

# 4HR

## 4" submersible pumps

-  Clean water  
(Maximum sand content 50 g/m<sup>3</sup>)
-  Domestic use
-  Civil use
-  Industrial use



### PERFORMANCE RANGE

- Flow rate up to **420 l/min** (25.2 m<sup>3</sup>/h)
- Head up to **176 m**

### APPLICATION LIMITS

- Maximum liquid temperature **+35 °C**
- Maximum sand content **50 g/m<sup>3</sup>**
- **200 m** immersion limit
- Installation:
  - vertical
  - horizontal up to **12 stages**
- Starts/hour: **20** at regular intervals
- Minimum flow rate for motor cooling **8 cm/s**
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

#### ELECTRIC MOTOR

- Single-phase 220-230 V - 50 Hz
- Three-phase 400 V - 50 Hz

#### Length of power cable:

- **2 m** powers from 0.37 to 2.2 kW
- **3.6 m** powers from 3 to 7.5 kW.

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

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



EU REGULATION N. 547/2012

### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



### INSTALLATION AND USE

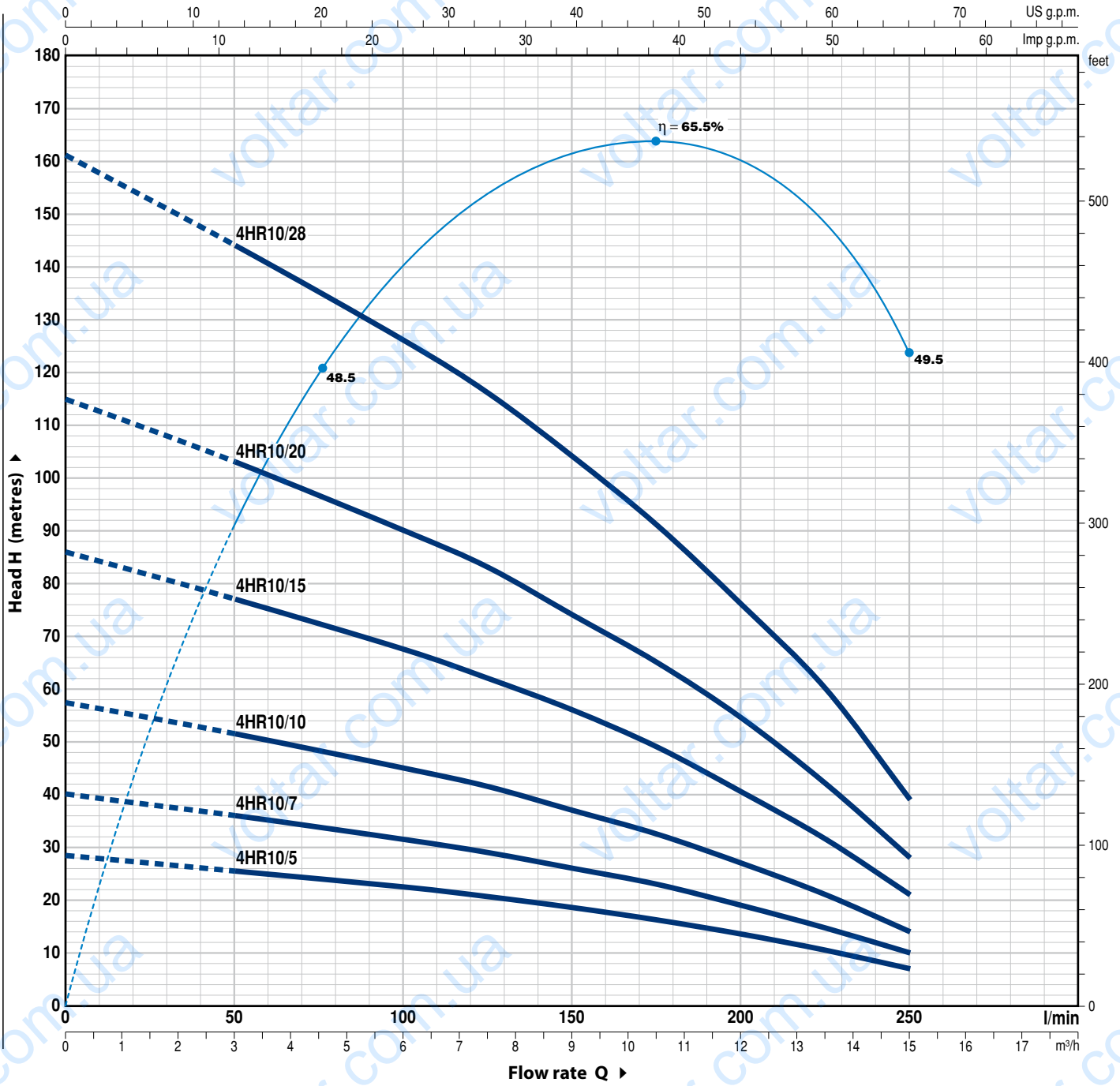
Suitable for use with clean water with a sand content of no more than 50 g/m<sup>3</sup>. Because of their high efficiency and reliability, they are suitable for use in domestic, civil and industrial applications such as for the distribution of water in combination with pressure tanks, for irrigation, for washing plants and for pressure boosting in fire-fighting sets, etc.

### OPTIONS AVAILABLE ON REQUEST

- Other voltages or 60 Hz frequency

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup>



MODEL		POWER (P <sub>2</sub> )		Q	H metres									
Single-phase	Three-phase	kW	HP		m <sup>3</sup> /h	0	3.0	6.0	7.5	9.0	10.5	12.0	13.5	15.0
4HRm 10/5	4HR 10/5	0.75	1	l/min	0	50	100	125	150	175	200	225	250	
4HRm 10/7	4HR 10/7	1.1	1.5		28.5	25.5	22.5	20.7	18.6	16.3	13.6	10.5	7	
4HRm 10/10	4HR 10/10	1.5	2		40	36	31.5	29	26	23	19	14.7	10	
4HRm 10/15	4HR 10/15	2.2	3		57.5	51.5	45	41.5	37	32.5	27	21	14	
-	4HR 10/20	3	4		86	77	67.5	62	56	49	40.5	31.5	21	
-	4HR 10/28	4	5.5		115	103	90	83	74	65	54.5	42	28	
					161	144	126	116	104	91	76	60	39	

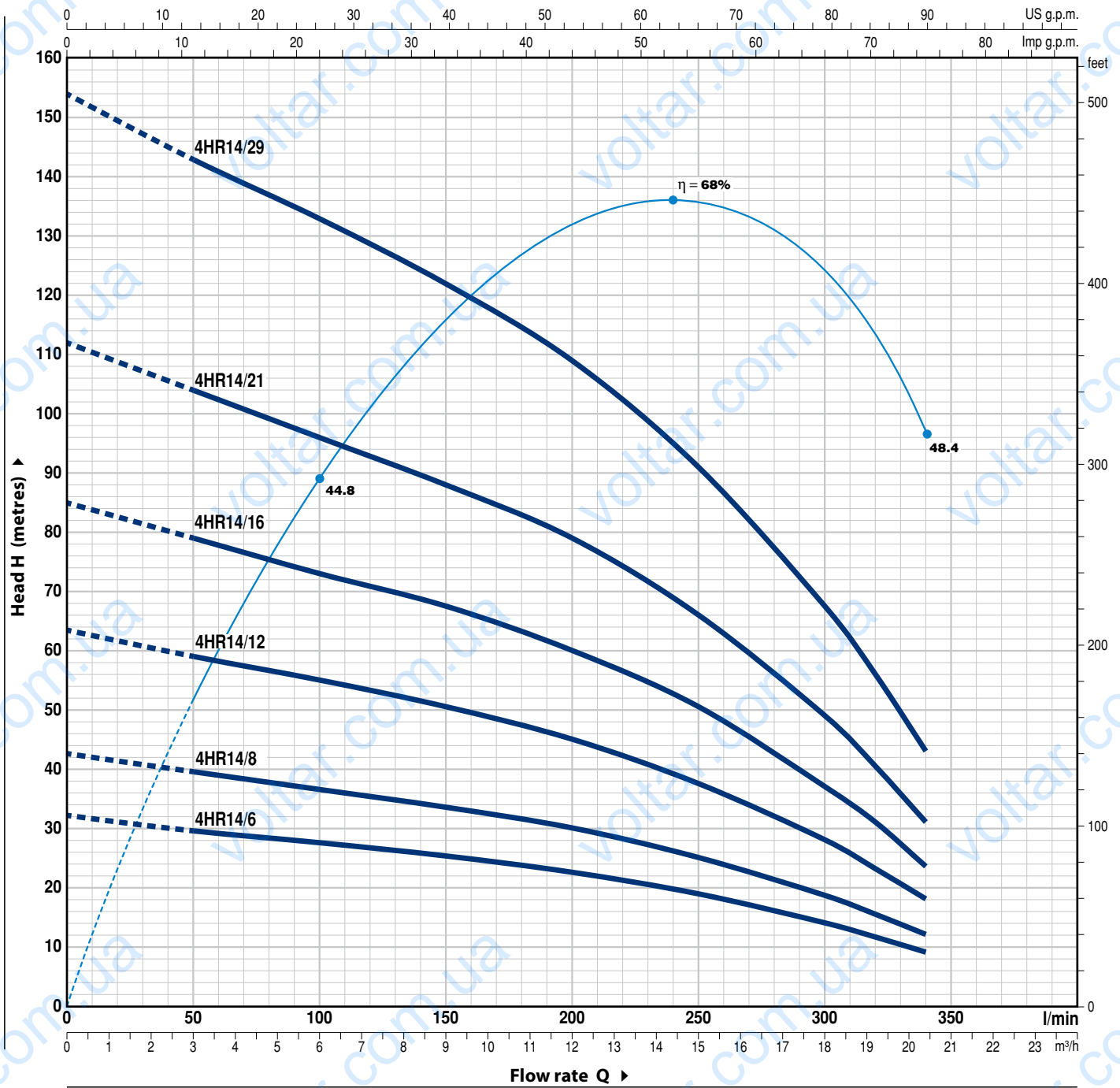
Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

# 4HR14

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup>



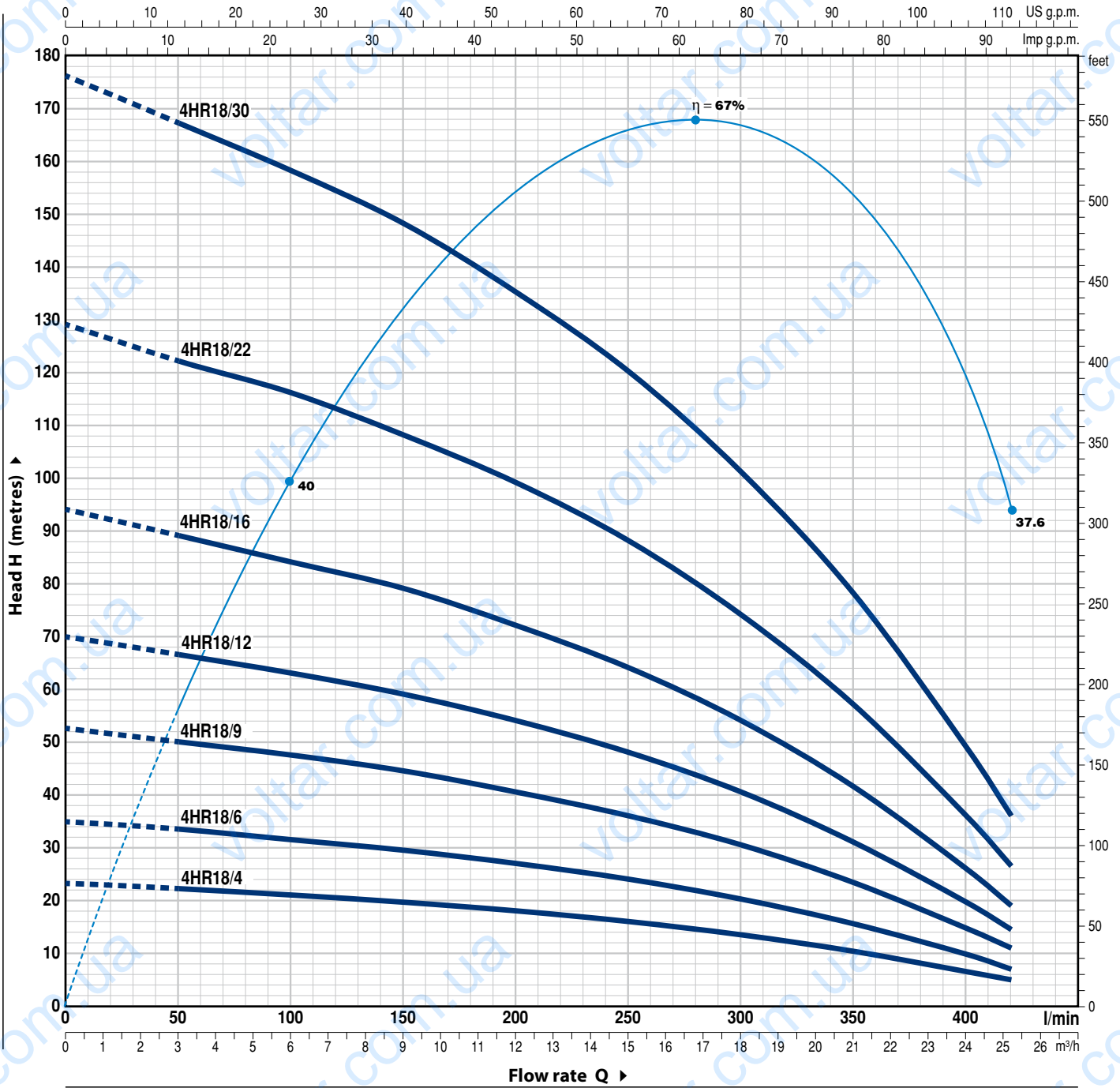
MODEL		POWER (P <sub>2</sub> )		Q	H metres								
Single-phase	Three-phase	kW	HP		m <sup>3</sup> /h	0	3.0	6.0	9.0	12.0	15.0	18.0	19.2
				l/min	0	50	100	150	200	250	300	320	340
4HRm 14/6	4HR 14/6	1.1	1.5		32	29.5	27.5	25.3	22.5	18.9	14	11.6	9
4HRm 14/8	4HR 14/8	1.5	2		42.5	39.5	36.5	33.5	30	25	18.6	15.4	12
4HRm 14/12	4HR 14/12	2.2	3		63.4	59	55	50.5	45	37.5	28	23.1	18
-	4HR 14/16	3	4		85	79	73	67.5	60	50.5	37	31	23.5
-	4HR 14/21	4	5.5		112	104	96	88	79	66	49	40.5	31
-	4HR 14/29	5.5	7.5		154	143	133	122	109	91	67.5	56	43

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup>



MODEL		POWER (P <sub>2</sub> )		Q	Flow rate (l/min)											
Single-phase	Three-phase	kW	HP		0	3.0	6.0	9.0	12.0	15.0	18.0	21.0	24.0	25.2		
4HRm 18/4	4HR 18/4	1.1	1.5	0	0	50	100	150	200	250	300	350	400	420		
4HRm 18/6	4HR 18/6	1.5	2	H metres	23.4	22	21	19.7	18	16	13.5	10.4	6.6	5		
4HRm 18/9	4HR 18/9	2.2	3		35	33.5	31.5	29.5	27	24	20.3	15.6	9.8	7		
-	4HR 18/12	3	4		52.5	50	47.5	44.5	40.5	36	30.5	23.4	14.8	11		
-	4HR 18/16	4	5.5		70	66.5	63	59	54	48	40.5	31	19.7	14.5		
-	4HR 18/22	5.5	7.5		94	89	84	79	72	64	54	41.5	26	19		
-	4HR 18/30	7.5	10		129	122	116	108	99	88	74	57	36	26.5		
					176	167	158	148	135	120	101	78	49	36		

Q = Flow rate H = Total manometric head

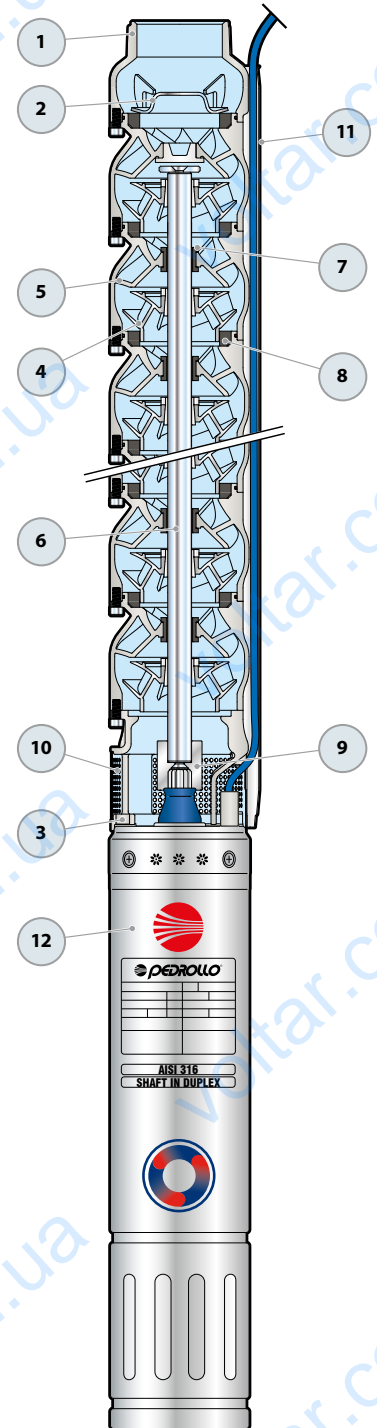
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

# 4HR

## POS. COMPONENT

## CONSTRUCTION CHARACTERISTICS

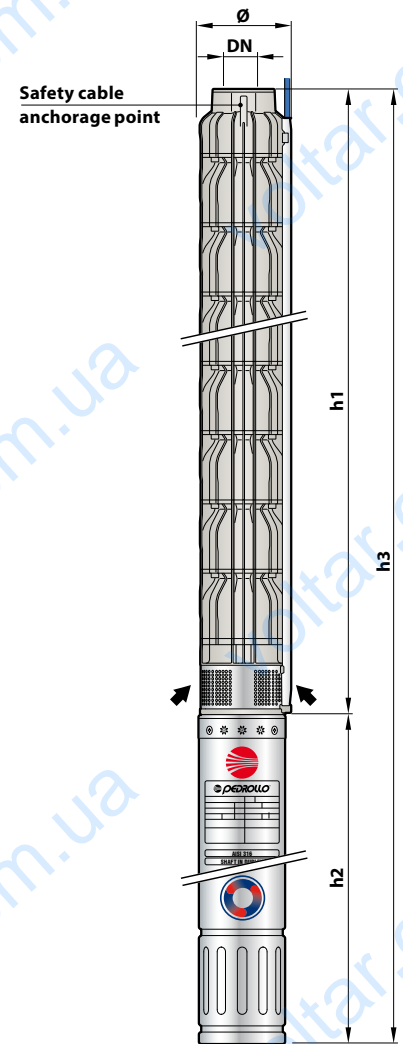
1	<b>DELIVERY BODY</b>	Precision cast stainless steel AISI 304 complete with threaded delivery port in compliance with ISO 228/1
2	<b>NON-RETURN VALVE</b>	Stainless steel AISI 304
3	<b>MOTOR BRACKET</b>	Precision cast stainless steel AISI 304 in compliance with NEMA standards
4	<b>IMPELLERS</b>	Precision cast stainless steel AISI 304
5	<b>DIFFUSERS</b>	Precision cast stainless steel AISI 304
6	<b>PUMP SHAFT</b>	Stainless steel AISI 304
7	<b>PUMP BEARINGS</b>	Special elastomer
8	<b>WEAR RINGS</b>	Special elastomer
9	<b>DRIVE COUPLING</b>	Stainless steel AISI 304
10	<b>FILTER</b>	Stainless steel AISI 304
11	<b>CABLE COVER</b>	Stainless steel AISI 304
12	<b>MOTOR 4"</b>	4PD = "PEDROLLO" oil filled motor



## DIMENSIONS AND WEIGHT

MODEL	PORT DN	Ø	DIMENSIONS mm			kg
			h1	h2	h3	
<b>Single-phase</b>						1~
4HRm 10/5 - PD	2"	100	511	356	867	<b>19.7</b>
4HRm 10/7 - PD			657	396	1053	<b>23.8</b>
4HRm 10/10 - PD			876	437	1313	<b>31.0</b>
4HRm 10/15 - PD			1241	492	1733	<b>38.7</b>
4HRm 14/6 - PD			584	396	980	<b>21.0</b>
4HRm 14/8 - PD			730	437	1167	<b>25.2</b>
4HRm 14/12 - PD			1022	492	1514	<b>33.7</b>
4HRm 18/4 - PD			438	396	834	<b>18.4</b>
4HRm 18/6 - PD			584	437	1021	<b>22.6</b>
4HRm 18/9 - PD			803	492	1295	<b>29.8</b>

MODEL	PORT DN	Ø	DIMENSIONS mm			kg
			h1	h2	h3	
<b>Three-phase</b>						3~
4HR 10/5 - PD	2"	100	511	356	867	<b>18.9</b>
4HR 10/7 - PD			657	371	1028	<b>22.3</b>
4HR 10/10 - PD			876	396	1272	<b>27.8</b>
4HR 10/15 - PD			1241	437	1678	<b>35.9</b>
4HR 10/20 - PD			1606	450	2056	<b>45.4</b>
4HR 10/28 - PD			2190	505	2695	<b>59.6</b>
4HR 14/6 - PD			584	371	955	<b>20.2</b>
4HR 14/8 - PD			730	396	1126	<b>23.6</b>
4HR 14/12 - PD			1022	437	1459	<b>30.4</b>
4HR 14/16 - PD			1314	450	1764	<b>37.2</b>
4HR 14/21 - PD			1679	505	2184	<b>46.7</b>
4HR 14/29 - PD			2263	590	2853	<b>61.1</b>
4HR 18/4 - PD			438	371	809	<b>17.6</b>
4HR 18/6 - PD			584	396	980	<b>21.0</b>
4HR 18/9 - PD			803	437	1240	<b>26.5</b>
4HR 18/12 - PD			1022	450	1472	<b>32.0</b>
4HR 18/16 - PD			1314	505	1819	<b>40.2</b>
4HR 18/22 - PD			1752	590	2342	<b>51.9</b>
4HR 18/30 - PD			2336	800	3136	<b>70.8</b>



## DIMENSIONS AND WEIGHT (PUMP ONLY)

MODEL	PORT DN	Ø	DIMENSIONS mm		kg
			h1	h	
<b>Pump</b>					
4HR 10/5 - HYD	2"	100	511	514	<b>8.8</b>
4HR 10/7 - HYD			657	660	<b>11.5</b>
4HR 10/10 - HYD			876	879	<b>15.4</b>
4HR 10/15 - HYD			1241	1244	<b>22.0</b>
4HR 10/20 - HYD			1606	1609	<b>28.5</b>
4HR 10/28 - HYD			2190	2193	<b>39.0</b>
4HR 14/6 - HYD			584	587	<b>10.2</b>
4HR 14/8 - HYD			730	733	<b>12.8</b>
4HR 14/12 - HYD			1022	1025	<b>18.0</b>
4HR 14/16 - HYD			1314	1317	<b>23.3</b>
4HR 14/21 - HYD			1679	1682	<b>29.9</b>
4HR 14/29 - HYD			2263	2266	<b>40.4</b>
4HR 18/4 - HYD			438	441	<b>7.5</b>
4HR 18/6 - HYD			584	587	<b>10.2</b>
4HR 18/9 - HYD			803	806	<b>14.1</b>
4HR 18/12 - HYD			1022	1025	<b>18.0</b>
4HR 18/16 - HYD			1314	1317	<b>23.3</b>
4HR 18/22 - HYD			1752	1755	<b>31.2</b>
4HR 18/30 - HYD			2336	2339	<b>41.7</b>

