



SAM™ Control System

Transforming Traditional Pump Operations.

SAM is a total water flow control system that manages your truck's pump, tank, intakes and discharges. SAM was developed to help eliminate common problems on the fireground and minimize disruption of water, the firefighter's lifeline.

System Overview for Dealers and OEMs

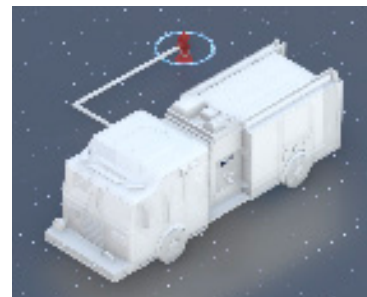
MEET SAM

Ever hear your customers say any of these things? If so, they need to meet SAM.

- ✓ We don't always have enough people responding to calls
- ✓ It's getting harder to train the new recruits to be pump operators
- ✓ We are a department that doesn't pump a lot
- ✓ My pump operator has made mistakes that delayed or interrupted water flow
- ✓ Radio traffic has prevented the pump operator from hearing calls for water
- ✓ We've had low hydrant pressure and lost water to the crew
- ✓ We've experienced hot hydrants with over pressurized handlines fatiguing our crew

What exactly does SAM do?

By controlling intake, discharge and tank valves as well as engine speed, SAM manages water supply to the crew while the operator focuses on the fireground and crew support. During the critical first five minutes, the pump operator has roughly 13 tasks to complete to supply initial attack crews and establish a water source. With SAM, the operator only has to do three of these tasks and SAM takes care of the rest. This frees up the operator to focus on the crew and fireground conditions.



Once the operator sets discharge pressures and selects a source, SAM does these things in the background:

- Opens tank-to-pump valve
- Charges discharge line and adjusts to set pressure
- Bleeds LDH or pre-primers to the intake valve and opens intake
- Closes tank-to-pump and refills tank
- Watches intake pressure and switches back to tank if pressure is lost



How SAM helps in the first five minutes

Everyone knows how critical the first five minutes are when you arrive on an active fire scene. During these first five minutes it is critical to get water to the crew and establish a water supply as the tank is emptying. SAM helps by reducing the number of tasks the operator has to complete during this critical time so that focus can be shifted to the scene and the crew.

	OPERATOR TASKS WITHOUT SAM	OPERATOR TASKS WITH SAM
Initial Attack Phase		
Open tank-to-pump	X	
Set pressure governor to PSI	X	
(Select line and give SAM set pressure)		✓
Open first discharge	X	
Adjust governor setting to desired discharge pressure	X	
(Select line and give SAM set pressure)		✓
Opens second discharge	X	
Adjust valve to obtain desired pressure	X	
Establish Water Source		
(Tell SAM to transition to hydrant)		✓
Bleed LDH	X	
Slowly open intake valve to minimize disruption to discharge pressure	X	
If hydrant pressure is too high, gate discharge valves	X	
Close tank-to-pump	X	
Open tank fill valve and refill tank	X	
Check discharge 1 and 2 and feather as needed	X	
Close tank fill valve once tank is full	X	

13 tasks



traditional pump panel

3 tasks = time to focus on the crew and fireground



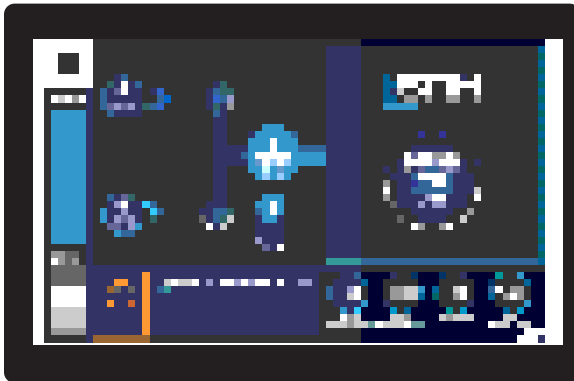
pump panel with SAM

SAM OPERATOR INTERFACES

Two Operator Interfaces for complete control of your water flow

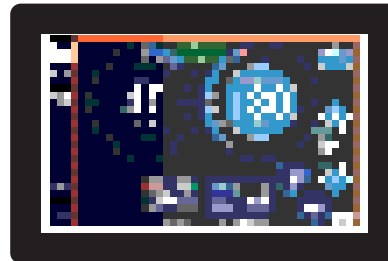
The SAM control system provides complete control of water to and from the pump with two interfaces, the SAM control center and the pump controller.

Control Center



- Intake, tank and discharge control
- CAFs and foam operation when Class 1 SmartCAFS or SmartFOAM is installed

Pump Controller



- Governor functions
- Tank-to-pump and Tank-to-valve control
- Pump Health
- Engine data

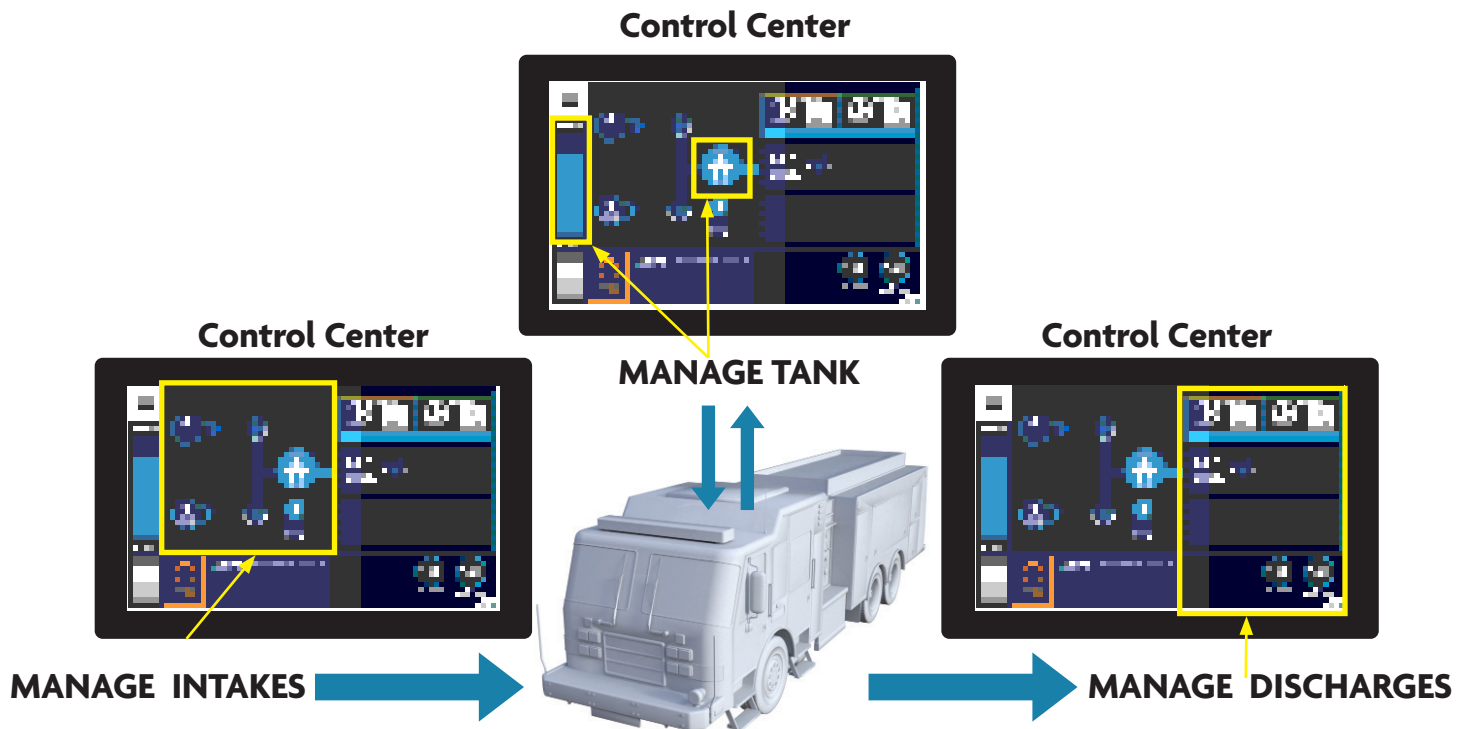
Twister



- Throttle control
- System Idle

SAM CONTROL CENTER

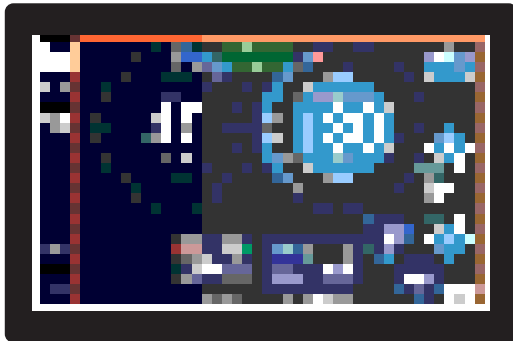
At a glance, the operator has a snapshot of intakes, discharges and tank status and can quickly and efficiently manage their water flow on the SAM control center. The control center is the primary control interface and during most operations it is the only screen the pump operator will need to use.



SAM PUMP CONTROLLER

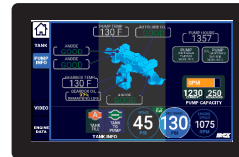
The SAM pump controller is supplementary to the SAM control center and used primarily for reference information. When the system is manual mode, the pump controller will have a pressure governor interface allowing the operator to select PSI or RPM mode and control the master discharge set pressure or engine speed directly. It provides the following functions:

- Pressure governor control and engine information
- Tank-to-pump and tank fill controls in manual mode
- Pump health information
- Video display
- Real time pump capacity

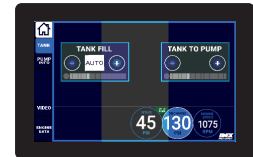


PUMP CONTROLLER – Manual Mode

Additional Pump Controller Pages



Pump health



Tank to pump and tank fill controls



Video inputs



Engine data

OPTIONAL WIRELESS TABLET

The SAM wireless tablet allows the operator to have quick access to the control center functions. As soon as the operator sees a call for water, they can stop what they are doing and tell SAM what line to open and send water immediately.



SYSTEM REQUIREMENTS

The system requires the following components to be specified with the truck:

- Hale Qmax or Qmax-XS
- Akron Brass Electric Valves and pressure transducers
- Class 1 ITL-40 tank level
- Hale SPV primer
- Hale electric MIV(s)



Optional items:

- SAM Smart Nozzle with N₂P Technology™
- Akron Brass Navigator electric valve controllers (can be used as redundant controllers, but not required)
- Class 1 SmartFoam or SmartCAFS
- Additional SAM Control Center (Up to 2 additional)

