



VN NAUTI SERIES 50-60 HZ

5" STAINLESS STEEL CLOSE-COUPLED SUBMERSIBLE PUMPS



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For the most up-to-date product information, visit franklinwater.eu.



5" STAINLESS STEEL CLOSE-COUPLED SUBMERSIBLE PUMPS

APPLICATION

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

FEATURES

- Compact close-coupled design, robust and corrosion 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 (floater) 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

PUMP SPECIFICATIONS

- Flow: up to 14 m³/h at 50 Hz; up to 16 m³/h at 60 Hz
- Head: up to 104 m at 50 Hz; up to 115 m at 60 Hz
- Discharge outlet: 1"¼ Rp
- Maximum working pressure: 15 Bar
- Maximum immersion depth: 20 m
- Maximum allowable amount of sand: 50 g/m³
- Maximum solid size: up to 2 mm
- Liquid temperature range: from -5 °C to +40 °C
- The hydraulic characteristics are guaranteed, according to ISO standard 9906:2012, grade 3B
- Power cable: 20 m cable type H07RN-F is supplied with standard version
- Continuous operating either in vertical or horizontal position
- Available in two single-phase version:
 - without capacitor and without float switch
 - without capacitor and with float switch

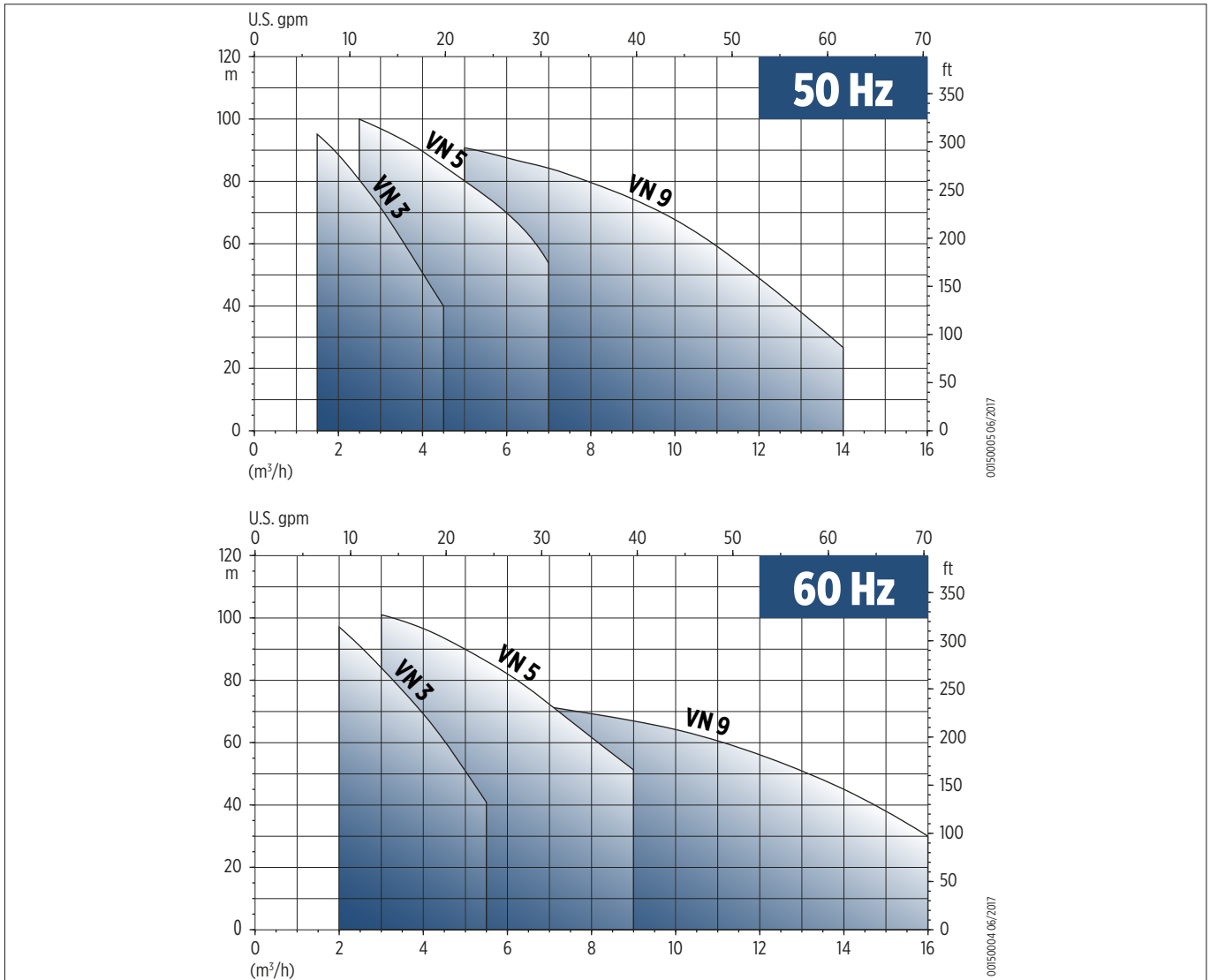
MOTOR SPECIFICATIONS

- Single phase or three phase motor
- Asynchronous, Insulation class F, IP 68 protection
- Standard voltage
 - Single-phase: 50Hz motors 220-240 V ± 5 %; 60Hz motors 220-230 V ± 5 %. 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: 50Hz motors 220-240 V ± 5 % and 380-415 V ± 5 %; 60Hz motors 220-230 V ± 5 % or 380-400V ± 5%. Thermal protection to be provided into the starter panel by the Installer.
- Maximum number starts per hour: 60. Waiting time between two consecutive starts 1 minute.

AVAILABLE ON REQUEST

- Different voltage
- Different power cable lengths
- Starter panel for single-phase units

FAMILY CURVES



PUMP IDENTIFICATION CODE

VN 3 / 7 T 6

- 6 (60 Hz); empty (50 Hz)
- T (three-phase vers.); empty (single-phase vers.)
- Number of stage
- Nominal flow in m³/h
- Pump model

VN 3-5-9

TABLE OF HYDRAULIC PERFORMANCE AT 50HZ

Pump model	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 ³ /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 METERS HEAD OF WATER COLUMN [m]																			
VN 3/4	0.55	0.75	45	40	37.5	34.5	31	27	23	18											
VN 3/5	0.75	1	56	49	46	42	38	33	27.5	21.5											
VN 3/6	0.75	1	66.5	58	54	49.5	44.5	38.5	32	25											
VN 3/7	0.9	1.2	77.5	68	63.5	58	52	45	37.5	29.5											
VN 3/8	1.1	1.5	88	77	71.5	65	58	50.5	42	32.5											
VN 3/9	1.5	2	100.5	89.5	82.5	76.5	68.5	59.5	50	39.5											
VN 3/10	1.5	2	111.5	98.5	91.5	84	75	65.5	55	43											
VN 5/4	0.75	1	45.5			40.5	39	38	36.5	35	33	30.5	28	22							
VN 5/5	0.9	1.2	57			50.5	49	47.5	45.5	43.5	41	38	35	27.5							
VN 5/6	1.1	1.5	68			59.5	58	55.5	53	50.5	47.5	44	40.5	31.5							
VN 5/7	1.5	2	80.5			71	69	67	64.5	61	58	54	49.5	39							
VN 5/8	1.5	2	91.5			81	78	75.5	72.5	69	65	60.5	55.5	44							
VN 5/9	2.2	3	102.5			91	88	85	81.5	77.5	73	68.5	63	49.5							
VN 5/10	2.2	3	113.5			100	97	93	89.5	85	80	75	69	53.5							
VN 9/3	1.1	1.5	35.5								31.5	31	30.5	29	28	26	24	21.5	11.0		
VN 9/4	1.5	2	47.5								42.5	42	41	39.5	38	35.5	33	29.5	15		
VN 9/5	2.2	3	59.5								52.5	52	51	49	47	44	40.5	36.5	18.5		
VN 9/6	2.2	3	70.5								62	61	60	58	55	51.5	47.5	42	20.5		
VN 9/7	3	4	82.5								73	71.5	70.5	67.5	64.5	60.5	55.5	49.5	24		
VN 9/8	3	4	94								82	80.5	79	76	72	67.5	62	55	25		
VN 9/9	3	4	105								91	89	87.5	84	79.5	74.5	67.5	59.5	26.5		

TABLE OF HYDRAULIC PERFORMANCE AT 60HZ

Pump model	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 ³ /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 METERS HEAD OF WATER COLUMN [m]																			
VN 3/3	0.75	1	49			43	40.5	37.5	34.5	31	27.5	23	19								
VN 3/4	0.9	1.2	65			55.5	52.5	49	44.5	40	35	29.5	24								
VN 3/5	1.1	1.5	80.5			69	65	60	55	49	43	36.5	29								
VN 3/6	1.5	2	97			84	79	73.5	67	60.5	53	45	36								
VN 3/7	1.5	2	112			97	91	84	77	69	60.5	51	41								
VN 5/2	0.75	1	33.5					30	29.5	28.5	28	27	26	25	22	19	15				
VN 5/3	0.9	1.2	50					44	43	42	40.5	39	37.5	36	31.5	27	21				
VN 5/4	1.1	1.5	65.5					58	56.5	55	53	51	49	46.5	41	34	26				
VN 5/5	1.5	2	82.5					73	71.5	69	67	65	62	59	52	44	34				
VN 5/6	2.2	3	99					88	86	83.5	81	78	75	71.5	63	53	41				
VN 5/7	2.2	3	115					101	99	96	93	89	86	82	72	60	46				
VN 9/2	1.1	1.5	34.5											30.5	29.5	29	28	27	25	19	14
VN 9/3	1.5	2	51											45.5	44.5	43	41.5	39.5	37.5	28.5	20
VN 9/4	2.2	3	68											60.5	59	57	55	52.5	49.5	37.5	26
VN 9/5	3	4	84.5											74	72	69.5	67	64	60.5	45	30

MATERIALS/FLUIDS COMPATIBILITY

Position	Parts Description	Type	Material	
			AISI	DIN / EN
10.00	Discharge head	Nical plated brass	-	UNI-EN 12165-98
20.00	Outer case	Stainless steel	304	1.4301
20.01	Suction head	Stainless steel	304	1.4301
30.00	Pump casing	Stainless steel	304	1.4301
30.01 / 30.03	Pump casing cover	Stainless steel	304	1.4301
30.05	Kit O-ring	NBR	-	-
30.06	Mechanical seal	Ceramic / Carbon / NBR	-	-
		Silicon Carbide / Carbon / NBR	-	-
30.08	Pump shaft	Stainless steel	304	1.4301
30.09	Screws and washers	Stainless steel	304	1.4301
40.00 / 40.01 / 40.03	Diffusers	Stainless steel	304	1.4301
40.02	Floating neck ring assembly	PPS	-	-
50.00 / 50.01	Impellers with spacers	Stainless steel	304	1.4301



Technical data and Performance curves

50Hz

VN 3 50Hz

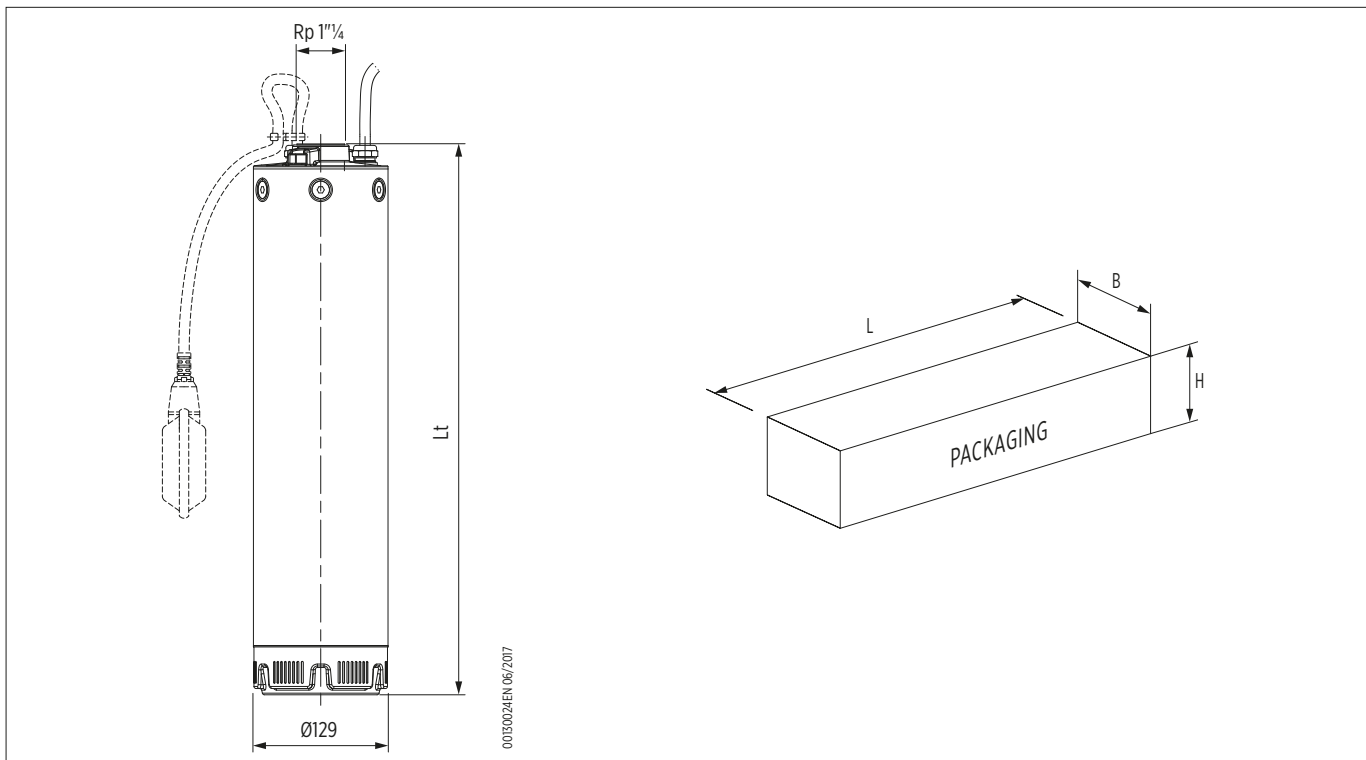
TECHNICAL DATA

Pump model		Number of stages	MOTOR POWER		INPUT POWER	Capacitor		RATED CURRENT	
Single-phase	Three-phase		[kW]	[HP]		μF	V	Single-phase	Three-phase
									220-240 V 50 Hz
VN 3/4	VN 3/4T	4	0.55	0.75	0.84	20	450	4.1	2.0
VN 3/5	VN 3/5T	5	0.75	1	0.99	20	450	4.7	2.1
VN 3/6	VN 3/6T	6	0.75	1	1.15	20	450	5.2	2.3
VN 3/7	VN 3/7T	7	0.9	1.2	1.34	30	450	6.7	2.5
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	3.0
VN 3/10	VN 3/10T	10	1.5	2	1.89	35	450	9.8	3.2

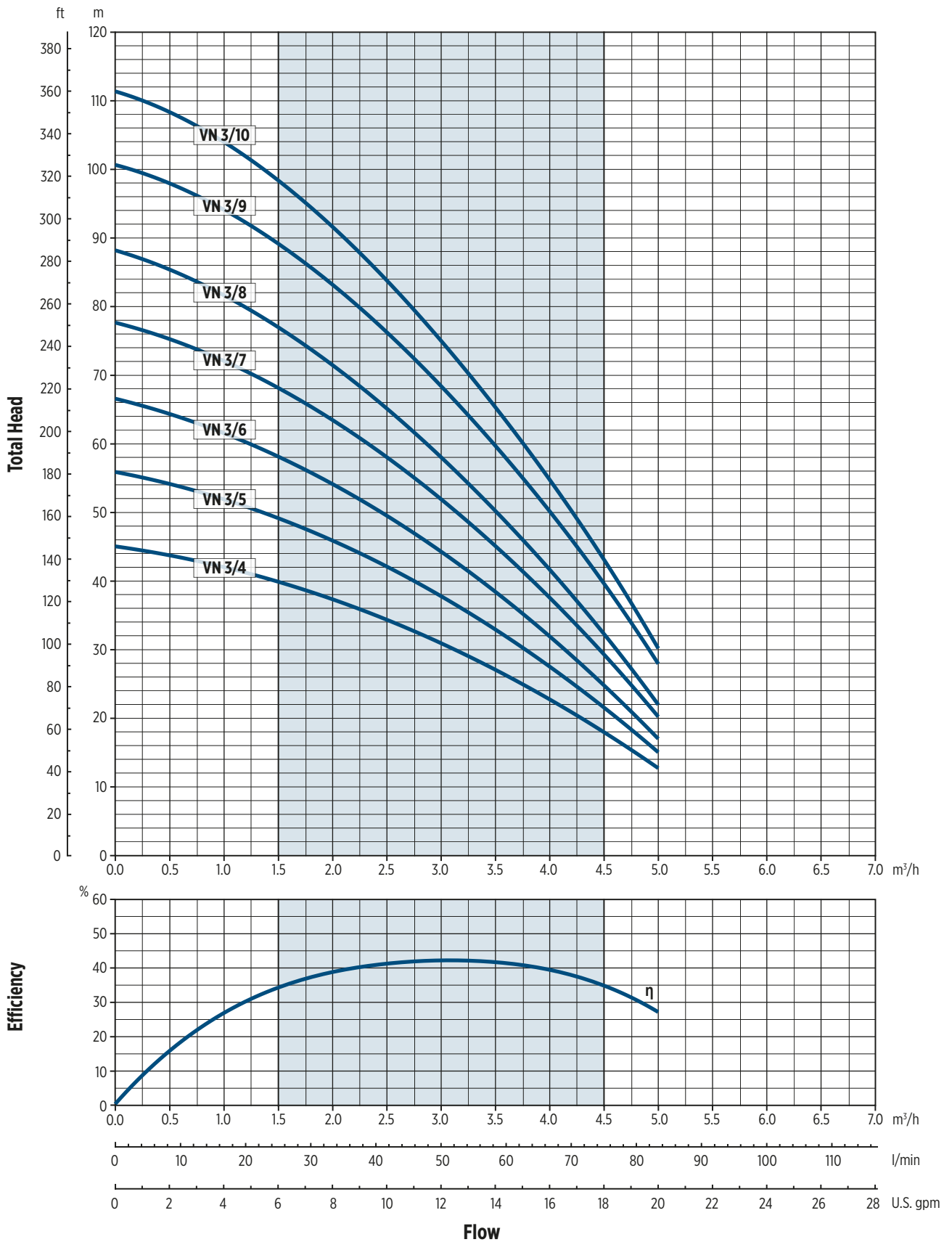
DIMENSIONS AND WEIGHTS

Pump			Packaging				Weight [Kg]	
Single-phase	Three-phase	Lt [mm]	L [mm]	B [mm]	H [mm]	Single-phase	Three-phase	
VN 3/4	VN 3/4T	480	720	230	175			16.0
VN 3/5	VN 3/5T	504	720	230	175	18.0	16.5	
VN 3/6	VN 3/6T	528	720	230	175	18.5	17.5	
VN 3/7	VN 3/7T	552	720	230	175	20.0	18.5	
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	

DIMENSIONAL DRAWINGS



PERFORMANCE CURVES 50Hz



0012002ZEN 04/2018

VN 5 50Hz

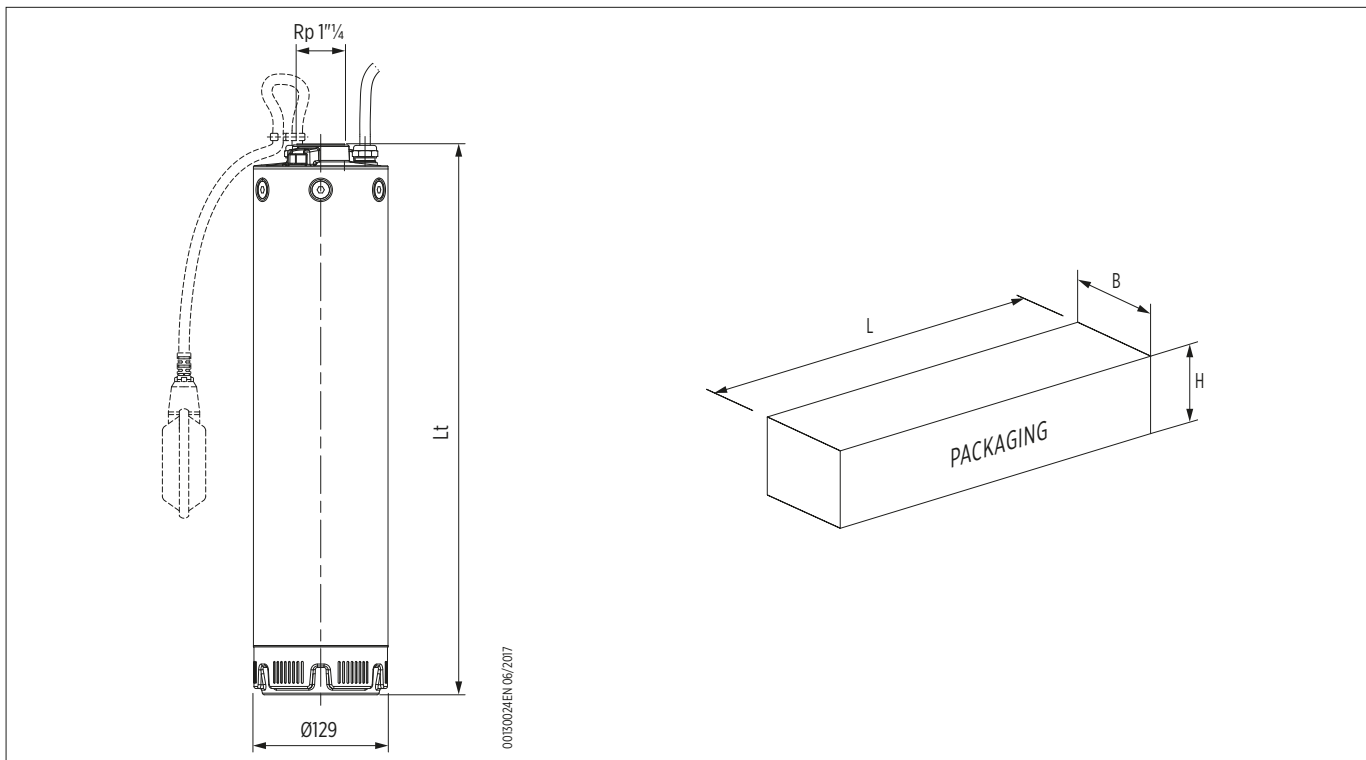
TECHNICAL DATA

Pump model		Number of stages	MOTOR POWER		INPUT POWER	Capacitor		RATED CURRENT	
Single-phase	Three-phase		[kW]	[HP]		μF	V	Single-phase	Three-phase
								220-240 V 50 Hz	380-415 V 50 Hz
VN 5/4	VN 5/4T	4	0.75	1	1.07	20	450	5.0	2.2
VN 5/5	VN 5/5T	5	0.9	1.2	1.34	30	450	6.7	2.5
VN 5/6	VN 5/6T	6	1.1	1.5	1.56	30	450	7.5	2.8
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

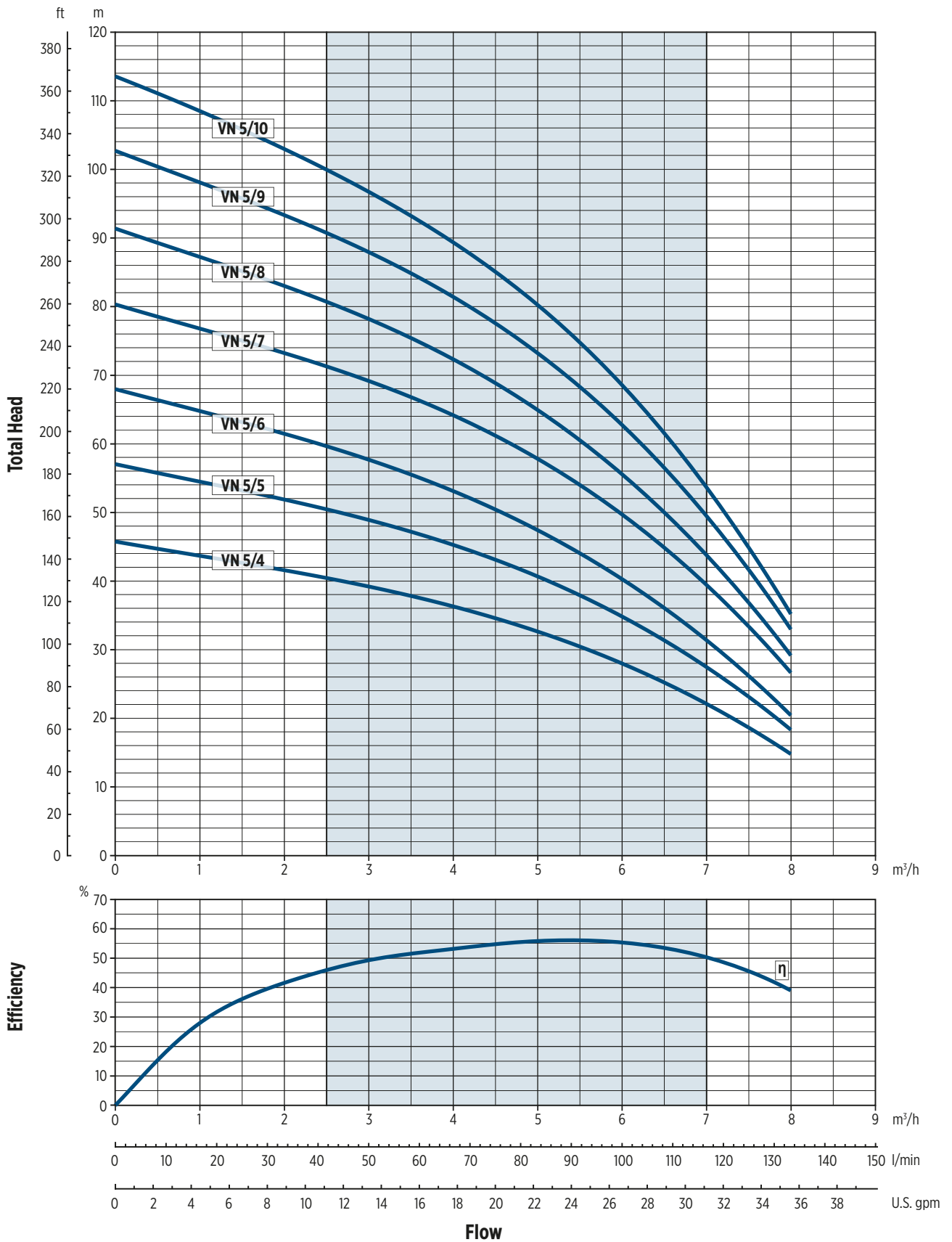
DIMENSIONS AND WEIGHTS

Pump			Packaging				Weight [Kg]	
Single-phase	Three-phase	Lt [mm]	L [mm]	B [mm]	H [mm]	Single-phase	Three-phase	
VN 5/4	VN 5/4T	480	720	230	175			17.5
VN 5/5	VN 5/5T	504	720	230	175	19.0	17.5	
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	

DIMENSIONAL DRAWINGS



PERFORMANCE CURVES 50Hz



00120035EN/06/2017

VN 9 50Hz

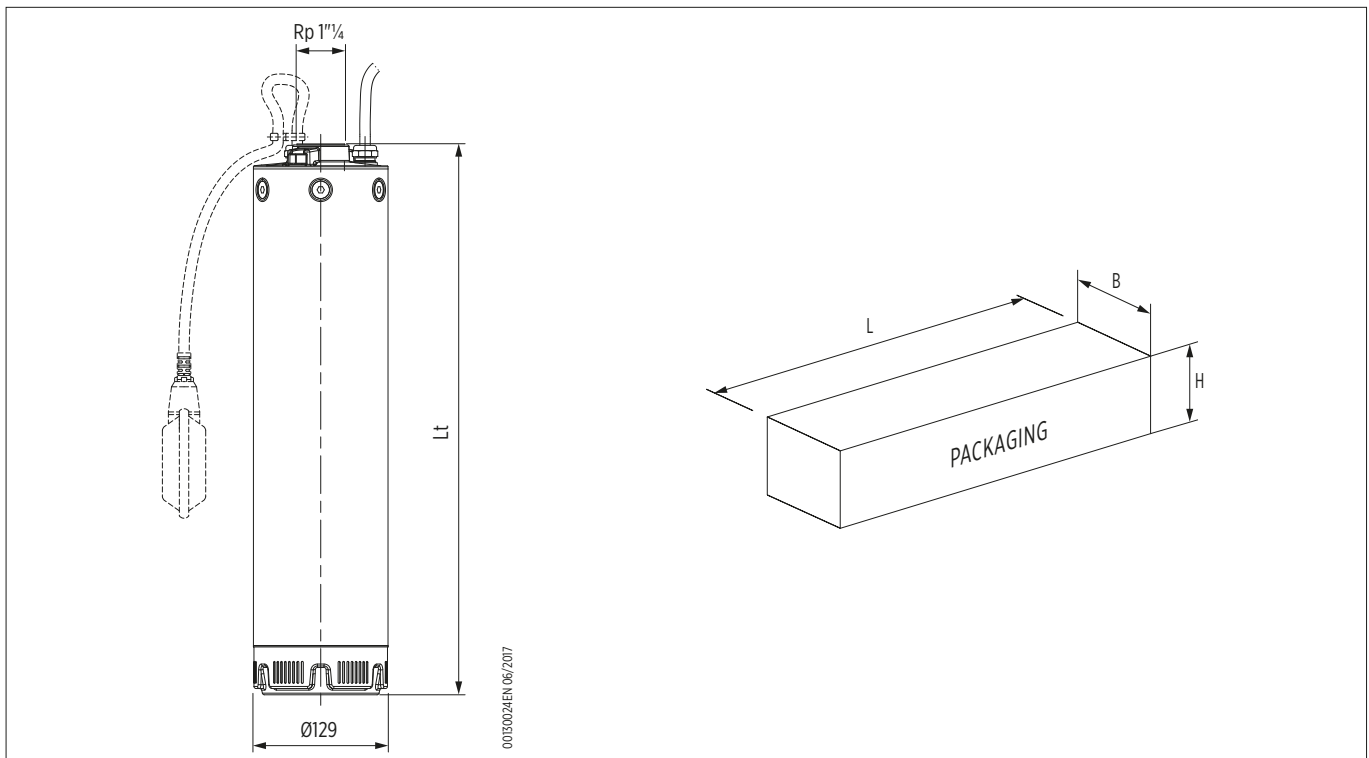
TECHNICAL DATA

Pump model		Number of stages	MOTOR POWER		INPUT POWER	Capacitor		RATED CURRENT	
Single-phase	Three-phase		[kW]	[HP]		μF	V	Single-phase	Three-phase
					[kW]			50 Hz	50 Hz
VN 9/3	VN 9/3T	3	1.1	1.5	1.44	30	450	6.9	2.6
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	5.3
-	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

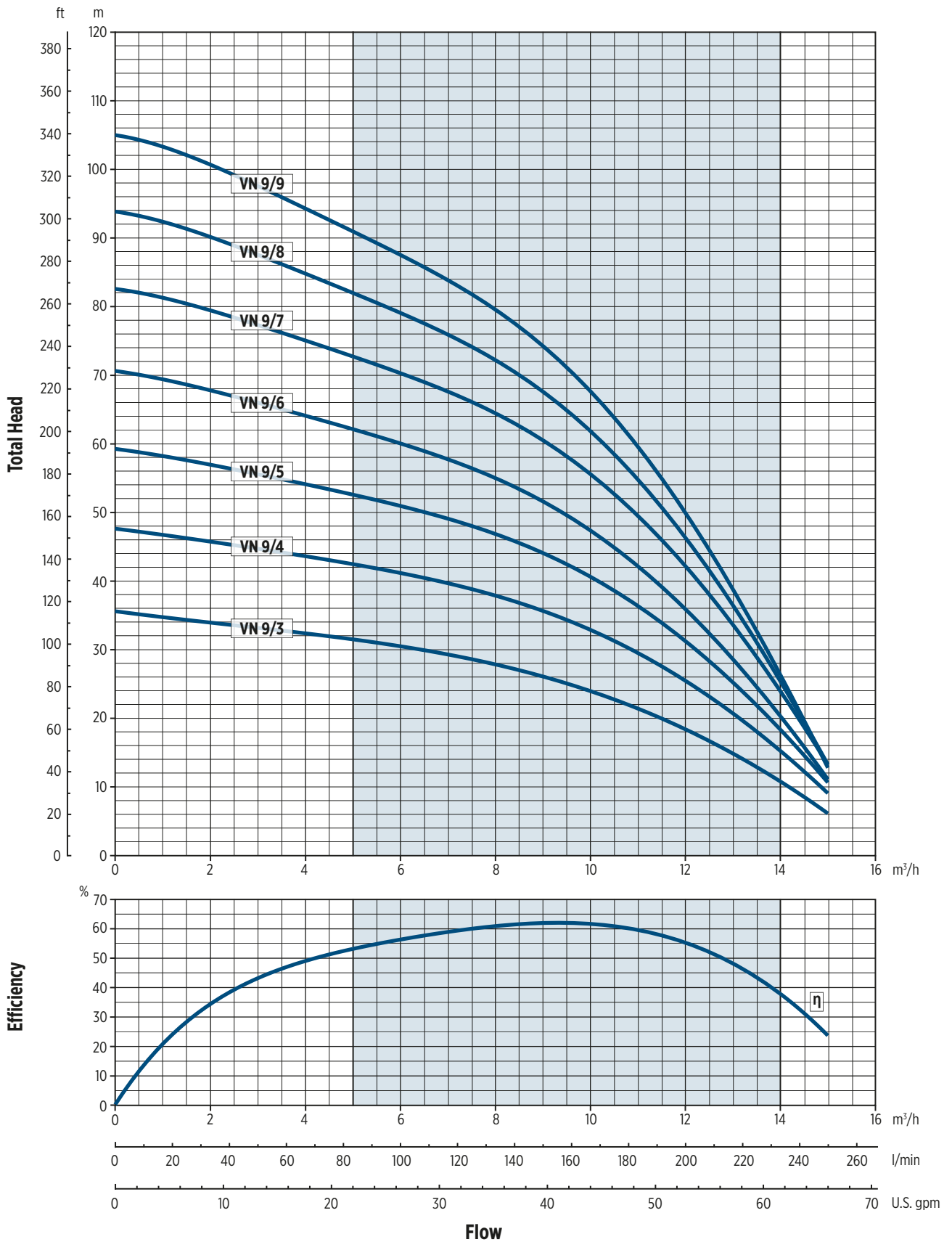
DIMENSIONS AND WEIGHTS

Pump			Packaging				
Single-phase	Three-phase	Lt [mm]	L [mm]	B [mm]	H [mm]	Weight [Kg]	
						Single-phase	Three-phase
VN 9/3	VN 9/3T	504	720	230	175	18.5	17.5
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

DIMENSIONAL DRAWINGS



PERFORMANCE CURVES 50Hz



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Technical data and Performance curves

60Hz

VN 3 60Hz

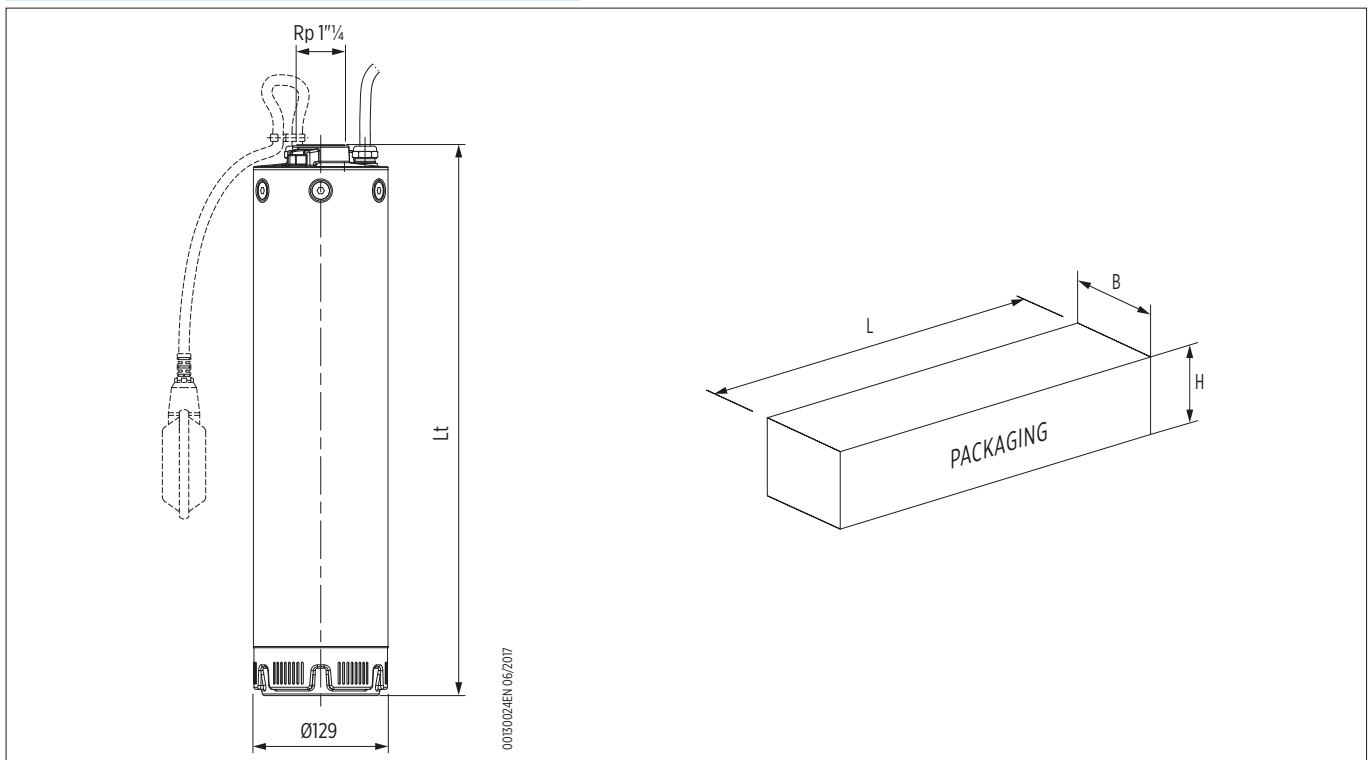
TECHNICAL DATA

Pump model		Number of stages	MOTOR POWER		INPUT POWER [kW]	Capacitor		RATED CURRENT		
Single-phase	Three-phase		[kW]	[HP]		μ F	V	Single-phase 220-230 V 60Hz	Three-phase 60Hz	
									220-230 V	380-400 V
VN 3/36	VN 3/3T6	3	0.75	1	1.05	20	450	5.2	4.2	2.4
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

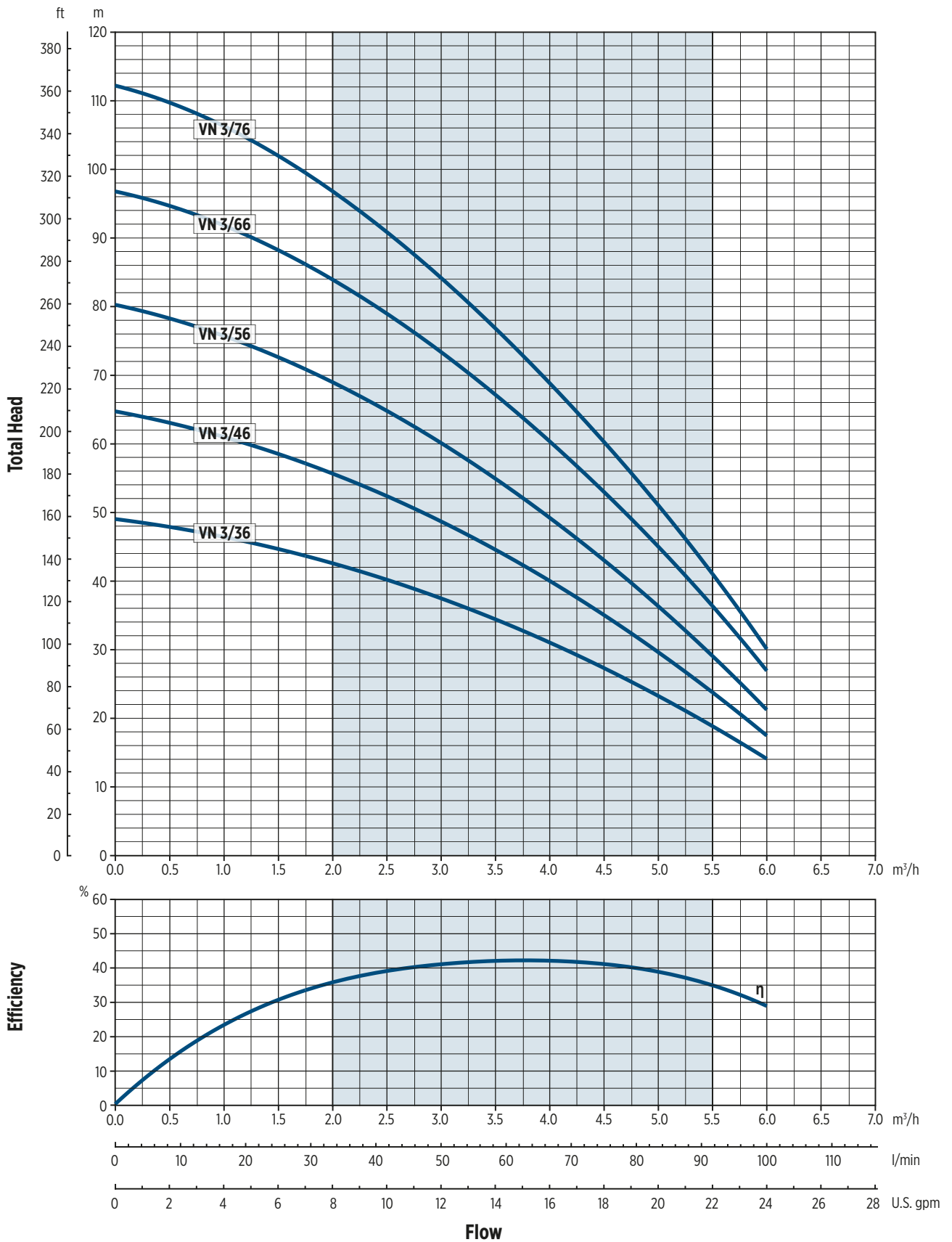
DIMENSIONS AND WEIGHTS

Pump			Packaging				
Single-phase	Three-phase	Lt [mm]	L [mm]	B [mm]	H [mm]	Weight [Kg]	
						Single-phase	Three-phase
VN 3/36	VN 3/3T6	456	720	230	175	15.5	15
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

DIMENSIONAL DRAWINGS



PERFORMANCE CURVES 60Hz



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VN 5 60Hz

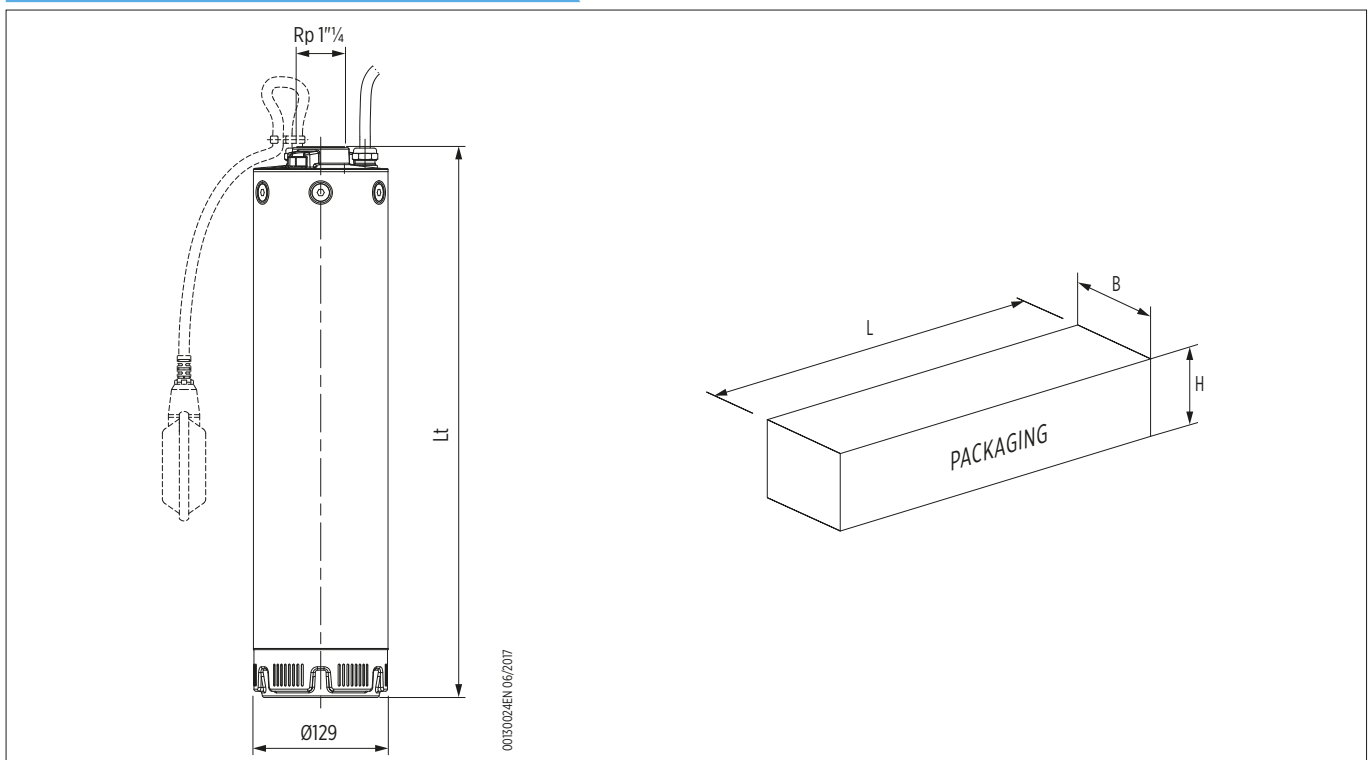
TECHNICAL DATA

Pump model		Number of stages	MOTOR POWER		INPUT POWER	Capacitor		RATED CURRENT		
Single-phase	Three-phase		[kW]	[HP]		μF	V	Single-phase 220-230 V 60Hz	Three-phase 60Hz	
					220-230 V				380-400 V	
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

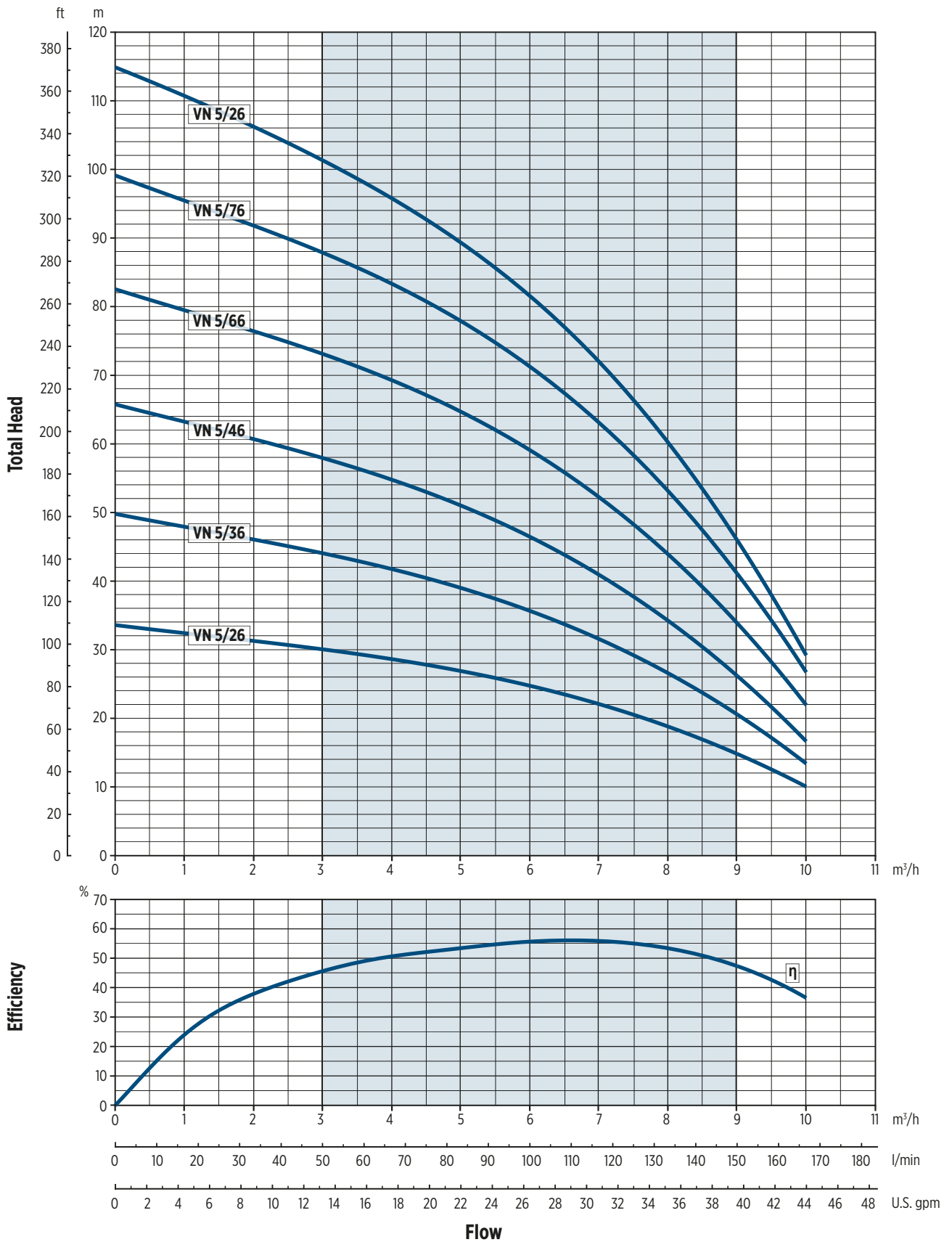
DIMENSIONS AND WEIGHTS

Pump			Packaging				
Single-phase	Three-phase	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

DIMENSIONAL DRAWINGS



PERFORMANCE CURVES 60Hz



The hydraulic characteristics are guaranteed, according to ISO standard 9906:2012, grade 3B

VN 9 60Hz

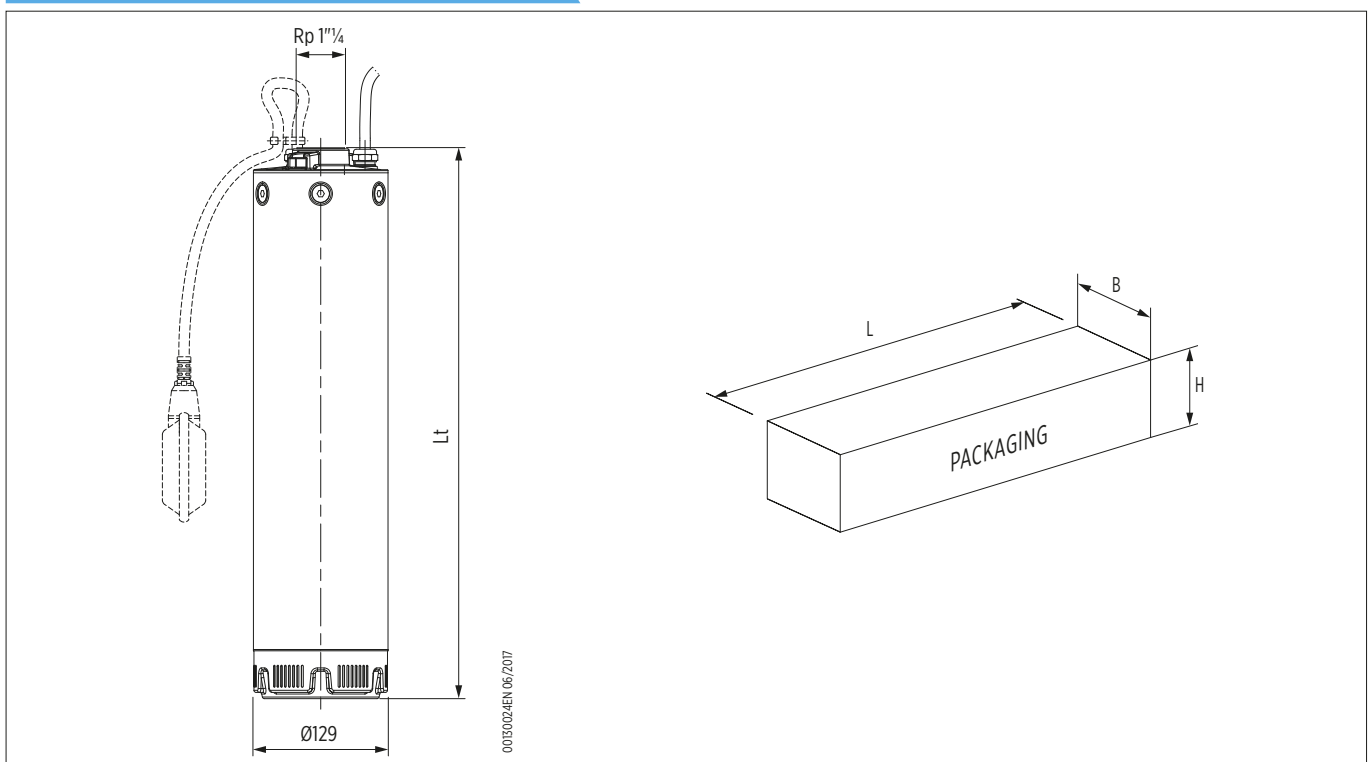
TECHNICAL DATA

Pump model		Number of stages	MOTOR POWER		INPUT POWER [kW]	Capacitor		RATED CURRENT		
Single-phase	Three-phase		[kW]	[HP]		μ F	V	Single-phase 220-230 V 60Hz	Three-phase 60Hz	
									220-230 V	380-400 V
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

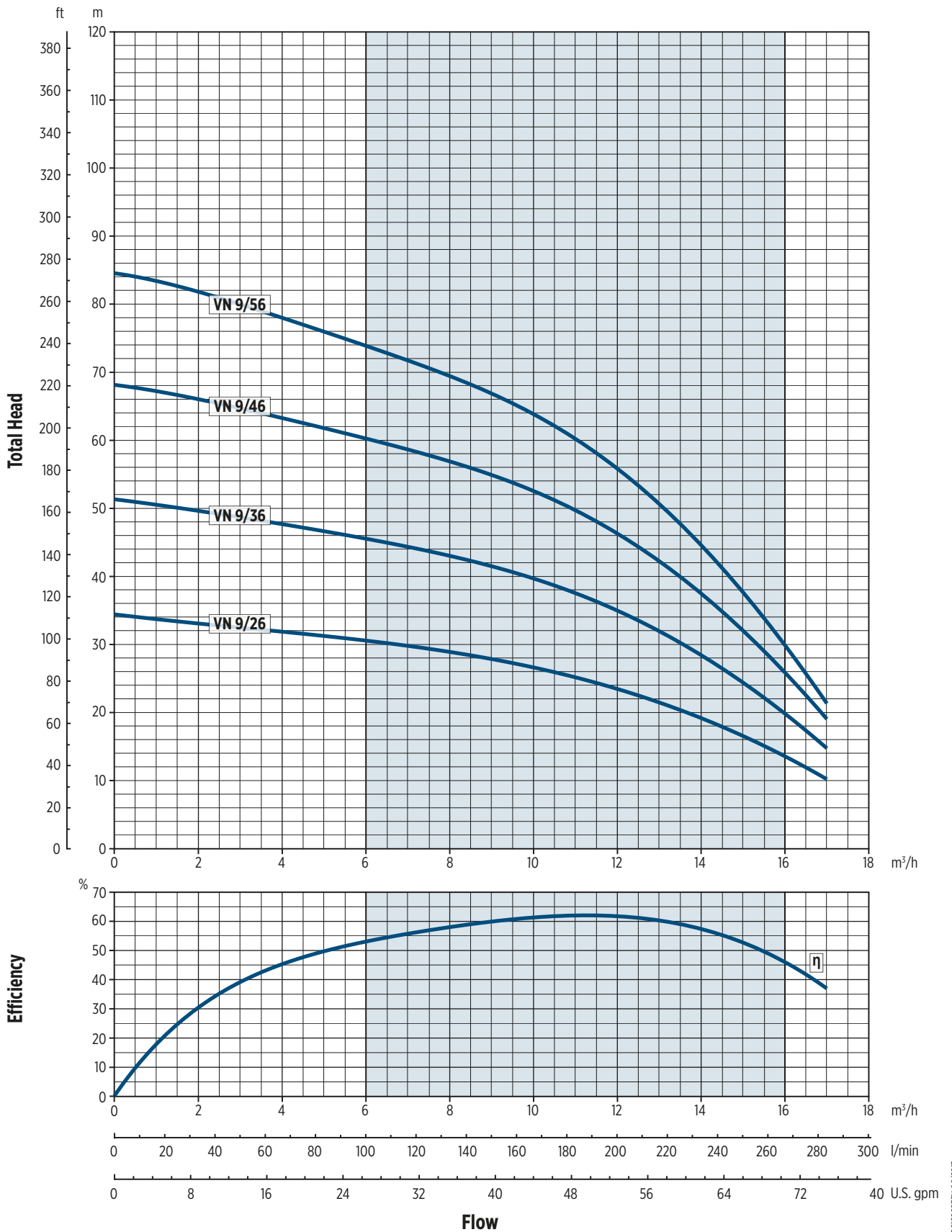
DIMENSIONS AND WEIGHTS

Pump			Packaging				
Single-phase	Three-phase	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

DIMENSIONAL DRAWINGS



PERFORMANCE CURVES 60Hz



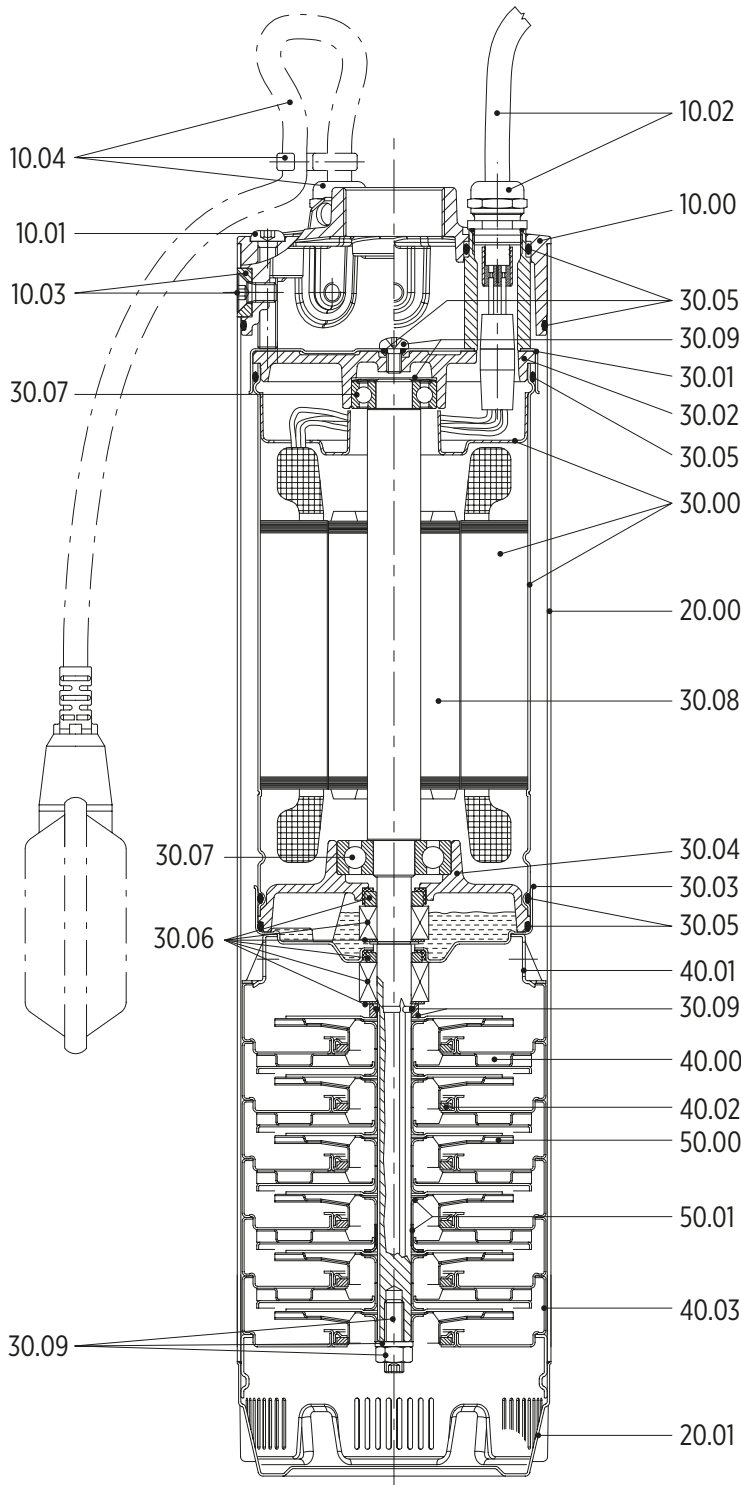
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Pump section and List of main components

VN 3-5-9

PUMP SECTION AND LIST OF MAIN COMPONENTS



Ref. N.	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	Kit 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 diffuser
40.01	Spacer
40.02	Floating neck ring assembly
40.03	Initial stage housing
50.00	Impeller
50.01	Impeller spacers

NOTE: Per VN 9, diffusers = impellers + 1
 Ex. VN 9/4 = 4 impellers and 5 diffusers

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CATALOG REVISION CHANGES NOTICE

Rev. No.	Changes	Page
02	Modified the description of pump	2, 3
	Modified and updating section "Materials/Fluids compatibility"	5
	Updating Technical and Dimensional data	8, 10, 12, 16, 18, 20
03	Modified performance curves VN 3 50 Hz	9





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Single member - Company subject to the control and coordination of Franklin Electric Co., Inc.

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

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