

## STUART

### HM 0500 Centrifugal Horizontal Multistage Pumps

A range of 5m<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 7m<sup>3</sup>/h and models available providing up to 97.5 metres head, these pumps are suitable for use in a wide range of water boosting applications.



#### Features

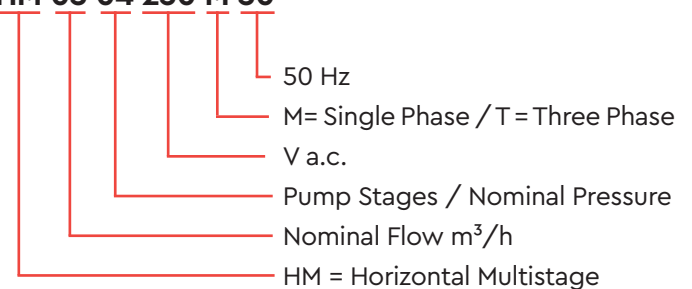
- Multistage centrifugal pump
- Flow rates up to 7 m<sup>3</sup>/h
- Heads up to 97.5 metres
- Single phase and three phase options
- Compact, close-coupled design
- AISI 304 stainless steel pump head housing, shaft, impellers and diffusers
- Extended life mechanical seal
- Continuously rated induction 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

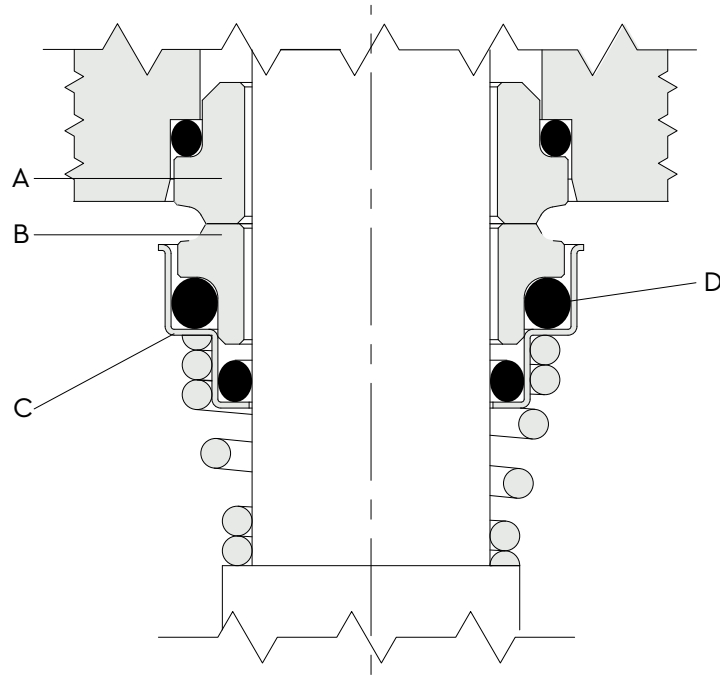
#### Product Code

**HM 05 04 230 M 50**





## Stuart HM 0500 Series Mechanical Seal Specifications



### Seal Component Materials

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

## Stuart HM 0500 Series Motor Specifications

- Asynchronous, TEFC (Totally Enclosed, Fan-Cooled)
- 2 pole
- Protection degree: IP55
- Insulation class: F
- Max. 60 starts/hour for motor power up to 3 kW (with min. 1 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)	μF	V	n <sub>N</sub> (min <sup>-1</sup> )	I <sub>s</sub> / I <sub>N</sub>	η%	cos φ	T <sub>N</sub> (Nm)	T <sub>S</sub> / T <sub>N</sub>	T <sub>M</sub> / T <sub>N</sub>
71	0.45	3.00	16	450	2890	5.4	69.7	0.92	1.50	0.72	1.60
71	0.55	3.50	16	450	2860	4.6	72.6	0.94	1.83	0.59	1.85
71	0.90	5.45	30	450	2875	4.8	75.3	0.93	3.00	0.47	1.67
71	1.10	6.60	30	450	2820	3.9	77.0	0.96	3.70	0.38	1.86
80	1.30	7.46	30	450	2860	4.2	80.8	0.94	4.35	0.57	1.86
80	1.50	8.56	30	450	2830	3.6	79.9	0.95	5.05	0.50	1.92
80	1.85	10.90	30	450	2760	2.8	76.6	0.96	6.40	0.39	2.40
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)

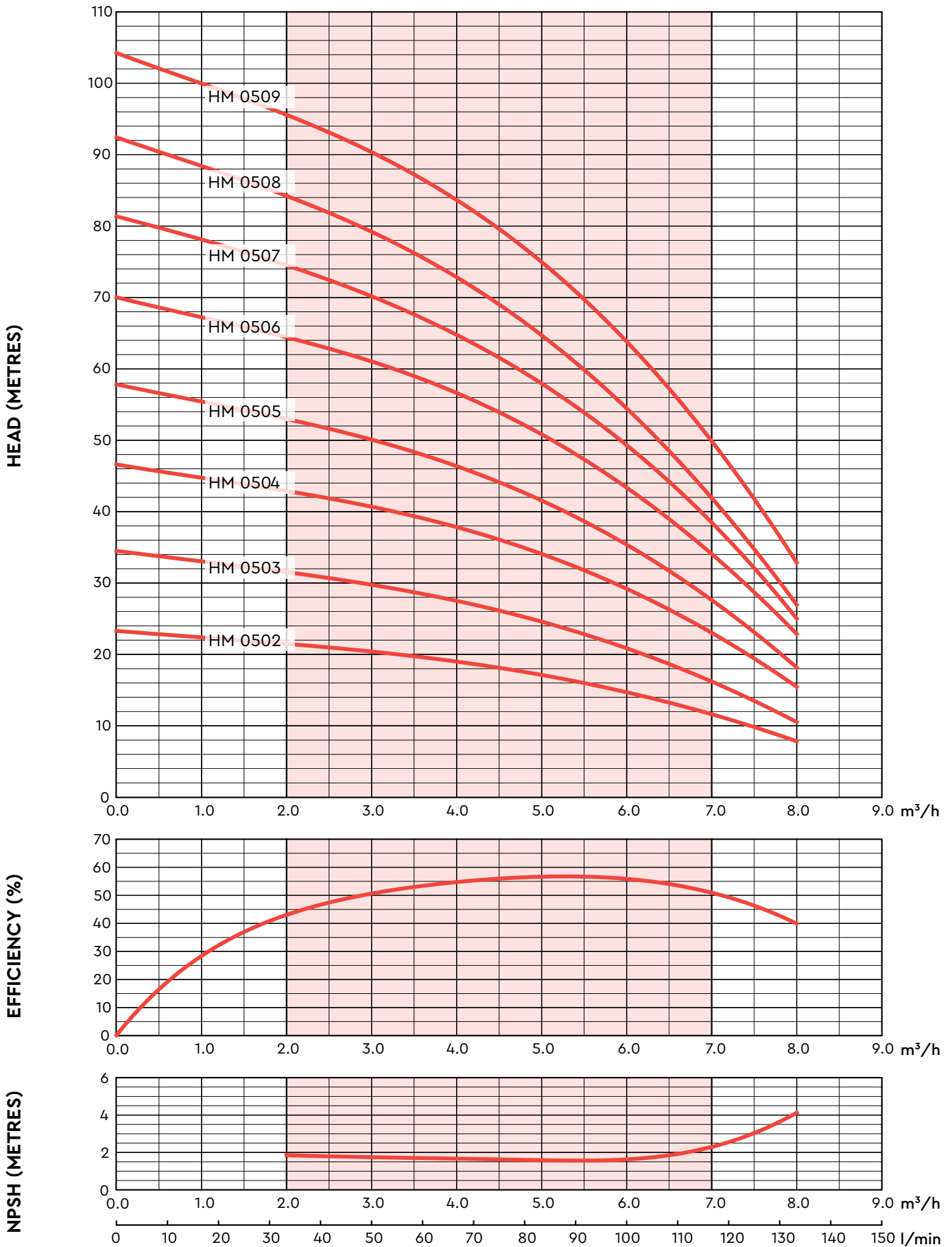
- IE3 premium efficiency motors
- IE efficiency according to IEC 60034-30-1:2014
- Electrical performance according to IEC 60034-2-1:2007
- Standard voltage:  
220-240 / 380-415 V  $\pm$  5 % up to 3 kW  
380-415 / 660-690 V  $\pm$  5 % from 4 kW
- Thermal protection to be provided within the starter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

P <sub>N</sub> (kW)	Efficiency $\eta_N\%$						IE
	$\Delta$ 230 V Y 400 V			$\Delta$ 400 V Y 690 V			
	4/4	3/4	2/4	4/4	3/4	2/4	
0.75	80.9	81.5	79.6	-	-	-	3
1.10	82.7	84.6	84.2	-	-	-	3
1.50	84.3	85.7	85.3	-	-	-	3
2.20	86.1	86.7	85.4	-	-	-	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>
71	0.75	2	50	0.83	6.8	2.6	3.6	3.7
71	1.10	2	50	0.82	5.9	3.7	3.2	3.1
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

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)							
0.75	2.8	1.6	-	-	2800	≤ 1000	-15 / 40	No
1.10	4.1	2.3	-	-	2840	≤ 1000	-15 / 40	
1.50	5.7	3.3	-	-	2830	≤ 1000	-15 / 40	
2.20	8.0	4.6	-	-	2880	≤ 1000	-15 / 40	

# Stuart HM 0500 Series Performance Summary



## Stuart HM 0500 230 M 50 Technical Specifications

HM 0500 230 M 50	0502	0503	0504	0505	0506	0507	0508	0509
Part No	46750	46751	46752	46753	46754	46755	46756	46757

General								
Warranty	1 Year							
Approvals	WRAS Approved Product, CE							
Pump type	Centrifugal Multistage							

Features								
Impeller stages	2	3	4	5	6	7	8	9
Compact, close-coupled design	✓							
Heavy duty oversized motor shaft	✓							
Easy maintenance	✓							

Performance								
Flow rate - nominal (m <sup>3</sup> /h)	5							
Flow rate range (m <sup>3</sup> /h)	2.0 - 7.0							
Maximum head - closed valve (metres)	23.5	34.5	46.5	58.0	70.0	81.5	92.5	104.0
Head range (metres)	11.5-21.5	16-31.5	23-43	27.5-53	34-64.5	38.5-74.5	42-84	50-95.5
Working pressure - maximum (bar)	10							
Maximum allowable amount of sand	50 g/m <sup>3</sup>							

Motor								
Motor type	Induction (Manual reset thermal trip)							
Power supply (Vac/Ph/Hz)	230 V a.c. / 1 / 50 Hz							
Power - input P1 (kW)	0.59	0.81	1.10	1.32	1.53	1.74	2.40	2.59
Power - motor nominal P2 (kW)	0.45	0.55	0.90	1.10	1.30	1.50	1.85	2.20
Power - motor nominal P2 (hp)	0.6	0.7	1.2	1.5	1.7	2.0	2.5	3.0
Input current - 220-240v (A)	3.0	3.9	5.3	6.2	7.3	8.2	10.5	11.4
Efficiency (%)	64.8	69.7	72.6	72.2	75.3	77.0	80.8	79.9
Insulation class	F							
Duty rating	Continuous (S1)							
Starts per hour	60							
IP rating	IP 55							

Materials								
Pump head housing	AISI 304 stainless steel							
Impellers and diffusers	AISI 304 stainless steel							
Pump shaft	AISI 304 stainless steel							
Pump seal	Ceramic Alumina/Carbon Graphite/AISI 316/EPDM							

Connections								
Connection - inlet	Rp 1¼"	Rp 1¼"	Rp 1¼"	Rp 1¼"	Rp 1¼"	Rp 1¼"	Rp 1¼"	Rp 1¼"
Connection - outlet	Rp 1"	Rp 1"	Rp 1"	Rp 1"	Rp 1"	Rp 1"	Rp 1"	Rp 1"

Operating Conditions								
Operating Ambient Temperature Range (°C)	-5 °C to +40 °C							
Liquid temperature range (°C)	-15 to +90 °C (110 °C for industrial applications)							

Dimensions								
Height (mm)	207	207	207	207	214	214	221	221
Width (mm)	203.5	203.5	203.5	203.5	203.5	203.5	203.5	203.5
Depth (mm)	361	361	385	409	475	499	567	592
Weight (Kg)	11.2	11.4	13.4	14.0	17.8	18.2	24.2	24.8

## Stuart HM 0500 230-400 T 50 Technical Specifications

HM 0500 230-400 T 50	0502	0503	0504	0505	0506	0507	0508	0509
Part No	46758	46759	46760	46761	46762	46763	46764	46765

General								
Warranty	1 Year							
Approvals	WRAS Approved Product, CE							
Pump type	Centrifugal Multistage							

Features								
Impeller stages	2	3	4	5	6	7	8	9
Compact, close-coupled design	✓							
Heavy duty oversized motor shaft	✓							
Easy maintenance	✓							

Performance								
Flow rate - nominal (m <sup>3</sup> /h)	5							
Flow rate range (m <sup>3</sup> /h)	2.0 - 7.0							
Maximum head - closed valve (metres)	23.5	34.5	46.5	58.0	70.0	81.5	92.5	104.0
Head range (metres)	11.5-21.5	16-31.5	23-43	27.5-53	34-64.5	38.5-74.5	42-84	50-95.5
Working pressure - maximum (bar)	10							
Maximum allowable amount of sand	50 g/m <sup>3</sup>							

Motor								
Motor type	Induction (thermal trip fitted by installer)							
Power supply (Vac/Ph/Hz)	230 - 400 V a.c. / 3 / 50 Hz							
Power - input P1 (kW)	0.55	0.77	0.99	1.21	1.50	1.72	2.06	2.29
Power - motor nominal P2 (kW)	0.75	0.75	1.10	1.10	1.50	1.50	2.20	2.20
Power - motor nominal P2 (hp)	1.0	1.0	1.5	1.5	2.0	2.0	3.0	3.0
Input current 220-240v (A)	2.1	2.5	3.2	3.7	5.0	5.5	67.8	7.4
Input current 380-415v (A)	1.2	1.4	1.9	2.2	2.9	3.2	3.9	4.3
Efficiency class	IE3	IE3	IE3	IE3	IE3	IE3	IE3	IE3
Efficiency 3 Phase 2/4 (%)	79.6	79.6	84.2	84.2	85.3	85.3	85.4	85.4
Efficiency 3 Phase 3/4 (%)	81.5	81.5	84.6	84.6	85.7	85.7	86.7	86.7
Efficiency 3 Phase 4/4 (%)	80.9	80.9	82.7	82.7	84.3	84.3	86.1	86.1
Insulation class	F							
Duty rating	Continuous (S1)							
Starts per hour	60							
IP rating	IP 55							

Materials								
Pump head housing	AISI 304 stainless steel							
Impellers and diffusers	AISI 304 stainless steel							
Pump shaft	AISI 304 stainless steel							
Pump seal	Ceramic Alumina/Carbon Graphite/AISI 316/EPDM							

Connections								
Connection - inlet	Rp 1¼"	Rp 1¼"	Rp 1¼"	Rp 1¼"	Rp 1¼"	Rp 1¼"	Rp 1¼"	Rp 1¼"
Connection - outlet	Rp 1"	Rp 1"	Rp 1"	Rp 1"	Rp 1"	Rp 1"	Rp 1"	Rp 1"

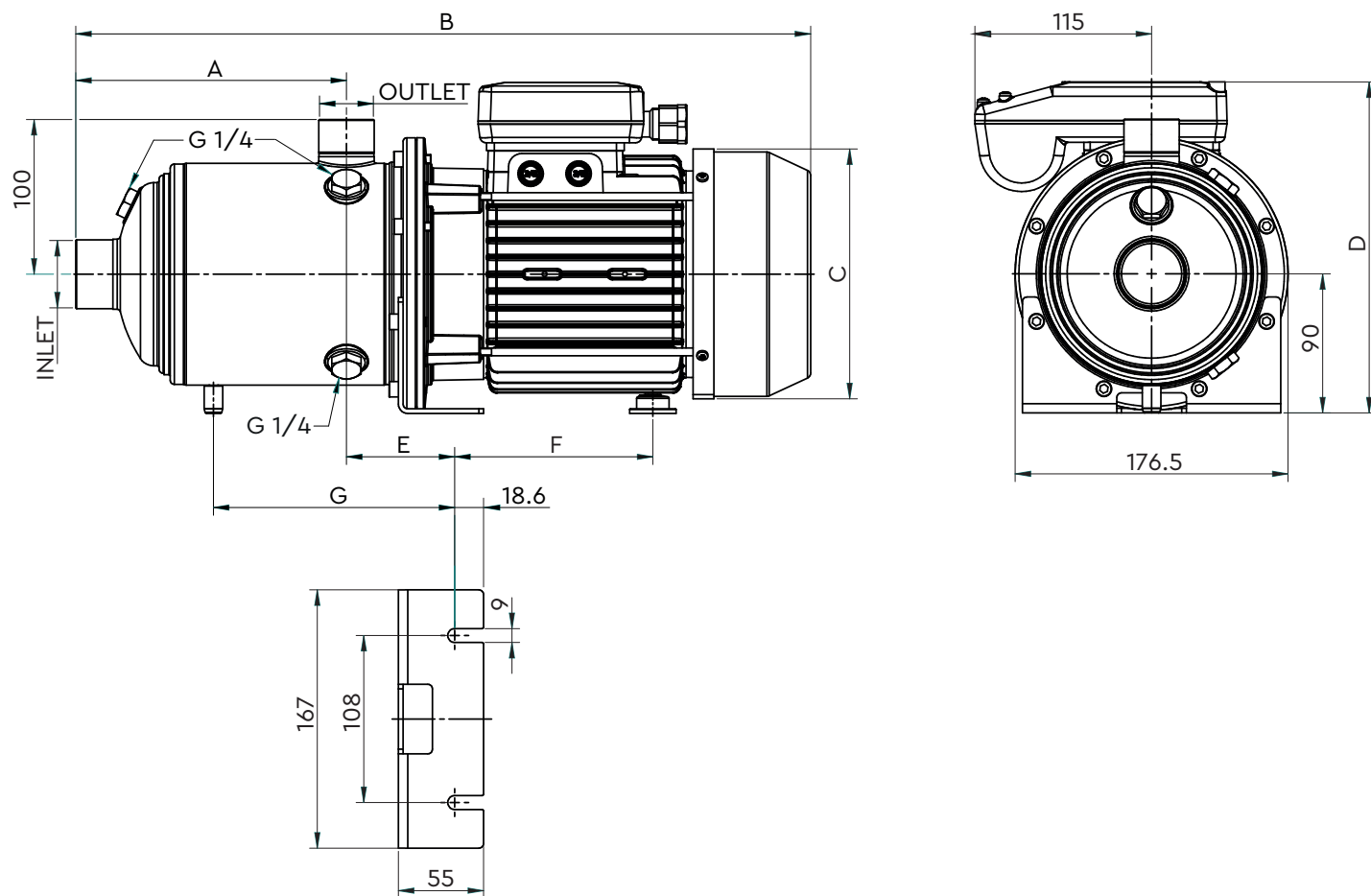
Operating Conditions								
Operating Ambient Temperature Range (°C)	-5 °C to +40 °C							
Liquid temperature range (°C)	-15 to +90 °C (110 °C for industrial applications)							

Dimensions								
Height (mm)	207	207	207	207	214	214	221	221
Width (mm)	176.5	176.5	176.5	176.5	176.5	176.5	176.5	176.5
Depth (mm)	363	363	387	411	472	496	567	591
Weight (Kg)	10.8	11.0	12.2	12.6	16.6	17.0	23.0	23.4



## Stuart HM 0500 230 M 50 Dimensions

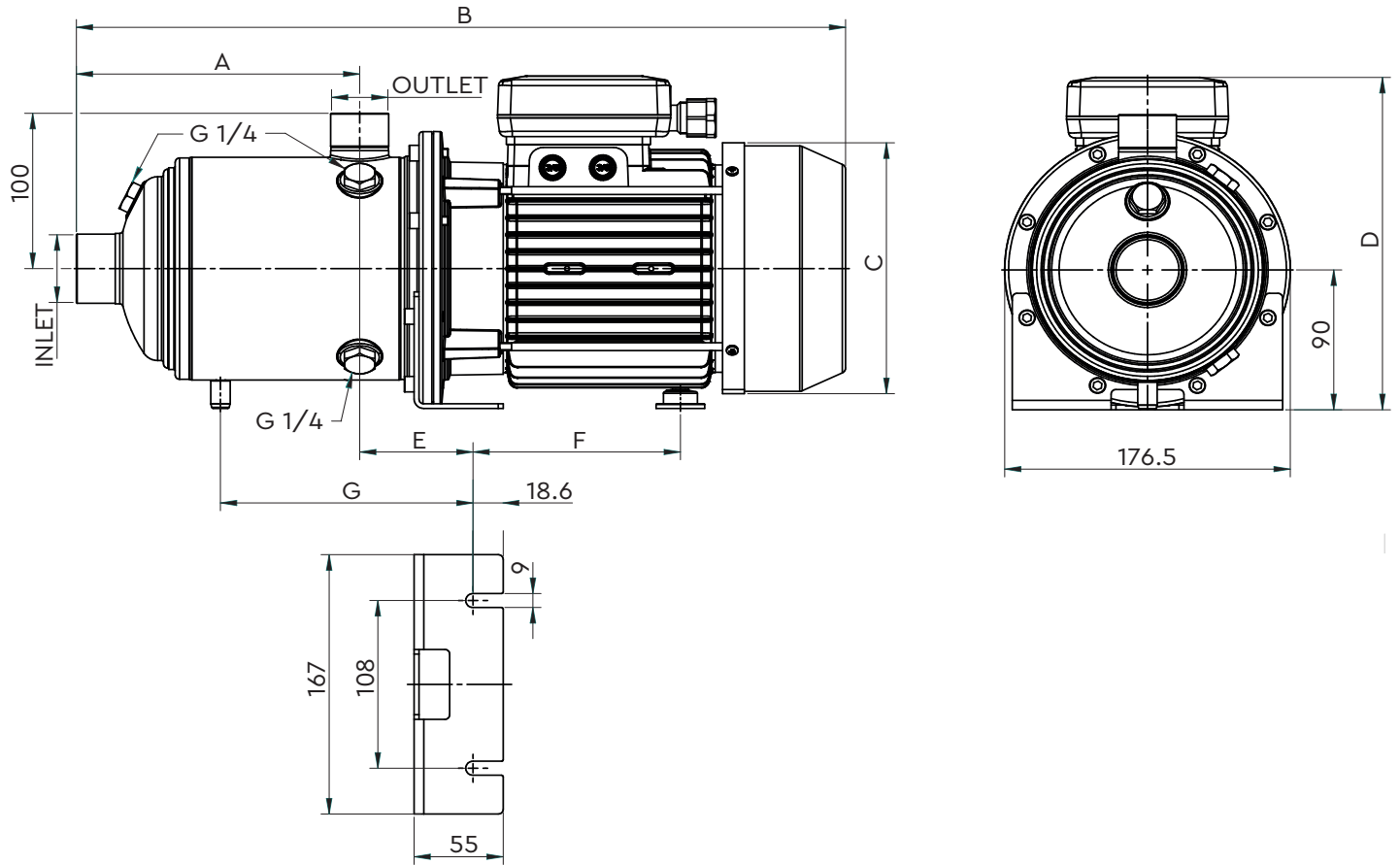
Dimensions: HM 0500 230 M 50



Part No	Description	Dimensions (mm)								Weight (Kg)	Inlet	Outlet
		A	B	C	D	E	F	G				
46750	HM0502	230 M 50	103	361	144	207	70	101	-	11.2	Rp 1½"	Rp 1"
46751	HM0503	230 M 50	103	361	144	207	70	101	-	11.4	Rp 1½"	Rp 1"
46752	HM0504	230 M 50	127	385	144	207	70	101	-	13.4	Rp 1½"	Rp 1"
46753	HM0505	230 M 50	151	409	144	207	70	101	-	14.0	Rp 1½"	Rp 1"
46754	HM0506	230 M 50	175	475	162	214	70	128	-	17.8	Rp 1½"	Rp 1"
46755	HM0507	230 M 50	199	499	162	214	70	128	180	18.2	Rp 1½"	Rp 1"
46756	HM0508	230 M 50	223	567	179	221	70	172	204	24.2	Rp 1½"	Rp 1"
46757	HM0509	230 M 50	247	592	179	221	70	172	228	24.8	Rp 1½"	Rp 1"

## Stuart HM 0500 230-400 T 50 Dimensions

Dimensions: HM 0500 230-400 T 50



Part No	Description	Dimensions (mm)								Weight (Kg)	Inlet	Outlet
		A	B	C	D	E	F	G				
46758	HM0502 230-400 T 50	103	363	144	207	70	101	-	10.8	Rp 1¼"	Rp 1"	
46759	HM0503 230-400 T 50	103	363	144	207	70	101	-	11.0	Rp 1¼"	Rp 1"	
46760	HM0504 230-400 T 50	127	387	144	207	70	101	-	12.2	Rp 1¼"	Rp 1"	
46761	HM0505 230-400 T 50	151	411	144	207	70	101	-	12.6	Rp 1¼"	Rp 1"	
46762	HM0506 230-400 T 50	175	472	162	214	70	128	-	16.6	Rp 1¼"	Rp 1"	
46763	HM0507 230-400 T 50	199	496	162	214	70	128	180	17.0	Rp 1¼"	Rp 1"	
46764	HM0508 230-400 T 50	223	567	179	221	70	172	204	23.0	Rp 1¼"	Rp 1"	
46765	HM0509 230-400 T 50	247	591	179	221	70	172	228	23.4	Rp 1¼"	Rp 1"	

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

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