### CONQUEST SYSTEM SPECIFICATION SHEET

Distributor Name:
Client Name:
Plant Location:
Engineering Firm Name:

#### **OPERATING INFORMATION**

System Application:	Fire Suppression	
	Cooling	
	Vapor Mitigation	

#### MECHANICAL CONSTRUCTION

MONITOR INFORMATION

Quantity of Monitors:



Certification Required: FM ATEX ATEX CSA	Description of area Class 1/Division 2 Zone 1 EU Zone 2 EU Canada		Check below boxes that apply only
<u>Manual Override Style:</u> Standard wrench allen drive Tethered removable handwheel			Check below boxes if required only
Standard Akron Brass Red:		or	Customer specified RAL#

Do to certifications we cannot alter Monitor or Nozzle specifications: Monitor Material: Brass C84400 Only Monitor Inlet: 4" 150lb flat faced flange on all but ATEX Zone 1, which is a raised face flange. Monitor Outlet: 3-1/2"NH "Only"

Please complete ALL form information this will assist Akron Brass with creating an accurate quote

Contact:	
Contact:	
Ship to Country:	
Contact:	

#### NOZZLE INFORMATION

Quantity of Nozzles:	Flow:	Pressure:
<u>Baffle Type:</u>	Pressure Balanced (Automatic)	Fixed Gallonage (Specific Flow)
Discription of Nozzle Style	5097	2197 🗖
Fire suppression nozzles flows from 300-1000gpm 1135-3800lpm approx. reach 260'		
Vapor mitigation nozzles flows from 500-2000gpm 1900-7600lpm approx. reach 280'	5098	2198

Fire suppression nozzles flows from 500-2000gpm 1900-7600lpm approx. reach 330'



2199 🗌



#### **ELECTRICAL CONSTRUCTION**

#### MOTOR CONTROL UNIT INFORMATION

Client supplied power:	Voltage/Phase/Hz/	/	
Certification Required: GENERAL PURPOSE (none) FM ATEX ATEX CSA	Description of area non-classified Class 1/Division 2 Zone 1 EU Zone 2 EU Canada	Check applicable box only "Only Check One" "Only Check One" "Only Check One" "Only Check One" "Only Check One"	
Enclosure Type: <u>NEMA 4X</u>	<ul> <li>304 Stainless Steel</li> <li>316 Stainless Steel</li> </ul>	<u>NEMA 7</u>	Cast Aluminum (flameproof)
ATEX (ZN2 Only) Option:	Operator switches in door for Zoi	ne 2 enclosures (count as an o	perator panel)
LOCAL OPERATOR PANEL Quantity of panels Required- Enclosure Type- NEMA 43 IP66 Increased Safety NEMA 4	316 Stainless Steel         304 Stainless Steel         316 Stainless Steel         316 Stainless Steel	(ATEX Only) (ATEX Only)	General purpose or NEC
Certification Required: GENERAL PURPOSE (none) **NEC ATEX ATEX CSA	<u>Description of area</u> non-classified Class 1/Division 2 Zone 1 EU Zone 2 EU Canada	Check applicable box only "Only Check One" "Only Check One" "Only Check One" "Only Check One" "Only Check One"	ATEX ZN1 and ZN2
	* No certificate supplied. All compo Class 1, Div.2 Groups C&D hazard		

MASTER OPERATOR PANEL					
Quantity of panels Required-		,		ificate supplied. All compo s 1, Div.2 Groups C&D haz	
Quantity of Stations Required	<u>-</u>				
Enclosure Type- NEMA		304 Stainless Stee 316 Stainless Stee 304 Stainless Stee 316 Stainless Stee Carbon Steel	l l (ATEX C	••	
Certification Required: GENERAL PURPOSE (none) **NEC ATEX ATEX CSA	Description non-clas Class 1/Div Zone 1 Zone 2 Canad	sified rision 2 . EU 2 EU	Check a	applicable box only "Only Check One" "Only Check One" "Only Check One" "Only Check One" "Only Check One"	
No joystick available for ATEX versions pushbutton only	Suitable for N or General Pu	EC Class 1 Div. 2 rrpose		ATEX certified	
WIRELESS REMOTE CONTROL	<u>ired-</u>				
<u>"include spares if needed"</u> Quantity of Recievers (monito	ors) Required-				WRC recievers are mounted to FM and Zone 2 motor control
Certification Required: GENERAL PURPOSE (none) NEC NEC ATEX ATEX	Description non-clas Class 1/Div Class 1/Div Zone 1 Zone 2 Rec	sified rision 1 rision 2 . EU		Ppplicable box only "Only Check One" "Only Check One" "Only Check One" "Only Check One" "Only Check One" "Only Check One" Receiver	motor control enclosures
	Non-Hazard	dous WRC system F	Hazardous Area W	Zone 2	

# **CONDUCTOR** Electric Remote Controlled Monitor



# CONQUEST

# **Electric Remote Controlled Monitor**

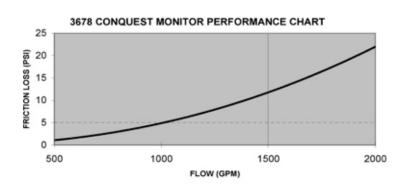
The Conquest Electric Remote Controlled Monitor System was designed as a small compact unit with exceptional performance and value. This System is ideal for use in industrial fire suppression, vapor mitigation, and other fixed site applications.

- Brass construction of Monitor and Nozzle for use in severe environments
- Efficient flows up to 2000 gpm (7600 lpm) through a 4" waterway
- FM approved for NEC Class 1, Div. 2, Groups C&D hazardous locations
- ATEX approved Zone 2 hazardous locations, with option of Zone 1
- Electric motors with current limiting and dynamic braking
- Fixed or automatic baffle nozzles with wide angle fog pattern
- Manual overrides

MONITOR SPECIFICATIONS	
Material	Cast brass construction
Max. Flow	2000 gpm (7570 lpm)
Inlet	4" 150# flange
Outlet	3 ½" NH
Waterway	4" (102mm) diameter internal waterway with turning vanes
Friction Loss	20 psi at 2000gpm (1.4 bar at 7600lpm) 6 psi at 1000gpm (0.42 bar at 3800lpm)
Rotation	340° rotation.
Elevation	175°, +90° above horizontal to -85° below horizontal.
Motors	AC motors with brass housings for elevation and rotation. Motors are rated for NEC Class I, Div. 2, Groups C & D locations and EX II 3 G Ex nR IIC T6 Gc (-40° C < Ta < 60° C) ATEX Zone 2 locations. Motors have manual override for operation during power failures. Specifically designed for marine use.
Operating Temperature	- 40°F to +140°F (-40°C to + 60°C)
Operating Pressure	200 psi max. (14 bar max.)
Dimensions	21 ½" (546 mm) high, 17" (432 mm) wide (radius of motion), and 14" (356 mm) deep (radius of motion)
Weight	185 lbs. (84 kg)
Max. Reaction	1430 Lbf. (6360 N) Force
Moment At Base Inlet	1907 Lbft. (2585 N-m)

#### MONITOR/NOZZLE CERTIFICATIONS AVAILABLE

FACTORY MUTUAL [FM] (UNITED STATES) Class 1, Div. 2, Groups C, D ATEX (EUROPE) II 3 G Ex nR IIC T6 Gc (-40° C < Ta < 60° C) Zone 2 II 2G Ex d IIC T6 Gb (-20°C to +60°C) Zone 1 CSA (CANADA)





Motor Control Unit

330.264.5678 1.800.228.1161 akronbrass.com akroncare@idexcorp.com

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#### **Nozzle Specifications**

#### 2197/5097

- Fixed orifice baffle/Constant pressure balanced baffle (automatic)
- Inlet 3-1/2" NH
- Brass construction
- Pattern straight stream to 90° wide fog
- Operating pressure maximum 150 psi (10.5 bar)
- Weight 53 lbs.
- 300-1000 gpm (1135-3800 lpm) flow range
- Reach of approx. 265 ft. at 1000 gpm



#### 2198/5098

- Fixed orifice baffle/Constant pressure balanced baffle (automatic)
- Inlet 3-1/2" NH
- Brass construction
- Pattern straight stream to 135° wide fog
- Operating pressure maximum 150 psi (10.5 bar)
- Weight 61 lbs.
- Vapor Mitigation nozzle designed for wide fog application therefore effective reach is slightly reduced.
- 500-2000 gpm (1900-7600 lpm) flow range
- Reach of approx. 230/280 ft. at 2000 gpm



#### 2199/5099

- Fixed orifice baffle/Constant pressure balanced baffle (automatic)
- Inlet 3-1/2" NH
- Brass construction
- Pattern straight stream to 90° wide fog
- Operating pressure maximum 150 psi (10.5 bar)
- Weight 61 lbs.
- 500-2000 gpm (1900-7600 lpm) flow range
- Reach of approx. 340/300 ft. at 2000 gpm



#### **OPERATOR PANELS**

- Master operator panels designed to control multiple monitors. Custom engineered to meet the customers operator requirements with respect to size, features and functionality. Available for Hazardous Area locations.
- Local operator panel custom engineered to meet the customers control requirements with respect to size, features and functionality. Available for Hazardous Area locations.
- Wireless handheld controls





#### MOTOR CONTROL UNIT:

- Custom three axis AC Motor Drive
- Forward and reverse operation for each motor
- Motors with current limiting protection and dynamic braking
- Manual overrides
- Master and Slave control inputs
- Two internal relays for operation of up to two valves, with max. switching voltage of 300VAC 5amps
- Operating temperature range of +140° to -40°F (Zone 2)
- FM approved- Class1, Div.2, Groups C, D
- CE, ATEX Zone 1, II 2 G Ex d IIB T6 Gb, II 2 D Ex tb IIIB T85°C Db (-20° C to +60°C)
- CE, ATEX Zone 2, II 3 G Ex nAnC IIC T6 Gc (-40° C < Ta < 60° C)
- Enclosures NEMA 4X, IP65 (Zone 2) standard enclosure 304SS or optional 316SS, Optional EX flameproof enclosure (Zone 1)
- Input voltage 120-600VAC 50/60Hz 500w
- Optional wireless receiver for wireless remote control with hand held transmitter. (Belly Pack)
- Optional Ethernet I/O Module provides an ethernet network interface for remote operation (ATEX) II 3 G Ex nAnC IIC T4 Gc (-20° C < Ta < 50° C)
- Optional Fiber Optic Media Converter for remote operation via fiber optics (ATEX) II 3 (2) G Ex nAnC [op pr Gb] IIC T4 Gc (-20° C < Ta < 50° C)
- Optional Pushbutton Operators in door for monitor operation (ATEX)
- All systems functionally tested during final factory inspection

Custom Systems Available



Akron Brass Company 343 Venture Blvd. | P.O. Box 86 Wooster, OH 44691 Phone: 330.264.5678 | 800.228.1161 E-Mail: akroncare@idexcorp.com akronbrass.com



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# **Conquest Remote Control Monitor System**

**STYLE 3678** 









# **Conquest Remote Control Monitor System**

#### **STYLE 3678**

The system should consist of the following components, monitor, nozzle and Control system.

 <u>Monitor</u> – Shall be ATEX approved for all gas groups II 3 G Ex nR IIC T6 Gc. Also FM approved for Class 1, Div. 2, Group C & D locations. Cast Brass construction with a maximum flow of 7600 LPM (2000GPM), 4" FF 150 lb. Flange inlet x 3 ½" NH outlet with a 4" internal water way with cast in turning vanes, 340° rotation and +90° above horizontal to -85° below horizontal. Monitor shall have hard wired AC drive motors to be enclosed in a cast brass housing with manual override.

Temperature range from -40C to +60 C (-40F to 140F)

- <u>Nozzle</u> Shall be a pressure balanced or fixed flow nozzle (Must specify). Shall be ATEX approved for all gas groups II 3 G Ex nR IIC T6 Gc. Also FM approved for Class 1, Div. 2, Group C & D locations. Cast Brass construction with flows between 1900 -7600 LPM (500 - 2000GPM). Nozzle to have hard wired AC drive motor to be enclosed in cast brass housing with manual override.
- Motor Control Unit Shall be 120-600VAC 50/60 Hz and have three axis motor drive, line filter and terminal strip. It should have the following operator inputs, Left/Right, Up/Down, Stream /Fog from master or slave control inputs. It should have the following features,120VAC LED power indicator, LED input and output indicators on drive, LED status for trouble shooting, 120VAC Line filter,5 Amp slow blow fuse, internal hermetically sealed relays for water on/off, foam (Aux) on/off. Axis drive unit is a self-contained unit for easy repair or replacement. FM approved for: Class 1, Div. 2, Group C&D locations.

Also rated: ATEX Zone 2, II 3 G Ex nAnC IIC T6 Gc.

 <u>Master Control Panel</u> - The Master Control Panel will contain (Must Specify Qty. of stations) monitor control stations and use 24VDC control voltage supplied from the motor control unit.

Controls include: Power on/off selector switch with pilot light, Joystick for left/right and up/down operation, Set of fog/straight stream pushbutton switches, set of water on/off pushbutton switches (for Class 1, Div. 2, Group C & D locations). Power on/off selector switch with pilot light, pushbuttons for left/right and up/down operation, Set of fog/straight stream pushbutton

switches, Set of water on/off pushbutton switches (for ATEX Zone 2, II 3 G Ex nAnC IIC T6 Gc. The enclosure will be, NEMA 4X, (Increased Safety for ATEX) and made of stainless steel. Panel is pre-wired to a numbered terminal strip. Rated for Class 1, Div.2, Group C&D locations. Rated for: ATEX Zone 2 Locations

• <u>Single Station Control Panel</u> - The Local Control Panel will contain (1) monitor control station and use 24VDC control voltage supplied from the motor control unit. Controls include: Power on/off selector switch with pilot light, Joystick for left/right and up/down operation, Set of fog/straight stream pushbutton switches, set of water on/off pushbutton switches (for Class 1, Div. 2, Group C & D locations).

Power on/off selector switch with pilot light, pushbuttons for left/right and up/down operation, Set of fog/straight stream pushbutton switches, Set of water on/off pushbutton switches (for ATEX Zone 2, II 3 G Ex nAnC IIC T6 Gc. The enclosure will be, NEMA 4X, (Increased Safety for ATEX) and made of stainless steel.

Panel is pre-wired to a numbered terminal strip. Rated for Class 1, Div.2, Group C&D locations. Rated for: ATEX Zone 2 Locations



P.O. Box 86 | Wooster, OH 44691 Phone: 330.264.5678 | Fax: 330.264.2944 www.akronbrass.com

#### **Deliverables**

#### ITEM QUAN. A 1

#### **DESCRIPTION**

#### Conquest Monitor

The Style 3678 Conquest Monitor is a fixed site, electrically operated, vapor mitigation and firefighting device, designed to flow water up to 2000 gpm. Unlike many competitors that adapt existing products intended for truck applications the Conquest Monitor is specifically designed for industrial applications and the harsh environments they are located in. Painted RAL 3000.



ATEX approved Zone 1 II 2 G Ex d IIC T6 Gb

#### **Conquest Nozzle**

The Style 5099 Conquest Nozzle is an electrically adjustable fog nozzle. The nozzle comes equipped with a pressure balanced baffle designed to flow 500 to 2000 gpm at an approximate pressure of 100 psi. The nozzle is also equipped with a manual override system.

ATEX approved Zone 1 II 2 G Ex d IIC T6 Gb

#### **Conquest Motor Control Unit**

The Conquest Control Unit contains a custom engineered, three axis motor drive module, control transformer, auxiliary relays and terminal strips for easy field connections. All components are housed in a cast aluminum flameproof enclosure.

Power 230V, 60Hz, 2.5 Amps

ATEX approved Zone 1 II 2 G Ex d IIB T6 Gb. Approved by Intertek

Wiring between Motor Control Unit and Monitor not included. Must be provided by installer. Akron Brass Co. will supply wire specifications.





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#### B 1 Local Operator Panel

The Local Control Panel will contain (1) monitor control station and use 24 VDC control voltage supplied from the motor control unit.

Controls include:

- (1) Power on/off switch with pilot light
- (1) Pushbuttons for left/right and up/down operation
- (1) Set of fog/straight stream pushbutton switches
- (1) Set of water on/off pushbutton switches
- (1) Set of foam on/off pushbutton switches

The enclosure will be Increased Safety IP66 and made of stainless steel. Panel is pre-wired to a numbered terminal strip

ATEX approved: II 2 G Ex d e IIC T6X Gb Zone 1 & 2  $(T5:Ta \le +55^{\circ}C)$ 

Power and control penetrations and final electrical connections by others. Control scheme for water and or foam valve by others.

Wiring between Local Operator Panel and Motor Control Unit not included. Must be provided by installer. Akron Brass Co. will supply wire specifications.





#### Standard Documentation Provided for Remote Controlled Monitor Systems

Title	Description		
AC Conquest – Assembly & Fab	Includes BOM, approximate weight, mounting dimensions, external dimensions, mounting plate details showing mounted components and terminals, panel tags & hazardous identification plates, if applicable, and enclosure fabrication.		
Motor Control Unit – Wiring	Internal wiring with applicable notes and procedures.		
Operator Panel – Assembly & Fab (If Supplied)	Includes BOM, approximate weight, mounting dimensions, external dimensions, mounting plate details showing mounted components and terminals, panel tags & hazardous identification plates if applicable, and enclosure fabrication.		
Operator Panel – Wiring (If Supplied)	Internal wiring with applicable notes and procedures.		
Operator Panel – Assembly, Wiring, & Fab (If Supplied)	Includes BOM, weight, mounting dimensions, external dimensions, mounting plate details showing terminals, panel tags & ATEX hazardous identification plate, internal wiring, & enclosure fabrication (including hole for customer supplied cable gland).		
Connection Diagram	<ul> <li>Shows connections between:</li> <li>Motor Control Unit and Monitor/Nozzle</li> <li>Connection to water valve (if known)</li> <li>Connection to foam valve (if known, if applicable)</li> <li>Motor Control Unit &amp; Operator Panel(s)</li> <li>Includes: <ul> <li>Suggested conductor gauge and No. of conductors</li> <li>AC Power requirements</li> </ul> </li> </ul>		
Monitor Assembly & BOM	Assembly Details		
Nozzle Assembly & BOM	Monitor BOM		

<u>Manual</u>

Title	Description
AC Conquest Monitor System Installation,	Standard AC Conquest Manual w/ electrical drawings.
Maintenance, & Operation	

<u>Certificates</u>

Title	Description
Certificate Of Conformance – Paint, Preparation, & Coating	Paint Certificate (If applicable)
Certificate Of Conformance – Testing Log	Testing Certificate For Monitors and Nozzles
Certificate Of Conformance – Functional Test	<ul> <li>Test Certificate For Motor Control Units and Operator Panels Passed Functional Testing which includes: <ul> <li>All operator panel indicators</li> </ul> </li> <li>All operator panel pushbuttons &amp; switches</li> <li>All operator panel I/O</li> <li>All Motor Control Unit I/O</li> </ul>
Certifications	ATEX Certificates Monitor/Nozzle, Motor Control Unit and LCP



# Gemini Hydraulic Monitor -Brass 4" flange x 2.5" NH outlet monitor only

#### **STYLE 3476**

The 3476 Gemini Hydraulic Monitor is constructed of brass with a compact split waterway designed with cast-in turning vanes. The Gemini Monitor provides high performance and exceptional durability.

#### Features

- 135° vertical travel: 45° below to 90° above horizontal
- 360° continuous horizontal rotation due to innovative rotation joint design
- Optional manual override



#### **Specifications**

Style	3476
Weight	82 lbs (37.3 kg)
Туре	Hydraulic
Material	Brass
Brand	Gemini
Width	10.25in (260.4mm)
Height	20in (508mm)
Depth	15.13in (384.3mm)

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## **Deliverables**

ITEM QUAN.

1

Α

## DESCRIPTION

#### GENESIS MONITOR, NOZZLE & HYD POWER UNIT MONITOR:

Akron Brass style 3476 remote control hydraulic monitor with 4" 150 pound ASA flat faced flange inlet and 2 1/2" NH male discharge made of cast brass. Monitor has 360° continuous horizontal travel and 135° of vertical travel (+90° to -45°) with manual over ride.

**NOZZLE**: Akron Brass style 5056 Akromatic hydraulic nozzle made of cast brass with a  $2\frac{1}{2}$ " NH female inlet. Nozzle discharge 300-1000 gpm @ 100 psi.

#### HYDRAULIC POWER UNIT:

Akron Brass style 3595 Hydraulic Power Unit will be rated for 1 GPM @ 1000 psi with 3-gallon reservoir. The HPU will have a filter, temperature, and sight level gauge. The motor starter, fuses, control relays, hydraulic solenoid valves, stainless steel fittings, and check valves are housed in a NEMA 4X enclosure, made of stainless steel. Components are to be wired to a numbered terminal strip.

Power required: please specify on the PO. Must be between 120 VAC & 480 VAC

Suitable for Class 1, Div. 2 hazardous locations.

Hydraulic interconnect tubing, power and control penetrations, and final electrical connections by others.



#### ITEM QUAN.

1

В

#### DESCRIPTION

#### SINGLE STATION LOCAL CONTROL PANEL

The Master Control Panel will contain (1) monitor control station and use 120 VAC control voltage supplied from the motor control unit.

Controls include:

- (1) HPU power on/off switch with pilot light
- (1) Joystick for left/right and up/down operation
- (1) Set of nozzle pattern fog/stream pushbuttons
- (1) Set of water on/off pushbutton switches

The enclosure will be NEMA 4X and made of stainless steel. Panel is pre-wired to a numbered terminal strip.

Suitable for Class 1, Div. 2 hazardous locations.

Power and control penetrations and final electrical connections by others. Control scheme for water and or foam valve by others.

Wiring between Single Control Station and Motor Drive Box not included. Must be provided by installer. Akron Brass Co. will supply wire specifications.



# WARRANTY AND DISCLAIMER

# Industrial Systems

We warrant Akron Brass Industrial Fire and Vapor Suppression Systems against defects in materials or workmanship as follows:

On the monitor: inclusive of all mechanical parts, excepting servomotors, for a period of five (5) years after date of installation or six (6) years from shipment date, which ever is earlier.

On the control system: inclusive of all of the following: servomotors, drives, relays, power supplies, cables, enclosures, hydraulic pump motors, solenoid valves, switches and lights for a period of one (1) year after date of installation two (2) years from shipment date, which ever is earlier.

Akron Brass will repair or replace any product that fails to satisfy this warranty. Repair or replacement shall be at the discretion of Akron Brass. Products must be promptly returned to Akron Brass for warranty service.

We will not be responsible for: wear and tear; any improper installation, use, maintenance or storage; negligence of the owner or user; repair or modification after commissioning; failure to follow our instructions or recommendations; or anything else beyond our control. WE MAKE NO WARRANTIES, EXPRESS OR IMPLIED, OTHER THAN THOSE INCLUDED IN THIS WARRANTY STATEMENT, AND WE DISCLAIM ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE. Further, we will not be responsible for any consequential, incidental or indirect damages (including, but not limited to, any loss of profits) from any cause whatsoever. No person has authority to change this warranty.