

Etabloc 050-032-160 GG

ETB 050-032-160-GGSBV11 WS2CD2HHB

Operating point 1 Dimensioning operating point

Operating conditions (purchaser requirements)

Fluid	Water	Vapour pressure determined	0.02337 bar.a
Fluid variant	Clean water		
Specified fluid temperature	20 °C	Specified ambient temperature	20 °C
Density Fluid handled	998 kg/m ³	Installation altitude above sea level	1,000 m
Kinematic viscosity Fluid handled	1 mm ² /s		

Operating conditions (performance)

Flow rate	25.55 m ³ /h	Maximum power input at duty point	2.757 kW
Minimum permissible flow rate	3.934 m ³ /h	Maximum power input / curve	3.083 kW
Head	24.52 m	Pump speed	2,918 1/min
Shut-off head	29.72 m	Discharge pressure-max.	2.909 bar
Efficiency Pump	61.81 %		
NPSH required	4.12 m		

Design data pump

Scope of supply Pump supplied by KSB	Pump	Mains voltage	400 V
Pump standard	EN 733	Mains frequency	50 Hz
Shaft axis position	Horizontal	Minimum efficiency index MEI	0.5
Pump design	Close-coupled	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
Hydraulic impeller diameter	149 mm	Casing wear ring design discharge-side	Flat
Impeller type	Radial, closed, multi-channel	Installation chamber Casing cover	Conical (A-type cover)
Free passage	5.8 mm	Bearing bracket size / shaft unit	25
Nut lock for Impeller	No	Pump bearing type, non-drive end	Anti-friction bearing
Swirl break	No	Pump bearing type, drive end	Anti-friction bearing
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,C)		
Flange facing type Outlet	Raised face (B,RF,C)		

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
Connection type 24E Quench liquid inlet	Without Without		
Connection type 5B Venting and drain	G 1/4 Drilled and plugged		

Shaft sealing

Shaft seal type	SMS A-type cover, vented	Shaft seal code	Code 11
Piping plan	API plan 03	Shaft seal manufacturer inboard	KSB's choice
Determined pressure Seal chamber	1.88 bar	Mechanical seal type inboard	1
		Material Shaft seal inboard	BQ1EGG-WA

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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	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	WITHOUT		
Material Static seal Discharge cover	DPAF DW001		
Material Drive lantern	EN-GJL-250/A48 CL 35B		
Material Support foot	(ST)		

Driver

Electric motor	Yes	Rated speed Motor	2,910 1/min
Drive concept	With electric actuator	Number of motor poles	2
Drive standard, mechanical	IEC	Rated power Motor	3 kW
Drive standard electric	IEC	Motor power reserve determined	8.83 %
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	Motor cos phi at nominal speed	0.84
Enclosure Motor	IP55 (TEFC)	Rated efficiency Motor	87.1 %
Thermal class	155 (F) nach IEC 60085	Directive Drive	CE
Temperature sensor motor	3 PTC thermistors		
Terminal box position of motor (looking at the motor shaft)	360 Grad		
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		

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Installation parts / Accessories

Coating

Aggregate

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

Packaging

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

Baseplate

Material Installation part Pump (S185)

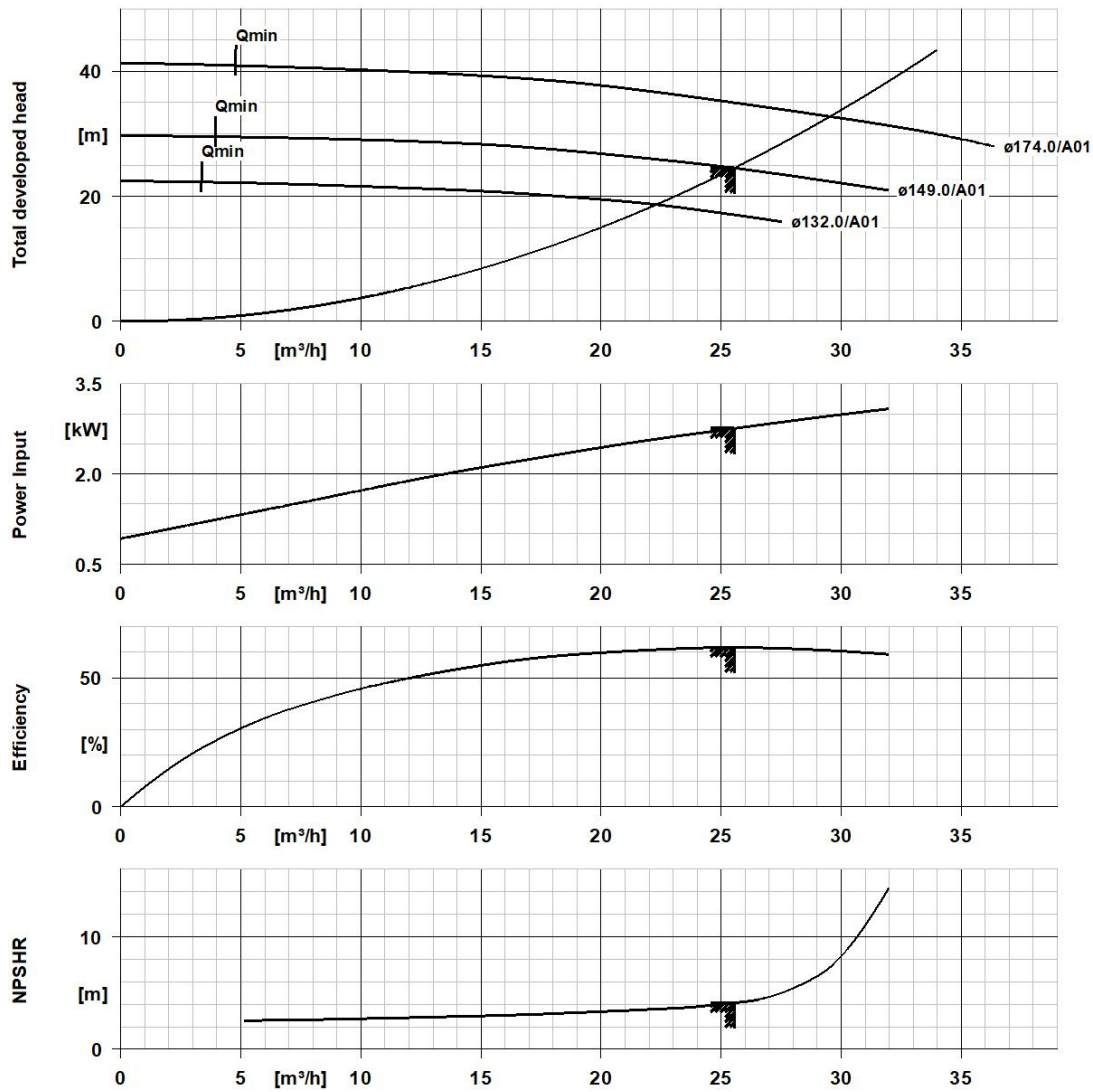
Free from dirt, grease, rust
Hydro dip primer, water-dilutable
60 µm
Acrylate dispersion water-thin
40 µm
RAL5002 Ultramarine Blue

Nameplates

Duplicate name plate	No
Material Installation part Pump (S185)	

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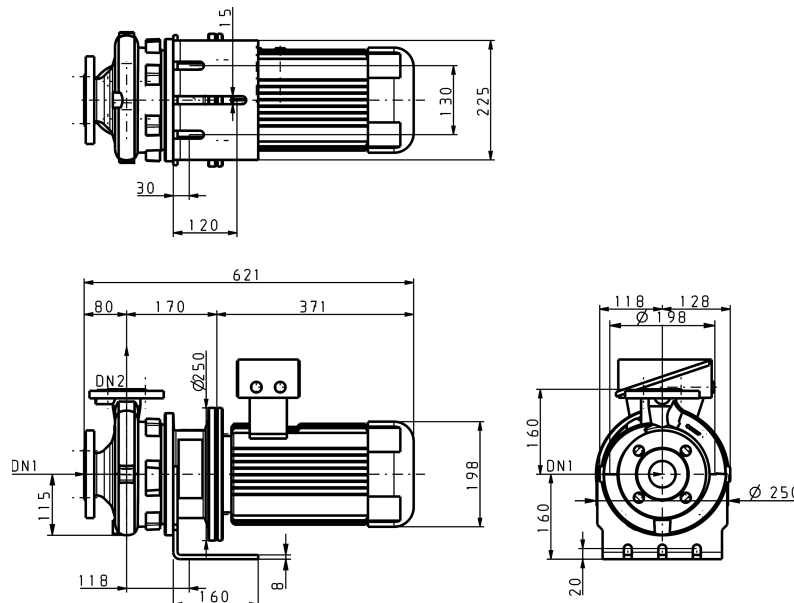


Curve Data

Pump speed	2,918 1/min	Efficiency Pump	61.81 %
Density Fluid handled	998 kg/m^3	Minimum efficiency index MEI	0.5
Kinematic viscosity Fluid handled	1 mm^2/s	Maximum power input at duty point	2.76 kW
Flow rate	25.55 m^3/h	NPSH required	4.12 m
Head	24.52 m	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

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 Grad

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	31.5 kg
Total weight Drive	29 kg
Total weight Pump set	60.5 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