

## Data sheet



Customer item no.:  
Communication dated:  
Doc. no.: Quick quote  
Quantity: 1

Number: ES 6678502  
Item no.: 100  
Date: 22/02/2019  
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**ETB 200-150-315 CCSAV10D504504 B**  
Low-pressure centrifugal pump Etabloc

Version no.: 1

### Operating data

Requested flow rate	417.00 m <sup>3</sup> /h	Actual flow rate	417.04 m <sup>3</sup> /h
Requested developed head	33.00 m	Actual developed head	33.01 m
Pumped medium	Water, contaminated water Slightly contaminated water Not containing chemical and mechanical substances which affect the materials	Efficiency	85.5 %
Ambient air temperature	20.0 °C	MEI (Minimum Efficiency Index)	≥ 0.40
Fluid temperature	90.0 °C	Power absorbed	42.33 kW
Fluid density	965 kg/m <sup>3</sup>	Pump speed of rotation	1476 rpm
Fluid viscosity	0.33 mm <sup>2</sup> /s	NPSH required	2.63 m
Suction pressure max.	0.00 bar.g	Permissible operating pressure	16.00 bar.g
Mass flow rate	111.81 kg/s	Discharge press.	3.12 bar.g
Max. power on curve	47.13 kW	Min. allow. mass flow for continuous stable operation	29.51 kg/s
Min. allow. flow for continuous stable operation	110.08 m <sup>3</sup> /h	Max. allow. mass flow	151.98 kg/s
Shutoff head	39.58 m	Design	Single system 1 x 100 % tolerances to ISO 9906 class 3B

### Design

Pump standard	EN 733	Material code	Q1Q1X4GG
Design	Close-coupled	Shaft seal code	10
Orientation	Horizontal	Sealing plan	Single-acting mechanical seal with vented chamber (A-type casing cover, taper bore)
Suction nominal dia.	DN 200	Seal chamber design	Conical seal chamber (A-type cover)
Suction nominal pressure	PN 10	Contact guard	With
Suction position	axial	Impeller diameter	333.0 mm
Suction flange drilled according to standard	EN1092-1	Free passage size	26.9 mm
Discharge nominal dia.	DN 150	Silicon free pump assembly	Yes
Discharge nominal pressure	PN 16	Bearing bracket construction	Close-coupled
Discharge position	top (0°/360°)	Bearing bracket size	55
Discharge flange drilled according to standard	EN1092-1	Bearing type	Anti-friction bearings
Shaft seal	Single acting mechanical seal	Lubrication type	Grease
Manufacturer	KSB	Color	Ultramarine blue (RAL 5002) KSB-blue
Type	1		

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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	0.86
Drive supplied by	Standard motor supplied by KSB - mounted by KSB	Motor efficiency at 4/4 load	94.2 %
Motor const. type	V15	Temperature sensor	3 PTC resistors
Motor size	225M	Terminal box position	0°/360° (top)
Efficiency class	Efficiency class IE3 acc. to IEC60034-30-1		Viewed towards the suction nozzle
Designed for operation with frequency inverter	Yes	Motor winding	400 / 690 V
Motor speed	1477 rpm	Number of poles	4
Frequency	50 Hz	Connection mode	Delta
Rated voltage	400 V	Motor cooling method	Surface cooling
Rated power P2	45.00 kW	Motor material	Grey cast iron GG/CAST IRON
Available reserve	6.30 %	Frequency inverter operation allowed	FI allowed
Rated current	85.0 A	Motor noise pressure level	68 dBa
Starting current ratio	7.9		

**Materials C**

Volute casing (102)	Stainless steel 1.4408 / A743 GR CF8M	Casing wear ring (502.1)	Without
Casing cover (161)	Stainless steel 1.4408 / A743 GR CF8M	Casing wear ring (502.2)	Without
Shaft (210)	Stainless steel 1.4571	Shaft sleeve (523)	CrNiMo steel
Impeller (230)	Stainless steel 1.4408 / A743 GR CF8M	Stud (902)	Stainless steel A4-70 / A 193 Gr B8M CL2
Motor stool (341)	Grey cast iron EN-GJL-250/A48CL35B	Nut (920.01)	CrNiMo steel A4 / AISI 316
Flat gasket (400)	DPAF seal plate asbestos free	Nut (920.95)	CrNiMo steel A4 / AISI 316

# Performance curve

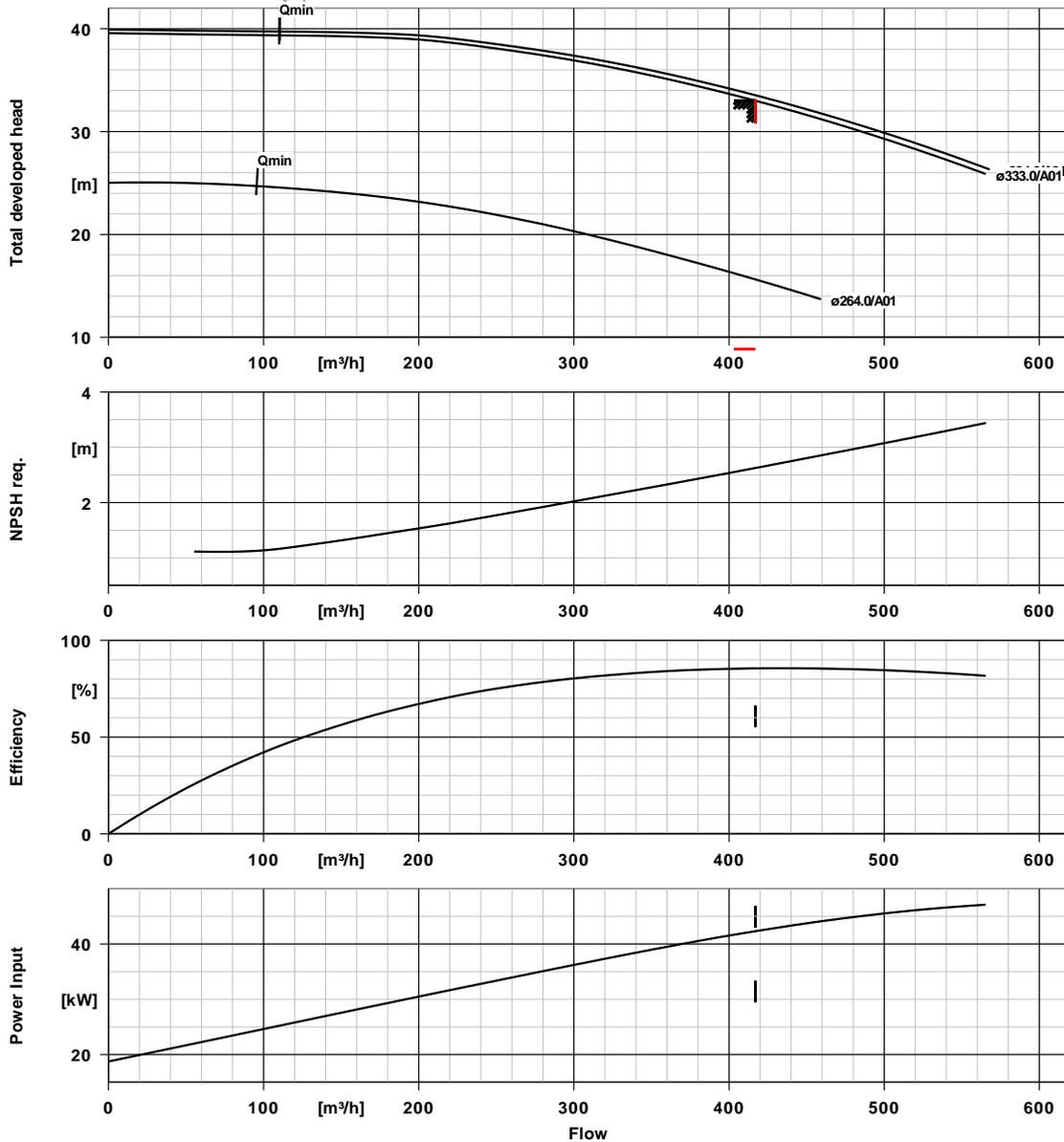


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### Curve data

Speed of rotation	1476 rpm	Efficiency	85.5 %
Fluid density	965 kg/m³	MEI (Minimum Efficiency Index)	≥ 0.40
Viscosity	0.33 mm²/s	Power absorbed	42.33 kW
Flow rate	417.04 m³/h	NPSH required	2.63 m
Requested flow rate	417.00 m³/h	Curve number	K1311.454/57
Total developed head	33.01 m	Effective impeller diameter	333.0 mm
Requested developed head	33.00 m		

# Installation plan

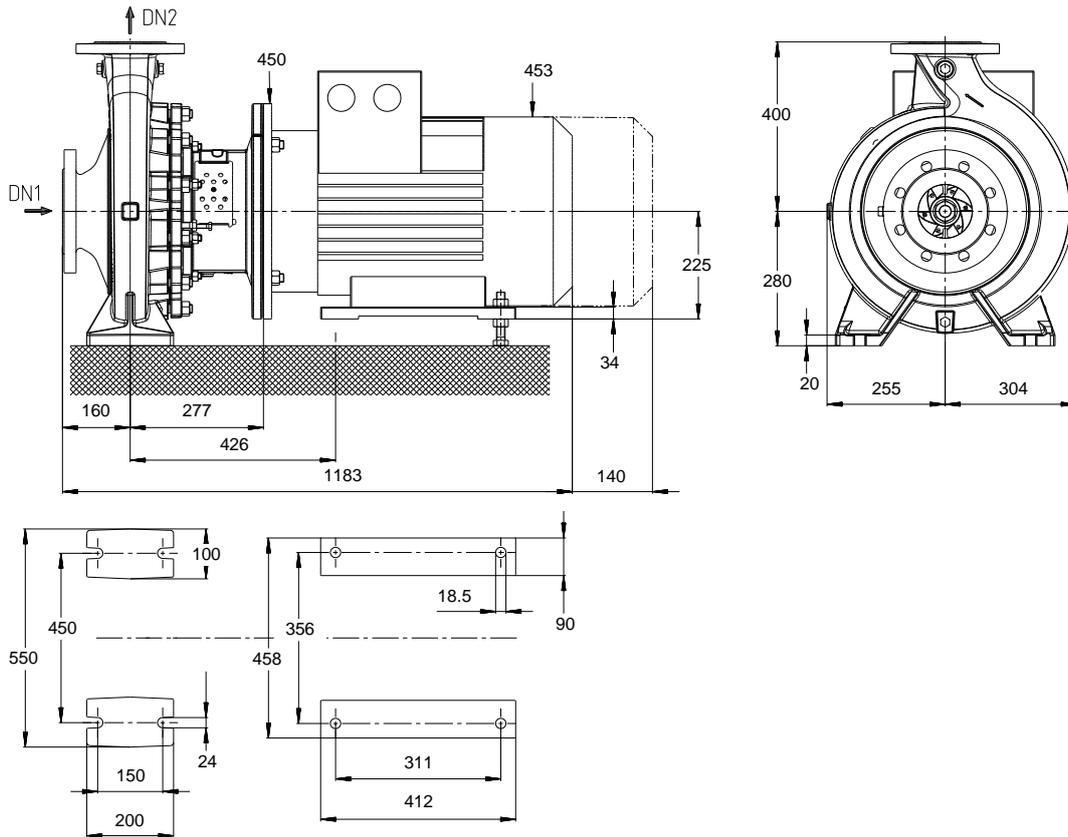


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Drawing is not to scale

Dimensions in mm

### Motor

Motor manufacturer	KSB-Motor
Motor size	225M
Motor power	45.00 kW
Number of poles	4
Speed of rotation	1477 rpm
Position of terminal box	0°/360° (top) Viewed towards the suction nozzle

### Connections

Suction nominal size DN1	DN 200 / EN1092-1
Discharge nominal size DN2	DN 150 / EN1092-1
Nominal pressure suct.	PN 10
Rated pressure disch.	PN 16

### Weight net

Pump	177 kg
Motor	420 kg
Total	597 kg

**Connect pipes without stress or strain!**

**For auxiliary connections see separate drawing.**

## Connection plan

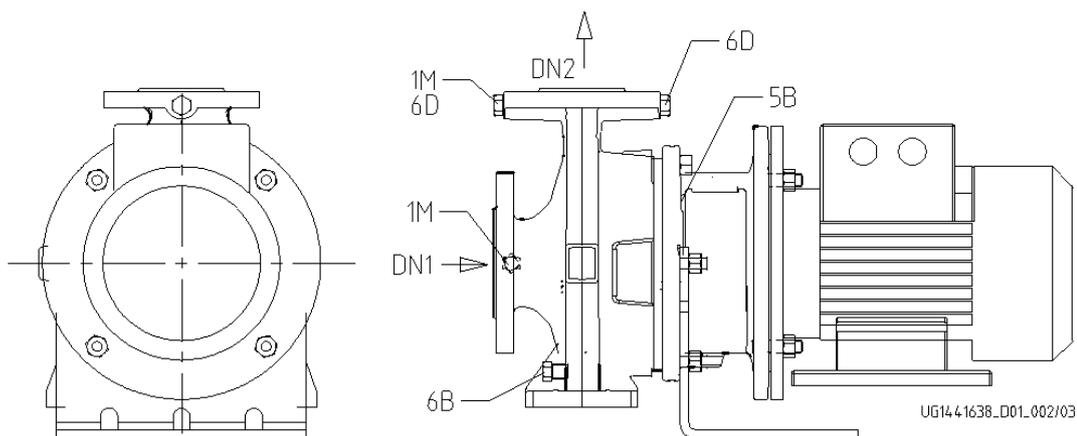


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### Connections

Pump casing variant

1M.2 Pressure gauge connection

1M.1 / 6D Pressure gauge or  
filling/venting connection

6B Pumped liquid drain

6D Pumped medium - filling / venting

11E Flushing liquid inlet

5B venting

G 1/2

G 1/2

DN 8

XX16

Not executed

Drilled and plugged.

Drilled and plugged.

Not executed

Pipe connection with thread

Drilled and plugged.