

High-pressure In-line Pump

Movitec

60 Hz

Type Series Booklet



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Type Series Booklet Movitec

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Contents

High-pressure Pumps	5
High-pressure In-line Pumps	5
Movitec	5
Main applications	5
Fluids handled	5
Operating data	5
Design details	5
Designation	7
Materials	10
Coating and preservation	10
Product benefits	10
Product information	11
Product information as per Regulation No 1907/2006 (REACH)	11
Product information as per Regulation No. 547/2012 (for water pumps with a maximum shaft power of 150 kW) implementing "Ecodesign" Directive 2009/125/EC	11
Certifications	11
Acceptance tests and warranty	11
Design and selection information	12
Impeller for lower NPSH values	12
Information on using the characteristic curve	13
Fluid handled	14
Minimum flow rate and maximum flow rate	14
Overview of product features / selection tables	15
Overview of fluids handled	15
Pressure and temperature limits of the shaft seal	19
Technical data	21
Motors	21
Types of connection	22
Selection charts	23
Movitec, n = 3500 rpm	23
Movitec, n = 1750 rpm	24
Characteristic curves	25
n = 3500 rpm	26
Movitec 2B, n = 3500 rpm	26
Movitec 2LB, n = 3500 rpm	27
Movitec 4B, n = 3500 rpm	28
Movitec 4LB, n = 3500 rpm	29
Movitec 6B, n = 3500 rpm	30
Movitec 6LB, n = 3500 rpm	31
Movitec 10B, n = 3500 rpm	32
Movitec 10LB, n = 3500 rpm	33
Movitec 15C, n = 3500 rpm	34
Movitec 15LC, n = 3500 rpm	35
Movitec 25B, n = 3500 rpm	36
Movitec 25LB, n = 3500 rpm	37
Movitec 40B, n = 3500 rpm	38
Movitec 40LB, n = 3500 rpm	39
Movitec 60B, n = 3500 rpm	40
Movitec 90B, n = 3500 rpm	41
Movitec 125B, n = 3500 rpm	42
Movitec LHS, n = 3500 rpm	43
n = 1750 rpm	44
Movitec 10B, n = 1750 rpm	44
Movitec 10LB, n = 1750 rpm	45
Movitec 15C, n = 1750 rpm	46
Movitec 15LC, n = 1750 rpm	47
Movitec 25B, n = 1750 rpm	48
Movitec 25LB, n = 1750 rpm	49
Movitec 40B, n = 1750 rpm	50
Movitec 40LB, n = 1750 rpm	51
Movitec 60B, n = 1750 rpm	52
Movitec 90B, n = 1750 rpm	53

Dimensions and connections	54
Movitec 2(L)B, n = 3500 rpm.....	54
Movitec 4(L)B, n = 3500 rpm.....	55
Movitec 6(L)B, n = 3500 rpm.....	56
Movitec 10(L)B, n = 1750 rpm.....	57
Movitec 10(L)B, n = 3500 rpm.....	58
Movitec 15(L)C, n = 1750 rpm.....	59
Movitec 15(L)C, n = 3500 rpm.....	60
Movitec 25(L)B, n = 1750 rpm.....	61
Movitec 25(L)B, n = 3500 rpm.....	62
Movitec 40(L)B, n = 1750 rpm.....	63
Movitec 40(L)B, n = 3500 rpm.....	64
Movitec 60B, n = 1750 rpm.....	65
Movitec 60B, n = 3500 rpm.....	66
Movitec 90B, n = 1750 rpm.....	67
Movitec 90B, n = 3500 rpm.....	68
Movitec 125B, n = 3500 rpm.....	69
Movitec LHS, n = 3500 rpm.....	70
Information on installation	71
Terminal box positions.....	73
Scope of supply	73
Accessories.....	73
General assembly drawing with list of components.....	74
Movitec 2(L)B, 4(L)B, 6(L)B	74
Movitec 10(L)B, 15(L)B	75
Movitec 15(L)C.....	76
Movitec 25(L)B.....	77
Movitec 40(L)B, 60B.....	78
Movitec 90B	80
Movitec 125B.....	82
Movitec LHS	84

High-pressure Pumps

High-pressure In-line Pumps

Movitec



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

Main applications

- Spray irrigation systems
- General irrigation systems
- Washing plants
- Fire-fighting systems
- Pressure boosting
- Industrial plants
- Water supply systems
- Heating, ventilation and air-conditioning systems
- Marine applications

Fluids handled

- Hot water
- Clear water
- Condensate
- Cooling water
- Fire-fighting water
- Oil
- Cleaning agents
- And others (⇒ Page 15)

Operating data

Table 1: Operating properties

Characteristic		Value	
		Movitec LHS	Movitec V, VS, VC
Flow rate	Q [m³/h]	≤ 8,6	≤ 192
	Q [l/s]	≤ 2,4	≤ 53,3
Head	H [m]	≤ 415	≤ 249
Fluid temperature	T [°C]	≥ -15	≥ -20
		≤ +120	≤ +140 ¹⁾
Operating pressure	p [bar]	≤ 40 ²⁾	≤ 40 ²⁾

Design details

Design

- High-pressure in-line pump
- Maximum pressure class PN 40
- Centrifugal pump
- Single-stage or multi-stage

Installation types

- Horizontal/vertical installation

Drive

- Surface-cooled KSB squirrel-cage motor
- 3~230/400 V up to 2.2 kW
- 3~400/690 V from 3.0 kW
- Thermal class F to IEC 34-1
- Efficiency class IE3 to IEC 60034-30 (for three-phase motors ≥ 0.75 kW)
- Enclosure IP55
- Frequency 60 Hz

Automation

Automation options:

- PumpDrive
- PumpMeter

Shaft seal

- Uncooled maintenance-free mechanical seal
- To EN 12756
- Fixed mechanical seal
 - Mechanical seal in standard design
 - Unbalanced bellows-type seal
 - ≤ 25 bar
 - Available up to size 15
- Easy Access mechanical seal
 - Easy to replace
 - Unbalanced bellows-type seal
 - ≤ 25 bar
 - Drive lantern need not be removed to replace the seal.
 - Motor rating 5.5 kW and above: Motor need not be removed.

¹ For operating temperatures > 120 °C the pressure class must be ≤ PN 25.

² The sum of inlet pressure and shut-off head must not exceed the value indicated.

- Available up to and including size 90B
- Cartridge seal
 - Unbalanced bellows-type design (PN 25) or special balanced design (PN 40)
 - Drive lantern need not be removed to replace the seal.
 - Motor rating 5.5 kW and above: Motor need not be removed.
 - Optionally available for all sizes except Movitec LHS
 - Available for all sizes

Bearings

- Product-lubricated stage bearing (tungsten carbide / aluminum oxide)

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	32
M	o	v	i	t	e	c	V	-	F	0	0	6	/	0	6	1	B	3	D	1	3	E	S	1	1	2	B	7	U	A	X
See name plate and data sheet																		See data sheet													

Table 3: Designation key

Position	Code	Description
1-7	Type series	
	Movitec	
8-9	Design	
	LH	Stainless steel 1.4404
	V	Stainless steel 1.4301
	VC	Stainless steel / gray cast iron 1.4301 / EN-GJL-250
	VM	Stainless steel 1.4301
	VS	Stainless steel 1.4404
10	Type of connection	
	³⁾	Oval flange
	E ⁴⁾	External thread
	F	Round flange
	I	Internal thread
	T	Tri-clamp coupling
	V	Victaulic coupling
11-13	Size	
	002	2
	...	...
	125	125
15-16	Number of stages	
	01	1
	...	...
	30	30
17	Number of stages with a special impeller	
	-	No stage with a special impeller
	1	1 stage with a special impeller
	2	2 stages with a special impeller
	L	1 stage with a special impeller for lower NPSH values
	V	2 stages, 1 special impeller and 1 special impeller for lower NPSH values
	W	3 stages, 2 special impellers and 1 special impeller for lower NPSH values
18	Product generation	
	A	Movitec until 2009
	B	Movitec from 2010
	C	Movitec from 2021
19	Connection standard	
	0	Victaulic coupling No standard
	1	Round flange EN 1092
	2	Round flange ASME B16.1
	3	Round flange JIS B2238
	4	Oval flange EN ISO 228-1
	5	Oval flange ASME B16.5
	6	Tri-clamp coupling DIN 32676
	7	External thread EN ISO 228-1
	8	Oval flange ISO 7-1
	9	Round flange ASME B16.5
20	Material variant	
	D	1.4308 - EN-GJS-400-15 - EN-GJL-250

³ Blank

⁴ Pumps with external thread are supplied with an integrated swing check valve as standard.

Position	Code	Description
20	E	1.4308 - EN-GJS-400-15 - 1.4308
	F	1.4308 - 1.4308 - EN-GJL-250
	G	1.4308 - 1.4308 - EN-GJS-400-15
	H	1.4308 - 1.4308 - 1.4308
	K	1.4308 - 1.4408 - EN-GJS-400-15
	L	1.4308 - 1.4408 - EN-GJL-250
	M	1.4308 - 1.4408 - 1.4308
	N	1.4308 - EN-GJS-400-15 - EN-GJL-250
	O	1.4408 - EN-GJS-400-15 - 1.4308
	P	1.4408 - 1.4308 - EN-GJL-250
	Q	1.4408 - 1.4308 - 1.4308
	R	1.4408 - 1.4408 - EN-GJL-250
	S	1.4408 - 1.4408 - EN-GJS-400-15
	T	1.4408 - 1.4408 - 1.4308
	U	EN-GJL-250 - EN-GJL-250 - EN-GJL-250
	V	EN-GJS-400-15 - EN-GJS-400-15 - EN-GJS-400-15
	W	EN-GJS-400-15 - 1.4308 - EN-GJS-400-15
	X	1.4308 - EN-GJS-400-15 - EN-GJS-400-15
	Y	1.4408 - EN-GJS-400-15 - EN-GJS-400-15
	Z	1.4408 - 1.4308 - EN-GJS-400-15
21-22	Seal code	
	15	U3U3X4GG
	17	U3BVGG ⁵⁾
	19	U3BEGG ⁵⁾
	22	Q1AX4GG
	40	Q1Q1EGG
	41	Q1AEGG
	42	Q1Q1VGG
	43	Q1AVGG
	50	AQ7EGG
	51	AQ7EGGY10
	52	AQ7VGGY10
	53	BQ7EGGY10WA
	54	BQ7EGGWA
	55	BQ7VGG
	56	BQ7VGGY10
	57	BQ7EGGWA
	58	Q7Q7EGGY10WA
	59	Q7Q7EGGWA
	60	Q7Q7VGG
	61	Q7Q7VGGY10
	65	U3U3VGGY10
	66	Q7Q7VGGY10
23	Mechanical seal design	
	F	Fixed mechanical seal
	E	Easy Access mechanical seal
	C	Cartridge mechanical seal
24	Drive	
	0	Without motor
	2	With PumpDrive 2
	A	Version for potentially explosive atmospheres, Atex IEC T3
	E	With PumpDrive 2 Eco
	F	Version for potentially explosive atmospheres, Atex IEC T4
	M	230 V, single-phase AC motor
	N	Standard NEMA
	P	With PumpDrive
	S	Standard IEC

⁵ For Movitec LHS only

Position	Code	Description
25-27	Motor size	
	056	NEMA 56C
	071	IEC 071
	080	IEC 080
	090	IEC 090
	100	IEC 100
	112	IEC 112
	132	IEC 132
	143	NEMA 143TC
	145	NEMA 145TC
	160	IEC 160
	180	IEC 180
	182	NEMA 182TC
	184	NEMA 184TC
	200	IEC 200
	215	NEMA 215TC
	225	IEC 225
	256	NEMA 256TC
	284	NEMA 284TC
	286	NEMA 286TC
	324	NEMA 324TC
	326	NEMA 326TC
	364	NEMA 364TC
28	Pressure class	
	A	PN16 / PN25
	B	PN25
	C	PN25 / PN40
	D	PN40
	E	PN10
	F	Class 250
	G	PN16 / PN25
	H	PN16 / PN40
29	Frequency, number of motor poles	
	5	50 Hz, 2-pole
	6	60 Hz, 2-pole
	7	50 Hz, 4-pole
	8	60 Hz, 4-pole
30	Motor specification	
	C	230 / 400 V - IE2
	F	EXM IEC - TBH
	G	EXM NEMA
	K	EXM IEC - Movitec
	M	230 V, single-phase AC motor
	O	0.37 / 0.55 kW, without IE classification
	U	230 / 400 V - IE3
	V	400 / 690 V - IE3
	W	230 / 400 V - IE4/IE5 (KSB SuPremE)
	X	400 / 690 V - IE4/IE5 (KSB SuPremE)
31	PumpMeter	
	A	With PumpMeter
	W	Without PumpMeter
32	Design	
	_3)	Standard
	X	Non-standard (BT3D, BT3)

Materials

Table 4: Overview of available materials

Part No.	Description	Design			
		V	VC	VS	LHS
10-6	Pump shroud	1.4301		1.4404	
101	Pump casing	1.4308	EN-GJL-250 ⁶⁾ / EN-GJS-400-15 ⁷⁾	1.4408	
108	Stage casing	1.4301 ⁸⁾ / 1.4308 ⁹⁾		1.4404 ⁸⁾ / 1.4408 ⁹⁾	
160	Discharge cover	1.4301 ⁸⁾ / 1.4308 ⁹⁾		1.4404 ⁸⁾ / 1.4408 ⁹⁾	
210	Shaft	1.4057		1.4460 / 1.4401 ¹⁰⁾	
230	Impeller ¹¹⁾	1.4301 ⁸⁾ / 1.4308 ⁹⁾		1.4404 ⁸⁾ / 1.4408 ⁹⁾	
341	Drive lantern	EN-GJL-250 ¹²⁾ / EN-GJS-400-15 ¹³⁾			
412	O-ring	EPDM-WRc / ACS	EPDM	FPM / HNBR	
525	Spacer sleeve	1.4301		1.4401	
529	Bearing sleeve	Tungsten carbide / aluminum oxide			
890	Baseplate	EN-GJS-400-15 / EN-GJL-250 / 1.4308 ¹⁴⁾	-	EN-GJS-400-15 / EN-GJL-250 / 1.4308 ¹⁴⁾	
905	Tie bolt	1.4057			
920	Nut	1.4301		1.4404	
932	Circlip	1.4571			

Table 5: Material comparison

EN	ASTM
EN-GJL-250	A48 Class 35 B
EN-GJS-400-15	A536 Grade 60-40-18
1.4057	SS 431 (UNS S43100)
1.4301	SS 304 (UNS S30400)
1.4308	Grade CF8 (J92600)
1.4401	SS 316 (UNS S31600)
1.4404	SS 316L (UNS S31603)
1.4408	Grade CF8M (UNS J92900)
1.4460	SS 329 (UNS S32900)
1.4571	SS 316 Ti (UNS S31635)

Coating and preservation

Table 6: Coating of pump components

Component	Coating
Stainless steel components	No additional coating
Movitec VC:	
Pump casing made of gray cast iron	Cataphoretic coating
Movitec V/VS:	
Slide flanges made of gray cast iron	Cataphoretic coating
Drive lantern made of gray cast iron	Powder coating

Product benefits

- Reliable: product-lubricated plain bearings made of tungsten carbide, cast pump foot, torsion-resistant pump shroud and confined O-rings
- Long service life due to corrosion-resistant hydraulic components made of stainless steel
- Easy to service: can be fitted with any standardized mechanical seal to EN 12756
- Various materials and connection options, extended temperature and pressure range

⁶⁾ Movitec 2B, 4B, 6B, 10B, 15C, 25B, 40B, 60B, 125B

⁷⁾ Movitec 90B

⁸⁾ Movitec 2B, 4B, 6B, 10B, 15C, 25B, 40B, 60B

⁹⁾ Movitec 90B, 125B

¹⁰⁾ Movitec VS 2B, 4B up to 14 stages, 6B up to 12 stages, 10B, 15C up to 10 stages

¹¹⁾ The impellers of Movitec 125 are made of sheet metal and cast material.

¹²⁾ Movitec 2B, 4B, 6B, 10B, 15C, 25B (≤ 4 kW) and Movitec 90B

¹³⁾ Movitec 2B, 4B, 6B, 10B, 15C, 25B (≥ 5.5 kW) and Movitec 40B, 60B, 125B

¹⁴⁾ Optional for: Movitec 2B, 4B, 6B, 10B, 15C, 25B, 40B, 60B, 90B

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>.

Product information as per Regulation No. 547/2012 (for water pumps with a maximum shaft power of 150 kW) implementing "Ecodesign" Directive 2009/125/EC

- Minimum efficiency index: see data sheet
- The benchmark for the most efficient water pumps is $MEI \geq 0.70$.
- Year of construction: see data sheet
- Manufacturer's name or trade mark, commercial registration number and place of manufacture: see data sheet or order documentation
- Product's type and size identifier: see data sheet
- Hydraulic pump efficiency (%) with trimmed impeller: See data sheet.
- Pump performance curves, including efficiency characteristics: see documented characteristic curve
- The efficiency of a pump with a trimmed impeller is usually lower than that of a pump with the full impeller diameter. Trimming of the impeller will adapt the pump to a fixed duty point, leading to reduced energy consumption. The minimum efficiency index (MEI) is based on the full impeller diameter.
- The operation of this water pump with variable duty points may be more efficient and economic when controlled, for example, by the use of a variable speed drive that matches the pump duty to the system.
- Information relevant for disassembly, recycling or disposal at end of life: see installation/operating manual
- Information on benchmark efficiency or benchmark efficiency graph for $MEI = 0.70$ (0.40) for the pump based on the model shown in the Figure are available at: www.europump.org/efficiencycharts

- Inspection certificate 3.1 to EN 10204 on request

▪ Hydraulic test

The operating point of each pump is guaranteed to ISO 9906:2012 Grade 3B.
This test is always carried out using the original motor.
The NPSH and the suction lift are not measured (3.2 certificate available).

▪ Warranties

Warranties are given within the scope of the valid delivery conditions.

Certifications

Table 7: Overview

Label	Valid in:	Comment
	France	French drinking water approval
	United Kingdom	Approved in accordance with the UK drinking water regulation

Acceptance tests and warranty

- Pressure test
 - To EN 809
- Leak test
 - with water
- Materials testing
 - Certificate of compliance with the order (corresponds to EN 10204)
In the certificate of compliance with the order the manufacturer confirms by way of an informal report without specifying test results that the delivery complies with the stipulations of the purchase order.
 - Test report 2.2 on request
- Final inspection

Design and selection information

Impeller for lower NPSH values

An impeller for lower NPSH values is available for sizes 2, 4, 6, 10 and 15.

This type of impeller ensures that the pump's NPSH curve is significantly improved.

The solution is based on a newly developed impeller for lower NPSH values and a modified stage casing. Cavitation inside the pump can hence be prevented in the case of critical inlet conditions.

Risks of cavitation:

- Reduced lifetime of the pump due to damaged parts and unbalanced hydraulic system
- Excessive wear of pump parts or motor bearings
- Insufficient cooling and/or lubrication of the mechanical seal and pump bearing

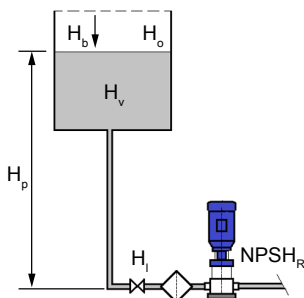
Benefits of using impellers for lower NPSH values:

- More suitable in critical inlet conditions
- Easy adaptation to non-optimized application parameters
- The suction lift (H_p) is less crucial (the frame height of the degassing tank used in boiler feeding may be reduced, for example).

Consequences of using impellers for lower NPSH values:

- No need to change pump installation heights or pump nozzles
- Minor adjustments to the characteristic curve

Calculation:



$$NPSH_A \geq NPSH_R + H_z$$

$$NPSH_A = H_b + H_o + H_p - H_v - H_l$$

$$x = H_b + H_o + H_p - H_v - H_l - NPSH_R - H_z$$

$$x \geq 0$$

Fig. 1: Calculating the $NPSH_A$

$NPSH_A$	NPSH system value at operating point
$NPSH_R$	NPSH pump value at operating point (see characteristic curve of the pump)
H_b	Atmospheric pressure [mlc]
H_o	Positive pressure (with tank closed) [mlc]
H_p	Suction lift [mlc]
H_v	Vapor pressure [mlc] (see vaporization pressure diagram for water)
H_l	Friction losses in pipes and accessories [mlc]
H_z	Safety margin (min. 0,5 m)
x	Minimum pressure

Result:

If the minimum pressure (x) is positive, there is no risk of cavitation.

If the minimum pressure (x) is negative, there is a risk of cavitation which can be avoided by using an impeller for lower NPSH values.

Another option is to change one of the other values so that the value becomes positive.

Example:

- Boiler feed water: 105 °C
- Positive height of tank: 2 m
- Positive pressure in tank: 3 mlc
- Flow rate: 5 m³/h
- Head: 100 m (10 bar)
- Size selected: 4

Table 8: Calculation of positive pressure on suction flange:

Calculation of positive pressure on suction flange:	Standard impeller	Special impeller for lower NPSH values
Atmospheric pressure [mlc]	10,3	10,3
Positive pressure (with tank closed)	3,0	3,0
Suction lift	2,0	2,0
Vapor pressure [mlc] (see vaporization pressure diagram for water)	-12,5	-12,5
Friction losses in pipes and accessories [mlc]	-1,0	-1,0
Safety margin (min. 0,5 m)	-0,5	-0,5
NPSH pump value at operating point (see characteristic curve of the pump)	-2,1	-0,8
Minimum pressure	-0,8	+0,5
Conclusion	Cavitation will occur.	No cavitation

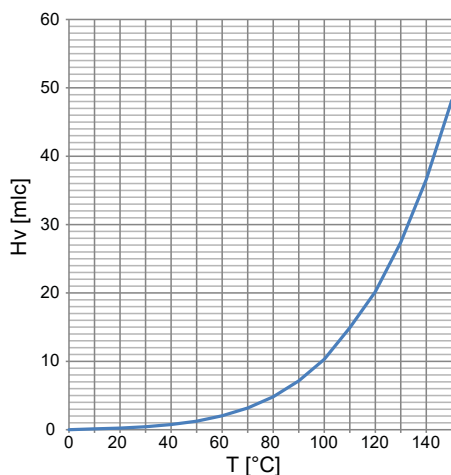


Fig. 2: Vaporization pressure (H_v) diagram for water

Information on using the characteristic curve

NPSH [m], [ft]:

- The NPSH values given in the individual characteristic curves are minimum values which correspond to the cavitation limit.
- A safety margin of at least 0.5 m must be added when selecting the pump to compensate for measuring inaccuracies.
- The NPSH curves reflect average values.
- A safety margin of 0.5 m must be added to the NPSH value of the characteristic curve when selecting a system.

P [kW], [hp]:

- The power required is indicated per stage ($St = 1$) and/or per stage with smaller impeller ($St = -1$), allowing pump input power to be calculated accordingly. Calculation: value indicated in diagram ($St = 1$) $\times$ number of stages + value indicated in diagram ($St = -1$) $\times$ number of stages with smaller impellers
 Ex. 1, Movitec 90/4: $P = (St = 1) \times 4$
 Ex. 2, Movitec 90/4-1: $P = (St = 1) \times 3 + (St = -1)$
 Ex. 3, Movitec 90/4-2: $P = (St = 1) \times 2 + (St = -1) \times 2$

Fluid handled

The actual operating conditions must always be checked (concentration, temperature, solids content). Penetration of air into the system must be avoided by all means.

If the fluid handled contains solids such as steel chips or steel chip dust, check the permissible particle concentration with KSB.

Minimum flow rate and maximum flow rate

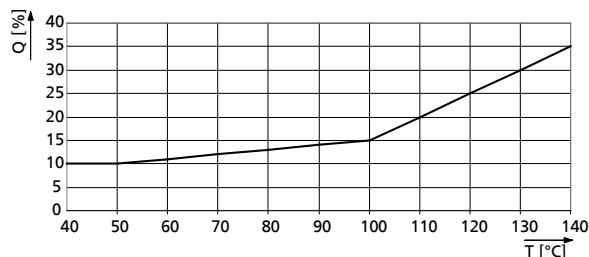


Fig. 3: Minimum flow rate required as a function of fluid temperature at a fluid temperature > +20 °C

Table 9: Minimum flow rate and maximum flow rate Q at a fluid temperature ≤ +20 °C depending on the number of poles

Size	Q			
	2 poles		4 poles	
	Min.	Max.	Min.	Max.
	[m³/h]	[m³/h]	[m³/h]	[m³/h]
2B	0,2	3,3	-	-
4B	0,4	6,5	-	-
6B	0,6	9,0	-	-
10B	1,1 ¹⁵⁾	13,2	0,5	6,6
15C	1,6 ¹⁵⁾	22,5	0,8	11,3
25B	2,8 ¹⁵⁾	35,0	1,4	17,5
40B	4,0 ¹⁵⁾	54,0	2,0	27,0
60B	6,0 ¹⁵⁾	76,0	3,0	38,0
90B	8,5	110,0	4,3	53,9
125B	12,2	160,0	-	-
LHS	0,8	8,6	-	-

¹⁵ For pumps with VdS certification the minimum flow rate $Q_{\min}$ is 5 % of the approved rated flow.

Overview of product features / selection tables

Overview of fluids handled

The data refer to the chemical resistance of the materials. The relevant regulations/standards governing individual pump applications have to be complied with. If the operating conditions differ from the data given (e.g. mixed products) or if the fluids pumped are not included in the table below, please contact KSB.

- **Temperature ranges:**
 - Reference temperature: +20 °C
 - For temperatures < 0 °C: contact KSB.
 - For temperatures > +50 °C: check and observe the vapor pressure of the fluid handled.
 - Max. temperature: +120 °C, unless indicated otherwise
- Max. concentration = 100 % unless indicated otherwise
- Mechanical seal silicon carbide / carbon (Q1B): not suitable for fluids containing solid substances. This rule also covers particles developing as a result of salt crystallization at low fluid temperatures.
- Mechanical seal tungsten carbide / tungsten carbide (U3U3): solids content max. 20 ppm (depending on particle size), with the exception of corrosive fluids. Fluids with a higher solids content are not permitted (ppm = 1 mg/kg).
- Caution: High temperatures will increase corrosion (reference temperature = +20 °C).
- Under unfavorable conditions (high temperatures, deposits, long idle periods), chloride contents of more than 300 mg/l may result in localized corrosion.

Table 10: Symbols key

Symbol	Description
x	Standard
o	Optional
-	Version not available / not possible

Table 11: Selecting the design of pump and mechanical seal depending on the fluid to be handled

Fluid handled			Design																															
Substance contained	Max. per-centage	T _{max.}	V										VC										VS						LHS					
			2-4-6					10-15-25-40-60-90-125					2-4-6					10-15-25-40-60-90-125					2-4-6			10-15-25-40-60-90-125			6					
			Seal code																															
	[%]	[°C]	50	54	55	59	60	51	53	56	58	61	50	54	55	59	60	51	53	56	58	61	50	54	55	59	60	51	53	56	58	61	17	19
Alum, acid-free	≤ 3	+80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	o	-	-	X	-	o	-	-	X	-	-	-
Alkaline solution, bottle rins- ing, max. 2 % sodium hydrox- ide	≤ 100	+90	o	-	-	X	-	o	-	-	X	-	o	-	-	-	X	o	-	-	-	X	o	-	-	X	-	o	-	-	X	-	-	-
Alcohol																																		
▪ Butanol	≤ 100	+60	X	-	-	-	-	X	-	-	-	-	-	X	-	-	-	-	X	-	-	-	X	-	-	-	-	X	-	-	-	-	-	-
▪ Ethanol	≤ 100	+60	X	-	-	-	-	X	-	-	-	-	-	X	-	-	-	-	X	-	-	-	X	-	-	-	-	X	-	-	-	-	-	-
▪ Propanol	≤ 100	+80	X	-	-	-	-	X	-	-	-	-	-	X	-	-	-	-	X	-	-	-	X	-	-	-	-	X	-	-	-	-	-	-
▪ Spirits (40 % ethanol)	≤ 100	+40	X	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	X	-	-	-	-	-	-

Fluid handled			Design																																					
Substance contained	Max. per-centage	T _{max.}	V												VC												VS						LHS							
			2-4-6						10-15-25-40-60-90-125						2-4-6						10-15-25-40-60-90-125						2-4-6						10-15-25-40-60-90-125						6	
			Seal code																																					
	[%]	[°C]	50	54	55	59	60	51	53	56	58	61	50	54	55	59	60	51	53	56	58	61	50	54	55	59	60	51	53	56	58	61	17	19						
Aluminum sulphate	≤ 5	+60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	o	-	X	-	-	o	-	X	-	-					
Ammonium bicarbonate	≤ 10	+40	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	-	-						
Ammonium sulphate	≤ 20	+60	-	-	-	X	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	X	-	-	-					
Calcium acetate	≤ 10	+60	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	-	-						
Calcium nitrate	≤ 10	+60	o	-	-	X	-	o	-	-	X	-	-	-	-	-	-	-	-	-	-	-	o	-	-	X	-	o	-	-	X	-	-	-						
Ferric sulphate (II)	≤ 5	+50	o	-	-	X	-	o	-	-	X	-	-	-	-	-	-	-	-	-	-	-	o	-	-	X	-	o	-	-	X	-	-	-						
Water-oil emulsion (95 %, 5 %), free of solids	≤ 100	+80	-	-	X	-	-	-	-	X	-	-	-	-	X	-	-	-	-	X	-	-	-	-	-	X	-	-	-	-	X	-	-	-						
Ethylene glycol base anti-freeze, inhibited, closed system (without silicates)	≤ 20	+100	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	-	-						
	≤ 25	+100	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	-	-						
	≤ 30	+100	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	-	-						
	≤ 35	+100	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	-	-						
	≤ 40	+100	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	-	-						
	≤ 45	+100	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	-	-						
	≤ 50	+100	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	-	-						
Ethylene glycol base anti-freeze, inhibited, open system (without silicates)	≤ 20	+100	o	-	-	X	-	o	-	-	X	-	-	-	-	-	-	-	-	-	-	-	o	-	-	X	-	o	-	-	X	-	-	-						
	≤ 25	+100	o	-	-	X	-	o	-	-	X	-	-	-	-	-	-	-	-	-	-	-	o	-	-	X	-	o	-	-	X	-	-	-						
	≤ 30	+100	o	-	-	X	-	o	-	-	X	-	-	-	-	-	-	-	-	-	-	-	o	-	-	X	-	o	-	-	X	-	-	-						
	≤ 35	+100	o	-	-	X	-	o	-	-	X	-	-	-	-	-	-	-	-	-	-	-	o	-	-	X	-	o	-	-	X	-	-	-						
	≤ 40	+100	o	-	-	X	-	o	-	-	X	-	-	-	-	-	-	-	-	-	-	-	o	-	-	X	-	o	-	-	X	-	-	-						
	≤ 45	+100	o	-	-	X	-	o	-	-	X	-	-	-	-	-	-	-	-	-	-	-	o	-	-	X	-	o	-	-	X	-	-	-						
	≤ 50	+100	o	-	-	X	-	o	-	-	X	-	-	-	-	-	-	-	-	-	-	-	o	-	-	X	-	o	-	-	X	-	-	-						
Wine (white, red)	≤ 100	+60	X	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	X	-	-	-	X	X							
Glycerine	≤ 40	+80	X	-	X	X	X	X	-	X	X	X	-	-	-	-	-	-	-	-	-	-	X	-	X	X	X	X	-	X	X	X	X	-						
Potassium hydroxide	≤ 5	+40	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	-	-						
Potassium nitrate	≤ 5	+30	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	-	-						
Potassium sulphate	≤ 3	+20	o	-	X	-	-	o	-	X	-	-	o	-	X	-	-	o	-	X	-	-	o	-	X	-	-	o	-	X	-	-	-	-						
Copper sulphate	≤ 5	+40	o	-	-	X	-	o	-	-	X	-	-	-	-	-	-	-	-	-	-	-	o	-	-	X	-	o	-	-	X	-	-	-						
Magnesium sulphate	≤ 10	+80	o	-	-	X	-	o	-	-	X	-	-	-	-	-	-	-	-	-	-	-	o	-	-	X	-	o	-	-	X	-	X	-						
Sodium carbonate	≤ 6	+60	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	-	X						
Sodium hydroxide	≤ 5	+60	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	-	-						
Sodium nitrate	≤ 10	+60	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	X						
Sodium sulphate	≤ 5	+60	o	-	X	-	-	o	-	X	-	-	-	-	-	-	-	-	-	-	-	-	o	-	X	-	-	o	-	X	-	-	-	X						
Oil																																								
▪ Cutting oil	≤ 100	+90	-	-	-	-	X	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	X	-	-						

Fluid handled			Design																																					
Substance contained	Max. per-centage	T _{max.}	V												VC												VS								LHS					
			2-4-6				10-15-25-40-60-90-125								2-4-6				10-15-25-40-60-90-125								2-4-6				10-15-25-40-60-90-125								6	
			Seal code																																					
	[%]	[°C]	50	54	55	59	60	51	53	56	58	61	50	54	55	59	60	51	53	56	58	61	50	54	55	59	60	51	53	56	58	61	17	19						
▪ Peanut oil	≤ 100	+80	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	X	-						
▪ Linseed oil, ≤ 3 % H ₂ SO ₄	≤ 100	+60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	o	-	-	X	-	o	-	-						
▪ Linseed oil	≤ 100	+60	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	X	-						
▪ Corn oil	≤ 100	+80	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	X	-						
▪ Olive oil	≤ 100	+80	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	X	-						
▪ Rapeseed oil	≤ 100	+80	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	X	-						
▪ Soybean oil	≤ 100	+100	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	X	-						
Kerosene	≤ 100	+80	-	-	X	-	o	-	-	X	-	o	-	-	-	-	-	-	-	-	-	-	-	-	X	-	o	-	-	X	-	o	X	-						
Juice (fruit and sugar juice)	≤ 100	+60	o	-	X	-	-	o	-	X	-	-	-	-	-	-	-	-	-	-	-	-	o	-	X	-	-	o	-	X	-	-	X	-						
Acid																																								
▪ Citric acid	≤ 25	+30	-	-	o	-	X	-	-	o	-	X	-	-	-	-	-	-	-	-	-	-	-	-	o	-	X	-	-	o	-	X	-	-						
▪ Citric acid	≤ 10	+30	-	-	o	-	X	-	-	o	-	X	-	-	-	-	-	-	-	-	-	-	-	-	o	-	X	-	-	o	-	X	-	-						
▪ Acetic acid	≤ 10	+60	-	-	-	X	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	X	-	-	-						
▪ Acetic acid	≤ 5	+60	o	-	-	X	-	o	-	-	X	-	-	-	-	-	-	-	-	-	-	-	o	-	-	X	-	o	-	-	X	-	-	-						
▪ Tannic acid	≤ 20	+80	-	-	-	-	X	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	X	-	-						
▪ Maleic acid	≤ 10	+60	-	-	o	-	X	-	-	o	-	X	-	-	-	-	-	-	-	-	-	-	-	-	o	-	X	-	-	o	-	X	-	-						
▪ Lactic acid	≤ 40	+60	-	-	X	-	o	-	-	X	-	o	-	-	-	-	-	-	-	-	-	-	-	-	X	-	o	-	-	X	-	o	-	-						
▪ Phosphoric acid	≤ 5	+20	o	-	-	X	-	o	-	-	X	-	-	-	-	-	-	-	-	-	-	-	o	-	-	X	-	o	-	-	X	-	-	-						
▪ Sulphuric acid	≤ 5	+20	o	-	-	X	-	o	-	-	X	-	-	-	-	-	-	-	-	-	-	-	o	-	-	X	-	o	-	-	X	-	-	-						
▪ Tartaric acid	≤ 8	+40	o	-	X	-	-	o	-	X	-	-	-	-	-	-	-	-	-	-	-	-	o	-	X	-	-	o	-	X	-	-	-	-						
Fuel																																								
▪ Diesel oil	≤ 100	+80	-	-	X	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	X	-	X	-	-	-	-	-	-	-	-	-						
▪ Fuel oil	≤ 100	+80	-	-	X	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	X	-	X	-	-	-	-	-	-	-	-	-						
▪ Jet fuel	≤ 100	+80	-	-	X	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	X	-	X	-	-	-	-	-	-	-	-	-						
Trisodium phosphate	≤ 4	+80	-	-	o	-	X	-	-	o	-	X	-	-	-	-	-	-	-	-	-	-	-	-	o	-	X	-	-	o	-	X	-	-						
Water																																								
▪ Clean water	≤ 100	+100	X	X	-	-	-	X	X	-	-	-	X	X	-	-	-	X	X	-	-	-	X	X	-	-	-	X	X	-	-	-	-	X						
▪ Clean water	≤ 100	+140	X	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	X	-	-	-	-	-	-						

Fluid handled			Design																																
Substance contained	Max. per-centage	T _{max.}	V										VC										VS								LHS				
			2-4-6					10-15-25-40-60-90-125					2-4-6					10-15-25-40-60-90-125					2-4-6				10-15-25-40-60-90-125				6				
			Seal code																																
	[%]	[°C]	50	54	55	59	60	51	53	56	58	61	50	54	55	59	60	51	53	56	58	61	50	54	55	59	60	51	53	56	58	61	17	19	
▪ Deionized water (fully desalinated)	≤ 100	+100	X	X	-	-	-	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	X	X	-	-	-	X	X	-	-	-	-	X	
▪ Deionized water (fully desalinated)	≤ 100	+140	X	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	X	-	-	-	-	-	-	
▪ Permeate (osmosis)	≤ 100	+100	X	X	-	-	-	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	X	X	-	-	-	X	X	-	-	-	-	-	
▪ Permeate (osmosis)	≤ 100	+140	X	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	X	-	-	-	-	-	-	
▪ Decarbonized water	≤ 100	+100	X	X	-	-	-	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	X	X	-	-	-	X	X	-	-	-	-	-	
▪ Decarbonized water	≤ 100	+120	X	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	X	-	-	-	-	-	-	
▪ Partly desalinated water	≤ 100	+100	X	X	-	-	-	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	X	X	-	-	-	X	X	-	-	-	-	-	
▪ Partly desalinated water	≤ 100	+120	X	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	X	-	-	-	-	-	-	
▪ Dealkalized water	≤ 100	+100	X	X	-	-	-	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	X	X	-	-	-	X	X	-	-	-	-	-	
▪ Dealkalized water	≤ 100	+120	X	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	X	-	-	-	-	-	-	
▪ Fire-fighting water	≤ 100	+60	X	X	-	-	-	X	X	-	-	-	X	X	-	-	-	X	X	-	-	-	X	X	-	-	-	X	X	-	-	-	-	-	
▪ High-temperature hot water treated in accordance with VdTÜV 1466	≤ 100	+140	X	-	-	-	-	X	-	-	-	-	X	-	-	-	-	X	-	-	-	-	X	-	-	-	-	X	-	-	-	-	-	X ¹⁶⁾	
▪ Heating water in accordance with VDI 2035	≤ 100	+100	X	-	-	-	-	X	-	-	-	-	X	-	-	-	-	X	-	-	-	-	X	-	-	-	-	X	-	-	-	-	-	-	
▪ Boiler feed water to VdTÜV 1466	≤ 100	+140	X	o	-	-	-	X	o	-	-	-	X	o	-	-	-	X	o	-	-	-	X	o	-	-	-	X	o	-	-	-	-	-	X ¹⁶⁾
▪ Condensate treated in acc. with VdTÜV 1466	≤ 100	+140	X	-	-	-	-	X	-	-	-	-	X	-	-	-	-	X	-	-	-	-	X	-	-	-	-	X	-	-	-	-	-	-	
▪ Vapor condensate (brewery)	≤ 100	+140	X	-	-	-	-	X	-	-	-	-	X	-	-	-	-	X	-	-	-	-	X	-	-	-	-	X	-	-	-	-	-	-	
▪ Cooling water	≤ 100	+80	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	-	-	
▪ Seawater	≤ 100	+15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	o	-	-	X	-	o	-	-	X	-	-	-	
▪ Brackish water	≤ 100	+15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	o	-	-	X	-	o	-	-	X	-	-	-	
▪ River water	≤ 100	+60	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	-	-	
▪ Surface water	≤ 100	+60	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	-	-	

¹⁶⁾ Maximum fluid temperature 120 °C [248 °F]

Fluid handled			Design																																	
Substance contained	Max. per-centage	T _{max.}	V												VC												VS								LHS	
			2-4-6						10-15-25-40-60-90-125						2-4-6						10-15-25-40-60-90-125						2-4-6				10-15-25-40-60-90-125				6	
			Seal code																																	
	[%]	[°C]	50	54	55	59	60	51	53	56	58	61	50	54	55	59	60	51	53	56	58	61	50	54	55	59	60	51	53	56	58	61	17	19		
▪ Lake water (fresh water)	≤ 100	+60	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	-	-		
▪ Dam water	≤ 100	+60	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	-	-		
▪ Rinsing water, without particles of oil, acids or lyes	≤ 100	+70	o	X	-	-	-	o	X	-	-	-	o	X	-	-	-	o	X	-	-	-	o	X	-	-	-	o	X	-	-	-	-	-		
▪ Barrier water	≤ 100	+70	o	X	-	-	-	o	X	-	-	-	o	X	-	-	-	o	X	-	-	-	o	X	-	-	-	o	X	-	-	-	-	-		
▪ Rainwater, with strainer	≥ 20	+60	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	-	-		
▪ Raw water	≤ 100	+60	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	o	-	-	X	-	-	-		
▪ Gray water, slightly contaminated water without particles, e.g. sand	≤ 100	+60	-	-	-	X	-	-	-	-	X	-	-	-	-	X	-	-	-	-	X	-	-	-	-	X	-	-	-	-	X	-	-	-		
▪ Fresh water	≤ 100	+60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	o	-	X	-	-	o	-	X	-	-	-	-		
▪ Drinking water / tap water (WRAS (ACS/NSF) / UBA)	≤ 100	+100	o	X	-	-	-	o	X	-	-	-	o	X	-	-	-	o	X	-	-	-	o	X	-	-	-	o	X	-	-	-	-	-		

Pressure and temperature limits of the shaft seal

Table 12: Pressure and temperature limits of the shaft seal

Seal code	Type	Material				Design			Unpressurized shaft seal	T		Elastomer material of pump	Comments
		Mechanical seal	Shaft seal			F	E	C		Min. [°C]	Max. [°C]		
			Rotor	Stator	Elastomer								
15	RMG12-G606	U3 U3 X 4 GG	WC	WC	HNBR	✗	✗	✗	PN25 (PN16)	-20	+120 ¹⁷⁾	HNBR	-
17	M37GN2-R	U3 B V GG ¹⁸⁾	WC	Ca	FPM ¹⁸⁾	-	-	-	PN40	-20	+120 ¹⁹⁾	FPM	-
19	M37GN2-R	U3 B E GG ¹⁸⁾	WC	Ca	EPDM ¹⁸⁾	-	-	-	PN40	-20	+120 ¹⁹⁾	EPDM	-
22	H7N	Q1 A X 4 GG	SiC	Ca	HNBR	-	-	✗	PN40 (PN25)	-20	+120 ²⁰⁾	HNBR	HP/HT
40	4MC	Q1 Q1 E GG ²¹⁾	SiC	SiC	EPDM	-	-	✗	PN40 (PN25)	-20	+120 ²⁰⁾	EPDM	HP/HT

¹⁷⁾ Up to 140 °C if the pressure does not exceed 16 bar

¹⁸⁾ For Movitec LHS only

¹⁹⁾ Up to +80 °C if the pressure does not exceed 40 bar

²⁰⁾ Up to +140 °C if the pressure does not exceed 25 bar

²¹⁾ Movitec 2B, 4B, 6B, 10B, 15B/C, 25B, 40B, 60B

Seal code	Type	Material				Design			Unpressurized shaft seal	T		Elastomer material of pump	Comments
		Mechanical seal	Shaft seal			F	E	C		Min. [°C]	Max. [°C]		
			Rotor	Stator	Elastomer								
41	4MC	Q1 A E GG ²¹⁾	SiC	Ca	EPDM	-	-	X	PN40 (PN25)	-20	+120 ²⁰⁾	EPDM	HP/HT
42	4MC	Q1 Q1 V GG ²¹⁾	SiC	SiC	FPM	-	-	X	PN40 (PN25)	-20	+120 ²⁰⁾	FPM	HP/HT
43	4MC	Q1 A V GG ²¹⁾	SiC	Ca	FPM	-	-	X	PN40 (PN25)	-20	+120 ²⁰⁾	FPM	HP/HT
50	RMG12-G6	A Q7 E GG	Ca	eSiC	EPDM	X	X	-	PN25 (PN18)	-20	+120 ²⁰⁾	EPDM 559236	-
51	eRMG12-G6	A Q7 E GG Y10	Ca	eSiC	EPDM	X	X	X	PN25 (PN18)	-20	+120 ²⁰⁾	EPDM	-
52	eRMG12-G6	A Q7 V GG Y10	Ca	eSiC	FPM	-	-	X	PN25 (PN16)	-20	+120 ²⁰⁾	FPM	-
53	eMG12-G6	B Q7 E GG Y10 WA	Ca	eSiC	EPDM	X	X	X	PN25	-20	+100	EPDM	-
54	MG12-G6	B Q7 E GG WA	Ca	eSiC	EPDM	X	X	-	PN25	-20	+100	EPDM	-
55	RMG12-G6	B Q7 V GG	Ca	eSiC	FPM	X	X	-	PN25	-20	+120	FPM	-
56	eRMG12-G6	B Q7 V GG Y10	Ca	eSiC	FPM	X	X	X	PN25	-20	+120	FPM	-
57	MG1-G6	B Q7 E GG WA	Ca	eSiC	EPDM	X	-	-	PN25	-20	+100	EPDM	-
58	eMG12-G6	Q7 Q7 E GG Y10 WA	eSiC	eSiC	EPDM	X	X	X	PN18	-20	+100	EPDM	-
59	MG12-G6	Q7 Q7 E GG WA	eSiC	eSiC	EPDM	X	X	-	PN18	-20	+100	EPDM	-
60	RMG12-G6	Q7 Q7 V GG	eSiC	eSiC	FPM	X	X	-	PN18	-20	+120	FPM	-
61	eRMG12-G6	Q7 Q7 V GG Y10	eSiC	eSiC	FPM	X	X	X	PN18	-20	+120	FPM	-
65	eRMG12-G6	U3 U3 V GG Y10	WC	WC	FPM	X	X	X	PN18	-20	+120	FPM	-
66	eMG12-G6	Q7 Q7 V GG Y10	eSiC	eSiC	FPM	-	-	X	PN20	-20	+60	FPM	-

Table 13: Key to mechanical seal materials

Description	Code to EN 12756	Materials of seal faces / secondary seals
Primary ring	A	Carbon graphite, antimony-impregnated
	U3	Tungsten carbide (CrNiMo binder)
	Q1	Silicon carbide, sintered without pressure
	eCarb-B	Carbon graphite, resin-impregnated
	eSiC-Q7	Silicon carbide
Mating ring	A	Carbon graphite, antimony-impregnated
	U3	Tungsten carbide (CrNiMo binder)
	Q1	Silicon carbide, sintered without pressure
	eCarb-B	Carbon graphite, resin-impregnated
	eSiC-Q7	Silicon carbide
Elastomer	E	EPDM (ethylene propylene rubber)
	V	FPM (fluoroelastomer)
	X4	HNBR
Spring	G	CrNiMo steel
Other metal parts	G	CrNiMo steel

Technical data

Motors

Table 14: Technical data of the motors

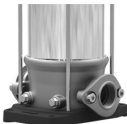
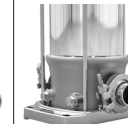
P _N	V _N	I _A	I _A /I _N	cos φ	Tolerance V _N	n	η	L _p	Cable gland	Maximum frequency of starts
[kW]	[V]	[A]			[%]	[rpm]	[%]	[dB]		[h ⁻¹]
Movitec 2B, 4B, 6B, 25B, 40B, 60B, 90B, 125B										
0,37	230/400	1,54/0,89	6,0	0,79	+20/-5	3300	75,70	67	1 × M20 × 1,5	20
0,55	230/400	2,29/1,32	4,4	0,76	+20/-5	3345	79,10	58	1 × M20 × 1,5	20
0,75	230/400	2,94/1,69	7,4	0,79	+20/-5	3450	81,10	58	1 × M20 × 1,5	20
1,1	230/400	4,14/2,38	5,8	0,8	+20/-5	3450	83,30	58	1 × M20 × 1,5	20
1,5	230/400	4,98/2,86	6,2	0,89	+20/-5	3480	85	58	1 × M25 × 1,5	20
2,2	230/400	7,14/4,11	6,2	0,9	+20/-5	3480	85,90	60	1 × M25 × 1,5	20
3	230/400	9,51/5,47	7,5	0,91	+20/-5	3480	87	62	2 × M25 × 1,5	20
3	400/690	5,47/3,17	7,5	0,91	+20/-5	3480	87	62	2 × M25 × 1,5	20
4	230/400	12,49/7,18	7,2	0,9	+20/-5	3500	89,30	64	2 × M25 × 1,5	20
4	400/690	7,18/4,16	7,2	0,9	+20/-5	3500	89,30	64	2 × M25 × 1,5	20
5,5	230/400	17,22/9,90	6,4	0,9	+20/-5	3510	89,10	68	2 × M32 × 1,5	20
5,5	400/690	9,90/5,74	6,4	0,9	+20/-5	3510	89,10	68	2 × M32 × 1,5	20
7,5	230/400	23,29/13,29	6,4	0,9	+20/-5	3510	89,80	68	2 × M32 × 1,5	20
7,5	400/690	13,39/7,76	6,4	0,9	+20/-5	3510	89,80	68	2 × M32 × 1,5	20
11	230/400	32,87/18,9	6,4	0,909	+20/-5	3522	92,41	72	2 × M40 × 1,5	15
11	400/690	18,9/10,96	6,4	0,909	+20/-5	3522	92,41	72	2 × M40 × 1,5	15
15	230/400	43,48/25,58	6,4	0,909	+20/-5	3528	93,13	72	2 × M40 × 1,5	15
15	400/690	25,58/14,83	6,4	0,909	+20/-5	3522	93,13	72	2 × M40 × 1,5	15
18,5	230/400	52,96/31,03	6,4	0,92	+20/-5	3528	93,64	84	2 × M40 × 1,5	12
18,5	400/690	31,03/17,99	6,4	0,92	+20/-5	3528	93,64	84	2 × M40 × 1,5	15
22	230/400	63,89/36,74	6,4	0,9191	+20/-5	3540	94,04	78	2 × M40 × 1,5	12
22	400/690	36,74/21,3	6,4	0,9191	+20/-5	3540	94,04	78	2 × M40 × 1,5	12
30	230/400	86,47/49,72	6,4	0,9191	+20/-5	3546	94,76	80	2 × M50 × 1,5	12
30	400/690	49,72/28,82	6,4	0,9191	+20/-5	3540	94,76	80	2 × M50 × 1,5	12
37	230/400	106,19/61,06	6,4	0,9191	+20/-5	3548	95,17	80	2 × M50 × 1,5	20
37	400/690	61,06/35,4	6,4	0,9191	+20/-5	3540	95,17	80	2 × M50 × 1,5	12
45	230/400	128,6/73,94	6,4	0,9191	+20/-5	3563	95,57	80	2 × M50 × 1,5	20
45	400/690	73,94/42,87	6,4	0,9191	+20/-5	3563	95,57	80	2 × M50 × 1,5	12
0,55	230/400	2,30/1,32	4,5	0,74	+20/-5	1710	81	57	1 × M20 × 1,5	20
0,75	230/400	3,04/1,75	6,3	0,75	+20/-5	1710	82,60	56	1 × M20 × 1,5	20
1,1	230/400	4,1/2,36	7,5	0,8	+20/-5	1735	84,10	58	1 × M20 × 1,5	20
1,5	230/400	5,52/3,17	7,3	0,8	+20/-5	1735	85,30	58	1 × M25 × 1,5	20
2,2	230/400	8,06/4,64	7,2	0,79	+20/-5	1720	86,70	57	2 × M25 × 1,5	20
3	230/400	10,14/5,86	7,2	0,828	+20/-5	1720	87,90	57	2 × M25 × 1,5	20
3	400/690	6,25/3,62	7,2	0,79	+20/-5	1720	87,70	57	2 × M25 × 1,5	20
4	230/400	13,23/7,76	5,95	0,84	+20/-5	1745	88,60	60	2 × M25 × 1,5	20
4	400/690	7,76/4,5	5,95	0,84	+20/-5	1745	88,60	60	2 × M25 × 1,5	20
5,5	230/400	24,74/14,23	5,95	0,83	+20/-5	1746	90,98	62	2 × M32 × 1,5	20
5,5	400/690	10,69/6,20	5,95	0,83	+20/-5	1750	89,50	62	2 × M32 × 1,5	20
7,5	230/400	24,7/14,26	5,95	0,84	+20/-5	1750	90,40	62	2 × M32 × 1,5	20
7,5	400/690	14,26/8,26	5,95	0,84	+20/-5	1750	90,40	62	2 × M32 × 1,5	20
Movitec 10B, 15C										
1,5	230/400	5,0/2,9	6,9	0,88	+25/-10	3510	85,5	58	1 × M20 × 1,5	50
2,2	230/400	7,1/4,1	7,7	0,90	+25/-10	3490	86,5	58	1 × M20 × 1,5	30
3	230/400	9,6/5,5	7,6	0,90	+25/-10	3495	87,5	61	2 × M20 × 1,5	30
3	400/690	5,6/3,2	7,6	0,9	+25/-10 ²²⁾	3495	87,5	61	2 × M20 × 1,5	30
4	230/400	12,5/7,2	0,8	0,91	+25/-10	3515	88,5	62	2 × M20 × 1,5	30
4	400/690	7,2/4,2	0,8	0,91	+25/-10 ²²⁾	3515	88,5	62	2 × M20 × 1,5	30
5,5	230/400	17/9,8	7,8	0,92	+25/-10	3525	88,5	67	2 × M25 × 1,5	20

²²⁾ Maximum 725 V

P_N	V_N	I_A	I_A/I_N	$\cos \varphi$	Tolerance V_N	n	η	L_p	Cable gland	Maximum frequency of starts
[kW]	[V]	[A]			[%]	[rpm]	[%]	[dB]		[h ⁻¹]
5,5	400/690	9,8/5,6	7,8	0,92	+25/-10 ²²⁾	3525	88,5	67	2 × M25 × 1,5	20
7,5	230/400	22,5/13,0	8	0,93	+25/-10	3525	89,5	67	2 × M25 × 1,5	20
7,5	400/690	13,0/7,5	8	0,93	+25/-10 ²²⁾	3525	89,5	67	2 × M25 × 1,5	20
11	230/400	32,9/19,0	6,3	0,92	+25/-10	3530	91,0	73	2 × M32 × 1,5	15
11	400/690	19,0/11,0	6,3	0,92	+25/-10 ²²⁾	3530	91,0	73	2 × M32 × 1,5	15
15	230/400	44,3/25,6	6,5	0,92	+25/-10	3530	92,0	73	2 × M32 × 1,5	15
15	400/690	25,6/14,8	6,5	0,92	+25/-10 ²²⁾	3530	92,0	73	2 × M32 × 1,5	15
18,5	230/400	54,6/31,5	6,7	0,92	+25/-10	3525	92,0	73	2 × M32 × 1,5	15
18,5	400/690	31,5/18,3	6,7	0,92	+25/-10 ²²⁾	3525	92,0	73	2 × M32 × 1,5	15
22	230/400	65,5/37,8	7,8	0,91	+25/-10	3550	92,2	79	2 × M32 × 1,5	12
22	400/690	37,8/21,9	7,8	0,91	+25/-10 ²²⁾	3550	92,2	79	2 × M32 × 1,5	12

Types of connection

Table 15: Overview of available connection types

Description	Design							
	V / VS	VF	VSF ²³⁾	VCF	LHS	VE / VME ²³⁾	VV / VMV / VSV	VT / VST / VMT ²³⁾
Type of connection	Oval flange / internal thread	Round flange				External thread	Victaulic coupling	Tri-clamp coupling
								
Standard	ISO 228-1	EN 1092-1/EN 1092-2 ASME B 16.1 JIS				EN1092-2	ISO 228-1	DIN 32676
Material	1.4308 ²⁴⁾ / 1.4408 ²⁵⁾	EN-GJS-400-15	1.4308	EN-GJL-250 ²⁶⁾ / EN-GJS-400-15 ²⁷⁾	1.4408	EN-GJS-400-15	1.4408	1.4408
Maximum pressure class	PN 16	PN 40				PN 40	PN 16	PN 40

²³⁾ The stainless steel baseplate shown is available as an option.

²⁴⁾ For Movitec V

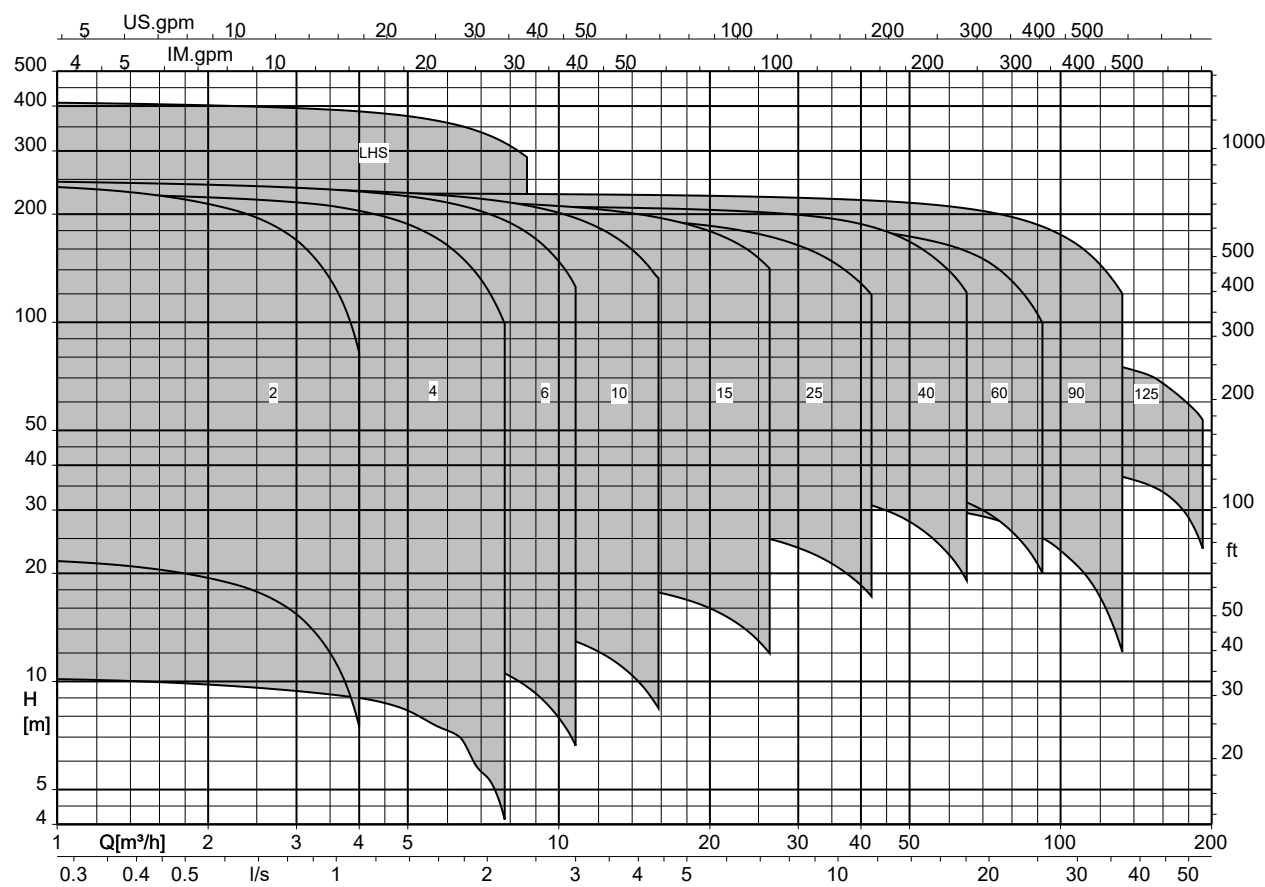
²⁵⁾ For Movitec VS

²⁶⁾ Movitec 2B, 4B, 6B, 10B, 15C, 25B, 40B, 60B, 125B

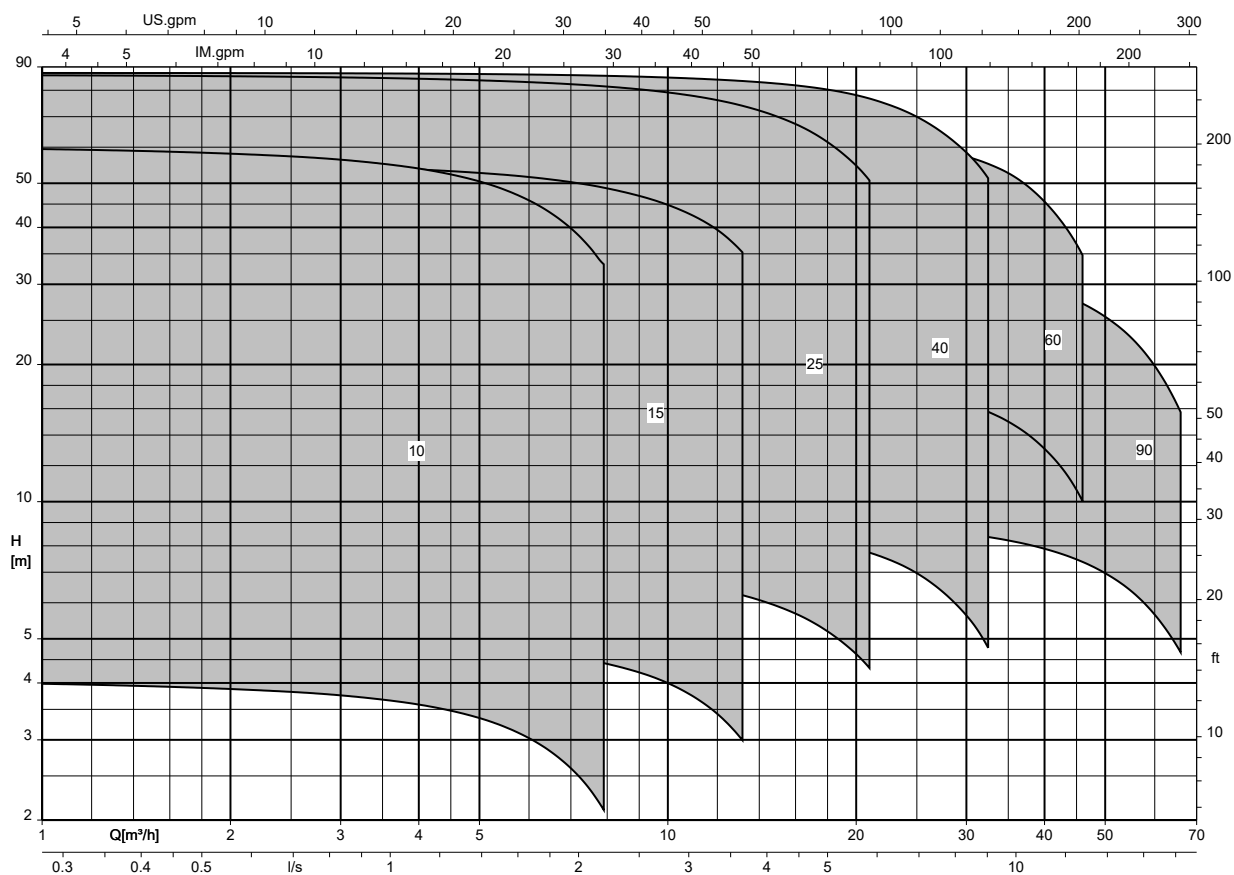
²⁷⁾ Movitec 90B

Selection charts

Movitec, n = 3500 rpm



Movitec, n = 1750 rpm



Characteristic curves

The characteristic curves are based on the following principles:

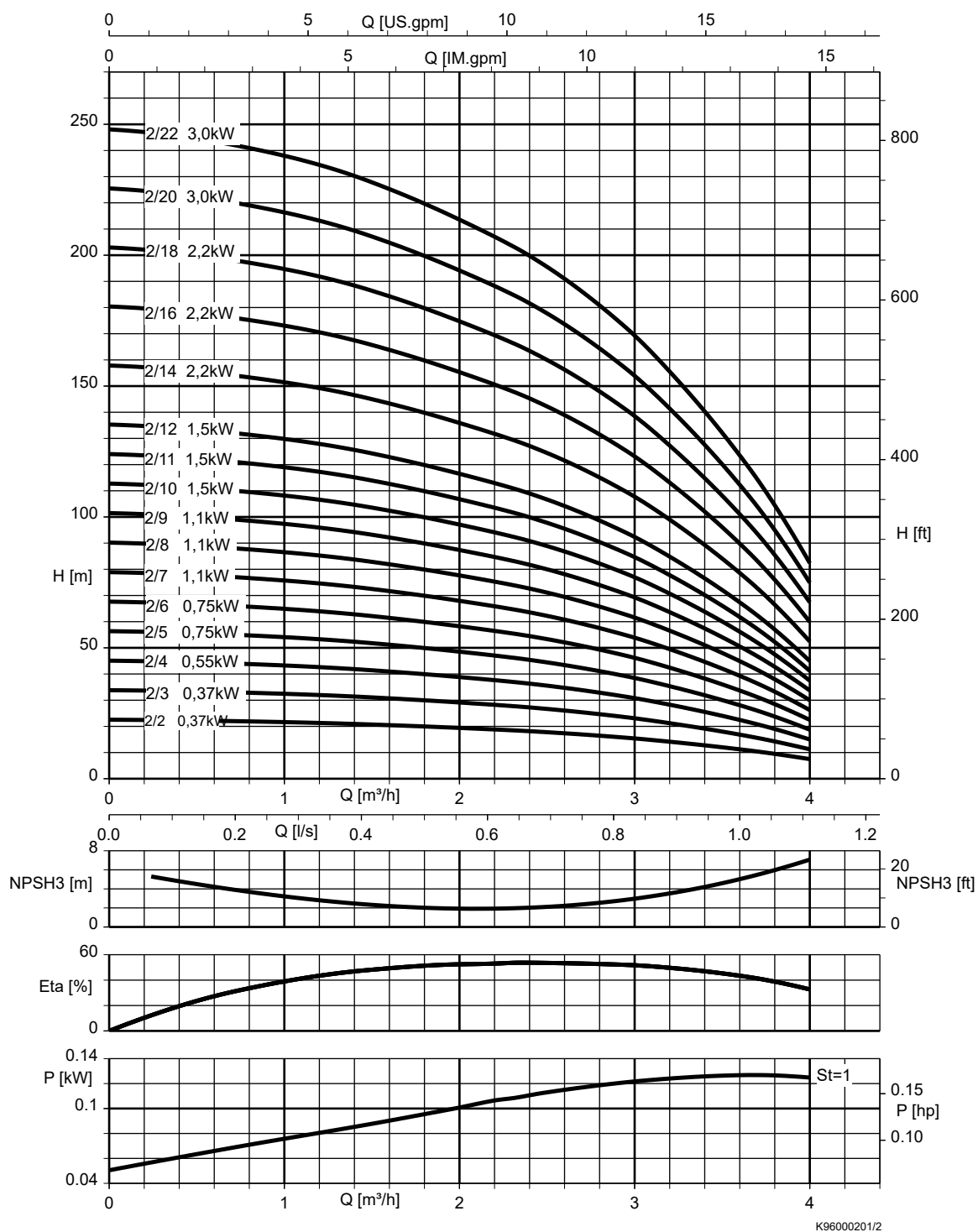
- Tolerances to ISO 9906:2012 Grade 3B

The characteristic curves were measured under the following conditions:

- Motor used:
 - Standardized KSB motor with integrated frequency inverter
- Fluid properties:
 - Deaerated water
 - Fluid temperature: +20 °C
 - Density: 1.0 kg/dm³
 - Kinematic viscosity: 1 mm²/s

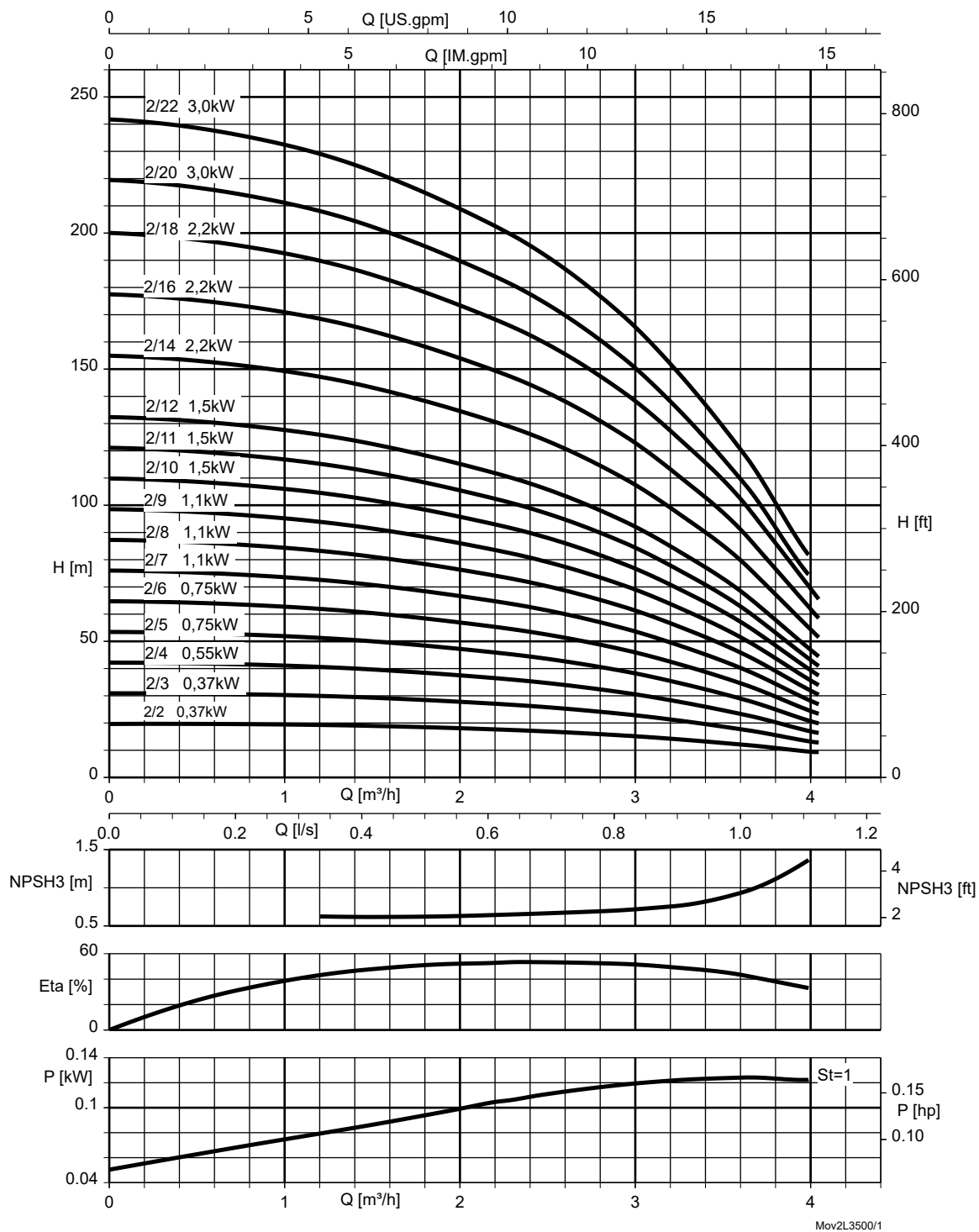
$n = 3500 \text{ rpm}$

Movitec 2B, $n = 3500 \text{ rpm}$



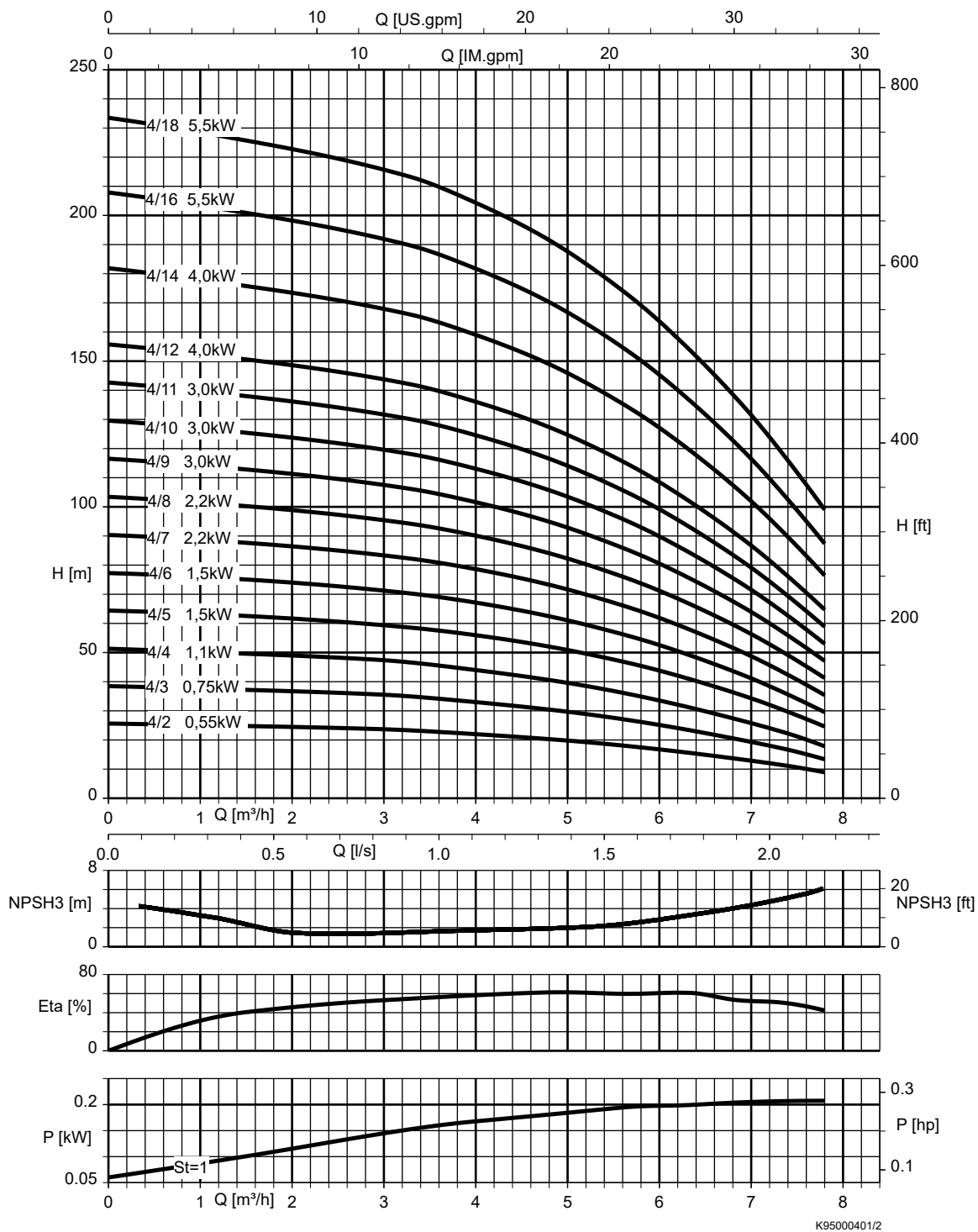
$St = 1$ P per stage

Movitec 2LB, n = 3500 rpm



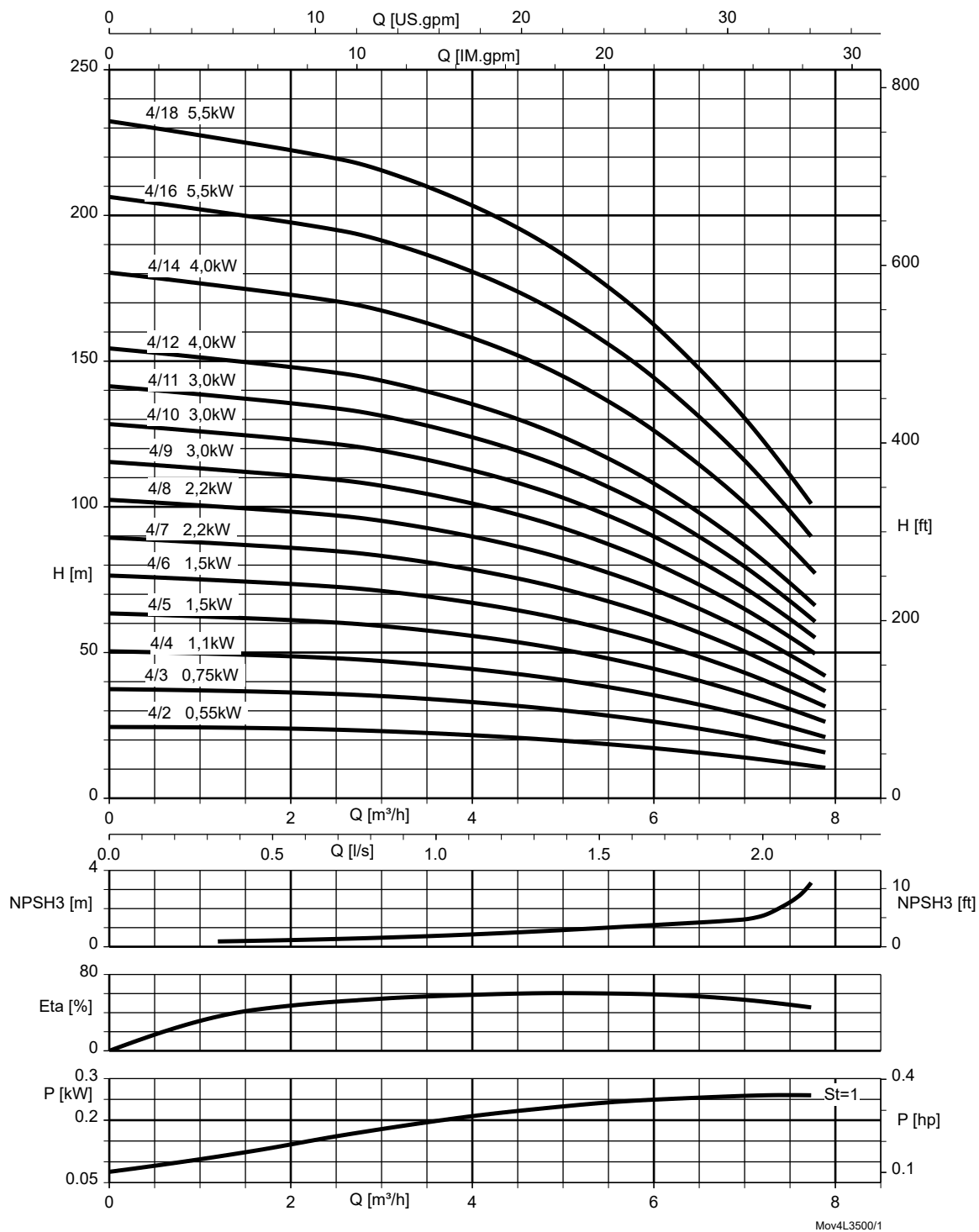
St = 1 P per stage

Movitec 4B, n = 3500 rpm



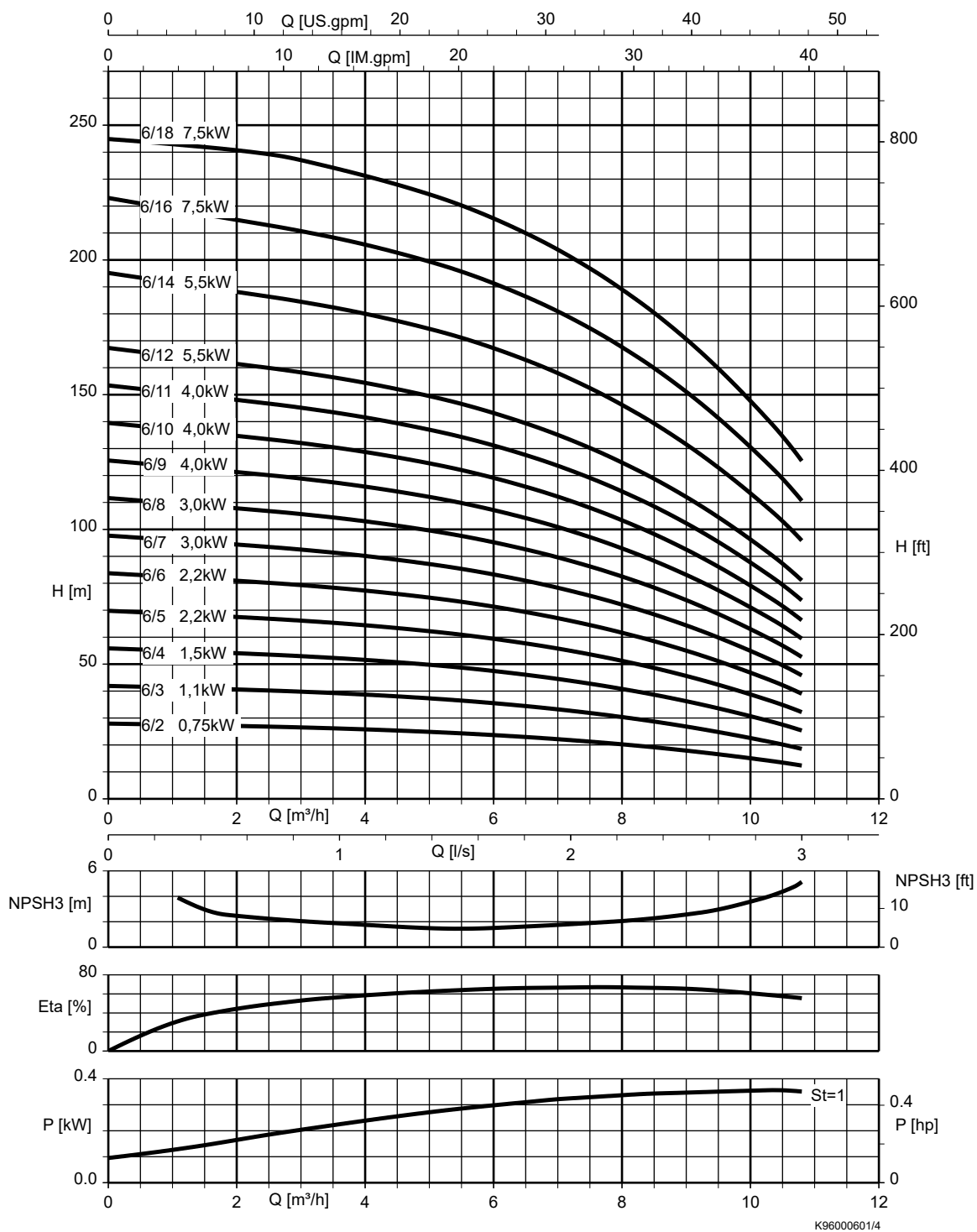
St = 1 | P per stage

Movitec 4LB, n = 3500 rpm



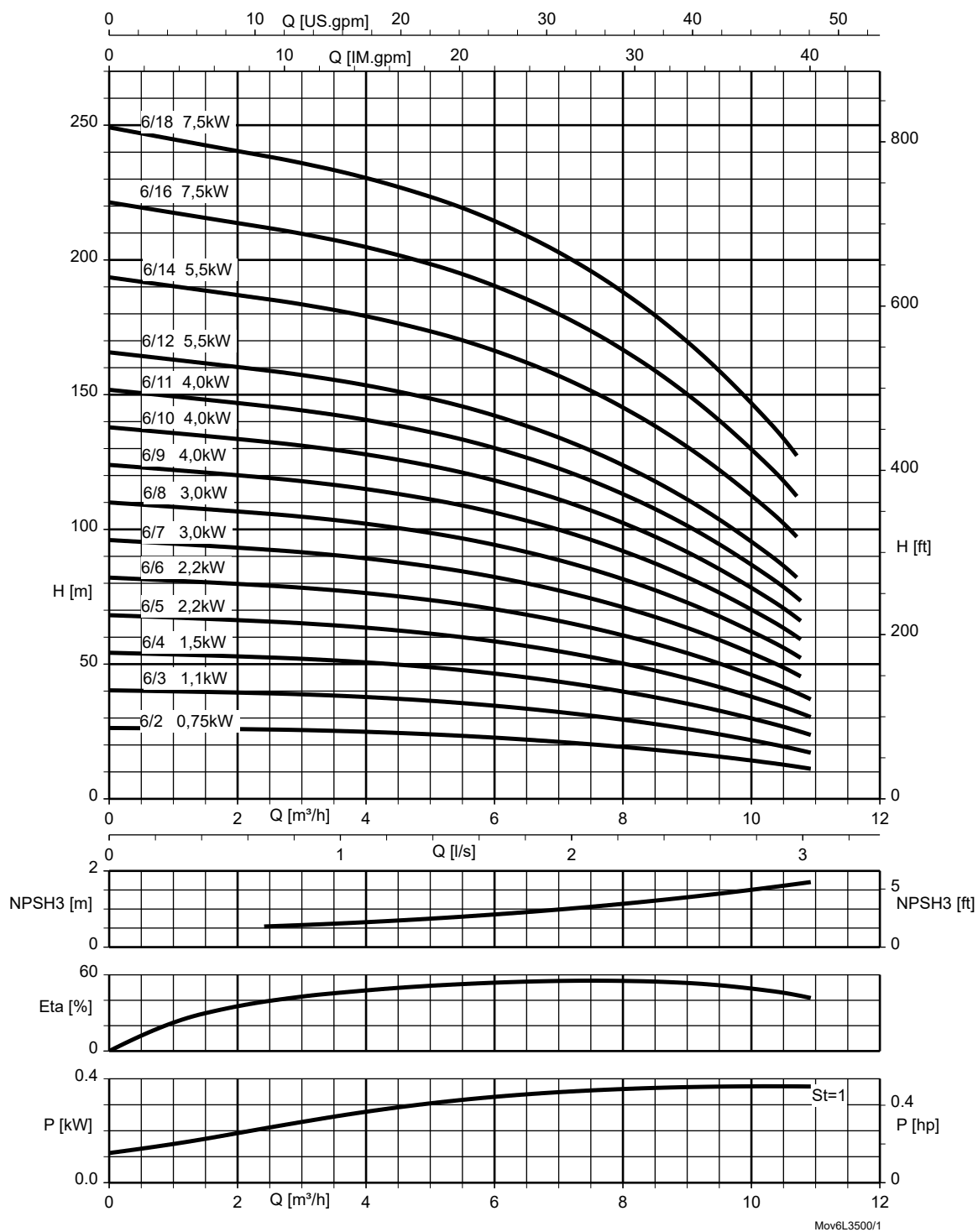
St = 1 | P per stage

Movitec 6B, n = 3500 rpm



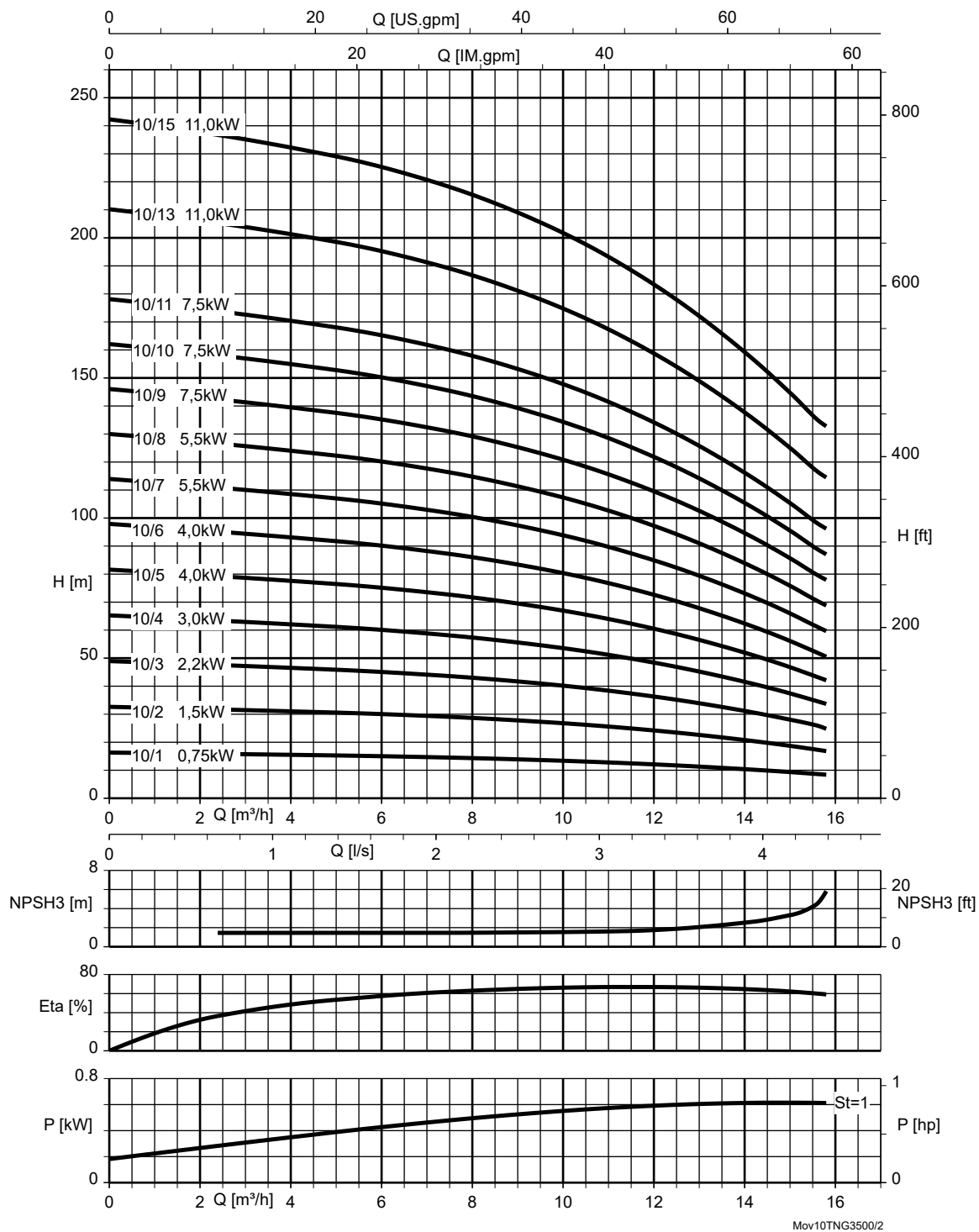
St = 1 | P per stage

Movitec 6LB, n = 3500 rpm



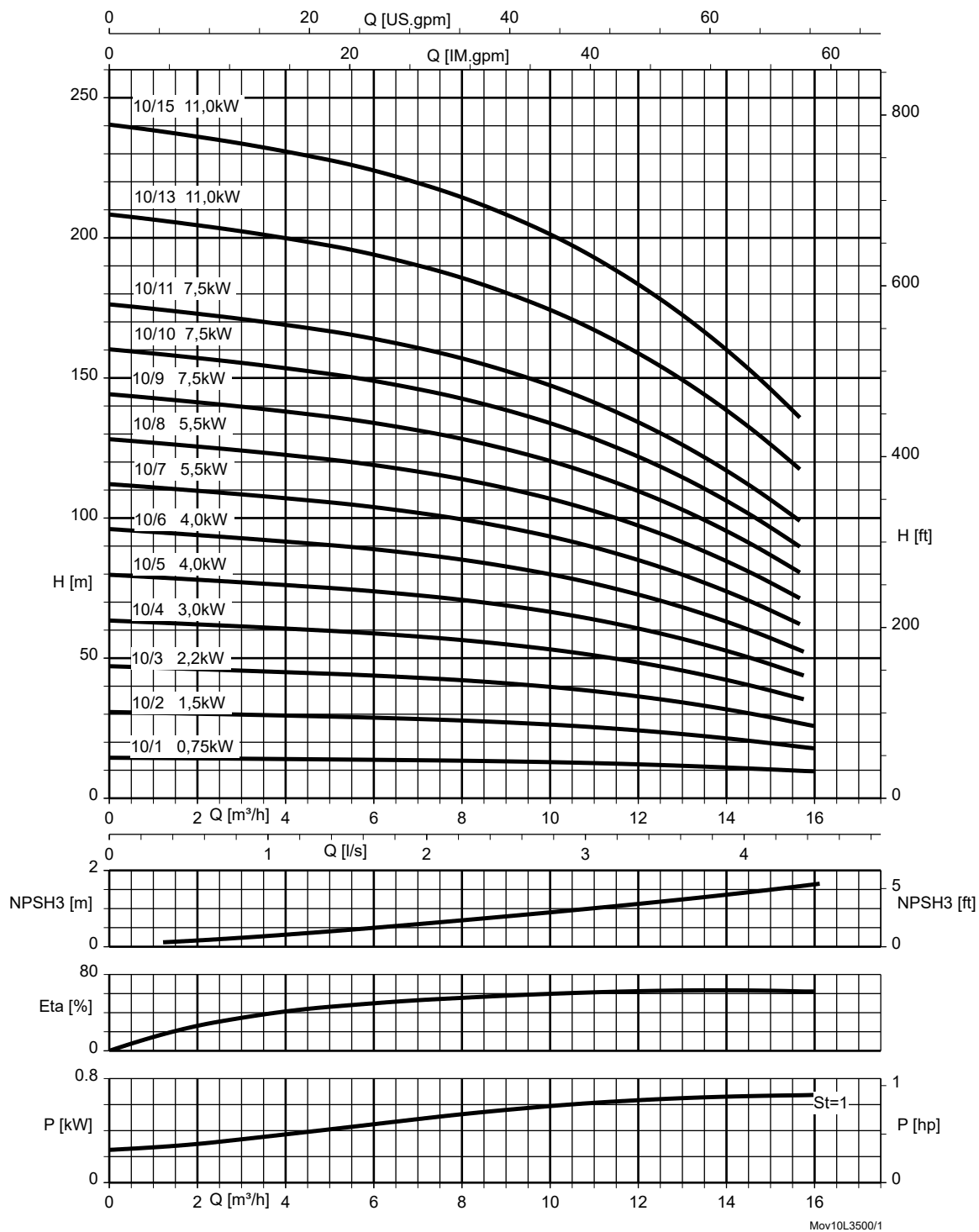
St = 1 P per stage

Movitec 10B, n = 3500 rpm



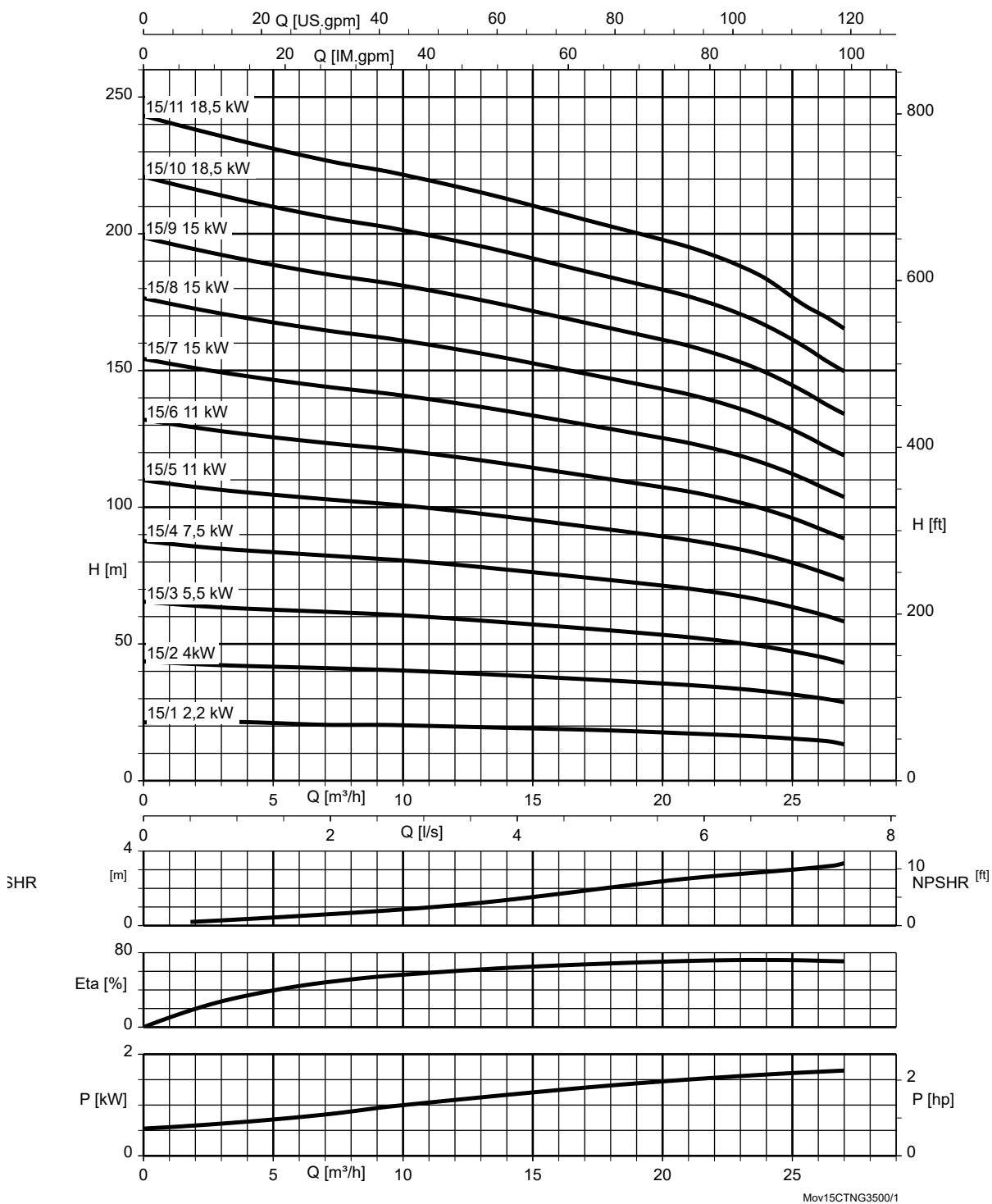
St = 1 | P per stage

Movitec 10LB, n = 3500 rpm



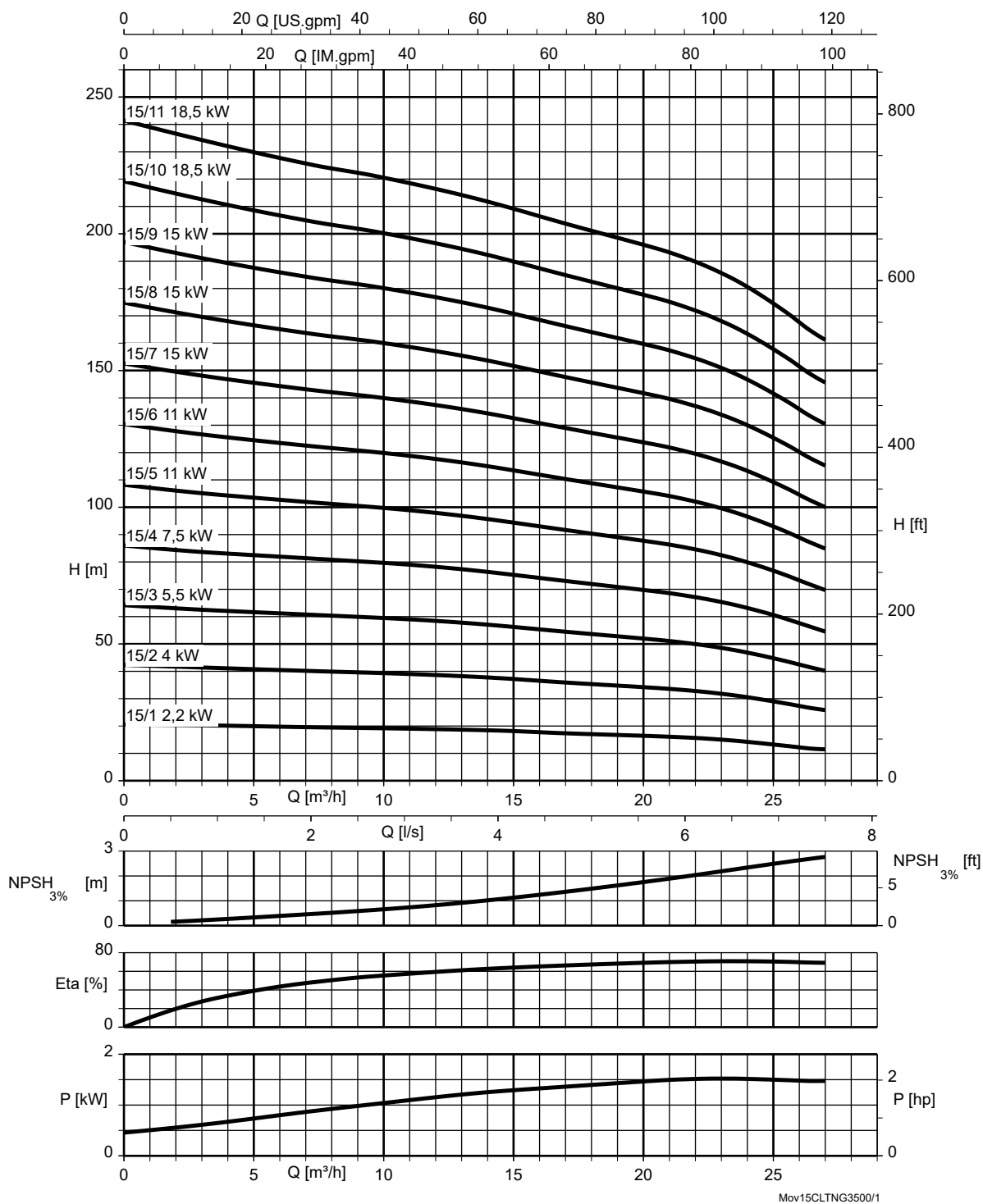
St = 1 | P per stage

Movitec 15C, n = 3500 rpm



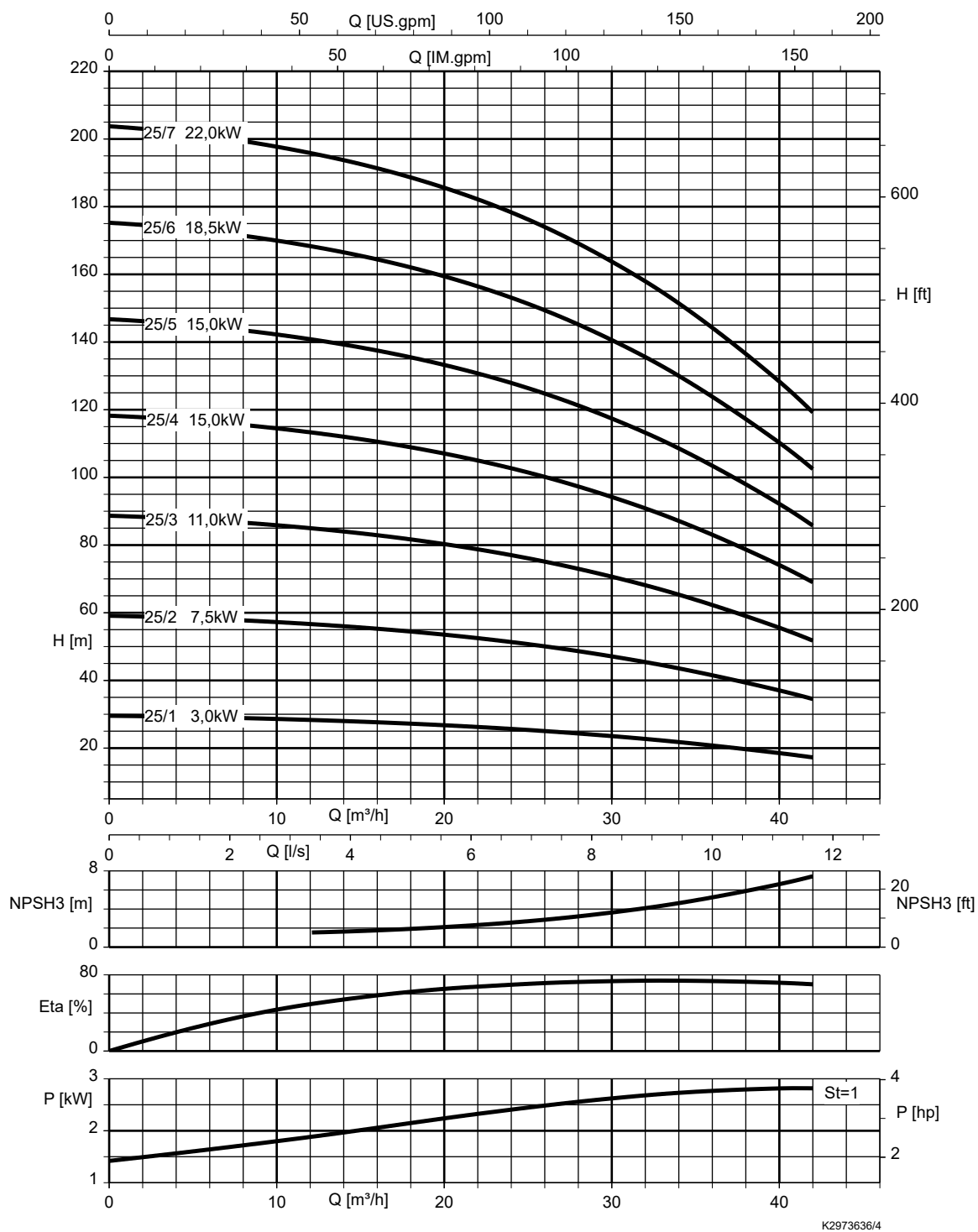
St = 1 P per stage

Movitec 15LC, n = 3500 rpm



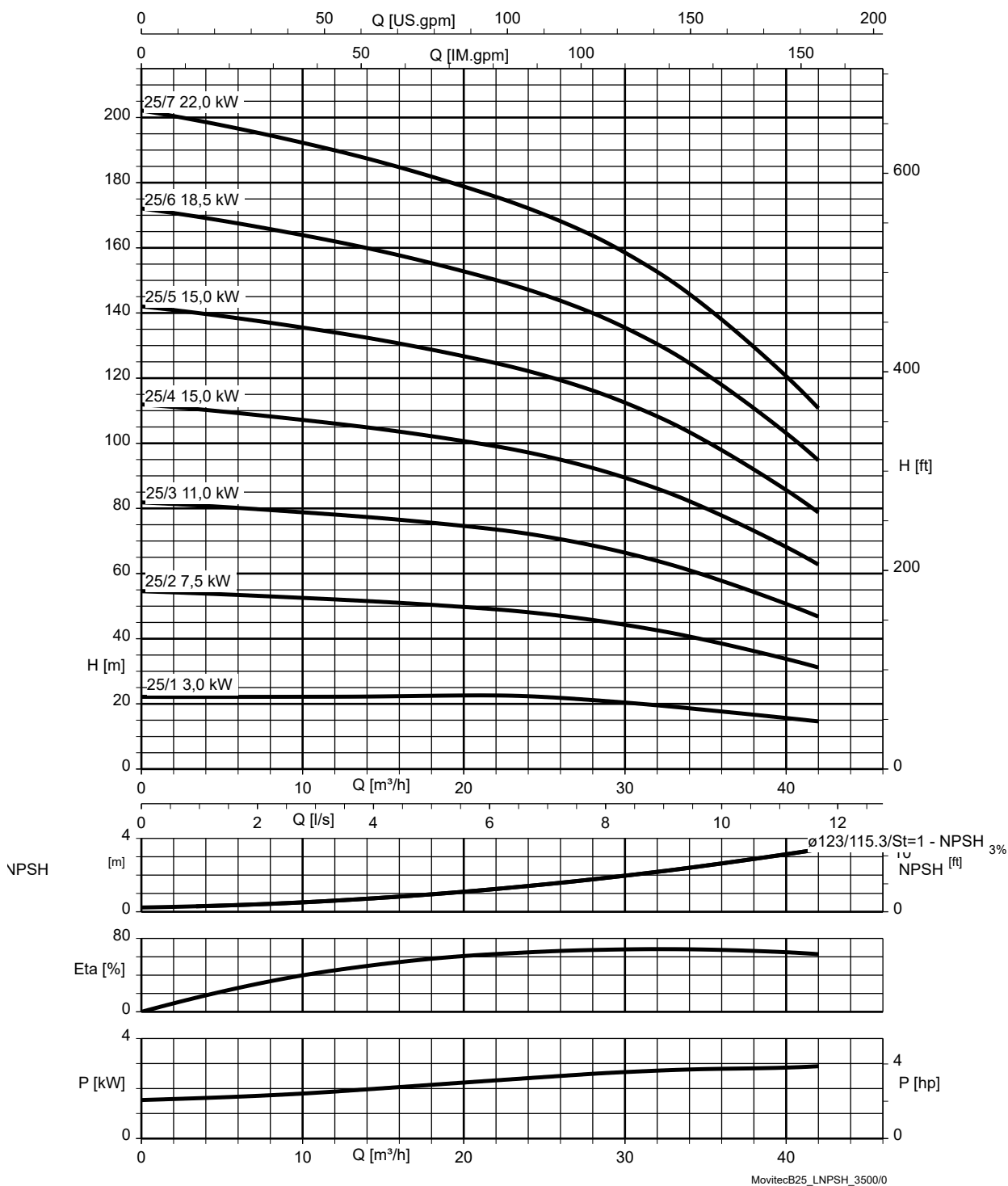
St = 1 | P per stage

Movitec 25B, n = 3500 rpm



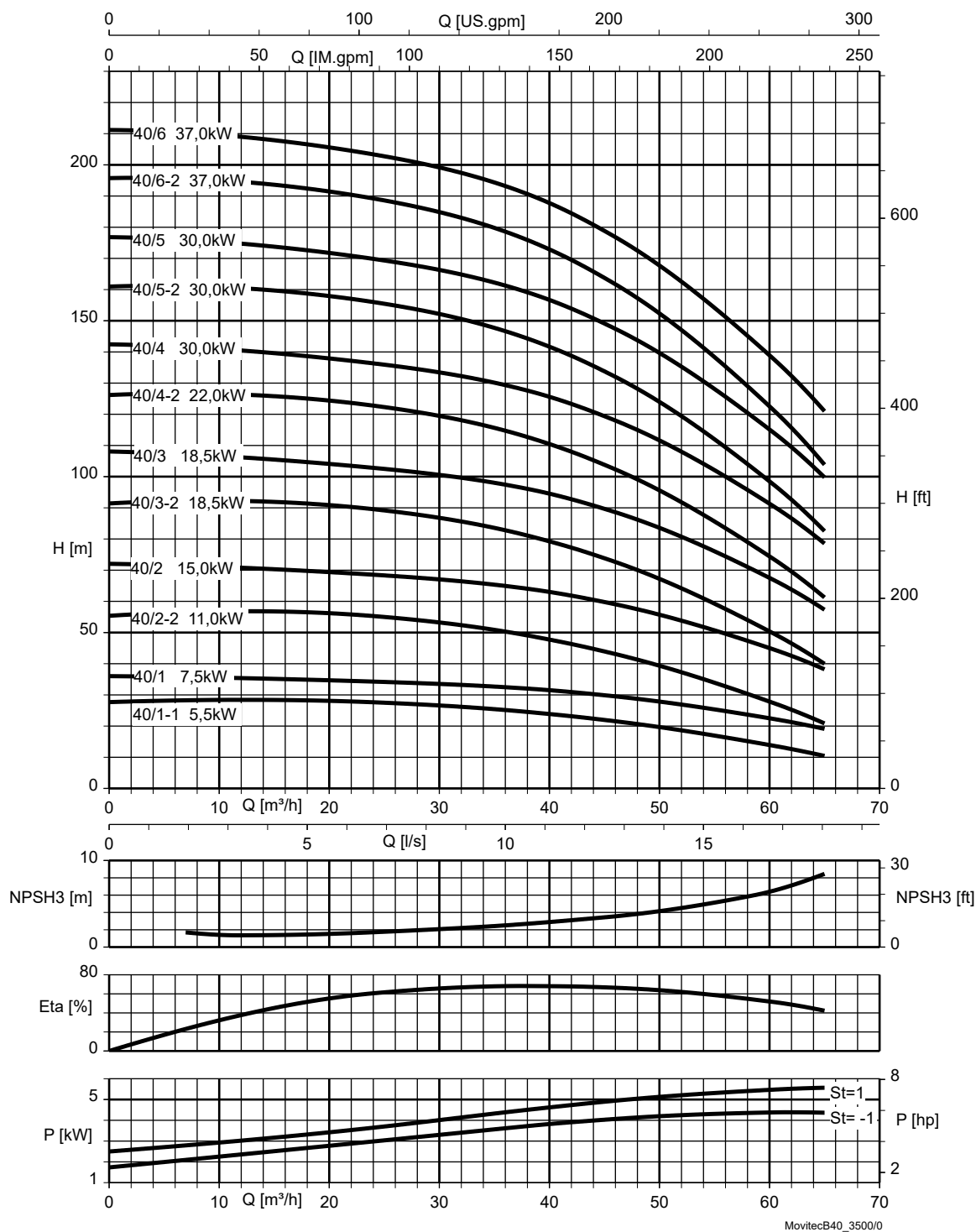
St = 1 | P per stage

Movitec 25LB, n = 3500 rpm



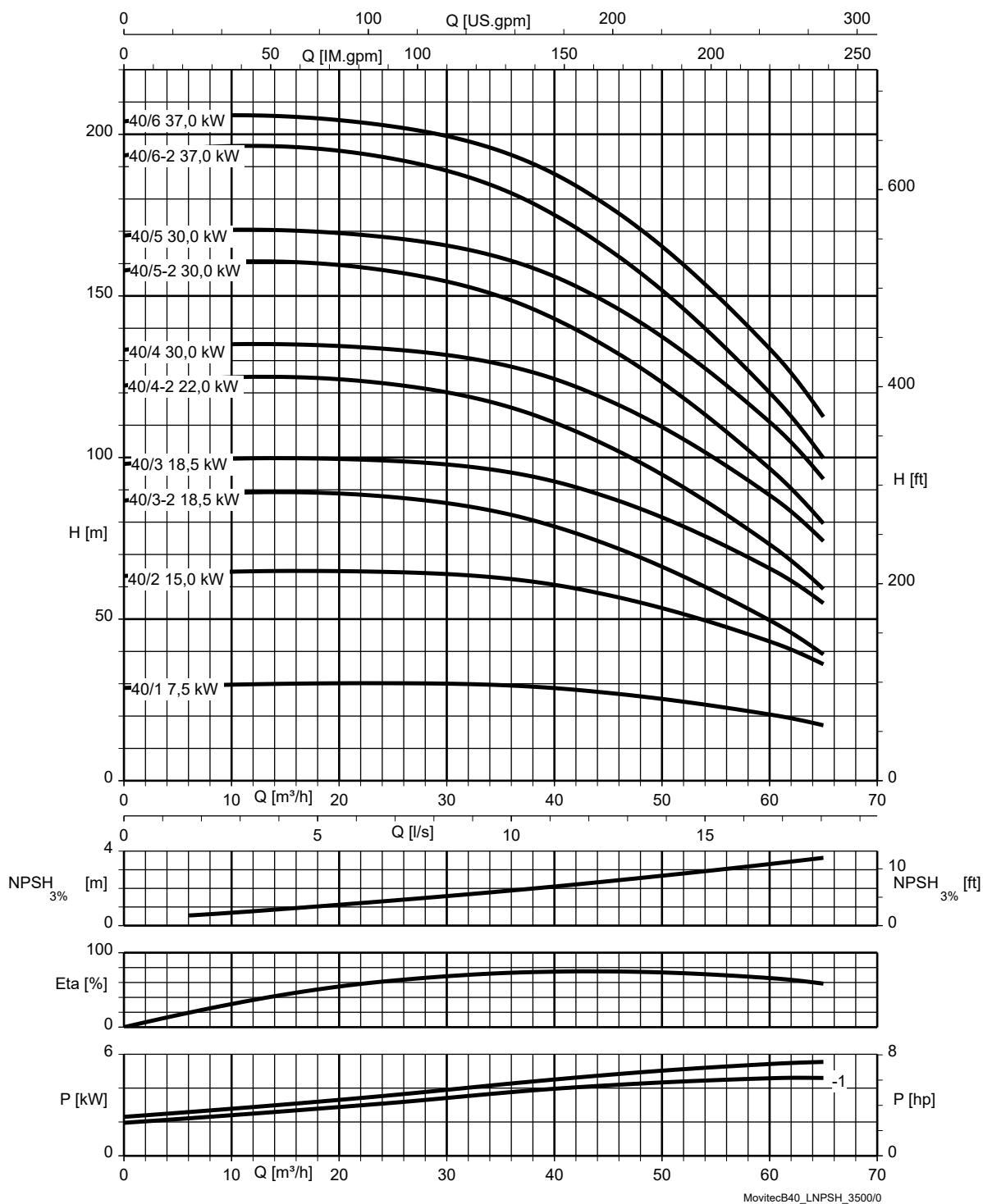
St = 1 | P per stage

Movitec 40B, n = 3500 rpm



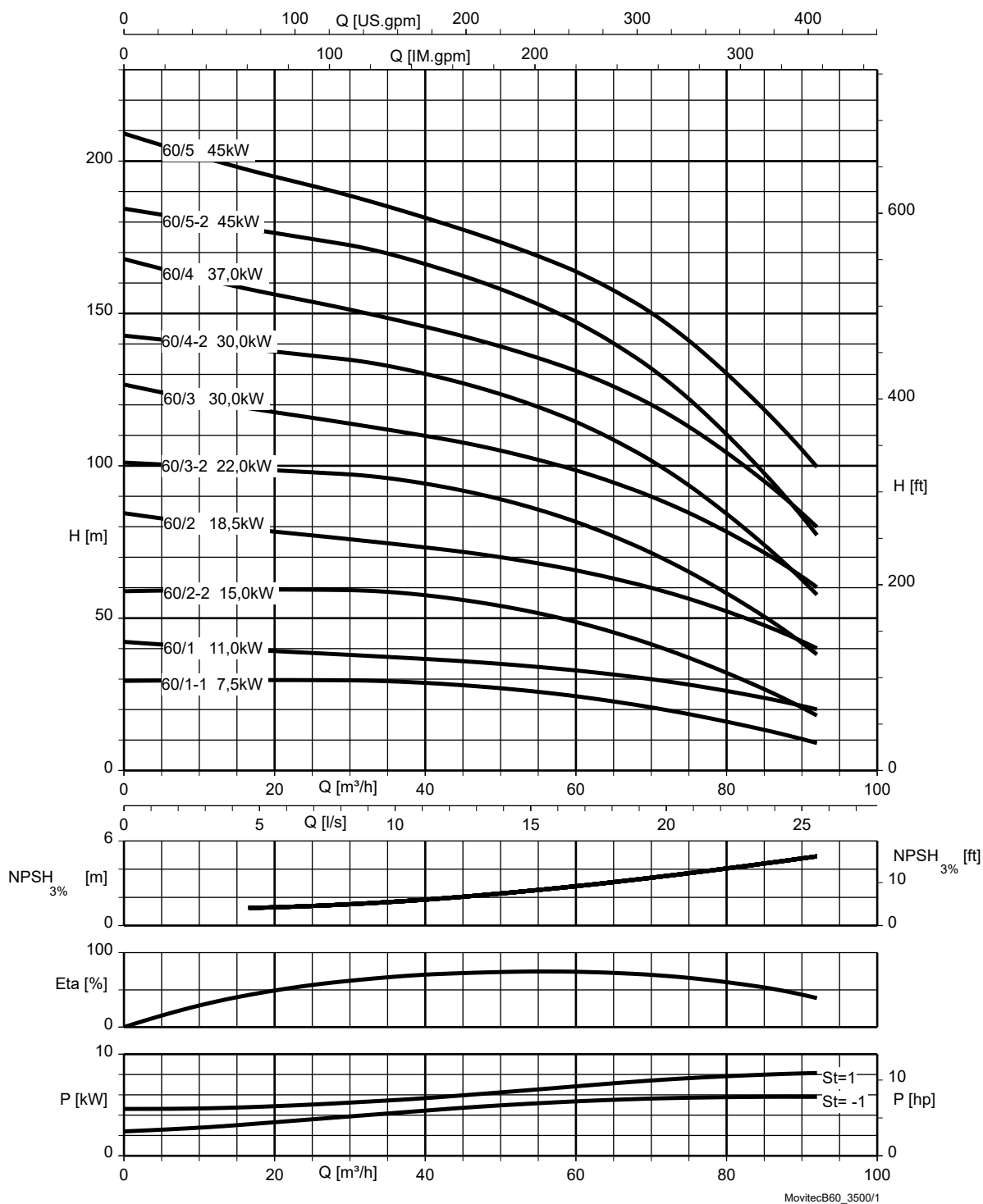
St = 1	P per stage	St = -1	P per stage with smaller impeller
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Movitec 40LB, n = 3500 rpm



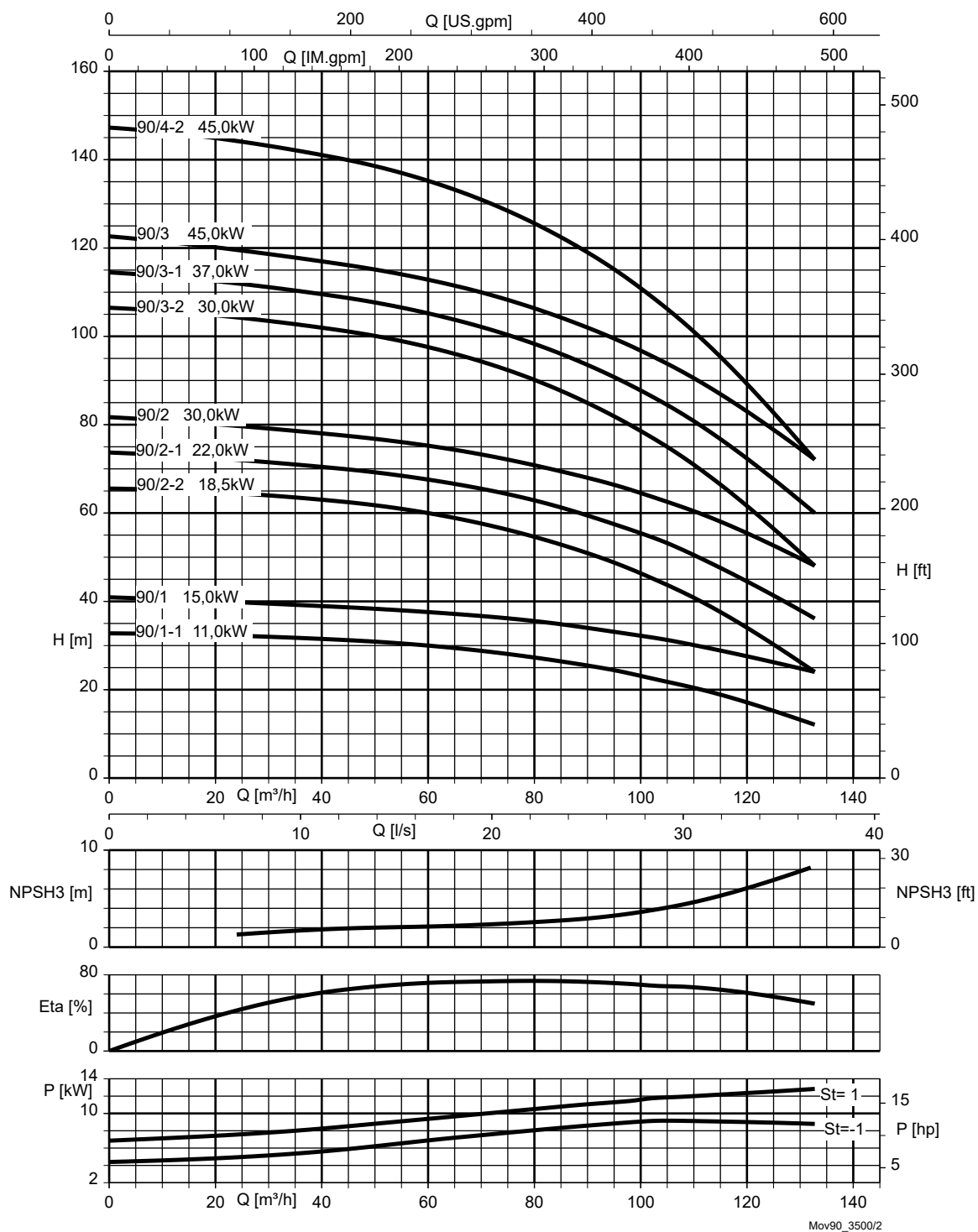
St = 1 | P per stage

Movitec 60B, n = 3500 rpm



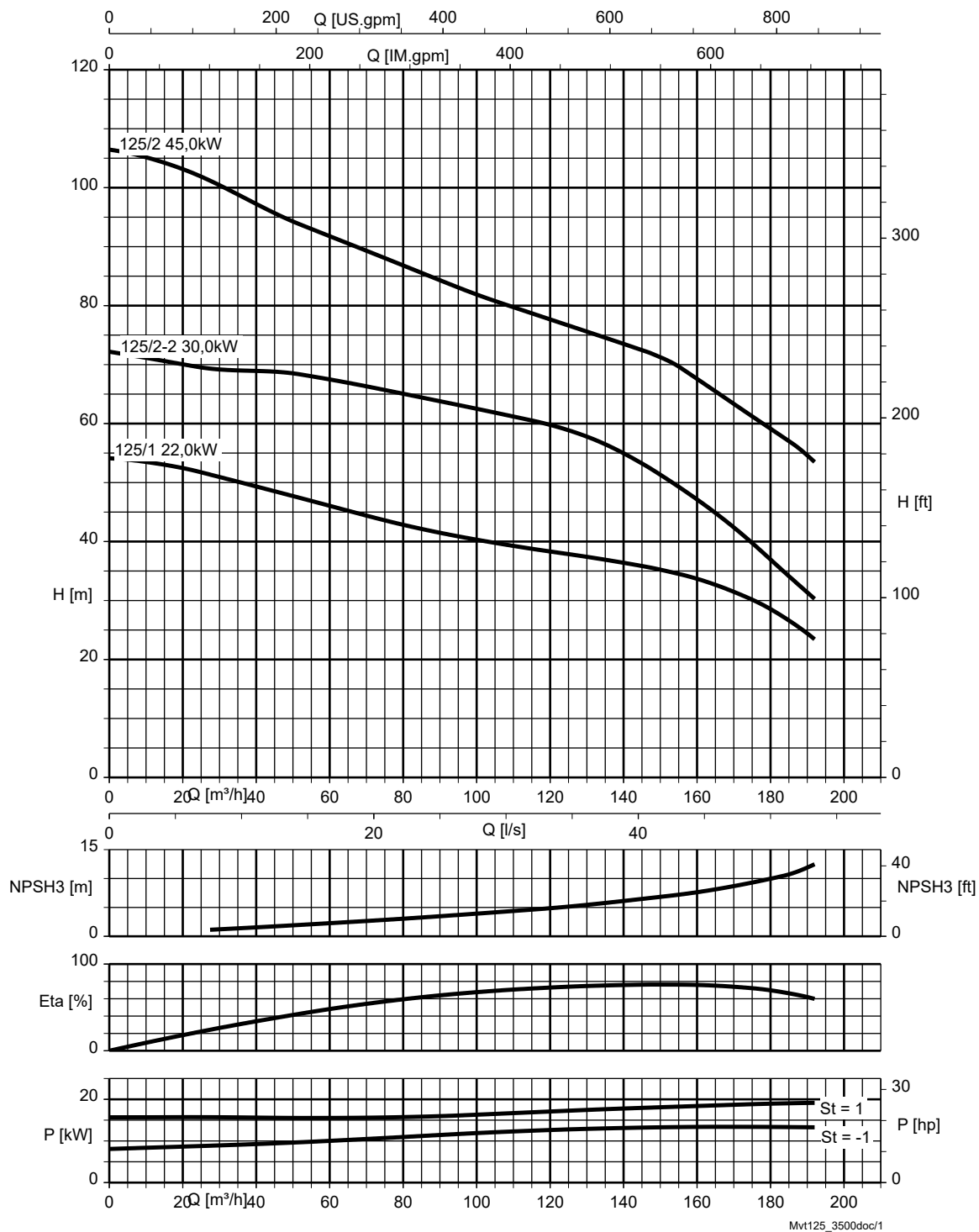
St = 1	P per stage	St = -1	P per stage with smaller impeller
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Movitec 90B, n = 3500 rpm



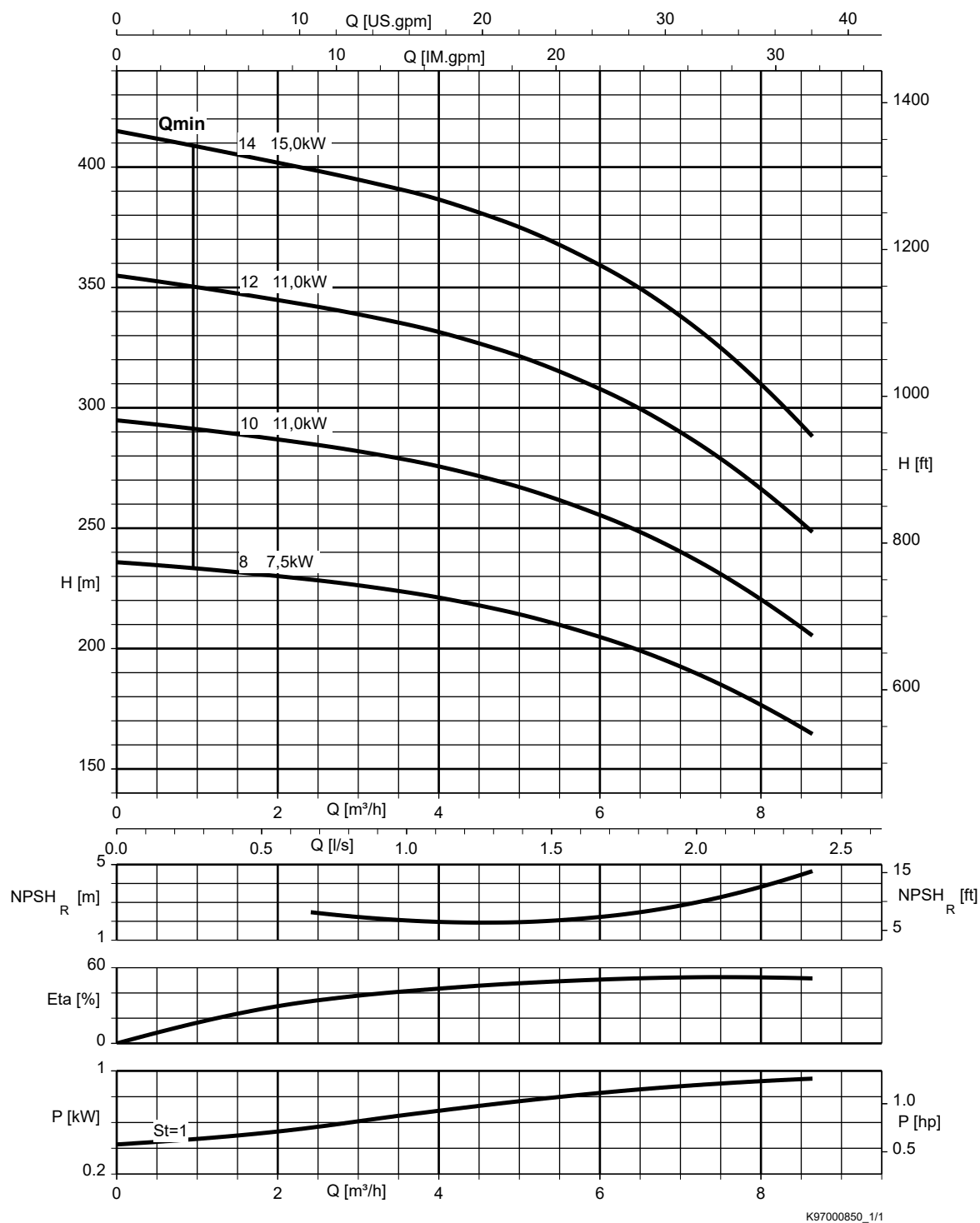
St = 1	P per stage	St = -1	P per stage with smaller impeller
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Movitec 125B, n = 3500 rpm



St = 1	P per stage	St = -1	P per stage with smaller impeller
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Movitec LHS, n = 3500 rpm

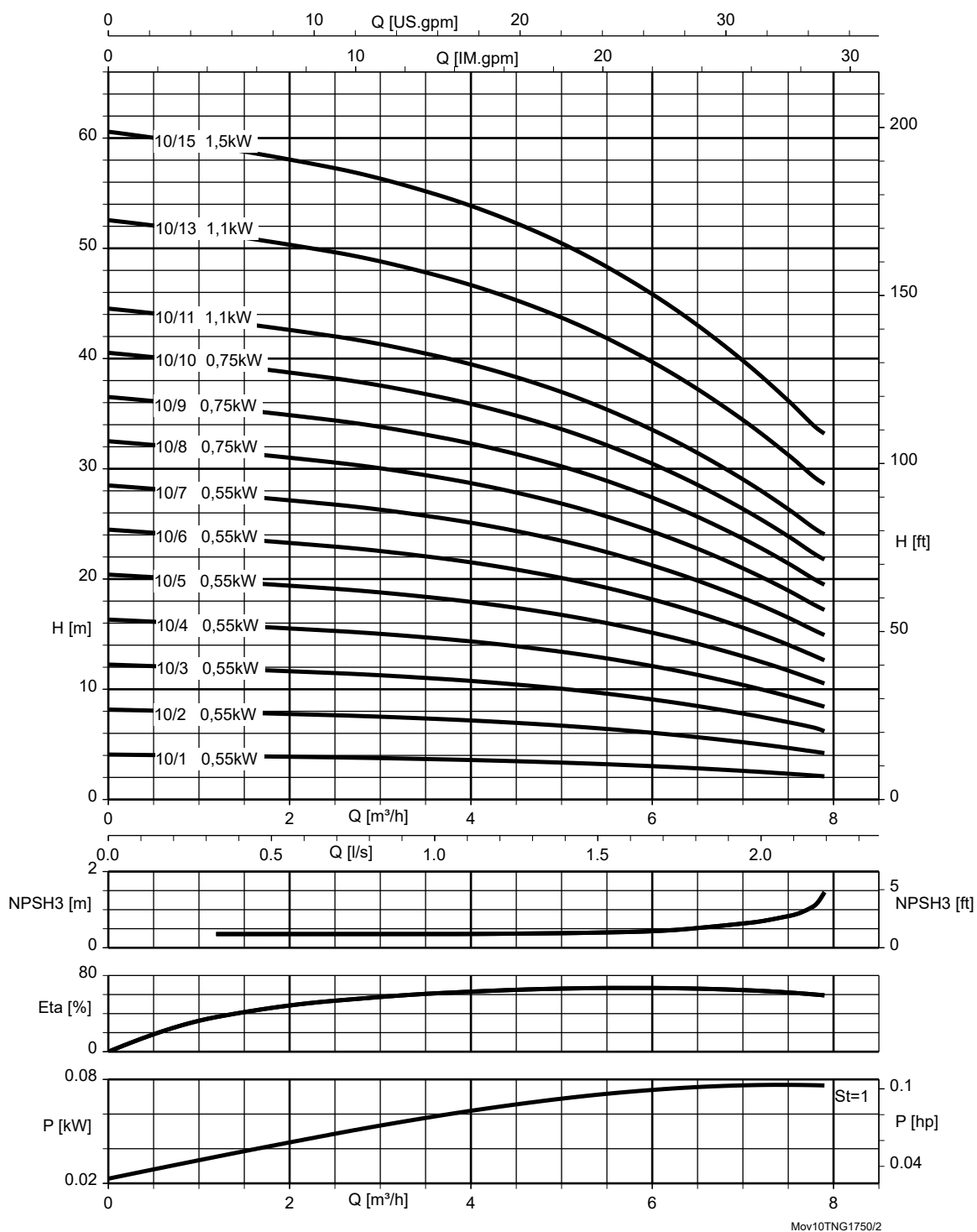


St = 1 | P per stage

*) $Q_{min} \leq 40^\circ C$

$n = 1750 \text{ rpm}$

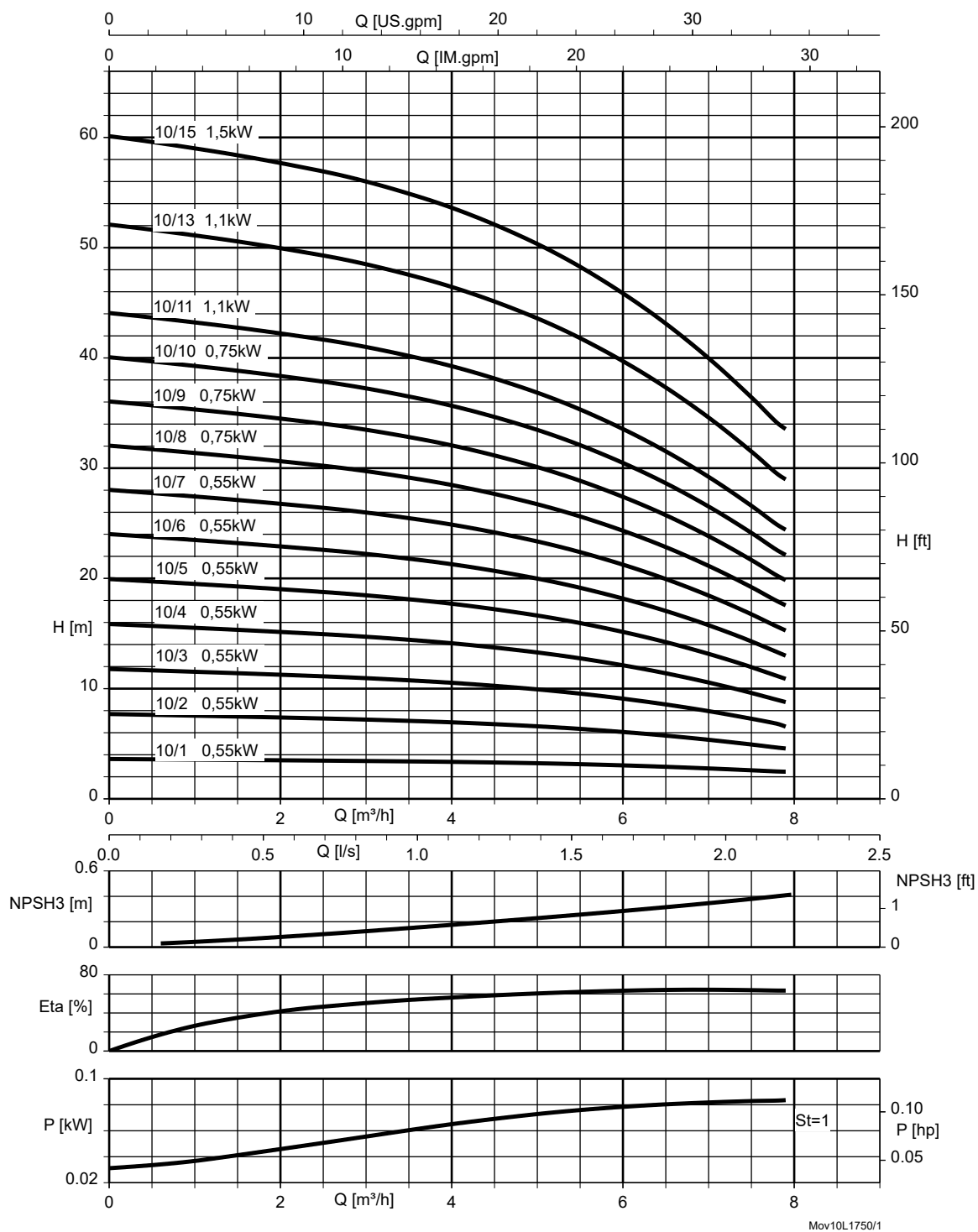
Movitec 10B, $n = 1750 \text{ rpm}$



St = 1 P per stage

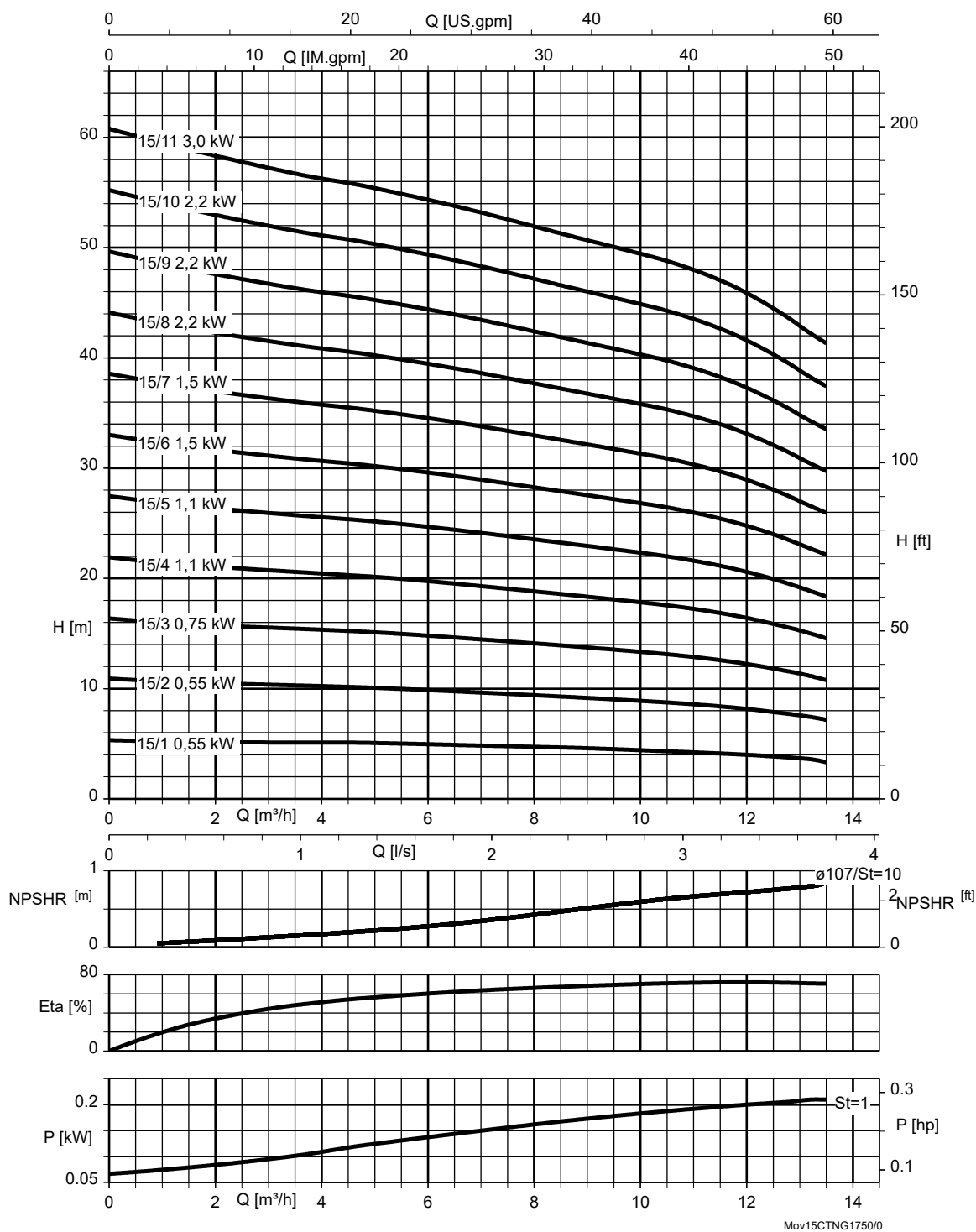
1798.561/12-EN-US

Movitec 10LB, n = 1750 rpm

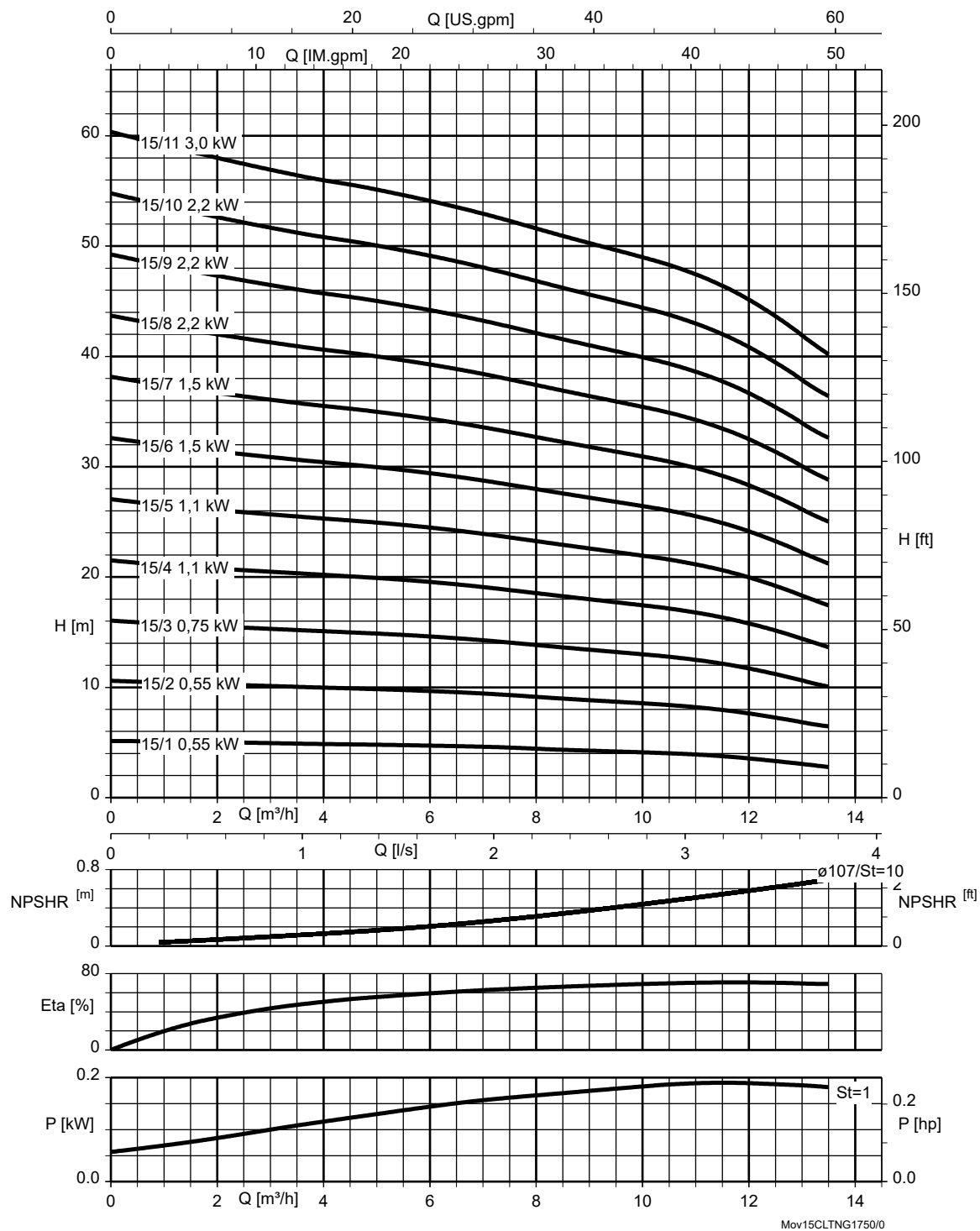


St = 1 | P per stage

Movitec 15C, n = 1750 rpm

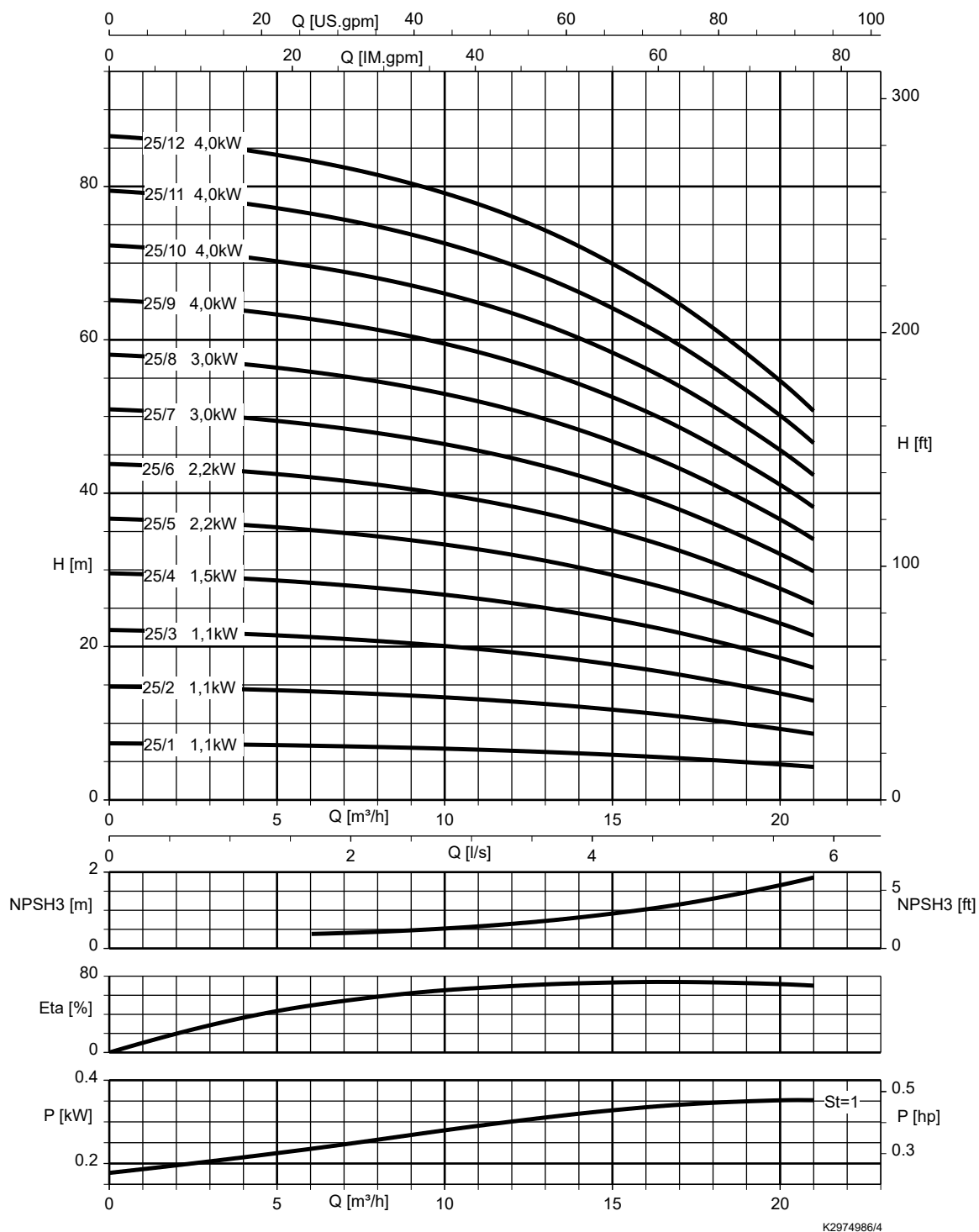


Movitec 15LC, n = 1750 rpm



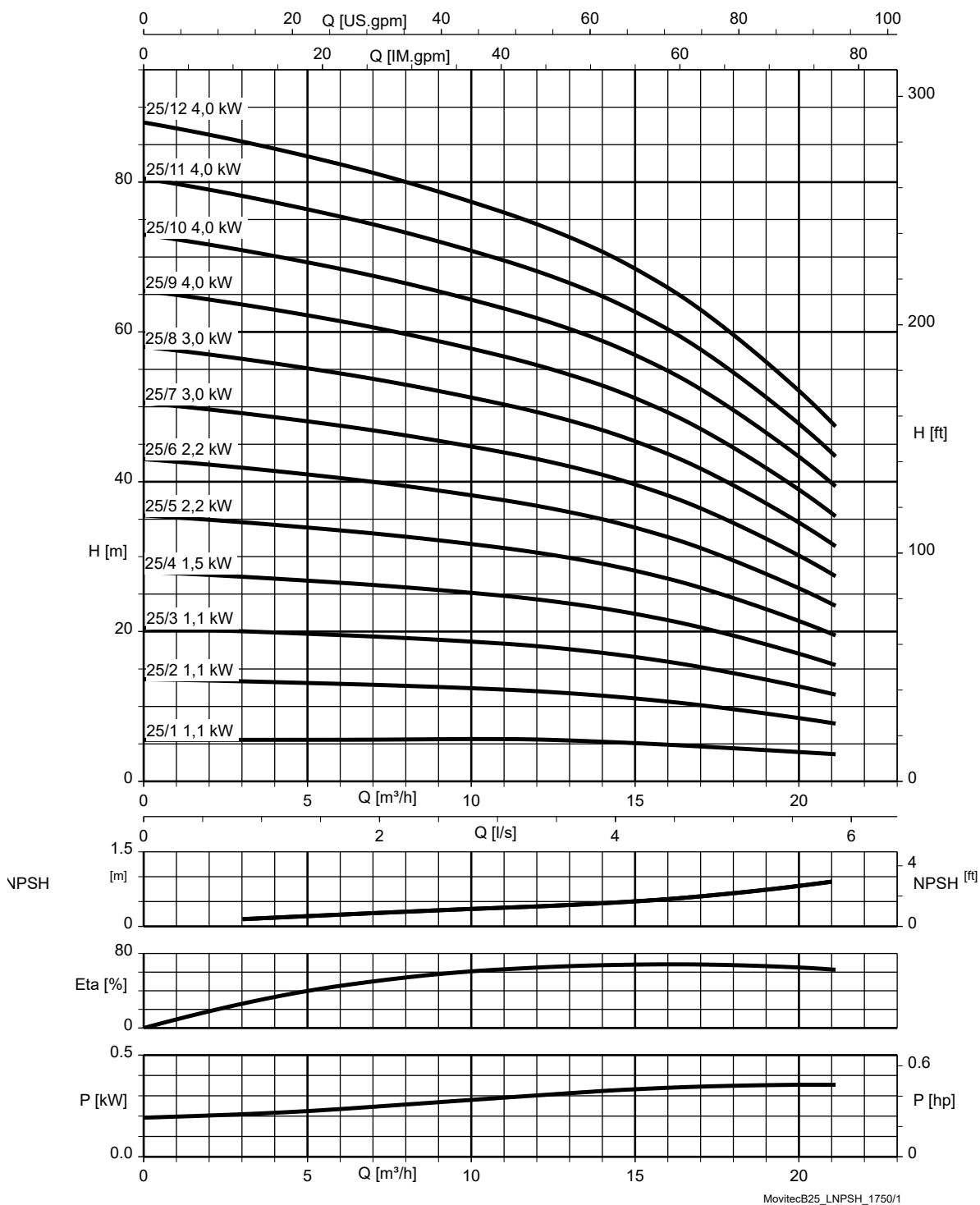
St = 1 | P per stage

Movitec 25B, n = 1750 rpm



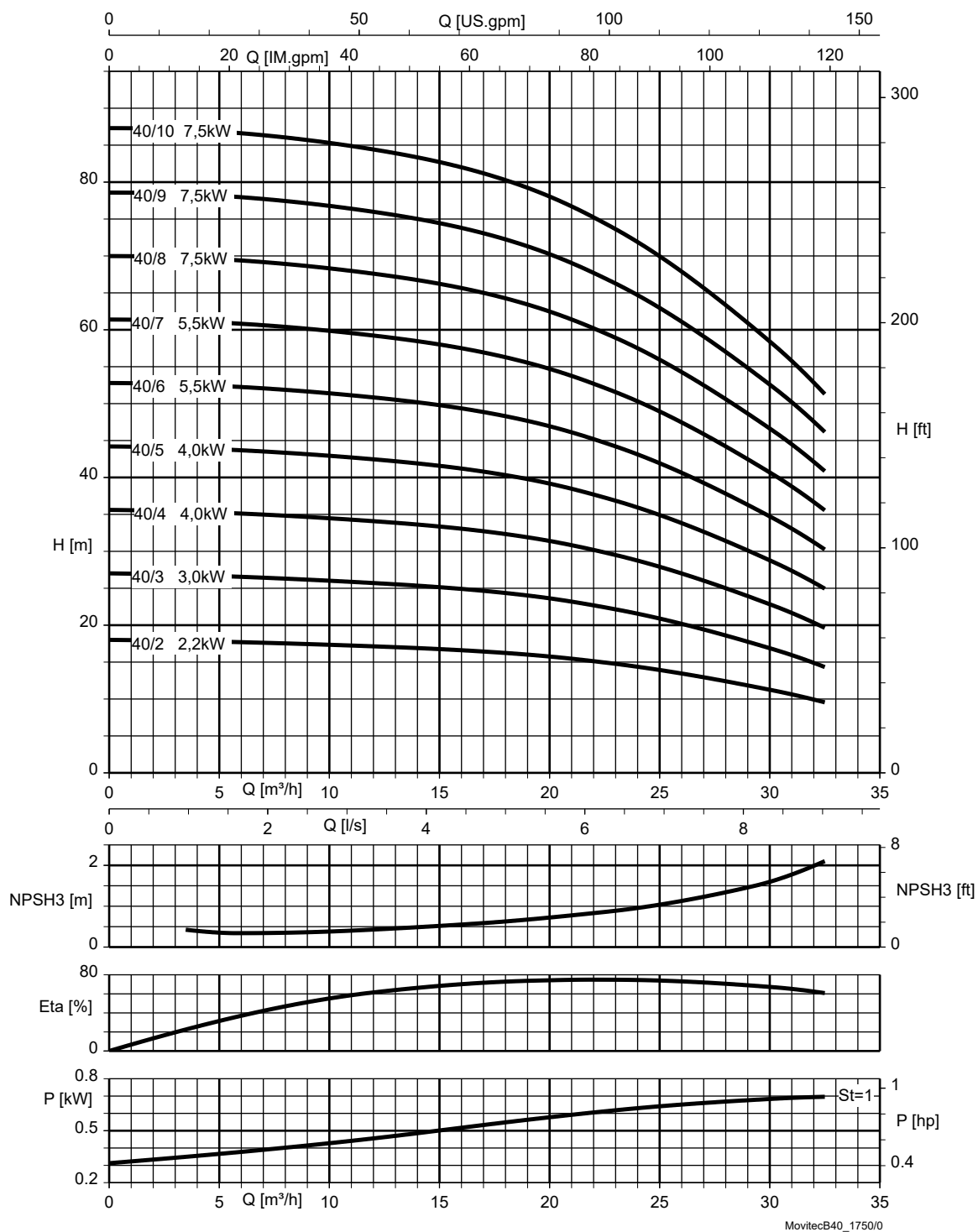
St = 1 | P per stage

Movitec 25LB, n = 1750 rpm



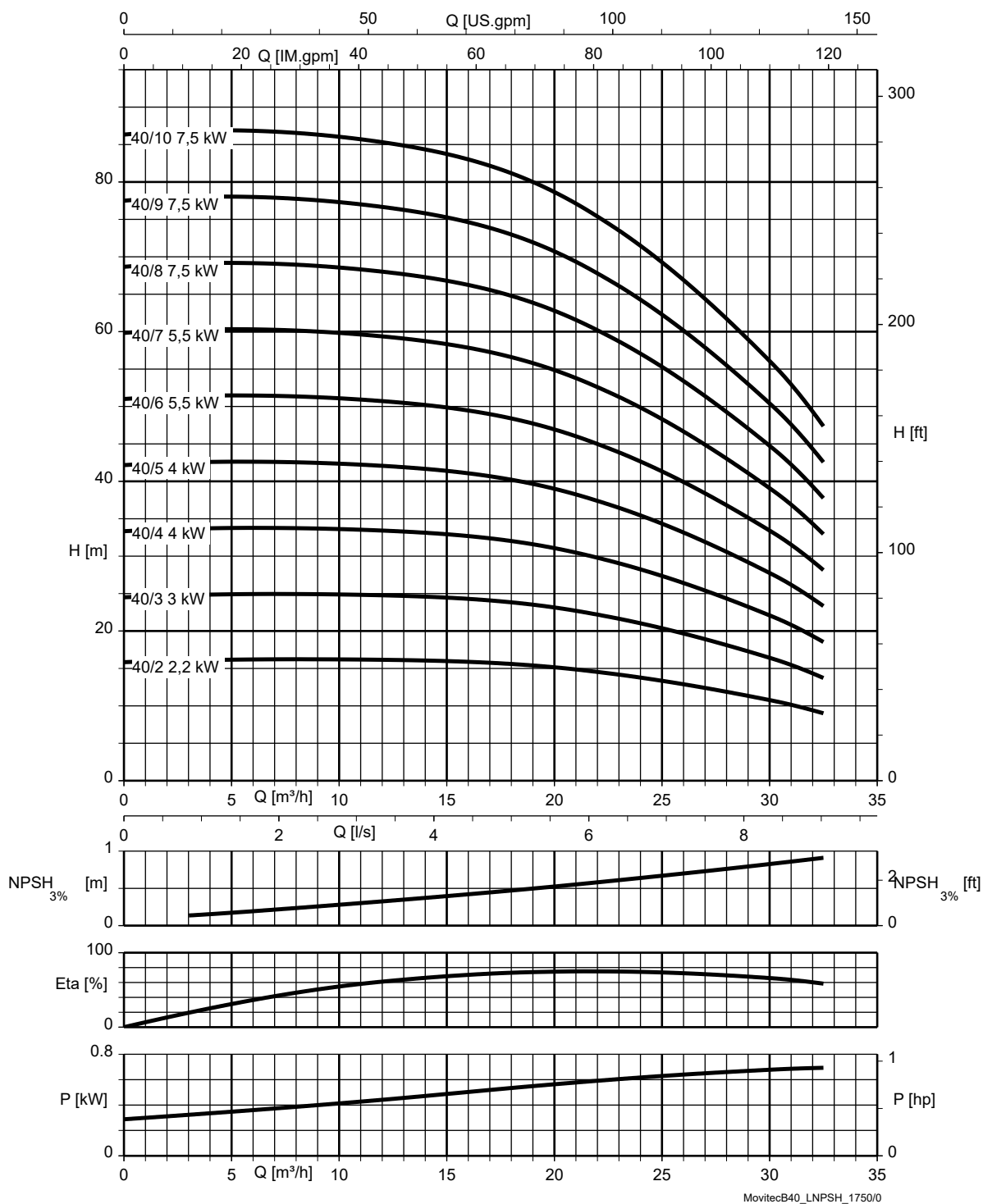
St = 1 | P per stage

Movitec 40B, n = 1750 rpm



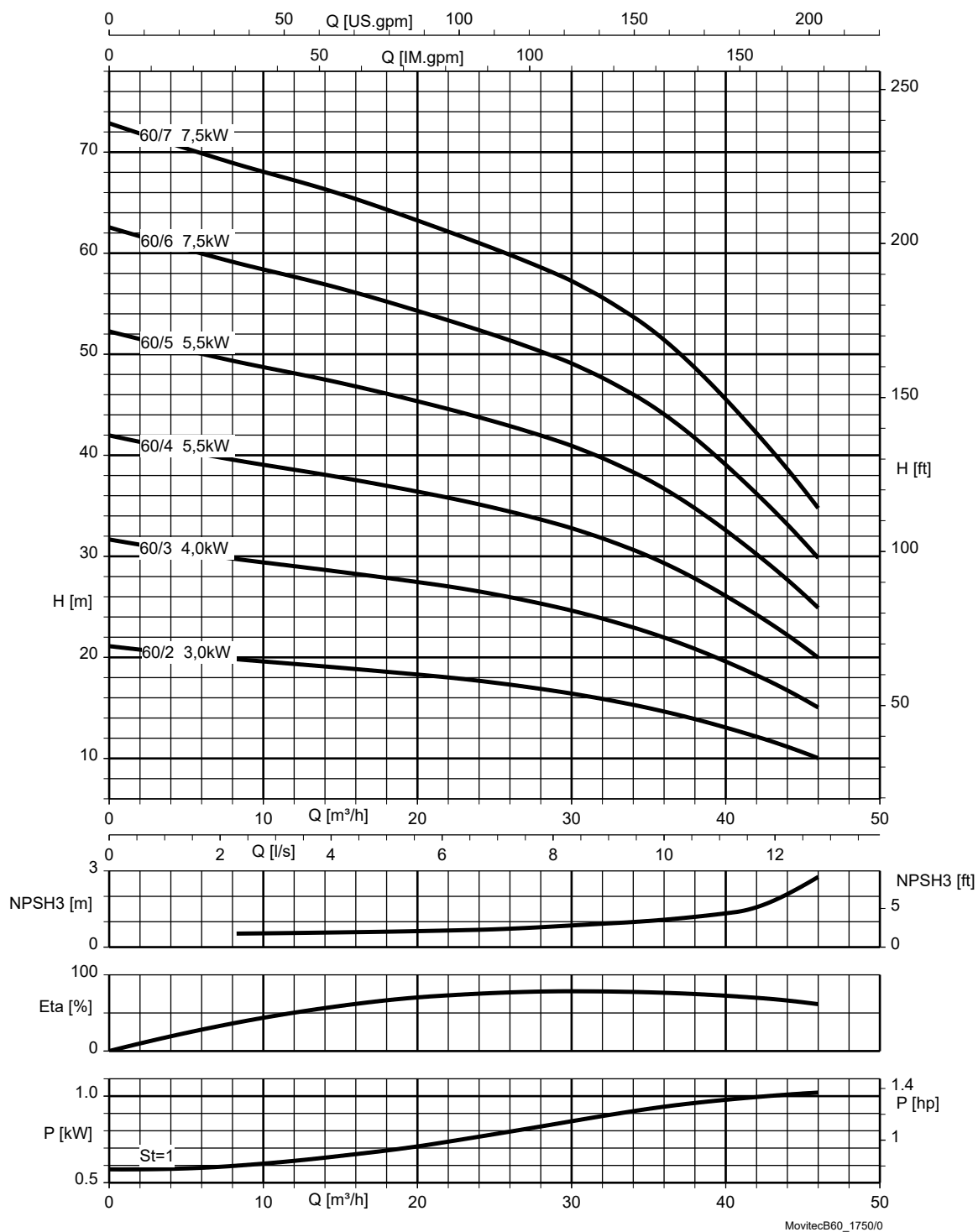
St = 1 | P per stage

Movitec 40LB, n = 1750 rpm



St = 1 | P per stage

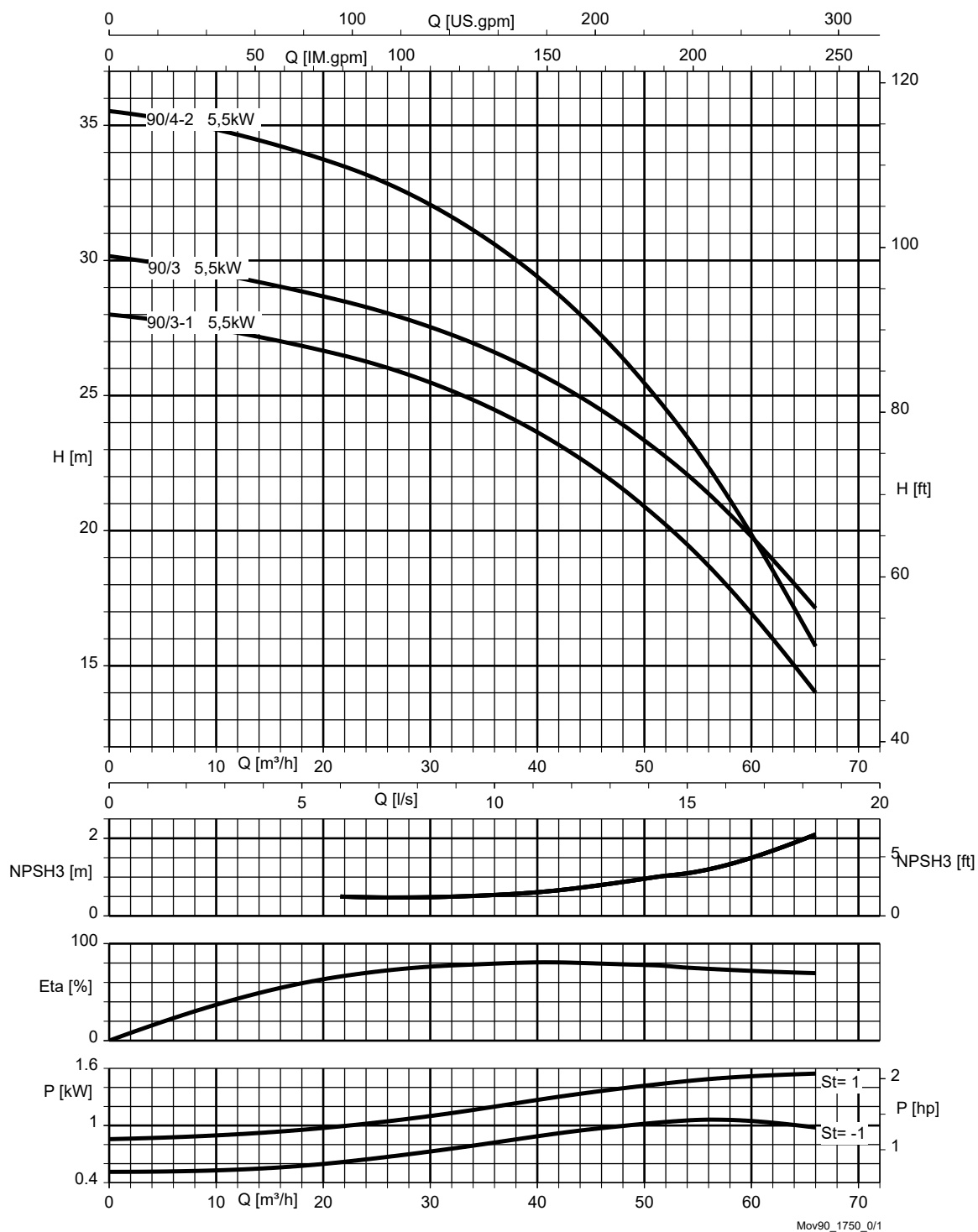
Movitec 60B, n = 1750 rpm



St = 1 | P per stage

1798.561/12-EN-US

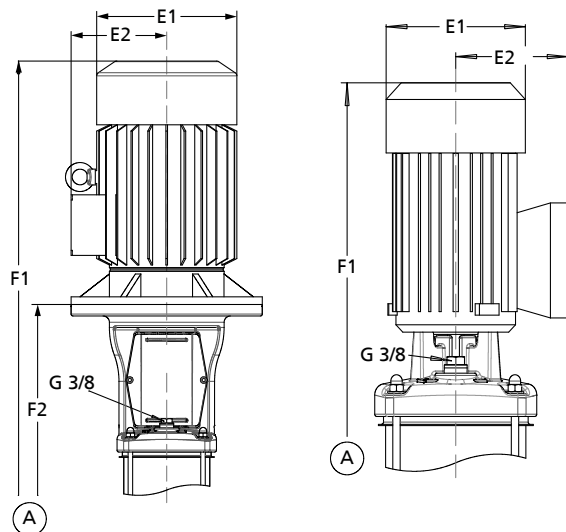
Movitec 90B, n = 1750 rpm



St = 1	P per stage	St = -1	P per stage with smaller impeller
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Dimensions and connections

Movitec 2(L)B, n = 3500 rpm



V(S), VE, V(S)V, V(S)T, V(C/S)F

VME

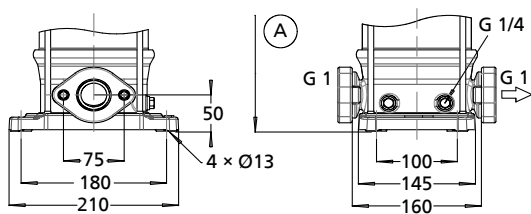


Fig. 4: Connections of Movitec V, VS

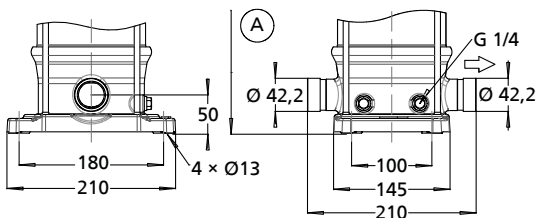


Fig. 5: Connections of Movitec VV, VSV

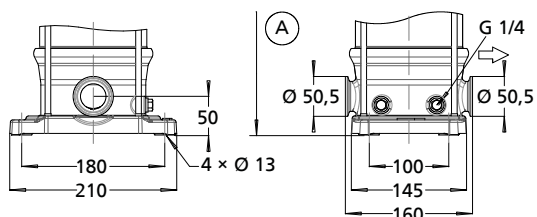


Fig. 6: Connections of Movitec VT, VST

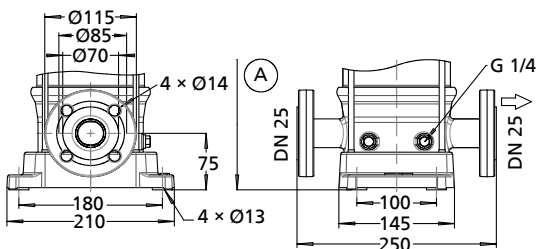


Fig. 7: Movitec VF, VSF – interchangeable range

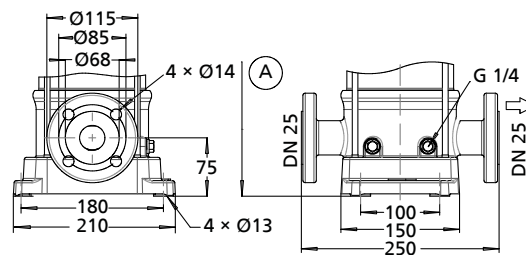


Fig. 8: Connections of Movitec VCF

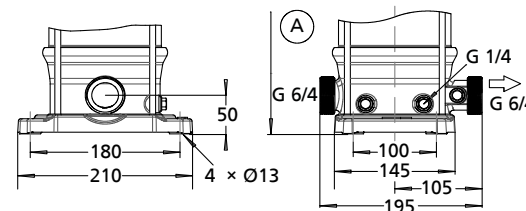


Fig. 9: Connections of Movitec V(M)E

Table 16: Dimensions

Number of stages	P _N	E1	E2	Movitec				
				V(S) ²⁸ , VE ²⁸ , V(S)V, V(S)T		V(C/S)F		VME
				F1	F2	F1	F2	F1
	[kW]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
2	0,37	138	109	480	259	505	284	420
3	0,37	138	109	501	280	526	305	441
4	0,55	138	109	523	302	548	327	463
5	0,75	157	133	565	333	590	358	528
6	0,75	157	133	587	355	612	380	550
7	1,1	157	133	633	376	658	401	-
8	1,1	157	133	655	398	680	423	-
9	1,1	180	145	676	419	701	444	-
10	1,5	180	145	725	451	750	476	-
11	1,5	180	145	746	472	771	497	-
12	1,5	180	145	768	494	793	519	-
14	2,2	180	145	835	537	860	562	-
16	2,2	180	145	878	580	903	605	-
18	2,2	180	145	921	623	946	648	-
20	3,0	200	155	994	676	1019	701	-
22	3,0	200	155	1037	719	1062	744	-

²⁸ Available with a maximum of 14 stages

Movitec 4(L)B, n = 3500 rpm

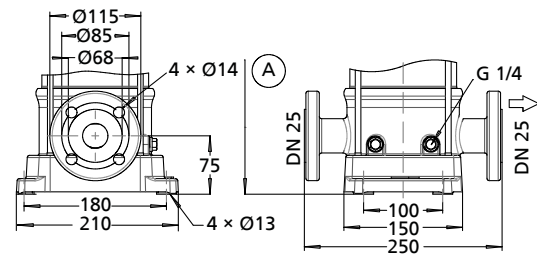
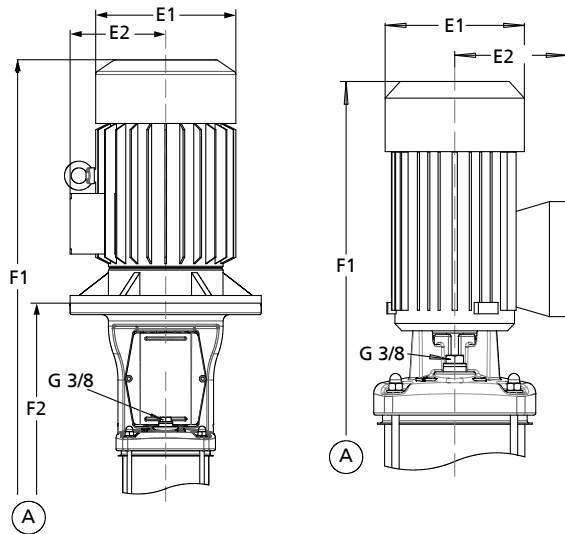


Fig. 14: Connections of Movitec VCF

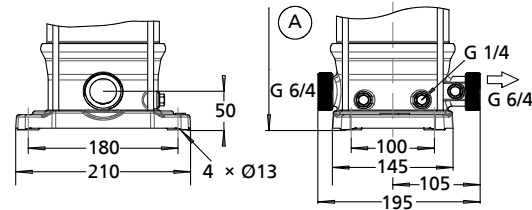


Fig. 15: Connections of Movitec V(M)E

V(S), VE, V(S)V, V(S)T, V(C/S)F

VME

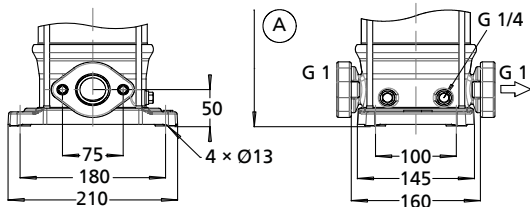


Fig. 10: Connections of Movitec V, VS

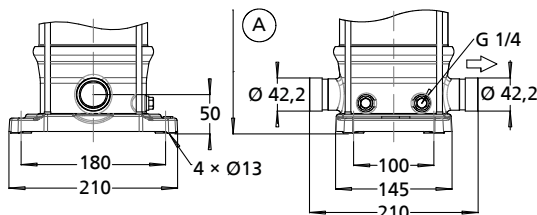


Fig. 11: Connections of Movitec VV, VSV

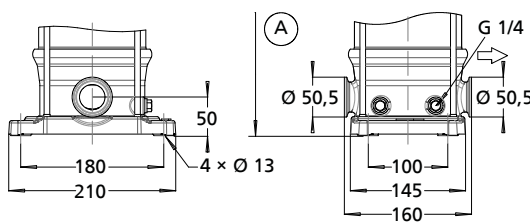


Fig. 12: Connections of Movitec VT, VST

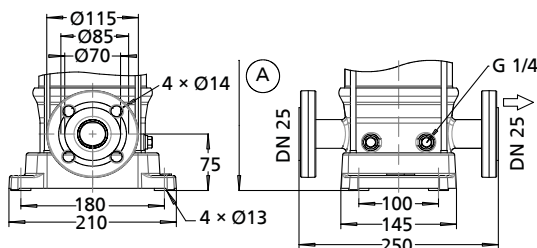


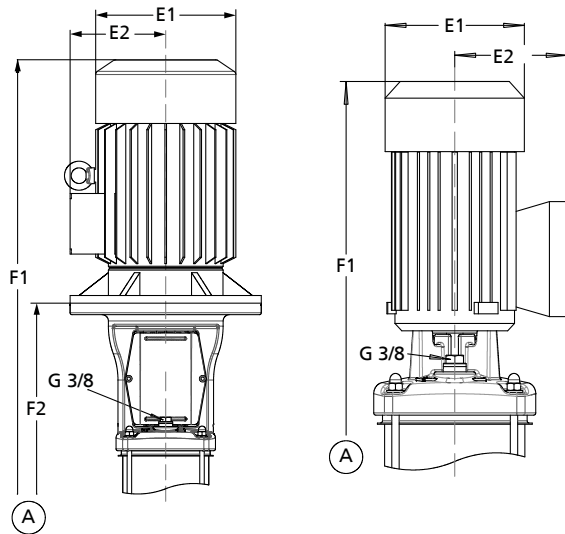
Fig. 13: Movitec VF, VSF – interchangeable range

Table 17: Dimensions

Number of stages	P _N	E1	E2	Movitec				
				V(S) ²⁹ , VE ²⁹ , V(S)V, V(S)T		V(C/S)F		VME
				F1	F2	F1	F2	F1
	[kW]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
2	0,55	138	109	480	259	505	284	420
3	0,75	138	109	522	290	547	315	485
4	1,1	138	109	569	312	594	337	507
5	1,5	160	150	617	343	642	368	-
6	1,5	160	150	639	365	664	390	-
7	2,2	160	150	684	386	709	411	-
8	2,2	185	160	706	408	731	433	-
9	3,0	185	160	747	429	782	464	-
10	3,0	185	160	779	461	804	486	-
11	3,0	185	160	800	482	825	507	-
12	4,0	185	160	819	504	844	529	-
14	4,0	185	160	862	547	887	572	-
16	5,5	185	160	1068	666	1093	691	-
18	5,5	205	175	1111	709	1136	734	-

²⁹ Available with a maximum of 12 stages

Movitec 6(L)B, n = 3500 rpm



V(S), VE, V(S)V, V(S)T, V(C/S)F

VME

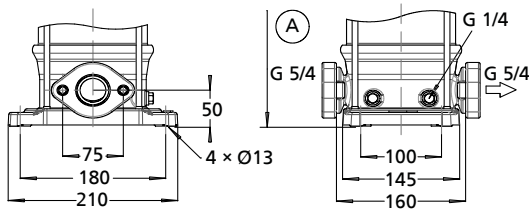


Fig. 16: Connections of Movitec V, VS

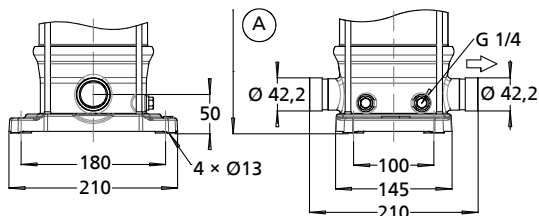


Fig. 17: Connections of Movitec VV, VSV

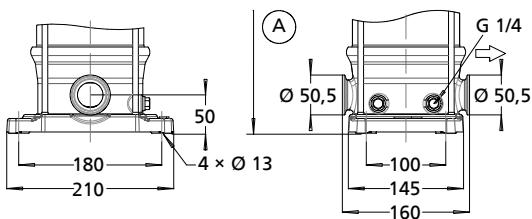


Fig. 18: Connections of Movitec VT, VST

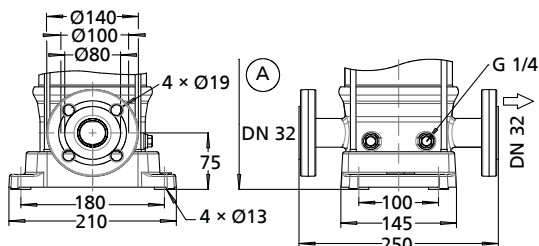


Fig. 19: Movitec VF, VSF – interchangeable range

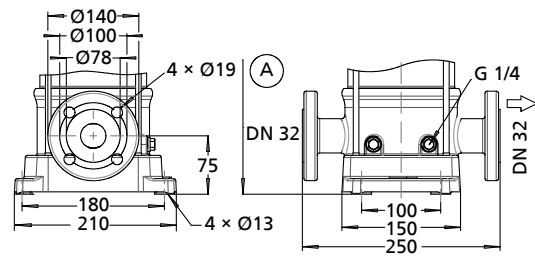


Fig. 20: Connections of Movitec VCF

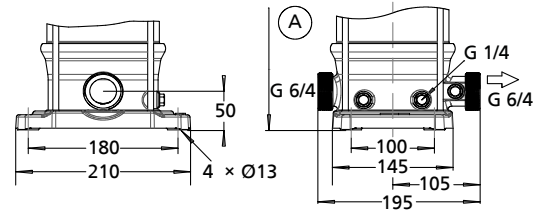


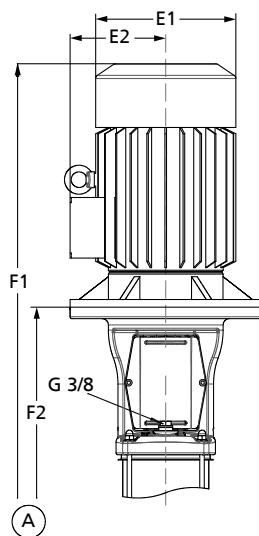
Fig. 21: Connections of Movitec V(M)E

Table 18: Dimensions

Number of stages	P _N [kW]	E1 [mm]	E2 [mm]	Movitec				
				V(S) ³⁰ , VE ³⁰ , V(S)V, V(S)T		V(C/S)F		VME
				F1 [mm]	F2 [mm]	F1 [mm]	F2 [mm]	F1 [mm]
2	0,75	138	109	508	276	533	301	471
3	1,1	160	150	558	301	583	326	496
4	1,5	160	150	610	336	635	361	-
5	2,2	160	150	659	361	684	386	-
6	2,2	185	160	684	386	709	411	-
7	3,0	185	160	739	421	764	446	-
8	3,0	185	160	764	446	789	471	-
9	4,0	185	160	786	471	811	496	-
10	4,0	185	160	811	496	836	521	-
11	4,0	205	175	836	521	861	546	-
12	5,5	205	175	1024	622	1049	647	-
14	5,5	205	175	1074	672	1099	697	-
16	7,5	220	190	1122	722	1147	747	-
18	7,5	220	190	1172	772	1197	797	-

³⁰ Available with a maximum of 11 stages

Movitec 10(L)B, n = 1750 rpm



V(S), V(S)V, V(S)T, V(C/S)F

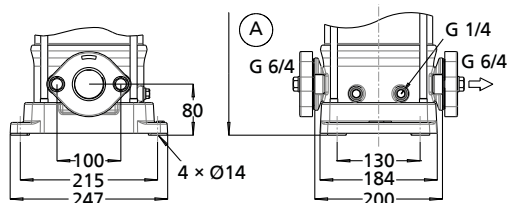


Fig. 22: Connections of Movitec V, VS

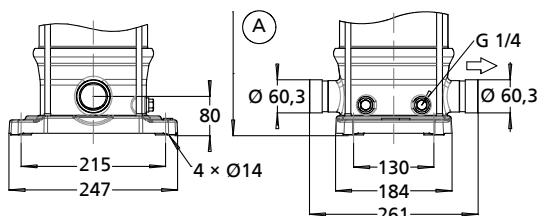


Fig. 23: Connections of Movitec VV, VSV

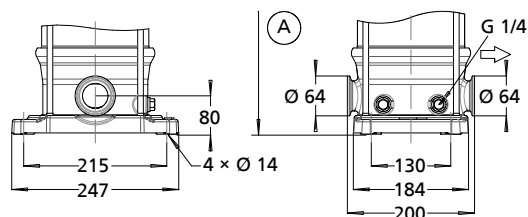


Fig. 24: Connections of Movitec VT, VST

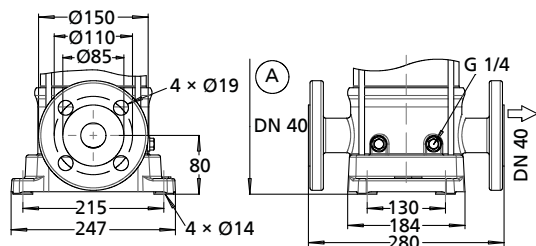


Fig. 25: Movitec VF, VSF – interchangeable range

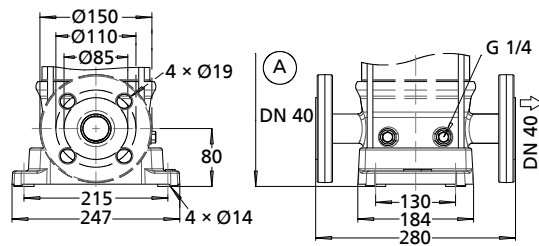
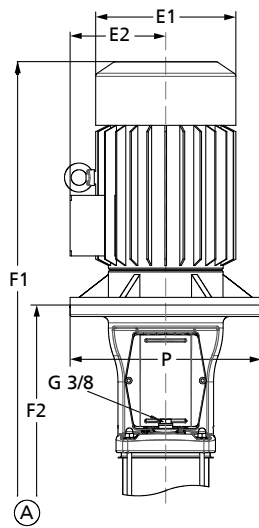


Fig. 26: Connections of Movitec VCF

Table 19: Dimensions

Number of stages	P _N [kW]	E1 [mm]	E2 [mm]	Movitec			
				V(S), V(S)V, V(S)T		V(C/S)F	
				F1 [mm]	F2 [mm]	F1 [mm]	F2 [mm]
1	0,55	157	112	603	346	603	346
2	0,55	157	112	613	356	613	356
3	0,55	157	112	629	372	629	372
4	0,55	157	112	656	399	656	399
5	0,55	157	112	682	425	682	425
6	0,55	157	112	709	452	709	452
7	0,55	157	112	735	478	735	478
8	0,75	157	112	800	505	800	505
9	0,75	157	112	826	531	826	531
10	0,75	157	112	853	558	853	558
11	1,1	180	145	869	594	869	594
13	1,1	180	145	922	647	922	647
15	1,5	180	145	1000	700	1000	700

Movitec 10(L)B, n = 3500 rpm



V(S), V(S)V, V(S)T, V(C/S)F

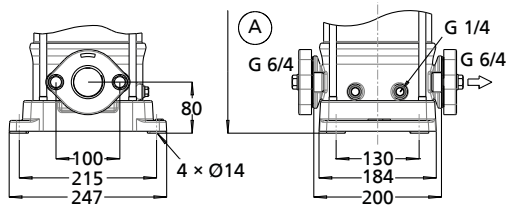


Fig. 27: Connections of Movitec V, VS

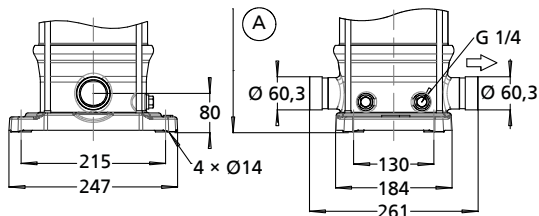


Fig. 28: Connections of Movitec VV, VSV

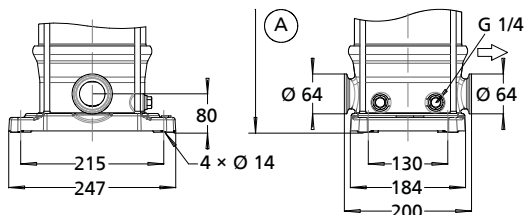


Fig. 29: Connections of Movitec VT, VST

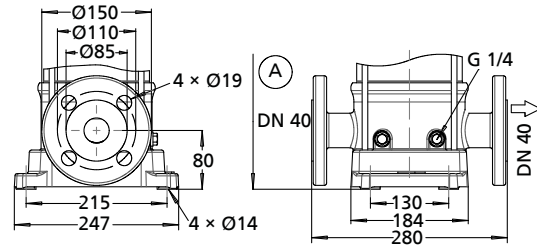


Fig. 30: Movitec VF, VSF – interchangeable range

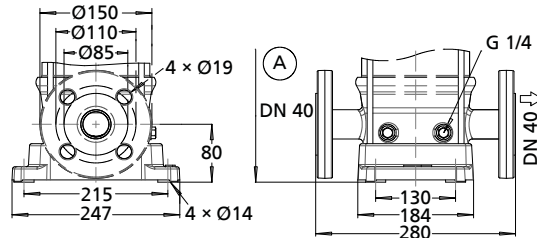


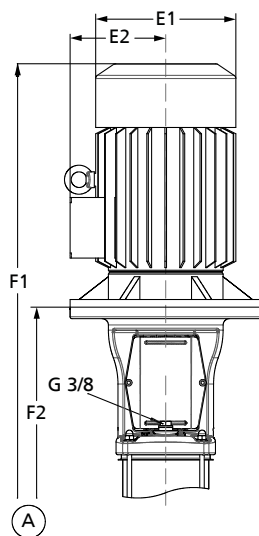
Fig. 31: Connections of Movitec VCF

Table 20: Dimensions

Number of stages	P _N	E1	E2	p	Movitec			
					V(S), V(S)V ³¹ , V(S)T		V(C/S)F	
					F1	F2	F1	F2
	[kW]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
1	0,75	150	115	-	580	346	580	346
2	1,5	200	148	-	637	356	637	356
3	2,2	200	148	-	663	382	663	382
4	3,0	215	157	-	736	419	736	419
5	4,0	248	168	-	801	445	801	445
6	4,0	248	168	-	828	472	828	472
7	5,5	288	197	-	1010	578	1010	578
8	5,5	288	197	-	1036	604	1036	604
9	7,5	288	197	-	1063	631	1063	631
10	7,5	288	197	-	1089	657	1089	657
11	7,5	288	197	-	1116	684	1116	684
13	11,0	340	223	300	1300	767	1300	767
15	11,0	340	223	300	1353	820	1353	820

³¹ Available with a maximum of 9 stages

Movitec 15(L)C, n = 1750 rpm



V(S), V(S)V, V(S)T, V(C/S)F

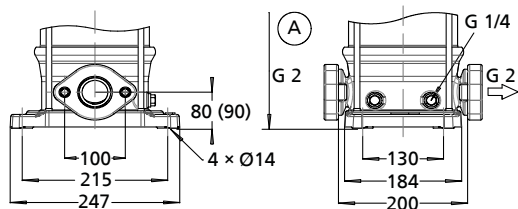


Fig. 32: Connections of Movitec V, VS

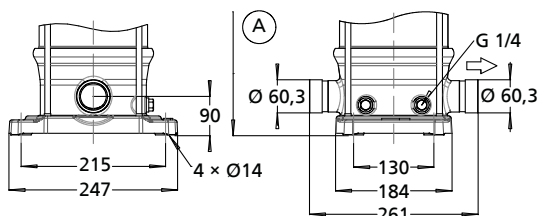


Fig. 33: Connections of Movitec VV, VSV

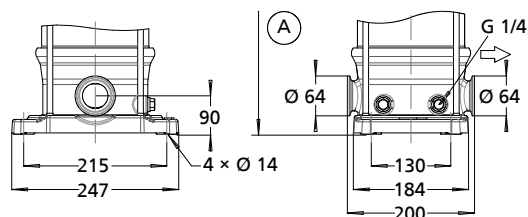


Fig. 34: Connections of Movitec VT, VST

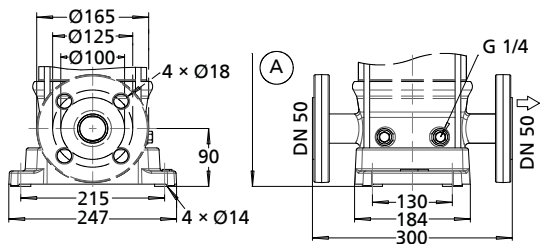


Fig. 35: Movitec VF, VSF – interchangeable range

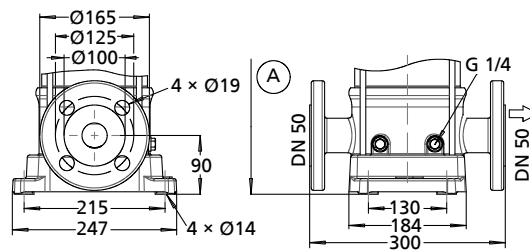
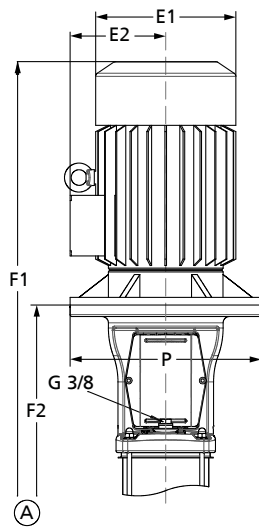


Fig. 36: Connections of Movitec VCF

Table 21: Dimensions

Number of stages	P _N [kW]	E1 [mm]	E2 [mm]	Movitec			
				V(S), VE, V(S)V, V(S)T		V(C/S)F	
				F1 [mm]	F2 [mm]	F1 [mm]	F2 [mm]
1	0,55	157	112	619	362	629	372
2	0,55	157	112	619	362	629	372
3	0,75	157	133	698	403	708	413
4	1,1	180	145	729	454	739	464
5	1,1	180	145	770	495	780	505
6	1,5	180	145	836	536	846	546
7	1,5	180	145	877	577	887	587
8	2,2	200	155	946	628	956	638
9	2,2	200	155	987	669	997	679
10	2,2	200	155	1028	710	1038	720
11	2,2	200	155	1069	751	1079	761

Movitec 15(L)C, n = 3500 rpm



V(S), V(S)V, V(S)T, V(C/S)F

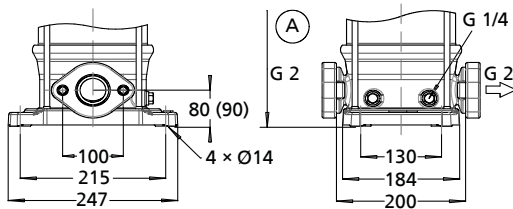


Fig. 37: Connections of Movitec V, VS

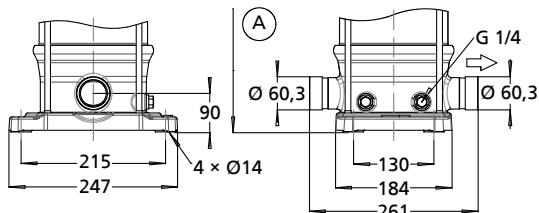


Fig. 38: Connections of Movitec VV, VSV

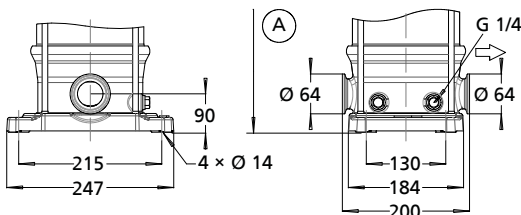


Fig. 39: Connections of Movitec VT, VST

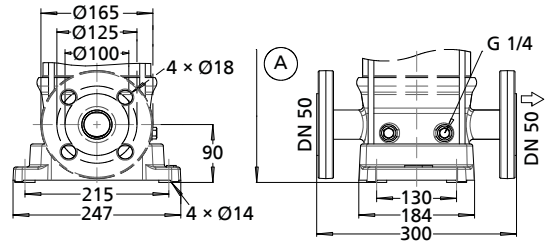


Fig. 40: Movitec VF, VSF – interchangeable range

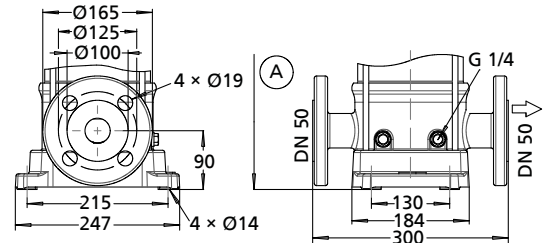


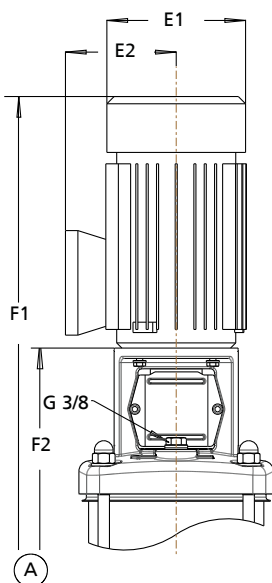
Fig. 41: Connections of Movitec VCF

Table 22: Dimensions

Number of stages	P _N	E1	E2	p	Movitec			
					V(S), V ³² FE, V(S)V, V(S)T		V(C/S)F	
					F1	F2	F1	F2
[kW]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
1	2,2	200	148	-	653	372	663	382
2	4,0	248	168	-	738	382	748	392
3	5,5	288	197	300	935	503	945	513
4	7,5	288	197	300	976	544	986	554
5	11,0	340	223	350	1148	615	1158	625
6	11,0	340	223	350	1189	656	1199	666
7	15,0	340	223	350	1230	697	1240	707
8	15,0	340	223	350	1271	738	1281	748
9	15,0	340	223	350	1312	779	1322	789
10	18,5	340	223	350	1353	820	1363	830
11	18,5	340	223	350	1394	861	1404	871

³² Available with a maximum of 7 stages

Movitec 25(L)B, n = 1750 rpm



V(C/S)F

Motor flange version with
tapped hole

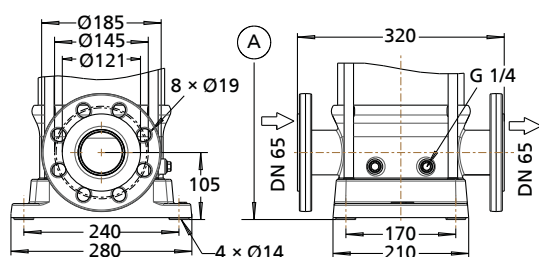


Fig. 42: Movitec VF, VSF – interchangeable range

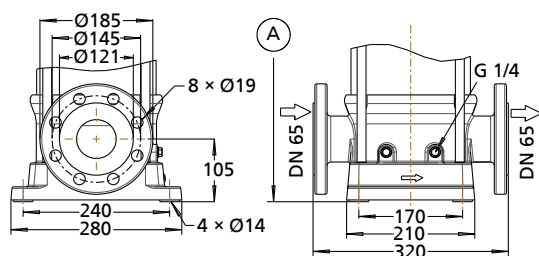
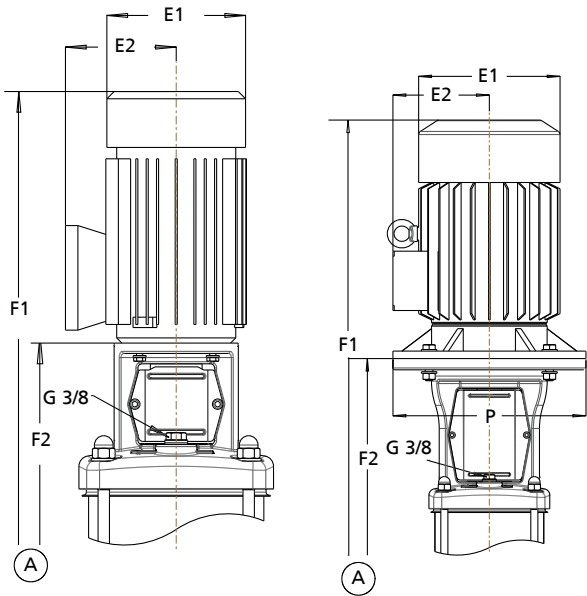


Fig. 43: Connections of Movitec VCF

Table 23: Dimensions

Number of stages	P _N [kW]	E1 [mm]	E2 [mm]	Movitec	
				V(C/S)F	
				F1 [mm]	F2 [mm]
1	1,1	180	145	683	408
2	1,1	180	145	748	473
3	1,1	180	145	813	538
4	1,5	180	145	903	603
5	2,2	200	155	991	673
6	2,2	200	155	1056	738
7	3,0	200	155	1165	803
8	3,0	200	155	1230	868
9	4,0	233	166	1248	933
10	4,0	233	166	1313	998
11	4,0	233	166	1378	1063
12	4,0	233	166	1443	1128

Movitec 25(L)B, n = 3500 rpm



V(C/S)F
Motor flange version with
tapped holes

V(C/S)F
Motor flange version with
clearance holes

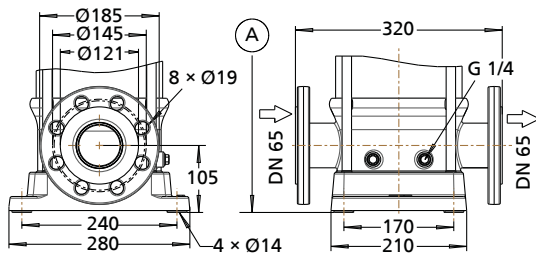


Fig. 44: Movitec VF, VSF – interchangeable range

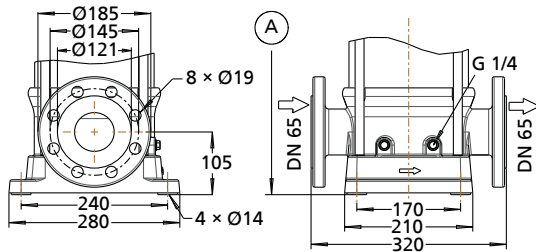


Fig. 45: Connections of Movitec VCF

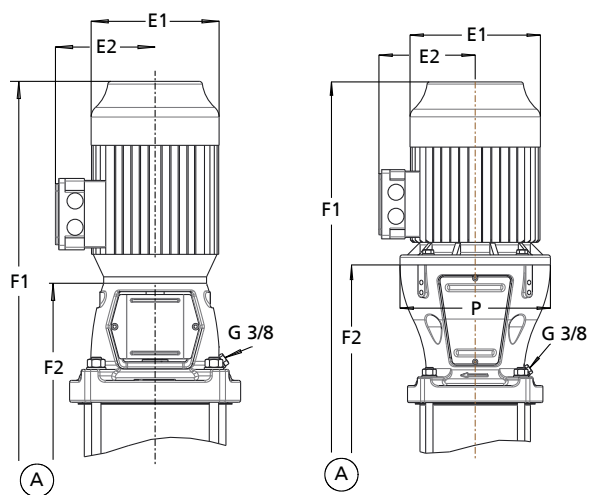
Table 24: Dimensions (motor flange version with tapped holes)

Number of stages	P _N [kW]	E1 [mm]	E2 [mm]	P [mm]	Movitec	
					V(C/S)F	
					F1 [mm]	F2 [mm]
1	3,0	200	155	-	731	413
2	7,5	260	190	-	969	569

Table 25: Dimensions (motor flange version with clearance holes)

Number of stages	P _N [kW]	E1 [mm]	E2 [mm]	P [mm]	Movitec	
					V(C/S)F	
					F1 [mm]	F2 [mm]
3	11,0	315	260	300	1168	664
4	15,0	315	260	300	1233	729
5	15,0	315	260	350	1298	794
6	18,5	315	265	350	1407	859
7	22,0	360	275	350	1499	924

Movitec 40(L)B, n = 1750 rpm



V(C/S)F
Motor version V18

V(C/S)F
Motor version V1

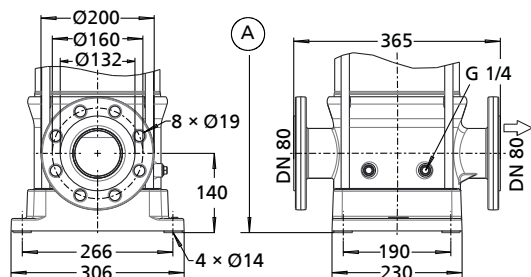


Fig. 46: Connections of Movitec VF, VSF

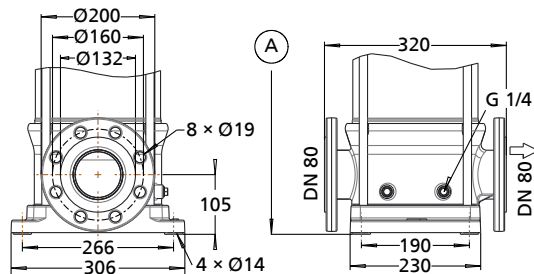


Fig. 47: Connections of Movitec VF, VSF – interchangeable range

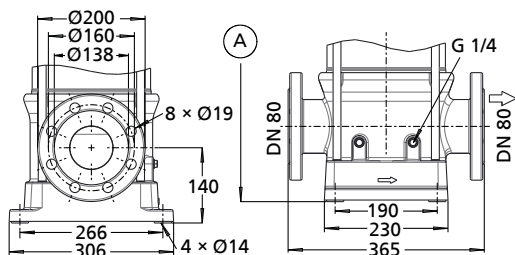


Fig. 48: Connections of Movitec VCF

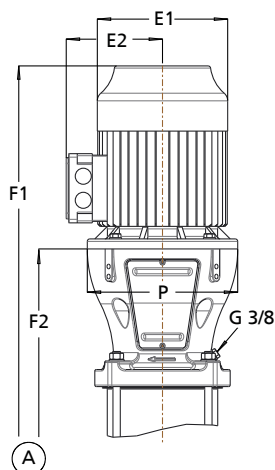
Table 26: Dimensions (motor version V18)

Number of stages	P _N [kW]	E1 [mm]	E2 [mm]	P [mm]	Movitec V(C/S)F	
					F1	F2
					[mm]	[mm]
2	2,2	200	155	-	883	565
3	3,0	200	155	-	1005	643
4	4,0	233	166	-	721	721
5	4,0	233	166	-	790	790

Table 27: Dimensions (motor version V1)

Number of stages	P _N [kW]	E1 [mm]	E2 [mm]	P [mm]	Movitec V(C/S)F	
					F1	F2
					[mm]	[mm]
6	5,5	260	190	350	1367	967
7	5,5	260	190	350	1445	1045
8	7,5	260	190	350	1558	1123
9	7,5	260	190	350	1636	1201
10	7,5	260	190	350	1714	1279

Movitec 40(L)B, n = 3500 rpm



V(C/S)F
Motor version V1

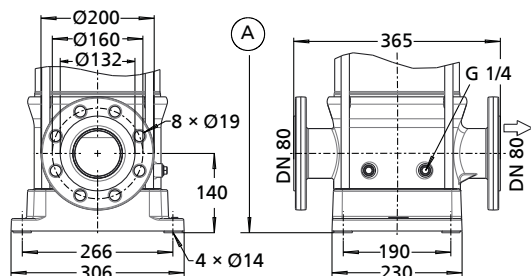


Fig. 49: Connections of Movitec VF, VSF (PN 16, PN 25)

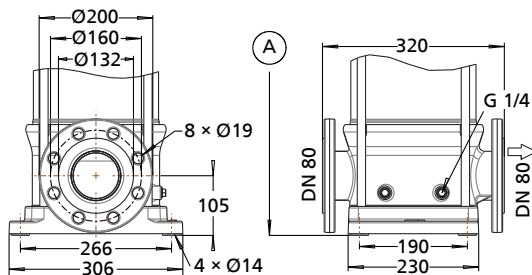


Fig. 50: Connections of Movitec VF, VSF (PN 16, PN 25 – interchangeable range)

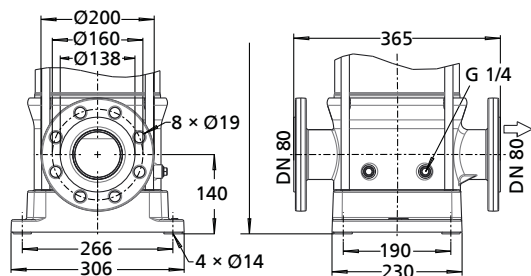


Fig. 51: Connections of Movitec VF, VSF (PN 40)

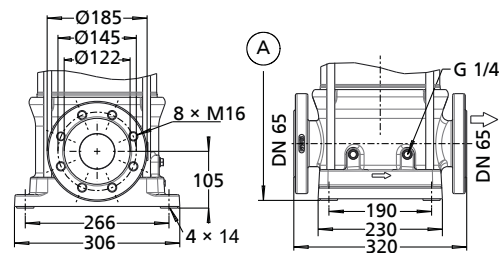


Fig. 52: Connections of Movitec VCF (DN 65)

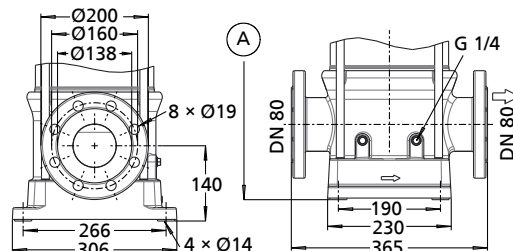


Fig. 53: Connections of Movitec VCF (DN 80)

Table 28: Dimensions

Number of stages	P _N [kW]	E1 [mm]	E2 [mm]	P [mm]	Movitec V(C/S)F	
					F1	F2
					[mm]	[mm]
1-1	5,5	260	190	-	979	577
1	7,5	260	190	-	977	577
2-2	11,0	315	260	300	1189	685
2	15,0	315	260	300	1189	685
3-2	18,5	315	265	350	1311	763
3	18,5	315	265	350	1311	763
4-2	22,0	360	275	350	1416	841
4	30,0	400	340	350	1511	841
5-2	30,0	400	340	350	1589	919
5	30,0	400	340	350	1589	919
6-2	37,0	400	340	350	1667	997
6	37,0	400	340	350	1667	997

Movitec 60B, n = 1750 rpm

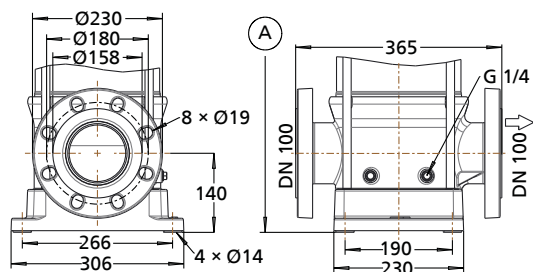
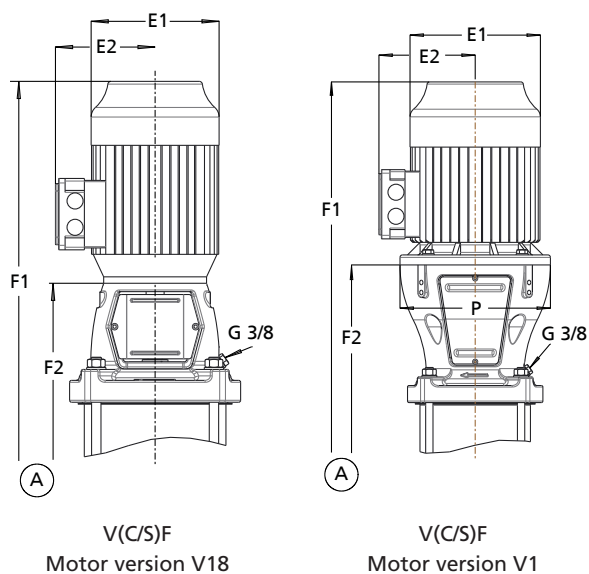


Fig. 54: Connections of Movitec VF, VSF

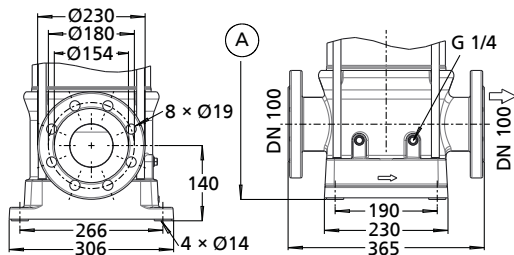


Fig. 55: Connections of Movitec VCF

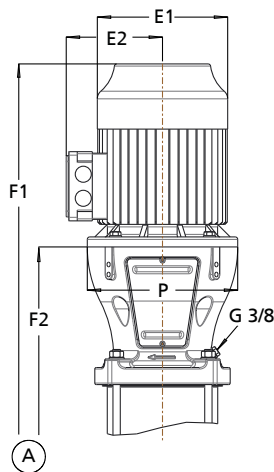
Table 29: Dimensions (motor version V18)

Number of stages	P _N [kW]	E1 [mm]	E2 [mm]	P [mm]	Movitec V(C/S)F	
					F1	F2
					[mm]	[mm]
2	3,0	200	155	-	927	565
3	4,0	233	166	-	958	643

Table 30: Dimensions (motor version V1)

Number of stages	P _N [kW]	E1 [mm]	E2 [mm]	P [mm]	Movitec V(C/S)F	
					F1	F2
					[mm]	[mm]
4	5,5	260	190	300	1211	811
5	5,5	260	190	300	1289	889
6	7,5	260	190	350	1402	967
7	7,5	260	190	350	1510	1075

Movitec 60B, n = 3500 rpm



V(C/S)F
Motor version V1

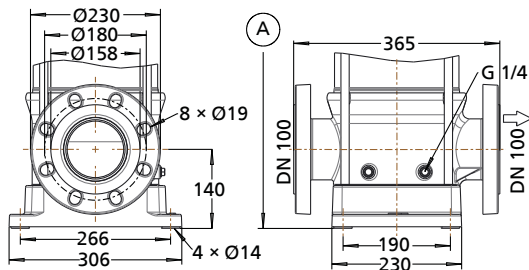


Fig. 56: Connections of Movitec VF, VSF (PN 16)

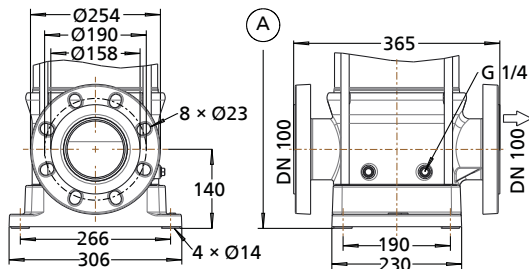


Fig. 57: Connections of Movitec VF, VSF (PN 25, PN 40)

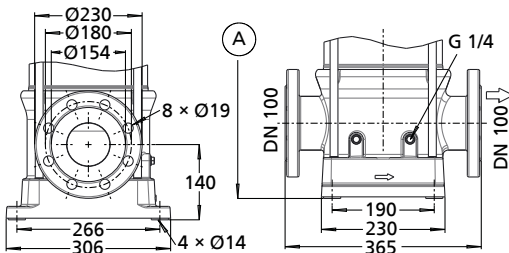


Fig. 58: Connections of Movitec VCF (PN 16)

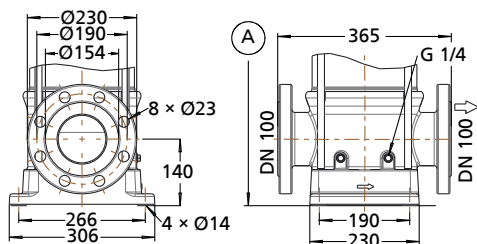


Fig. 59: Connections of Movitec VCF (PN 25, PN 40)

Table 31: Dimensions

Number of stages	P _N [kW]	E1 [mm]	E2 [mm]	P [mm]	Movitec V(C/S)F	
					F1	F2
					[mm]	[mm]
1-1	7,5	260	190	-	977	577
1	11,0	315	260	300	1111	607
2-2	15,0	315	260	300	1189	685
2	18,5	315	265	350	1233	685
3-2	22,0	360	275	350	1338	763
3	30,0	400	340	350	1433	763
4-2	30,0	400	340	350	1511	841
4	37,0	400	340	350	1511	841
5-2	45,0	450	365	350	1629	919
5	45,0	450	365	400	1629	919

Movitec 90B, n = 1750 rpm

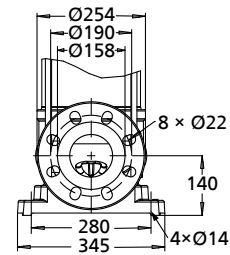
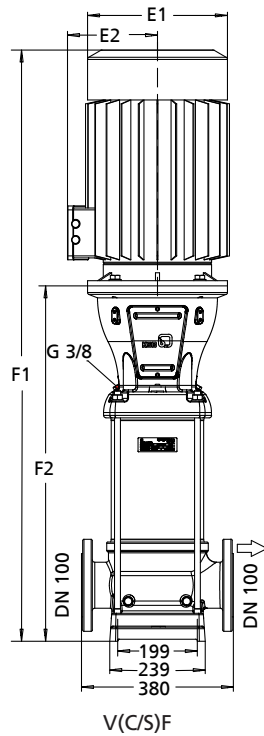


Fig. 63: Connections of Movitec VCF (PN 25, PN40)

Table 32: Dimensions

Number of stages	P _N [kW]	E1 [mm]	E2 [mm]	Movitec			
				V(S)F		VCF	
				F1 [mm]	F2 [mm]	F1 [mm]	F2 [mm]
3-1	5,5	360	275	1434	859	1434	859
3	5,5	400	340	1529	859	1529	859
4-2	5,5	450	365	1678	968	1678	968

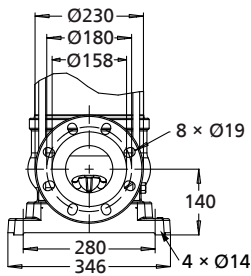


Fig. 60: Connections of Movitec VF, VSF(PN 16)

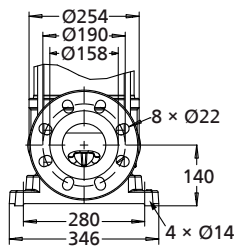


Fig. 61: Connections of Movitec VF, VSF (PN 25, PN 40)

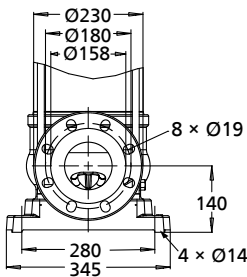


Fig. 62: Connections of Movitec VCF (PN 16)

Movitec 90B, n = 3500 rpm

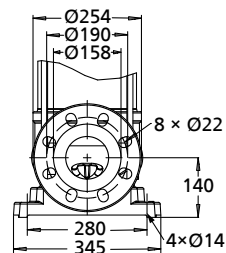
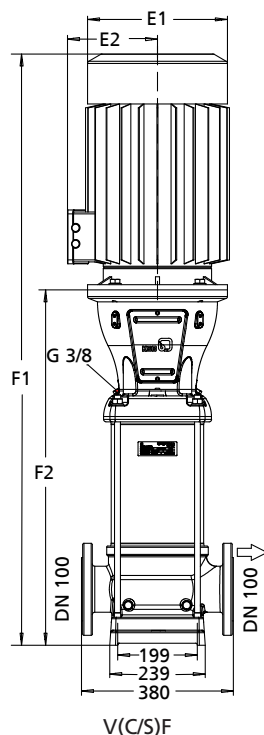


Fig. 67: Connections of Movitec VCF (PN 25, PN40)

Table 33: Dimensions

Number of stages	P _N	E1	E2	Movitec			
				VF, VSF		VCF	
				F1	F2	F1	F2
1-1	7,5	315	260	1145	641	1145	641
1	11,0	315	260	1145	641	1145	641
2-2	15,0	315	265	1328	780	1328	780
2-1	18,5	360	275	1355	780	1355	780
2	22,0	400	340	1450	780	1450	780
3-2	30,0	400	340	1559	889	1559	889
3-1	30,0	400	340	1559	889	1559	889
3	37,0	450	365	1599	889	1599	889
4-2	45,0	450	365	1708	998	1708	998

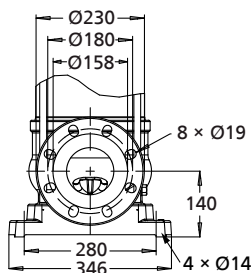


Fig. 64: Connections of Movitec VF, VSF(PN 16)

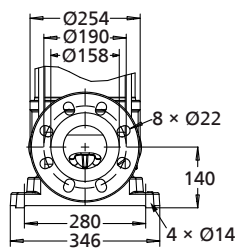


Fig. 65: Connections of Movitec VF, VSF (PN 25, PN 40)

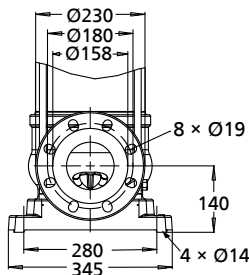


Fig. 66: Connections of Movitec VCF (PN 16)

Movitec 125B, n = 3500 rpm

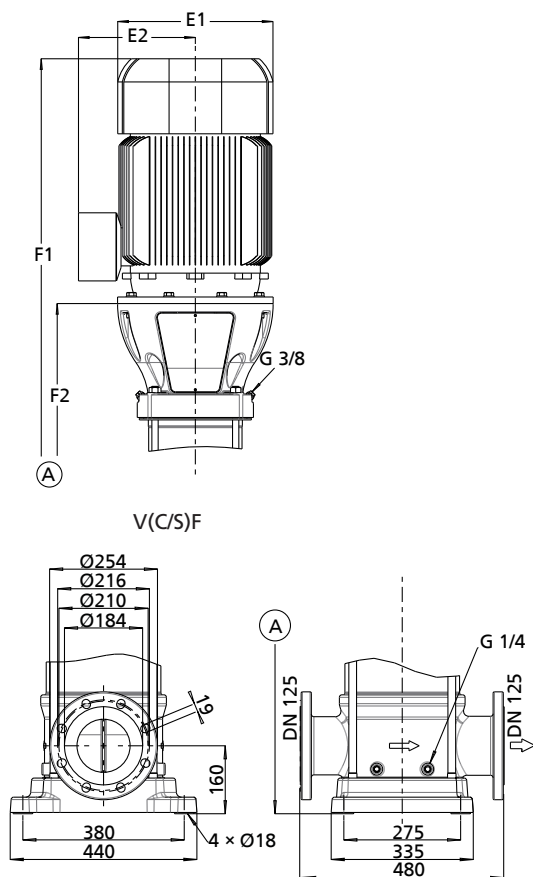


Fig. 68: Movitec VF, VSF, VCF; PN 16

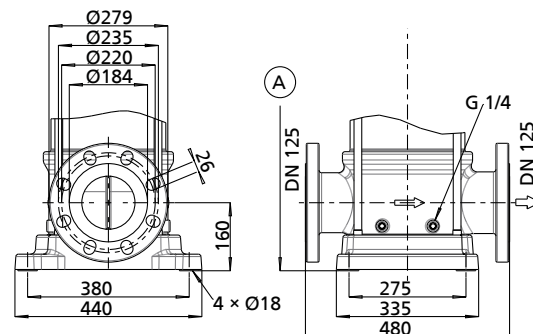


Fig. 69: Movitec VF, VSF, VCF; PN 25/40

Table 34: Dimensions

Number of stages	P _N [kW]	E1 [mm]	E2 [mm]	Movitec	
				V(C/S)F	
				F1 [mm]	F2 [mm]
1	22,0	360	275	1315	740
2-2	30,0	400	340	1537	867
2	45,0	450	365	1577	867

Movitec LHS, $n = 3500 \text{ rpm}$

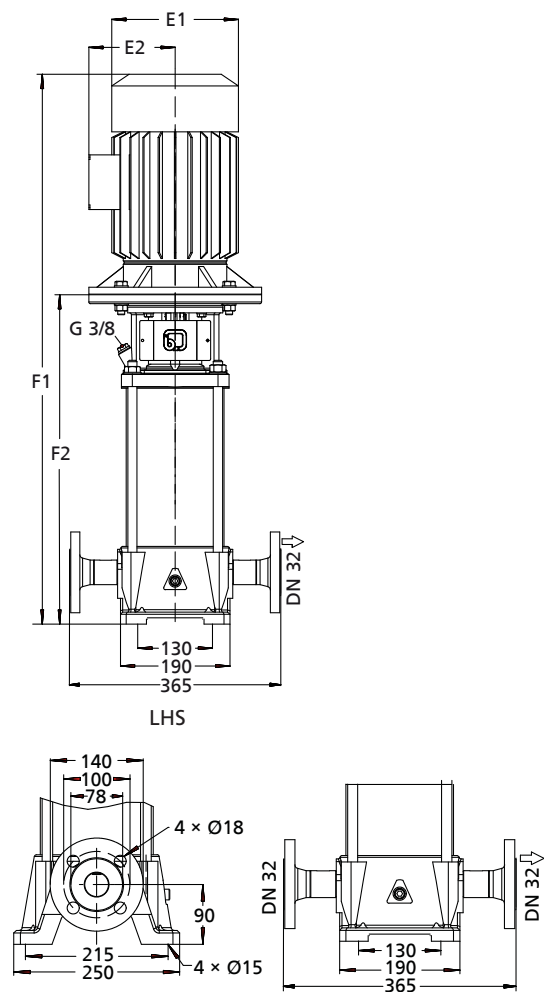


Fig. 70: Movitec LHS connections

Table 35: Dimensions

Num- ber of stages	E1	E2	F1	F2
	[mm]	[mm]	[mm]	[mm]
8	288	197	971	539
10	340	223	1162	629
12	340	223	1221	688
14	340	223	1281	748

Information on installation

Standard:

- Vertical installation

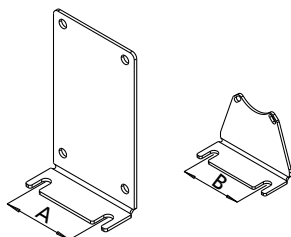
Optional:

- Horizontal installation

(for motor ratings up to and including 7.5 kW in systems where the installation conditions do not allow vertical installation)

Movitec 2(L)B, 4(L)B, 6(L)B

a)



b)

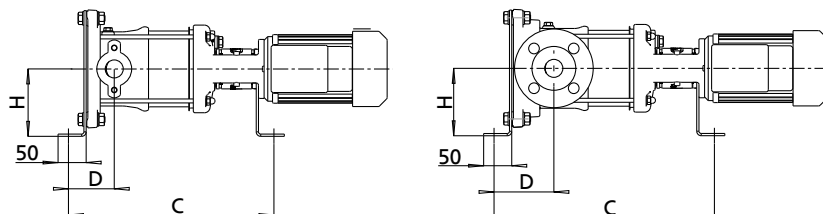


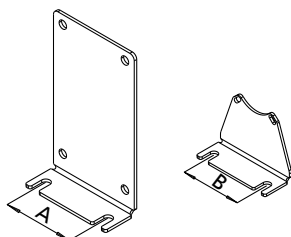
Fig. 71: a) Pump bracket b) Pump set

Table 36: Installation dimensions of the pump bracket depending on motor rating

P _N [kW]	A [mm]	B [mm]	C ³³⁾ [mm]	D		H [mm]	[kg]	Mat. No.
				-, E, T, V [mm]	F [mm]			
0,37/0,55 (2 poles)	100	100	F2+49	82	107	120	1936	48895741
0,75/1,10 (2 poles)	100	100	F2+49	82	107	120	1936	48895742
1,50/2,20 (2 poles)	100	100	F2+47	82	107	120	1.9	48895743
3,00/4,00 (2 poles)	100	100	F2+47	82	107	120	1.9	48895744
5,50/7,50 (2 poles)	100	210	F2-18	82	107	170	2696	48895745

Movitec 10(L)B, 15(L)C

a)



b)

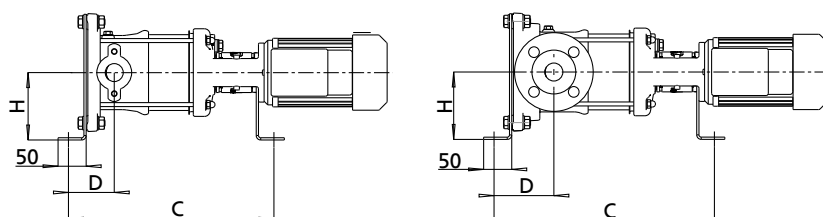


Fig. 72: a) Pump bracket b) Pump set

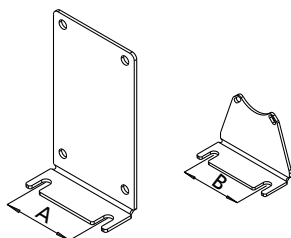
³³ F2: See dimensions

Table 37: Installation dimensions of the pump bracket depending on motor rating

P _N	A	B	C ³³⁾	D		H	[kg]	Mat. No.
				-, E, F, T, V 10B -, E 15C	F, T, V 15C			
[kW]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]		
0,75/1,10 (2 poles)	130	130	F2+49	111,5	121,5	140	2.8	01338571
0,55/0,75 (4 poles)								
1,50/2,20 (2 poles)	130	130	F2+47	111,5	121,5	140	2.8	01338572
1,10/1,50 (4 poles)								
3,00/4,00 (2 poles)	130	130	F2+47	111,5	121,5	140	2.8	01338573
2,20/4,00 (4 poles)								
5,50/7,50 (2 poles, 4 poles)	130	210	F2-18	111,5	121,5	170	3.1	01338574

Movitec 25B

a)



b)

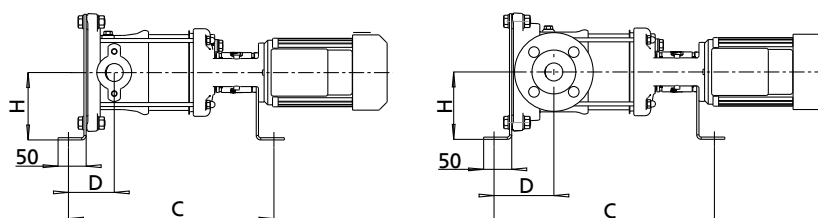
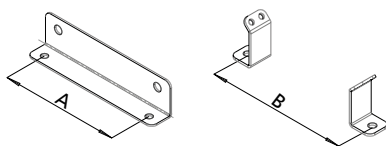

Fig. 73: a) Pump bracket b) Pump set

Table 38: Installation dimensions of the pump bracket depending on motor rating

P _N	A	B	C ³³⁾	D	H	[kg]	Mat. No.
[kW]	[mm]	[mm]	[mm]	[mm]	[mm]		
1,50/2,20 (2 poles)	170	180	F2+47	136,5	170	3.9	01498693
3,00/4,00 (2 poles)	170	180	F2+47	136,5	170	3.9	01498694
5,50/7,50 (2 poles)	170	210	F2-16	136,5	170	3.8	01498695

Movitec 40B, 60B

a)



b)

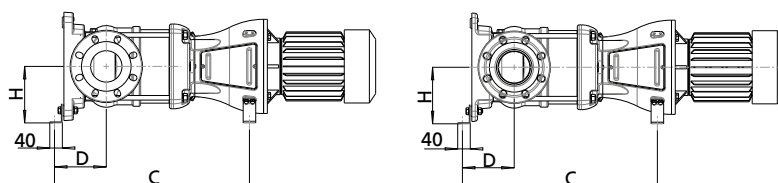

Fig. 74: a) Pump bracket b) Pump set

Table 39: Installation dimensions of the pump bracket depending on motor rating

P _N	A	B	C ³³⁾	D	H	[kg]	Mat. No.
[kW]	[mm]	[mm]	[mm]	[mm]	[mm]		
3,00/4,00 (2 poles)	190	180	F2-16	165	180	1.2	01582128
2,20/4,00 (4 poles)							
5,50/7,50 (2 poles, 4 poles)	190	250	F2-20	165	180	1.1	01582129

Movitec 90B

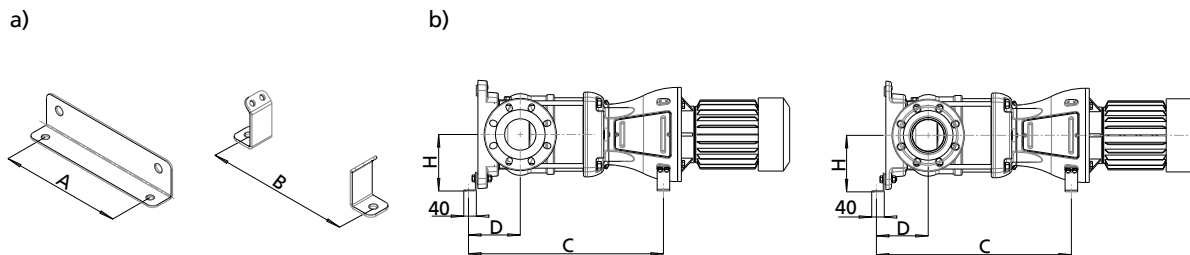


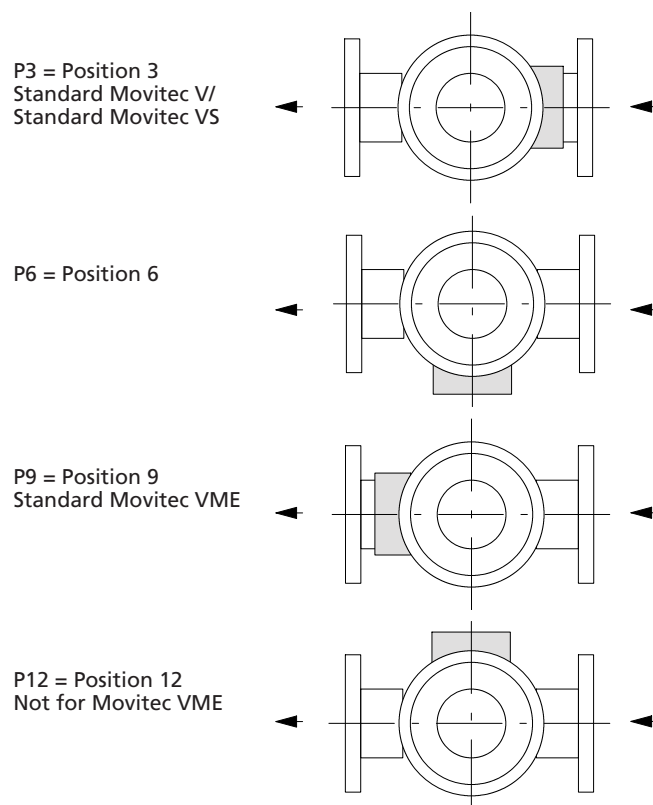
Fig. 75: a) Pump bracket b) Pump set

Table 40: Installation dimensions of the pump bracket depending on motor rating

P_N	A	B	C ³³⁾	D	H	[kg]	Mat. No.
[kW]	[mm]	[mm]	[mm]	[mm]	[mm]		
5,50/7,50 (2 poles, 4 poles)	210	250	F2-16	165	180	1462	48895593

Terminal box positions

Table 41: Top view of terminal box positions



Scope of supply

Depending on the model, the following items are included in the scope of supply:

- Pump
- Electric motor

Accessories

Possible accessories:

- Frequency inverter, see type series booklet PumpDrive (4074.5)
- PumpMeter, see type series booklet (4072.5)

Movitec 2(L)B, 4(L)B, 6(L)B

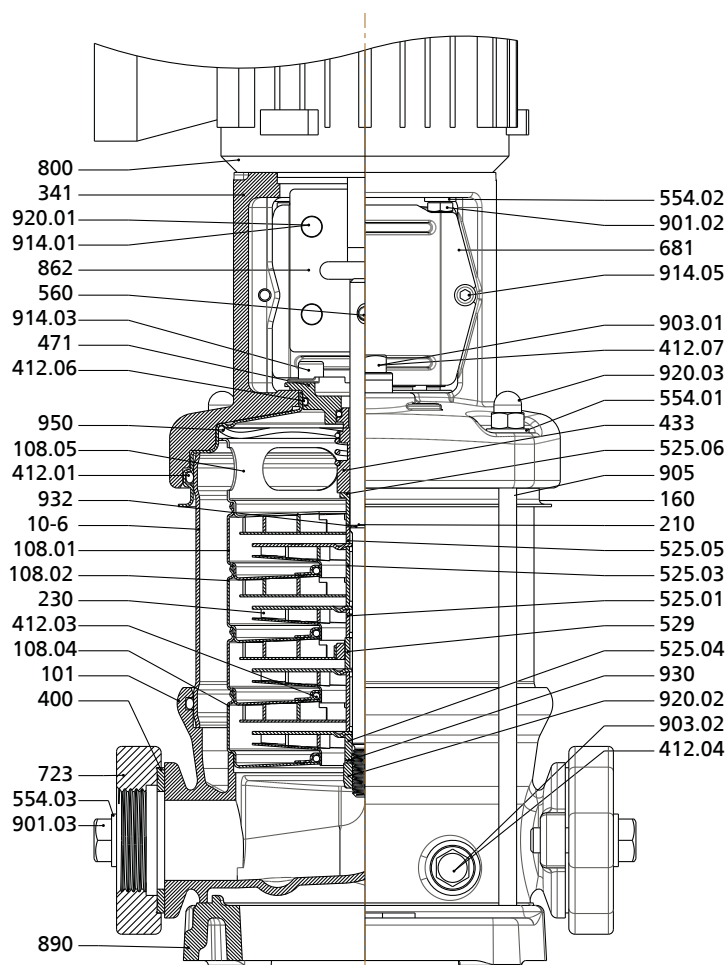


Fig. 76: General assembly drawing of Movitec 2(L)B, 4(L)B, 6(L)B

Table 42: List of components

Part No.	Description	Part No.	Description
10-6	Pump shroud	560	Pin
101	Pump casing	681	Coupling guard
108.01/.02/.04/.05	Stage casing	723	Flange
160	Cover	800	Motor
210	Shaft	862	Coupling
230	Impeller	890	Baseplate
341	Drive lantern	901.02/.03	Hexagon head bolt
400	Gasket	903.01	Screw plug
412.01/.03/.04/.06/.07	O-ring	905	Tie bolt
433	Mechanical seal	914.01/.03/.05	Hexagon socket head cap screw
471	Seal cover	920.01/.02/.03	Nut
525.01/.03/.04/.05/.06	Spacer sleeve	930	Safety device
529	Bearing sleeve	932	Circlip
554.01/.03	Washer	950	Spring

Movitec 10(L)B, 15(L)B

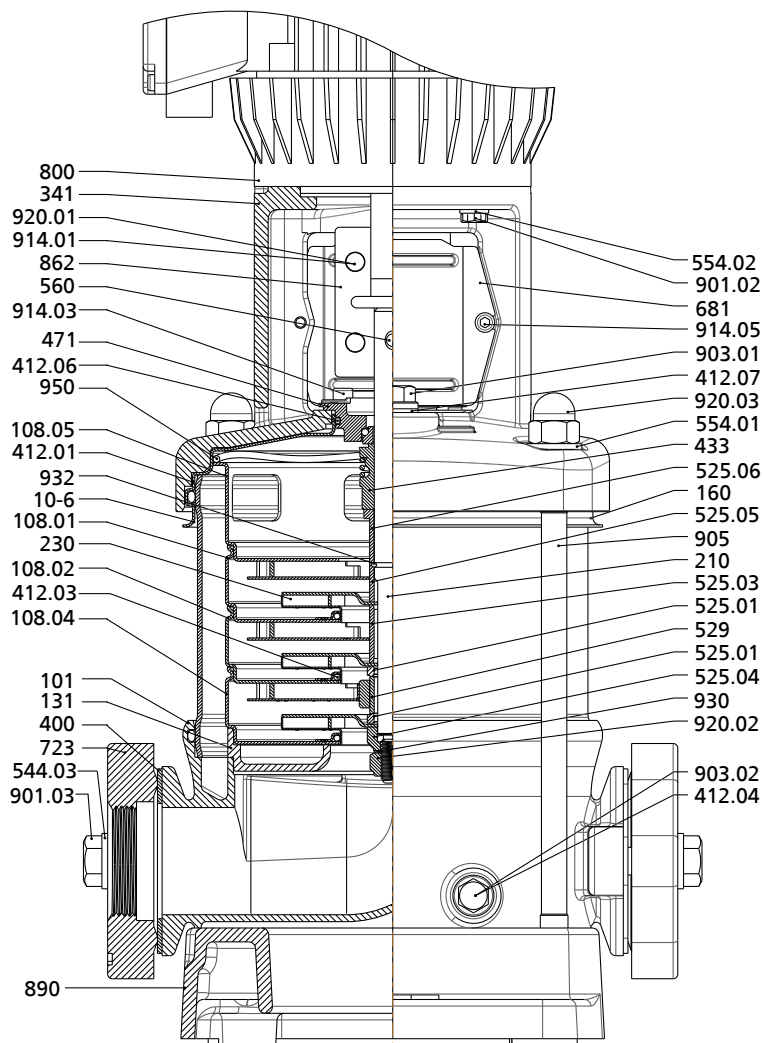


Fig. 77: General assembly drawing of Movitec 10(L)B, 15(L)B

Table 43: List of components

Part No.	Description	Part No.	Description
10-6	Pump shroud	554.01/.02	Washer
101	Pump casing	560	Pin
108.01/.02/.04/.05	Stage casing	681	Coupling guard
131	Inlet ring	723	Flange
160	Cover	800	Motor
210	Shaft	862	Coupling
230	Impeller	890	Baseplate
341	Drive lantern	901.02/.03	Hexagon head bolt
400	Gasket	903.01/.02	Screw plug
412	O-ring	905	Tie bolt
433	Mechanical seal	914.01/.03/.05	Hexagon socket head cap screw
471	Seal cover	920.01/.02/.03	Nut
525.01/.03/.04/.05/.06	Spacer sleeve	930	Safety device
529	Bearing sleeve	932	Circlip
544.03	Threaded bush	950	Spring

Movitec 15(L)C

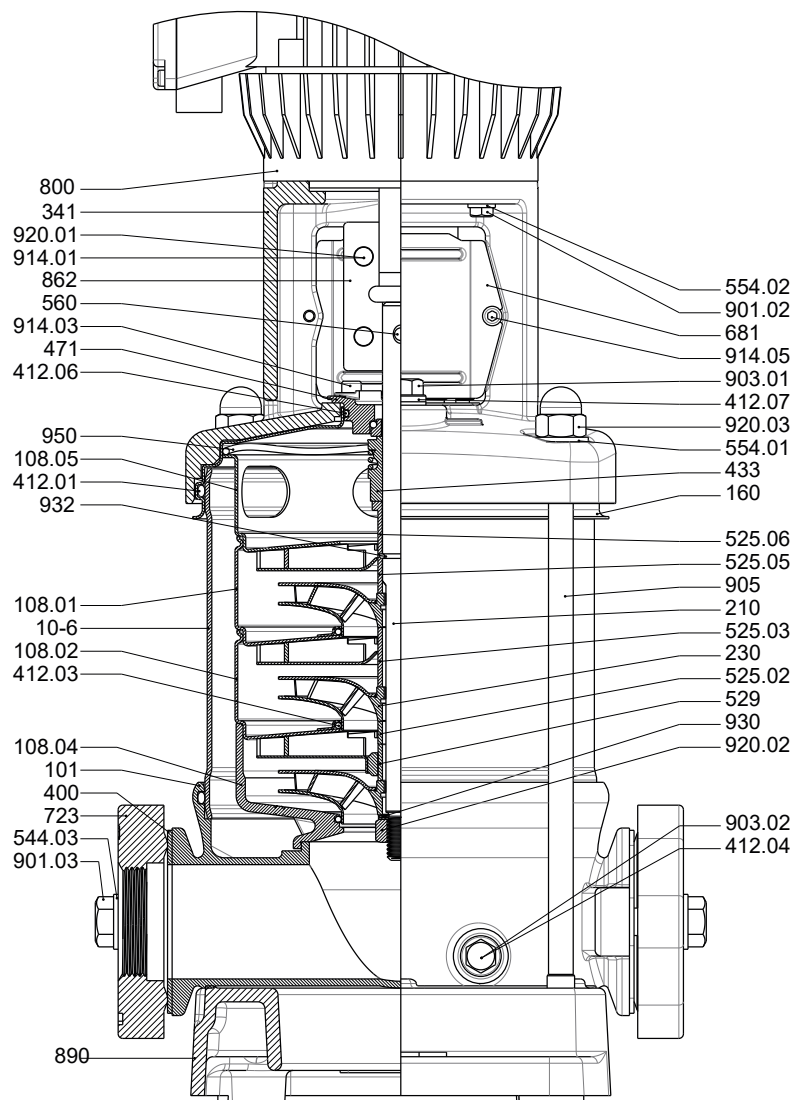


Fig. 78: General assembly drawing of Movitec 15(L)C

Table 44: List of components

Part No.	Description	Part No.	Description
10-6	Pump shroud	560	Pin
101	Pump casing	681	Coupling guard
108.01/.02/.04/.05	Stage casing	723	Flange
160	Cover	800	Motor
210	Shaft	862	Coupling
230	Impeller	890	Baseplate
341	Drive lantern	901.02/.03	Hexagon head bolt
400	Gasket	903.01/.02	Screw plug
412.01/.03/.04/.06/.07	O-ring	905	Tie bolt
433	Mechanical seal	914.01/.03/.05	Hexagon socket head cap screw
471	Seal cover	920.01/.02/.03	Nut
525.02/.03/.05/.06	Spacer sleeve	930	Safety device
529	Bearing sleeve	932	Circlip
544.03	Threaded bush	950	Spring
554.01/.02	Washer		

Movitec 25(L)B

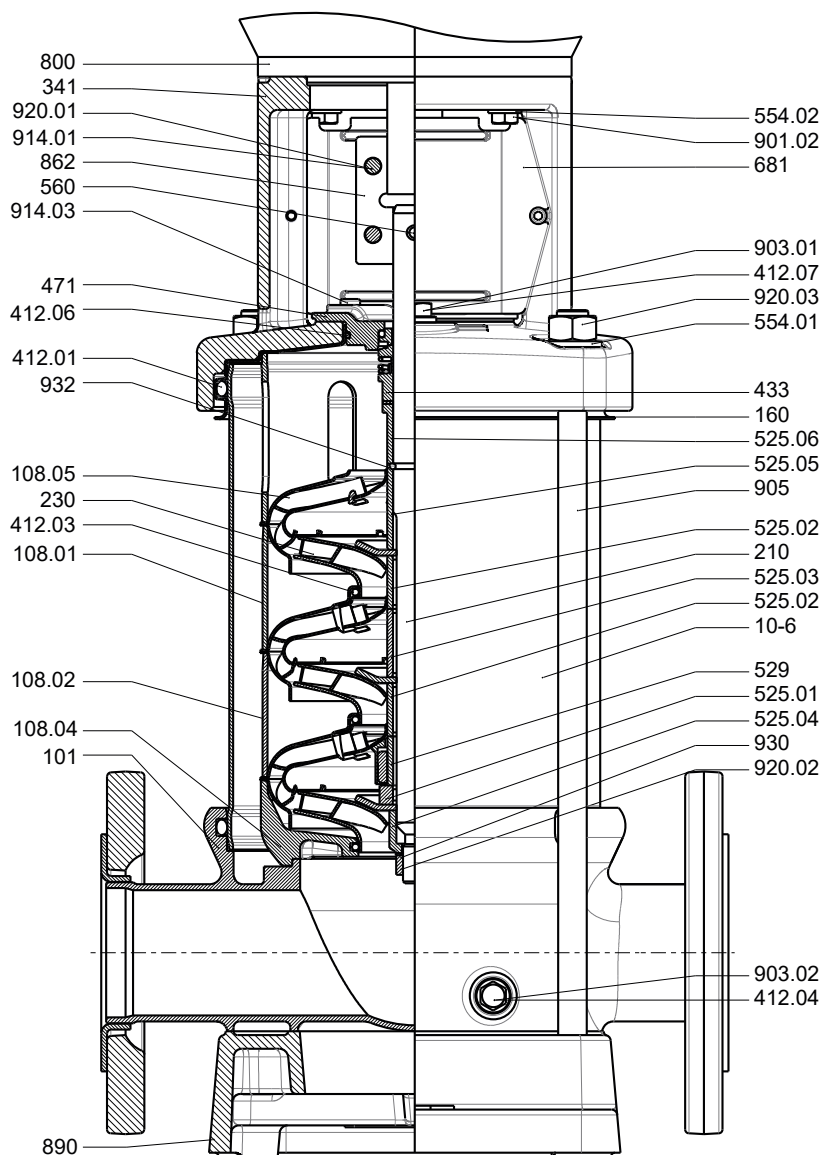


Fig. 79: General assembly drawing of Movitec 25B

Table 45: List of components

Part No.	Description	Part No.	Description
10-6	Pump shroud	560	Pin
101	Pump casing	681	Coupling guard
108.01/.02/.04/.05	Stage casing	800	Motor
160	Cover	862	Coupling
210	Shaft	890	Baseplate
230	Impeller	901.02	Hexagon head bolt
341	Drive lantern	903.01/.02	Screw plug
412.01/.03/.04/.06/.07	O-ring	905	Tie bolt
433	Mechanical seal	914.01/.03	Hexagon socket head cap screw
471	Seal cover	920.01/.02/.03	Nut
525.01/.02/.03/.04/.05/.06	Spacer sleeve	930	Safety device
529	Bearing sleeve	932	Circlip
554.01/.02	Washer		

Movitec 40(L)B, 60B

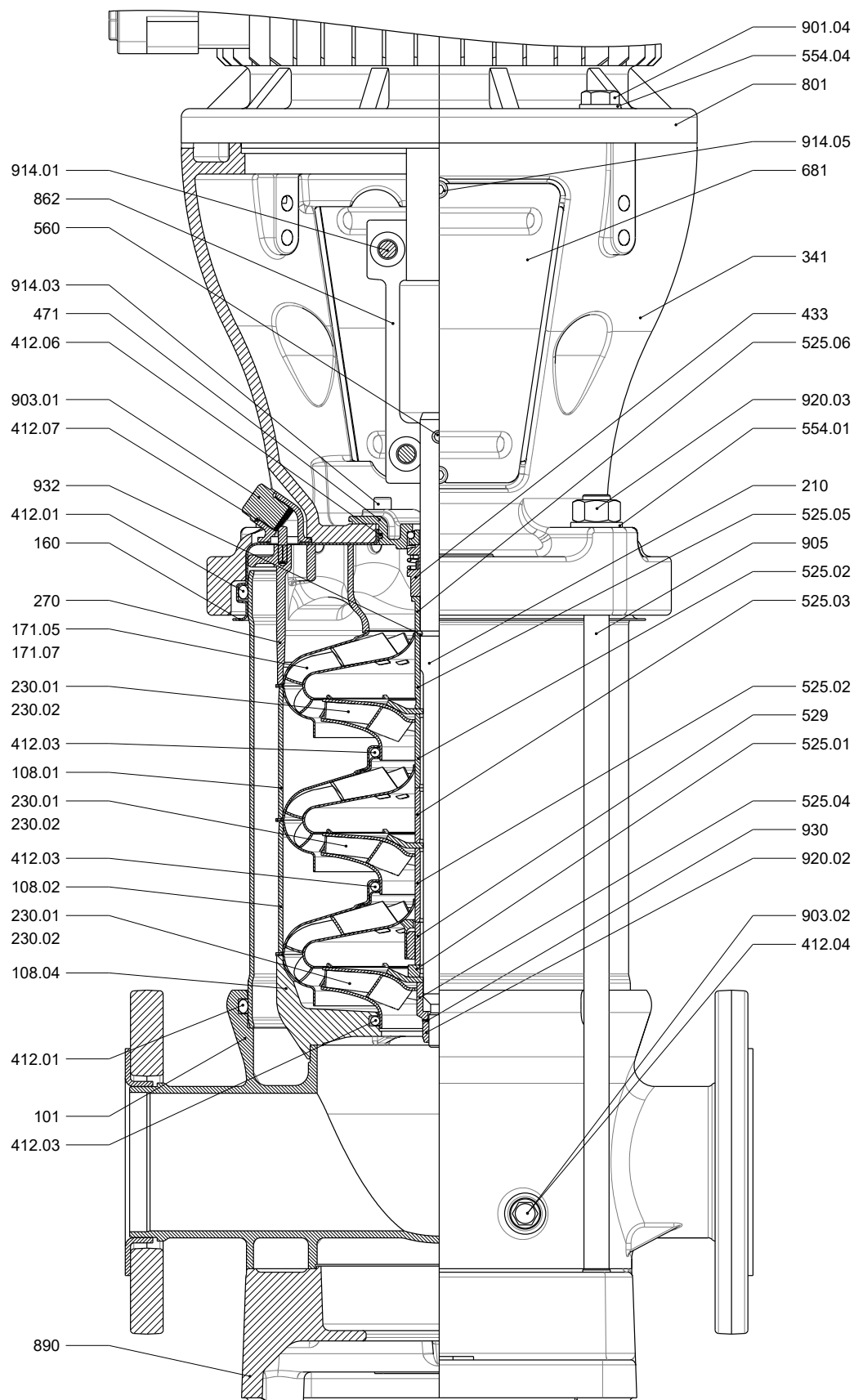


Fig. 80: General assembly drawing of Movitec 40(L)B, 60B

Table 46: List of components

Part No.	Description	Part No.	Description
10-6	Pump shroud	554.01/.02	Washer
101	Pump casing	560	Pin
108.01/.02/.04/.05	Stage casing	681	Coupling guard
160	Cover	801	Flanged motor
171.05/.07	Diffuser	862	Coupling
210	Shaft	890	Baseplate
230	Impeller	901.02	Hexagon head bolt
270	Deflector	903.01/.02	Screw plug
341	Drive lantern	905	Tie bolt
412.01/.03/.04/.06/.07	O-ring	914.01/.03	Hexagon socket head cap screw
433	Mechanical seal	920.01/.02/.03	Nut
471	Seal cover	930	Safety device
525.01/.02/.03/.04/.05/.06	Spacer sleeve	932	Circlip
529	Bearing sleeve		

Movitec 90B

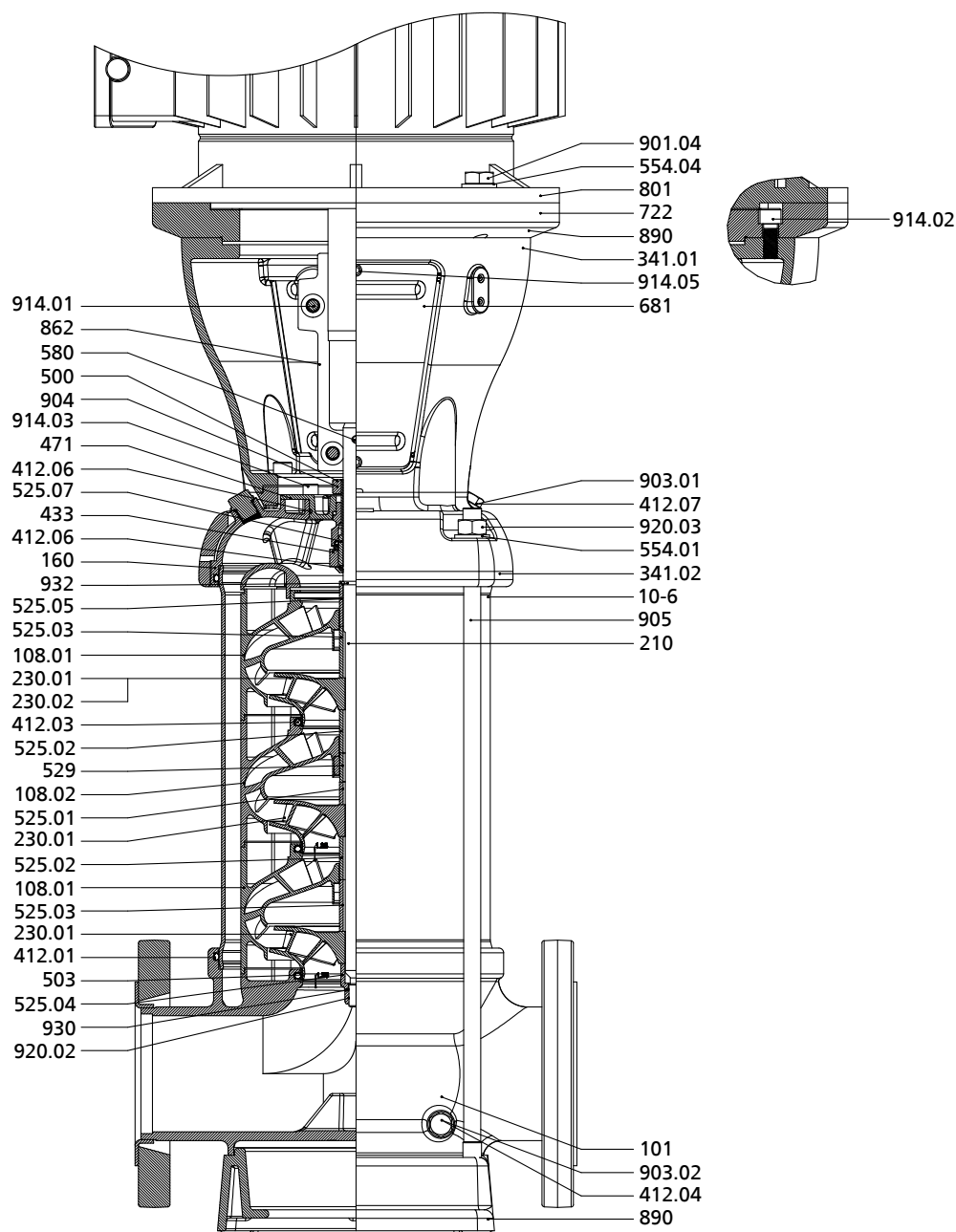


Fig. 81: General assembly drawing of Movitec 90B

Table 47: List of components

Part No.	Description	Part No.	Description
10-6	Pump shroud	580	Cap
101	Pump casing	681	Coupling guard
108.01/.02	Stage casing	722	Double-flanged taper
160	Cover	801	Flanged motor
210	Shaft	862	Coupling
230.01/.02	Impeller	890	Baseplate
341.01/.02	Drive lantern	901.04	Hexagon head bolt
412.01/.03/.04/.06/.07	O-ring	903	Screw plug
433	Mechanical seal	904	Grub screw
471	Seal cover	905	Tie bolt
500	Ring	914.01/.02/.03/.05	Hexagon socket head cap screw
503	Impeller wear ring	920.02/.03	Nut

Part No.	Description	Part No.	Description
525.01/.02/.03/.04/.05/.07	Spacer sleeve	930	Safety device
529	Bearing sleeve	932	Circlip
544.01/.04	Threaded bush		

Movitec 125B

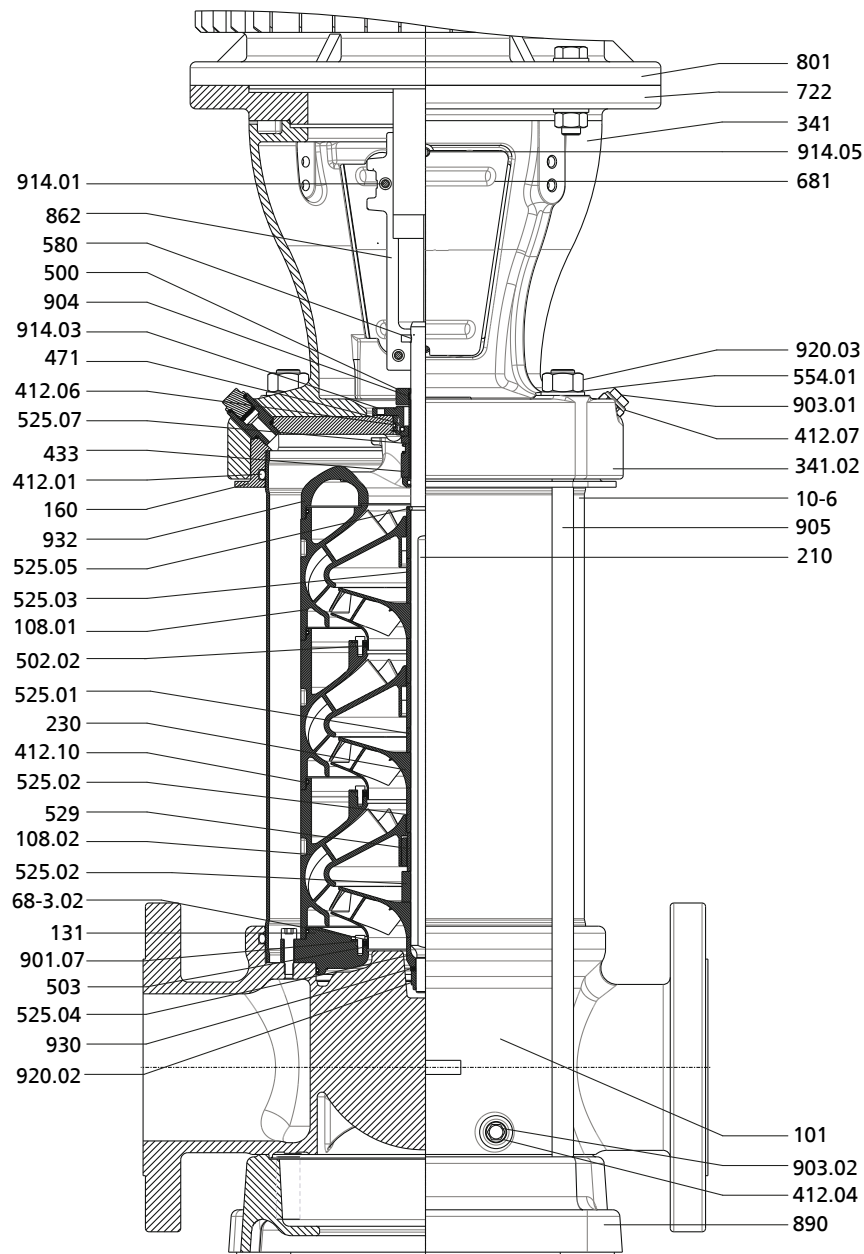


Fig. 82: General assembly drawing of Movitec125B

Table 48: List of components

Part No.	Description	Part No.	Description
10-6	Pump shroud	554.01	Washer
101	Pump casing	580	Cap
108.01/.02	Stage casing	68-3.02	Cover plate
131	Inlet ring	681	Coupling guard
160	Cover	722	Double-flanged taper
210	Shaft	801	Flanged motor
230	Impeller	862	Coupling
341.02	Drive lantern	890	Baseplate
412.01/.04/.06/.07/.10	O-ring	901.07	Hexagon head bolt
433	Mechanical seal	903.01/.02	Screw plug
471	Seal cover	904	Grub screw
500	Ring	905	Tie bolt
502.02	Casing wear ring	914.01/.03/.05	Hexagon socket head cap screw

Part No.	Description	Part No.	Description
503	Impeller wear ring	920.02/.03	Nut
525.01/.02/.03/.04/.05/.07	Spacer sleeve	930	Safety device
529	Bearing sleeve	932	Circlip

Movitec LHS

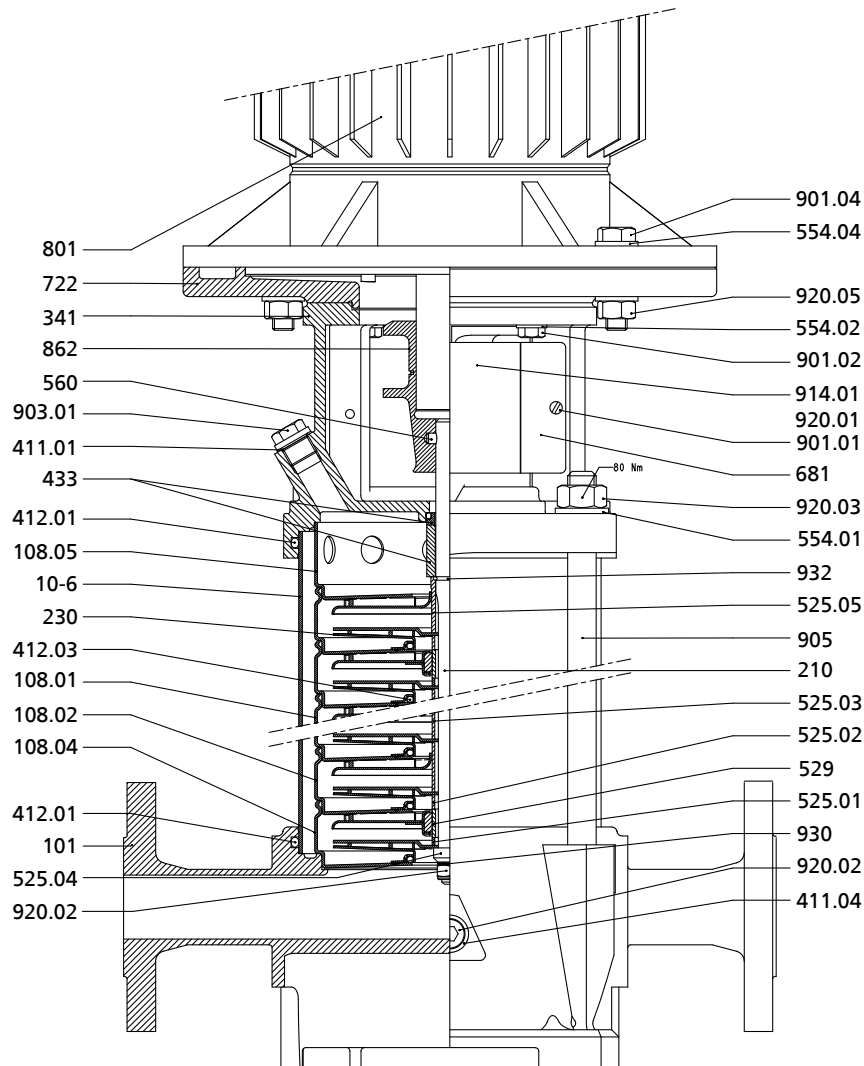


Fig. 83: General assembly drawing of Movitec LHS

Table 49: List of components

Part No.	Description	Part No.	Description
10-6	Pump shroud	560	Pin
101	Pump casing	681	Coupling guard
108.01/.02/.04/.05	Stage casing	722	Double-flanged taper
210	Shaft	801	Flanged motor
230	Impeller	862	Coupling
341	Drive lantern	901.01/.02/.04	Hexagon head bolt
411.01/.03	Joint ring	903.01	Screw plug
412.01/.03	O-ring	905	Tie bolt
433	Mechanical seal	914.01	Hexagon socket head cap screw
525.01/.02/.03/.04/.05	Spacer sleeve	920.01/.02/.03/.05	Nut
529	Bearing sleeve	930	Safety device
554.01/.02/.04	Washer	932	Circlip



KSB SE & Co. KGaA
Johann-Klein-Straße 9 • 67227 Frankenthal (Germany)
Tel. +49 6233 86-0
www.ksb.com