



**Franklin Electric**

## VN-VL SERIES 50-60 Hz

VN - 5" STAINLESS STEEL CLOSE-COUPLED SUBMERSIBLE MULTISTAGE ELECTRIC PUMPS  
 VL - 5" CLOSE-COUPLED MULTISTAGE PUMPS WITH IN-LINE NOZZLES





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NOTE: Franklin Electric S.r.l. reserves the right to amend specification without prior notice.

For the most up-to-date product information, visit [franklinwater.eu](http://franklinwater.eu).

# PRODUCT OVERVIEW

## FEATURES AND BENEFITS

### APPLICATIONS



Water Distribution  
Pressure Boosting



Rainwater Recovering



Irrigation, Gardening,  
Sprinklers



Wash down unit



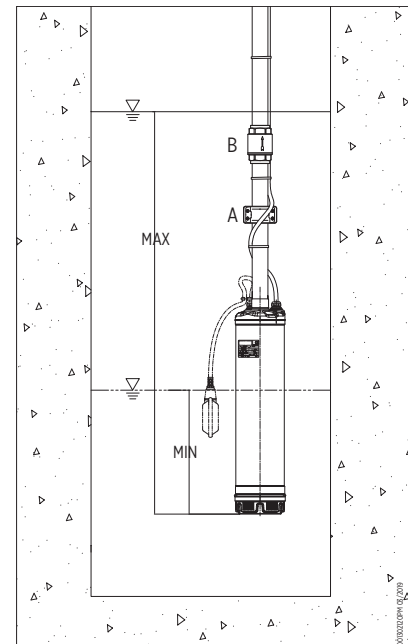
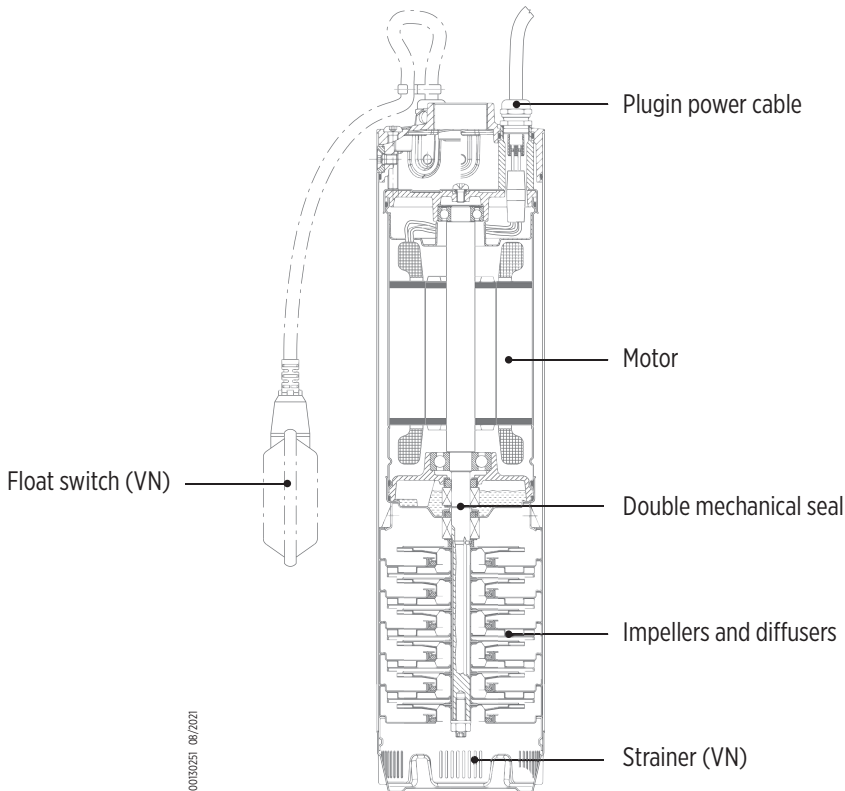
Slightly corrosive liquids

### COMPACT CLOSE-COUPLED DESIGN

- Compact close-coupled design, robust and corrosion resistant
- Plug-in type power cable and level control (float) for easy replacement
- Electric pump fitted with threaded connections to allow for easy installation in narrow spaces or, more simply, in line with the pipeline
- Continuous operation either in vertical or horizontal position

### HIGH QUALITY MATERIALS

- Heavy duty over size motor shaft
  - Stainless steel water proof capsule to protect the motor
  - Double mechanical seal separated by an oil chamber\* for maximum motor protection
- \* In compliance with FDA - Food, Drug Administration - and the annex to G.U. no. 104 of 20/04/73 for oils in contact with food stuffs



#### Minimum and maximum immersion

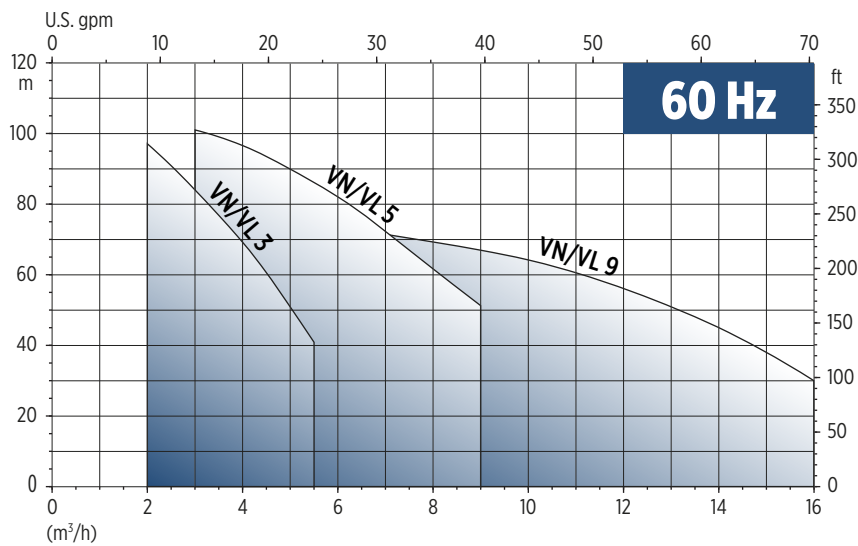
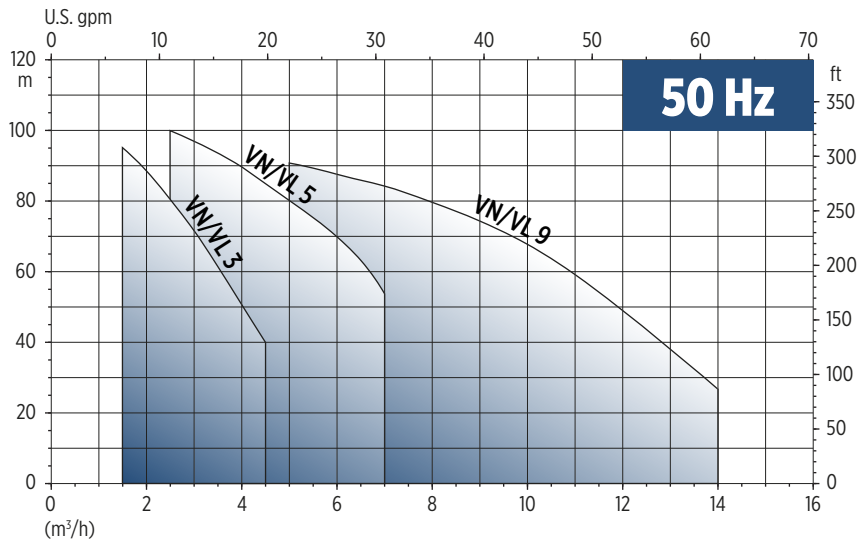
In order not to draw in air through the filter, the electric pump must be immersed in the liquid up to at least half its height and in any case, not less than 30 cm from the bottom (MIN level in figure above).

Ensure sufficient immersion so as to guarantee this condition when the liquid in the well reaches the minimum level. Dry running or with air mixed with liquid can cause serious damage to the electric pump and irregular performance.

The maximum immersion depth (MAX level in figure above) is shown on the rating plate.

# PRODUCT OVERVIEW

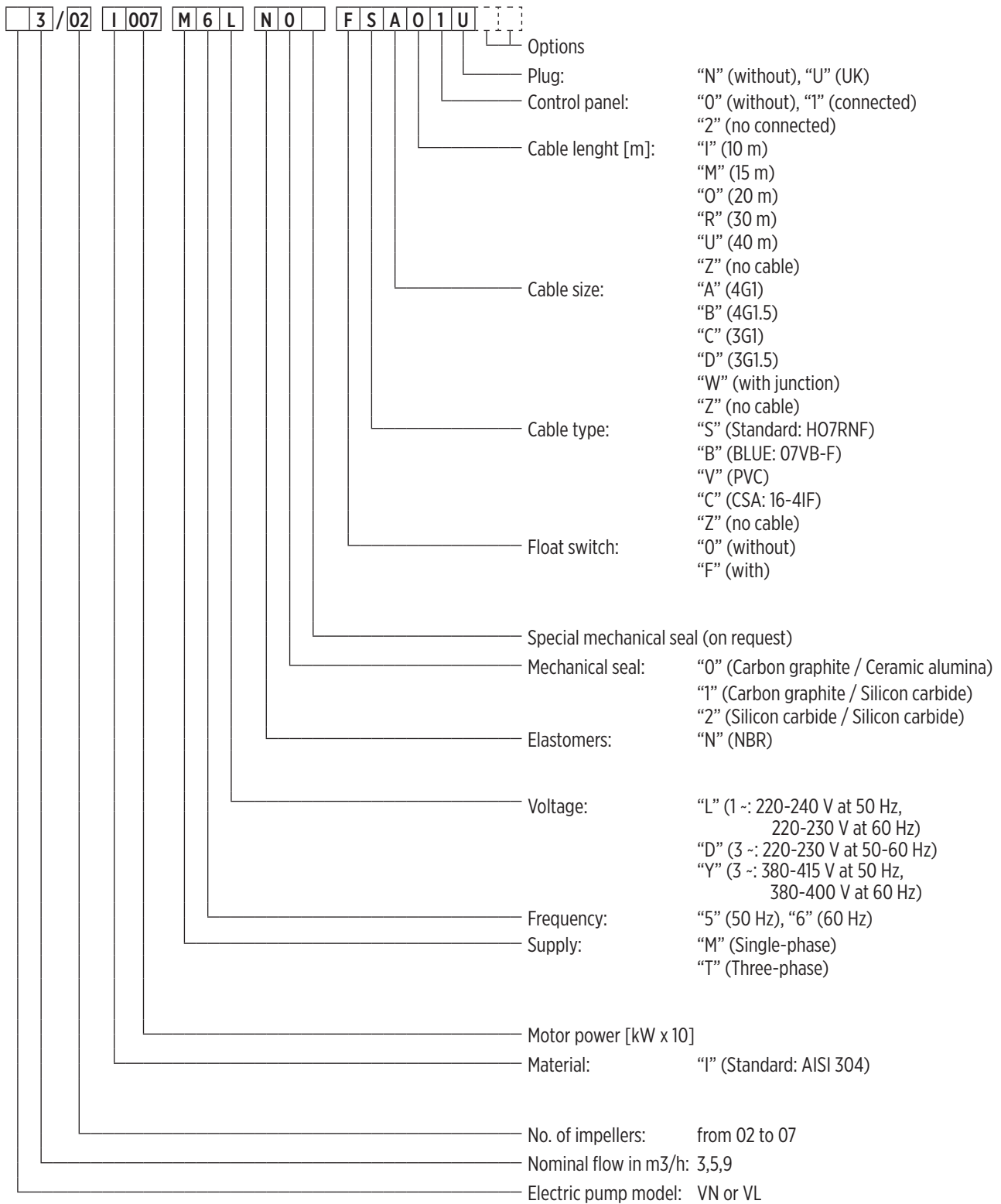
## FAMILY CURVES



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# PRODUCT OVERVIEW


## PUMP IDENTIFICATION CODE



0040075 08/2021

# PRODUCT OVERVIEW

## GENERAL FEATURES

Model:		3	5	9	3	5	9
Frequency:		50 Hz			60 Hz		
Nominal flow [m <sup>3</sup> /h]:		3	5	9	3	5	9
Liquid temperature range [°C]:		-5 / +40					
Max. η hydraulic [%]:		42.3	56.2	62	42.3	56.2	62
Range [m <sup>3</sup> /h]:		1.5 - 4.5	2.5 - 7.0	5.0 - 14.0	2.0 - 5.5	3.0 - 9.0	6.0 - 16.0
Max. head [m]:		98.5	100	91	97	101	74
Maximum operating pressure [bar]:	VN	12					
	VL	15					
Discharge outlet:	VN	1"¼ Rp					
	VL	Rp threaded for inlet and outlet					
Maximum immersion depth:	VN	17 (with 20 m power cable length) 20 (with power cable longer than 20 m)					
Maximum allowable amount of sand/ Maximum solids size:	VN	50 g/m <sup>3</sup> , up to 2 mm					
Power cable:	VL-VLi 3/2-10 5/4-10, 9/3-9 50 Hz, VL-VLi 3/3-7, 5/2-7, 9/2-6 60 Hz	2 m, type H07RN-F 4G1					
	L = 20 m on the VN with absorption up to 10 A	20 m, type H07RN-F 4G1					
	L = 20 m on the VN which have absorption > 10 A	20 m, type H07RN-F 4G1,5					
Options single-phase version:	VN	with float switch					
		without float switch					
Motor power [kW]:	0.55 - 1.5	0.75 - 2.2	1.1 - 3.0	0.55 - 1.5	0.75 - 2.2	1.1 - 3.0	
Motor type:	Asynchronous Protection degree: IP68 Insulation class: F						
Motor standard voltage:	Single-phase (thermal protection built into the motor up to 1.1 kW)	220-240 V ± 5 %			220-230V ± 5 %		
	Three-phase (thermal protection to be provided into the starter panel by the Installer)	220-240 V ± 5 % 380-415 V ± 5 %			220-230V ± 5 % 380-400V ± 5 %		
Motor frequency of starts	Max. 40 starts/hour (with min. 1 minutes resting time)						
Certificates:	 * For ACS part number see in Ordering information table						

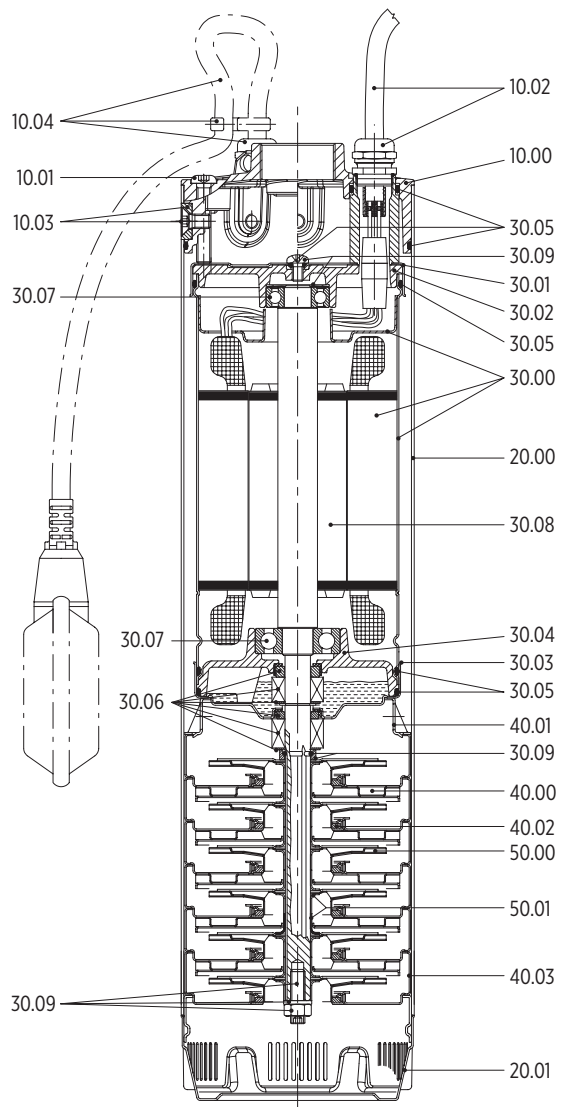


# PRODUCT OVERVIEW

## SPARE PARTS AND MATERIALS

Rev. No.	Parts description
10.00	Discharge head
10.01	Screws for pre-loading assembly
10.02	Power cable assembly
10.03	Screws and inserts
10.04	Level control assembly
20.00	Outer case
20.01	Suction head
30.00	Motor housing and stator
30.01	Upper motor cover
30.02	Upper bearing housing
30.03	Lower motor cover
30.04	Lower bearing cover
30.05	O-Ring
30.06	Mechanical seals
30.07	Ball bearings
30.08	Rotor and pump shaft
30.09	Screws, nut and washers
40.00	Stage housing with di user
40.01	Spacer
40.02	Floating neck ring assembly
40.03	Initial stage housing
50.00	Impeller
50.01	Impeller spacers

NOTES: For VN-VL 9, diffusers = impellers + 1  
 Ex. VN-VL 9/4 = 4 impellers and 5 diffusers



00000005 06/2017

## PARTS IN CONTACT WITH LIQUID

Rev. No.	Parts description	Material	Standard	
			AISI/ASME	DIN/EN
10.00	Discharge head	Nickel plated brass	-	UNI-EN 12165-98
20.00	Outer case	Stainless steel	AISI 304	1.4301
20.01	Suction head	Stainless steel	AISI 304	1.4301
30.00	Motor housing	Stainless steel	AISI 304	1.4301
30.01 / 30.03	Motor housing cover	Stainless steel	AISI 304	1.4301
30.05	Kit O-ring	NBR	-	-
30.06	Mechanical seal	Ceramic alumina / Carbon graphite / NBR	-	-
		Silicon carbide / Carbon graphite / NBR	-	-
30.08	Pump shaft	Stainless steel	AISI 304	1.4301
30.09	Screws and washer	Stainless steel	AISI 304	1.4301
40.00 / 40.01 / 40.03	Diffusers	Stainless steel	AISI 304	1.4301
40.02	Floating neck ring assembly	PPS	-	-
50.00 / 50.01	Impellers with spacers	Stainless steel	AISI 304	1.4301



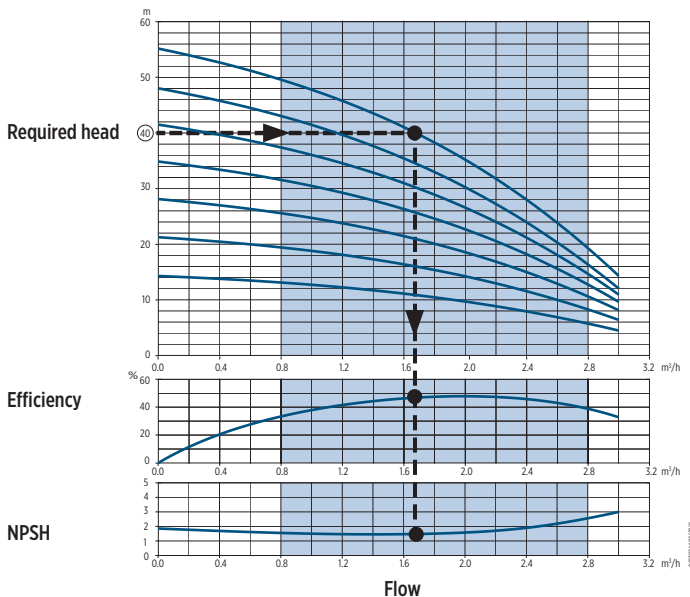
## PERFORMANCE SELECTION

This section describes **how to select the pump model that better suits your needs.**

The required information are:

- The required flow
- The input and output pressure
- The fluid features (density, viscosity, temperature, chemical aggressiveness and presence of abrasive particles)
- The connection type

Check if the pump piping type selected is able to withstand the maximum working pressure required (pump nominal pressure  $PN \geq$  application nominal pressure).



The difference between the outlet required pressure and the input pressure allows to determine the head the pump must supply to the fluid. The duty point is determined crossing the values of flow and head.

For the best selection of multistage pump, proceed in this way: Select the pump family according to the requested flow (close as much as possible to the best efficiency point).

1. Choose the number of stages nearest to the requested head.
2. Draw a vertical line from duty point to determine the absorbed power, the pump efficiency and the NPSH required.

If the viscosity of fluid is significantly different from clean water at ambient temperature, it's necessary to change the selection parameters (contact the manufacturer). Moreover, in case the density or viscosity are higher than water values, it will be necessary to consider a higher power sizing (contact the manufacturer).

### NPSH check:

The available pump input NPSH value must be compared with the pump required value in order to avoid performance losses and wearing of the pump.

The maximum height of the pump from the liquid level (H) can be calculated with the following formula:

$$H = pb \times 10.2 - NPSH - Hf - Hv - Hs$$

Where:

pb: Absolute barometric pressure or absolute pressure of the liquid on suction side [bar].

NPSH: Suction head at maximum duty flow rate [m]

Hf: Pressure drop in the suction pipe at maximum flow rate [m]

Hv: Vapour pressure [m] depending on the temperature of the liquid [m]

Hs: Safety margin [m] (minimum 0.5)

If the calculated value is less than "0", the pump must be positioned below the liquid level by the value of H.



# TECHNICAL DATA AND PERFORMANCE CURVES AT 50 Hz

## HYDRAULIC PERFORMANCE

Electric pump model	Rated power		Q = Delivery													
			l/min 0	16.6	25	33.3	41.7	50	75	83.3	100	125	150.0	183.3	233.3	266.7
			m <sup>3</sup> /h 0	1	1.5	2	2.5	3	4.5	5	6	7.5	9	11	14	16
	US gpm 0	4.4	6.6	8.8	11	13.2	19.8	22	26.4	33	39.6	48.4	61.6	70.4		
[kW]	[HP]	H = Total meters head of water column [m]														
VN-VL 3/3	0.55	0.75	34		30.5	28.5	26	24	14							
VN-VL 3/4	0.55	0.75	45		40	37.5	34	31	18							
VN-VL 3/5	0.75	1	56		49	46	42	38	22							
VN-VL 3/6	0.75	1	66		58.5	54	49	44	25							
VN-VL 3/7	0.9	1.2	77		67	62	56	50	28							
VN-VL 3/8	1.1	1.5	87		75.5	70	63	56	31							
VN-VL 3/9	1.5	2	99		87	80.5	73	65	37							
VN-VL 3/10	1.5	2	109		95	88	80	71	40							
VN-VL 5/4	0.75	1	46				40.5	39	34.5	33	28	18.5				
VN-VL 5/5	0.9	1.2	57				50	48	42	40	34	22				
VN-VL 5/6	1.1	1.5	67.5				58.5	56.5	49	46	39	24				
VN-VL 5/7	1.5	2	79				69	67	58.5	55	47	30				
VN-VL 5/8	1.5	2	90				78	75.5	65	61.5	52	32.5				
VN-VL 5/9	2.2	3	103				91	88	77	73.5	63	41.5				
VN-VL 5/10	2.2	3	114				100	97	85	80.5	69	45				
VN-VL 9/3	1.1	1.5	35							31	30	28	25.5	21	10	
VN-VL 9/4	1.5	2	47							41	39.5	37	34	28	13	
VN-VL 9/5	2.2	3	59							52.5	51	48	44.5	37	18	
VN-VL 9/6	2.2	3	70.5							62	60	56.5	52	42.5	20	
VN-VL 9/7	3	4	82.5							73	70	66	61	50	24	
VN-VL 9/8	3	4	94							82	79	74	68	55	25.5	
VN-VL 9/9	3	4	105							91	87	82	74.5	60	26.5	

# VN/VL 3 - 50 Hz

## TECHNICAL DATA

Electric Pump		Number of stages	Motor Power		Input power [kW]	Capacitor		Rated current		
Single-phase	Three-phase		[kW]	[HP]		$\mu\text{F}$	[V]	Single-phase 220-240 V	Three-phase 220-230 V 380-415 V	
VN-VL 3/3	VN-VL 3/3T	3	0.55	0.75	0.71	20	450	3.6	3.2	1.8
VN-VL 3/4	VN-VL 3/4T	4	0.55	0.75	0.84	20	450	4.1	3.5	2
VN-VL 3/5	VN-VL 3/5T	5	0.75	1	0.99	20	450	4.7	3.6	2.1
VN-VL 3/6	VN-VL 3/6T	6	0.75	1	1.15	20	450	5.2	4.0	2.3
VN-VL 3/7	VN-VL 3/7T	7	0.9	1.2	1.34	30	450	6.7	4.3	2.5
VN-VL 3/8	VN-VL 3/8T	8	1.1	1.5	1.5	30	450	7.2	4.7	2.7
VN-VL 3/9	VN-VL 3/9T	9	1.5	2	1.73	35	450	9.2	5.2	3
VN-VL 3/10	VN-VL 3/10T	10	1.5	2	1.89	35	450	9.8	5.5	3.2

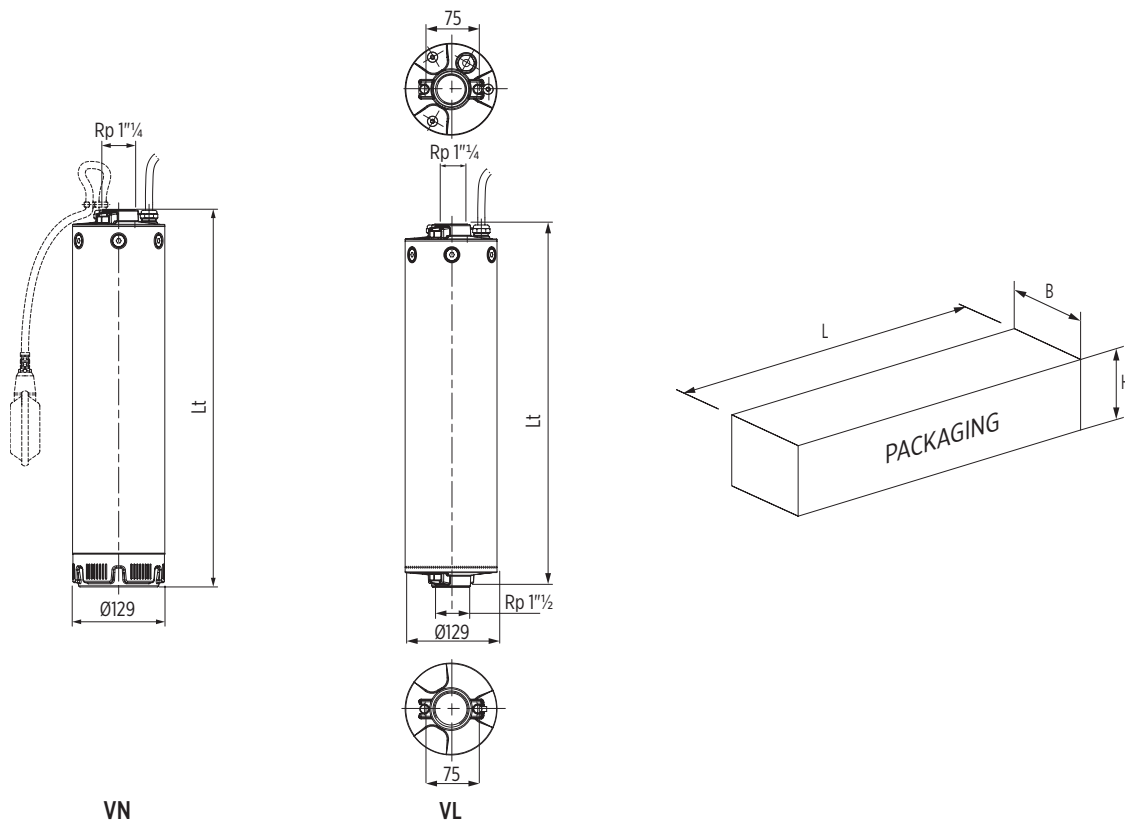
## DIMENSIONS AND WEIGHTS

Electric Pump			Weight* [kg]		Packaging [mm]		
Single-phase	Three-phase	Lt [mm]	Single-phase	Three-phase	L	B	H
VN 3/3	VN 3/3T	456	14	15.5	720	230	175
VN 3/4	VN 3/4T	480	15	16.5	720	230	175
VN 3/5	VN 3/5T	504	16.75	17	720	230	175
VN 3/6	VN 3/6T	528	17.25	16.75	720	230	175
VN 3/7	VN 3/7T	552	19	18	720	230	175
VN 3/8	VN 3/8T	576	19.5	18.5	720	230	175
VN 3/9	VN 3/9T	650	22.5	20.5	800	230	195
VN 3/10	VN 3/10T	674	23	21	800	230	195

Electric Pump			Weight* [kg]		Packaging [mm]		
Single-phase	Three-phase	Lt [mm]	Single-phase	Three-phase	L	B	H
VL 3/3	VL 3/3T	440	13	14.9	720	230	175
VL 3/4	VL 3/4T	464	13.8	15.25	720	230	175
VL 3/5	VL 3/5T	488	15.25	15.25	720	230	175
VL 3/6	VL 3/6T	512	15.8	15.8	720	230	175
VL 3/7	VL 3/7T	536	17.5	16.3	720	230	175
VL 3/8	VL 3/8T	560	18	16.9	720	230	175
VL 3/9	VL 3/9T	634	20.9	18.75	800	230	195
VL 3/10	VL 3/10T	658	21.5	19.25	800	230	195

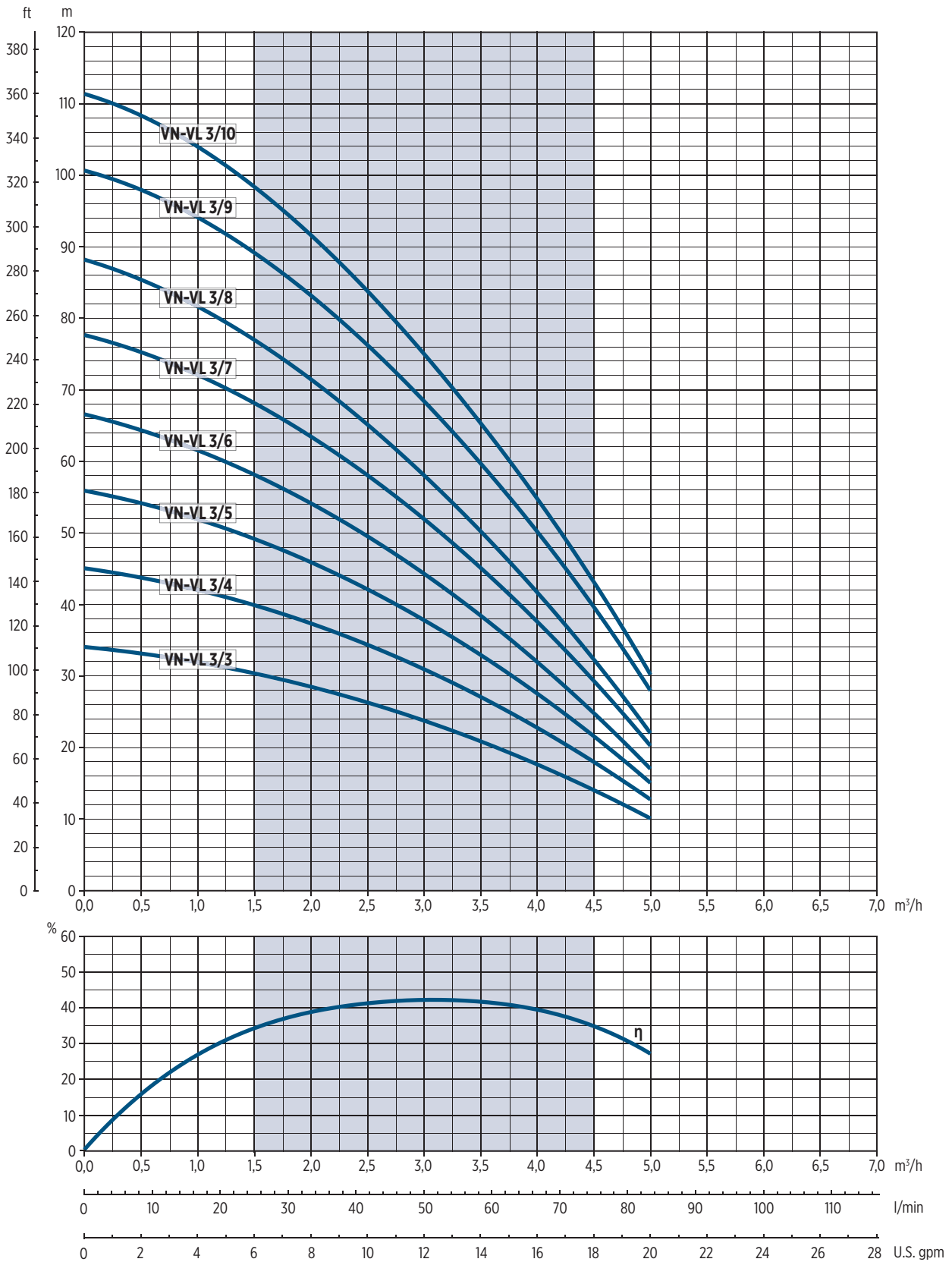
\* Electric pump weight without float switch

## DIMENSIONAL DRAWINGS



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## VN/VL 3 - PERFORMANCE CURVES AT 50 Hz



0010237 08/2021

# VN/VL 5 - 50 Hz

## TECHNICAL DATA

Electric Pump		Number of stages	Motor Power		Input power [kW]	Capacitor		Rated current		
Single-phase	Three-phase		[kW]	[HP]		$\mu$ F	[V]	Single-phase 220-240 V	Three-phase 220-230 V    380-415 V	
VN-VL 5/4	VN-VL 5/4T	4	0.75	1	1.07	20	450	5.0	3.8	2.2
VN-VL 5/5	VN-VL 5/5T	5	0.9	1.2	1.34	30	450	6.7	4.3	2.5
VN-VL 5/6	VN-VL 5/6T	6	1.1	1.5	1.56	30	450	7.5	4.8	2.8
VN-VL 5/7	VN-VL 5/7T	7	1.5	2	1.86	35	450	9.7	5.5	3.2
VN-VL 5/8	VN-VL 5/8T	8	1.5	2	2.08	35	450	10.5	6.1	3.5
VN-VL 5/9	VN-VL 5/9T	9	2.2	3	2.35	45	450	10.7	8.7	5
VN-VL 5/10	VN-VL 5/10T	10	2.2	3	2.56	45	450	11.5	9.0	5.2

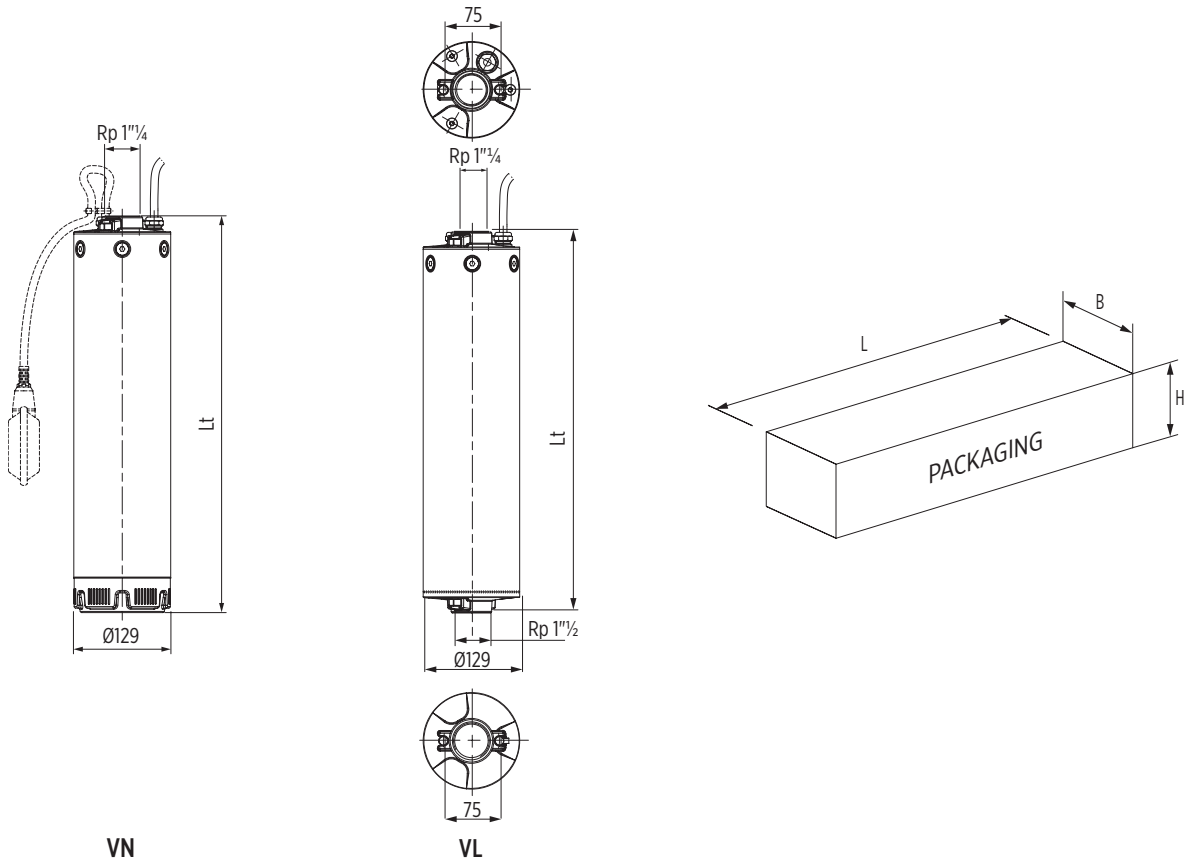
## DIMENSIONS AND WEIGHTS

Electric Pump			Weight* [kg]		Packaging [mm]		
Single-phase	Three-phase	Lt [mm]	Single-phase	Three-phase	L	B	H
VN 5/4	VN 5/4T	480	15.25	16.5	720	230	175
VN 5/5	VN 5/5T	504	18	17	720	230	175
VN 5/6	VN 5/6T	528	18.75	17.75	720	230	175
VN 5/7	VN 5/7T	602	21.5	19.25	800	230	195
VN 5/8	VN 5/8T	626	21.85	20	800	230	195
VN 5/9	VN 5/9T	650	24	22.5	800	230	195
VN 5/10	VN 5/10T	674	24.5	23	800	230	195

\* Electric pump weight without float switch

Electric Pump			Weight* [kg]		Packaging [mm]		
Single-phase	Three-phase	Lt [mm]	Single-phase	Three-phase	L	B	H
VL 5/4	VL 5/4T	464	13.8	15	720	230	175
VL 5/5	VL 5/5T	488	16.5	15.25	720	230	175
VL 5/6	VL 5/6T	512	17.25	16	720	230	175
VL 5/7	VL 5/7T	586	20	17.75	800	230	195
VL 5/8	VL 5/8T	610	20.25	18.25	800	230	195
VL 5/9	VL 5/9T	634	22	21	800	230	195
VL 5/10	VL 5/10T	658	22.5	21.5	800	230	195

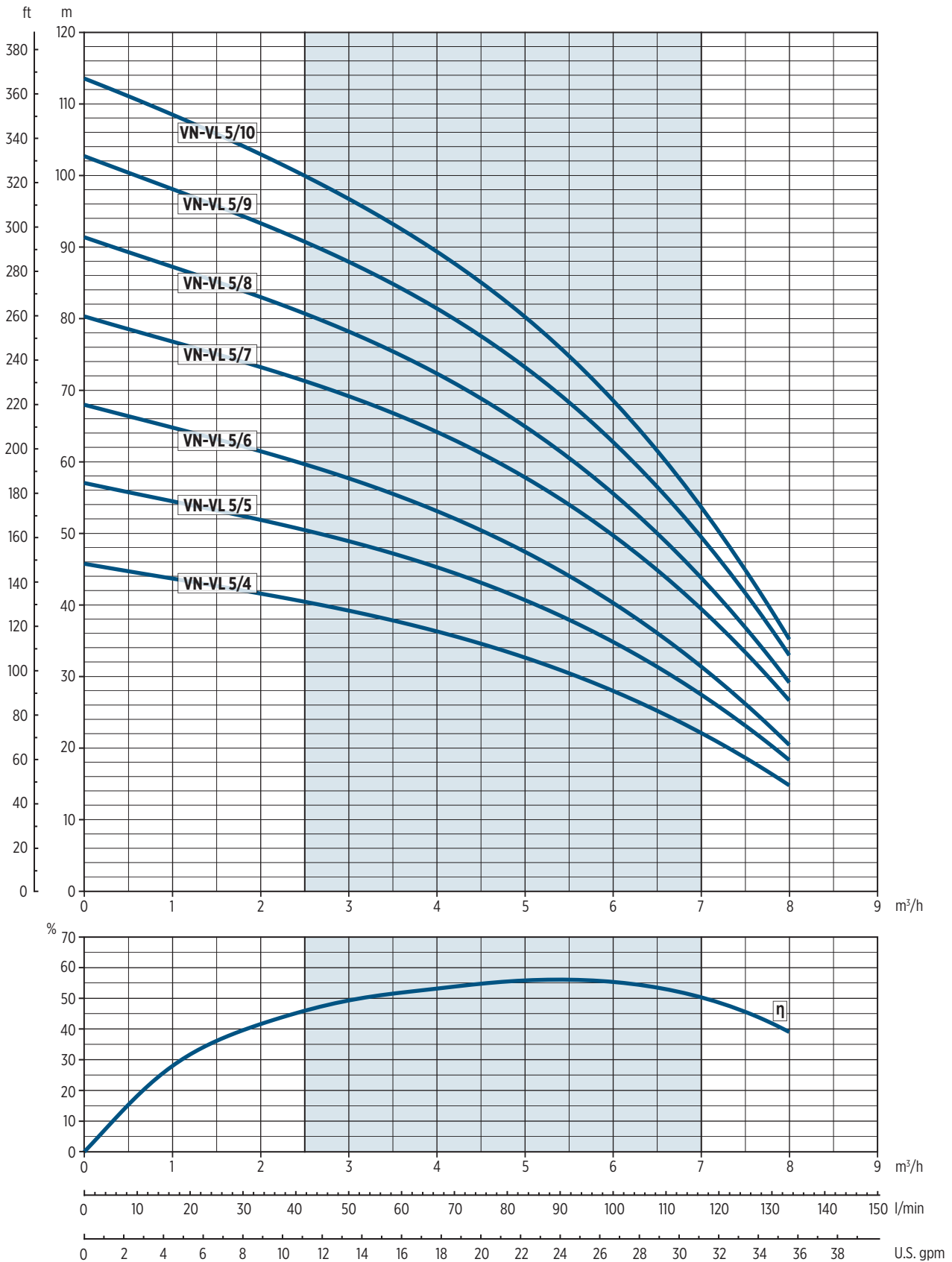
## DIMENSIONAL DRAWINGS



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# VN/VL 5 - PERFORMANCE CURVES AT 50 Hz



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# VN/VL 9 - 50 Hz

## TECHNICAL DATA

Electric Pump		Number of stages	Motor Power		Input power [kW]	Capacitor		Rated current		
Single-phase	Three-phase		[kW]	[HP]		$\mu\text{F}$	[V]	Single-phase 220-240 V	Three-phase	
								220-230 V	380-415 V	
VN-VL 9/3	VN-VL 9/3T	3	1.1	1.5	1.44	30	450	6.9	4.5	2.6
VN-VL 9/4	VN-VL 9/4T	4	1.5	2	1.86	35	450	9.7	5.5	3.2
VN-VL 9/5	VN-VL 9/5T	5	2.2	3	2.3	45	450	10.5	8.7	5
VN-VL 9/6	VN-VL 9/6T	6	2.2	3	2.68	45	450	11.9	9.2	5.3
-	VN-VL 9/7T	7	3	4	3.16	-	-	-	10.2	5.9
-	VN-VL 9/8T	8	3	4	3.54	-	-	-	10.9	6.3
-	VN-VL 9/9T	9	3	4	3.91	-	-	-	11.8	6.8

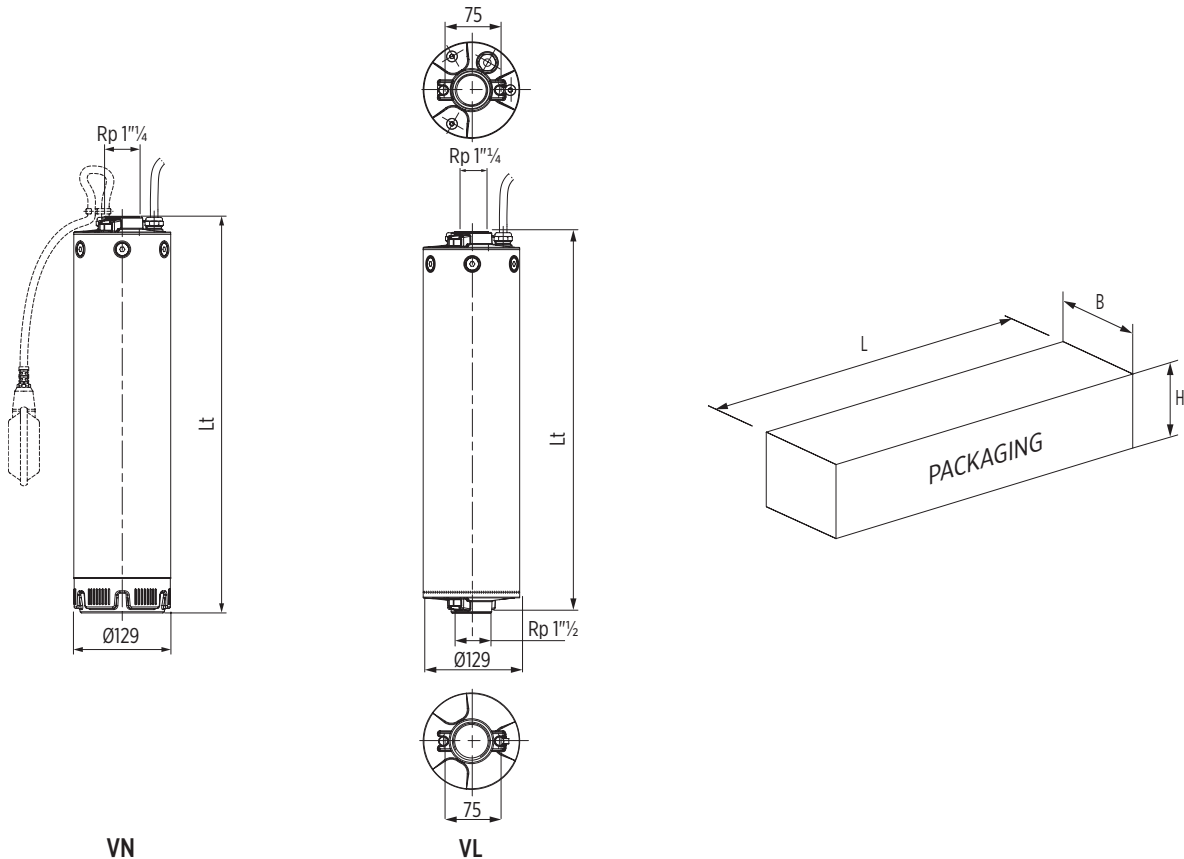
## DIMENSIONS AND WEIGHTS

Electric Pump			Weight* [kg]		Packaging [mm]		
Single-phase	Three-phase	Lt [mm]	Single-phase	Three-phase	L	B	H
VN 9/3	VN 9/3T	504	17.25	16	720	230	175
VN 9/4	VN 9/4T	584	20.25	18.25	720	230	175
VN 9/5	VN 9/5T	614	22.25	21	800	230	195
VN 9/6	VN 9/6T	644	23	21.5	800	230	195
-	VN 9/7T	674	-	24	800	230	195
-	VN 9/8T	704	-	24.75	800	230	195
-	VN 9/9T	734	-	25.5	800	230	195

Electric Pump			Weight* [kg]		Packaging [mm]		
Single-phase	Three-phase	Lt [mm]	Single-phase	Three-phase	L	B	H
VL 9/3	VL 9/3T	488	15.75	14.6	720	230	175
VL 9/4	VL 9/4T	568	18.75	16.75	720	230	175
VL 9/5	VL 9/5T	598	20.5	19.35	800	230	195
VL 9/6	VL 9/6T	628	21.25	20	800	230	195
-	VL 9/7T	658	-	21.85	800	230	195
-	VL 9/8T	688	-	22.5	800	230	195
-	VL 9/9T	718	-	23	800	230	195

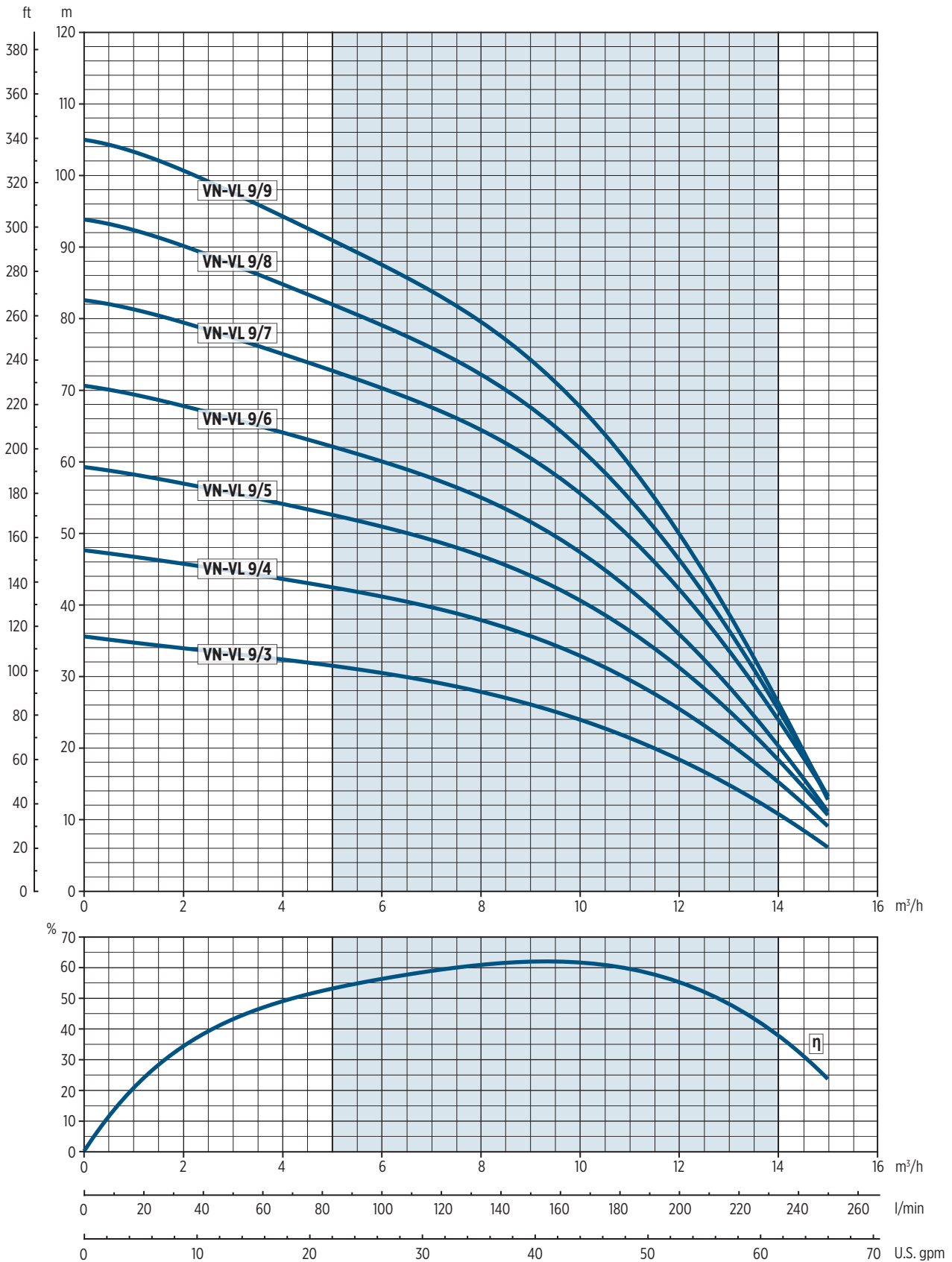
\* Electric pump weight without float switch

## DIMENSIONAL DRAWINGS



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# VN/VL 9 - PERFORMANCE CURVES AT 50 Hz



9/06/2019



# TECHNICAL DATA AND PERFORMANCE CURVES AT 60 Hz

## HYDRAULIC PERFORMANCE

Electric pump model	Rated power		Q = Delivery																
			l/min 0	25	29.2	41.7	50	58.3	75	91.7	100	116.7	133.3	150.0	175	208.3	241.7	266.7	300
			m <sup>3</sup> /h 0	1.5	1.8	2.5	3	3.5	4.5	5.5	6	7	8	9	10.5	12.5	14.5	16	18
	US gpm 0	6.6	7.7	11	13.2	15.4	19.8	24.2	26.4	30.8	35.2	39.6	46.2	55	63.8	70.4	79.3		
[kW]	[HP]	H = Total meters head of water column [m]																	
VN-VL 3/3	0.75	1	49		44	40.5	37.5	34	27.5	19									
VN-VL 3/4	0.9	1.2	64.5		57.5	52.5	48.5	44.5	35	24.5									
VN-VL 3/5	1.1	1.5	80		70.5	64	59	54	42	29									
VN-VL 3/6	1.5	2	96		85	78	71.5	65.5	52	35.5									
VN-VL 3/7	1.5	2	111		98	89	82	75	58.5	39.5									
VN-VL 5/2	0.75	1	34				30	29.5	28	26	25	22.5	19	15					
VN-VL 5/3	0.9	1.2	50				44	43.0	40.5	37.5	36	32	27	20.5					
VN-VL 5/4	1.1	1.5	66				57.5	56	52	48	46	40.5	33.5	25					
VN-VL 5/5	1.5	2	82				72	70	65.5	60.5	58	51	42.5	32					
VN-VL 5/6	2.2	3	99				88	86	80.5	74.5	71.5	64	53	41					
VN-VL 5/7	2.2	3	115				101.5	99	92.5	85.5	82	72.5	60	46					
VN-VL 9/2	1.1	1.5	34								30	29	28.5	27.5	26	22	17.5	13	
VN-VL 9/3	1.5	2	51								45	43	42	40.5	38	33	25	18.5	
VN-VL 9/4	2.2	3	68								60	58.5	57	55	51.5	44.5	35	26	
VN-VL 9/5	3	4	84.5								74	71.5	69	67	62.5	53.5	41	30	
VN-VL 9/6	3.7	5	101.8								89.4	86.8	84.2	81.3	76.2	65.6	50.9	37.1	

# VN/VL 3 - 60 Hz

## TECHNICAL DATA

Electric Pump		Number of stages	Motor Power		Input power [kW]	Capacitor		Rated current		
Single-phase	Three-phase		[kW]	[HP]		$\mu\text{F}$	[V]	Single-phase 220-230 V	Three-phase 220-230 V 380-400 V	
VN-VL 3/3	VN-VL 3/3T	3	0.75	1	1.05	20	450	5.2	4.2	2.4
VN-VL 3/4	VN-VL 3/4T	4	0.9	1.2	1.3	20	450	6.2	4.5	2.6
VN-VL 3/5	VN-VL 3/5T	5	1.1	1.5	1.61	25	450	8	5.2	3
VN-VL 3/6	VN-VL 3/6T	6	1.5	2	1.99	35	450	9.2	6.2	3.6
VN-VL 3/7	VN-VL 3/7T	7	1.5	2	2.26	35	450	10.4	6.8	3.9

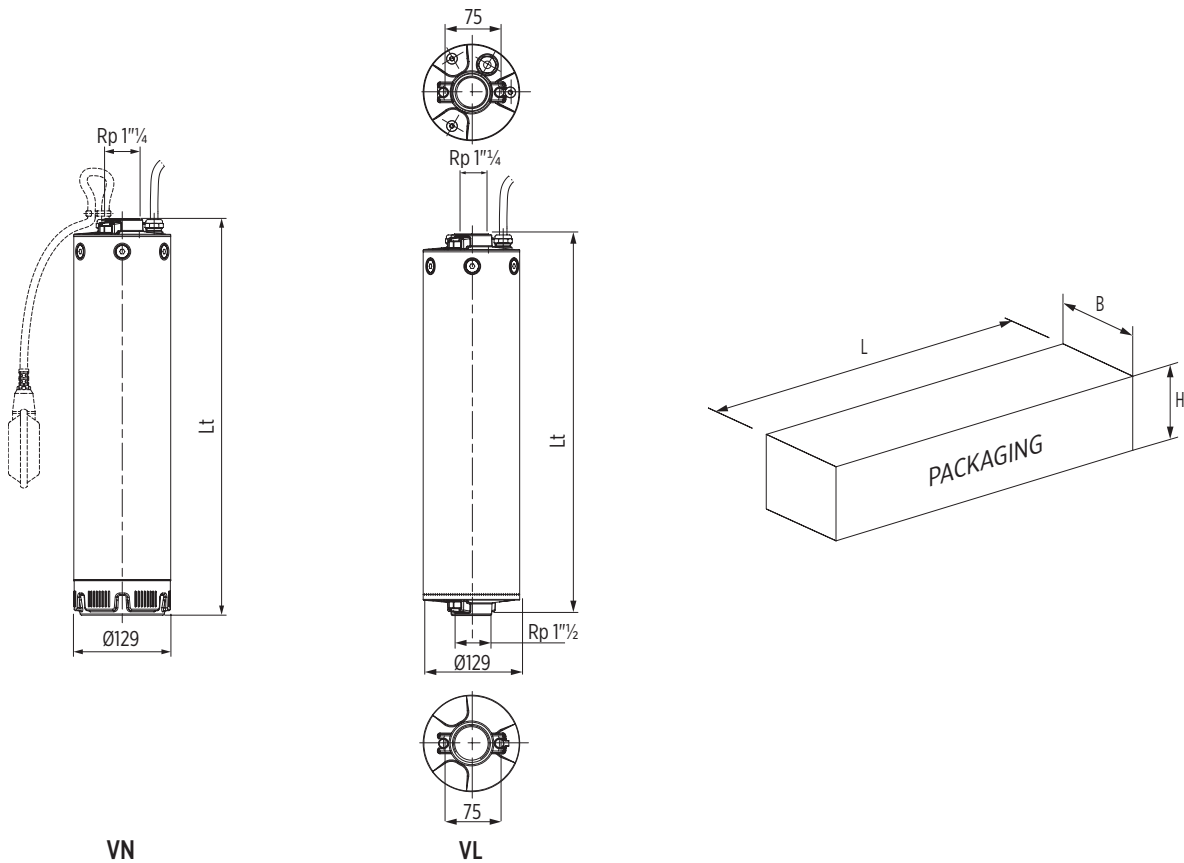
## DIMENSIONS AND WEIGHTS

Electric Pump			Weight* [kg]		Packaging [mm]		
Single-phase	Three-phase	Lt [mm]	Single-phase	Three-phase	L	B	H
VN 3/3	VN 3/3T	456	15.75	16	720	230	175
VN 3/4	VN 3/4T	480	16.25	16.25	720	230	175
VN 3/5	VN 3/5T	504	18	16.75	720	230	175
VN 3/6	VN 3/6T	578	20.5	18.5	720	230	175
VN 3/7	VN 3/7T	602	21.25	19.25	800	230	195

Electric Pump			Weight* [kg]		Packaging [mm]		
Single-phase	Three-phase	Lt [mm]	Single-phase	Three-phase	L	B	H
VL 3/3	-	440	14.2	-	720	230	175
VL 3/4	VL 3/4T	464	14.75	14.75	720	230	175
VL 3/5	VL 3/5T	488	16.4	15.25	720	230	175
VL 3/6	VL 3/6T	562	19	17.15	720	230	175
VL 3/7	VL 3/7T	586	19.6	17.65	800	230	195

\* Electric pump weight without float switch

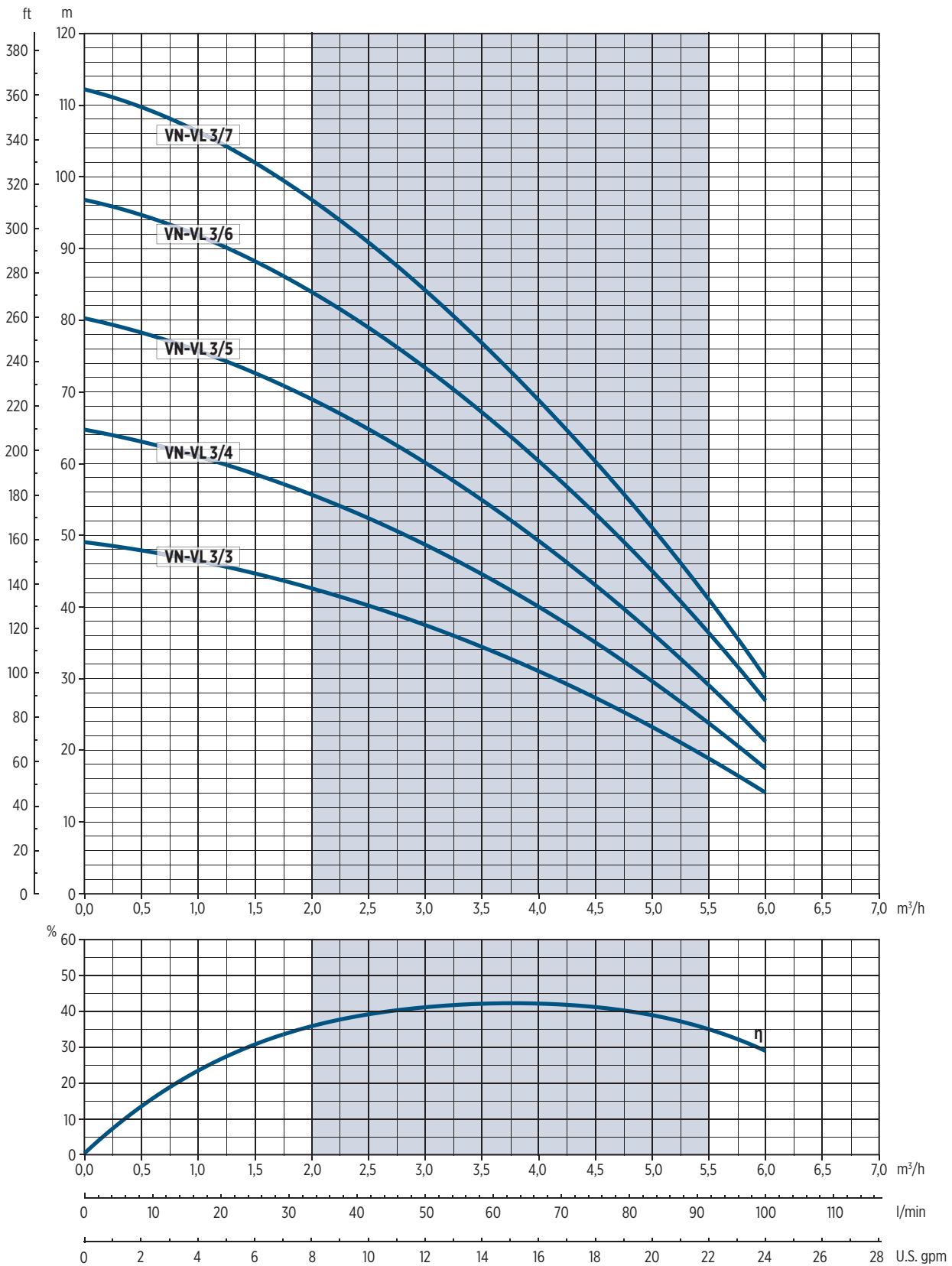
## DIMENSIONAL DRAWINGS



00130217 / 11/2021



## VN/VL 3 - PERFORMANCE CURVES AT 60 Hz



0072040 06/2019

# VN/VL 5 - 60 Hz

## TECHNICAL DATA

Electric Pump		Number of stages	Motor Power		Input power [kW]	Capacitor		Rated current		
Single-phase	Three-phase		[kW]	[HP]		$\mu\text{F}$	[V]	Single-phase 220-230 V	Three-phase 220-230 V 380-400 V	
VN-VL 5/2	-	2	0.75	1	1	20	450	5	-	-
VN-VL 5/3	VN-VL 5/3T	3	0.9	1.2	1.35	20	450	6.4	4.7	2.7
VN-VL 5/4	VN-VL 5/4T	4	1.1	1.5	1.78	25	450	8.6	5.5	3.2
VN-VL 5/5	VN-VL 5/5T	5	1.5	2	2.26	35	450	10.4	6.8	3.9
-	VN-VL 5/6T	6	2.2	3	2.78	-	-	-	9.9	5.7
-	VN-VL 5/7T	7	2.2	3	3.16	-	-	-	10.6	6.1

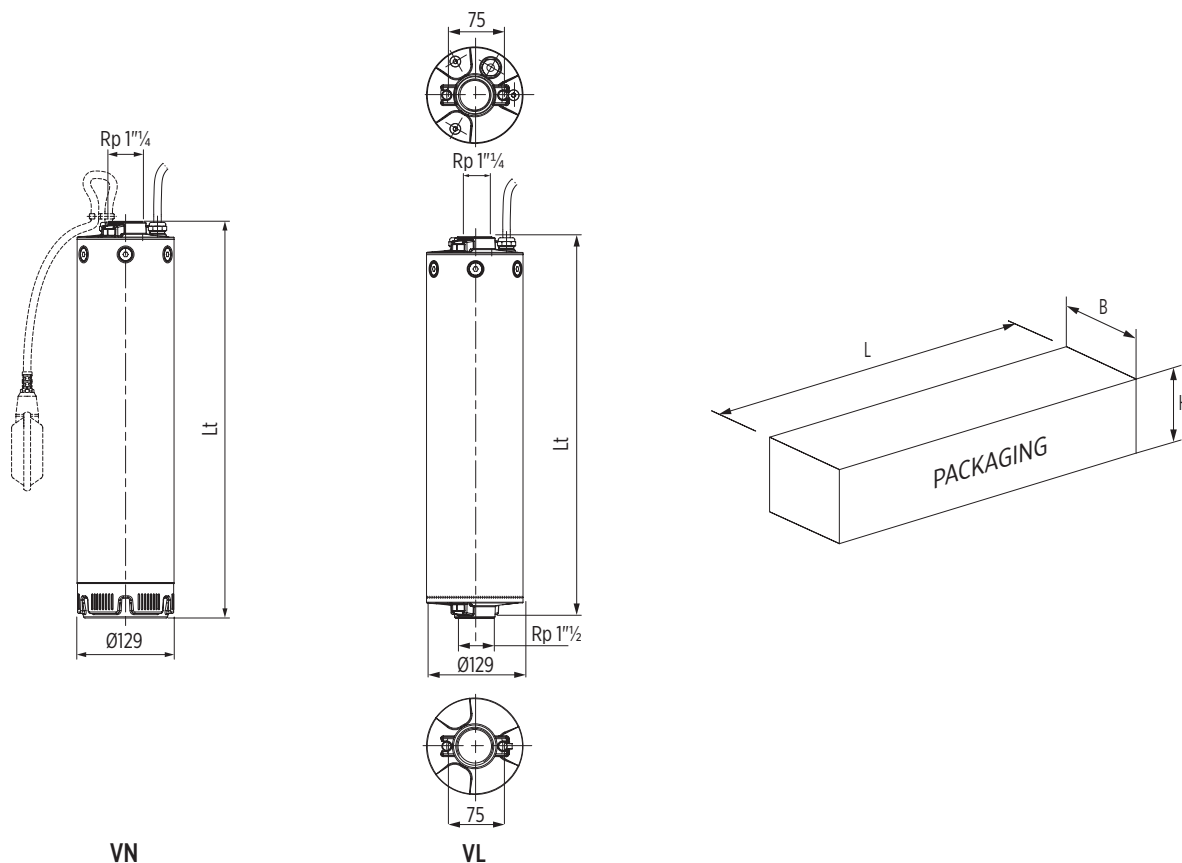
## DIMENSIONS AND WEIGHTS

Electric Pump			Weight* [kg]		Packaging [mm]		
Single-phase	Three-phase	Lt [mm]	Single-phase	Three-phase	L	B	H
VN 5/2	-	432	15.25	-	720	230	175
VN 5/3	VN 5/3T	456	15.75	15.75	720	230	175
VN 5/4	VN 5/4T	480	17.5	16.25	720	230	175
VN 5/5	VN 5/5T	554	20.5	18.5	720	230	175
-	VN 5/6T	578	-	20.75	720	230	175
-	VN 5/7T	602	-	21.5	800	230	195

\* Electric pump weight without float switch

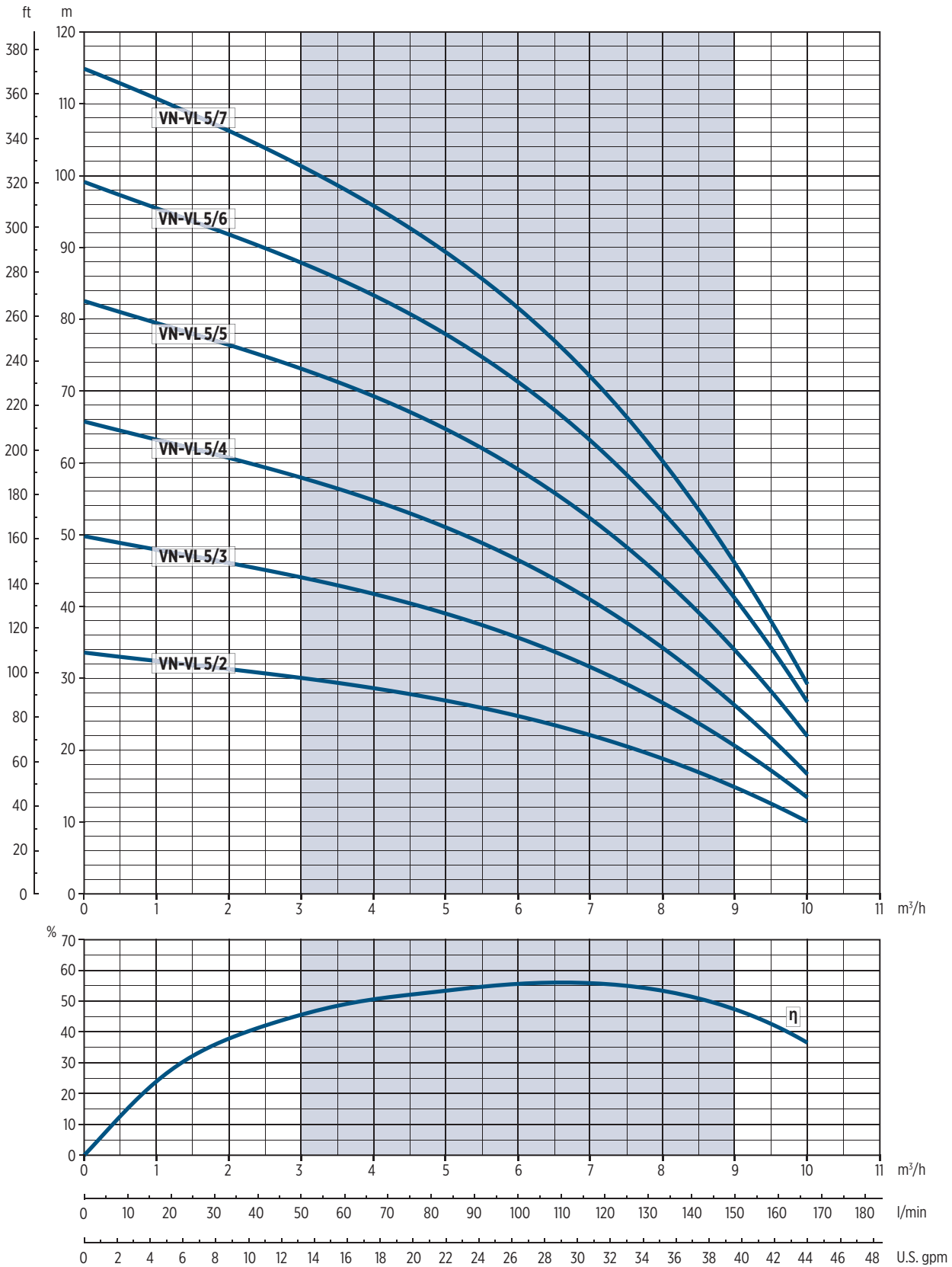
Electric Pump			Weight* [kg]		Packaging [mm]		
Single-phase	Three-phase	Lt [mm]	Single-phase	Three-phase	L	B	H
VL 5/2	-	416	13.6	-	720	230	175
VL 5/3	-	440	14.2	-	720	230	175
VL 5/4	VL 5/4T	464	15.9	14.75	720	230	175
VL 5/5	VL 5/5T	538	18.5	16.5	720	230	175
-	VL 5/6T	562	-	19.3	720	230	175
-	VL 5/7T	586	-	19.8	800	230	195

## DIMENSIONAL DRAWINGS



0013027 11/2021

# VN/VL 5 - PERFORMANCE CURVES AT 60 Hz



0120241.06/2019

# VN/VL 9 - 60 Hz

## TECHNICAL DATA

Electric Pump		Number of stages	Motor Power		Input power [kW]	Capacitor		Rated current		
Single-phase	Three-phase		[kW]	[HP]		$\mu\text{F}$	[V]	Single-phase 220-230 V	Three-phase 220-230 V 380-400 V	
VN-VL 9/2	VN-VL 9/2T	2	1.1	1.5	1.59	25	450	7.9	5	2.9
VN-VL 9/3	VN-VL 9/3T	3	1.5	2	2.36	35	450	10.8	7.1	4.1
-	VN-VL 9/4T	4	2.2	3	3.17	-	-	-	10.6	6.1
-	VN-VL 9/5T	5	3	4	3.75	-	-	-	11.8	6.8
-	VN-VL 9/6T	6	3.7	5	4.55	-	-	-	14.7	8.5

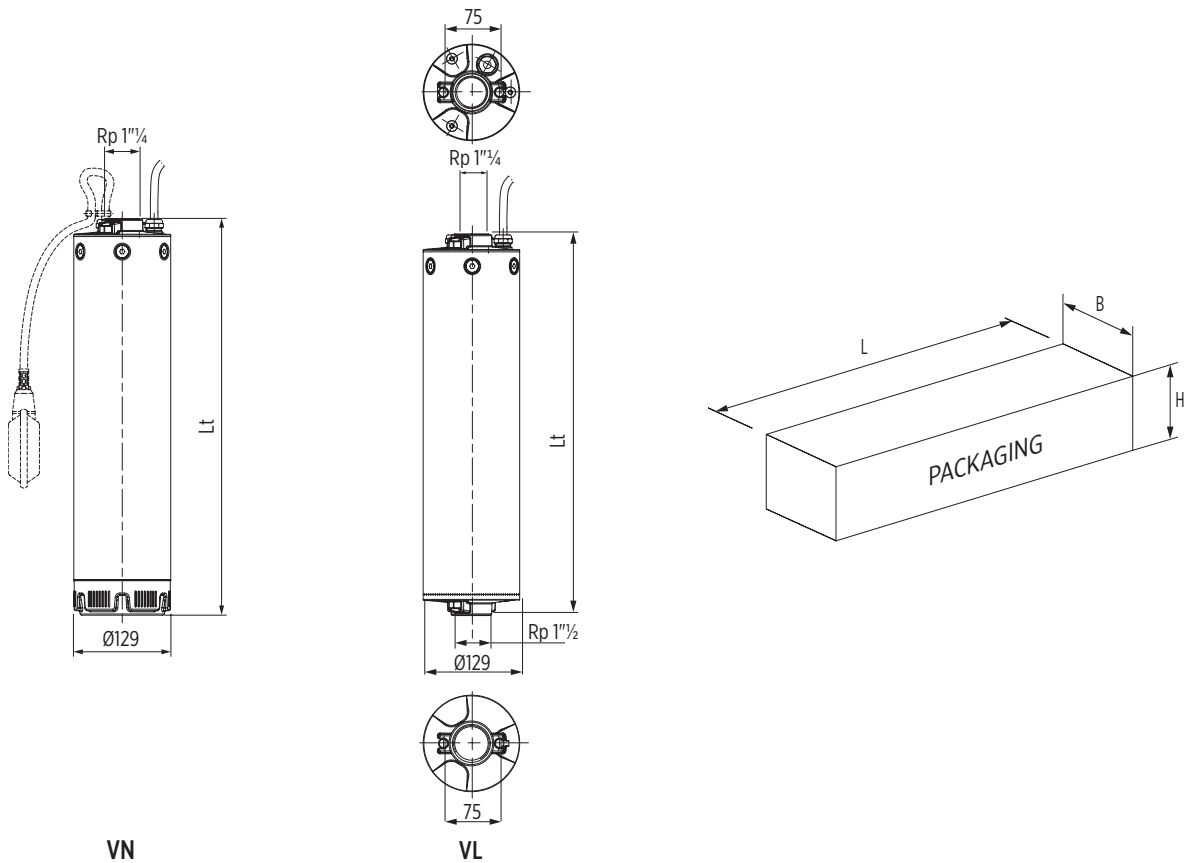
## DIMENSIONS AND WEIGHTS

Electric Pump			Weight* [kg]		Packaging [mm]		
Single-phase	Three-phase	Lt [mm]	Single-phase	Three-phase	L	B	H
VN 9/2	VN 9/2T	474	16.75	15.5	720	230	175
VN 9/3	VN 9/3T	504	20	17.75	720	230	175
-	VN 9/4T	584	-	20.5	720	230	175
-	VN 9/5T	614	-	22	720	230	195
-	VN 9/6T	644	-	23.3	720	230	195

\* Electric pump weight without float switch

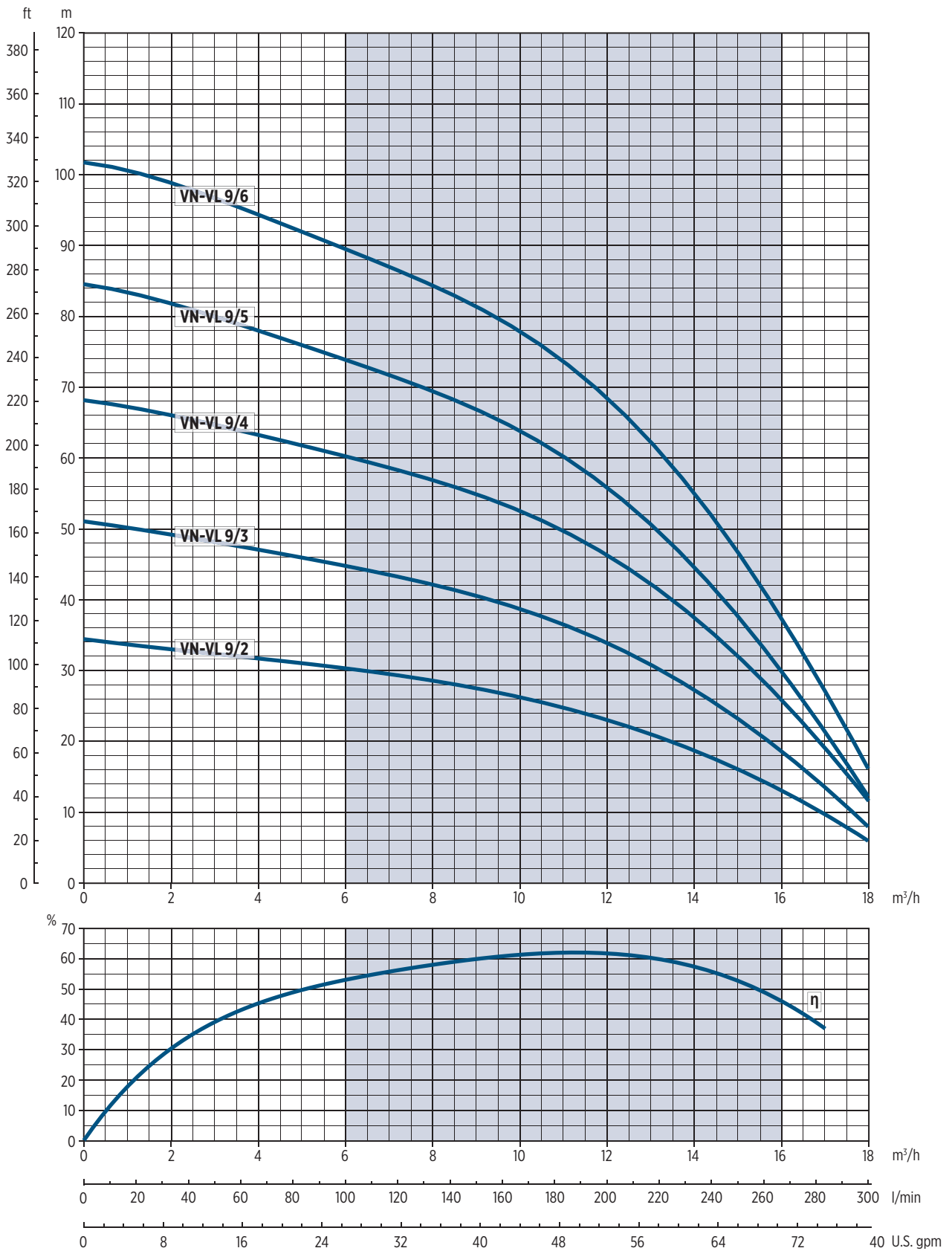
Electric Pump			Weight* [kg]		Packaging [mm]		
Single-phase	Three-phase	Lt [mm]	Single-phase	Three-phase	L	B	H
VL 9/2	VL 9/2T	458	15.1	14	800	230	175
VL 9/3	VL 9/3T	488	17.8	15.9	720	230	175
-	VL 9/4T	568	-	18.7	720	230	175
-	VL 9/5T	598	-	20.6	720	230	195
-	VL 9/6T	628	0	21.7	720	230	195

## DIMENSIONAL DRAWINGS



00130217 Ti/2021

## VN/VL 9 - PERFORMANCE CURVES AT 60 Hz



# ORDERING INFORMATION

## VN 50 Hz

Frequency	Pump model	Number of stages	Single-phase version without float switch	Single-phase version with float switch	Three-phase version 3X230 V	Three-phase version 3X400 V
50 Hz	VN 3	3	ETH10530100	ETH10530101	ETH10530615	ETH10530614
		4	ETH10530115	ETH10530116	ETH10530573	ETH10530569
		5	ETH10530130	ETH10530131	ETH10530591	ETH10530584
		6	ETH10530145	ETH10530146	ETH10530603	ETH10530599
		7	ETH10530160	ETH10530161	ETH10530515	ETH10530505
		8	ETH10530175	ETH10530176	ETH10530529	ETH10530520
		9	ETH10530190	ETH10530191	ETH10530541	ETH10530535
	VN 5	4	ETH10550115	ETH10550116	ETH10550625	ETH10550629
		5	ETH10550130	ETH10550131	ETH10550504	ETH10550505
		6	ETH10550145	ETH10550146	ETH10550534	ETH10550520
		7	ETH10550160	ETH10550161	ETH10550548	ETH10550535
		8	ETH10550175	ETH10550176	ETH10550556	ETH10550550
		9	ETH10550190	ETH10550191	ETH10550572	ETH10550565
		10	ETH10550205	ETH10550206	ETH10550586	ETH10550580
	VN 3	3	ETH10590100	ETH10590101	ETH10590515	ETH10590505
		4	ETH10590115	ETH10590116	ETH10590533	ETH10590520
		5	ETH10590130	ETH10590131	ETH10590546	ETH10590535
		6	ETH10590145	ETH10590146	ETH10590558	ETH10590550
		7	-	-	ETH10590571	ETH10590565
		8	-	-	ETH10590586	ETH10590580
		9	-	-	ETH10590602	ETH10590595

## VN 50 Hz - ACS VERSION

Frequency	Pump model	Number of stages	Single-phase version without float switch	Single-phase version with float switch	Three-phase version 3X230 V	Three-phase version 3X400 V
50 Hz	VN 3	3	ETH10535100	ETH10535101	ETH10535615	ETH10535614
		4	ETH10535115	ETH10535116	ETH10535573	ETH10535569
		5	ETH10535130	ETH10535131	ETH10535591	ETH10535584
		6	ETH10535145	ETH10535146	ETH10535603	ETH10535599
		7	ETH10535160	ETH10535161	ETH10535515	ETH10535505
		8	ETH10535175	ETH10535176	ETH10535529	ETH10535520
		9	ETH10535190	ETH10535191	ETH10535541	ETH10535535
	VN 5	4	ETH10555115	ETH10555116	ETH10555625	ETH10555629
		5	ETH10555130	ETH10555131	ETH10555504	ETH10555505
		6	ETH10555145	ETH10555146	ETH10555534	ETH10555520
		7	ETH10555160	ETH10555161	ETH10555548	ETH10555535
		8	ETH10555175	-	ETH10555556	ETH10555550
		9	ETH10555190	-	ETH10555572	ETH10555565
		10	ETH10555205	-	ETH10555586	ETH10555580
	VN 3	3	ETH10595100	ETH10595101	ETH10595515	ETH10595505
		4	ETH10595115	ETH10595116	ETH10595533	ETH10595520
		5	ETH10595130	-	ETH10595546	ETH10595535
		6	ETH10595145	-	ETH10595558	ETH10595550
		7	-	-	ETH10595571	ETH10595565
		8	-	-	ETH10595586	ETH10595580
		9	-	-	ETH10595602	ETH10595595





## ORDERING INFORMATION

### VN 60 Hz

Frequency	Pump model	Number of stages	Single-phase version without float switch	Single-phase version with float switch	Three-phase version 3X230 V	Three-phase version 3X400 V
60 Hz	VN 3	3	ETH10530103	ETH10530104	ETH10530611	ETH10530610
		4	ETH10530118	ETH10530119	ETH10530566	ETH10530565
		5	ETH10530133	ETH10530134	ETH10530581	ETH10530580
		6	ETH10530148	ETH10530149	ETH10530596	ETH10530595
		7	ETH10530163	ETH10530164	ETH10530507	ETH10530506
	VN 5	2	ETH10550088	ETH10550089	-	-
		3	ETH10550103	ETH10550104	ETH10550596	ETH10550595
		4	ETH10550118	ETH10550119	ETH10550611	ETH10550610
		5	ETH10550133	ETH10550134	ETH10550507	ETH10550506
		6	-	-	ETH10550522	ETH10550521
	VN 3	7	-	-	ETH10550537	ETH10550536
		2	ETH10590088	ETH10590089	ETH10590626	ETH10590625
		3	ETH10590103	ETH10590104	ETH10590507	ETH10590506
		4	-	-	ETH10590522	ETH10590521
		5	-	-	ETH10590537	ETH10590536
	6	-	-	ETH10590554	ETH10590555	

### VL 50 Hz

Frequency	Pump model	Number of stages	Single-phase version without float switch	Single-phase version with float switch	Three-phase version 3X230 V	Three-phase version 3X400 V
50 Hz	VL 3	4	ETH10530124	-	ETH10530575	ETH10530574
		5	ETH10530139	-	ETH10530594	ETH10530593
		6	ETH10530154	-	ETH10530605	ETH10530601
		7	ETH10530169	-	ETH10530516	ETH10530511
		8	ETH10530180	-	ETH10530530	ETH10530522
		9	ETH10530195	-	ETH10530542	ETH10530537
		10	ETH10530210	-	ETH10530557	ETH10530552
	VL 5	4	ETH10550124	-	ETH10550627	ETH10550626
		5	ETH10550139	-	ETH10550517	ETH10550511
		6	ETH10550150	-	ETH10550519	ETH10550526
		7	ETH10550165	-	ETH10550659	ETH10550541
		8	ETH10550180	-	ETH10550558	ETH10550552
		9	ETH10550195	-	ETH10550573	ETH10550567
		10	ETH10550210	-	ETH10550587	ETH10550582
	VL 3	3	ETH10590109	-	ETH10590516	ETH10590511
		4	ETH10590120	-	ETH10590532	ETH10590526
		5	ETH10590135	-	ETH10590547	ETH10590541
		6	ETH10590150	-	ETH10590562	ETH10590552
		7	-	-	ETH10590572	ETH10590567
		8	-	-	ETH10590587	ETH10590582
		9	-	-	ETH10590603	ETH10590597

## ORDERING INFORMATION

### VL 60 Hz

Frequency	Pump model	Number of stages	Single-phase version without float switch	Single-phase version with float switch	Three-phase version 3X230 V	Three-phase version 3X400 V
60 Hz	VL 3	3	ETH10530107	-	ETH10530615	ETH10530616
		4	ETH10530128	-	ETH10530578	ETH10530571
		5	ETH10530144	-	ETH10530588	ETH10530587
		6	ETH10530156	-	ETH10530608	ETH10530602
		7	ETH10530174	-	ETH10530514	ETH10530513
	VL 5	2	ETH10550092	-	-	-
		3	ETH10550107	-	ETH10550599	ETH10550600
		4	ETH10550129	-	ETH10550615	ETH10550614
		5	ETH10550142	-	ETH10550513	ETH10550512
		6	-	-	ETH10550532	ETH10550531
	VL 3	7	-	-	ETH10550545	ETH10550544
		2	ETH10590092	-	ETH10590634	ETH10590629
		3	ETH10590113	-	ETH10590518	ETH10590513
		4	-	-	ETH10590642	ETH10590530
		5	-	-	ETH10590549	ETH10590544
		6	-	-	ETH10590661	ETH10590662

**CATALOG REVISION CHANGES NOTICE**

Rev. No.	Changes	Page
1	"General Description" updated	2-5
	"Pump identification code" updated	4
	"Performance selection" page added	7
	"Hydraulic performance at 50 Hz" updated	9
	Model 3/3 50 Hz added	9-11
	VN/VL "Dimensional Drawing" updated	10, 12, 14, 18, 20, 22
	"Hydraulic performance at 60 Hz" updated	17
	Model 9/6 60 Hz added	17, 22-23
"Ordering information" section added	24	







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