

# AURORA 770 CP BOSS

## SELECTION DATA

### SELECTION OF CP BOSS CONSTANT PRESSURE BOOSTER SYSTEMS

**TITLE:** \_\_\_\_\_

**CONTACT INFO:** \_\_\_\_\_

**DETERMINE FIELD CONDITIONS:**

Suction Pressure \_\_\_\_\_ psig (B)  
*(City Supply of Tank)*

Total System Flow \_\_\_\_\_ gpm

System Discharge Pressure \_\_\_\_\_ psig (A)

Pump/Motor Speed       3600 rpm       1800 rpm

Motor Enclosure         ODP             TEFC

Electrical Supply Information

Voltage                     208             230             460

**SYSTEM CONFIGURATION:**

Duplex       Triplex

**PUMP ORIENTATION:**

Horizontal     Vertical

**SELECT MANIFOLD/BASE PACKAGE:**

Determine Manifold Size	Duplex	Triplex
3"	0 – 250 gpm	0 – 250 gpm
4"	251 – 450 gpm	251 – 450 gpm
6"	451 – 800 gpm	451 – 1200 gpm

Suction/Discharge MANIFOLD SIZE:

3" Manifolds       4" Manifolds       6" Manifolds

Suction/Discharge MANIFOLD MATERIAL:

Galvanized Steel     Copper             Stainless Steel

**DETERMINE PUMP FLOW REQUIREMENTS:**

Duplex: P1 _____ %	Triplex: P1 _____ %
P2 _____ %	P2 _____ %
P3 _____ %	

**DETERMINE REQUIRED FLOW PER PUMP IN GPM:**

*(Total System Flow x % for each Pump)*

Duplex: P1 _____ gpm	Triplex: P1 _____ gpm
P2 _____ gpm	P2 _____ gpm
	P3 _____ gpm

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**DETERMINE PRV SIZE(S):**

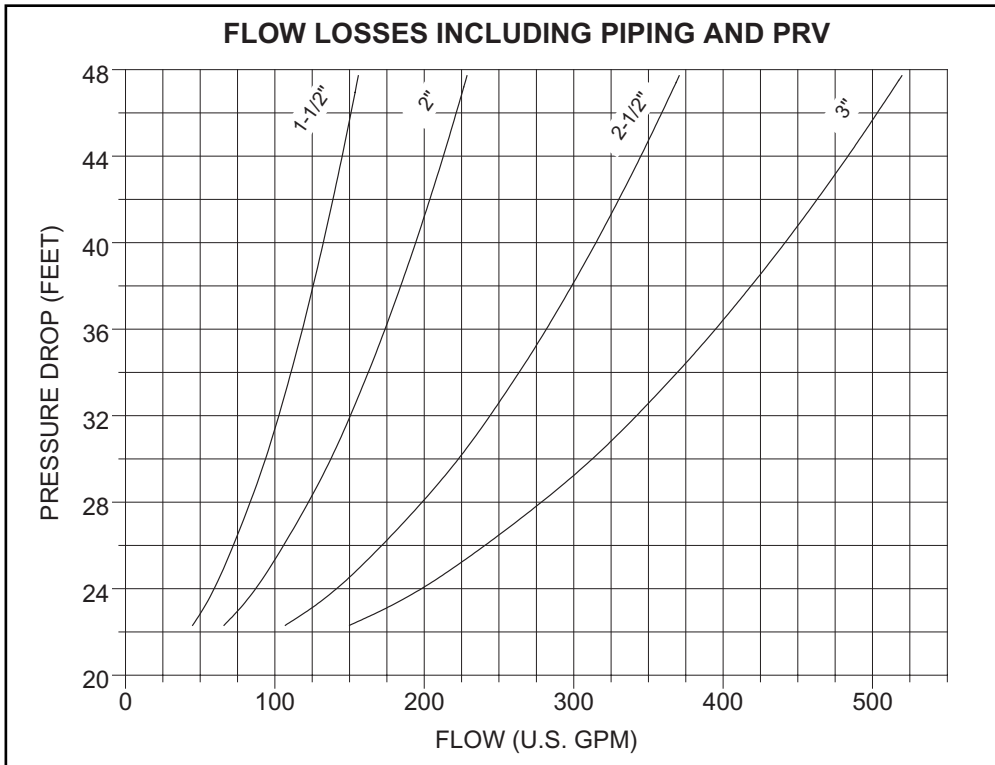
*(PRV size is based on individual pump flows)*

PUMP FLOW	≤ 80 GPM	≤ 150 GPM	≤ 250 GPM	≤ 400 GPM
PRV SIZE	1-1/2"	2"	2-1/2"	3"

Duplex: PRV1 \_\_\_\_\_ in.      Triplex: PRV1 \_\_\_\_\_ in.  
 PRV2 \_\_\_\_\_ in.              PRV2 \_\_\_\_\_ in.  
                                                  PRV3 \_\_\_\_\_ in.

**DETERMINE SYSTEM/PIPING/PRV FLOW LOSSES:**

C: Determine Flow Losses based on PRV size: \_\_\_\_\_ FT.



*(See Chart Below)*

Duplex: P1 Flow Losses \_\_\_\_\_ Ft (C1)      Triplex: P1 Flow Losses \_\_\_\_\_ Ft (C1)  
 P2 Flow Losses \_\_\_\_\_ Ft (C2)              P2 Flow Losses \_\_\_\_\_ Ft (C2)  
                                                                                                  P3 Flow Losses \_\_\_\_\_ Ft (C3)

**CALCULATE REQUIRED PUMP TDH: [ (A - B) X 2.31 ] + C**

A: Required System Discharge Pressure (From Field Conditions)

B: System Suction Pressure (From Field Conditions)

C: (1,2,3): Flow Losses (From Chart Above)

## SELECTION DATA

Dated **August 2002**

$$\begin{aligned}
 P1 & \quad [ (A) \underline{\hspace{1cm}} \text{ PSIG} - (B) \underline{\hspace{1cm}} \text{ PSIG} ] \times 2.31 + (C1) \underline{\hspace{1cm}} \text{ Ft.} = \underline{\hspace{1cm}} \text{ Ft.} \\
 P2 & \quad [ (A) \underline{\hspace{1cm}} \text{ PSIG} - (B) \underline{\hspace{1cm}} \text{ PSIG} ] \times 2.31 + (C2) \underline{\hspace{1cm}} \text{ Ft.} = \underline{\hspace{1cm}} \text{ Ft.} \\
 P3 & \quad [ (A) \underline{\hspace{1cm}} \text{ PSIG} - (B) \underline{\hspace{1cm}} \text{ PSIG} ] \times 2.31 + (C3) \underline{\hspace{1cm}} \text{ Ft.} = \underline{\hspace{1cm}} \text{ Ft.}
 \end{aligned}$$

Individual Pump Duty Points:

P1                 GPM @            Ft. TDH  
 P2                 GPM @            Ft. TDH  
 P3                 GPM @            Ft. TDH

**TANK SELECTION & MOUNTING OPTIONS:**

Select the tank size required:

120-132 gallon       158-165 gallon       211-220 gallon

Select tank pressure:

125       175

Tank mounting:

Remote (by others)       Factory mounted on system base

**PUMP & MOTOR SELECTION:**

Select required pumps from the CP Boss Bulletin. Curves are available from the 340 section of the Aurora Pump catalog or H2Optimize.

**CONTROL PANEL SELECTION:**

Control Panel Configuration:

Duplex       Triplex

Controller Voltage:

208       230       460

Pump Horsepower Requirements:

Duplex: P1            HP      Triplex: P1            HP  
           P2            HP                    P2            HP  
                                                                                  P3            HP

Pump Sequencing:

Pressure Sensing       Flow Sensing       Current Sensing

Control Panel Options

- A High System Pressure Switch & Light
- B High Suction Pressure Switch & Light
- C Low System Pressure Switch & Light
- D Three Phase Lightning Arrestor
- E O/L Trip Light (alarm w/silence PB Std)
- F Failure to Start Light
- G Circuit Breakers in Place of Fuses
- H Individual Motor Disconnects
- J NEMA 4 Enclosure
- K NEMA 12 Enclosure
- L PLC Display Module

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## SELECTION DATA

### Control Panel Options Cont.

- M PLC Computer Link Cable
- N PLC Memory Cartridge
- P Lead/Lag Manual Selector Switch
- Q Remove Alarm Contacts
- R Space Heater with Thermostat
- T Tank Pressure Switch
- W Elapsed Time Meter
- X Pressure Transducer
- Z PLC Real Time Clock

### SYSTEM TESTS:

Standard Factory Test: All CP Boss systems are factory tested to assure proper sequencing to meet the design flows and pressure.

#### OPTIONAL FACTORY TESTS

- Certified Test
- Witness Test

### SYSTEM DIMENSIONS:

Dimension Page \_\_\_\_\_ (from catalog)