

Data sheet



Customer item no.:
Communication dated: 14/09/2020
Doc. no.: Licitatie ANP
Quantity: 10

Number: 4004141280
Item no.: 100
Date: 14/09/2020
Page: 1 / 10

ETL 065-065-160 GGS AV11D200402 BKS BIE3
Inline pump

Version no.: 1

Operating data

Requested flow rate	45.00 m ³ /h	Actual flow rate	46.88 m ³ /h
Requested developed head	14.00 m	Actual developed head	15.19 m
Pumped medium	Water, heating water Heating water up to 100°C (max.), acc. to VDI 2035 Not containing chemical and mechanical substances which affect the materials	Efficiency	65.4 %
		MEI (Minimum Efficiency Index)	= 0.70
Max. ambient air temperature	20.0 °C	Power absorbed	2.96 kW
Min. ambient air temperature	20.0 °C	Pump speed of rotation	2931 rpm
Fluid temperature	20.0 °C	NPSH required	3.94 m
		Permissible operating pressure	16.00 bar.g
Fluid density	998 kg/m ³	Discharge press.	1.49 bar.g
Fluid viscosity	1.00 mm ² /s	Min. allow. mass flow for continuous stable operation	3.25 kg/s
Suction pressure max.	0.00 bar.g	Shutoff head	19.42 m
Mass flow rate	13.00 kg/s	Max. allow. mass flow	27.64 kg/s
Max. power on curve	3.74 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	11.73 m ³ /h		

Design

Pump standard	Without	Material code	BQ1EGG-WA
Caution: The overall length from suction to discharge can be different to the previous generation of Etaline.		Shaft seal code	11
Design	Close-coupled in-line	Sealing plan	Single-acting mechanical seal with vented chamber (A-type casing cover, taper bore)
Orientation	Vertical	Minimum requirements for hot water quality: treatment acc. to VdTÜV regulation TCH 1466 and solids content up to max. 5 mg/l.	
Suction nominal dia.	DN 65	Seal chamber design	Conical seal chamber (A-type cover)
Suction nominal pressure	PN 16	Contact guard	With
Suction position	180° (down)	Wear ring	Casing wear ring
Suction flange drilled according to standard	EN1092-2	Impeller diameter	114.0 mm
Discharge nominal dia.	DN 65	Free passage size	11.6 mm
Discharge nominal pressure	PN 16	Direction of rotation from drive	Clockwise
Discharge position	top (0°/360°)	Silicon free pump assembly	Yes
Discharge flange drilled according to standard	EN1092-2	Bearing bracket construction	Close-coupled
Surface type	Raised face (form B to EN 1092)	Bearing bracket size	25
Shaft seal	Single acting mechanical seal	Bearing type	Anti-friction bearings
Manufacturer	KSB	Lubrication type	Grease
Type	1	Color	Vermilion (RAL 2002)

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Number: 4004141280
 Item no.: 100
 Date: 14/09/2020
 Page: 2 / 10

ETL 065-065-160 GGS AV11D200402 BKS BIE3
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Driver, accessories

Driver type	Electric motor	Motor enclosure	IP55
Drive standard mech.	IEC	Cos phi at 4/4 load	0.81
Model (make)	KSB-Motor	Motor efficiency at 4/4 load	88.1 %
Drive supplied by	Standard motor supplied by KSB - mounted by KSB	Temperature sensor	3 PTC resistors
		Terminal box position	0° same orientation
Motor const. type	V1		Viewed from the drive
Motor size	112M	Motor winding	400 / 690 V
Efficiency class	Efficiency class IE3 acc. to IEC60034-30-1	Number of poles	2
Motor speed	2932 rpm	Connection mode	Delta
Frequency	50 Hz	Motor cooling method	Surface cooling
Rated voltage	400 V	Motor material	Aluminium
Rated power P2	4.00 kW	Frequency inverter operation	FI allowed
Available reserve	35.26 %	Motor data can vary from type plate information. Motor data describes KSB's choice functional specification and is used for pump selection.	
Rated current	8.0 A	CE-approval	Yes
Starting current ratio	8.6	Condensat drain motor	Yes
Insulation class	F to IEC 34-1		

Materials G

Notes 1

Unalloyed cast iron components: pH = 9 to 10.5 and O2 content ≤ 0.02 mg/kg.

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

FOOT 85X 50X 60

3 pump feet with bolts for vertical installation
 Pump foot for vertical installation
 Etaline(Z) 32-160/ up to 100-160/

Material no 47077960

Pump foot, not for Etaline SY
 Weight : 2,0 kg

Performance curve

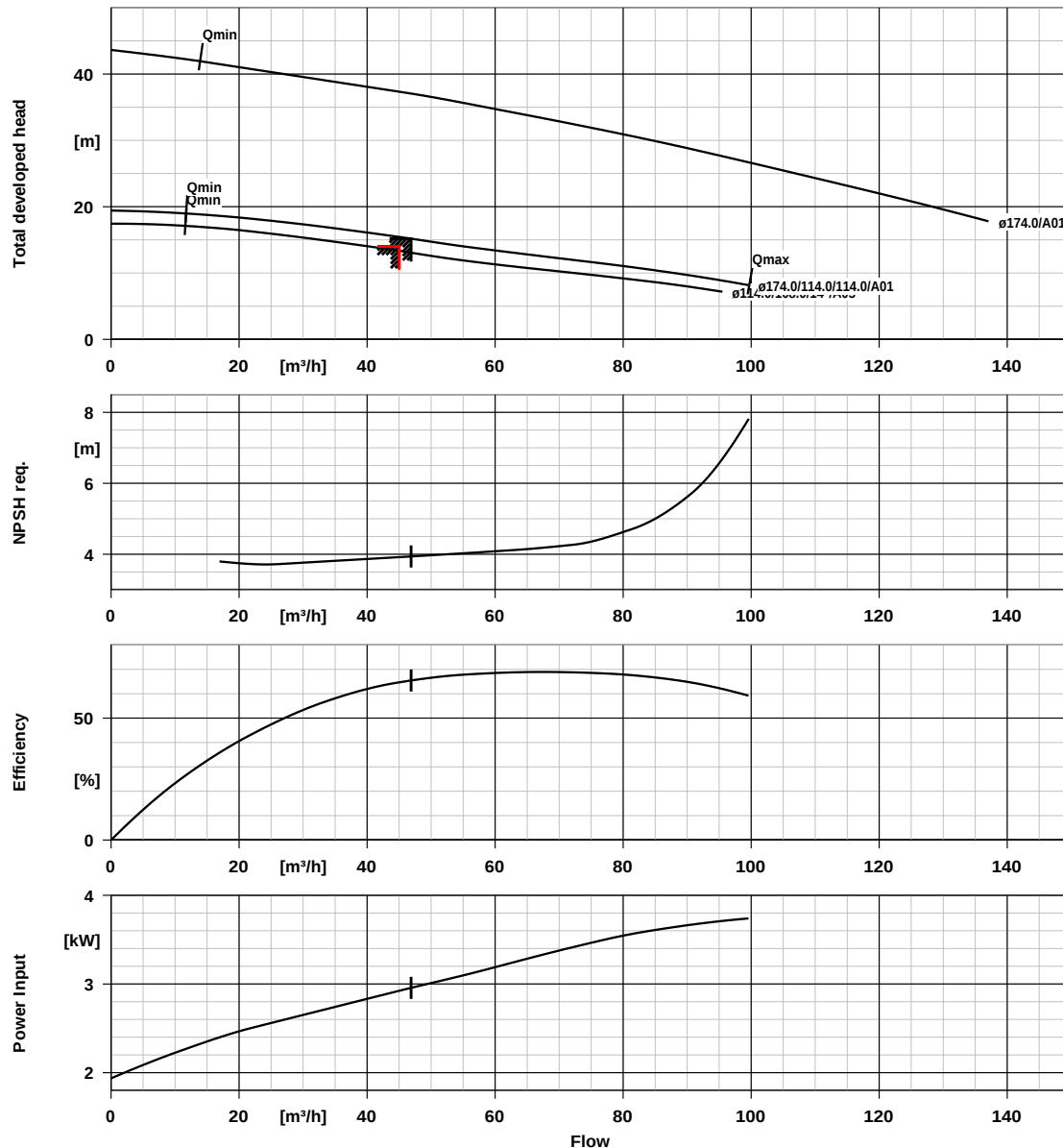


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Number: 4004141280
Item no.:100
Date: 14/09/2020
Page: 3 / 10

ETL 065-065-160 GGS AV11D200402 BKS BIE3
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Curve data

Speed of rotation	2931 rpm	Efficiency	65.4 %
Fluid density	998 kg/m^3	MEI (Minimum Efficiency Index)	= 0.70
Viscosity	1.00 mm^2/s	Power absorbed	2.96 kW
Flow rate	46.88 m^3/h	NPSH required	3.94 m
Requested flow rate	45.00 m^3/h	Curve number	K1159.452/31
Total developed head	15.19 m	Effective impeller diameter	114.0 mm
Requested developed head	14.00 m	Acceptance standard	Tolerances to ISO 9906 Class 3B; below 10 kW acc. to paragraph 4.4.2

Installation plan

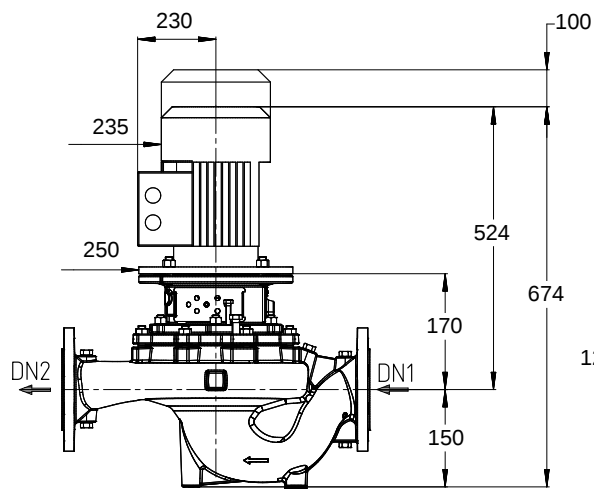
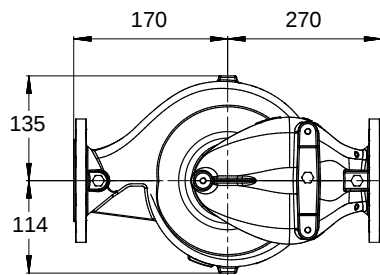


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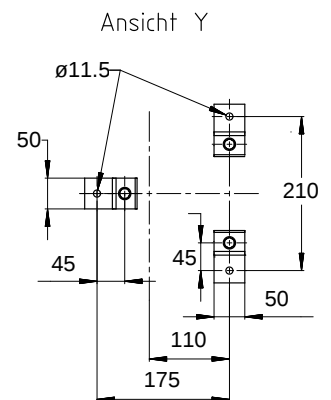
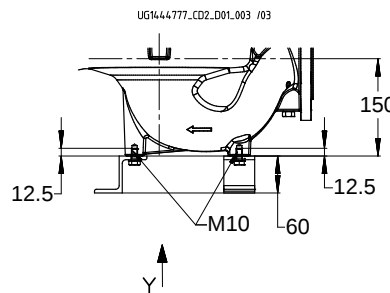
Number: 4004141280
Item no.:100
Date: 14/09/2020
Page: 4 / 10

ETL 065-065-160 GGS AV11D200402 BKS BIE3
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Drawing is not to scale



Dimensions in mm

Motor

Motor manufacturer	KSB-Motor
Motor size	112M
Motor power	4.00 kW
Number of poles	2
Speed of rotation	2932 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	38 kg
Other accessories	2 kg
Total	67 kg

Connect pipes without stress or strain!

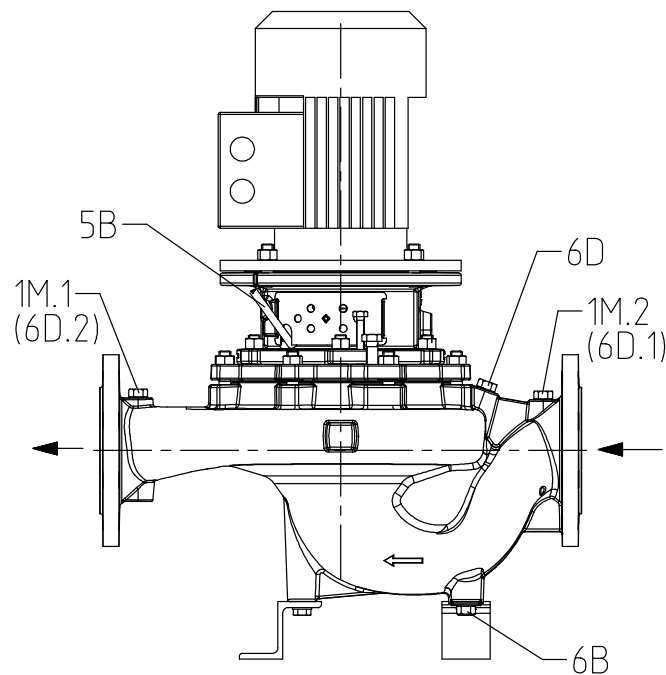
**For auxiliary connections see
separate drawing.**

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Page: 5 / 10

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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