



DuraMAC™ Booster Pumps



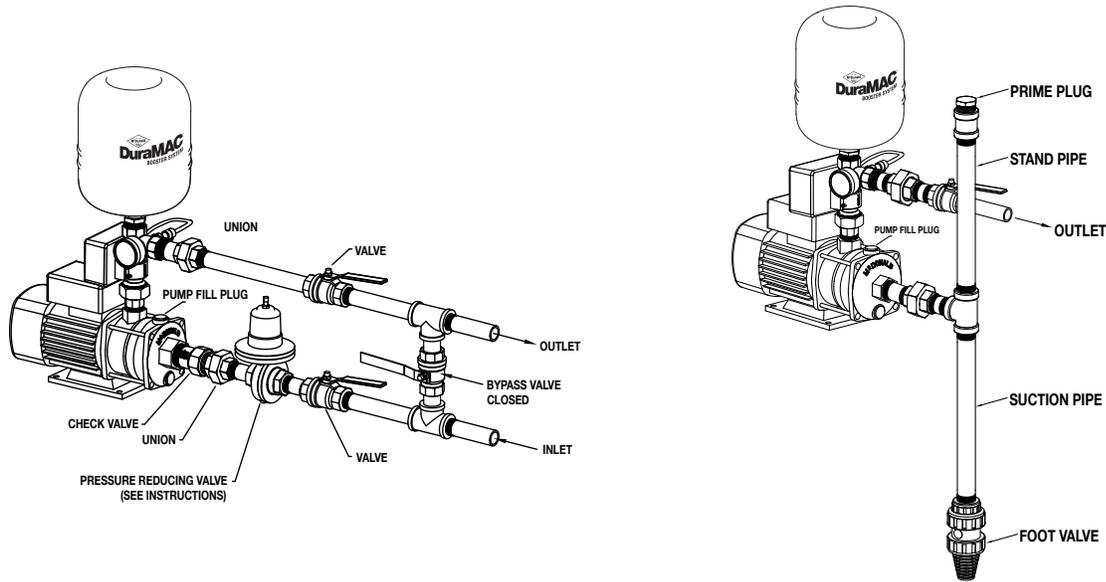
# DuraMAC™ Booster Pumps

Pump Catalog - January 2019

MORE THAN A BRAND. WE'RE A FAMILY.

## Typical Installations

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.

# 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.

DuraMAC™ Booster Pumps

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

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



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



**E-Series, Residential,  
Light Commercial,  
& Irrigation Boosters**



## How to Order

Order by Model Number - Example: 17044C070PC2-M

**17**

**Series**

17  
18

**044**

**Water Pressure at 0 GPM**

035  
040  
044  
052  
060  
062  
070  
078

**C**

**Type**

R - Residential  
C - Commercial

**070**

**GPM**

020  
035  
070  
120

**P**

**C**

**2**

**Voltage**

1 - 120V  
2 - 230V

**M**

**Options**

D - Duplex  
M - Modular  
S - Simplex

SS - Stainless Steel  
\*Only available in E-Series

**Models Available**

- E-Series

18035R020PC1  
18052R020PC1



**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 operate continuously while there is demand for water

DuraMAC™ Booster Pumps

## DuraMAC™ Residential, Light Commercial, & Irrigation Pump Control (excludes E-Series)



### New Pump Control 115V

115V DC: B17 - Current  
 230V DC: F17 - Current

# DuraMAC™ Booster Pumps



## E Series

### DuraMAC™ Booster Pump

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.

The 304 stainless steel version of the DuraMAC™ Booster pump will meet the needs of boosting water pressure from Reverse Osmosis (RO) systems, low PH and other aggressive water applications which would be corrosive to no-lead brass and metal pipes.

#### Features:

- Water pressure boosting system for residential, irrigation, or light commercial use
- Easy set-up installation
- All metal connections - no plastic threads
- Half-gallon pressure tank included
- TEFC single phase motor for quiet operation
- Electronics separated and sealed from waterway
- No-Lead Brass / 304 stainless steel check valve included
- Dry-Run protection
- 1" inlet and outlet
- 1 year warranty

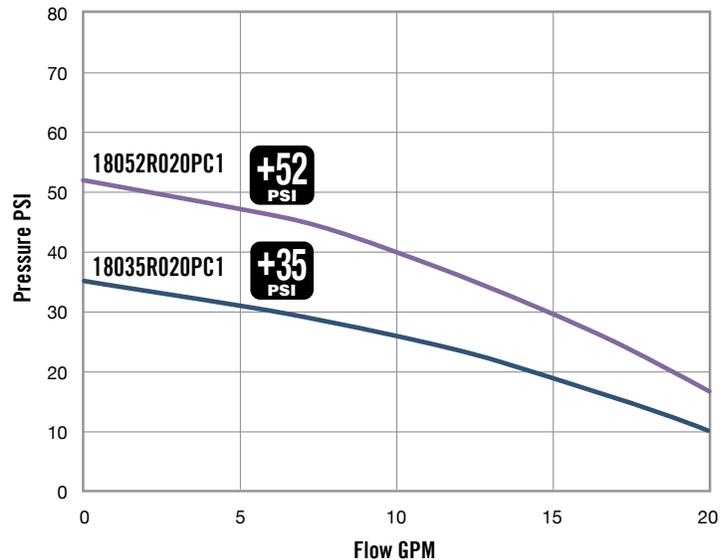
#### Materials of Construction

|                          |                                 |
|--------------------------|---------------------------------|
| - 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             |
| - Check Valve            | No-Lead Brass / Stainless Steel |
| - Pump Controller Cross  | No-Lead Brass / Stainless Steel |



See Pumps & Accessories Price List for Limited Warranty details.

#### DuraMAC™ Performance (Additional Boost)



#### Models Available

| DuraMAC™ Model | Pump Boost | Amps | Voltage     | Power  | Weight |
|----------------|------------|------|-------------|--------|--------|
| 18035R020PC1   | 35 PSI     | 5.5  | 120 - 60 Hz | 1/2 HP | 27.1   |
| 18052R020PC1   | 52 PSI     | 7.0  | 120 - 60 Hz | 3/4 HP | 27.7   |
| 18035R020PC1SS | 35 PSI     | 5.5  | 120 - 60 Hz | 1/2 HP | 27.1   |
| 18052R020PC1SS | 52 PSI     | 7.0  | 120 - 60 Hz | 3/4 HP | 27.7   |

DuraMAC™ Booster Pumps

# E-Series DuraMAC™ Booster Pump

## Sizing Information

E-Series DuraMAC™ Booster Systems are designed to shut off when no flow is detected. Pump total pressure boost should be added to current household system pressure to determine total system pressure when boosted. Note: It is not recommended to exceed 80 PSI total boosted household pressure.

**Example:**  
Household system pressure before boost = 30 PSI

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

\*Not Recommended to Exceed 80 PSI

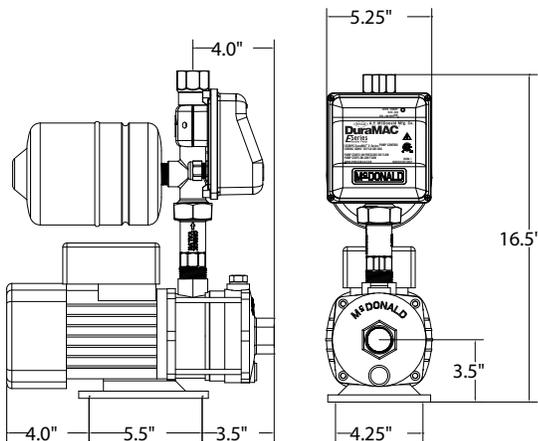
**Models Available:**  
18035R020PC1 +35  
18052R020PC1 +52

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

Based on this example, the recommended model for this application is the 18035R020PC1.

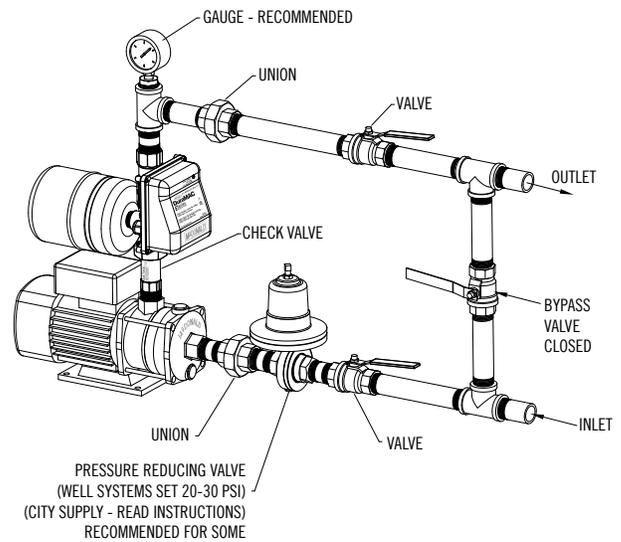
For systems with fluctuating pressure, a pressure reducing valve is recommended to assure system pressure stays below 80 PSI.

## Dimensional Information



## Typical Installation

CITY OR WELL SUPPLY



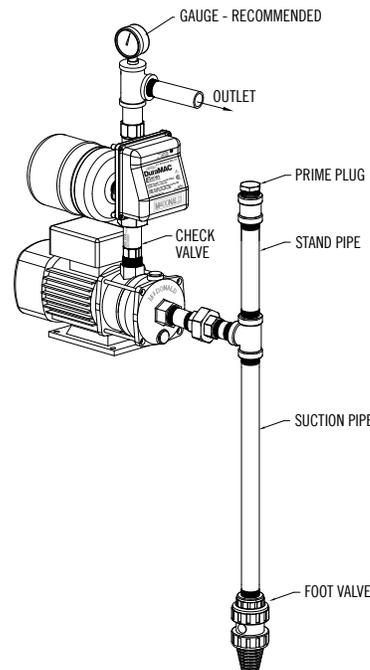
## Sizing Chart

Total static pressure DuraMAC™ pump

| Incoming Pressure (PSI) | 18035R020PC1<br><b>+35 PSI</b> | 18052R020PC1<br><b>+52 PSI</b> |
|-------------------------|--------------------------------|--------------------------------|
| 60                      |                                |                                |
| 55                      | 90                             |                                |
| 50                      | 85                             |                                |
| 45                      | 80                             |                                |
| 40                      | 75                             |                                |
| 35                      | 70                             | 87                             |
| 30                      | 65                             | 82                             |
| 25                      | 60                             | 77                             |
| 20                      | 55                             | 72                             |
| 15                      | 50                             | 67                             |
| 10                      | 45                             | 62                             |

CONTACT FACTORY

**SUCTION LIFT**  
10 Ft. Max



## 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:

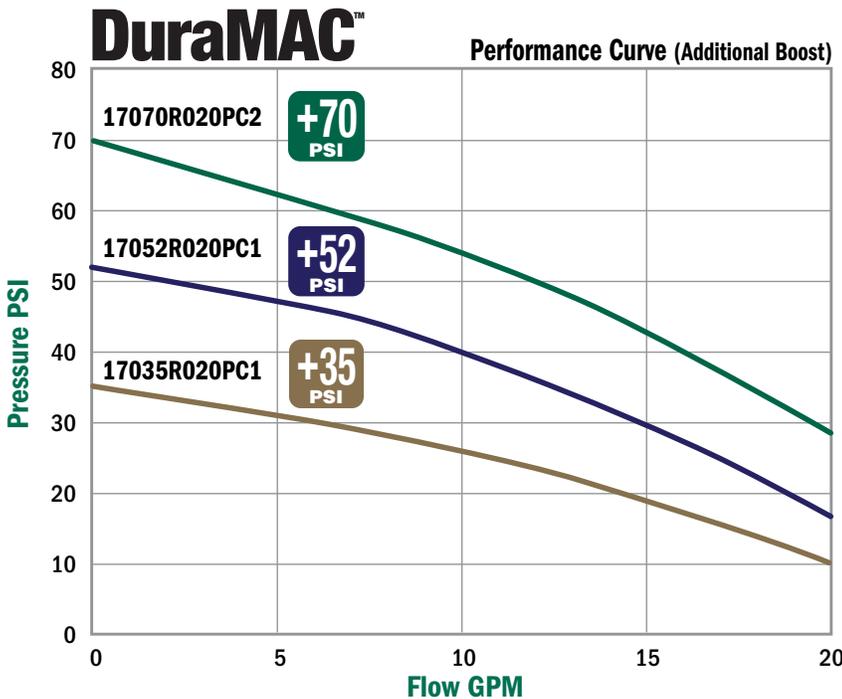
- Easy set-up installation
- Digital control for three modes of operation
- Durable stainless steel and no-lead brass connections
- Two gallon pressure tank included
- TEFC single phase motor for quiet operation
- Electronics separated and sealed from waterway
- Pressure gauge included
- No-Lead brass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



See Pumps & Accessories Price List for Limited Warranty details.



DuraMAC™ Booster Pumps



### 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: | Wt. |
|----------------|------------|------|------------|-------------|--------|--|-----|
| 17035R020PC1   | 35 PSI     | 5.5  | 15.26"     | 120 - 60 Hz | 1/2 HP | 45 PSI   | 33  |
| 17052R020PC1   | 52 PSI     | 7.0  | 15.97"     | 120 - 60 Hz | 3/4 HP | 28 PSI   | 37  |
| 17070R020PC2   | 70 PSI     | 4.0  | 16.68"     | 230 - 60 Hz | 1 HP   | 10 PSI (for use with holding tank)   | 40  |

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

# 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

|                    |   |                     |   |                            |                                   |
|--------------------|---|---------------------|---|----------------------------|-----------------------------------|
| <b>30</b>          | + | _____               | = | _____                      | *Not Recommended to Exceed 80 PSI |
| Household Pressure |   | Total Pump Pressure |   | Total Pressure After Boost |                                   |
|                    |   |                     |   |                            |                                   |

**Models Available:**

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

|                    |   |                     |   |                            |
|--------------------|---|---------------------|---|----------------------------|
| <b>30</b>          | + | <b>35</b>           | = | <b>65</b>                  |
| Household Pressure |   | Total Pump Pressure |   | Total Pressure After Boost |

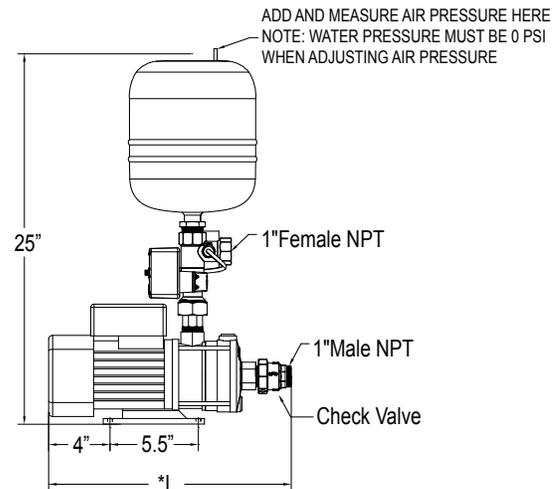
Based on this example, the recommended model for this application is the 17035R020PC1.

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 |
| - Check Valve            | No-Lead Brass       |
| - Pump Controller Cross  | No-Lead Brass       |

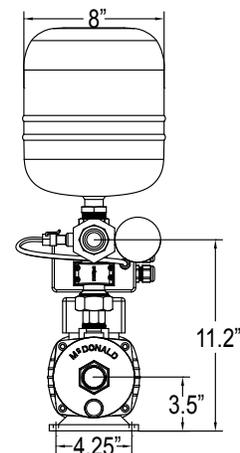
## Typical Installation



## Sizing Chart

Total static pressure **DuraMAC™** pump

| Incoming Pressure (PSI) | 17035R020PC1<br><b>+35</b> | 17052R020PC1<br><b>+52</b> | 17070R020PC2<br><b>+70</b> |
|-------------------------|----------------------------|----------------------------|----------------------------|
| 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                         |



## 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:

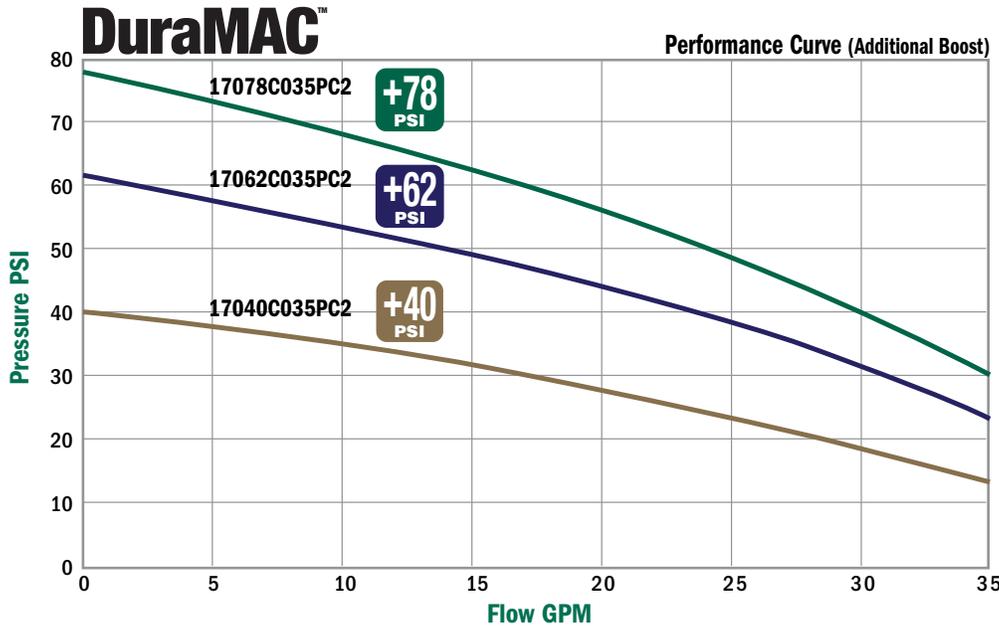
- Easy set-up installation
- Digital control for three modes of operation
- Durable stainless steel and no-lead brass connections
- Two gallon pressure tank included
- TEFC single phase motor for quiet operation
- Electronics separated and sealed from waterway
- Pressure gauge included
- No-Lead brass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



See Pumps & Accessories Price List for Limited Warranty details.



DuraMAC™ Booster Pumps



### 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: | Wt. |
|----------------|------------|------|------------|-------------|----------|--|-----|
| 17040C035PC2   | 40 PSI     | 5.0  | 15.43"     | 230 - 60 Hz | 1 HP     | 40 PSI   | 38  |
| 17062C035PC2   | 62 PSI     | 6.3  | 16.49"     | 230 - 60 Hz | 1 HP     | 18 PSI   | 41  |
| 17078C035PC2   | 78 PSI     | 6.8  | 17.55"     | 230 - 60 Hz | 1 1/2 HP | 2 PSI (for use with holding tank)  | 35  |

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

# 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:**

Household system pressure before boost = 30 PSI

$$\begin{array}{rcccl} \mathbf{30} & + & & = & \\ \text{Household} & & \text{Total Pump} & & \text{Total Pressure} \\ \text{Pressure} & & \text{Pressure} & & \text{After Boost} \end{array} \quad \begin{array}{l} \text{*Not Recommended} \\ \text{to Exceed 80 PSI} \end{array}$$

**Models Available:**

|              |     |
|--------------|-----|
| 17040C035PC2 | +40 |
| 17062C035PC2 | +62 |
| 17078C035PC2 | +78 |

$$\begin{array}{rcccl} \mathbf{30} & + & \mathbf{40} & = & \mathbf{70} \\ \text{Household} & & \text{Total Pump} & & \text{Total Pressure} \\ \text{Pressure} & & \text{Pressure} & & \text{After Boost} \end{array}$$

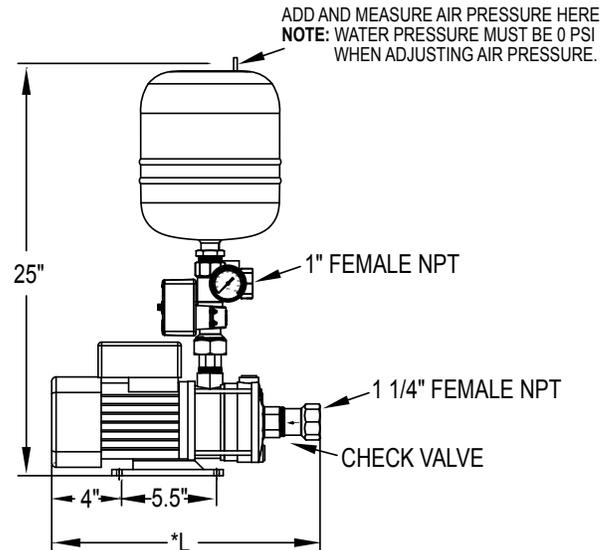
Based on this example, the recommended model for this application is the 17040C035PC2.

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

## 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 |
| - Check Valve            | No-Lead Brass       |
| - Pump Controller Cross  | No-Lead Brass       |

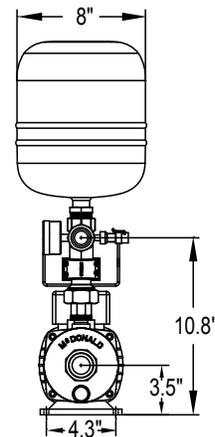
## Typical Installation



## Sizing Chart

Total static pressure **DuraMAC™** pump

| Incoming Pressure (PSI) | 17040C035PC2<br><b>+40 PSI</b> | 17062C035PC2<br><b>+62 PSI</b> | 17078C035PC2<br><b>+78 PSI</b> |
|-------------------------|--------------------------------|--------------------------------|--------------------------------|
| 60                      |                                |                                |                                |
| 55                      |                                |                                |                                |
| 50                      | 90                             | <b>CONTACT FACTORY</b>         |                                |
| 45                      | 85                             |                                |                                |
| 40                      | 80                             |                                |                                |
| 35                      | 75                             |                                |                                |
| 30                      | 70                             |                                |                                |
| 25                      | 65                             | 87                             |                                |
| 20                      | 60                             | 82                             |                                |
| 15                      | 55                             | 77                             | 93                             |
| 10                      | 50                             | 72                             | 88                             |



DuraMAC™ Booster Pumps