

## "In-line" multi-stage pumps



### PERFORMANCE RANGE

- Flow rate up to **120 l/min** (7.2 m<sup>3</sup>/h)
- Head up to **105 m**

### APPLICATION LIMITS

- Manometric suction lift up to **7 m**
- Maximum liquid temperature **+40 °C**
- Max. working pressure **10 bar**
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

Complete with **2 m** long power cable

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS



### INSTALLATION AND USE

Suitable for use with clean water and liquids that are not chemically aggressive towards the materials from which the pump is made. As a result of their reliability, quietness, high efficiency and leak proof design in the event of seal failure, they are suitable for use in domestic and civil applications where there is a lack of ventilation or space as well as in closed spaces, wet areas and on delicate surfaces (e.g. wooden floorboards, carpets, etc). They are capable of functioning at depths of up to 20 m provided that they are equipped with a sufficiently long power cable.

### OPTIONALS AVAILABLE ON REQUEST

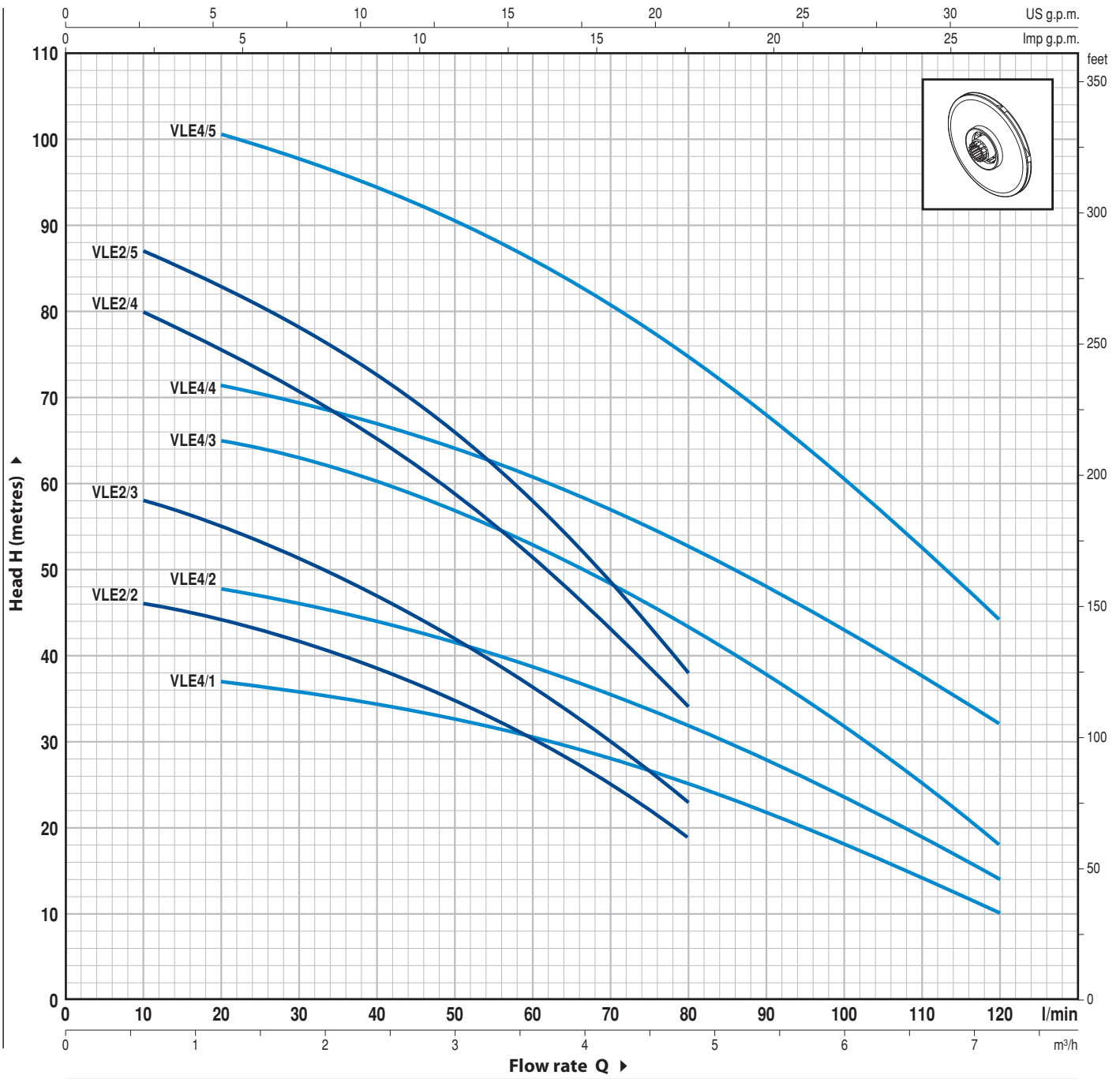
- Other voltages or 60 Hz frequency

### GUARANTEE

2 years subject to terms and conditions

**CHARACTERISTIC CURVES AND PERFORMANCE DATA**

**50 Hz n= 2900 1/min HS= 0 m**



MODEL		POWER		Q	Flow rate												
Single-phase	Three-phase	kW	HP		m³/h	0	0.6	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0	6.6
				l/min	0	10	20	30	40	50	60	70	80	90	100	110	120
VLEm 2/2	-	0.55	0.75	H metres	48	46	44	41.5	39	35	30	25	19				
VLEm 2/3	VLE 2/3	0.75	1		60	58	55	51	47	42	36	30	23				
VLEm 2/4	VLE 2/4	1.1	1.5		84	80	75	70	65	59	51	42.5	34				
VLEm 2/5	VLE 2/5	1.5	2		90	87	83	78	73	66	58	48	38				
VLEm 4/1	-	0.55	0.75		40	-	37	36	34.5	32.5	30	28	25	21.5	18.5	14.5	10
VLEm 4/2	VLE 4/2	0.75	1		50	-	48	46	44	41	38	35	32	28	24	19	14
VLEm 4/3	VLE 4/3	1.1	1.5		67	-	65	62.5	60	56.5	52	48	44	38	32	25	18
VLEm 4/4	VLE 4/4	1.5	2		75	-	72	69	66	64	60	57	53	48	43	38	32
VLEm 4/5	VLE 4/5	2.2	3		105	-	101	98	94	90	86	80	75	67	60	52	44

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 App. A.

**POS. COMPONENT CONSTRUCTION CHARACTERISTICS**

1	<b>SUCTION BODY</b>	Stainless steel AISI 304, complete with threaded suction port in compliance with ISO 228/1
2	<b>EXTERNAL SLEEVE</b>	Stainless steel AISI 304, complete with threaded delivery port in compliance with ISO 228/1
3	<b>MOTOR SLEEVE</b>	Stainless steel AISI 304
4	<b>IMPELLERS AND DIFFUSERS</b>	Noryl GFN2V
5	<b>DIAPHRAGMS</b>	Stainless steel AISI 304, complete with anti-wear ring
6	<b>MOTOR SHAFT</b>	Stainless steel EN 10088-3 - 1.4104

**7 TWO MECHANICAL SEALS SEPARATED BY AN OIL CHAMBER**

Seal Model	Shaft Diameter	Position	Materials		
			Stationary ring	Rotational ring	Elastomer
MG1-16	Ø 16 mm	Motor side	Silicon carbide	Graphite	NBR
MG1-15 SIC	Ø 15 mm	Pump side	Silicon carbide	Silicon carbide	NBR

**8 BEARINGS 6303 2RS - C3 / 6203 ZZ - C3**

**9 CAPACITOR**

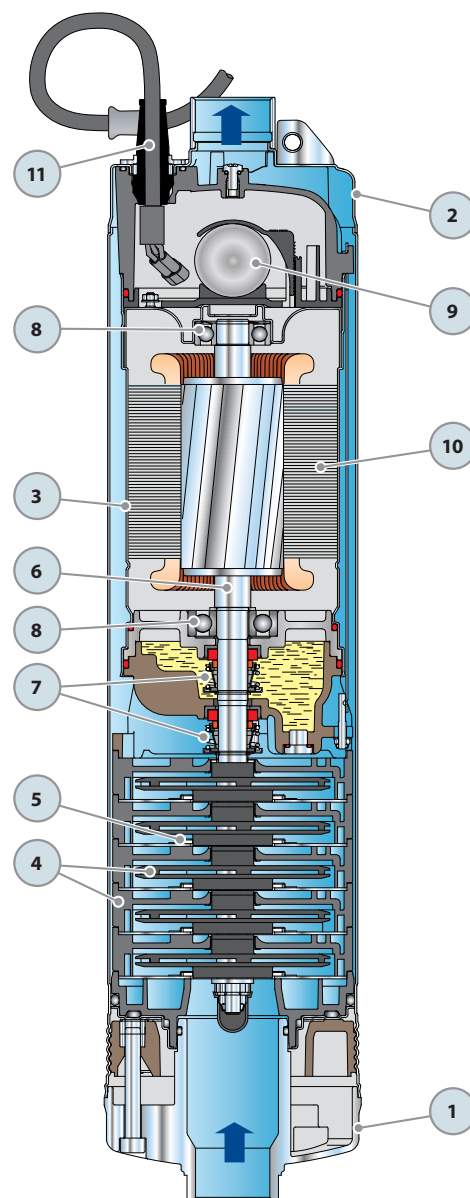
Pump Single-phase	Capacitance (230 V or 240 V)	(110 V)
VLEm 2/2	16 µF 500 VL	30 µF 250 VL
VLEm 4/1	20 µF 500 VL	-
VLEm 2/3	25 µF 500 VL	-
VLEm 4/2		
VLEm 2/4		
VLEm 4/3		

**10 ELECTRIC MOTOR**

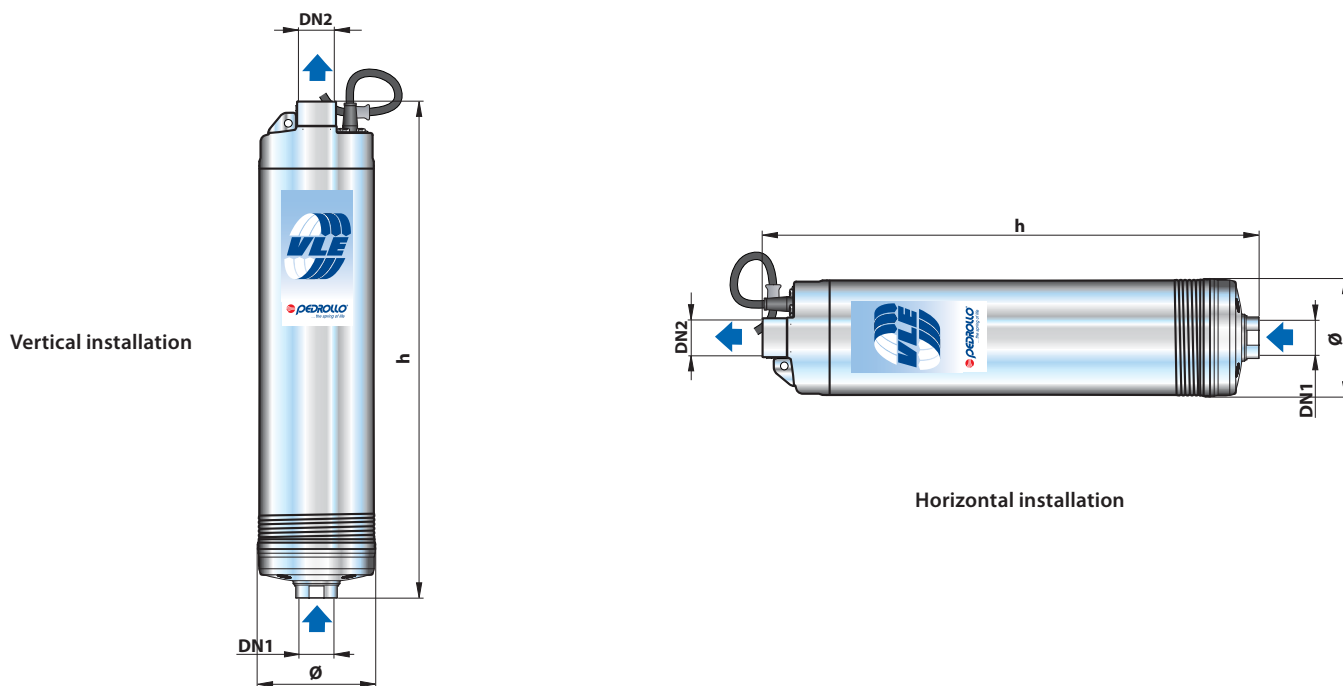
**VLEm:** single-phase 230 V - 50 Hz  
 with built-in overload protector.  
**VLE:** three-phase 400 V - 50 Hz.  
 – Insulation: F class.  
 – Protection: IP 68.

**11 POWER CABLE**

2 metre long "H07 RN-F" cable



### DIMENSIONS AND WEIGHT



MODEL		PORTS		N° STAGES	DIMENSIONS mm		kg	
Single-phase	Three-phase	DN1	DN2		Ø	h	1~	3~
VLEm 2/2 VLEm 4/1	-	1 1/4"	1 1/4"	4	135	546	14.0	-
VLEm 2/3 VLEm 4/2	VLE 2/3 VLE 4/2			5		600	16.0	14.7
VLEm 2/4 VLEm 4/3	VLE 2/4 VLE 4/3			7		648	18.1	16.8

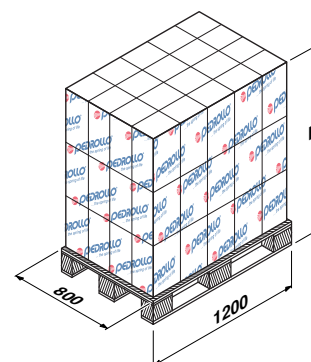
### ABSORPTION

MODEL	VOLTAGE (single-phase)		
	230 V	240 V	110 V
Single-phase	230 V	240 V	110 V
VLEm 2/2	5.0 A	5.0 A	10.0 A
VLEm 2/3	6.0 A	6.0 A	-
VLEm 2/4	7.5 A	7.5 A	-
VLEm 4/1	5.0 A	5.0 A	10.0 A
VLEm 4/2	6.0 A	6.0 A	-
VLEm 4/3	7.5 A	7.5 A	-

MODEL	VOLTAGE (three-phase)			
	230 V	400 V	240 V	415 V
Three-phase	230 V	400 V	240 V	415 V
VLE 2/3	4.5 A	2.6 A	4.5 A	2.6 A
VLE 2/4	5.2 A	3.0 A	5.2 A	3.0 A
VLE 4/2	4.5 A	2.6 A	4.5 A	2.6 A
VLE 4/3	5.2 A	3.0 A	5.2 A	3.0 A

### PALLETIZATION

MODEL		GROUPAGE			CONTAINER				
Single-phase	Three-phase	n° pumps	H (mm)	kg		n° pumps	H (mm)	kg	
				1~	3~			1~	3~
VLEm 2/2 VLEm 4/1	-	36	1190	522	-	60	1890	859	-
VLEm 2/3 VLEm 4/2	VLE 2/3 VLE 4/2	25	869	417	385	40	1307	658	605
VLEm 2/4 VLEm 4/3	VLE 2/4 VLE 4/3	25	869	470	437	40	1307	741	689



**POS. COMPONENT CONSTRUCTION CHARACTERISTICS**

<b>1 PUMP BODY</b>	Stainless steel AISI 304, complete with threaded suction port in compliance with ISO 228/1
<b>2 EXTERNAL SLEEVE</b>	Stainless steel AISI 304, complete with threaded delivery port in compliance with ISO 228/1
<b>3 MOTOR SLEEVE</b>	Stainless steel AISI 304
<b>4 IMPELLERS AND DIFFUSERS</b>	Noryl GFN2V
<b>5 DIAPHRAGMS</b>	Stainless steel AISI 304, complete with anti-wear ring
<b>6 MOTOR SHAFT</b>	Stainless steel EN 10088-3 - 1.4104

**7 TWO MECHANICAL SEALS SEPARATED BY AN OIL CHAMBER**

Seal Model	Shaft Diameter	Position	Materials		
			Stationary ring	Rotational ring	Elastomer
MG1-19	Ø 19 mm	Motor side	Silicon carbide	Graphite	NBR
MG1-18 SIC	Ø 18 mm	Pump side	Silicon carbide	Silicon carbide	NBR

**8 BEARINGS 6304 2RS - C3 / 6203 ZZ - C3**

**9 CAPACITOR**

Pump Single-phase	Capacitance (230 V or 240 V)
VLEm 2/5	35 µF 450 VL
VLEm 4/4	35 µF 450 VL
VLEm 4/5	50 µF 450 VL

**10 ELECTRIC MOTOR**

**VLEm:** single-phase 230 V - 50 Hz.  
 Windings up to **1.5 kW** with built-in thermal overload protector.  
 ➔ The **VLEm4/5 2.2 kW** pump is equipped with an external manual reset overload protector housed in the control box.

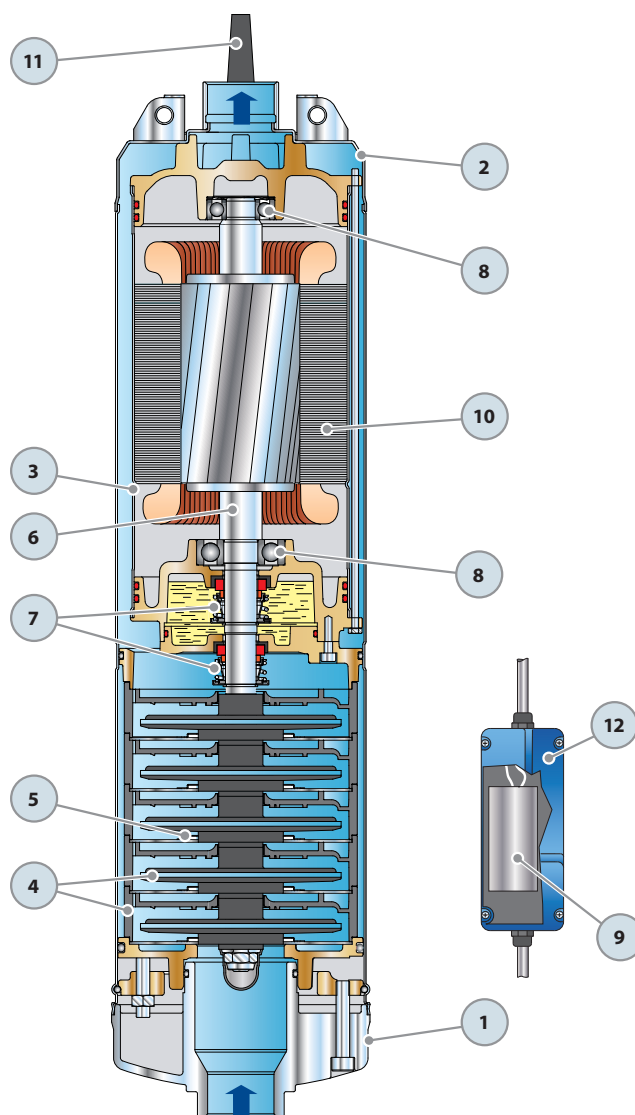
**VLE:** three-phase 400 V - 50 Hz.  
 - Insulation: F class.  
 - Protection: IP 68.

**11 POWER CABLE**

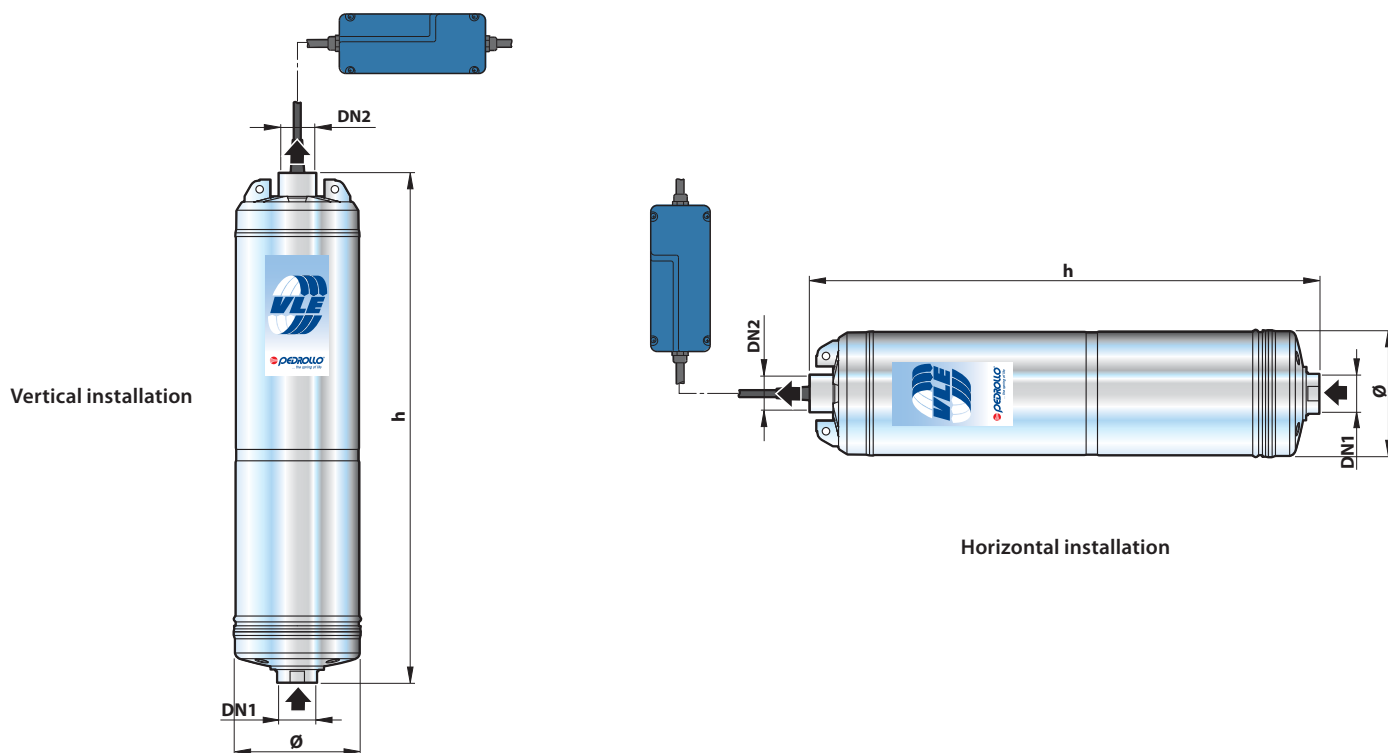
**2 metre** long "H07 RN-F" cable with removable connector

**12 CONTROL BOX (for single-phase versions)**

Complete with capacitor and power cable with Schuko plug



### DIMENSIONS AND WEIGHT



MODEL		PORTS		N° STAGES	DIMENSIONS mm		kg	
Single-phase	Three-phase	DN1	DN2		ø	h	1~	3~
VLEm 2/5	VLE 2/5	1¼"	1¼"	6	153	640	<b>28.7</b>	<b>25.8</b>
VLEm 4/4	VLE 4/4			5		610	<b>28.0</b>	<b>26.4</b>
VLEm 4/5	VLE 4/5			7		670	<b>32.5</b>	<b>30.0</b>

### ABSORPTION

MODEL	VOLTAGE (single-phase)	
Single-phase	230 V	240 V
VLEm 2/5	<b>9.0 A</b>	<b>9.0 A</b>
VLEm 4/4	<b>9.5 A</b>	<b>9.5 A</b>
VLEm 4/5	<b>14.0 A</b>	<b>14.0 A</b>

MODEL	VOLTAGE (three-phase)			
Three-phase	230 V	400 V	240 V	415 V
VLE 2/5	<b>6.2 A</b>	<b>3.6 A</b>	<b>6.2 A</b>	<b>3.6 A</b>
VLE 4/4	<b>6.2 A</b>	<b>3.6 A</b>	<b>6.2 A</b>	<b>3.6 A</b>
VLE 4/5	<b>8.5 A</b>	<b>4.9 A</b>	<b>8.5 A</b>	<b>4.9 A</b>

### PALLETIZATION

MODEL		GROUPAGE				CONTAINER			
Single-phase	Three-phase	n° pumps	H (mm)	kg		n° pumps	H (mm)	kg	
				1~	3~			1~	3~
VLEm 2/5	VLE 2/5	<b>25</b>	1340	734	662	<b>40</b>	2060	1165	1049
VLEm 4/4	VLE 4/4	<b>25</b>	1340	717	677	<b>40</b>	2060	1138	1073
VLEm 4/5	VLE 4/5	<b>25</b>	1340	830	766	<b>40</b>	2060	1317	1216

