

TRIDENT

Air Operated Priming System

AIR
PRIME™

The
GOLD
Standard
for Pump
Priming



Shown Above: 100' of 6" Suction Hose with a 10' Vertical Lift



Priming Time...

113 Seconds!

Water Flow...

1,012 GPM

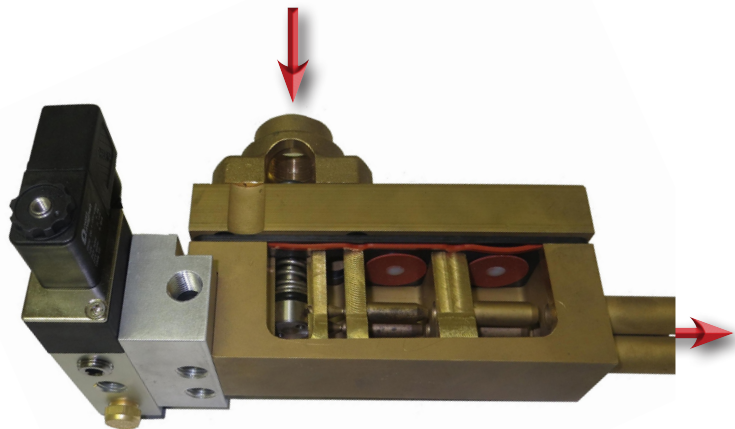
TRIDENT AirPrime™

How Does It Work?

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

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.

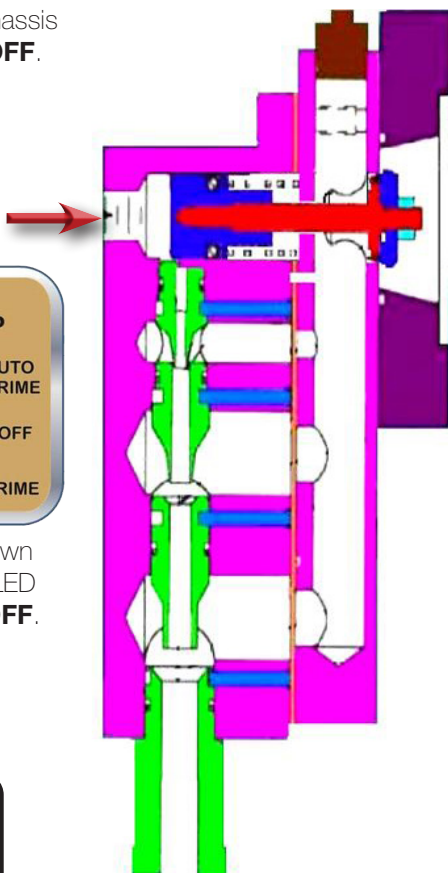


Off Position

Air supply from chassis brake system is **OFF**.



Primer switch shown in **OFF** position. LED indicator light is **OFF**.



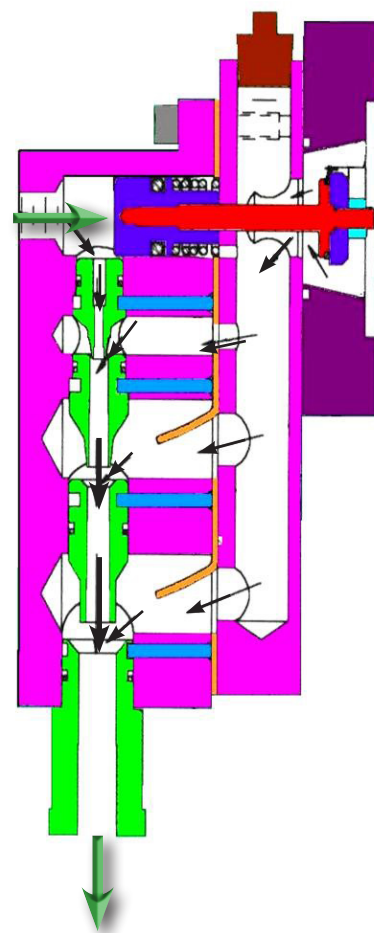
On Position

Air supply from chassis brake system is **ON**.
Air enters and activates primer.



Primer switch shown in **AUTO PRIME** position. Green LED indicator light is **ON**.

1. Press switch **Down** for Manual Prime
2. Press switch **Up** for **Auto Prime**.



NFPA #1901 and #1906 – Fully Compliant to Standards
Pump Panel Noise Level – Lowest dB in the industry

TRIDENT AirPrime™

Standard Features

- ▶ Reliable chassis air supply: 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 electric primer (Under 15' / 5 meters)
- ▶ Folding Tank Drafting Time: 4' lift in less than 10 seconds at idle engine speed
- ▶ Primer assembly body: All brass and stainless steel construction (No aluminum)
- ▶ Vacuum produced by 'venturi action' within primer body
- ▶ Primer features automatic draining: No freezing
- ▶ Primer control lines: Air Only (No water plumbing to pump panel – no freezing)
- ▶ Requires no lubrication or primer vanes to replace
- ▶ Electric clutch and belt drive assembly – Not required
- ▶ 5 Year Warranty: Unlimited duty cycle
- ▶ Cost: Lowest cost in the industry!



TRIDENT AirPrime™

New Installations

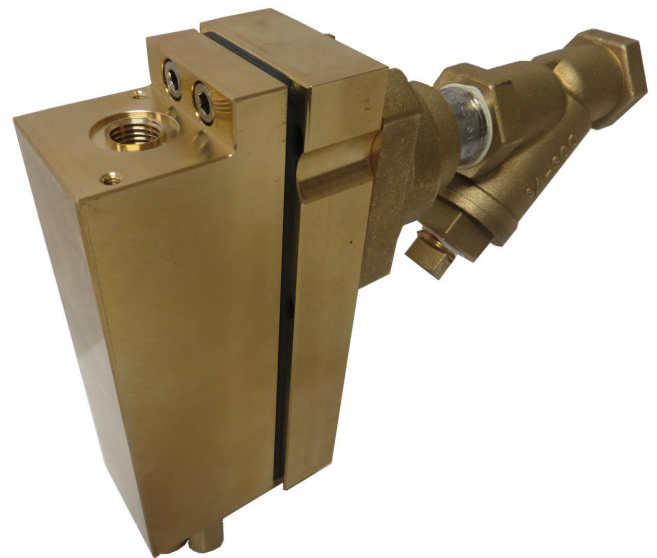
- ▶ Installation: Installs in ½ the time vs. an electric primer
- ▶ Mounting Location: In any high location within the pump enclosure
- ▶ Control Panel: Unique and easily identifiable panel
- ▶ Gated Intakes: Perfect for multi-location intakes

Retro Installations

- ▶ No wiring required from battery
- ▶ Takes less space than rotary vane primers
- ▶ No primer water lines to pump panel
- ▶ Easy to install in fire station by mechanic
- ▶ Installs on any fire pump
- ▶ Multiple location available
- ▶ Automatic AirPrime™ available
- ▶ Very lightweight and quiet!
- ▶ Primer can be tested without fire pump being in gear



Separate and Cleanable
Wye Strainer



TRIDENT Auto AirPrime™

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 to activate primer or use for periodic testing of priming system (even with fire pump not in gear)



Auto AirPrime™ – Works On

- ▶ All types of fire pumps and any GPM rating
- ▶ Perfect for cold Northern climates
- ▶ Any type of chassis with air brakes



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
- ▶ Testing: Ability for periodic 'ramp test' of primer
- ▶ No other primer in North America is equipped with an integral vacuum lift gauge



Integral strainer on Primer Intake shown above.

TRIDENT Auto AirPrime™

Multi Location Automatic Priming System

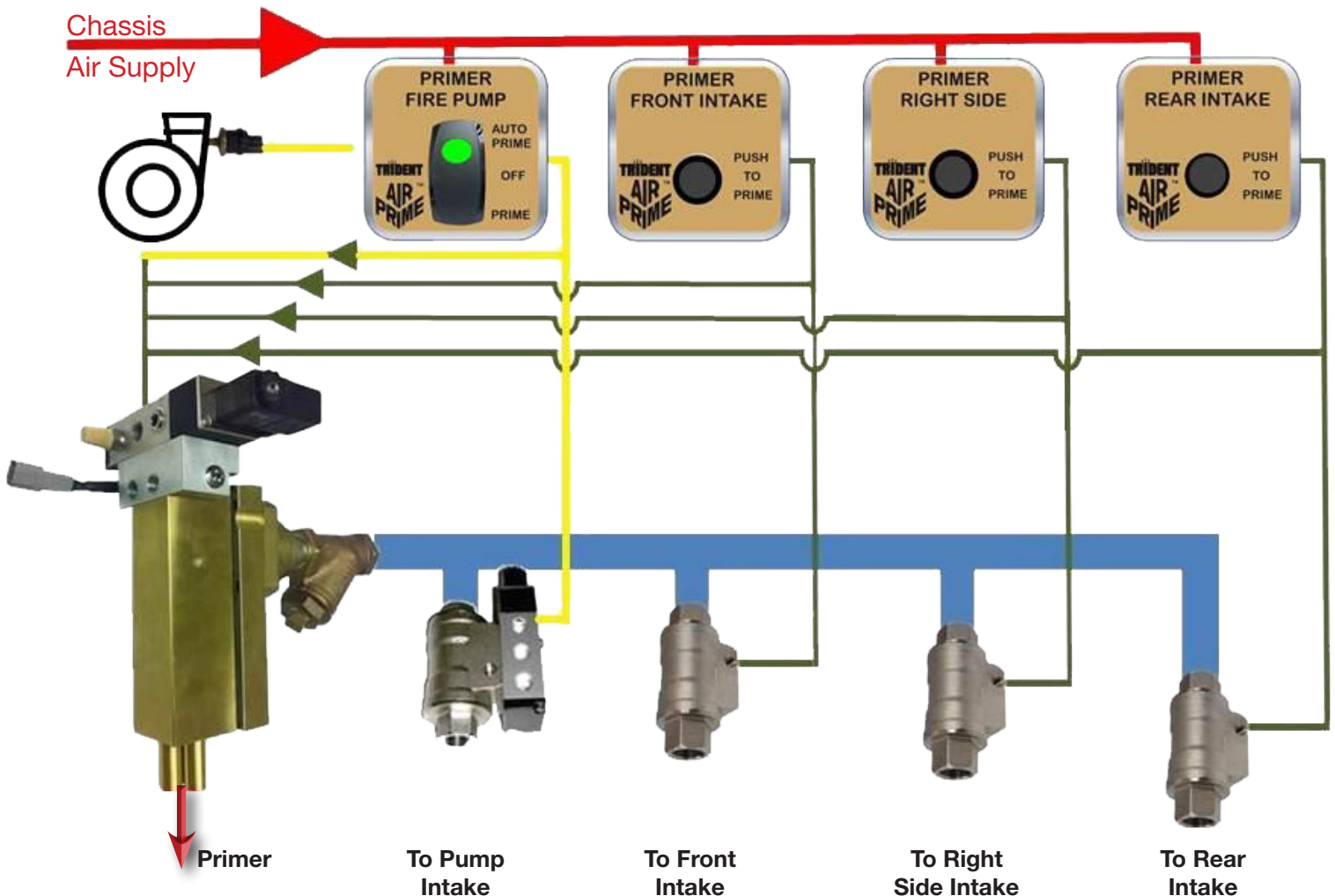
Auto AirPrime

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

- ▶ When a 'slug-of-air' enters 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 Priming 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
- ▶ Chassis any type with air brakes

Optional Control Panel

With Vacuum Gauge

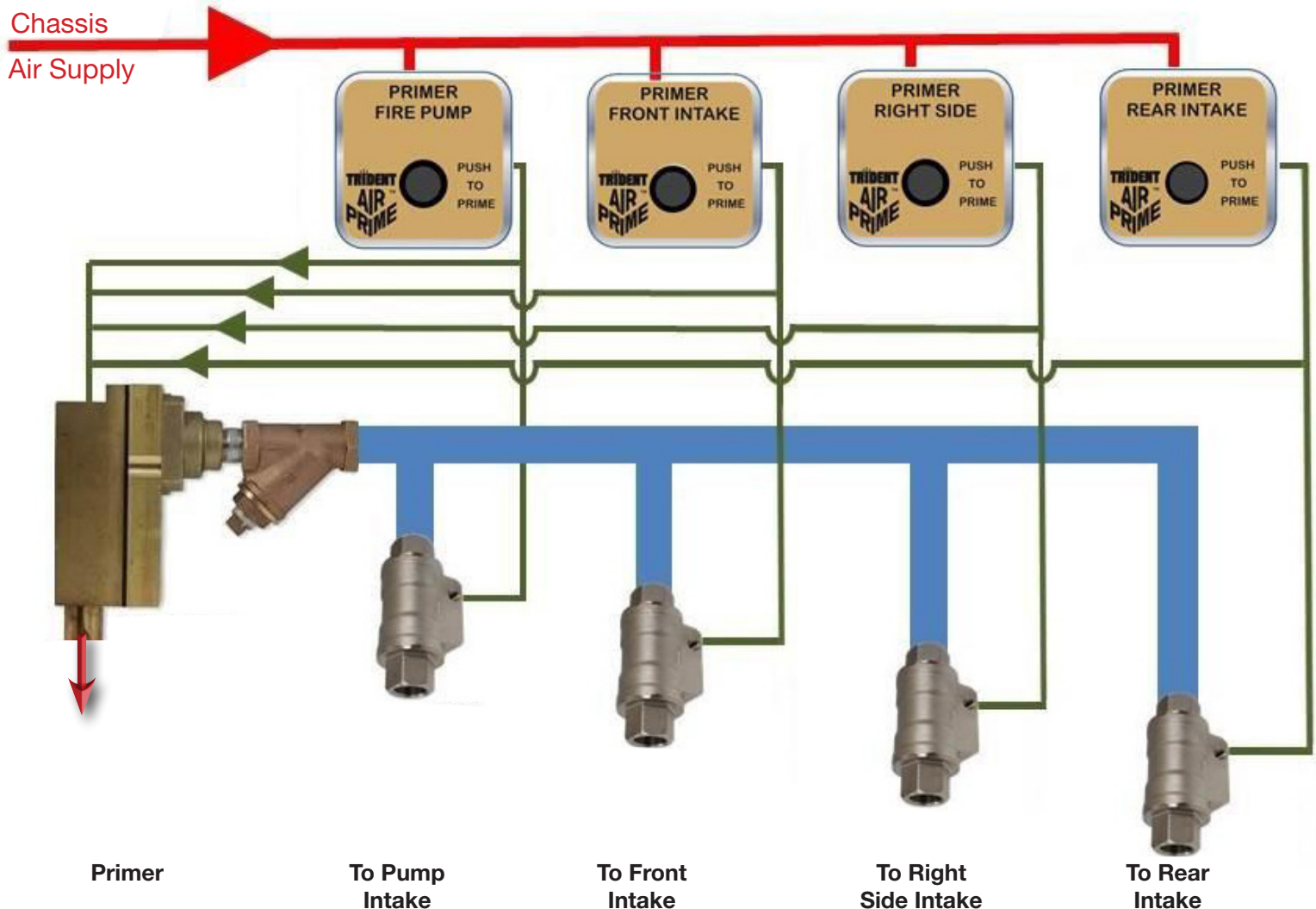
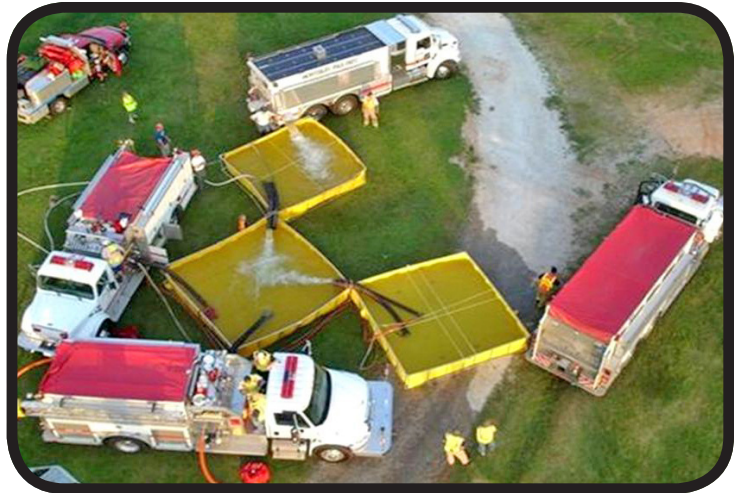
- ▶ Indicates the vertical elevation of water in feet during priming operation
- ▶ Gauge connected to primer and will not be damaged by positive pressure connection
- ▶ Testing: Ability for periodic 'ramp test' of primer



Multiple Location Manual Priming System

Drafting or LDH Intakes

- ▶ Midship pumpers: Perfect for Front, Rear, Left and Right side intakes
- ▶ Tanker Shuttle: Multiple folding tanks
- ▶ 'Quick and Easy' changing from tank to pump operation to external suction intake drafting
- ▶ LDH Hose Operations: AirPrime quickly removes 'entrapped air' prior to opening LDH intake valve
- ▶ Gated Intakes: As 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



TRIDENT AirPrime™

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	¾" 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
CONVERSION KIT – (Converts Existing Manual AirPrime to 12-Volt Automatic)						
27.014.0	N/A	Switch, 12-Volt	Single Location	3 Barrel	Direct or Remote Mount	15.6 CFM
27.014.1	N/A	Switch, 12-Volt	Multi Location	3 Barrel	Any Pump, Remote Mount	15.6 CFM

2 Barrel Design

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

3 Barrel Design

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



Optional
Air Pressure
Protection
Valve
Part# 30.053.0



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

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



World Class
Fire Apparatus
Plumbing and
Hardware Products

AirPrime™ is a trademark of
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