



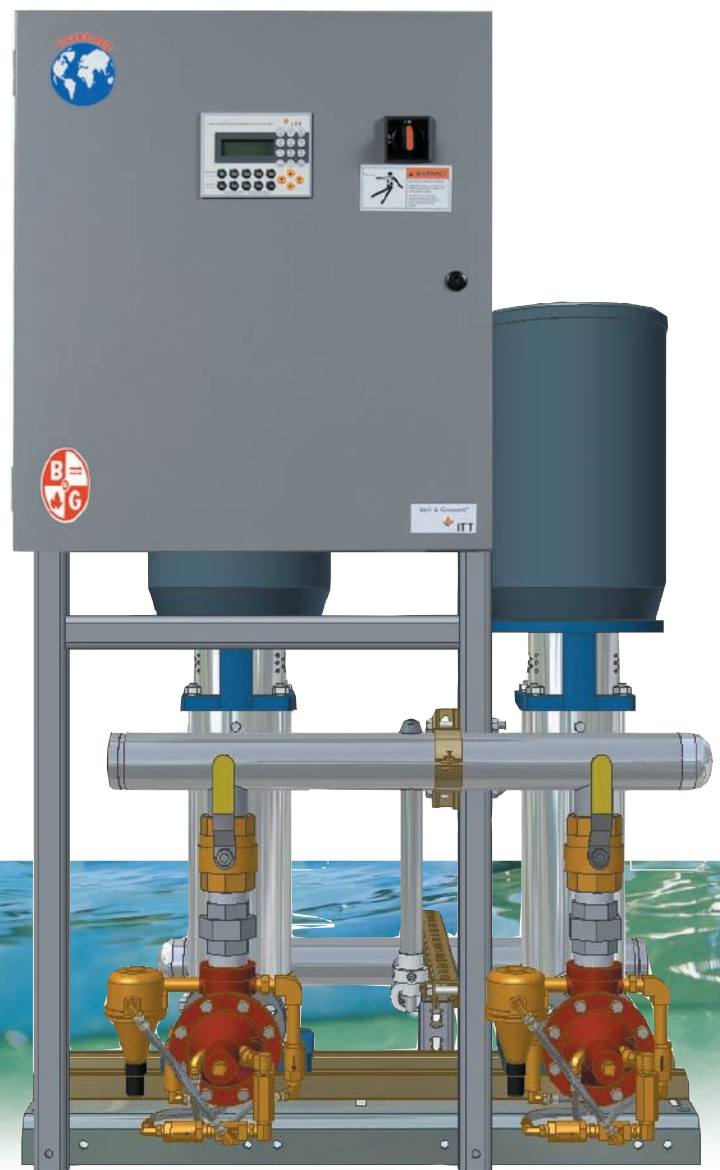
# ITT

Bulletin D-207A

Packaged Systems Group

## 70M-MS Multi-Stage Pressure Booster

- All Piping is Non-Ferrous with Type 304 Stainless Steel Headers
- "EZ" Start through Quick Setup
- Full Factory Performance Test at Rated Flow & Head
- Duplex and Triplex Configurations
- Vertical Multi-Stage Stainless Steel Pumps
- Vertical Pump Configuration Minimizes Footprint
- Serial Communication
- 4-6 Pump Packages Optional



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## 70M-MS Multi-Stage Pressure Booster

### Microprocessor Control Panel

- Exclusive Bell & Gossett design
- Internal Diagnostics
- Differential Temperature No Flow Shut Down
- Automatic or Manual Operation
- NEMA 1 Enclosure
- UL Listed
- cUL or CSA Certified
- All analog inputs shall be provided with current limit circuitry to provide short circuit protection and safeguard against incorrect wiring of sensors.
- IEC Magnetic Starters with Integral Overload Protection
- Short Circuit protection for each pump via fuses

### User-Friendly Operator Interface

- User Selectable Pump Staging Methods:
  - kW (True Power)
  - Amps (RMS)
  - Flow (GPM) (flow sensor required)
  - Pressure (PSI)
- “EZ” Start through Quick Setup
- Log Menu
- On-Screen Help Function
- On-line Diagnostics
- Visual Alarm Messages
- High and Low Suction Pressure Alarms\*
- High and Low System Pressure Alarms\*
- High Temperature Alarm\*
- Overload Failure Alarm\*
- Manual or Automatic Pump Alternation
- kW and Amp Transducer with On-Board Calibration
- Elapsed Time Meters
- Suction and Discharge Pressure Displays
- Virtual Hand-Off-Auto Switches for each Pump
- Pump Exercise
- Parameter Backup Through Save and Load Menu
- Scheduled Start/Stop of System
- Real Time Clock

### Optional Features

- NEMA 4 or 12 Panel Enclosure
- Low Level Cutout with Alarm (used when drawing from a tank)
- High Level Cutout (used when filling a tank)
- Differential Pressure Switches (for pump failure indication)
- Flow Meter (for flow staging or for gpm display)
- NEMA Starters
- Short Circuit Protection for Each Pump Via Circuit Breakers
- 304 Stainless Steel Ball Valves
- 304 Stainless Steel Base

- (4–6) Pump Systems
- Audible Alarm
- Flow Switch No Flow Shutdown
- Phase Monitoring
- Pressure Switch (for redundant low suction cutout)

### Energy Management System Interface Hardwired Communication:

- Pump Run Indication
- Start/Stop–Digital Input
- Alarm Indication
- System Auto/Manual

### Serial communication:

- Above Points Plus:
- Pressure, Temperature and Power Measurement
- System Flow – with Optional Flow Meter
- Pump Alternation
- No Flow Shut Down Status

### Factory Assembled Pressure Booster System

- Vertical Multi-Stage Stainless Steel Pumps
- All Non-Ferrous Piping
- Pressure Reducing Valves
- Thermal Relief Mechanism
- Pump/PRV Isolation Valves

\* These items are sub items below “Visual Alarm Messages”



**70M-MS  
Multi-Stage  
Three-Step  
Selection Process**

**Step 1**

System Demand: \_\_\_\_\_ GPM

0-215 = 3"      Up to 375 = 4"      Up to 835 = 6"

**Step 2**

Required Pump Total Dynamic Head

1. System Discharge Pressure Required: \_\_\_\_\_ psig x 2.31 = \_\_\_\_\_ ft (A)

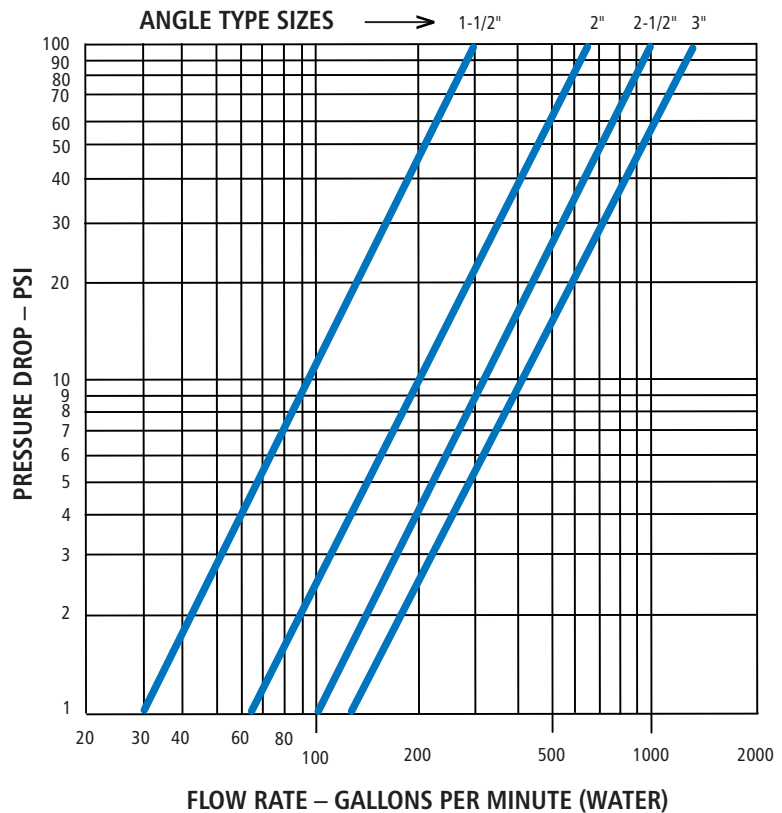
2. Pump Package Pressure Drop: 2.2 psig x 2.31 = 4.62 ft (B)

3. PRV Pressure Drop (*see Chart A*):

Pump 1 Flow – \_\_\_\_\_ GPM. . . \_\_\_\_\_ psig x 2.31 = \_\_\_\_\_ ft (C)  
(Chart A)

Pump(s) 2 (and 3) Flow – \_\_\_\_\_ GPM. . . \_\_\_\_\_ psig x 2.31 = \_\_\_\_\_ ft

**Chart A  
PRV Pressure Drop**



4. Suction Pressure from City Supply or Tank\* \_\_\_\_\_ psig x 2.31 = \_\_\_\_\_ ft (D)

\*Note: NPSH requirement of final pumps selected.

Required Pump Total Dynamic Head = A + B + C – D =

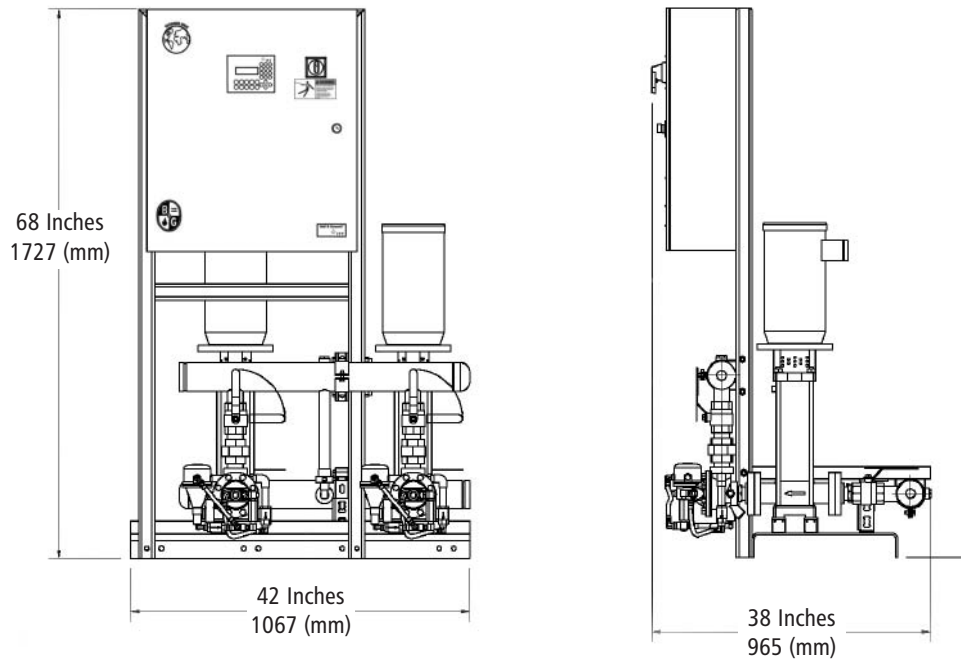
\_\_\_\_\_ ft + \_\_\_\_\_ ft + \_\_\_\_\_ ft – \_\_\_\_\_ ft = \_\_\_\_\_ ft (TDH)

(Repeat for lag pump(s) if unequal pumps are utilized.)

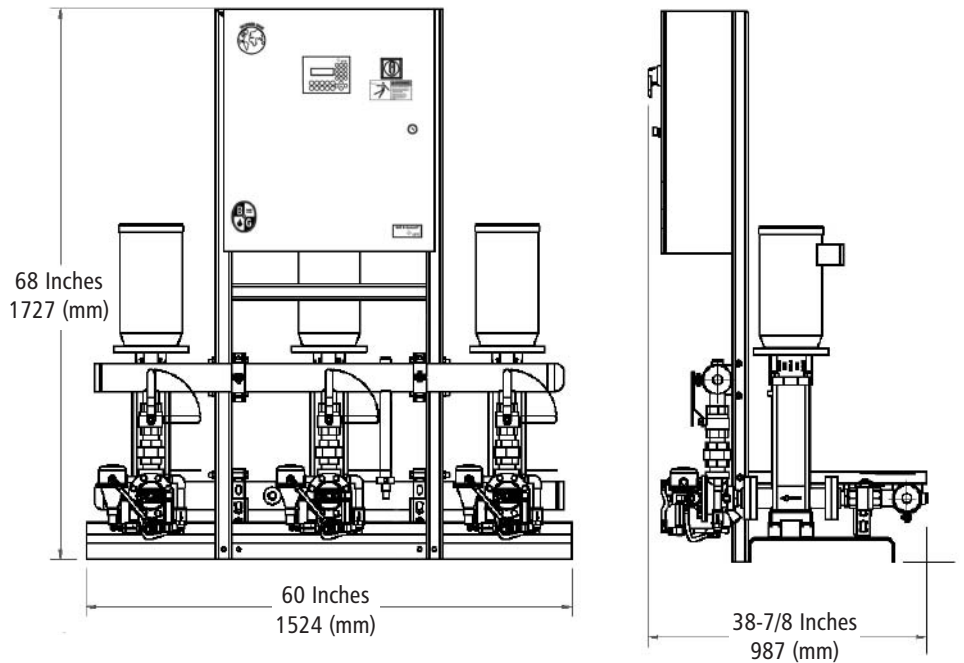
**Step 3**

Use the ESP-PLUS Pump Selection program or Bell & Gossett published pump curves to select pumps. If you cannot find a package to fit your application, call your local Bell & Gossett Representative for a Booster that will fit.

## 70M-MS Duplex Dimensions



## 70M-MS Triplex Dimensions



Dimensions valid for systems utilizing 1SV, 2SV, 3SV or 4 SV pumps with 3" and 4" headers only. Do not use for construction. Dimensions are approximate and subject to change. Consult factory for certified dimensions.

- Consult factory for system using 33-92SV pumps or 4-6 pump configurations



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