

Etabloc 050-032-125 GG

ETB 050-032-125-GGSBV66 WSECD2HHB

Operating point 1

Dimensioning operating point

Operating conditions (purchaser requirements)

Target flow rate		Vapour pressure determined	0.03484 bar.a
Target head		Minimum inlet pressure	-0.3 bar.r
Fluid	Antifreeze on ethylene glycol base, inhibited, closed system, e.g. Antifrogen N or similar products	required	
		Specified ambient temperature	20 °C
		Installation altitude above sea level	1,000 m
Fluid variant	Concentration 30% 50295		
Specified fluid temperature	26 °C		
Density Fluid handled	1,037 kg/m³		
Kinematic viscosity Fluid handled	1.912 mm²/s		

Operating conditions (performance)

Flow rate	15.4 m³/h	Maximum power input at duty point	2.249 kW
Minimum permissible flow rate	4.384 m³/h	Maximum power input / curve	3.374 kW
Maximum permissible flow rate	0 m³/h	Pump speed	3,105 1/min
Pump unit		Discharge pressure-max.	3.159 bar.r
Head	30.8 m		
Shut-off head	31.05 m		
Efficiency Pump	59.53 %		
NPSH required	1.22 m		

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	-30 °C
Pump system design	Single-pump system	Maximum permissible fluid temperature	110 °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	139 mm	Casing wear ring design discharge-side	Without
Impeller type	Radial, closed, multi-channel	Installation chamber Casing cover	Conical (A-type cover)
Free passage	5.7 mm	Bearing bracket size / shaft unit	25
Support foot	Yes	Pump directive	CE

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Nozzle connections pump

Nominal diameter Suction nozzle	DN 50	Nominal diameter Discharge nozzle	DN 32
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 1/4 Drilled and plugged	1M Pressure gauge Discharge nozzle	Without Without
6D Fluid Filling and venting	G 1/4 Drilled and plugged	1M Pressure gauge Suction nozzle	Without Without
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 66
		Shaft seal manufacturer inboard	BURGMANN
Operating mode of mechanical seal (function)	API plan 03	Mechanical seal type inboard	EMG13G6
Determined pressure Seal chamber	2.07 bar.r	Material Shaft seal inboard	Q7Q7EGG-Y10 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 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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Driver

Electric motor	Yes	Rated speed Motor	2,910 1/min
Drive concept	Electric actuator	Number of motor poles	2
Drive standard, mechanical	IEC	Rated power Motor	3 kW
Drive standard electric	IEC	Motor power reserve determined	30.1 %
Motor bearing, insulated	No	Rated voltage Motor	400 V
Motor manufacturer	KSB's choice	Motor winding	400 / 690 V
Customer supply Drive	No	Rated frequency Motor	50Hz
Motor construction type	IM V1 (IM3011) IEC 60034-7	Motor switching type	Delta
Motor size	100L	Rated current Motor	5.9 A
Efficiency class	IE3 (Premium)	Starting current ratio Ia/In	8.9
Material motor housing	AL	Cos phi at 4/4 load	0.84
Enclosure Motor	IP55 (TEFC)	Motor efficiency at 4/4 load	87.1 %
Enclosure Unit	Without	Limit value Maximum humidity Motor	30 g/m³
Thermal class	155 (F) nach IEC 60085	Marking according to directive	CE
Temperature sensor motor	3 PTC thermistors	Drive	
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	70 dBa		
Type series Motor manufacturer	Acc. to motor manufacturer		

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



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Energy cost and Environmental Impact

Result

Product Carbon Footprint indication (cradle-to-gate) (CO₂eq) 290 kg

* This PCF indication is based on the product mass assuming the typical shares of materials in use. The conversion rate between product mass and CO₂ emissions is based on several life cycle assessments acc. ISO 14040/ 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).

Packaging

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

Nameplates

Duplicate name plate	No
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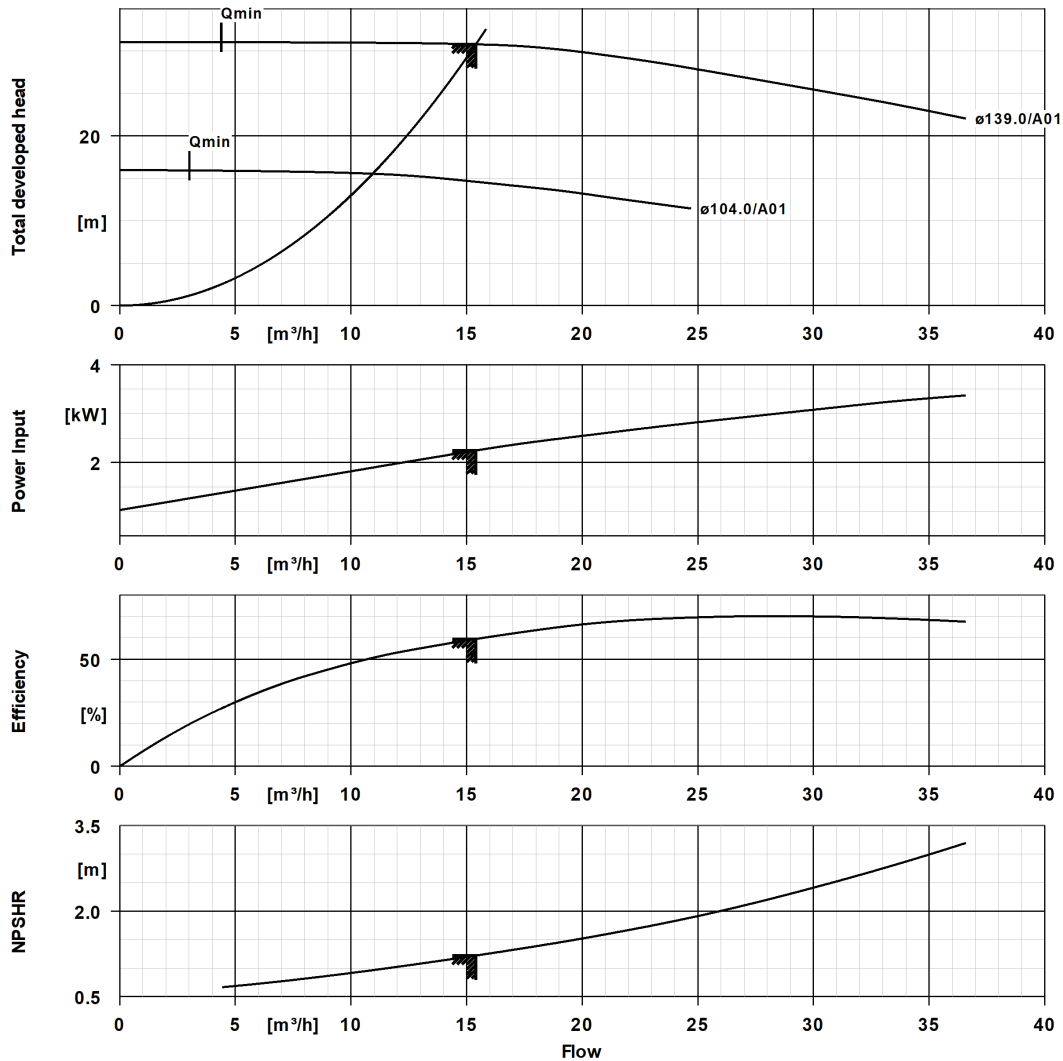
Performance Curve (Pump)



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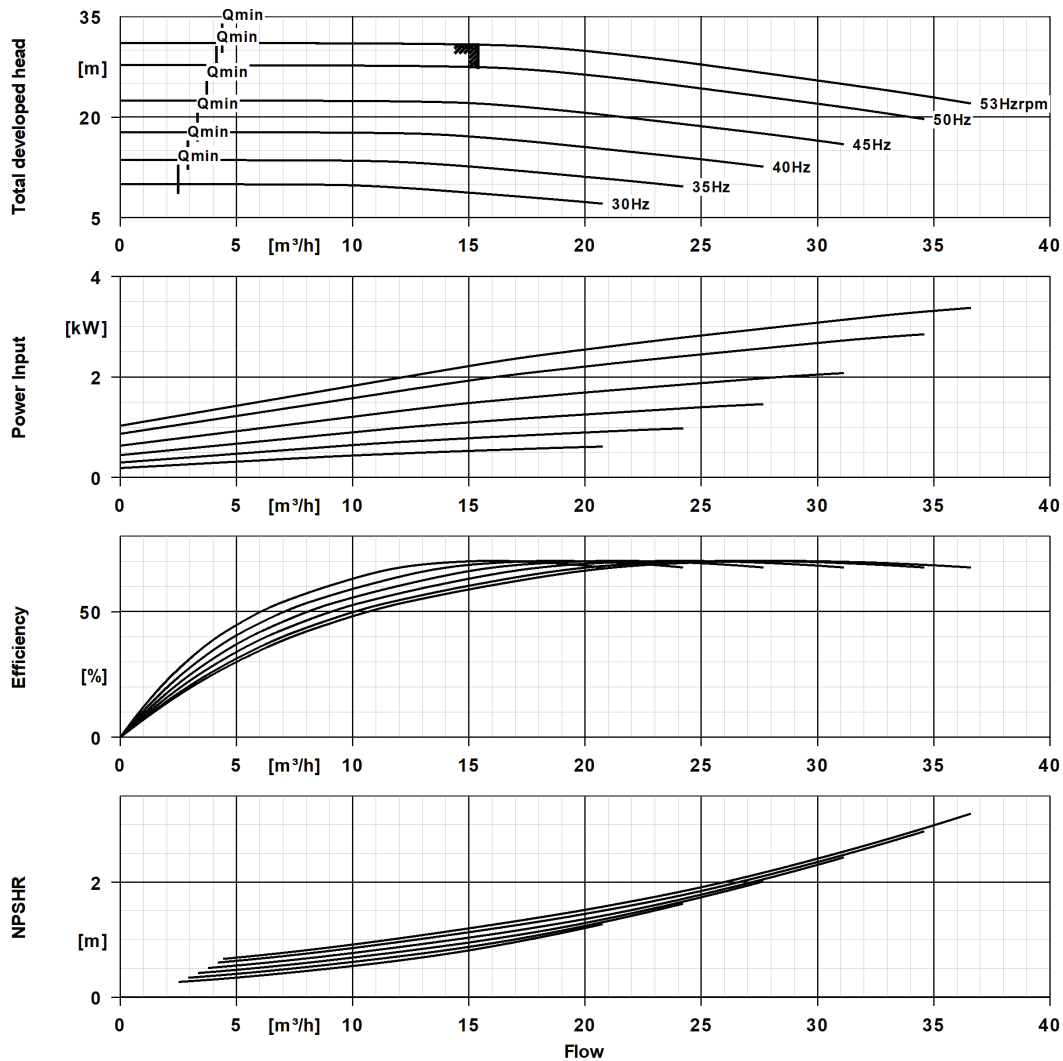


Curve Data

Pump speed	3,105 1/min	Efficiency Pump	59.5 %
Density Fluid handled	1,037 kg/m³	Minimum efficiency index MEI	0.7
Kinematic viscosity Fluid handled	1.91 mm²/s	Maximum power input at duty point	2.25 kW
Flow rate	15.4 m³/h	NPSH required	1.22 m
Head	30.8 m	Hydraulic impeller diameter	139 mm
		Hydraulic calculation according to standard/class	EN ISO 9906 Class 3B

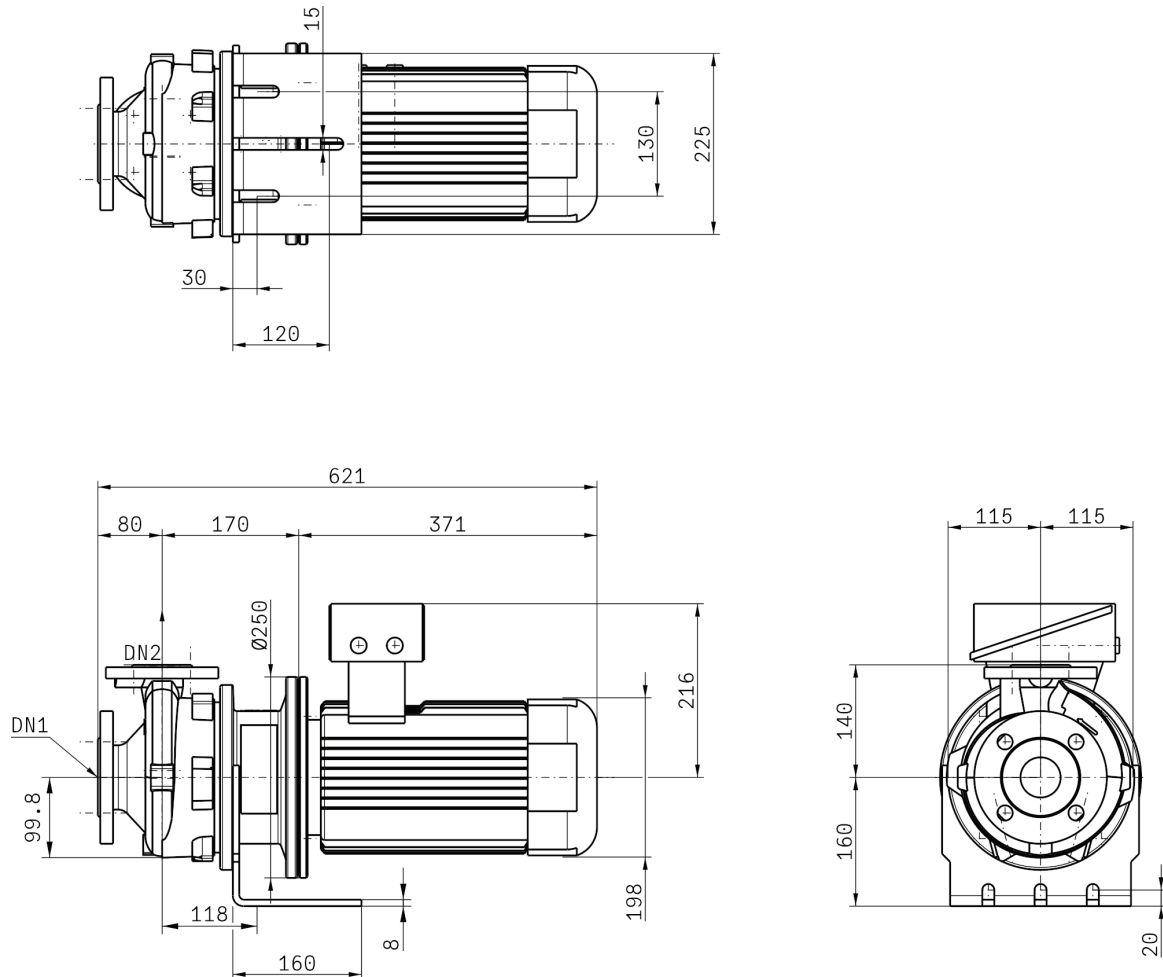
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**Curve Data**

Density Fluid handled	1,037 kg/m^3	Minimum efficiency index MEI	0.7
Kinematic viscosity Fluid handled	1.91 mm^2/s	Hydraulic impeller diameter	139 mm
Flow rate	15.4 m^3/h	Head	30.8 m

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Drawing is not to scale.

Dimensions are given in mm

Motor

Electric motor	Yes
Motor manufacturer	KSB's choice
Motor size	100L
Rated power Motor	3 kW
Number of motor poles	2
Rated speed Motor	2,910 1/min
Terminal box position of motor (looking at the motor shaft)	360 °
Material Installation part Pump	WITHOUT

Connections

Nominal diameter Suction nozzle	DN 50
Suction flange bolt hole pattern as per standard	EN1092-2
Nominal diameter Discharge nozzle	DN 32
Discharge flange bolt hole pattern as per standard	EN1092-2
Nominal pressure Suction nozzle	PN 16
Nominal pressure Discharge nozzle	PN 16

Net weight

Total weight Pump	27.21 kg
Total weight Drive	29 kg
Total weight Pump set	56.21 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