

Etanorm 065-050-160 GG
ETN 065-050-160-GGSAA10 GSEBI4GHB

Operating point 1 Dimensioning operating point

Operating conditions (purchaser requirements)

Target flow rate	28 m³/h	Vapour pressure determined	0,02337 bar.a
Target head	9,55 m	Minimum inlet pressure required	-0,3 bar.r
Fluid	Water	Specified ambient temperature	20 °C
Fluid variant	Clean water	Installation altitude above sea level	1.000 m
Specified fluid temperature	20 °C		
Density Fluid handled	998 kg/m³		
Kinematic viscosity Fluid handled	1 mm²/s		

Operating conditions (performance)

Flow rate	27,97 m³/h	Maximum power input at duty point	0,9672 kW
Minimum permissible flow rate	6,629 m³/h	Maximum power input / curve	1,358 kW
Head	9,533 m	Pump speed	1.465 1/min
Shut-off head	10,44 m	Discharge pressure-max.	1,022 bar.r
Efficiency Pump	74,86 %		
NPSH required	1,85 m		

Design data pump

Scope of supply Pump supplied by KSB	Back pull-out unit (pump without casing)	Mains voltage	400 V
Pump standard	EN 733	Mains frequency	50 Hz
Shaft axis position	Horizontal	Minimum efficiency index MEI	0,7
Pump design	Long-coupled (basepl-mounted)	Minimum permissible fluid temperature	0 °C
Pump system design	Single-pump system	Maximum permissible fluid temperature	60 °C
Specification of wetted parts	Manufactured without paint wetting impairment substances	Quantity Stages, single-entry	1
Pump direction of rotation, viewed from casing side	Counterclockwise	Casing wear ring design discharge-side	Flat
Impeller diameter D2	167 mm	Installation chamber Casing cover	Conical (A-type cover)
Impeller type	Radial, closed, multi-channel	Bearing bracket size / shaft unit	25
Free passage	11,6 mm	Bearing bracket type	Bearing bracket
Nut lock for Impeller	No	Bearing bracket design	Medium
Swirl break	No	Pump bearing type, non-drive end	Anti-friction bearing
		Pump bearing type, drive end	Anti-friction bearing
		Lubrication type	Grease lubrication
		Bearing seal Pump	V-ring
		Pump directive	CE

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Nozzle connections pump

Nominal pressure Suction nozzle PN 16
Suction nozzle position Axial

Nominal pressure Discharge nozzle PN 16
Discharge nozzle position 0 deg
Discharge flange bolt hole pattern as per standard EN1092-2

Auxiliary connections pump

8B Leakage Drain G 1/2
Drilled

Shaft sealing

Shaft seal type SMS A-type cover
Operating mode of mechanical seal (function) API plan 03
Determined pressure Seal chamber -0,24 bar.r

Shaft seal code Code 10
Shaft seal manufacturer inboard KSB's choice
Mechanical seal type inboard 1
Material Shaft seal inboard Q1Q1X4GG

Materials

Material Volute casing EN-GJL-250/A48 CL 35B
Material Casing cover EN-GJL-250/A48 CL 35B
Material Shaft C45+N
Material Impeller EN-GJL-250/A48 CL 35B
Material Casing wear ring discharge-side JL/LAMELLAR GRAPHITE
Material Shaft protecting sleeve (CRNIMO ST INT)
Material Bearing bracket EN-GJL-250/A48 CL 35B
Material Static seal Discharge cover DPAF DW001

Material Bolts/Screws 8.8
Hydraulic casing
Material Screw plug Hydraulic casing ST
Material Static seal Screw plug Volute casing A4/AISI 316
Material Nut Impeller fastening (ST)
Material Key C45+C/A311 GR 1045 CLASS A

Driver

Electric motor No
Drive concept With electric actuator
Drive standard, mechanical IEC
Drive standard electric IEC
Motor construction type IM B3 (IM1001) IEC 60034-7
Motor size 90L

Rated speed Motor 1.445 1/min
Number of motor poles 4
Rated power Motor 1,5 kW

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Coating

Aggregate

Surface preparation
Properties Primer coat
Thickness Primer coat
Properties Top coat
Thickness Top coat
Colour Top coat
Colour Top coat Drive

Free from dirt, grease, rust
Hydro dip primer, water-dilutable
60 µm
Acrylate dispersion water-thin
40 µm
RAL5002 Ultramarine Blue
RAL5002 Ultramarine Blue

Packaging

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

Nameplates

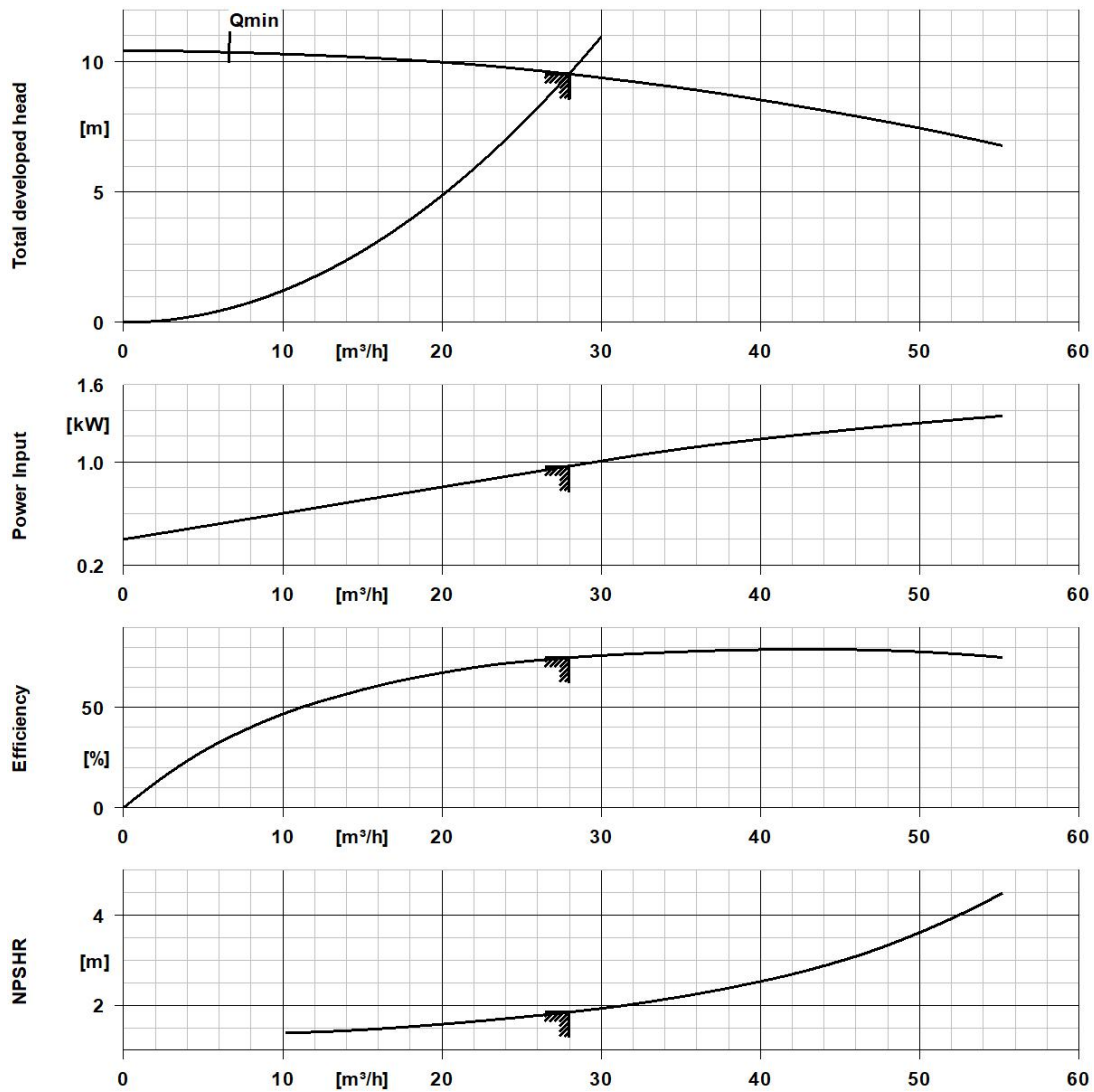
Product properties

Specification of wetted parts
Standard Test of specification of wetted parts
Certificate Check of specification of wetted parts

Manufactured without paint wetting impairment substances
KSB documentation
Without

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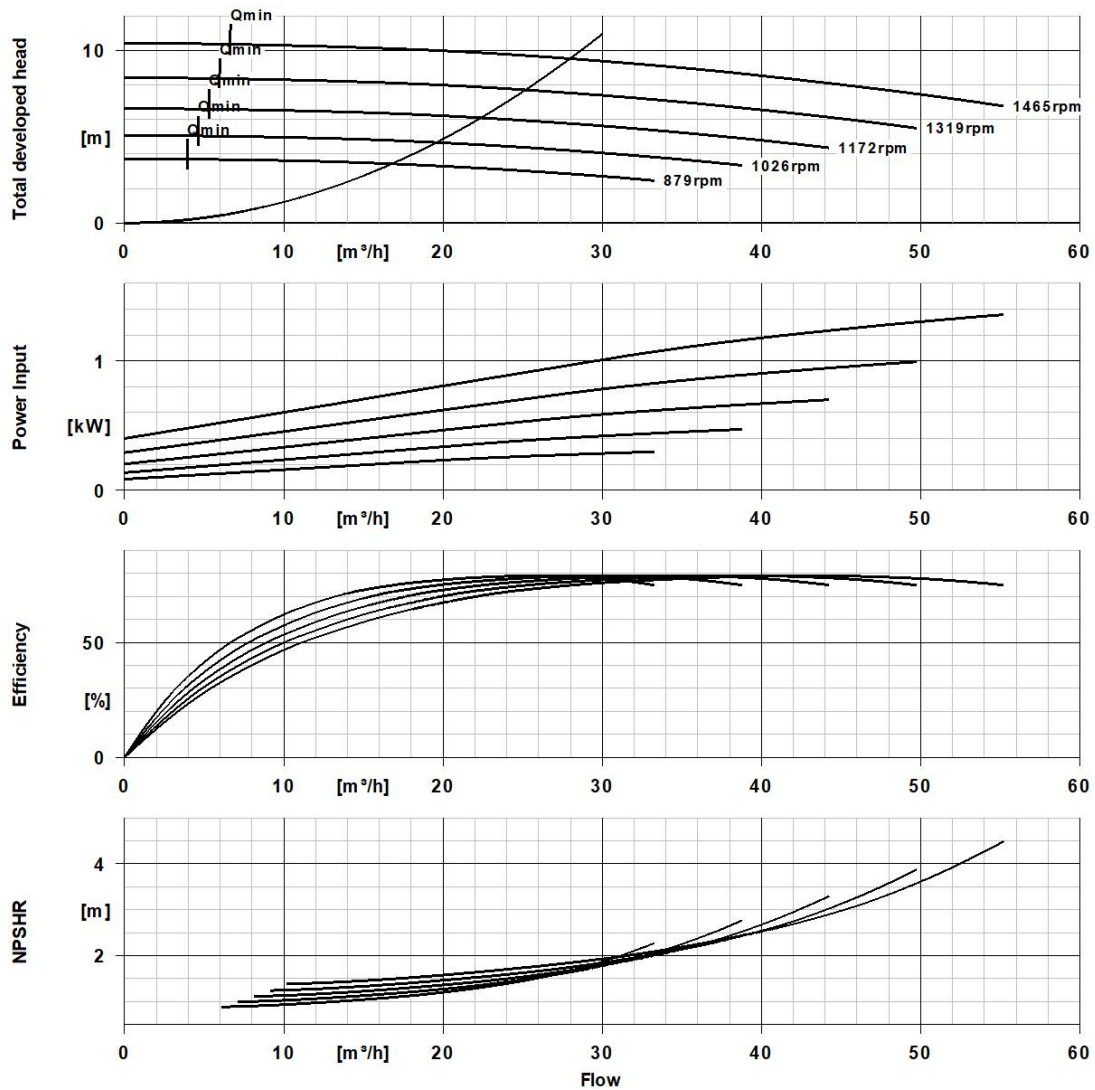


Curve Data

Pump speed	1.465 1/min	Efficiency Pump	74,9 %
Density Fluid handled	998 kg/m³	Minimum efficiency index MEI	0,7
Kinematic viscosity Fluid handled	1 mm²/s	Maximum power input at duty point	0,97 kW
Flow rate	28 m³/h	NPSH required	1,85 m
Head	9,53 m	Hydraulic impeller diameter	166,9 mm
		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)

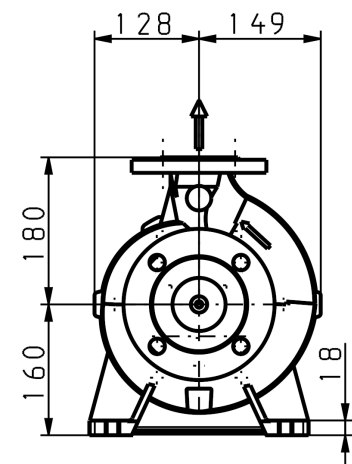
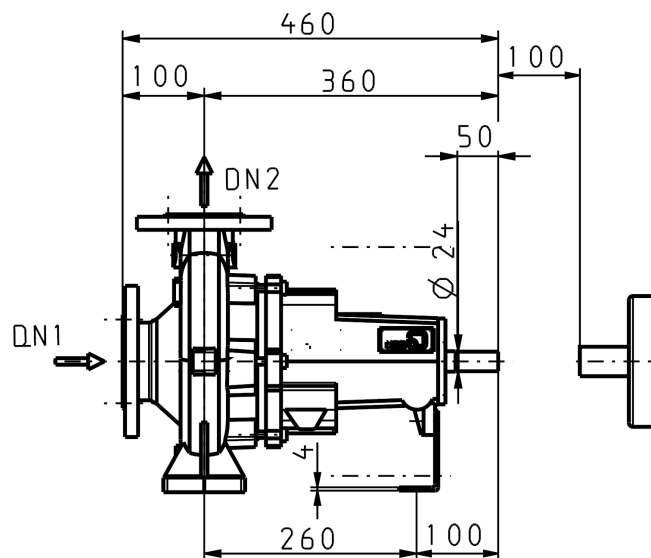
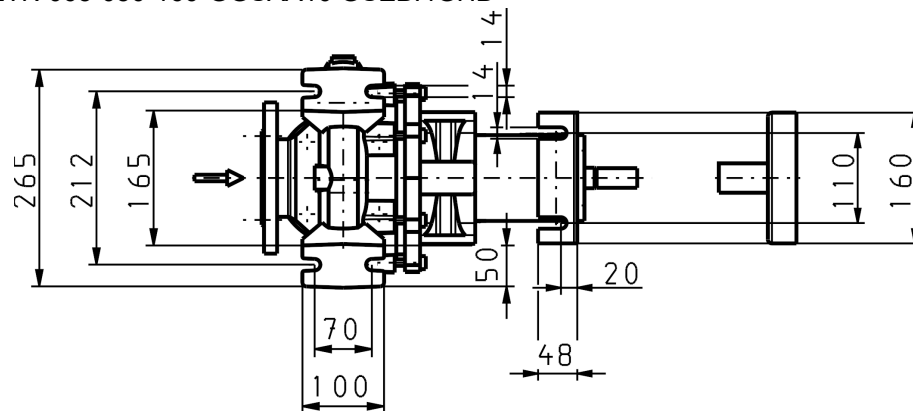
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Curve Data

Density Fluid handled	998 kg/m^3	Minimum efficiency index MEI	0,7
Kinematic viscosity Fluid handled	1 mm^2/s	Hydraulic impeller diameter	166,9 mm
Flow rate	27,97 m^3/h	Head	9,533 m

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Drawing is not to scale.

Dimensions are given in mm

Motor

Rated power Motor 1,5 kW
Rated speed Motor 1.445 1/min

Connections

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

Net weight

Total weight Pump 20,4 kg
Total weight Pump set 20,4 kg

Connect pipelines stress-free

Plan for additional connections see extra drawing

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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