

Etabloc 080-065-160 GG

ETB 080-065-160-GGSBV66 WSEEO2HHB

Operating point

1 Dimensioning operating point

Operating conditions (purchaser requirements)

Target flow rate	125 m³/h	Vapour pressure determined	0.00483 bar.a
Target head	35 m	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
Fluid variant	Concentration 30% 50295	Installation altitude above sea level	1,000 m
Specified fluid temperature	-8 °C		
Density Fluid handled	1,051 kg/m³		
Kinematic viscosity Fluid handled	6.62 mm²/s		

Operating conditions (performance)

Flow rate	125 m³/h	Maximum power input at duty point	15.02 kW
Minimum permissible flow rate	18.54 m³/h	Maximum power input / curve	16.26 kW
Head	35 m	Pump speed	2,988 1/min
Shut-off head	40.6 m	Discharge pressure-max.	4.19 bar.r
Efficiency Pump	83.3 %		
NPSH required	5.32 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	120 °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	174 mm	Casing wear ring design discharge-side	Flat
Impeller type	Radial, closed, multi-channel	Installation chamber Casing cover	Conical (A-type cover)
Free passage	12.2 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	No	Pump directive	CE

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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
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 66
Operating mode of mechanical seal (function)	API plan 03	Shaft seal manufacturer inboard	BURGMANN
Determined pressure Seal chamber	-0.06 bar.r	Mechanical seal type inboard	MG13G6
		Material Shaft seal inboard	Q7Q7EGG

Materials

Material Volute casing (102)	EN-GJL-250/A48 CL 35B	Material Bolts/Screws Hydraulic casing (902.01)	8.8
Material Casing cover (161)	EN-GJL-250/A48 CL 35B	Material Screw plug Hydraulic casing (903.01)	ST
Material Shaft	C45+N	Material Static seal Screw plug Volute casing	A4/AISI 316
Material Impeller (230)	EN-GJL-250/A48 CL 35B	Material Nut Impeller fastening (920.95)	(ST)
Material Casing wear ring suction-side (502.01)	JL/LAMELLAR GRAPHITE CAST IRON	Material Key	C45+C/A311 GR 1045 CLASS A
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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Driver

Electric motor	Yes	Rated speed Motor	2,945 1/min
Drive concept	With 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	20.7 %
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/I _n	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	Directive Drive	CE
Thermal class	155 (F) nach 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	74 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-thin
Thickness Top coat	40 µm
Colour Top coat	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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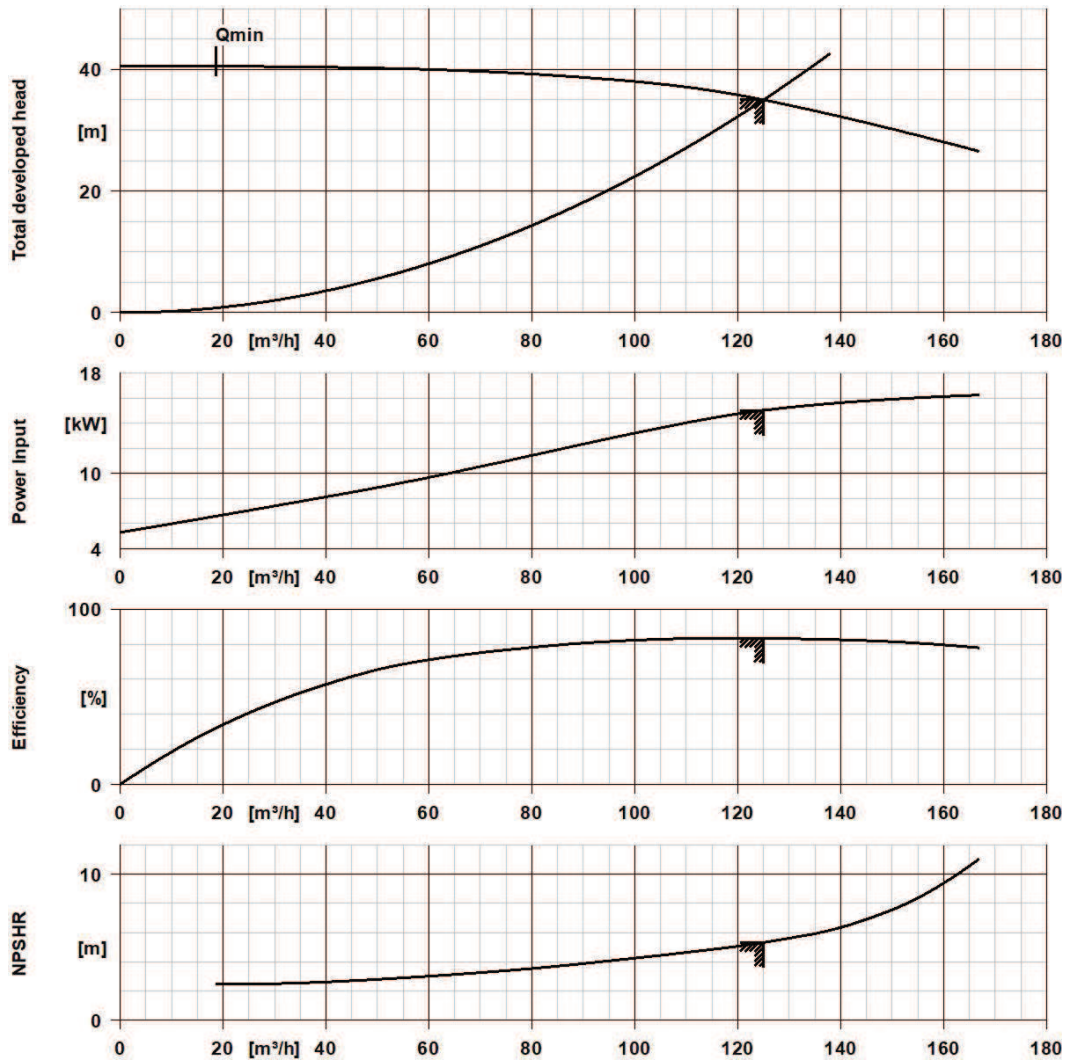
Performance Curve (Pump)



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Curve Data

Pump speed	2,988 1/min	Efficiency Pump	83.3 %
Density Fluid handled	1,051 kg/m^3	Minimum efficiency index MEI	0.7
Kinematic viscosity Fluid handled	6.62 mm^2/s	Maximum power input at duty point	15.02 kW
Flow rate	125 m^3/h	NPSH required	5.32 m
Head	35 m	Hydraulic impeller diameter	174 mm
		Hydraulic calculation according to standard/ class	EN ISO 9906 Class 3B

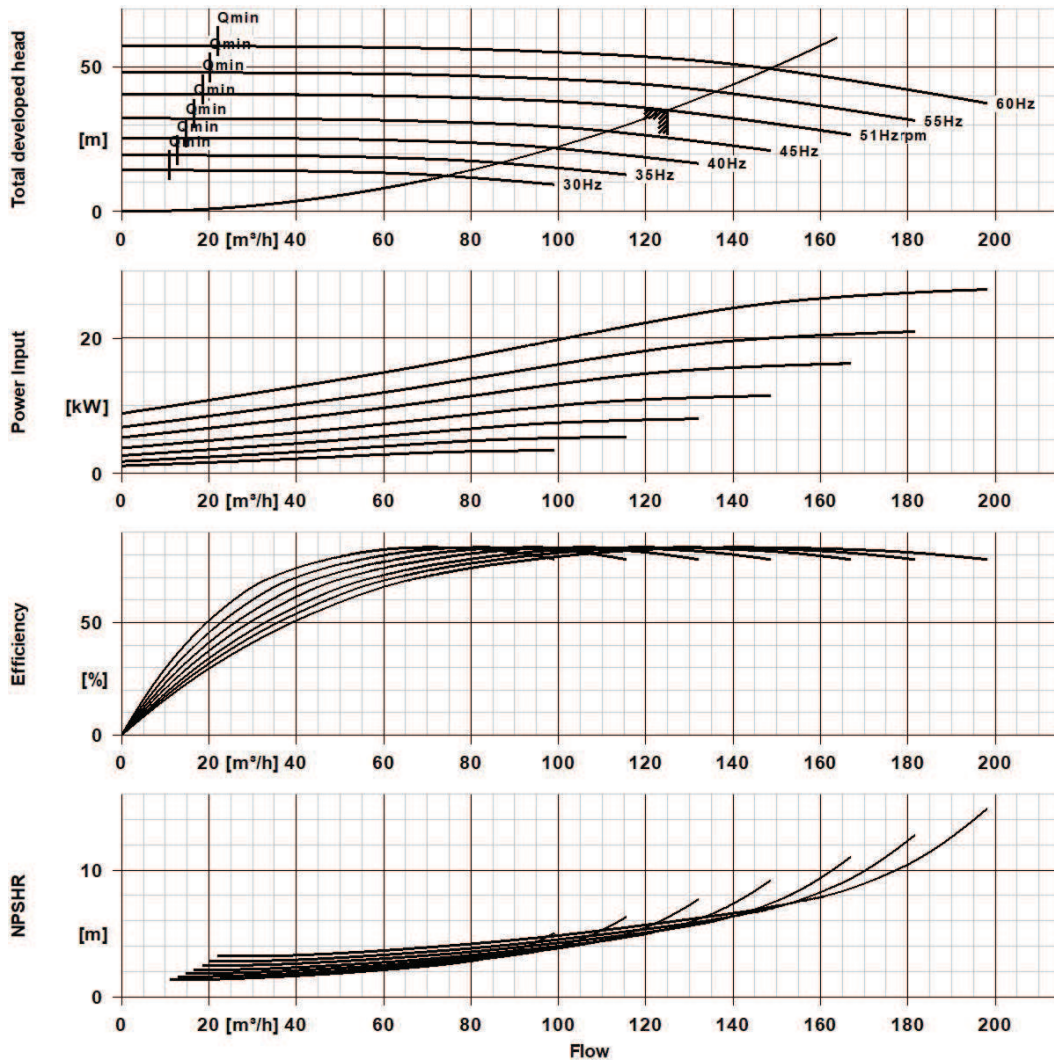
Speed Curve



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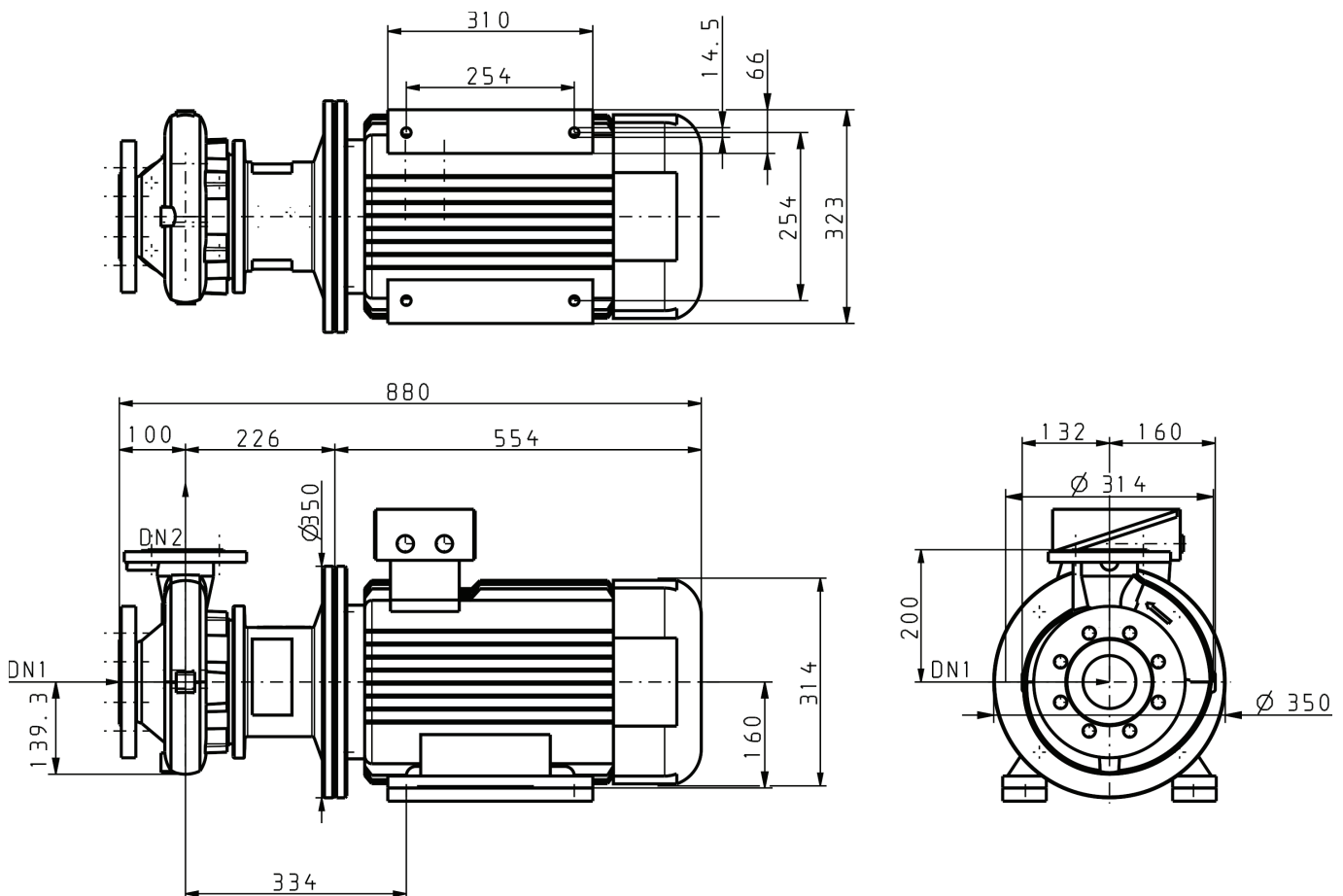
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Curve Data

Density Fluid handled	1,051 kg/m³	Minimum efficiency index MEI	0.7
Kinematic viscosity Fluid handled	6.62 mm²/s	Hydraulic impeller diameter	174 mm
Flow rate	125 m³/h	Head	35 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 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

Net weight

Total weight Pump	48.54 kg
Total weight Drive	108 kg
Total weight Pump set	156.5 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