Technical Datasheet

Etabloc 065-040-315 GG
ETB 065-040-315-GGSBV11 WSFEV2HHB

Operating point 1 Dimensioning operating point

Operating conditions (purchaser requirements)

Target flow rate	17.1 m³/h	Vapour pressure determined	0.02337 bar.a
Target head	105.24 m	Minimum inlet pressure required	-0.3 bar.r
Fluid	Water		
Fluid variant	Clean water	Specified ambient temperature	20 °C
Specified fluid temperature	20 °C	Installation altitude above sea level	1,000 m
Density Fluid handled	998 kg/m³		
Kinematic viscosity Fluid handled	1 mm²/s		

Operating conditions (performance)

Flow rate	17.1 m³/h	Maximum power input at duty point	17.29 kW
Minimum permissible flow rate	5.056 m³/h		
Head	105.25 m	Maximum power input / curve	23.2 kW
Shut-off head	107.54 m	Pump speed	2,961 1/min
Efficiency Pump	28.3 %	Discharge pressure-max.	10.52 bar
NPSH required	5.62 m		

Design data pump

Scope of supply Pump supplied by KSB	Pump + motor	Input voltage and frequency	Without
		Mains voltage	400 V
Pump standard	EN 733	Mains frequency	50 Hz
Shaft axis position	Horizontal	Minimum efficiency index MEI	0.6
Pump design	Close-coupled	Minimum permissible fluid temperature	0 °C
Pump system design	Single-pump system		
Specification of wetted parts	Manufactured without paint wetting impairment substances	Maximum permissible fluid temperature	60 °C
Pump direction of rotation, viewed from casing side	Counterclockwise	Quantity Stages, single-entry	1
		Casing wear ring design suction-side	Flat
Impeller diameter D2	276 mm		
Impeller type	Radial, closed, multi-channel	Casing wear ring design discharge-side	Flat
Free passage	7.1 mm		
Nut lock for Impeller	No	Installation chamber Casing cover	Conical (A-type cover)
Swirl break	No		
Support foot	No	Bearing bracket size / shaft unit	35
		Pump bearing type, non-drive end	Anti-friction bearing
		Pump bearing type, drive end	Anti-friction bearing
		Pump directive	CE

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Nozzle connections pump

Nominal diameter Suction nozzle	DN 65	Nominal diameter Discharge nozzle	DN 40
Nominal pressure Suction nozzle	PN 16	Nominal pressure Discharge nozzle	PN 16
Suction nozzle position	Axial	Discharge nozzle position	0 deg
Suction nozzle design acc.to	EN1092-2	Discharge nozzle design acc.to	EN1092-2
Suction flange bolt hole pattern as per standard	EN1092-2	Discharge flange bolt hole pattern as per standard	EN1092-2
Flange facing type Inlet	Raised face (B,RF)		
Flange facing type Outlet	Raised face (B,RF)		

Auxiliary connections pump

6B Fluid Drain	G 1/4 Drilled and plugged	1M Pressure gauge Discharge nozzle	Without Without
6D Fluid Filling and venting	G 1/4 Drilled and plugged	1M Pressure gauge Suction nozzle	Without Without
Connection type 5B Venting and drain	G 1/4 Drilled and plugged		

Shaft sealing

Shaft seal type	SMS A-type cover, vented	Shaft seal code	Code 11
Operating mode of mechanical seal (function)	API plan 03	Shaft seal manufacturer inboard	KSB's choice
Determined pressure Seal chamber	0.32 bar.r	Mechanical seal type inboard	1
		Material Shaft seal inboard	BQ1EGG-WA

Materials

Material Volute casing (102)	EN-GJL-250/A48 CL 35B	Material Bolts/Screws Hydraulic casing (902.01)	8.8
Material Casing cover (161)	EN-GJL-250/A48 CL 35B	Material Screw plug Hydraulic casing (903.01)	ST
Material Shaft	C45+N	Material Static seal Screw plug Volute casing	A4/AISI 316
Material Impeller (230)	EN-GJL-250/A48 CL 35B	Material Nut Impeller fastening (920.95)	(ST)
Material Casing wear ring suction-side (502.01)	JL/LAMELLAR GRAPHITE CAST IRON	Material Key	C45+C/A311 GR 1045 CLASS A
Material Casing wear ring discharge-side (502.02)	JL/LAMELLAR GRAPHITE CAST IRON		
Material Shaft protecting sleeve (523)	(CRNIMO ST INT)		
Material Static seal Discharge cover	DPAF DW001		
Material Drive lantern	EN-GJL-250/A48 CL 35B		

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Driver

Electric motor	Yes	Rated speed Motor	2,950 1/min
Drive concept	With electric actuator	Number of motor poles	2
Drive standard, mechanical	IEC	Rated power Motor	22 kW
Drive standard electric	IEC	Motor power reserve determined	27.2 %
Motor bearing, insulated	No		
Motor manufacturer	KSB's choice	Rated voltage Motor	400 V
Customer supply Drive	No	Motor winding	400 / 690 V
Motor construction type	IM V15 (IM2011) IEC 60034-7	Rated frequency Motor	50Hz
Motor size	180M	Motor switching type	Delta
Efficiency class	IE3 (Premium)	Rated current Motor	41.2 A
Material motor housing	AL	Starting current ratio Ia/In	9
Enclosure Motor	IP55	Cos phi at 4/4 load	0.87
Enclosure Unit	Without	Motor efficiency at 4/4 load	92.7 %
Thermal class	155 (F) nach IEC 60085	Directive Drive	CE
Temperature sensor motor	3 PTC thermistors		
Terminal box position of motor (looking at the motor shaft)	360 °		
Operation on a frequency inverter permitted	Yes (acc to motor manufact)		
Sound pressure level Motor	77 dBa		
Type series Motor manufacturer	Acc. to motor manufacturer		

Coating

Aggregate

Surface preparation	Free from dirt, grease, rust
Properties Primer coat	Hydro dip primer, water-dilutable
Thickness Primer coat	60 µm
Properties Top coat	Acrylate dispersion water-thin
Thickness Top coat	40 µm
Colour Top coat	RAL5002 Ultramarine Blue

Packaging

Suitable for transport	Truck transport
Suitable for storage	Indoor storage
Packaging category	KSB's choice (A0)

Nameplates

Duplicate name plate	No

Performance Curve (Pump)

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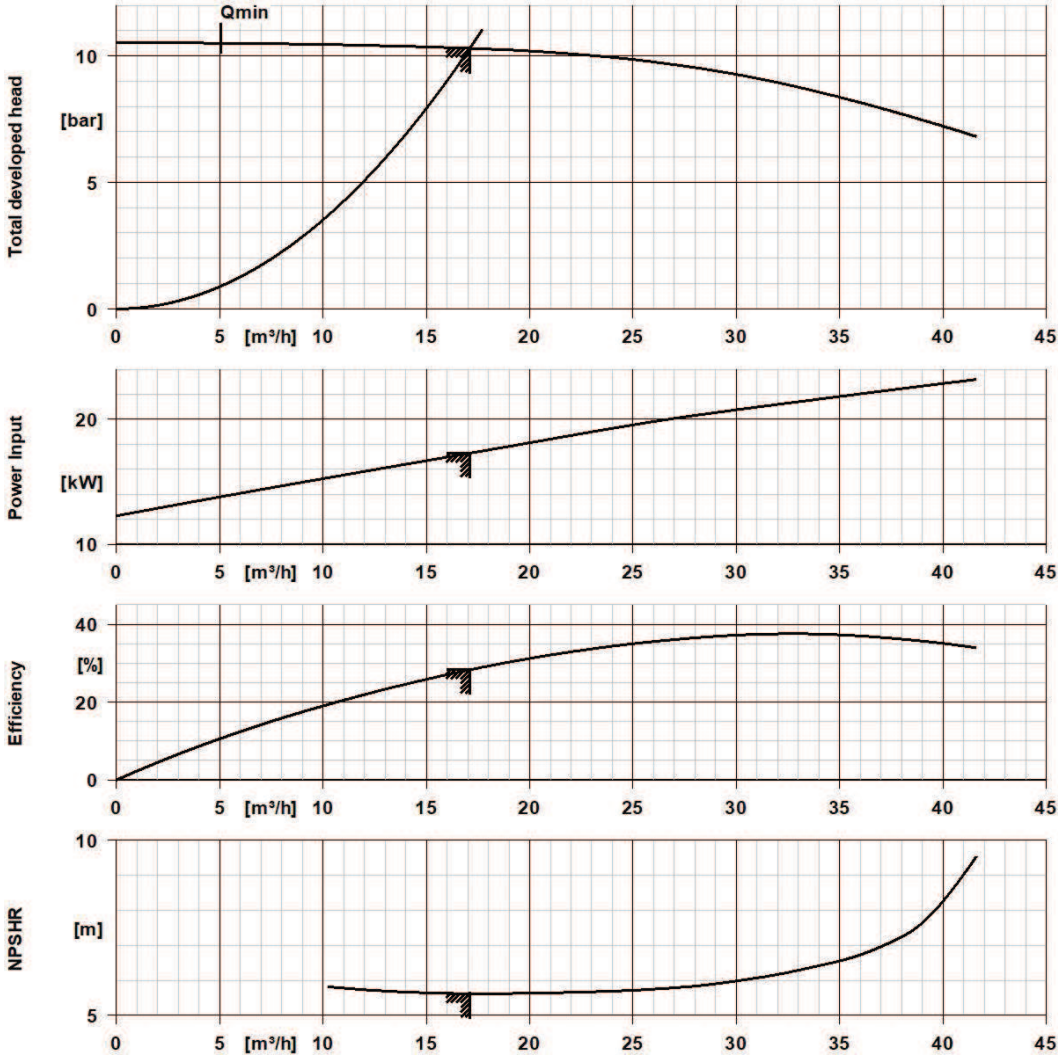

Curve Data

Pump speed	2,961 1/min	Efficiency Pump	28.3 %
Density Fluid handled	998 kg/m³	Minimum efficiency index MEI	0.6
Kinematic viscosity Fluid handled	1 mm²/s	Maximum power input at duty point	17.3 kW
Flow rate	17.1 m³/h	NPSH required	5.62 m
Head	105 m	Hydraulic impeller diameter	275.8 mm
		Hydraulic calculation according to standard/ class	EN ISO 9906 Class 3B

Installation plan

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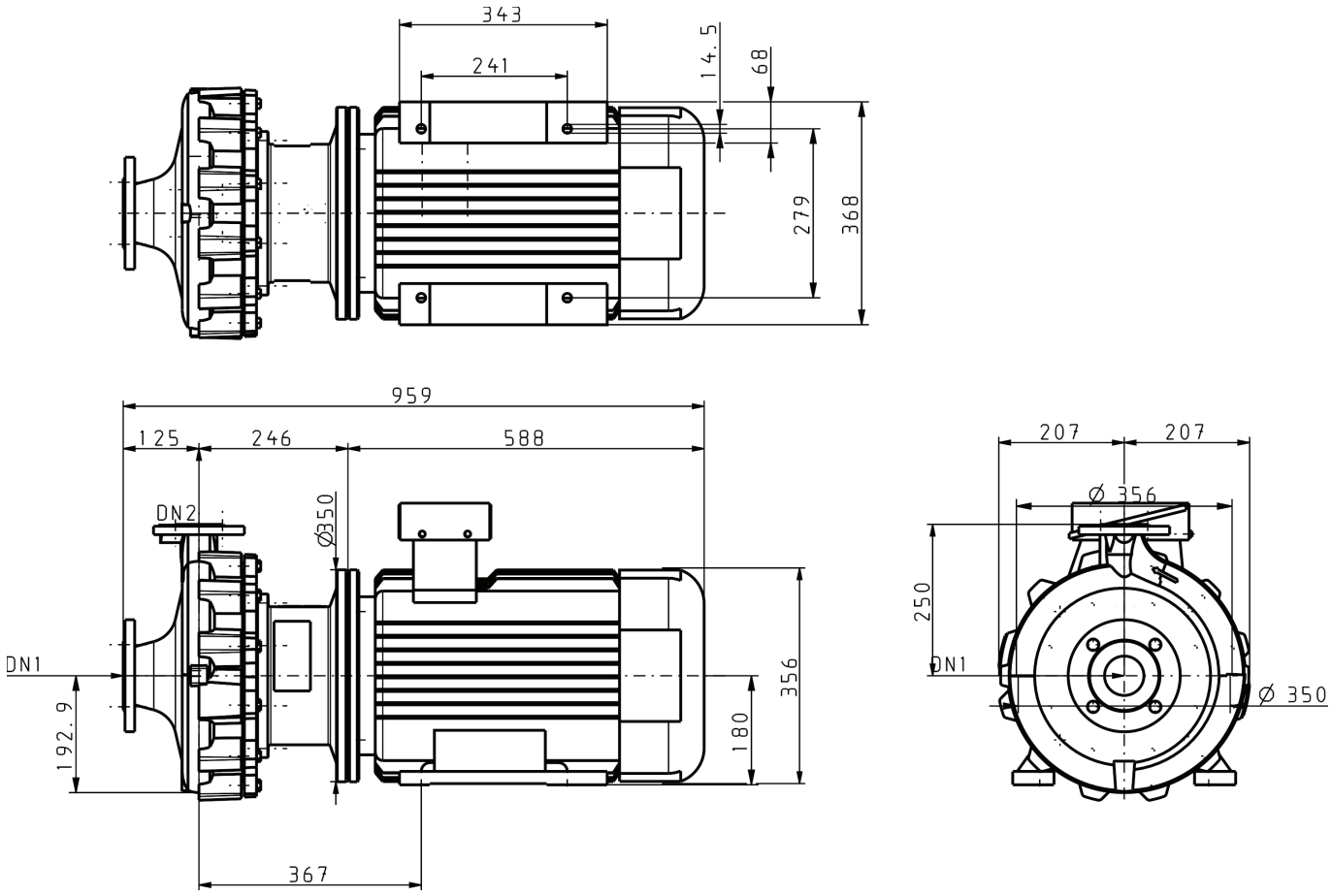

Drawing is not to scale.

Dimensions are given in mm

Motor

Motor manufacturer	KSB's choice
Motor size	180M
Rated power Motor	22 kW
Number of motor poles	2
Rated speed Motor	2,950 1/min
Terminal box position of motor (looking at the motor shaft)	360 °

Connections

Nominal diameter Suction nozzle	DN 65
Suction flange bolt hole pattern as per standard	EN1092-2
Nominal diameter Discharge nozzle	DN 40
Discharge flange bolt hole pattern as per standard	EN1092-2
Nominal pressure Suction nozzle	PN 16
Nominal pressure Discharge nozzle	PN 16

Net weight

Total weight Pump	76.81 kg
Total weight Drive	164 kg
Total weight Pump set	240.8 kg

Installation plan

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Connect pipelines stress-free

Plan for additional connections see extra drawing

Dimensional tolerances for shaft axis height: DIN 747
Dimensions without tolerances, middle tolerances to: ISO 2768-m
Connection dimensions for pumps: EN735
Dimensions without tolerances - welded parts: ISO 13920-B
Dimensions without tolerances - gray cast iron parts: ISO 8062-CT9

Auxiliary Connection Plan

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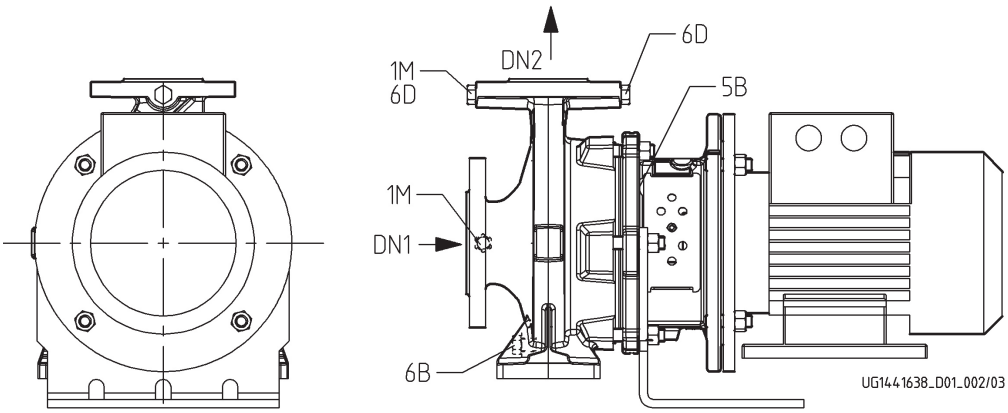

Connections

6B Fluid Drain	G 1/4	Drilled and plugged
6D Fluid Filling and venting	G 1/4	Drilled and plugged
Connection type 5B Venting and drain	G 1/4	Drilled and plugged