



DuraMAC™ Booster Pumps

Residential | Light Commercial
Commercial | Industrial



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Not all boosting applications require complicated boosting systems. The **DuraMAC™** Booster System is simple, versatile, sophisticated, and reliable. Quite simply, it is the **World's Most Versatile Boosting System.**

Versatile

It is the first booster pump of its kind to be designed for virtually all boosting applications. In **Pressure Mode**, the pump starts with pressure drop and stops on low flow. In **Flow Mode**, the pump starts and stops by sensing flow. In **Conservation Mode**, the pump only operates during a peak demand, such as when multiple showers, bathtubs, or irrigation systems are running.

Simple

A single-speed, totally enclosed fan-cooled motor drives the **DuraMAC™** booster pump with single phase power. It is controlled with one dial and tells you it is working properly by illuminating a single status light. The settings and readouts are simple and straight forward.

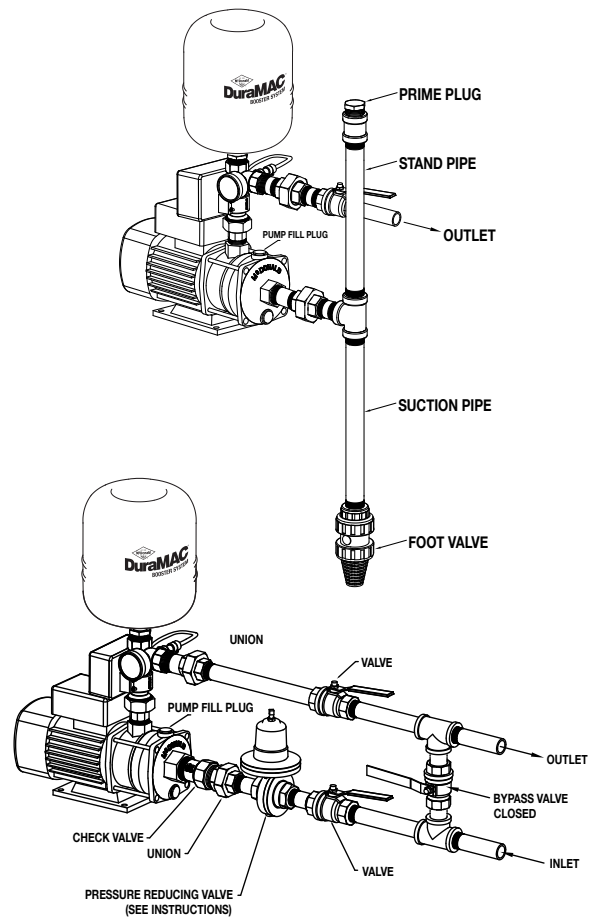
Sophisticated

A pressure transducer constantly monitors system pressure and alerts the pump control to start the pump as water in the system is used. The pump then stays on, boosting the system pressure until the need for water is no longer present, indicated by low flow.

Reliable

Electronic components are completely separated from piping and water ways for added safety and ease of field repair. The **DuraMAC™** is built from scratch with one purpose in mind - boosting water pressure. Each component of the system is specifically designed to work together, as one harmonious unit.

Typical Installations



The World's Most Versatile Booster System



Pressure Tank

Eliminates short cycling and helps accommodate thermal expansion.

Pressure Gauge

Displays total system pressure

Circuit Board

Sophisticated programming assures proper operation in all conditions.

Digital Control

Single knob for simple pressure adjustment. Status light indicates standby, run and fault modes

Transducer

Constantly monitors system pressure.

Inlet w/Check Valve:

Residential

No-Lead Brass NPT thread with large wrench flats for easy & secure pipe connections

Inlet w/Check Valve:

Light Commercial

No-Lead Brass NPT thread with large wrench flats for easy & secure pipe connections

Union Swivel

Allows for 360° adjustment of discharge.

Motor

Totally enclosed fan-cooled motor for quiet operation and low power consumption

Pump

All stainless construction for tough water conditions.

A.Y. McDonald's Full Line of DuraMAC™ Booster Pumps

**Vertical Multistage
Variable Speed
Simplex & Duplex Boosters**



**Dual-Mode
Modular, Simplex, & Duplex**



**Residential,
Light Commercial,
& Irrigation Boosters**



How to Order

Order by Model Number - Example: 17044C070PC2-M

17 **044** **C** **070** **P** **C** **2** - **M**

Series	Water Pressure at 0 GPM	Type	GPM	Voltage	Phase
	035	R - Residential	020	1 - 115V	Modular
	040	C - Commercial	035	2 - 230V	Simplex
	044		070		Duplex
	052		120		
	060				
	062				
	070				
	078				



MODELS AVAILABLE

Residential, Light Commercial, & Irrigation Boosters

17035R020PC1	17040C035PC2
17052R020PC1	17062C035PC2
17070R020PC2	17078C035PC2



MODELS AVAILABLE

Dual-Mode - Modular, Simplex, & Duplex Models

17044C070PC2-S	17060C070PC2-M
17060C070PC2-S	17044C120PC2-D
17044C070PC2-M	17060C120PC2-D

How It Works

The DuraMAC™ Water Pressure Boosting System can be set to three separate modes, which can accommodate virtually any application.



PRESSURE MODE

START METHOD: Pressure drop

STOP METHOD: Low flow

TYPICAL INSTALLATION: Appropriate for the majority of light commercial or residential applications

RESULT: Pump operates continuously while there is a need for water



FLOW MODE

START METHOD: Water flow

STOP METHOD: Low flow

TYPICAL INSTALLATION: Application where pressure fluctuates, or occasional system leaks are present

RESULT: Pump operates when usage of water exceeds approximately one gallon per minute



CONSERVATION MODE

START METHOD: Pressure drop

STOP METHOD: Low Flow

TYPICAL INSTALLATION: Application where pressure is adequate for most uses, and boosting is only necessary for high demand

RESULT: Pump will operate only when system pressure is below city supplied pressure and operates continuously while there is demand for water

DuraMAC™ Residential, Light Commercial, Irrigation, & Dual-Mode Pump Control



DuraMAC™ - Residential Booster

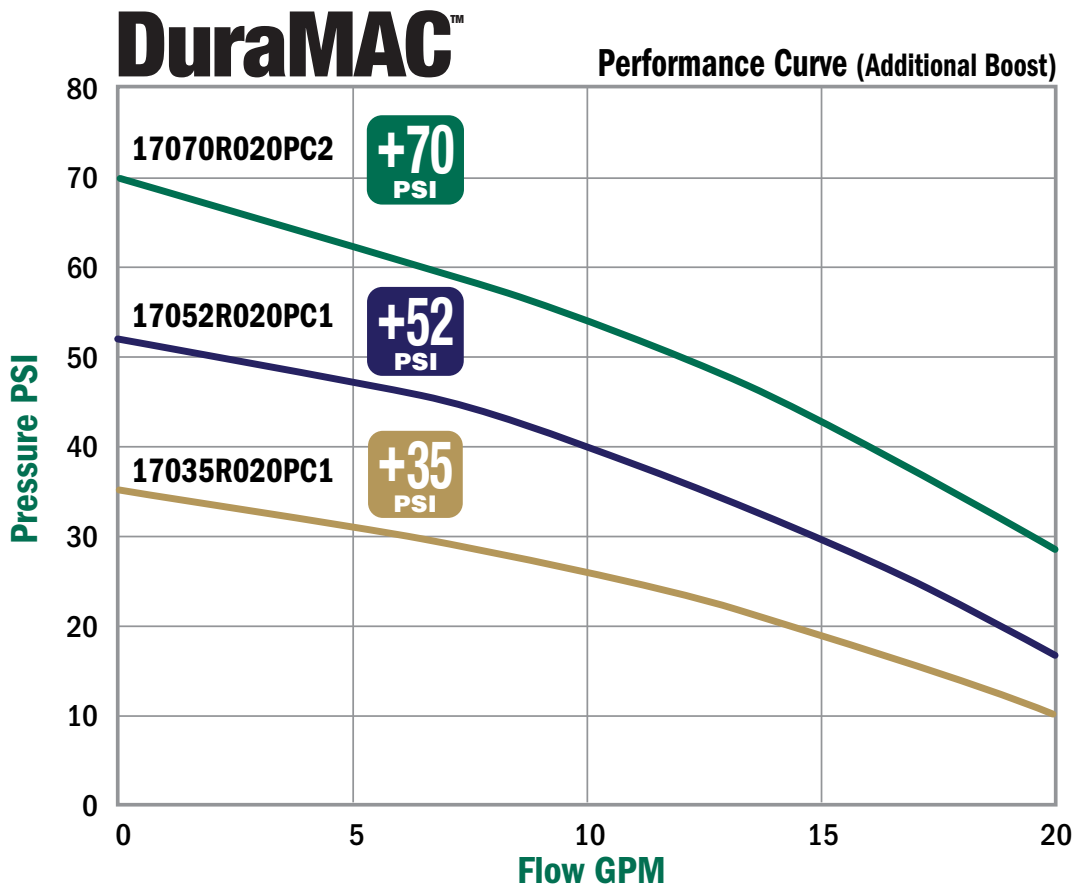
Not all boosting applications require complicated boosting systems. The DuraMAC™ Boosting system is simple, versatile, sophisticated, and reliable. Quite simply, it is the world's most versatile boosting system for residential use.

Features

- Easy set-up installation
- Digital control for three modes of operation
- Durable stainless steel and no-lead brass connections
- Two gallon pressure tank included
- TEFC single phase motor for quiet operation
- Electronics separated and sealed from waterway
- Pressure gauge included
- No-Lead brass check valve included
- Dry-Run protection



See Pumps & Accessories Price List for Limited Warranty details.



DuraMAC™ - Residential Booster

Sizing Information

DuraMAC™ Booster Systems are designed to shut off when no flow is detected. Pump pressure boost should be added to current system pressure to determine total system pressure when boosted.

Example:

Household system pressure before boost = 30 PSI

$$\begin{array}{r}
 \mathbf{30} \\
 \text{Household} \\
 \text{Pressure}
 \end{array}
 +
 \begin{array}{r}
 \text{Total Pump} \\
 \text{Pressure}
 \end{array}
 =
 \begin{array}{r}
 \text{Total Pressure} \\
 \text{After Boost}
 \end{array}$$

*Not Recommended to Exceed 80 PSI

Models Available:

17035R020PC1	+35
17052R020PC1	+52
17070R020PC2	+70

$$\begin{array}{r}
 \mathbf{30} \\
 \text{Household} \\
 \text{Pressure}
 \end{array}
 +
 \begin{array}{r}
 \mathbf{35} \\
 \text{Total Pump} \\
 \text{Pressure}
 \end{array}
 =
 \begin{array}{r}
 \mathbf{65} \\
 \text{Total Pressure} \\
 \text{After Boost}
 \end{array}$$

Based on this example, the recommended model for this application is the 17035R020PC1.

For systems with fluctuating pressure, a pressure reducing valve is recommended to assure system pressure stays below 80 PSI.

Materials of Construction

Impellers	304 Stainless Steel
Pump Casing Inlet	301 Stainless Steel
Pump Casing Outlet	301 Stainless Steel
Pump Seal (stationary)	Silicon Carbide
Pump Seal (rotating)	Carbon / NBR
Diffuser	304 Stainless Steel
Suction Check Valve	No-Lead Brass
Pump Control Body	No-Lead Brass

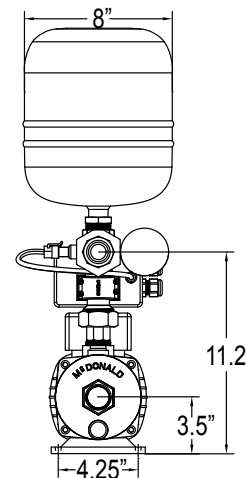
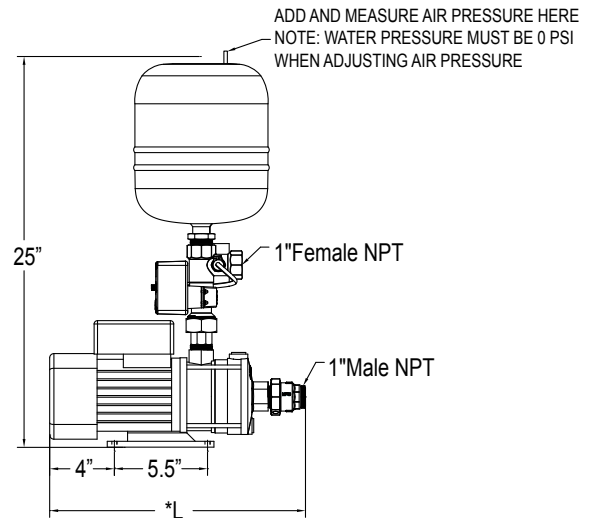
Sizing Chart

Total static pressure DuraMAC™ pump

Incoming Pressure (PSI)	17035R020PC1 +35	17052R020PC1 +52	17070R020PC2 +70
60			
55	90		
50	85		
45	80		
40	75		
35	70	87	
30	65	82	
25	60	77	
20	55	72	90
15	50	67	85
10	45	62	80

NOT RECOMMENDED

Typical Installation



20 Gallon/Minute (GPM) Max

DuraMAC™ Model	Pump Boost	Amps	Length "L"	Voltage	Power	* Pressure Reducing Valve recommended for installation with incoming pressure greater than:
17035R020PC1	35 PSI	5.5	15.26"	120 - 60 Hz	1/2 HP	45 PSI
17052R020PC1	52 PSI	7.0	15.97"	120 - 60 Hz	3/4 HP	28 PSI
17070R020PC2	70 PSI	4.0	16.68"	230 - 60 Hz	1 HP	10 PSI (For use with holding tank)

*Many plumbing codes do not recommend system pressure exceeding 80 PSI. Refer to local plumbing codes for maximum boosted pressure.

DuraMAC™ - Light Commercial & Irrigation

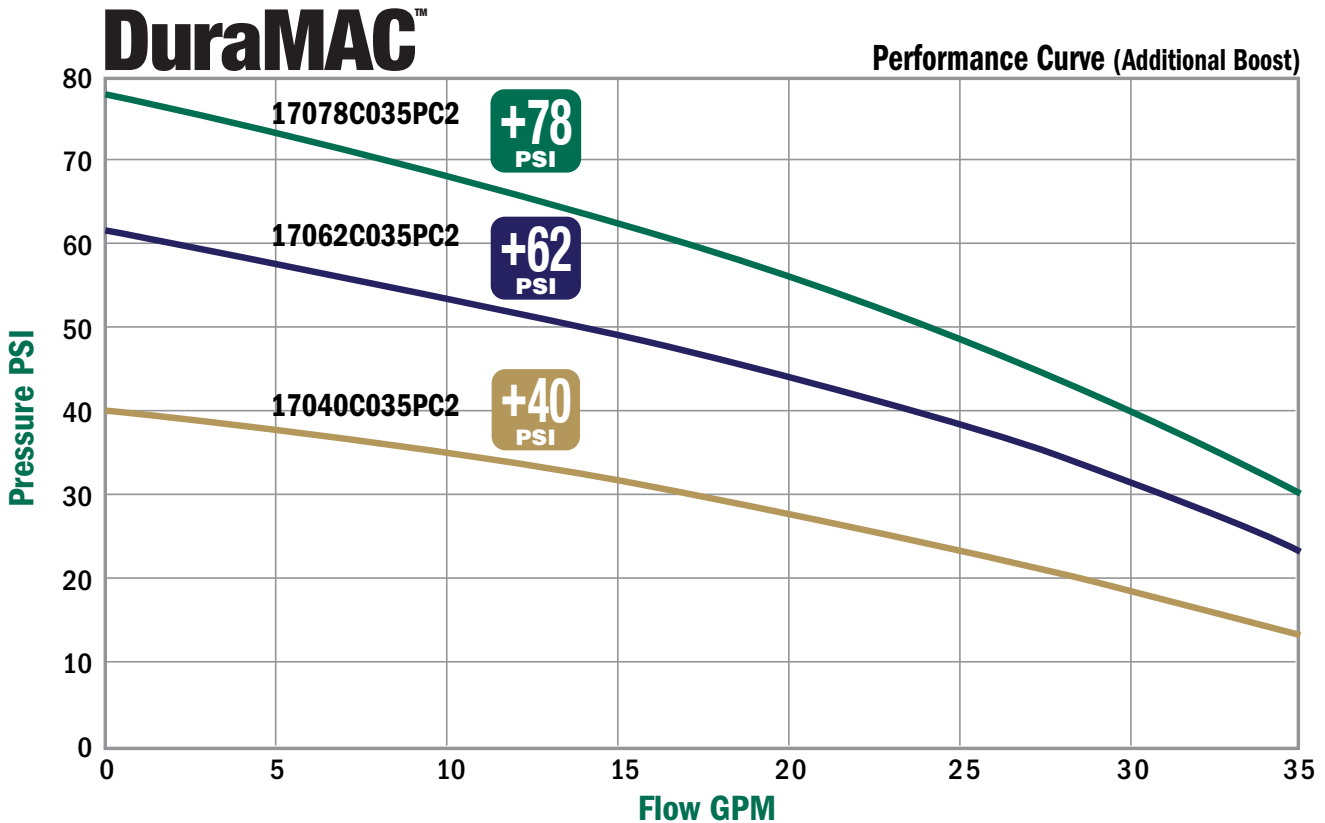
Not all boosting applications require complicated boosting systems. The DuraMAC™ Boosting system is simple, versatile, sophisticated, and reliable. With an easy set-up installation and a versatile control with three modes of operation, this pump is flexible enough to meet your commercial or irrigation needs.

Features

- Easy set-up installation
- Digital control with three modes of operation
- Durable stainless steel and no-lead brass connections
- Two gallon pressure tank included
- TEFC single phase motor for quiet operation
- Electronics separated and sealed from waterway
- Pressure gauge included
- No-Lead brass check valve included
- Dry-Run protection



See Pumps & Accessories Price List for Limited Warranty details.



DuraMAC™ - Light Commercial & Irrigation

Sizing Information

DuraMAC™ Booster Systems are designed to shut off when no flow is detected. Pump pressure boost should be added to current system pressure to determine total system pressure when boosted.

Example:

System pressure before boost = 30 PSI

30	+	_____	=	_____	*Not Recommended to Exceed 80 PSI
Current Pressure		Total Pump Pressure		Total Pressure After Boost	

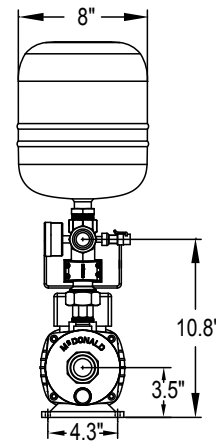
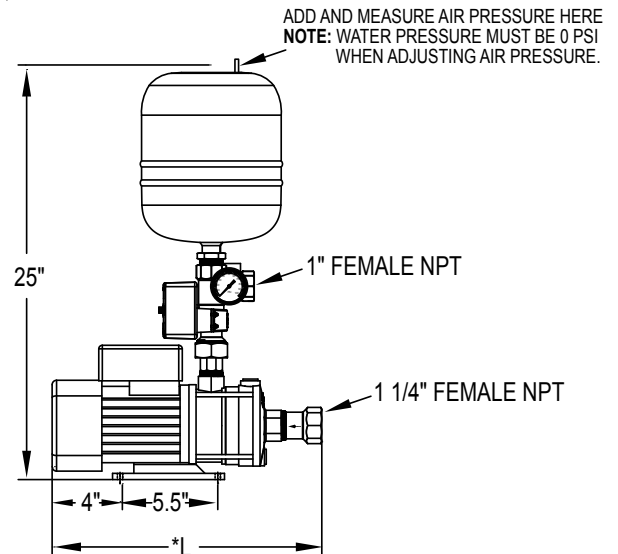
Models Available:	Boost
17040C035PC2	+40
17062C035PC2	+62
17078C035PC2	+78

30	+	40	=	70
Current Pressure		Total Pump Pressure		Total Pressure After Boost

Based on this example, the recommended model for this application is the 17040C035PC2.

For systems with fluctuating pressure, a pressure reducing valve is recommended to assure system pressure stays below 80 PSI.

Typical Installation



Materials of Construction

Impellers	304 Stainless Steel
Pump Casing Inlet	301 Stainless Steel
Pump Casing Outlet	301 Stainless Steel
Pump Seal (stationary)	Silicon Carbide
Pump Seal (rotating)	Carbon / NBR
Diffuser	304 Stainless Steel
Suction Check Valve	No-Lead Brass
Pump Control Body	No-Lead Brass

Sizing Chart

Total static pressure DuraMAC™ pump

Incoming Pressure (PSI)	17040C035PC2 +40 PSI	17062C035PC2 +62 PSI	17078C035PC2 +78 PSI
60			
55			
50	90	NOT RECOMMENDED	
45	85		
40	80		
35	75		
30	70		
25	65	87	
20	60	82	
15	55	77	93
10	50	72	88

35 Gallon/Minute (GPM) Max

DuraMAC™ Model	Pump Boost	Amps	Length "L"	Voltage	Power	*Pressure Reducing Valve recommended for installation with incoming pressure greater than:
17040C035PC2	40 PSI	5.0	15.43"	230 - 60 Hz	1 HP	40 PSI
17062C035PC2	62 PSI	6.3	16.49"	230 - 60 Hz	1 HP	18 PSI
17078C035PC2	78 PSI	6.8	17.55"	230 - 60 Hz	1 1/2 HP	2 PSI (For use with Holding Tank)

*Many plumbing codes do not recommend system pressure exceeding 80 PSI. Refer to local plumbing codes for maximum boosted pressure.

DuraMAC™ - Dual-Mode Modular

Not all boosting applications require complicated boosting systems. The DuraMAC™ Boosting system is simple, versatile, sophisticated, and reliable. With a quick and easy installation, and unique digital control featuring dual modes of operation, this pump can meet your unique commercial or irrigation needs.

Features

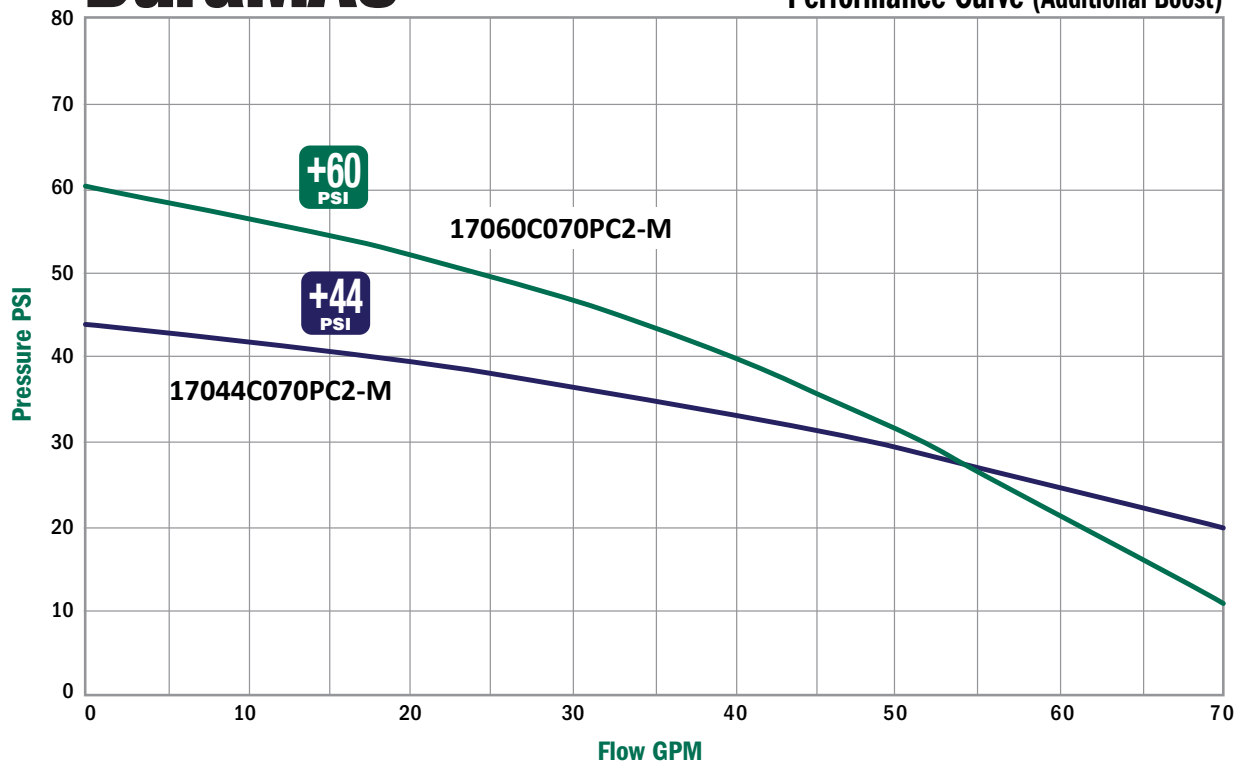
- Easy set-up installation
- Digital control with dual modes of operation
- Durable stainless steel and no-lead brass connections
- TEFC single phase motor for quiet operation
- Electronics separated and sealed from waterway
- Pressure gauge included
- No-Lead brass check valve included (meets no-lead compliance)



See Pumps & Accessories Price List for Limited Warranty details.

DuraMAC™

Performance Curve (Additional Boost)



DuraMAC™ - Dual-Mode Modular

Control Features

The DuraMAC™ Dual-Mode control has the flexibility to be run in two different modes.



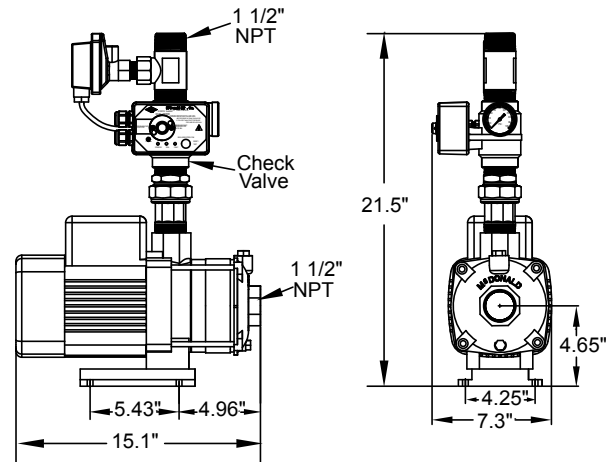
PRESSURE MODE

START METHOD: Pressure Drop

STOP METHOD: Low Flow

In Pressure Mode, the control accurately measures pressure with a pressure transducer and starts the pump at an adjustable start pressure point. The pump will stop when the flow is less than three Gallons per Minute.

This smart system will only run the pump when water is in use. There is a preset seven second delay after water is not flowing past the flow sensor to fully pressurize your system and eliminate water hammer.



Dual-Mode Modular Shown.
Skid mounted Simplex and Duplex available.



FLOW MODE

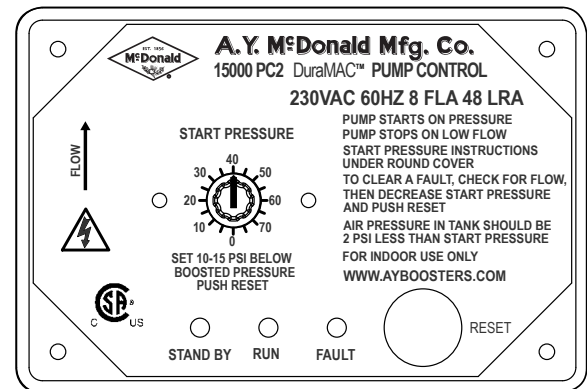
START METHOD: Water Flow

STOP METHOD: Low Flow

In Flow Mode, the control will start and stop on flow, regardless of pressure. This method can be used for systems with minor leaking or when incoming pressure varies. The starting flow rate is approximately five Gallons per Minute. The pump will stop when the flow is less than three Gallons per Minute.

Materials of Construction

Impellers	304 Stainless Steel
Pump Casing Inlet	301 Stainless Steel
Pump Casing Outlet	301 Stainless Steel
Pump Seal (stationary)	Silicon Carbide
Pump Seal (rotating)	Carbon / NBR
Diffuser	304 Stainless Steel
Union Connection	No-Lead Brass
Check Valve	No-Lead Brass
Pump Control	No-Lead Brass
Motor - Single Phase	2 HP TEFC



70 Gallon/Minute (GPM) Max

DuraMAC™ Model	Description	Pump Boost	Amps	Voltage	Power	* Pressure Reducing Valve recommended for installation with incoming pressure greater than:
17044C070PC2-M	230V Booster System	44 PSI	7.0	230 - 60 Hz	2 HP	36 PSI
17060C070PC2-M	230V Booster System	60 PSI	8.0	230 - 60 Hz	2 HP	20 PSI

Pressure tank required. See instruction manual for sizing information.

*Many plumbing codes do not recommend system pressure exceeding 80 PSI. Refer to local plumbing codes for maximum boosted pressure.

DuraMAC™ - Dual-Mode Simplex

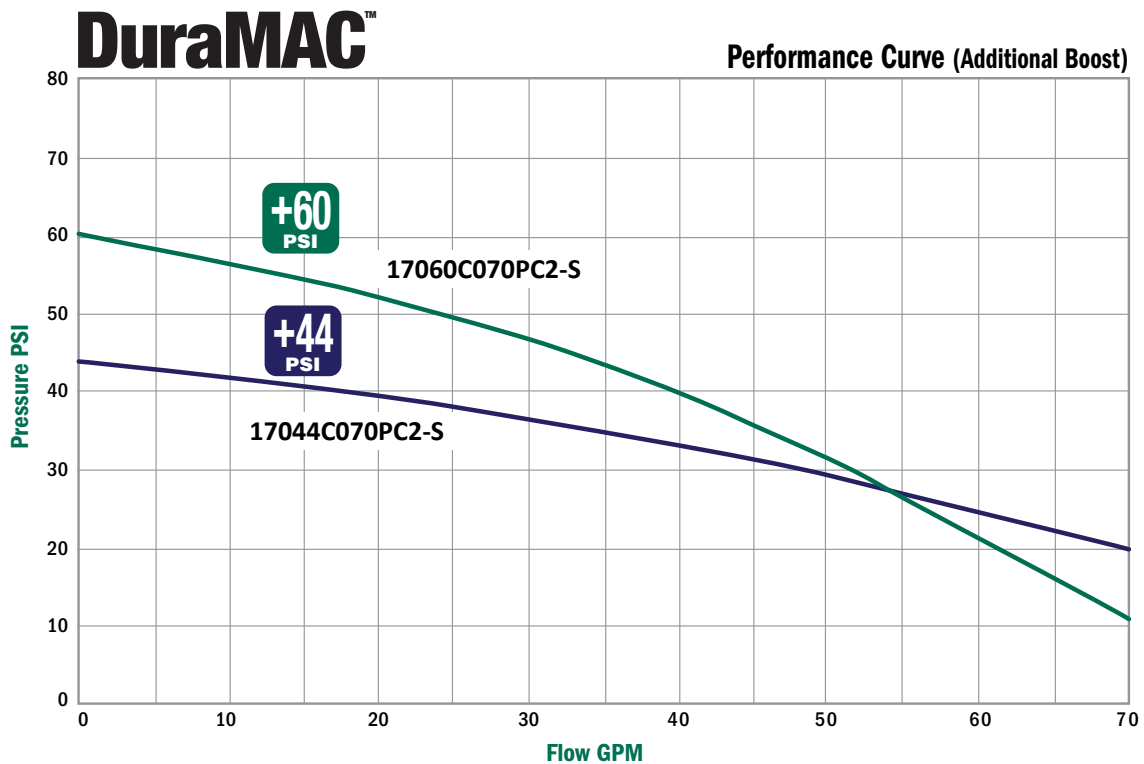
Not all boosting applications require complicated boosting systems. The DuraMAC™ Boosting system is simple, versatile, sophisticated, and reliable. With the ability to pump up to 70 GPM this unique pump is ideal for commercial or irrigation use.

Features

- Easy set-up installation
- Digital control with dual modes of operation
- Durable stainless steel and no-lead brass connections
- TEFC single phase motor for quiet operation
- Electronics separated and sealed from waterway
- Pressure gauge included
- No-Lead brass check valve included
- Up to 70 GPM
- 20 gallon pressure tank included
- Stainless steel base
- Dry run protection



See Pumps & Accessories Price List for Limited Warranty details.



DuraMAC™ - Dual-Mode Simplex

Control Features

The DuraMAC™ Dual-Mode control has the flexibility to be run in two different modes.

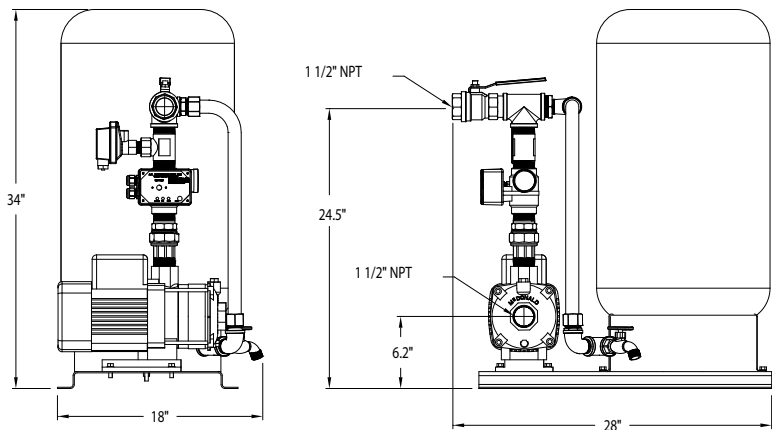


PRESSURE MODE

START METHOD: Pressure Drop
STOP METHOD: Low Flow

In Pressure Mode, the control accurately measures pressure with a pressure transducer and starts the pump at an adjustable start pressure point. The pump will stop when the flow is less than three Gallons per Minute.

This smart system will only run the pump when water is in use. There is a preset seven second delay after water is not flowing past the flow sensor to fully pressurize your system and eliminate water hammer.



Simplex base mounted with 20 gallon tank.



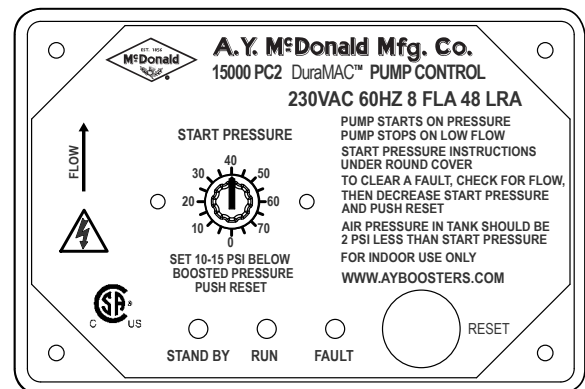
FLOW MODE

START METHOD: Water Flow
STOP METHOD: Low Flow

In Flow Mode, the control will start and stop on flow, regardless of pressure. This method can be used for systems with minor leaking or when incoming pressure varies. The starting flow rate is approximately five Gallons per Minute. The pump will stop when the flow is less than three Gallons per Minute.

Materials of Construction

Impellers	304 Stainless Steel
Pump Casing Inlet	301 Stainless Steel
Pump Casing Outlet	301 Stainless Steel
Pump Seal (stationary)	Silicon Carbide
Pump Seal (rotating)	Carbon / NBR
Diffuser	304 Stainless Steel
Union Connection	No-Lead Brass
Check Valve	No-Lead Brass
Pump Control	No-Lead Brass
Motor - Single Phase	2 HP TEFC
Base	304 Stainless Steel



70 Gallon/Minute (GPM) Max

DuraMAC™ Model	Description	Pump Boost	Amps	Voltage	Power	*Pressure Reducing Valve recommended for installation with incoming pressure greater than:
17044C070PC2-S	230V Booster System	44 PSI	7.0	230 - 60 Hz	2 HP	36 PSI
17060C070PC2-S	230V Booster System	60 PSI	8.0	230 - 60 Hz	2 HP	20 PSI

Pressure tank required. See instruction manual for sizing information.

*Many plumbing codes do not recommend system pressure exceeding 80 PSI. Refer to local plumbing codes for maximum boosted pressure.

DuraMAC™ - Dual-Mode Duplex

Not all boosting applications require complicated boosting systems. The DuraMAC™ Boosting system is simple, versatile, sophisticated, and reliable. Quite simply, it is the world's most versatile boosting system for commercial or irrigation use.

Features

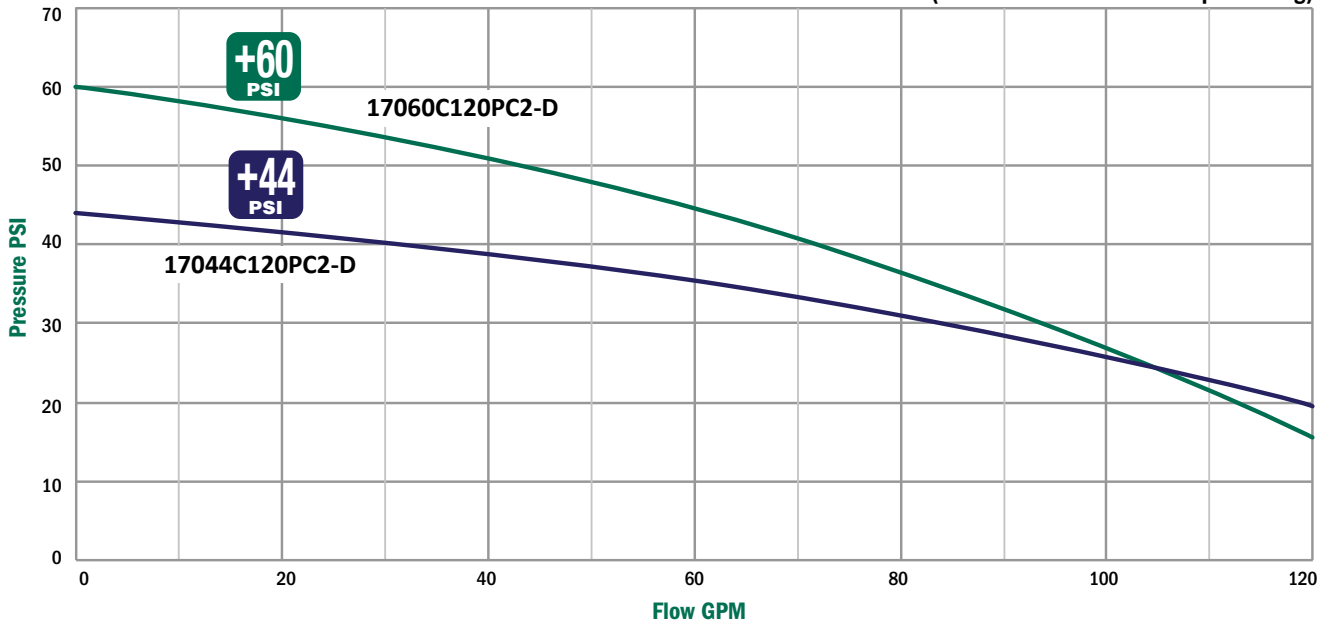
- Easy set-up installation
- Digital control with dual modes of operation
- Durable stainless steel and no-lead brass connections
- TEFC single phase motor for quiet operation
- Electronics separated and sealed from waterway
- Pressure gauge included
- No-Lead brass check valve included
- Designed for Lead-Lag
- Up to 120 GPM
- 20 gallon pressure tank included
- Stainless steel base
- Dry run protection



See Pumps & Accessories
Price List for Limited Warranty details.

DuraMAC™

Performance Curve (Additional Boost - Both Pumps Running)



DuraMAC™ - Dual-Mode Duplex

Control Features

The DuraMAC™ Dual-Mode control has the flexibility to be run in two different modes.



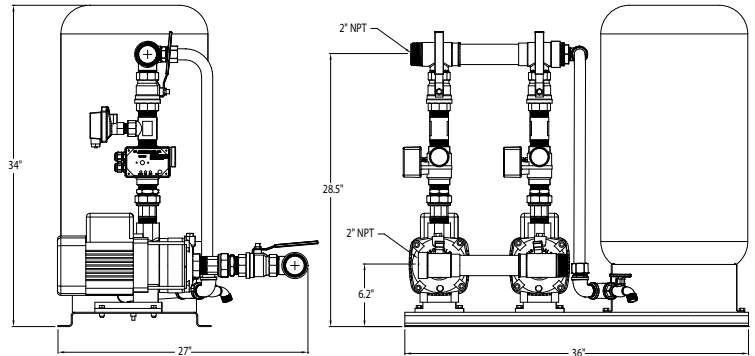
PRESSURE MODE

START METHOD: Pressure Drop

STOP METHOD: Low Flow

In Pressure Mode, the control accurately measures pressure with a pressure transducer and starts the pump at an adjustable start pressure point. The pump will stop when the flow is less than three Gallons per Minute.

This smart system will only run the pump when water is in use. There is a preset seven second delay after water is not flowing past the flow sensor to fully pressurize your system and eliminate water hammer.



Duplex base mounted with 20-gallon tank 2" NPT manifolds with ball valves.



FLOW MODE

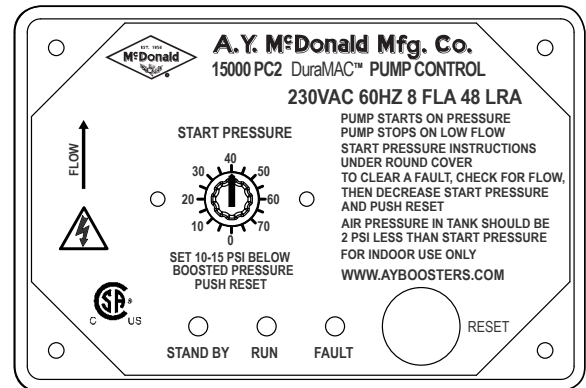
START METHOD: Water Flow

STOP METHOD: Low Flow

In Flow Mode, the control will start and stop on flow, regardless of pressure. This method can be used for systems with minor leaking or when incoming pressure varies. The starting flow rate is approximately five Gallons per Minute. The pump will stop when the flow is less than three Gallons per Minute.

Materials of Construction

Impellers	304 Stainless Steel
Pump Casing Inlet	301 Stainless Steel
Pump Casing Outlet	301 Stainless Steel
Pump Seal (stationary)	Silicon Carbide
Pump Seal (rotating)	Carbon / NBR
Diffuser	304 Stainless Steel
Union Connection	No-Lead Brass
Check Valve	No-Lead Brass
Pump Control	No-Lead Brass
Motor - Single Phase	2 HP TEFC
Base	304 Stainless Steel



120 Gallon/Minute (GPM) Max

DuraMAC™ Model	Description	Pump Boost	Amps	Voltage	Power	* Pressure Reducing Valve recommended for installation with incoming pressure greater than:
17044C120PC2-D	230V Booster System	44 PSI	7.0	230 - 60 Hz	2 HP	36 PSI
17060C120PC2-D	230V Booster System	60 PSI	8.0	230 - 60 Hz	2 HP	20 PSI

Pressure tank required. See instruction manual for sizing information.

*Many plumbing codes do not recommend system pressure exceeding 80 PSI. Refer to local plumbing codes for maximum boosted pressure.

How to Order a Vertical Multistage Simplex/Duplex System

Order by Model Number - Example: 17060V140Y-34

17	060	V	140	Y	-	3	4
Series	Water Pressure at 0 GPM	Variable Speed	GPM	Yaskawa Drive		Phase	Volts
	056		080			1 - Single Phase	4 - 460V
	062		120			3 - Three Phase	Leave blank for 208/230 volts (standard)
	084		140				
	088		160				
	104		240				
	140		280				
	142						
	150						



MODELS AVAILABLE

Simplex Models

17062V080Y-1	17150V080Y-3
17062V080Y-3	17142V120Y-3
17084V080Y-1	17056V120Y-1
17084V080Y-3	17060V140Y-3
17104V080Y-1	17088V140Y-3
17104V080Y-3	



MODELS AVAILABLE

Duplex Models




17062V160Y-1	17150V160Y-3
17062V160Y-3	17142V240Y-3
17084V160Y-1	17056V240Y-1
17084V160Y-3	17060V280Y-3
17104V160Y-1	17088V280Y-3
17104V160Y-3	

How It Works


The Yaskawa iQpump 1000 drive features powerful software combined with an internal PLC to deliver multiple features that are designed help protect the drive, pump, motor, and entire pumping system. While many of these features are factory programmed and set, many features depend on the specific pumping application and may be required to be set during install.



Changing certain parameters while the drive and pump are running may cause unwanted behavior. It is recommended to turn the drive off  before changing parameter values.

To return to home screen, hold  for 3 seconds, or press . The display should look similar to the one below. Once at the home screen, additional drive status can be viewed by pressing . Additional drive information includes output frequency, current, voltage, DC bus voltage, and kilowatts.

Digital Operator Keypad



Alarm light blinks if alarm or fault occurs.

System Outlet Pressure Auto Setpoint

Pump Output Frequency

Transducer Feedback (Actual System Pressure)

Press to turn **HAND** mode on. Use only for Priming and troubleshooting. Pump will run at a fixed speed.

Do not run against a closed discharge.

Press to turn **AUTO** mode on.
If LED is blinking, Auto mode is active but pump is sleeping.

Press to turn system off.

DuraMAC™ Vertical Multistage Variable Speed Simplex/Duplex Booster Pump Control Features

- Set it and forget it technology
- Set point at 50 PSI, but can be easily be changed in the field
- Extremely reliable
- Proven product
- Yaskawa Drive



DuraMAC™ - Vertical Multistage Variable Speed Simplex Booster System

The DuraMAC™ Boosting system is simple, versatile, sophisticated, and reliable. The Vertical Multistage Variable Speed Booster System changes motor speed based on demands of the system, which allows users to save energy costs over traditional constant speed booster systems.

Features

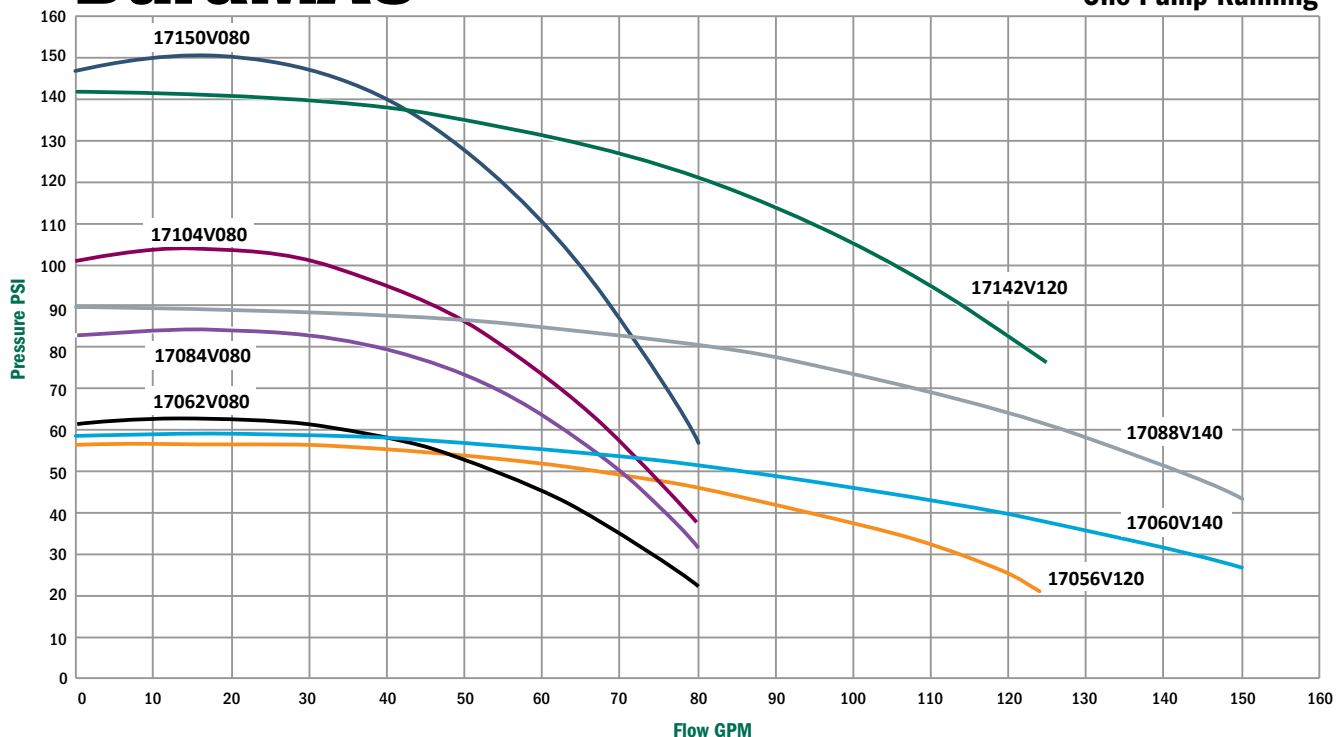
- Easy set-up installation*
- Variable speed control
- Stainless steel pump
- Energy efficient NEMA TEFC motors
- Liquid filled gauges
- Wafer check valves with soft seat
- Stainless steel base
- 2" Brass No-Lead isolation valves
- NEMA 1 enclosure
- Suction and discharge transducers
- Fused disconnect
- 2" Suction and discharge

See Pumps & Accessories
Price List for Limited Warranty details.



DuraMAC™

60 Hz Pump Performance One Pump Running

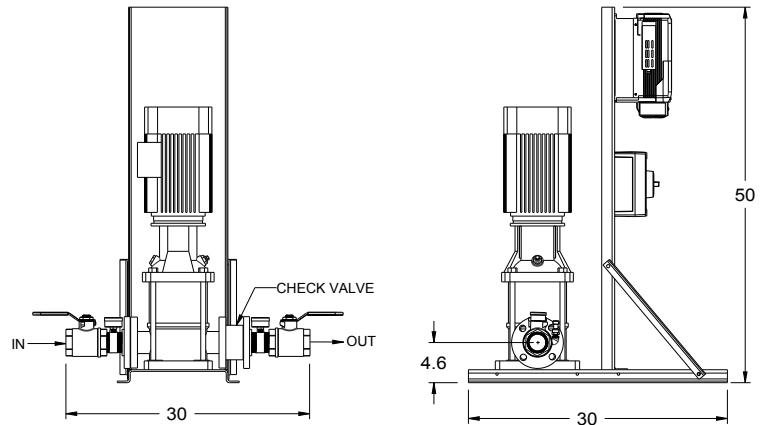


*Pressure Tank Required (not included).

DuraMAC™ - Vertical Multistage Variable Speed Simplex Booster System

Control Features

- Variable speed control, speeds up and slows down based on the demand of system, maintaining a constant pressure.
- Date and time stamp for all faults.
- Better system efficiency by applying only the power needed based on the load.
- Password protected parameter settings.
- Real time clock.
- No Flow Mode - puts pump to sleep during no flow conditions.
- Low Suction Alarm to prevent the pump from running if the incoming supply of water is interrupted.
- Internal monitors prevent the pump from running if a pipe is broken or demand exceeds capability.
- Live Zero protects the pump if the transducer cable is broken or damaged.



Materials of Construction

Impellers	304 Stainless Steel	Pump Seal (rotating)	Carbon / NBR
Pump Casing Inlet	301 Stainless Steel	Diffuser	304 Stainless Steel
Pump Casing Outlet	301 Stainless Steel	Base	304 Stainless steel
Pump Seal (stationary)	Silicon Carbide		

MODELS AVAILABLE

Model	Description	Pump Boost	Voltage	HP
17062V080Y-1	62 PSI 230V VFD Booster	62 PSI	208 - 230 Single Phase	3
17062V080Y-3	62 PSI 230V VFD Booster	62 PSI	208 - 230 Three Phase	3
17084V080Y-1	84 PSI 230V VFD Booster	84 PSI	208 - 230 Single Phase	5
17084V080Y-3	84 PSI 230V VFD Booster	84 PSI	208 - 230 Three Phase	5
17104V080Y-1	104 PSI 230V VFD Booster	104 PSI	208 - 230 Single Phase	5
17104V080Y-3	104 PSI 230V VFD Booster	104 PSI	208 - 230 Three Phase	5
17150V080Y-3	150 PSI 230V VFD Booster	150 PSI	208 - 230 Three Phase	7 1/2
17142V120Y-3	142 PSI 230V VFD Booster	142 PSI	208 - 230 Three Phase	10
17056V120Y-1	56 PSI 230V VFD Booster	56 PSI	208 - 230 Single Phase	5
17060V140Y-3	60 PSI 230V VFD Booster	60 PSI	208 - 230 Three Phase	5
17088V140Y-3	88 PSI 230V VFD Booster	88 PSI	208 - 230 Three Phase	7 1/2

460 volt version also available

A.Y. McDonald considers the information on this sheet correct when published. Specifications are subject to change with notice.

DuraMAC™ - Vertical Multistage Variable Speed Duplex Booster System

The DuraMAC™ Boosting system is simple, versatile, sophisticated, and reliable. The Vertical Multistage Variable Speed Booster System changes motor speed based on demands of the system, which allows users to save energy costs over traditional constant speed booster systems.

Features

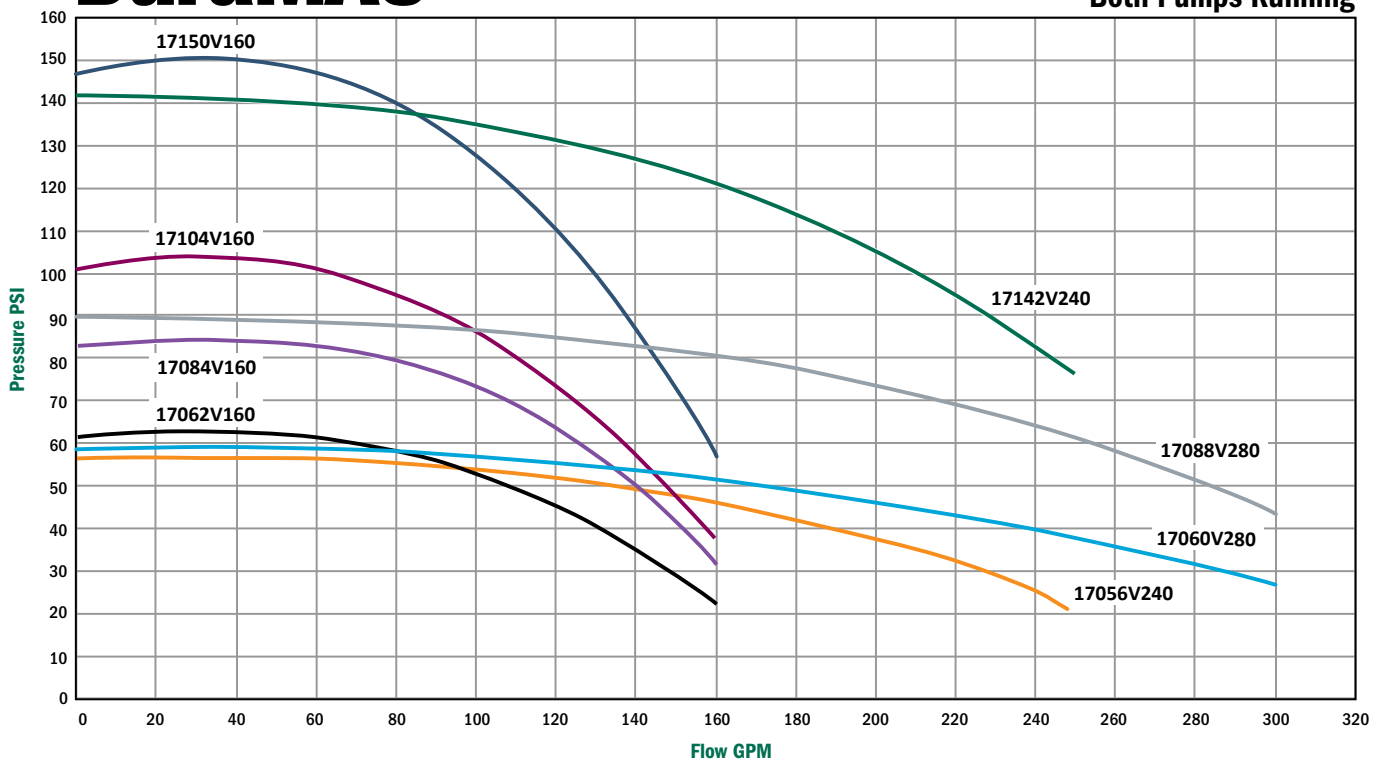
- Easy set-up installation*
- Variable speed control
- Stainless steel pump
- Energy efficient NEMA TEFC motors
- Liquid filled gauges
- Wafer check valves with soft seat
- Stainless steel base
- 2" Brass No-Lead isolation valves
- NEMA 1 enclosure
- Suction and discharge transducers
- Fused disconnect
- 3" Flanged stainless steel manifolds



See Pumps & Accessories Price List for Limited Warranty details.

DuraMAC™

60 Hz Pump Performance Both Pumps Running

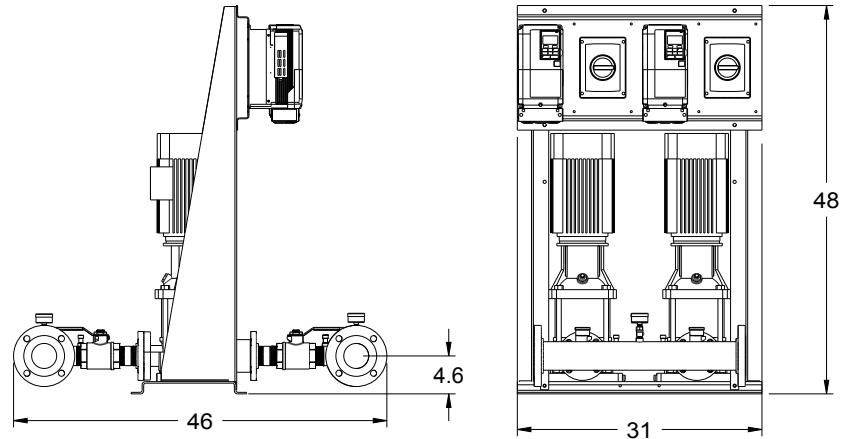


*Pressure Tank Required (not included).

DuraMAC™ - Vertical Multistage Variable Speed Duplex Booster System

Control Features

- Variable speed control, speeds up and slows down based on the demand of system, maintaining a constant pressure.
- Lead - Lag pump control to alternate pump starts, allowing equal run times on all pumps for longer life cycles.
- Better system efficiency by applying only the power needed based on the load.
- Password protected parameter settings.
- Real time clock.
- No Flow Mode - puts pump to sleep during no flow conditions.
- Low Suction Alarm to prevent the pump from running if the incoming supply of water is interrupted.
- Internal monitors prevent the pump from running if a pipe is broken or demand exceeds capability.
- Live Zero protects the pump if the transducer cable is broken or damaged.
- Backup system transducer for pump and drive redundancy.



Materials of Construction

Impellers	304 Stainless Steel	Pump Seal (rotating)	Carbon / NBR
Pump Casing Inlet	301 Stainless Steel	Diffuser	304 Stainless Steel
Pump Casing Outlet	301 Stainless Steel	Base	304 Stainless steel
Pump Seal (stationary)	Silicon Carbide		

MODELS AVAILABLE

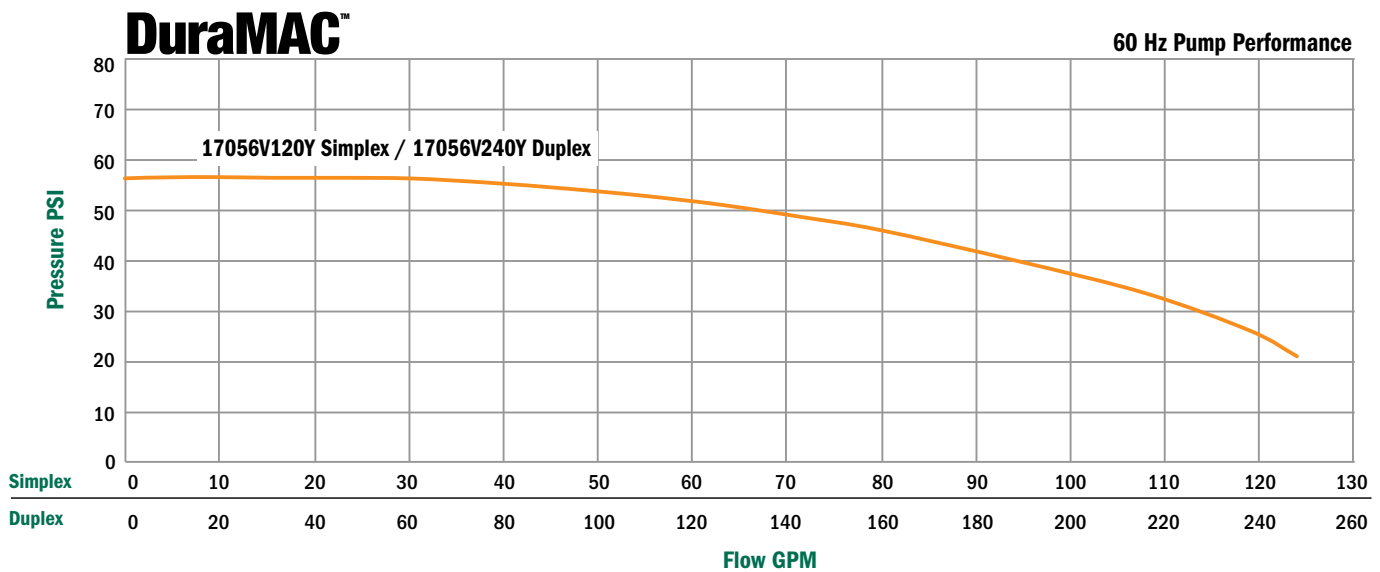
Model	Description	Pump Boost	Voltage	HP
17062V160Y-1	62 PSI 230V VFD Booster	62 PSI	208 - 230 Single Phase	3
17062V160Y-3	62 PSI 230V VFD Booster	62 PSI	208 - 230 Three Phase	3
17084V160Y-1	84 PSI 230V VFD Booster	84 PSI	208 - 230 Single Phase	5
17084V160Y-3	84 PSI 230V VFD Booster	84 PSI	208 - 230 Three Phase	5
17104V160Y-1	104 PSI 230V VFD Booster	104 PSI	208 - 230 Single Phase	5
17104V160Y-3	104 PSI 230V VFD Booster	104 PSI	208 - 230 Three Phase	5
17150V160Y-3	150 PSI 230V VFD Booster	150 PSI	208 - 230 Three Phase	7 1/2
17142V240Y-3	142 PSI 230V VFD Booster	142 PSI	208 - 230 Three Phase	10
17056V240Y-1	56 PSI 230V VFD Booster	56 PSI	208 - 230 Single Phase	5
17060V280Y-3	60 PSI 230V VFD Booster	60 PSI	208 - 230 Three Phase	5
17088V280Y-3	88 PSI 230V VFD Booster	88 PSI	208 - 230 Three Phase	7 1/2

460 volt version also available

A.Y. McDonald considers the information on this sheet correct when published. Specifications are subject to change with notice.

DuraMAC™ - 17056V120Y Simplex / 17056V240Y Duplex

Technical Information & Performance Curves



Technical Information

Max Boost	56 PSI
Suction Transducer	0-150 PSI 4-20mA
Discharge Transducer	0-150 PSI 4-20mA
Drive - Yaskawa iQ Pump	NEMA 1
Suction Ball Valve	2" No-Lead Brass
Discharge Ball Valve	2" No-Lead Brass
Impeller	304 Stainless Steel
Pump End	304 Stainless Steel
Motor - Energy Eff.	TEFC 184TC
Horsepower	5
Seal Material	Carbon/Sic
Electrical	208-230V 1 Phase
Base	304 Stainless Steel

Technical Information - Simplex

Model Number	17056V120Y-1
Max Flow	120 GPM
Tank Required	32 Gallon

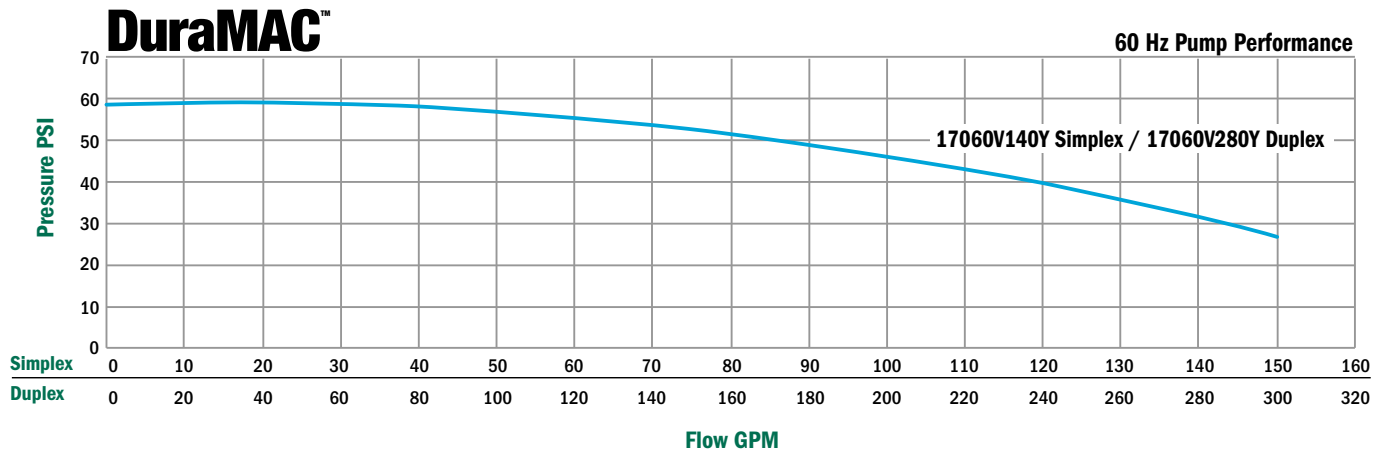
Technical Information - Duplex

Model Number	17056V240Y-1
Max Flow	240 GPM
Tank Required	52 Gallon Minimum

A.Y. McDonald considers the information on this sheet correct when published. Specifications are subject to change with notice.

DuraMAC™ - 17060V140Y Simplex / 17060V280Y Duplex

Technical Information & Performance Curves



Technical Information

Max Boost	60 PSI
Suction Transducer	0-150 PSI 4-20mA
Discharge Transducer	0-150 PSI 4-20mA
Drive - Yaskawa iQ Pump	NEMA 1
Suction Ball Valve	2" No-Lead Brass
Discharge Ball Valve	2" No-Lead Brass
Impeller	304 Stainless Steel
Pump End	304 Stainless Steel
Motor - Energy Eff.	TEFC 184TC
Horsepower	5
Seal Material	Carbon/Sic
Base	304 Stainless Steel

Technical Information - Simplex

Model Number	17060V140Y-3
Max Flow	140 GPM
Electrical	208-230V 3 Phase
Tank Required	36 Gallon

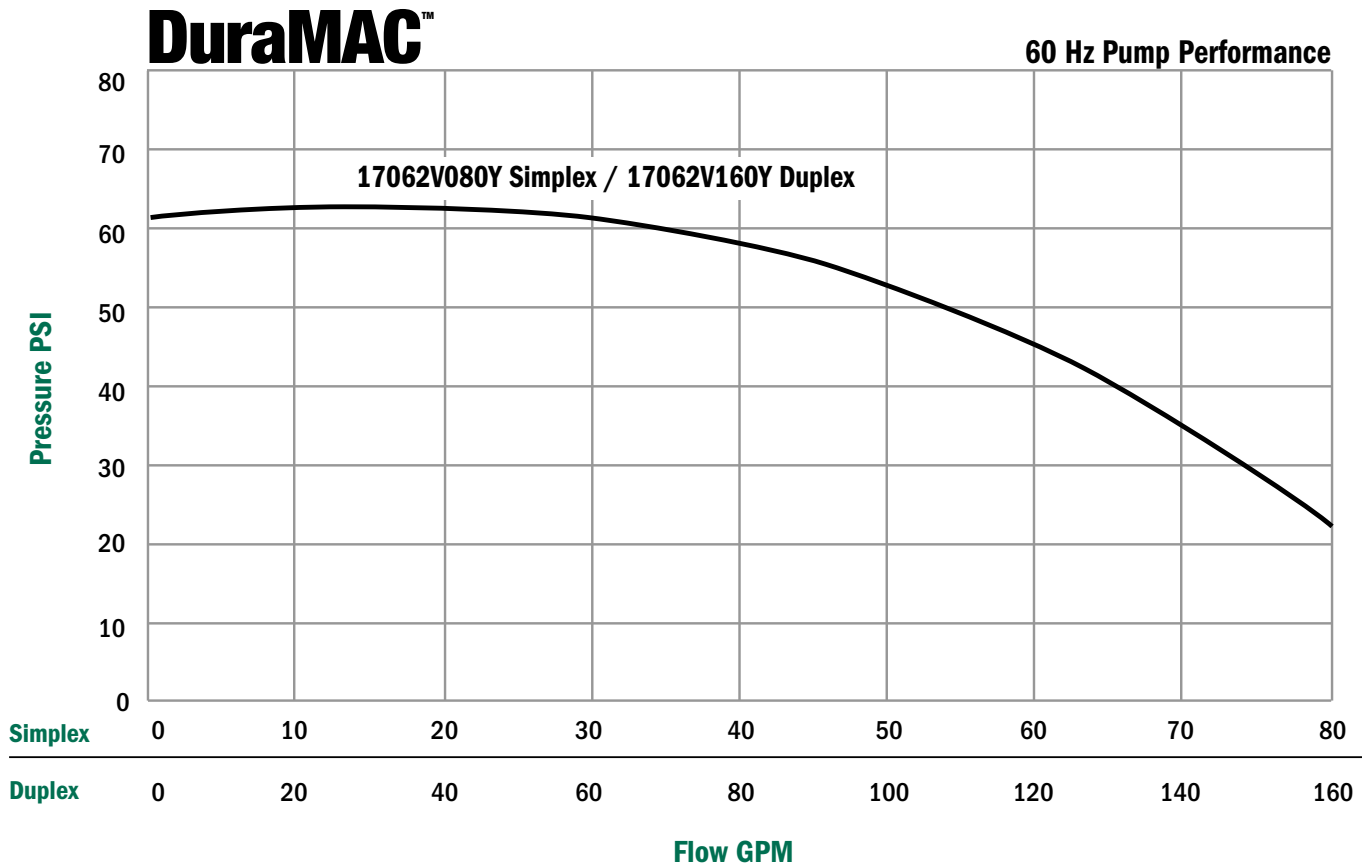
Technical Information - Duplex

Model Number	17060V280Y-3
Max Flow	280 GPM
Electrical	208-230V 3 Phase
Tank Required	52 Gallon Minimum

A.Y. McDonald considers the information on this sheet correct when published. Specifications are subject to change with notice.

DuraMAC™ - 17062V080Y Simplex / 17062V160Y Duplex

Technical Information & Performance Curves



Technical Information

Max Boost	62 PSI
Suction Transducer	0-150 PSI 4-20mA
Discharge Transducer	0-150 PSI 4-20mA
Drive - Yaskawa iQ Pump	NEMA 1
Suction Ball Valve	2" No-Lead Brass
Discharge Ball Valve	2" No-Lead Brass
Impeller	304 Stainless Steel
Pump End	304 Stainless Steel
Motor - Energy Eff.	TEFC 182TC
Horsepower	3
Seal Material	Carbon/Sic
Base	304 Stainless Steel

Technical Information - Simplex

Model Number	17062V080Y-1
Max Flow	80 GPM
Electrical	208-230V 1 Phase
Tank Required	20 Gallon

Model Number	17062V080Y-3
Max Flow	80 GPM
Electrical	208-230V 3 Phase
Tank Required	20 Gallon

Technical Information - Duplex

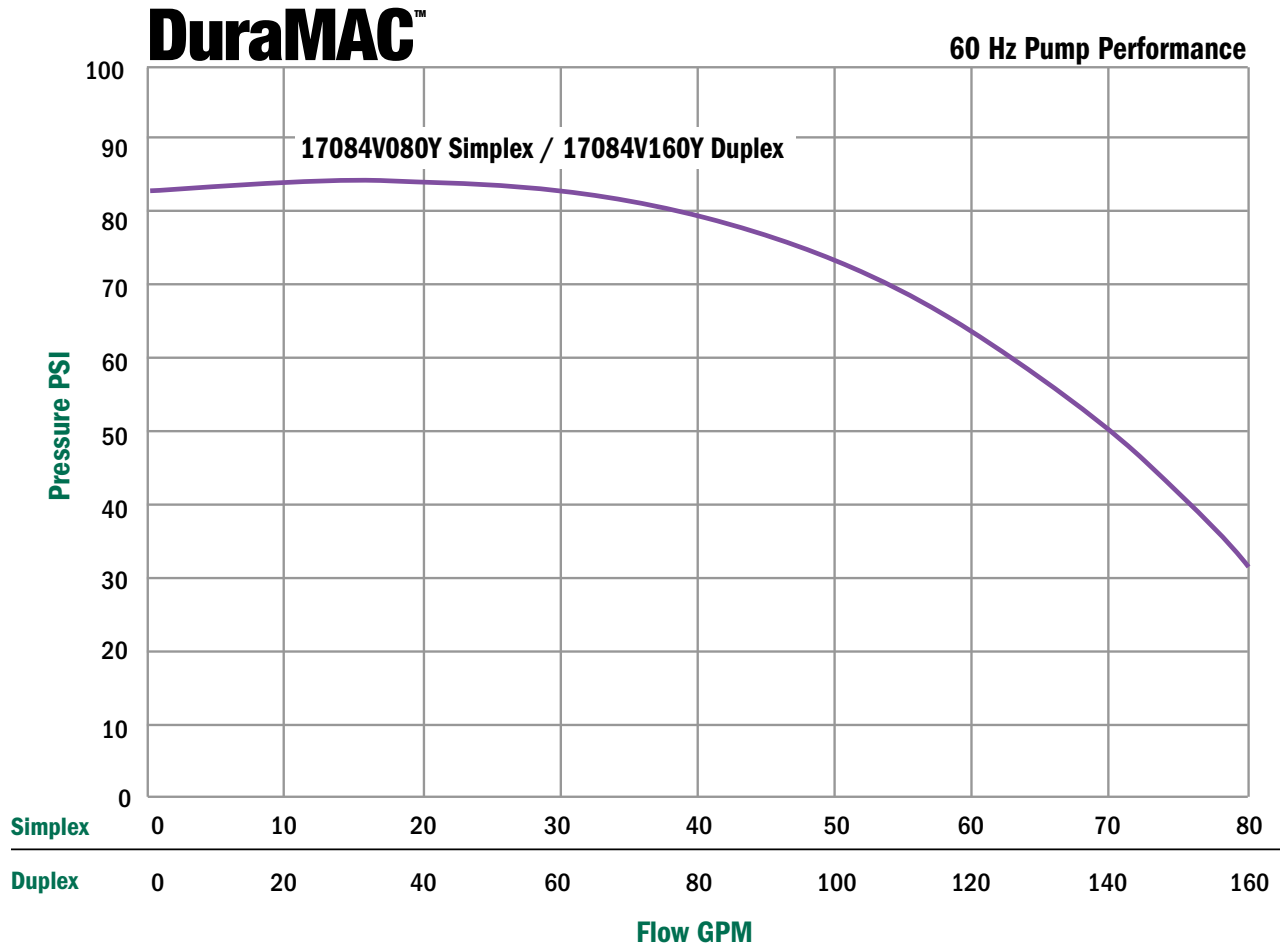
Model Number	17062V160Y-1
Max Flow	160 GPM
Electrical	208-230V 1 Phase
Tank Required	52 Gallon Minimum

Model Number	17062V160Y-3
Max Flow	160 GPM
Electrical	208-230V 3 Phase
Tank Required	52 Gallon Minimum

A.Y. McDonald considers the information on this sheet correct when published. Specifications are subject to change with notice.

DuraMAC™ - 17084V080Y Simplex / 17084V160Y Duplex

Technical Information & Performance Curves



Technical Information

Max Boost	84 PSI
Suction Transducer	0-150 PSI 4-20mA
Discharge Transducer	0-150 PSI 4-20mA
Drive - Yaskawa iQ Pump	NEMA 1
Suction Ball Valve	2" No-Lead Brass
Discharge Ball Valve	2" No-Lead Brass
Impeller	304 Stainless Steel
Pump End	304 Stainless Steel
Motor - Energy Eff.	TEFC 184TC
Horsepower	5
Seal Material	Carbon/Sic
Base	304 Stainless Steel

Technical Information - Simplex

Model Number	17084V080Y-1
Max Flow	80 GPM
Electrical	208-230V 1 Phase
Tank Required	20 Gallon

Model Number	17084V080Y-3
Max Flow	80 GPM
Electrical	208-230V 3 Phase
Tank Required	20 Gallon

Technical Information - Duplex

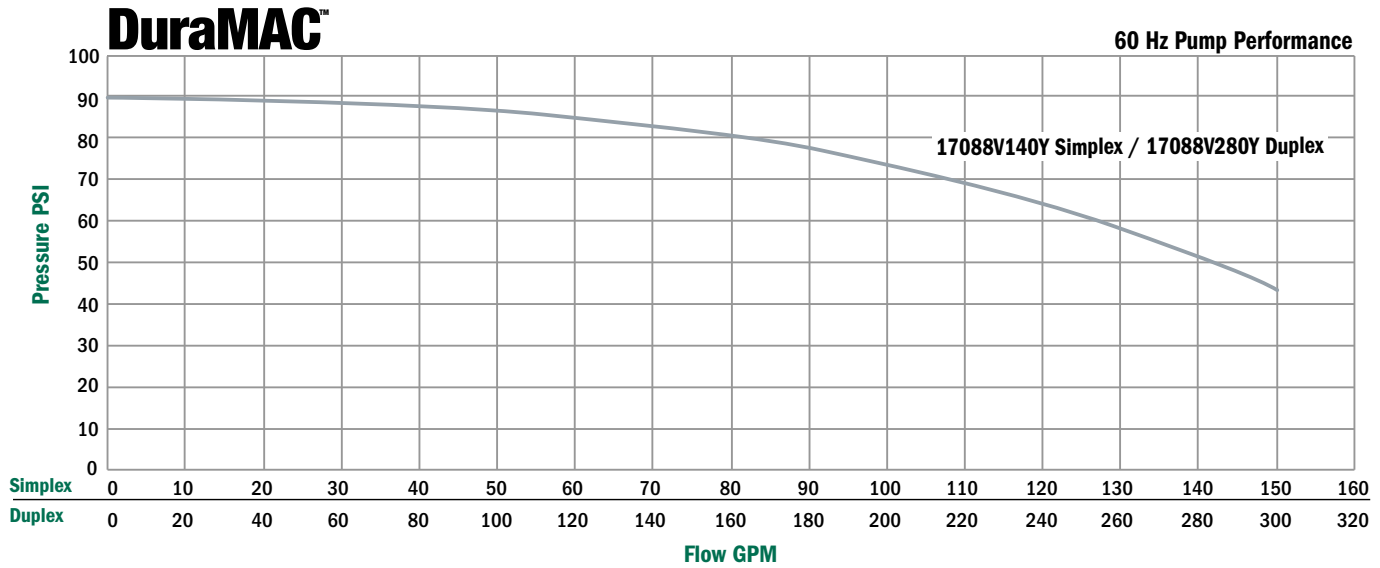
Model Number	17084V160Y-1
Max Flow	160 GPM
Electrical	208-230V 1 Phase
Tank Required	52 Gallon Minimum

Model Number	17084V160Y-3
Max Flow	160 GPM
Electrical	208-230V 3 Phase
Tank Required	52 Gallon Minimum

A.Y. McDonald considers the information on this sheet correct when published. Specifications are subject to change with notice.

DuraMAC™ - 17088V140Y Simplex / 17088V280Y Duplex

Technical Information & Performance Curves



Technical Information

Max Boost	88 PSI
Suction Transducer	0-150 PSI 4-20mA
Discharge Transducer	0-150 PSI 4-20mA
Drive - Yaskawa iQ Pump	NEMA 1
Suction Ball Valve	2" No-Lead Brass
Discharge Ball Valve	2" No-Lead Brass
Impeller	304 Stainless Steel
Pump End	304 Stainless Steel
Motor - Energy Eff.	TEFC 213TC
Horsepower	7 1/2
Seal Material	Carbon/Sic
Electrical	208-230V 3 Phase
Base	304 Stainless Steel

Technical Information - Simplex

Model Number	17088V140Y-3
Max Flow	140 GPM
Tank Required	36 Gallon

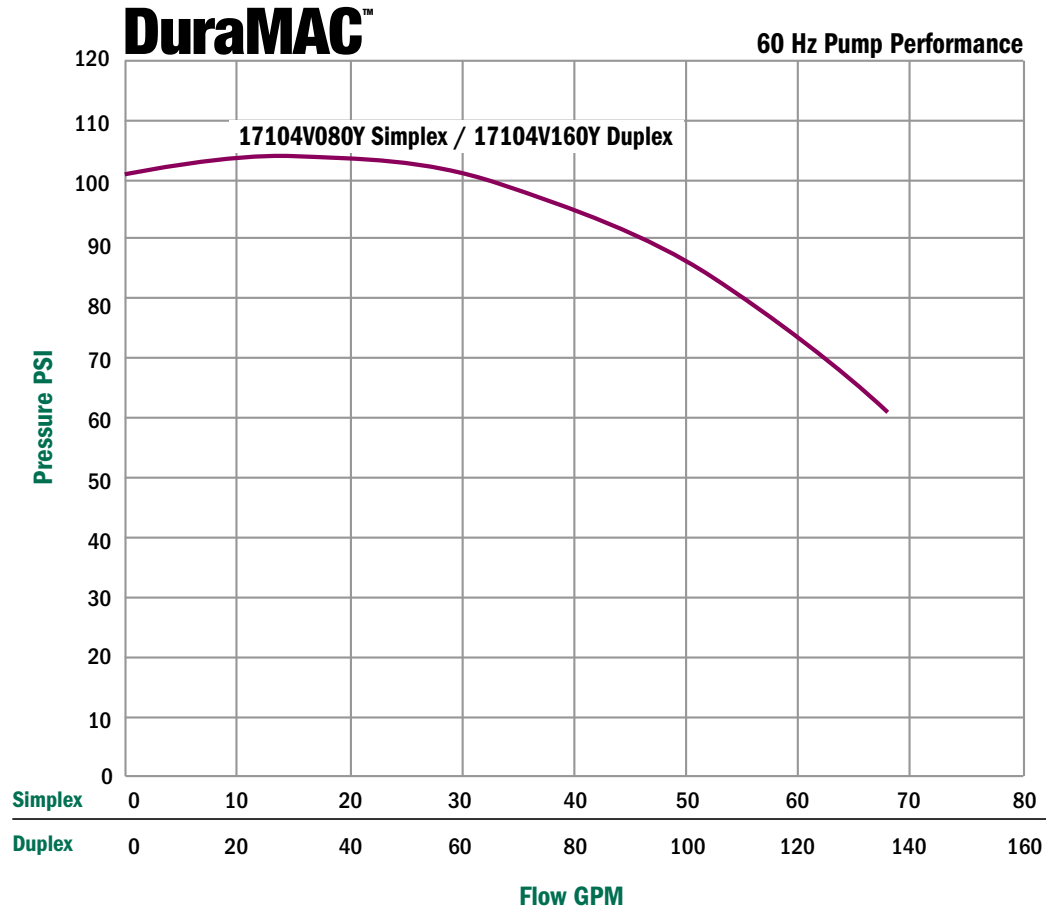
Technical Information - Duplex

Model Number	17088V280Y-3
Max Flow	280 GPM
Tank Required	52 Gallon Minimum

A.Y. McDonald considers the information on this sheet correct when published. Specifications are subject to change with notice.

DuraMAC™ - 17104V080Y Simplex / 17104V160Y Duplex

Technical Information & Performance Curves



Technical Information

Max Boost	104 PSI
Suction Transducer	0-150 PSI 4-20mA
Discharge Transducer	0-150 PSI 4-20mA
Drive - Yaskawa iQ Pump	NEMA 1
Suction Ball Valve	2" No-Lead Brass
Discharge Ball Valve	2" No-Lead Brass
Impeller	304 Stainless Steel
Pump End	304 Stainless Steel
Motor - Energy Eff.	TEFC 184TC
Horsepower	5
Seal Material	Carbon/Sic
Base	304 Stainless Steel

Technical Information - Simplex

Model Number	17104V080Y-1
Max Flow	80 GPM
Electrical	208-230V 1 Phase
Tank Required	20 Gallon

Model Number	17104V080Y-3
Max Flow	80 GPM
Electrical	208-230V 3 Phase
Tank Required	20 Gallon

Technical Information - Duplex

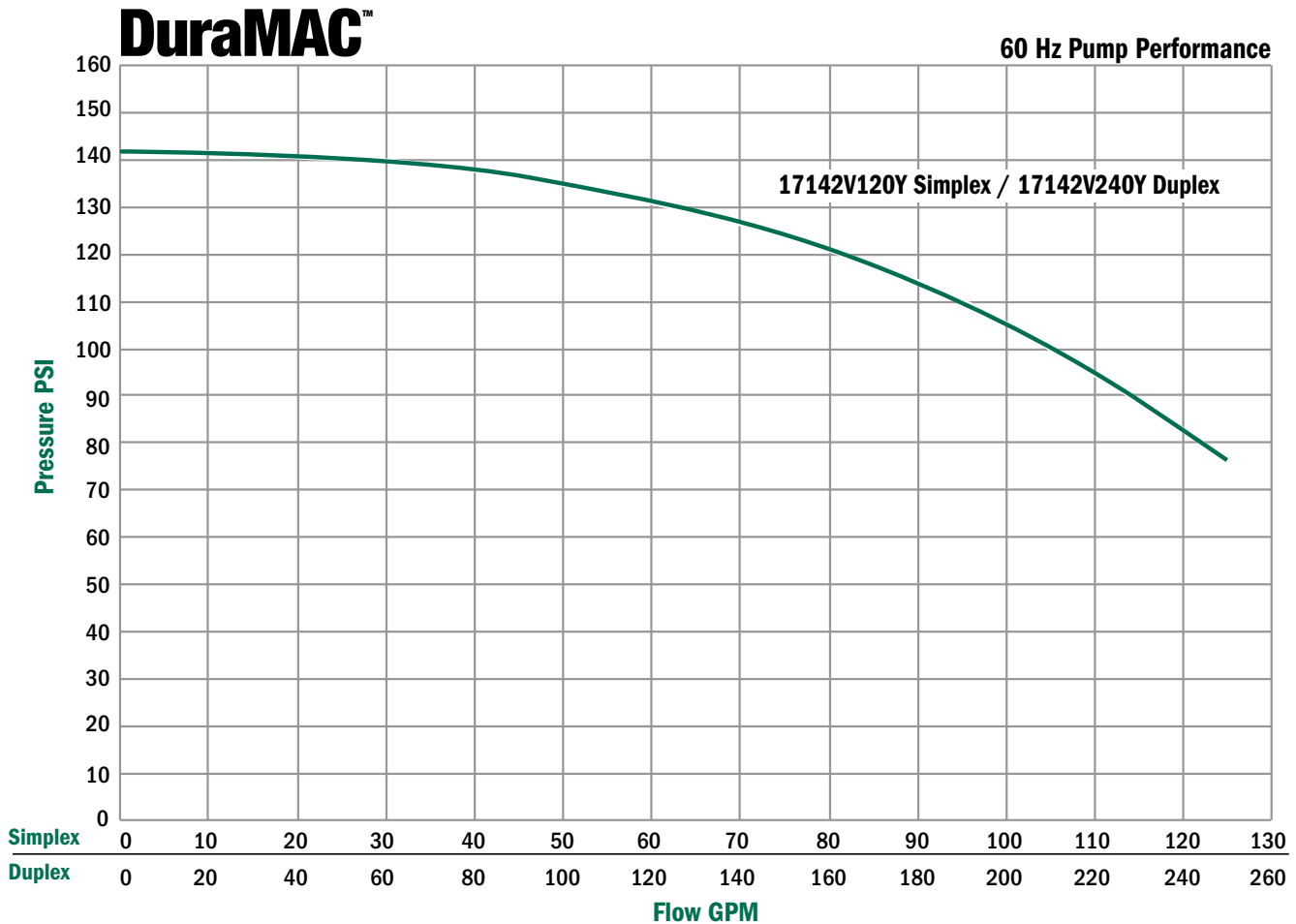
Model Number	17104V160Y-1
Max Flow	160 GPM
Electrical	208-230V 1 Phase
Tank Required	52 Gallon Minimum

Model Number	17104V160Y-3
Max Flow	160 GPM
Electrical	208-230V 3 Phase
Tank Required	52 Gallon Minimum

A.Y. McDonald considers the information on this sheet correct when published. Specifications are subject to change with notice.

DuraMAC™ - 17142V120Y Simplex / 17142V240Y Duplex

Technical Information & Performance Curves



Technical Information

Max Boost	142 PSI
Suction Transducer	0-150 PSI 4-20mA
Discharge Transducer	0-150 PSI 4-20mA
Drive - Yaskawa iQ Pump	NEMA 1
Suction Ball Valve	2" No-Lead Brass
Discharge Ball Valve	2" No-Lead Brass
Impeller	304 Stainless Steel
Pump End	304 Stainless Steel
Motor - Energy Eff.	TEFC 215TC
Horsepower	10
Seal Material	Carbon/Sic
Electrical	208-230V 3 Phase
Base	304 Stainless Steel

Technical Information - Simplex

Model Number	17142V120Y-3
Max Flow	120 GPM
Tank Required	32 Gallon

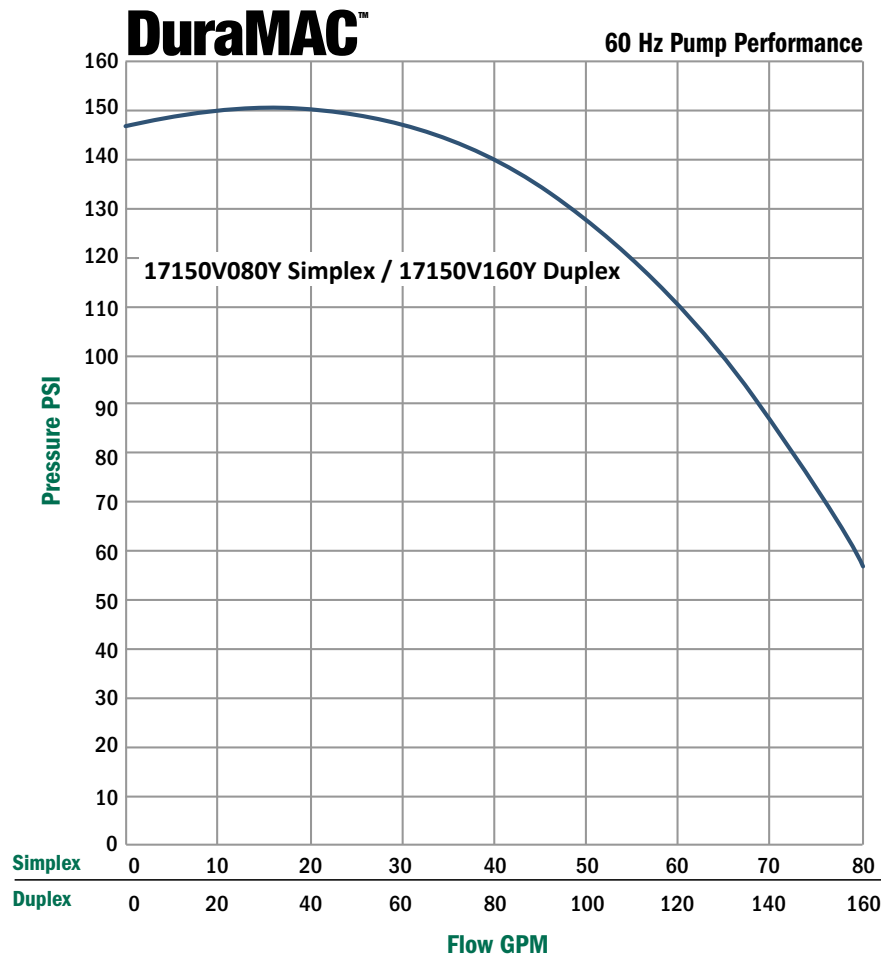
Technical Information - Duplex

Model Number	17142V240Y-3
Max Flow	240 GPM
Tank Required	52 Gallon Minimum

A.Y. McDonald considers the information on this sheet correct when published. Specifications are subject to change with notice.

DuraMAC™ - 17150V080Y Simplex / 17150V160Y Duplex

Technical Information & Performance Curves



Technical Information

Max Boost	150 PSI
Suction Transducer	0-200 PSI 4-20mA
Discharge Transducer	0-200 PSI 4-20mA
Drive - Yaskawa iQ Pump	NEMA 1
Suction Ball Valve	2" No-Lead Brass
Discharge Ball Valve	2" No-Lead Brass
Impeller	304 Stainless Steel
Pump End	304 Stainless Steel
Motor - Energy Eff.	TEFC 213TC
Horsepower	7 1/2
Seal Material	Carbon/Sic
Electrical	208-230V 3 Phase
Base	304 Stainless Steel

Technical Information - Simplex

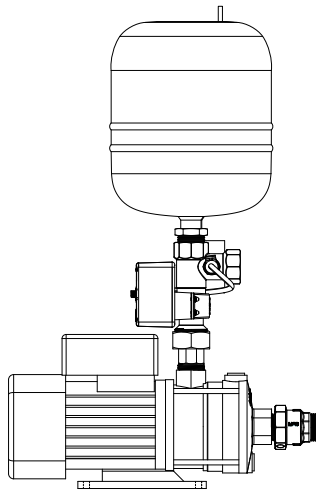
Model Number	17150V080Y-3
Max Flow	80 GPM
Tank Required	20 Gallon

Technical Information - Duplex

Model Number	17150V160Y-3
Max Flow	160 GPM
Tank Required	52 Gallon Minimum

A.Y. McDonald considers the information on this sheet correct when published. Specifications are subject to change with notice.

20 GPM | Residential



17035R020PC1

- 6010-003 - 17035R020P-1 Pump 120V
Pump +35 | 20 GPM | 1/2 HP | 120V
- 6010-001 - Repair Control | 120V with Tee
- 6010-009 - Repair Control | 120V (Black box)
- 6010-026 - Transducer | TDL32K | 150 PSI | 5V
- 6127-337 - Two Gallon Diaphragm Tank
- 6010-027 - Check Valve | 1" MNPT x 1" MNPT
- 6010-554 - Seal Kit
- 6010-028 - Pressure Gauge | 0 - 100 | 2" Dry

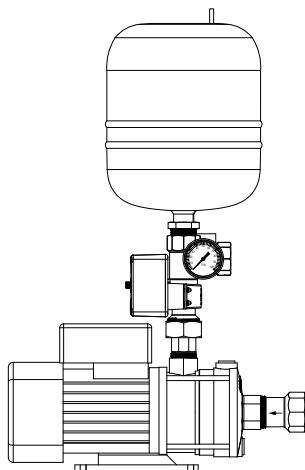
17052R020PC1

- 6010-004 - 17052R020P-1 Pump 120V
Pump +52 | 20 GPM | 3/4 HP | 120V
- 6010-001 - Repair Control | 120V with Tee
- 6010-009 - Repair Control | 120V (Black box)
- 6010-026 - Transducer | TDL32K | 150 PSI | 5V
- 6127-337 - Two Gallon Diaphragm Tank
- 6010-027 - Check Valve | 1" MNPT x 1" MNPT
- 6010-554 - Seal Kit
- 6010-028 - Pressure Gauge | 0 - 100 | 2" Dry

17070R020PC2

- 6010-005 - 17070R020P-2 Pump 230V
Pump +70 | 20 GPM | 1 HP | 230V
- 6010-002 - Repair Control | 230V with Tee
- 6010-010 - Repair Control | 230V (Black box)
- 6010-026 - Transducer | TDL32K | 150 PSI | 5V
- 6127-337 - Two Gallon Diaphragm Tank
- 6010-027 - Check Valve | 1" MNPT x 1" MNPT
- 6010-554 - Seal Kit
- 6010-028 - Pressure Gauge | 0 - 100 | 2" Dry

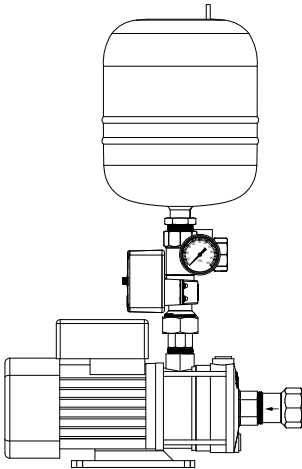
35 GPM | Light Commercial



17040C035PC2

- 6010-011 - 17040C035P-2 Pump 230V
Pump +40 | 35 GPM | 1 HP | 230V
- 6010-002 - Repair Control | 230V with Tee
- 6010-010 - Repair Control | 230V (Black box)
- 6010-026 - Transducer | TDL32K | 150 PSI | 5V
- 6127-337 - Two Gallon Diaphragm Tank
- 6010-029 - Check Valve | 1 1/4" MNPT x 1 1/4" FNPT
- 6010-554 - Seal Kit
- 6010-028 - Pressure Gauge | 0 - 100 | 2" Dry

35 GPM | Light Commercial (Continued)



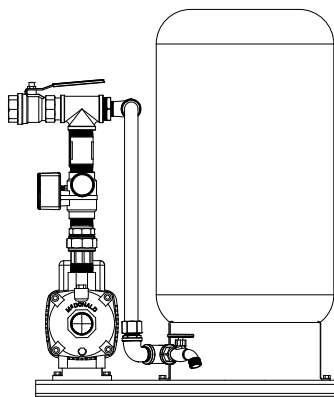
17062C035PC2

- 6010-012 - 17062C035P-2 Pump 230V
Pump +62 | 35 GPM | 1 HP | 230V
- 6010-002 - Repair Control | 230V with Tee
- 6010-010 - Repair Control | 230V (Black box)
- 6010-026 - Transducer | TDL32K | 150 PSI | 5V
- 6127-337 - Two Gallon Diaphragm Tank
- 6010-029 - Check Valve | 1 1/4" MNPT x 1 1/4" FNPT
- 6010-554 - Seal Kit
- 6010-028 - Pressure Gauge | 0 - 100 | 2" Dry

17078C035PC2

- 6010-013 - 17078C035P-2 Pump 230V
Pump +78 | 35 GPM | 1 1/2 HP | 230V
- 6010-002 - Repair Control | 230V with Tee
- 6010-010 - Repair Control | 230V (Black box)
- 6010-026 - Transducer | TDL32K | 150 PSI | 5V
- 6127-337 - Two Gallon Diaphragm Tank
- 6010-029 - Check Valve | 1 1/4" MNPT x 1 1/4" FNPT
- 6010-554 - Seal Kit
- 6010-028 - Pressure Gauge | 0 - 100 | 2" Dry

70 GPM | Dual Mode - Modular, Simplex, & Duplex



Dual-Mode Simplex

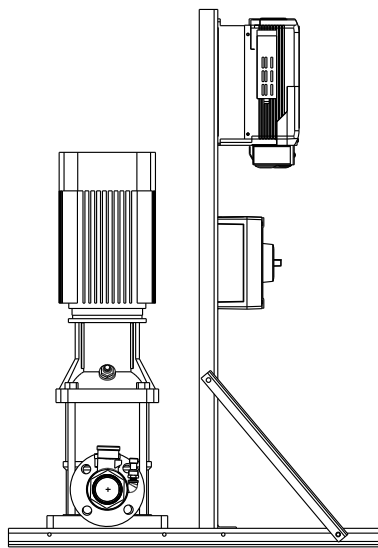
17044C070PC2-M | 17044C070PC2-S | 17044C120PC2-D

- 6010-017 - 17044C070P-2 Pump 230V
Pump +44 | 70 GPM | 230V
- 6010-026 - Transducer | TDL32K | 150 PSI | 5V
- 6011-009 - Dual-Mode Control | Repair (Black box)
- 6011-012 - Paddle Switch
- 6127-341 - 16020MV4F - Pressure Tank
- 6011-011 - Pressure Gauge | 0 - 100 | 2 1/2" Liquid filled
- 6010-555 - Seal Kit
- 5424-401 - Ball Valve | 1/4" MNPT x 1/4" FNPT (Test Cock)

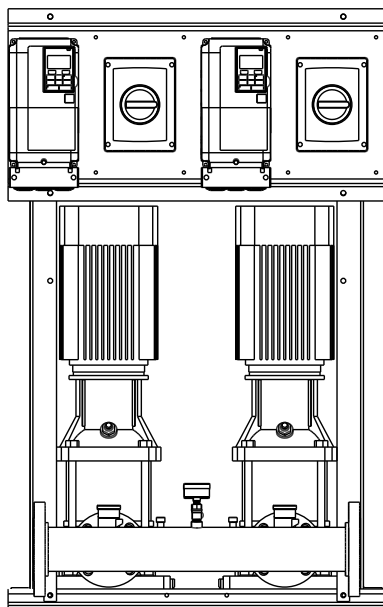
17060C070PC2-M | 17060C070PC2-S | 17060C120PC2-D

- 6010-018 - 17060C070P-2 Pump 230V
Pump +60 | 70 GPM | 230V
- 6010-026 - Transducer | TDL32K | 150 PSI | 5V
- 6011-009 - Dual-Mode Control | Repair (Black box)
- 6011-012 - Paddle Switch
- 6127-341 - 16020MV4F - Pressure Tank
- 6011-011 - Pressure Gauge | 0 - 100 | 2 1/2" Liquid filled
- 6010-555 - Seal Kit
- 5424-401 - Ball Valve | 1/4" MNPT x 1/4" FNPT (Test Cock)

Vertical Multistage Variable Speed Booster Systems



Simplex



Duplex

SIMPLEX / DUPLEX

6012-106	-	Transducer		4-20mA		150 PSI
6012-107	-	Transducer		4-20mA		200 PSI
6012-108	-	Transducer		4-20mA		15 PSI
6012-531	-	Transducer Cable M12	-	9 ft. long		
6012-533	-	Wafer Check Valve	-	2" soft seat		
6012-536	-	Flange gasket	-	2"		
6012-109	-	Seal Repair Part	-	SiC/Carbon/EPDM		
6012-110	-	Seal Repair Part	-	(SiC/SiC/EPDM) - Sandy Water		
6012-567	-	Pressure Gauge		200 PSI		Liquid filled
6011-537	-	Pressure Gauge		100 PSI		Liquid filled

6012-575	-	Yaskawa Drive	3 HP		3 Phase		230V
6012-576	-	Yaskawa Drive	3 HP		1 Phase		230V
		Yaskawa Drive	5 HP		3 Phase		230V
6012-577	-	Yaskawa Drive	7 1/2 HP		3 Phase		230V
6012-578	-	Yaskawa Drive	5 HP		1 Phase		230V
		Yaskawa Drive	10 HP		3 Phase		230V
6012-579	-	Yaskawa Drive	5 HP		3 Phase		460V
6012-580	-	Yaskawa Drive	7 1/2 HP		3 Phase		460V
6012-581	-	Yaskawa Drive	10 HP		3 Phase		460V

6012-590	-	Disconnect	-	Altech 30 Amp
6012-591	-	Disconnect	-	AB 60 Amp
6012-520	-	Pump end	17062V080	
6012-521	-	Pump end	17084V080	
6012-522	-	Pump end	17104V080	
6012-523	-	Pump end	17150V080	
6012-524	-	Pump end	17142V120	
6012-525	-	Pump end	17060V140	
6012-526	-	Pump end	17088V140	
6012-528	-	Pump end	17056V120	

6012-547	-	Motor TEFC	-	3 HP Energy Eff 182TC
6012-548	-	Motor TEFC	-	5 HP Energy Eff 184TC
6012-549	-	Motor TEFC	-	7 HP Energy Eff 213TC
6012-550	-	Motor TEFC	-	10 HP Energy Eff 215TC
6012-551	-	Motor TEFC	-	15 HP Energy Eff 215TC

SIMPLEX / DUPLEX - ACCESSORIES

6012-100	-	17200EJ	3" Flanged Expansion Joint
6012-101	-	17200EJ	2" Threaded Braided Hose 304 SS
6012-102	-	Flange Blind	3" 150# 304 SS
6012-103	-	Flange Threaded	3" 150# 304 SS
6012-104	-	Flange Kit Blind	3" 150# 304 SS
6012-105	-	Flange Kit Threaded	3" 150# 304 SS

WE MAKE

Debra Arnold
Plant Worker
12 Years of
Service

WATER WORK



The sound of quality.

Simple. Versatile. Effective. Our DuraMac™ Booster Pump and complete line of boosting products are unsurpassed. Built with our quality brass connections, the fittings are leakproof and reliable. Designed for virtually any commercial or residential site, they perform no matter the application. All of this, and they're quiet, too. *Now, how does that sound?*

Visit AYMcDonald.com or call 1.800.292.2737 to learn how our DuraMac Booster Pump can work for you.



More than a brand. **We're a family.**



A.Y. McDonald Mfg. Co. is a leading manufacturer of Waterworks Brass, Plumbing Valves, Pumps and Water Systems, and High Pressure Gas Valves and Meter Bars. The Company has distinguished itself with a proud tradition of quality and reliability since its founding in 1856.

The mission of A.Y. McDonald Mfg. Co., in the words of our founder, is “to make good products and sell them honestly.” We, the stockholders and employees, accomplish this by extending the McDonald family culture through excellent customer service and by focusing on our customers’ needs.



WARNING: It is unlawful in CALIFORNIA & VERMONT (effective 1/1/2010); MARYLAND (effective 1/1/2012); LOUISIANA (effective 1/1/2013) and the UNITED STATES OF AMERICA (effective 1/4/2014) to use any product in the installation or repair of any public water system or any plumbing in a facility or system that provides water for human consumption if the wetted surface area of the product has a weighted average lead content greater than 0.25%. This prohibition does not extend to service saddles used in California, Louisiana or under USA Public Law 111-380.

