

ETL 065-065-160 GGS AV66D201102 BKSBIE3

Inline pump

Operating data

Requested flow rate		Actual flow rate	34.99 m ³ /h
Requested developed head		Actual developed head	32.99 m
Pumped medium	Antifreeze on ethylene glycol base, inhibited, closed system, e.g. Antifrogen N or similar products	Efficiency	61.4 %
	Concentration 40%	MEI (Minimum Efficiency Index)	≥ 0.70
	Not containing chemical and mechanical substances which affect the materials	Power absorbed	5.45 kW
Ambient air temperature	20.0 °C	Pump speed of rotation	2975 rpm
Fluid temperature	-10.0 °C	NPSH required	2.94 m
Fluid density	1067 kg/m ³	Permissible operating pressure	16.00 bar.g
Fluid viscosity	10.72 mm ² /s	Discharge press.	3.45 bar.g
Suction pressure max.	0.00 bar.g	Min. allow. mass flow for continuous stable operation	3.97 kg/s
Mass flow rate	10.37 kg/s	Max. allow. mass flow	39.54 kg/s
Max. power on curve	10.19 kW	Design	Single system 1 x 100 % Tolerances to ISO 9906 Class 3B; below 10 kW acc. to paragraph 4.4.2
Min. allow. flow for continuous stable operation	13.39 m ³ /h		
Shutoff head	35.39 m		

Design

Pump standard	Without	Material code	Q7Q7EGG
Caution: The overall length from suction to discharge can be different to the previous generation of Etaline.		Shaft seal code	66
Design	Close-coupled in-line	Sealing plan	Single-acting mechanical seal with vented chamber (A-type casing cover, taper bore)
Orientation	Vertical	Seal chamber design	Conical seal chamber (A-type cover)
Suction nominal dia.	DN 65	Contact guard	With
Suction nominal pressure	PN 16	Wear ring	Casing wear ring
Suction position	180° (down)	Impeller diameter	153.0 mm
Suction flange drilled according to standard	EN1092-2	Free passage size	11.6 mm
Discharge nominal dia.	DN 65	Direction of rotation from drive	Clockwise
Discharge nominal pressure	PN 16	Silicon free pump assembly	Yes
Discharge position	top (0°/360°)	Bearing bracket construction	Close-coupled
Discharge flange drilled according to standard	EN1092-2	Bearing bracket size	25
Shaft seal	Single acting mechanical seal	Bearing type	Anti-friction bearings
Manufacturer	Burgmann	Lubrication type	Grease
Type	MG13G6	Color	Vermilion (RAL 2002)

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Driver, accessories

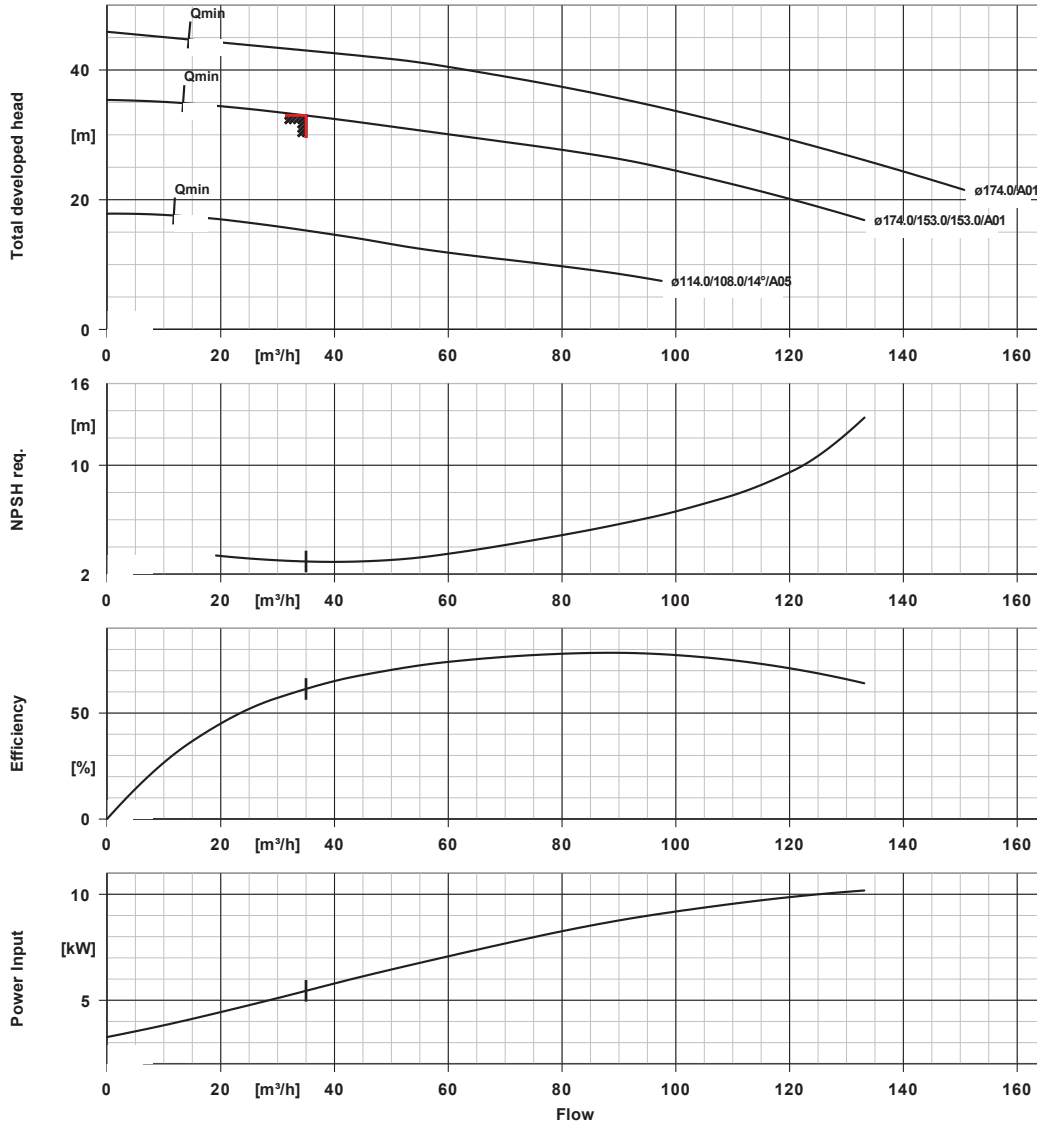
Driver type	Electric motor	Insulation class	F to IEC 34-1
Drive standard mech.	IEC	Motor enclosure	IP55
Model (make)	KSB-Motor	Cos phi at 4/4 load	0.78
Drive supplied by	Standard motor supplied by KSB - mounted by KSB	Motor efficiency at 4/4 load	91.2 %
Motor const. type	V1	Temperature sensor	3 PTC resistors
Motor size	160M	Terminal box position	0° same orientation
Efficiency class	Efficiency class IE3 acc. to IEC60034-30-1	Motor winding	Viewed from the drive
Motor speed	2975 rpm	Number of poles	400 / 690 V
Frequency	50 Hz	Connection mode	2
Designed for operation with frequency inverter	Yes	Motor cooling method	Delta
Rated voltage	400 V	Motor material	Surface cooling
Rated power P2	11.00 kW	Frequency inverter operation allowed	Aluminium
Available reserve	101.96 %	Motor noise pressure level	FI allowed
Rated current	22.0 A		74 dBa
Starting current ratio	9		

Motor data can vary from type plate information. Motor data describes KSB's choice functional specification and is used for pump selection.

Materials G

Volute casing (102)	Grey cast iron EN-GJL-250/A48CL35B	Casing wear ring (502.1)	Grey cast iron GG/CAST IRON
Casing cover (161)	Grey cast iron EN-GJL-250/A48CL35B	Casing wear ring (502.2)	Grey cast iron GG/CAST IRON
Shaft (210)	Tempered steel C45+N	Shaft sleeve (523)	CrNiMo steel
Impeller (230)	Grey cast iron EN-GJL-250/A48CL35B	Stud (902)	Steel 8.8
Motor stool (341)	Grey cast iron EN-GJL-250/A48CL35B	Impeller nut (922)	Steel 8
Flat gasket (400)	DPAF seal plate asbestos free	Key (940)	Steel C45+C / A311 GR 1045 CLASS A
Joint ring (411)	Steel ST		

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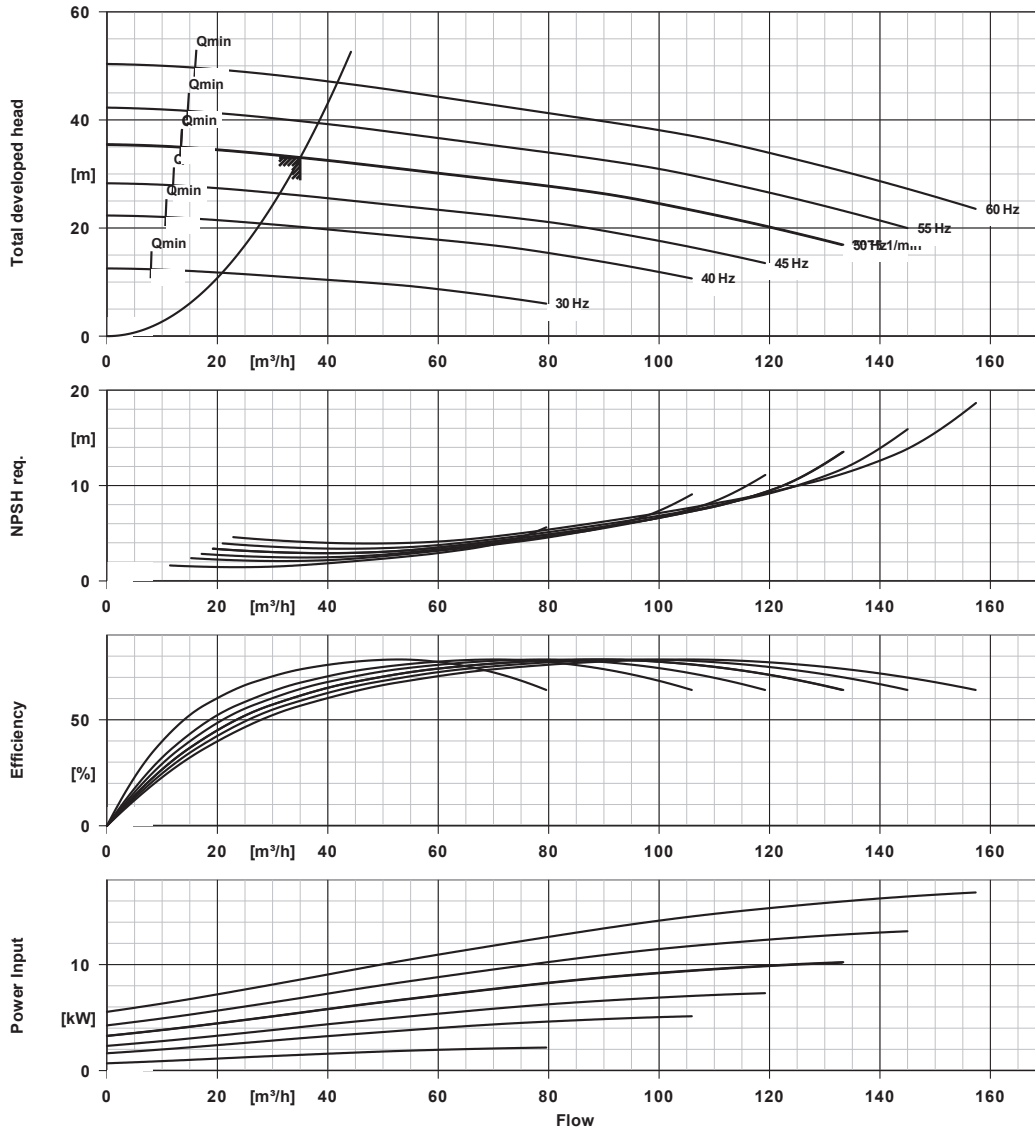


Curve data

Speed of rotation	2975 rpm	Efficiency	61.4 %
Fluid density	1067 kg/m^3	MEI (Minimum Efficiency Index)	≥ 0.70
Viscosity	10.72 mm^2/s	Power absorbed	5.45 kW
Flow rate	34.99 m^3/h	NPSH required	2.94 m
Requested flow rate	35.00 m^3/h	Curve number	K1159.452/31
Total developed head	32.99 m	Effective impeller diameter	153.0 mm
Requested developed head	33.00 m	Acceptance standard	Tolerances to ISO 9906 Class 3B; below 10 kW acc. to paragraph 4.4.2

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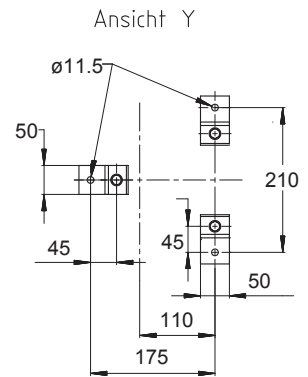
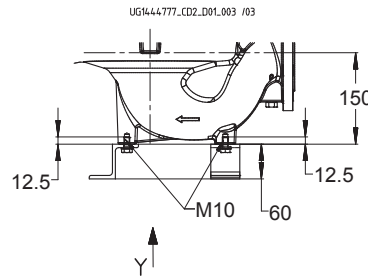
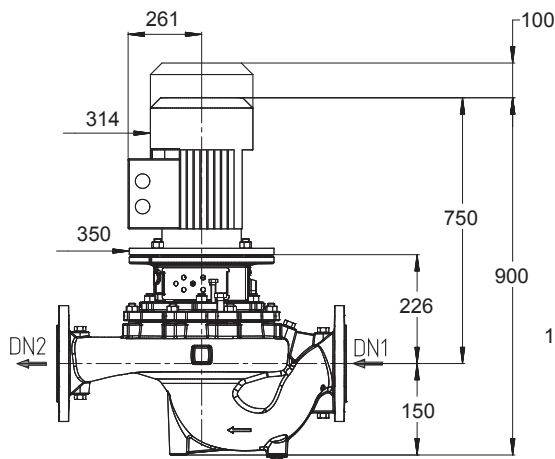
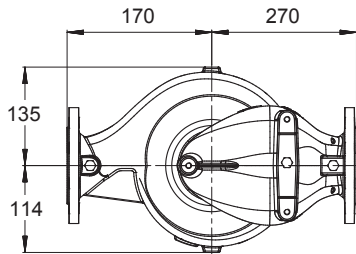
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Curve data

Fluid density	1067 kg/m^3	Total developed head	32.99 m
Viscosity	10.72 mm^2/s	Requested developed head	33.00 m
Flow rate	34.99 m^3/h	MEI (Minimum Efficiency Index)	≥ 0.70
Requested flow rate	35.00 m^3/h	Effective impeller diameter	153.0 mm

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Drawing is not to scale

Dimensions in mm

Motor

Motor manufacturer	KSB-Motor
Motor size	160M
Motor power	11.00 kW
Number of poles	2
Speed of rotation	2975 rpm
Position of terminal box	0° same orientation Viewed from the drive

Connections

Suction nominal size DN1	DN 65 / EN1092-2
Discharge nominal size DN2	DN 65 / EN1092-2
Nominal pressure suct.	PN 16
Rated pressure disch.	PN 16

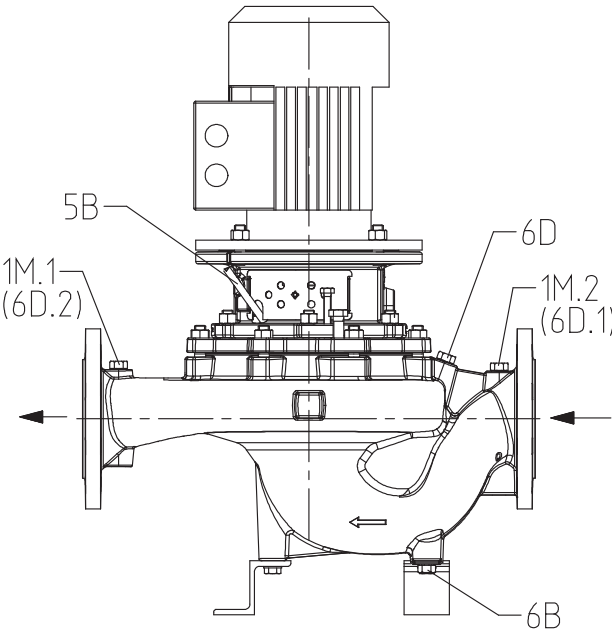
Weight net

Pump	27 kg
Motor	75 kg
Total	102 kg

Connect pipes without stress or strain!

For auxiliary connections see separate drawing.

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UG1444722_D01_003/ 02

Connections

Pump casing variant		XX46
1M.1 Pressure gauge connection	G 1/4	Drilled and plugged.
1M.2 Pressure gauge connection	G 1/4	Drilled and plugged.
6B Pumped liquid drain	G 1/4	Drilled and plugged.
6D Pumped medium - filling / venting	G 1/4	Drilled and plugged.
5B venting	G 1/4	Closed with venting plug