LENNTECH
WATER TREATMENT SOLUTIONS

Self-priming Pump

Vitaprime

Type Series Booklet

KSB

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Type Series Booklet Vitaprime

Contents

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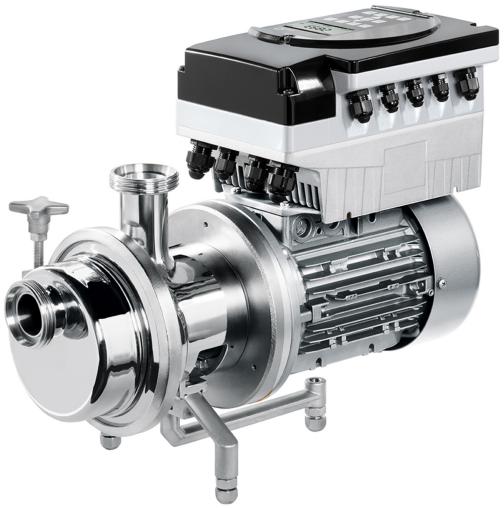
Vitaprime



The product illustrated as an example may include options incurring a surcharge.

Main applications

- Food industry / beverage industry
- Chemical industry/Fine chemicals
- Pharmaceutical industry
- Further industrial applications

Fluids handled

- Pure liquids not mechanically or chemically aggressive to the pump
- Liquids containing gas or vapour

Operating data

Table 1: Operating properties

Characteristic		Value	
		50 Hz	60 Hz
Flow rate	Q [m³/h]	≤ 58	≤ 60
Head	H [m]	≤ 45	≤ 65
Operating pressure	p [bar]	≤ 10	
Inlet pressure	p [bar]	≤ 3	
Fluid temperature	T [°C]	≥ -20	
		≤ +100	
Sterilisation temperature	T [°C]	≤ +140	
Connection sizes	DN	40 - 80	

Design details

Design

- Side channel pump
- Horizontal installation
- One or two stages
- Self-priming
- Standard design with materials to Regulation (EC) No. 1935/2004
- Fixed speed version (without PumpDrive) / variable speed version (with PumpDrive)

Pump casing

- Casing with transfer passages

Drive (fixed speed version)

Standard design:

- KSB/Siemens surface-cooled IEC frame three-phase squirrel-cage motor
- Efficiency class IE2 (size 71/80) / IE3 (from size 90) to IEC 60034-30
- Rated voltage (50 Hz) 230 V / 400 V ≤ 2.20 kW
- Rated voltage (50 Hz) 400 V / 690 V ≥ 3.00 kW
- Rated voltage (60 Hz) - / 460 V ≤ 2.20 kW
- Rated voltage (60 Hz) 460 V / - ≥ 3.00 kW
- Type of construction IM V1 ≤ 4.00 kW
- Type of construction IM V15 ≥ 5.50 kW
- Enclosure IP55
- Duty type: continuous duty S1
- Thermal class F with temperature sensor, 1 PTC thermistor (size 80/90) / 3 PTC thermistors (from size 100)

Explosion-proof design:

- KSB surface-cooled IEC three-phase current squirrel-cage motor
- Efficiency class IE2 / IE3 to IEC 60034-30
- Rated voltage (50 Hz) 230 V / 400 V ≤ 2.50 kW
- Rated voltage (50 Hz) 400 V / 690 V ≥ 3.30 kW
- Rated voltage (60 Hz) - / 460 V ≤ 2.50 kW
- Rated voltage (60 Hz) 460 V / - ≥ 3.30 kW
- Type of construction IM V1 ≤ 3.30 kW
- Type of construction IM V15 ≥ 4.60 kW
- Enclosure IP55
- Duty type: continuous duty S1
- Type of protection EEx eb II
- Temperature class T3

Drive (variable speed version)

KSB SuPremE motor:

- Surface-cooled KSB SuPremE motor, IEC-compatible, magnetless synchronous reluctance motor[1)] (PumpDrive required)
- Efficiency class IE4 / IE5 to IEC TS 60034-30-2:2016
- Mounting points to EN 50347:2001

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1 Motor sizes 0.55 kW / 0.75 kW with 1500 rpm are designed with permanent magnets.

- Envelope dimensions to DIN VDE 42673-4:2011-07
- Type of construction IM V1 ≤ 4.00 kW
- Type of construction IM V15 ≥ 5.50 kW
- Enclosure IP55
- Duty type: continuous duty S1
- Thermal class F with temperature sensor, 3 PTC thermistors
- Shaft centreline height 71 to 225 mm
- Rated power 0.55 kW to 45 kW
- Rated speed 1500 rpm or 3000 rpm
- Frequency 50 Hz / 60 Hz (PumpDrive input)
- Voltage 380 V to 480 V (PumpDrive input)

KSB SuPremE C1/D1:

- With terminal box for connecting to PumpDrive 2 or PumpDrive R for mounting on walls and in control cabinets

KSB SuPremE C2/D2:

- Equipped for being fitted with a motor-mounted PumpDrive 2

PumpDrive 2:

- Self-cooling frequency inverter of modular design for the continuously variable speed control of asynchronous motors and synchronous reluctance motors by means of analog standard signals, a field bus or the control panel
- Identical design of frequency inverter for motor mounting, wall mounting and cabinet mounting
- Mains voltage 3~ 380 V AC -10 % to 480 V AC +10 %
- Mains frequency 50 Hz to 60 Hz ± 2 %

PumpDrive R:

- Self-cooling frequency inverter of modular design for the continuously variable speed control of asynchronous motors and synchronous reluctance motors, such as KSB SupremE motors or permanent magnet synchronous motors, by means of analog standard signals, a field bus or the control panel
- Identical design of frequency inverter for the mounting types wall mounting and cabinet mounting
- Mains voltage 3~ 380 V AC -10 % to 480 V AC +10 %
- Extended mains voltage range (on request)
- Mains frequency 50 Hz to 60 Hz ± 2 %
- Extended power range with a nominal power of 110 kW (standard) or 1400 kW (on request)

PumpMeter LSA:

- Intelligent pressure transmitter for pumps, with on-site display of measured values and operating data
- For recording the load profile of the pump
- Supplied completely assembled and parameterised for the individual pump

Shaft seal

- Single mechanical seal to EN 12756
  - Seal type T[2)]: pump-end seal with non-encapsulated spring surrounded by fluid handled, uni-directional
- Double mechanical seal to EN 12756
  - Seal type Q: back-to-back arrangement (pressurised barrier fluid)

Impeller type

- Open star impeller

Bearings

- Grease-packed deep groove ball bearing

Connections

- Axial suction nozzle, tangential discharge nozzle

Types of connection:

- Threaded connection to DIN 11851 (hygienic pipe union)
- Threaded connection to DIN 11853
- Threaded connection to DIN 11864-1-GS-A
- Threaded connection to SMS standard
- Threaded connection to ISO 2853 (IDF)
- Threaded connection to RJT standard
- Clamped connection to DIN 32676-C (Tri-Clamp/Tri-Clover fitting)
- Clamped connection to DIN 11864-3-NKS-A
- Clamped connection to DIN 32676-A
- Clamped connection to ISO 2852
- Flange to EN 1092-1
- Flange to DIN 11864-2-NF-A
- Flange to ANSI B16.5 Class 150
- APV flange
- Varivent flange
- Other connection types on request

2 Hygienic design

Designation

Table 2: Designation example

Position																												
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
V	P			8	0	-	2	4	0	-	1	1	0	4	0	4	K	B	Q	T	8	2	M	E	C	C	O		O	A
See name plate and data sheet																												See data sheet		

Table 3: Designation key

Position	Code	Description	
1-4	Pump type		
	VP	Vitaprime	
5-13	Size, e.g.		
	80	Nominal nozzle diameter [mm]	
	240	Nominal impeller diameter [mm]	
	11	Load range	
14-16	Motor rating P_N [kW]		
	007	0,70	
	040	4,00	
	185	18,50	
17	Number of motor poles		
18	Scope of supply		
	K	Ball feet	
	M	Motor foot	
	T	Round base feet	
	V	Trolley	
19-20	Shaft seal type		
	B	Single mechanical seal, dead-end arrangement, without flushing	
	BQ	Single mechanical seal, dead-end arrangement, external flushing (quench)	
	DB	Double mechanical seal in back-to-back arrangement	
21-23	Seal code, single mechanical seal		
	T00	BGEGG	
	T18	U2U2VGG	
	T19	U2U2EGG	
	T64	U2Q1EGG	
	T66	Q1Q1M3GG	
	T68	U2Q1VGG	
	T69	BQ1M3GG	
	T80	BQ1VGG	
	T81	Q1Q1VGG	
	T82	BQ1EGG	
	T83	Q1Q1EGG	
	T84	Q1U2EGG	
	T85	Q1U2VGG	
	Seal code, double mechanical seal in back-to-back arrangement		
	Q70	BGEGG	
		BGEGG	
	Q71	BU2EGG	
		BGEGG	
	Q72	U2U2EGG	
		BU2EGG	
	Q74	U2U2VGG	
		BU2VGG	
	Q78	U2U2VGG	
		U2U2EGG	
	Q79	U2U2M3GG	
		BU2EGG	
24	Pipe connection		
	A	Flange	APV

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Position	Code	Description	
24	B	Threaded connection	DIN 11864-1A
	C	Flange	DIN 11864-2A
	D	Clamped connection	DIN 11864-3A
	E	Threaded connection	DIN 11853
	F	Threaded connection	RJT
	G	Flange	Varivent
	I	Threaded connection	ISO 2853 (IDF)
	L	Flange	EN 1092-1
	M	Threaded connection	DIN 11851 (hygienic pipe union)
	S	Threaded connection	SMS
	T	Clamped connection	DIN 32676-A
	U	Clamped connection	DIN 32676-C (Tri-Clamp)
	V	Clamped connection	ISO 2852
	Z	Flange	ANSI B16.5 Class 150
25	O-ring material (casing/impeller)		
	E	EPDM	
	F	FFKM (Kaflon)	
	K	FFKM (Kalrez)	
	M	FEP (encapsulated)	
	P	PTFE	
	V	FPM	
26	Pump casing material		
	C	Stainless steel	1.4409
27	Impeller material		
	C	Stainless steel	1.4409
28	Motor shroud		
	S	With shroud	
	O	Without shroud	
29	Design		
	[3]	Standard	
	X	Non-standard (BT3D, BT3), including ATEX	
30	Drain		
	O	No drain	
	P	Casing drain via pipeline	
	V	Casing drain via valve	
	D	Casing drain with plug	
31	Product generation		
	A	Vitaprime	

Materials

Table 4: Overview of available materials

Description	Material
Pump casing[4]	1.4409 (AISI CF3M)
Impeller [4]	1.4409 (AISI CF3M)
Impeller nut[4]	1.4404 (AISI 316L)
Shaft[4]	1.4404 (AISI 316L)
Drive lantern	1.4308 (AISI 304)
Bearing assembly	Cast iron, nickel-plated or painted
Motor housing	Motor size ≤ 160 aluminium Motor size ≥ 180 grey cast iron
Motor shroud	1.4301 (AISI 304)
Ball feet	1.4308 (AISI 304)
Elastomers[4]	EPDM, FPM, FFP, FFKM

All materials that will be in contact with the fluid handled conform with Regulation (EC) No. 1935/2004.

3 Blank
4 Wetted component

Coating and preservation

- Coating and preservation to KSB standard

Product benefits

- Side channel pump for good and fast self-priming and for transporting fluids containing gas
- Easy to clean with very little dead volume and excellent flushing capability
- Service-friendly design, easy and fast to dismantle
- Can be driven by all common standardised motors via stub shaft
- Corrosion-resistant design with high-quality stainless steel 1.4301
- A large variety of materials, sealing elements and connections are available to optimally match the pump to its application.
- Highly suitable for CIP/SIP routines

Product information

Product information as per Regulation No. 1907/2006 (REACH)

For information as per European chemicals regulation (EC) No. 1907/2006 (REACH) see https://www.ksb.com/en-global/company/corporate-responsibility/reach.

Certifications

Table 5: Overview

Label	Effective in:	Comment
ISO 9001	All countries	Certified quality management to ISO 9001
FDA	All countries	Elastomers certified to FDA, 3A, USP Class VI

Acceptance tests and warranty

- Materials testing
  - Material test report 2.2 on request
  - Material test report 3.1 on request
- Final inspection
  - Inspection certificate 3.1 to EN 10204 on request
- Hydraulic test against surcharge
  - To ISO 9906/2B or ISO 9906/3B
  - NPSH test
- Other tests
  Other tests (e.g. vibrations, strength, noise characteristics) on request.
- Warranties
  Warranties are given within the scope of the valid terms and conditions of sale and delivery.

Overview of fluids handled

Table 6: Table of fluids handled and associated material combinations
✗ = standard

Fluid handled	Temperature		Seal code											Operating mode	Comment
	Min.	Max.	T19	T64	T66	T80	T81	T82	T83	T84	Q71	Q72	Q79		
	[°C]														
Alcohol, butanol															
Butanol	0	60	-	-	-	-	-	✗	-	-	-	-	-	I	-
Isobutanol	0	60	-	-	-	-	-	✗	-	-	-	-	-	I	-
Alcohol, ethanol															
–[5]	0	60	-	-	-	-	-	✗	-	-	-	-	-	I	-
Alcohol, methanol															
-	0	60	-	-	-	-	-	✗	-	-	✗	-	-	I, BQ, DB	Provide water quench for indoor application (toxicity).
Alcohol, propanol															
1-propanol	0	60	-	-	-	-	-	✗	-	-	-	-	-	I	-
2-propanol	0	60	-	-	-	-	-	✗	-	-	-	-	-	I	
Beer															
Beer mash	0	100	-	✗	-	-	-	-	-	-	-	✗	-	BQ, DB	Use suitable water as liquid quench.
Beer wort	0	100	-	✗	-	-	-	-	-	-	-	✗	-	BQ, DB	Use suitable water as liquid quench.
Brewer's yeast	0	30	-	✗	-	-	-	-	-	-	-	-	-	B, I	
Hops	0	100	-	✗	-	-	-	-	-	-	-	✗	-	BQ, DB	Use suitable water as liquid quench.
Trub (brewery)	0	90	-	✗	-	-	-	-	-	-	-	-	-	B, I	
Cleaning-in-place (CIP)	0	85	-	-	-	-	-	✗	-	-	-	-	-	B, I	After cleaning, flush with hot water of 90 °C max.
Beverages, alcoholic															
Spirits (40 % ethanol)	0	60	-	-	-	-	-	✗	-	-	-	-	-	B, I	Brandy 40 %
Beer	0	70	-	-	-	-	-	✗	-	-	-	-	-	B, I	Beer after primary fermentation
Fruit liqueur	0	60	-	✗	-	-	-	-	-	-	-	✗	-	BQ, DB	Use suitable water as liquid quench.
Must	0	60	-	✗	-	-	-	-	-	-	-	-	-	B, I	
Pernod	0	40	-	-	-	-	-	✗	-	-	-	-	-	B, I	

5 No details specified

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Fluid handled	Temperature		Seal code											Operating mode	Comment
	Min.	Max.	T19	T64	T66	T80	T81	T82	T83	T84	Q71	Q72	Q79		
	[°C]														
Grappa	0	60	-	-	-	-	-	✗	-	-	-	-	-	B, I	
Whiskey	0	60	-	-	-	-	-	✗	-	-	-	-	-	B, I	
Wine (cider)	0	60	-	-	-	-	-	✗	-	-	-	-	-	B, I	
Liqueur with egg yolks	0	50	-	-	-	-	-	✗	-	-	-	-	-	B, I	
Herbal liqueur, alcohol content ≤ 50 %	0	60	-	-	-	-	-	✗	-	-	-	-	-	B, I	
Sparkling wine	0	50	-	-	-	-	-	✗	-	-	-	-	-	B, I	
Sap (juice) with 24 % ethanol	0	50	-	-	-	-	-	✗	-	-	-	-	-	B, I	
Beverages, non-alcoholic															
Coke	0	20	-	-	-	-	-	✗	-	-	-	-	-	B, I	≤ 12°Bx
Coke concentrate	0	20	-	✗	-	-	-	-	-	-	-	-	-	B, I	≤ 65°Bx
Coffee	0	60	-	-	-	-	✗	-	-	-	-	-	-	B, I	Coffee extract
Lemonade	0	90	-	✗	-	-	-	-	-	-	-	-	-	B, I	≤ 65°Bx
Caffeine crystals (liquid)	20	100	-	✗	-	-	-	-	-	-	-	-	-	B, I	max. 5 % caffeine
Glucose															
Unsaturated aqueous solution	0	50	-	✗	-	-	-	-	-	-	-	✗	-	B, BQ, DB	Observe the melting point or crystallisation point. If required, heat up the casing cover prior to commissioning/start-up. Use suitable hot water as quench liquid. Concentration < 65°Bx single mechanical seal w/o flushing is ok.
Glycerine															
Concentration ≤ 40 %	0	100	-	-	-	-	-	✗	-	-	-	-	-	B, I	
Glycol (pure)															
Diethylene glycol	0	60	-	-	-	-	-	✗	-	-	-	✗	-	B, I, DB	Provide water quench for indoor application (toxicity).
Ethylene glycol	0	60	-	-	-	-	-	✗	-	-	-	✗	-	B, I, BQ	Glycol Provide water quench for indoor application (toxicity).
Urea (carbamide)															
Concentration ≤ 35%	0	80	-	-	✗	-	-	-	-	-	-	-	✗	BQ, DB	Use suitable water as cooling liquid.
Foodstuff (liquid)															
Egg (liquid)	0	20	-	-	-	-	-	-	-	-	-	✗	-	BQ, DB	If containing sugar, use Q72 (U2U2EGG).
Foodstuff (aqueous)															
Malt	0	100	-	✗	-	-	-	-	-	-	-	✗	-	BQ, DB	Use suitable water as liquid quench.
Dairy products															
Chocolate milk	0	90	-	-	-	✗	-	-	-	-	-	-	-	B, I	
Sweetened condensed milk	0	90	-	-	-	-	✗	-	-	-	-	-	-	B, I	
Skimmed milk (fresh, sour)	0	90	-	-	-	✗	-	-	-	-	-	-	-	B, I	
Milk	0	90	-	-	-	✗	-	-	-	-	-	-	-	B, I	
Cream (sweet, sour)	0	90	-	-	-	✗	-	-	-	-	-	-	-	B, I	
Sweet permeate (milk)	0	90	-	-	-	✗	-	-	-	-	-	-	-	B, I	
Sodium hydroxide															
Concentration 0 to 50 %	0	80	-	-	-	-	-	✗	-	-	-	-	-	B, I	Observe the melting point or crystallisation point. If required, heat up the casing cover prior to commissioning/start-up. Use suitable hot water as continuous quench liquid.
Fruit pulp															
Apricot purée with 40 % water	0	20	-	-	-	-	-	-	-	-	-	✗	-	BQ, DB	Use suitable water as liquid quench.
Oil, vegetable oil															
Anise oil	0	100	-	-	-	✗	-	-	-	-	-	-	-	B, I	
Cotton seed oil	5	100	-	-	-	✗	-	-	-	-	-	-	-	B, I	
Peanut oil	5	100	-	-	-	✗	-	-	-	-	-	-	-	B, I	
Lavender oil	0	100	-	-	-	✗	-	-	-	-	-	-	-	B, I	
Linseed oil	0	60	-	-	-	✗	-	-	-	-	-	-	-	B, I	
Linseed oil with ≤ 3% H_2SO_4	0	20	-	-	-	✗	-	-	-	-	-	-	-	B, I	
Corn oil	0	100	-	-	-	✗	-	-	-	-	-	-	-	B, I	
Olive oil	0	100	-	-	-	✗	-	-	-	-	-	-	-	B, I	

Fluid handled	Temperature [°C] Min.	Max.	Seal code T19	T64	T66	T80	T81	T82	T83	T84	Q71	Q72	Q79	Operating mode	Comment
Palm oil	45	100	-	-	-	✗	-	-	-	-	-	-	-	B, I	Melting point = +27 °C to +42 °C T85 (Q1U2VGG) recommended for temperatures above 70 °C.
Rapeseed oil	0	100	-	-	-	✗	-	-	-	-	-	-	-	B, I	
Castor oil	26	100	-	-	-	✗	-	-	-	-	-	-	-	B, I	Info: viscosity = 700 mm²/s at 25 °C
Soybean oil	0	100	-	-	-	✗	-	-	-	-	-	-	-	B, I	
Sunflower oil	0	100	-	-	-	✗	-	-	-	-	-	-	-	B, I	
Edible oil	0	100	-	-	-	✗	-	-	-	-	-	-	-	B, I	Non-heatable pumps can be used if the melting point < ambient temperature. Check the melting point and viscosity with the customer.
Walnut oil	0	100	-	-	-	✗	-	-	-	-	-	-	-	B, I	
Juice (fruit and sugar solutions)															
Fruit juice	0	60	-	✗	-	-	-	-	-	-	-	-	-	B, I	Apple juice
Vegetable juice	0	100	-	✗	-	-	-	-	-	-	-	-	-	B, I	
Orange juice	0	60	-	✗	-	-	-	-	-	-	-	-	-	B, I	
Pressed sap	0	50	-	✗	-	-	-	-	-	-	-	-	-	B, I	
Sugar solutions	0	100	-	✗	-	-	-	-	-	-	-	-	-	B, I	Sugar solution > 65 Bx (for single seal)
	0	95	-	✗	-	-	-	-	-	-	-	✗	-	DB, BQ	Use suitable water as barrier fluid, concentration > 65°Bx.
Acid, malic acid															
Unsaturated aqueous solution	0	60	-	-	-	-	-	-	✗	-	-	-	-	B, I	Solubility = 65 % at 40 °C and 72.8 % at 60 °C
Acid, citric acid															
Concentration 1 to 50 %	0	80	-	-	-	-	-	✗	-	-	-	-	-	B, I	
Acid, acetic acid															
Concentration 1 to 25 %	0	60	-	-	-	-	-	✗	-	-	-	-	-	B, I	Vinegar
Concentration ≤ 30%	0	20	-	-	-	-	-	✗	-	-	✗	-	-	BQ, DB	Use suitable water as liquid quench.
Concentration ≤ 50%	0	20	-	-	-	-	-	✗	-	-	✗	-	-	BQ, DB	Use suitable water as liquid quench.
Acid															
Unsaturated aqueous solution	0	100	-	-	-	✗	-	-	-	-	-	-	-	B, I	
Acid, tannic acid															
Concentration 1 to 50%	0	100	-	-	-	-	-	✗	-	-	-	-	-	B, I	
Acid, lactic acid															
Concentration 1 to 50%	0	60	-	-	-	✗	-	-	-	-	-	-	-	B, I	
Acid, oxalic acid															
Concentration ≤ 5%	0	20	-	-	-	-	-	✗	-	-	✗	-	-	BQ, DB	Use suitable water as liquid quench.
Acid, tartaric acid															
Concentration ≤ 8%	0	60	-	-	-	-	-	✗	-	-	-	-	-	B, I	
Concentration ≤ 50%	0	60	-	-	-	-	-	✗	-	-	-	-	-	B, I	
Sorbitol (solution)															
Unsaturated aqueous solution	0	80	✗	-	-	-	-	-	-	-	-	✗	-	DB, BQ	Mechanical seal for solutions up to 40 % max. Use suitable water as liquid quench.
Water, desalinated															
De-ionised water	0	110	-	-	-	-	-	✗	-	-	-	-	-	B, I	Water quality: conductivity > 10 µS/cm < 250 µS/cm, SiO_2 content < 10 mg/l, solids content 5 mg/l max.
Drinking water															
Mash, schnapps	0	110	-	-	-	-	-	✗	-	-	-	-	-	B, I	
Ice water (brewery)	0	110	-	-	-	-	-	✗	-	-	-	-	-	B, I	
Tap water	0	110	-	-	-	-	-	✗	-	-	-	-	-	B, I	
Hot water (brewery)	0	110	-	-	-	-	-	✗	-	-	-	-	-	I	
Water															
Pure water	0	110	-	-	-	-	-	✗	-	-	-	-	-	B, I	

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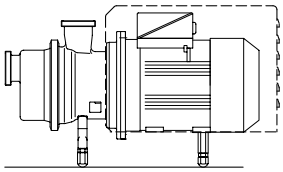
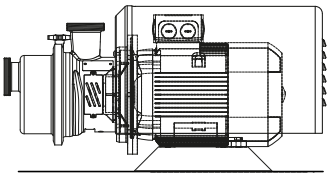
Mounting arrangements

Table 7: Mounting arrangement

Mounting arrangement	Illustration	Description
K		Horizontal installation, close-coupled pump set ▪ Axial suction nozzle, tangential discharge nozzle ▪ Mounted on 3-point ball feet up to a drive rating of 4 kW. ▪ Mounted on 4-point ball feet for drive ratings from 5.5 to 22 kW. ▪ Alternatively mounted on round base feet
M		Horizontal installation, close-coupled pump set ▪ Axial suction nozzle, tangential discharge nozzle ▪ Mounted on a motor foot for drive ratings from 0.33 to 22 kW.

Vertical installation requires a mechanical seal with flushing system.

Table 8: Mounting arrangements per pump size

Size	Ball feet	Round base feet	Motor feet
40 - 146	✗	✗	✗
42 - 146	✗	✗	✗
50 - 164	✗	✗	✗
52 - 164	✗	✗	✗
60 - 200	✗	✗	✗
65 - 200	✗	✗	✗
80 - 240 - 11	✗	✗	✗
80 - 240 - 15	✗	✗	✗

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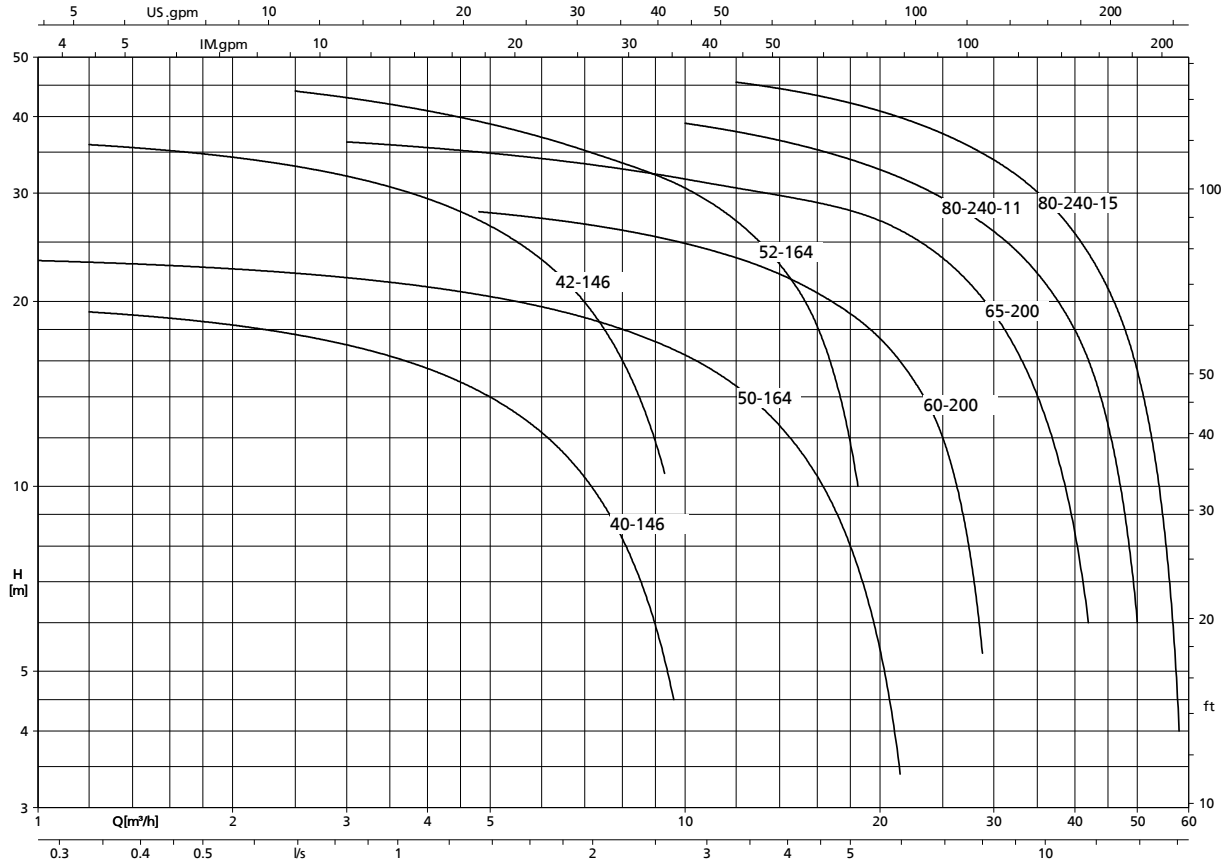
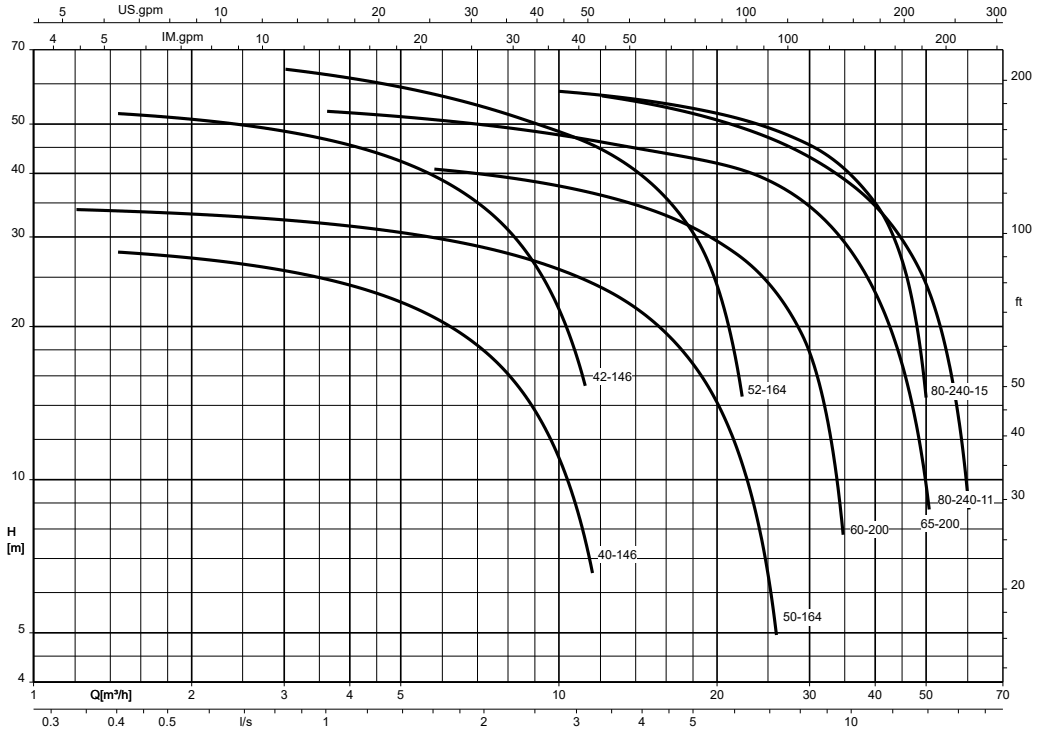
Selection charts

Vitaprime, n = 1450 rpm



Vitaprime, n = 1750 rpm



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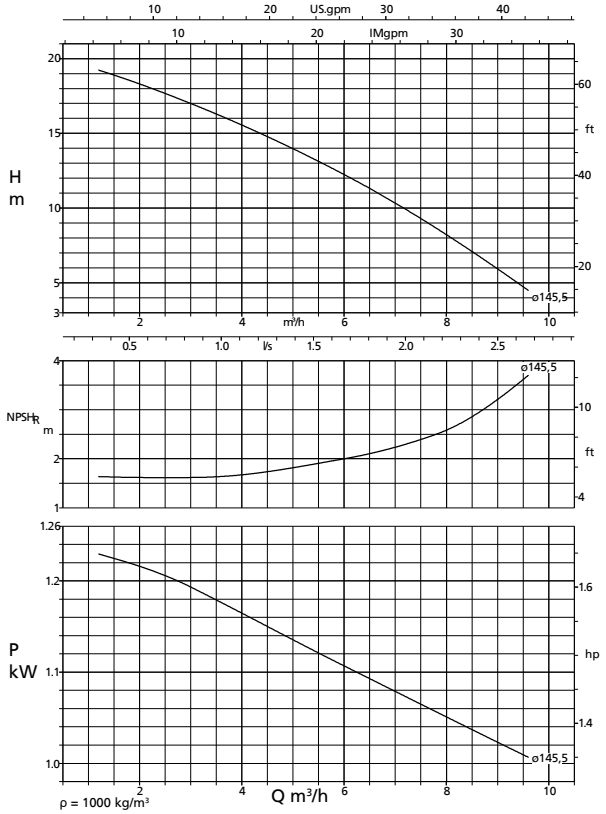
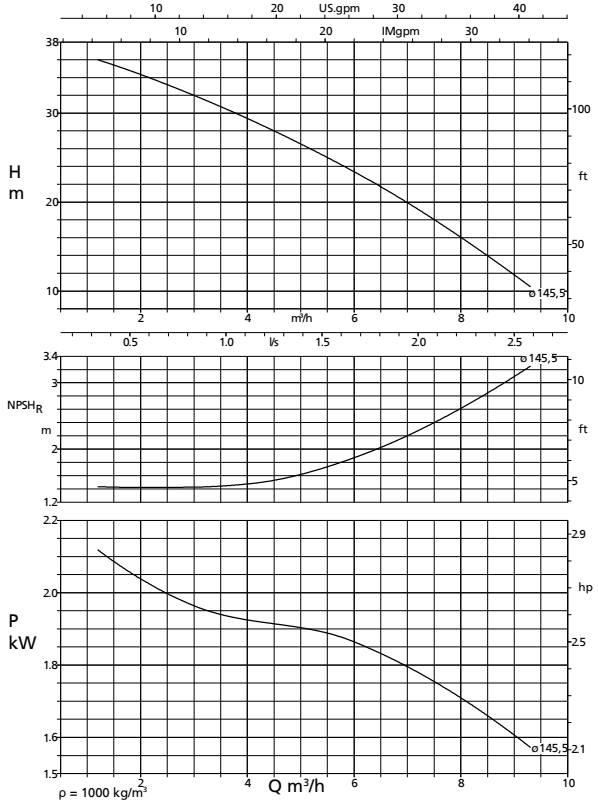
Characteristic curves

Vitaprime, n = 1450 rpm

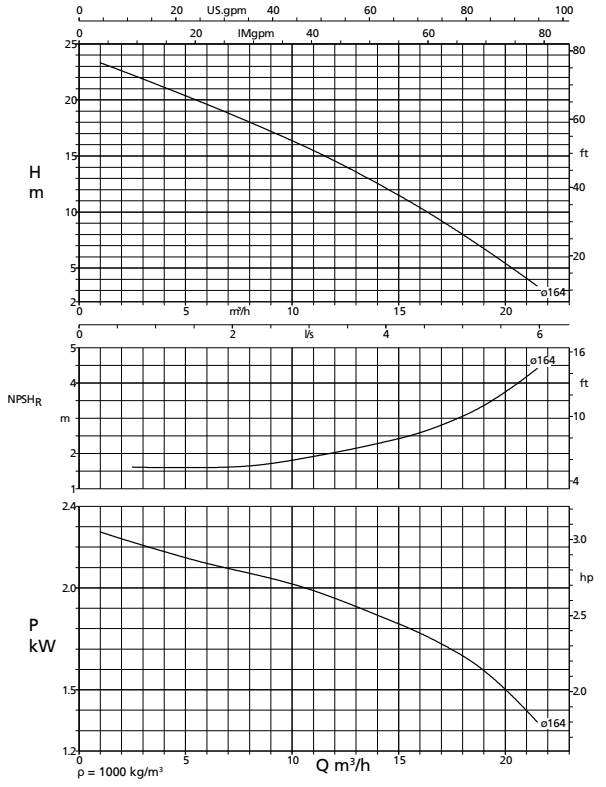
Vitaprime 40-146



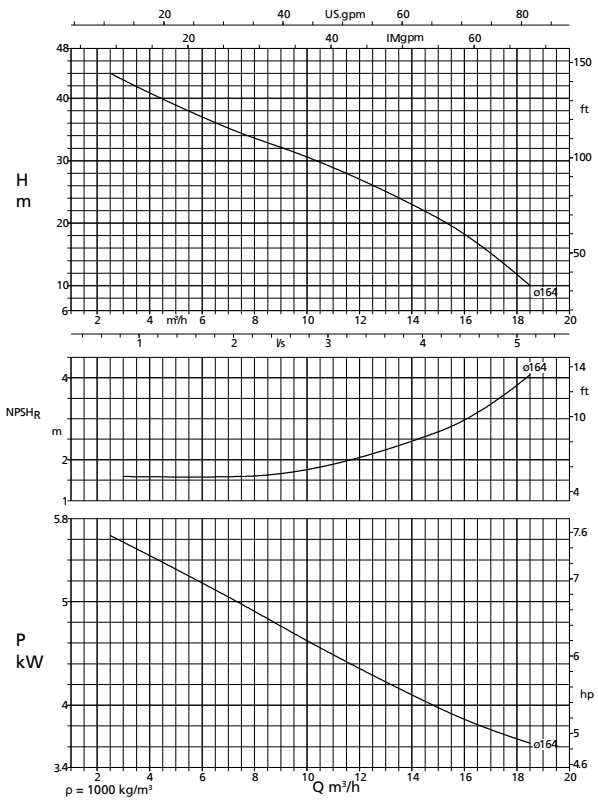
Vitaprime 42-146



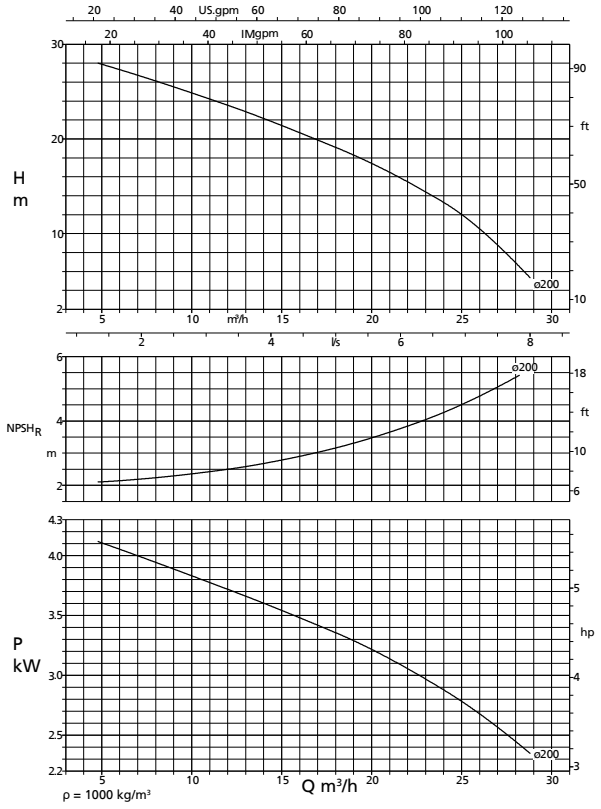
Vitaprime 50-164



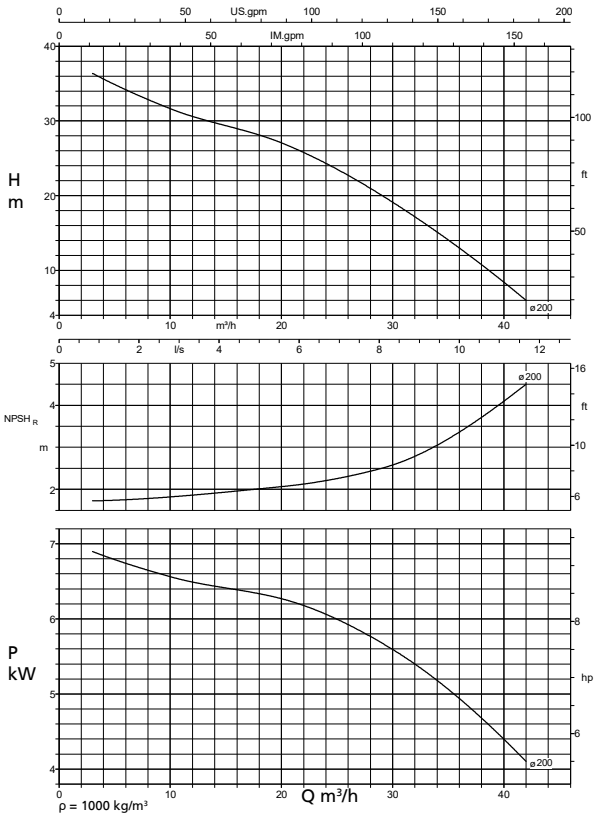
Vitaprime 52-164



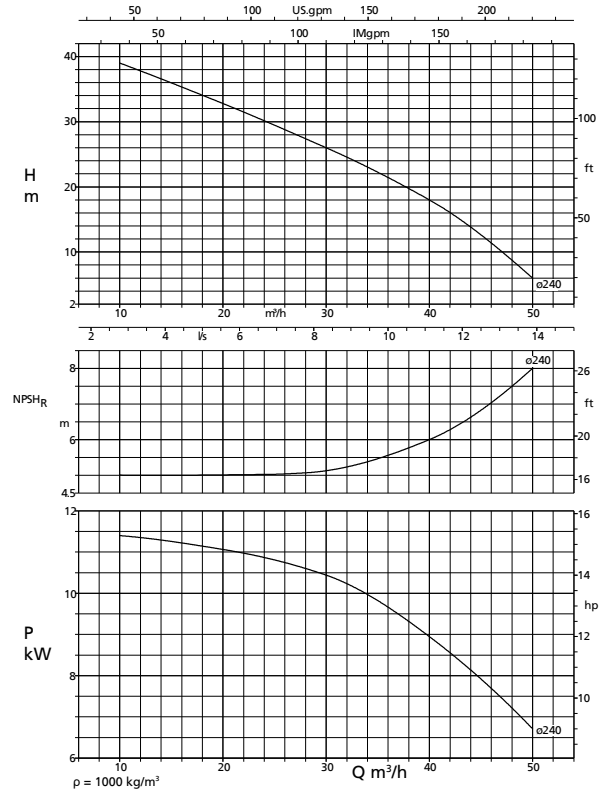
Vitaprime 60-200



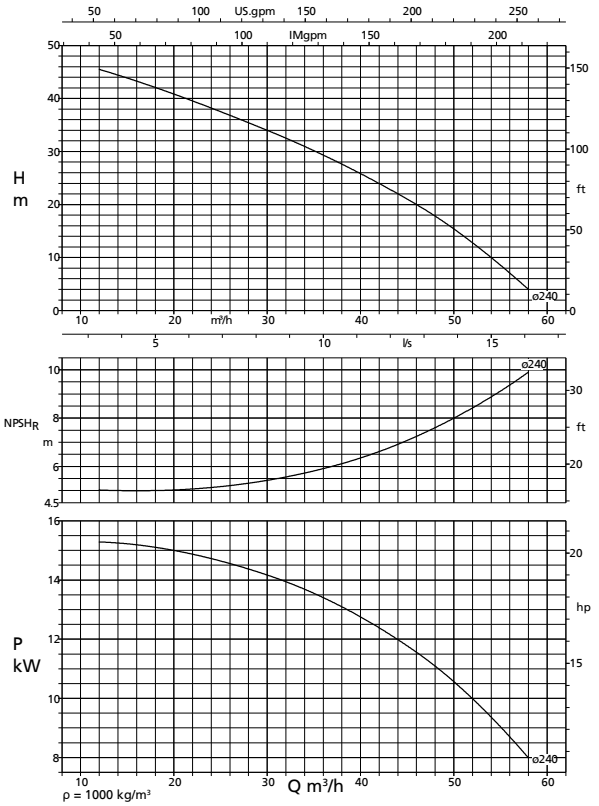
Vitaprime 65-200



Vitaprime 80-240-11



Vitaprime 80-240-15



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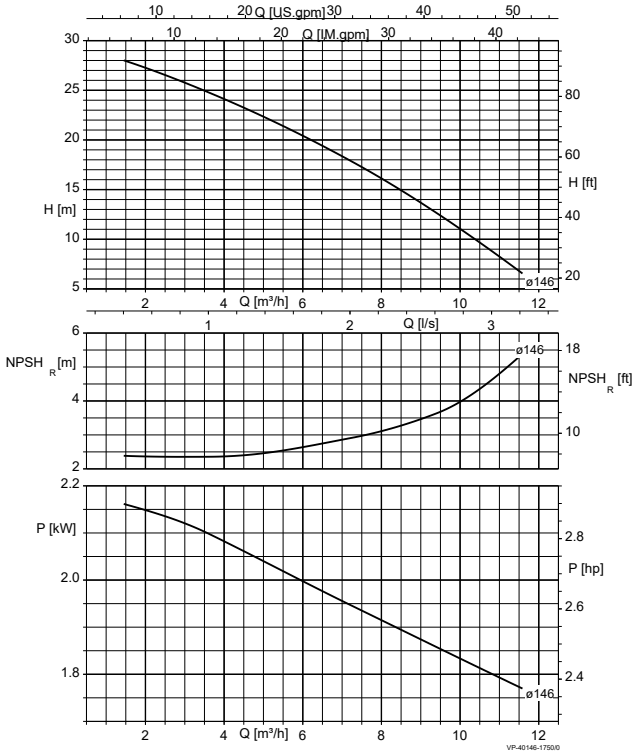
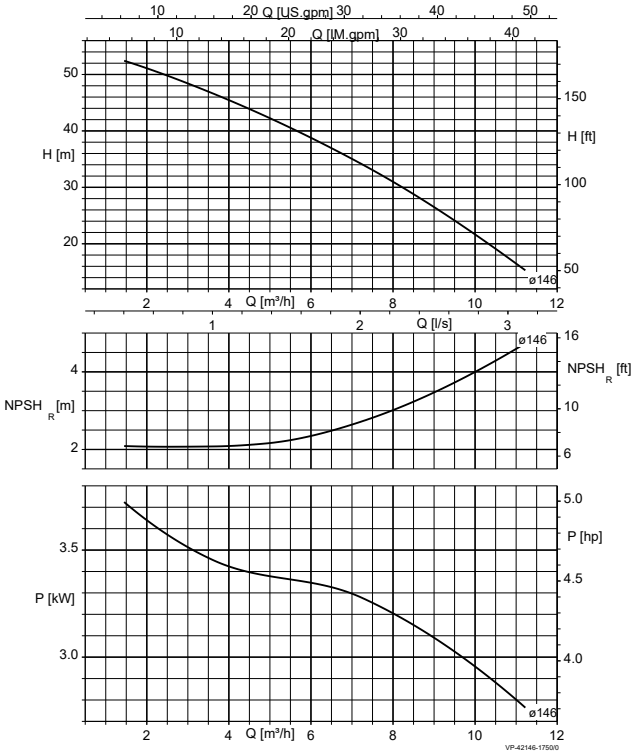
Vitaprime, n = 1750 rpm

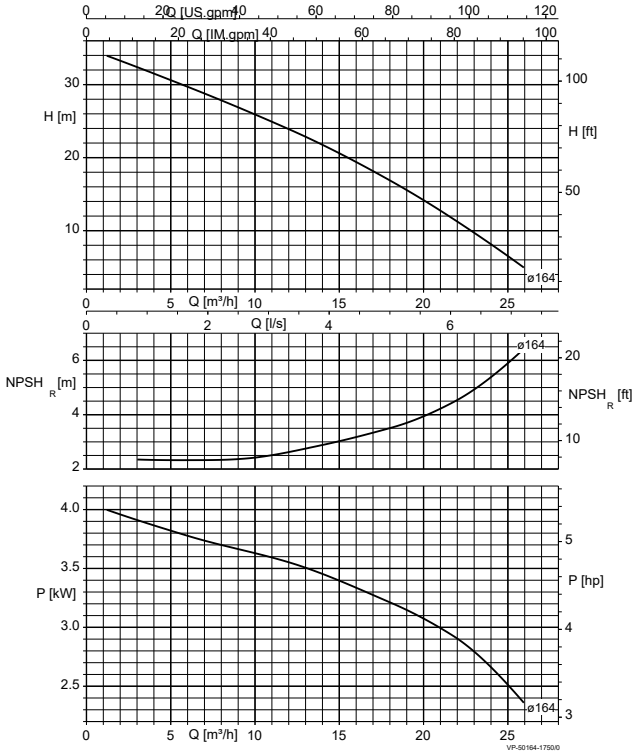
Vitaprime 40-146



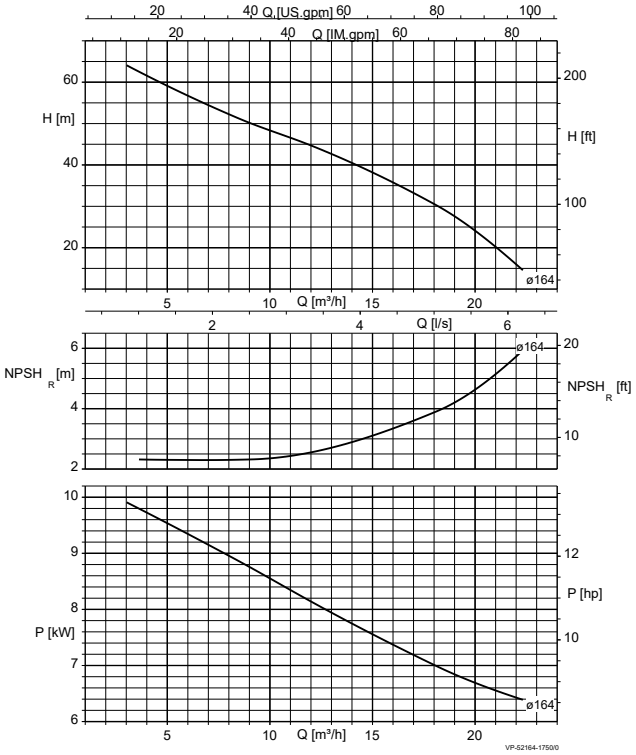
Vitaprime 42-146



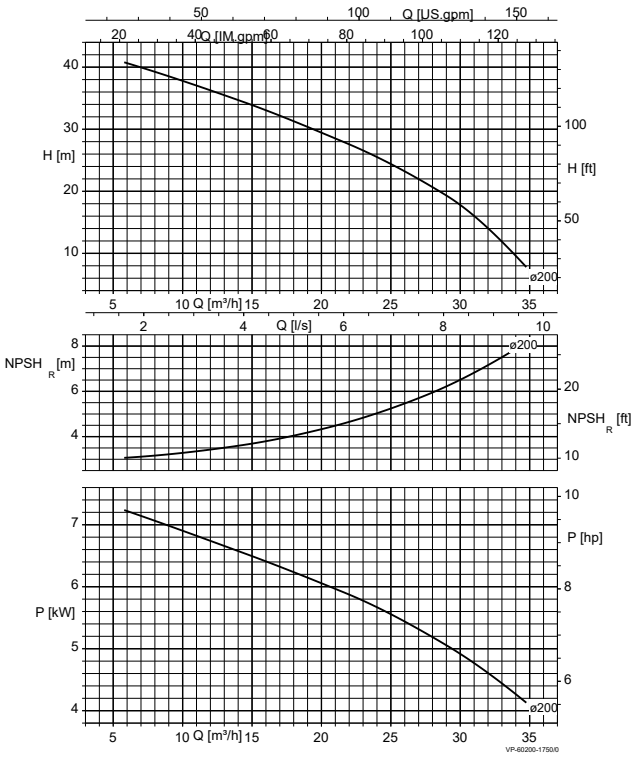
Vitaprime 50-164



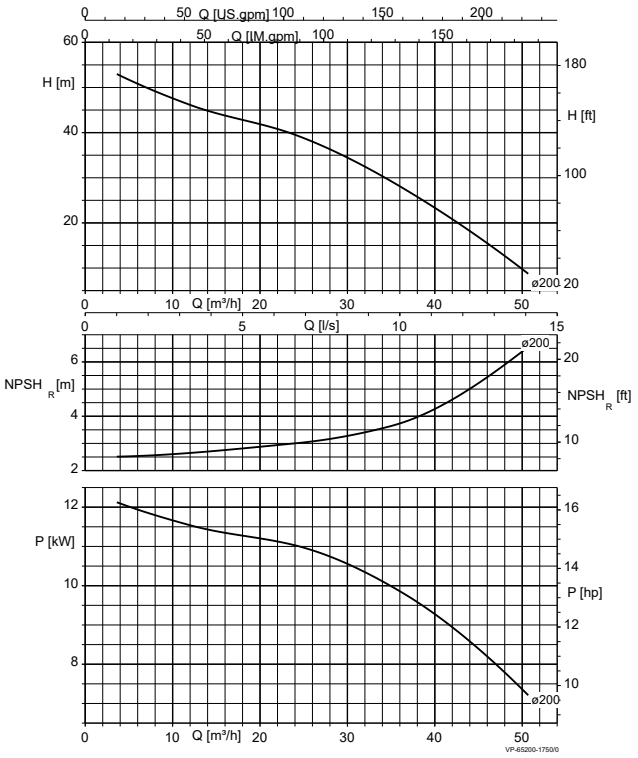
Vitaprime 52-164



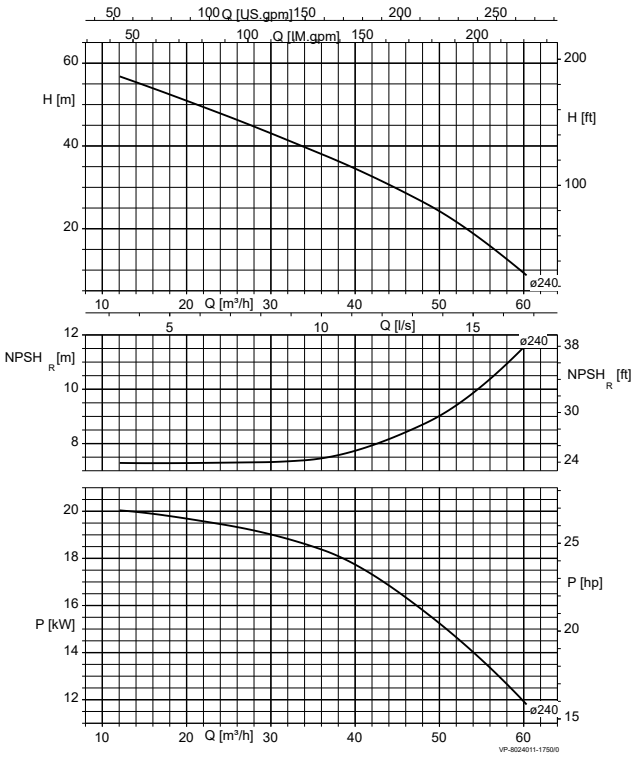
Vitaprime 60-200



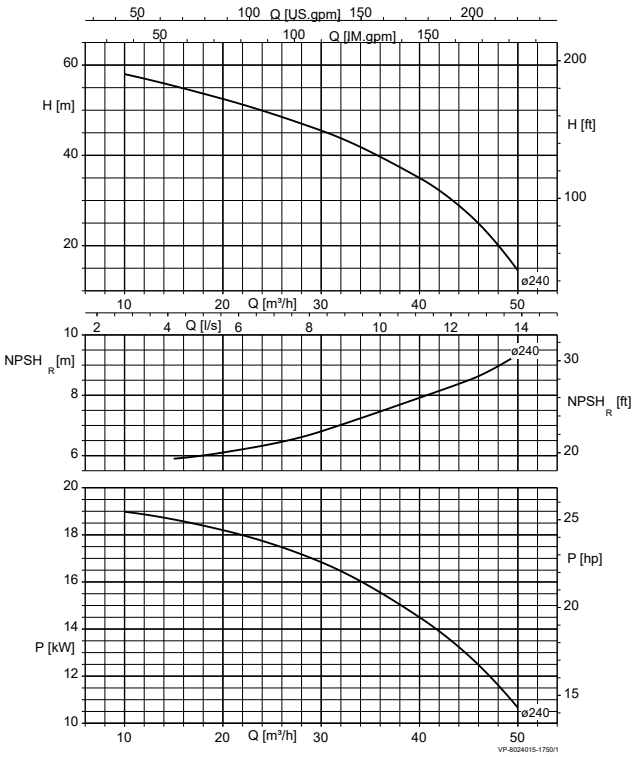
Vitaprime 65-200



Vitaprime 80-240-11



Vitaprime 80-240-15



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Dimensions

Single-stage pumps

Pump set with motor shroud, with 3-point ball feet

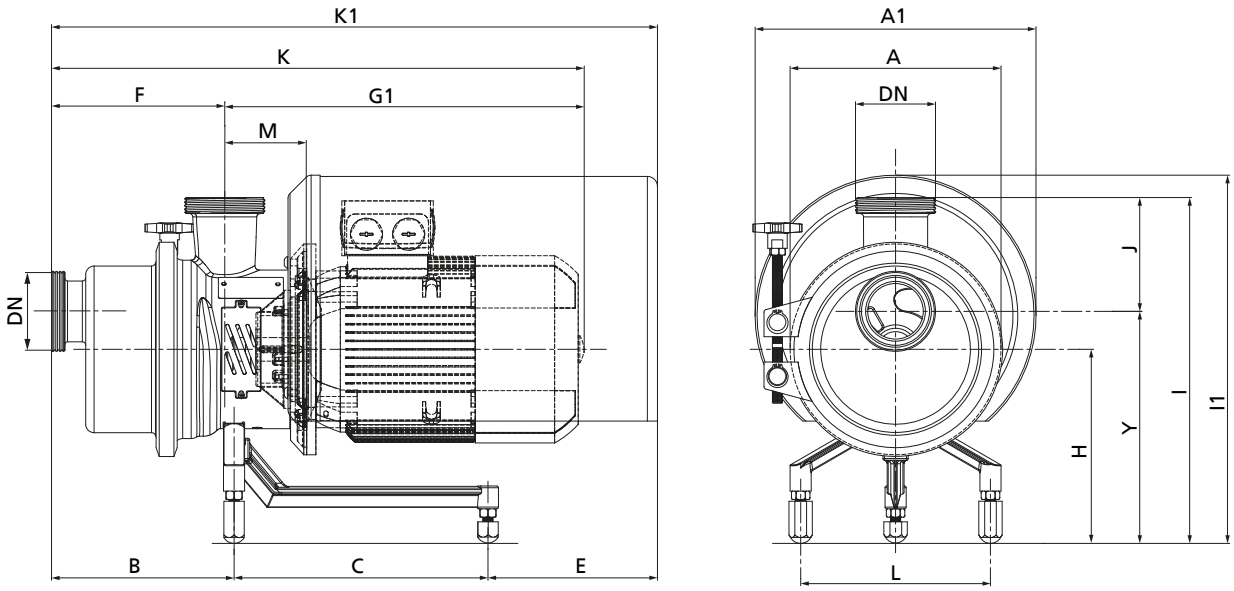

Fig. 1: Pump set with motor shroud, with 3-point ball feet

Table 9: Dimensions

Size	Motor	P	DN	A	A1	B	C	E	F	G1	K1	K	H	J	I	I1	Y	L	M
		[kW]		[mm]															
40-146	90S	1,1	40	200	302	176	190	224	150	394,5	590	544,5	162	110	307	346	197	178	97,5
40-146	90L	1,5	40	200	302	176	190	224	150	434,5	590	584,5	162	110	307	346	197	178	97,5
40-146	100L	2,2	40	250	330	176	301	183	150	474,0	670	624	190	110	335	335	225	225	103,5
40-146	100L	3,0	40	250	330	176	301	183	150	474,0	670	624	190	110	335	335	225	225	103,5
42-146	100L	2,2	40	250	330	234	301	183	208	474,0	728	682	190	110	335	335	225	225	103,5
42-146	100L	3,0	40	250	330	234	301	183	208	474,0	728	682	190	110	335	335	225	225	103,5
42-146	112M	4,0	40	250	330	234	301	183	208	457,5	728	665,5	190	110	335	335	225	225	103,5
50-164	100L	2,2	50	250	330	196	301	202	175	477,0	698	652	228	114	378	433	264	225	106,5
50-164	100L	3,0	50	250	330	196	301	202	175	477,0	698	652	228	114	378	433	264	225	106,5
50-164	112M	4,0	50	250	330	196	301	202	175	460,5	698	635,5	228	114	378	433	264	225	106,5
60-200	112M	4,0	65	250	330	215	301	202	211	451,0	718	662	228	135	408	433	273	225	97

Pump set with motor shroud, with 4-point ball feet

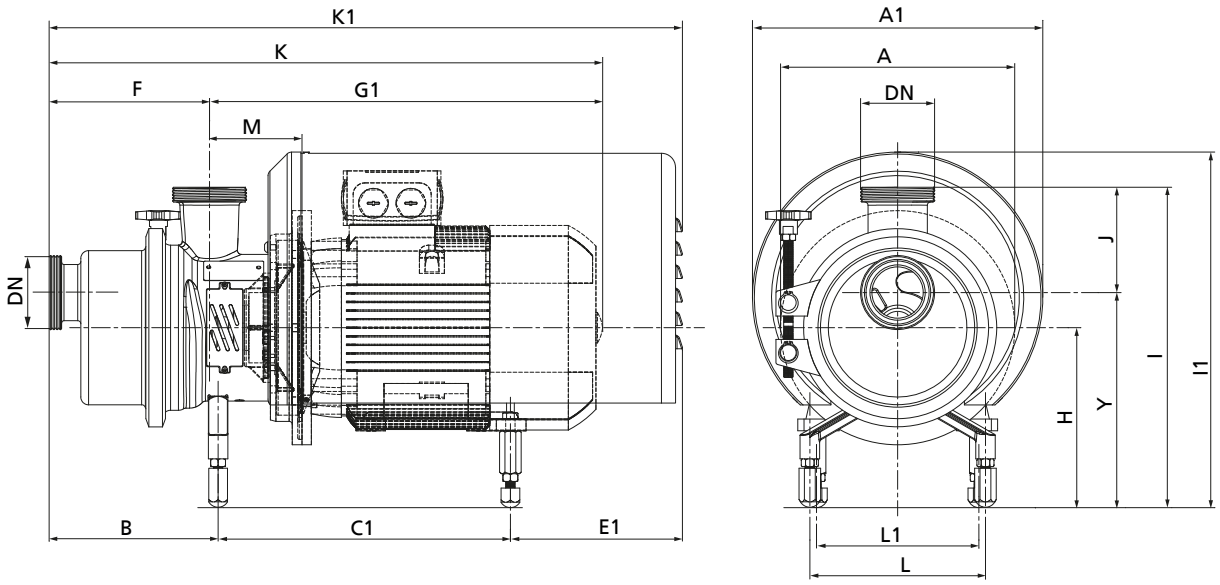

Fig. 2: Pump set with motor shroud, with 4-point ball feet

Table 10: Dimensions

Size	Motor	P	DN	A	A1	B	C1	E1	F	G1	K1	K	H	J	I	I1	Y	L	L1	M
		[kW]		[mm]																
50-164	132S	5,5	50	300	370	196	336	227	175	513	797	688	228	114	378	450	264	225	216	128
50-164	132M	7,5	50	300	370	196	374	265	175	563	797	738	228	114	378	450	264	225	216	128
52-164	132S	5,5	50	300	370	258	336	227	237	513	859	750	228	114	378	450	264	225	216	128
52-164	132M	7,5	50	300	370	258	374	265	237	553,5	859	800	228	114	378	450	264	225	216	128
60-200	132S	5,5	65	300	370	215	337	226	211	503,5	816	714,5	228	135	408	450	273	225	216	118,5
60-200	132M	7,5	65	300	370	215	375	264	211	657	816	764,5	228	135	408	450	273	225	216	118,5
60-200	160M	11	65	350	480	215	470	337	211	717	1022	868	228	135	408	523	273	225	254	163
60-200	160L	15	65	350	480	215	514	293	211	553,5	1022	928	228	135	408	523	273	225	254	163
65-200	132S	5,5	65	300	370	215	337	226	211	503,5	816	714,5	228	135	408	450	273	225	216	118,5
65-200	132M	7,5	65	300	370	215	375	264	211	657	816	764,5	228	135	408	450	273	225	216	118,5
65-200	160M	11	65	350	480	215	470	337	211	717	1022	868	228	135	408	523	273	225	254	163
65-200	160L	15	65	350	480	215	514	293	211	692,5	1022	928	228	135	408	523	273	225	254	163
80-240-11	160M	11	80	350	480	267	498	334	245	752,5	1099	937,5	228	160	446	523	286	225	254	198,5
80-240-11	160L	15	80	350	480	267	542	290	245	752,5	1099	997,5	228	160	446	523	286	225	254	198,5
80-240-15	160L	15	80	350	480	267	542	290	245	782,5	1099	997,5	228	160	446	523	286	225	254	198,5
80-240-15	180M	18,5	80	350	400	267	576	254	245	752,5	1097	1027,5	230	160	448	588	288	225	279	194,5
80-240-15	180L	22	80	350	400	267	576	254	245	752,5	1097	997,5	230	160	448	588	288	225	279	194,5

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Pump set with motor shroud, on motor feet

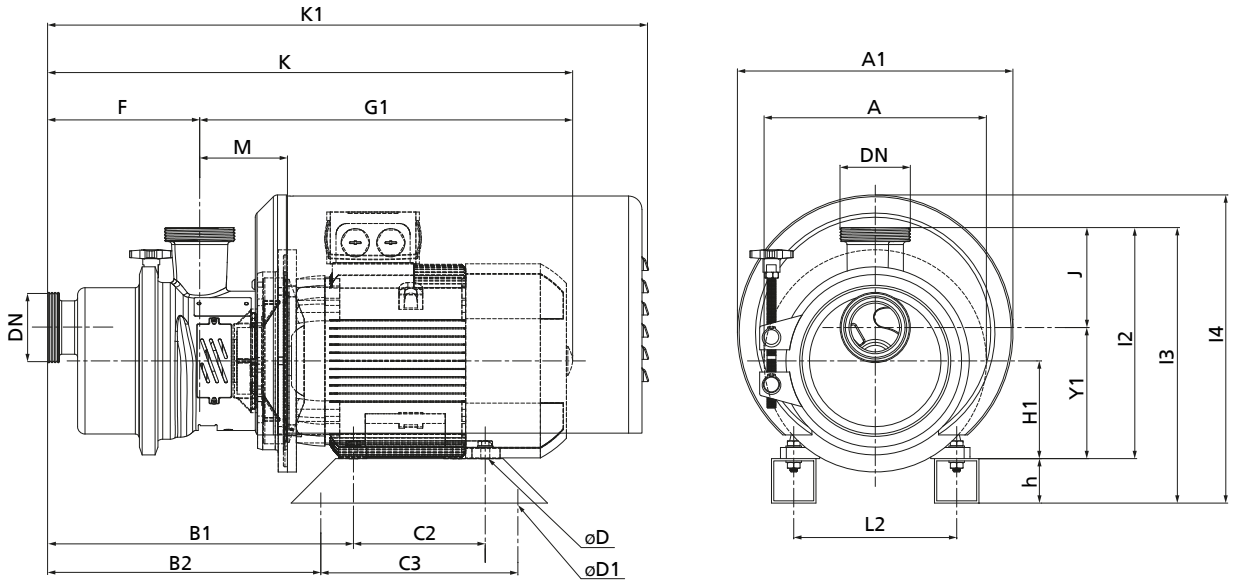

Fig. 3: Pump set with motor shroud, on motor feet

Table 11: Dimensions

Size	Motor	P	DN	A	A1	B1	B2	C2	C3	D	D1	F	G1	K1	K	h	H1	J	I2	I3	I4	Y1	L2	M
		[kW]		[mm]																				
40-146	90S	1,1	40	200	302	306	269	100	200	10	10	150	394,5	590	544,5	40	90	110	235	275	314	125	140	97,5
40-146	90L	1,5	40	200	302	306	269	125	200	10	10	150	434,5	590	584,5	40	90	110	235	275	314	125	140	97,5
40-146	100L	2,2	40	250	330	313	268	140	230	12	12	150	474	670	624	50	100	110	245	295	355	135	160	103,5
40-146	100L	3	40	250	330	313	268	140	230	12	12	150	474	670	624	50	100	110	245	295	355	135	160	103,5
42-146	100L	2,2	40	250	330	371	326	140	230	12	12	208	474	728	682	50	100	110	245	295	355	135	160	103,5
42-146	100L	3	40	250	330	371	326	140	230	12	12	208	474	728	682	50	100	110	245	295	355	135	160	103,5
42-146	112M	4	40	250	330	378	333	140	230	12	12	208	457,5	728	665,5	50	112	110	257	307	367	147	160	103,5
50-164	100L	2,2	50	250	330	344	299	140	230	12	12	175	477	698	652	50	100	114	250	300	355	136	160	106,5
50-164	100L	3	50	250	330	344	299	140	230	12	12	175	477	698	652	50	100	114	250	300	355	136	160	106,5
50-164	112M	4	50	250	330	351	306	140	230	12	12	175	460,5	698	635,5	50	112	114	262	312	367	148	190	106,5
50-164	132S	5,5	50	300	370	392	346	140	266	12	12	175	513	797	688	60	132	114	282	342	414	168	216	128
50-164	132M	7,5	50	300	370	392	346	178	266	12	12	175	563	797	738	60	132	114	282	342	414	168	216	128
52-164	132S	5,5	50	300	370	454	408	140	266	12	12	237	513	859	750	60	132	114	282	342	414	168	216	128
52-164	132M	7,5	50	300	370	454	408	178	266	12	12	237	563	859	800	60	132	114	282	342	414	168	216	128
60-200	112M	4	65	250	330	371	326	140	230	12	12	211	451	718	662	50	112	135	292	342	367	157	190	97
60-200	132S	5,5	65	300	370	412	368	140	266	12	12	211	503,5	816	714,5	60	132	135	312	372	414	177	216	118,5
60-200	132M	7,5	65	300	370	412	368	178	266	12	12	211	553,5	816	764,5	60	132	135	312	372	414	177	216	118,5
60-200	160M	11	65	350	480	475	430	210	330	15	14	211	657	1022	868	60	160	135	340	400	483	205	254	163
60-200	160L	15	65	350	480	475	430	254	330	15	14	211	717	1022	928	60	160	135	340	400	483	205	254	163
65-200	132S	5,5	65	300	370	412	368	140	266	12	12	211	503,5	816	714,5	60	132	135	312	372	414	177	216	118,5
65-200	132M	7,5	65	300	370	412	368	178	266	12	12	211	553,5	816	764,5	60	132	135	312	372	414	177	216	118,5
65-200	160M	11	65	350	480	475	430	210	330	15	14	211	657	1022	868	60	160	135	340	400	483	205	254	163
65-200	160L	15	65	350	480	475	430	254	330	15	14	211	717	1022	928	60	160	135	340	400	483	205	254	163
80-240-11	160M	11	80	350	480	552	507	210	330	15	14	245	692,5	1099	937,5	60	160	160	378	438	483	218	254	198,5
80-240-11	160L	15	80	350	480	552	507	254	330	15	14	245	752,5	1099	997,5	60	160	160	378	438	483	218	254	198,5
80-240-15	160L	15	80	350	480	552	507	254	330	15	14	245	752,5	1099	997,5	60	160	160	378	438	483	218	254	198,5
80-240-15	180M	18,5	80	350	400	561	506	241	387	15	15	245	782,5	1097	1027,5	60	180	160	398	458	585	218	279	194,5
80-240-15	180L	22	80	350	400	561	506	241	387	15	15	245	752,5	1097	997,5	60	180	160	398	458	585	218	279	194,5

Two-stage pumps

Pump set with motor shroud, on 3-point ball feet

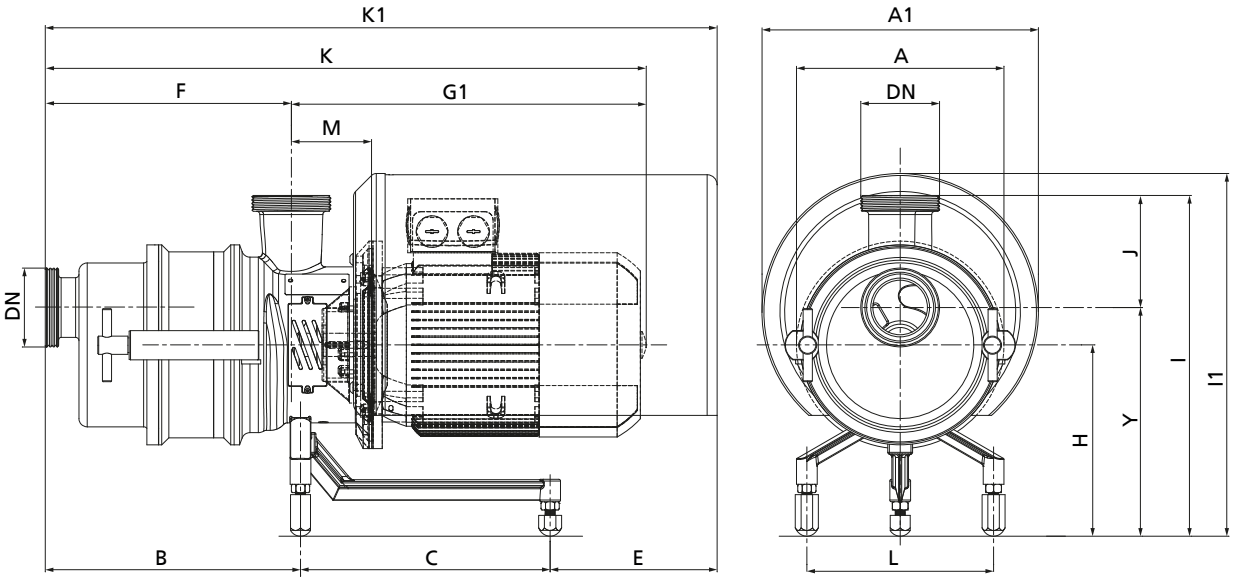

Fig. 4: Pump set with motor shroud, on 3-point ball feet

Table 12: Dimensions

Size	Motor	P	DN	A	A1	B	C	E	F	G1	K1	K	H	J	I	I1	Y	L	M
		[kW]		[mm]															
42-146	100L	2,2	40	250	330	234	301	183	208	474	728	682	190	110	335	335	225	225	103,5
42-146	100L	3,0	40	250	330	234	301	183	208	474	728	682	190	110	335	335	225	225	103,5
42-146	112M	4,0	40	250	330	234	301	183	208	457,5	728	665,5	190	110	335	335	225	225	103,5

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Pump set with motor shroud, on 4-point ball feet

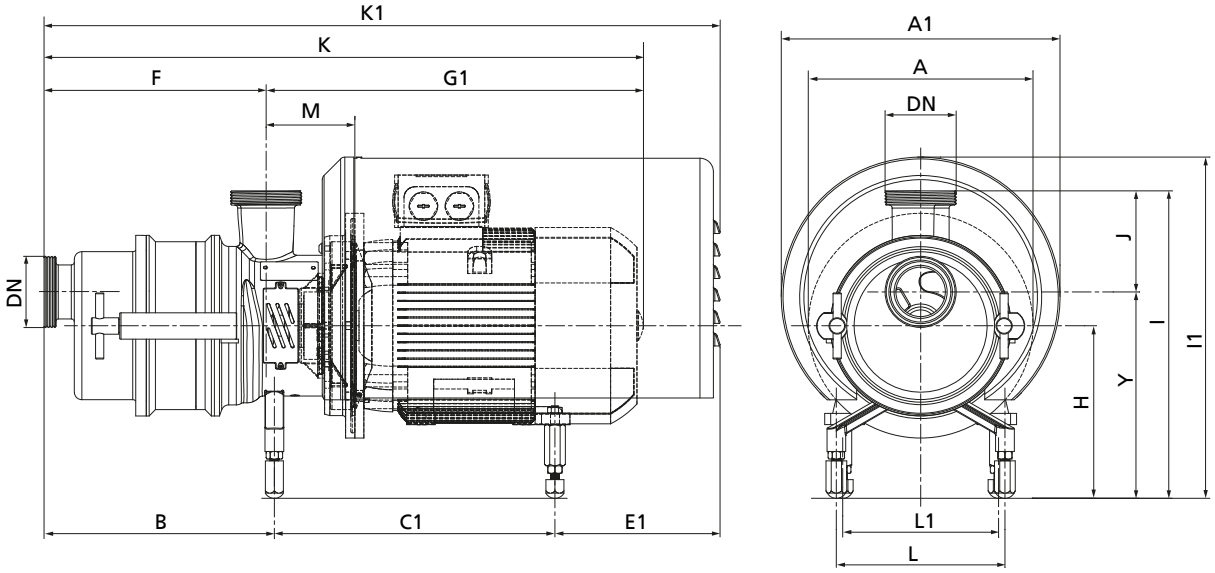

Fig. 5: Pump set with motor shroud, on 4-point ball feet

Table 13: Dimensions

Size	Motor	P	DN	A	A1	B	C1	E1	F	G1	K1	K	H	J	I	I1	Y	L	L1	M
		[kW]		[mm]																
52-164	132S	5,5	50	300	370	258	336	227	237	513	859	750	228	114	378	450	264	225	216	128
52-164	132M	7,5	50	300	370	258	374	265	237	563	859	800	228	114	378	450	264	225	216	128

Pump set with motor shroud, on motor feet

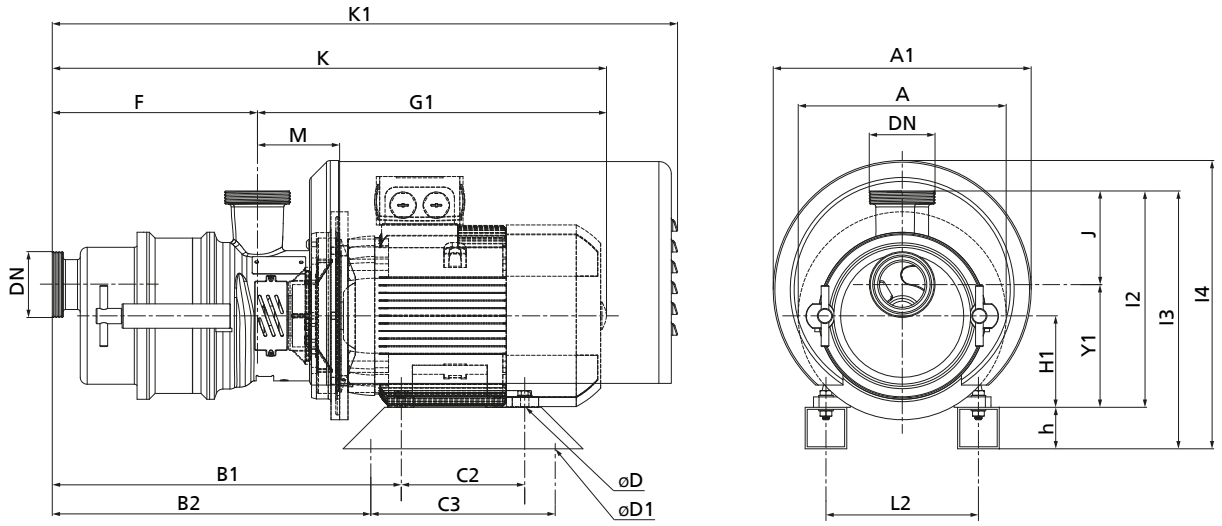

Fig. 6: Pump set with motor shroud, on motor feet

Table 14: Dimensions

Size	Motor	P	DN	A	A1	B1	B2	C2	C3	D	D1	F	G1	K1	K	h	H1	J	I2	I3	I4	Y1	L2	M
		[kW]		[mm]																				
42-146	100L	2,2	40	250	330	371	326	140	230	12	12	208	474	728	682	50	100	110	245	295	355	135	160	103,5
42-146	100L	3,0	40	250	330	371	326	140	230	12	12	208	474	728	682	50	100	110	245	295	355	135	160	103,5
42-146	112M	4,0	40	250	330	378	333	140	230	12	12	208	457,5	728	665,5	50	112	110	257	307	367	147	160	103,5
52-164	132S	5,5	50	300	370	454	408	140	266	12	12	237	513	859	750	60	132	114	282	342	414	168	216	128
52-164	132M	7,5	50	300	370	454	408	178	266	12	12	237	563	859	800	60	132	114	282	342	414	168	216	128

Pump accessories

- Motor shroud made of stainless steel
- Vertically adjustable ball feet or machine mounts
- Residual drainage of pump casing
- Noise reduction valve
- Mounted on a trolley, with switch and power cable
- System for supplying the mechanical seal

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