

Etabloc 065-040-250 GG
ETB 065-040-250-GGSBV11 WSEEO2HHB

Version No.: 4

Operating point 1 Dimensioning operating point

Operating conditions (purchaser requirements)

Target flow rate	40 m³/h	Vapour pressure determined	-0,9766 bar.r
Target head	84,7 m	Minimum inlet pressure	-0,3 bar.r
Fluid	Water	required	
Fluid variant	Clean water	Specified ambient temperature	20 °C
Specified fluid temperature	20 °C	Installation altitude above sea level	1.000 m
Density Fluid handled	998 kg/m³		
Kinematic viscosity Fluid handled	1 mm²/s		

Operating conditions (performance)

Flow rate	40 m³/h	Maximum power input at duty point	15,76 kW
Minimum permissible flow rate	7,615 m³/h	Maximum power input / curve	20,09 kW
Head	84,7 m	Pump speed	2.954 1/min
Shut-off head	92,78 m	Discharge pressure-max.	9,08 bar.r
Efficiency Pump	58,39 %		
NPSH required	2,11 m		

Design data pump

Scope of supply Pump supplied by KSB	Pump + motor	Input voltage and frequency	Without
Pump standard	EN 733	Mains voltage	400 V
Shaft axis position	Horizontal	Mains frequency	50 Hz
Pump design	Close-coupled	Minimum efficiency index MEI	0,6
Pump system design	Single-pump system	Minimum permissible fluid temperature	0 °C
Specification of wetted parts	Manufactured without paint wetting impairment substances	Maximum permissible fluid temperature	60 °C
Pump direction of rotation, viewed from casing side	Counterclockwise	Quantity Stages, single-entry	1
Impeller diameter D2	251 mm	Casing wear ring design suction-side	Flat
Impeller type	Radial, closed, multi-channel	Casing wear ring design discharge-side	Flat
Free passage	8 mm	Installation chamber Casing cover	Conical (A-type cover)
Support foot	No	Bearing bracket size / shaft unit	25
		Pump bearing type, non-drive end	Anti-friction bearing
		Pump bearing type, drive end	Anti-friction bearing
		Pump directive	CE
		Explosion protection directive	Not relevant
		Pump/Valve for destination country	

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Nozzle connections pump

Nominal diameter Suction nozzle	DN 65	Nominal diameter Discharge nozzle	DN 40
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	SMS A-type cover, vented	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

Special design

Variant shaft seal

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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		

Driver

Electric motor	Yes	Rated speed Motor	2.945 1/min
Drive concept	Electric actuator	Number of motor poles	2
Drive standard, mechanical	IEC	Rated power Motor	18,5 kW
Drive standard electric	IEC	Motor power reserve determined	17,4 %
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 V15 (IM2011) IEC 60034-7	Motor switching type	Delta
Motor size	160L	Rated current Motor	35,6 A
Efficiency class	IE3 (Premium)	Starting current ratio Ia/In	9,5
Material motor housing	AL	Cos phi at 4/4 load	0,77
Enclosure Motor	IP55	Motor efficiency at 4/4 load	92,4 %
Enclosure Unit	Without	Explosion protection directive	Not relevant
Thermal class	155 (F) nach IEC 60085	Drive for destination country	
Temperature sensor motor	3 PTC thermistors	Marking according to directive	CE
Terminal box position of motor (looking at the motor shaft)	360 °	Drive	
Operation on a frequency inverter permitted	Yes (acc to motor manufact)	Marking according to directive	Not relevant
Sound pressure level Motor	74 dBa	Drive for destination country	
Type series Motor manufacturer	Acc. to motor manufacturer		



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Coating

Aggregate

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

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

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)

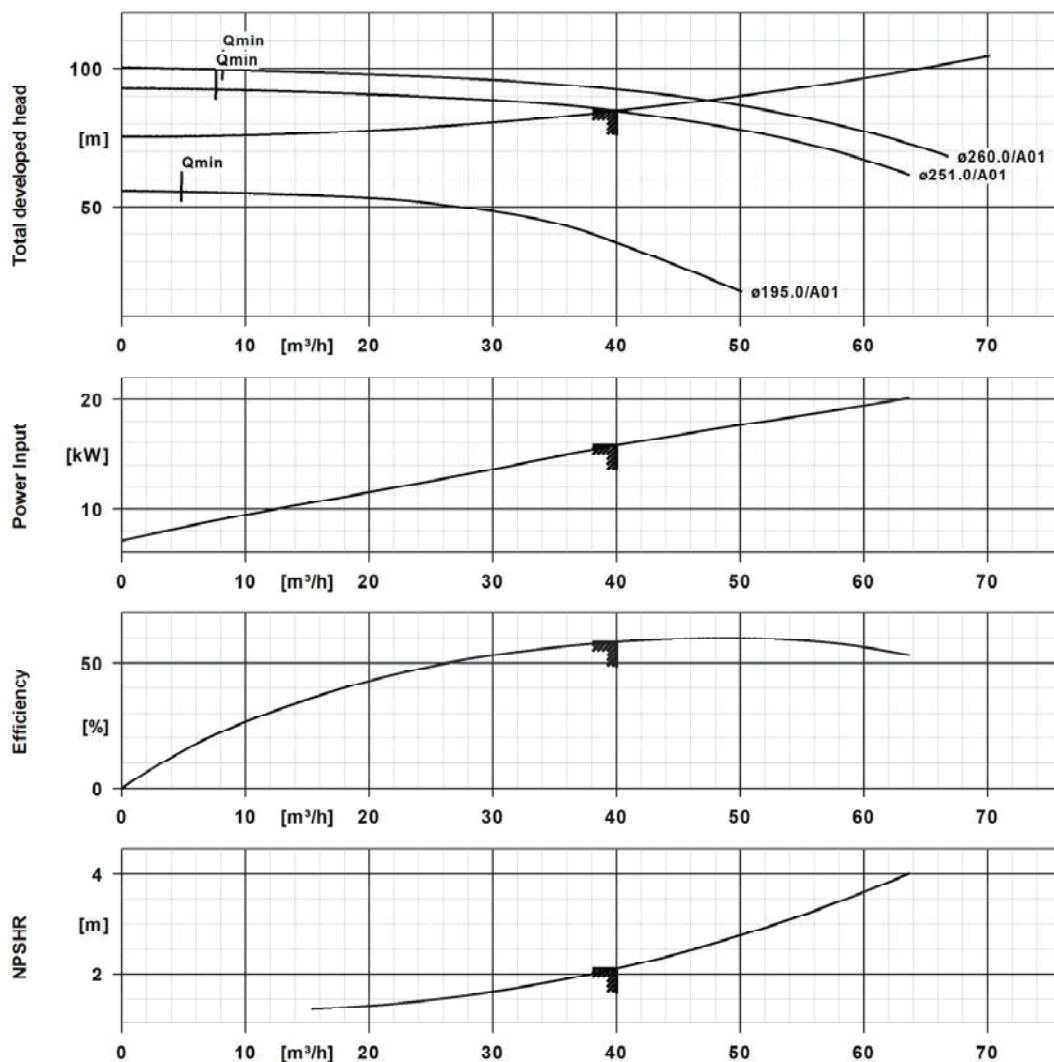


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Curve Data

Pump speed	2.954 1/min	Efficiency Pump	58,4 %
Density Fluid handled	998 kg/m ³	Minimum efficiency index MEI	0,6
Kinematic viscosity Fluid handled	1 mm ² /s	Maximum power input at duty point	15,8 kW
Flow rate	40 m ³ /h	NPSH required	2,11 m
Head	84,7 m	Hydraulic impeller diameter	250,1 mm
		Hydraulic calculation according to standard/ class	EN ISO 9906 Class 3B

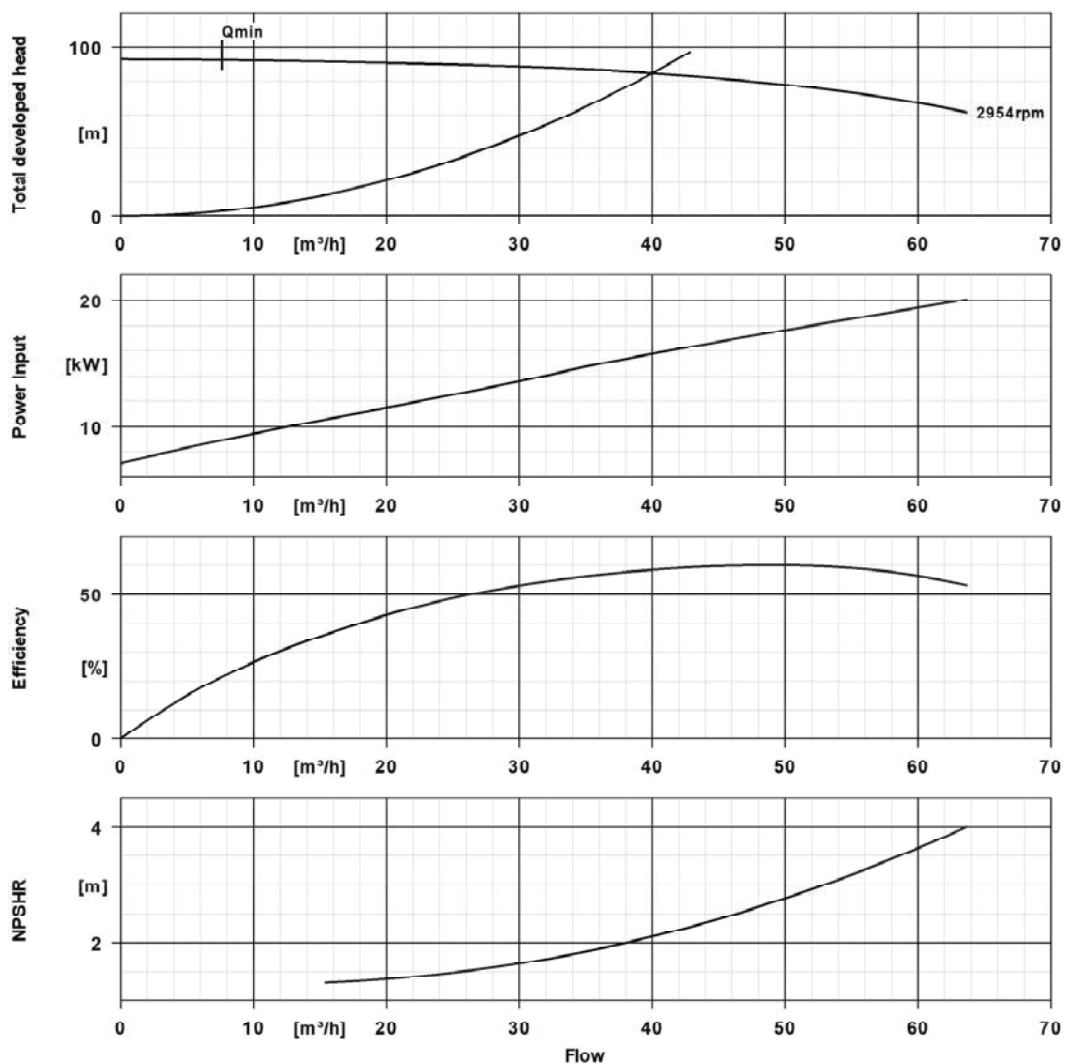
Speed Curve



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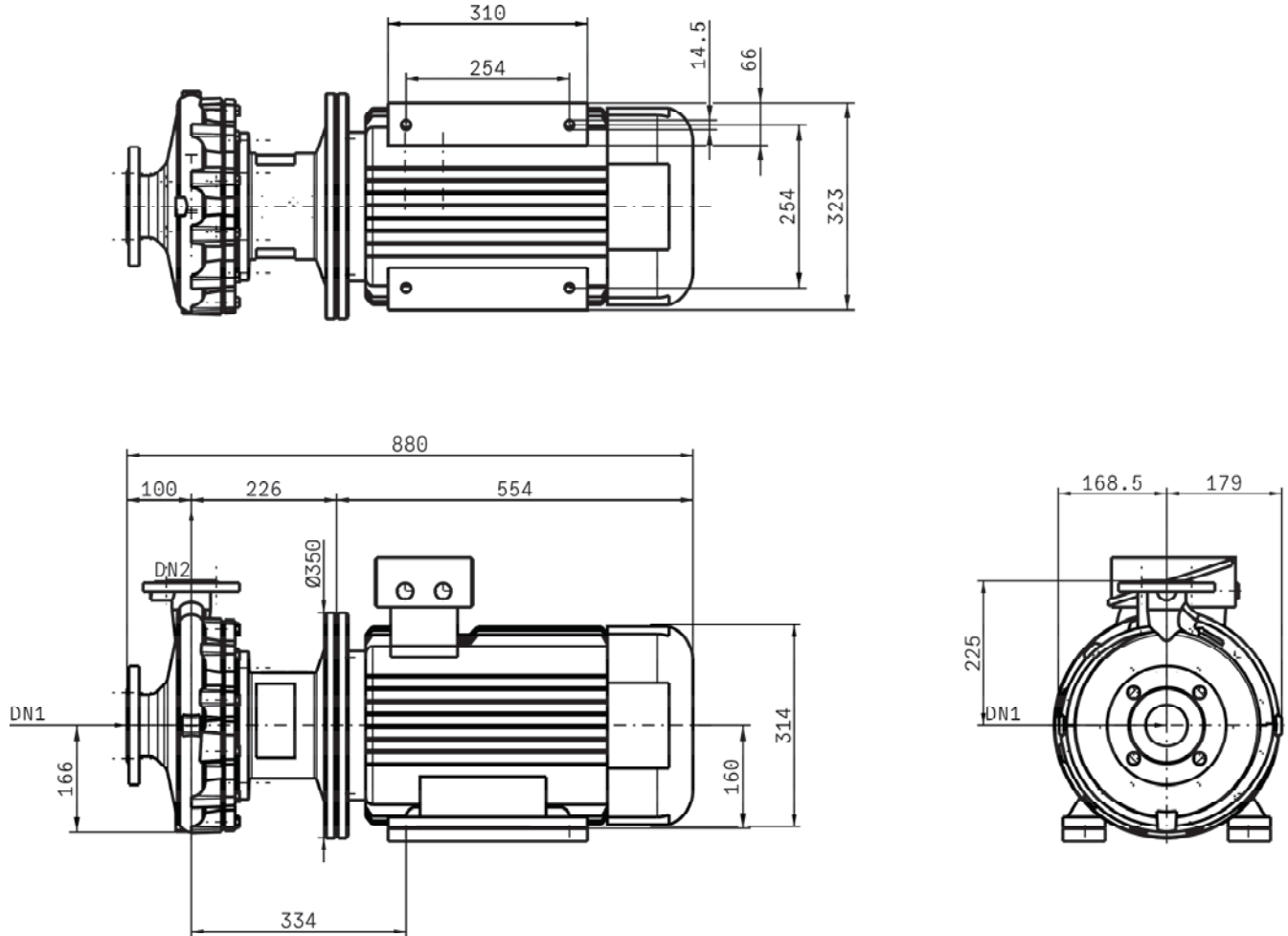


Curve Data

Density Fluid handled	998 kg/m^3	Minimum efficiency index MEI	0,6
Kinematic viscosity Fluid handled	1 mm^2/s	Hydraulic impeller diameter	250,1 mm
Flow rate	40 m^3/h	Head	84,7 m

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Drawing is not to scale.

Dimensions are given in mm

Motor

Motor manufacturer	KSB's choice
Motor size	160L
Rated power Motor	18,5 kW
Number of motor poles	2
Rated speed Motor	2.945 1/min
Terminal box position of motor (looking at the motor shaft)	360 °

Connections

Nominal diameter Suction nozzle	DN 65
Suction flange bolt hole pattern as per standard	EN1092-2
Nominal diameter Discharge nozzle	DN 40
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	51,47 kg
Total weight Drive	108 kg
Total weight Pump set	162,9 kg
Total weight of assembly/transport aids	3,4

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