

**ETLZ100-100-250 GGSAV11D300754 BKS BIE3M**

Inline pump

**Operating data**

Requested flow rate		Actual flow rate	86.01 m <sup>3</sup> /h
Requested developed head		Actual developed head	20.10 m
Pumped medium	Water Clean water	Efficiency	70.6 %
Pumped medium details	Not containing chemical and mechanical substances which affect the materials	MEI (Minimum Efficiency Index)	≥ 0.70
Max. ambient air temperature	20.0 °C	Power absorbed	6.65 kW
Min. ambient air temperature	20.0 °C	Pump speed of rotation	1469 rpm
Fluid temperature	23.0 °C	NPSH required	2.89 m
Fluid density	997 kg/m <sup>3</sup>	Permissible operating pressure	16.00 bar.g
Fluid viscosity	0.93 mm <sup>2</sup> /s	Discharge press.	1.97 bar.g
Suction pressure max.	0.00 bar.g	Shutoff head	24.10 m
Mass flow rate	23.83 kg/s	Min. allow. flow for continuous stable operation	13.56 m <sup>3</sup> /h
Max. power on curve	8.82 kW	Min. allow. mass flow for continuous stable operation	3.76 kg/s
Max. allow. mass flow	46.80 kg/s	Design	Tolerances to ISO 9906 Class 3B; below 10 kW acc. to paragraph 4.4.2
	Twin system one full duty + one standby pump	Yearly energy consumption	6653.83 kWh
		Annual Time Spent at Duty Point	1000.00 h

**Design**

Pump standard	Without	Material code	BQEGG-DW001
Design	Close coupled twin inline	Shaft seal code	11
Orientation	Vertical	Sealing plan	Single-acting mechanical seal with vented chamber (A-type casing cover, taper bore)
Suction nominal dia.	DN 100	A liquid free of solids is assumed	
Suction nominal pressure	PN 16	Seal chamber design	Conical seal chamber (A-type cover)
Suction position	180° (down)	Contact guard	With
Suction flange drilled according to standard	EN1092-2	Wear ring	Casing wear ring
Discharge nominal dia.	DN 100	Impeller diameter	255.0 mm
Discharge nominal pressure	PN 16	Free passage size	15.8 mm
Discharge position	top (0°/360°)	Direction of rotation from drive	Clockwise
Discharge flange drilled according to standard	EN1092-2	Bearing bracket construction	Close-coupled
Surface type	Flat face	Bearing bracket size	35
Shaft seal	Single acting mechanical seal	Bearing type	Anti-friction bearings
Shaft seal manufacturer	KSB's Choice	Lubrication type	Grease
Shaft seal type	KSB's Choice	Color	Ultramarine blue (RAL 5002) KSB-blue

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**Driver, accessories**

Driver type	Electric motor	Temperature sensor	3 PTC resistors
Drive standard mech.	IEC	Terminal box position	0° same orientation
Model (make)	KSB-Motor		Viewed from the drive
Drive supplied by	Standard motor supplied by KSB - mounted by KSB	Motor winding	400 / 690 V
Motor const. type	V1	Number of poles	4
Motor size	132M	Connection mode	Delta
Efficiency class	Efficiency class IE3 acc. to IEC60034-30-1	Motor cooling method	Surface cooling
Motor speed	1470 rpm	Motor material	Aluminium
Frequency	50 Hz	Frequency inverter operation allowed	FI allowed
Rated voltage	400 V	Motor noise pressure level	67 dBA
Rated power P2	7.50 kW	Motor data can vary from type plate information. Motor data describes KSB's choice functional specification and is used for pump selection.	
Available reserve	12.72 %	CE-approval	Yes
Rated current	15.0 A	EAC Approval	Yes
Starting current ratio	8.9	Condensat drain motor	Yes
Insulation class	F to IEC 34-1	Ambient temperature	40.0 °C
Motor enclosure	IP55	Max. absolute humidity	30 g/m3
Cos phi at 4/4 load	0.80	Temp. sensor mtr. bearing	Without
Motor efficiency at 4/4 load	90.4 %	UKCA conformity	Yes

**Materials G****Notes 1**

General criteria for a water analysis: pH-value &gt;= 6.5; chloride

content (Cl) &lt;=250 mg/kg. Chlorine (Cl2) &lt;=0.6 mg/kg.

Volute casing (102)

Grey cast iron EN-GJL-  
250/A48CL35B

Casing cover (161)

Grey cast iron EN-GJL-  
250/A48CL35B

Shaft (210)

Tempered steel C45+N  
Grey cast iron EN-GJL-  
250/A48CL35B

Impeller (230)

Grey cast iron EN-GJL-  
250/A48CL35B

Motor stool (341)

Grey cast iron EN-GJL-  
250/A48CL35B

Flat gasket (400)

DPAF DW001

Joint ring (411)

Steel ST

Casing wear ring (502.1)

Grey cast iron GG/CAST IRON

Casing wear ring (502.2)

Grey cast iron GG/CAST IRON

Disc (550)

Steel ST

Stud (902)

Steel 8.8

Nut (920)

8+A2A/ 8+B633 SC1 TP3

Impeller nut (922)

Steel 8

Key (940)

Steel C45+C / A311 GR 1045

Pipe line (700)

CLASS A

Steel ST

**Packaging**

Packaging category

A0 Packing acc. to KSB  
choice

Packaging for transport

Truck

Packaging for storage

Indoor

**Nameplates**

Nameplates language

International

**FOOT 90X 60X 60**

Pump feet with bolts for vertical installation

Material no

47089180

Pump foot for vertical installation

Etaline(Z) 100-200/ up to 200-315/

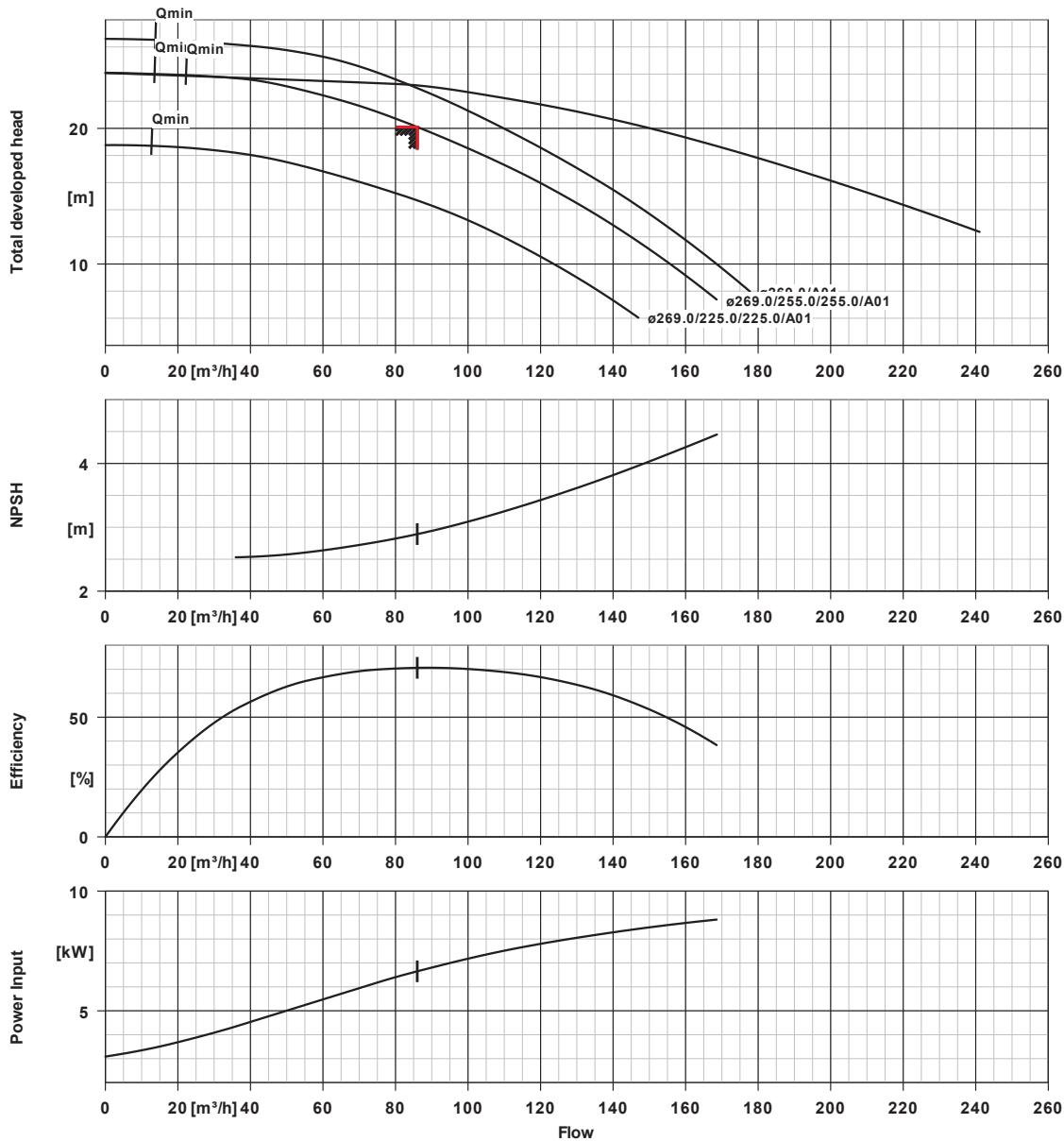
## Performance curve



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**ETLZ100-100-250 GGSAV11D300754 BKSBIIE3M**

Inline pump



### Curve data

Speed of rotation	1469 rpm	Efficiency	70.6 %
Fluid density	997 kg/m³	MEI (Minimum Efficiency Index)	$\geq 0.70$
Viscosity	0.93 mm²/s	Power absorbed	6.65 kW
Flow rate	86.01 m³/h	NPSHR	2.89 m
Requested flow rate	86.00 m³/h	Curve number	K1161.454/42
Total developed head	20.10 m	Effective impeller diameter	255.0 mm
Requested developed head	20.10 m	Acceptance standard	Tolerances to ISO 9906 Class 3B; below 10 kW acc. to paragraph 4.4.2

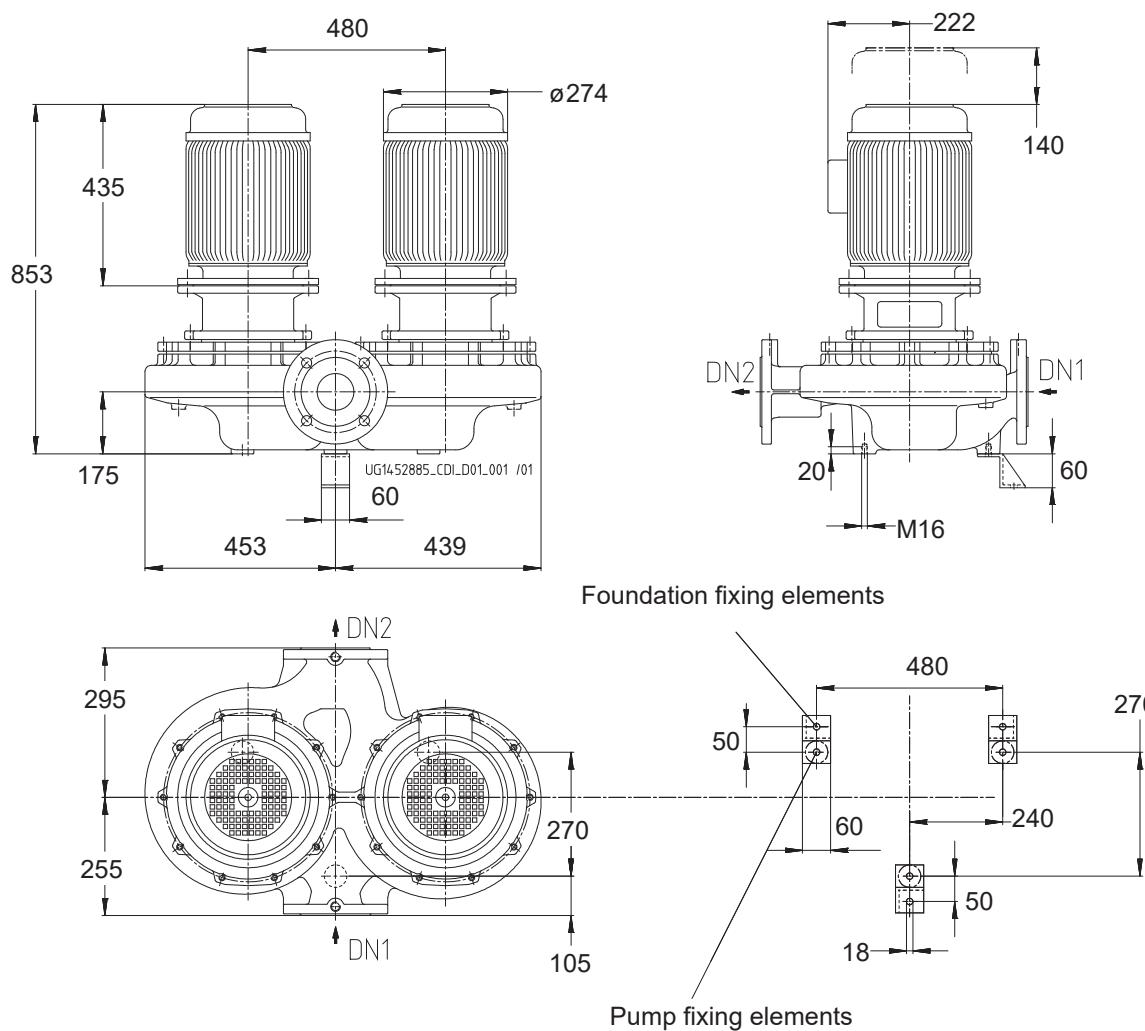
## Installation plan



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**ETLZ100-100-250 GGSAV11D300754 BKS BIE3M**

Inline pump



*Drawing is not to scale*

*Dimensions in mm*

**ETLZ100-100-250 GGSAV11D300754 BKSBI3M**  
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**Motor**

Motor manufacturer	KSB-Motor
Motor size	132M
Motor power	7.50 kW
Number of poles	4
Speed of rotation	1470 rpm
Position of terminal box	0° same orientation Viewed from the drive

**Connections**

Suction nominal size DN1	DN 100 / EN1092-2
Discharge nominal size DN2	DN 100 / EN1092-2
Nominal pressure suct.	PN 16
Rated pressure disch.	PN 16

**Weight net**

Pump	207 kg
Motor	136 kg
Other accessories	3 kg
Total	346 kg

**For auxiliary connections see  
separate drawing.**

**Connect pipes without stress or strain!**

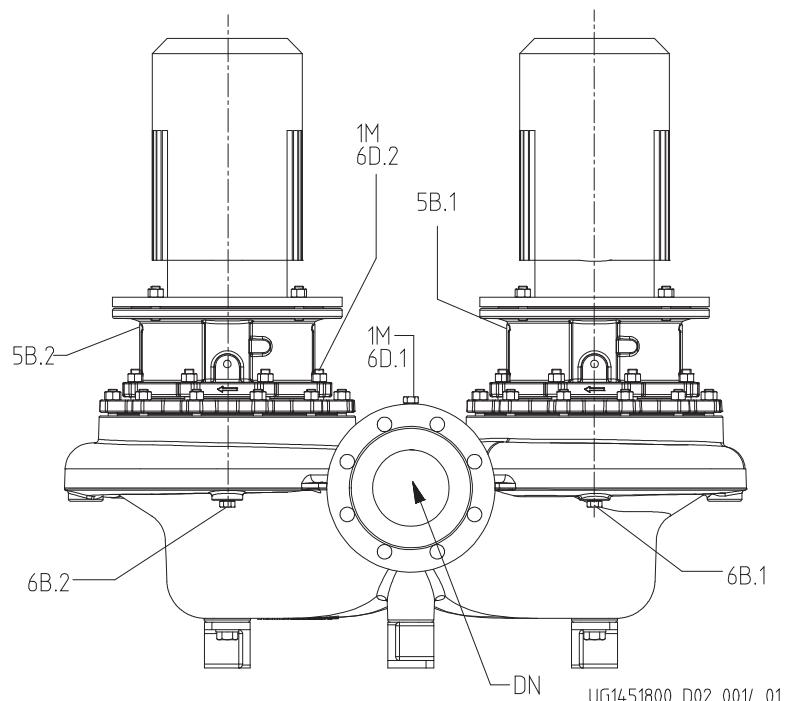
## Connection plan



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**ETLZ100-100-250 GGSAV11D300754 BKSBI3M**

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### Connections

Pump casing variant	XX46
1M.1 Pressure gauge connection	G 3/8
1M.2 Pressure gauge connection	G 3/8
6B.1 Pumped liquid drain	G 3/8
6B.2 Pumped liquid drain	G 3/8
6D.1 Pumped medium - filling/venting	G 3/8
6D.2 Pumped medium - filling / venting	G 3/8
5B.1 venting	G 1/4
5B.2 venting	G 1/4

Pressure sensor for PumpMeter fitted  
Pressure sensor for PumpMeter fitted  
Drilled and plugged.  
Drilled and plugged.  
Drilled and plugged.  
Drilled and plugged.  
Closed with venting plug  
Closed with venting plug

## PumpMeter

Intelligent Pressure Transmitter PumpMeter - with on-site display of operating point

### General description:

PumpMeter is an intelligent pressure transmitter with on-site display of measurement values and operating data of the pump. It comes factory-provided completely assembled and parameterised for your individual pump, to be connected via M12 connector and immediately ready to operate. PumpMeter records the pump's load profile during operation in order to – if applicable – provide information on the potential for energy savings or increased availability.

### On-site display unit:

Backlit display unit for on-site display of measurement values and operating data of pump with intuitive and internationally comprehensible icons, rotatable in steps of 90°.

### Display values:

suction pressure, pressure at inlet of pump in bar, gauge pressure  
discharge pressure, pressure at outlet of pump in bar, gauge pressure  
differential pressure between in- and outlet of pump in bar  
qualitative indication of operating point

Connection of display unit via connector (M12 x 1, 5-pin for power supply and utilization of communication interface).

Making alternatively available:

measurement value of discharge pressure via analogue signal 4 ... 20 mA  
calculated value of differential pressure via analogue signal 4 ... 20 mA  
all display values via serial interface RS 485 (Modbus RTU).  
Service interface RS232 for parameterisation.  
Factory provided parameterisation for individual pump.

### Sensors:

Two gauge pressure transmitters, one each factory provided on both, inlet and discharge side of pump. Connected to display unit via connector.

Accuracy of measurement (sum of errors; relating to measurement range):

±1% for fluid temperature -10 ... 100 °C

±2.5% for fluid temperature -30 ... -10 °C and 100 ... 140 °C

Material of measuring cell: stainless steel (no internal gasket)

### Available measurement ranges:

-1 ... 10 bar (gauge pressure)

-1 ... 10 bar (gauge pressure)

### Ambient conditions:

Type of protection: IP 65

Ambient temperature:

-30°C ... 80°C (during transport, storage)

-10°C ... 60°C (operation)

Fluid temperature: -30°C ... 140°C

### Scuff resistance:

Ultraviolet resistance (outdoor installation)

Resistance to most cleaning agents

Resistance to oil mist

### Silicone free:

No detrimental to paint adhesion

### Electric data:

#### Power supply:

24V DC ± 10%, min. 140 mA

Interfaces, alternatively utilisable:

4 ... 20 mA, 3-conductor (discharge pressure or differential pressure)

RS485, Modbus RTU (Slave)

Service interface: RS232

#### EMC:

EN 61326 (Immunity: industrial environment, Emissions: applicable in home and building environment)