

Etabloc 080-065-125 GG

ETB 080-065-125-GGSBV11 WSECD4HHB

Operating point 2

Dimensioning operating point

Operating conditions (purchaser requirements)

Target flow rate	
Target head	
Fluid	Water, heating water
Fluid variant	Heating water up to 100°C (max.), acc. to VDI 2035
Specified fluid temperature	20 °C
Density Fluid handled	998 kg/m³
Kinematic viscosity Fluid handled	1 mm²/s

Vapour pressure determined	0.02337 bar.a
Minimum inlet pressure required	-0.3 bar.r
Specified ambient temperature	20 °C
Installation altitude above sea level	1,000 m

Operating conditions (performance)

Flow rate	74.16 m³/h
Minimum permissible flow rate	12.09 m³/h
Head	10.82 m
Shut-off head	12.25 m
Efficiency Pump	81.46 %
NPSH required	1.96 m

Maximum power input at duty point	2.677 kW
Maximum power input / curve	3.035 kW
Pump speed	2,033 1/min
Discharge pressure-max.	1.199 bar.r

Operating point 1

Operating conditions (purchaser requirements)

Target flow rate	74.16 m³/h
Target mass flow rate	20.56 kg/s
Target head	9.41 m
Fluid	Water, heating water
Fluid variant	Heating water up to 100°C (max.), acc. to VDI 2035
Specified fluid temperature	20 °C
Density Fluid handled	998 kg/m³
Kinematic viscosity Fluid handled	1 mm²/s

Vapour pressure determined	0.02337 bar.a
Minimum inlet pressure required	-0.3 bar.r
Specified ambient temperature	20 °C
Installation altitude above sea level	1,000 m

Operating conditions (performance)

Flow rate	74.16 m³/h
Minimum permissible flow rate	11.43 m³/h
Head	9.41 m
Shut-off head	10.94 m
Efficiency Pump	81.78 %
NPSH required	1.83 m

Maximum power input at duty point	2.319 kW
Maximum power input / curve	2.561 kW
Pump speed	1,921 1/min
Discharge pressure-max.	1.071 bar.r

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Design data pump

Scope of supply Pump supplied by KSB	Pump + motor	Mains voltage	400 V
Pump standard	EN 733	Mains frequency	50 Hz
Shaft axis position	Horizontal	Minimum efficiency index MEI	0.7
Pump design	Close-coupled	Minimum permissible fluid temperature	0 °C
Pump system design	Single-pump system	Maximum permissible fluid temperature	110 °C
Pump direction of rotation, viewed from casing side	Counterclockwise	Quantity Stages, single-entry	1
Hydraulic impeller diameter	141 mm	Casing wear ring design suction-side	Flat
Impeller type	Radial, closed, multi-channel	Casing wear ring design discharge-side	Flat
Free passage	12.9 mm	Installation chamber Casing cover	Conical (A-type cover)
Support foot	Yes	Bearing bracket size / shaft unit	25
		Pump directive	CE

Nozzle connections pump

Nominal diameter Suction nozzle	DN 80	Nominal diameter Discharge nozzle	DN 65
Nominal pressure Suction nozzle	PN 16	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)		
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	Without Without
6D Fluid Filling and venting	G 3/8 Drilled and plugged	1M Pressure gauge Suction nozzle	Without Without
5B Venting and drain	G 1/4 Drilled and plugged		

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Shaft sealing

Shaft seal type	Single mechanical seal; seal chamber can be vented (A-type casing cover) - AV	Shaft seal code	Code 11
Operating mode of mechanical seal (function)	API plan 03	Shaft seal manufacturer inboard	KSB's choice
Determined pressure Seal chamber	-0.23 bar.r	Mechanical seal type inboard	KSB's choice
		Material Shaft seal inboard	BQEGG DW001

Materials

Material Volute casing (102)	EN-GJL-250/A48 CL 35B	Material Bolts/Screws Volute casing (902.01)	8.8
Material Casing cover (161)	EN-GJL-250/A48 CL 35B	Material Nut Impeller fastening (920.95)	(ST)
Material Shaft	C45+N		
Material Impeller (230)	EN-GJL-250/A48 CL 35B		
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		

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Power Drive System

Drive concept	Electric actuator	Rated speed Motor	1,500 1/min
Drive standard, mechanical	IEC	Number of motor poles	4
Drive standard electric	IEC	Rated power Motor	3 kW
Motor manufacturer	KSB	Motor power reserve determined	12.1 %
Motor construction type	IM V1 (IM3011) IEC 60034-7	Rated voltage Motor	400 V
Motor size	100L	Motor winding	- / 400 V
Efficiency class	IE5 (Ultra Premium)	Rated frequency Motor	50Hz
Material motor housing	AL	Motor switching type	Star
Enclosure Motor	IP55 (TEFC)	Maximum current Unit	0 A
Thermal class	155 (F) according to IEC 60085	Rated current Motor	7.8 A
Temperature sensor motor	3 PTC thermistors	Cos phi at 4/4 load	0.69
Terminal box position of motor (looking at the motor shaft)	360 °	Motor efficiency at 4/4 load	90.4 %
Operation on a frequency inverter permitted	Required by design	Marking according to directive Drive	CE
Sound pressure level Motor	60 dBa		
Type series Motor manufacturer	SuPremE C1		

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) (CO₂eq) 342 kg

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This PCF indication is based on the product mass assuming the typical share of materials in use. The conversion rate between product mass and CO₂ emissions is based on several life cycle assessments acc. to ISO14040 / 14044 of sample products of the same type series. Objective and scope of these LCAs was defined as being limited to the manufacturing phase (cradle-to-gate). With regard to inputs, all materials, energy and auxiliary materials were accounted for, and with regard to outputs, emissions, scrap and waste were accounted for. The impact of outbound logistics is not covered. The assessments' input variables cover at least 95 % of the total product mass. The analysis focuses exclusively on the Global Warming Potential (EF3.0 Climate Change – total).



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Packaging

Suitable for transport

Truck transport

Suitable for storage

Indoor storage

Packaging category

KSB's choice (A0)

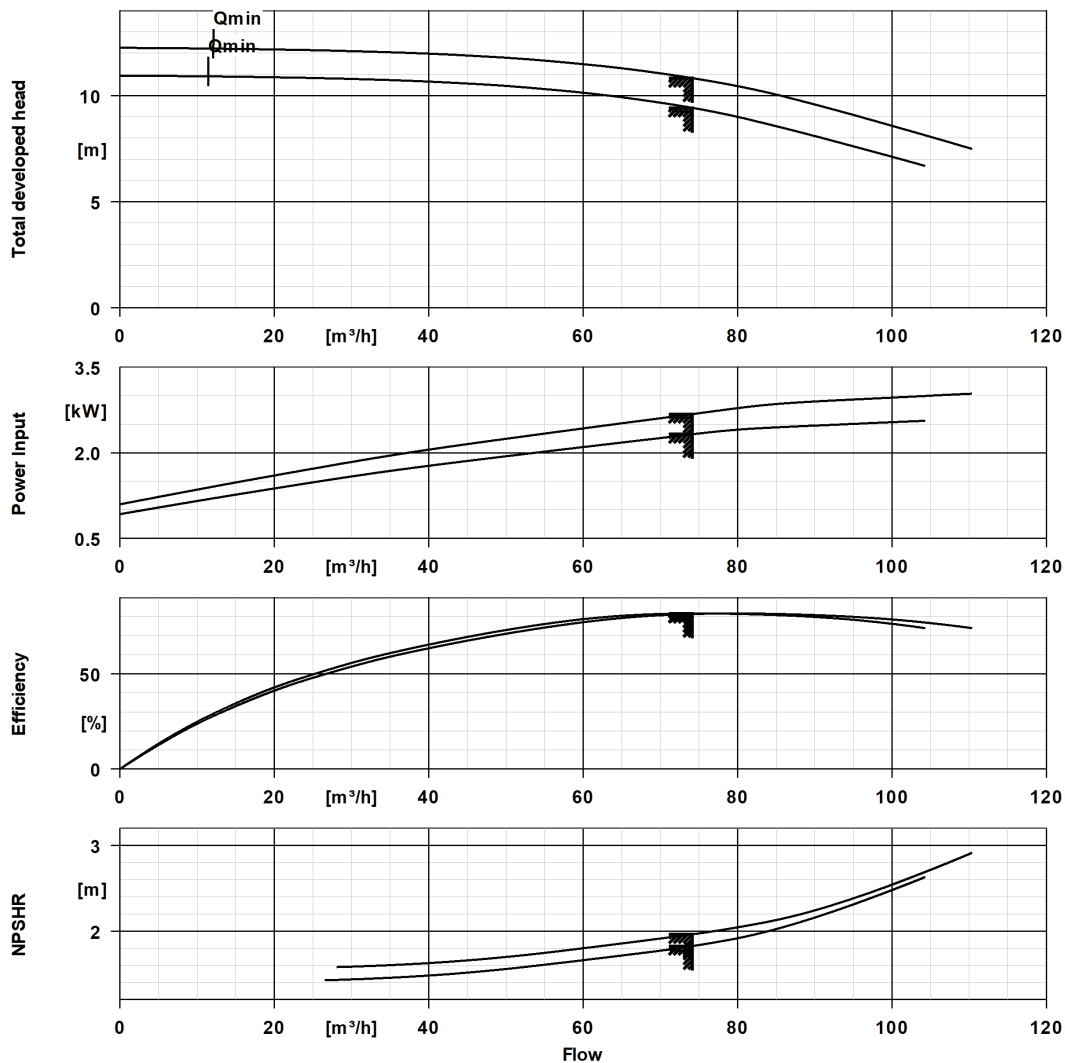
Performance Curve (Pump)



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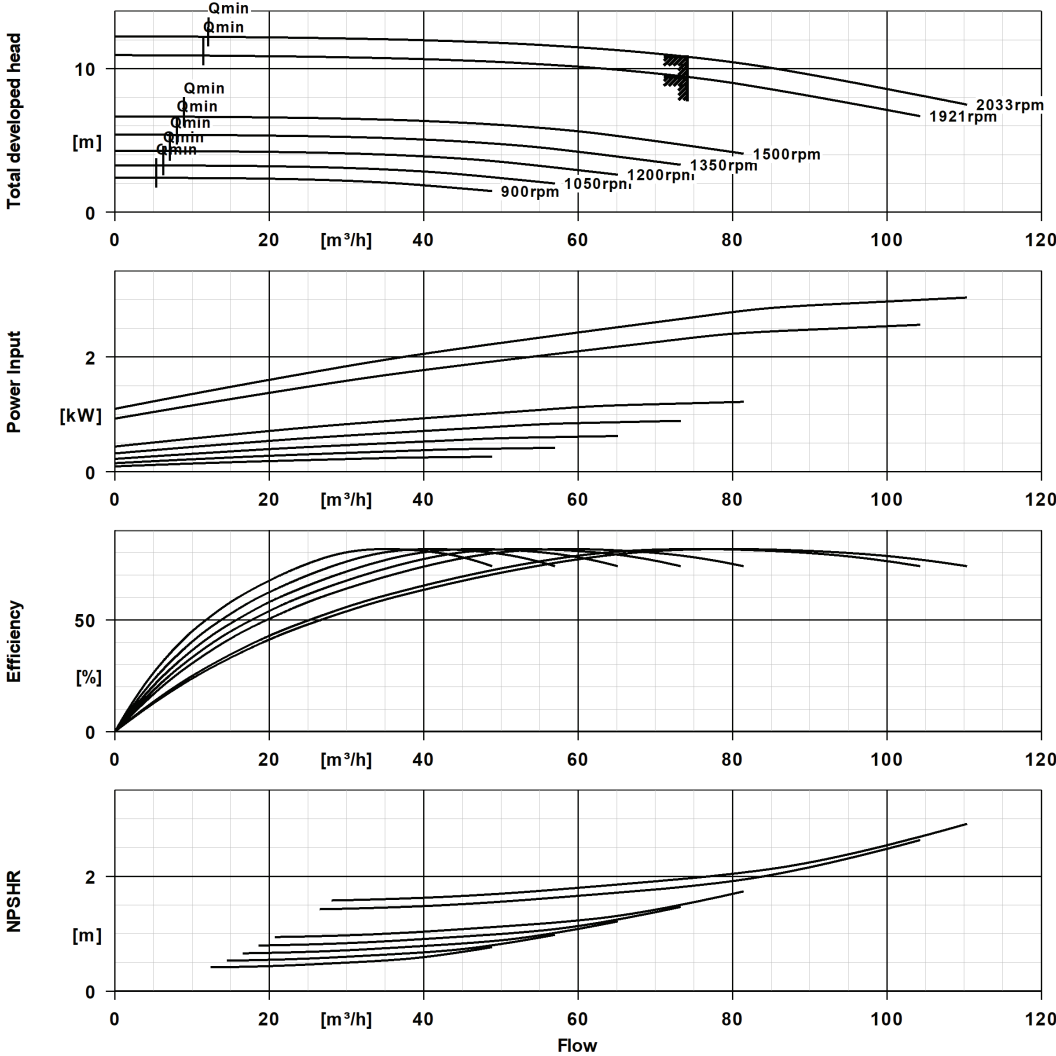
Curve Data

Pump speed	2,033 1/min	Efficiency Pump	81.5 %
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	2.68 kW
Flow rate	74.2 m^3/h	NPSH required	1.96 m
Head	10.8 m	Hydraulic impeller diameter	141 mm
		Hydraulic calculation according to standard/class	EN ISO 9906 Class 3B

Speed Curve



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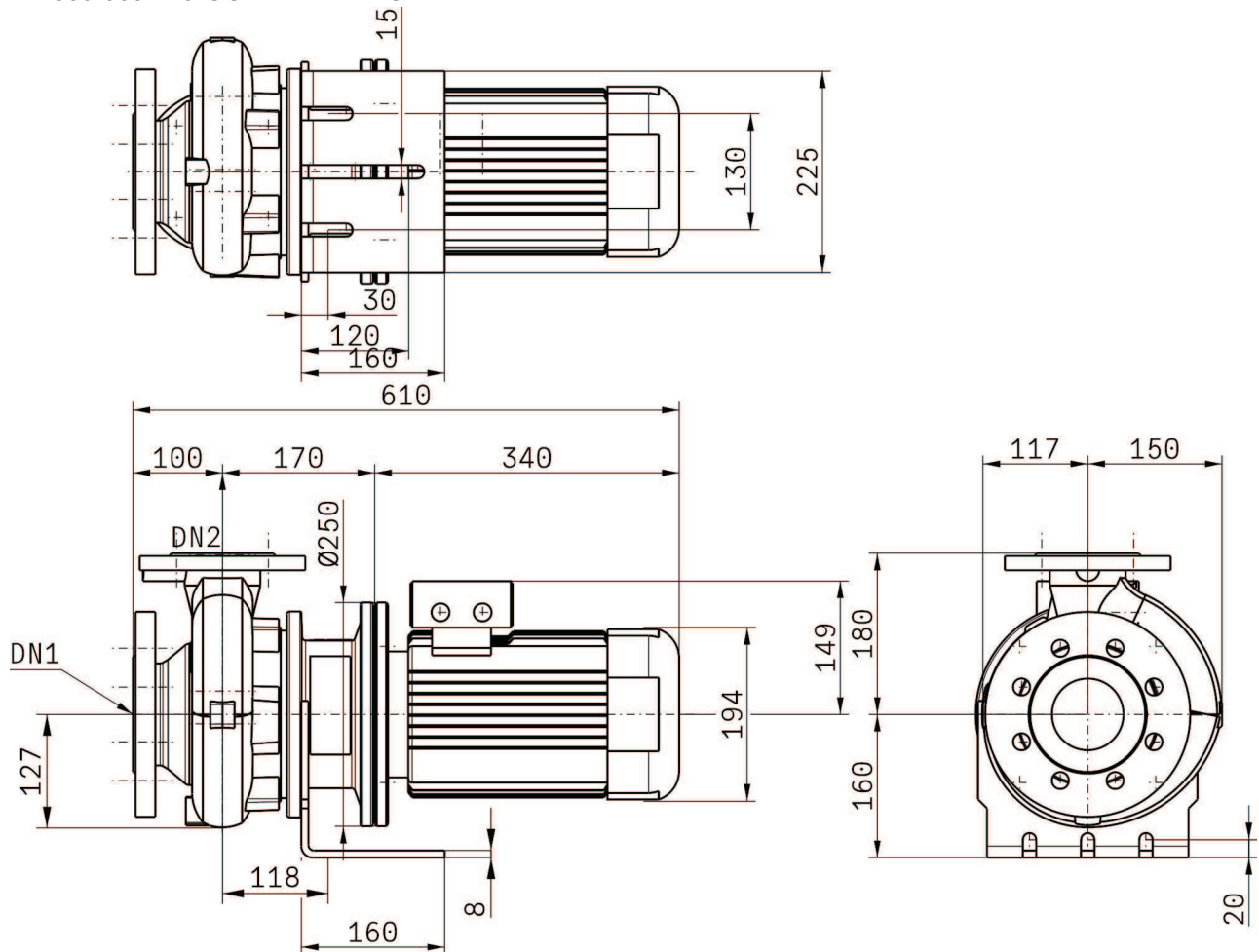


Curve Data

Density Fluid handled	998 kg/m³	Minimum efficiency index MEI	0.7
Kinematic viscosity Fluid handled	1 mm²/s	Hydraulic impeller diameter	141 mm
Flow rate	74.16 m³/h	Head	10.82 m

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Drawing is not to scale.

Dimensions are given in mm

Motor

Electric motor	No
Rated power Motor	3 kW
Rated speed Motor	1,500 1/min

Connections

Nominal diameter Suction nozzle	DN 80
Suction flange bolt hole pattern as per standard	EN1092-2
Nominal diameter Discharge nozzle	DN 65
Discharge flange bolt hole pattern as per standard	EN1092-2
Nominal pressure Suction nozzle	PN 16
Nominal pressure Discharge nozzle	PN 16



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Net weight

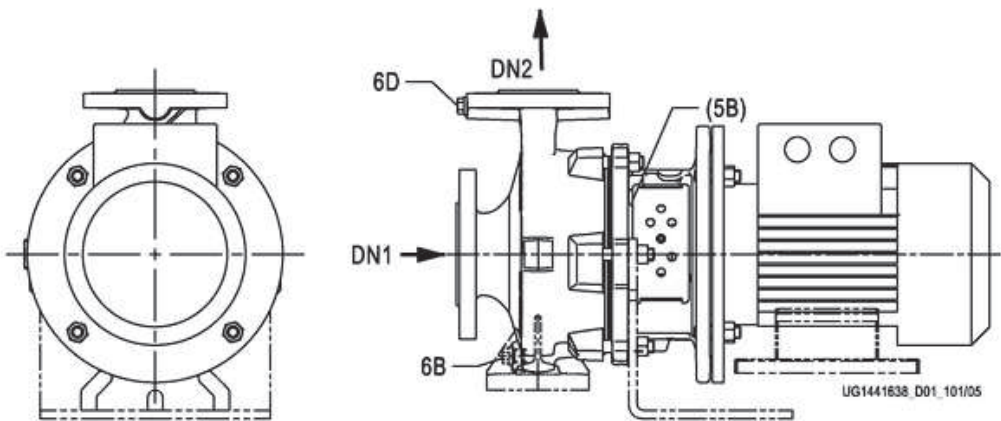
Total weight Pump	39.27 kg
Total weight Drive	30 kg
Total weight Pump set	69.27 kg

Connect pipelines stress-free

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

Plan for additional connections see extra drawing

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Connections

6B Fluid Drain
6D Fluid Filling and venting

G 3/8	Drilled and plugged
G 3/8	Drilled and plugged

5B Venting and drain

G 1/4	Drilled and plugged
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