

**City of Portland, Maine - Building or Use Permit Application**

389 Congress Street, 04101 Tel: (207) 874-8703, Fax: (207) 874-8716

Permit No: 05-0612 **PERMIT ISSUED** 087 007001

Location of Construction: 94 Herman Ave	Owner Name: City Of Portland	Owner Address: 389 Congress S	Phone: JUN 13 2005
Business Name:	Contractor Name: Simplex / Grinnell	Contractor Address: 20 Thomas Drive Westport, ME 04092-5440	Phone:
Lessee/Buyer's Name:	Phone:	Permit Type: Alterations - Commercial	Zone: R2

Past Use: Commercial	Proposed Use: Commercial install a kitchen hood fire extinguishing system	Permit Fee: \$39.00	Cost of Work: \$1,717.00	CEO District: 2
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Proposed Project Description: install a kitchen hood fire extinguishing system	FIRE DEPT: <input checked="" type="checkbox"/> Approved <input type="checkbox"/> Denied	INSPECTION: Use Group: R2 Type: Hood System
	Signature: <i>JMB 5/29/05</i>	Signature: <i>JMB 6/9/05</i>

Permit Taken By: dmartin	Date Applied For: 05/24/2005	<b>Zoning Approval</b>
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<p>1. This permit application does not preclude the Applicant(s) from meeting applicable State and Federal Rules.</p> <p>2. Building permits do not include plumbing, septic or electrical work.</p> <p>3. Building permits are void if work is not started within six (6) months of the date of issuance. False information may invalidate a building permit and stop all work.</p>	<p>Special Zone or Review</p> <p><input type="checkbox"/> Shoreland</p> <p><input type="checkbox"/> Wetland</p> <p><input type="checkbox"/> Flood Zone</p> <p><input type="checkbox"/> Subdivision</p> <p><input type="checkbox"/> Site Plan</p> <p>Maj <input type="checkbox"/> Minor <input type="checkbox"/> MM <input type="checkbox"/></p> <p>Date: <i>JMB 6/9/05</i></p>	<p>Zoning Appeal</p> <p><input type="checkbox"/> Variance</p> <p><input type="checkbox"/> Miscellaneous</p> <p><input type="checkbox"/> Conditional Use</p> <p><input type="checkbox"/> Interpretation</p> <p><input type="checkbox"/> Approved</p> <p><input type="checkbox"/> Denied</p> <p>Date:</p>	<p>Historic Preservation</p> <p><input checked="" type="checkbox"/> Not in District or Landmark</p> <p><input type="checkbox"/> Does Not Require Review</p> <p><input type="checkbox"/> Requires Review</p> <p><input type="checkbox"/> Approved</p> <p><input type="checkbox"/> Approved w/Conditions</p> <p><input type="checkbox"/> Denied</p> <p>Date: <i>JMB</i></p>
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**CERTIFICATION**

I hereby certify that I am the owner of record of the named property, or that the proposed work is authorized by the owner of record and that I have been authorized by the owner to make this application as his authorized agent and I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in the application is issued, I certify that the code official's authorized representative shall have the authority to enter all areas covered by such permit at any reasonable hour to enforce the provision of the code(s) applicable to such permit.

SIGNATURE OF APPLICANT \_\_\_\_\_ ADDRESS \_\_\_\_\_ DATE \_\_\_\_\_ PHONE \_\_\_\_\_

RESPONSIBLE PEE

DISPLAY THIS CARD ON PRINCIPAL FRONTAGE OF WORK  
**CITY OF PORTLAND**

Please Read  
Application And  
Notes, If Any,  
Attached

BUILDING DEPARTMENT

PERMIT ISSUED

Permit Number: 050612

JUN 13 2005

CITY OF PORTLAND

This is to certify that City Of Portland/Simolex /Connell

has permission to install a kitchen hood fire extinguishing system

AT 94 Herman Ave

087 P00700

provided that the person or persons, firm or corporation accepting this permit shall comply with all of the provisions of the Statutes of Maine and of the ordinances of the City of Portland regulating the construction, maintenance and use of buildings and structures, and of the application on file in this department.

Apply to Public Works for street line and grade if nature of work requires such information.

Notification of inspection must be given and when permission procured before this building or part thereof is opened or closed-in. **HEAR NOTICE IS REQUIRED.**

A certificate of occupancy must be procured by owner before this building or part thereof is occupied.

OTHER REQUIRED APPROVALS

Fire Dept. Jay Kelley P.F.D. 507-05

Health Dept. \_\_\_\_\_

Appeal Board \_\_\_\_\_

Other \_\_\_\_\_

Department Name

*Denise Bonke* 6/9/05  
 Director - Building & Inspection Services

PENALTY FOR REMOVING THIS CARD

**City of Portland, Maine - Building or Use Permit**

389 Congress Street, 04101 Tel: (207) 874-8703, Fax: (207) 874-8716

Permit No: 05-0612	Date Applied For: 05/24/2005	CEU: 087 P007001
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Location of Construction: 94 Herman Ave	Owner Name: City Of Portland	Owner Address: 389 Congress St	Phone:
Business Name:	Contractor Name: Simplex / Grinnell	Contractor Address: 20 Thomas Drive Westbrook	Phone: (207) 842-6440
Lessee/Buyer's Name	Phone:	Permit Type: Hood Systems, Commercial	

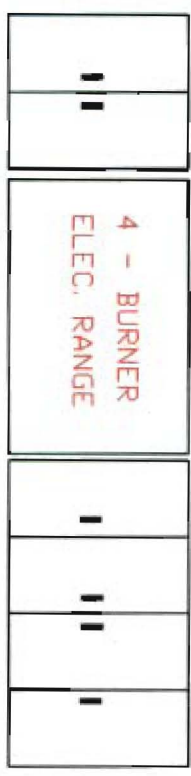
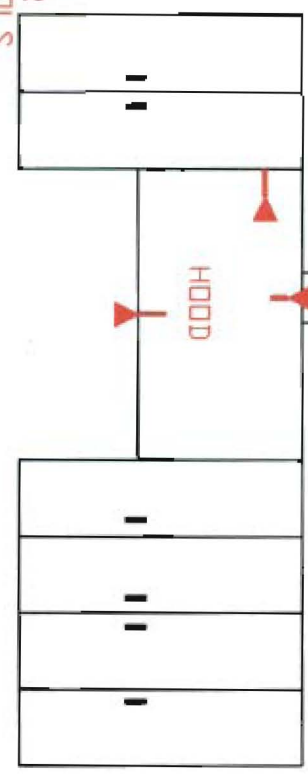
Proposed Use: Commercial install a kitchen hood fire extinguishing system	Proposed Project Description: install a kitchen hood fire extinguishing system
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Dept: Zoning Note:	Status: Open	Reviewer: Jeanine Bourke	Approval Date: 06/09/2005 Ok to Issue: <input checked="" type="checkbox"/>
Dept: Building Note:	Status: Approved	Reviewer: Jeanine Bourke	Approval Date: 06/09/2005 Ok to Issue: <input checked="" type="checkbox"/>
Dept: Fire Note: 1) Install hood system to manufacture's specifications	Status: Approved with Conditions	Reviewer: Jay Kelley	Approval Date: 05/27/2005 Ok to Issue: <input checked="" type="checkbox"/>
Dept: Fire Note:	Status:	Reviewer:	Approval Date: Ok to Issue: <input type="checkbox"/>

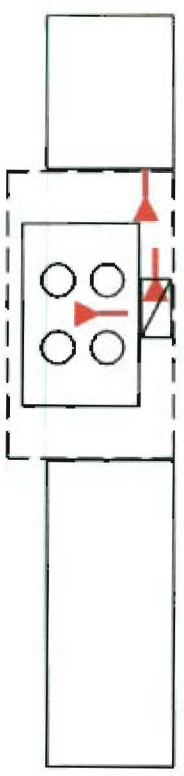
## CERTIFICATE OF INSPECTION

<b>Customer</b>	<b>Volunteers Of America, Peak Island VOA</b>
<b>Address</b>	<b>3 Central Ave. Peaks Island, ME 04108</b>
<b>Property inspected</b>	<b>(same)</b>
<b>Hazard location</b>	<b>4' long kitchen hood</b>
<b>System location</b>	<b>Community Kitchen #122</b>
<b>System Type</b>	<b>Ansul R102, UL300 wet chemical</b>
<b>System size</b>	<b>1-1/2 gallon (1 tanks x 1-1/2 gallons)</b>
<b>Remarks</b>	<b>A. System includes: (1) 1-1/2-gallon cylinder, (3) discharge nozzles, (1) fusible link detectors, (1) pull station and (1) reset relay B. System includes DPDT switches for connections (by Others) to the main facility fire alarm system and a reset relay for the elect. appliance shutoff (by Others) C. (1) 1N nozzle for plenum, (1) 1100 nozzle for duct and (1) 245 nozzle for 4-burner elect. Range.</b>
<b>Inspection date</b>	<b>pending, May 2005</b>
<b>Next inspection due</b>	<b>Semi-annual: Nov 2005, May 2006 etc.</b>
<b>Inspected by</b>	<b>pending installation by Tom Zielinski</b>

ANSUL  
1.5 GAL.  
CYLINDER  
& CONTROLS



ELEVATION VIEW  
SCALE: NTS



PLAN VIEW  
SCALE: NTS



**Fire & Security**  
EXECUTIVE OFFICES - DOWNTOWN, TEXAS, USA  
LOCAL OFFICE: WESTBROOK, ME.

APPROVALS  
 OUT     OUT     OUT

REVISIONS

NO.	DATE	BY	REVISION DESCRIPTION

SYSTEM INFO

TYPE	DATE	BY	APP

CONTRACT NAME:  
PEAKS ISLAND VOA  
3 CENTRAL AVENUE  
PEAKS ISLAND, ME

HYDRANIC DESIGN DATA

TYPE	DATE	BY	APP

SCALE: NTS  
 DRAWN BY: B.H.  
 CHECKED BY: T.M.  
 THESE PLANS PREPARED AT:  
 WESTBROOK, ME.  
 (UNLESS OTHERWISE SPECIFIED)

UNLESS SPECIFIED OTHERWISE, PIPING MATERIALS:

TYPE	SIZE	WALL THICKNESS	WALL WEIGHT	WALL AREA	WALL VOLUME	WALL WEIGHT	WALL VOLUME

CONTRACT NO.  
 DATE: MAY 2005  
 DRAWING NO.  
 1 OF 1

**tyco**

Fire &  
Security

SimplexGrinnell LP  
20 Thomas Dr.  
Westbrook, ME 04092- U.S.A.  
Tel. (207)842-6440  
Fax (207)842-6439

**SimplexGrinnell**

## PROPOSAL AND CONTRACT

SimplexGrinnell Contract # Quote #P05-40	Salesperson: Tim Hinman	Date: April 7, 2005
Invoice To: Buckley Associates, Inc.	Job Location: Peaks Island Portland, ME	Customer PO #

SimplexGrinnell, for and in consideration of the prices herein named, proposes to furnish the work, and/or materials hereinafter described, subject to the conditions outlined below:

### SCOPE OF WORK:

Furnish & install a 1.5-gallon Ansul R102 wet chemical kitchen hood fire suppression system per UL300, NFPA 17A & NFPA 96 to protect a 3' hood, exhaust duct and 4-burner residential type electric range for the Peaks Island project. Scope includes provision of DPDT switches and a reset relay for a remote fire alarm system signal and the electric appliance shutdown, but doesn't include any other electrical devices or wiring. Quote also includes a City of Portland permit and transportation to/from Peaks Island. Pricing based upon normal weekday hours. Total price for installation as described shall be \$1,717.

<b>TERMS OF THIS AGREEMENT ARE</b>			NET 10 <input type="checkbox"/>	NET 30 <input checked="" type="checkbox"/>	C.O.D. <input type="checkbox"/>
<input type="checkbox"/> Time and Material	<input type="checkbox"/> Price Not to Exceed \$ _____	<input checked="" type="checkbox"/> Fixed Price of <b>\$1,717</b>			
DEPOSIT: \$ _____	BALANCE DUE: \$ _____	AMEX <input type="checkbox"/>	MC/Visa <input type="checkbox"/>	Discover <input type="checkbox"/>	
CREDIT CARD # _____	Expiration Date: _____	Name on Credit Card: _____			

### IMPORTANT NOTICE TO CUSTOMER

- A. The price for work to be performed under this agreement on a time and material basis shall be based upon the prevailing SimplexGrinnell prices for material, labor, and related items, in effect at the time supplied under this agreement. Further, in the event that this agreement is executed on a "price not to exceed" basis, the price to the customer shall be lesser of: 1. The limit price quoted, OR 2. The actual cumulative billing based on the aforementioned prevailing prices.
- B. SimplexGrinnell does not undertake an obligation to inspect for Code compliance unless stated in the above Scope of Work.
- C. Unless otherwise agreed in writing between the parties, the Customer shall pay SimplexGrinnell within thirty (30) days of the date of this Agreement. If SimplexGrinnell is subsequently requested by the Customer to perform additional work beyond the work set out in the above scope of work, the Customer shall pay SimplexGrinnell within net 10 or net 30 days (as selected above) from the date of the invoice or the date of completion of the work, whichever is earlier. The Customer agrees to pay all taxes, permits, and other charges, including but not limited to state and local sales and excise taxes, however designated, levied or based on the service charges pursuant to this Agreement. Where the Agreement is not executed, payment shall constitute acceptance of the terms and conditions of this Agreement.
- D. Additional work performed for the Customer by SimplexGrinnell (beyond the work set out in the above scope of work section) will be included in subsequent invoices and shall be governed by and subject to all of the terms and conditions of this Agreement.
- E. CUSTOMER AGREES THAT SIMPLEXGRINNELL'S LIABILITY FOR PERSONAL INJURY, DEATH OR PROPERTY DAMAGE, WHETHER ARISING IN CONTRACT, TORT, STRICT LIABILITY OR OTHERWISE, SHALL NOT EXCEED THE AGREEMENT PRICE SET OUT ABOVE (AS INCREASED BY THE PRICE FOR ANY ADDITIONAL WORK) OR, WHERE THE TIME AND MATERIAL TERM IS SELECTED ABOVE, CUSTOMER'S TIME AND MATERIALS PAYMENTS TO SIMPLEXGRINNELL. CUSTOMER FURTHER AGREES THAT SIMPLEXGRINNELL SHALL NOT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES OR ANY ECONOMIC LOSS DAMAGES OF ANY KIND AND THAT THE CUSTOMER SHALL HOLD SIMPLEXGRINNELL HARMLESS FROM ANY AND ALL THIRD PARTY CLAIMS RELATING TO THE CUSTOMER'S FAILURE TO MAINTAIN THE SYSTEMS OR TO KEEP THEM IN OPERATIVE CONDITION OR RELATING TO SIMPLEXGRINNELL'S PERFORMANCE OR FAILURE TO PERFORM UNDER THIS AGREEMENT.
- F. THIS AGREEMENT CONSISTS OF THIS AGREEMENT PAGE AND THE TERMS AND CONDITIONS ON THE REVERSE SIDE HEREOF OR ATTACHED HERETO, and is the complete agreement between the parties. Customer acknowledges that he has read this agreement, understands it, and agrees to be bound by its terms and conditions. Neither party shall be bound by any statements or representation not contained in this agreement.

Buckley Associates, Inc.  
[Customer name]

SIMPLEXGRINNELL LP

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

By: \_\_\_\_\_  
Name: Tim Hinman  
Title: Suppression Sales Rep

Thomas Zielinski *on behalf of*  
SimplexGrinnell

*Has completed a training course in*  
R-102 Restaurant Fire Protection  
Systems (UL Standard 300)

*Training Date:* April 10, 2003

*Expiration Date:* April 10, 2008

ANSUL FIRE PROTECTION, MARINETTE, WI 54143-2542 715-735-7411

*Be it known that*  
**Thomas Zielinski**

*on behalf of*  
**SimplexGrinnell**

*has completed a training course in*  
**R-102 Restaurant Fire Protection Systems (UL Standard 300)**

*conducted by Ansul Fire Protection instructors.*

*This certificate is considered valid only if the above named individual is an  
employee of the Authorized Ansul Distributor Listed.*



*Training Date:* April 10, 2003

*Expiration Date:* April 10, 2008

*Chip Mills*  
Instructor

*Richard Schmidt*  
Manager of Training

# ANSUL®

## RESTAURANT FIRE SUPPRESSION SYSTEMS DATA SHEET

### MODEL R-102 (STANDARD UL 300 LISTED)

#### FEATURES

- Low pH Agent
- Proven Design
- Reliable Cartridge Operated
- Aesthetically Appealing
- UL Listed – Meets Requirements of UL 300

#### APPLICATION

The Ansul R-102 Restaurant Fire Suppression System is an automatic, pre-engineered, fire suppression system designed to protect the following areas associated with cooking equipment; ventilating equipment including hoods, ducts, plenums, and filters; fryers; griddles and range tops; upright, natural charcoal, or chain-type broilers; electric, lava rock, mesquite or gas-radiant char-broilers and woks.

The system is ideally suitable for use in restaurants, hospitals, nursing homes, hotels, schools, airports, and other similar facilities.

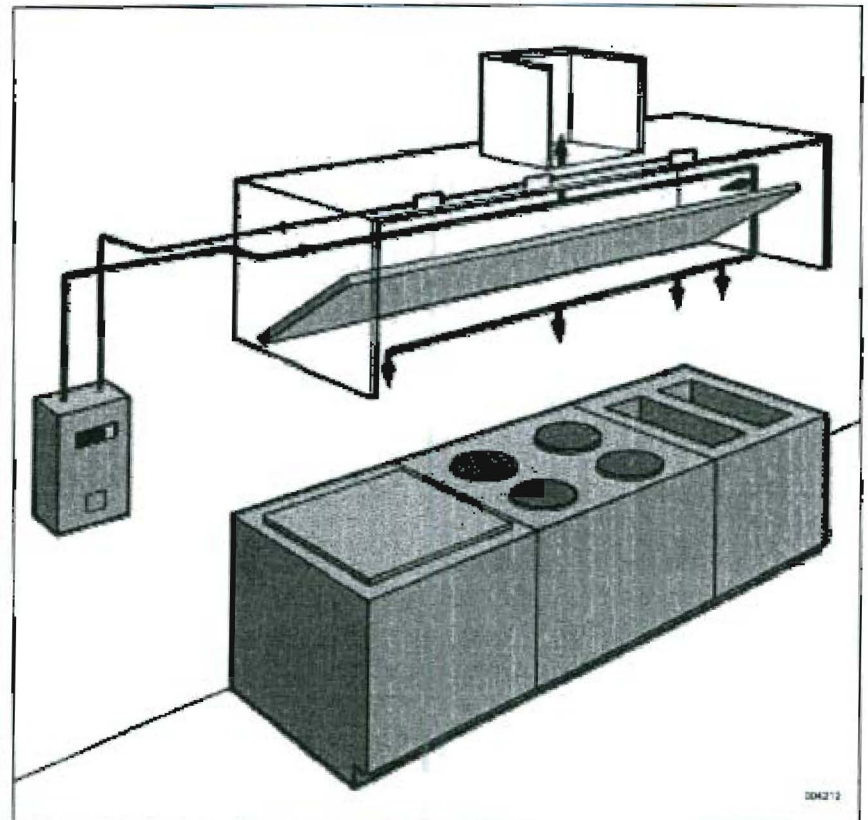
Use of the R-102 system is limited to interior applications only. The regulated release and tank assemblies must be mounted in an area where the air temperature will not fall below 32 °F (0 °C) or exceed 130 °F (54 °C). The system must be designed and installed within the guidelines of the UL Listed Design, Installation, Recharge, and Maintenance Manual.



#### SYSTEM DESCRIPTION

The restaurant fire suppression system is a pre-engineered, wet chemical, cartridge-operated, regulated pressure type with a fixed nozzle agent distribution network. It is listed with Underwriters Laboratories, Inc. (UL).

The system is capable of automatic detection and actuation and/or remote manual actuation. Additional equipment is available for mechanical or electrical gas line shut-off applications.



The detection portion of the fire suppression system allows for automatic detection by means of specific alloy rated fusible links, which, when the temperature exceeds the rating of the link, the link separates, allowing the regulated release to actuate.

A system owner's guide is available containing basic information pertaining to system operation and maintenance. A detailed technical manual is also available including system description, design, installation, recharge, and maintenance procedures, plus additional equipment installation and resetting instructions.

The system is installed and serviced by authorized distributors that are trained by the manufacturer.

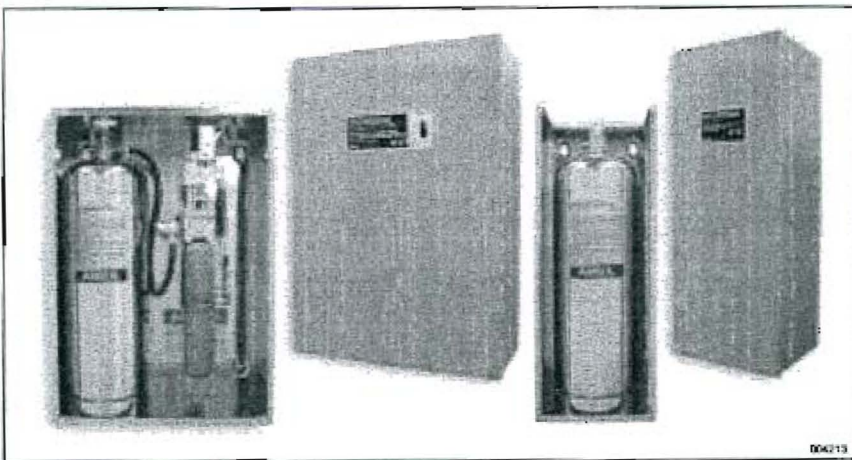
The basic system consists of an ANSUL AUTOMAN regulated release assembly which includes a regulated release mechanism and a wet chemical storage tank

housed within a single enclosure. Nozzle blow-off caps, detectors, cartridges, agent, fusible links, and pulley elbows are supplied in separate packages in the quantities needed for fire suppression system arrangements.

Additional equipment includes remote manual pull station, mechanical and electrical gas valves, pressure switches, and electrical switches for automatic equipment and gas line shut-off. Accessories can be added such as alarms, warning lights, etc., to installations where required.

Tanks can be used in multiple arrangements to allow for larger hazard coverage. Each tank is limited to a listed maximum amount of flow numbers.





004213

## COMPONENT DESCRIPTION

**Wet Chemical Agent** – The extinguishing agent is a mixture of organic and inorganic salts designed for rapid flame knockdown and foam securement of grease related fires. It is available in plastic containers with instructions for wet chemical handling and usage.

**Agent Tank** – The agent tank is installed in a stainless steel enclosure or wall bracket. The tank is constructed of stainless steel.

Tanks are available in two sizes: 1.5 gallon (5.7 L) and 3.0 gallon (11.4 L). The tanks have a working pressure of 100 psi (6.9 bar), a test pressure of 300 psi (20.7 bar), and a minimum burst pressure of 600 psi (41.4 bar).

The tank includes an adaptor/tube assembly. The adaptor is chrome-plated steel with a 1/4 in. NPT female gas inlet and a 3/8 in. NPT female agent outlet. The adaptor also

contains a bursting disc seal which prevents the siphoning of agent up the pipe during extreme temperature variations.

**Regulated Release Mechanism** – The regulated release mechanism is a spring-loaded, mechanical/pneumatic type capable of providing the expellant gas supply to one or two agent tanks, depending on the capacity of the gas cartridge used. It contains a factory installed regulator deadset at 100 psi (6.9 bar) with an internal relief of approximately 145 psi (10.0 bar). It has automatic actuation capabilities by a fusible link detection system and remote manual actuation by a mechanical pull station.

The regulated release mechanism contains a release assembly, regulator, expellant gas hose, and agent storage tank housed in a stainless steel enclosure with cover. The enclosure contains knock-outs for 1/2 in. conduit. The cover contains an opening for a visual status indicator.

It is compatible with mechanical gas shut-off devices; or, when equipped with a field or factory-installed switch, it is compatible with electric gas line or appliance shut-off devices.

**Regulated Actuator Assembly** – When more than two agent tanks are required, the regulated actuator is available to provide expellant gas for additional tanks. It is connected to the cartridge receiver outlet of the regulated release mechanism providing simultaneous agent discharge. It contains a regulated actuator deadset at 100 psi (6.9 bar) with an internal relief of approximately 145 psi (10.0 bar). The regulated actuator assembly contains a regulated actuator, regulator, expellant gas hose, and agent tank housed in a stainless steel enclosure with cover. The enclosure contains knockouts to permit installation of the expellant gas line.

**Discharge Nozzles** – Each discharge nozzle is tested and listed with the R-102 system for a specific application. Nozzle tips are stamped with the flow number designation (1/2, 1, 2, and 3). Each nozzle must have a metal or rubber blow-off cap to keep the nozzle tip orifice free of cooking grease build-up.

## APPROVALS

Applicable Standards: ULI listed under EX-3470; ULC listed under CEX-747; meets requirements of NFPA 96 (Standard for the Installation of Equipment for the Removal of Smoke and Grease-Laden Vapors from Commercial Cooking Equipment); NFPA 17A (Standard on Wet Chemical Extinguishing Systems).

## ORDERING INFORMATION

Order all system components through your local authorized Ansul Distributor.

## SPECIFICATIONS

An Ansul R-102 Fire Suppression System shall be furnished. The system shall be capable of protecting all hazard areas associated with cooking equipment.

### 1.0 GENERAL

#### 1.1 References

- 1.1.1 Underwriters Laboratories, Inc. (UL)
  - 1.1.1.1 UL Standard 1254
  - 1.1.1.2 UL Standard 300
- 1.1.2 National Fire Protection Association (NFPA)
  - 1.1.2.1 NFPA 96
  - 1.1.2.2 NFPA 17A

#### 1.2 Submittals

- 1.2.1 Submit two sets of manufacturer's data sheets
- 1.2.2 Submit two sets of piping design drawings

#### 1.3 System Description

- 1.3.1 The system shall be an automatic fire suppression system using a wet chemical agent for grease related fires.
- 1.3.2 The system shall be capable of suppressing fires in the following areas associated with cooking equipment: ventilating equipment including hoods, ducts, plenums, and filters; fryers; griddles and range tops; upright, natural charcoal, or chain-type broilers; electric, lava rock, mesquite or gas-radiant char-broilers.
- 1.3.3 The system shall be the pre-engineered type having minimum and maximum guidelines established by the manufacturer and listed by Underwriters Laboratories, Inc. (UL).
- 1.3.4 The system shall be installed and serviced by personnel trained by the manufacturer.

#### 1.4 Quality Control

- 1.4.1 Manufacturer: The R-102 Restaurant Fire Suppression System shall be manufactured by a company with at least thirty years experience in the design and manufacture of pre-engineered fire suppression systems. The manufacturer shall be ISO 9002 registered.
- 1.4.2 Certificates: The wet agent shall be a specially formulated, aqueous solution of organic salts with a pH range between 7.8 – 8.2, designed for flame knockdown and foam securement of grease-related fires.

#### 1.5 Warranty, Disclaimer, and Limitations

- 1.5.1 The pre-engineered restaurant fire suppression system components shall be warranted for five years from date of delivery against defects in workmanship and material.

## 2.0 PRODUCT

### 1.6 Delivery

1.6.1 Packaging: All system components shall be securely packaged to provide protection during shipment.

### 1.7 Environmental Conditions

1.7.1 The R-102 system shall be capable of operating in a temperature range of 32 °F to 130 °F (0 °C to 54 °C).

### 2.1 Manufacturer

2.1.1 Ansul Fire Protection, One Stanton Street, Marinette, Wisconsin 54143-2542, Telephone (715) 735-7411

### 2.2 Components

2.2.1 The basic system shall consist of an ANSUL AUTOMAN regulated release assembly which includes a regulated release mechanism and a wet chemical storage tank housed within a single enclosure. Nozzles, blow-off caps, detectors, cartridges, agent, fusible links, and pulley elbows shall be supplied in separate packages in the quantities needed for fire suppression system arrangements. Additional equipment shall include remote manual pull station, mechanical and electrical gas valves, pressure switches, and electrical switches for automatic equipment and gas line shut-off.

2.2.2 Wet Chemical Agent: The extinguishing agent shall be a specially formulated, aqueous solution of organic salts with a pH range between 7.8 - 8.2, designed for flame knockdown and foam securement of grease related fires.

2.2.3 Agent Tank: The agent tank shall be installed in a stainless steel enclosure or wall bracket. The tank shall be constructed of stainless steel. Tanks shall be available in two sizes; 1.5 gallon (5.7 L) and 3.0 gallon (11.4 L). The tanks shall have a working pressure of 100 psi (6.9 bar), a test pressure of 300 psi (20.7 bar), and a minimum burst pressure of 600 psi (41.4 bar). The tank shall include an adaptor/tube assembly containing a burst disc union.

2.2.4 Regulated Release Mechanism: The regulated release mechanism shall be a spring-loaded, mechanical/pneumatic type capable of providing the expellant gas supply to one or two agent tanks depending on the capacity of the gas cartridge used. It shall contain a factory installed regulator deadset at 100 psi (6.9 bar) with an internal relief of approximately 145 psi (10.0 bar).

It shall have the following actuation capabilities: automatic actuation by a fusible link detection system and remote manual actuation by a mechanical pull station.

The regulated release mechanism shall contain a release assembly, regulator, expellant gas hose, and agent storage tank housed in a stainless steel enclosure with cover. The enclosure shall contain knock-outs for 1/2 in. conduit. The cover shall contain an opening for a visual status indicator.

It shall be compatible with mechanical gas shut-off devices; or, when equipped with a field or factory-installed switch, it shall be compatible with electric gas line or appliance shut-off devices.

2.2.5 Regulated Actuator Assembly: When more than two agent tanks are required, the regulated actuator shall be available to provide expellant gas for additional tanks. It shall be connected to the cartridge receiver outlet of the regulated release mechanism providing simultaneous agent discharge. The regulator shall be deadset at 100 psi (6.9 bar) with an internal relief of approximately 145 psi (10.0 bar). The regulated actuator assembly shall contain a regulated actuator, regulator, expellant gas hose, and agent tank housed in a stainless steel enclosure with cover. The enclosure shall contain knockouts to permit installation of the expellant gas line.

2.2.6 Discharge Nozzles: Each discharge nozzle shall be tested and listed with the R-102 system for a specific application. Nozzles tips shall be stamped with the flow number designation (1/2, 1, 2, and 3). Each nozzle shall have a metal or rubber blow-off cap to keep the nozzle tip orifice free of cooking grease build-up.

2.2.7 Distribution Piping: Distribution piping shall be Schedule 40 black iron, chrome-plated, or stainless steel pipe conforming to ASTM A120, A53, or A106.

2.2.8 Detectors: The detectors shall be the fusible link style designed to separate at a specific temperature.

2.2.9 Cartridges: The cartridge shall be a sealed steel pressure vessel containing either carbon dioxide or nitrogen gas. The cartridge seal shall be designed to be punctured by the releasing device supplying the required pressure to expel wet chemical agent from the storage tank.

## 3.0 IMPLEMENTATION 3.1

### Installation

3.1.1 The R-102 fire suppression system shall be designed, installed, inspected, maintained, and recharged in accordance with the manufacturer's listed instruction manual.

### 3.2 Training

3.2.1 Training shall be conducted by representatives of the manufacturer.