

**Etabloc 100-080-200 GG**  
 ETB 100-080-200-GGSBV66 WSFCD4HHB

**Operating point 1**

**Dimensioning operating point**

**Operating conditions (purchaser requirements)**

Target flow rate	60.58 m <sup>3</sup> /h	Vapour pressure determined	0.00806 bar.a
Target head	10 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
		Installation altitude above sea level	1,000 m
Fluid variant	Antifrogen N, concentration 34%		
Specified fluid temperature	2 °C		
Density Fluid handled	1,052 kg/m <sup>3</sup>		
Kinematic viscosity Fluid handled	4.595 mm <sup>2</sup> /s		

**Operating conditions (performance)**

Flow rate	60.58 m <sup>3</sup> /h	Maximum power input at duty point	2.218 kW
Minimum permissible flow rate	12.58 m <sup>3</sup> /h	Maximum power input / curve	2.861 kW
Head	10 m	Pump speed	1,456 1/min
Shut-off head	11.05 m	Discharge pressure-max.	1.141 bar.r
Efficiency Pump	78.27 %		
NPSH required	0.85 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	0.7
Pump system design	Single-pump system	Minimum permissible fluid temperature	-30 °C
Specification of wetted parts	Manufactured without paint wetting impairment substances	Maximum permissible fluid temperature	110 °C
Pump direction of rotation, viewed from casing side	Counterclockwise	Quantity Stages, single-entry	1
Impeller diameter D2	177 mm	Casing wear ring design suction-side	Flat
Impeller type	Radial, closed, multi-channel	Casing wear ring design discharge-side	Flat
Free passage	15.2 mm	Installation chamber Casing cover	Conical (A-type cover)
Support foot	Yes	Bearing bracket size / shaft unit	35
		Pump directive	CE

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**Nozzle connections pump**

Nominal diameter Suction nozzle	DN 100	Nominal diameter Discharge nozzle	DN 80
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		

**Shaft sealing**

Shaft seal type	Single mechanical seal; seal chamber can be vented (A-type casing cover) - AV	Shaft seal code	Code 66
Operating mode of mechanical seal (function)	API plan 03	Shaft seal manufacturer inboard	BURGMANN
Determined pressure Seal chamber	-0.23 bar.r	Mechanical seal type inboard	EMG13G6
		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 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	1,440 1/min
Drive concept	Electric actuator	Number of motor poles	4
Drive standard, mechanical	IEC	Rated power Motor	3 kW
Drive standard electric	IEC	Motor power reserve determined	35.3 %
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	6.2 A
Efficiency class	IE3 (Premium)	Starting current ratio Ia/In	8.2
Material motor housing	AL	Cos phi at 4/4 load	0.82
Enclosure Motor	IP55 (TEFC)	Motor efficiency at 4/4 load	87.7 %
Enclosure Unit	Without	Limit value Maximum humidity Motor	30 g/m <sup>3</sup>
Thermal class	155 (F) nach IEC 60085	Marking according to directive CE Drive	
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	63 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

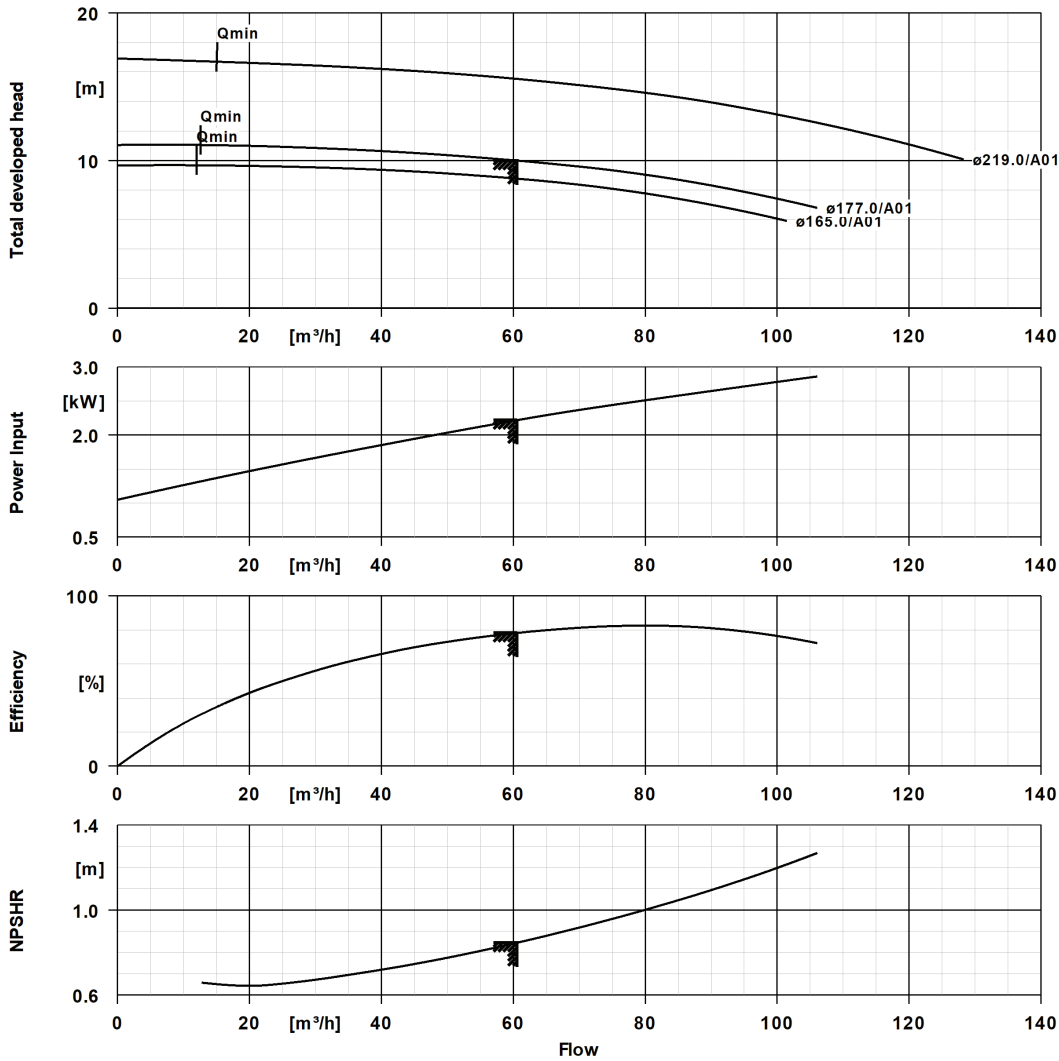
**Packaging**

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

**Nameplates**

Duplicate name plate	No
Name plate Line 1 Product 01	P 801
Additional text Name plate	Yes

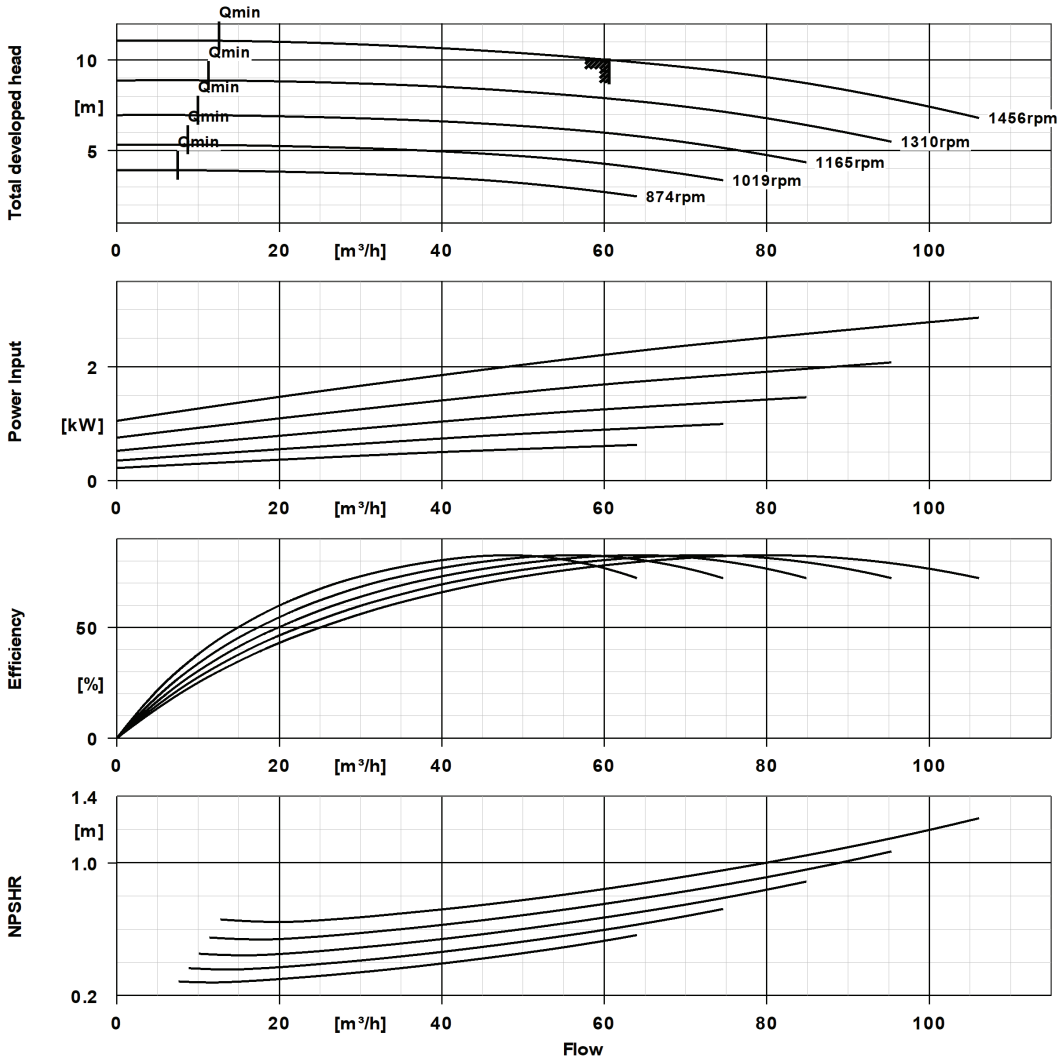
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**Curve Data**

Pump speed	1,456 1/min	Efficiency Pump	78.3 %
Density Fluid handled	1,052 $kg/m^3$	Minimum efficiency index MEI	0.7
Kinematic viscosity Fluid handled	4.6 $mm^2/s$	Maximum power input at duty point	2.22 kW
Flow rate	60.6 $m^3/h$	NPSH required	0.85 m
Head	10 m	Hydraulic impeller diameter	177 mm
		Hydraulic calculation according to standard/ class	EN ISO 9906 Class 3B

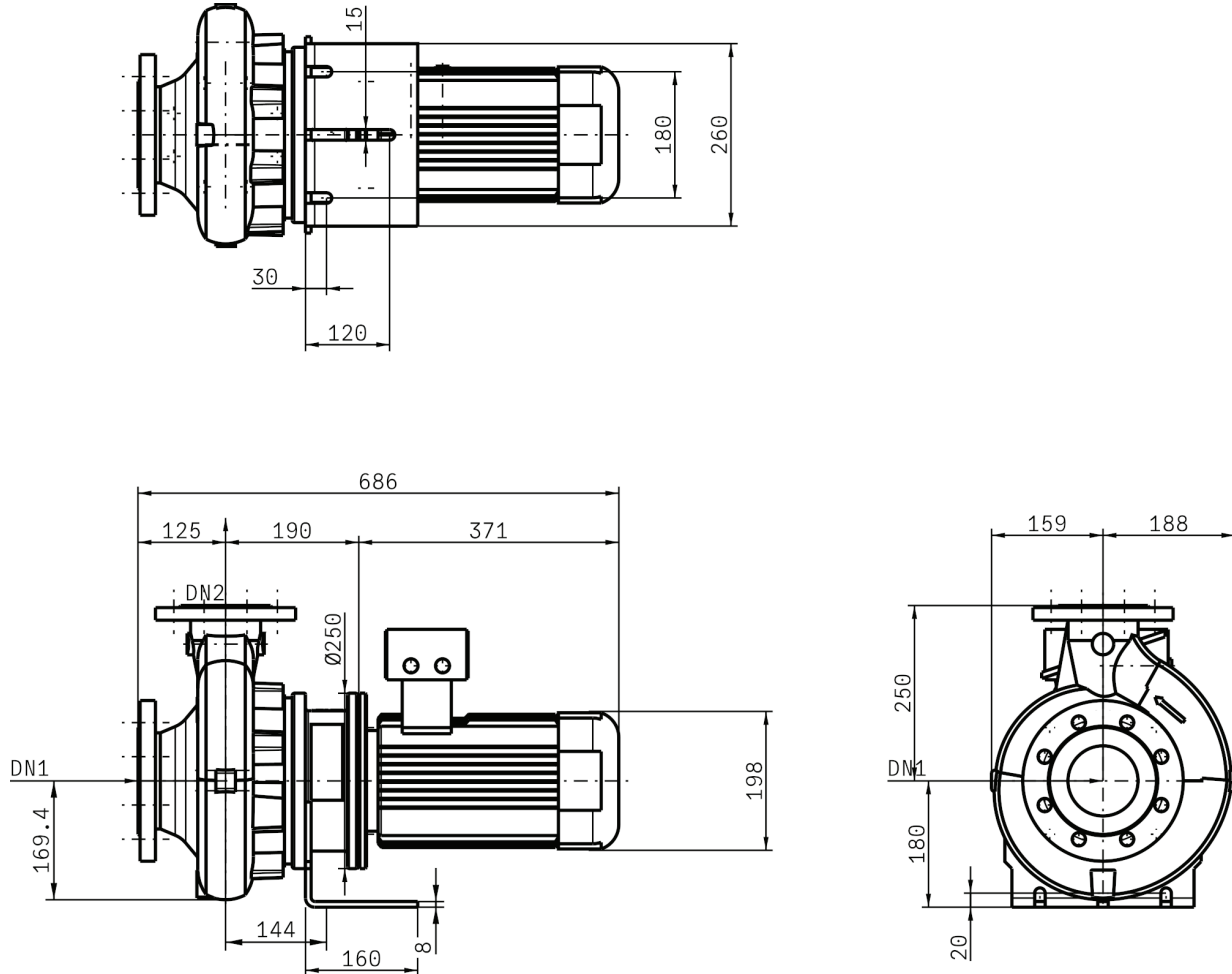
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**Curve Data**

Density Fluid handled	1,052 $kg/m^3$	Minimum efficiency index MEI	0.7
Kinematic viscosity Fluid handled	4.6 $mm^2/s$	Hydraulic impeller diameter	177 mm
Flow rate	60.58 $m^3/h$	Head	10 m

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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	4
Rated speed Motor	1,440 1/min
Terminal box position of motor (looking at the motor shaft)	360 °

**Connections**

Nominal diameter Suction nozzle	DN 100
Suction flange bolt hole pattern as per standard	EN1092-2
Nominal diameter Discharge nozzle	DN 80
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	58.75 kg
Total weight Drive	34 kg
Total weight Pump set	92.75 kg



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**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

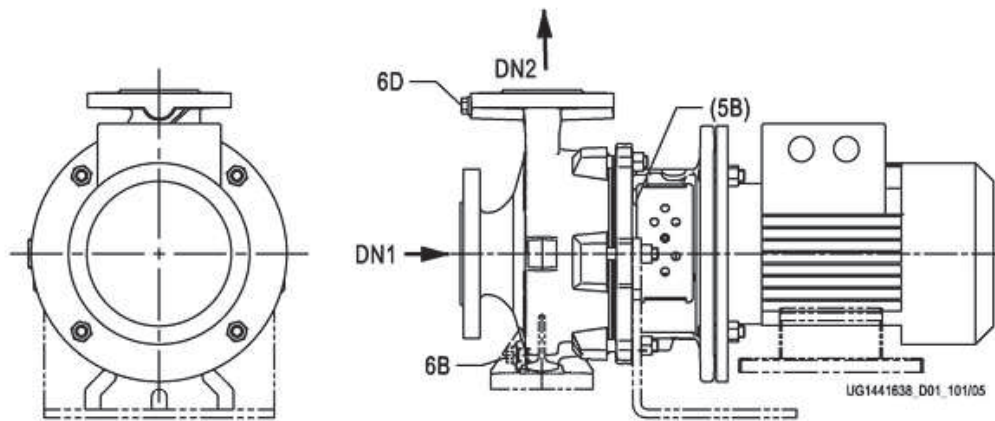
Dimensions without tolerances - gray cast iron parts: ISO 8062-CT9

**Plan for additional connections see extra drawing**

# Auxiliary Connection Plan



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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