Technical Datasheet

Etaline 080-080-250 GG
ETL 080-080-250-GGSBV11 WSFDN4HHB

Operating point 1 Dimensioning operating point

Operating conditions (purchaser requirements)

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

Operating conditions (performance)

Flow rate	74.32 m³/h	Maximum power input at duty point	5.752 kW
Minimum permissible flow rate	11.6 m³/h		
Maximum permissible flow rate	121.39 m³/h	Maximum power input / curve	7.153 kW
Pump set		Pump speed	1,474 1/min
Maximum permissible flow rate	121.39 m³/h	Shut-off discharge pressure	2.502 bar.r
Head	20.63 m		
Shut-off head	25.57 m		
Efficiency Pump	72.5 %		
NPSH required	1.61 m		

Design data pump

Scope of supply Pump supplied by KSB	Pump + motor	Mains voltage	400 V
		Mains frequency	50 Hz
Pump standard	EN 733	Minimum efficiency index MEI	0.7
Shaft axis position	Horizontal	Minimum permissible fluid temperature	0 °C
Pump design	Close-coupled		
Pump system design	Single-pump system	Maximum permissible fluid temperature	60 °C
Pump direction of rotation, viewed from casing side	Counterclockwise	Quantity Stages, single-entry	1
Hydraulic impeller diameter	260 mm	Installation chamber Casing cover	Conical (A-type cover)
Impeller type	Radial, closed, multi-channel		
Free passage	14.3 mm	Bearing bracket size / shaft unit	35
Hydraulic casing foot	No	Pump directive	CE

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Nozzle connections pump

Nominal diameter Suction nozzle	DN 80	Nominal diameter Discharge nozzle	DN 80
Nominal pressure Suction nozzle	PN 16	Nominal pressure Discharge nozzle	PN 16
Suction nozzle position	Opposite of discharge nozzle	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)		

Auxiliary connections pump

6B Fluid Drain	G 3/8 Drilled and plugged	1M Pressure gauge Discharge nozzle	G 3/8 Drilled and plugged
6D Fluid Filling and venting	G 3/8 Drilled and plugged	1M Pressure gauge Suction nozzle	G 3/8 Drilled and plugged
5B Venting and drain	G 1/4 Drilled and plugged		

Shaft sealing

Shaft seal type	Single mechanical seal; seal chamber can be vented (A-type casing cover) - AV	Shaft seal code	Code 11
		Shaft seal manufacturer inboard	KSB's choice
Determined pressure Seal chamber	-0.15 bar.r	Mechanical seal type inboard	KSB's choice
		Material Shaft seal inboard	BQEGG DW001

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Materials

Material Volute casing (102)	EN-GJL-250/A48 CL 35B
Material Casing cover (161)	EN-GJL-250/A48 CL 35B
Material Shaft	C45+N
Material Impeller (230)	EN-GJL-250/A48 CL 35B
Material Static seal Volute casing (400.10)	DPAF DW001
Material Casing wear ring suction-side (502.01)	JL/LAMELLAR GRAPHITE CAST IRON
Material Casing wear ring discharge-side (502.02)	JL/LAMELLAR GRAPHITE CAST IRON
Material Shaft protecting sleeve (523)	(CRNIMO ST INT)
Material Static seal Discharge cover	DPAF DW001
Material Drive lantern	EN-GJL-250/A48 CL 35B

Material Bolts/Screws Volute casing (902.01)	8.8
Material Nut Impeller fastening (920.95)	(ST)

Driver

Electric motor	Yes
Drive concept	Electric actuator
Drive standard, mechanical	IEC
Drive standard electric	IEC
Motor bearing, insulated	No
Motor manufacturer	KSB's choice
Customer supply Drive	No
Motor construction type	IM V1 (IM3011) IEC 60034-7
Motor size	132M
Efficiency class	IE3 (Premium)
Material motor housing	AL
Enclosure Motor	IP55 (TEFC)
Thermal class	155 (F) according to IEC 60085
Temperature sensor motor	3 PTC thermistors
Terminal box position of motor (looking at the motor shaft)	360 °
Operation on a frequency inverter permitted	Yes (acc to motor manufact)
Sound pressure level Motor	67 dBa
Type series Motor manufacturer	Acc. to motor manufacturer (IEC, IE3)

Rated speed Motor	1,465 1/min
Number of motor poles	4
Rated power Motor	7.5 kW
Motor power reserve determined	30.4 %
Rated voltage Motor	400 V
Motor winding	400 / 690 V
Rated frequency Motor	50Hz
Motor switching type	Delta
Rated current Motor	15 A
Starting current ratio Ia/In	8.9
Cos phi at 4/4 load	0.8
Motor efficiency at 4/4 load	90.4 %
Limit value Maximum humidity Motor	30 g/m³
Marking according to directive Drive	CE

The values indicated are regarded as guaranteed values. They are applied to motors with a sinusoidal power supply within the permissible tolerances specified by IEC 60034-1. The values given on the name plate may be different.

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Coating

Aggregate

Surface preparation	Free from dirt, grease, rust
Properties Primer coat	Hydro dip primer, water-dilutable
Thickness Primer coat	60 µm
Properties Top coat	Acrylate dispersion water-thinned
Thickness Top coat	40 µm
Colour Top coat	RAL5002 Ultramarine Blue

Energy cost and Environmental Impact

Result

Estimated Product Carbon Footprint (cradle-to-gate) (CO_2eq) 749 kg
*

This PCF indication is based on the product mass assuming the typicalsha res of materials in use. The conversion rate between product mass andCO_2 emissions is based on several life cycle assessments acc. to ISO14040 / 14044 of sample products of the same type series. Objective andscope of these LCAs was defined as being limited to the manufacturingphase (crad le-to-gate). With regard to inputs, all materials, energy andauxiliary m aterials were accounted for, and with regard to outputs,emissions, scrap and waste were accounted for. The impact of outboundlogistics is not co vered. The assessments' input variables cover atleast 95 % of the total product mass. The analysis focuses exclusivelyon the Global Warming Pote ntial (EF3.0 Climate Change – total).

Packaging

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

Performance Curve (Pump)

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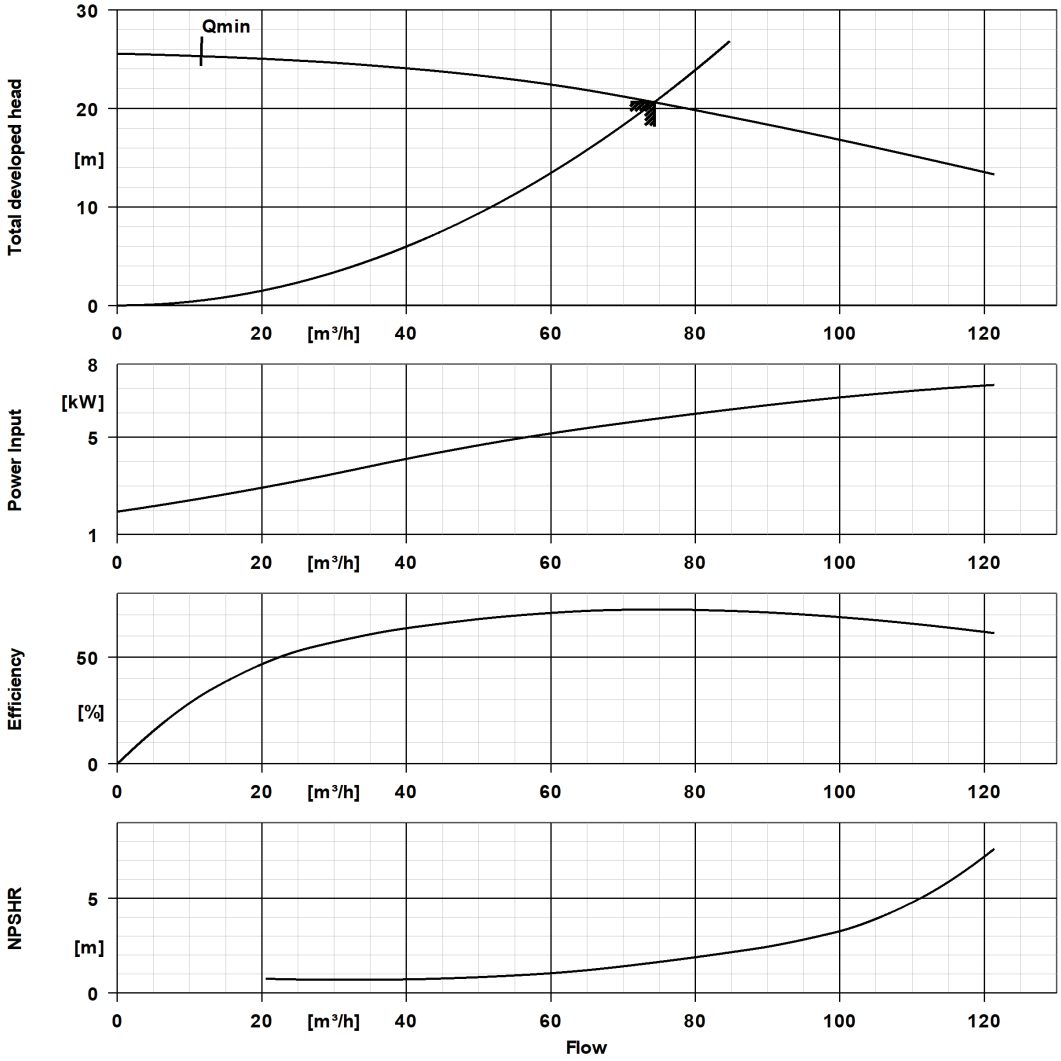

Curve Data

Pump speed	1,474 1/min	Efficiency Pump	72.5 %
Density Fluid handled	998 kg/m³	Minimum efficiency index MEI	0.7
Kinematic viscosity Fluid handled	1 mm²/s	Maximum power input at duty point	5.75 kW
Flow rate	74.3 m³/h	NPSH required	1.61 m
Maximum permissible flow rate	121 m³/h	Hydraulic impeller diameter	260 mm
Head	20.6 m	Hydraulic calculation according to standard/ class	EN ISO 9906 Class 3B

Installation plan

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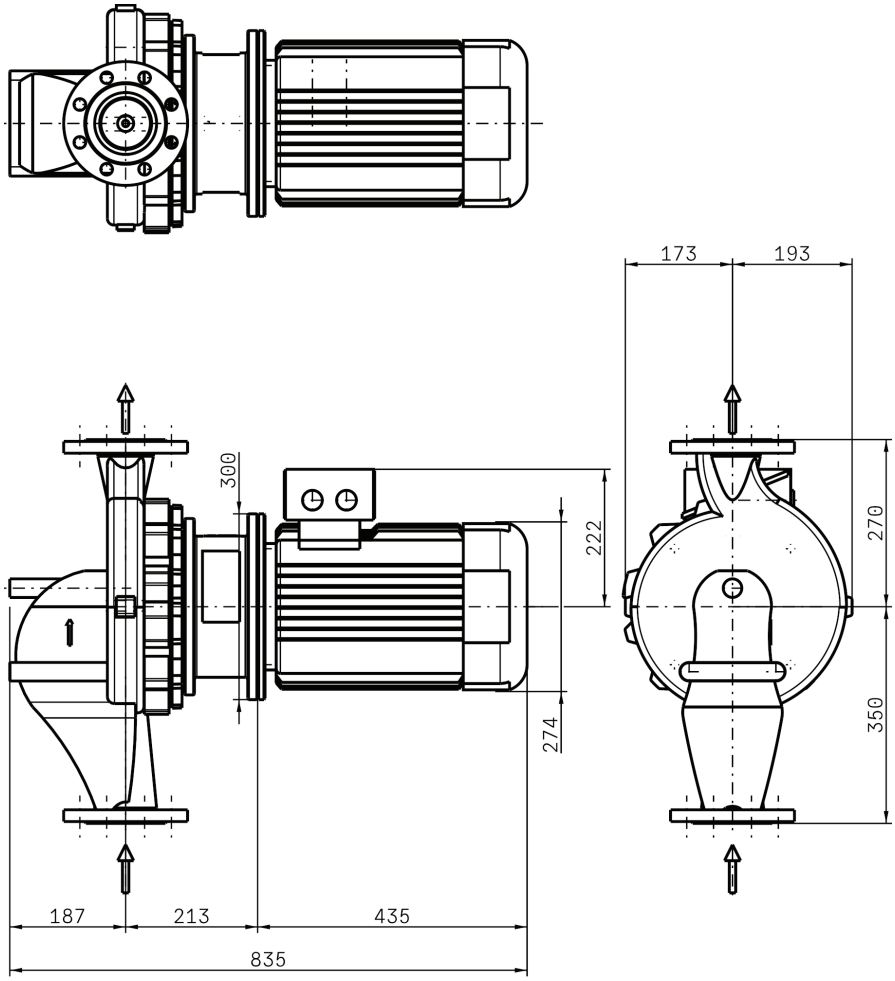

Drawing is not to scale.

Dimensions are given in mm

Motor

Motor manufacturer	KSB's choice
Motor size	132M
Rated power Motor	7.5 kW
Number of motor poles	4
Rated speed Motor	1,465 1/min
Terminal box position of motor (looking at the motor shaft)	360 °

Connections

Nominal diameter Suction nozzle	DN 80
Suction flange bolt hole pattern as per standard	EN1092-2
Nominal diameter Discharge nozzle	DN 80
Discharge flange bolt hole pattern as per standard	EN1092-2
Nominal pressure Suction nozzle	PN 16
Nominal pressure Discharge nozzle	PN 16

Installation plan

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Net weight

Total weight Pump	71.81 kg
Total weight Drive	74 kg
Total weight Pump set	145.8 kg
Total weight Assembly/transport aids	6.12 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