



FAQ (FREQUENTLY ASKED QUESTIONS) ABOUT FAUX FIRE

WHAT IS FAUX FIRE?

Technifex's patented Faux Fire is a system that can produce a realistic simulation of a linear curtain of flames, using low-pressure steam from a boiler, coupled with unique animation and lighting devices.

The effect comprises three main elements:

- A special manifold designed to produce a thin, steady curtain of rising steam
- Modulated animation blowers directed at the curtain to produce flame-like turbulence in the steam
- A high-brightness lighting bar with color filters to provide coloration of the "flame" effect

The Faux Fire appliance works optimally when it is adjusted to produce "flames" at a maximum height of three to four feet (0.9 to 1.2 meters). The effect may be adjusted to lower levels, if appropriate for the venue.

HOW LARGE IS THE EQUIPMENT?

Technifex's Faux Fire appliances are produced in straight lengths of two feet (0.6 meters), four feet (1.2 meters), and eight feet (2.4 meters). An additional length of twelve inches (30 cm) per Faux Fire unit must be added, to allow for the mounting brackets on the ends of each appliance. The appliances may be placed end-to-end in any combination, to create the desired display length.

When installed as designed, the Faux Fire system equipment requires a minimum space equal to the total length of the appliances (including the bracket allowances), by two feet (0.6 meters) tall, by three feet (0.9 meters) deep, front-to-back.

CAN FAUX FIRE BE USED IN A CURVED OR CIRCULAR PATTERN?

Faux Fire units can be arranged as a segmented polygon, approximating an arc or circle, within the limits of the required space. It must be noted that there may be gaps in the flame effect in this configuration. There are methods for dealing with this, which Technifex can suggest on a case-by-case basis.

IS FAUX FIRE VIEWABLE FROM BOTH SIDES?

Not generally, without considerable customization. Faux Fire is designed to be viewed from one side only, and does not provide a good visual effect when seen from the back side. If this is an absolute requirement, contact Technifex to discuss your needs.

CAN FAUX FIRE BE PLACED AT FLOOR LEVEL?

Not in most cases. Guests would be able to see the equipment. The nature of a Faux Fire installation requires that the effect be placed on a suitable platform at or above eye level, typically at a minimum of six feet (2 meters) above the floor. Additionally, a two-foot tall wall or parapet must be provided on the platform, to conceal the equipment from view.

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CAN THE EFFECT BE COVERED FOR CONCEALMENT?

Again, not in most cases. The top of the equipment space must largely remain open and unobstructed. Any type of cover interferes with the animation and lighting.

ARE THERE OTHER USAGE CONSTRAINTS?

Yes.

- Faux Fire is not usable outdoors, where air currents (such as wind) and lighting cannot be carefully controlled.
- For proper visual appearance, the ambient lighting around the Faux Fire must be controlled so as not to “wash out” the effect. Also, the background against which the Faux Fire is viewed should be kept as dark as possible.

WHAT DOES THE EQUIPMENT COST?

Because of the many variables associated with any particular use, it is only possible to compile the costs for Faux Fire on a system basis. These costs can be determined when Technifex clearly understands the proposed placement and use of the Faux Fire, together with other key requirements. We do this through careful examination of client-furnished drawings and documents.

The standard Faux Fire units come with a single manual valve for adjustment of steam height, one or two animation blowers (depending on the length of the Faux Fire appliance), MR-16 lamps and colored glass filters for the lighting bar, a condensate drip collection pan with drain hose, and six feet of 3/4" steam hose.

Extra-cost options offered are as follows:

- A single solenoid-operated valve for turning the steam on and off under electrical control.
- Dual solenoid-operated valves and manual adjusting valves for creating three operating flame heights (high/medium/low) under electrical control.
- Fade-proof dichroic color filters on the lighting bar, instead of the standard colored glass ones.
- Extra animation blowers, which are sometimes needed when Faux Fire is arranged in a curve or circle.
- Optional modules for DMX control of the steam and lighting.
- A DMX lighting board, if DMX control is desired, and the facility does not have one

There are other significant facility costs that must be considered in budgeting, beyond the cost of the actual Faux Fire appliances. These costs include:

- The boiler system. Technifex does not furnish and install the steam boiler for use in creating Faux Fire. This equipment is always most cost-effectively obtained locally, by the client. However, Technifex will clearly specify the boiler requirements based on the number of Faux Fire appliances to be used, the intended “flame” height(s), the operational frequency and duration, and anticipated steam losses in the piping between the proposed boiler location (equipment space) and the Faux Fire units.
- Plumbing and electrical wiring required by the Faux Fire, between the equipment space and the Faux Fire location is furnished and installed, to Technifex’s specifications, by facility contractors hired by the client or owner, and must include the steam piping, conduits and wiring for power and control, and condensate drains.
- Upgrades to HVAC work may be necessary to handle the extra heat and humidity loads created by Faux Fire. Technifex will specify the anticipated data to be used in dealing with this issue. It should be noted that these heat and humidity loads are generally fairly modest.

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WHAT IS GENERALLY REQUIRED TO OPERATE FAUX FIRE?

Faux Fire requires a steam source (boiler system), with facility-furnished distribution piping from the boiler location to the Faux Fire units. A facility drain (or drains) at the Faux Fire location is required to handle the condensation created by the steam, and which is collected in a drip pan furnished with the Faux Fire appliance. In addition, electrical power is required for the Faux Fire lighting bar, and for control of the optional solenoid-operated steam valves.

STEAM USAGE

“FLAME” HEIGHT	3 FT	4 FT	5 FT	6 FT
STEAM USAGE – LB/HR/FT	9	13	18	26

Example:

When set to provide a “flame” height of between three and four feet (optimal recommendation), Faux Fire uses approximately nine pounds of steam per hour, per foot of display length. Thus, each eight foot appliance will require seventy-two pounds per hour, each four foot unit will use thirty-six pounds per hour, and a two foot version will consume eighteen pounds of steam per hour. The table above shows approximate usage at other heights.

If piping runs between the boiler location and the Faux Fire display are longer than fifty feet, additional usage allowance must be made to account for piping losses.

As far as steam delivery pressure, Faux Fire is designed to operate properly with 90 psig at the steam stub-up location.

STANDARD ELECTRICAL REQUIREMENTS

	APPLIANCE LENGTH		
	TWO FOOT	FOUR FOOT	EIGHT FOOT
LIGHTING	120VAC, 60 Hz 750 W	120 VAC, 60 Hz 1500 W	120 VAC, 60 Hz 3000 W
ANIMATION BLOWER(S)	1 FURNISHED 120VAC, 60Hz., 2.5 A	2 FURNISHED 120VAC, 60Hz., 2.5 A EACH	2 FURNISHED 120VAC, 60Hz., 2.5 A EACH

ELECTRICAL REQUIREMENTS – OPTIONS

	POWER	CONTROL
SOLENOID CONTROL VALVE(S) – TWO MAX.	120VAC, 60 Hz, 2A., <u>EACH</u> <u>VALVE</u>	SWITCHED CIRCUIT FOR EACH VALVE MAY BE A MANUAL SWITCH, A RELAY OPERATED BY A SHOW CONTROL SYSTEM, OR BY A DMX SIGNAL.
4-CHANNEL LIGHTING DIMMER (This is used only if it is desired to create a flicker effect in the lighting)	120VAC, 60 Hz. <u>TWO EA. 20A</u> <u>CIRCUITS</u>	DMX SYSTEM (FLICKER PROGRAM PROVIDED BY DMX SYSTEM VENDOR)
DMX LIGHTING BOARD (For DMX control of dimmers, blowers, valves)	120VAC, 60Hz., 15 A	N/A
DMX INTERFACE MODULES (for DMX control of blowers, valves)	N/A	DMX SYSTEM

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It should be noted that the Lighting Bars use 12 Volt, 75 Watt lamps wired in series to accept 120VAC. Thus, an eight-foot bar contains 40 lamps wired in four circuits, a four-foot bar has 20 lamps wired as two circuits, and a two foot bar has 10 lamps on a single circuit.

STANDARD MECHANICAL SYSTEMS REQUIREMENTS

Facility-provided stub-ups for steam, electrical power, and control lines (if used) must be provided within 6 feet of each Faux Fire appliance. Additionally, one or more drains to a facility sanitary sewer must be provided at or near the Faux Fire locations, to dispose of the condensation collected in the drip-pans furnished with each appliance. Each appliance creates between 1/2 and 1 gallons per hour of condensate.

WHAT SHOULD THE BOILER SYSTEM INCLUDE?

Typical boiler systems include:

- A steam boiler, which may be gas-fired, or, in some applications, electric. The boiler must be rated for continuous delivery of the required steam volume and pressure. Note that boiler delivery ratings assume that incoming water from the feed system is at or near 212° F. If cool or cold facility water is used, the boiler output must typically be de-rated by 25%-30%. The boiler manufacturer can assist with this consideration.
- A feedwater tank and pump to keep the boiler charged with water
- A chemical treatment tank and metering pump, to assist in preventing boiler scale
- A water softener, to minimize mineral content that creates boiler scale
- An ASME-rated blow-down tank, into which the boiler steam may be safely discharged when the boiler must be shut down, or in the event that the safety pressure valve opens

WHERE DO WE GET A BOILER?

There are a number of boiler manufacturers, with representatives in most areas. For gas-fired units, you may contact local representatives of Parker Boiler Company (www.parkerboiler.com), McKenna Boiler Works (www.mckennaboiler.com) or Lattner Boiler Systems (www.lattner.com).

Electric boilers can be furnished by Sussman Electric Boilers (www.sussmanboilers.com) or Electro-Steam Generator Corp. (www.electrosteam.com).

The boiler manufacturer representatives can, in many cases, help with the installation and startup of the system, and can provide operational and maintenance training.

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