

AirPrime™

Overview and Features



“Quick, reliable pump priming...
when you need it!”



World Class

Fire Apparatus Plumbing and Hardware Products

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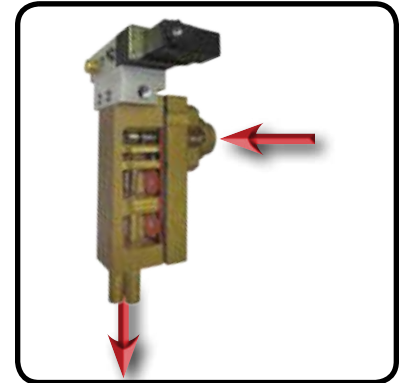
AirPrime™ - How Does It Work

Air Powered Pump Primer

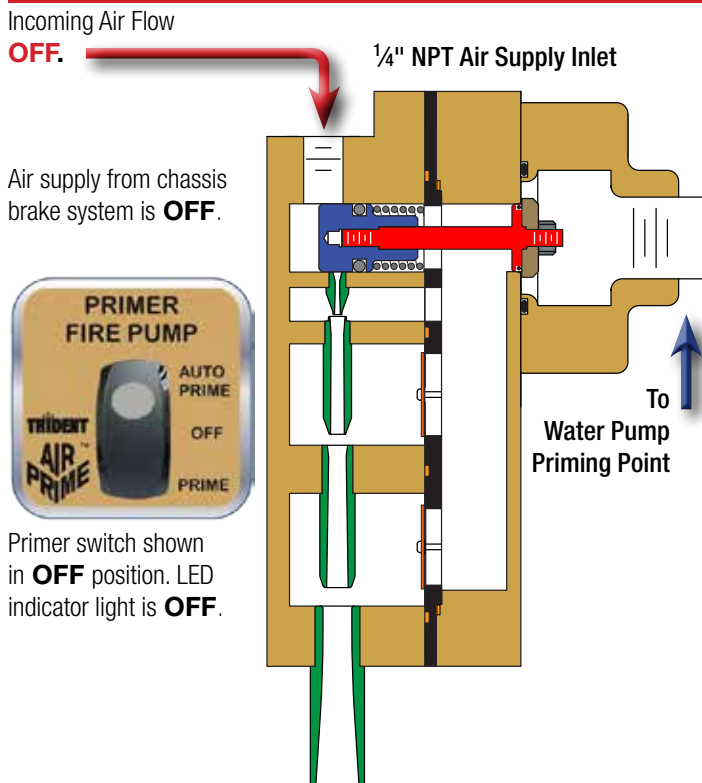
AirPrime utilizes air supplied from the chassis air brake system to operate the pump primer. This is proven to be far more efficient and reliable than the conventional electric motor driven primers.

AirPrime virtually eliminates the impact load on the vehicles electrical system improving the reliability of the vehicle.

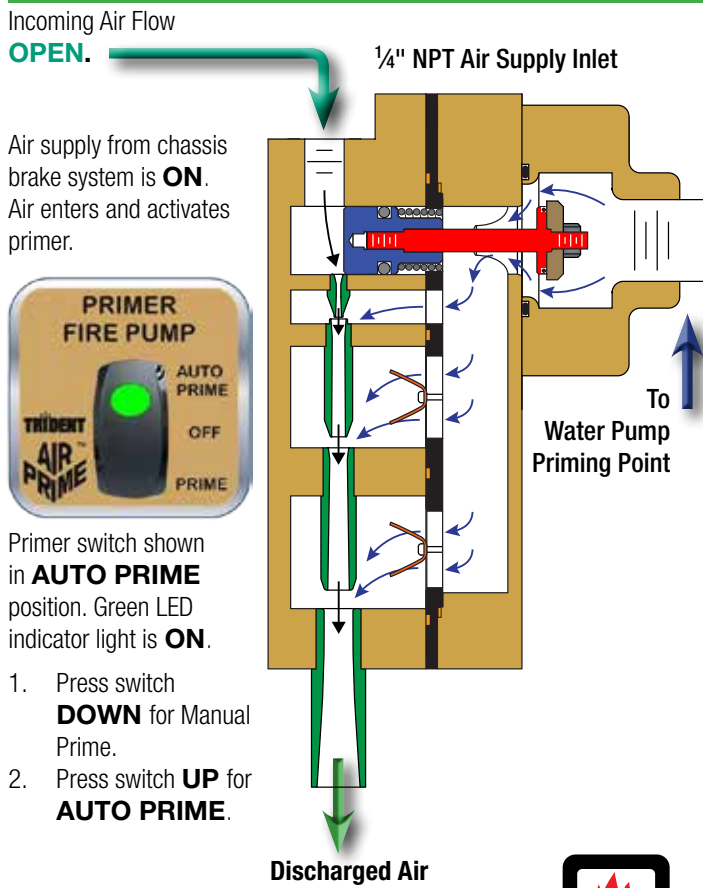
AirPrime also improves performance in the elapsed time for establishing water supply resulting in improved fireground operations and safety.



Off Position



Auto Prime Position



Standard Features

- ▶ Reliable chassis air supply from engine driven air compressor
- ▶ No electric motor, solenoid valve, or heavy battery cables
 - Electric rotary vane primer = 300 amp draw on chassis electrical system
 - Auto AirPrime™ = 0.4 amps
- ▶ Vertical lift capability to >27' [8 meters]
- ▶ Faster than an electric primer with lifts under 15' [5 meters]
- ▶ 4' lift from Folding Tank in less than 10 seconds with engine at idle speed
- ▶ All brass and stainless steel construction (no aluminum)
- ▶ Vacuum produced by venturi action within primer body
- ▶ Primer features automatic draining, No freezing
- ▶ Air only primer control lines (no water piping to pump panel – avoids freezing)
- ▶ No moving parts to create vacuum, minimal maintenance required
- ▶ Requires no lubrication or primer vanes to replace
- ▶ Quietest Primer Available
- ▶ Electric clutch and belt drive assembly – Not required
- ▶ 5 Year Warranty with Unlimited duty cycle
- ▶ Lowest cost in the industry!



Separate and Cleanable
Wye Strainer

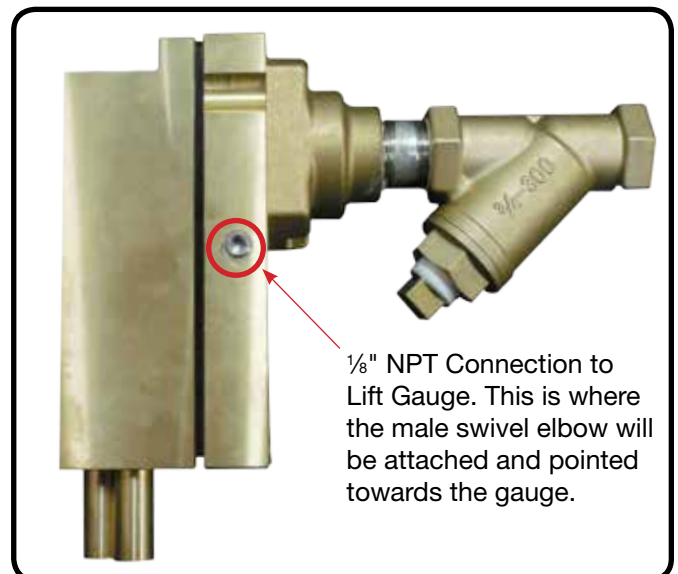
TRIDENT AirPrime™

New Installations

- ▶ Installs in ½ the time compared to an electric primer
- ▶ Mounting in any high location within the pump enclosure
- ▶ Unique and easily identifiable control panel
- ▶ Perfect for multiple location gated intakes

Retrofit Installations

- ▶ Takes less space and weighs less than rotary vane primers
- ▶ Weighs only 8½ pounds
- ▶ Requires only 12" high x 4" wide
- ▶ No high amp draw on battery
- ▶ No primer water lines to pump panel
- ▶ Lowest noise level in the industry
- ▶ Installs on any fire pump
- ▶ Easy to retrofit in fire station by mechanic
- ▶ Automatic AirPrime™ available
- ▶ Optional Lift Gauge above switch
- ▶ Multiple priming location systems available
- ▶ Primer can be tested without fire pump being in gear



Automatic Priming System

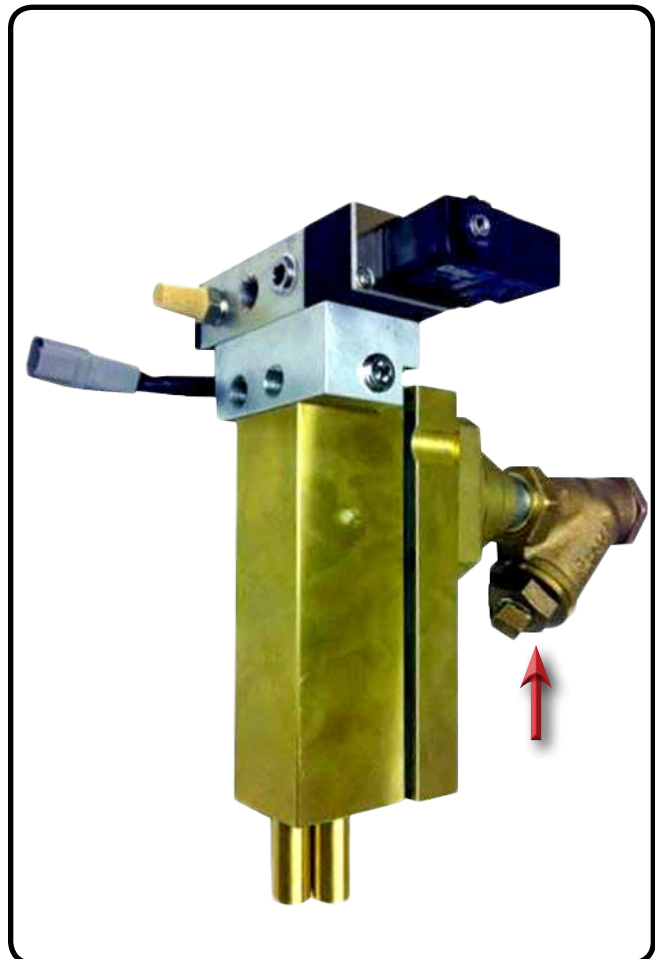
Standard Control Panel Rocker Switch Positions

- ▶ Auto Prime Switch Position, Primer is automatically activated when the green **OK TO PUMP** light is **ON**, pump pressure is less than 20 PSI [1.3 bar], and primer control LED green light is **ON**
- ▶ Prime Switch Position, **Manually Push** switch downward to activate primer or use for periodic testing of priming system (even when fire pump is not in gear)



Auto AirPrime™ – Works On

- ▶ All types of fire pumps
- ▶ Any GPM rating
- ▶ Perfect for cold Northern climates
- ▶ Any type of chassis with an air brake system



Integral Strainer on Primer Intake
Shown With Red Arrow Above

Optional Control Panel with Vacuum Gauge

- ▶ Indicates the vertical elevation of water in feet during priming operation
- ▶ Gauge connected to primer and will not be damaged by positive pressure connection
- ▶ Ability for periodic ramp test of primer
- ▶ No other primer in North America is equipped with an integral vacuum lift gauge

Multi Location Automatic AirPrime™ System

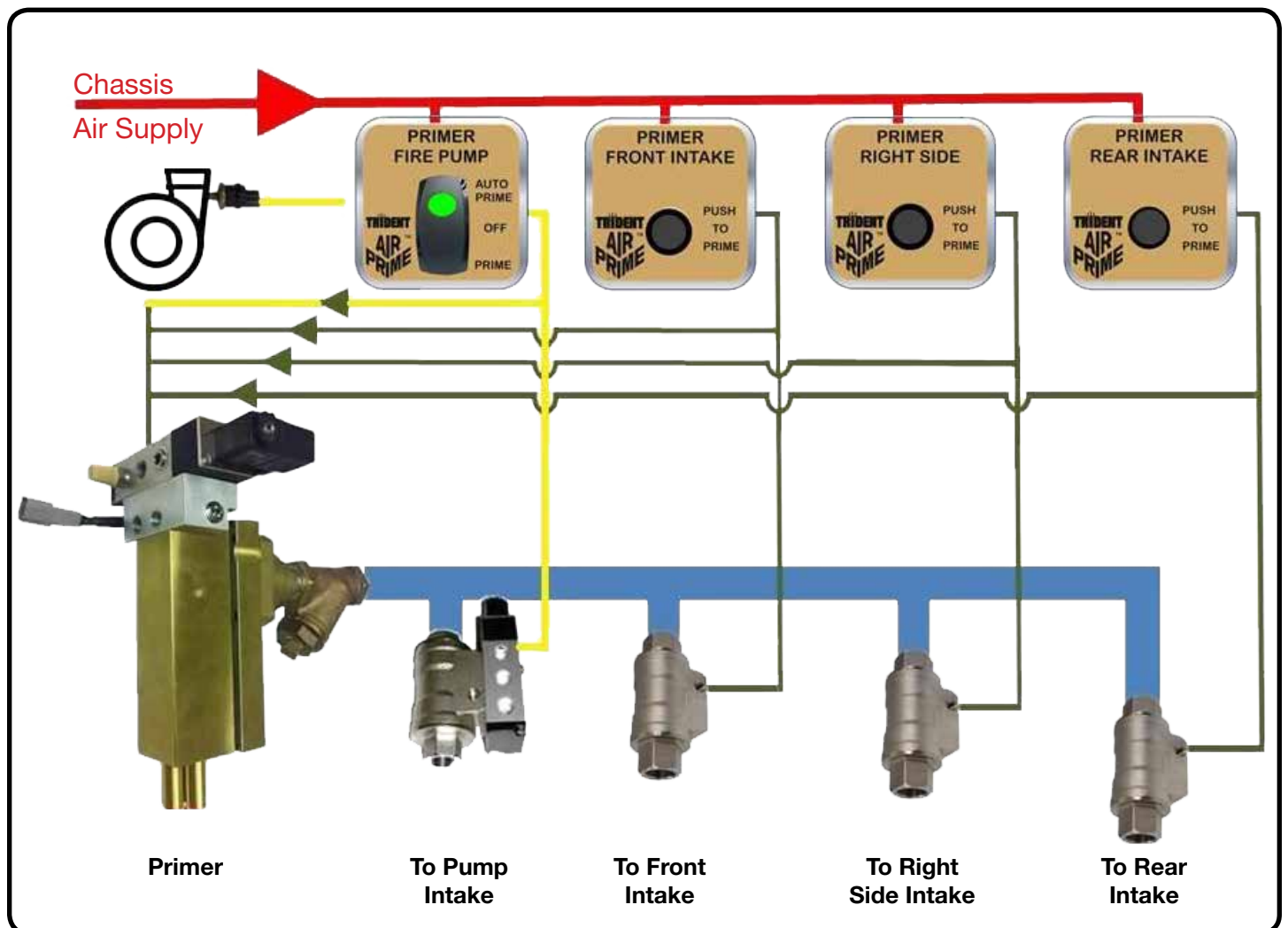
Auto AirPrime

Primer is automatically activated for re-priming when pump pressure is lower than 20 PSI [1.3 bar]

- ▶ When a slug-of-air enters the impeller
- ▶ When LDH discharge valve is opened too fast
- ▶ Switching from water tank to another source
- ▶ Other intakes can be manually pre-primed even while the Auto AirPrime™ is still engaged
- ▶ Separate primer control panels for drafting operations at Left Side, Right Side, Front or Rear of apparatus



Tanker Shuttle Operations



Manual AirPrime™ System

Standard Primer Panel

Depressing the **PUSH TO PRIME** button directs air to the primer inlet

- ▶ An internal air primer valve is opened with air pressure from chassis air system
- ▶ Vacuum for drafting is created by air-flow through multi-stage internal venturi nozzles
- ▶ Panel has no water plumbing or electrical wiring – all air controlled, eliminates freezing and electrical problems



Manual AirPrime™ – Features

- ▶ Mounting on any type of fire pump with any GPM rating
- ▶ No electric wiring, motors, or solenoids
- ▶ Works on any type of chassis with an air brake system

Optional Control Panel with Vacuum Gauge

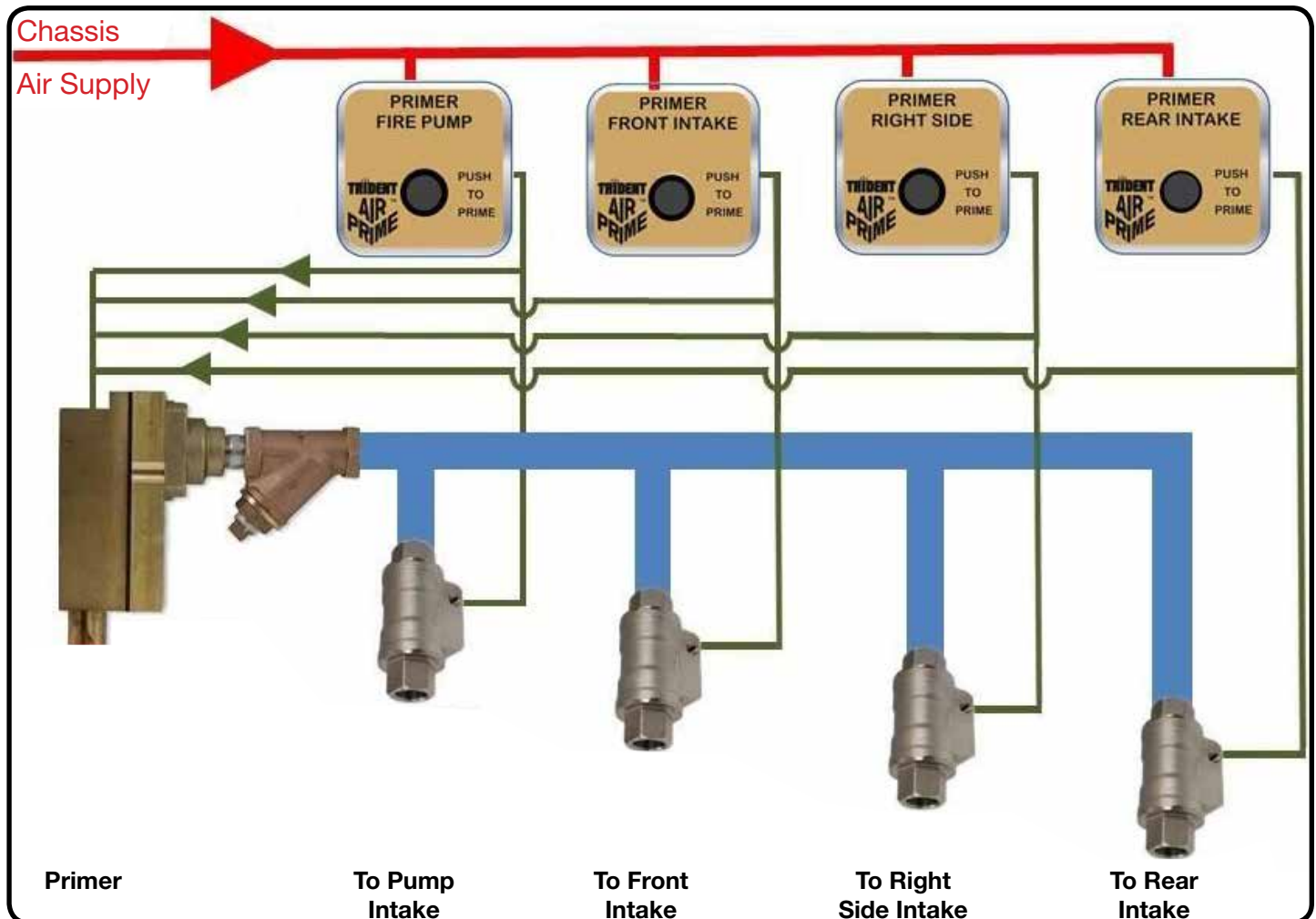
- ▶ Indicates the vertical elevation of water in feet during priming operation
- ▶ Gauge connected to primer and will not be damaged by positive pressure connection
- ▶ Ability for periodic ramp test of primer



Multi Location Manual AirPrime™ Systems

Drafting or LDH Intakes

- ▶ Perfect for Front, Rear, Left and Right side intakes on midship pumpers
- ▶ Utilize multiple folding tanks during tanker shuttles
- ▶ Quick and Easy transition from tank to pump operation to a drafting operation with external suction intake
- ▶ AirPrime quickly removes entrapped air prior to opening LDH intake valve
- ▶ When the fire pump is being supplied from the apparatus water tank, the pump operator can pre-prime external suction intakes using **PUSH TO PRIME** buttons



AirPrime Models

Part Number	Part Number	Panel Control	Locations	Size	Mounting	Compressor
Standard Model	Optional Model With Lift Gauge	Control Type	Number of Priming Points	Number of Barrels	3/4" NPT for any Pump or Direct Mount Hale Pump	Minimum CFM Rating
Automatic - Single Location - 2 Barrel						
31.003.5	31.013.5	Switch, 12-Volt	Pump Only	2 Barrel	Any Pump, Remote Mount	13.2 CFM
31.003.6	31.013.6	Switch, 24-Volt	Pump Only	2 Barrel	Any Pump, Remote Mount	13.2 CFM
Automatic - Single Location - 3 Barrel						
31.001.3	31.011.3	Switch, 12-Volt	Pump Only	3 Barrel	Any Pump, Remote Mount	15.6 CFM
31.001.4	31.011.4	Switch, 24-Volt	Pump Only	3 Barrel	Any Pump, Remote Mount	15.6 CFM
31.001.0	31.011.0	Switch, 12-Volt	Pump Only	3 Barrel	Hale-Midship Direct Mount	15.6 CFM
31.001.1	31.011.1	Switch, 24-Volt	Pump Only	3 Barrel	Hale-Midship Direct Mount	15.6 CFM
Automatic - Multiple Location						
31.001.21	31.011.21	Switch, 12-Volt	2 Location	3 Barrel	Any Pump, Remote Mount	15.6 CFM
31.001.22	31.011.22	Switch, 12-Volt	3 Location	3 Barrel	Any Pump, Remote Mount	15.6 CFM
31.001.23	31.011.23	Switch, 12-Volt	4 Location	3 Barrel	Any Pump, Remote Mount	15.6 CFM
Manual - Single Location - 2 Barrel						
31.003.7	31.013.7	Push Button	Pump Only	2 Barrel	Any Pump, Remote Mount	13.2 CFM
31.003.2	31.013.2	Push Button	Pump Only	2 Barrel	Hale-Midship Direct Mount	13.2 CFM
Manual - Single Location - 3 Barrel						
31.001.7	31.011.7	Push Button	Pump Only	3 Barrel	Any Pump, Remote Mount	15.6 CFM
31.001.2	31.011.2	Push Button	Pump Only	3 Barrel	Hale-Midship Direct Mount	15.6 CFM
Manual - Multiple Location - 3 Barrel						
31.001.11	31.011.11	Push Button	2 Location	3 Barrel	Any Pump, Remote Mount	15.6 CFM
31.001.12	31.011.12	Push Button	3 Location	3 Barrel	Any Pump, Remote Mount	15.6 CFM
31.001.13	31.011.13	Push Button	4 Location	3 Barrel	Any Pump, Remote Mount	15.6 CFM

AirPrime Conversion Kits (Not Shown)

Conversion Kit: Single Location AirPrime System, Converts Manual to Automatic	27.014.0
Conversion Kit: Multi-Location AirPrime System, Converts Manual to Automatic	27.014.1
Conversion Kit: Manual AirPrime System, Converts Single (1) Location to Dual (2) Location	27.005.2
Conversion Kit: Automatic AirPrime System, Converts Single (1) Location to Dual (2) Location	27.005.3
Conversion Kit: Multi-Location AirPrime System, Adds Additional Locations Going From (2) Location to (3) Location. Or From (3) Location to (4) Location	27.005.1
Conversion Kit: Auto AirPrime System, Adding Lift Gauge to Panel Control Note: See Page 3 to view 1/8" NPT Port. Contact Factory for Details	27.005.5
Conversion Kit: Manual AirPrime System, Adding Lift Gauge to Panel Control Note: See Page 3 to view 1/8" NPT Port. Contact Factory for Details	27.005.4

2 Barrel Design

13.2 CFM Minimum Air Compressor Rating
1000 GPM or Less Fire Pump Rating

Optional Air Pressure Protection Valve
Part# 30.053.0 ▶



All AirPrime™ models are covered by
US Patent # 6,682,313

3 Barrel Design

15.6 CFM Minimum Air Compressor Rating
1250 GPM or Larger Fire Pump Rating

Direct Mount
AirPrime™ ▶



Trident Emergency Products, LLC

2940 Turnpike Drive | Suite #9 | Hatboro, Pennsylvania 19040
215-293-0700 Phone
215-293-0701 Fax
sales@tridentdirect.com Email

www.tridentdirect.com

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<https://www.facebook.com/tridentemergency>



World Class
Fire Apparatus
Plumbing and
Hardware Products

AirPrime™ is a trademark of
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