

**Etanorm 050-032-2001 CC**  
 ETN 050-032-2001CCS I 1 4GSEBI4EHB

<b>Operating point</b>	<b>1</b>	<b>Dimensioning operating point</b>
<b>Operating conditions (purchaser requirements)</b>		
Target flow rate	7 m <sup>3</sup> /h	Vapour pressure determined 0.02337 bar.a
Target head	14 m	Minimum inlet pressure required 0 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	1,100 kg/m <sup>3</sup>	
Kinematic viscosity Fluid handled	20 mm <sup>2</sup> /s	
<b>Operating conditions (performance)</b>		
Flow rate	7.007 m <sup>3</sup> /h	Maximum power input at duty point 0.6371 kW
Minimum permissible flow rate	1.685 m <sup>3</sup> /h	Maximum power input / curve 0.8241 kW
Head	14.03 m	Pump speed 1,477 1/min
Shut-off head	15.02 m	Discharge pressure-max. 1.62 bar.r
Efficiency Pump	46.23 %	
NPSH required	0.74 m	

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**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	0.6
Pump design	Long-coupled (basepl-mounted)	Minimum permissible fluid temperature	-20 °C
Pump system design	Single-pump system	Maximum permissible fluid temperature	120 °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
Hydraulic impeller diameter	203.4 mm	Casing wear ring design discharge-side	Flat
Impeller type	Radial, closed, multi-channel	Installation chamber Casing cover	Conical (A-type cover)
Free passage	5.3 mm	Bearing bracket size / shaft unit	25
		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
		Explosion protection directive Pump/Valve for destination country	Not relevant

**Nozzle connections pump**

Nominal diameter Suction nozzle	DN 50	Nominal diameter Discharge nozzle	DN 32
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	EN1092-1	Discharge nozzle design acc.to	EN1092-1
Suction flange bolt hole pattern as per standard	EN1092-1	Discharge flange bolt hole pattern as per standard	EN1092-1
Flange facing type Inlet	Raised face (B,RF)		
Flange facing type Outlet	Raised face (B,RF)		

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**Auxiliary connections pump**

6B Fluid Drain	G 1/4 Drilled and plugged	1M Pressure gauge Discharge nozzle	G 1/4 Drilled and plugged
6D Fluid Filling and venting	G 1/4 Drilled and plugged	1M Pressure gauge Suction nozzle	G 1/4 Drilled and plugged
8B Leakage Drain	G 1/2 Drilled		

**Shaft sealing**

Shaft seal type	Int circulation A-type cover	Shaft seal code	Code 14
Operating mode of mechanical seal (function)	API plan 01	Shaft seal manufacturer inboard	BURGMANN
Determined pressure Seal chamber	0.24 bar.r	Mechanical seal type inboard	KMB13S2G9
		Material Shaft seal inboard	Q1Q1KY7

**Materials**

Material Volute casing	1.4408/A743CF8M	Material Bolts/Screws Volute casing	A4-70/A193 GR B8M CL2
Material Casing cover	1.4408/A743CF8M	Material Nut Impeller fastening	(CRNIMO ST INT)
Material Shaft	1.4462/UNS S31803		
Material Impeller	1.4408/A743CF8M		
Material Casing wear ring suction-side	(CRNIMO ST INT)		
Material Casing wear ring discharge-side	(CRNIMO ST INT)		
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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**Driver**

Electric motor	Yes	Rated speed Motor	1,445 1/min
Drive concept	Electric actuator	Number of motor poles	4
Drive standard, mechanical	IEC	Rated power Motor	1.5 kW
Drive standard electric	IEC	Motor power reserve determined	135 %
Motor bearing, insulated	No	Rated voltage Motor	400 V
Motor manufacturer	KSB's choice	Motor winding	230 / 400 V
Customer supply Drive	No	Rated frequency Motor	50Hz
Motor construction type	IM B3 (IM1001) IEC 60034-7	Motor switching type	Star
Motor alignment	No	Rated current Motor	3.47 A
Motor size	90L	Starting current ratio Ia/In	7.8
Efficiency class	IE3 (Premium)	Cos phi at 4/4 load	0.83
Material motor housing	AL	Motor efficiency at 4/4 load	85.3 %
Enclosure Motor	IP55	Motor service factor	1.13
Thermal class	155 (F) nach IEC 60085	Limit value Maximum humidity Motor	30 g/m <sup>3</sup>
Temperature sensor motor	1 PTC thermistors	Marking according to directive Drive	CE
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	59 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	100 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	1A
Drill baseplate at motor end	Yes
Material Connecting element Foundation	3.6+A2A

**Accessories**



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**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-thinned
Thickness Top coat	40 µm
Colour Top coat	RAL5002 Ultramarine Blue
Colour Top coat Drive	RAL5002 Ultramarine Blue

**Packaging**

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

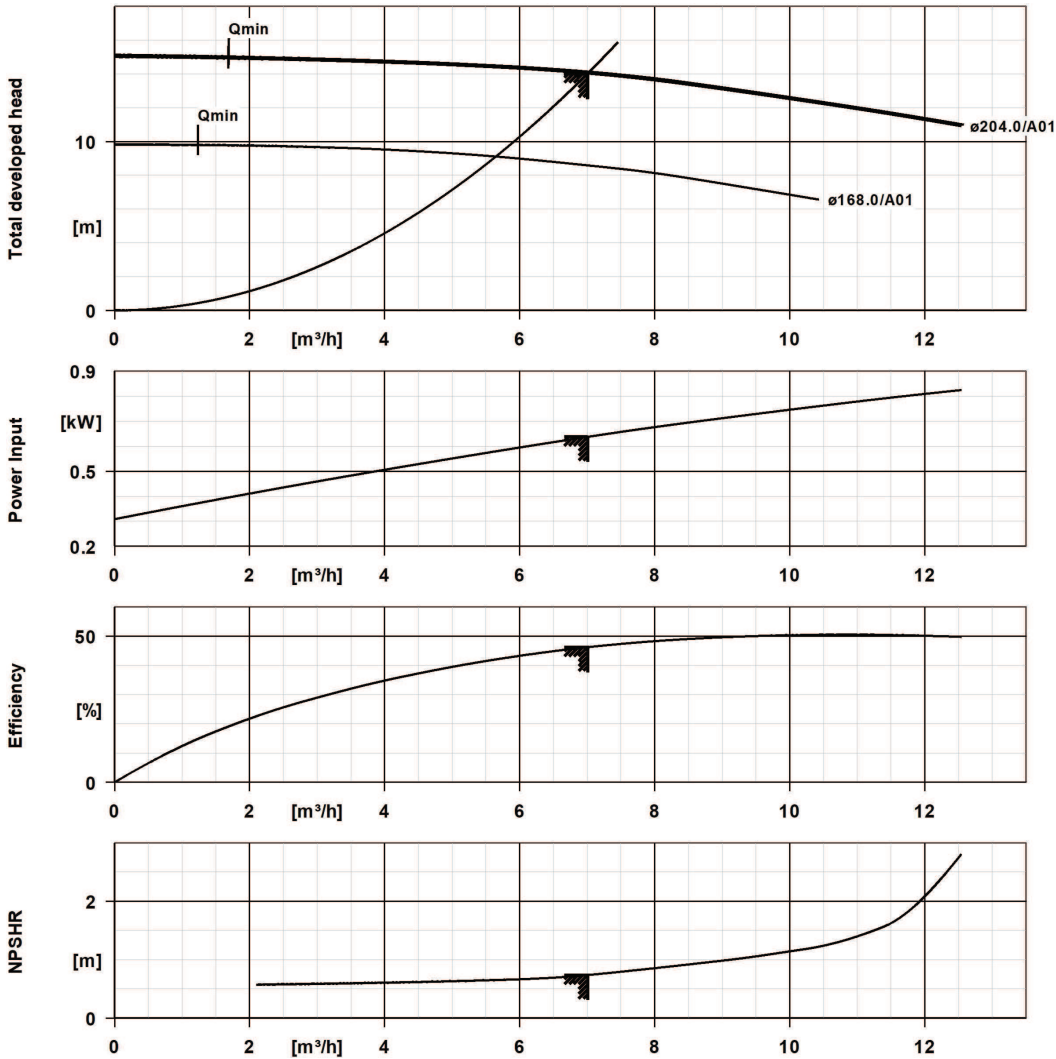
**Product properties**

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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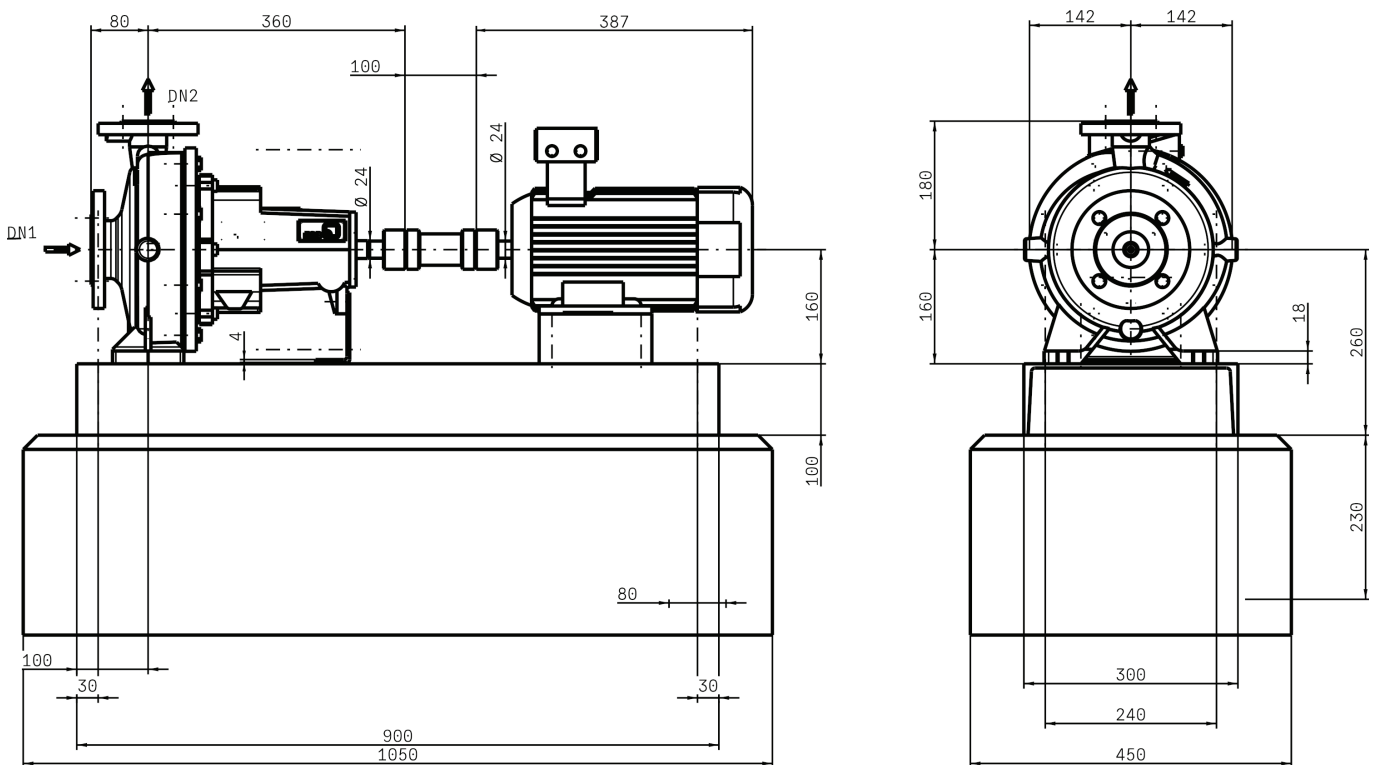


### Curve Data

Pump speed	1,477 1/min	Efficiency Pump	46.2 %
Density Fluid handled	1,100 kg/m <sup>3</sup>	Minimum efficiency index MEI	0.6
Kinematic viscosity Fluid handled	20 mm <sup>2</sup> /s	Maximum power input at duty point	0.64 kW
Flow rate	7.01 m <sup>3</sup> /h	NPSH required	0.74 m
Head	14 m	Hydraulic impeller diameter	203.4 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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Drawing is not to scale.

Dimensions are given in mm

**Motor**

Motor manufacturer	KSB's choice
Motor size	90L
Rated power Motor	1.5 kW
Number of motor poles	4
Rated speed Motor	1,445 1/min
Terminal box position of motor (looking at the motor shaft)	360 °

**Connections**

Nominal diameter Suction nozzle	DN 50
Suction flange bolt hole pattern as per standard	EN1092-1
Nominal diameter Discharge nozzle	DN 32
Discharge flange bolt hole pattern as per standard	EN1092-1
Nominal pressure Suction nozzle	PN 16
Nominal pressure Discharge nozzle	PN 16



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### Baseplate

Baseplate type	Folded plate/U-section
Baseplate size	1A
Foundation bolt set	4xM16x250
Material Connecting element	3.6+A2A
Foundation	

### Coupling

Coupling manufacturer	KTR
Coupling type	Rotex ZS-DKM-SH
Nominal size Coupling	24
Spacer length	100 mm

### Net weight

Total weight Pump	50.2 kg
Total weight Installation parts	45.39 kg
Total weight Coupling	1.4 kg
Total weight Contact guard	0.92 kg
Total weight Drive	22 kg
Total weight Pump set	119.9 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

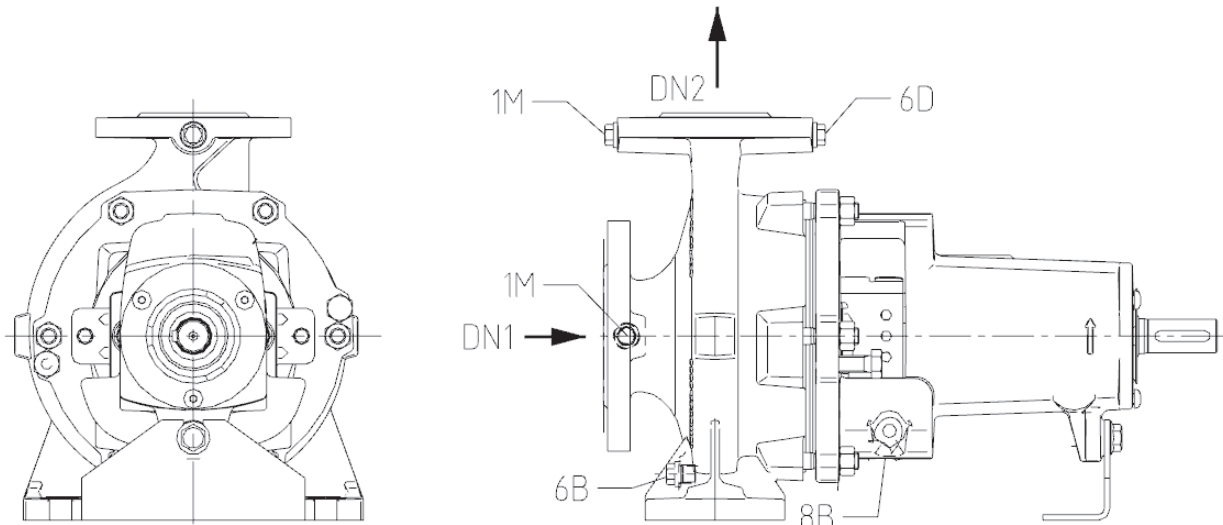
### Plan for additional connections see extra drawing



# Auxiliary connections pump



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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
8B Leakage Drain	G 1/2	Drilled
1M Pressure gauge Discharge nozzle	G 1/4	Drilled and plugged
1M Pressure gauge Suction nozzle	G 1/4	Drilled and plugged