

# MICRA HS

## 3" HIGH SPEED MULTISTAGE SUBMERSIBLE ELECTRIC PUMP



ACTIVE DRIVER included.

### TECHNICAL DATA

**Operating range:** from 1 to 5,5 m<sup>3</sup>/h.

**Maximum head:** up to 90 metres.

**Pumped liquid:** clean, free of solids and abrasives, non-viscous, non-aggressive, and chemically neutral, with properties similar to water.

**Liquid temperature range:** from 0 °C to +35 °C.

**Maximum permitted amount of sand:** 30 g/m<sup>3</sup>.

**Discharge port diameter:** 1" GAS.

**Inverter supply tolerance:** +10 % / -20 %.

**Max. starts:** 20/h.

**Maximum motor supply frequency:** 110 Hz (~6300 r.p.m.)

**Installation:** in 3" wells or larger, tanks and cisterns, vertical position. In case of horizontal installation, ensure a minimum load on the thrust assembly.

**Special executions on request:** 30 m shielded cable.

**Motor power cable:** 1,4 m.

### APPLICATIONS

Submersible electric pumps for 3" wells or larger.

These units have a very extensive range of applications for lifting and distribution in civil and industrial water systems, filling of pressure vessels and tanks, pressurization and irrigation systems.

### CONSTRUCTION FEATURES OF THE PUMP

Multistage centrifugal type. Pump and motor directly coupled with rigid coupling. Impellers and thrust rings in Noryl and diffusers in self-lubricating polyacetyl. Pump liner, shaft and coupling, strainer and cable sheath in stainless steel.

Base support and head in brass, with check valve incorporated in the head.

### CONSTRUCTION FEATURES OF THE MOTOR

Submersible asynchronous two-pole motor made entirely of AISI 304 stainless steel, with brass bearings. Copper squirrel cage rotor mounted on Kingsbury thrust block. Cooling of the thrust bearing assembly and the bushings is provided by water, thereby eliminating the risk of contamination. Canned-type stator in an airtight casing made of AISI 304L stainless steel.

### CONSTRUCTION FEATURES OF THE INVERTER

Active Driver is an electric pump inverter that keeps a constant pressure even in case of variation of the flow, by adjusting the speed of the pump. The inverter is fitted with internal pressure switch and flow sensor, which ensure continuous monitoring of system conditions.

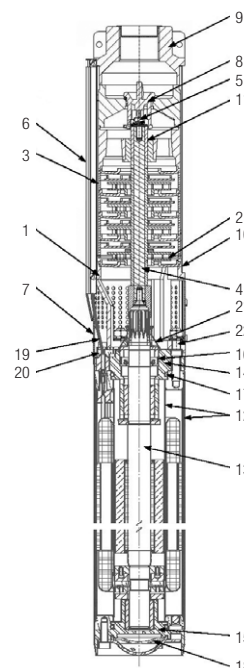
The inverter is configured by default at a maximum operating frequency of 110 Hz.

### MATERIALS

N.	PART*	MATERIALS
<b>PUMP</b>		
1	BASE SUPPORT	BRASS OT58
2	IMPELLER	NORYL GFN2
3	DIFFUSER	POLYACETYL
4	SHAFT WITH COUPLING	AISI 430F
5	LOCKING NUT	AISI 304
6	CABLE SHEATH	AISI 430
7	STRAINER	AISI 430
8	VALVE	POLYACETYL
9	DELIVERY BODY	BRASS OT58
10	PUMP LINER	AISI 304
11	BUSHES	AISI 316L

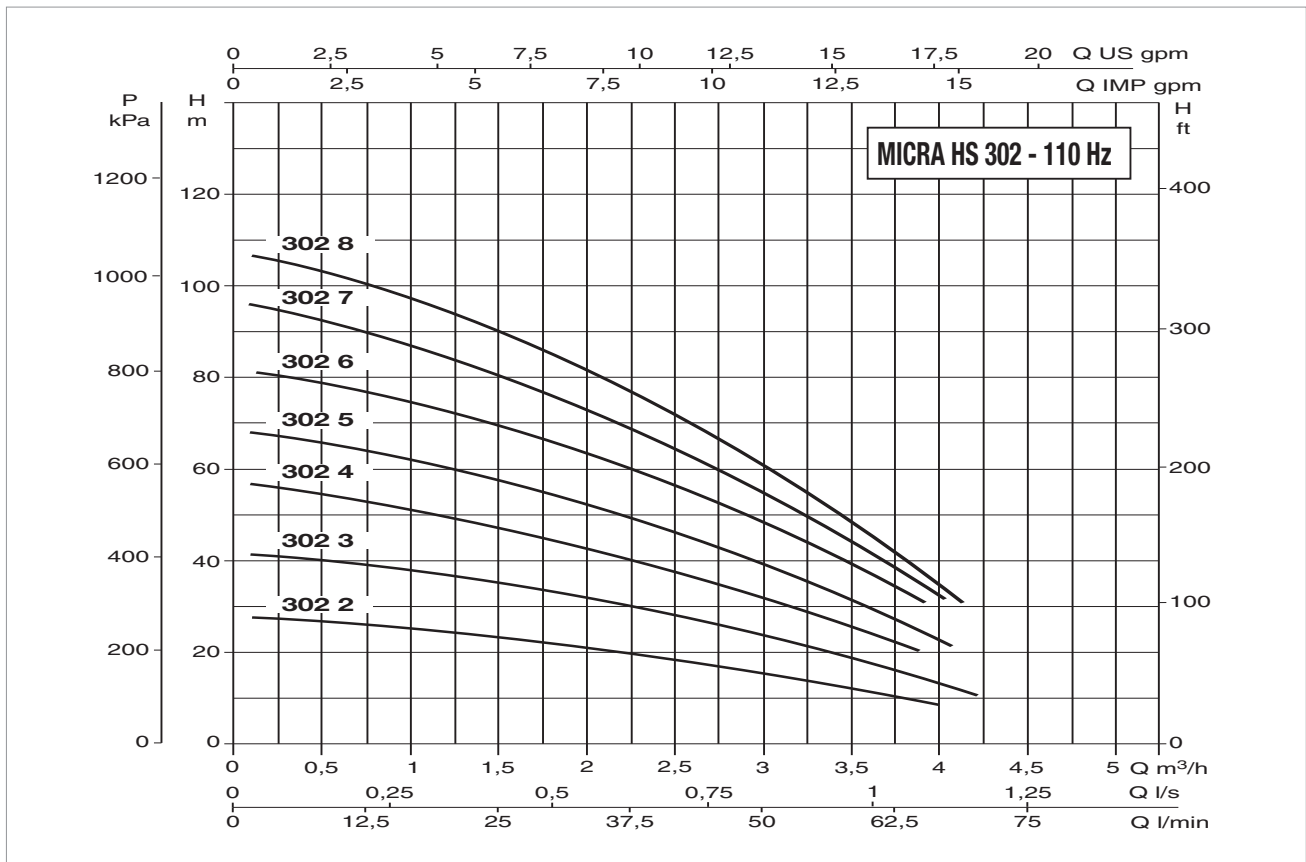
\* In contact with the liquid.

N.	PART*	MATERIALS
<b>MOTOR</b>		
12	INTERNAL AND OUTER LINER	AISI 304
13	SHAFT	AISI 431
14	UPPER SUPPORT	BRASS OT58
15	LOWER SUPPORT	BRASS OT58
16	LIP SEAL	NBR
17	GASKETS	NBR
18	BELLOW SEAL	EPDM
19	CABLE	EPDM
20	CONNECTOR PLUG	AISI 304
21	SAND GUARD	NBR
22	SCREWS	AISI 304



### ELECTRICAL DATA AND PERFORMANCE AT 110 Hz

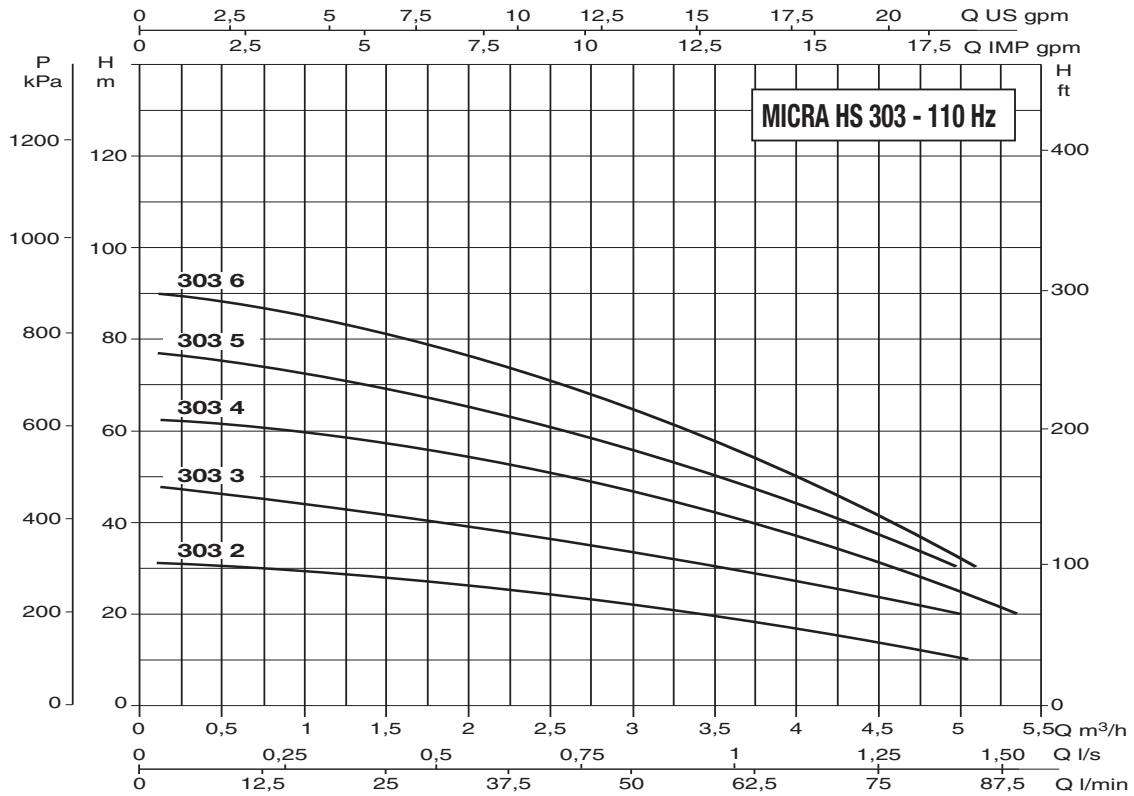
MODEL	ELECTRICAL DATA					HYDRAULIC DATA												
	INVERTER POWER INPUT	ELECTRIC PUMP POWER INPUT	P1 MAX kW	In MAX A	MINIMUM FREQUENCY Hz	Q=m³/h	1	1.5	2	2.5	3	3.5	4	4.5	5	5,5		
						Q=l/min	17	25	33	42	50	58	67	75	84	92		
MICRA HS 302 - 2	1x230 V ~	3x230 V~	1	5,3	90	H (m)	24	21	19	16	13	10	6					
MICRA HS 302 - 3	1x230 V ~	3x230 V ~	1.1	5,4	80		35	31	29	25	20	15	10					
MICRA HS 302 - 4	1x230 V ~	3x230 V ~	1.2	5,7	70		45	42	40	32	28	20	12					
MICRA HS 302 - 5	1x230 V ~	3x230 V ~	1.5	5,5	70		62	57	52	45	39	30	20					
MICRA HS 302 - 6	1x230 V ~	3x230 V ~	1.6	5,7	60		70	65	60	50	40	30	20					
MICRA HS 302 - 7	1x230 V ~	3x230 V ~	1.8	6,5	60		80	75	68	55	47	35	22					
MICRA HS 302 - 8	1x230 V ~	3x230 V ~	2	6,5	60		90	82	79	63	55	40	23					
MICRA HS 303 - 2	1x230 V ~	3x230 V ~	1.1	5,5	90		30	27	26	24	22	20	16	13				
MICRA HS 303 - 3	1x230 V ~	3x230 V ~	1.3	5,5	80		45	42	40	36	33	30	25	20				
MICRA HS 303 - 4	1x230 V ~	3x230 V ~	1.6	5,6	70		60	57	54	50	47	41	37	30				
MICRA HS 303 - 5	1x230 V ~	3x230 V ~	1.9	6,2	70		72	70	65	61	56	50	44	36				
MICRA HS 303 - 6	1x230 V ~	3x230 V ~	2.2	7,1	60		85	81	77	71	65	58	50	40				
MICRA HS 304 - 3	1x230 V ~	3x230 V ~	1.8	5,8	80		48	45	43	41	39	37	33	30	28	25		
MICRA HS 304 - 4	1x230 V ~	3x230 V ~	2.1	6,6	70		65	63	61	58	55	51	47	42	38	32		



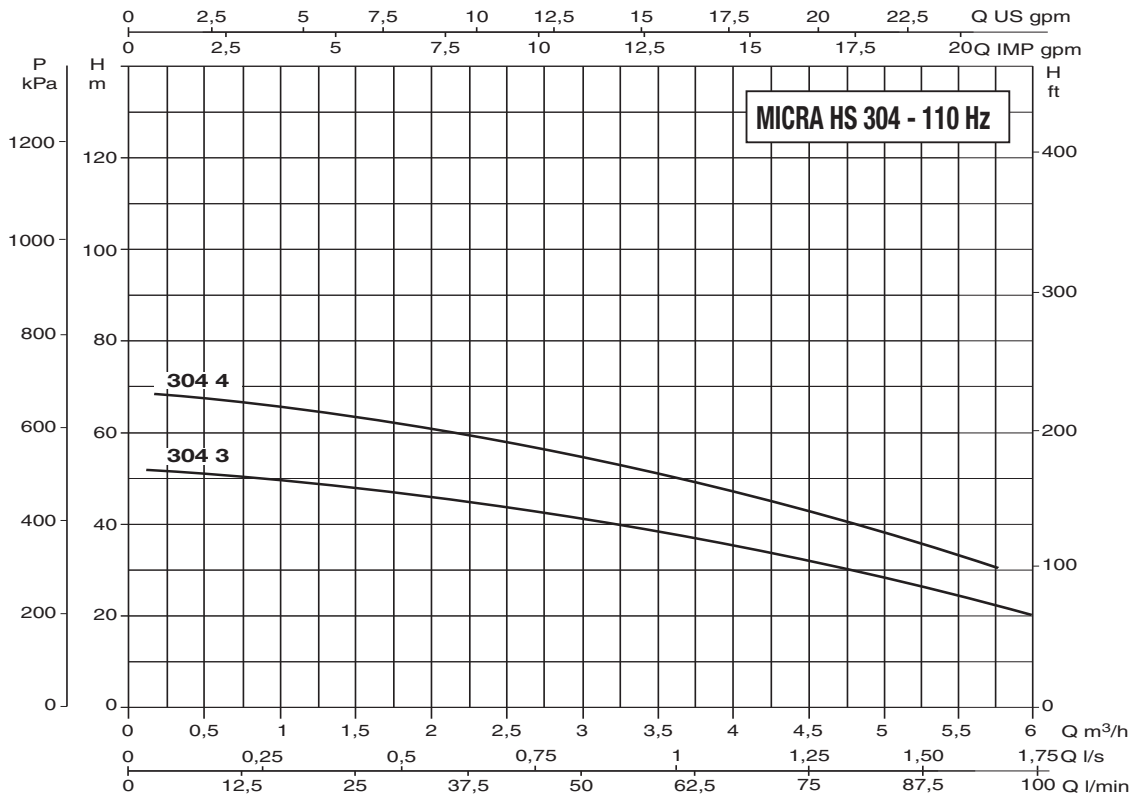
The performance curves are based on kinematic viscosity values = 1 mm²/s and density equivalent to 1000 kg/m³. Curve tolerance according to ISO 9906.

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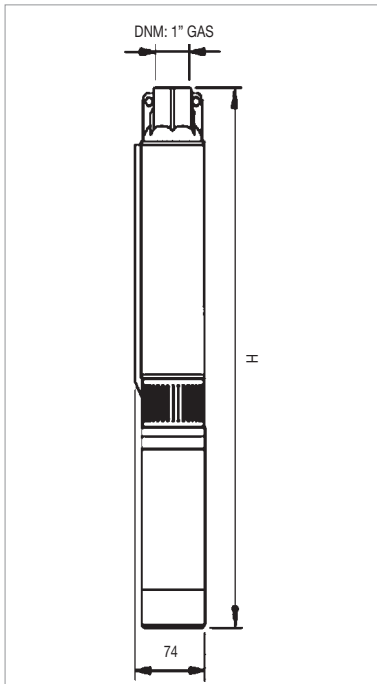
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### DIMENSIONAL DATA

MODEL	Ø	H	DNM G	PACK DIMENSIONS (mm)		
				L/A	L/B	H
MICRA HS 302 - 2	74	580	1"	320	1300	275
MICRA HS 302 - 3	74	605	1"	320	1300	275
MICRA HS 302 - 4	74	630	1"	320	1300	275
MICRA HS 302 - 5	74	655	1"	320	1300	275
MICRA HS 302 - 6	74	680	1"	320	1300	275
MICRA HS 302 - 7	74	705	1"	320	1300	275
MICRA HS 302 - 8	74	730	1"	320	1300	275
MICRA HS 303 - 2	74	580	1"	320	1300	275
MICRA HS 303 - 3	74	605	1"	320	1300	275
MICRA HS 303 - 4	74	630	1"	320	1300	275
MICRA HS 303 - 5	74	655	1"	320	1300	275
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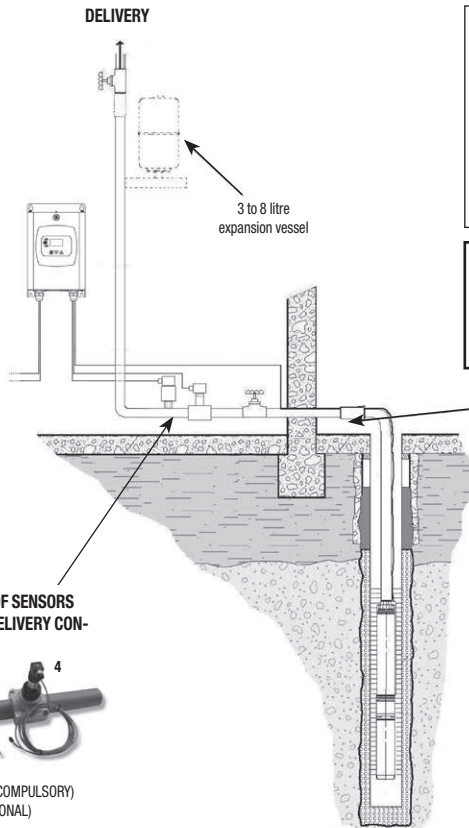
### ACTIVE SHIELD

Electronic in/out filter for connection to an Active Driver. To be used in installations where electromagnetic emissions and compatibilities may be a problem.

MODEL	MAXIMUM MOTOR CURRENT A	TO BE USED WITH
ACTIVE SHIELD	14	Active Driver M/M Active Driver M/T



### MICRA HS OPTIONAL VERSION WITH ADAC - EXAMPLE OF INSTALLATION



#### NECESSARY COMPONENTS FOR THE INSTALLATION OF THE SYSTEM

1. Submersible pump
2. ADAC inverter
3. Pressure sensor (COMPULSORY)
4. Flow sensor (OPTIONAL)
5. Non-return valve
6. Expansion vessel

#### WARNING

The ADAC must be configured for operation at a maximum frequency of 110 Hz

#### INSTALLATION OF SENSORS ON THE PUMP DELIVERY CONNECTOR



3. Pressure sensor (COMPULSORY)
4. Flow sensor (OPTIONAL)

#### SUGGESTION

In some systems, we recommend that a filter is installed upstream the sensors, to prevent them from getting damaged.