

MovitecVF040/05-B1X13ES160A5VW

High pressure Inline Pump

Operating data

Pumped medium	Water Clean water Not containing chemical and mechanical substances which affect the materials	Actual flow rate Actual developed head Efficiency Power absorbed Pump speed of rotation NPSH required Permissible operating pressure Discharge press.	38.58 m ³ /h 105.83 m 76.7 % 14.48 kW 2959 rpm 3.01 m 25.00 bar.g 10.36 bar.g
Ambient air temperature	20.0 °C	Min. allow. mass flow for continuous stable operation	1.07 kg/s
Fluid temperature	20.0 °C	Max. allow. mass flow	15.27 kg/s
Fluid density	998 kg/m ³	Design	Single system 1 x 100 %
Fluid viscosity	1.00 mm ² /s		Tolerances to ISO 9906 Class 3B; below 10 kW acc. to paragraph 4.4.2
Suction pressure max.	0.00 bar.g		
Mass flow rate	10.69 kg/s		
Max. power on curve	16.43 kW		
Min. allow. flow for continuous stable operation	3.85 m ³ /h		
Shutoff head	128.46 m		

Design

Pump standard	KSB high pressure in-line international execution	Shaft seal	Single acting mechanical seal
Movitec 40 is not standard suitable for the replacement of the previous pump size 45 due to different, competitor identical, casing dimensions.		Manufacturer	DP
		Type	RMG-AC
		Material code	Q1BEGG-WRC
Design	Close-coupled	Shaft seal code	13
Orientation	Vertical	Sealing plan	I Single-acting mechanical seal(internal circulation)
Suction nominal dia.	DN 80	A liquid free of solids is assumed	
Suction nominal pressure	PN 25	Seal chamber design	Standard seal chamber
Suction position	90° (right)	Contact guard	With
Connection standard discharge	EN 1092-2	Impeller diameter	125.0 mm
Discharge nominal dia.	DN 80	Direction of rotation from drive	Clockwise
Discharge nominal pressure	PN 25	Color	Graphite black (RAL 9011)
Discharge position	270° (left 90°)		
Round flange (F)			

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Driver, accessories

Driver type	Electric motor	Insulation class	F to IEC 34-1
Drive standard mech.	IEC	Motor enclosure	IP55
Model (make)	KSB (DMW)	Cos phi at 4/4 load	0.90
Drive supplied by	Standard motor supplied by KSB - mounted by KSB	Motor efficiency at 4/4 load	92.4 %
Motor const. type	V1	Temperature sensor	3 PTC resistors
Motor size	160L	Terminal box position	90° (right)
Efficiency class	Efficiency class IE3 acc. to IEC60034-30-1	Motor winding	Viewed from the drive
Motor speed	2959 rpm	Number of poles	400 / 690 V
Frequency	50 Hz	Fixed bearing reinforced	2
Rated voltage	400 V	Connection mode	axial
Rated power P2	18.50 kW	Motor cooling method	Delta
Performance limit P2max	21.30 kW	Motor material	Surface cooling
Available reserve	47.12 %	Frequency inverter operation allowed	Grey cast iron GG/CAST
Rated current	32.1 A	Motor noise pressure level	IRON
Starting current ratio	8		FI allowed

Materials V

Pump shroud (10-6)	Stainless steel 1.4301	O-Ring (412)	EPDM WRc / ACS Approved
Pump casing (101)	Stainless Steel 1.4308	Seal cover (471)	Stainless Steel 1.4308
Stage casing (108)	Stainless steel 1.4301	Bearing sleeve (529)	Tungsten Carbide
Cover (160)	Stainless steel 1.4301	Flange (723)	Ductile cast iron EN-GJS-400-15
Diffuser (171)	Stainless steel 1.4301	Baseplate (890)	Ductile cast iron EN-GJS-400-15
Shaft (210)	Chrome steel 1.4057+QT800	Screwed plug (903)	Stainless steel 1.4301
Impeller (230)	Stainless steel 1.4301	Tie bolt (905)	Chrome steel 1.4057+QT800
Motor stool (341)	Ductile cast iron EN-GJS-400-15	Nut (920)	Stainless steel 1.4301

Performance curve

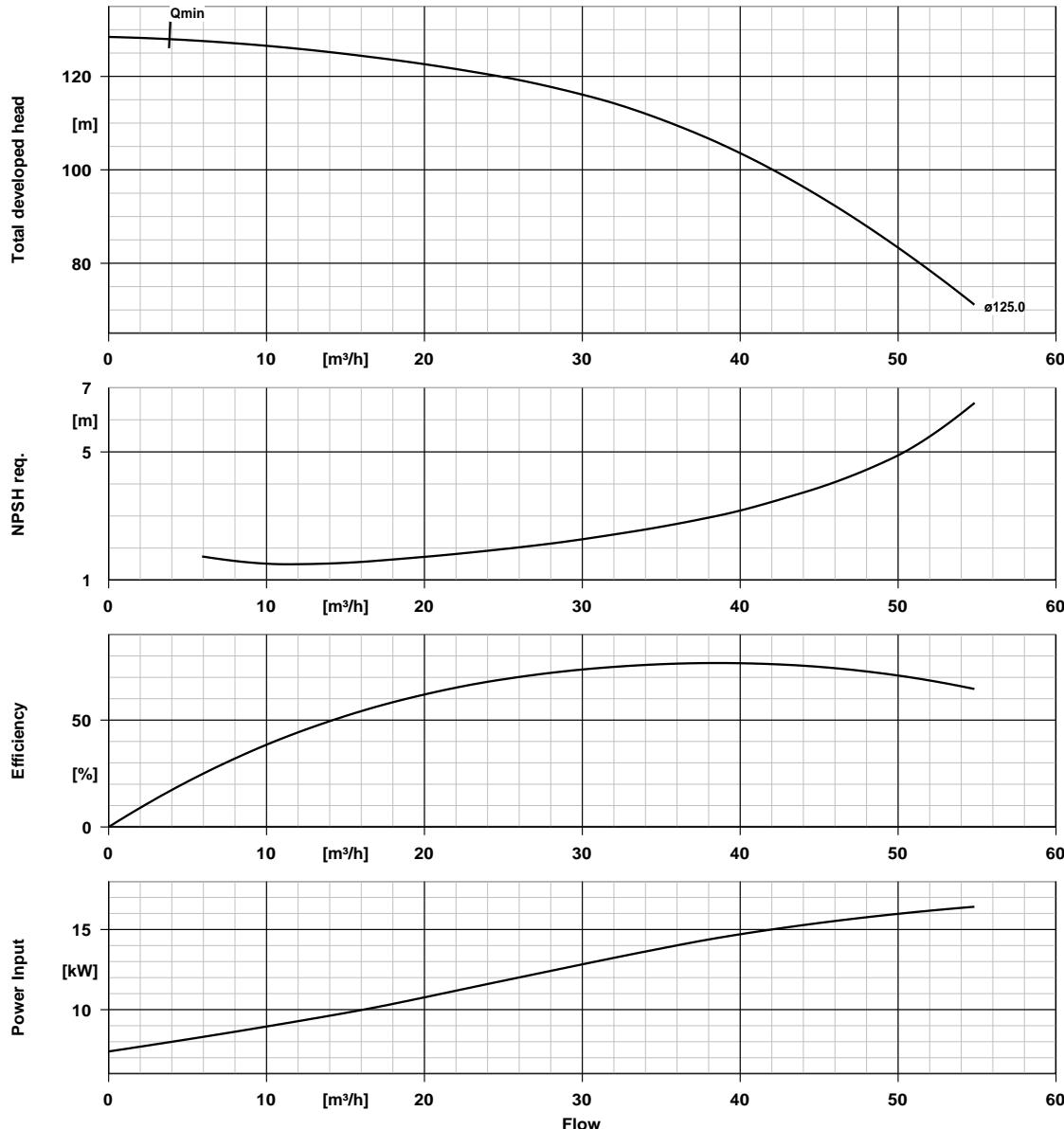


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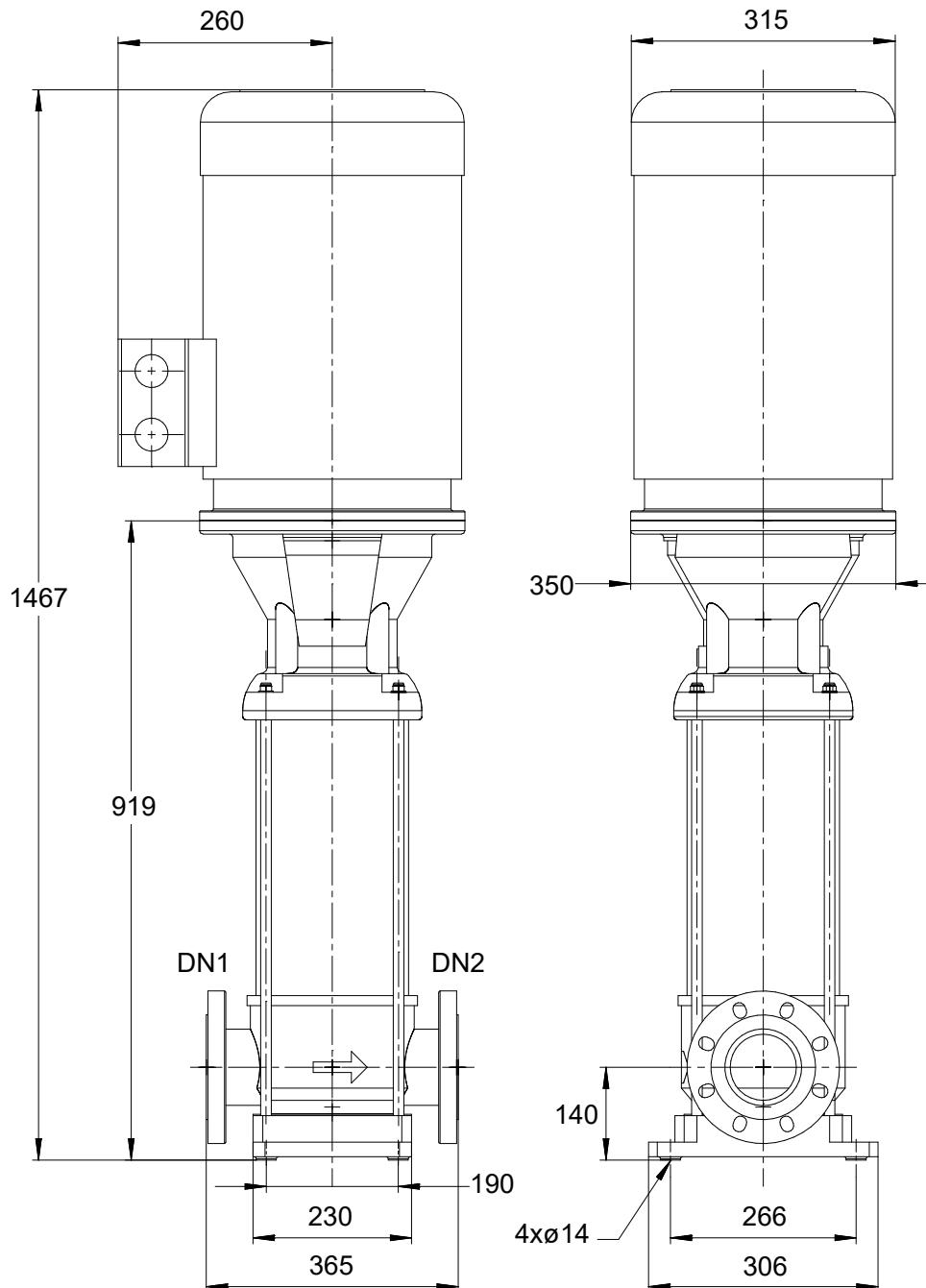


Curve data

Speed of rotation	2959 rpm	Power absorbed	14.48 kW
Fluid density	998 kg/m^3	NPSH required	3.01 m
Viscosity	1.00 mm^2/s	Curve number	MovitecB40_2pol_50Hz
Flow rate	38.58 m^3/h	Effective impeller diameter	125.0 mm
Total developed head	105.83 m	Acceptance standard	Tolerances to ISO 9906
Efficiency	76.7 %		Class 3B; below 10 kW acc. to paragraph 4.4.2

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Drawing is not to scale

Dimensions in mm

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Motor

Motor manufacturer	KSB (DMW)
Motor size	160L
Motor power	18.50 kW
Number of poles	2
Speed of rotation	2959 rpm
Position of terminal box	90° (right) Viewed from the drive
Thrust bearing housing	No

Connections

Suction nominal size DN1	DN 80 / EN 1092-2
Discharge nominal size DN2	DN 80 / EN 1092-2
Nominal pressure suct.	PN 25
Rated pressure disch.	PN 25
Round flange (F)	

Connect pipes without stress or strain!

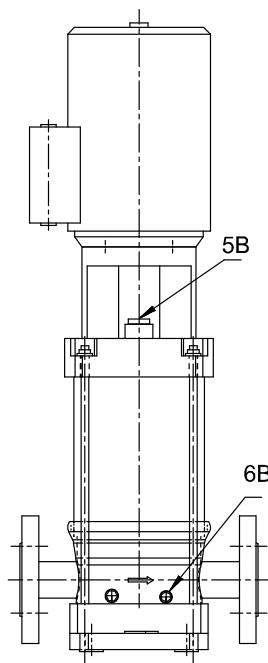
Weight net

Pump	123 kg
Motor	160 kg
Total	283 kg

For auxiliary connections see separate drawing.

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Connections

5B venting

6B Pumped liquid drain

G 3/8

G 1/4

Closed with venting plug

Drilled and plugged.