

# HORIZONTAL MULTISTAGE PUMP MH SERIES

# PRODUCT CATALOGUE



# MH SERIES

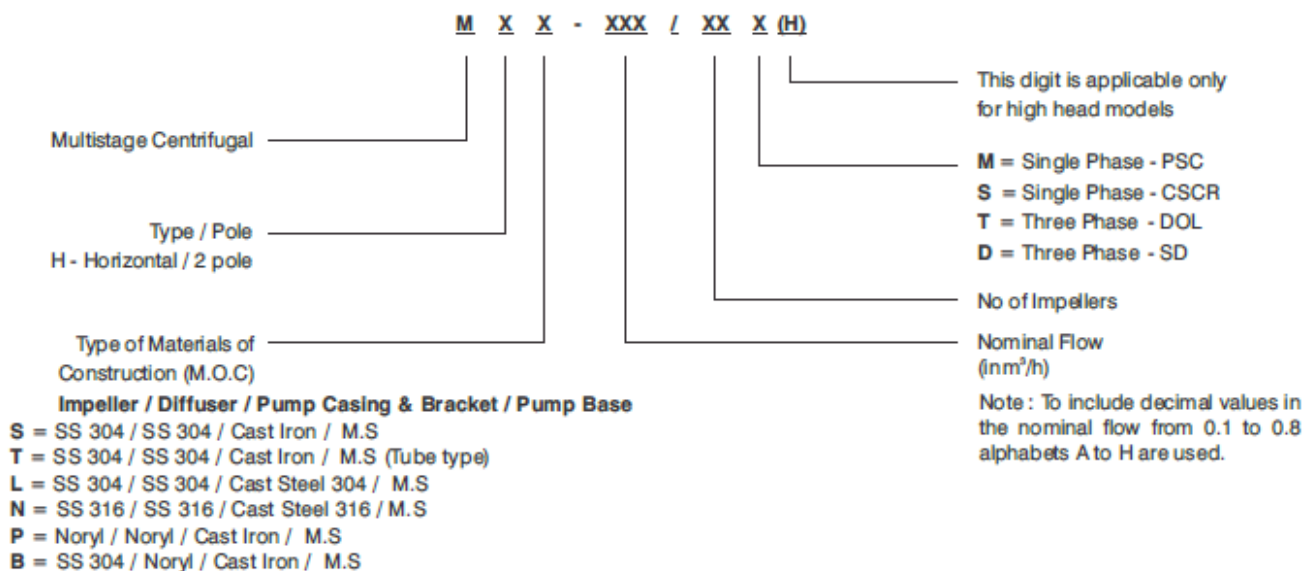
The C.R.I. Horizontal Multistage MH series pump is a non-self-priming pump with axial suction and vertical radial delivery through threaded ports. Its impellers, diffusers, and shaft are all made of corrosion-resistant AISI stainless steel, ensuring optimal hydraulic efficiency. The pump and motor are linked by a single drive shaft, minimizing energy loss. Constructed with high-grade stainless steel AISI 304/316, these pumps can handle aggressive water and are safe for use in drinking water systems. Wear-resistant bearings enhance hydraulic efficiency and ensure quiet operation, while the pump casing and brackets are crafted from high-quality cast iron. 'O' rings and gaskets prevent leakage at high pressures. Mechanical seals made of ceramic and carbon graphite ensure reliability and easy replacement. These pumps are dependable, easy to set up, and designed for user convenience.

C.R.I. Horizontal Multistage centrifugal pumps are driven by a Totally Enclosed Fan Cooled, A.C. induction motor, suitable for continuous operation. The motor stator is constructed from low watt loss steel laminations that are tightly locked in the frame under pressure. With a dynamically balanced rotor, the pump operates quietly and smoothly, while the varnished impregnated windings made from enameled copper wire provide excellent resistance. The shaft, made of high-quality steel and precision-ground, efficiently transmits the rated Horsepower. By using sturdy motor frames and quality materials, these pumps deliver high performance with minimal temperature rise, increasing the motor's lifespan. For single phase motors, a Thermal over load protector (motor protector) is included. Additionally, these pumps necessitate a suitable motor protection control panel.

## APPLICATIONS

Residential & Industrial Pressure Boosting | Small farms | Washing systems | Industrial water supply | HVAC | Reverse Osmosis systems | Food processing industries | Golf course

# MODEL IDENTIFICATION CODE



# TECHNICAL DATA

<b>Power Range :</b>	<b>0.22 to 2.2kW</b>
<b>Speed :</b>	<b>2900 rpm</b>
<b>Degree of protection :</b>	<b>IP 54</b>
<b>Insulation class :</b>	<b>B (Optional F)</b>
<b>Versions :</b>	<b>Single Phase 220/ 240V 50Hz , A.C. Supply (Permanent Split Capacitor-PSC) Incorporated with Thermal protector Three Phase 380/415V</b>
<b>Sealing :</b>	<b>Mechanical Seal</b>
<b>Direction of rotation :</b>	<b>Counter Clockwise viewed from driving end</b>
<b>Type of duty :</b>	<b>S1 (continuous)</b>
<b>Nom.Suc x Del. Size :</b>	<b>1" x 1" ; 1½" x 1¼", 1½" x 1½"</b>

# OPERATING LIMITS

**Maximum Liquid Temperature : 900 C**

**Maximum Ambient Temperature : 400 C**

**Maximum Operating Pressure : 0.55 Mpa (5.5 bar)**

CHARACTERISTICS OF PUMPED LIQUIDS	
a) Temperature	90°C (max.)
b) Permissible amount of sand	25 gm / m <sup>3</sup> (max.)
c) Chlorine ion density	500 ppm (max.)
d) Allowable solids	3000 ppm (max.)
e) Specific gravity	1.004 (max.)
f) Hardness (Drinking water)	300 (max.)
g) Viscosity	1.75 x 10 <sup>-4</sup> m <sup>2</sup> / Sec. (max.)
h) Turbidity	50 ppm silica scale (max.)
i) pH	6.5 to 8.5

Max. Operating Pressure	1 mpa (10bar)	0.6 mpa (6bar)
MH-2E & 5	0°C to 40°C	41°C to 90°C
MH-8 & 12	0°C to 55°C	56°C to 90°C

**Min. Inlet pressure : As per NPSH Curve + Safety Margin 1metre.**

**Max. Inlet pressure : Limited by max. operating pressure**

MATERIALS OF CONSTRUCTION	
Pump Casing & Bracket	S.S. 304 / Cast Iron
Impeller	S.S. 304
Diffuser	S.S. 304
Motor Frame	Aluminum
Shaft	S.S. 410
Sealing	Mechanical Seal
Base Plate	Mild Steel

## PERFORMANCE CURVE CONDITIONS

The conditions below apply to the curves shown on the following pages.  
Curve tolerance are according to ISO 9906, Grade 2B.

The performance are taken at rated voltage & speed that are only  
indicative.

Actual discharge depends on availability of water in well / tank, height  
of water column from the suction pipe end.

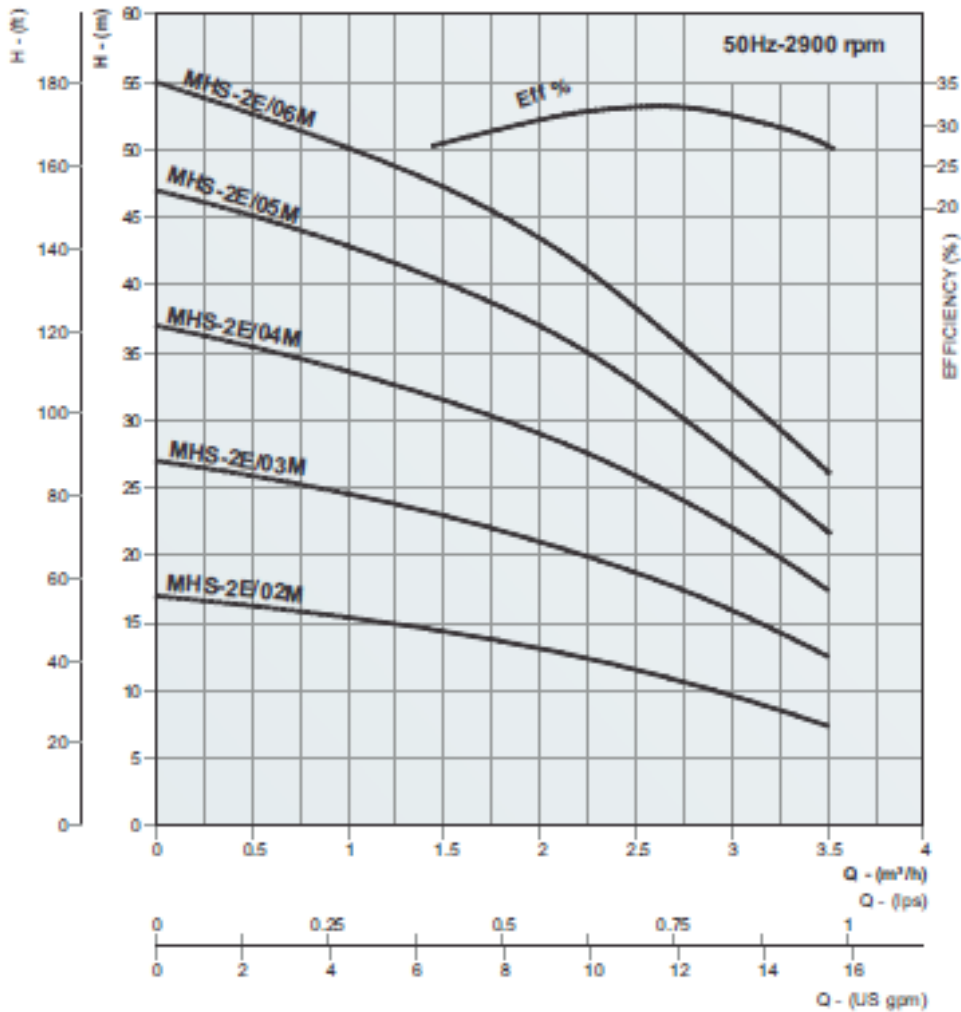
The measurements were made with airless water at 20OC. When  
pumping liquids with a density higher than of water, motors with  
correspondingly higher outputs must be used.

The bold curves indicate the recommended performance range.

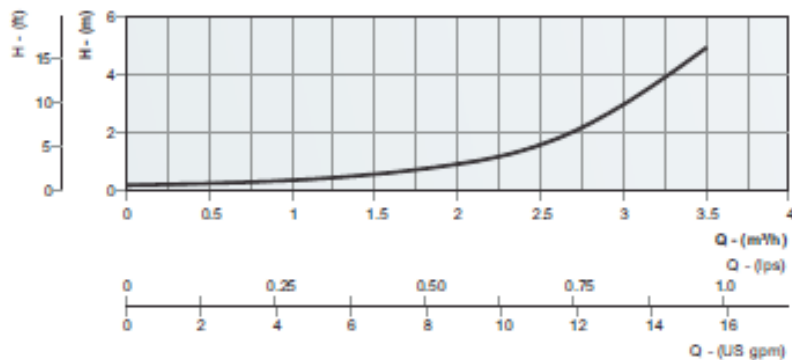
Pipe fiction losses have not been included in the performance curves &  
performance tables

# PERFORMANCE CURVES & TABLES

## MHS - 2.5



### NPSH CURVE



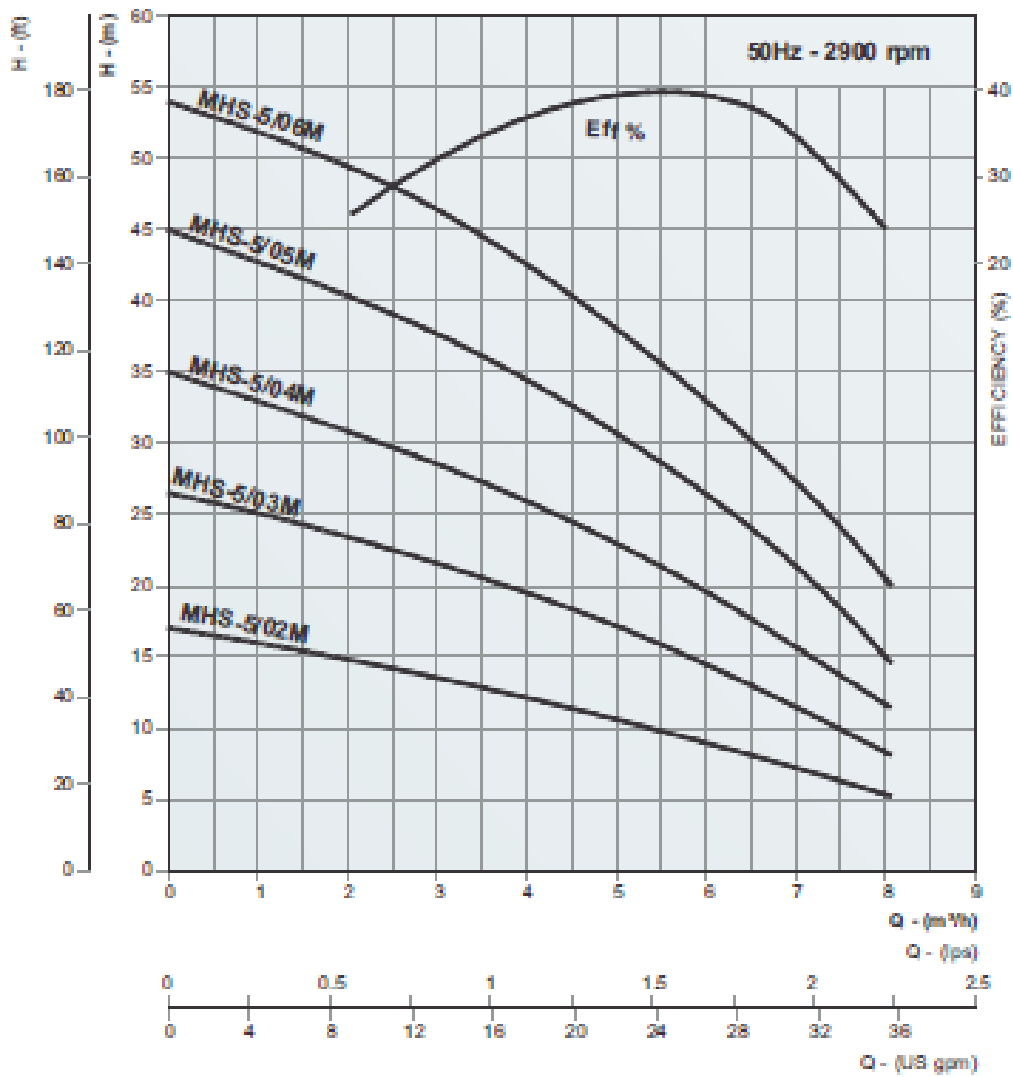
MHS : 2.5

NOMINAL FLOW : 2.5 m<sup>3</sup>/h

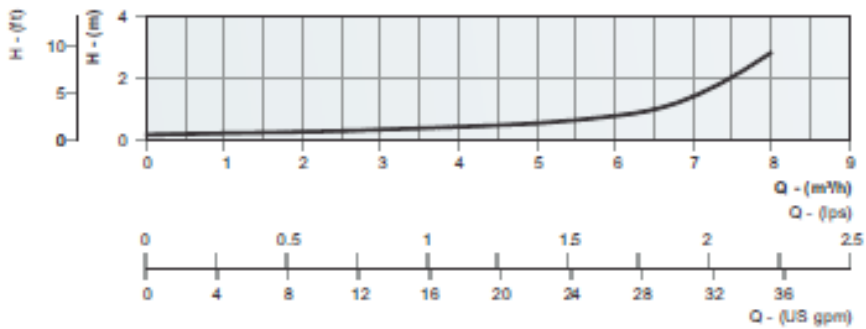
NOMINAL PUMP SIZE : 1" x 1"

Model	Input		Output		l/s	0	0.27	0.41	0.55	0.69	0.83	0.97
	HP	kW	HP	kW								
MHS-2E/02M	0.53	0.4	0.3	0.22	Head in meters	0	1	1.5	2	2.5	3	3.5
MHS-2E/03M	0.61	0.46	0.4	0.3		17	16	14	13	12	9	7.5
MHS-2E/04M	0.8	0.6	0.5	0.37		27	24	23	21	18.5	16	12.5
MHS-2E/05M	0.93	0.7	0.6	0.45		37	33	32	29	26	22	17.5
MHS-2E/06M	1.23	0.92	0.75	0.55		47	43	40	37	33	27.5	22
						55	50	47.5	43.5	38.5	32.5	26.5

## MHS - 5



### NPSH CURVE



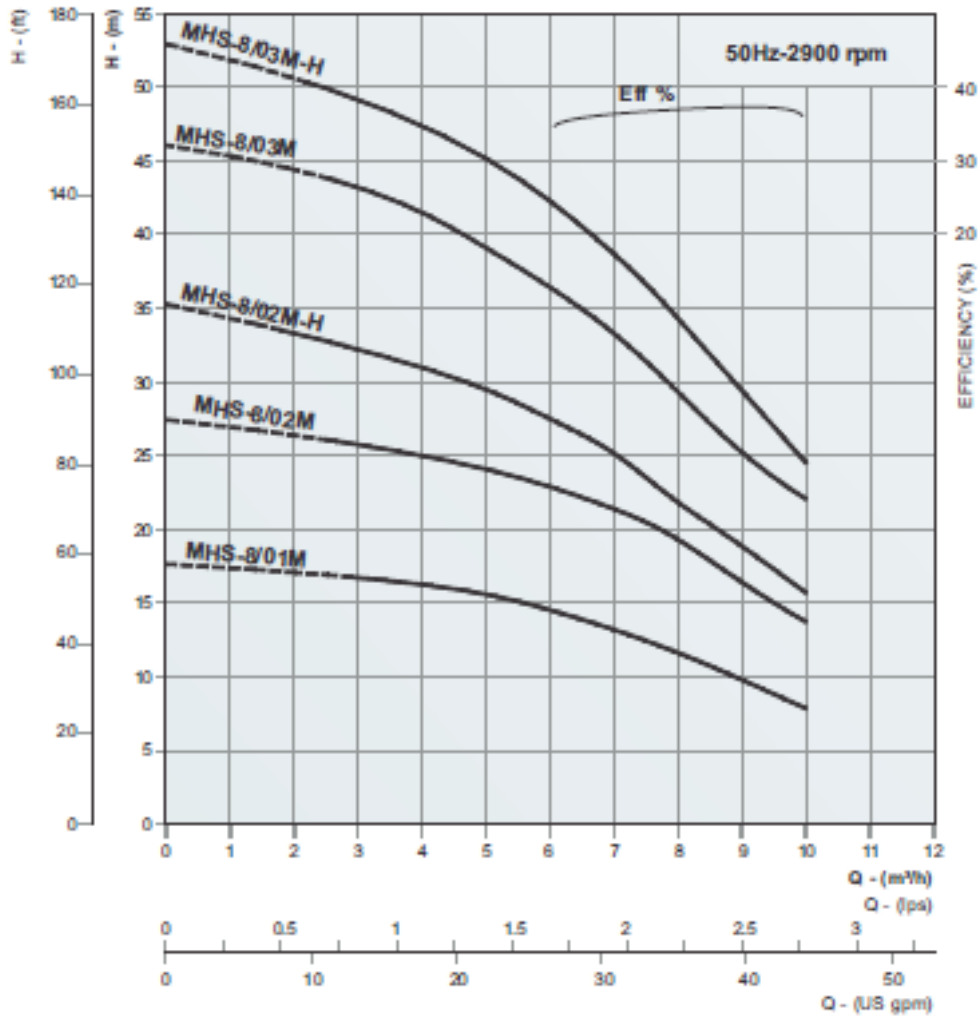
MHS : 5

NOMINAL FLOW : 5 m<sup>3</sup>/h

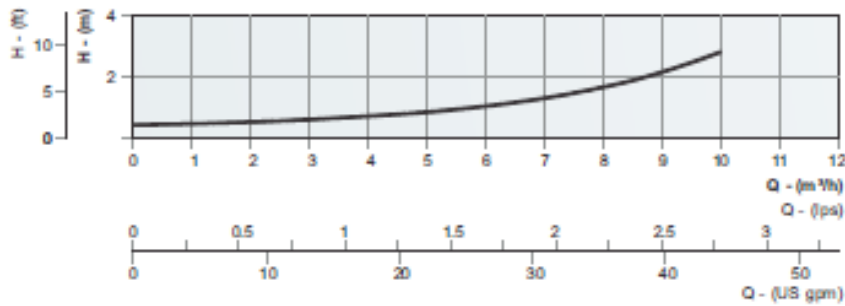
NOMINAL PUMP SIZE : 1" x 1"

Model	Input		Output		Vs m <sup>3</sup> /h	Head in meters	0	0.55	0.83	1.11	1.38	1.66	1.94	2.22
	HP	kW	HP	kW			0	2	3	4	5	6	7	8
MHS-5/02M	0.71	0.53	0.4	0.3	Head in meters	17	15	13.5	12.5	11	8	7	5	
MHS-5/03M	1	0.75	0.5	0.37		26.5	23	22	19.5	17	13	12	8	
MHS-5/04M	1.23	0.92	0.75	0.55		35	31	28.5	26	23	18	16	12	
MHS-5/05M	1.6	1.2	1	0.75		45	40	38	34	31	24	22	15	
MHS-5/06M	1.82	1.36	1.5	1.1		54	49.5	47	43	38	30	22	20	

# MHS - 8



## NPSH CURVE



MHS : 8

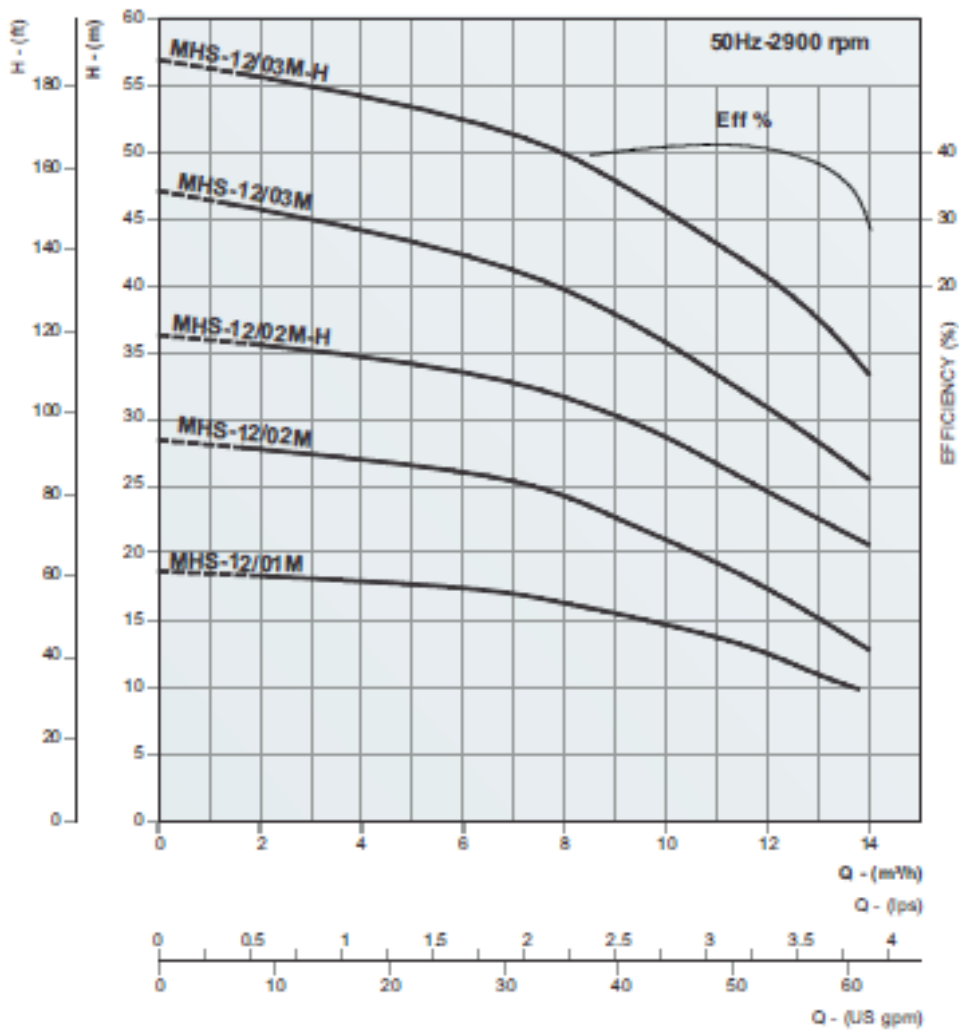
NOMINAL FLOW : 8 m³/h

NOMINAL PUMP SIZE : 1½" X 1¼"

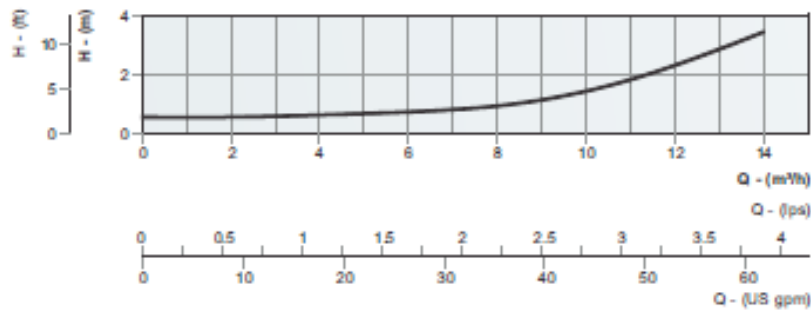
Model	Input		Output		Vs m³/h	0	0.83	1.11	1.38	1.66	1.94	2.22	2.5	2.77
	HP	kW	HP	kW		0	3	4	5	6	7	8	9	10
MHS-8/01M	1	0.75	0.5	0.37	Head in meters	17.5	17	16.5	16	14	13	12	10	8
MHS-8/02M	1.7	1.3	1	0.75		27.5	26	26	24	23	22	19	17	13.5
MHS-8/02M-H	2	1.5	1.25	0.93		35	32	31	29	27.5	25	22	18.5	16
MHS-8/03M	2.4	1.8	1.5	1.1		46	43	42	39	37	33	29	25	22.5
MHS-8/03M-H	3	2.2	2	1.5		53	49	47.5	45	42.5	33.5	34	29	24.5



# MHS - 12



## NPSH CURVE



MHS : 12

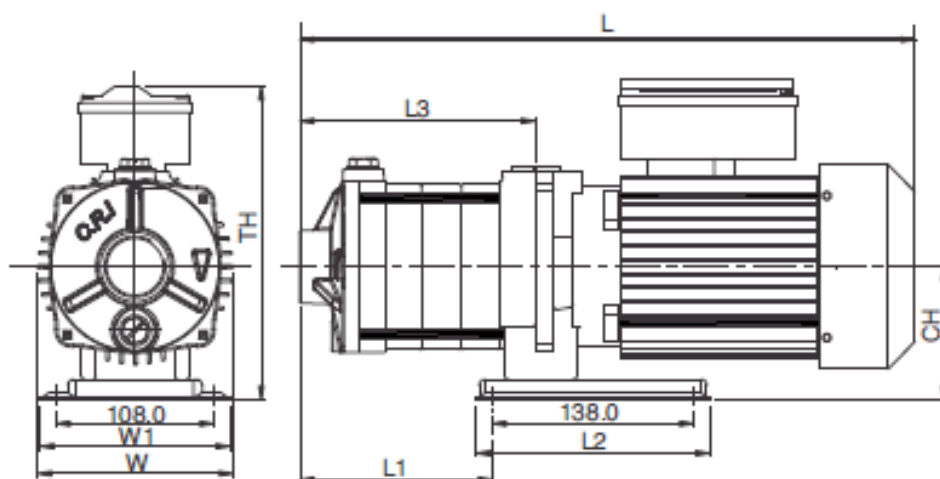
NOMINAL FLOW : 12 m³/h

NOMINAL PUMP SIZE : 1½" X 1½"

Model	Input		Output		l/s m³/h	Head in meters							
	HP	kW	HP	kW		0	0.55	1.11	1.66	2.22	2.77	3.38	3.88
MHS-12/01M	1.5	1.1	0.75	0.55	0	18.5	18.2	18	17.5	16.5	14.5	12.5	10 (13.8)
MHS-12/02M	2.1	1.6	1	0.75	0	28.5	17.5	27	26	24	21	17.5	13
MHS-12/02M-H	3	2.2	1.5	1.1	0	36	35.5	34.5	33.5	32	28.5	24.5	21
MHS-12/03M	3.5	2.6	2	1.5	0	47	46	44	42.5	44.5	36	31	26
MHS-12/03M-H	4.4	3.3	3	2.2	0	57	56	54	52.5	50	46	41	33.5

# DIMENSIONAL DRAWING & DATA

## MHS - 2.5 & 5

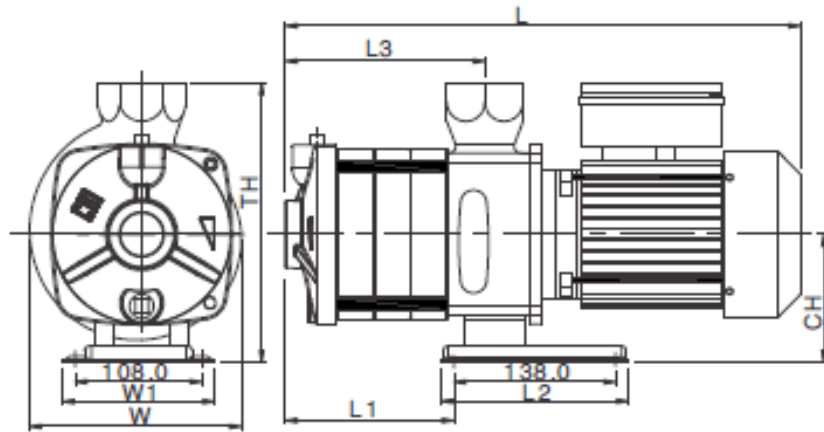


### DIMENSIONAL & WEIGHT

Model	L		L1	L2	L3	W	W1	TH	CH	Approx. Weight in kg
	1Ph	3Ph								
MHS-2E/02M	320	320	70	160	99	134	130	215	90	12
MHS-2E/03M	338	343	89	160	118	134	130	215	90	13
MHS-2E/04M	362	362	108	160	137	134	130	215	90	14
MHS-2E/05M	390	400	127	160	156	134	130	215	90	15
MHS-2E/06M	409	419	146	160	175	134	130	215	90	16

Model	L		L1	L2	L3	W	W1	TH	CH	Approx. Weight in kg
	1Ph	3Ph								
MHS-5/02M	329	333	79	160	108	134	130	215	90	12
MHS-5/03M	371	381	107	160	135	134	130	215	90	14
MHS-5/04M	414	424	135	160	162	134	130	215	90	15
MHS-5/05M	461	471	163	160	190	134	130	215	90	18
MHS-5/06M	514	514	191	160	217	134	130	215	90	20

## MHS - 8 & 12



### DIMENSIONAL & WEIGHT

Model	L		L1	L2	L3	W	W1	TH	CH	Approx. Weight in kg
	1Ph	3Ph								
MHS-8/01M	339	339	52	160	72	181	130	238	109	16
MHS-8/02M	399	399	82	160	102.5	181	130	238	109	20
MHS-8/02M-H	414	414	82	160	102.5	181	130	238	109	20.5
MHS-8/03M	467	467	114	160	133	181	130	238	109	25
MHS-8/03M-H	460	460	114	160	133	181	130	238	109	28.5

Model	L		L1	L2	L3	W	W1	TH	CH	Approx. Weight in kg
	1Ph	3Ph								
MHS-12/01M	349	349	52	160	72	181	130	238	109	18
MHS-12/02M	414	414	82	160	102.5	181	130	238	109	20.5
MHS-12/02M-H	430	430	82	160	102.5	181	130	238	109	28.5
MHS-12/03M	476	476	114	160	133	181	130	238	109	30.5
MHS-12/03M-H	496	496	114	160	133	181	130	238	109	34

\* All Dimensions are in mm.



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