

Etanorm 080-065-200 GG
 ETN 080-065-200-GGSAA06 GSECD4EHB

Version No.: 1

Operating point 1 Dimensioning operating point

Operating conditions (purchaser requirements)

Target flow rate	60 m ³ /h	Vapour pressure determined	0.02337 bar.a
Target head	10 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/m ³		
Kinematic viscosity Fluid handled	1 mm ² /s		

Operating conditions (performance)

Flow rate	60 m ³ /h	Maximum power input at duty point	2.199 kW
Minimum permissible flow rate	7.771 m ³ /h	Maximum power input / curve	2.324 kW
Head	10 m	Pump speed	1,456 1/min
Shut-off head	13.35 m	Discharge pressure-max.	1.306 bar.r
Efficiency Pump	74.17 %		
NPSH required	1.74 m		

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 ETN 080-065-200-GGSAA06 GSECD4EHB

Version No.: 1

Design data pump

Scope of supply Pump supplied by KSB	Pump + coupling + coupling guard + baseplate + motor	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 suction-side	Flat
Impeller diameter D2	193 mm	Casing wear ring design discharge-side	Flat
Impeller type	Radial, closed, multi-channel	Installation chamber Casing cover	Conical (A-type cover)
Free passage	13.3 mm	Bearing bracket size / shaft unit	25
Nut lock for Impeller	No	Bearing bracket type	Bearing bracket
Swirl break	No	Bearing bracket design	Medium
		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

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)		

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 ETN 080-065-200-GGSAA06 GSECD4EHB

Version No.: 1

Auxiliary connections pump

6B Fluid Drain	G 3/8 Drilled and plugged	1M Pressure gauge	Without
		Discharge nozzle	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	SMS A-type cover	Shaft seal code	Code 06
Operating mode of mechanical seal (function)	API plan 03	Shaft seal manufacturer inboard	BURGMANN
Determined pressure Seal chamber	-0.22 bar.r	Mechanical seal type inboard	RMG13G606
		Material Shaft seal inboard	U3BEGG

Materials

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

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 ETN 080-065-200-GGSAA06 GSECD4EHB

Version No.: 1

Driver

Electric motor	Yes	Rated speed Motor	1,440 1/min
Drive concept	With electric actuator	Number of motor poles	4
Drive standard, mechanical	IEC	Rated power Motor	3 kW
Drive standard electric	IEC	Motor power reserve determined	36.4 %
Motor bearing, insulated	No	Rated voltage Motor	400 V
Motor manufacturer	KSB's choice	Motor winding	400 / 690 V
Customer supply Drive	No	Rated frequency Motor	50Hz
Motor construction type	IM B3 (IM1001) IEC 60034-7	Motor switching type	Delta
Motor alignment	No	Rated current Motor	6.2 A
Motor size	100L	Starting current ratio Ia/In	8.2
Efficiency class	IE3 (Premium)	Cos phi at 4/4 load	0.82
Material motor housing	AL	Motor efficiency at 4/4 load	87.7 %
Enclosure Motor	IP55	Motor service factor	1.13
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	63 dBa		
Type series Motor manufacturer	Acc. to motor manufacturer		

Installation parts / Accessories

Coupling

Coupling type	Rotex ZS-DKM-SH
Coupling manufacturer	KTR
Nominal size Coupling	24
Spacer length	140 mm

Coupling guard

Coupling guard type	Light (ZN79)
Nominal coupling guard size	A148
Material Coupling guard	ST+Z

Baseplate

Baseplate type	Folded plate/U-section
Material Installation part Pump	(ST)
Baseplate size	3A
Drill baseplate at motor end	Yes
Material Connecting element Foundation	3.6+A2A

Accessories

Etanorm 080-065-200 GG
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Version No.: 1

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

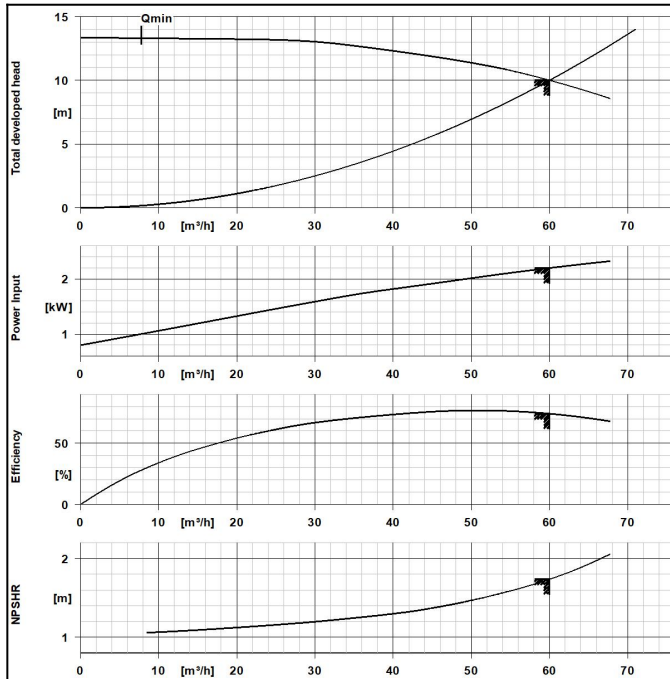
Product properties

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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Version No.: 1



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

Dimensioning operating point

Fluid	Water
Fluid variant	Clean water
Specified ambient temperature	20 °C
Specified fluid temperature	20 °C
Flow rate	60 m³/h
Head	10 m
Efficiency Pump	74.17 %
Minimum efficiency index MEI	0.7
Maximum power input at duty point	2.199 kW
Pump speed	1,456 1/min
Pump system design	Single-pump system
NPSH required	1.74 m

Driver

Coupling manufacturer	KTR
Coupling type	Rotex ZS-DKM-SH
Nominal size Coupling	24
Coupling guard type	Light (ZN79)
Nominal coupling guard size	A148
Material Coupling guard	ST+Z
Baseplate type	Folded plate/U-section
Baseplate size	3A
Drive concept	With electric actuator
Drive standard, mechanical	IEC
Drive standard electric	IEC
Efficiency class	IE3 (Premium)
Rated speed Motor	1,440 1/min
Rated frequency Motor	50Hz
Rated voltage Motor	400 V
Rated power Motor	3 kW
Rated current Motor	6.2 A
Starting current ratio I _a /I _n	8.2
Thermal class	155 (F) nach IEC 60085
Enclosure Motor	IP55
Enclosure Unit	Without
Temperature sensor motor	3 PTC thermistors
Mains voltage	400 V
Motor switching type	Delta
Operation on a frequency inverter permitted	Yes (acc to motor manufact)
Terminal box position of motor	360 ° (looking at the motor shaft)

Design data pump

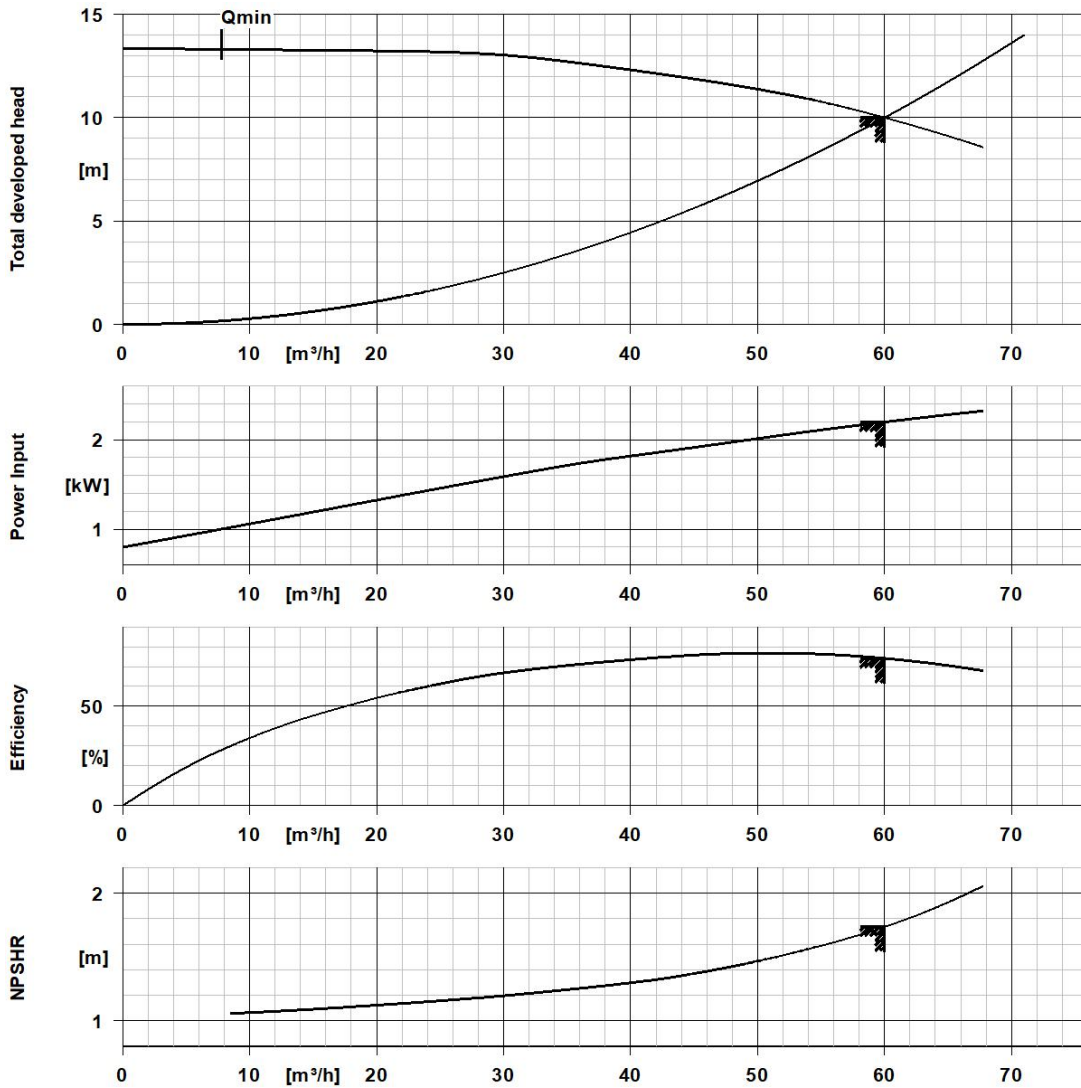
Pump standard	EN 733
Pump design	Long-coupled (basepl-mounted)
Nominal diameter Suction nozzle	DN 80
Suction flange bolt hole pattern as per standard	EN1092-2
Nominal diameter Discharge nozzle	DN 65
Nominal pressure Discharge nozzle	PN 16
Discharge flange bolt hole pattern as per standard	EN1092-2
Material Shaft seal inboard	U3BEGG
Shaft seal code	Code 06
Impeller diameter D2	193 mm
Free passage	13.3 mm
Specification of wetted parts	Manufactured without paint wetting impairment substances

Performance Curve (Pump)



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Version No.: 1



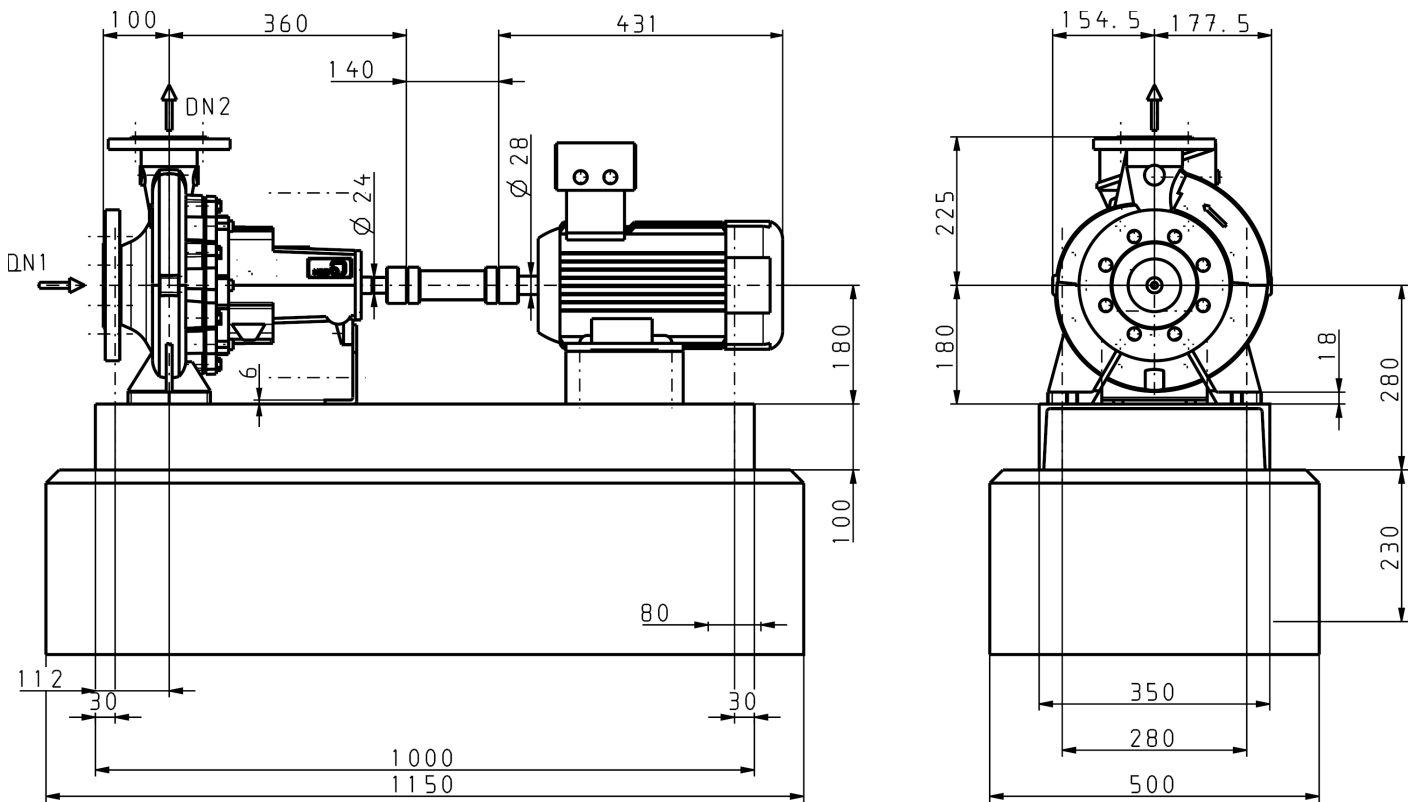
Curve Data

Pump speed	1,456 1/min	Efficiency Pump	74.2 %
Density Fluid handled	998 kg/m ³	Minimum efficiency index MEI	0.7
Kinematic viscosity Fluid handled	1 mm ² /s	Maximum power input at duty point	2.2 kW
Flow rate	60 m ³ /h	NPSH required	1.74 m
Head	10 m	Hydraulic impeller diameter	193 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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Version No.: 1



Drawing is not to scale.

Dimensions are given in mm

Motor

Motor manufacturer	KSB's choice
Motor size	100L
Rated power Motor	3 kW
Number of motor poles	4
Rated speed Motor	1,440 1/min
Terminal box position of motor (looking at the motor shaft)	360 °

Connections

Nominal diameter Suction nozzle	DN 80
Suction flange bolt hole pattern	as per standard
Nominal diameter Discharge nozzle	DN 65
Discharge flange bolt hole pattern	as per standard
Nominal pressure Suction nozzle	PN 16
Nominal pressure Discharge nozzle	PN 16

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 ETN 080-065-200-GGSAA06 GSECD4EHB

Version No.: 1

Baseplate

Baseplate type	Folded plate/U-section
Baseplate size	3A
Connection element type	Foundation bolts
Foundation	

Coupling

Coupling manufacturer	KTR
Coupling type	Rotex ZS-DKM-SH
Nominal size Coupling	24
Spacer length	140 mm

Net weight

Total weight Pump	53.14 kg
Total weight Installation parts	64.42 kg
Total weight Coupling	1.59 kg
Total weight Contact guard	1.22 kg
Total weight Drive	34 kg
Total weight Pump set	154.4 kg

Connect pipelines stress-free

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

Plan for additional connections see extra drawing

