

**ETL 050-050-160 GGXAV09D200114 BSIEIE3**  
 Inline pump

**Operating data**

Pumped medium	Water Clean water Not containing chemical and mechanical substances which affect the materials	Actual flow rate	28.42 m <sup>3</sup> /h
Ambient air temperature	20.0 °C	Actual developed head	8.36 m
Fluid temperature	20.0 °C	Efficiency	70.2 %
Fluid density	998 kg/m <sup>3</sup>	MEI (Minimum Efficiency Index)	≥ 0.70
Fluid viscosity	1.00 mm <sup>2</sup> /s	Power absorbed	0.92 kW
Suction pressure max.	0.00 bar.g	Pump speed of rotation	1450 rpm
		NPSH required	1.54 m
		Permissible operating pressure	16.00 bar.g
Mass flow rate	7.88 kg/s	Discharge press.	0.82 bar.g
Max. power on curve	1.04 kW	Min. allow. mass flow for continuous stable operation	1.20 kg/s
Min. allow. flow for continuous stable operation	4.34 m <sup>3</sup> /h	Design	Single system 1 x 100 % Tolerances to ISO 9906 Class 3B; below 10 kW acc. to paragraph 4.4.2
Shutoff head	10.95 m		
Max. allow. mass flow	13.21 kg/s		

**Design**

Pump standard	Without	Shaft seal code	9
Caution: This pump has a flange-to-flange installation length which is 100mm longer than the old generation Etaline		Sealing plan	Single-acting mechanical seal with vented chamber (A-type casing cover, taper bore)
Design	Close-coupled in-line	Pumped liquid without abrasive solids	
Orientation	Vertical	Seal chamber design	Conical seal chamber (A-type cover)
Suction nominal dia.	DN 50	Contact guard	With
Suction nominal pressure	PN 16	Wear ring	Casing wear ring
Suction position	180° (down)	Impeller diameter	174.0 mm
Suction flange drilled according to standard	EN1092-2	Free passage size	11.5 mm
Discharge nominal dia.	DN 50	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	MG13G60	Color	Vermilion (RAL 2002)
Material code	U3U3VGG		

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**Driver, accessories**

Driver type	Electric motor	Motor enclosure	IP55
Drive standard mech.	IEC	Cos phi at 4/4 load	0.86
Model (make)	Siemens	Motor efficiency at 4/4 load	84.1 %
Drive supplied by	Standard motor supplied by KSB - mounted by KSB	VIK version	Yes
Motor const. type	V1	Temperature sensor	3 PTC resistors
Motor size	90S	Terminal box position	0° same orientation
Efficiency class	Efficiency class IE3 acc. to IEC60034-30-1	Motor winding	500 V
Motor speed	1450 rpm	Number of poles	4
Frequency	50 Hz	Connection mode	Star
Rated voltage	500 V	Motor cooling method	Surface cooling
Rated power P2	1.10 kW	Motor material	Aluminium
Available reserve	19.73 %	Frequency inverter operation allowed	FI allowed
Rated current	1.9 A	Motor noise pressure level	60 dBA
Starting current ratio	6.9		
Insulation class	F to IEC 34-1		

**Materials G**

**Notes 1**

General criteria for a water analysis: pH-value  $\geq 7$ ; chloride content (Cl)  $\leq 250$  mg/kg. Chlorine (Cl<sub>2</sub>)  $\leq 0.6$  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

**Nameplates**

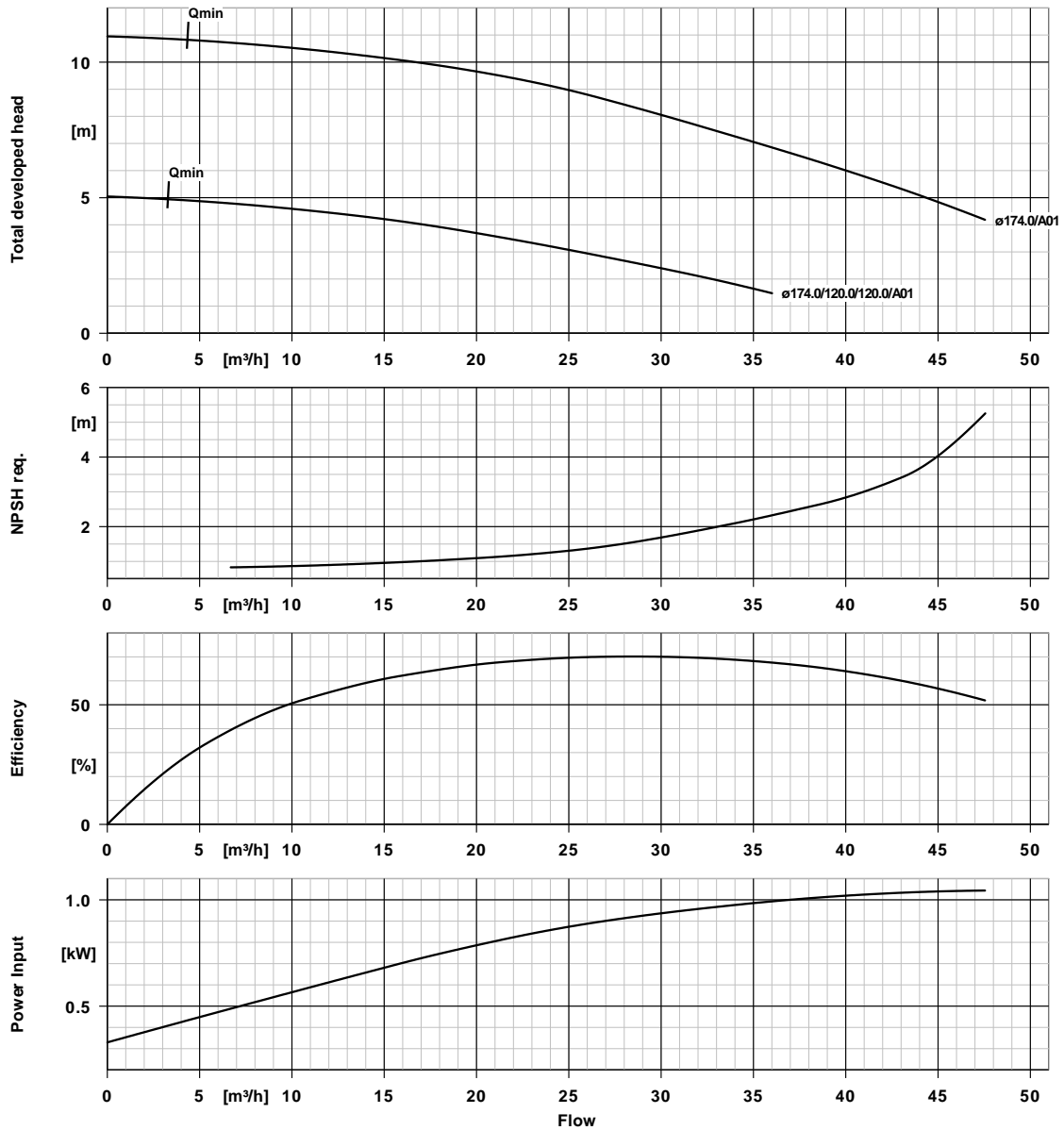
Nameplates language	International	Supplementary text	13-132650
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**Order documentation**

The following documents will be supplied with the order:  
 Manufacturer's or conformity declaration  
 General arrangement drawing  
 Auxiliary connection plan  
 Technical data sheet  
 DIN spare parts list of pump

Schematic drawing with allowable forces and moments  
 Performance curve  
 Operating manual  
 Languages  
 Procedure for unsupported languages  
 Flemish, English, Dutch  
 Supply the document in English instead

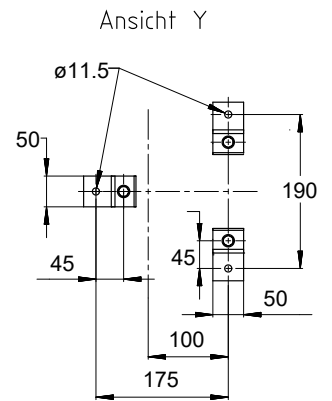
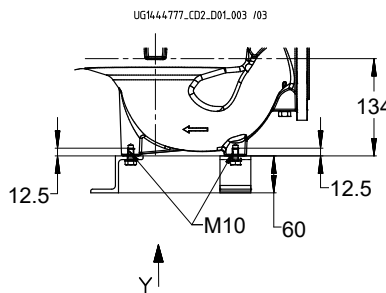
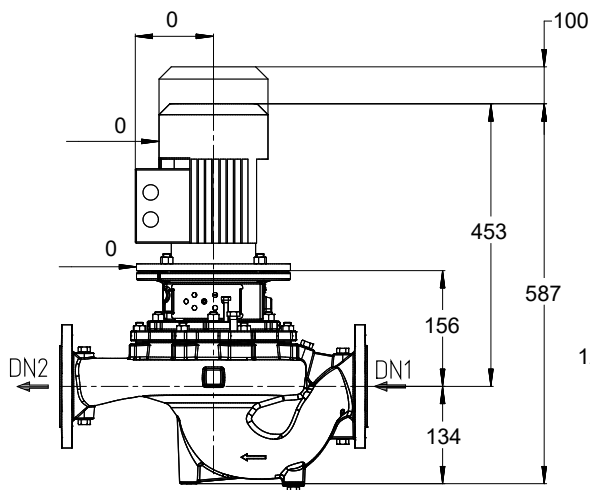
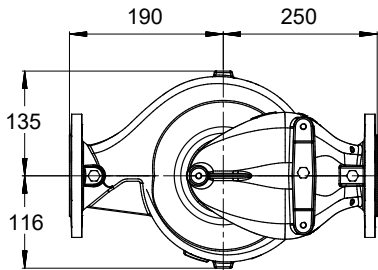
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**Curve data**

Speed of rotation	1450 rpm	MEI (Minimum Efficiency Index)	≥ 0.70
Fluid density	998 kg/m³	Power absorbed	0.92 kW
Viscosity	1.00 mm²/s	NPSH required	1.54 m
Flow rate	28.42 m³/h	Curve number	K1159.454/26
Total developed head	8.36 m	Effective impeller diameter	174.0 mm
Efficiency	70.2 %	Acceptance standard	Tolerances to ISO 9906 Class 3B; below 10 kW acc. to paragraph 4.4.2

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Drawing is not to scale

Dimensions in mm

**Motor**

Motor manufacturer	Siemens
Motor size	90S
Motor power	1.10 kW
Number of poles	4
Speed of rotation	1450 rpm
Position of terminal box	0° same orientation Viewed from the drive

**Connections**

Suction nominal size DN1	DN 50 / EN1092-2
Discharge nominal size DN2	DN 50 / EN1092-2
Nominal pressure suct.	PN 16
Rated pressure disch.	PN 16

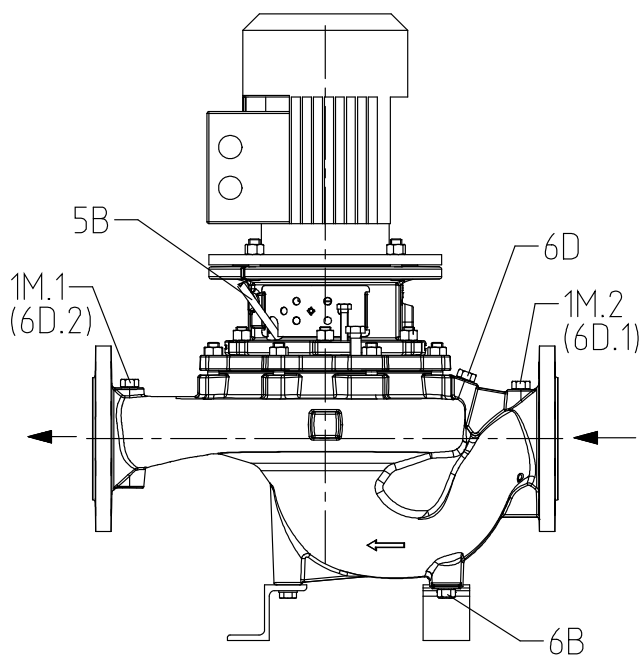
**Weight net**

Pump	25 kg
Motor	16 kg
Total	41 kg

Connect pipes without stress or strain!

For auxiliary connections see separate drawing.

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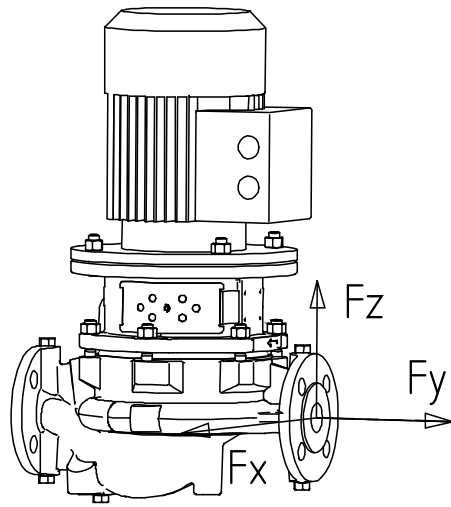


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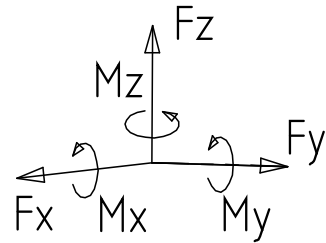
**Connections**

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

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UG1563799\_004 /01

*Drawing is not to scale*

**Force and Moment Limits**

<b>Suction flange</b>		<b>Discharge flange</b>	
Fx s	530 N	Fx d	530 N
Fy s	580 N	Fy d (+)	580 N
Fz s	470 N	Fz d	470 N
Fres s	916 N	Fres d	916 N
Mx s	350 Nm	Mx d	350 Nm
My s	500 Nm	My d	500 Nm
Mz s	400 Nm	Mz d	400 Nm
		Valid for temperature	20.0 °C

The given force and moment limits are only applicable for static pipe loads.  
 A computerized strength analysis is only available on special request.  
 The values apply for installation on completely grouted baseplates bolted to a rigid, level foundation.