

## STUART

### HM 1500 Centrifugal Horizontal Multistage Pumps

A range of 15m<sup>3</sup>/hour nominal flow horizontal multistage pumps featuring a compact, close-coupled design and heavy duty oversized motor shaft.

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 25m<sup>3</sup>/h and models available providing up to 90.8 metres head, these pumps are suitable for use in a wide range of water boosting applications.



#### Features

- Multistage centrifugal pump
- Flow rates up to 25 m<sup>3</sup>/h
- Heads up to 90.8 metres
- Single phase and three phase options
- Compact, close-coupled design
- AISI 304 stainless steel pump head housing, shaft, impellers and diffusers
- Extended life mechanical seal
- Continuously rated induction motor
- Easy maintenance
- WRAS Approved Product
- 1 year warranty

#### Applications

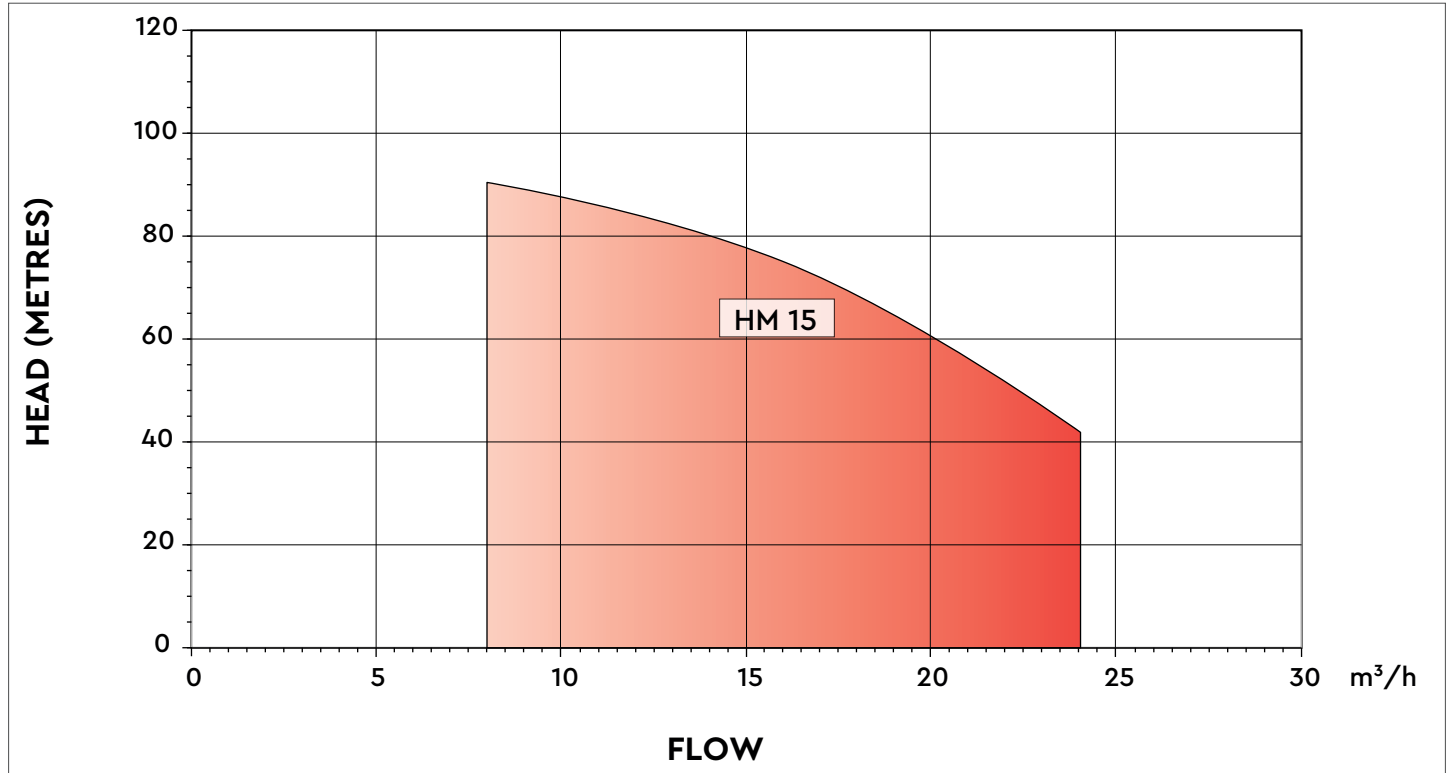
- Domestic and commercial water supply
- Industrial systems, plant and processing
- Wash down units
- Water distribution
- Irrigation and rainwater recovery
- Temperature control and air conditioning systems

#### Product Code

**HM 15 04 230 M 50**

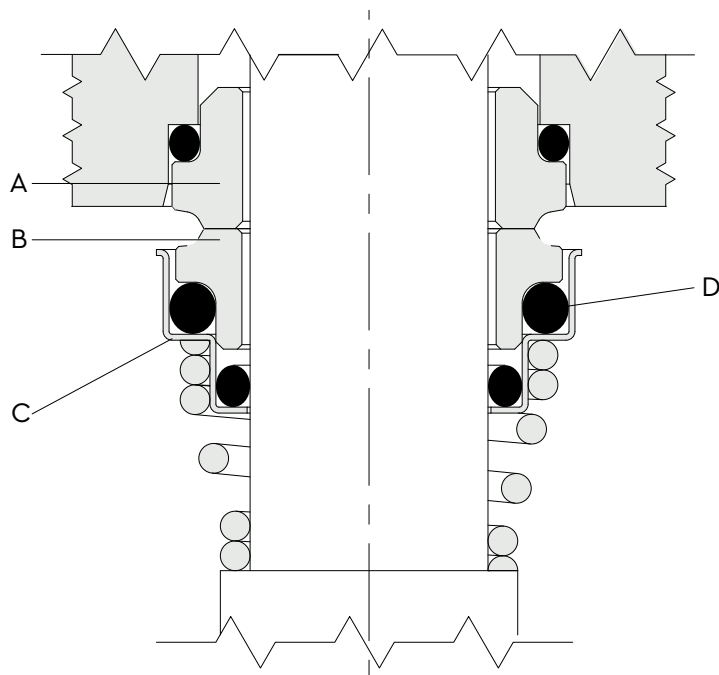
- 50 Hz
- M= Single Phase / T= Three Phase
- V a.c.
- Pump Stages / Nominal Pressure
- Nominal Flow m<sup>3</sup>/h
- HM = Horizontal Multistage

# Stuart HM 1500 Series Performance Summary



	Q = DELIVERY																								
l/min	0	25	33	42	50	58	67	75	83	92	100	117	133	150	167	183	233	267	300	333	367	417	467	483	
m³/h	0	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6	7	8	9	10	11	14	16	18	20	22	25	28	29	
	H = TOTAL HEAD (METRES)																								
HM 1502	28.5														25.0	24.5	24.0	23.5	21.7	20.1	18.2	15.9	13.2	8.8	
HM 1503	43.3														38.3	37.6	36.9	36.1	33.5	31.2	28.4	25.0	21.0	14.3	
HM 1504	57.9														51.4	50.4	49.5	48.5	45.0	42.0	38.3	33.8	28.4	19.5	
HM 1505	72.6														64.5	63.4	62.2	61.0	56.7	53.0	48.4	42.7	36.1	24.8	
HM 1506	87.5														78.2	76.9	75.5	74.1	69.0	64.7	59.2	52.5	44.6	31.0	
HM 1507	101.9														90.8	89.2	87.5	85.8	79.8	74.7	68.3	60.5	51.2	35.4	

## Stuart HM 1500 Series Mechanical Seal Specifications



### Seal Component Materials

Stationary Seal Face	Rotating Seal Face	Other Components	Elastomers	Temperature
A	B	C	D	
Carbon Graphite	Silicon Carbide	Stainless Steel AISI 316	EPDM	-15°C - +110°C

## Stuart HM 1500 Series Motor Specifications

- Asynchronous, TEFC (Totally Enclosed, Fan-Cooled)
- 2 pole
- Protection degree: IP55
- Insulation class: F
- Frequency of starts:  
Max. 60 starts/hour for motor power up to 3 kW (with min. 1 minute resting time)  
Max. 30 starts/hour for motor power from 4 kW (with min. 2 minute resting time)

### Single Phase Models (at 50Hz)

- Standard voltage 220–240 V  $\pm$  5%
- Integrated thermal protection

Motor Size	P <sub>N</sub> (kW)	Input Current	Capacitor		230V – 50Hz						
		I <sub>N</sub> (A)	$\mu$ F	V	n <sub>N</sub> (min <sup>-1</sup> )	I <sub>S</sub> / I <sub>N</sub>	$\eta$ %	cos $\phi$	T <sub>N</sub> (Nm)	T <sub>S</sub> / T <sub>N</sub>	T <sub>M</sub> / T <sub>N</sub>
80	1.50	8.56	30	450	2830	3.6	79.9	0.95	5.05	0.50	1.92
90	2.20	12.60	60	450	2870	2.2	76.7	0.99	7.30	0.51	1.99

## Three Phase Models (at 50Hz)

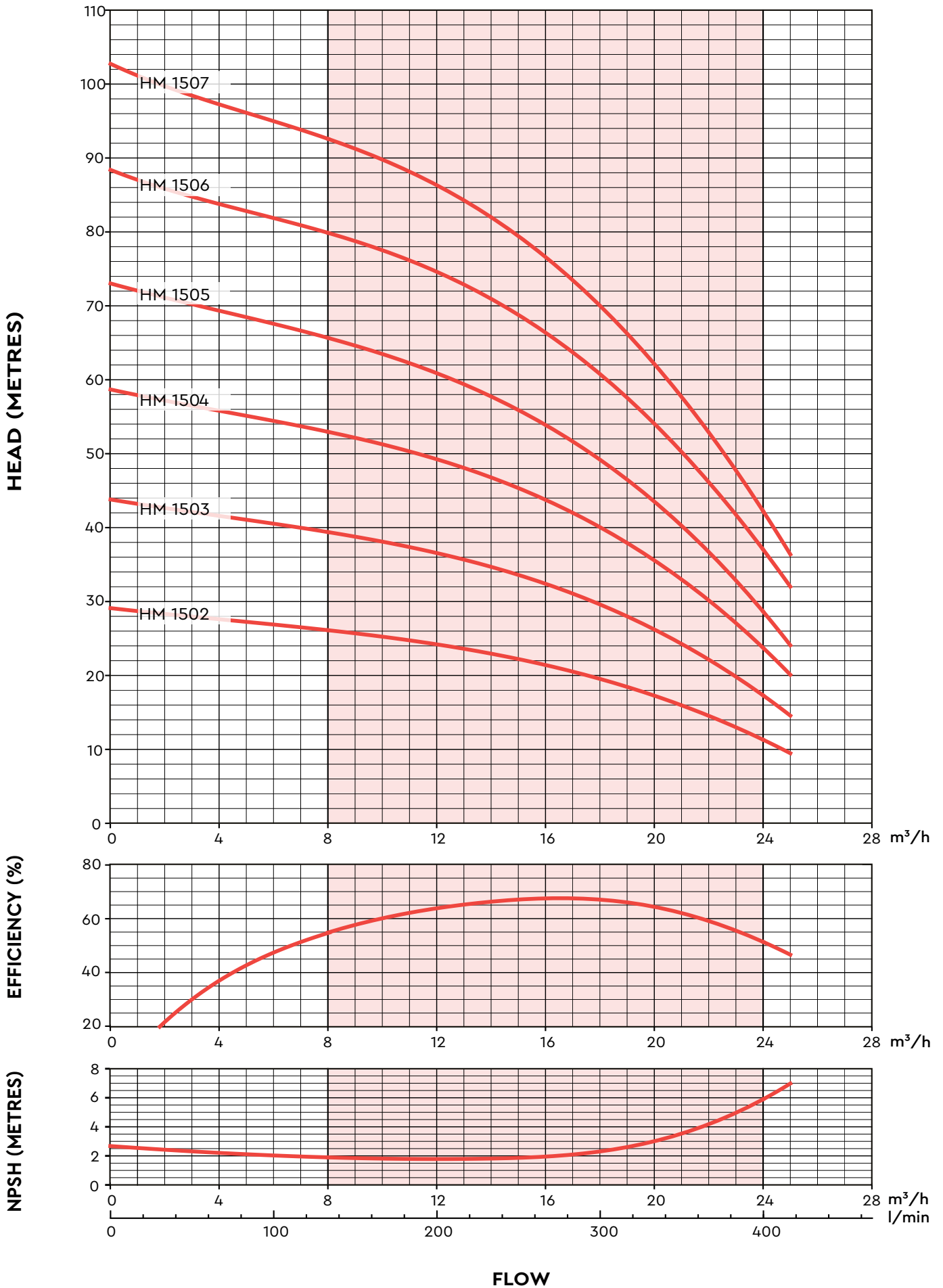
- IE3 premium efficiency motors
- IE efficiency according to IEC 60034-30-1:2014
- Electrical performance according to IEC 60034-2-1:2007
- Standard voltage:  
220-240 / 380-415 V  $\pm$  5 % up to 3 kW  
380-415 / 660-690 V  $\pm$  5 % from 4 kW
- Thermal protection to be provided within the starter panel

P <sub>N</sub> (kW)	Efficiency $\eta_N\%$						
	$\Delta$ 230 V Y 400 V			$\Delta$ 400 V Y 690 V			IE
	4/4	3/4	2/4	4/4	3/4	2/4	
1.50	84.3	85.7	85.3	-	-	-	3
2.20	86.1	86.7	85.4	-	-	-	3
3.00	87.1	87.5	86.1	-	-	-	3
4.00	-	-	-	88.1	88.7	87.7	3
5.50	-	-	-	89.2	89.4	88.1	3

Motor Size	P <sub>N</sub> (kW)	No Poles	f <sub>N</sub> (Hz)	400 V 50Hz				
				cos $\phi$	I <sub>S</sub> / I <sub>N</sub>	T <sub>N</sub> (Nm)	T <sub>S</sub> / T <sub>N</sub>	T <sub>M</sub> / T <sub>N</sub>
80	1.50	2	50	0.79	6.8	5.1	3.2	3.2
90	2.20	2	50	0.80	9.6	7.3	4.3	4.4
90	3.00	2	50	0.83	9.6	9.9	4.7	4.9
100	4.00	2	50	0.85	8.1	13.2	2.8	3.0
112	5.50	2	50	0.81	8.4	8.1	4.3	4.5

P <sub>N</sub> (kW)	Voltage U <sub>N</sub>				n <sub>N</sub> (min <sup>-1</sup> )	Motor Operating Conditions		
	$\Delta$ 230 V	Y 400 V	$\Delta$ 400 V	Y 690 V		Altitude Above Sea Level (m)	T <sub>amb</sub> min/max (°C)	ATEX
	I <sub>N</sub> (A)							
1.50	5.7	3.3	-	-	2830	≤ 1000	-15 / 40	No
2.20	8.0	4.6	-	-	2880	≤ 1000	-15 / 40	
3.00	10.4	6.0	-	-	2900	≤ 1000	-15 / 40	
4.00	-	-	7.7	4.4	2900	≤ 1000	-15 / 40	
5.50	-	-	11.0	6.4	2900	≤ 1000	-15 / 40	

# Stuart HM 1500 Series Performance Summary



## Stuart HM 1500 230 M 50 Technical Specifications

HM 1500 230 M 50	1502	1503
Part No	46779	46780
<b>General</b>		
Warranty	1 Year	
Approvals	WRAS Approved Product, CE	
Pump type	Centrifugal Multistage	
<b>Features</b>		
Impeller stages	2	3
Compact, close-coupled design	✓	
Heavy duty oversized motor shaft	✓	
Easy maintenance	✓	
<b>Performance</b>		
Flow rate – nominal (m <sup>3</sup> /h)	15	
Flow rate range (m <sup>3</sup> /h)	8.0 – 25.0	
Maximum head – closed valve (metres)	29.0	44.0
Head range (metres)	9.5 – 26.0	14.5 – 39.5
Working pressure – maximum (bar)	10	
Maximum allowable amount of sand	50 g/m <sup>3</sup>	
<b>Motor</b>		
Motor type	Induction (Manual reset thermal trip)	
Power supply (Vac/Ph/Hz)	230 V a.c. / 1 / 50 Hz	
Power – input P1 (kW)	1.60	2.74
Power – motor nominal P2 (kW)	1.5	2.2
Power – motor nominal P2 (hp)	2.0	3.0
Input current – 220–240v (A)	7.7	12.1
Efficiency (%)	79.9	76.7
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	Carbon Graphite/ Silicon Carbide/AISI 316/EPDM	
<b>Connections</b>		
Connection – inlet	Rp 2"	Rp 2"
Connection – outlet	Rp 1½"	Rp 1½"
<b>Operating Conditions</b>		
Operating Ambient Temperature Range (°C)	-5 °C to +40 °C	
Liquid temperature range (°C)	-15 to +90 °C (110 °C for industrial applications)	
<b>Dimensions</b>		
Height (mm)	224	231
Width (mm)	209	209
Depth (mm)	488	533
Weight (Kg)	20.2	25.4

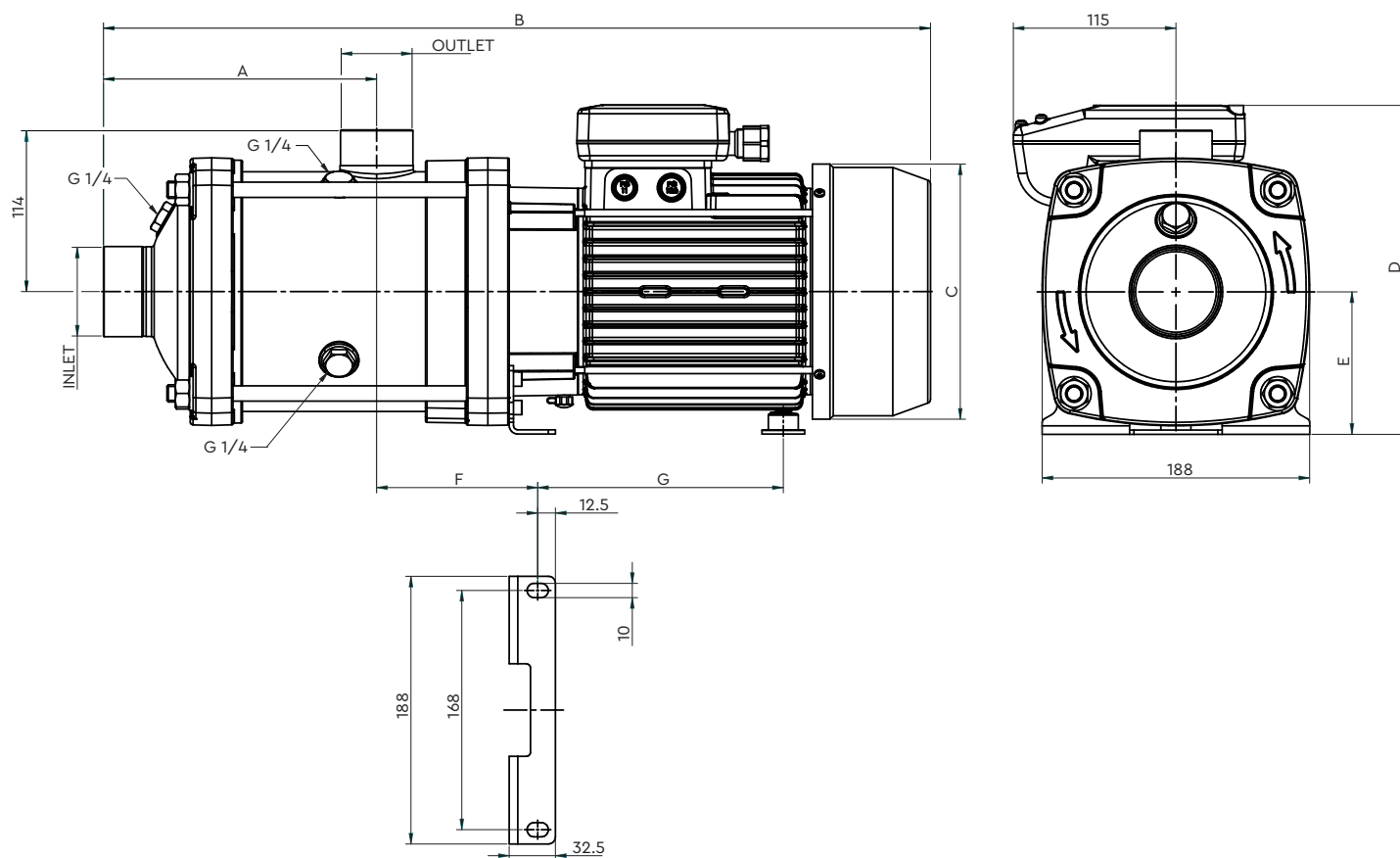
## Stuart HM 1500 230-400/400-690 T 50 Technical Specifications

HM 1500 230-400/400-690 T 50	1502	1503	1504	1505	1506	1507
Part No	46782	46783	46784	46785	46786	46787
<b>General</b>						
Warranty	1 Year					
Approvals	WRAS Approved Product, CE					
Pump type	Centrifugal Multistage					
<b>Features</b>						
Impeller stages	2	3	4	5	6	7
Compact, close-coupled design	✓					
Heavy duty oversized motor shaft	✓					
Easy maintenance	✓					
<b>Performance</b>						
Flow rate - nominal (m <sup>3</sup> /h)	15					
Flow rate range (m <sup>3</sup> /h)	8.0 - 25.0					
Maximum head - closed valve (metres)	29.0	44.0	58.5	73.0	87.5	102.0
Head range (metres)	9.5 - 26.0	14.5 - 39.5	20.0 - 53.0	24.0 - 65.5	31.5 - 79.5	36.0 - 92.0
Working pressure - maximum (bar)	10					
Maximum allowable amount of sand	50 g/m <sup>3</sup>					
<b>Motor</b>						
Motor type	Induction (thermal trip fitted by installer)					
Power supply (Vac/Ph/Hz)	230 - 400 V a.c. / 3 / 50 Hz			400 - 690 V a.c. / 3 / 50 Hz		
Power - input P1 (kW)	1.60	2.45	3.28	4.09	4.95	5.71
Power - motor nominal P2 (kW)	1.5	2.2	3.0	4.0	5.5	5.5
Power - motor nominal P2 (hp)	2.0	3.0	4.0	5.4	7.4	7.4
Input current 220-240v (A)	5.3	7.8	9.9	-	-	-
Input current 380-415v (A)	3.0	4.5	5.7	7.0	9.3	10.3
Input current 660-690v (A)	-	-	-	4.1	5.4	6.0
Efficiency class	IE3	IE3	IE3	IE3	IE3	IE3
Efficiency 3 Phase 2/4 (%)	85.3	85.4	86.1	87.7	88.1	88.1
Efficiency 3 Phase 3/4 (%)	85.7	86.7	87.5	88.7	89.4	89.4
Efficiency 3 Phase 4/4 (%)	84.3	86.1	87.1	88.1	89.2	89.2
Insulation class	F					
Duty rating	Continuous (S1)					
Starts per hour	60			30		
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	Carbon Graphite/ Silicon Carbide/AISI 316/EPDM					
<b>Connections</b>						
Connection - inlet	Rp 2"	Rp 2"	Rp 2"	Rp 2"	Rp 2"	Rp 2"
Connection - outlet	Rp 1½"	Rp 1½"	Rp 1½"	Rp 1½"	Rp 1½"	Rp 1½"
<b>Operating Conditions</b>						
Operating Ambient Temperature Range (°C)	-5 °C to +40 °C					
Liquid temperature range (°C)	-15 to +90 °C (110 °C for industrial applications)					
<b>Dimensions</b>						
Height (mm)	224	231	231	246	263	263
Width (mm)	188	188	188	188	188	188
Depth (mm)	485	532	615	670	732	780
Weight (Kg)	18.8	24.4	28.6	37.0	46.2	47.6



## Stuart HM 1500 230 M 50 Dimensions

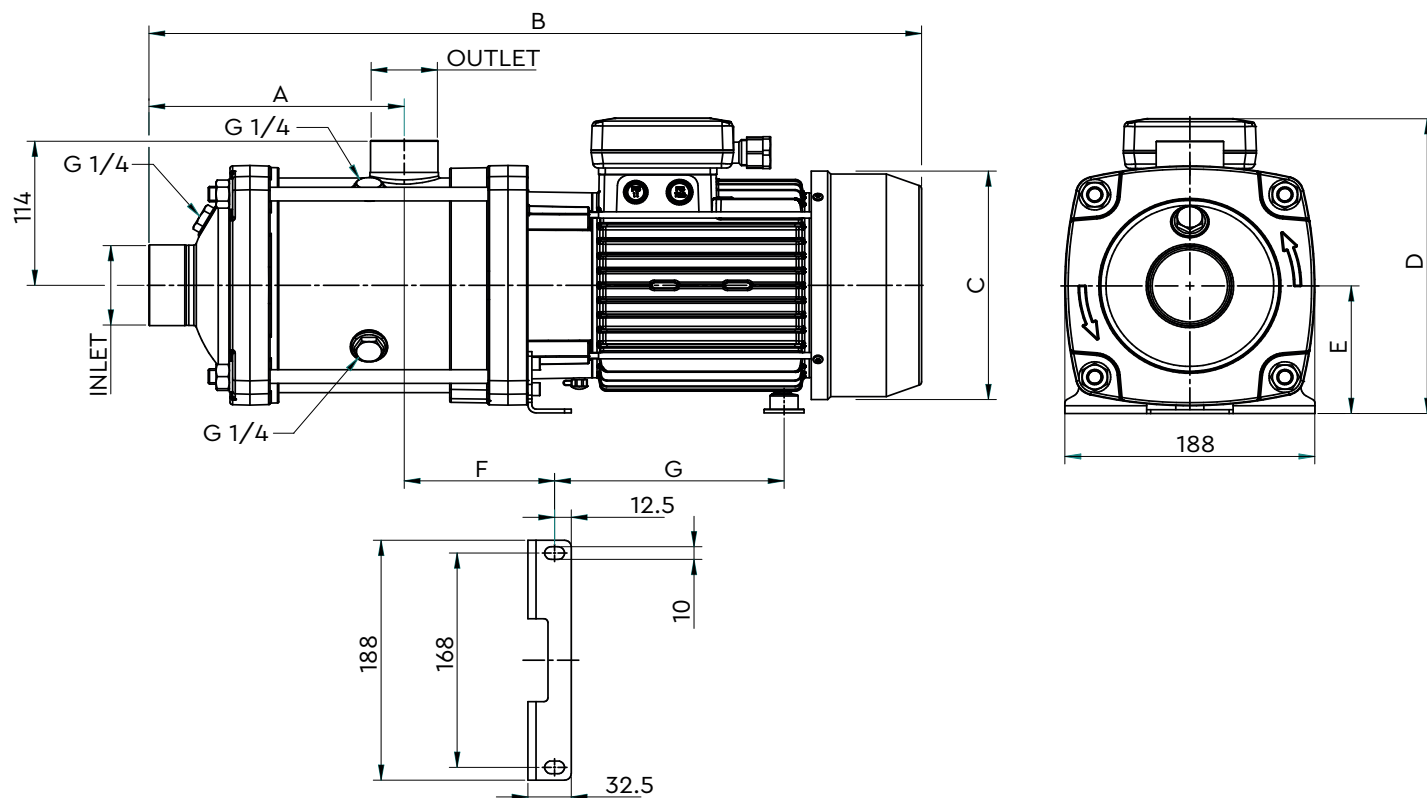
Dimensions: HM 1500 230 M 50



Part No	Description	Dimensions (mm)								Weight (Kg)	Inlet	Outlet
		A	B	C	D	E	F	G				
46779	HM 1502 230 M 50	144	488	162	224	100	113	129	20.2	Rp 2"	Rp 1½"	
46780	HM 1503 230 M 50	144	533	179	231	100	113	173	25.4	Rp 2"	Rp 1½"	

## Stuart HM 1500 230-400 T 50 Dimensions

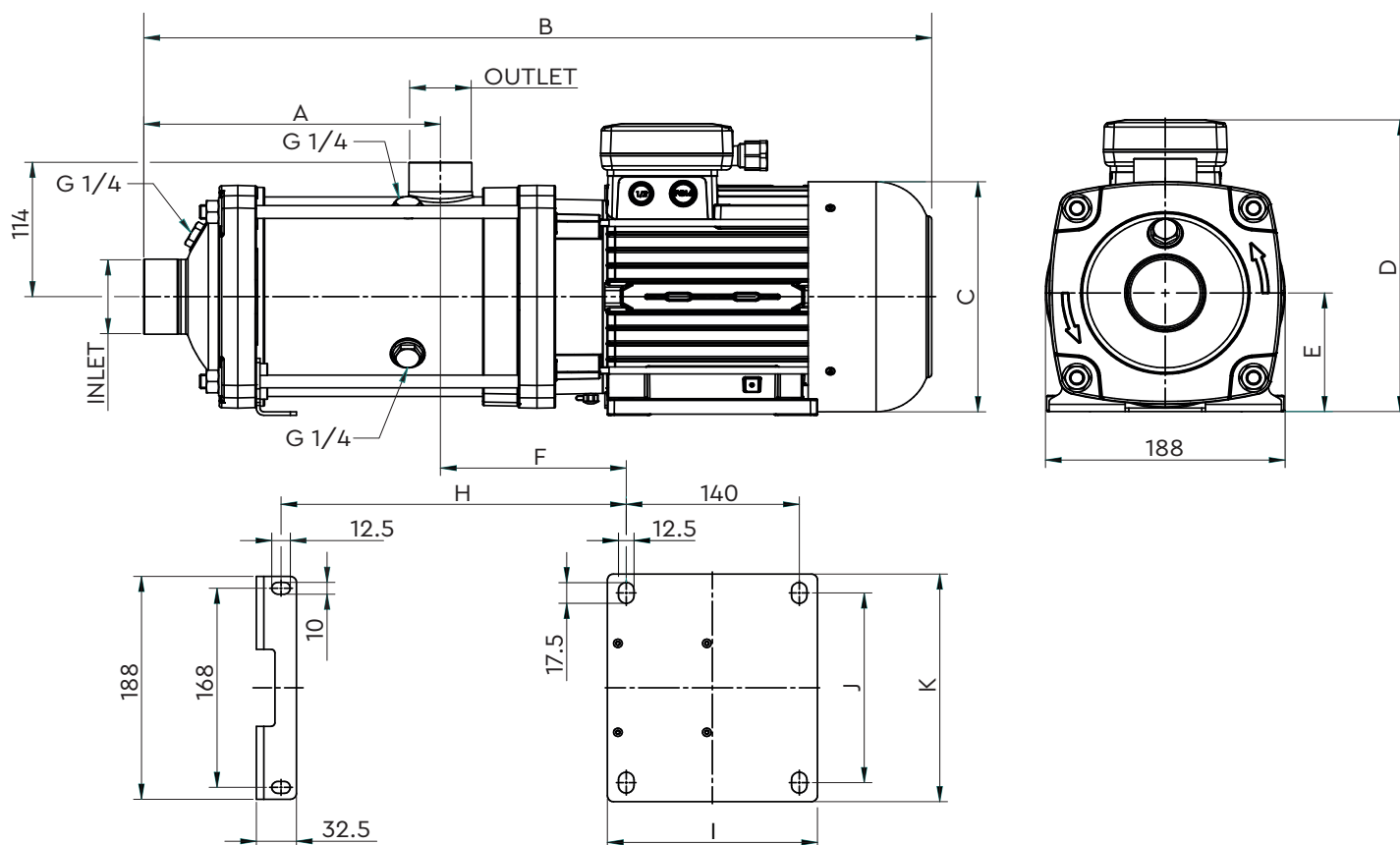
Dimensions: HM 1500 230-400 T 50



Part No	Description	Dimensions (mm)								Weight (Kg)	Inlet	Outlet
		A	B	C	D	E	F	G				
46782	HM 1502 230-400 T 50	144	485	162	224	100	113	129	18.8	Rp 2"	Rp 1 1/2"	
46783	HM 1503 230-400 T 50	144	532	179	231	100	113	173	24.4	Rp 2"	Rp 1 1/2"	
46784	HM 1504 230-400 T 50	192	615	179	231	100	113	173	28.6	Rp 2"	Rp 1 1/2"	

## Stuart HM 1500 400-690 T 50 Dimensions

Dimensions: HM 1500 400-690 T 50



Part No	Description	Dimensions (mm)										Weight (Kg)	Inlet	Outlet
		A	B	C	D	E	F	H	I	J	K			
46785	HM 1505 400-690 T 50	240	670	194	246	100	150	279	170	160	192	37.0	Rp 2"	Rp 1½"
46786	HM 1506 400-690 T 50	288	732	218	263	112	152	329	180	190	220	46.2	Rp 2"	Rp 1½"
46787	HM 1507 400-690 T 50	336	780	218	263	112	152	377	180	190	220	47.6	Rp 2"	Rp 1½"

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

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