

**Etanorm 080-065-160 GB**  
ETNF080-065-160-GBNAA11 GSEX00AHB

**Operating point 1**

**Dimensioning operating point**

**Operating conditions (purchaser requirements)**

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

**Operating conditions (performance)**

Flow rate	112.71 m³/h	Maximum power input at duty point	12.05 kW
Minimum permissible flow rate	17.51 m³/h	Maximum power input / curve	13 kW
Maximum permissible flow rate Pump unit	0 m³/h	Pump speed	3,000 1/min
Head	32.44 m	Discharge pressure-max.	3.855 bar.r
Shut-off head	39.39 m		
Efficiency Pump	82.41 %		
NPSH required	4.67 m		

**Design data pump**

Scope of supply Pump supplied by KSB	Bare-shaft pump	Minimum permissible fluid temperature	4 °C
Pump standard	EN 733	Maximum permissible fluid temperature	40 °C
Design according to regulation	Sprinkler non-listed	Quantity Stages, single-entry	1
Shaft axis position	Horizontal	Casing wear ring design suction-side	Flat
Pump design	Long-coupled (basepl-mounted)	Casing wear ring design discharge-side	Flat
Pump system design	Single-pump system	Installation chamber Casing cover	Conical (A-type cover)
Specification of wetted parts	Manufactured without paint wetting impairment substances	Bearing bracket size / shaft unit	25
Pump direction of rotation, viewed from casing side	Counterclockwise	Bearing bracket design	Medium
Hydraulic impeller diameter	165 mm	Lubrication type	Grease lubrication
Impeller type	Radial, closed, multi-channel	Bearing seal Pump	V-ring
Free passage	12.2 mm	Pump directive	CE
Nut lock for Impeller	Yes		

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**Nozzle connections pump**

Nominal diameter Suction nozzle	DN 80	Nominal diameter Discharge nozzle	DN 65
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 3/8 Drilled and plugged	1M Pressure gauge Discharge nozzle	Without Without
6D Fluid Filling and venting	G 3/8 Drilled and plugged	1M Pressure gauge Suction nozzle	Without Without
8B Leakage Drain	G 1/2 Drilled		

**Shaft sealing**

Shaft seal type	Single mechanical seal (A-type cover) - A	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	-0.07 bar.r	Mechanical seal type inboard	KSB's choice
		Material Shaft seal inboard	BQEGG DW001

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### Materials

Material Volute casing	EN-GJL-250/A48 CL 35B	Material Bolts/Screws Volute casing	8.8
Material Casing cover	EN-GJL-250/A48 CL 35B	Material Nut Impeller fastening (CRNIMO ST INT)	
Material Shaft	1.4057+QT800		
Material Impeller	CC480K DW		
Material Casing wear ring suction-side	JL/LAMELLAR GRAPHITE CAST IRON		
Material Casing wear ring discharge-side	JL/LAMELLAR GRAPHITE CAST IRON		
Material Shaft protecting sleeve	(CRNIMO ST INT)		
Material Bearing bracket	EN-GJL-250/A48 CL 35B		
Material Static seal Discharge cover	DPAF DW001		

### Driver

Electric motor	No
Drive concept	Combustion engine

### Coating

Surface preparation	Aggregate
Properties Primer coat	Free from dirt, grease, rust
Thickness Primer coat	Hydro dip primer, water-dilutable
Properties Top coat	60 µm
Thickness Top coat	Acrylate dispersion water-thinned
Colour Top coat	40 µm
	RAL3000 Flame Red

### Energy cost and Environmental Impact

#### Result

Product Carbon Footprint indication (cradle-to-gate) (CO<sub>2</sub>eq) 178 kg

This PCF indication is based on the product mass assuming the typical shares of materials in use. The conversion rate between product mass and CO<sub>2</sub> emissions is based on several life cycle assessments acc. ISO 14040 / 14044 of sample products of the same type series. Objective and scope of these LCAs was defined as being limited to the manufacturing phase (cradle-to-gate). With regard to inputs, all materials, energy and auxiliary materials were accounted for, and with regard to outputs, emissions, scrap and waste were accounted for. The impact of outbound logistics is not covered. The assessments' input variables has covered at least 95% of the total product mass. The analysis focuses exclusively on the Global Warming Potential (EF3.0 Climate Change – total).



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**Packaging**

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

**Product properties**

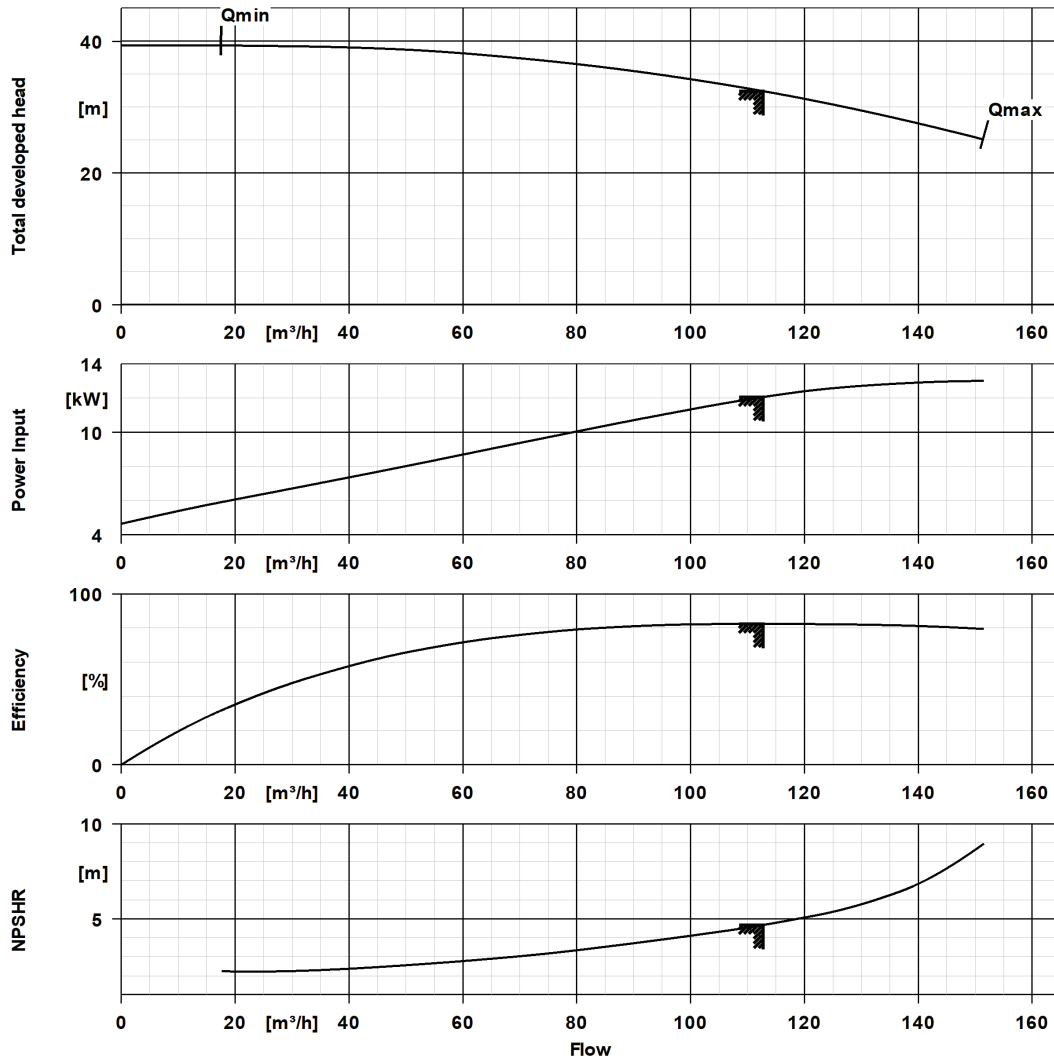
Specification of wetted parts	Manufactured without paint wetting impairment substances
Standard Test of specification of wetted parts	KSB documentation
Certificate Check of specification of wetted parts	Without

## Performance Curve (Pump)



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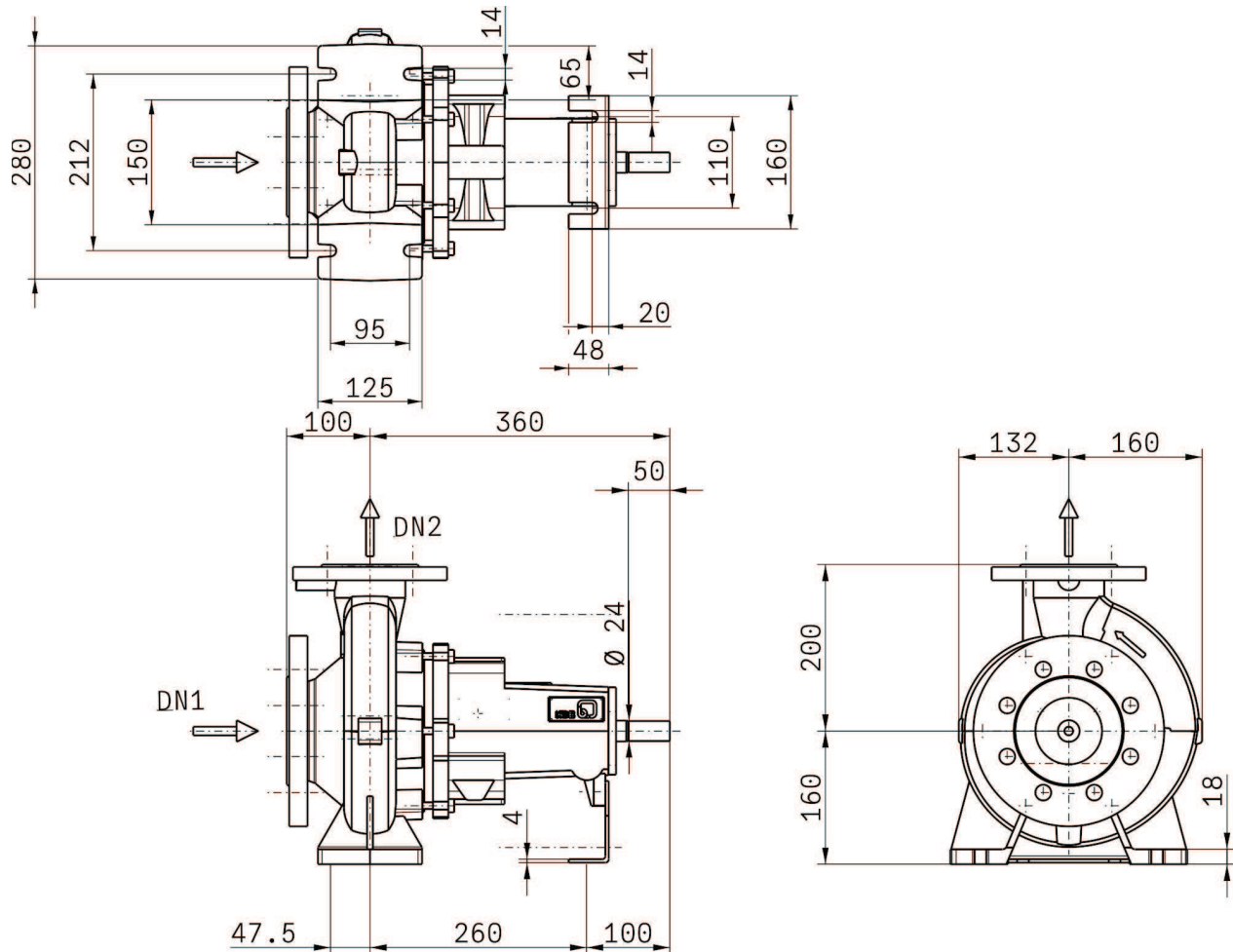


### Curve Data

Pump speed	3,000 1/min	Efficiency Pump	82.4 %
Density Fluid handled	998 kg/m³	Maximum power input at duty point	12.1 kW
Kinematic viscosity Fluid handled	1 mm²/s	NPSH required	4.67 m
Flow rate	113 m³/h	Hydraulic impeller diameter	165 mm
Head	32.4 m	Hydraulic calculation according to standard/class	EN ISO 9906 Class 3B

According to EN ISO 9906, §4.4.2 (pump input power below 10 kW)

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Drawing is not to scale.

Dimensions are given in mm

## Motor

Electric motor

No

## Connections

Nominal diameter Suction nozzle	DN 80
Suction flange bolt hole pattern as per standard	EN1092-2
Nominal diameter Discharge nozzle	DN 65
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	46.92 kg
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### **Etanorm 080-065-160 GB**

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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