4HS

4” VARIABLE SPEED SUBMERSIBLE PUMPS

NASTEC®

Drive Your Freedom

4HS IS A RANGE OF 4” ELECTRIC SUBMERSIBLE PUMPS FOR WELL APPLICATIONS, FEATURING:

- Three-phase, water-filled, permanent magnet synchronous motor with encapsulated resin stator, fully constructed of AISI 304 stainless steel.
- Built-in integrated inverter controlled by CM control module.
- Multistage pump made of AISI 304 stainless steel.

AN INVERTER ALLOWS 4HS TO:

- Change pump speed to maintain set-pressure regardless of water demand. Consequently the pump is operated only when and as needed without wasting energy, thereby extending pump life.
- Starts and stops pump gently, thus reducing peak absorption, mechanical stress.
- Protects pump and drive from overload, undervoltage, surges, dry running and any abnormal conditions.

Integrated on-board inverter avoids the use of expensive filters and shielded cables reducing electromagnetic emissions to a minimum.

4HS product range meets the needs of commercial and residential markets for water supply, water pressurisation and irrigation. Compared to conventional solutions, 4HS offers:

- Energy-saving operation.
- Quick and simplified application.
- System reliability.

Construction characteristics and use of specific materials allow 4HS to be suitable for drinking water applications.

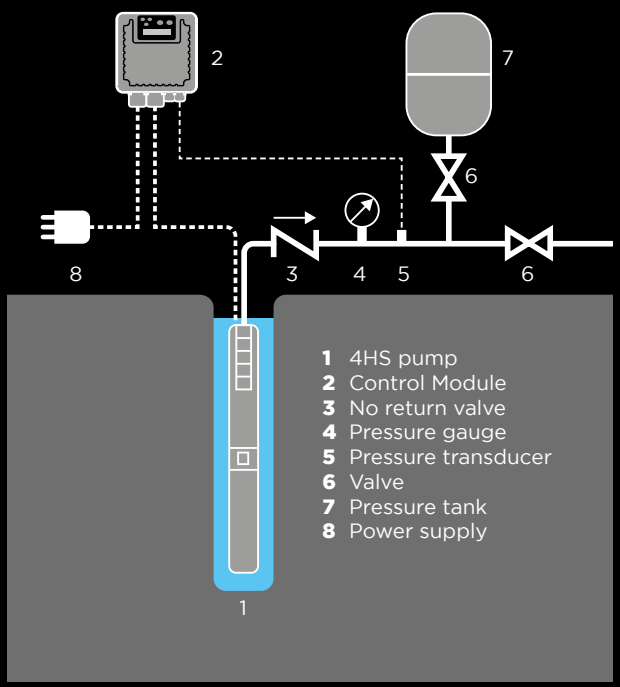
TO SET UP THE SYSTEM IN A CONSTANT PRESSURE APPLICATION SIMPLY INSTALL THE 4HS PUMP, CONNECT THE CM CONTROL MODULE AND WIRE THE PRESSURE SENSOR.

A small pressure tank is normally used to compensate for water loss while the pump is not running.

The control module receives the pressure signal from the pressure transducers and varies pump speed to maintain a constant set pressure regardless of water demand.

In addition to the constant pressure control, CM can also manage the following control modes:

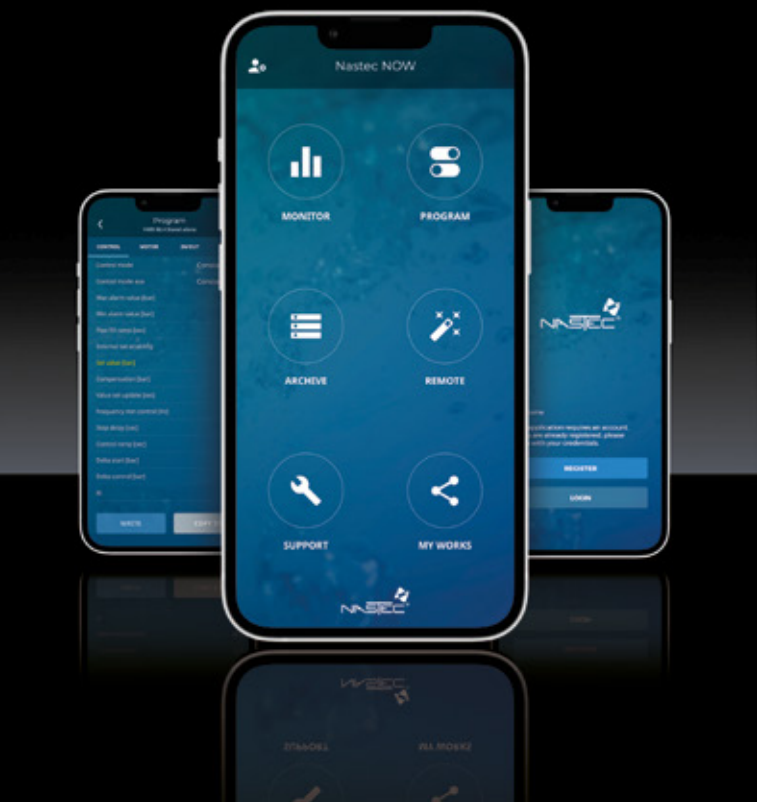
- fixed frequency
- constant flow
- constant temperature



UNMATCHED USER EXPERIENCE

Thanks to the Nastec NOW app it is possible to communicate with all Nastec SMART Bluetooth® devices in order to:

- Monitor multiple operating parameters simultaneously on the wide, high-definition colour screen of your smartphone or tablet.
- Develop programs, save them in the archive, copy them to other devices and share them among multiple users.
- Get energy consumption statistics and check the alarm log.
- Remotely control a Nastec device via Wi-Fi or GSM by tethering to a nearby smartphone.
- Create reports with the possibility of adding notes and images, and email or store them in the digital archive.



The CM control module manages the operation of the pump from the surface, regulating its speed to maintain the desired pressure constant regardless of the water demand.

Simply connect the pressure sensor, included in the package, and carry out a quick configuration of the pump in relation to the system. Furthermore, during operation, the CM constantly monitors and provides information on the electrical, hydraulic and thermal parameters of the pump, providing complete protection in the event of overvoltages, undervoltages, overloads and dry running.

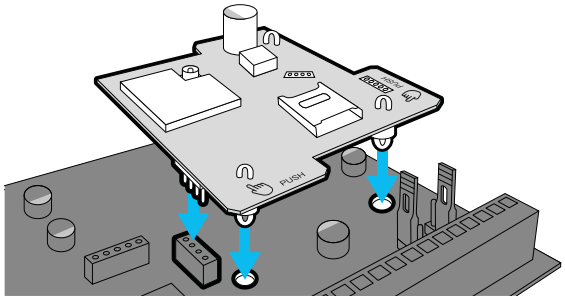
In the absence of the CM, the signal cables can be used in "ON/OFF" mode as pump start or stop contacts using, for example, a float or a pressure switch.

CONFIGURABLE ANALOG AND DIGITAL INPUTS

The analog and digital inputs are extensively configurable based on user needs to enable meeting the requirements of most applications.

REMOTE CONTROL VIA WIFI OR GSM

In addition to Bluetooth connectivity for control via smartphone and app, it is possible to install the WiFi or GSM module onboard the device and remotely control the system for free through the portal **remo.nastec.eu**. There is no need to install any external communication devices or subscribe to expensive telemetry services.



PREDICTIVE ANALYSIS AND REMOTE CONTROL

Through predictive analysis conducted by the device during operation, it is possible to intervene before the problem occurs, minimizing intervention and repair costs.

If the device is connected to the internet using the optional WiFi or GSM remote control kits, warning or alarm notifications can be sent via email to the relevant users. To achieve this, a quick configuration is all that is needed through the **remo.nastec.eu** portal.

MODBUS RTU AND BACNET CONNECTIVITY AS STANDARD

The device can be connected via RS485 serial port to external control systems based on MODBUS RTU and BACnet protocols.

ALWAYS UP-TO-DATE FIRMWARE

To obtain the latest available firmware version, updated with new features and improvements, simply connect to the device via smartphone and follow the guided update process provided by the app.

This ensures that each installation is performed with the maximum capabilities or allows the addition of new functions to existing systems.

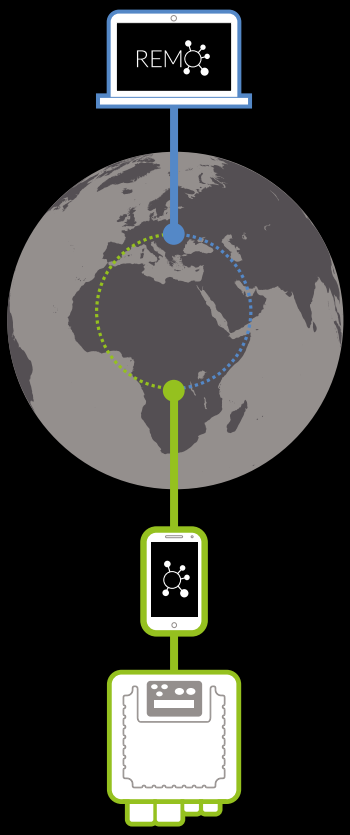
REMO

remo.nastec.eu

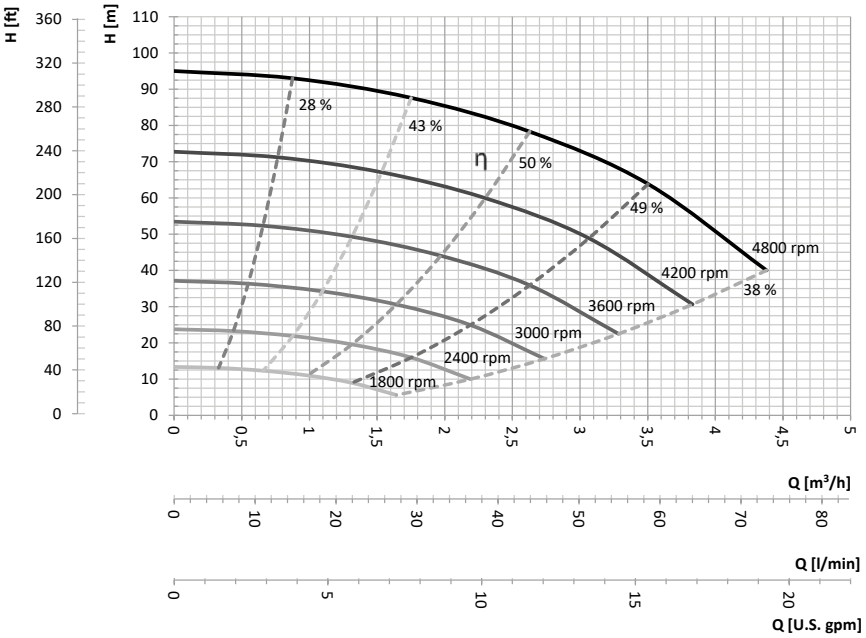
REMO, the revolutionary Nastec system for remote controlling devices.

To implement the REMO control system you will need to:

- Install an Android or iOS smartphone nearby Nastec device you wish to control. The smartphone, connected to the network via Wifi or GSM, communicates via Bluetooth with the associated Nastec device.
  In devices equipped with integrated Wifi or GSM connectivity, communication takes place without using a smartphone.
- Download and install Nastec NOW App on the smartphone, register for free and activate REMO mode on the App.
- From a PC or mobile, access to **remo.nastec.eu** to monitor or program the Nastec device from anywhere in the world.



4HS 03/06



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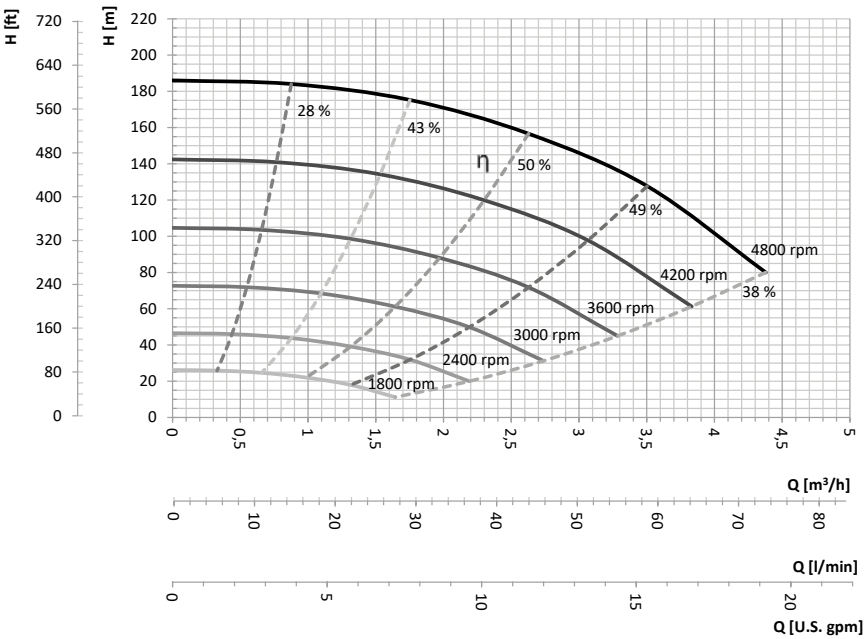
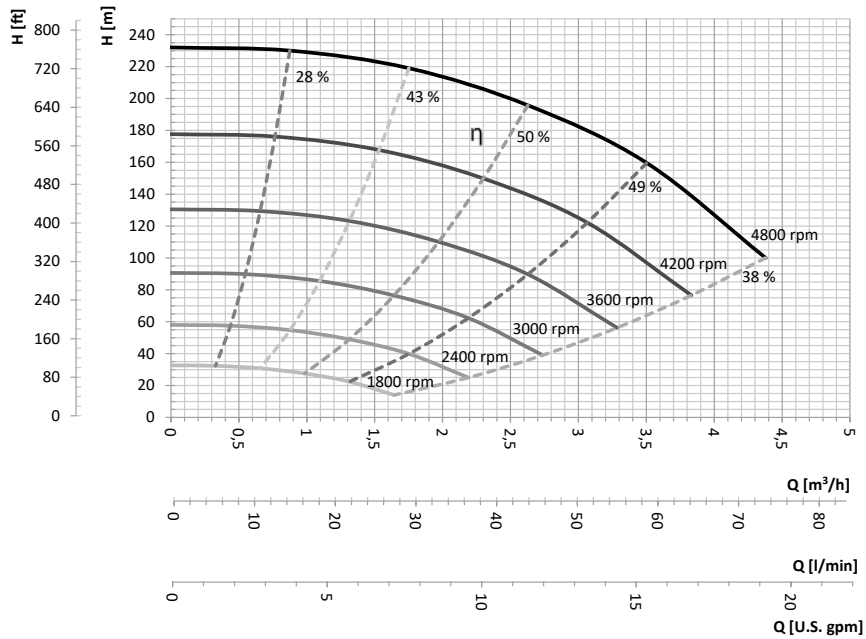
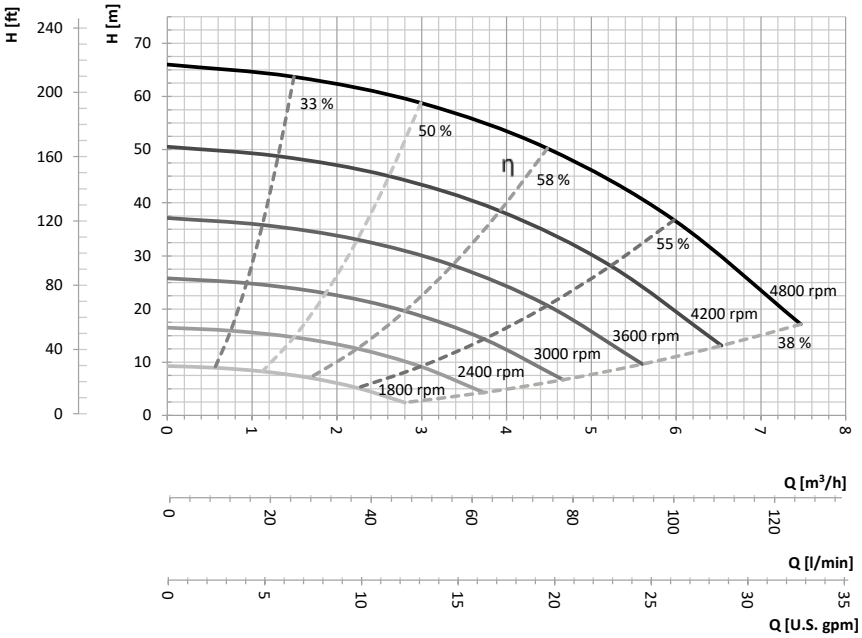


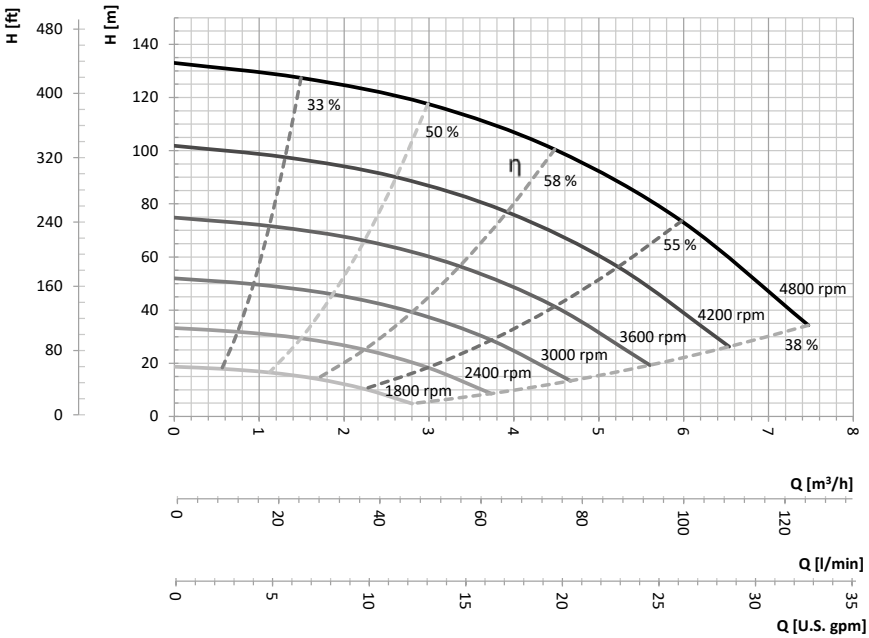
4HS 03/15



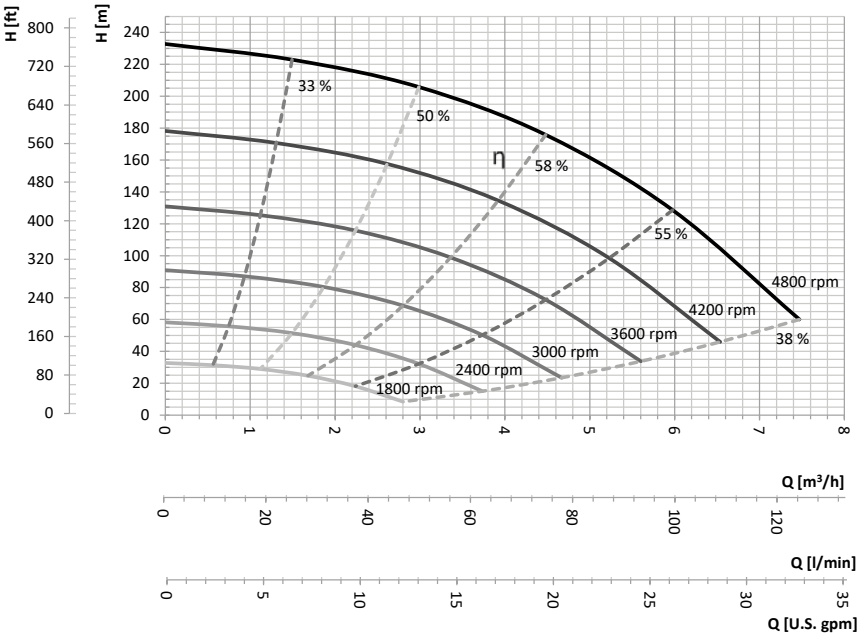
4HS 05/04



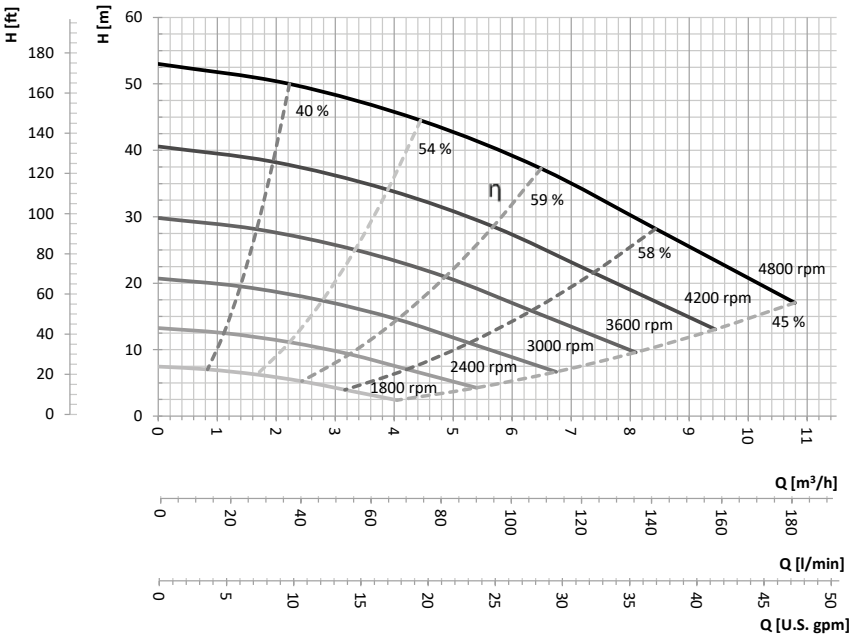
4HS 05/08



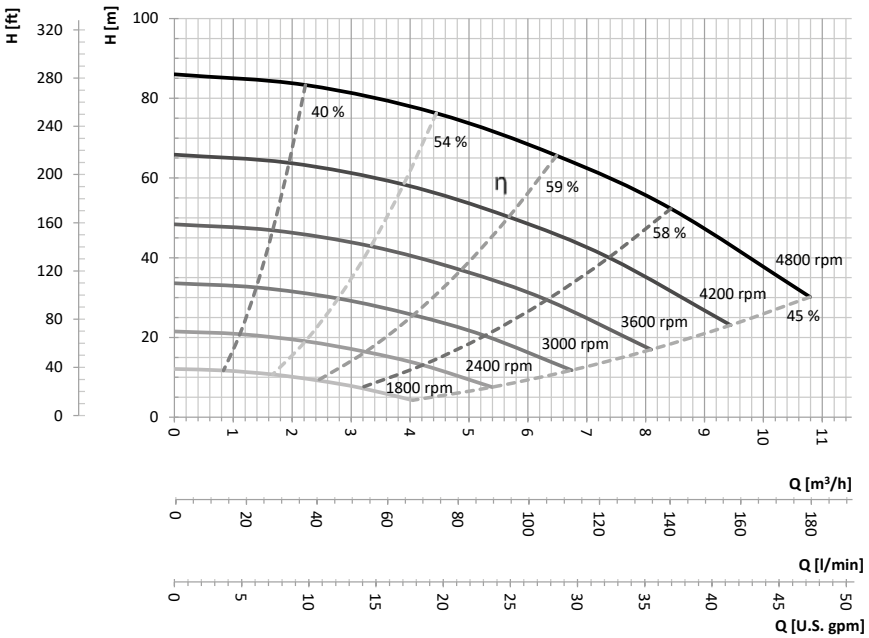
4HS 05/14



4HS 08/03



4HS 08/05



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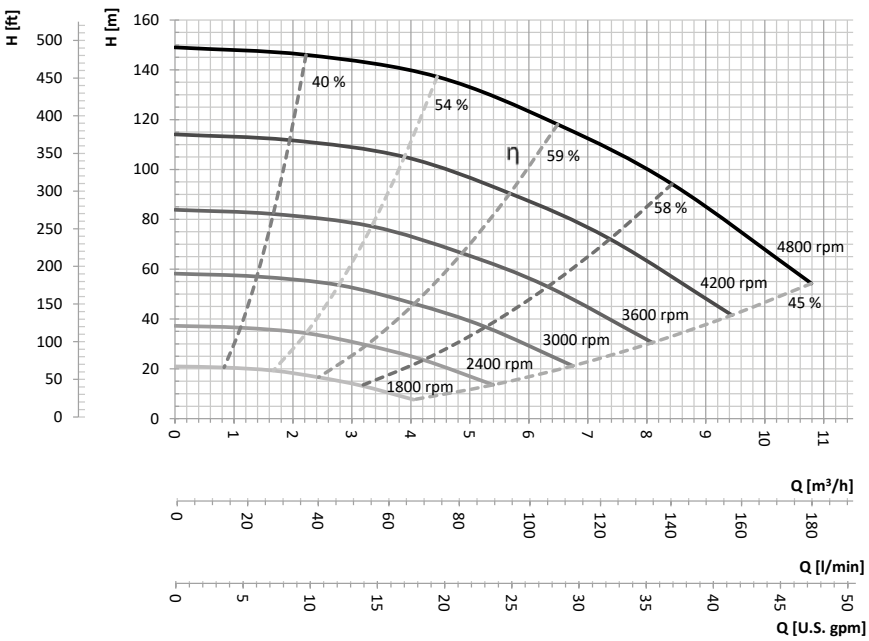

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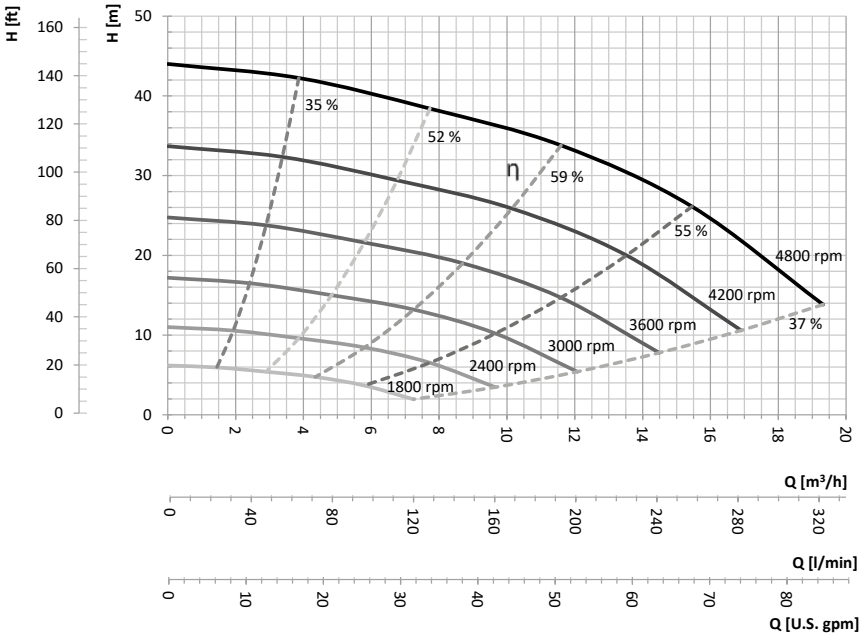

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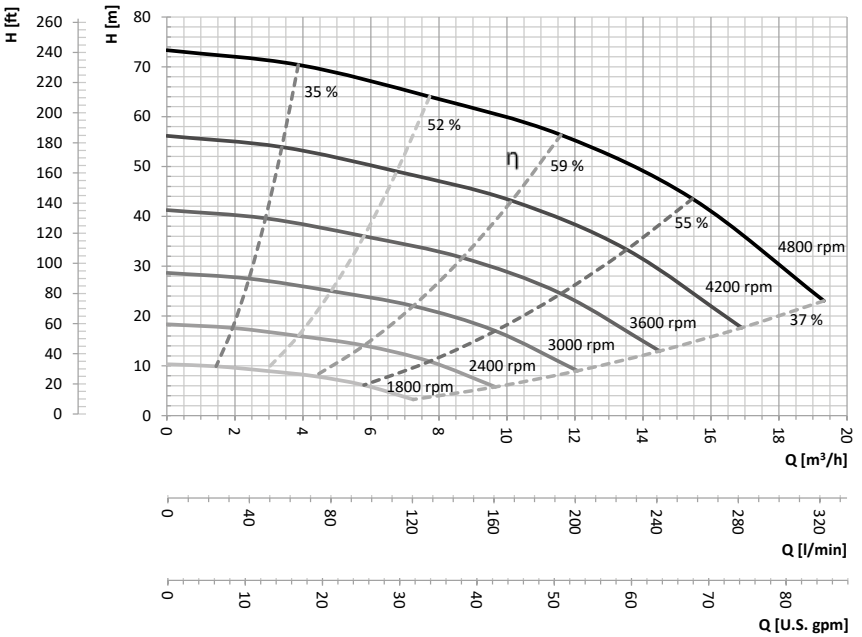
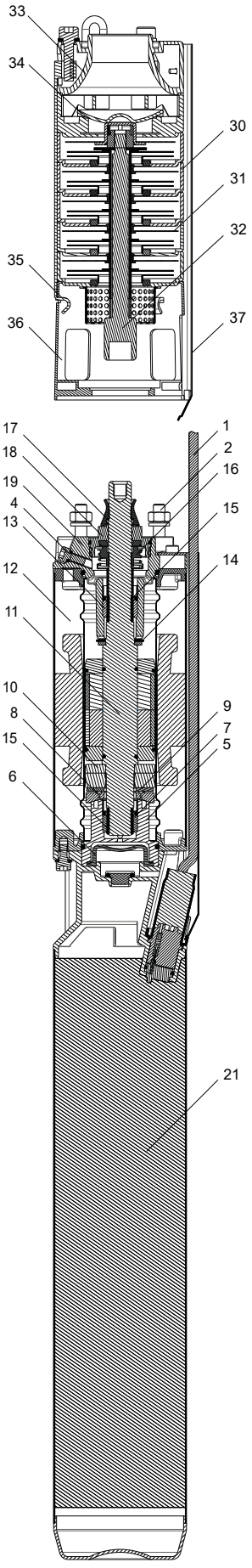


Model	Voltage	Max current	Power factor	Max power	Lenght	Discharge	Pump weight	Max diameter*	Packing dimensions	Total weight
4HS		**[A]**		**P1 [W]**	**[mm]**		**[kg]**	**[mm]**	**[cm]**	**[kg]**
03/06	1 x 190-265 VAC	Max 16	1	1700	998	1 1/4”	16,8	99*	120x16x21	17,8
03/12		Max 16		3200	1124		18		120x16x21	19
03/15		Max 24		3900	1237		20,8		150x16x21	21,8
05/04	1 x 190-265 VAC	Max 16	1	1600	977	1 1/2”	16,4	99*	120x16x21	17,4
05/08		Max 16		3000	1040		17,2		120x16x21	18,2
05/14		Max 24		5100	1216		20,6		150x16x21	21,6
08/03	1 x 190-265 VAC	Max 16	1	1800	935	1 1/2” 2”	16,2	99*	120x16x21	17,2
08/05		Max 16		3000	977		16,6		120x16x21	17,6
08/09		Max 24		5100	1111		17		120x16x21	18
14/03	1 x 190-265 VAC	Max 16	1	2700	1075	2”	17,7	99*	120x16x21	18,7
14/05		Max 24		4400	1167		20,9		120x16x21	21,9

* Max external diameter including cable and cable cover

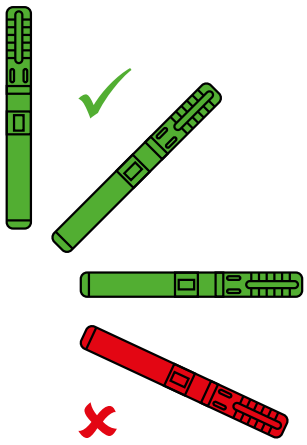
MATERIALS



Ref	Description	Materials
MOTOR		
1	Power supply cable with removable connector	AISI 304 + ACS-KTM-WRAS compliant
2	M8 stud	AISI 304
3	Lower support	AISI 304
4	Screw for filling	AISI 304
5	Thrust support	AISI 304
6	Compensation bellows	EPDM
7	Lower bush	SiC
8	Tilting disc	AISI 304
9	Pads	AISI420j
10	Rack	CTI25
11	Motor shaft	AISI 431
12	Canned type stator	AISI 304
13	Upper bush	SiC
14	Upper thrust bearing	Teflon
15	Ceramized sleeve	AISI 304 + Ceramic
16	Mechanical seal	SiC
17	Rotating sandguard	NBR
18	Mechanical seal support	AISI 304
19	Upper support	AISI 304
21	MINT: Integrated inverter module for SUMMAG E motor	
CENTRIFUGAL PUMP		
30	Diffusers	AISI 304
31	Impellers	AISI 304
32	Pump shaft	AISI 304
33	Discharge	AISI 304
34	No-return valve	AISI 304
35	Tie rods	AISI 304
36	Pump support	AISI 304

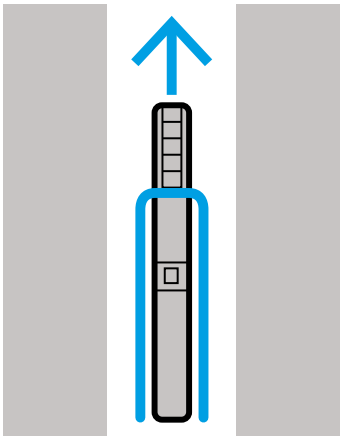
GENERAL SPECIFICATIONS

4HS pump	
EMC compliance	EN61800-3 C2
Insulation class of windings	Class F
Max liquid temperature	35 °C (92 °F)
Min liquid cooling speed	0.2 m/s (0,66 ft/s)
Characteristics of the pumped liquid	clean, chemically not aggressive, not explosive, without solid and fibre content, with max 50 g/m³ sand content
Recommended pH	6,5 - 8,5
Maximum chlorine concentration	700 ppm (10 °C); 300 pmm (20 °C); 200 ppm (30 °C)
Protection grade	IP68
Maximum immersion depth	150 m (492 ft)
Engine coolant	70% water + 30% glycol
Materials	Motor and pump in AISI 304 stainless steel
Cable	Flat cable ACS - WRAS - KTM approved
CM Control Module	
Supply voltage	1 x 230 VAC +/- 15%
Network supply frequency	50 - 60 Hz (+/- 2%)
EMC compliance	EN61800-3 C2
Relative humidity of the operating environment	5 - 95% without condensation
Max. installation ambient temperature	50 °C (122 °F)
Protection grade	IP55 (NEMA 4)
Materials	Aluminium enclosure, PVC labels , cable gland in polyamide (PA), display membrane in polyester (PE)
Analog input	2 input 4-20 mA + 2 input 4-20 mA or 0-10 V settable by the user
Digital input	4 input N.O or N.C settable by the user
Digital output	2 relays output 5 A, 250 VAC, N.O or N.C settable by the user
User display	Display LCD backlit, 16 characters x 2 rows, 5 buttons
Connectivity	RS485 MODBUS RTU, BACnet, Bluetooth SMART
Dimensions	180x180x120 mm (7,1”x7,1”x 4,7”)
Weight	2,5 kg (5,5 lb)
Certifications	
CE	



4HS pump can be installed both vertically and horizontally, as long as the outlet is never lower than the horizontal axis.

To ensure proper cooling if 4HS is not installed in a 4” well, it is necessary to use a cooling sleeve.



nastec.eu

We were born in 2007 with over 30 years of previous experience in water pumps.

We develop products dedicated to specific applications. We don't claim to do everything, but we strive to do the best at what we do.

We pay attention to details.

We love manufacturing and encourage every form of repair. That's why we offer spare parts.

We update our products while maintaining compatibility with the past.

We support our customers always and by every possible means.

We are global in sales but local in assistance.

Our mission? To make pumping systems intelligent, efficient, and connected.

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