



** Available up to 100 GPM systems*

Aquavar e-ABII

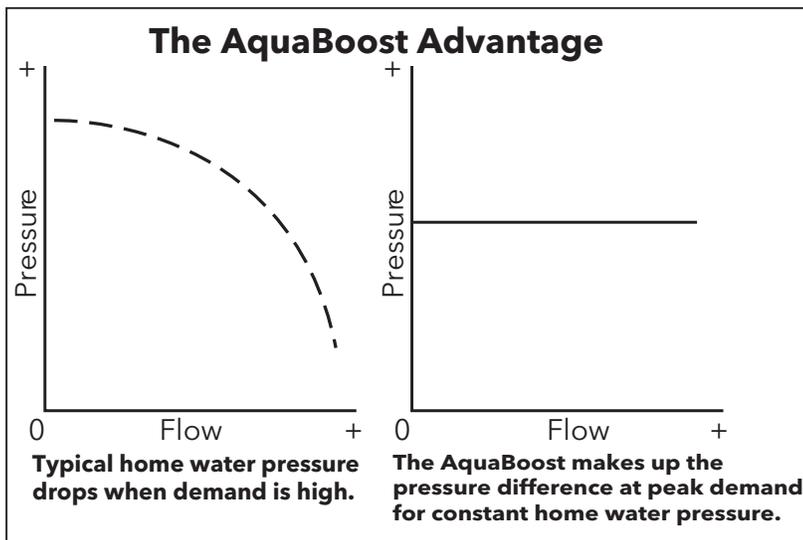
VARIABLE SPEED CONSTANT PRESSURE SYSTEMS

- 1 HP thru 5 HP - Pressure Booster Packages
- 1AB2 and 2AB2 Prewired Pump/Controller Kits

FEATURES

The e-AB2 variable speed pump controller and complete booster package kits, provide an economical answer for municipal water district customers with low water pressure. Both domestic and light commercial applications can benefit. As water use increases, the controller changes pump speed to maintain pressure. Large supply tanks are eliminated and less wear and tear on your pump and motor.

Think of it as "Cruise Control" for your pump! The e-AB2 is available with a range of flow rates to handle homes with up to four baths, irrigation, filtration and fire suppression systems. Light commercial applications up to 100 GPM at 55 PSI boost. The e-AB2 is available as either a separate controller or as part of a complete pump package with everything you need to plumb it to a domestic water line.



1 HP and 2 HP Controller



3 HP and 5 HP Controller

AQUAVAR IPC CONTROLLER PROVIDES CONSTANT PRESSURE CONTROL PLUS MORE FOR THE 3 HP AND 5 HP MOTOR SIZES (REPLACES 3AB2 AND 5AB2 CONTROLLER)

NEW FEATURES

- Programmed to motor electrical characteristics; just select set pressure.
- Application specific "Start-Up Genie" guides you through quick and easy commissioning
- Removable, graphical control panel with display
- Alarm Log records the last 5 alarms
- Hand on, Auto on, and Off buttons for easy pump operation at the keypad - No toggling between local and remote operation!
- Capable of controlling up to 2 fixed speed pumps, with one standard drive
- Duplex variable speed pumping control with auto lead/lag and alternate

e-AB2 HYDRAULIC SELECTION

FEET	PSI BOOST	GPM									
		5-10	20	30	40	50	60	70	80	90	100
46	20	1	4	4	9	9	9	9	9	14	14
58	25	1	4	4	9	9	9	9	14	14	14
69	30	1	4	4	10	10	14	14	14	14	14
81	35	1	4	4	10	10	14	14	14	14	14
92	40	2	4	5	11	11	14	14	14	14	14
104	45	2	5	5	11	11	14	14	14	14	14
116	50	2	5	5	11	11	14	14	14	14	15
127	55	2	5	6	11	11	14	14	15	15	15
139	60	3	6	6	12	12	15	15	15	15	
150	65	3	6	7	12	12	15	15	15		
162	70	3	6	7	12	12	15	15	15		
173	75	3	7	8	12	12	13				
185	80	3	7	8	12	13	13				

e-AB2 CONFIGURATIONS

Selection	Part Number	Description
1	1151AB21HM04	115v 1HP 1" disch, 1" suct V6P N3R wired
	1AB21HM04	230v 1HP 1" disch, 1" suct V6P N3R wired
2	1151AB21HM06	115v 1HP 1" disch, 1" suct V6P N3R wired
	1AB21HM06	230v 1HP 1" disch, 1" suct V6P N3R wired
3	2AB23HM06	230v 2HP 1" disch, 1" suct V6P N3R wired
4	1151AB25HM03	115v 1HP 1" disch, 1.25" suct V15P N3R wired
	1AB25HM03	230v 1HP 1" disch, 1.25" suct V15P N3R wired
5	2AB25HM04	230v 2HP 1" disch, 1.25" suct V15P N3R wired
6	2AB25HM05	230v 2HP 1" disch, 1.25" suct V15P N3R wired
7	2AB25HM06	230v 2HP 1" disch, 1.25" suct V15P N3R wired
8	3AVN35HM07	230v 3HP 1" disch, 1.25" suct IPC-N3R
	3AVN15HM07	230v 3HP 1" disch, 1.25" suct IPC-N1
9	2AB22MS1G2D2	230v 2HP 1.25" disch, 1.5" suct V15P N3R wired
10	2AB210HM02	230v 2HP 1.25" disch, 1.5" suct V15P N3R wired
11	3AVN310HM03	230v 3HP 1.25" disch, 1.5" suct IPC-N3R
	3AVN110HM03	230v 3HP 1.25" disch, 1.5" suct IPC-N1
12	5AVN310HM04	230v 5HP 1.25" disch, 1.5" suct IPC-N3R
	5AVN110HM04	230v 5HP 1.25" disch, 1.5" suct IPC-N1
13	5AVN310HM05	230v 5HP 1.25" disch, 1.5" suct IPC-N3R
	5AVN110HM05	230v 5HP 1.25" disch, 1.5" suct IPC-N1
14	5AVN32MS1J2K2	230v 5HP 1.25" disch, 1.5" suct IPC-N3R
	5AVN12MS1J2K2	230v 5HP 1.25" disch, 1.5" suct IPC-N1
15	5AVN315HM03	230v 5HP 1.5" disch, 2" suct IPC-N3R
	5AVN115HM03	230v 5HP 1.5" disch, 2" suct IPC-N1

* 1 HP available in 115 volt input models. Items 8, 11 thru 15 do not include tank. Recommend bladder tank, sized to 20% of pump flow (gpm). Pressure Transducer supplied with all configurations.

NOTE: PSI is boosting pressure, NOT total system pressure.

INPUT AND OUTPUT POWER (VOLTAGE AND PHASE)

- All 1AB2 and 2AB2 require single-phase input power
 - All will work on 1Ø, 208-230V input power
 - 1151AB2's will work on 1Ø, 115V input power
- All controllers output three-phase, 230 Volt power
- All pumps are equipped with three-phase motors

1151AB21HM04

- 115v SINGLE PHASE INPUT
- 1 HP variable speed controller (1AB2); Nema 3R
- Pump (e-HM 4 stg) and Tank (V6P) included
- Wall mount set; Transducer; pre-wired

1AB21HM04

- 230v SINGLE PHASE INPUT
- 1 HP variable speed controller (1AB2); Nema 3R
- Pump (e-HM 4 stg) and Tank (V6P) included
- Wall mount set; Transducer; pre-wired

1151AB21HM06

- 115V SINGLE PHASE INPUT
- 1 HP variable speed controller (1AB2); Nema 3R
- Pump (e-HM 6 stg) and Tank (V6P) included
- Wall mount set; Transducer; pre-wired

1AB21HM06

- 230v SINGLE PHASE INPUT
- 1 HP variable speed controller (1AB2); Nema 3R
- Pump (e-HM 6 stg) and Tank (V6P) included
- Wall mount set; Transducer; pre-wired

2AB23HM06

- 230v SINGLE PHASE INPUT
- 2 HP variable speed controller (2AB2); Nema 3R
- Pump (e-HM 6 stg) and Tank (V6P) included
- Wall mount set; Transducer; pre-wired

1151AB25HM03

- 115V SINGLE PHASE INPUT
- 1 HP variable speed controller (1AB2); Nema 3R
- Pump (e-HM 3 stg) and Tank (V15P) included
- Wall mount set; Transducer; pre-wired

1AB25HM03

- 230v SINGLE PHASE INPUT
- 1 HP variable speed controller (1AB2); Nema 3R
- Pump (e-HM 3 stg) and Tank (V15P) included
- Wall mount set; Transducer; pre-wired

2AB25HM04

- 230v SINGLE PHASE INPUT
- 2 HP variable speed controller (2AB2); Nema 3R
- Pump (e-HM 4 stg) and Tank (V15P) included
- Wall mount set; Transducer; pre-wired

2AB25HM05

- 230v SINGLE PHASE INPUT
- 2 HP variable speed controller (2AB2); Nema 3R
- Pump (e-HM 5 stg) and Tank (V15P) included
- Wall mount set; Transducer; pre-wired

2AB25HM06

- 230v SINGLE PHASE INPUT
- 2 HP variable speed controller (2AB2); Nema 3R
- Pump (e-HM 6 stg) and Tank (V15P) included
- Wall mount set; Transducer; pre-wired

3AVN35HM07

- 230v SINGLE PHASE INPUT
- 3 HP variable speed controller (Aquavar IPC); Nema 3R
- Pump (e-HM 7 stg) and Transducer (included)
- Tank (not included) and wiring (by others)

3AVN15HM07

- 230v SINGLE PHASE INPUT
- 3 HP variable speed controller (Aquavar IPC); Nema 1
- Pump (e-HM 7 stg) and Transducer (included)
- Tank (not included) and wiring (by others)

2AB22MS1G2D2

- 230v SINGLE PHASE INPUT
- 2 HP variable speed controller (2AB2); Nema 3R
- Pump (MCS) and Tank (V15P) included
- Wall mount set; Transducer; pre-wired

2AB210HM02

- 230v SINGLE PHASE INPUT
- 2 HP variable speed controller (2AB2); Nema 3R
- Pump (e-HM 2 stg) and Tank (V15P) included
- Wall mount set; Transducer; pre-wired

3AVN310HM03

- 230v SINGLE PHASE INPUT
- 3 HP variable speed controller (Aquavar IPC); Nema 3R
- Pump (e-HM 3 stg) and Transducer (included)
- Tank (not included) and wiring (by others)

INPUT AND OUTPUT POWER (VOLTAGE AND PHASE) *continued***3AVN110HM03**

- 230v SINGLE PHASE INPUT
- 3 HP variable speed controller (Aquavar IPC); Nema 1
- Pump (e-HM 3 stg) and Transducer (included)
- Tank (not included) and wiring (by others)

5AVN310HM04

- 230v SINGLE PHASE INPUT
- 5 HP variable speed controller (Aquavar IPC); Nema 3R
- Pump (e-HM 4 stg) and Transducer (included)
- Tank (not included) and wiring (by others)

5AVN110HM04

- 230v SINGLE PHASE INPUT
- 5 HP variable speed controller (Aquavar IPC); Nema 1
- Pump (e-HM 4 stg) and Transducer (included)
- Tank (not included) and wiring (by others)

5AVN310HM05

- 230v SINGLE PHASE INPUT
- 5 HP variable speed controller (Aquavar IPC); Nema 3R
- Pump (e-HM 5 stg) and Transducer (included)
- Tank (not included) and wiring (by others)

5AVN110HM05

- 230v SINGLE PHASE INPUT
- 5 HP variable speed controller (Aquavar IPC); Nema 1
- Pump (e-HM 5 stg) and Transducer (included)
- Tank (not included) and wiring (by others)

5AVN32MS1J2K2

- 230v SINGLE PHASE INPUT
- 5 HP variable speed controller (Aquavar IPC); Nema 3R
- Pump (MCS) and Transducer (included)
- Tank (not included) and wiring (by others)

5AVN12MS1J2K2

- 230v SINGLE PHASE INPUT
- 5 HP variable speed controller (Aquavar IPC); Nema 1
- Pump (MCS) and Transducer (included)
- Tank (not included) and wiring (by others)

5AVN315HM03

- 230v SINGLE PHASE INPUT
- 5 HP variable speed controller (Aquavar IPC); Nema 3R
- Pump (e-HM 3 stg) and Transducer (included)
- Tank (not included) and wiring (by others)

5AVN115HM03

- 230v SINGLE PHASE INPUT
- 5 HP variable speed controller (Aquavar IPC); Nema 1
- Pump (e-HM 3 stg) and Transducer (included)
- Tank (not included) and wiring (by others)

CONTROLLERS ONLY**1AB2**

- 4.2 Amp, 230v 1HP Nema 3R, transducer & cable
- Single phase Input; Three phase Output

1151AB2

- 4.2 Amp, 115v 1HP Nema 3R, transducer & cable
- Single phase Input; Three phase Output

2AB2

- 6.9 Amp, 230v 2HP Nema 3R, transducer & cable
- Single phase Input; Three phase Output

AVB10030C0X0X0X1

- 10.6 Amp, 230v 3HP Nema 3R, transducer & cable
- Single phase Input; Three phase Output

AVB10030A0X0X0X1

- 10.6 Amp, 230v 3HP Nema 1, transducer & cable
- Single phase Input; Three phase Output

AVB10050C0X0X0X1

- 16.7 Amp, 230v 3HP Nema 3R, transducer & cable
- Single phase Input; Three phase Output

AVB10050A0X0X0X1

- 16.7 Amp, 230v 3HP Nema 1, transducer & cable
- Single phase Input; Three phase Output

SUGGESTED AB2 INSTALLATION FOR MUNICIPAL WATER SYSTEM

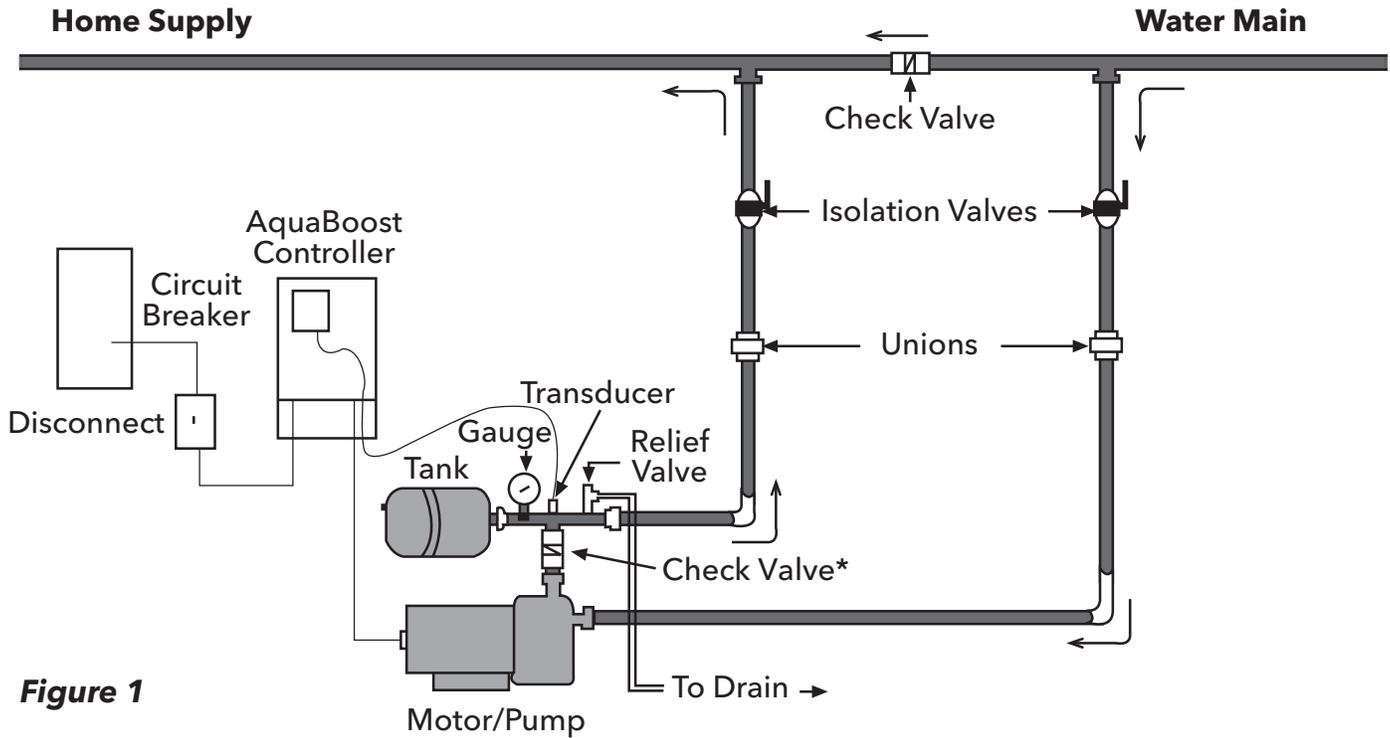


Figure 1

*Check valve - provided by installer

SUGGESTED AQUABOOST INSTALLATION FOR WELL PUMP SYSTEM

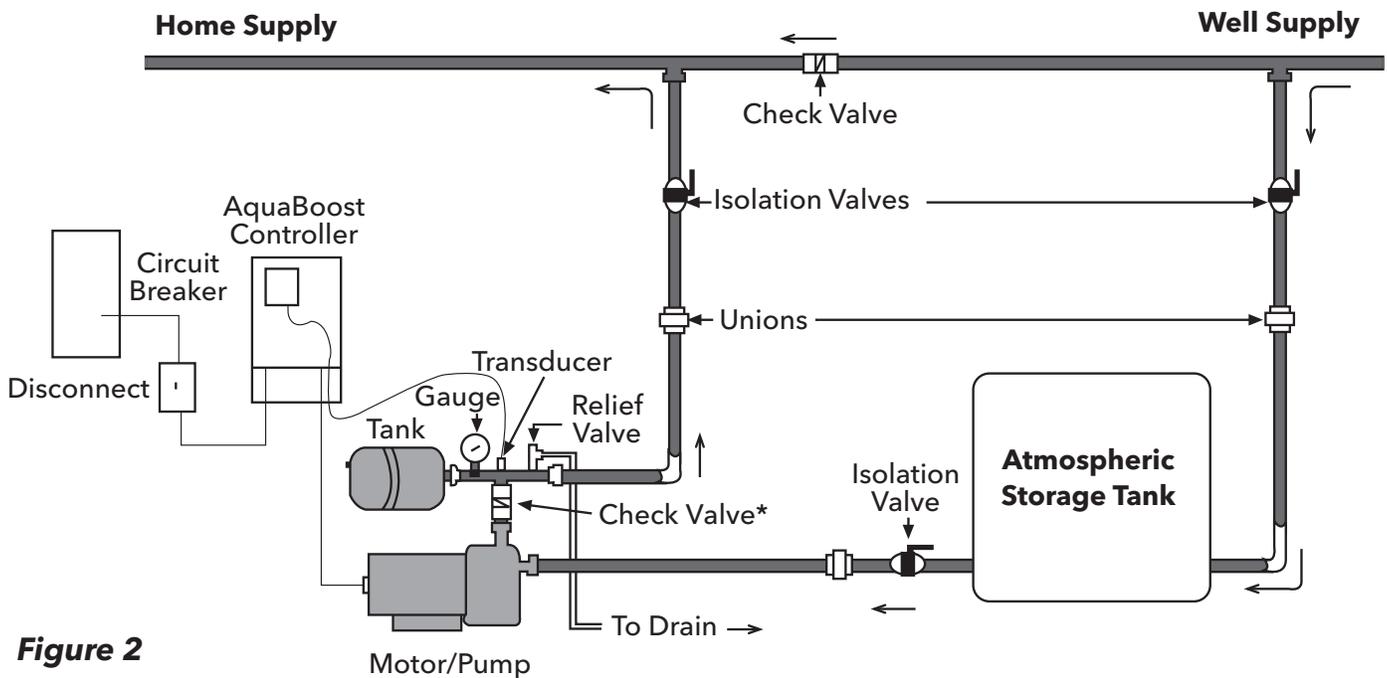
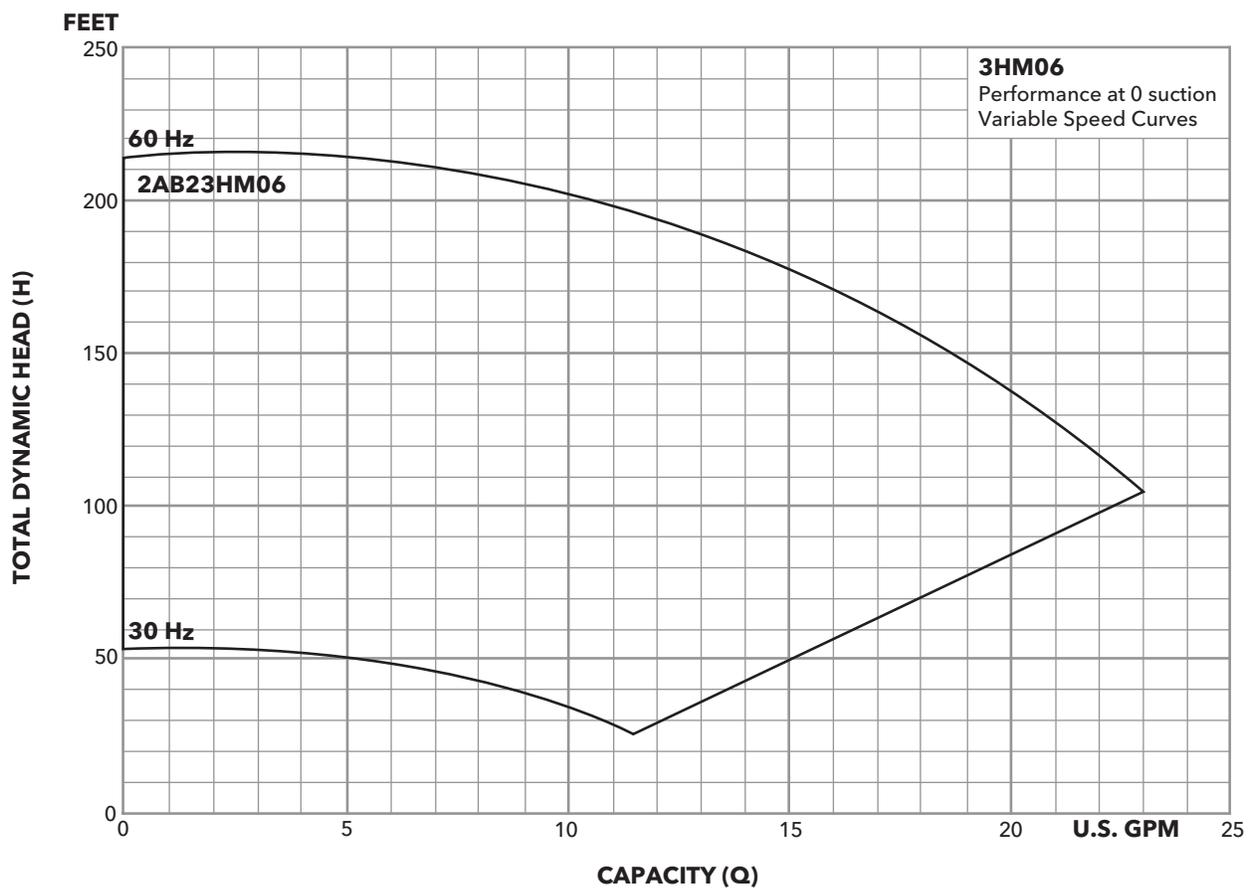
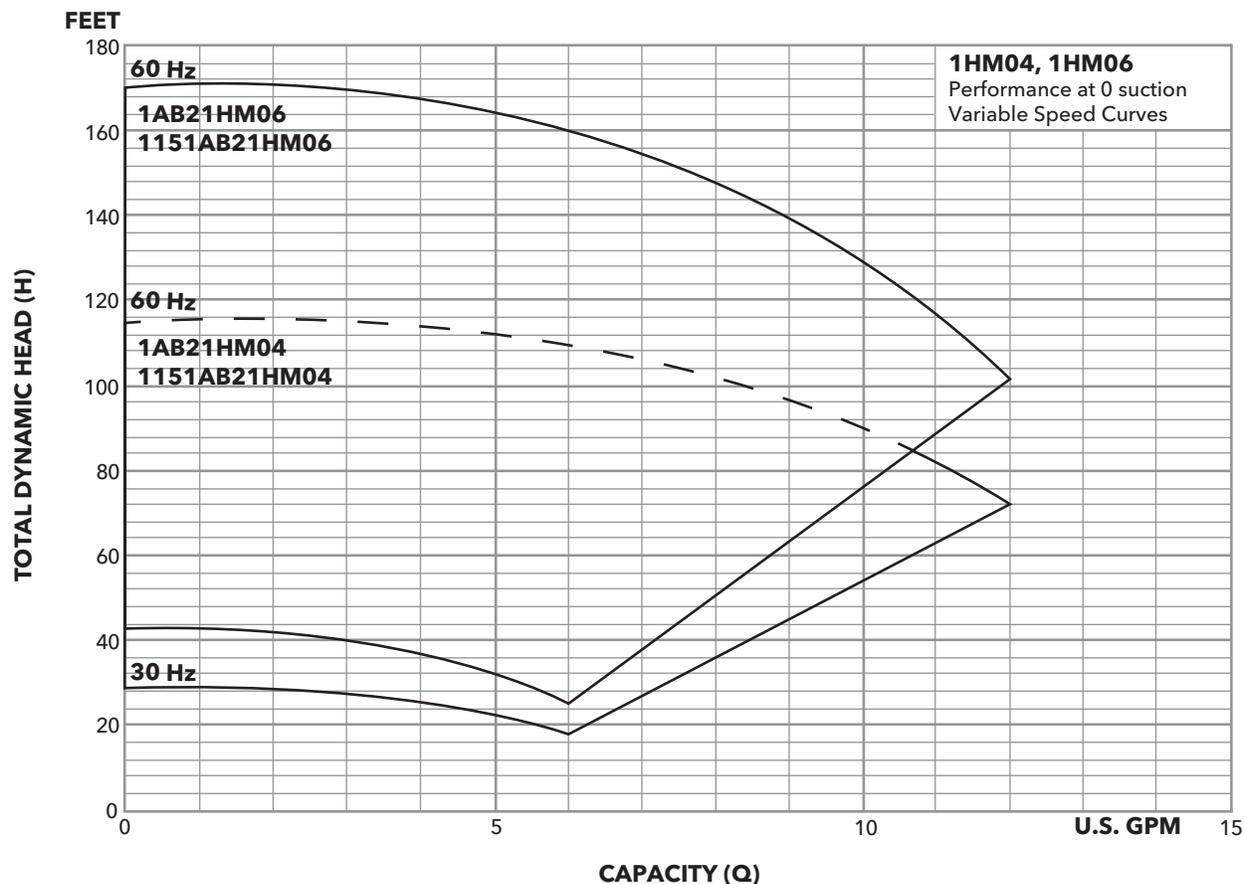
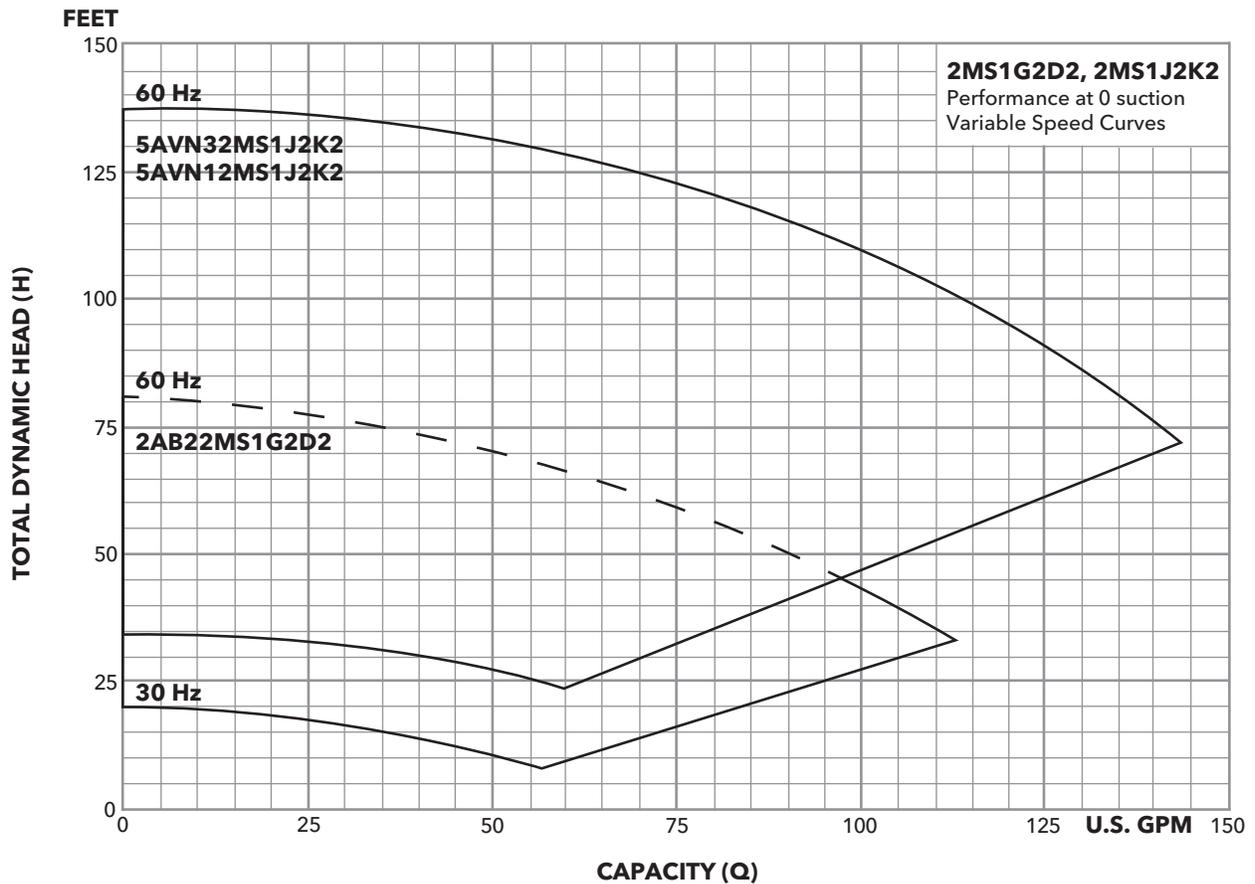
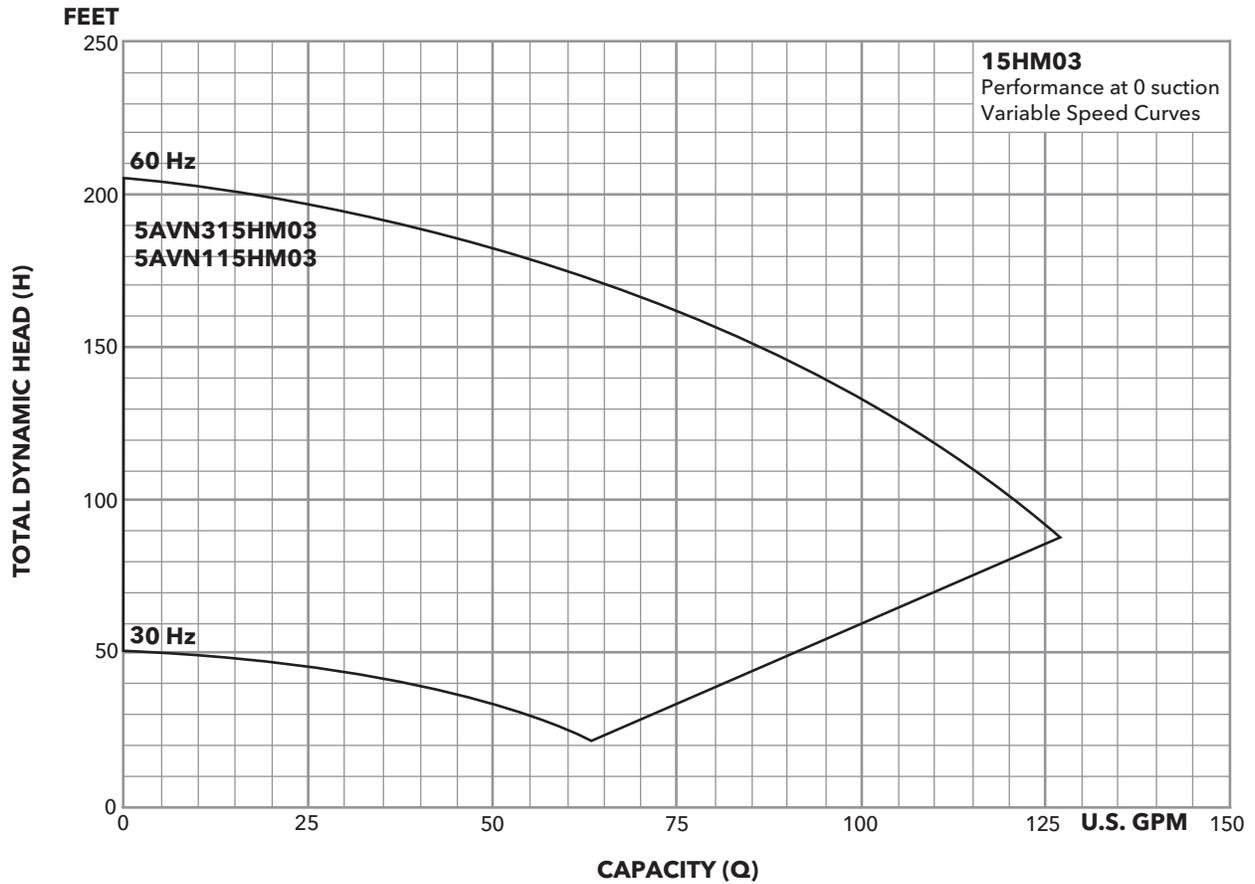
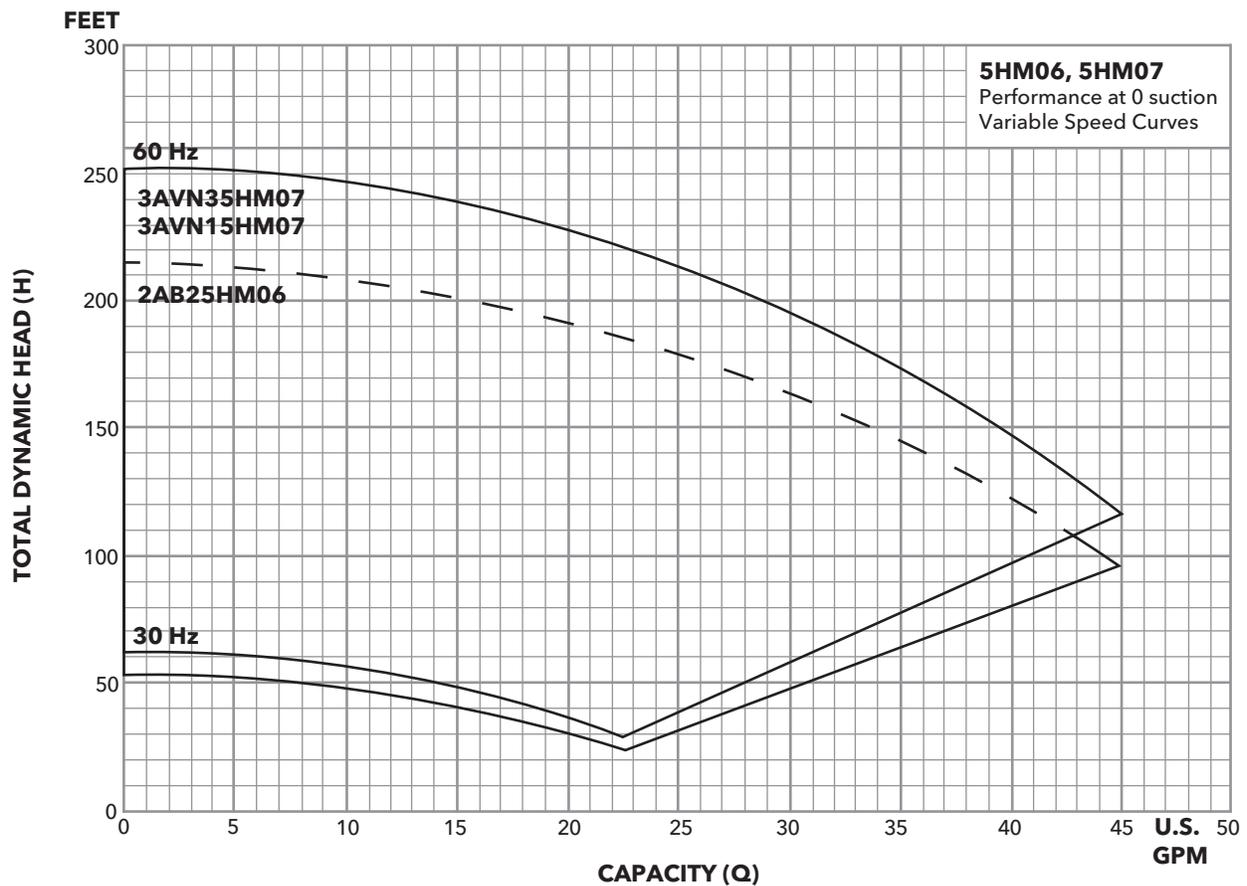
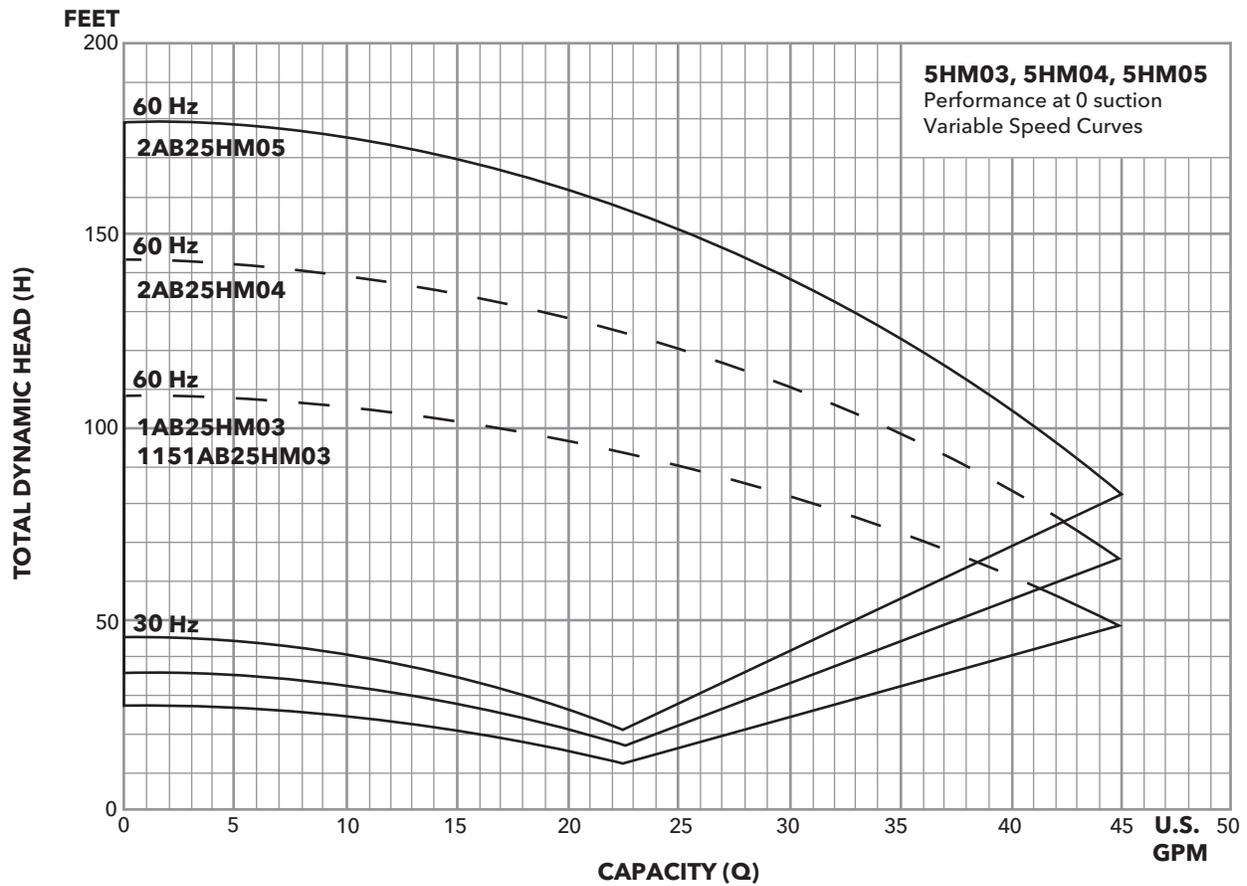


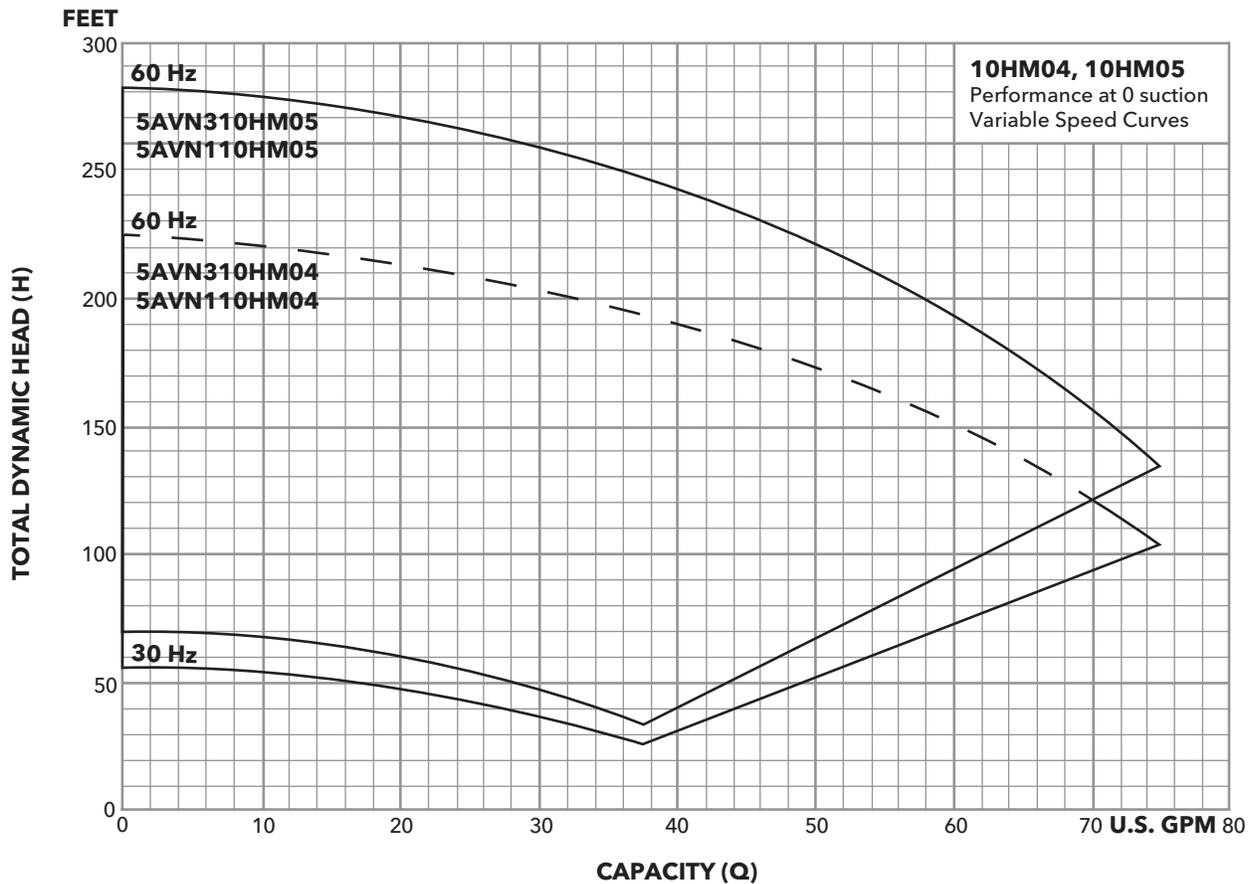
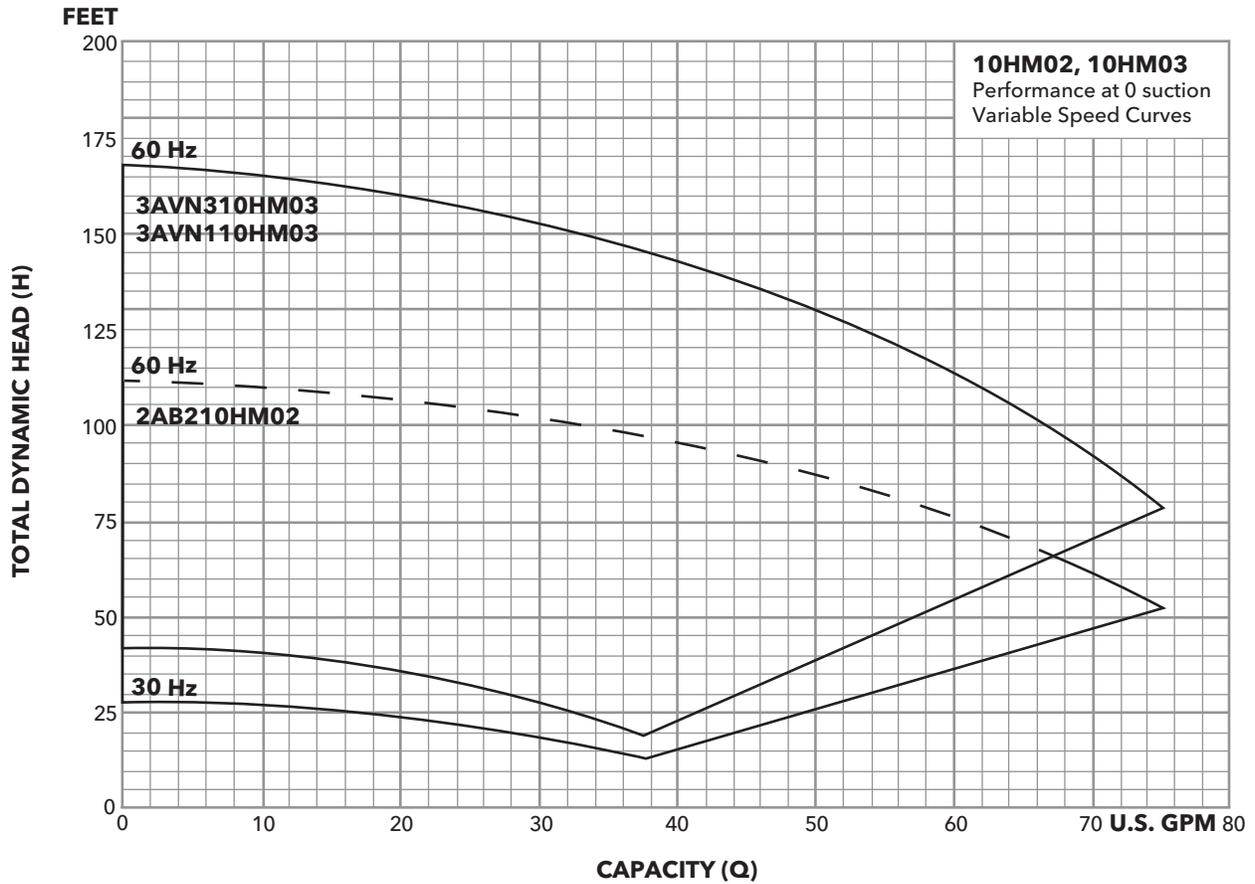
Figure 2

*Check valve - provided by installer









AQUAVAR ABII CONTROLLER FEATURES

Input Power* – 208-230V ±15%, single phase (controller only)

Output Power – Up to 230V three phase (based on input voltage). Motor rated for 208-230V, ±10%.

Maximum Output Current – 4.2 amps - 1AB2 (1 HP)
– 6.9 amps - 2AB2 (2 HP)

Input Controls – Up and down buttons to set pressure.

Signal Lights – Power on, pump running, inverter stopped, pump stopped, standby, faults/errors.

Electrical Efficiency – Over 95% at full load

Protection Against – Short circuit, under voltage, overload, motor temperature, dead heading, run out, suction loss, sensor fault, bound pump, over voltage, static discharge. **Note:** Suction loss/run out is set for minimum 10 psi at discharge!

Ambient Temperature – 34° F to 104° F

Maximum Humidity – 95% at 104° F, non-condensing

Air Pollution – Avoid mounting in areas with excessive dust, acids, corrosives and salts.

Approvals –   (Listing on Controller Only)

Controller Enclosure – Outdoor, NEMA 3R, IP 43 (Rain-tight)

Mounting – Wall mount with mounting hardware.

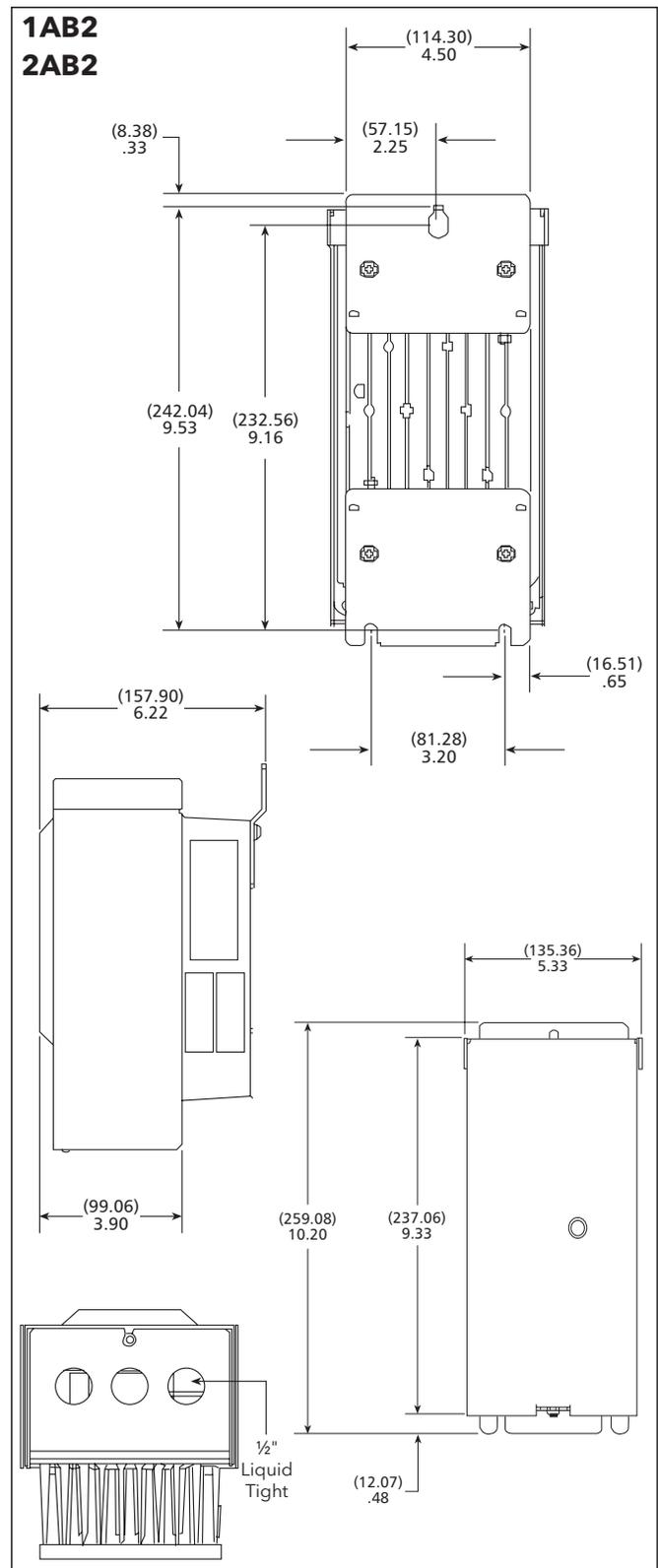
Cooling – Convection with cast aluminum heat sink.
– 3 HP, 5 HP with temperature fan

Transducer – 0.5 - 4.5 VDC with 5 VDC power supply, 100 psi range, 10-foot 3-wire shielded cable.

Input Wire – 5 feet of 14, 10 or 8 gauge cable. Depending on size, cable is pre-wired to controller and motor conduit box.

Output Wire – 10 feet of 14 gauge cable. Cable is pre-wired to controller and pump motor (when provided).

*Low input voltage may affect motor operation.



PRESSURE RANGE

Nominal Range – Field adjustable from 20 - 85 psi, total system pressure.

WARNING DO NOT SET REQUIRED SYSTEM PRESSURE ABOVE 85 PSI. SEVERE DAMAGE TO PLUMBING COULD RESULT. PLUMB RELIEF VALVE OUTSIDE OR TO A DRAIN.

AQUAVAR IPC FEATURES

Input Power* – 200V to 240V \pm 10%, single phase (controller only)

Output Power – Up to 230V three phase (based on input voltage).

Maximum Output Current – 10.6 amps (3 HP)
– 16.7 amps (5 HP)

Input Controls – Keypad; LCD graphical display

Signal Lights – Power on, inverter stopped, standby, warning/alarms; auto ON.

Electrical Efficiency – Over 95% at full load

Protection Against – **MOTOR:** Ground Fault, Motor Stall, Motor Over Temperature, Motor Condensation, Motor Overload. **PUMP:** Pump No-Flow, Under Pressure, No Water / Loss of Prime, Short-Cycle.

Ambient Temperature – 34° F to 114° F

Maximum Humidity – 93% at 114° F, non-condensing

Air Pollution – Avoid mounting in areas with excessive dust, acids, corrosives and salts.

Approvals –   (Listing on Controller Only)

Controller Enclosure – Outdoor, NEMA 3R, IP 43 (Rain-tight); Indoor, NEMA 1, IP 21

Mounting – Wall mount

Cooling – Convection with cast aluminum heat sink.
– With temperature fan

Transducer – 4-20 mA power supply, 300 psi range, 16-foot shielded cable.

Input Wire – Supplied by installer, refer to instruction manual

Output Wire – Supplied by installer, refer to instruction manual

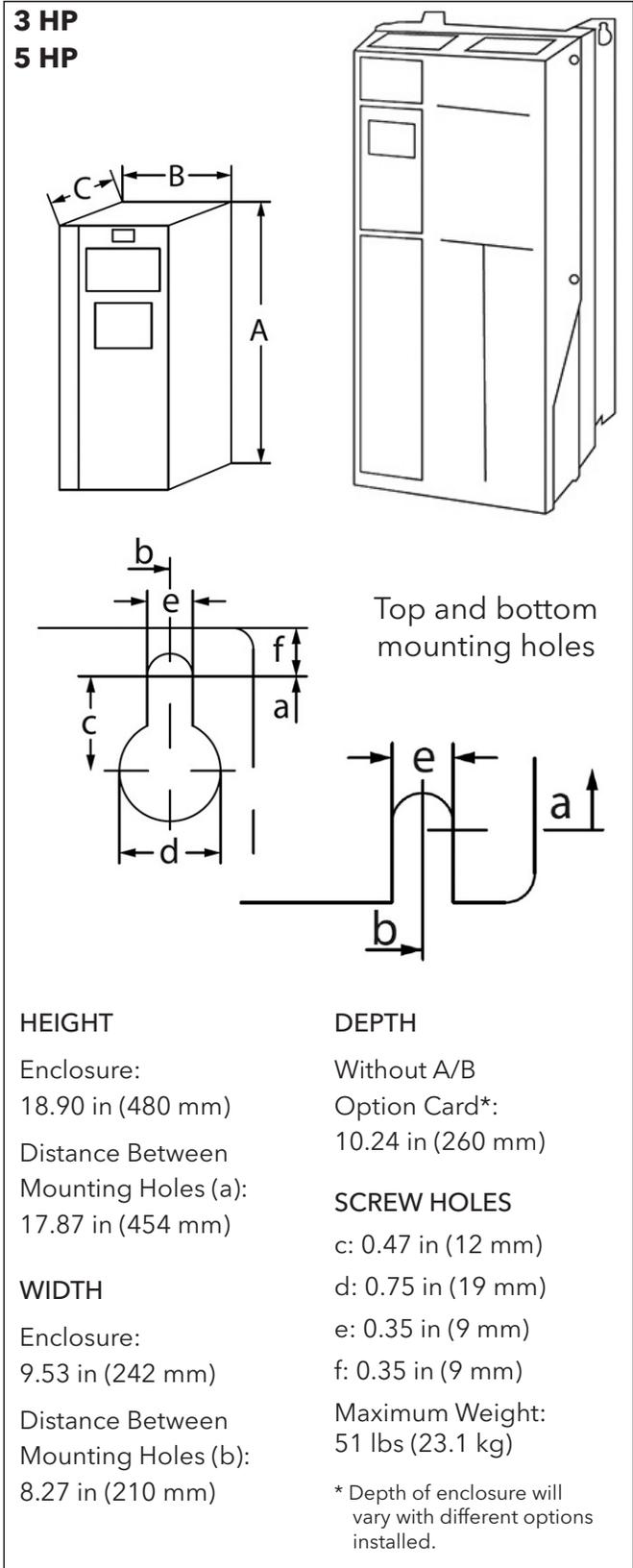
*Low input voltage may affect motor operation.

PRESSURE RANGE

Nominal Range – Field adjustable through 300 psi, total system pressure.



DO NOT SET REQUIRED SYSTEM PRESSURE ABOVE 85 PSI. SEVERE DAMAGE TO PLUMBING COULD RESULT. PLUMB RELIEF VALVE OUTSIDE OR TO A DRAIN.



DIMENSIONS (For Reference Only - Do not use for construction purposes)

MCS PUMP WITH TANK AND TEE

Capacities – to 120 GPM

Rotation – Right hand clockwise,
viewed from motor end

Materials – 316L stainless steel casing
316L impeller

Motor – 1 HP, ODP, Three Phase,
208-230/460V

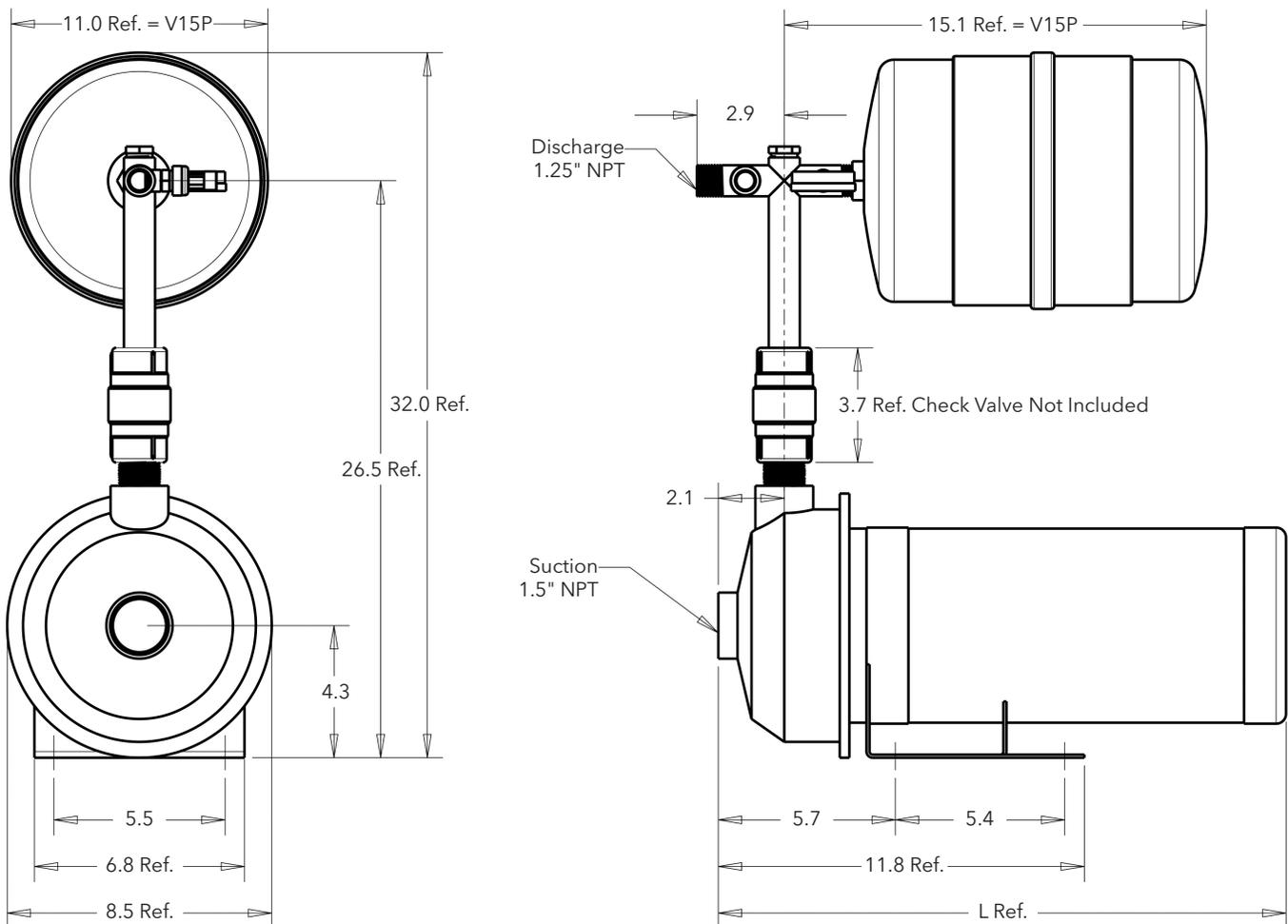
Pump Connections – 1¼ x 1½ NPT

Maximum Temperature of Water – 120° F
NOTE: Tank Liquid Temperature Limit is 120° F
Pump Liquid Temperature Limit is 140° F

Maximum System Working Pressure – 125 psi

Seal – Carbon / Silicon Carbide / EPR

*Overload protection, starters, heaters not required.
Dimensions are in inches.*



DIMENSIONS (For Reference Only - Do not use for construction purposes)

e-HM PUMPS

Capacities – to 12 GPM (1HM)
 to 23 GPM (3HM)
 to 45 GPM (5HM)

Rotation – Right hand clockwise,
 viewed from motor end

Materials – 316L stainless steel for all liquid
 handling components

Motor – 1 HP, TEFC, Three Phase, 208-230/460V
 – 1.5 HP, TEFC, Three Phase, 208-230/460V
 – 2 HP, TEFC, Three Phase, 208-230/460V

Pipe Connections – 1 x 1 NPT (1HM/3HM)
 – 1 x 1½ NPT (5HM)

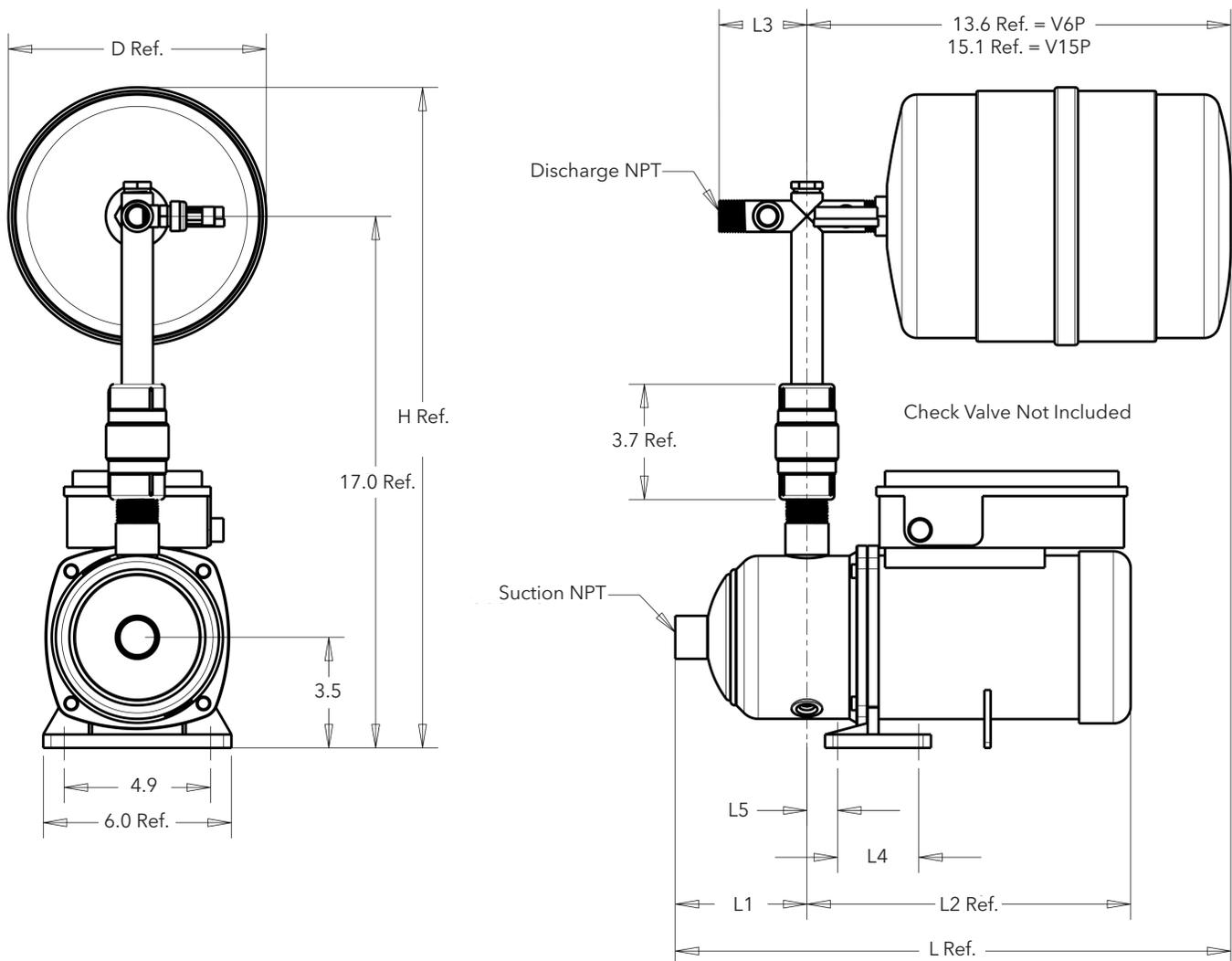
Maximum Temperature of Water – 120° F

NOTE: Tank Liquid Temperature Limit is 120° F
 Pump Liquid Temperature Limit is 212° F

Maximum System Working Pressure – 145 psi

Seal – Carbon / Silicon Carbide / EPR

Overload protection, starters, heaters not required. Dimensions are in inches.



DIMENSIONS (For Reference Only - Do not use for construction purposes)

e-HM PUMPS

Capacities – to 45 GPM (5HM)
to 75 GPM (10HM)
to 127 GPM (15HM)

Rotation – Right hand clockwise,
viewed from motor end

Materials – 316L stainless steel for all liquid
handling components

Motor – 2 HP, TEFC, Three Phase, 208-230/460V
(5HM/10HM)
– 3 HP, TEFC, Three Phase, 208-230/460V (10HM)
– 4 HP, TEFC, Three Phase, 208-230/460V (10HM)
– 5.5 HP, TEFC, Three Phase, 208-230/460V
(10HM/15HM)

Pipe Connections – 1 x 1¼ NPT (5HM)
– 1¼ x 1½ NPT (10HM)
– 1½ x 2 NPT (15HM)

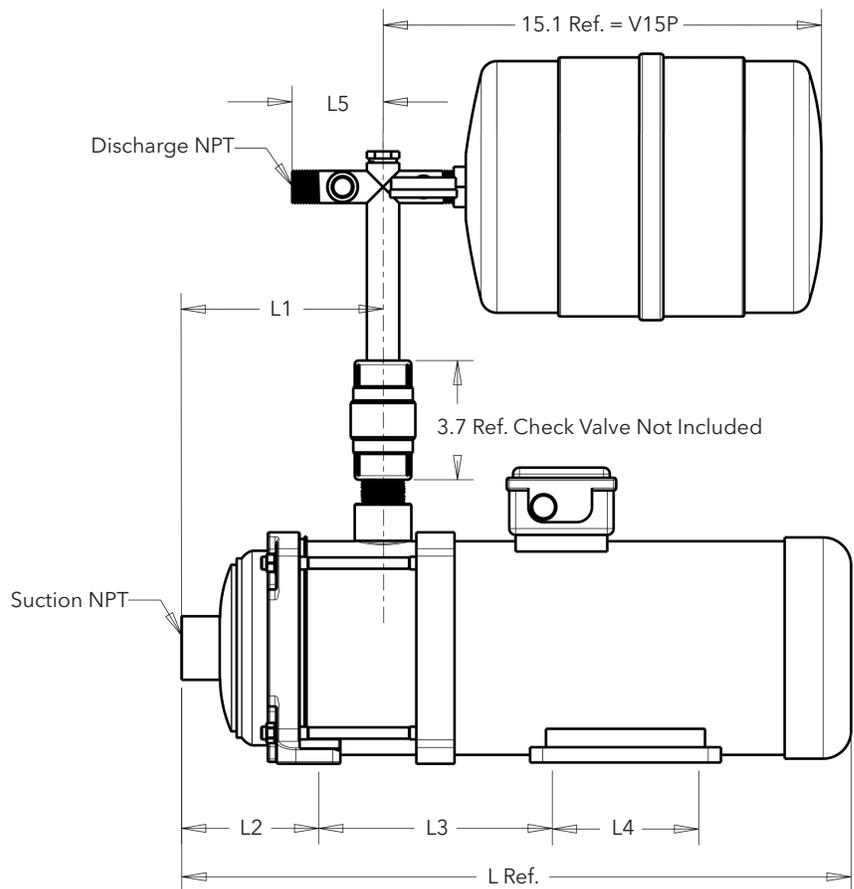
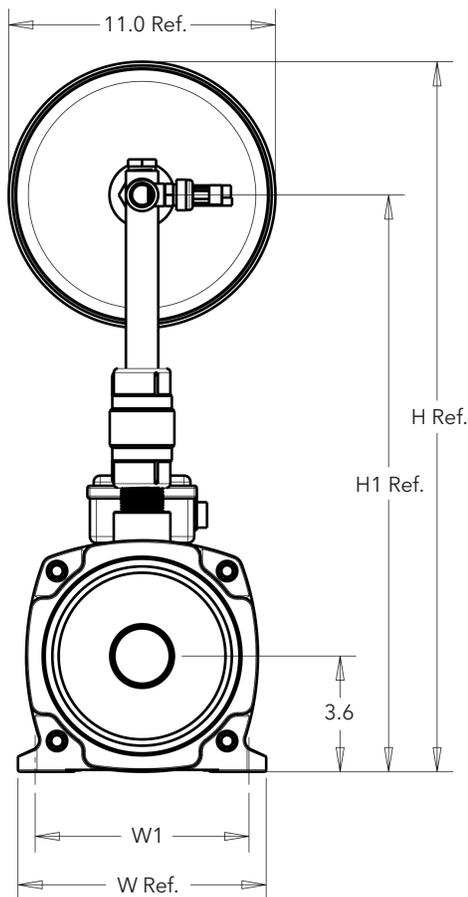
Maximum Temperature of Water – 120° F

NOTE: Tank Liquid Temperature Limit is 120° F
Pump Liquid Temperature Limit is 212° F

Maximum System Working Pressure – 85 psi

Seal – Carbon / Silicon Carbide / EPR

Overload protection, starters, heaters not required. Dimensions are in inches.



ELEVATION DIMENSIONS - REFERENCES PAGES 13 - 15

Tank and Tee assembly incl.		L	L1	L2	L3	L4	L5	D	H			Suction NPT	Discharge NPT	Page
2MS1G2D2BP	Yes	15.9												13
2MS1J2K2BP	No	18.3												13
1HM04N05T6PBQEBP	Yes	17.8	4.2	10.4	2.8	2.2	1.0	8.25"	21.1			1"	1"	14
1HM06N05T6PBQEBP	Yes	20.9	5.8	11.9	2.8	2.2	1.0	8.25"	21.1			1"	1"	14
3HM06N11T6PBQEBP	Yes	20.9	5.8	11.9	2.8	2.2	1.0	8.25"	21.1			1"	1"	14
5HM03N07T6PBQEBP	Yes	19.2	4.1	11.9	2.8	3.9	3.7	11"	22.5			1.25"	1"	14
5HM04N11T6PBQEBP	Yes	20.2	5.1	11.9	2.8	3.9	3.7	11"	22.5			1.25"	1"	14
5HM05N15T6PBQEBP	Yes	21.2	6.1	11.9	2.8	3.9	3.7	11"	22.5			1.25"	1"	14
		L	L1	L2	L3	L4	L5	H	H1	W	W1	Suction NPT	Discharge NPT	Page
5HM06N15T6PBQEBP	Yes	22.0	6.2	4.2	11.9	3.9	2.8	23.4	17.9	6.5	5.5	1.25"	1"	15
5HM07N22T6PBQEBP	No	25.1	7.2	4.2	14.7	4.9	2.8	23.4	17.9	6.5	5.5	1.25"	1"	15
10HM02N15T6PBQEBP	Yes	17.5	4.9	4.3	4.8	3.9	2.9	30.7	25.2	7.7	6.6	1.5"	1.25"	15
10HM03N22T6PBQEBP	No	19.5	4.9	4.3	5.7	4.9	2.9	30.7	25.2	7.7	6.6	1.5"	1.25"	15
10HM04N30T6PBQEBP	No	20.8	6.2	4.3	6.9	4.9	2.9	30.7	25.2	7.7	6.6	1.5"	1.25"	15
10HM05N40T6PBQEBP	No	23.3	7.5	4.3	9.0	5.5	2.9	30.7	25.2	7.7	6.6	1.5"	1.25"	15
15HM03N40T6PBQEBP	No	22.2	5.8	4.3	6.9	5.5	2.9	30.7	25.2	7.7	6.6	2"	1.5"	15

ALTERNATE PUMP MODELS FOR USE WITH 1AB2 CONTROLLER

MCC – ½, ¾, 1 HP, 3 ph, ODP or TEFC motor versions
3642 – ½, ½, 1 HP, 3 ph, ODP or TEFC motor versions
GT073, GT103 – 3 ph, ODP or TEFC motor versions
HSC07, HSC10 – 3 ph, ODP or TEFC motor versions
5GB, 7GB – ½, ¾, 1 HP, 3 ph, ODP or TEFC motor versions
NPE – ½, ¾, 1 HP, 3 ph, ODP or TEFC motor versions
NPO – ½, ¾, 1 HP, 3 ph, ODP or TEFC motor versions
ICS – ½, ¾, 1 HP, 3 ph, ODP or TEFC motor versions
LB – ½ and ¾ HP, 3 ph, ODP or TEFC motor versions

Note: These pumps are not currently offered as a packaged kit. All units require three phase motors. Size pumps and controllers according to service factor amps of the motor.

ALTERNATE PUMP MODELS FOR USE WITH 2AB2 CONTROLLER

3642 – 1½, 2 HP, 3 ph, ODP or TEFC motor versions
GT – 1½, 2 HP, 3 ph, ODP or TEFC motor versions
HSC – 1½, 2 HP, 3 ph, ODP or TEFC motor versions
10GB – 1½, 2 HP, 3 ph, ODP or TEFC motor versions
NPE – 1½, 2 HP, 3 ph, ODP or TEFC motor versions
NPO – 1½, 2 HP, 3 ph, ODP or TEFC motor versions
ICS – 1½, 2 HP, 3 ph, ODP or TEFC motor versions

SUBMERSIBLE PUMPS

Use Aquavar SOLO or S-Drive controllers for submersible applications, they have filters built-in and are programmed for submersibles; alternatively Aquavar IPC with use with DV/DT filter can be used for submersible applications.

PACKAGED HARDWARE WITHOUT PUMP AND MOTOR (SEE PRICING PAGE)

Part Number 15K40

KIT INCLUDES:

- 1) Tank - V6P (2 gallons)
- 2) 1" Bronze Discharge Tee - AV20-6
- 3) Pipe Plug - ½", 6K68
- 4) Pressure Gauge

Part Number 15K108

KIT INCLUDES:

- 1) Tank - V15P
- 2) 1¼" Bronze Discharge Tee - AV20-12
- 3) Pipe Plug - ½", 6K68
- 4) Pressure Gauge



Xylem Inc.
 2881 East Bayard Street Ext., Suite A
 Seneca Falls, NY 13148
 Phone: (866) 325-4210
 Fax: (888) 322-5877
 www.centripro.com

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