Counterclockwise	Quantity Stages, single-entry	1
		Casing wear ring design suction-side	Flat
Impeller diameter D2	414 mm		
Impeller type	Radial, closed, multi-channel	Casing wear ring design discharge-side	Flat
Free passage	26 mm		
Nut lock for Impeller	Yes	Installation chamber Casing cover	Conical (A-type cover)
Swirl break	No	Bearing bracket size / shaft unit	65 (water)
		Bearing bracket type	Bearing bracket
		Bearing bracket design	Light
		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 250	Nominal diameter Discharge nozzle	DN 200
Nominal pressure Suction nozzle	PN 10	Nominal pressure Discharge nozzle	PN 10
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)		
Flange facing type Outlet	Raised face (B,RF)		

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Auxiliary connections pump

6B Fluid Drain	G 1/2 Drilled and plugged	1M Pressure gauge Discharge nozzle	G 1/2 Drilled and plugged
6D Fluid Filling and venting	Without Without	1M Pressure gauge Suction nozzle	G 1/2 Drilled and plugged
8B Leakage Drain	G 1/2 Drilled		
12A Circulation liquid Outlet	G 1/2 Drilled and plugged		

Shaft sealing

Shaft seal type	SMS A-type cover	Shaft seal code	Code 44
Operating mode of mechanical seal (function)	API plan 03	Shaft seal manufacturer inboard	KSB
Determined pressure Seal chamber	0.06 bar.r	Mechanical seal type inboard	4M
		Material Shaft seal inboard	BQ1E4GG

Materials

Material Volute casing	EN-GJL-250/A48 CL 35B	Material Bolts/Screws Volute casing	8.8
Material Casing cover	EN-GJL-250/A48 CL 35B	Material Nut Volute casing	8+A2A/ 8+B633 SC1 TP3
Material Shaft	C45+N	Material Screw plug Volute casing	ST
Material Impeller	EN-GJL-250/A48 CL 35B	Material Static seal Screw plug Volute casing	(CRNIMO ST INT)-ASBESTOS FREE
Material Casing wear ring suction-side	JL/LAMELLAR GRAPHITE CAST IRON	Material Nut Impeller fastening	(ST)
Material Casing wear ring discharge-side	JL/LAMELLAR GRAPHITE CAST IRON	Material Key	C45+C/A311 GR 1045 CLASS A
Material Bearing bracket	EN-GJL-250/A48 CL 35B		
Material Static seal Discharge cover	DPAF DW001		

Driver

Electric motor	No	Rated speed Motor	1,491 1/min
Drive concept	Electric actuator	Number of motor poles	4
Drive standard, mechanical	IEC	Rated power Motor	132 kW
Drive standard electric	IEC	Limit value Maximum humidity Motor	30 g/m³
Motor construction type	IM B3 (IM1001) IEC 60034-7		
Motor size	315M		

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Installation parts / Accessories

Coupling

Coupling type	Eupex N
Coupling manufacturer	Flender
Nominal size Coupling	200

Accessories

Coating

Aggregate

Surface preparation	Blasted, cleanliness level SA2 1/2
Properties Primer coat	Hydro dip primer, water-dilutable
Thickness Primer coat	35 µm
Properties Top coat	2-component polyurethane (PUR)
Thickness Top coat	80 µm
Colour Top coat	RAL5002 Ultramarine Blue
Colour Top coat Drive	RAL5002 Ultramarine Blue

Packaging

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

Nameplates

Performance Curve (Pump)

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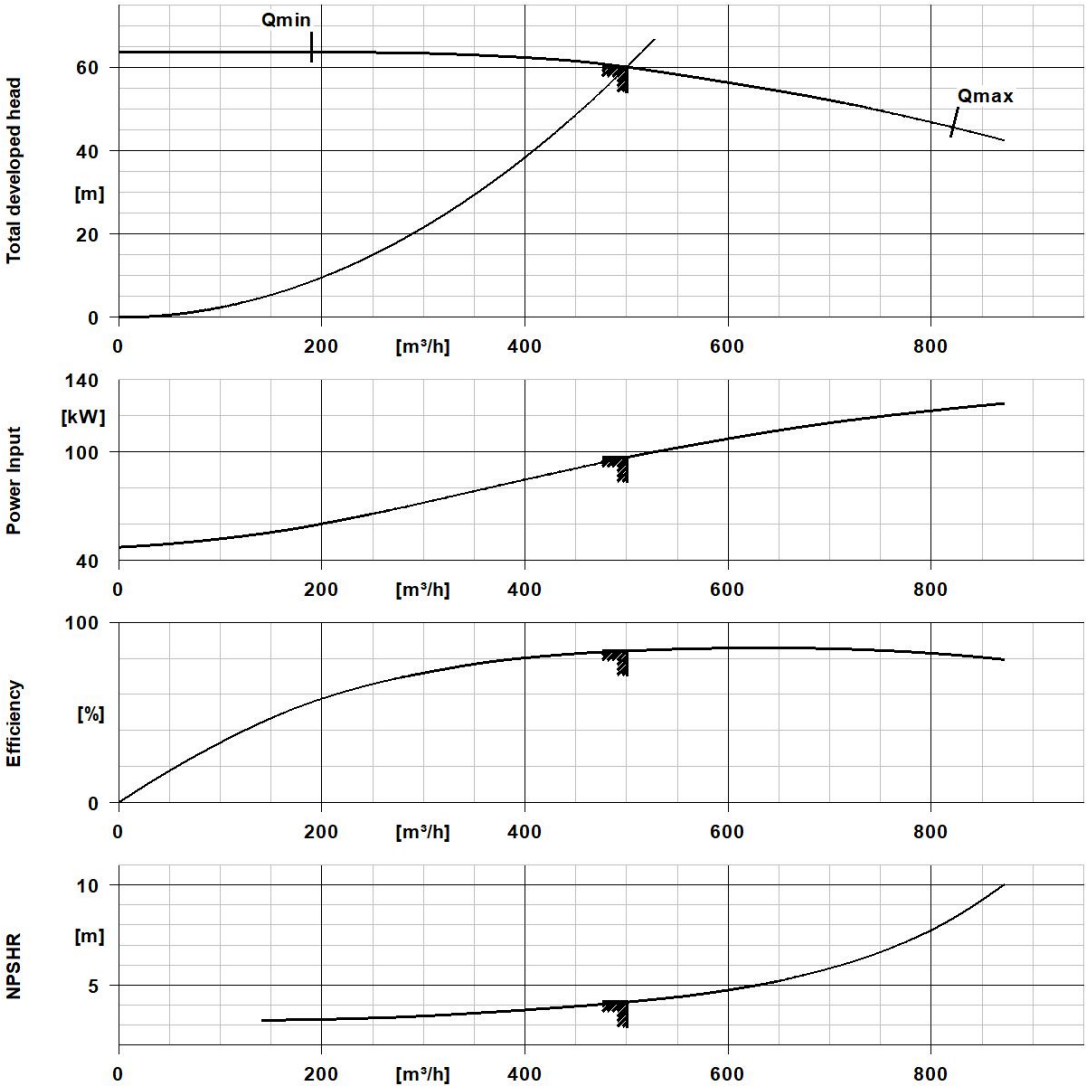

Curve Data

Pump speed	1,492 1/min	Efficiency Pump	84.2 %
Density Fluid handled	998 kg/m³	Minimum efficiency index MEI	0.5
Kinematic viscosity Fluid handled	1 mm²/s	Maximum power input at duty point	97 kW
		NPSH required	4.16 m
Flow rate	500 m³/h	Hydraulic impeller diameter	413.6 mm
Head	60.1 m	Hydraulic calculation according to standard/ class	EN ISO 9906 Class 3B

According to EN ISO 9906, §4.4.2 (pump input power below 10 kW)

Speed Curve

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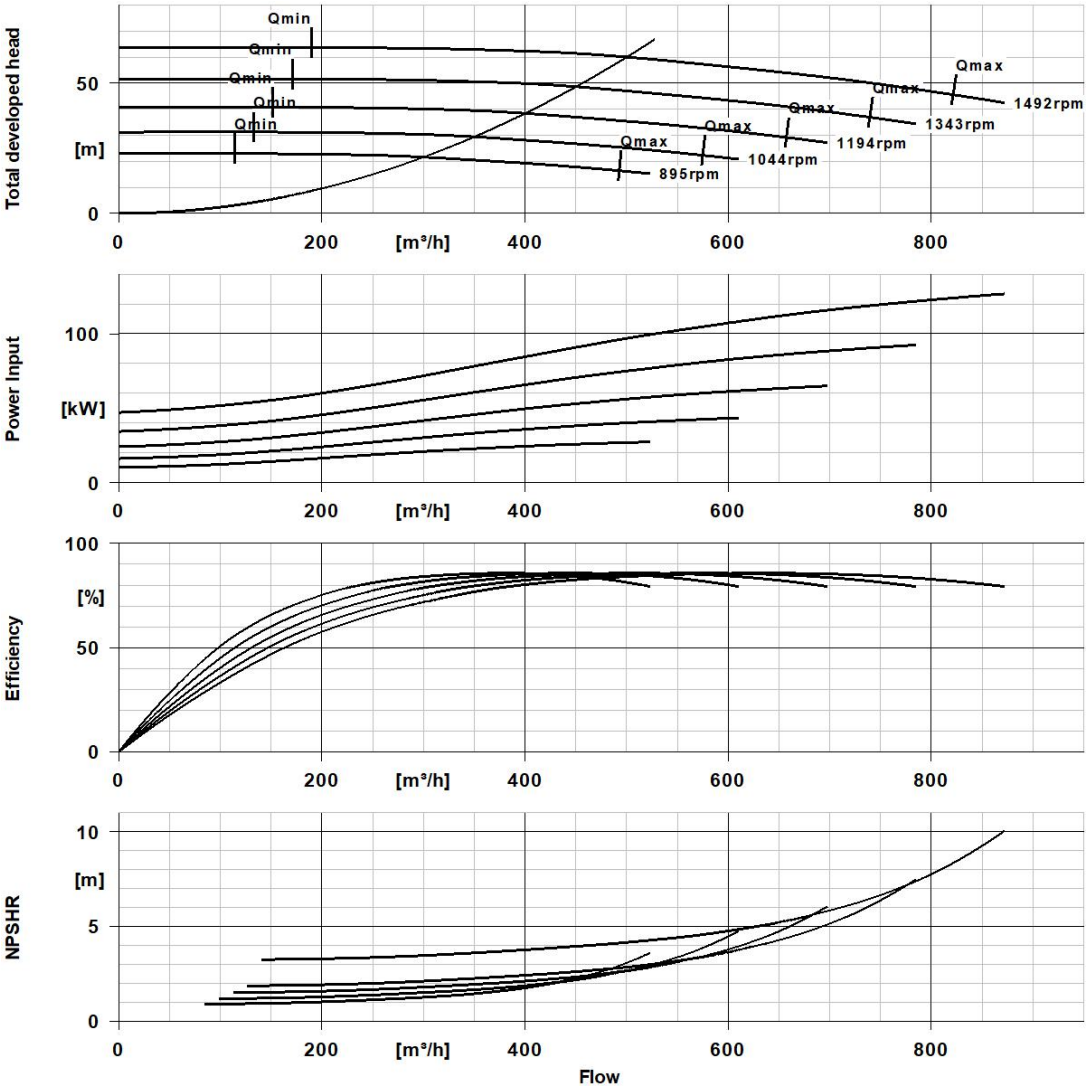

Curve Data

Density Fluid handled	998 kg/m³	Minimum efficiency index MEI	0.5
Kinematic viscosity Fluid handled	1 mm²/s	Hydraulic impeller diameter	413.6 mm
Flow rate	500.22 m³/h	Head	60.05 m

Installation plan

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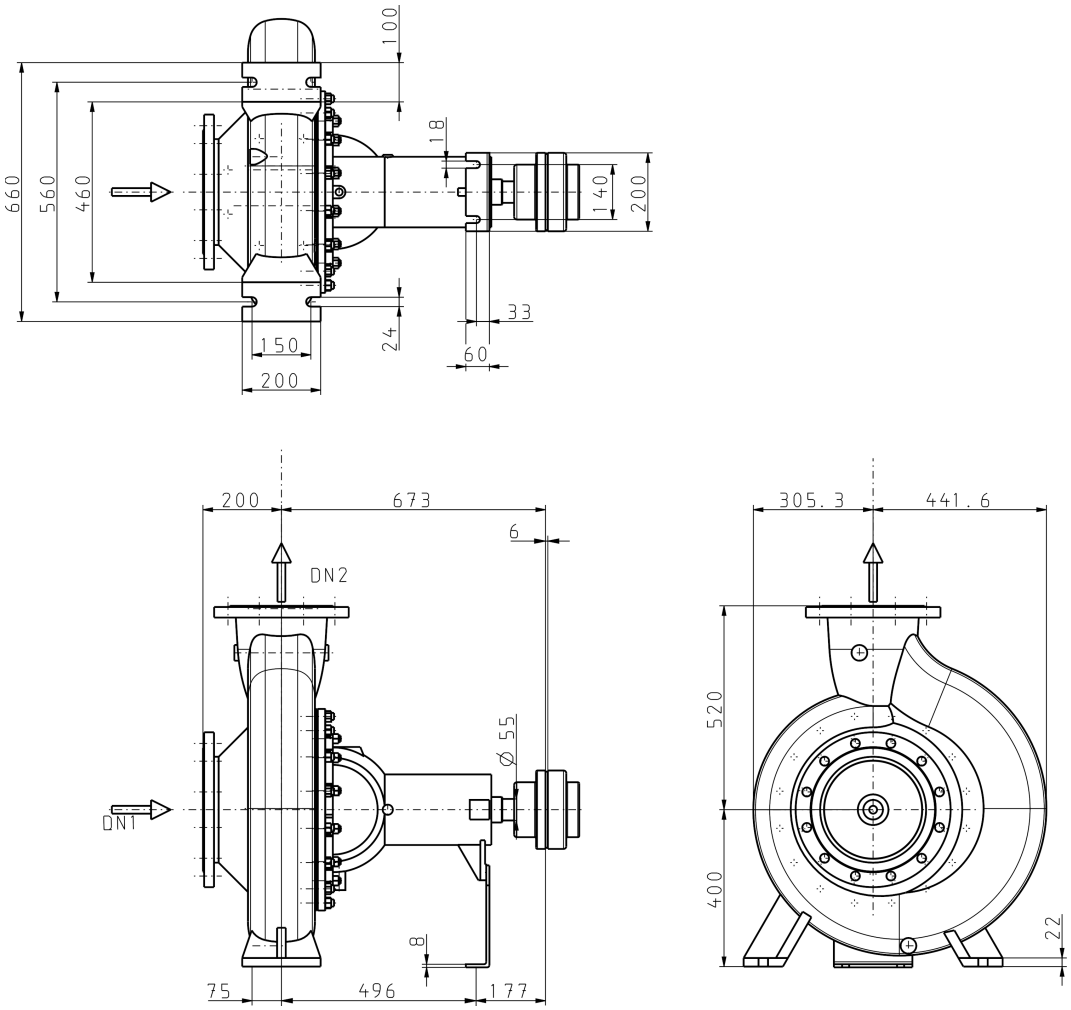

Drawing is not to scale.

Dimensions are given in mm

Motor

Rated power Motor	132 kW
Rated speed Motor	1,491 1/min

Connections

Nominal diameter Suction nozzle	DN 250
Suction flange bolt hole pattern as per standard	EN1092-2
Nominal diameter Discharge nozzle	DN 200
Discharge flange bolt hole pattern as per standard	EN1092-2
Nominal pressure Suction nozzle	PN 10
Nominal pressure Discharge nozzle	PN 10

Installation plan

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Coupling

Coupling manufacturer	Flender
Coupling type	Eupex N
Nominal size Coupling	200

Net weight

Total weight Pump	345 kg
Total weight Coupling	20 kg
Total weight Pump set	365 kg

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