

## STUART

### VM 1000 Series Centrifugal Vertical Multistage Pumps

A range of 10m<sup>3</sup>/hour nominal flow vertical multistage pumps featuring a compact, robust design and heavy duty oversized motor bearing.

Featuring AISI 304 stainless steel pump head construction, these robust and durable pumps are available in single phase and three phase options.

Capable of flow rates up to 14 m<sup>3</sup>/h and models available providing up to 142.5 metres head, these pumps are suitable for use in a wide range of water boosting applications.



#### Features

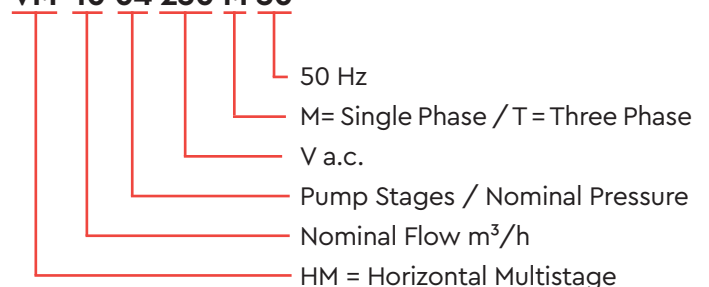
- Multistage centrifugal pump
- Flow rates up to 14 m<sup>3</sup>/h
- Heads up to 142.5 metres
- Single phase and three phase options
- Compact design
- Easy disassembly and seal replacement
- Standard mechanical seal (EN 12756 ex DIN 24960)
- Easy to replace floating neck rings and stainless steel impeller wear ring
- Oversize motor bearing
- Stainless steel pump head housing, shaft, impellers and diffusers
- Tungsten carbide shaft bearing, intermediate bearing and journal sleeve
- Continuously rated induction motor
- Efficiency class IE3
- 1 year warranty

#### Applications

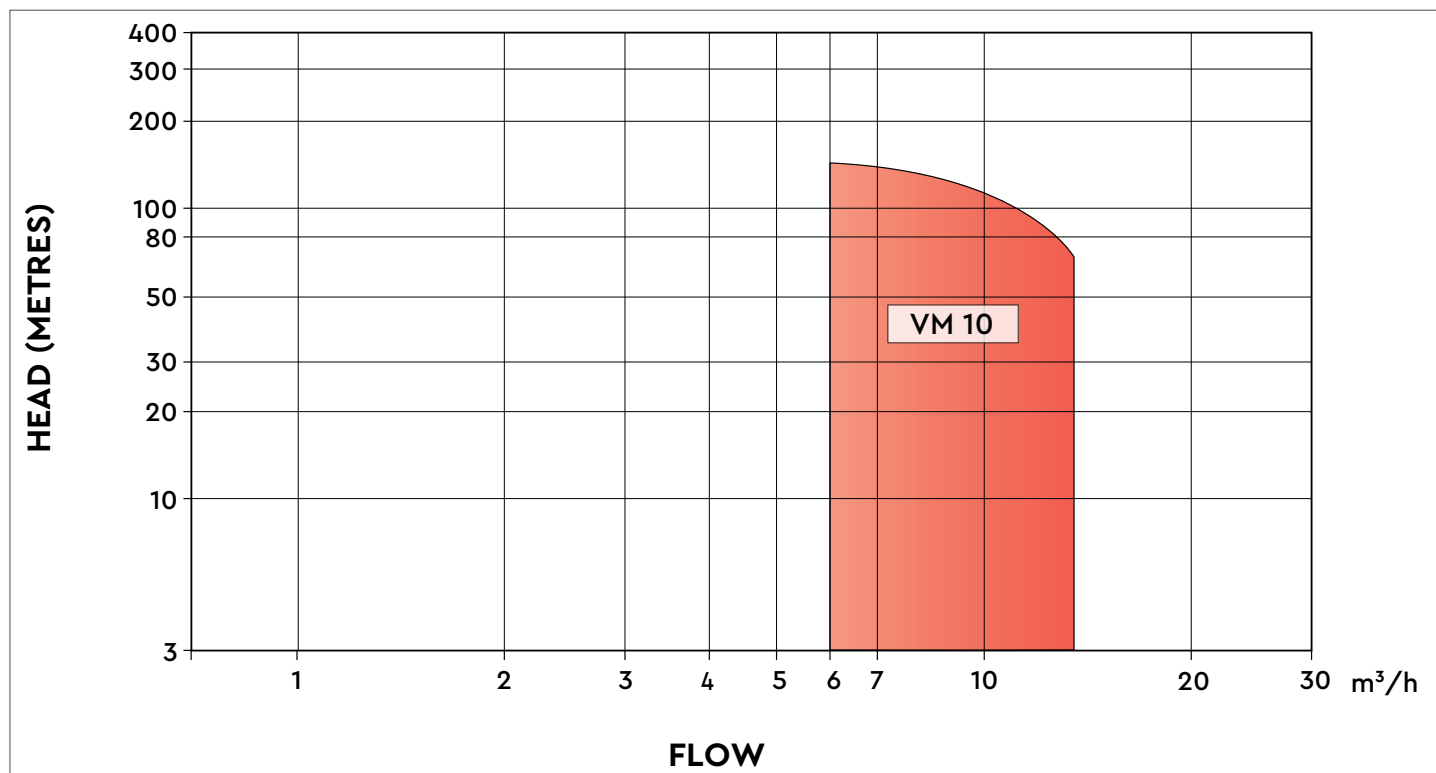
- Domestic and commercial water supply
- Industrial systems, plant and processing
- Wash down units
- Water distribution
- Irrigation and rainwater recovery
- Temperature control and air conditioning systems

#### Product Code

**VM 10 04 230 M 50**

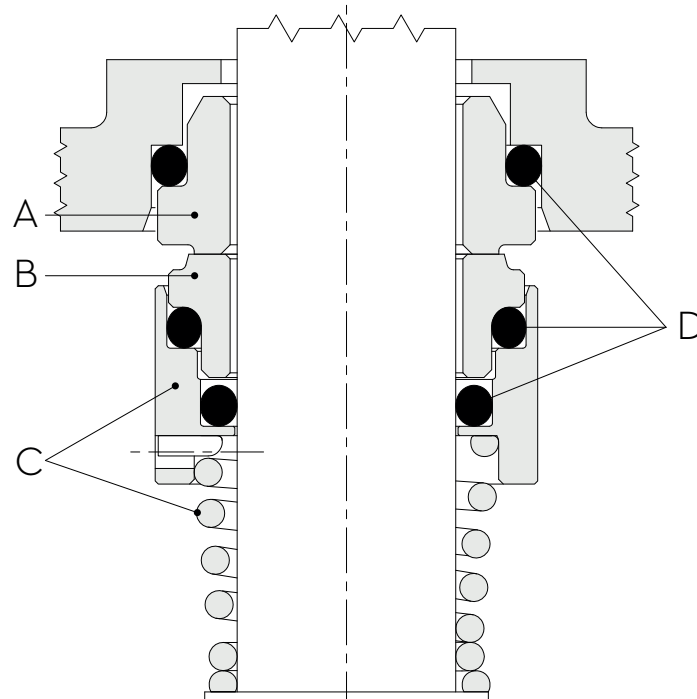


## Stuart VM 1000 Series Performance Summary



			Q = Delivery								
l/min	Rated Power		H1	0	100	116.7	133	150	166.7	183	233.3
m³/h	kW	Hp	Bar	0	6.0	7.0	8.0	9.0	10.0	11.0	14.0
			H = Total Head (metres)								
VM 1002	0.75	1.0	20	20	18.5	17.5	17	16	15	13.5	9
VM 1003	1.1	1.5	20	30	27.5	26.5	25.5	24	22.5	20.5	13.5
VM 1004	1.5	2.0	20	40.5	37	35.5	34	32.5	30.5	28	18
VM 1005	1.5	2.0	20	50.5	45.5	43.5	41.5	39.5	37	33.5	21.5
VM 1006	2.2	3.0	20	61	56	54	51.5	49	46	42	27.5
VM 1007	2.2	3.0	20	70.5	64.5	62	59.5	56	52.5	48	31
VM 1008	3.0	4.0	20	81.5	75.5	73	70	66.5	62.5	57.5	38
VM 1009	3.0	4.0	20	91.5	84.5	81.5	78	74	69.5	64	42
VM 1010	4.0	5.5	20	102.5	96	93	89	84.5	79.5	73.5	49
VM 1011	4.0	5.5	20	113	105	101.5	97.5	92.5	87	80.5	53.5
VM 1012	4.0	5.5	20	123	114	110	105.5	100.5	94	87	57.5
VM 1013	4.0	5.5	20	133	123	118.5	113.5	108	101	93.5	61.5
VM 1015	5.5	7.5	20	153.5	142.5	138	132	125.5	118	109	72

## Stuart VM 1000 Series Mechanical Seal Specifications



### Seal Component Materials

Stationary Part	Rotating Part	Other Components	Elastomers	Temperature
A	B	C	D	
Graphite	Silicon Carbide	Stainless Steel AISI 316	EPDM	-15°C – +120°C

## Stuart VM 1000 Series Motor Specifications

- Protection degree: IP55
- Max ambient temperature 40°C
- Insulation class: F
- Size B14 up to 4 kW, size B5 from 5.5 kW and above

### Single Phase Models

- Standard voltage 220–240 V  $\pm$  5%
- Integral capacitor

IEC Size	Power		Design	Input Current $I_N$ (A) 230V	230V 50 Hz					
	(kW)	(HP)			$\text{min}^{-1}$	$M_N$ (Nm)	$\eta\%$	$\cos \phi$	$I_A / I_N$	$M_A / M_N$
80	0.75	1	B14	5.3	2800	2.6	65.0	0.95	4.1	0.6
80	1.1	1.5	B14	6.5	2730	3.8	74.0	0.97	3.6	0.5
90	1.5	2	B14	9.3	2835	5.1	73.0	0.90	3.9	0.5
90	2.2	3	B14	14.6	2770	7.6	73.0	0.90	4.3	0.2

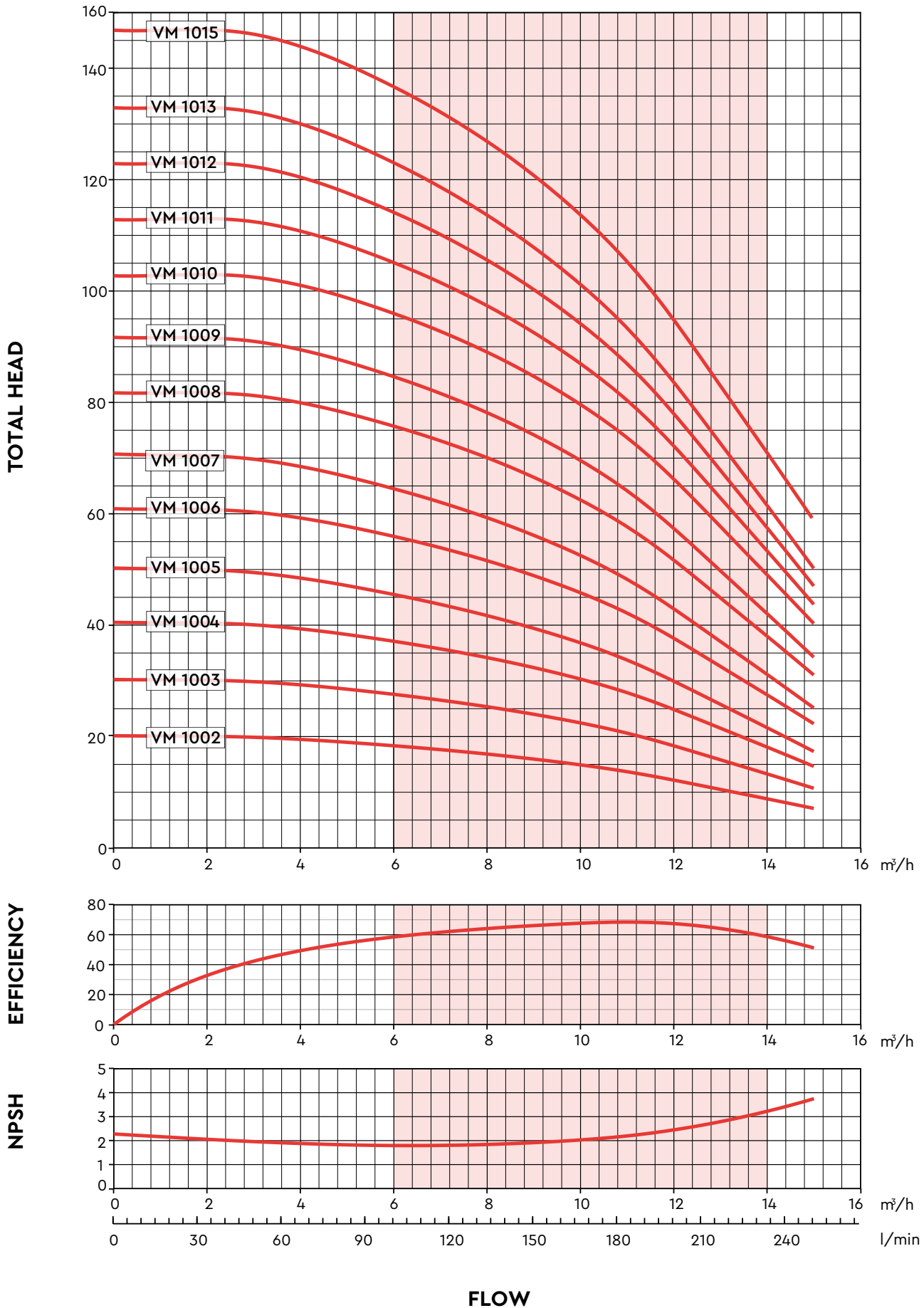
### Three Phase Models

- Premium efficiency IE3 motors
- Multi-mount construction for an easy change of terminal box position
- Terminal box rotates by 90° to allow cable entry from any direction
- Easy-to-change flanges with over-sized and smaller-sized dimensions
- Standard oltage up to 3 kW 230/400 V, 400/690 V from 4 kW and above

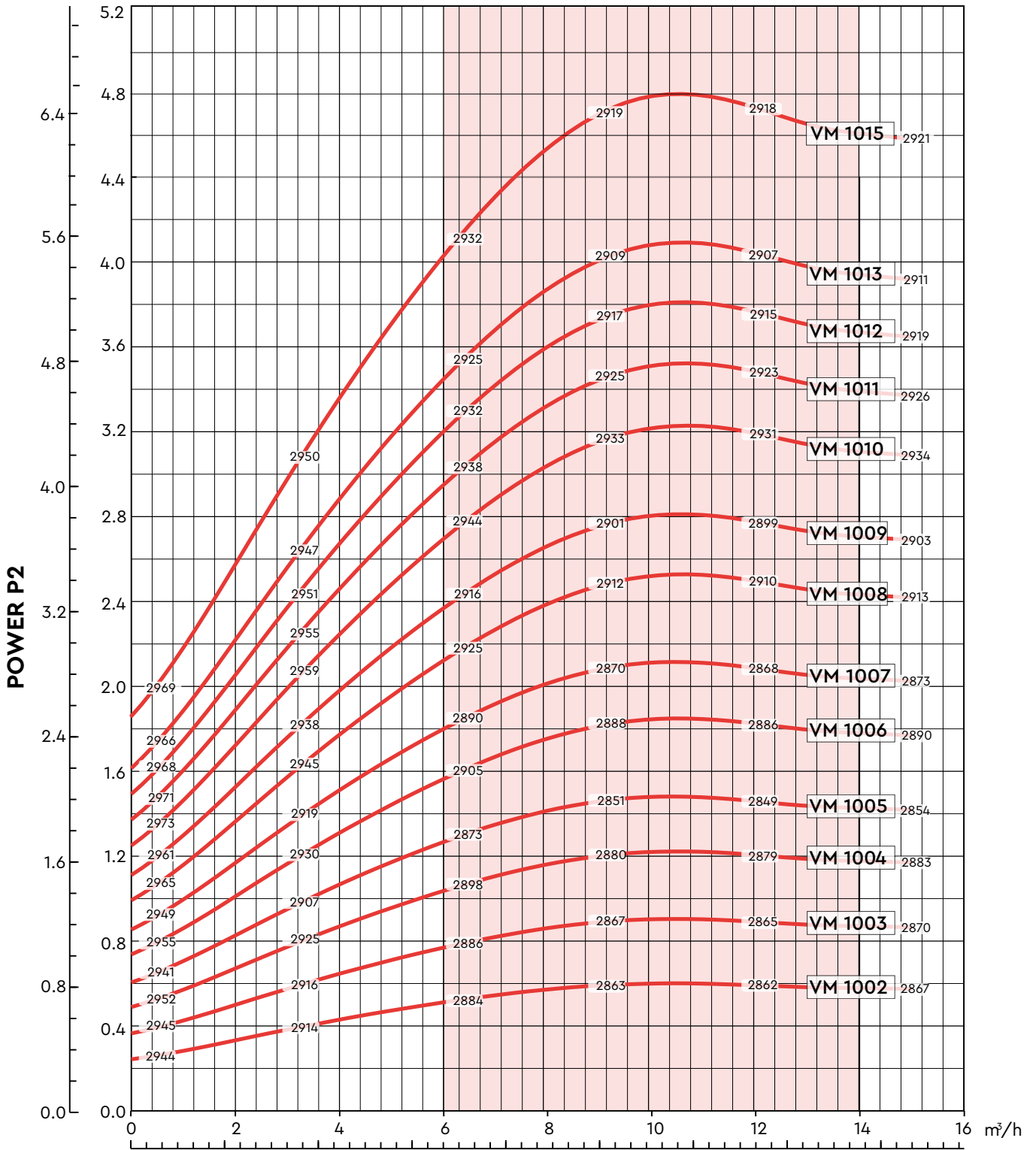
Class	Power		Motor Size	Design	Input Current $I_N$ (A)				230V 50 Hz					
	(kW)	(HP)			$\Delta$ 230 V	$Y$ 400 V	$\Delta$ 400 V	$Y$ 690 V	$\text{min}^{-1}$	$M_N$ (Nm)	$\eta\%$	$\cos \phi$	$I_A / I_N$	$M_A / M_N$
IE3	0.75	1	80	B14	2.9	1.7	-	-	2910	2.5	82.0	0.78	8.9	4.7
	1.1	1.5	80	B14	4.2	2.4	-	-	2870	3.7	82.7	0.76	9.3	5.0
	1.5	2	90	B14	5.2	3.0	-	-	2875	5.0	84.2	0.85	8.4	3.6
	2.2	3	90	B14	8.0	4.6	-	-	2880	7.3	86.5	0.82	9.2	4.0
	3	4	100	B14	9.7	5.6	-	-	2900	9.9	87.1	0.89	8.8	5.5
	4	5.5	112	B14	-	-	8.0	4.6	2900	13.0	88.1	0.83	10.7	5.1
	5.5	7.5	132	B5	-	-	10.2	5.9	2935	17.9	89.2	0.87	11.2	4.2

# Stuart VM 1000 Series Performance

MEI ≥ 0.70



# Stuart VM 1000 Series Performance



## Stuart VM 1000 230 M 50 Technical Specifications

VM 1000 230 M 50	1002	1003	1004	1005	1006	1007
Part No	47185	47186	47187	47188	47189	47190
<b>General</b>						
Warranty	1 Year					
Approvals	CE					
Pump type	Centrifugal Multistage					
<b>Features</b>						
Impeller stages	2	3	4	5	6	7
Compact, robust design	✓					
Heavy duty oversized bearings	✓					
Easy maintenance	✓					
<b>Performance</b>						
Flow rate - nominal (m <sup>3</sup> /h)	10					
Flow rate range (m <sup>3</sup> /h)	6 - 14					
Maximum head - closed valve (metres)	20.0	30.0	40.5	50.5	61.0	70.5
Head range (metres)	9-18.5	13.5-27.5	18-37	21.5-45.5	27.5-56	31-64.5
Working pressure - maximum (bar)	26					
<b>Motor</b>						
Motor type	Induction (Manual reset thermal trip)					
Power supply (Vac/Ph/Hz)	230 V a.c. / 1 / 50 Hz					
Power - motor nominal P2 (kW)	0.75	1.10	1.50	1.50	2.20	2.20
Power - motor nominal P2 (hp)	1	1.5	2	2	3	3
Input current - 220-240v (A)	5.3	6.5	9.3	9.3	14.6	14.6
Efficiency (%)	65	74	73	73	73	73
Insulation class	F					
Duty rating	Continuous (S1)					
Starts per hour	60					
IP rating	IP 55					
<b>Materials</b>						
Pump head housing	AISI 304 stainless steel					
Impellers and diffusers	AISI 304 stainless steel					
Pump shaft	AISI 304 stainless steel					
Pump seal	Graphite/Silicon Carbide/AISI316/EPDM					
<b>Connections</b>						
Connection - inlet	DN40	DN40	DN40	DN40	DN40	DN40
Connection - outlet	DN40	DN40	DN40	DN40	DN40	DN40
<b>Operating Conditions</b>						
Operating ambient temperature range (°C)	-5 to +40 °C					
Liquid temperature range (°C)	-5 to +120 °C					
<b>Dimensions</b>						
Height (mm)	573	603	678	708	738	768
Width (mm)	290	290	300	300	300	300
Depth (mm)	250	250	250	250	250	250
Weight (Kg)	22.5	25.1	29.0	29.5	32.5	33.0

## Stuart VM 1000 230-400 T 50 Technical Specifications

VM 1000 230-400 T 50	1002	1003	1004	1005	1006	1007
Part No	47029	47030	47031	47032	47033	47034
<b>General</b>						
Warranty	1 Year					
Approvals	CE					
Pump type	Centrifugal Multistage					
<b>Features</b>						
Impeller stages	2	3	4	5	6	7
Compact, robust design	✓					
Heavy duty oversized bearings	✓					
Easy maintenance	✓					
<b>Performance</b>						
Flow rate - nominal (m <sup>3</sup> /h)	10					
Flow rate range (m <sup>3</sup> /h)	6 - 14					
Maximum head - closed valve (metres)	20.0	30.0	40.5	50.5	61.0	70.5
Head range (metres)	9-18.5	13.5-27.5	18-37	21.5-45.5	27.5-56	31-64.5
Working pressure - maximum (bar)	26					
<b>Motor</b>						
Motor type	Induction					
Power supply (Vac/Ph/Hz)	230-400 V a.c. / 3 / 50 Hz					
Power - motor nominal P2 (kW)	0.75	1.10	1.50	1.50	2.20	2.20
Power - motor nominal P2 (hp)	1	1.5	2	2	3	3
Input current - 220-240v (A)	2.9	4.2	5.2	5.2	8.0	8.0
Input current - 380-415v (A)	1.7	2.4	3.0	3.0	4.6	4.6
Efficiency Class	IE3	IE3	IE3	IE3	IE3	IE3
Efficiency (%)	82.0	82.7	84.2	84.2	86.5	86.5
Insulation class	F					
Duty rating	Continuous (S1)					
Starts per hour	60					
IP rating	IP 55					
<b>Materials</b>						
Pump head housing	AISI 304 stainless steel					
Impellers and diffusers	AISI 304 stainless steel					
Pump shaft	AISI 304 stainless steel					
Pump seal	Graphite/Silicon Carbide/AISI316/EPDM					
<b>Connections</b>						
Connection - inlet	DN40	DN40	DN40	DN40	DN40	DN40
Connection - outlet	DN40	DN40	DN40	DN40	DN40	DN40
<b>Operating Conditions</b>						
Operating ambient temperature range (°C)	-5 to +40 °C					
Liquid temperature range (°C)	-5 to +120 °C					
<b>Dimensions</b>						
Height (mm)	573	603	678	708	738	768
Width (mm)	280	280	280	280	280	280
Depth (mm)	250	250	250	250	250	250
Weight (Kg)	22.5	25.1	29.0	29.5	32.5	33.0

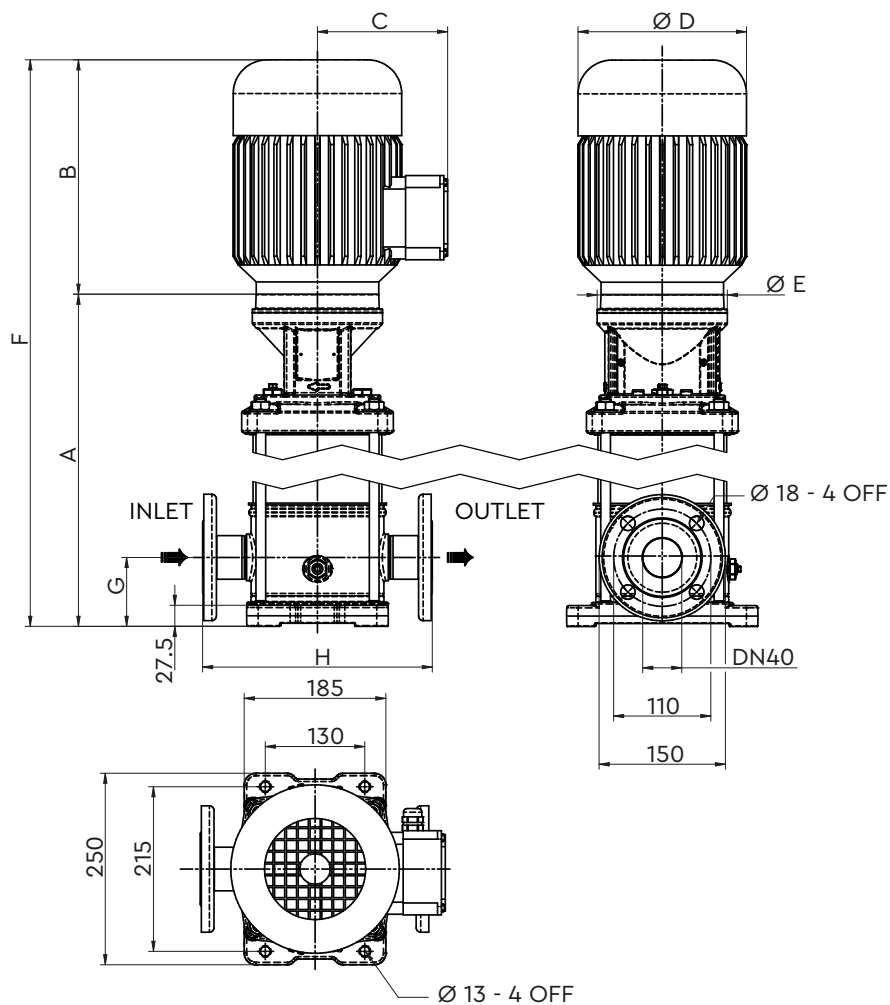


## Stuart VM 1000 230-400 / 400-690 T 50 Technical Specifications

VM 1000 230-400 / 400-690 T 50	1008	1009	1010	1011	1012	1013	1015
<b>Part No</b>	47035	47036	47037	47038	47039	47040	47041
<b>General</b>							
Warranty	1 Year						
Approvals	CE						
Pump type	Centrifugal Multistage						
<b>Features</b>							
Impeller stages	8	9	10	11	12	13	15
Compact, robust design	✓						
Heavy duty oversized bearings	✓						
Easy maintenance	✓						
<b>Performance</b>							
Flow rate - nominal (m <sup>3</sup> /h)	10						
Flow rate range (m <sup>3</sup> /h)	6 - 14						
Maximum head - closed valve (metres)	81.5	91.5	102.5	113.0	123.0	133.0	153.5
Head range (metres)	38-75.5	42-84.5	49-96	53.5-105	57.5-114	61.5-123	72-142.5
Working pressure - maximum (bar)	26						
<b>Motor</b>							
Motor type	Induction						
Power supply (Vac/Ph/Hz)	230-400 V a.c./3/50			400-690 V a.c./3/50			
Power - motor nominal P2 (kW)	3.0	3.0	4.0	4.0	4.0	4.0	5.5
Power - motor nominal P2 (hp)	4	4	5.4	5.4	5.4	5.4	7.4
Input current 220-240v (A)	9.7	9.7	-	-	-	-	-
Input current 380-415v (A)	5.6	5.6	8.0	8.0	8.0	8.0	10.2
Input current 600-690v (A)	-	-	4.6	4.6	4.6	4.6	5.9
Efficiency Class	IE3	IE3	IE3	IE3	IE3	IE3	IE3
Efficiency (%)	87.1	87.1	88.1	88.1	88.1	88.1	89.2
Insulation class	F						
Duty rating	Continuous (S1)						
Starts per hour	60						
IP rating	IP 55						
<b>Materials</b>							
Pump head housing	AISI 304 stainless steel						
Impellers and diffusers	AISI 304 stainless steel						
Pump shaft	AISI 304 stainless steel						
Pump seal	Graphite/Silicon Carbide/AISI316/EPDM						
<b>Connections</b>							
Connection - inlet	DN40	DN40	DN40	DN40	DN40	DN40	DN40
Connection - outlet	DN40	DN40	DN40	DN40	DN40	DN40	DN40
<b>Operating Conditions</b>							
Operating ambient temperature range (°C)	-5 to +40 °C						
Liquid temperature range (°C)	-5 to +120 °C						
<b>Dimensions</b>							
Height (mm)	847	877	907	937	967	997	1254
Width (mm)	285	285	285	285	285	285	300
Depth (mm)	250	250	250	250	250	250	250
Weight (Kg)	41.3	41.8	46.0	46.5	47.5	48.0	76.1

## Stuart VM 1000 230 M 50 Dimensions

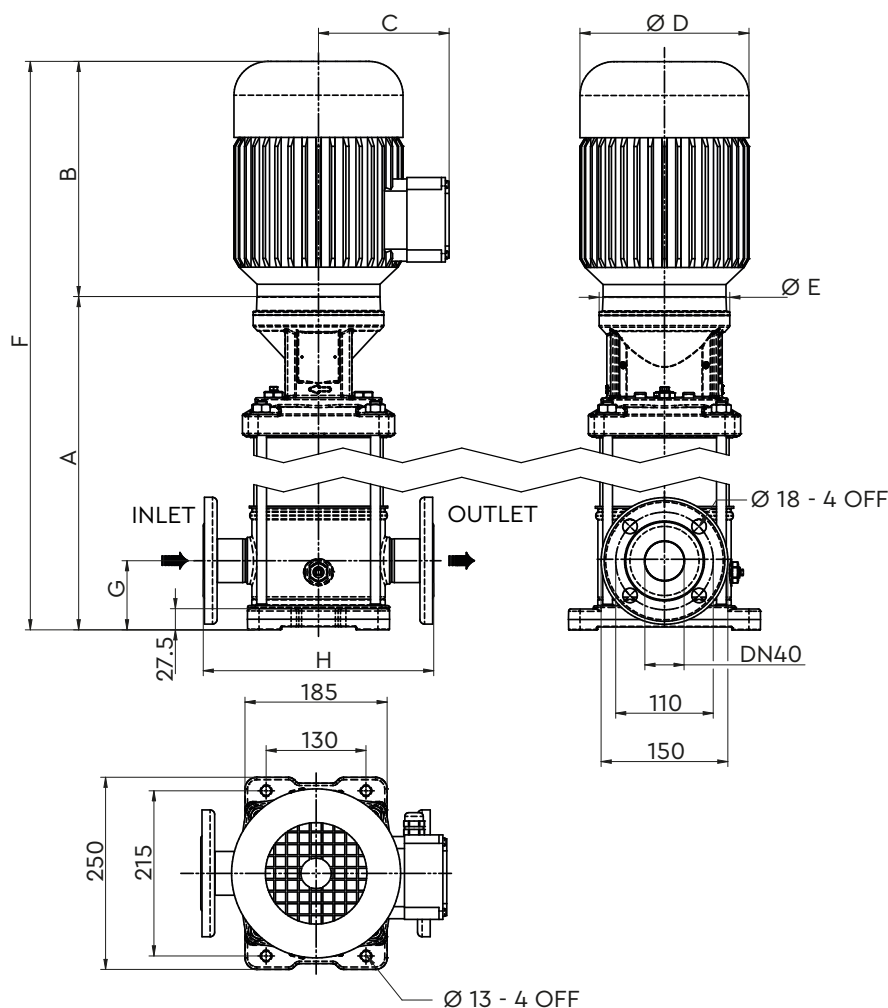
Dimensions: VM 1000 230 M 50



Part No	Description	Dimensions (mm)									Motor Weight	Pump Weight	Total Weight
		A	B	C	Ø D	Ø E	F	G	H				
47185	VM 1002	230 M 50	341	232	150	160	170	573	80	280	9.5 Kg	13.0 Kg	22.5 Kg
47186	VM 1003	230 M 50	371	232	150	160	170	603	80	280	11.1 Kg	14.0 Kg	25.1 Kg
47187	VM 1004	230 M 50	411	267	160	180	170	678	80	280	14.0 Kg	15.0 Kg	29.0 Kg
47188	VM 1005	230 M 50	441	267	160	180	170	708	80	280	14.0 Kg	15.5 Kg	29.5 Kg
47189	VM 1006	230 M 50	471	267	160	180	170	738	80	280	16.0 Kg	16.5 Kg	32.5 Kg
47190	VM 1007	230 M 50	501	267	160	180	170	768	80	280	16.0 Kg	17.0 Kg	33.0 Kg

## Stuart VM 1000 230-400 / 400-690 T 50 Dimensions

Dimensions: VM 1000 230-400 / 400-690 T 50



Part No	Description		Dimensions (mm)								Motor Weight	Pump Weight	Total Weight
			A	B	C	Ø D	Ø E	F	G	H			
47029	VM 1002	230-400 T 50	341	232	129	160	170	573	80	280	9.5 Kg	13.0 Kg	22.5 Kg
47030	VM 1003	230-400 T 50	371	232	129	160	170	603	80	280	11.1 Kg	14.0 Kg	25.1 Kg
47031	VM 1004	230-400 T 50	411	267	138	180	170	678	80	280	14.0 Kg	15.0 Kg	29.0 Kg
47032	VM 1005	230-400 T 50	441	267	138	180	170	708	80	280	14.0 Kg	15.5 Kg	29.5 Kg
47033	VM 1006	230-400 T 50	471	267	138	180	170	738	80	280	16.0 Kg	16.5 Kg	32.5 Kg
47034	VM 1007	230-400 T 50	501	267	138	180	170	768	80	280	16.0 Kg	17.0 Kg	33.0 Kg
47035	VM 1008	230-400 T 50	541	306	145	196	170	847	80	280	22.8 Kg	18.5 Kg	41.3 Kg
47036	VM 1009	230-400 T 50	571	306	145	196	170	877	80	280	22.8 Kg	19.0 Kg	41.8 Kg
47037	VM 1010	400-690 T 50	601	306	145	196	170	907	80	280	26.5 Kg	19.5 Kg	46.0 Kg
47038	VM 1011	400-690 T 50	631	306	145	196	170	937	80	280	26.5 Kg	20.0 Kg	46.5 Kg
47039	VM 1012	400-690 T 50	661	306	145	196	170	967	80	280	26.5 Kg	21.0 Kg	47.5 Kg
47040	VM 1013	400-690 T 50	691	306	145	196	170	997	80	280	26.5 Kg	21.5 Kg	48.0 Kg
47041	VM 1015	400-690 T 50	926	328	160	225	300	1254	80	280	33.6 Kg	42.5 Kg	76.1 Kg

Stuart Turner Limited reserves the right to amend specifications without notice.

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Pt. No. 21225 Issue 0321/01-01