

DATA SHEET

Gas Mitigation System

The Elkhart Brass Gas Mitigation System (GMS) is designed to provide effective water spray system for the prevention of flammable vapor clouds formation when there is accidental release of flammable industrial gas. The system is also suitable for mitigating the human and wildlife impact of accidental release of toxic industrial gas. The Elkhart Brass GMS utilizes automatic nozzles designed to optimize spray curtain and droplet size at 100 psi pressure and maximum flow rates of 1250 GPM or 2000GPM.



Features

- 2000 GPM (7600 LPM) monitor flow rate
- 85 Brass monitor construction for corrosive environment and sea water applications
- Up to 120o wide fog range
- 240µm droplet size at 1250 GPM and 260µm droplet size at 2000GPM
- AC synchronous motors operated monitor for heavy duty cycle
- Double-race, brass bearings on vertical and horizontal swivels ensures monitor reliability and durability
- Manual override enables manual control at any time as desired
- Integration with facility gas detection and fire alarm system enables system activation via alarm device input
- Group response enables grouping and activation of group(s) of monitors with input from gas/fire detection system or a panic push button.
- Networkable
 - Up to 10 nodes per RF Transmitter
 - Up to 12 nodes per system with HMI via Ethernet IP
- Ethernet IP network communication protocol enables network communication over facility Ethernet network
- Cat 5e copper or Fiber (multimode or single mode) networking
- Up to 1.2 miles (2 km) distance between nodes with multi-mode fiber
- Optional portable Radio Frequency (RF) control with up to 1000 ft (305 m)



Spitfire Monitor



Control Panel



Remote Control Console



Portable Radio Frequency (RF) Control

Specifications

Nozzle		
	SM-1250BE-HLGM	SM-2000BE-HLGM
Optimal pressure	76 psi (5.2 bar)	100 psi (7 bar)
Maximum flow rate	Up to 1250 GPM (4750 LPM)	Up to 2000 GPM (7600 LPM)
Inlet Size	3.5-inch NH base	3.5-inch NH base
Stream reach	257 ft (78 m)	309 ft (94 m)
Droplet size	240µm at 1250 GPM (4750 LPM)	260µm at 2000 GPM (7600 LPM)
Wide fog angle	120°	120°
Material	Corrosion resistant brass	Corrosion resistant brass
Weight	27.6 lbs (12.5 kg)	32.0 lbs (14.5 kg)
Ambient temperature	18° F to 185° F (-28°C to 85° C) with water flowing -40° F to 185° F (-40°C to 85° C) without water flowing	18° F to 185° F (-28° C to 85°C) with water flowing -40° F to 185° F (-40° C to 85°C) without water flowing
Certification	FM approved	Third-party certification pending

Monitor	
Max rated pressure	200 psi
Flow rate	Up to 2000 GPM (7600 LPM)
Inlet Size	4-inch 150# FF flange base inlet
Oscillation range	V: +90° to -45° (135°) H: +173° to -173° and 346°
Monitor Dimensions	35" x 20" (Height x Diameter) (889mm x 508mm)
Junction Box Material	304 Stainless Steel
Junction Box Dimensions	10" x 10" x 6" (H x W x D) (254mm x 254mm x 152mm)
Weight	300 lbs. (136 kg)
Ambient Temperature	-18° F to 185° F (-28° C to 85° C) with water flowing -40° F to 185° F (-40° C to 85° C) without water flowing
Certification	FM Approved

Control Panel	
Input Power	6.3A @110-120VAC 50/60 Hz 3.2A @ 220 VAC 50/60 Hz 1.6A @440/480 50/60 Hz
Enclosure dimensions	36" x 24" x 9.25" (H x W x D) (914mm x 610mm x 235mm)
Enclosure ingress protection	IP66
Enclosure material options	Carbon steel 304 Stainless Steel 316 Stainless Steel
Weight	105 lbs. (47.7 kg) Approx.
Ambient temperature	-13° F to 104° F (-25° C to 40° C)
Certification	UL listed







Network Connectivity	
Type	Maximum Distance Between Nodes
Multimode fiber optic cable	6,560 ft (2 km)
Single mode fiber optic cable	65,616 ft (20 km)
Cat 5e Ethernet cable	250 ft (0.076 km)

Remote Control Console	
Input Power	100-120VAC @ <2.1A, 220-240VAC @ 1.0A
Dimensions	Screen: L: 15" x W: 15" (381 mm x 381 mm) Mounting: 20"x20"x12.27" (LXWXH) (508 mm x 508 mm x 311.66mm)
Enclosure Rating	NEMA 12/13/4X, IP54, IP65, for Indoor Use
Material	Painted Carbon Steel
Weight	55 lbs. (25 kg)
Ambient temperature	32o F to 131o F (0o C to 55o C)

Radio Frequency Control	
Range	Up to 1000' (305 m) range
Battery type	Ni MH
Battery operation duration	8-10 hours Continuous
Dimensions	Cast Aluminum
Weight	6 lbs. (2.7 kg)
Ambient temperature	-25° C to 55° C (-13° F to 131° F)



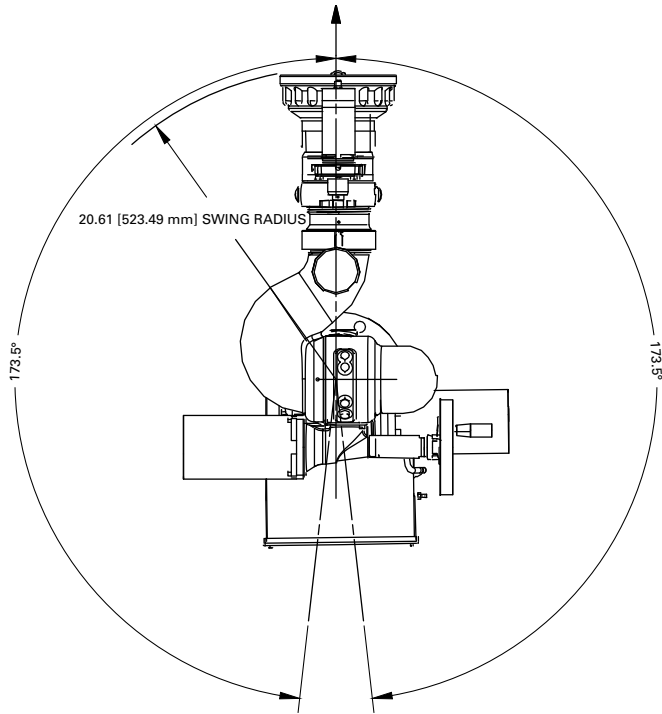
Ordering Information

Illustration	Model Number	Standard features	Options
	8394-159	8394053 Industrial Electric Remote Controlled Monitor; 120VAC (50/60Hz) Synchronous motors; 2,000 GPM (7,570 LPM) max flow rate @200psi (13.8bar); -45o to +90o (135o) max vertical travel; 360o max horizontal travel; 4.0" 150# ANSI flange inlet; 3.5" NHT male outlet; 85 brass with red urethane enamel; suitable Class I DIV II or Zone 2 classified location application, FM approved, NFPA 70 (NEC) compliant, NEMA 4X (IP66) junction box	
Monitor			
	SM1250BE-HLGM	SM-1250BE-HLGM Nozzle; 120VAC (50/60Hz) pattern control synchronous motor; 100 psi (7 bar); 3.5" NH female base; constant flow; 270ft (83m) effective reach; straight stream; narrow fog (30o) and wide fog (120o); 240µm droplet size at 1250GPM; 350 to 1250 GPM (1,330 to 4,750 LPM) flow rate; corrosive resistance brass construction; suitable Class I DIV II or Zone 2 classified location application, FM approved, NFPA 70 (NEC) compliant	
Nozzle			
	SM2000BE-HLGM	SM-2000BE-HLGM Nozzle; 120VAC (50/60Hz) pattern control synchronous motor; 100 psi (7 bar); 3.5" NH female base; constant flow; 300ft (91m) effective reach; straight stream; narrow fog (30o) and wide fog (90o); 260µm droplet size at 2000GPM; 500 to 2000 GPM (1,900 to 7,600 LPM) flow rate; corrosive resistance brass construction; suitable Class I DIV II or Zone 2 classified location application, FM approved, NFPA 70 (NEC) compliant	
Nozzle			
	84171115	Main Monitor Control Panel; Suitable for Class I Division II or Zone 2 classified location; Factory configured for 3.2A@240VAC 50/60 Hz input power; field configurable for 120VAC or 480 VAC; networkable; Alarm Input/ Group Response over ethernet network; 304 Stainless Steel NEMA 4x enclosure; UL Listed, complies with NFPA 70 (NEC)	<ol style="list-style-type: none"> 1. Optional 304 and 316 Stainless Steel NEMA 4x Enclosure or Painted Carbon Steel NEMA 4 Enclosure. 2. Optional gland plate 3. Optional multi-mode fiber optic network module 4. Auxiliary push buttons
Control Panel			
	RF Control	Optional RF Control; Enables portable Radio Frequency (RF) control; 1000 to 2000 feet RF control range; Networkable with up to 20 nodes per network system; group response over network	
Optional RF Control			
	HMI Control	Remote HMI Touchscreen Controller; Provides Control for up to 20 Monitors. Intuitive touchscreen controller, providing all Operator Control Panel functions and advanced programming and troubleshooting functions; 120/240VAC (50/60Hz); UL listed; painted carbon steel	<ol style="list-style-type: none"> 1. 2.1A @240VAC input power 2. Optional Wall Mount, Free-Standing Console, or Desktop Consolette Enclosures. 3. Optional Fiber Communication Connections. 4. Optional EWON Device (for Elkhart Brass Remote System Access)
Remote Control Console			

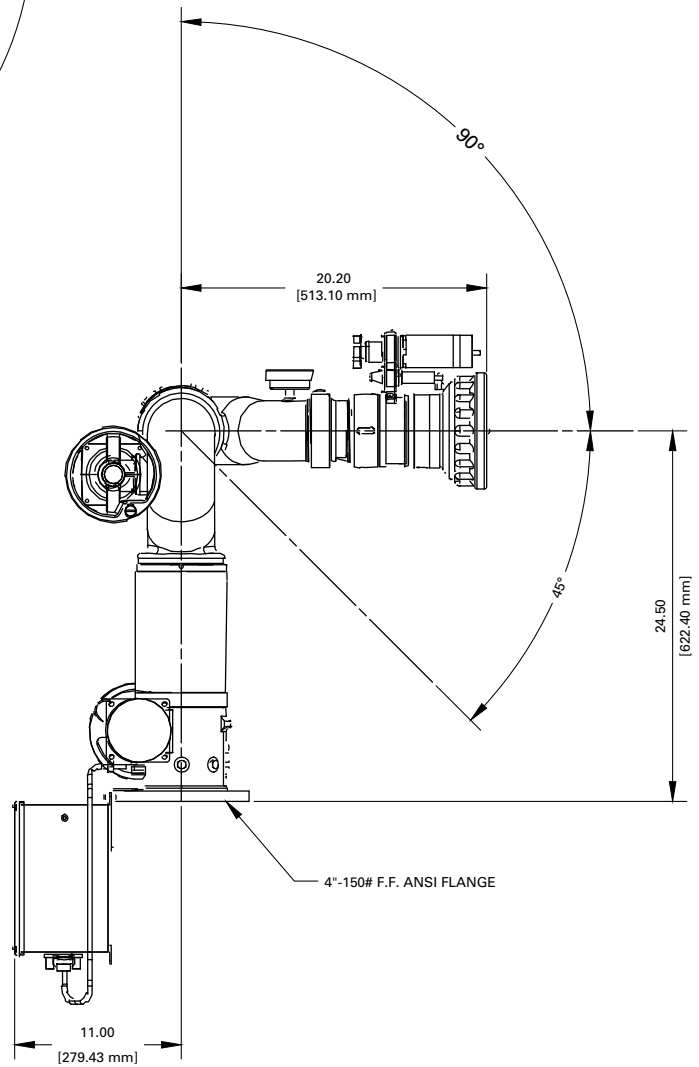
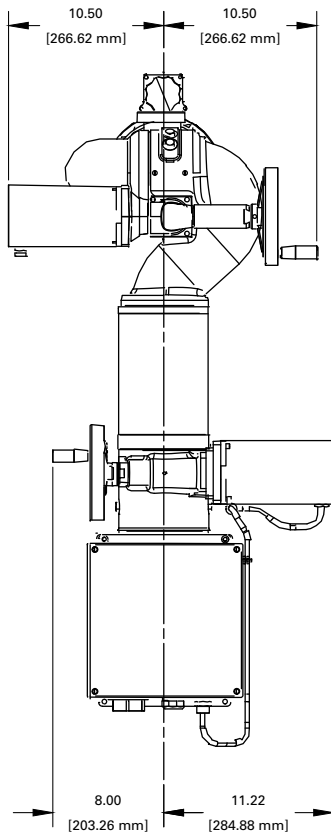


Drawings

Monitor

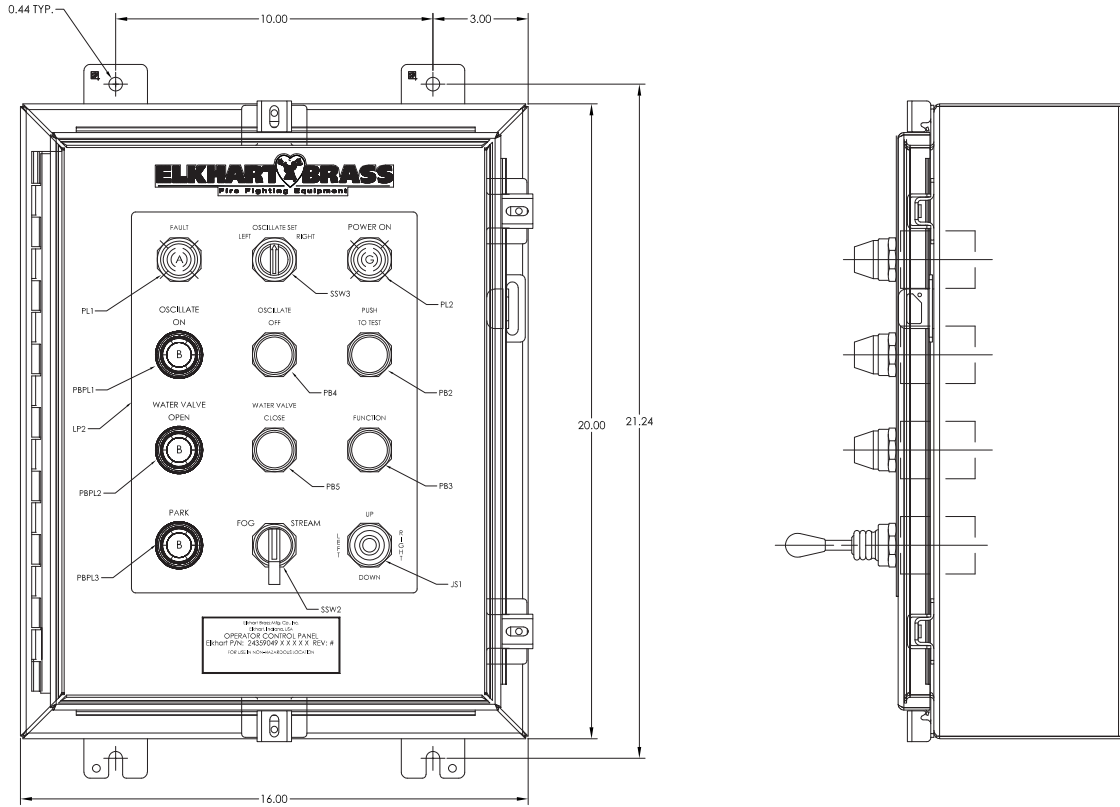


NOTE: THIS IS A DIMENSIONAL REFERENCE DRAWING ONLY. DIMENSIONS REPRESENT THE MAXIMUM MONITOR MOVEMENT AND CLEARANCES WITH NOZZLE ATTACHED. DO NOT SCALE DRAWING!

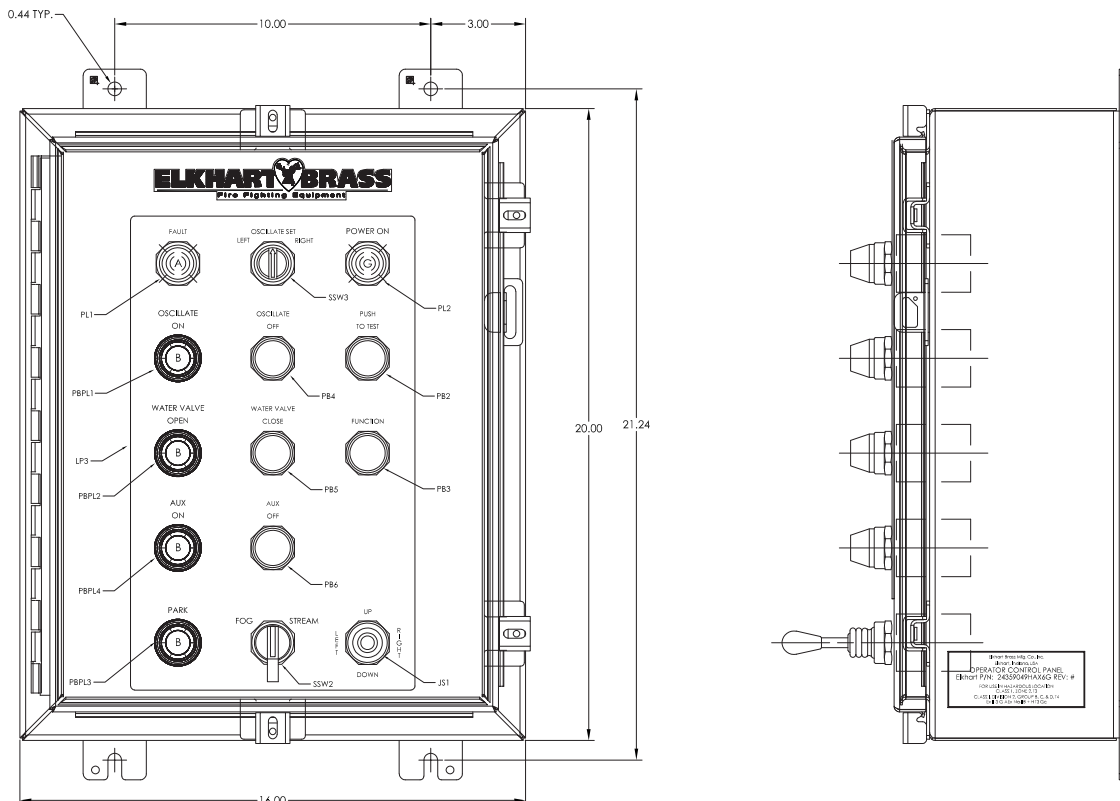


Drawings

Standard Control Panel

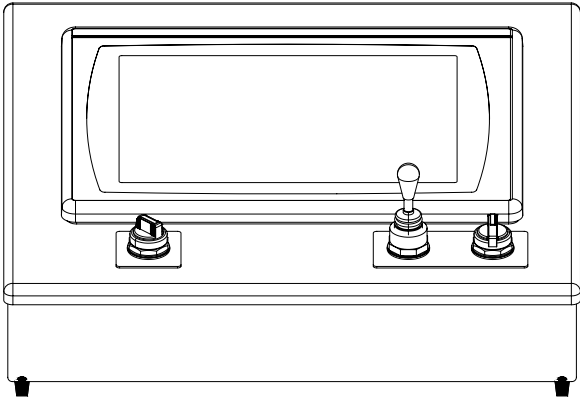
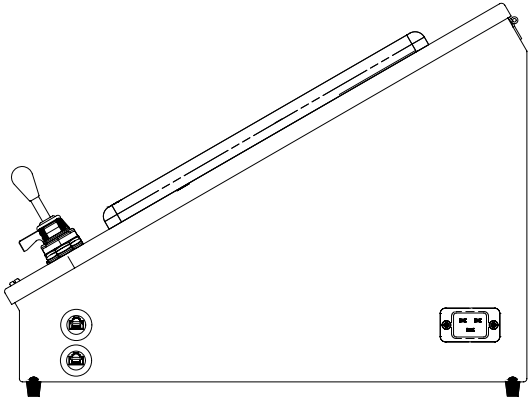
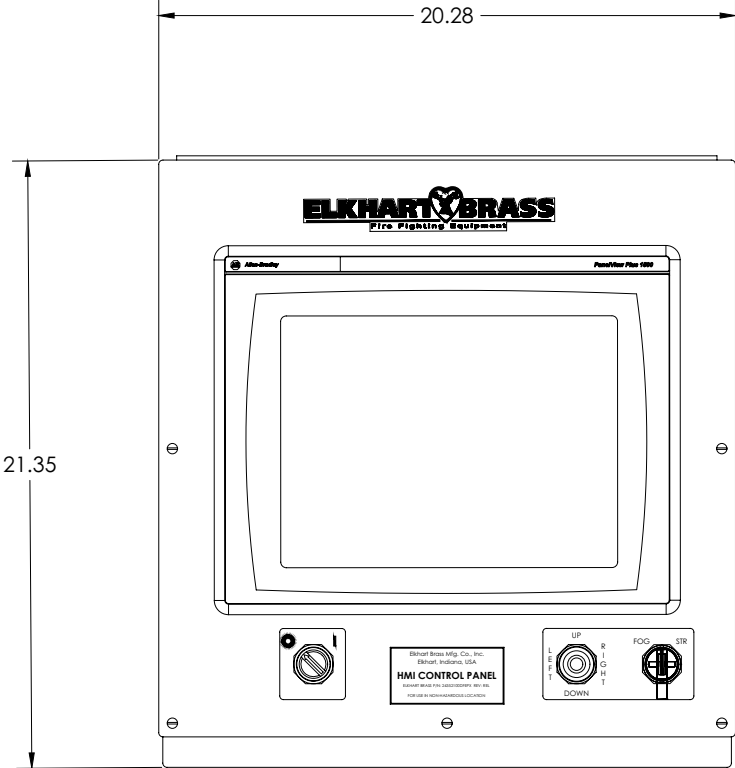


Network Control Panel



Drawings

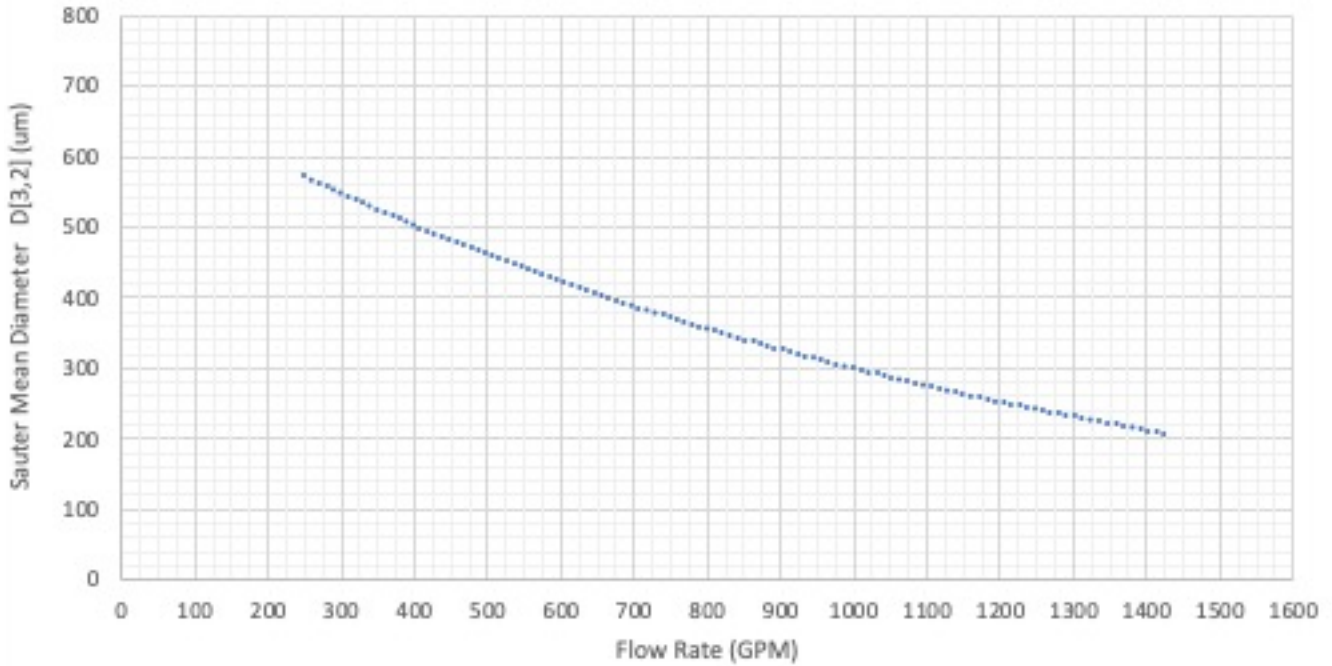
HMI Console



Droplet Size Chart

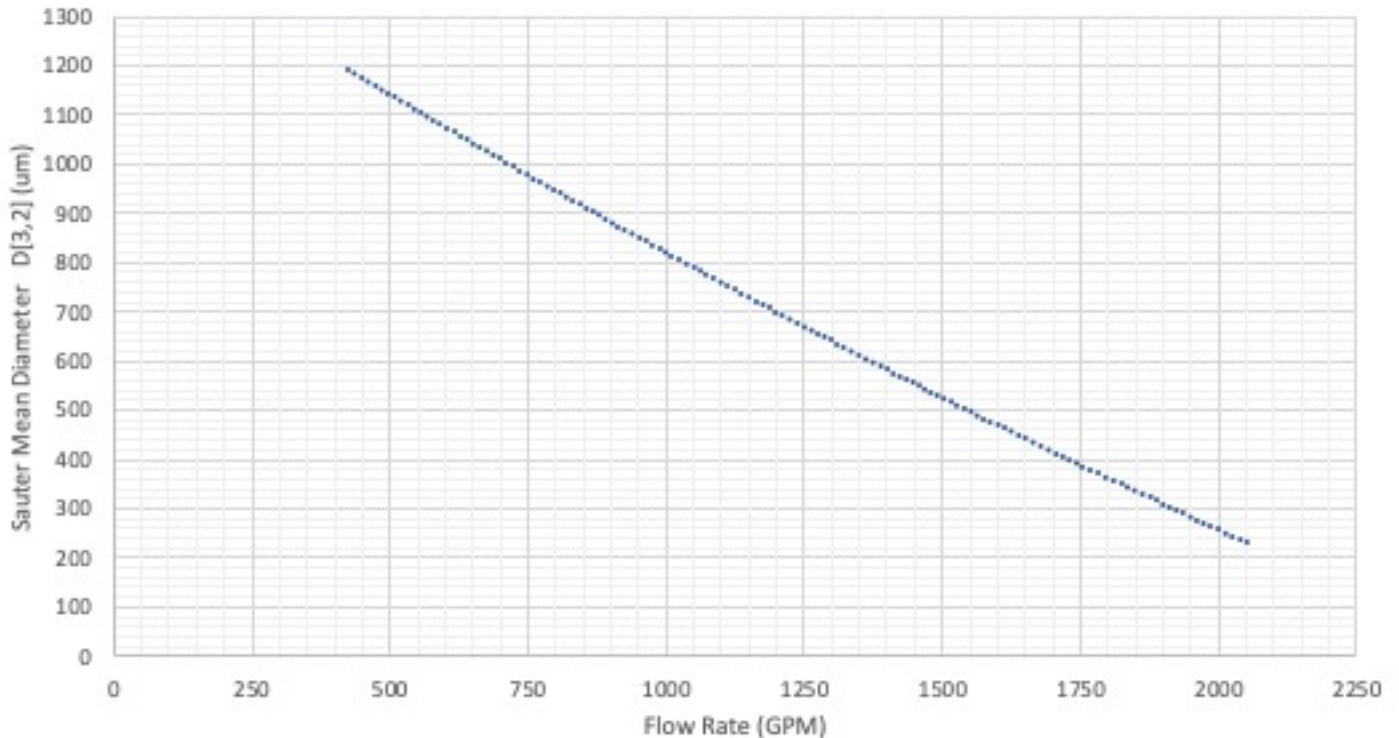
SM-1250BE-HLGM Nozzle Droplet Size Chart

$$y = 709.2e^{-0.001x}$$
$$R^2 = 0.5656$$



Sauter Mean Diameter v. Flow Modified SM-2000BE-HLGM

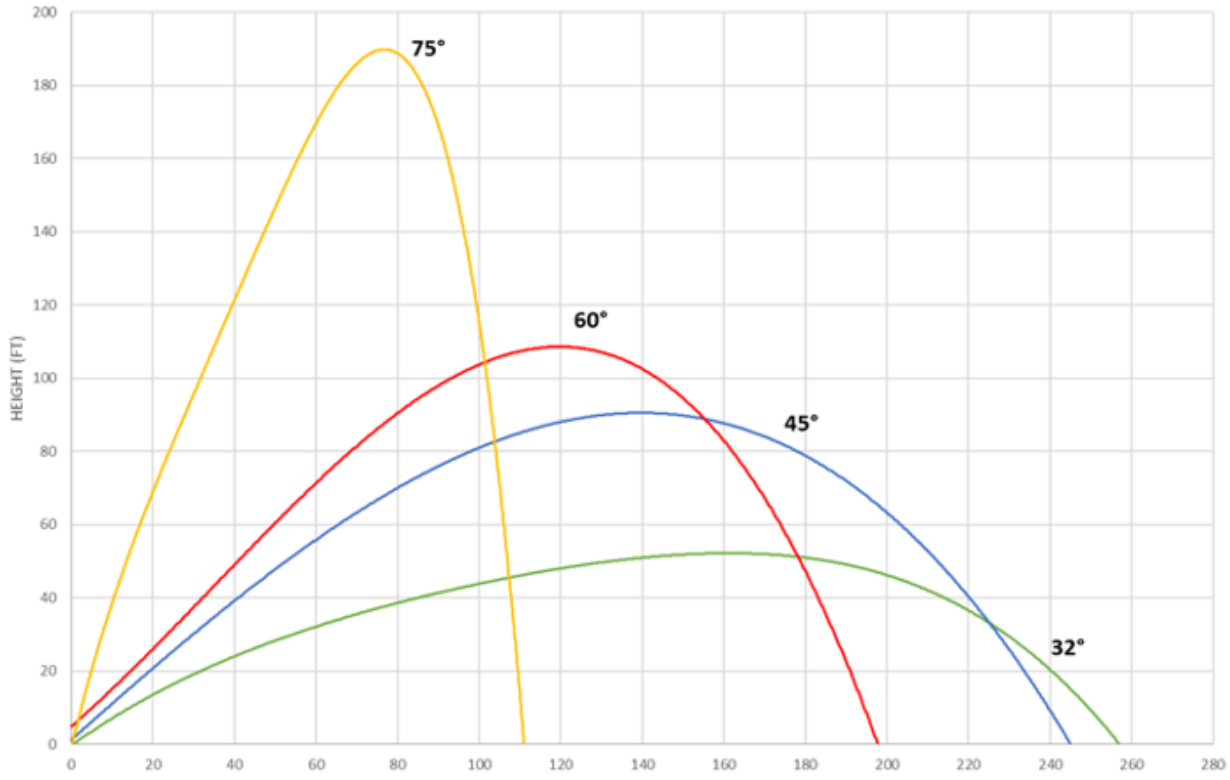
$$y = 0.0003x^2 - 1.3095x + 1734.9$$
$$R^2 = 0.6381$$



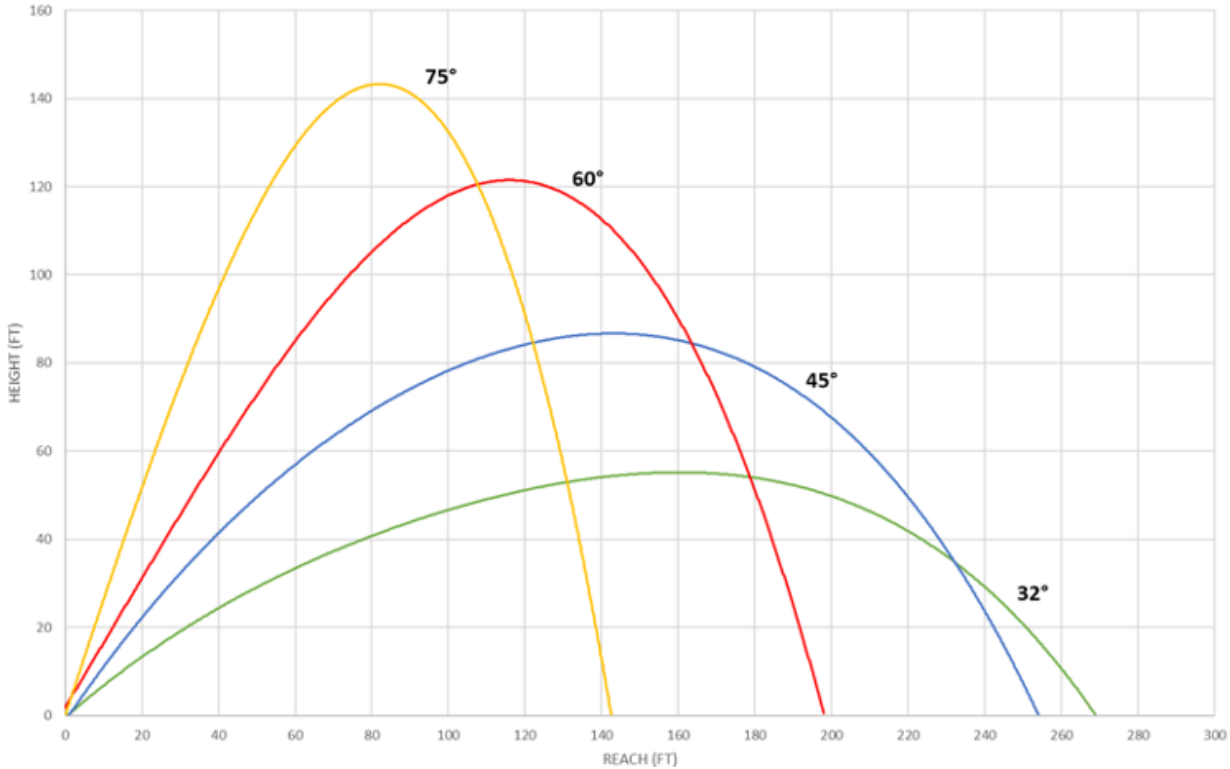
Reach Charts

SM-1250BE-HLGM

STRAIGHT STREAM REACH DATA (1250 GPM, 76 PSI)
SM-1250BEHL-GM



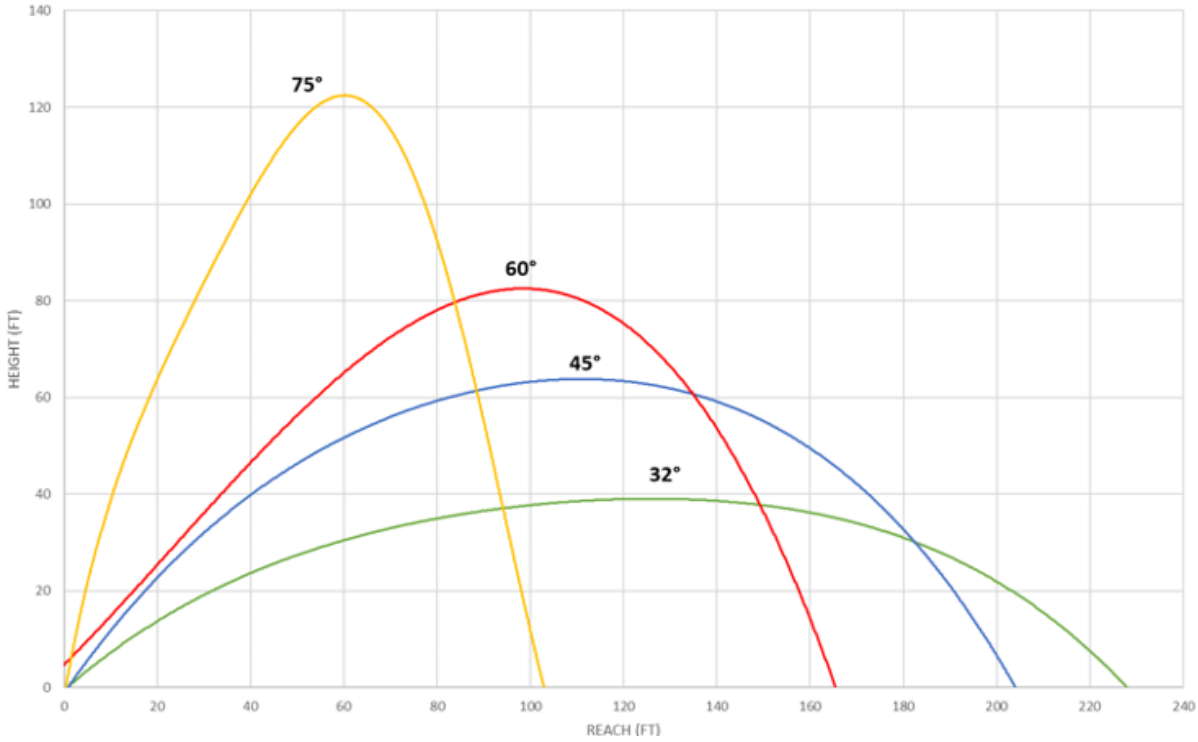
STRAIGHT STREAM REACH DATA (1000 GPM, 72 PSI)
SM-1250BEHL-GM



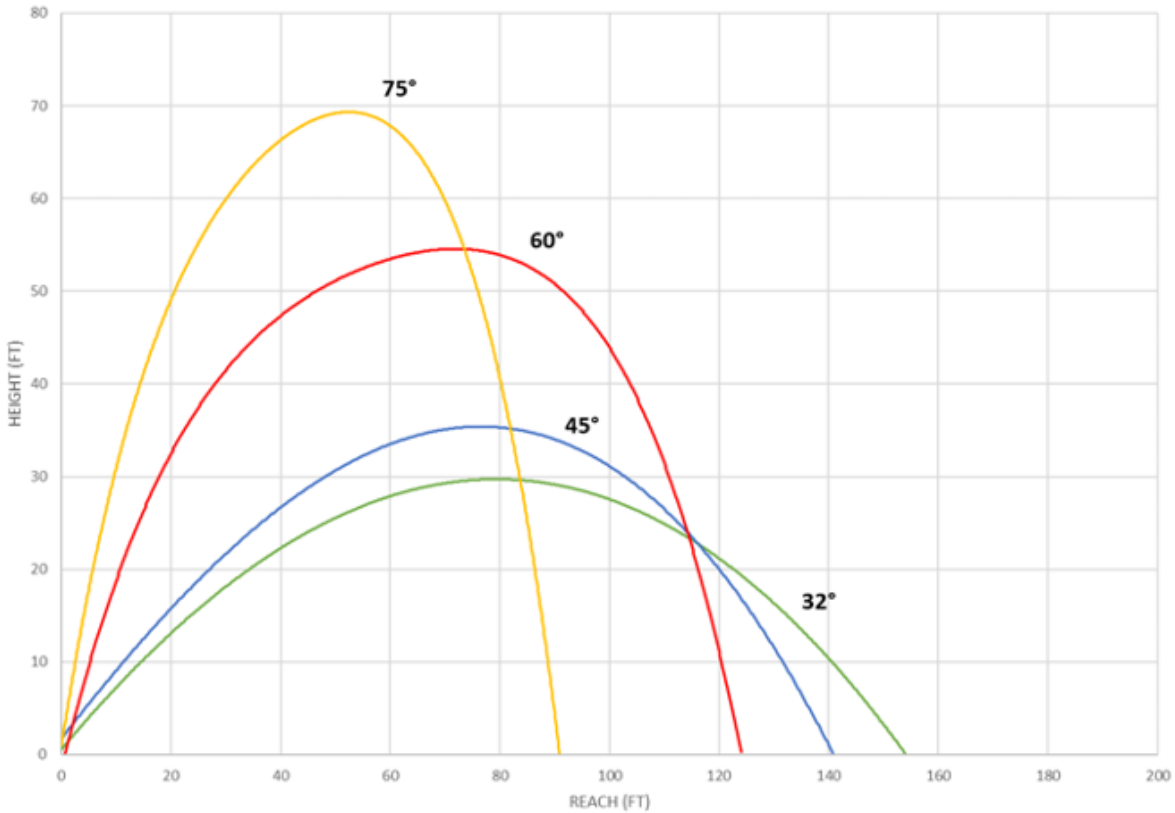
Reach Charts

SM-1250BE-HLGM

STRAIGHT STREAM REACH DATA (750 GPM, 66 PSI)
SM-1250BEHL-GM



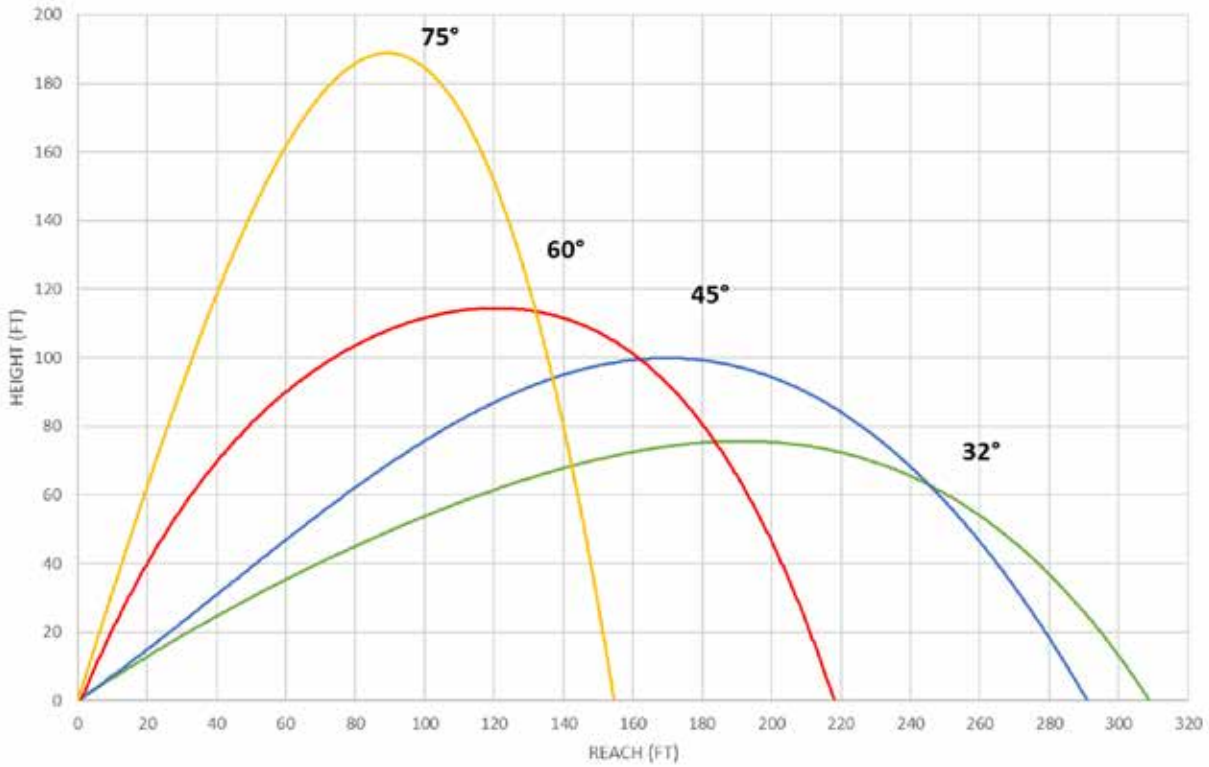
STRAIGHT STREAM REACH DATA (500 GPM, 56 PSI)
SM-1250BEHL-GM



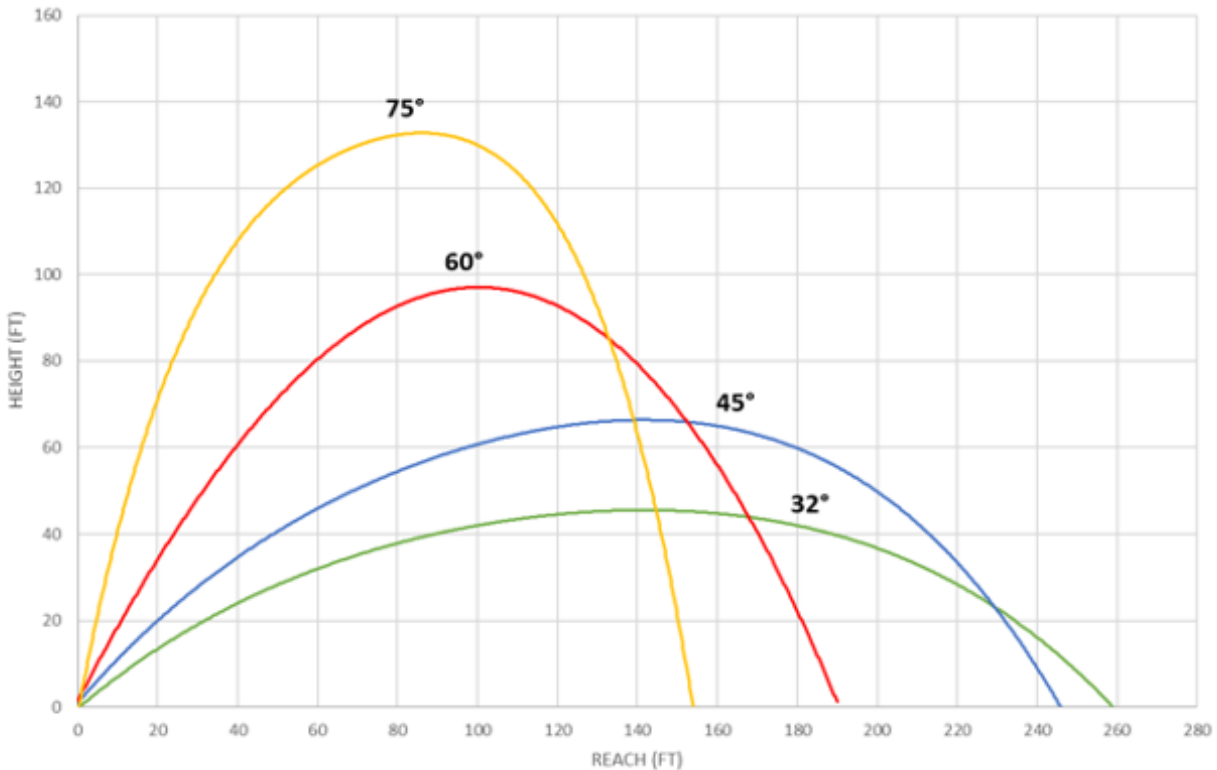
Reach Charts

SM-2000BEHL-GM

STRAIGHT STREAM REACH DATA (2000 GPM, 102 PSI)
SM-2000BE-HLGM



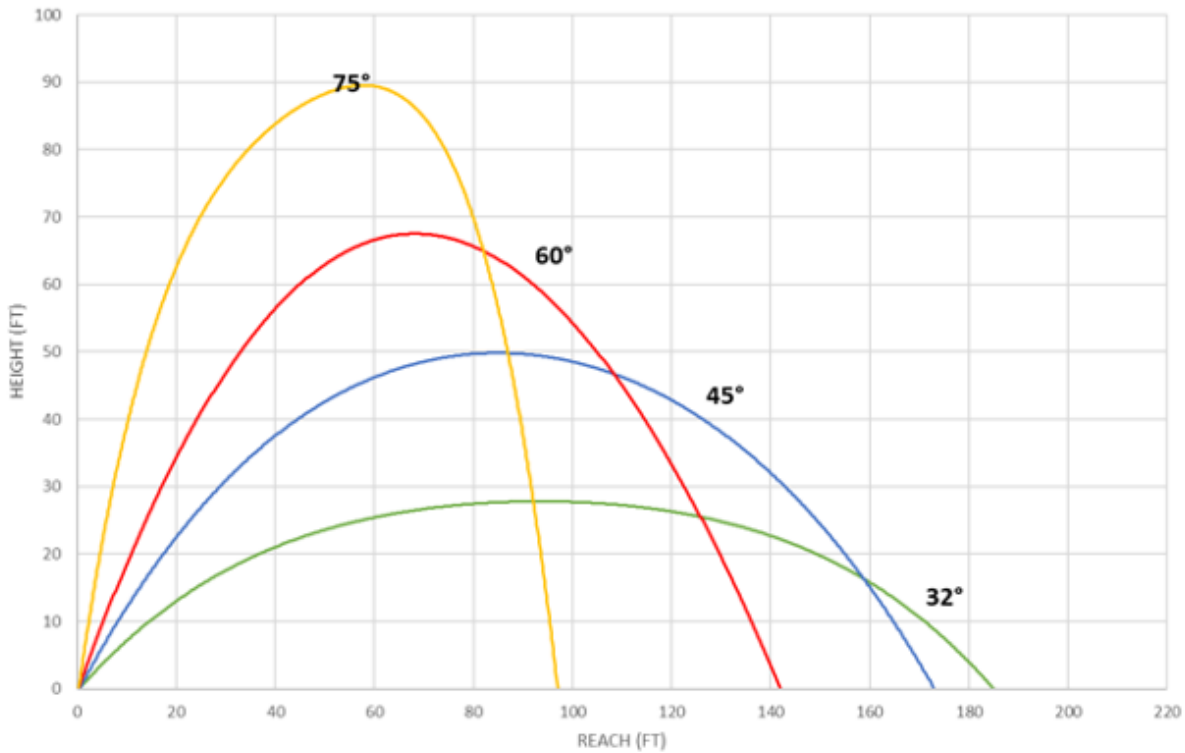
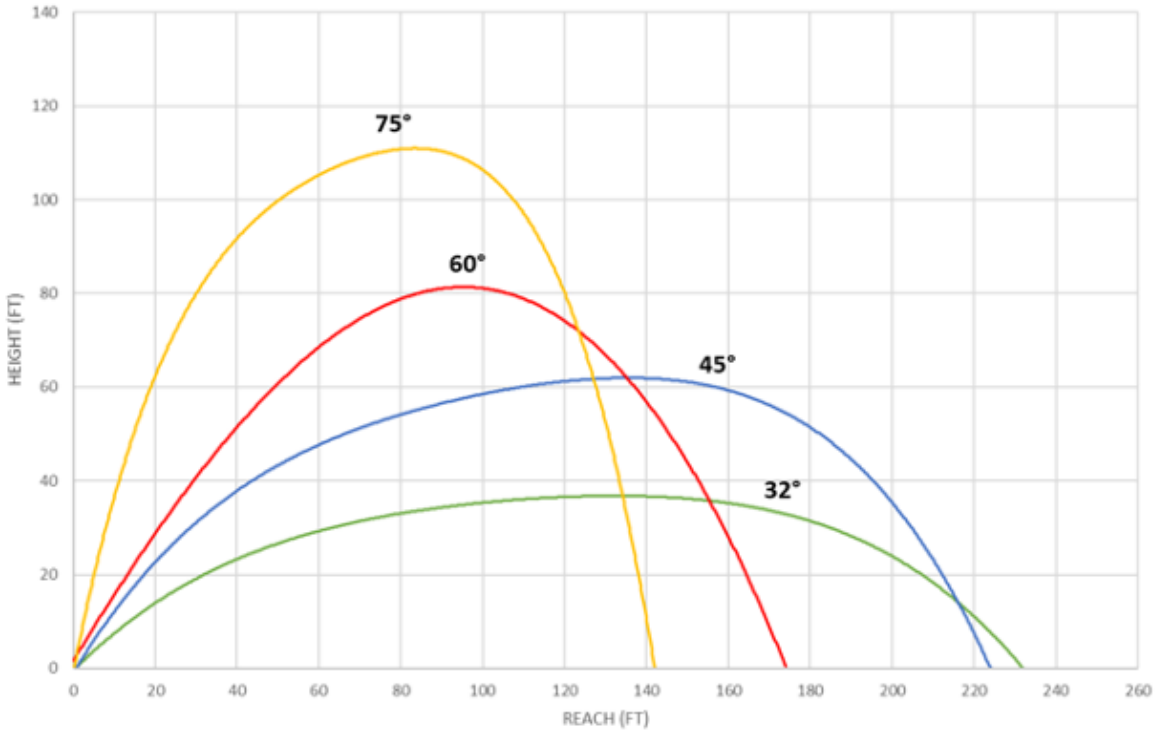
STRAIGHT STREAM REACH DATA (1500 GPM, 64 PSI)
SM-2000BE-HLGM



Reach Charts

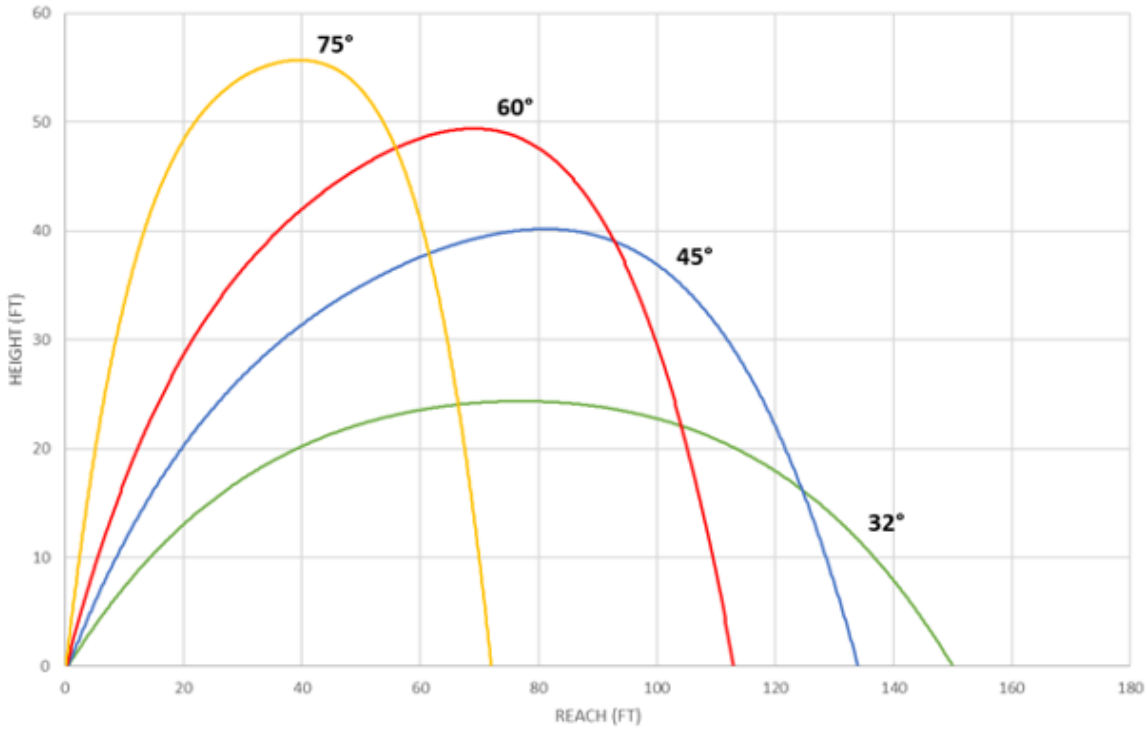
SM-2000BEHL-GM

STRAIGHT STREAM REACH DATA (1250 GPM, 50PSI)
SM-2000BE-HLGM



Reach Charts

SM-2000BEHL-GM



STRAIGHT STREAM REACH DATA (500 GPM, 33PSI)
SM-2000BE-HLGM

