



DESIGN AND INNOVATION

**Model 20 I Range
Sensor Activated Fire
Extinguishing
(S.A.F.E.) System
For Phase 7.3 Coin/OPL**

Installation/User's/Parts Manual

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S.A.F.E. System In Action



The exclusive Sensor Activated Fire Extinguishing (S.A.F.E.) system will extinguish fires that may start in the drying basket (tumbler). A series of sensors positioned throughout the basket (tumbler) and interfaced with the microprocessor will trigger the S.A.F.E. system water jet(s) to quickly extinguish the flames. The water jet(s) remain on for 2 minutes and will automatically activate again if a fire condition remains or reignites. While the water jet(s) are activated, the basket (tumbler) will jog to move the water throughout the load. The microprocessor will display that the system was activated and will continue to display until the dryer is attended to.

We have tried to make this manual as complete as possible and hope you will find it useful. **ADC** reserves the right to make changes from time to time, without notice or obligation, in prices, specifications, colors, and material, and to change or discontinue models.

BEFORE YOU START!

CHECK LOCAL CODES AND PERMITS

Call your local water company or the proper municipal authority for information regarding local codes.

IMPORTANT: It is your responsibility to have ALL plumbing connections made by a qualified professional to assure that the plumbing installation is adequate and conforms to local, state, and federal regulations or codes.

IMPORTANT: It is the installation or owners responsibility to see that the necessary or required water, water pressure, pipe size, or connections are provided. Manufacturer assumes no responsibility if the sensor activated fire extinguishing (S.A.F.E.) system **is not** connected, installed, or maintained properly.

INSTALLATION

1. Requirements

The inlet water connection to the dryer is a 1/2" M.P.T., the S.A.F.E. system **must be** supplied with a minimum water pipe size of 1/2-inch and be provided with 40 PSI +/- 20 PSI (2.75 bar +/- 1.37 bar) of pressure. For use of optional manual bypass, a second source with the same piping and pressure requirements is required.

Flexible 1/2 feeds **must be** provided to avoid damage to electric water solenoid valve by vibration.

IMPORTANT: Flexible supply line/coupling **must be** used. Solenoid valve failure due to hard plumbing connections WILL VOID WARRANTY.

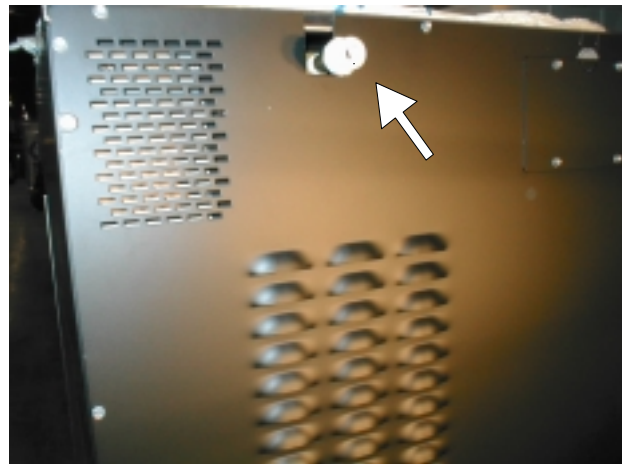
If the rear area of the dryer, or the water supply is located in an area where it will be exposed to cold/freezing temperatures, provisions **must be** made to protect these water lines from freezing.

WARNING: If the water in the supply line or water solenoid valve freezes, the S.A.F.E. system will be INOPERATIVE!!

IMPORTANT: Appliance is to be connected to the water mains using a new hose-set and the old hose-sets **should not be** reused.

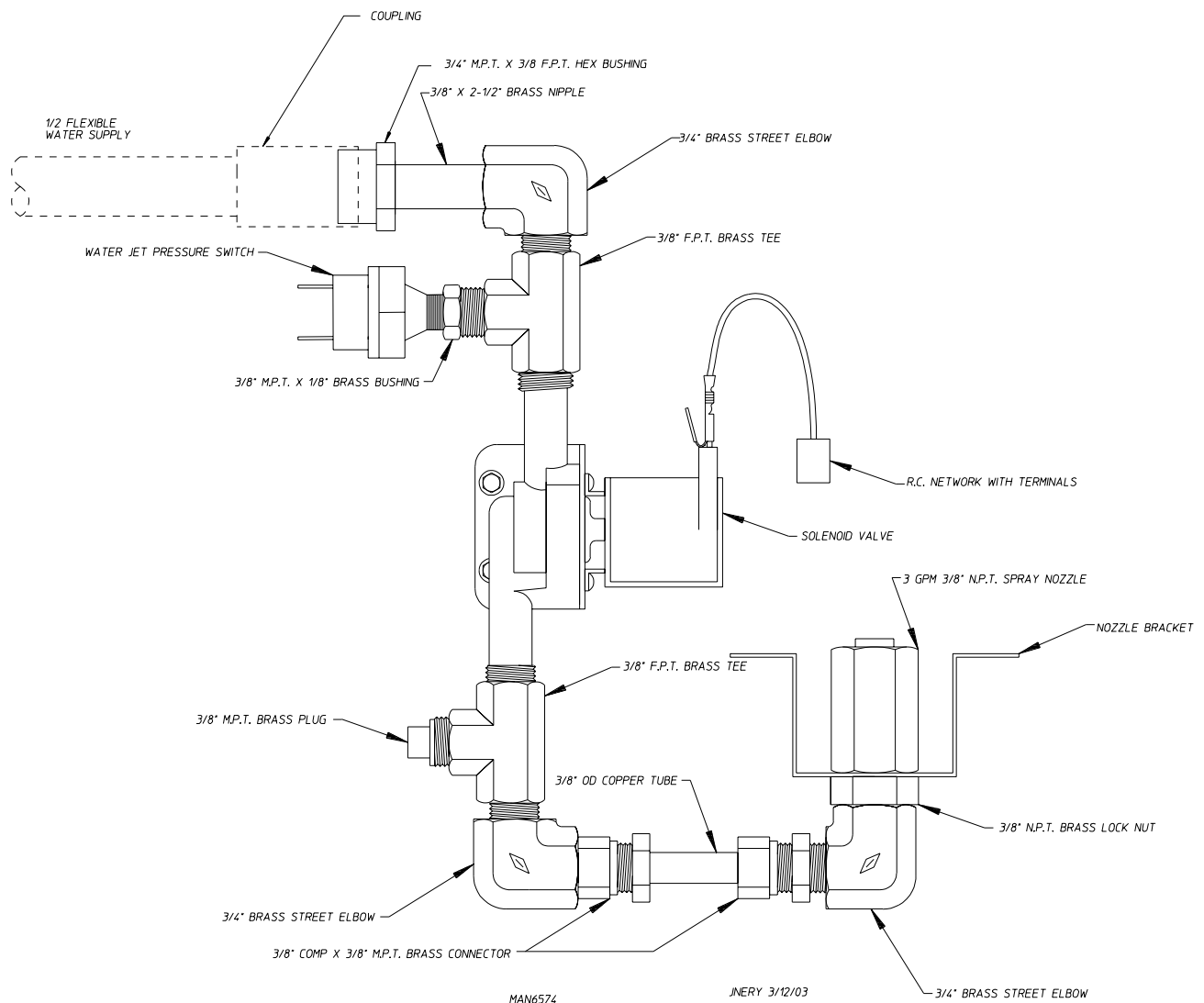
2. Water Connections:

The water connection is made to the 1/2" M.P.T. bushing of the electric water solenoid valve located at the rear upper midsection of the dryer (see photo). The water solenoid valve has a 3/8" M.P.T. connection and a 1/2" bushing is supplied to provide the minimum 1/2-inch supply (feed) line. Flexible supply line/coupling **must be** used in an effort to avoid damaging the electric water solenoid valve.



IMPORTANT: Flexible supply line/coupling **must be** used. Solenoid valve failure due to hard plumbing connections **WILL VOID WARRANTY**. **It is recommended** that a filter or strainer be installed in the water supply line.

Typical water supply...

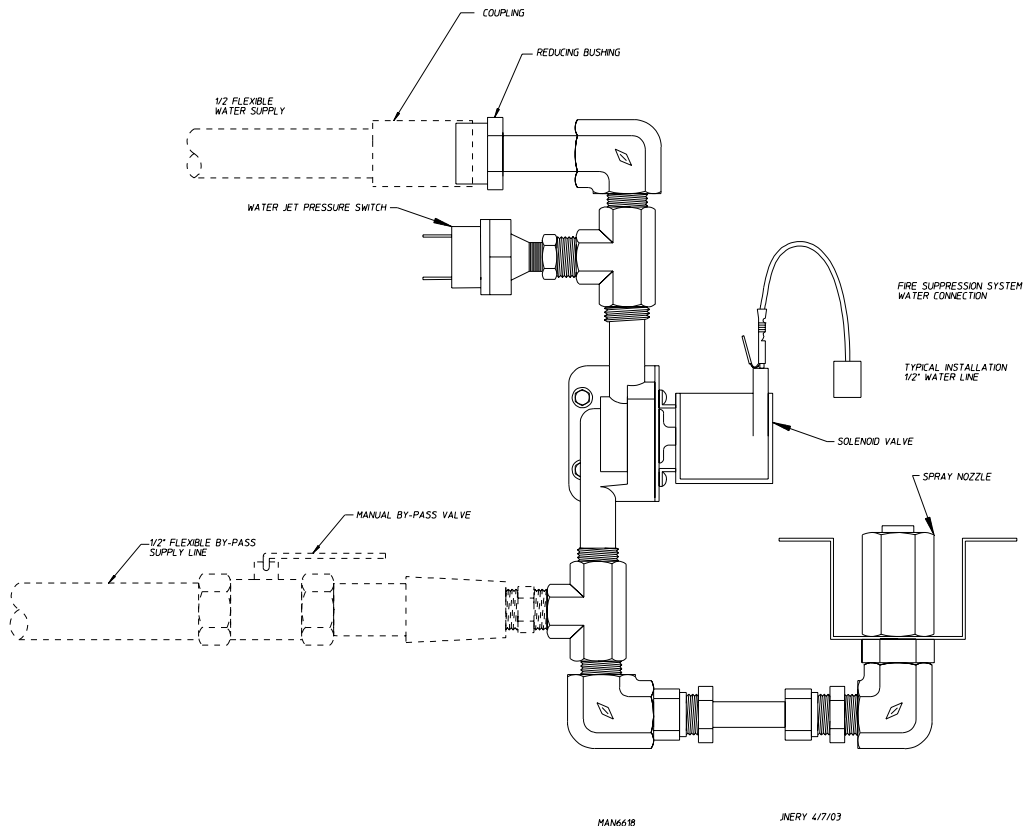


OPTIONAL MANUAL BYPASS

Provisions are made in the dryer sensor activated fire extinguishing (S.A.F.E.) system for the installation of an optional manual bypass. Depending on the model dryer, the connections for the manual bypass are made at the “T” or “cross” fitting located in the outlet side of the water solenoid valve. The use and connections of this manual bypass are at the option or discretion of the owner.

The water connection for the manual bypass is made to the “T” or “cross” fitting which has a 3/8” F.P.T. and a coupling **must be** used to provide the minimum 1/2-inch supply (feed) line.

If the rear area of the dryer, or the water supply is located in an area where it will be exposed to cold/freezing temperatures, provisions **must be** made to protect these water lines from freezing.



WARNING: If the water in the supply line or water solenoid valve freezes, the S.A.F.E. system will be INOPERATIVE!!

The manual ball cock shutoff valve **must be** located outside of the dryer at a distance from the dryer where it is easily accessible.

3. Electrical Requirements

No independent external power source or supply connection is necessary. The 24 volt power to operate the S.A.F.E. system is supplied internally from the dryer control.

WARNING: Electrical power **must be** provided to the dryer at ALL times. If the main electrical power supply to the dryer is disconnected, the S.A.F.E. system is INOPERATIVE!!

Sensor Activated Fire Extinguishing (S.A.F.E.) System

Theory of Operation

While the dryer is in an idle state or 20-seconds after the heat turns off, the Phase 7 control monitors the S.A.F.E. system probe located in the top of the basket (tumbler) chamber and records the minimum temperature. If the minimum recorded S.A.F.E. system probe temperature is greater than 120° F (48° C) and the control detects a 50° rise in temperature, this will be the trip point and the S.A.F.E. system routine will activate.

While a drying cycle is in process and the heat has turned on at least once, the Phase 7 control monitors the exhaust temperature transducer. If the drying cycle temperature set point is set greater than 160° F (71° C) and the control detects an exhaust temperature rise 25° F greater than set point, this will be the trip point and the S.A.F.E. system routine will activate. If set point is below 160° F (71° C) the trip point will be 185° F (85° C).

Once the S.A.F.E. system routine is activated, the control will display “S.A.F.E. System Activated” and water will be injected into the basket (tumbler) chamber. Anytime water is being injected into the basket (tumbler); the basket (tumbler) drive will turn the load for 1-second every 15-seconds. This process will continue for a minimum of 2 minutes. After 2 minutes has elapsed, the control will check if the temperature remained above trip point, if so water will remain on. The control will continue to check if temperature is above trip point every 30-seconds. If the water has been on for a constant 10 minutes, the water will be turned off regardless of the temperature and the control will display “S.A.F.E. Was Activated.” If the temperature has dropped below trip point, the control will turn off the water prior to 10 minutes.

Disabled Sensor Activated Fire Extinguishing (S.A.F.E.) System

In the event that the S.A.F.E. system is not installed properly or if there is a malfunction in the system the Phase 7 coin control will notify the user by displaying the message “S.A.F.E. DISABLED...” If the “PAUSE” and “LO” keys are simultaneously pressed, the control will display one of the following diagnostic messages indicating the fault with the system. If there is more than one issue with the S.A.F.E. system, the control will display one message at a time.

S.A.F.E. Diagnostic Messages

Open S.A.F.E. Probe Fault: This message indicates that the S.A.F.E. probe is either not connected or is damaged.

Shorted S.A.F.E. Probe Fault: This message indicated that the S.A.F.E. probe is damaged or the wiring is shorted.

Open S.A.F.E. Valve Fault: This indicates that the water valve is open or that it is not connected to the control.

Shorted S.A.F.E. Valve Fault: This indicates the water valve is shorted or the wiring to the valve is shorted.

Water Not Connected: This indicates that there is no water pressure at the water valve. This will occur if water is not connected to dryer or if there is low water pressure in the water line coming to the dryer. This could also be a defective pressure switch or wiring to the pressure switch.

SYSTEM RESET

To reset the microprocessor once the control displays “S.A.F.E. Was Activated,” press and hold the “PAUSE” key for 3-seconds.

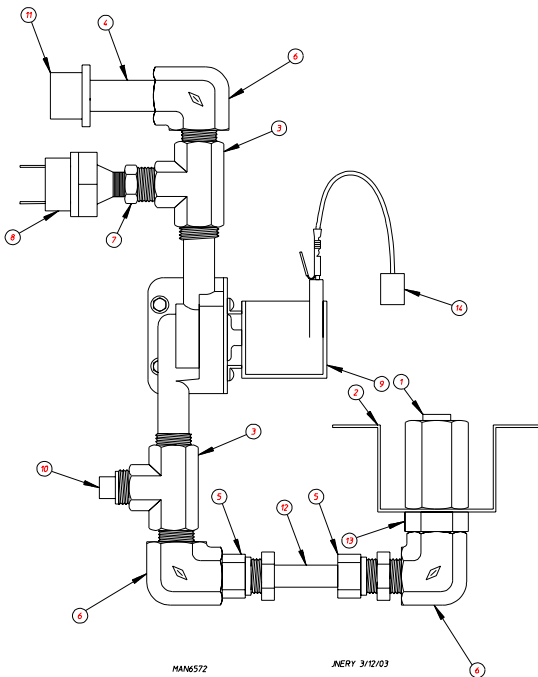
S.A.F.E. Parts Break Down

Single Pocket Dryers

Replacement parts can be obtained from your reseller or the **ADC** factory. When ordering replacement parts from the factory, you can FAX your order to **ADC** at (508) 678-9447 or telephone your order directly to the **ADC** Parts Department at (508) 678-9000. Please specify the dryer **model number** and **serial number** in addition to the **description** and **part number**, so that your order is processed accurately and promptly.

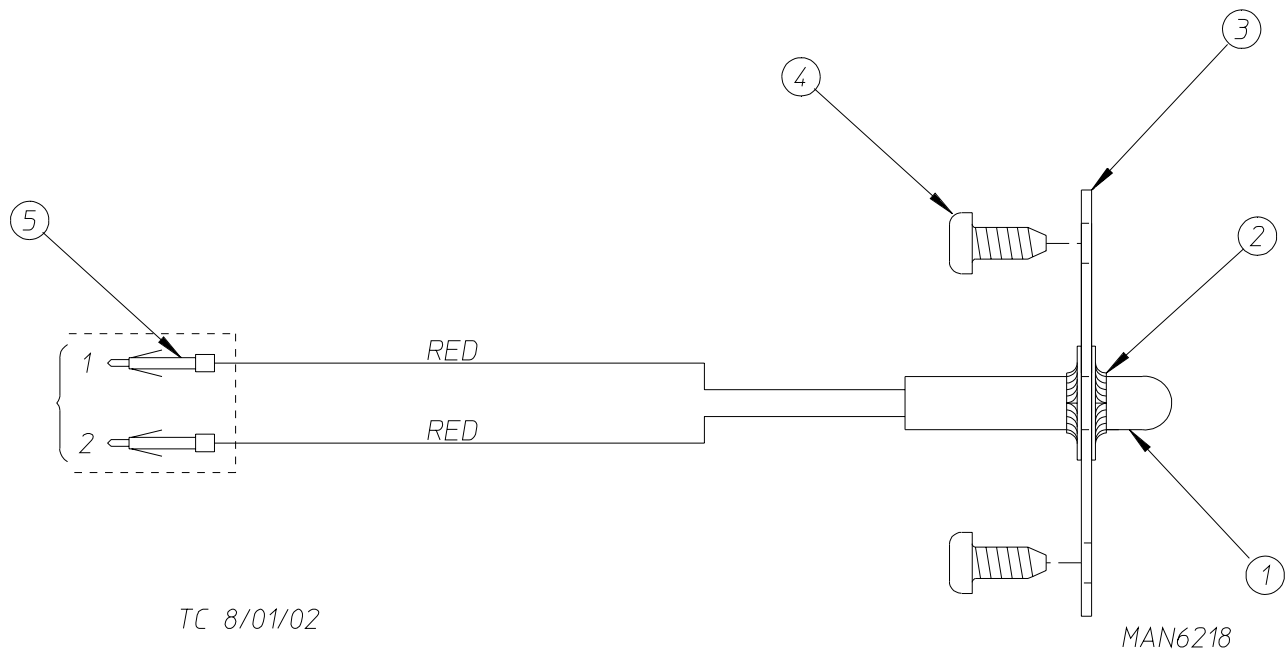
The illustrations on the following pages may not depict your particular dryer exactly. The illustrations are composite of the various dryer models. Be sure to check the descriptions of the parts thoroughly before ordering.

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| <u>Illus. No.</u> | <u>Part No.</u> | <u>Qty.</u> | <u>Description</u> |
|-------------------|-----------------|-------------|--|
| 1 | 143581 | 1 | 3 GPM 3/8" F.P.T. Spray Nozzle |
| 2 | 318167 | 1 | Nozzle Bracket |
| 3 | 143220 | 2 | 3/8" F.P.T. Brass Tee |
| 4 | 143242 | 1 | 3/8" x 2-1/2" Brass Nipple |
| 5 | 143208 | 2 | 3/8" Comp x 3/8" M.P.T. Brass Connector |
| 6 | 143155 | 3 | 3/8" Brass Street Elbow |
| 7 | 143315 | 1 | 3/8" M.P.T. x 1/8" Brass Bushing |
| 8 | 136987 | 1 | Water Jet Pressure Switch |
| 9 | 165114 | 1 | Solenoid Valve |
| 10 | 143251 | 1 | 3/8" M.P.T. Brass Plug |
| 11 | 142888 | 1 | 1/2" to 3/8" Sensor Activated Fire Extinguishing (S.A.F.E.) System Valve |
| | 142887 | 1 | 3/4" M.P.T. x 3/8" F.P.T. Hex Bushing |
| 12 | 143099 | 1 | 3/8" OD x 0.035 Wall Copper Tubing |
| 13 | 143303 | 1 | 3/8" N.P.T. Brass Lock Nut |
| 14 | 824081 | 1 | R.C. Network with Terminals |

S.A.F.E. Sensor Probe Assembly - All Models



| <u>Illus. No.</u> | <u>Part No.</u> | <u>Qty.</u> | <u>Description</u> |
|-------------------|-----------------|-------------|---|
| 1 | 883821 | 1 | Sensor Activated Fire Extinguishing (S.A.F.E.) System Temperature Probe Assembly (includes illus. nos. 1 through 3, and 5) |
| 2 | 154007 | 2 | Push On Fastener |
| 3 | 318525 | 1 | Sensor Bracket ONLY |
| 4 | 150301 | 2 | #8-18 x 7/16" Phillips Pan Head TEK Screw |
| 5 | 122646 | 1 | Connector ONLY (does not include terminals) |

