



***5" SUBMERSIBLE PUMPS***



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# NAUTI (VN series)

## Stainless Steel Close-Coupled Multistage Submersible Pump for 6" wells and larger

### APPLICATIONS

- Water distribution / pressure boosting
- Rainwater collection
- Irrigation / Gardening / Sprinklers
- Dewatering
- Wash down unit
- Fountains
- Other various installations

### FEATURES

- Compact close-coupled design, robust and rust resistant
- Impellers and diffusers are made of stainless steel in order to achieve durability, superior efficiency and the highest performances
- 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
- Plug-in type power cable and level control (float) for easy replacement
- Heavy duty over size motor shaft
- Stainless steel water proof capsule to protect the motor
- Motor cooling is guaranteed by the pumped liquid

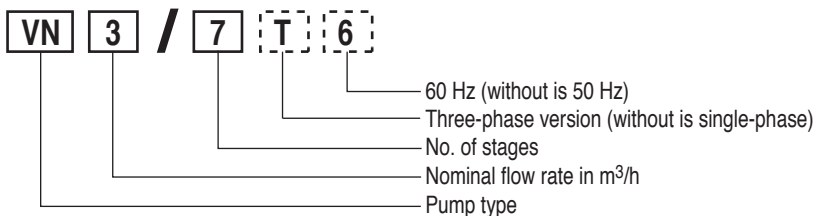
### SPECIFICATIONS

- Capacities up to 14 m<sup>3</sup>/h at 50Hz / 70 GPM at 60Hz
- Heads up to 11 Bar at 50Hz / 370 feet at 60Hz
- Discharge outlet 1 1/4" Rp
- Maximum working pressure 15 Bar
- Maximum immersion depth 20 m
- Maximum allowable amount of sand 50 gr/m<sup>3</sup>
- Maximum solids size up to 2 mm
- Liquid temperature range -5° C to 40° C
- Continuous operation either in vertical or horizontal position
- Motor range: 0,55kW to 3kW
- Asynchronous, Class F insulation, IP 68 protection
- 20 m of power cable type H07RN F is supplied with the standard version
- Maximum number of starts per hour: 20

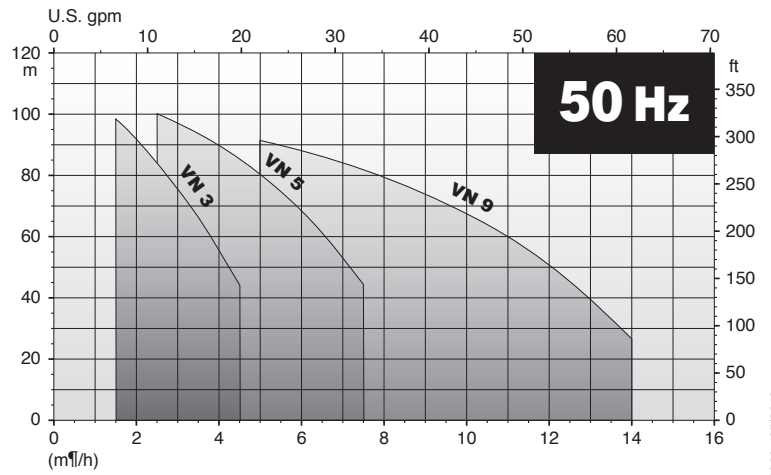
### AVAILABLE ON REQUEST

- Single-phase models equipped with level control
- Various voltages and frequencies
- Three phase 220-230V
- Various power cable lengths
- Starter panel for single-phase units

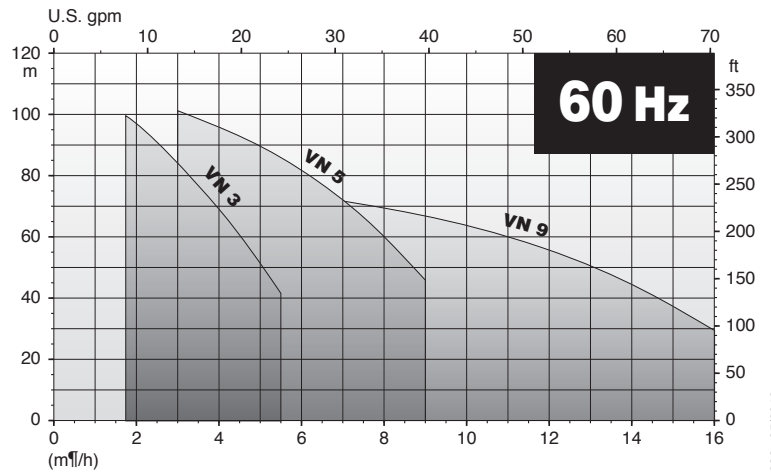
### PUMP IDENTIFICATION CODE



00117021 05/2010



00110066 05/2010



00110066 05/2010



00112006 06/2008

**MATERIAL IN CONTACT WITH THE LIQUID**

Pos.	PARTS DESCRIPTIONS	MATERIAL		
		Type	AISI	DIN / EN
10.00	Discharge head	Nickel plated pressed brass alloy		UNI-EN 12165-98
20.00	Outer case	Stainless steel	304	1.4301
20.01	Suction strainer	Stainless steel	304	1.4301
30.00	Motor housing	Stainless steel	304	1.4301
30.01 / 30.03	Covers/flanges motor casing	Stainless steel	304	1.4301
30.08	Pump shaft	Stainless steel	304	1.4301
40.00 / 40.01 / 40.03	Diffuser/s	Stainless steel	304	1.4301
50.00 / 50.01	Impeller/s with spacers	Stainless steel	304	1.4301
30.05 / 30.06	Upper mechanical seal	Ceramic/Carbon/NBR		
30.06	Lower mechanical seal	Ceramic/Carbon/NBR		
30.09	Screws and washers	Stainless steel	304	1.4301

# VN 3-5-9

## TABLE OF HYDRAULIC PERFORMANCES AT 50Hz

PUMP TYPE	RATED POWER		Q = DELIVERY																		
			l/min	0	25,0	33,3	41,7	50,0	58,3	66,7	75,0	83,3	91,7	100,0	116,7	133,3	150,0	166,7	183,3	233,3	266,7
	m <sup>3</sup> /h	0	1,5	2	2,5	3	3,5	4	4,5	5	5,5	6	7	8	9	10	11	14	16		
	US GPM	0	6,6	8,8	11,0	13,2	15,4	17,6	19,8	22,0	24,2	26,4	30,8	35,2	39,6	44,0	48,4	61,6	70,4		
kW		HP		H = TOTAL HEAD METERS COLUMN OF WATER																	
VN3-4	0,55	0,75	45	40	37,5	34,5	31	27	23	18											
VN3-5	0,75	1	56	49	46	42	38	33	27,5	21,5											
VN3-6	0,75	1	66,5	58	54	49,5	44,5	38,5	32	25											
VN3-7	0,9	1,2	77,5	68	63,5	58	52	45	37,5	29,5											
VN3-8	1,1	1,5	88	77	71,5	65	58	50,5	42	32,5											
VN3-9	1,5	2	100,5	89,5	82,5	76,5	68,5	59,5	50	39,5											
VN3-10	1,5	2	111,5	98,5	91,5	84	75	65,5	55	43											
VN5-4	0,75	1	45,5			40,5	39	38	36,5	35	33	30,5	28	22							
VN5-5	0,9	1,2	57			50,5	49	47,5	45,5	43,5	41	38	35	27,5							
VN5-6	1,1	1,5	68			59,5	58	55,5	53	50,5	47,5	44	40,5	31,5							
VN5-7	1,5	2	80,5			71	69	67	64,5	61	58	54	49,5	39							
VN5-8	1,5	2	91,5			81	78	75,5	72,5	69	65	60,5	55,5	44							
VN5-9	2,2	3	102,5			91	88	85	81,5	77,5	73	68,5	63	49,5							
VN5-10	2,2	3	113,5			100	97	93	89,5	85	80	75	69	53,5							
VN9-3	1,1	1,5	35,5								31,5	31	30,5	29	28	26	24	21,5	11,0		
VN9-4	1,5	2	47,5								42,5	42	41	39,5	38	35,5	33	29,5	15		
VN9-5	2,2	3	59,5								52,5	52	51	49	47	44	40,5	36,5	18,5		
VN9-6	2,2	3	70,5								62	61	60	58	55	51,5	47,5	42	20,5		
VN9-7	3	4	82,5								73	71,5	70,5	67,5	64,5	60,5	55,5	49,5	24		
VN9-8	3	4	94								82	80,5	79	76	72	67,5	62	55	25		
VN9-9	3	4	105								91	89	87,5	84	79,5	74,5	67,5	59,5	26,5		

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# **VN Series Technical Data and Performance Curves**

**VN 3 50Hz**

**VN 5 50Hz**

**VN 9 50Hz**

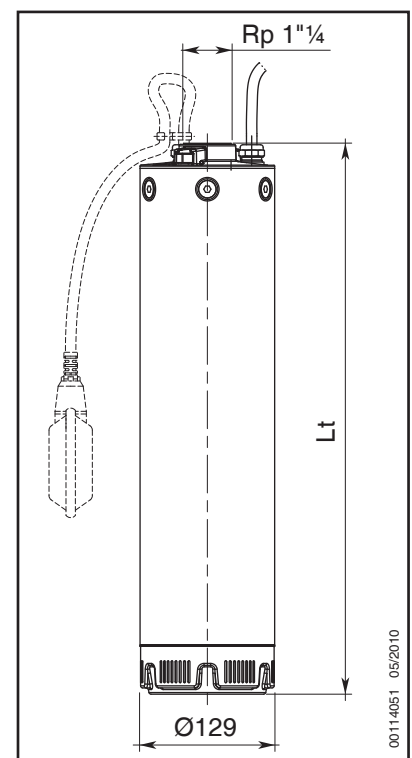
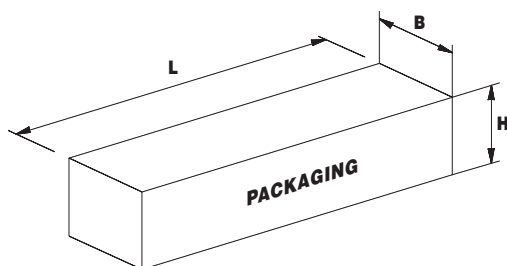
## Technical data 50Hz

Pump model		NUMBER OF STAGES	MOTOR POWER		INPUT POWER	CAPACITOR		RATED CURRENT	
Single-phase 220-240V 50Hz	Three-phase 380-415V 50Hz		kW	HP		μF	V	Single-phase 220-240V 50Hz	Three-phase 380-415V 50Hz
VN 3/4	-				4			0.55	0.75
VN 3/5	-	5	0.75	1	0.99	20	450	4.7	-
VN 3/6	-	6	0.75	1	1.15	20	450	5.2	-
VN 3/7	-	7	0.9	1.2	1.34	30	450	6.7	-
VN 3/8	VN 3/8T	8	1.1	1.5	1.50	30	450	7.2	2.7
VN 3/9	VN 3/9T	9	1.5	2	1.73	35	450	9.2	3.1
VN 3/10	VN 3/10T	10	1.5	2	1.89	35	450	9.8	3.2

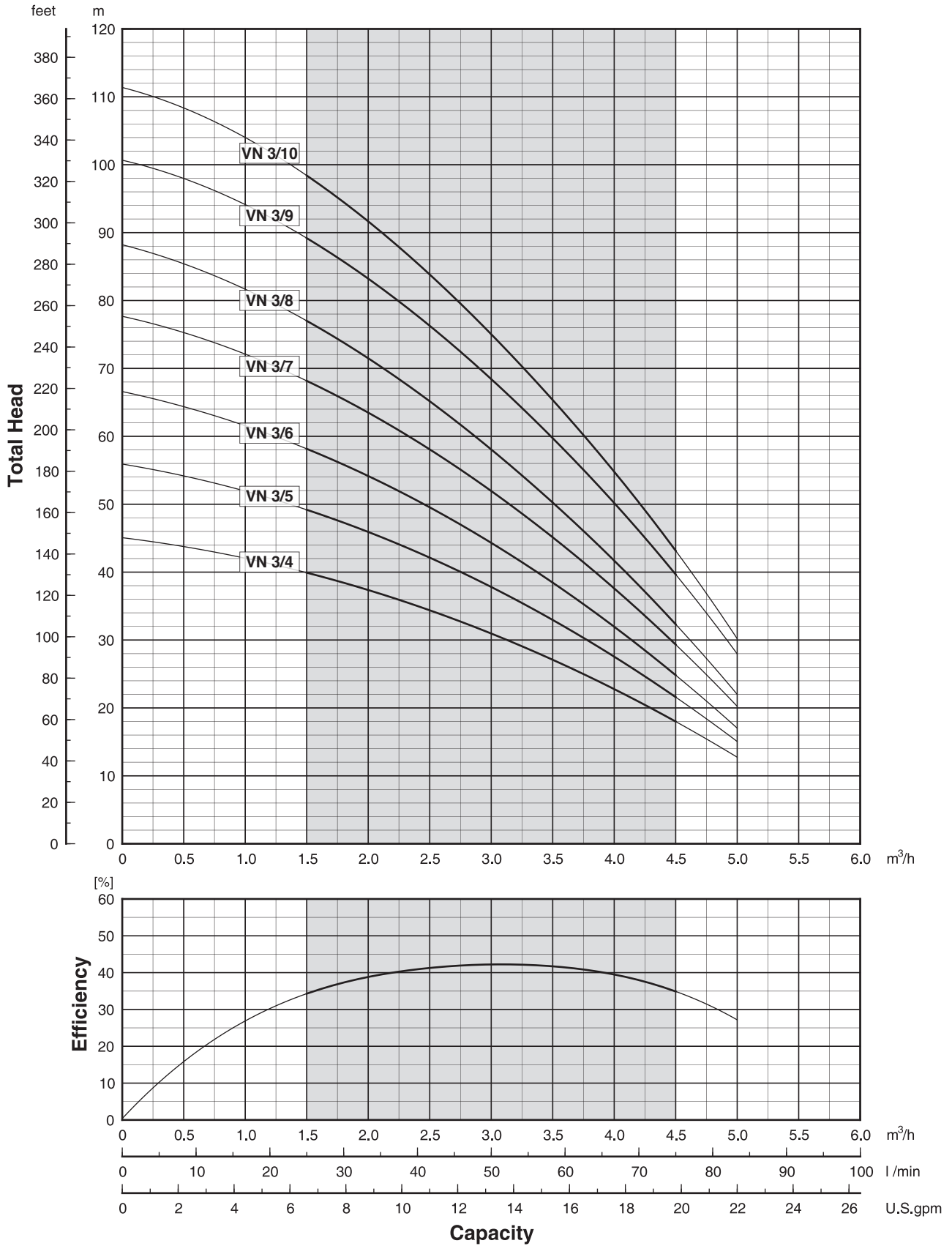
- Single-phase motors: 220-240 V ± 5 % / 50Hz. Thermal protection built into the motor up to 1,1 kW. Thermal protection provided into the starter panel from 1,5 kW and above.
- Three-phase motors: 380-415 V ± 5 % / 50Hz. Thermal protection to be provided into the starter panel by the installer.

## Dimensions and weights

Pump model			PACKAGING				Weight kg	
Single-phase 220-240V 50Hz	Three-phase 380-415V 50Hz	Lt mm	L mm	B mm	H mm	Single-phase	Three-phase	
VN 3/4	-	480	720	230	175			16.0
VN 3/5	-	504	720	230	175	18.0	-	
VN 3/6	-	528	720	230	175	18.5	-	
VN 3/7	-	552	720	230	175	20.0	-	
VN 3/8	VN 3/8T	576	720	230	175	20.5	19.5	
VN 3/9	VN 3/9T	650	800	230	195	23.5	21.5	
VN 3/10	VN 3/10T	674	800	230	195	24.0	22.0	



## Performance curves 50Hz



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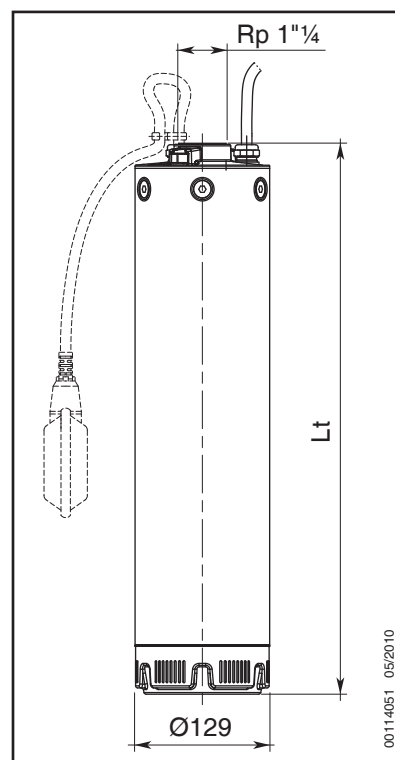
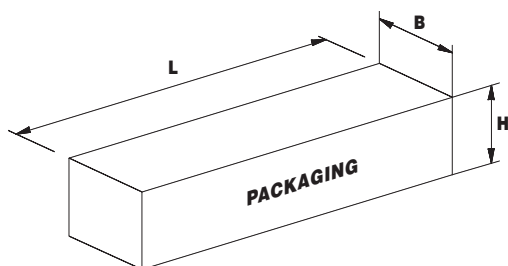
## Technical data 50Hz

Pump model		NUMBER OF STAGES	MOTOR POWER		INPUT POWER	CAPACITOR		RATED CURRENT	
Single-phase 220-240V 50Hz	Three-phase 380-415V 50Hz		kW	HP		μF	V	Single-phase 220-240V 50Hz	Three-phase 380-415V 50Hz
VN 5/4	-				4			0.75	1
VN 5/5	-	5	0.9	1.2	1.34	30	450	6.6	-
VN 5/6	VN 5/6T	6	1.1	1.5	1.56	30	450	7.4	2.7
VN 5/7	VN 5/7T	7	1.5	2	1.86	35	450	9.7	3.2
VN 5/8	VN 5/8T	8	1.5	2	2.08	35	450	10.5	3.5
VN 5/9	VN 5/9T	9	2.2	3	2.35	45	450	10.7	5.0
VN 5/10	VN 5/10T	10	2.2	3	2.56	45	450	11.5	5.2

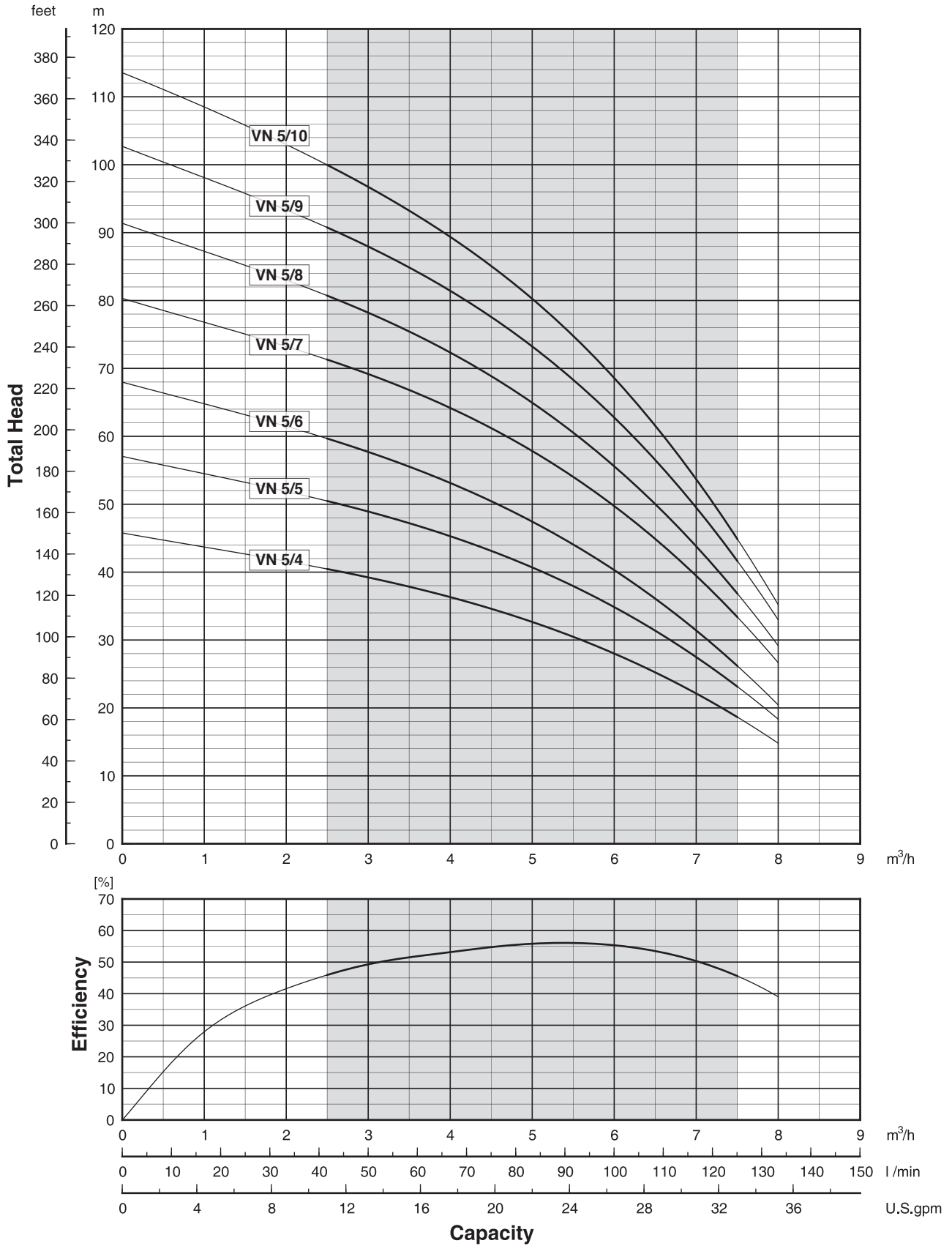
- Single-phase motors: 220-240 V ± 5 % / 50Hz. Thermal protection built into the motor up to 1,1 kW. Thermal protection provided into the starter panel from 1,5 kW and above.
- Three-phase motors: 380-415 V ± 5 % / 50Hz. Thermal protection to be provided into the starter panel by the installer.

## Dimensions and weights

Pump model			PACKAGING				Weight kg	
Single-phase 220-240V 50Hz	Three-phase 380-415V 50Hz	Lt mm	L mm	B mm	H mm	Single-phase	Three-phase	
VN 5/4	-	480	720	230	175			17.5
VN 5/5	-	504	720	230	175	19.0	-	
VN 5/6	VN 5/6T	528	720	230	175	19.5	18.5	
VN 5/7	VN 5/7T	602	800	230	195	22.5	20.5	
VN 5/8	VN 5/8T	626	800	230	195	23.0	21.0	
VN 5/9	VN 5/9T	650	800	230	195	25.0	23.5	
VN 5/10	VN 5/10T	674	800	230	195	25.5	24.0	



## Performance curves 50Hz



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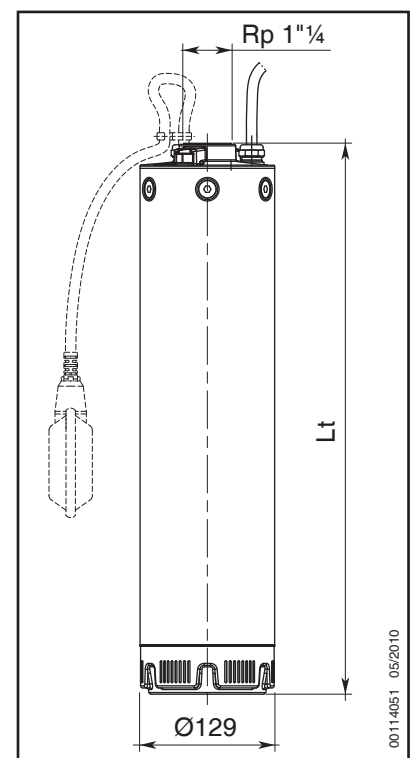
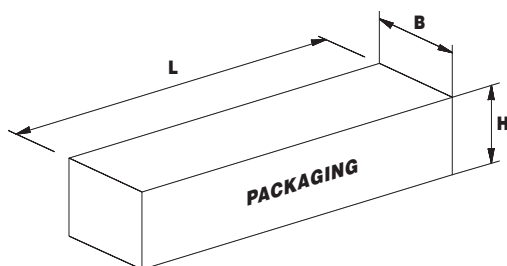
## Technical data 50Hz

Pump model		NUMBER OF STAGES	MOTOR POWER		INPUT POWER	CAPACITOR		RATED CURRENT	
Single-phase 220-240V 50Hz	Three-phase 380-415V 50Hz		kW	HP		μF	V	Single-phase 220-240V 50Hz	Three-phase 380-415V 50Hz
VN 9/3	-		3	1.1	1.5	1.44	30	450	6.9
VN 9/4	VN 9/4T	4	1.5	2	1.86	35	450	9.7	3.2
VN 9/5	VN 9/5T	5	2.2	3	2.30	45	450	10.5	5.0
VN 9/6	VN 9/6T	6	2.2	3	2.68	45	450	11.9	5.4
-	VN 9/7T	7	3	4	3.16	-	-	-	5.9
-	VN 9/8T	8	3	4	3.54	-	-	-	6.3
-	VN 9/9T	9	3	4	3.91	-	-	-	6.8

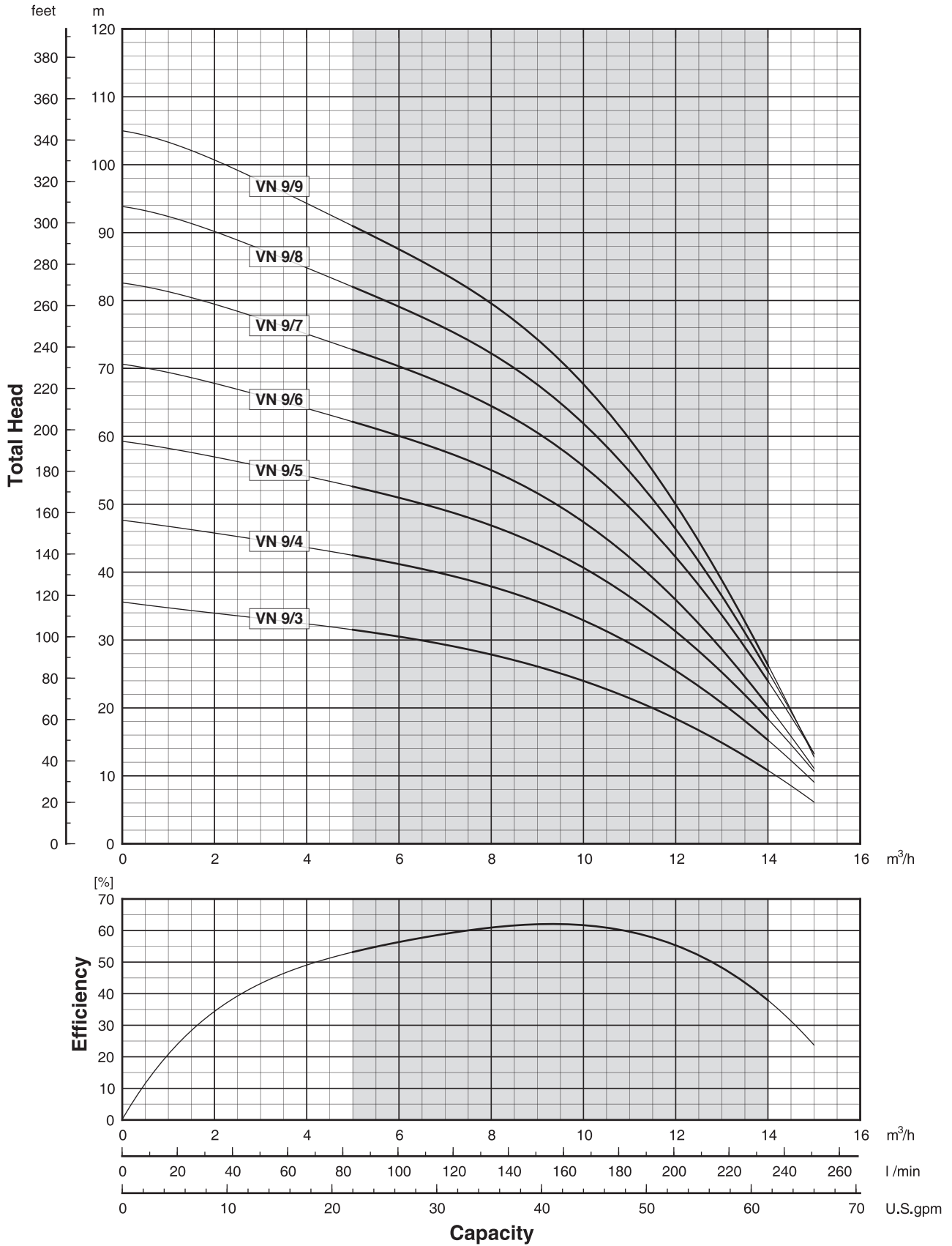
- Single-phase motors: 220-240 V ± 5 % / 50Hz. Thermal protection built into the motor up to 1,1 kW. Thermal protection provided into the starter panel from 1,5 kW and above.
- Three-phase motors: 380-415 V ± 5 % / 50Hz. Thermal protection to be provided into the starter panel by the installer.

## Dimensions and weights

Pump model			PACKAGING				
Single-phase 220-240V 50Hz	Three-phase 380-415V 50Hz	Lt mm	L mm	B mm	H mm	Weight kg	
						Single-phase	Three-phase
VN 9/3	-	504	720	230	175	18.5	-
VN 9/4	VN 9/4T	584	720	230	175	21.5	19.5
VN 9/5	VN 9/5T	614	800	230	195	23.5	22.0
VN 9/6	VN 9/6T	644	800	230	195	24.5	22.5
-	VN 9/7T	674	800	230	195	-	24.5
-	VN 9/8T	704	800	230	195	-	25.0
-	VN 9/9T	734	800	230	195	-	25.5



## Performance curves 50Hz



00110065 05/2010

# VN 3-5-9

## TABLE OF HYDRAULIC PERFORMANCES AT 60Hz

PUMP TYPE	RATED POWER		Q = DELIVERY																		
			l/min	0	25,0	33,3	41,7	50,0	58,3	66,7	75,0	83,3	91,7	100,0	116,7	133,3	150,0	166,7	183,3	233,3	266,7
	m <sup>3</sup> /h	0	1,5	2	2,5	3	3,5	4	4,5	5	5,5	6	7	8	9	10	11	14	16		
	US GPM	0	6,6	8,8	11,0	13,2	15,4	17,6	19,8	22,0	24,2	26,4	30,8	35,2	39,6	44,0	48,4	61,6	70,4		
kW		HP	H = TOTAL HEAD METERS COLUMN OF WATER																		
VN3-3	0,75	1	49			43	40,5	37,5	34,5	31	27,5	23	19								
VN3-4	0,9	1,2	65			55,5	52,5	49	44,5	40	35	29,5	24								
VN3-5	1,1	1,5	80,5			69	65	60	55	49	43	36,5	29								
VN3-6	1,5	2	97			84	79	73,5	67	60,5	53	45	36								
VN3-7	1,5	2	112			97	91	84	77	69	60,5	51	41								
VN5-2	0,75	1	33,5					30	29,5	28,5	28	27	26	25	22	19	15				
VN5-3	0,9	1,2	50					44	43	42	40,5	39	37,5	36	31,5	27	21				
VN5-4	1,1	1,5	65,5					58	56,5	55	53	51	49	46,5	41	34	26				
VN5-5	1,5	2	82,5					73	71,5	69	67	65	62	59	52	44	34				
VN5-6	2,2	3	99					88	86	83,5	81	78	75	71,5	63	53	41				
VN5-7	2,2	3	115					101	99	96	93	89	86	82	72	60	46				
VN9-2	1,1	1,5	34,5											30,5	29,5	29	28	27	25	19	14
VN9-3	1,5	2	51											45,5	44,5	43	41,5	39,5	37,5	28,5	20
VN9-4	2,2	3	68											60,5	59	57	55	52,5	49,5	37,5	26
VN9-5	3	4	84,5											74	72	69,5	67	64	60,5	45	30

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# **VN Series Technical Data and Performance Curves**

**VN 3 60Hz**

**VN 5 60Hz**

**VN 9 60Hz**

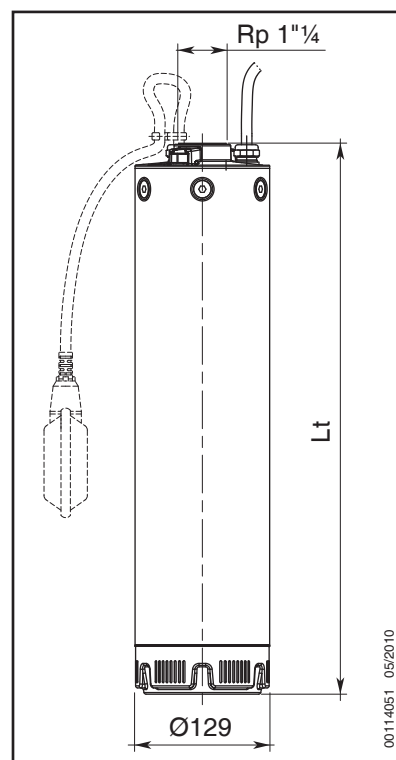
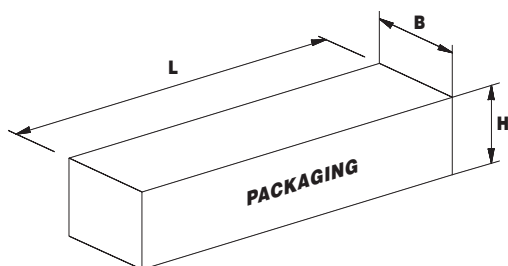
## Technical data 60Hz

Pump model		NUMBER OF STAGES	MOTOR POWER		INPUT POWER	CAPACITOR		RATED CURRENT			
Single-phase 220-230V 60Hz	Three-phase 220-230V or 380-400V 60Hz		kW	HP		μF	V	Single-phase		Three-phase	
								220-230V	220-230V	380-400V	
VN 3/36	-	3	0.75	1	1.05	20	450	5.2	-	-	
VN 3/46	VN 3/4T6	4	0.9	1.2	1.30	20	450	6.2	4.5	2.6	
VN 3/56	VN 3/5T6	5	1.1	1.5	1.61	25	450	8.0	5.2	3.0	
VN 3/66	VN 3/6T6	6	1.5	2	1.99	35	450	9.2	6.2	3.6	
VN 3/76	VN 3/7T6	7	1.5	2	2.26	35	450	10.4	6.8	3.9	

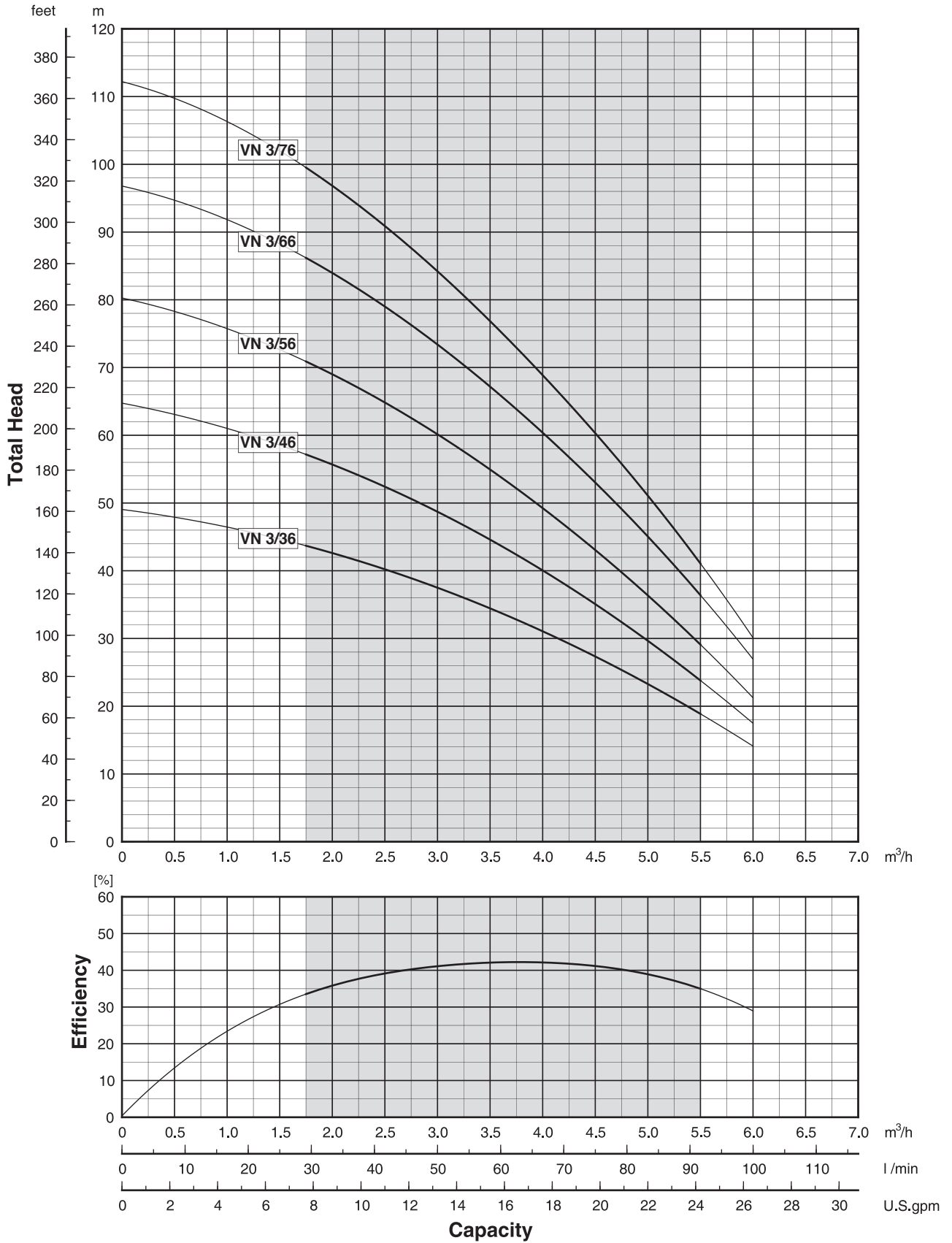
- Single-phase motors: 220-230 V ± 5 % / 60Hz. Thermal protection built into the motor up to 1,1 kW. Thermal protection provided into the starter panel from 1,5 kW and above.
- Three-phase motors: 220-230 V or 380-400 V ± 5 % / 60Hz. Thermal protection to be provided into the starter panel by the installer.

## Dimensions and weights

Pump model			PACKAGING				
Single-phase 220-230V 60Hz	Three-phase 220-230V or 380-400V 60Hz	Lt mm	L mm	B mm	H mm	Weight kg	
						Single-phase	Three-phase
VN 3/36	-	456	720	230	175	15.5	-
VN 3/46	VN 3/4T6	480	720	230	175	16.0	16.5
VN 3/56	VN 3/5T6	504	720	230	175	18.0	17.0
VN 3/66	VN 3/6T6	578	720	230	175	20.5	18.5
VN 3/76	VN 3/7T6	602	800	230	195	21.0	19.0



## Performance curves 60Hz



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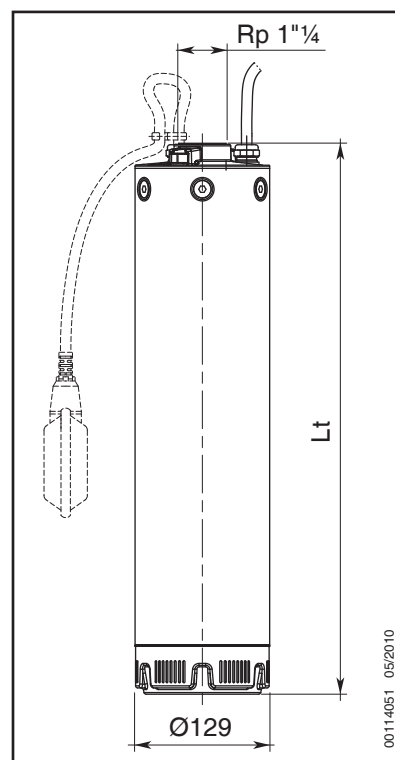
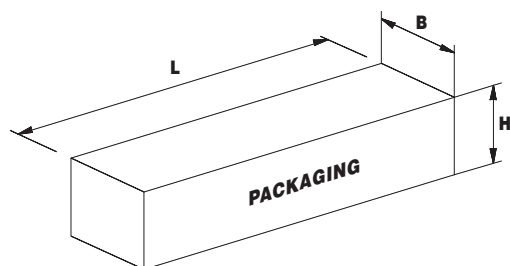
## Technical data 60Hz

Pump model		NUMBER OF STAGES	MOTOR POWER		INPUT POWER	CAPACITOR		RATED CURRENT			
Single-phase 220-230V 60Hz	Three-phase 220-230V or 380-400V 60Hz		kW	HP		μF	V	Single-phase		Three-phase	
								220-230V	220-230V	380-400V	
VN 5/26	-	2	0.75	1	1.00	20	450	5.0	-	-	
VN 5/36	VN 5/3T6	3	0.9	1.2	1.35	20	450	6.4	4.7	2.7	
VN 5/46	VN 5/4T6	4	1.1	1.5	1.78	25	450	8.6	5.5	3.2	
VN 5/56	VN 5/5T6	5	1.5	2	2.26	35	450	10.4	6.8	3.9	
-	VN 5/6T6	6	2.2	3	2.78	-	-	-	9.9	5.7	
-	VN 5/7T6	7	2.2	3	3.16	-	-	-	10.6	6.1	

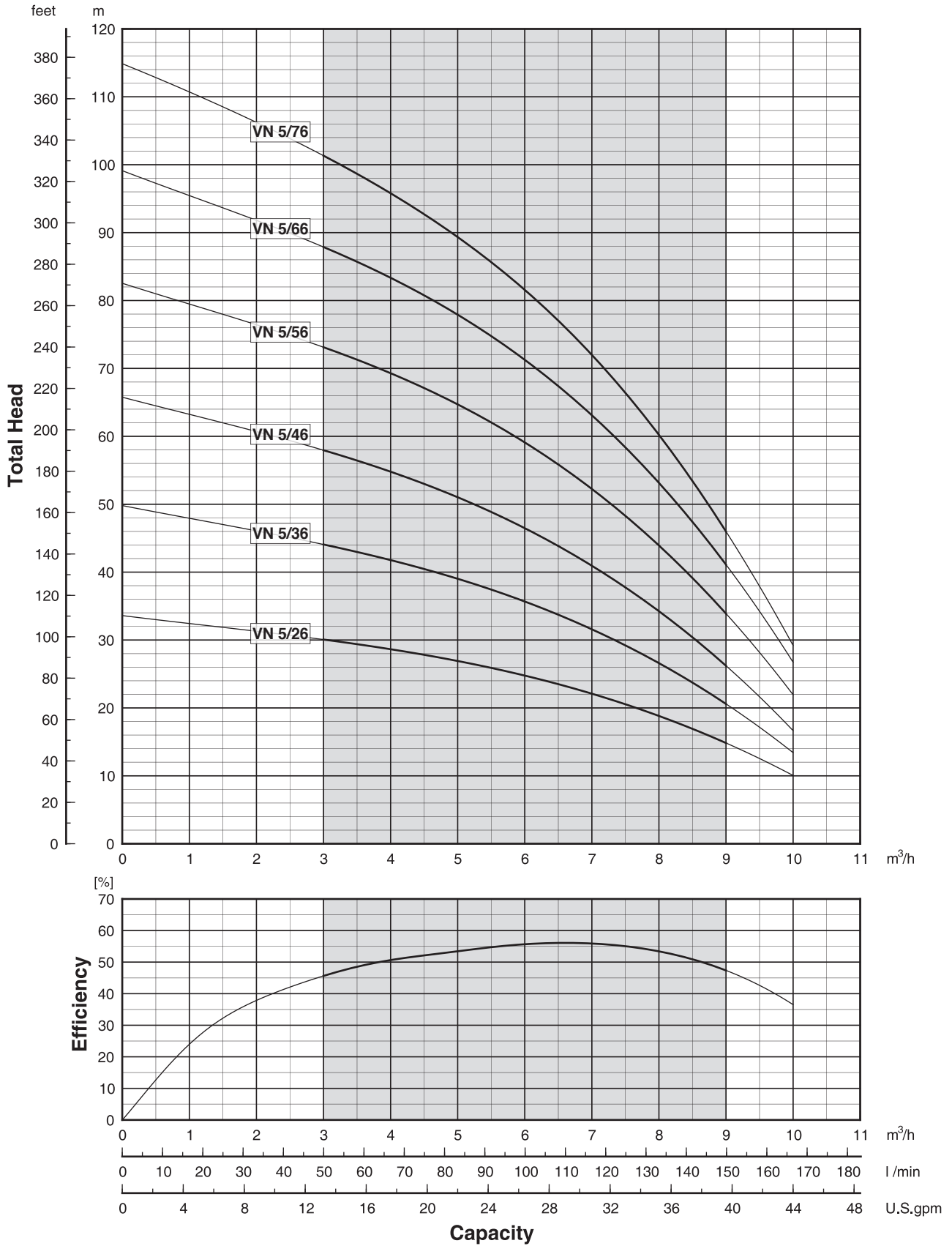
- Single-phase motors: 220-230 V ± 5 % / 60Hz. Thermal protection built into the motor up to 1,1 kW. Thermal protection provided into the starter panel from 1,5 kW and above.
- Three-phase motors: 220-230 V or 380-400 V ± 5 % / 60Hz. Thermal protection to be provided into the starter panel by the installer.

## Dimensions and weights

Pump model			PACKAGING				
Single-phase 220-230V 60Hz	Three-phase 220-230V or 380-400V 60Hz	Lt mm	L mm	B mm	H mm	Weight kg	
						Single-phase	Three-phase
VN 5/26	-	432	720	230	175	15.0	-
VN 5/36	VN 5/3T6	456	720	230	175	15.5	15.5
VN 5/46	VN 5/4T6	480	720	230	175	17.5	16.0
VN 5/56	VN 5/5T6	554	720	230	175	20.5	18.5
-	VN 5/6T6	578	720	230	175	-	21.0
-	VN 5/7T6	602	800	230	195	-	21.5



## Performance curves 60Hz



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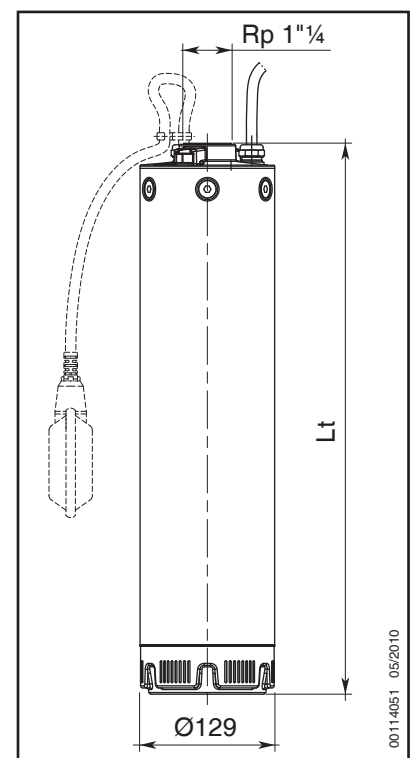
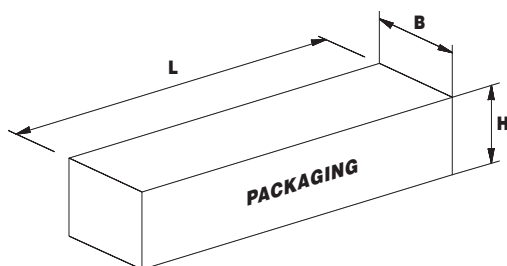
## Technical data 60Hz

Pump model		NUMBER OF STAGES	MOTOR POWER		INPUT POWER	CAPACITOR		RATED CURRENT				
Single-phase 220-230V 60Hz	Three-phase 220-230V or 380-400V 60Hz		kW	HP		kW	μF	V	Single-phase		Three-phase	
									220-230V	220-230V	380-400V	
VN 9/26	VN 9/2T6	2	1.1	1.5	1.59	25	450	7.9	5.0	2.9		
VN 9/36	VN 9/3T6	3	1.5	2	2.36	35	450	10.8	7.1	4.1		
-	VN 9/4T6	4	2.2	3	3.17	-	-	-	10.6	6.1		
-	VN 9/5T6	5	3	4	3.75	-	-	-	11.8	6.8		

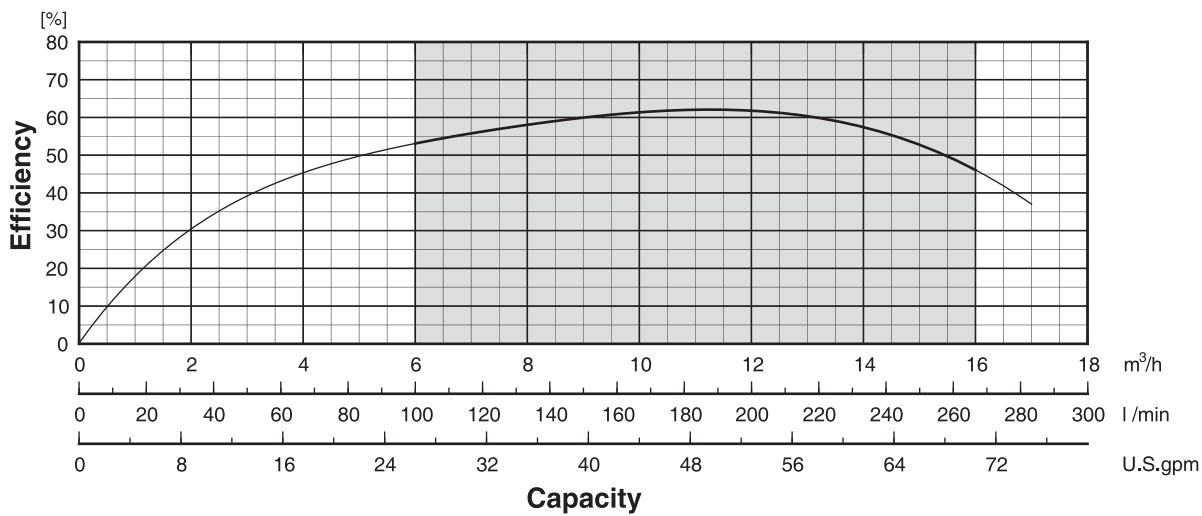
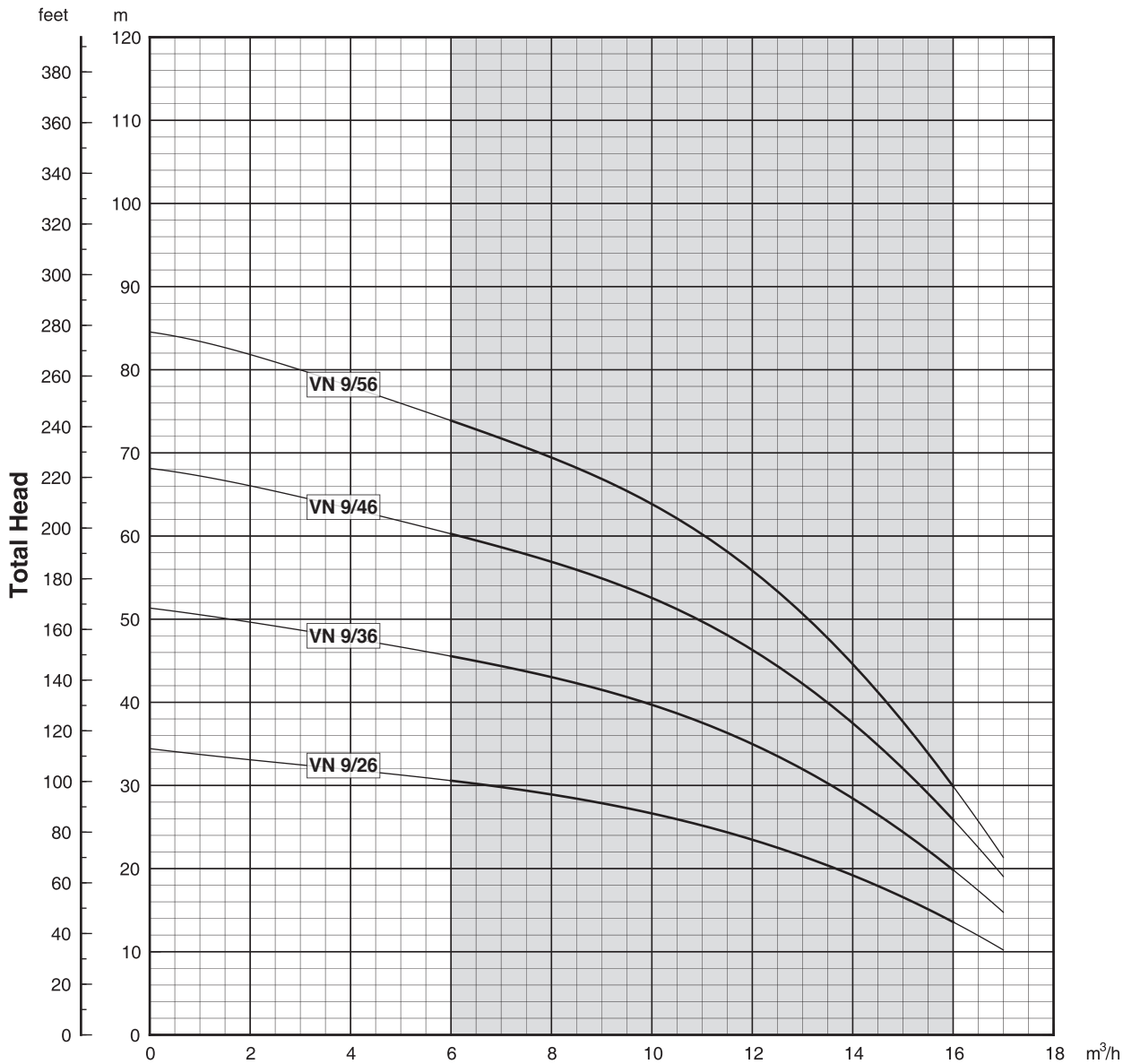
- Single-phase motors: 220-230 V ± 5 % / 60Hz. Thermal protection built into the motor up to 1,1 kW. Thermal protection provided into the starter panel from 1,5 kW and above.
- Three-phase motors: 220-230 V or 380-400 V ± 5 % / 60Hz. Thermal protection to be provided into the starter panel by the installer.

## Dimensions and weights

Pump model			PACKAGING				
Single-phase 220-230V 60Hz	Three-phase 220-230V or 380-400V 60Hz	Lt mm	L mm	B mm	H mm	Weight kg	
						Single-phase	Three-phase
VN 9/26	VN 9/2T6	474	720	230	175	16.5	15.5
VN 9/36	VN 9/3T6	504	720	230	175	19.5	17.5
-	VN 9/4T6	584	720	230	175	-	20.5
-	VN 9/5T6	614	720	230	195	-	22.0



## Performance curves 60Hz





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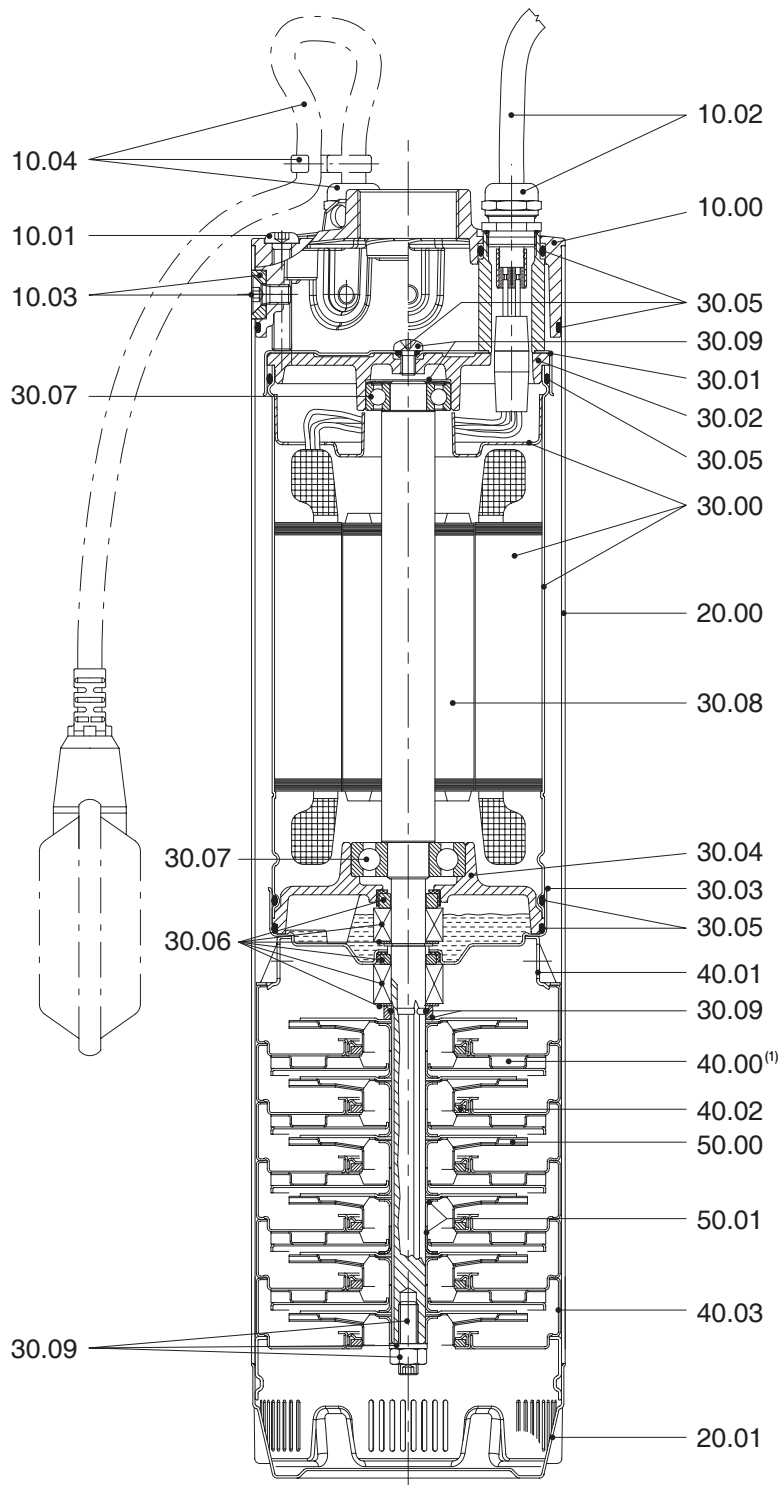
# **VN Series Pump Section and List of Main Components**

**VN 3**

**VN 5**

**VN 9**

# VN 3 VN 5 VN 9



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Ref. N.	Description
1000	Discharge head
1001	Screws for pre-loading assembly (3 pcs)
1002	Power cable assembly
1003	Screws and inserts (6 pcs)
1004	Level control assembly
2000	Outer case
2001	Suction strainer
3000	Motor housing and stator
3001	Upper motor cover
3002	Upper bearing housing
3003	Lower motor cover
3004	Lower bearing cover

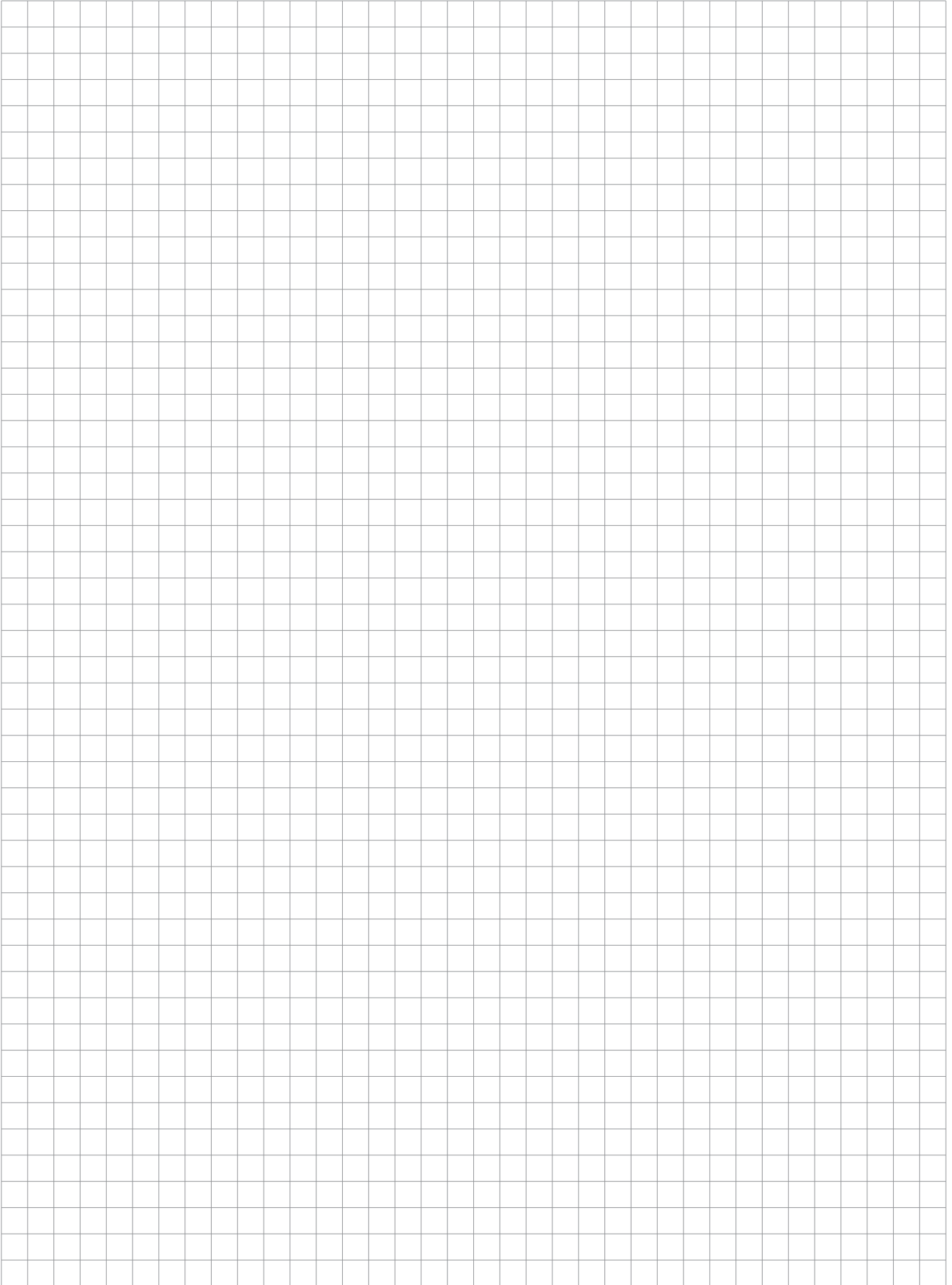
Ref. N.	Description
3005	Kit O-Rings (5 pcs)
3006	Kit mechanical seals (2 pcs)
3007	Kit ball bearings (2 pcs)
3008	Rotor and pump shaft
3009	Kit screws, nut and washers
4000	Stage housing and diffuser
4001	Spacer
4002	Floating neck ring assembly
4003	Initial stage housing
5000	Impeller
5001	Impeller spacers (2 pcs)

1) For VN 9, Diffusers = Impellers + 1. Ex. VN 9/4 = 4 impellers and 5 diffusers.

A large grid of graph paper with 28 columns and 40 rows, intended for taking notes or drawing.



# Notes





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