

## STUART

### VM 2000 Series Centrifugal Vertical Multistage Pumps

A range of 20m<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 28 m<sup>3</sup>/h and models available providing up to 145.5 metres head, these pumps are suitable for use in a wide range of water boosting applications.



#### Features

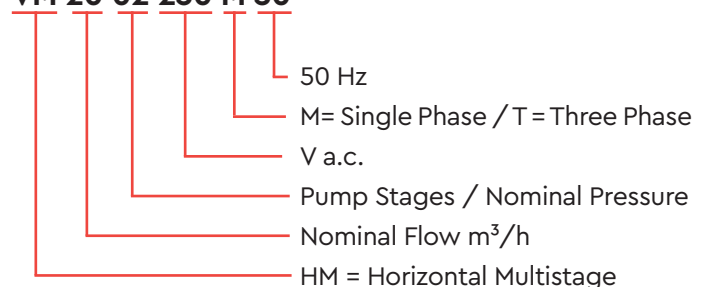
- Multistage centrifugal pump
- Flow rates up to 28 m<sup>3</sup>/h
- Heads up to 145.5 metres
- Single phase and three phase options
- Compact design
- Easy disassembly and seal replacement
- Standard mechanical seal (EN 12756 ex DIN 24960)
- Easy to replace floating neck rings and stainless steel impeller 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

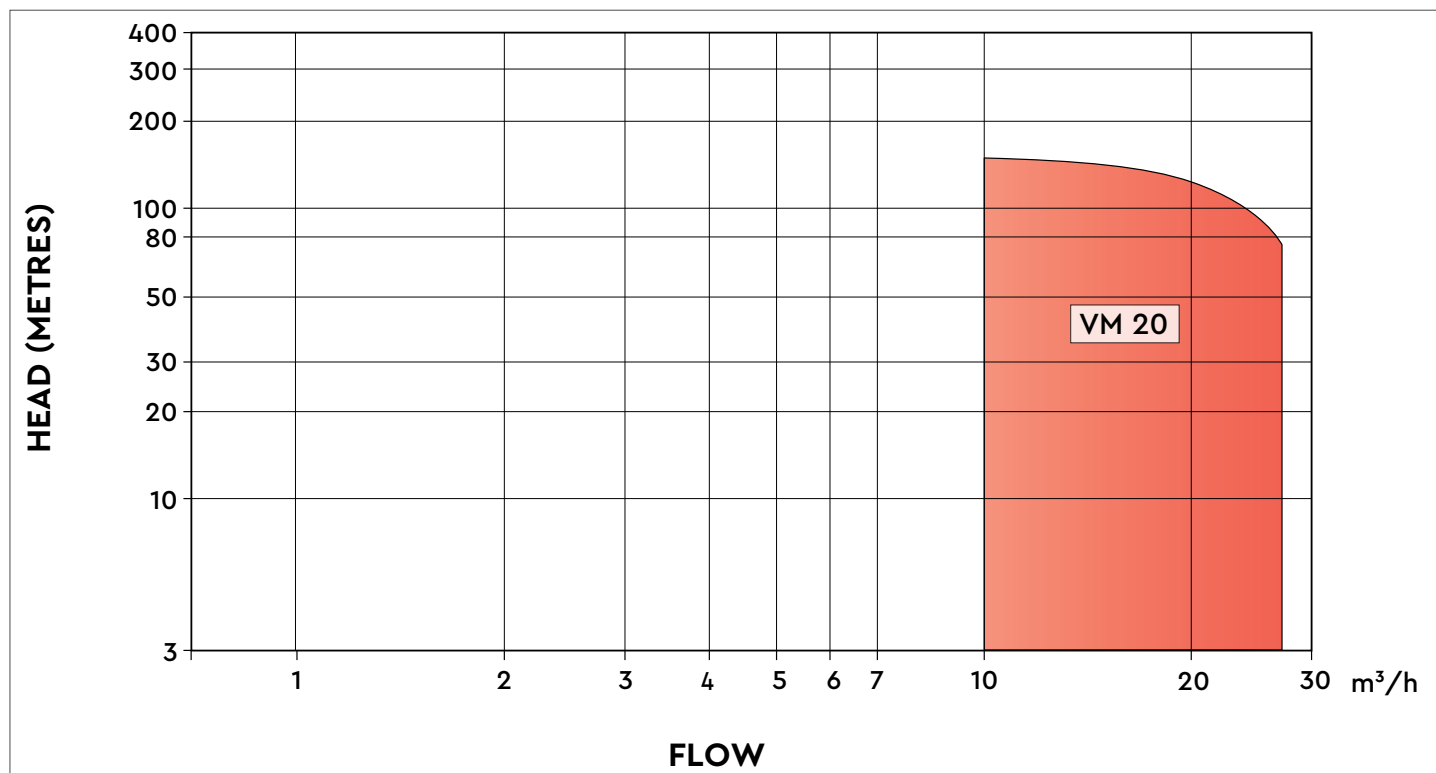
- Domestic and commercial water supply
- Industrial systems, plant and processing
- Wash down units
- Water distribution
- Irrigation and rainwater recovery
- Temperature control and air conditioning systems

#### Product Code

**VM 20 02 230 M 50**

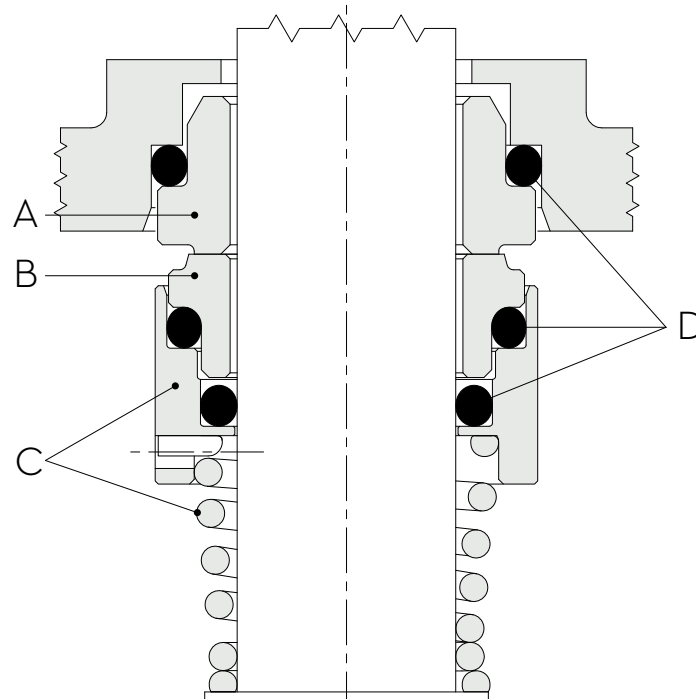


## Stuart VM 2000 Series Performance Summary



			Q = Delivery											
l/min	Rated Power		H1	0	167	200	233	266	300	333	367	400	433.5	466.5
m³/h	kW	Hp	Bar	0	10	12	14	16	18	20	22	24	26	28
			H = Total Head (metres)											
VM 2002	2.2	3	20	31	27.5	27	26	25	24	22.5	20.5	18	15	12
VM 2003	3	4	20	46.5	41.5	40.5	39.5	38	36.5	34.5	31	27.5	23	18.5
VM 2004	4	5.5	20	62.5	56	55	53.5	51.5	49.5	46.5	42.5	37	31.5	25.5
VM 2005	5.5	7.5	20	78	70	68.5	66.5	64.5	62	58	53	47	40	32.5
VM 2006	7.5	10	20	94.5	86.5	84.5	82.5	80	77.5	73.5	67.5	60	52	42.5
VM 2007	7.5	10	20	110	100.5	98	95.5	93	90	85	77.5	69	59.5	48.5
VM 2008	11	15	20	126.5	117	114	112	109	106	100.5	92.5	82.5	72	59.5
VM 2009	11	15	20	142.5	131	128	125.5	122	118.5	112.5	103.5	92.5	80.5	66.5
VM 2010	11	15	20	158	145.5	142	139	135	131.5	124.5	114	102	88.5	73

## Stuart VM 2000 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 2000 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)	$\eta\%$	$\cos \phi$	$I_A / I_N$	$M_A / M_N$
90	2.2	3	B14	14.6	2770	7.6	73.0	0.90	4.3	0.2

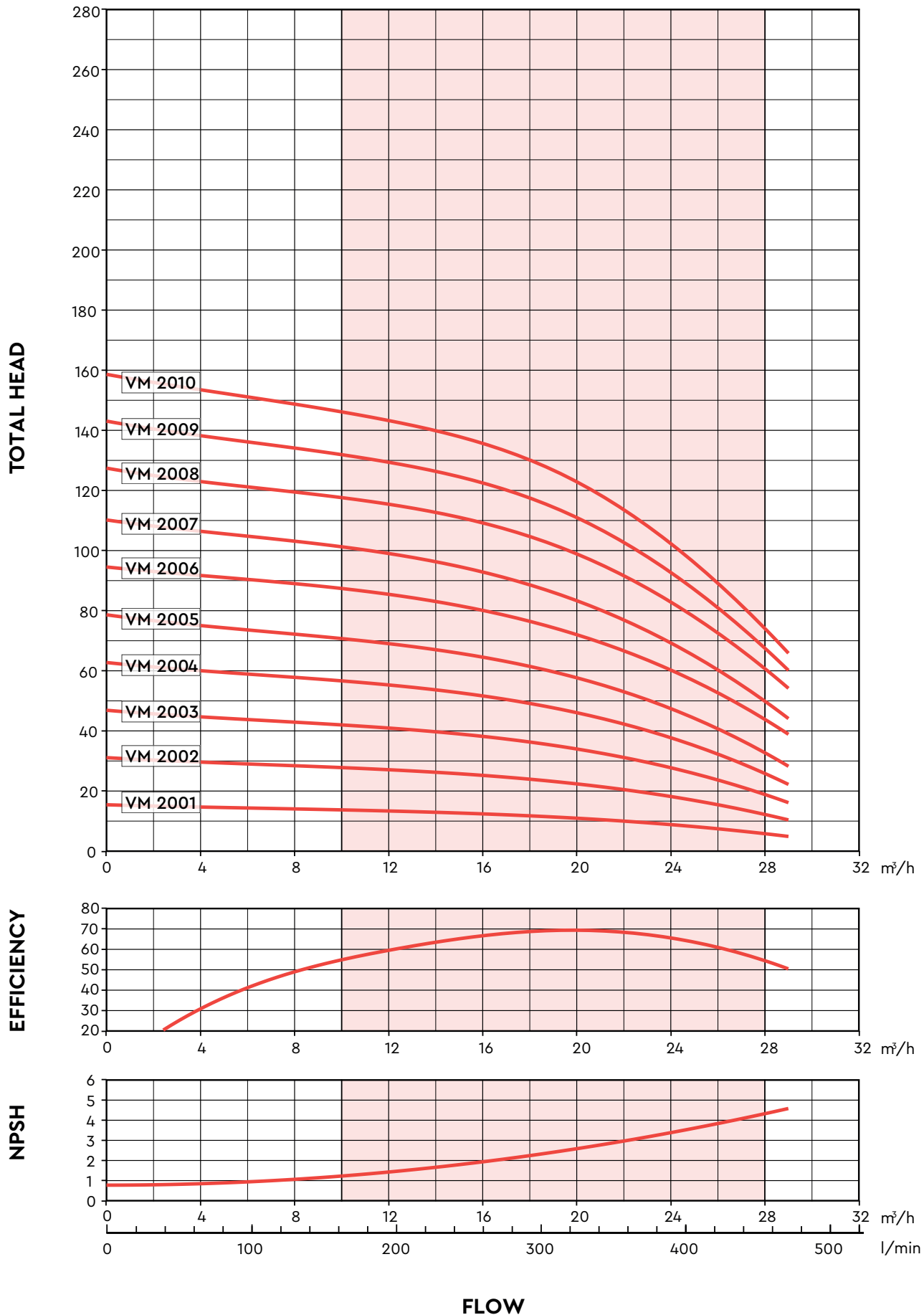
### Three Phase Models

- 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 voltage 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	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
	7.5	10	132	B5	-	-	14.4	8.3	2930	24.5	90.1	0.84	10.4	4.5
	11	15	160	B5	-	-	19.9	11.5	2935	35.8	91.2	0.89	9.7	4.4

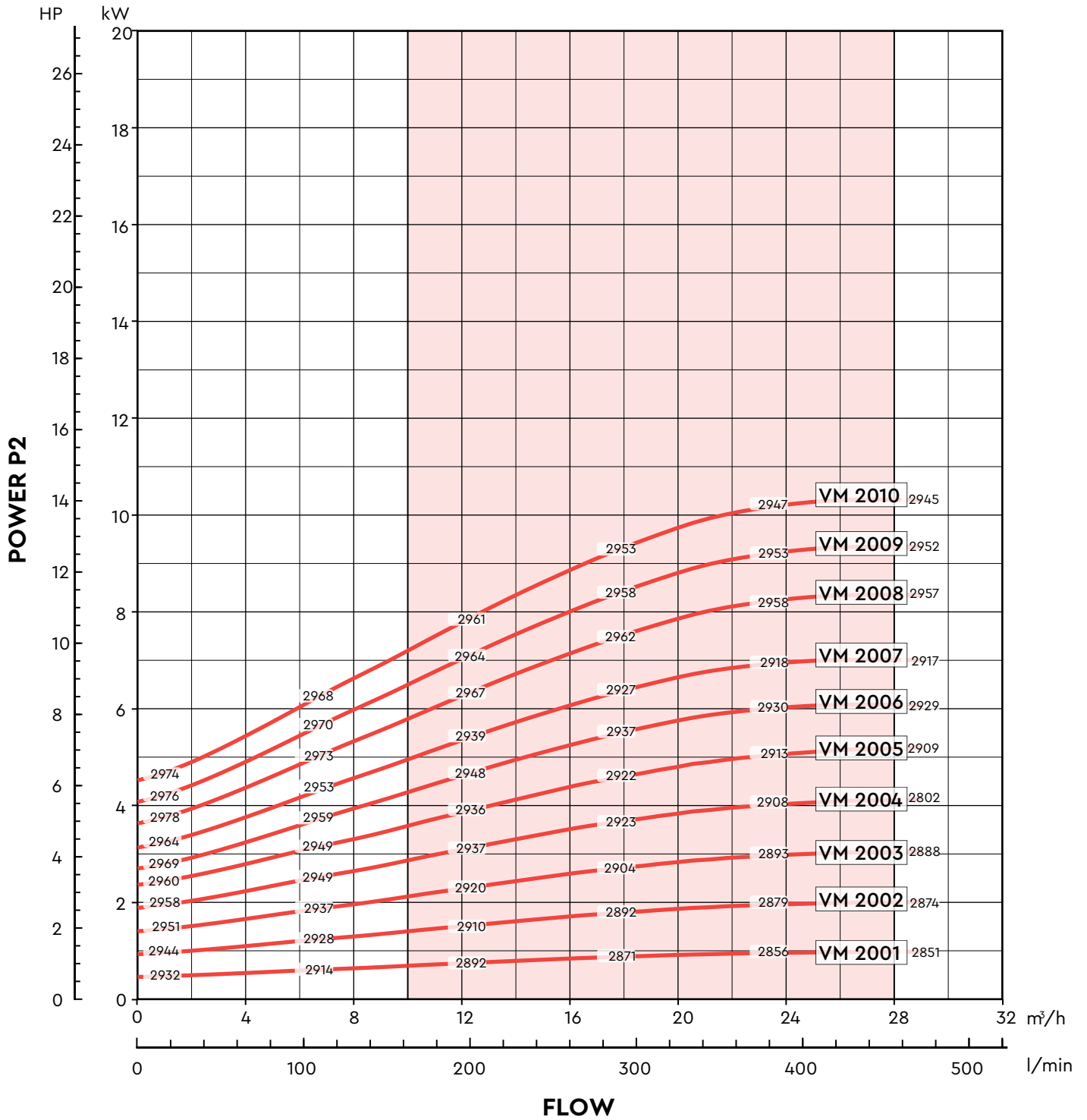
# Stuart VM 2000 Series Performance

MEI  $\geq 0.70$



# Stuart VM 2000 Series Performance

MEI ≥ 0.70



## Stuart VM 2000 230 M 50 Technical Specifications

VM 2000 230 M 50	2002
<b>Part No</b>	<b>47208</b>
<b>General</b>	
Warranty	1 Year
Approvals	CE
Pump type	Centrifugal Multistage
<b>Features</b>	
Impeller stages	2
Compact, robust design	✓
Heavy duty oversized bearings	✓
Easy maintenance	✓
<b>Performance</b>	
Flow rate - nominal (m <sup>3</sup> /h)	20
Flow rate range (m <sup>3</sup> /h)	10 - 28
Maximum head - closed valve (metres)	31
Head range (metres)	12 - 27.5
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)	2.2
Power - motor nominal P2 (hp)	3
Input current - 220-240v (A)	14.6
Efficiency (%)	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	DN50
Connection - outlet	DN50
<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)	678
Width (mm)	310
Depth (mm)	250
Weight (Kg)	37.0

## Stuart VM 2000 230-400 T 50 Technical Specifications

VM 2000 230-400 T 50	2002	2003
Part No	47052	47053
<b>General</b>		
Warranty	1 Year	
Approvals	CE	
Pump type	Centrifugal Multistage	
<b>Features</b>		
Impeller stages	2	3
Compact, robust design	✓	
Heavy duty oversized bearings	✓	
Easy maintenance	✓	
<b>Performance</b>		
Flow rate - nominal (m <sup>3</sup> /h)	20	
Flow rate range (m <sup>3</sup> /h)	10 - 28	
Maximum head - closed valve (metres)	31	46.5
Head range (metres)	12 - 27.5	18.5 - 41.5
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)	2.2	3.0
Power - motor nominal P2 (hp)	3	4
Input current - 220-240v (A)	8.0	9.7
Input current - 380-415v (A)	4.6	5.6
Efficiency Class	IE3	IE3
Efficiency (%)	86.5	87.1
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	DN50	DN50
Connection - outlet	DN50	DN50
<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)	678	775
Width (mm)	300	300
Depth (mm)	250	250
Weight (Kg)	37.0	45.8

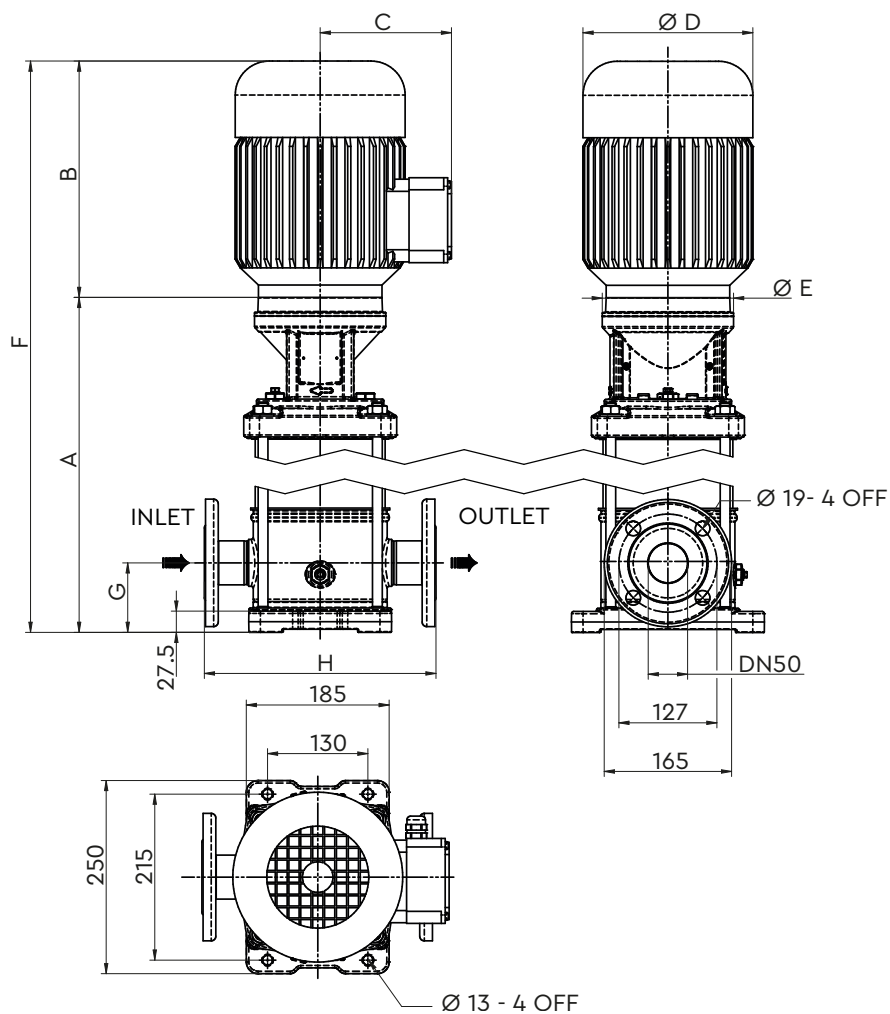


## Stuart VM 2000 400–690 T 50 Technical Specifications

VM 2000 400–690 T 50	2004	2005	2006	2007	2008	2009	2010
<b>Part No</b>	47054	47055	47056	47057	47058	47059	47060
<b>General</b>							
Warranty	1 Year						
Approvals	CE						
Pump type	Centrifugal Multistage						
<b>Features</b>							
Impeller stages	4	5	6	7	8	9	10
Compact, robust design	✓						
Heavy duty oversized bearings	✓						
Easy maintenance	✓						
<b>Performance</b>							
Flow rate - nominal (m <sup>3</sup> /h)	20						
Flow rate range (m <sup>3</sup> /h)	10 – 28						
Maximum head - closed valve (metres)	62.5	78	94.5	110	126.5	142.5	158
Head range (metres)	25.5–56	32.5–70	42.5–86.5	48.5–100.5	59.5–117	66.5–131	73–145.5
Working pressure - maximum (bar)	26						
<b>Motor</b>							
Motor type	Induction						
Power supply (Vac/Ph/Hz)	400–690 V a.c. / 3 / 50						
Power - motor nominal P2 (kW)	4.0	5.5	7.5	7.5	11.0	11.0	11.0
Power - motor nominal P2 (hp)	5.4	7.4	10	10	14.8	14.8	14.8
Input current 380–415v (A)	8.0	8.0	14.4	14.4	14.4	19.9	19.9
Input current 660–690v (A)	4.6	4.6	8.3	8.3	8.3	11.5	11.5
Efficiency Class	IE3	IE3	IE3	IE3	IE3	IE3	IE3
Efficiency (%)							
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	DN50	DN50	DN50	DN50	DN50	DN50	DN50
Connection - outlet	DN50	DN50	DN50	DN50	DN50	DN50	DN50
<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)	823	1080	1150	1198	1341	1389	1437
Width (mm)	300	310	310	310	346	346	346
Depth (mm)	250	250	250	250	250	250	250
Weight (Kg)	51.0	80.1	84	85	112.5	114	115

## Stuart VM 2000 230 M 50 Dimensions

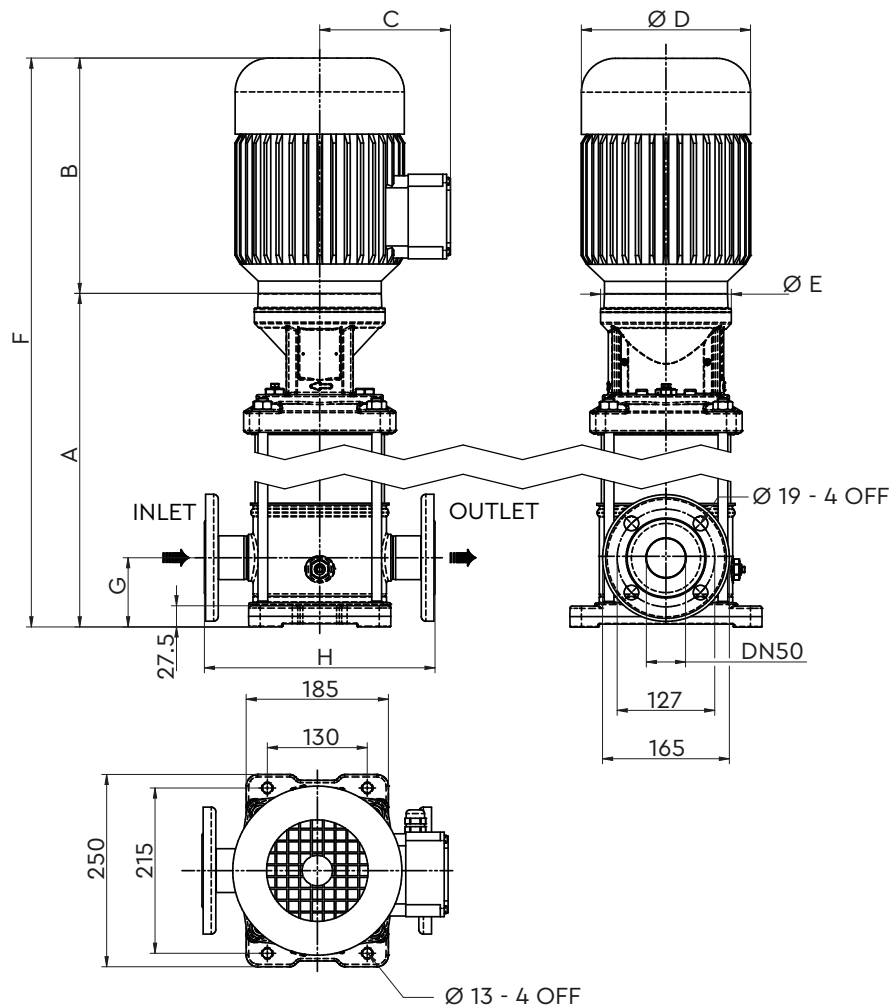
Dimensions: VM 2000 230 M 50



Part No	Description	Dimensions (mm)									Motor Weight	Pump Weight	Total Weight
		A	B	C	Ø D	Ø E	F	G	H				
47208	VM 2002 230 M 50	411	267	160	180	170	678	90	300	16.0 Kg	21.0 Kg	37.0 Kg	

## Stuart VM 2000 230-400 / 400-690 T 50 Dimensions

Dimensions: VM 2000 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				
47052	VM 2002 230-400 T 50	411	267	138	180	170	678	90	300	16.0 Kg	21.0 Kg	37.0 Kg	
47053	VM 2003 230-400 T 50	469	306	145	196	170	775	90	300	22.8 Kg	23.0 Kg	45.8 Kg	
47054	VM 2004 400-690 T 50	517	306	145	196	170	823	90	300	26.5 Kg	24.5 Kg	51.0 Kg	
47055	VM 2005 400-690 T 50	752	328	160	225	300	1080	90	300	33.6 Kg	46.5 Kg	80.1 Kg	
47056	VM 2006 400-690 T 50	800	350	160	225	300	1150	90	300	36.0 Kg	48.0 Kg	84.0 Kg	
47057	VM 2007 400-690 T 50	848	350	160	225	300	1198	90	300	36.0 Kg	49.0 Kg	85.0 Kg	
47058	VM 2008 400-690 T 50	916	425	194	248	350	1341	90	300	59.0 Kg	53.5 Kg	112.5 Kg	
47059	VM 2009 400-690 T 50	964	425	194	248	350	1389	90	300	59.0 Kg	55.0 Kg	114.0 Kg	
47060	VM 2010 400-690 T 50	1012	425	194	248	350	1437	90	300	59.0 Kg	56.0 Kg	115.0 Kg	

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

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