

Data sheet



Customer item no.: 50m3_hr@220m
 Communication dated: 09/07/2024
 Doc. no.: Quick quote
 Quantity: 1

Number: ES 8003064220
 Item no.: 100
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Operating data

Requested flow rate	50.00 m ³ /h	Actual flow rate	50.00 m ³ /h
Requested developed head	220.00 m	Actual developed head	229.04 m
Pumped medium	Water	Efficiency	70.3 %
	Clean water	Power absorbed	44.28 kW
Pumped medium details	Not containing chemical and mechanical substances which affect the materials	Pump speed of rotation	2968 rpm
		NPSH required	2.76 m
Solids content max.	50 ppm	Permissible operating pressure	40.00 bar.g
Max. ambient air temperature	20.0 °C	Discharge press.	22.42 bar.g
Min. ambient air temperature	20.0 °C		
Fluid temperature	20.0 °C	Shutoff head	260.30 m
Fluid density	998 kg/m ³	Shutoff pressure	25.48 bar.g
Fluid viscosity	1.00 mm ² /s	Minimum allowable flow for continuous operation	10.72 m ³ /h
Vapour pressure	0.02 bar.a	Minimum flow for stable curve	36.14 m ³ /h
Suction pressure max.	0.00 bar.g	Min. mass flow for stable curve	10.02 kg/s
Mass flow rate	13.86 kg/s	Max. allow. flow rate	77.90 m ³ /h
Max. power on curve	53.35 kW	Max. allow. mass flow	21.59 kg/s
Min. allow. flow for short term operation	10.72 m ³ /h	Design	Single system 1 x 100 %
Min. allow. mass flow for continuous operation	2.97 kg/s	Performance test	Yes
Min. allow. mass flow short term operation	2.97 kg/s		

Design

Variant	C	Shaft seal code	66
Stage number	5	Sealing plan	P2 Gland packing, without sealing liquid (Nb)
Balance drum	with piston	Pumped liquid without abrasive solids	
Design	Baseplate mounted, long-coupled	Seal chamber design	Standard seal chamber
Orientation	Horizontal	Impeller diameter	195.0 / 179.0 mm
Suction nominal dia.	DN 100	Minimum impeller diameter	175.0 mm
Suction nominal pressure	PN 16	Full impeller diameter	195.0 mm
Suction position	270° (left 90°)	Free passage size	11.5 mm
Suction flange drilled according to standard	EN 1092-2	Direction of rotation from drive	Clockwise
Discharge nominal dia.	DN 65	Bearing bracket construction	Standard (normal) two-sided
Discharge nominal pressure	PN 40	Bearing bracket size	65
Discharge position	top (0°/360°) Viewed from the drive	Bearing seal	Thrower
	EN 1092-2	Bearing type	Anti-friction bearings
Discharge flange drilled according to standard		Lubrication type	Grease
Shaft seal	Gland packing	Temperature sensor PT100	Without
Shaft seal manufacturer	Latty	mts	
Shaft seal type	2790	Color	Ultramarine blue (RAL 5002) KSB-blue
Material code	PA/PTFE	Impeller combination and impeller diameter are given as indicative basis	

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Driver, accessories

Coupling Manufacturer	Flender	Rated power P2	55.00 kW
Coupling type	Eupex N	Available reserve	24.22 %
Nominal size	140	Rated current	100.3 A
Coupling guard type	Lightweight, not treadproof (ZN79)	Starting current ratio	8.2
Guard size	B189	Insulation class	F to IEC 34-1
Guard material	Galvanised steel ST TZN	Motor enclosure	IP55
Baseplate type	Steel baseplate for Multitec	Cos phi at 4/4 load	0.80
Baseplate size	GP8	Motor efficiency at 4/4 load	94.3 %
Driver type	Electric motor	Temperature sensor	3 PTC resistors
Drive standard mech.	IEC	Terminal box position	0°/360° (top) Viewed from the drive
Model (make)	KSB-Motor	Motor winding	400 / 690 V
Drive supplied by	Standard motor supplied by KSB - mounted by KSB	Number of poles	2
Motor const. type	B3	Connection mode	Delta
Motor size	250M	Motor cooling method	Surface cooling
Efficiency class	Efficiency class IE3 acc. to IEC60034-30-1	Motor material	Grey cast iron GG/CAST IRON
Motor speed	2968 rpm	Frequency inverter operation allowed	VFD-suitability only in connection with KSB PumpDrive
Frequency	50 Hz	Motor noise pressure level	78 dBa
Rated voltage	400 V	Motor data can vary from type plate information. Motor data describes KSB 's choice functional specification and is used for pump selection.	
		EAC Approval	Yes

Materials 11

Notes
General criteria for a water analysis: pH-value $\geq 6,5$; chloride content (Cl) ≤ 250 mg/kg. Chlorine (Cl₂) $\leq 0,6$ mg/kg. Ammonium (NH₄⁺) ≤ 2 mg/kg, free of H₂S; Chlorine (Cl₂) $\leq 0,6$ mg/kg.

Suction casing (106)	Grey cast iron EN-GJL-250	Bearing housing (350)	Grey cast iron EN-GJL-250
Discharge casing (107)	Grey cast iron EN-GJL-250	O-Ring (412)	EPDM 80
Stage casing (108)	Grey cast iron EN-GJL-250	Shaft seal housing (441)	Grey cast iron EN-GJL-250
Shaft (210)	Tempered steel C45+N	Shaft protecting sleeve (524)	Chrome steel 1.4122+QT750
Impeller (230)	CC480K DW	Bush (540)	Grey cast iron EN-GJL-250
Impeller, suction stage (231)	CC480K DW	Disc (550.1)	Stainless steel 1.4301
		Piston (59-4)	Chrome steel 1.4021QT700+SR
		Tie bolt (905)	42CrMo4

Packaging

Packaging category	A0 Packing acc. to KSB choice	Packaging for country	Rwanda
Packaging for storage	Indoor	Storage must not exceed 3 months. For outdoor storage cover the packed or unpacked pump (set) and accessories with waterproof material.	
Packaging for transport	Truck		

Nameplates

Nameplates language	International
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Certifications

Hydraulic performance test	
Acceptance standard	ISO 9906 3B
Quantity meas. points Q-H	5
Certificate	Inspection cert. 3.1 to EN 10204

Test participation	Non-witnessed
Quantity, non-witnessed	1
Quantity, witnessed	0

Performance curve

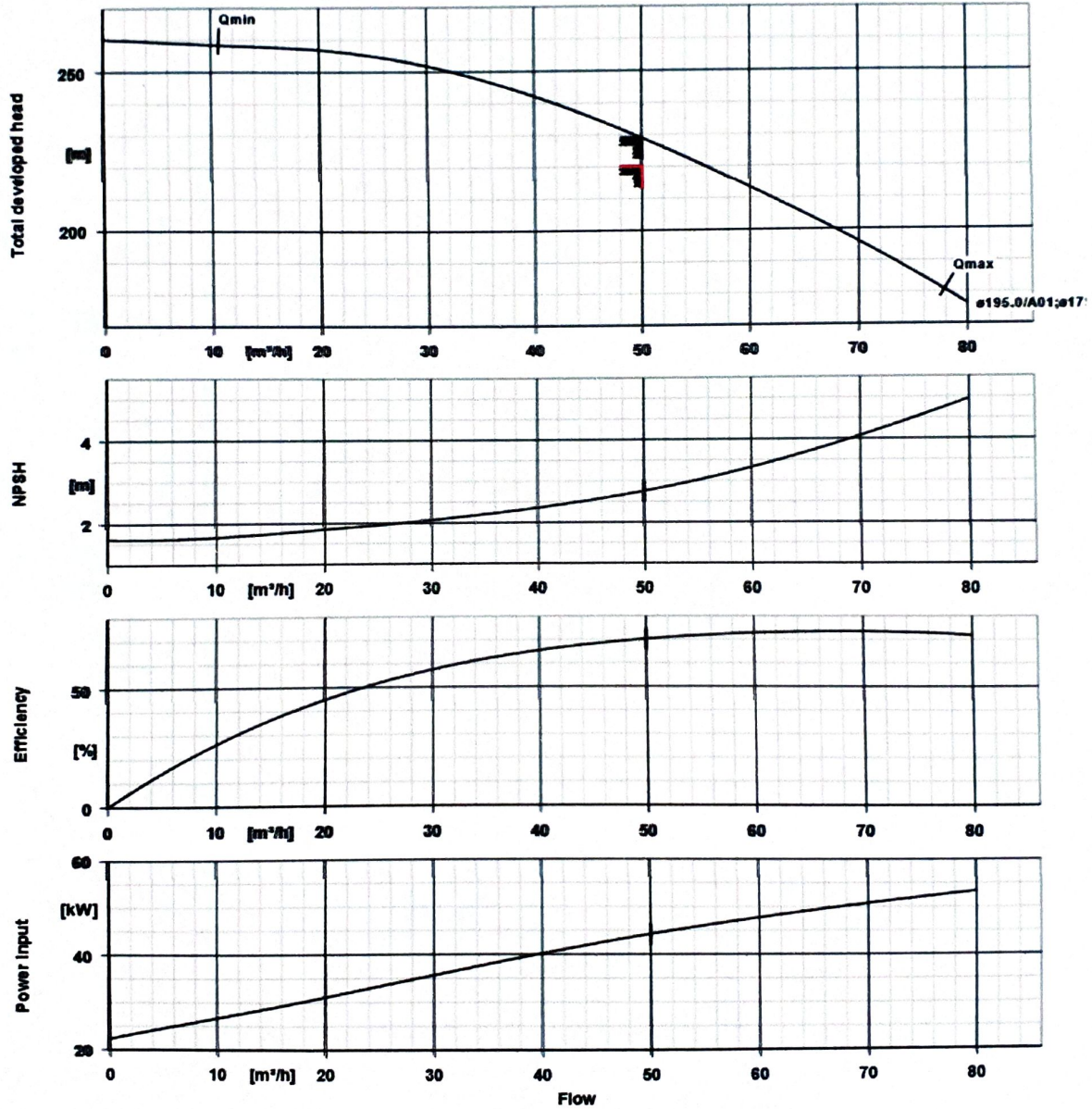


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Curve data

Speed of rotation	2968 rpm	Efficiency	70.3 %
Fluid density	998 kg/m^3	Power absorbed	44.28 kW
Viscosity	1.00 mm^2/s	NPSHR	2.76 m
Flow rate	50.00 m^3/h	Curve number	1777.407522/04 B/3
Requested flow rate	50.00 m^3/h	Impeller diameter	195.0 / 179.0 mm
Total developed head	229.04 m	Acceptance standard	ISO 9906 3B
Requested developed head	220.00 m		

Installation plan

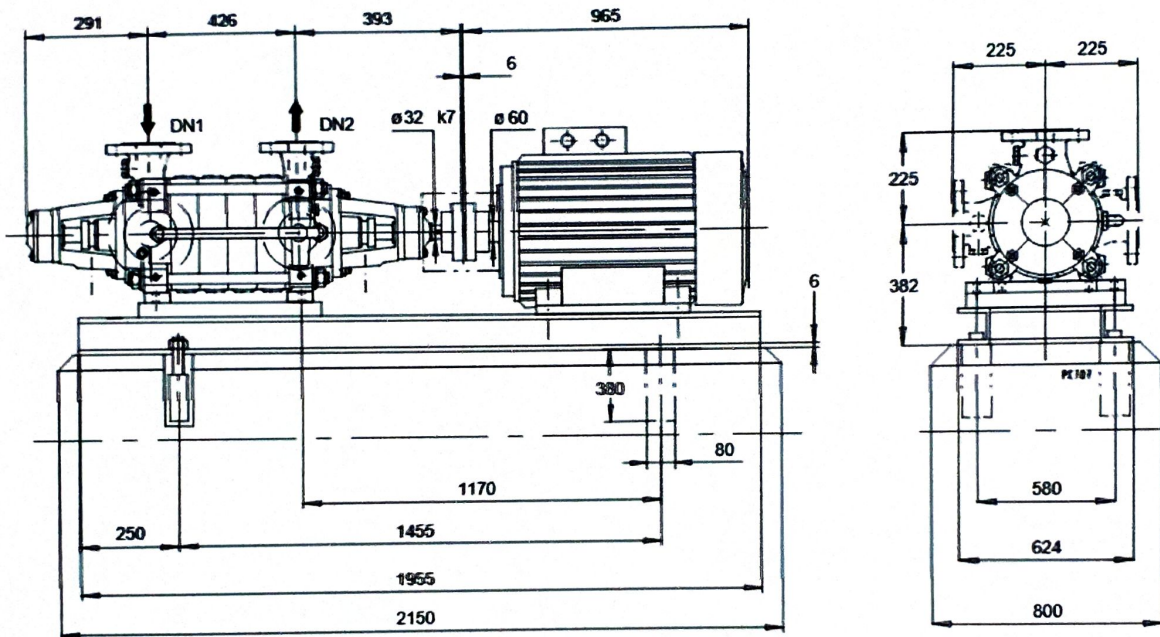


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Drawing is not to scale

Dimensions in mm

Motor

Motor manufacturer: KSB-Motor
 Motor size: 250M
 Motor power: 55.00 kW
 Number of poles: 2
 Speed of rotation: 2968 rpm
 Position of terminal box: 0°/360° (top)
 Viewed from the drive

Connections

Suction nominal size DN1: DN 100 / EN 1092-2
 Discharge nominal size DN2: DN 65 / EN 1092-2
 Nominal pressure suct.: PN 16
 Rated pressure disch.: PN 40

Baseplate

Design: Steel baseplate for Multitec
 Size: GP8
 Leakage drain baseplate (8B): Rp1, Without
 Baseplate drain piping execution: Without
 Foundation bolts: M20x320 (required but not scope of supply)

Coupling

Coupling manufacturer: Flender
 Coupling type: Eupex N
 Coupling size: 140
 Spacer: 0.0 mm

Weight net

Pump: 217 kg
 Baseplate: 188 kg
 Coupling: 7 kg
 Coupling guard: 2 kg
 Motor: 485 kg
 Total: 899 kg

Connect pipes without stress or strain!
 Dimensional tolerances for shaft axis height:
 Dimensions without tolerances, middle tolerances to:
 Connection dimensions for pumps:

DIN 747
 ISO 2768-m
 EN735

For auxiliary connections see separate drawing.

Connection plan

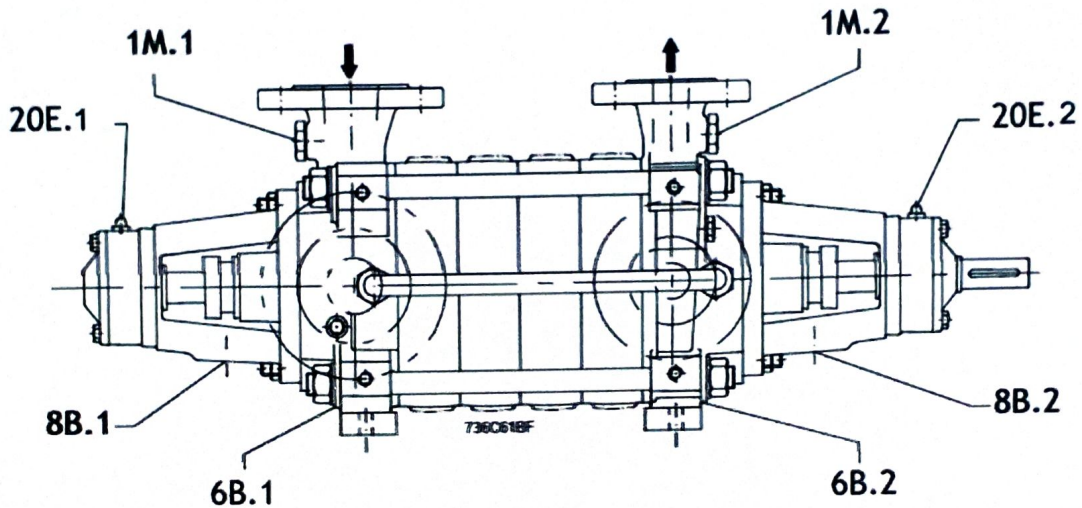


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- 1M.1 Pressure gauge connection
- 1M.2 Pressure gauge connection
- 6B.1 Pumped liquid drain
- 6B.2 Pumped liquid drain
- 8B.1 Leakage drain
- 8B.2 Leakage drain
- 20E.1 Grease nipple
- 20E.2 Grease nipple

- G 1/2
- G 1/2
- G 1/2
- G 1/2
- Rp 3/8
- Rp 3/8

- Drilled and plugged.
- Drilled and plugged.
- Drilled and plugged.
- Drilled and plugged.
- Drilled
- Drilled
- Not executed
- Mounted at the factory