

Data sheet



Customer item no.:
Communication dated: 07/04/2020
Doc. no.: Water Supply Gagauzia
Quantity: 1

Number: 4004006613
Item no.: 100
Date: 07/04/2020
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Version no.: 1

Operating data

Requested flow rate	127.00 m ³ /h	Actual flow rate	127.00 m ³ /h
Requested developed head	120.00 m	Actual developed head	120.09 m
Pumped medium	Water	Efficiency	77.0 %
	Clean water	Power absorbed	53.88 kW
	Not containing chemical and mechanical substances which affect the materials	Pump speed of rotation	1489 rpm
Solids content max. 50 ppm		NPSH required	2.16 m
Ambient air temperature	20.0 °C	Permissible operating pressure	40.00 bar.g
Fluid temperature	20.0 °C	Discharge press.	11.75 bar.g
Fluid density	998 kg/m ³	Shutoff pressure	15.71 bar.g
Fluid viscosity	1.00 mm ² /s	Min. mass flow for stable curve	11.63 kg/s
Suction pressure max.	0.00 bar.g	Min. allow. mass flow for continuous operation	11.63 kg/s
Vapour pressure	0.02 bar.a	Min. allow. mass flow short term operation	8.30 kg/s
Mass flow rate	35.21 kg/s	Shutoff head	160.56 m
Max. power on curve	59.50 kW	Max. allow. flow rate	155.18 m ³ /h
Minimum flow for stable curve	41.94 m ³ /h	Max. allow. mass flow	43.02 kg/s
Minimum allowable flow for continuous operation	41.94 m ³ /h	Design	Single system 1 x 100 % Tolerances to ISO 9906 Class 3B; below 10 kW acc. to paragraph 4.4.2
Min. allow. flow for short term operation	29.96 m ³ /h		

Design

Variant	A	Sealing plan	E Single acting mechanical (external circulation)
Stage number	6	Pumped liquid without abrasive solids	
Balance drum	with piston	Seal chamber design	Standard seal chamber
Design	Baseplate mounted, long-coupled	Wear ring	Casing wear ring
Orientation	Horizontal	Impeller diameter	267.0 / 294.0 mm
Suction nominal dia.	DN 200	Minimum impeller diameter	245.0 mm
Suction nominal pressure	PN 16	Full impeller diameter	273.0 mm
Suction position	axial	Free passage size	18.0 mm
Suction flange drilled according to standard	EN 1092-2	Direction of rotation from drive	Clockwise
Discharge nominal dia.	DN 125	Bearing bracket construction	Standard (normal)
Discharge nominal pressure	PN 40	Bearing bracket size	125
Discharge position	top (0°/360°) Viewed from the drive	Bearing seal	Thrower
Discharge flange drilled according to standard	EN 1092-2	Bearing type	Anti-friction bearings
Shaft seal	Single acting mechanical seal	Lubrication type	Grease
Manufacturer	KSB	Bearing type (inboard)	Plain bearings
Type	5B	Lubrication type (inboard)	Medium lubricated
Material code	BQ1EGG	Temperature sensor PT100	Without
Shaft seal code	167	Color	Ultramarine blue (RAL 5002) KSB-blue



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Driver, accessories

Manufacturer	Flender
Coupling type	Eupex N
Nominal size	180
Coupling guard type	Lightweight, not treadproof (ZN79)
Guard size	H254
Guard material	Galvanised steel ST TZN
Baseplate type	Steel baseplate for Multitec
Baseplate size	GP13
Driver type	Electric motor
Drive standard mech.	IEC
Model (make)	KSB-Motor
Drive supplied by	Standard motor supplied by KSB - mounted by KSB
Motor const. type	B3
Motor size	280S
Efficiency class	Efficiency class IE3 acc. to IEC60034-30-1
Motor speed	1489 rpm
Frequency	50 Hz

Rated voltage	400 V
Rated power P2	75.00 kW
Available reserve	39.19 %
Rated current	140.5 A
Starting current ratio	7.9
Insulation class	F to IEC 34-1
Motor enclosure	IP55
Cos phi at 4/4 load	0.87
Motor efficiency at 4/4 load	95.0 %
Temperature sensor	3 PTC resistors
Terminal box position	0°/360° (top) Viewed from the drive
Motor winding	400 / 690 V
Number of poles	4
Connection mode	Delta
Motor cooling method	Surface cooling
Motor material	Grey cast iron GG/CAST IRON
Motor noise pressure level	72 dBa

Motor data can vary from type plate information. Motor data describes KSB's choice functional specification and is used for pump selection.

Materials 10

Notes
General criteria for a water analysis: pH-value ≥ 7 ; chloride content (Cl) ≤ 250 mg/kg. Chlorine (Cl2) ≤ 0.6 mg/kg.

Suction casing (106)	Grey cast iron EN-GJL-250
Discharge casing (107)	Grey cast iron EN-GJL-250
Stage casing (108)	Grey cast iron EN-GJL-250
Diffuser (171)	Grey cast iron EN-GJL-250
Shaft (210)	Tempered steel C45+N
Impeller (230)	Grey cast iron EN-GJL-250
Impeller, suction stage (231)	Grey cast iron EN-GJL-250
Bearing housing (350)	Grey cast iron EN-GJL-250

Bearing cartridge (381)	Ceramic SSiC
O-Ring (412)	EPDM 80
Shaft seal housing (441)	Grey cast iron EN-GJL-250
Casing wear ring (502.1)	Grey cast iron EN-GJL-250
Casing wear ring (502.2)	Grey cast iron EN-GJL-250
Shaft sleeve (523)	Chrome steel 1.4057+QT800
Bearing sleeve (529)	Ceramic SSiC
Bush (540)	Grey cast iron EN-GJL-250
Piston (59-4)	Chrome steel 1.4021QT700+SR
Tie bolt (905)	42CrMo4



Performance curve

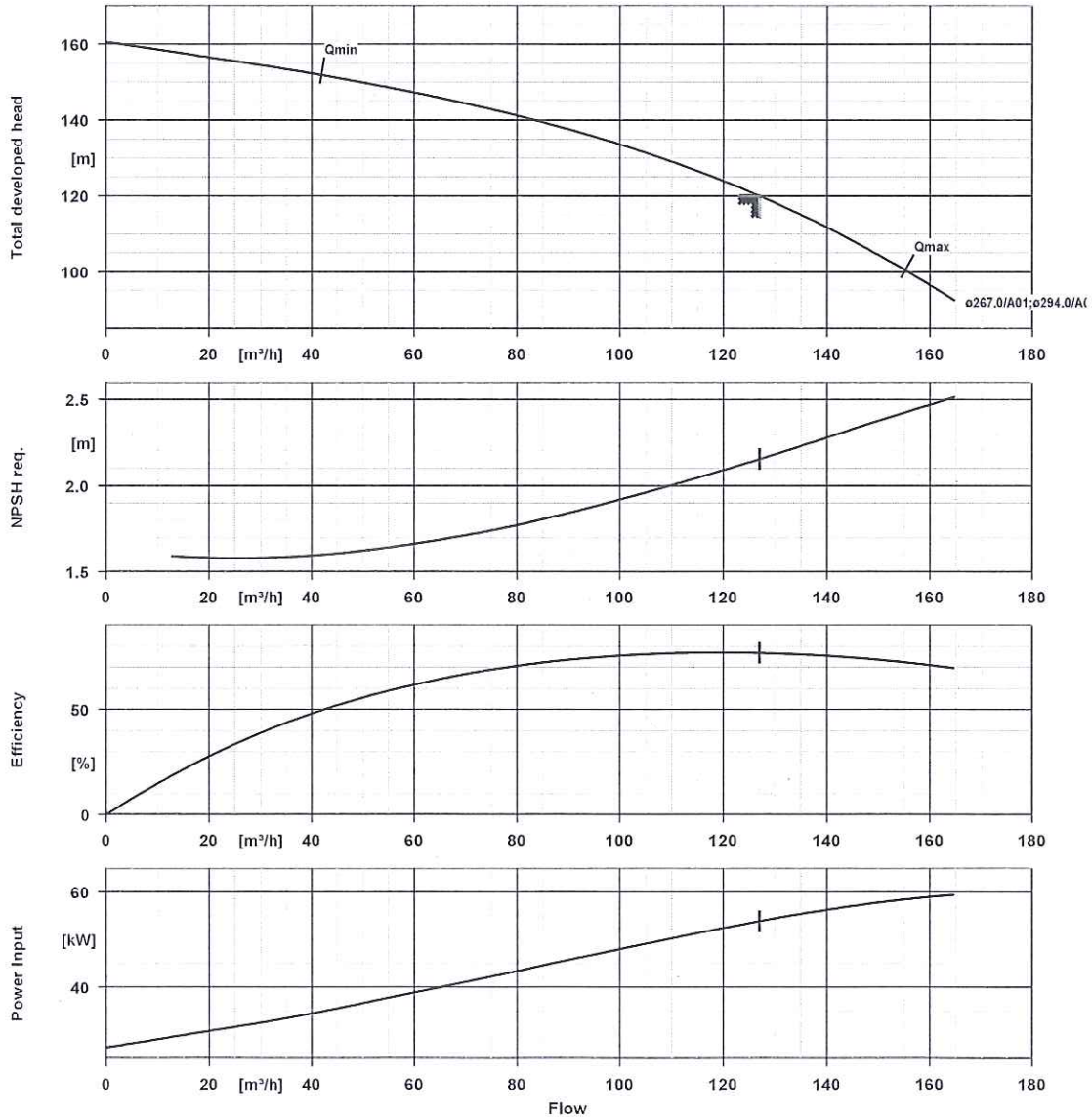


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Curve data

Speed of rotation	1489 rpm	Efficiency	77.0 %
Fluid density	998 kg/m³	Power absorbed	53.88 kW
Viscosity	1.00 mm²/s	NPSH required	2.16 m
Flow rate	127.00 m³/h	Curve number	5 * 1777.407541/09 GG 1 *
Requested flow rate	127.00 m³/h		1777.407541/08 GG
Total developed head	120.09 m	Impeller diameter	267.0 / 294.0 mm
Requested developed head	120.00 m	Acceptance standard	Tolerances to ISO 9906
			Class 3B; below 10 kW
			acc. to paragraph 4-2



Installation plan

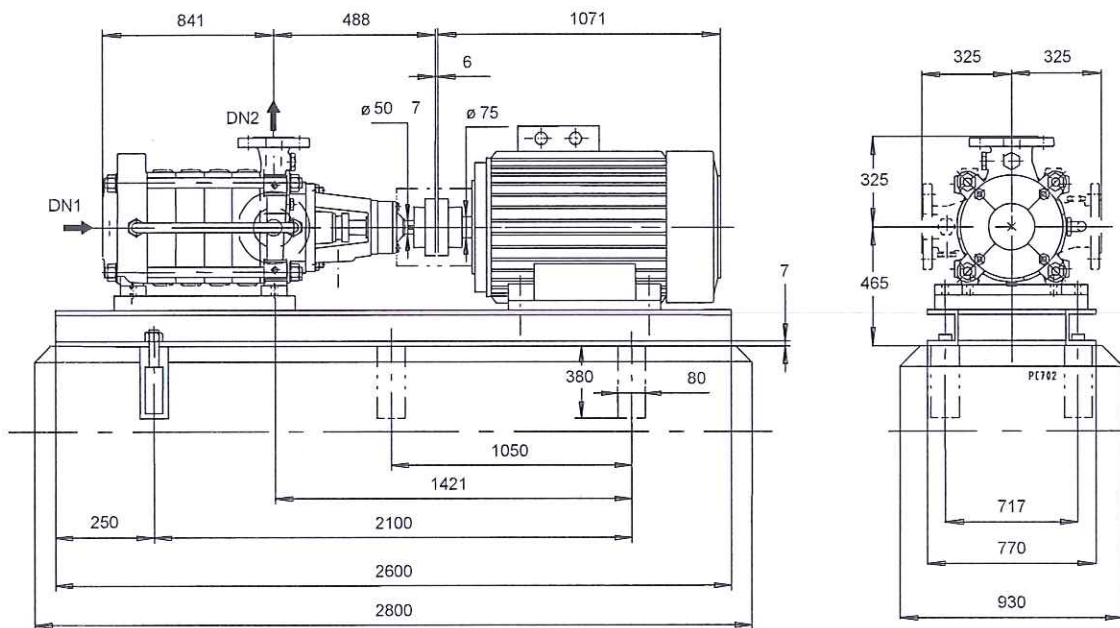


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Drawing is not to scale

Dimensions in mm

Motor

Motor manufacturer	KSB-Motor
Motor size	280S
Motor power	75.00 kW
Number of poles	4
Speed of rotation	1489 rpm
Position of terminal box	0°/360° (top) Viewed from the drive

Baseplate

Design	Steel baseplate for Multitec
Size	GP13
Leakage drain baseplate (8B)	Rp1, Without
Foundation bolts	M20x320 (required but not scope of supply)

Connections

Suction nominal size DN1	DN 200 / EN 1092-2
Discharge nominal size DN2	DN 125 / EN 1092-2
Nominal pressure suct.	PN 16
Rated pressure disch.	PN 40

Coupling

Coupling manufacturer	Flender
Coupling type	Eupex N
Coupling size	180
Spacer	0.0 mm

Weight net

Pump	700 kg
Baseplate	286 kg
Coupling	14 kg
Coupling guard	3 kg
Motor	729 kg
Total	1732 kg

Connect pipes without stress or strain!

Dimensional tolerances for shaft axis height:
 Dimensions without tolerances, middle tolerances to:
 Connection dimensions for pumps:
 Dimensions without tolerances - welded parts:
 Dimensions without tolerances - gray cast iron parts:

DIN 747
 ISO 2768-m
 EN735
 ISO 13920-B
 ISO 8062-CT9

For auxiliary connections see
 separate drawing.



Installation plan



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Connection plan

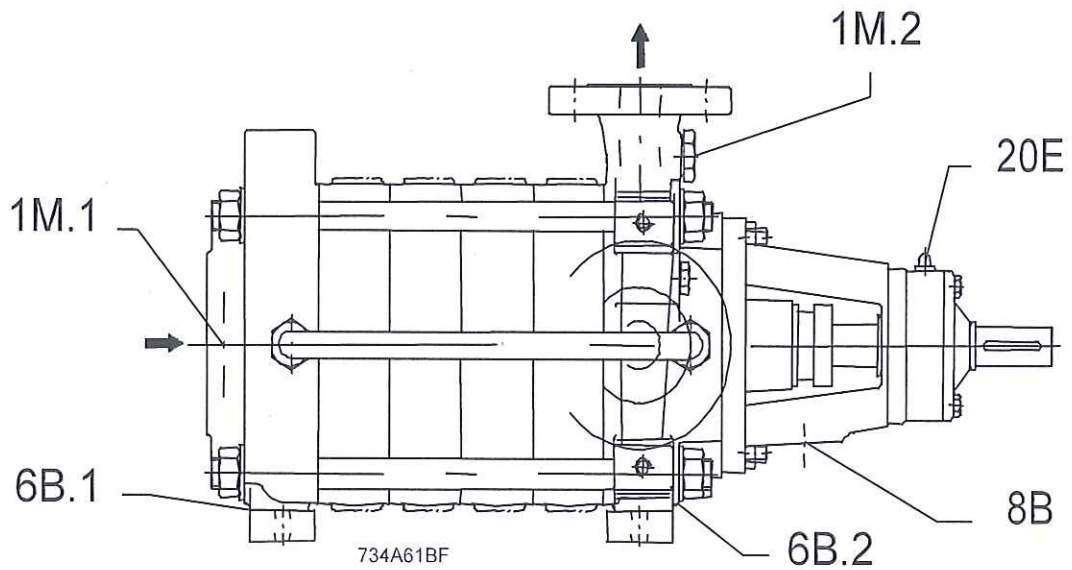


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Connections

1M.1 Pressure gauge connection	G 1/2	Drilled and plugged.
1M.2 Pressure gauge connection	G 1/2	Drilled and plugged.
6B.1 Pumped liquid drain	G 1/2	Drilled and plugged.
6B.2 Pumped liquid drain	G 1/2	Drilled and plugged.
8B Leakage drain	Rp 3/8	Drilled
20E Grease nipple		Mounted at the factory

