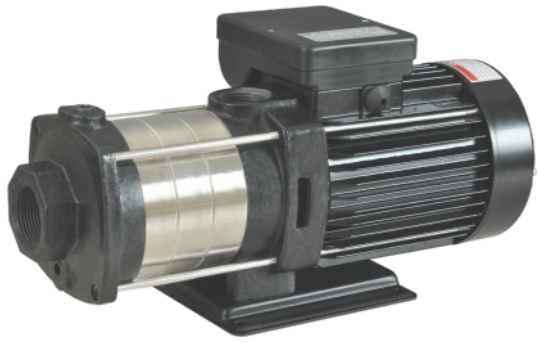
MH, MHN

Horizontal Multi-Stage End-Suction Pumps

50 Hz



Construction

- The MH and MHN pumps are non-self priming, horizontal, multistage, centrifugal pumps.
- Motor and pump are close coupled in a convenient and compact design for quick installation in limited space.
- The pump is fitted with a maintenance-free, mechanical shaft seal.
- The pumps have axial suction port and radial discharge port and are mounted on a base plate.
- These pumps are available in two basic versions.
- **MH**: Pump stages as well as all moving parts in contact with the pumped liquid are made of stainless steel AISI 304. Discharge casing and suction casing are grey iron, base plate is steel and they are painted in glossy black.
- **MHN**: Discharge casing, suction casing as well as all parts in contact with the pumped liquid are made of stainless steel AISI 304.
- The pump is CE marked.

Applications

The MH and MHN pumps are designed for small domestic and industrial water supply systems.

Applications include

- Liquid transfer and circulation of liquids within light industry & farming.
- Pressure boosting in single-pump and multi-pump booster systems.
- Domestic water supply.
- Cooling systems.
- Air-conditioning systems.

Pumped liquids

MH: Thin, clean, non-aggressive and non-explosive liquids without solid particles or fibers.

MHN: Thin, clean, slightly aggressive and non-explosive liquids without solid particles or fibers.

Special features on request

- Other voltages.
- Special mechanical shaft seal.
- Higher or lower liquid or ambient temperatures.
- Frequency 60 Hz (as per 60 Hz data sheet).

Direction of rotation

Anticlockwise as seen from the motor rear end.

Operating conditions

Flow range : 0.5 - 8 m³/h
Head range : Up to 57 metres
Ambient temperature : Max. +55°C
Liquid temperature range : 0°C to +90°C.

The maximum operating pressure depends on the temperature of the pumped liquid, see the below table:

Pump type	Max. Operating pressure	
	1 Mpa (10 bar)	0.6 Mpa (6 bar)
	Temperature of the pumped liquid	
MH 2, MHN 2 MH 4, MHN 4	0°C to +40°C	+41°C to +90°C

Min. inlet pressure : According to the NPSH curve + a safety margin of 1 metres.
Max. inlet pressure : Limited by the maximum operating pressure.

Motor

The pump is fitted with a Totally Enclosed Fan Cooled, squirrel-cage Lubi motor.

Rated speed : 2900 rpm
Enclosure class : IP 54
Insulation class : F
Standard voltages : 0.37 - 1.1 kW: 1 x 220-240 V
0.37 - 1.1 kW: 3 x 220-240/380-415 V
Nos. of starts/hour : Max. 100
Supply frequency : 50 Hz.

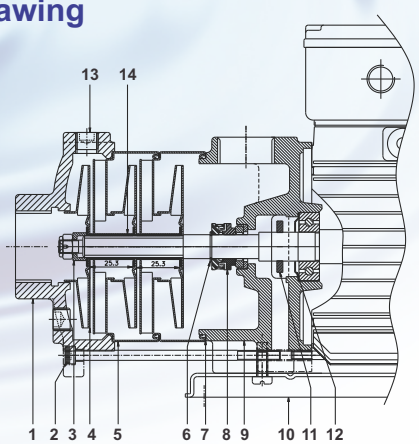
Single-phase motors have built-in thermal overload protection.

Three-phase motors must be connected to a motor starter according to local regulations.

Materials

Pos.	Component	Material
1	Suction Chamber	CI.GR.FG.200
2	Socket Head Bolt	M.S. (Z.P.)
3	Impeller Lock Bush	S.S. 304
4	Impeller	S.S. 304
5	Bowl	S.S. 304
6	Circlip	Spring Steel
7	Paper Packing	Oil Paper
8	Mechanical Seal	Ceramic/Carbon
9	Delivery Chamber	CI.GR.FG.200
10	Base Plate	M.S.
11	Water Thrower	Nit. Rubber
12	Bearing Washer	S.S. 403
13	Impeller Support Bush	S.S. 304
14	Drain Plug	M.S.

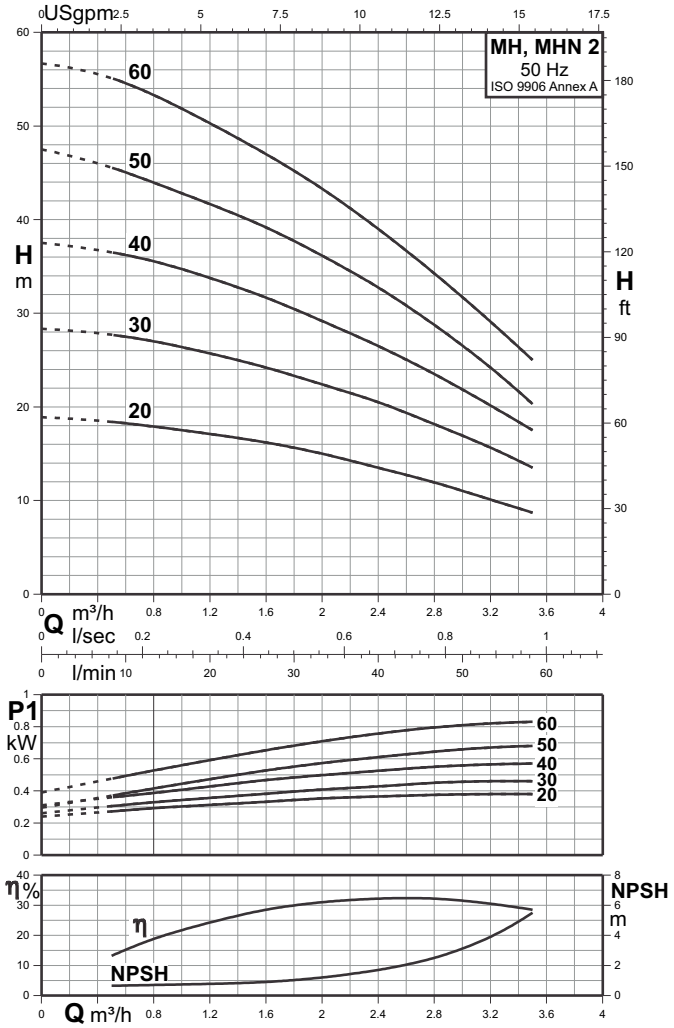
Sectional drawing



MH, MHN

Horizontal Multi-Stage End-Suction Pumps

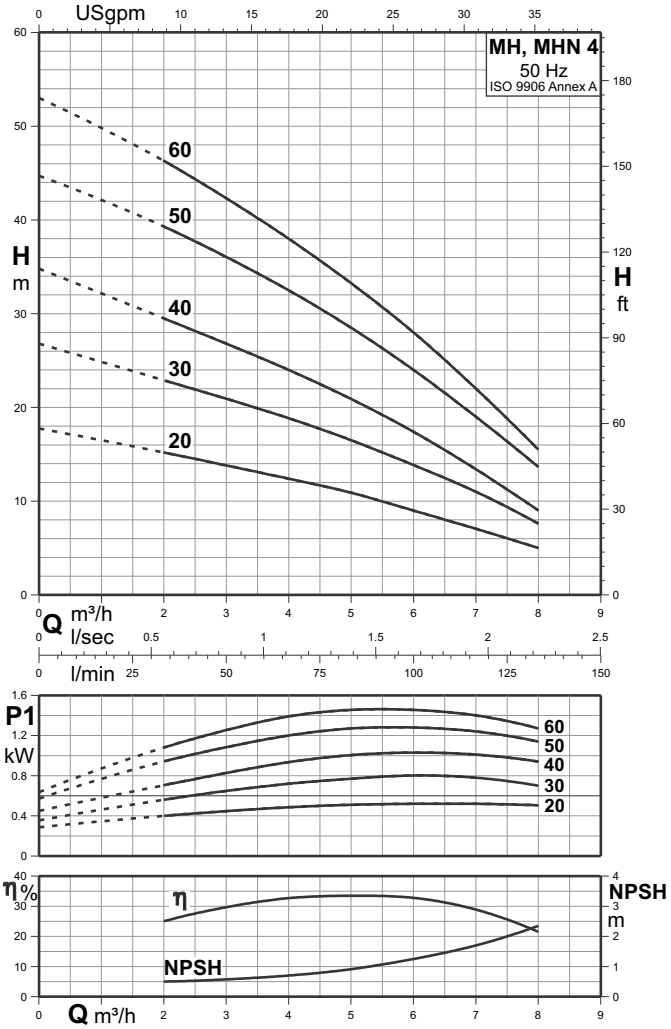
Characteristic Curves (MH, MHN 2)



- Nominal flow rate : 2.6 m³/h
- Flow range : 0.5 - 3.5 m³/h
- Head range : Up to 57 metres
- Max. pump efficiency (η) : 32.2%
- Motor power : 0.37 - 0.75 kW
- RPM : 2900
- Pipe connection : G 1 - Suction & Discharge port

Pump type	Watts	Q m³/h	0	1.6	2.0	2.4	2.8	3.2	3.5
		Q l/min	0	26.7	33.3	40.0	46.7	53.3	58.3
MH, MHN 2-20	420	H m	19	16	15	14	12	10	9
MH, MHN 2-30	480		28	24	22	21	18	16	14
MH, MHN 2-40	570		38	32	29	27	24	20	18
MH, MHN 2-50	680		48	39	36	33	29	24	20
MH, MHN 2-60	800		57	47	43	39	34	29	25

(MH, MHN 4)



- Nominal flow rate : 5 m³/h
- Flow range : 2 - 8 m³/h
- Head range : Up to 53 metres
- Max. pump efficiency (η) : 33.5%
- Motor power : 0.37 - 1.1 kW
- RPM : 2900
- Pipe connection : 32 mm. Suction port
  25 mm. Discharge port.

Pump type	Watts	Q m³/h	0	2.0	4.0	5.0	6.0	7.0	8.0
		Q l/min	0	33.3	66.7	83.3	100	116.7	133.3
MH, MHN 4-20	540	H m	18	15	12	11	9	7	5
MH, MHN 4-30	840		27	23	19	17	14	11	8
MH, MHN 4-40	1160		35	30	24	21	17	13	9
MH, MHN 4-50	1300		45	39	33	29	24	19	14
MH, MHN 4-60	1460		53	46	38	33	28	22	16

Motor Electrical Data

Pump type	Watts	Phase	Frame size	Voltage [V]	$I_{1/1}$ [A]	I_{start} [A]	C [µF/V]
MH,MHN 2-20	420	1	71	220-240	2.2	10.5	10/400
MH,MHN 2-30	480	1	71	220-240	2.3	10.5	10/400
MH,MHN 2-40	570	1	71	220-240	2.6	10.5	10/400
MH,MHN 2-50	680	1	71	220-240	2.9	10.5	10/400
MH,MHN 2-60	800	1	71	220-240	3.7	13.0	16/400
MH,MHN 2-20	380	3	71	220-240Δ /380-415Y	1.6/0.9	11.4/6.6	-
MH,MHN 2-30	460	3	71	220-240Δ /380-415Y	1.7/1.1	11.4/6.6	-
MH,MHN 2-40	570	3	71	220-240Δ /380-415Y	1.9/1.1	11.4/6.6	-
MH,MHN 2-50	680	3	71	220-240Δ /380-415Y	2.35/1.25	11.4/6.6	-
MH,MHN 2-60	820	3	71	220-240Δ /380-415Y	2.55/1.35	11.4/6.6	-

Pump type	Watts	Phase	Frame size	Voltage [V]	$I_{1/1}$ [A]	I_{start} [A]	C [µF/V]
MH,MHN 4-20	540	1	71	220-240	2.3	11.0	16/400
MH,MHN 4-30	840	1	71	220-240	3.9	21.0	25/400
MH,MHN 4-40	1160	1	71	220-240	3.9	21.0	25/400
MH,MHN 4-50	1300	1	80	220-240	5.8	29.0	30/400
MH,MHN 4-60	1460	1	80	220-240	6.7	29.0	50/400
MH,MHN 4-20	560	3	71	220-240Δ /380-415Y	1.9/1.0	11.4/6.6	-
MH,MHN 4-30	820	3	71	220-240Δ /380-415Y	2.3/1.3	11.4/6.6	-
MH,MHN 4-40	965	3	71	220-240Δ /380-415Y	2.8/1.6	11.4/6.6	-
MH,MHN 4-50	1320	3	80	220-240Δ /380-415Y	4.0/2.3	26.0/15.0	-
MH,MHN 4-60	1510	3	80	220-240Δ /380-415Y	4.4/2.5	26.0/15.0	-