

DISPLAY THIS CARD ON PRINCIPAL FRONTAGE OF WORK



CITY OF PORTLAND

BUILDING PERMIT

This is to certify that
Keon, Mike
576 CONGRESS ST
PORTLAND, ME 04101

For installation at
574-576 CONGRESS ST

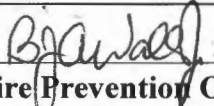
Job ID: 2012-03-3495-ALTCOMM

CBL: 037- G-008-001

has permission to install Maine Life Safety Sprinkler System throughout 574-576 Congress Street provided that the person or persons, firm or corporation accepting this permit shall comply with all of the provisions of the Statues of Maine and of the Ordinances of the City of Portland regulating the construction, maintenance and use of the buildings and structures, and of the application on file in the department.

Notification of inspection and written permission procured before this building or part thereof is lathed or otherwise closed-in. 48 HOUR NOTICE IS REQUIRED.

A final inspection must be completed by owner before this building or part thereof is occupied. If a certificate of occupancy is required, it must be


Fire Prevention Officer



Code Enforcement Officer / Plan Reviewer

THIS CARD MUST BE POSTED ON THE STREET SIDE OF THE PROPERTY
PENALTY FOR REMOVING THIS CARD

BUILDING PERMIT INSPECTION PROCEDURES

Please call 874-8703 or 874-8693 (ONLY)

or email: buildinginspections@portlandmaine.gov

With the issuance of this permit, the owner, builder or their designee is required to provide adequate notice to the city of Portland Inspections Services for the following inspections. Appointments must be requested 48 to 72 hours in advance of the required inspection. The inspection date will need to be confirmed by this office.

- **Please read the conditions of approval that is attached to this permit!! Contact this office if you have any questions.**
- **Permits expire in 6 months. If the project is not started or ceases for 6 months.**
- **If the inspection requirements are not followed as stated below additional fees may be incurred due to the issuance of a "Stop Work Order" and subsequent release to continue.**

Final Fire

The project cannot move to the next phase prior to the required inspection and approval to continue, REGARDLESS OF THE NOTICE OF CIRCUMSTANCES.

IF THE PERMIT REQUIRES A CERTIFICATE OF OCCUPANCY, IT MUST BE PAID FOR AND ISSUED TO THE OWNER OR DESIGNEE BEFORE THE SPACE MAY BE OCCUPIED.



PORTLAND MAINE

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Director of Planning and Urban Development
Jeff Levine

Job ID: 2012-03-3495-ALTCOMM
install Maine Life Safety Sprinkler System
throughout 574-576 Congress Street

For installation at:
574 CONGRESS ST

CBL: 037- G-008-001

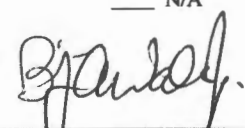

Conditions of Approval:

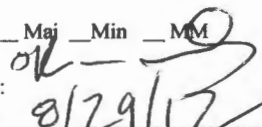
Fire

1. The sprinkler system shall be installed in accordance with the Maine Life Safety Standard. A signed compliance letter will be required.
2. A separate sprinkler permit is required from the State Fire Marshal's Office.
3. Sprinkler supervision shall be provided in accordance with NFPA 101, *Life Safety Code*, and NFPA 72, *National Fire Alarm and Signaling Code*.
4. Sprinkler protection shall be maintained. Where the system is to be shut down for maintenance or repair, the system shall be checked at the end of each day to insure the system has been placed back in service.
5. Fire department connection type shall be a single 2 1/2" and location shall be the front of the building. The Fire Department will require a Knox locking cap on the Fire Department Connection.
6. A red sign shall be located over the FDC that indicates the addresses the sprinkler system serves and "WATER SUPPLY DURATION 10 MINUTES." Sign design shall be approved by the Fire Prevention Bureau.
7. System acceptance and commissioning must be coordinated with alarm and suppression system contractors, Eric Ellis from the State Fire Marshal's Office, and the Portland Fire Department. Call 874-8703 to schedule the Fire Department.
8. A Knox Box is required.

City of Portland, Maine - Building or Use Permit Application

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

Job No: 2012-03-3495-ALTCOMM #2012-47522 FAFS	Date Applied: 8/24/2012	CBL: 037- G-008-001	
Location of Construction: 574-576 CONGRESS ST	Owner Name: 574 ASSOCIATES, LLC	Owner Address: 1976 WASHINGTON AVE, PORTLAND, ME 04101	Phone:
Business Name:	Contractor Name: Simplex Grinnell	Contractor Address: 20 Thomas Drive, Westbrook, ME 04092	Phone: 210-0522
Lessee/Buyer's Name:	Phone:	Permit Type: FAFS	Zone: B-3
Past Use: 574: 1 st floor restaurant (Otto's); 2 nd floor retail; 3 rd floor 2 DUs 576: 1 st floor restaurant (Otto's); 2 nd floor -offices; 3 rd floor 1 DU	Proposed Use: Same Uses: to install fire suppression system in entire building	Cost of Work: \$42,000.00	CEO District:
		Fire Dept: 9/7/12 <input checked="" type="checkbox"/> Approved w/ conditions <input type="checkbox"/> Denied <input type="checkbox"/> N/A	Inspection: Use Group: Type:
		Signature: 	Signature: 
Proposed Project Description: install fire suppression system		Pedestrian Activities District (P.A.D.)	
Permit Taken By: Brad		Zoning Approval	

<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 informatin may invalidate a building permit and stop all work.</p>	<p>Special Zone or Reviews</p> <p><input type="checkbox"/> Shoreland</p> <p><input type="checkbox"/> Wetlands</p> <p><input type="checkbox"/> Flood Zone</p> <p><input type="checkbox"/> Subdivision</p> <p><input type="checkbox"/> Site Plan</p> <p>___ Maj ___ Min ___ MM Date:  8/29/12</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 type="checkbox"/> Not in Dist 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:</p>
	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 PERSON IN CHARGE OF WORK, TITLE		DATE	PHONE



Water-Based Fire Suppression System Permit

Entered 8/24/12
B-3

If you or the property owner owes real estate or property taxes or user charges on any property within the city, payment arrangements must be made before permits of any kind are accepted.

2012-03-3495-A17comm

Installation address: 574-576 Congress CBL: 087 6008

Exact location: (within structure) Entire FAFS-2012-47522

Type of occupancy(s) (NFPA & ICC): Mixed

Building owner: 574 Associates LLC

Managing Supervisor (RMS): Paul Doughty License No: 540

Supervisor phone: Paul Doughty E-mail: _____

Installing contractor: Simplex Grinnell License No: 398

Contractor phone: 210-0522 E-mail: _____

The suppression work to be done will be: New: Renovation: Addition to existing system:

This is an amendment to an existing permit: Yes: NO: Permit no: _____

NFPA Standard this system is designed to: _____ Edition: _____

*Non-NFPA systems are not approved for use within the City of Portland.

Download a new copy of this document from www.portlandmaine.gov/fire for every submittal. Attach all working documents and complete approved submittals as may be required by the State Fire Marshal's Office on electronic PDF's in addition to full sized plans.

Contractor shall verify location and type of all FDCs shall be approved in writing by the Fire Prevention Bureau.

COST OF WORK: <u>33,000</u>
PERMIT FEE: <u>350.00</u>
(\$10 PER \$1,000 + \$30 FOR THE FIRST \$1,000)
RECEIVED
AUG 24 2012
Dept. of Building Inspections City of Portland Maine

Submit all information to the Building Inspections Department, 389 Congress Street, Room 315, Portland, Maine 04101.

Prior to acceptance of any fire protection system, a complete commissioning and acceptance test must be coordinated with all fire system contractors and the Fire Department, and proper documentation of such test(s) provided.

All installation(s) must comply with NFPA and the Fire Department Technical Standard(s).

Applicant signature: Paul Doughty Date: 8-24-12



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Receipts Details:

Tender Information: Check , Check Number: 4748

Tender Amount: 350.00

Receipt Header:

Cashier Id: bsaucier

Receipt Date: 8/24/2012

Receipt Number: 47523

Receipt Details:

Referance ID:	7793	Fee Type:	BP-FIRE
Receipt Number:	0	Payment Date:	
Transaction Amount:	350.00	Charge Amount:	350.00
Job ID: Job ID: 2012-03-3495-ALTCOMM - Add seating, bar, etc to existing space; fascade			
Additional Comments: 574 Congress			

Thank You for your Payment!



State of Maine
Department of Public Safety
Fire Sprinkler System Permit



10200

574 Congress

Located at: 574 Congress St
 In the Town of: Portland
 Occupancy/Use: Mixed - restaurant - retail - residential
 Type of System: Maine Life Safety

Permission is hereby given to:

Simplex Grinnell

Att: Jennifer Dow, 20 Thomas Drive
 Westbrook, ME 04092
 Contractor License # 398

to begin installation according to plans submittal approved by the Office of State Fire Marshal. The submittal is filed under log # 2121395, and no departure from the application submittal shall be made without prior approval in writing. This permit is issued under the provisions of Title 32, Chapter 20, Section 12004-I. Nothing herein shall excuse the holder of this permit from failure to comply with local ordinances, zoning laws, or other pertinent legal restrictions. This permit shall be displayed at the construction site or be made readily available.

This permit was issued on 8/24/2012 for a fee paid of \$100.00

This permit will expire at midnight on Wednesday, February 20, 2013

The expiration date applies only if the installation has not begun by that date and no permission has been granted to extend the date. Once installation begins, then the permit is valid for however long it takes to complete the installation, assuming that the work is fairly continuous.

John E. Morris
 Commissioner

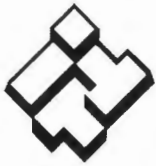
The type of Fire Department Connection and its location is to be according to the Local Fire Department

Within 30 days of the completion of a new fire sprinkler system or an addition to an existing fire sprinkler system, a fire sprinkler system contractor shall provide to the Office of State Fire Marshal a copy of this permit signed and dated by the certified Responsible Managing Supervisor representing that the fire sprinkler system has been installed according to specifications of the approved plan to the best of the supervisor's knowledge, information, and belief. This requirement is part of the sprinkler law, and neglect of this duty is grounds to not renew the contractor's license to do work in the State of Maine. All renewed sprinkler licenses are good for two years and expire on a June 30th.

Job completed, tested and verified by date of _____

RMS for this job: Goff Rory

RMS Signature: _____



ITT

BGT

Residential Water Systems

Goulds Pumps

GT IRRI-GATOR™ Self-Priming®
Centrifugal Pumps – 60 Hz



New base on 1½ – 3 HP models.

 **GOULDS PUMPS**

Goulds Pumps is a brand of ITT Corporation.

www.goulds.com

Engineered for life

FEATURES

- ① ■ **Self-Priming Design:** Once pump is initially primed, filled with water, it will reprime when the water level rises above the end of the suction pipe.
- **Serviceable:**
 - Back pullout design allows disassembly of pump for service without disturbing piping.
 - Two compartment motor for easy access to motor wiring and replaceable components.
- **Diffuser (Guidevane):** Bolt down diffuser provides positive alignment with impeller. Diffuser has stainless wear ring for extended performance in abrasive conditions. F.D.A. compliant, injection molded, food grade, glass filled Lexan® for durability and abrasion resistance.
- **Impeller:** F.D.A. compliant, glass filled Noryl®. Corrosion and abrasion resistant.
- **Corrosion Resistant:** Electro-coat paint process is applied inside and out, then baked on.
- **Casing:** Cast iron construction. Four (4) bolt, back pull-out design. Tapped openings provided for vacuum gauge and casing drain.
- **Powered for Continuous Operation:** Pump ratings are within the motor manufacturer's recommended working limits. Can be operated continuously without damage.
- **Mechanical Seal:** Carbon/ceramic faces, BUNA elastomers. 300 series stainless steel metal parts. Pump design prevents the seal from running dry.

Goulds Pumps

GT Irri-Gator Self-Priming Centrifugal Pumps

APPLICATIONS

Specifically designed for the following uses:

- Lawn sprinkling
- Irrigation
- Air conditioning systems
- Heat pumps
- Water transfer
- Dewatering

SPECIFICATIONS

Pump:

- Pipe connections:
1½" NPT suction
1½" NPT discharge
- Capacities: to 110 GPM at 5 foot suction lift.
- Heads: to 128 feet.
- Reprime capabilities: to 25 feet suction lift.

- Maximum working pressure: 125 PSIG.
- Maximum water temperature: 140° F (60° C).
- Rotation: clockwise when viewed from motor end.

Motor:

- NEMA standard open drip proof.
- 60 Hz, 3500 RPM.
- Stainless steel shaft.
- Single phase: ¾–1½ HP, 115/230 V; 2 and 3 HP, 230 V only. Built-in overload with automatic reset.
- Three phase: 230/460 V. Overload protection must be provided in starter unit. Starter and heaters (3) must be ordered separately.
- Optional TEFC motors are available. See price book for order numbers.

AGENCY LISTINGS



Canadian Standards Association



Underwriters Laboratories

Goulds Pumps is ISO 9001 Registered.

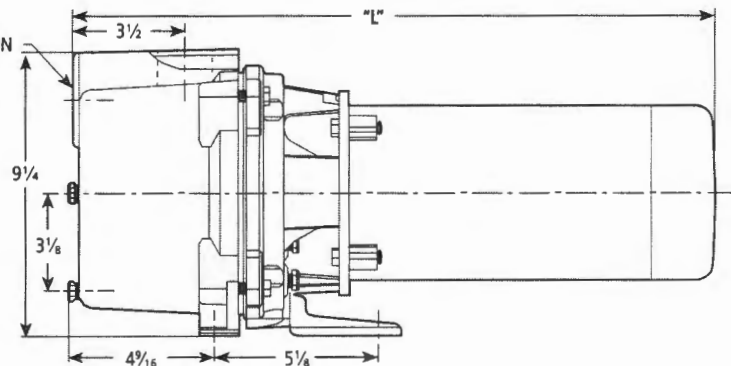
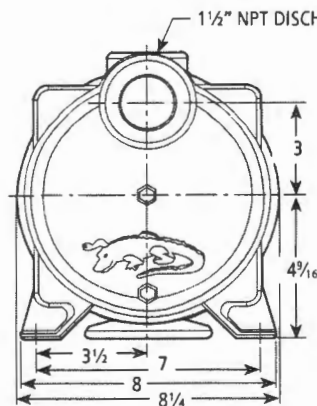
STANDARD ODP MODELS

Model	HP	Phase
GT07	¾	1
GT10	1	
GT15	1½	
GT20	2	
GT30	3	3
GT073	¾	
GT103	1	
GT153	1½	
GT203	2	
GT303	3	

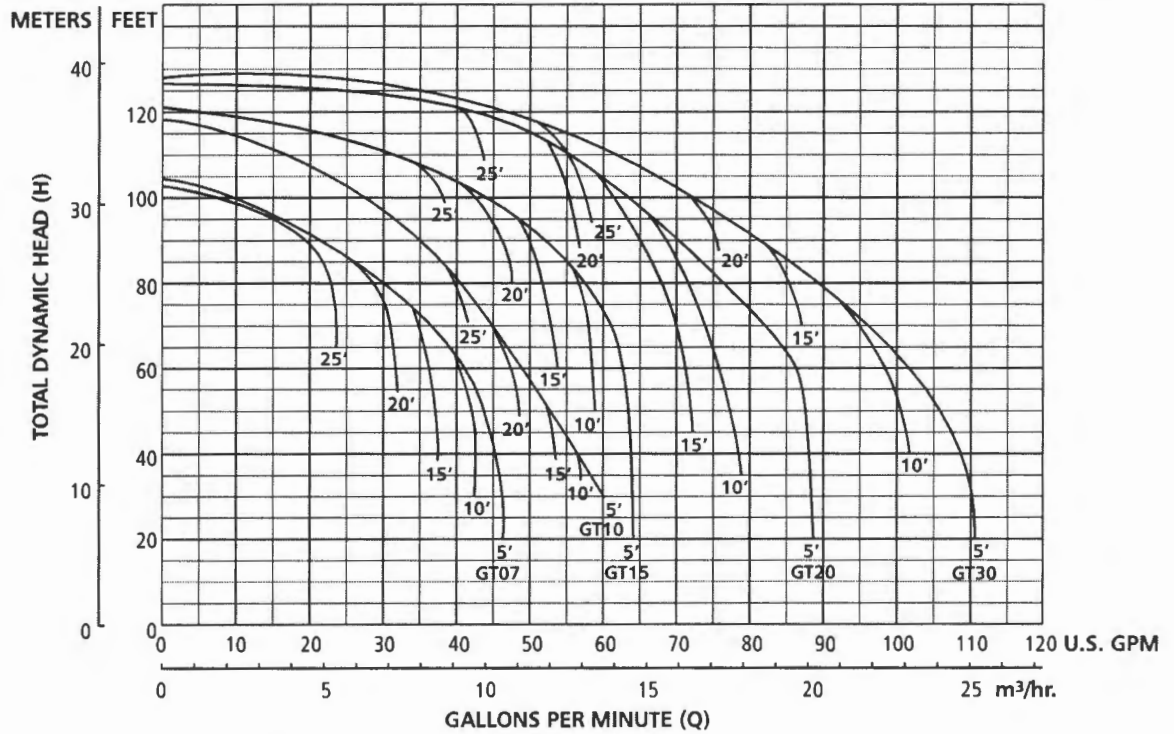
DIMENSIONS AND WEIGHTS

Model	GT07	GT10	GT15	GT20	GT30	GT073	GT103	GT153	GT203	GT303
HP	¾	1	1½	2	3	¾	1	1½	2	3
Length "L"	19 ³ / ₁₆	19 ⁹ / ₁₆	21 ³ / ₁₆	20 ¹ / ₁₆	21 ¹¹ / ₃₂	19	19 ³ / ₄	20 ¹ / ₁₆	20 ¹³ / ₁₆	21 ³ / ₁₆
Width	8 ³ / ₄									
Height	9 ³ / ₄									
Weight (lbs.)	48	52	60	65	76	49	52	55	69	71
Phase	Single					Three				

(All dimensions are in inches and weights in lbs. Do not use for construction purposes.)



PERFORMANCE CURVE



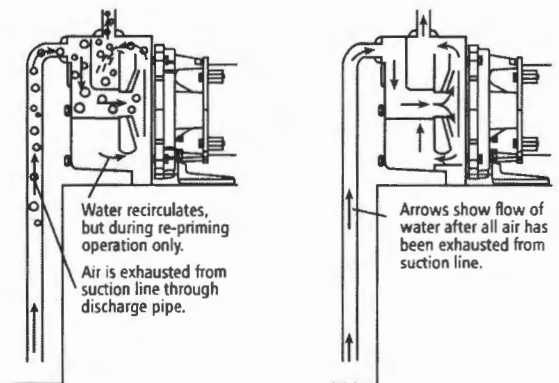
Single and three phase have same performance.

PERFORMANCE RATINGS

Model	PSI Discharge Pressure	Suction Lift in Feet				
		5	10	15	20	25
GT07/ GT073	20	44	41	36	31	24
	30	34	31	26	22	14
	40	10	4	0	0	0
GT10/ GT103	20	53	51	49	46	41
	30	43	41	38	36	32
	40	29	22	16	8	0
GT15/ GT153	20	63	59	54	49	39
	30	60	55	51	46	37
	40	45	38	33	20	14
GT20/ GT203	20	86	77	70	59	46
	30	80	72	67	57	44
	40	65	60	57	50	43
GT30/ GT303	20	105	100	88	76	60
	30	92	90	84	75	57
	40	73	67	62	55	50

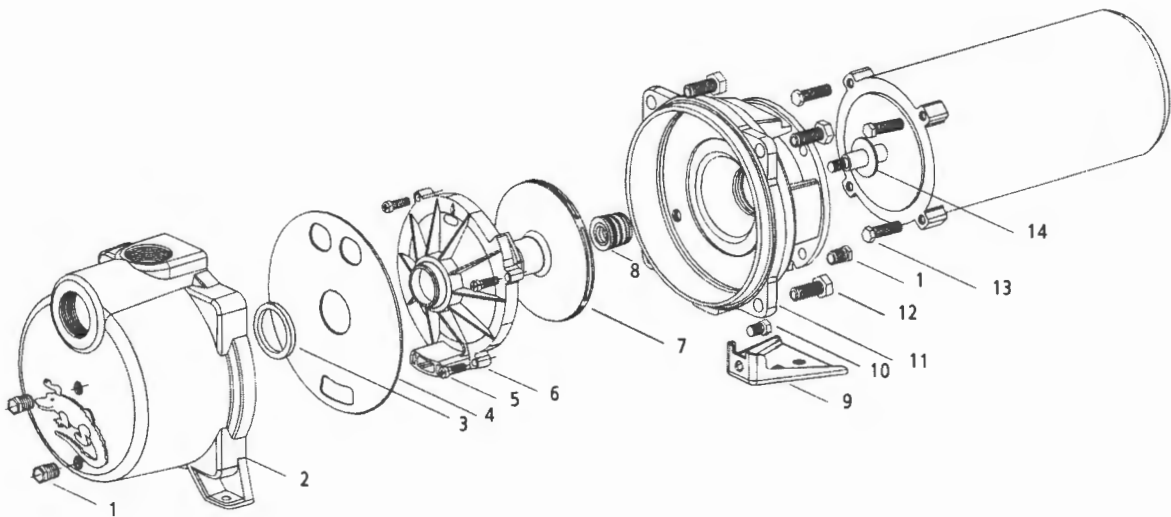
Performance ratings are in GPM.

SELF-PRIMING (AFTER INITIAL PRIME)⁽¹⁾



COMPONENTS

Item No.	Description
1	Plug – 1/4" NPT
2	Casing
3	Seal ring – diffuser
4	Diaphragm
5	Machine screw
6	Diffuser
7	Impeller
8	Mechanical seal
9	Foot
10	Bolt – foot to adapter
11	Motor adapter
12	Bolt – casing to adapter
13	Bolt – adapter to motor
14	Deflector



ITT
 2881 East Bayard Street, Seneca Falls, NY 13148
 Phone: (315) 568-7123 • Fax: (315) 568-7973
www.goulds.com

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 SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.



Reliable®

Model F1FR Series Quick Response Standard Spray

Model F1FR56 Sprinkler Types

Standard Upright
Standard Pendent
Conventional
Vertical Sidewall
Horizontal Sidewall

Model F1FR56 Recessed Sprinkler Types

Standard Pendent/F1/F2/FP
Horizontal Sidewall

Model F1FR56 Concealed Sprinkler Types

Standard Pendent

Model F1FR42, F1FRXLH & F1FR28 Sprinkler Types

Standard Upright
Standard Pendent

Model F1FR42, F1FRXLH & F1FR28 Recessed Sprinkler Types

Standard Pendent

Listing & Approvals

1. Underwriters Laboratories Inc. and Certified for Canada (cULus).
2. Factory Mutual Approvals (FM)
3. Loss Prevention Council (LPCB, UK)
4. VdS Schadenverhütung GmbH

UL Listing Category

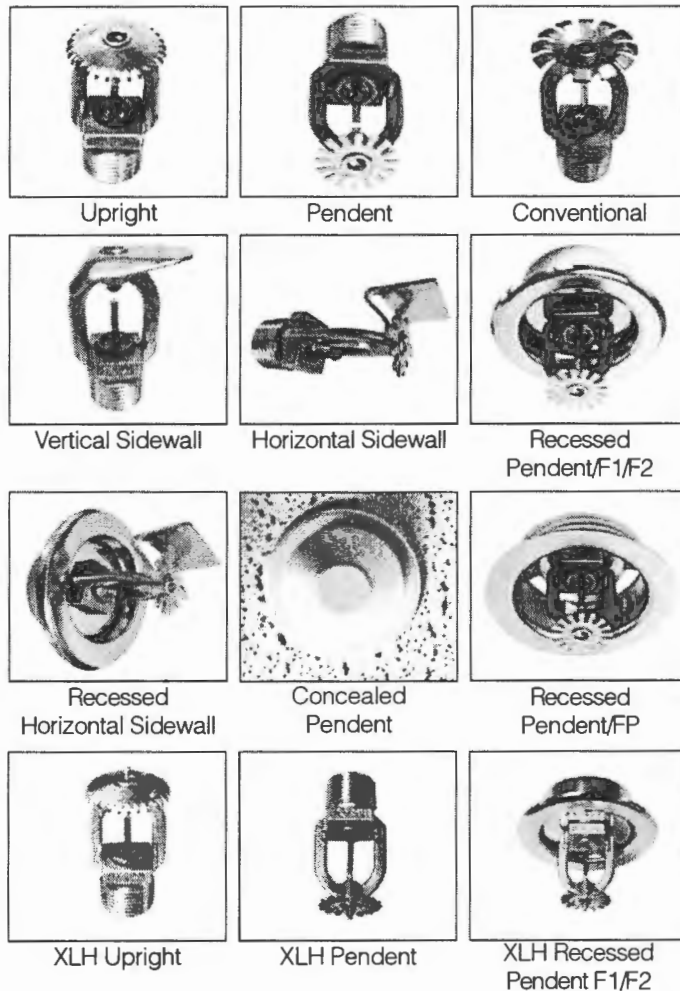
Sprinklers, Automatic & Open (VNIV)
Quick Response Sprinkler

Product Description

Reliable Models F1FR56, F1FR42, F1FRXLH & F1FR28 Series Sprinklers are quick response sprinklers which combine the durability of a standard sprinkler with the attractive low profile of a decorative sprinkler.

The Models F1FR56, F1FR42, F1FRXLH & F1FR28 Series Recessed automatic sprinklers utilize a 3.0 mm frangible glass bulb. These sprinklers have demonstrated response times in laboratory tests which are five to ten times faster than standard response sprinklers. This quick response enables the Model F1FR56, F1FR42, F1FRXLH & F1FR28 Series sprinklers to apply water to a fire much faster than standard sprinklers of the same temperature rating.

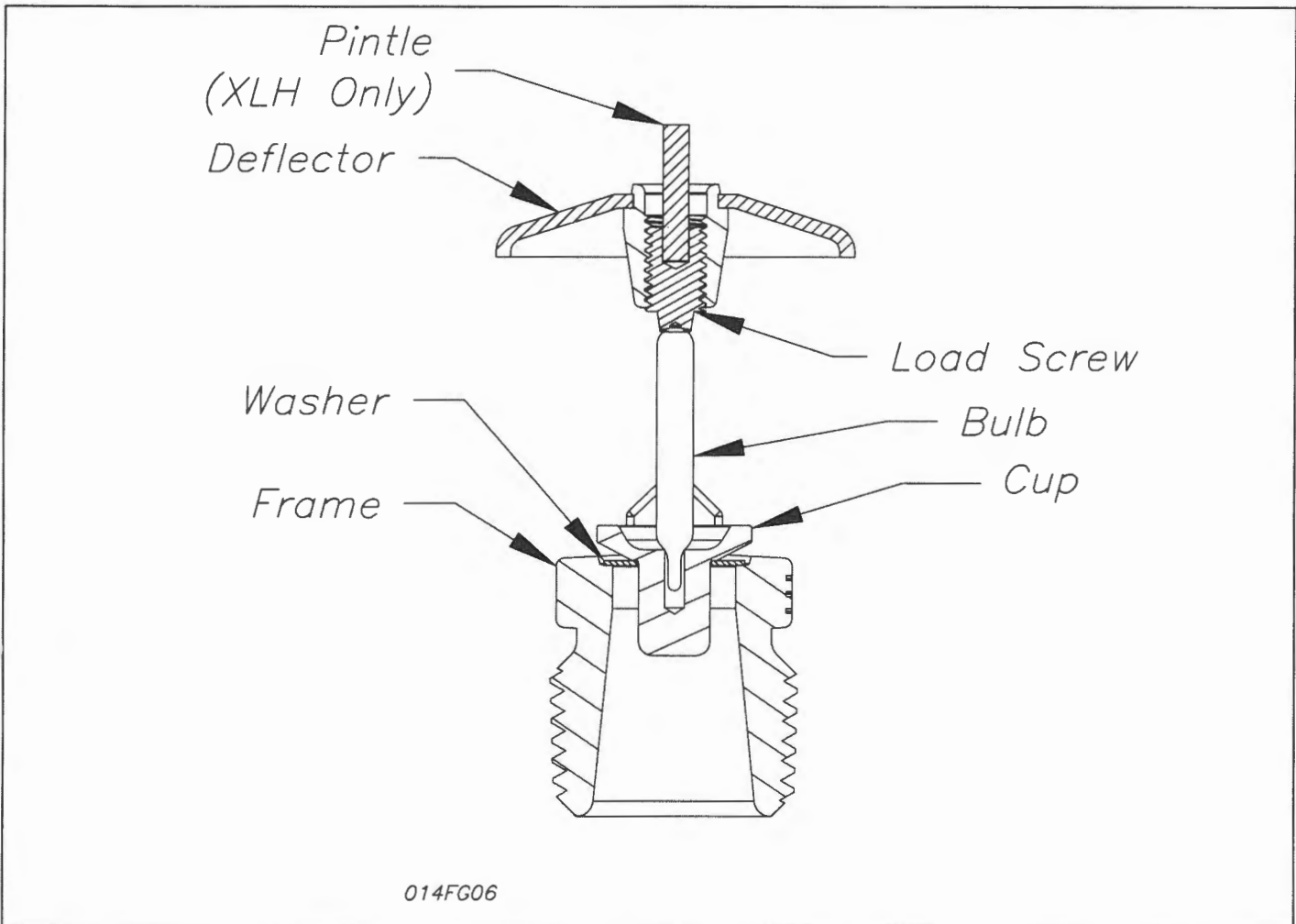
The glass bulb consists of an accurately controlled amount of special fluid hermetically sealed inside a precisely manufactured glass capsule. This glass bulb is specially constructed to provide fast thermal response.



At normal temperatures, the glass bulb contains the fluid in both the liquid and vapor phases. The vapor phase can be seen as a small bubble. As heat is applied, the liquid expands, forcing the bubble smaller and smaller as the liquid pressure increases. Continued heating forces the liquid to push out against the bulb, causing the glass to shatter, opening the waterway and allowing the deflector to distribute the discharging water.

Application

Quick response sprinklers are used in fixed fire protection systems: Wet, Dry, Deluge or Preaction. Care must be exercised that the orifice size, temperature rating, deflector style and sprinkler type are in accordance with the latest published standards of the National Fire Protection Association or the approving Authority Having Jurisdiction. Quick response sprinklers are intended for installation as specified in NFPA 13. Quick response sprinklers and standard response sprinklers should not be intermixed.



Model F1FR42, F1FRXLH Upright

Technical data:

Models	Discharge Coefficient	Response	Thread Size	Max. Working Pressure	Min. Working Pressure	Temperature Rating	Finish
F1FR56	K 5.6	Quick Response	1/2" NPT (R1/2)	175 PSI	7 PSI	See "Temperature Ratings" Table.	See "Finish Table"
F1FR42 F1FRXLH	K 4.2						
F1FR28	K 2.8						

Material Data:

Frame	Deflector	Load Screw	Pintle	Cup	Washer	Bulb
DZR Brass QM Brass	CDA Alloy 260, CDA Alloy 220 or CDA Alloy 510	CDA Alloy 360 or CDA Alloy 544	CDA Alloy 360 or CDA Alloy 544	CDA Alloy 651 or CDA Alloy 693	Nickel Alloy 440 or Alloy 360 coated with PTFE Adhesive Tape	Glass

Model F1FR56, Upright, Pendent & Conventional Sprinklers
Model F1FR42, F1FRXLH & F1FR28 Upright & Pendent Sprinklers

Installation Wrench: Model D Sprinkler Wrench

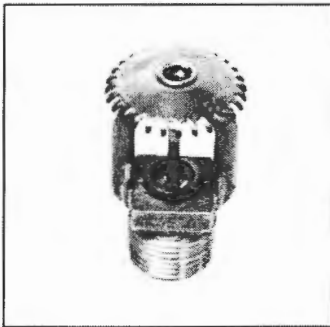
Installation Data:

Nominal Orifice	Thread	Nominal K Factor		Sprinkler Height	Approval Organization	Sprinkler Identification Number (SIN)	
		US	Metric			Upright	Pendent
Standard-Upright (SSU) and pendent Deflectors Marked to Indicate Position							
1/2" (15mm) ⁽¹⁾	1/2" NPT (R1/2)	5.6	80	2.25" (57mm)	1,2,3,4	RA1425 ^(1X2X3)	RA1414 ^(1X2X3)
7/16" (10mm)	1/2" NPT (R1/2)	4.2	60	2.25" (57mm)	1	RA1423 ⁽¹⁾	RA1413
3/8" (10mm)	1/2" NPT (R1/2)	2.8	40	2.25" (57mm)	1	RA1421 ⁽¹⁾	RA1411
Conventional-Install in Upright or Pendent Position							
15mm ⁽¹⁾	1/2" NPT (R1/2)	5.6	80	57mm	3, 4	RA1475 ⁽³⁾	

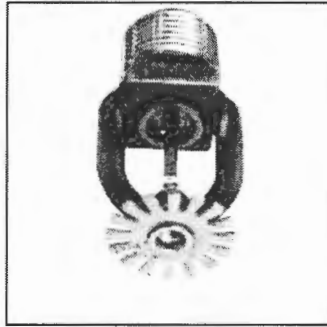
⁽¹⁾ cULus listed corrosion resistant (Polyester coated) sprinkler.

⁽²⁾ Polyester coated FM approved sprinkler.

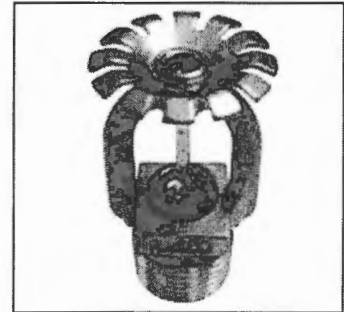
⁽³⁾ Polyester coated LPCB & Vds approved sprinkler RA1425, RA1414 & RA1475.



Upright



Pendent



Conventional

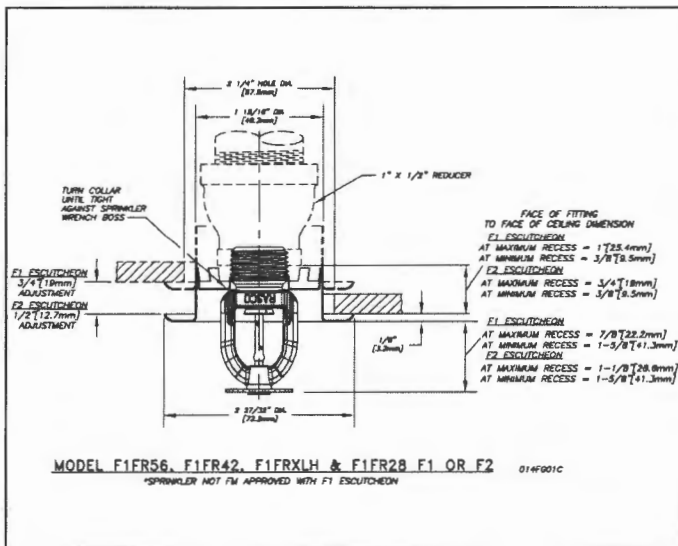
Model F1FR56, F1FR42, F1FRXLH & F1FR28 Quick Response Recessed Pendent Sprinkler⁽¹⁾

Installation Wrench: Model GFR2 Sprinkler Wrench

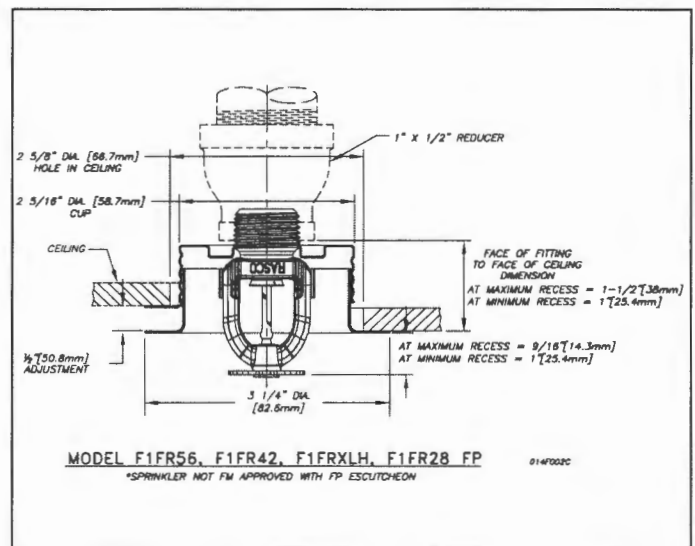
Installation Data:

Nominal Orifice	Thread Size	K Factor		Sprinkler Height	Sprinkler Identification Number (SIN)
		US	Metric		
1/2" (15mm)	1/2" NPT(R1/2)	5.6	80	2.25" (57mm)	RA1414
7/16" (10mm)	1/2" NPT (R1/2)	4.2	60	2.25" (57mm)	RA1413
3/8" (10mm)	1/2" NPT (R1/2)	2.8	40	2.25" (57mm)	RA1411

⁽¹⁾ Refer to escutcheon data table for approvals & dimensions



Model F1FR56, F1FRXLH & F1FR28 F1 or F2



Model F1FR56, F1FRXLH & F1FR28 FP

Model F1FR56 Quick Response Vertical Sidewall Sprinkler

Installation Wrench: Model D Sprinkler Wrench

Installation Position: Upright or Pendent

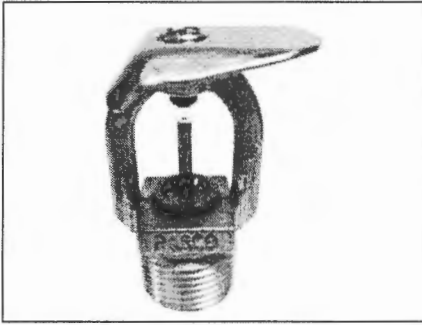
Approval Type: Light Hazard Occupancy

Installation Data:

Nominal Orifice	Thread Size	Nominal K Factor		Sprinkler Height	Approval Organizations	Sprinkler Identification Numbers (SIN)
		US	Metric			
½" (15mm)	½" NPT (R1/2)	5.6	8.0	2.25" (57mm)	1,2,3,4	RA1485 ⁽²⁾
15mm	½" NPT (R1/2)	5.6	8.0	2.25" (57mm)	4 ⁽¹⁾	

⁽¹⁾ LPC Approval is for pendent position only.

⁽²⁾ cULus Listed corrosion resistant (Polyester coated) sprinkler.



Vertical Sidewall

Sprinkler Type	Deflector to Ceiling Distance (Min. - Max.)
Upright	4" (102mm) - 12" (305mm)
Pendent	4" (102mm) - 12" (305mm)

Model F1FR56 Quick Response Horizontal Sidewall Sprinkler

Deflector: HSW

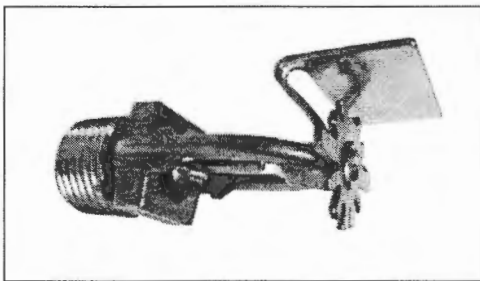
Installation Wrench: Model D Sprinkler Wrench

Installation Data: Horizontal Sidewall

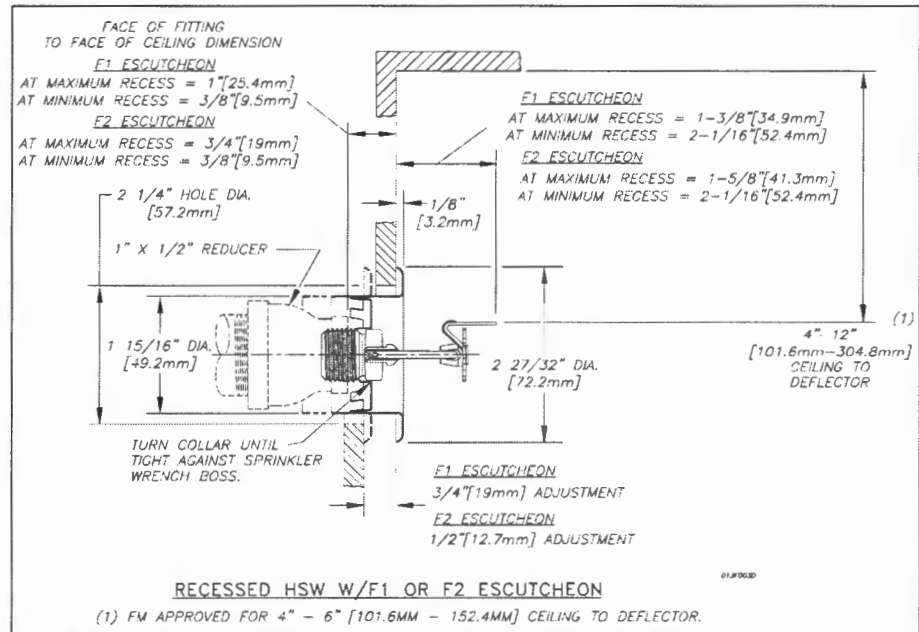
Nominal Orifice	Thread Size	Nominal K Factor		Sprinkler Height	Approval Organizations and Type of Approval		Sprinkler Identification Numbers (SIN)
		US	Metric		Light Hazard	Ordinary Hazard	
½" (15mm)	½" NPT (R1/2)	5.6	80	2.63" (67mm)	1,2	1	RA1435 ⁽¹⁾⁽²⁾

⁽¹⁾ cULus Listed corrosion resistant (Polyester coated) sprinkler.

⁽²⁾ Polyester coated FM approved sprinkler.



Horizontal Sidewall



Note: For Recessed HSW Sprinklers use installation wrench GFR2.

Model F1FR56 Quick Response Concealed Pendent Sprinklers

Installation Wrench: Model RC1 Sprinkler Wrench

Technical Data:

Nominal Orifice	"K" Factor		Thread Size	Model	Temp. Rating		Max. Ambient Temp	Bulb Color	Approvals	Sprinkler Identification Number(SIN)
	US	Metric			Sprinkler	Cover				
1/2" (15mm)	5.6	80	1/2" NPT	F1FR	135°F/57°C	135°F/57°C	100°F/38°C	Orange	1	RA1414
1/2" (15mm)	5.6	80	1/2" NPT	F1FR	155°F/68°C	135°F/57°C	100°F/38°C	Red	1, 4 ⁽¹⁾	RA1414
1/2" (15mm)	5.6	80	1/2" NPT	F1FR	175°F/79°C	165°F/74°C	100°F/38°C	Yellow	1	RA1414
1/2" (15mm)	5.6	80	1/2" NPT	F1FR	200°F/93°C	165°F/74°C	150°F/65°C	Green	1	RA1414

⁽¹⁾ For VdS only = 155°F/68°C Norbulb and 1/2" [12,7mm] adjustment.

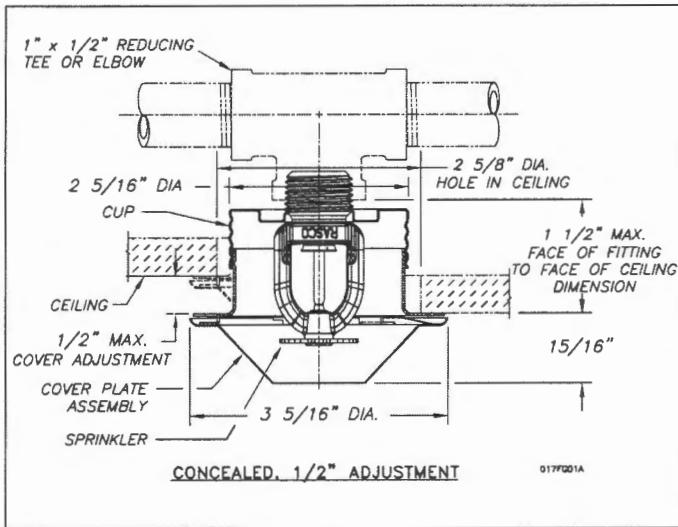


Figure 1

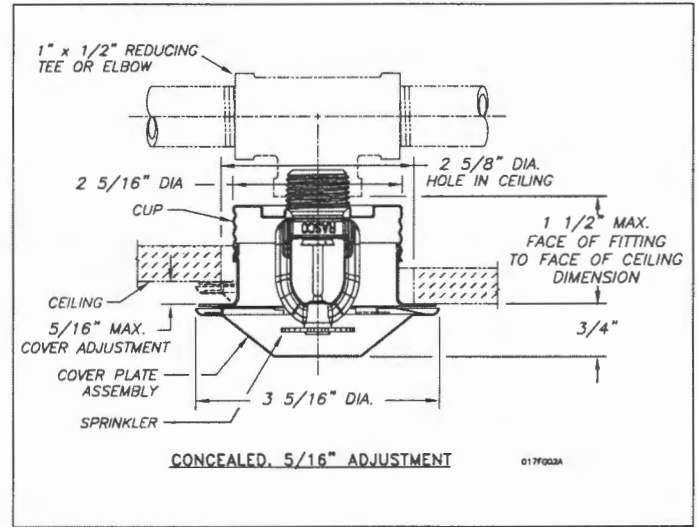


Figure 2

Installation Aid

A protective cap is included for use during installation.

Important: The F1FR56 Sprinkler with Model CCP cover plate is not an FM Approved combination.

Installation

Quick response sprinklers are intended for installation as specified in NFPA 13. Quick response sprinklers and standard response sprinklers should not be intermixed.

The Model F1FR56, F1FR42, F1FRXLH & F1FR28 Recessed Quick Response Sprinklers are to be installed as shown. The Model F1 or F2 Escutcheons illustrated are the only recessed escutcheons to be used with the Model F1FR56, F1FR42, F1FRXLH & F1FR28 Sprinklers. The use of any other recessed escutcheon will void all approvals and negate all warranties.

When installing Model F1FR56, F1FR42, F1FRXLH & F1FR28 Sprinklers, use the Model D Sprinkler Wrench. Use the Model GFR2 Wrench for installing F1FR56, F1FR42, F1FRXLH & F1FR28 Recessed Pendent Sprinklers. Any other type of wrench may damage these sprinklers.

NOTE: A leak tight 1/2" NPT (R1/2) sprinkler joint can be obtained with a torque of 8-18 ft-lbs (10,8 - 24,4 N-m). Do not tighten sprinklers over maximum recommended torque. It may cause leakage or impairment of the sprinklers.

*DuPont Registered Trade Mark

The Model F1FR56/CCP Concealed Sprinkler uses the 1/2" orifice, 1/2" NPT (R1/2), 135°F (57°C), 155°F (68°C), 175°F (79°C) or 200°F (93°C) Model F1FR56 Pendent Sprinkler with a threaded Model CCP cup which is factory attached to the sprinkler. The assembly is completed by the installation of the attractive, low profile, 135°F (57°C) or 165°F (74°C) rated Model CCP push on cover plate assembly. The cover plate and sprinkler cup assemblies are joined using a cover plate skirt with flexible tabs for threaded engagement. A choice of two cover plate assemblies provide either 1/2" (13mm) or 5/16" (8mm) of cover adjustment.

Do not install these sprinklers in ceiling which have positive pressure in the space above.

After a 2 5/8" (67mm) diameter hole is cut in the ceiling, the sprinkler is easily installed with the Model RC1 Wrench. A Teflon* based thread sealant should be applied to the sprinkler threads only. The Model RC1 Wrench is then used to engage the sprinkler wrenching surfaces and to install the sprinkler in the fitting. When inserting or removing the wrench from the sprinkler/cup assembly, care should be taken to prevent damage to the sprinkler. **DO NOT WRENCH ON ANY OTHER PART OF THE SPRINKLER.** The cover plate is then pushed onto the cup. Final adjustment is made by hand turning the cover plate until the skirt flange makes full contact with the ceiling. Cover plate removal requires turning in the counter clockwise direction.

After installation, inspect all sprinklers to ensure that there is a gap between the cover plate and ceiling and that the four cup slots are open and free from any air flow impediment to the space above.

Concealed cover plate/cup assemblies are listed only for use with specific sprinklers. The use of any other concealed cover plate/cup assembly with the Model F1FR56 Pendent Sprinkler or the use of the Model CCP Concealed cover plate assembly on any sprinkler with which it is not specifically listed may prevent good fire protection and will void all guarantees, warranties, listings and approvals.

Glass bulb sprinklers have orange bulb protectors to minimize bulb damage during shipping, handling and installation. REMOVE THIS PROTECTION AT THE TIME THE SPRINKLER SYSTEM IS PLACED IN SERVICE FOR FIRE PROTECTION. Removal of the protectors before this time may leave the bulb vulnerable to damage. RASCO wrenches are designed to install sprinklers when covers are in place. REMOVE PROTECTORS BY UNDOING THE CLASP BY HAND. DO NOT USE TOOLS TO REMOVE THE PROTECTORS.

Temperature Ratings

Classification	Sprinkler Temperature		Max. Ambient Temp.	Bulb Color
	°C	°F		
Ordinary	57	135	100°F (38°C)	Orange
Ordinary	68	155	100°F (38°C)	Red
Intermediate	79	175	150°F (66°C)	Yellow
Intermediate	93	200	150°F (66°C)	Green
High ⁽¹⁾	141	286	225°F (107°C)	Blue

⁽¹⁾ Not available for recessed sprinklers.

Escutcheon Data ⁽¹⁾

⁽¹⁾ SIN RA1435 – cULus permits use with F1, F2 or FP escutcheons for "light hazard" only, while FM limits use for same hazard with F2 escutcheon only.

Maintenance

The Model F1FR56, F1FR42, F1FRXLH and Model F1FR56, F1FR42, F1FRXLH & F1FR28 Recessed Sprinklers should be inspected quarterly and the sprinkler system maintained in accordance with NFPA 25. Do not clean sprinklers with soap and water, ammonia or any other cleaning fluids. Remove dust by using a soft brush or gentle vacuuming. Remove any sprinkler which has been painted (other than factory applied) or damaged in any way. A stock of spare sprinklers should be maintained to allow quick replacement of damaged or operated sprinklers. Prior to installation, sprinklers should be maintained in the original cartons and packaging to minimize the potential for damage to sprinklers that would cause improper operation or non-operation.

Sprinkler Types

- Standard Upright
- Standard Pendent
- Conventional
- Recessed Pendent
- Vertical Sidewall
- Horizontal Sidewall
- Recessed Horizontal sidewall
- Concealed pendent

Maximum Working Pressure

- 175 psi (12 bar)
- 100% Factory tested hydrostatically to 500 psi (34.5 bar)

Finishes ⁽¹⁾

Standard Finishes		
Sprinkler	Escutcheon	Cover plate ⁽¹⁾
Bronze	Brass	
Chrome Plated	Chrome Plated	Chrome White
Polyester Coated ⁽⁴⁾⁽⁵⁾⁽⁶⁾	White Painted	
Special Application Finishes		
Sprinkler	Escutcheon	Cover plate ⁽¹⁾
Bright Brass ⁽³⁾	Bright Brass	Bright Brass
Black Plated	Black Plated	Satin
Black Paint ⁽²⁾⁽⁶⁾	Black Paint	Off White
Off White ⁽²⁾⁽⁶⁾	Off White	Black Paint
Satin Chrome	Satin Chrome	Black Plated

⁽¹⁾ Other finishes and colors are available on special order. Consult the factory for details. Custom color painted sprinklers may not retain their UL Corrosion resistance listing. Coverplate custom paint is semi-gloss, unless specified otherwise.

⁽²⁾ cULus Listed only.

⁽³⁾ 200°F (93°C) maximum.

⁽⁴⁾ cULus listed "corrosion resistance" applies to SIN Numbers RA1435 (HSW), RA1485(VSW), RA1425 (Upright) and RA1414 (Pendent) in standard black or white. Corrosion resistance in other polyester colors is available upon request.

⁽⁵⁾ FM Approvals finish as "Polyester coated" applies to SIN Number RA1414 (Pendent) in standard black or white.

⁽⁶⁾ LPCB and VdS Approved finish applies only to RA1425, RA1414 and RA1475.

Ordering Information

Specify:

1. Sprinkler Model
2. Sprinkler Type
3. Orifice Size
4. Deflector Type
5. Temperature Rating
6. Sprinkler Finish
7. Escutcheon Type
8. Escutcheon Finish (where applicable)
9. Cover plate Model
10. Cover plate Thread size
11. Cover plate Temperature
12. Cover plate Adjustment
13. Cover plate Finish

Note: When Model F1FR56 Recessed sprinklers are ordered, the sprinklers and escutcheons are packaged separately.

The equipment presented in this bulletin is to be installed in accordance with the latest published Standards of the National Fire Protection Association, Factory Mutual Research Corporation, or other similar organizations and also with the provisions of governmental codes or ordinances whenever applicable. Products manufactured and distributed by Reliable have been protecting life and property for over 90 years, and are installed and serviced by the most highly qualified and reputable sprinkler contractors located throughout the United States, Canada and foreign countries.

Manufactured by



The Reliable Automatic Sprinkler Co., Inc.

(800) 431-1588 Sales Offices
 (800) 848-6051 Sales Fax
 (914) 829-2042 Corporate Offices
 www.reliablesprinkler.com Internet Address



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Hydraulic Overview

Job Number: 1
Report Description: Residential

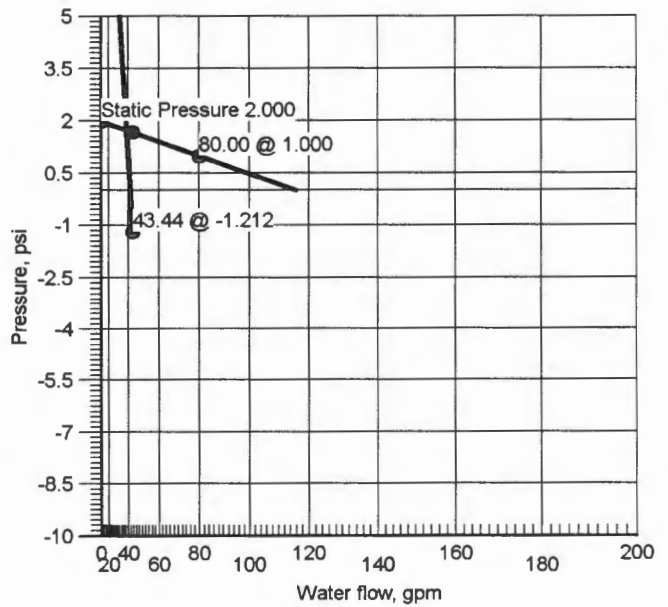
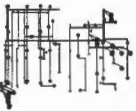
Job	
Job Number 1	Design Engineer Rory Goff
Job Name: 574 Assoc.	Phone 603-289-0490
Address 1 574 Congress St	State Certification/License Number RMS 546
Address 2 Portland ME	AHU ME Fire Marshal
Address 3	Job Site/Building 574 Congress

System	
Density 0.050gpm/ft ²	Area of Application 588.00ft ²
Most Demanding Sprinkler Data 4.4 K-Factor 14.00 at 10.124	Hose Streams 0.00
Coverage Per Sprinkler 196.00ft ²	Number Of Sprinklers Calculated 3
System Pressure Demand 0.000	System Flow Demand 43.44
Total Demand 43.44 @ 0.000	Pressure Result +1.677 (100.0%)

Supplies						Check Point Gauges			
Node	Name	Flow(gpm)	Hose Flow(gpm)	Static(psi)	Residual(psi)	Identifier	Pressure(psi)	K-Factor(K)	Flow(gpm)
4	Water Supply	80.00		2.000	1.000				
2		40.00	Pump	55.000	45.000				

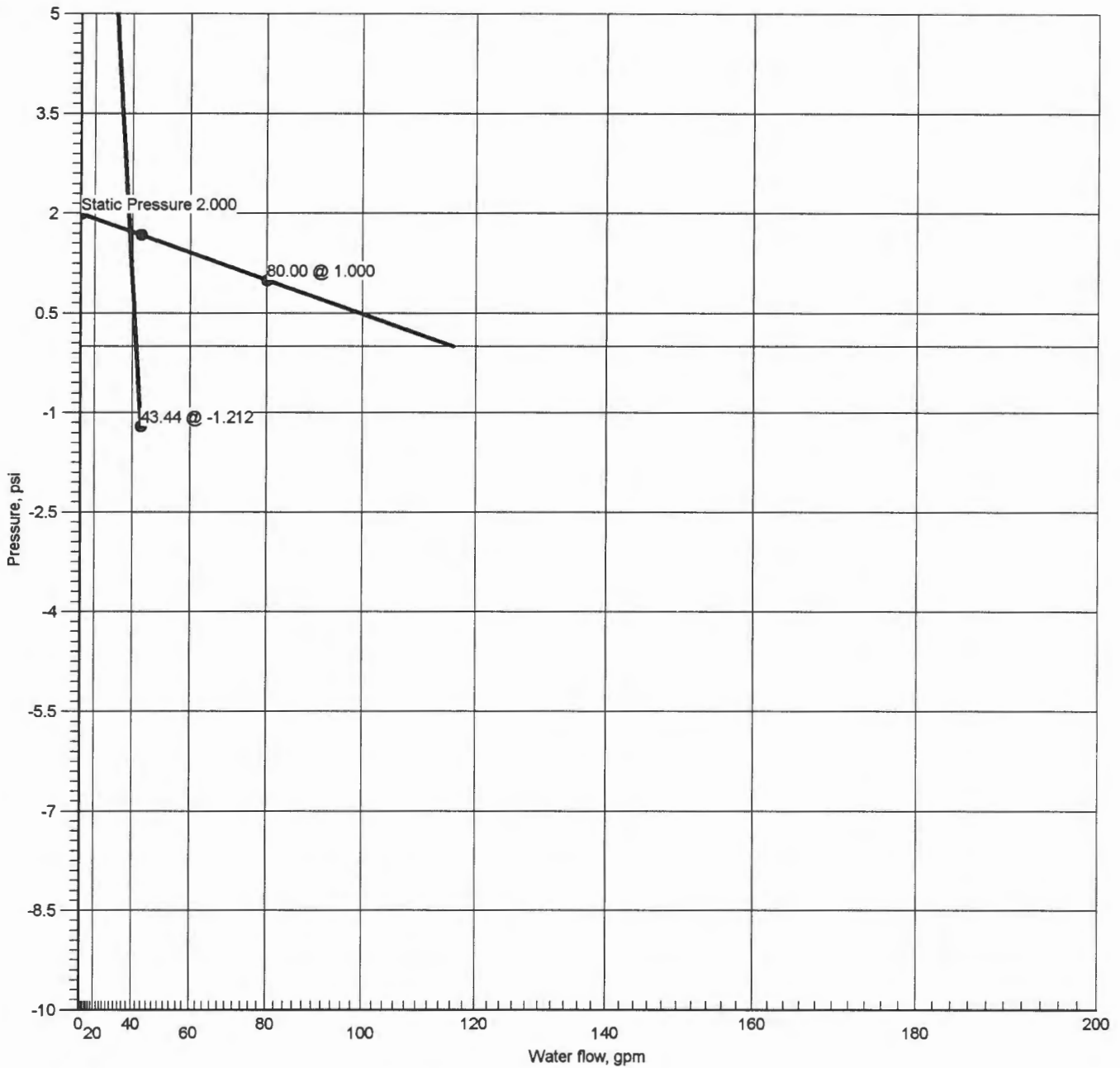
Pumps: Static = Chum (Pressure @ Zero Flow)

FP-574Congress-sl-CALC-TEST Water Supply at Node 4 (80.00, 0.00, 2.000, 1.000)





Water Supply at Node 4



Hydraulic Graph

Water Supply at Node 4

Static Pressure

2.000

Residual Pressure

1.000 @ 80.00

Available Pressure at Time of Test

1.677 @ 43.44

System Demand

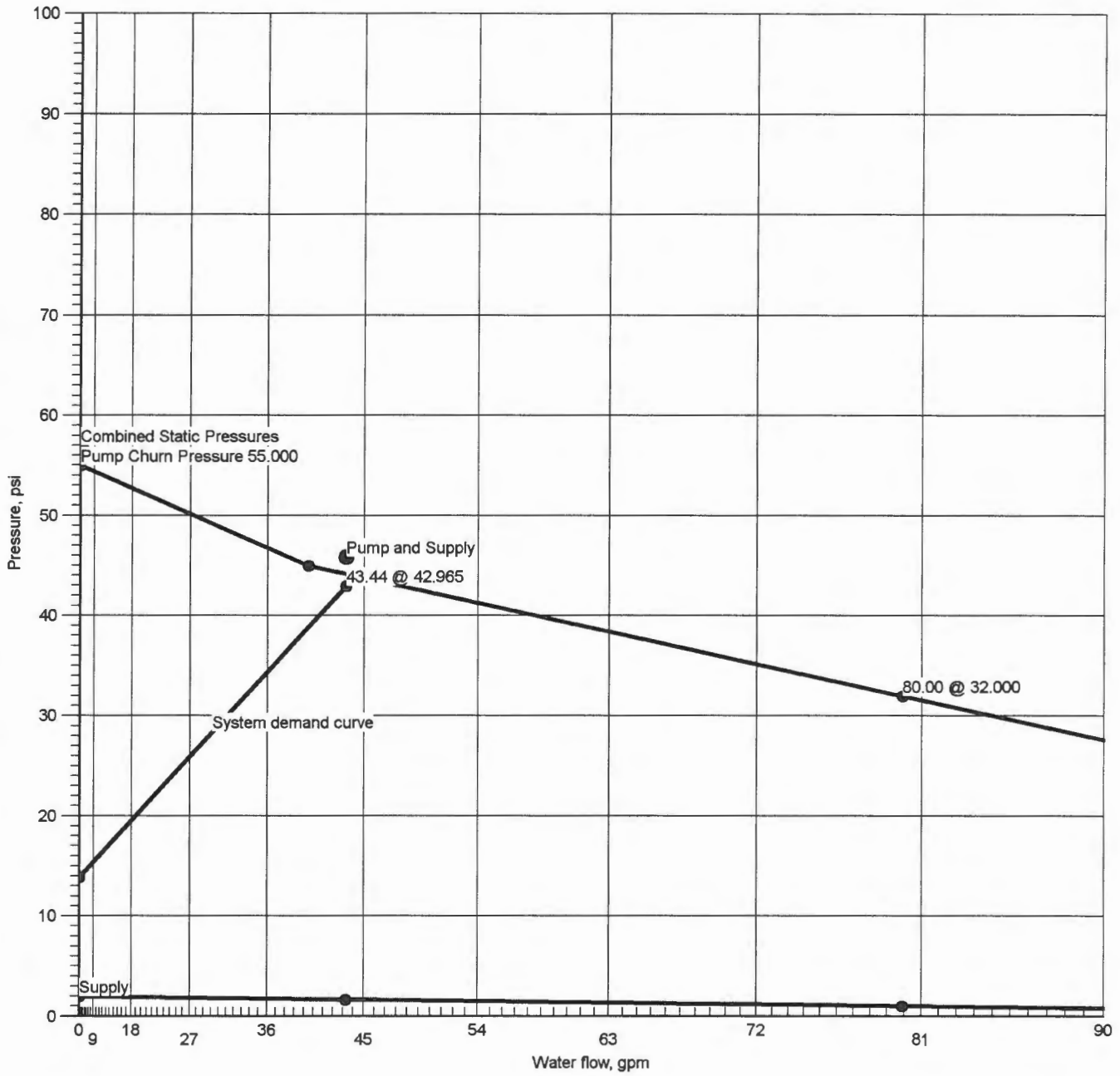
0.000 @ 43.44

System Demand (Including Hose Allowance at Source)

0.000 @ 43.44



Pump at Node 2



Hydraulic Graph	Static + Churn Pressure	Rated Pump Pressure
Pump at Node 2	57.000	45.000 @ 40.00
Static Pressure	Churn Pressure	
2.000	55.000	
Residual Pressure		
1.000 @ 80.00		
Available Pressure at Time of Test	Available Pressure at Pump Discharge	
1.677 @ 43.44	45.854 @ 43.44	
System Demand		
42.965 @ 43.44		



Summary Of Outflowing Devices

Job Number: 1
Report Description: Residential

Device		Actual Flow (gpm)	Minimum Flow (gpm)	K-Factor (K)	Pressure (psi)		
Sprinkler	30	15.10	14.00	4.4	11.772		
⇒ Sprinkler	31	14.00	14.00	4.4	10.124		
Sprinkler	32	14.34	14.00	4.4	10.628		

⇒ Most Demanding Sprinkler Data



Node Analysis

Job Number: 1

Report Description: Residential

Node	Elevation(Foot)	Fittings	Pressure(psi)	Discharge(gpm)
4	0'-11	S, f(-0.000)	-1.212	43.44
30	33'-0	Spr(-11.772)	11.772	15.10
31	33'-0	Spr(-10.124)	10.124	14.00
32	33'-0	Spr(-10.628)	10.628	14.34
1	2'-0	CV(11'-0)	42.478	
2	0'-11	P2(-44.177)	42.965	
3	0'-11	P1	-1.212	
5	6'-0	LtE(2'-5 $\frac{3}{4}$)	40.302	
6	33'-0	T(5'-0)	15.054	
7	24'-0	E(3'-0)	20.680	
8	6'-0	LtE(2'-0)	37.034	
9	33'-0	T(5'-0)	10.863	
10	24'-0	E(3'-0)	24.957	
11	6'-0	E(3'-0)	35.778	



Hydraulic Analysis

Job Number: 1

Report Description: Residential

Pipe Type	Diameter	Flow	Velocity	HWC	Friction Loss	Length	Pressure
Downstream	Elevation	Discharge	K-Factor	Pt	Pn	Eq. Length	Summary
Upstream					Fittings	Total Length	
Route 1							
BL	1.0490	14.00	5.20	120	0.067269	5'-11 1/4"	Pf 0.739
31	33'-0"	14.00	4.4	10.124	Sprinkler	5'-0"	Pe 0.000
9	33'-0"			10.863	T(5'-0")	10'-11 1/4"	Pv
BL	1.0490	28.34	10.52	120	0.248049	3'-8"	Pf 0.910
9	33'-0"			10.863			Pe
30	33'-0"			11.772		3'-8"	Pv
BL	1.3800	43.44	9.32	120	0.143732	10'-10"	Pf 3.282
30	33'-0"	15.10	4.4	11.772	Sprinkler	12'-0"	Pe
6	33'-0"			15.054	2T(6'-0")	22'-10"	Pv
FR	1.3800	43.44	9.32	120	0.143732	9'-0"	Pf 1.725
6	33'-0"			15.054		3'-0"	Pe 3.902
7	24'-0"			20.680	E(3'-0")	12'-0"	Pv
BL	1.3800	43.44	9.32	120	0.143732	14'-9"	Pf 4.276
7	24'-0"			20.680		15'-0"	Pe
10	24'-0"			24.957	2T(6'-0"), E(3'-0")	29'-9"	Pv
FR	1.3800	43.44	9.32	120	0.143732	18'-0"	Pf 3.018
10	24'-0"			24.957		3'-0"	Pe 7.803
11	6'-0"			35.778	E(3'-0")	21'-0"	Pv
FM	1.6100	43.44	6.85	120	0.067846	12'-6"	Pf 1.255
11	6'-0"			35.778		6'-0"	Pe
8	6'-0"			37.034	E(4'-0"), LtE(2'-0")	18'-6"	Pv
FM	1.6820	43.44	6.27	120	0.054827	54'-8"	Pf 3.269
8	6'-0"			37.034		4'-11 1/4"	Pe
5	6'-0"			40.302	2LtE(2'-5 1/4")	59'-7 1/2"	Pv
FM	2.0670	43.44	4.15	120	0.020094	6'-0"	Pf 0.442
5	6'-0"			40.302		16'-0"	Pe 1.734
1	2'-0"			42.478	E(5'-0"), CV(11'-0")	22'-0"	Pv
FR	2.0670	43.44	4.15	120	0.020094	0'-10"	Pf 0.017
1	2'-0"			42.478			Pe 0.470
2	0'-11"			42.965		0'-10"	Pv
Pump							
2		43.44	Velocity	42.965	Rating: 45.000 @ 40.00		
3		Q=43.44	1.89	-1.212	Churn Pressure: 55.000		
DY	3.0680	43.44	1.89	120	0.002936	0'-0"	Pf 0.000
3	0'-11"			-1.212			Pe -0.000
4	0'-11"			-1.212	S. f(-0.000)	0'-0"	Pv
		0.00			Hose Allowance At Source		
4		43.44					
Route 2							
BL	1.0490	14.34	5.32	120	0.070361	3'-4"	Pf 0.235
32	33'-0"	14.34	4.4	10.628	Sprinkler		Pe
9	33'-0"			10.863		3'-4"	Pv

Equivalent Pipe Lengths of Valves and Fittings (C=120 only)

C Value Multiplier

$$\left(\frac{\text{Actual Inside Diameter}}{\text{Schedule 40 Steel Pipe Inside Diameter}} \right)^{4.87} = \text{Factor}$$

Value Of C	100	130	140	150
Multiplying Factor	0.713	1.16	1.33	1.51



Hydraulic Analysis

Job Number: 1
Report Description: Residential

Pipe Type	Diameter	Flow	Velocity	HWC	Friction Loss	Length	Pressure
Downstream	Elevation	Discharge	K-Factor	Pt	Pn	Eq. Length	Summary
Upstream						Total Length	

Pipe Type Legend		Units Legend		Fittings Legend	
AO	Arm-Over	Diameter	Inch	ALV	Alarm Valve
BL	Branch Line	Elevation	Foot	AngV	Angle Valve
CM	Cross Main	Flow	gpm	b	Bushing
DN	Drain	Discharge	gpm	BaIV	Ball Valve
DR	Drop	Velocity	fps	BFP	Backflow Preventer
DY	Dynamic	Pressure	psi	BV	Butterfly Valve
FM	Feed Main	Length	Foot	C	Cross Flow Turn 90°
FR	Feed Riser	Friction Loss	psi/Foot	cplg	Coupling
MS	Miscellaneous	HWC	Hazen-Williams Constant	Cr	Cross Run
OR	Outrigger	Pt	Total pressure at a point in a pipe	CV	Check Valve
RN	Riser Nipple	Pn	Normal pressure at a point in a pipe	DeIV	Deluge Valve
SP	Sprig	Pf	Pressure loss due to friction between points	DPV	Dry Pipe Valve
ST	Stand Pipe	Pe	Pressure due to elevation difference between indicated points	E	90° Elbow
UG	Underground	Pv	Velocity pressure at a point in a pipe	EE	45° Elbow
				Ee1	11 1/4° Elbow
				Ee2	22 1/2° Elbow
				f	Flow Device
				fd	Flex Drop
				FDC	Fire Department Connection
				fE	90° FireLock(TM) Elbow
				fEE	45° FireLock(TM) Elbow
				flg	Flange
				FN	Floating Node
				fT	FireLock(TM) Tee
				g	Gauge
				GloV	Globe Valve
				GV	Gate Valve
				Ho	Hose
				Hose	Hose
				HV	Hose Valve
				Hyd	Hydrant
				LtE	Long Turn Elbow
				mecT	Mechanical Tee
				Noz	Nozzle
				P1	Pump In
				P2	Pump Out
				PIV	Post Indicating Valve
				PO	Pipe Outlet
				PRV	Pressure Reducing Valve
				PrV	Pressure Relief Valve
				red	Reducer/Adapter
				S	Supply
				sCV	Swing Check Valve
				Spr	Sprinkler
				St	Strainer
				T	Tee Flow Turn 90°
				Tr	Tee Run
				U	Union
				WirF	Wirsbo
				WMV	Water Meter Valve
				Z	Cap

Reliable®

Model F1 Residential Sprinklers for Design Density of .05 gpm/ft²

Model F1 Res Sprinklers engineered for the lowest flows to meet the minimum design density of .05 gpm/ft²

Types:

1. F1 Res 30 Pendent
2. F1 Res 30 Recessed Pendent/F2
3. F1 Res 30 Recessed Pendent/FP
4. F1 Res 49 Pendent
5. F1 Res 49 Recessed Pendent/F1
6. F1 Res 49 Recessed Pendent/FP
7. F1 Res 58 Pendent
8. F1 Res 58 Recessed Pendent/F1
9. F1 Res 58 Recessed Pendent/FP
10. F1 Res 76 Pendent
11. F1 Res 76 Recessed Pendent/F1
12. F1 Res 76 Recessed Pendent/FP
13. F1 Res 30 CCP Pendent
14. F1 Res 49 CCP Pendent
15. F1 Res 58 CCP Pendent
16. F1 Res 76 CCP Pendent
17. F1 Res 44 HSW
18. F1 Res 44 Recessed HSW/F2
19. F1 Res 58 HSW
20. F1 Res 58 HSW Recessed HSW/F2
21. F1 Res 44 SWC

Listings & Approvals

1. Listed by Underwriters Laboratories Inc. and UL Certified for Canada (cULus)
2. NYC MEA 258-93-E

Slope Ceiling Approvals: Refer to Bulletin 035
Sprinklers for .10 Density: Refer to Bulletin 176

UL Listing Category

Residential Automatic Sprinkler

UL Guide Number

VKKW

Patents

US Patent No. 6,516,893 applies to the Model F1 Res 49 & 58 Pendent Sprinklers

Product Description

Model F1 Res Pendent sprinklers (Figs. 1, 2, 3, & 4) are fast response sprinklers combining excellent durability, high sensitivity glass-bulb and low profile decorative design. The F1 Res Horizontal Sidewall sprinklers (Figs. 5, 6 & 7) are equally attractive when above ceiling piping cannot be used.



F1 Res 30, 49, 58 & 76
Recessed Pendent / F1



F1 Res 30, 49, 58 & 76
Recessed Pendent / FP



F1 Res 30, 49, 58 & 76
CCP Pendent



F1 Res 44 & 58
Recessed HSW/F2



F1 Res 44 SWC

The 3mm glass-bulb pendent sprinklers permit the efficient use of residential water supplies for sprinkler coverage in residential fire protection design.

The low flow F1 Res sprinklers are specially engineered for fast thermal response to meet the sensitive fire protection application needs of the latest residential market standards (UL 1626 Standard). Upon fire conditions, rising heat causes a sprinkler's heat-sensitive glass-bulb to shatter, releasing the waterway for water flow onto the deflector, evenly distributing the discharged water to control a fire.

Technical Data:

- Thermal Sensor: Nominal 3mm glass-bulb
- Sprinkler Frame : Brass Casting
- Sprinklers' Pressure Rating : 175 psi
Factory Hydrostatically Tested to 500 psi
- Thread Size: ½" NPT (R½)
- K-Factor: 3.0 (Actual) - F1 Res 30 Pendent Sprinkler
4.9 (Actual) - F1 Res 49 Pendent Sprinkler
5.8 (Actual) - F1 Res 58 Pendent & HSW Sprinkler
7.6 (Actual) - F1 Res 76 Pendent Sprinkler
4.4 (Actual) - F1 Res 44 HSW Sprinkler
- Density: Minimum 0.05 gpm/ft²

The Reliable Automatic Sprinkler Co., Inc., 103 Fairview Park Drive, Elmsford, New York 10523

Application

Model F1 Res Sprinklers are used for Residential Fire Protection according to UL 1626 Standard*. Be sure that orifice size, temperature rating, deflector style and sprinkler type are in accordance with the latest published standards of The National Fire Protection Association or the approving authority having jurisdiction.

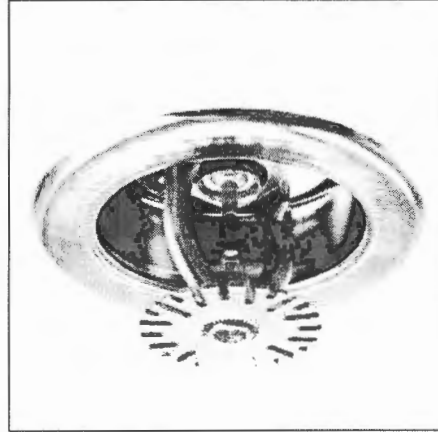
Installation

Models F1 Res sprinklers are to be installed as shown. Model F1, F2 and FP Escutcheons, illustrated herewith, are the only recessed escutcheons to be used with Model F1 Res sprinklers. Use of any other recessed escutcheon will void all approvals and warranties. For installing Model F1 Res Pendent sprinklers use only the Model D sprinkler

- Model F1 Res 30, 49, 58 & 76 Pendent



- Model F1 Res 30 Recessed Pendent / F2
- Model F1 Res 49, 58 & 76 Recessed Pendent / F1



F1 escutcheon, 3/4" (19mm) adjustment

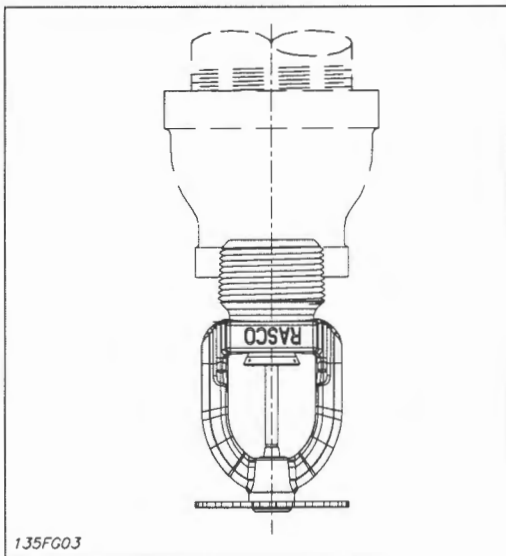


Fig. 1

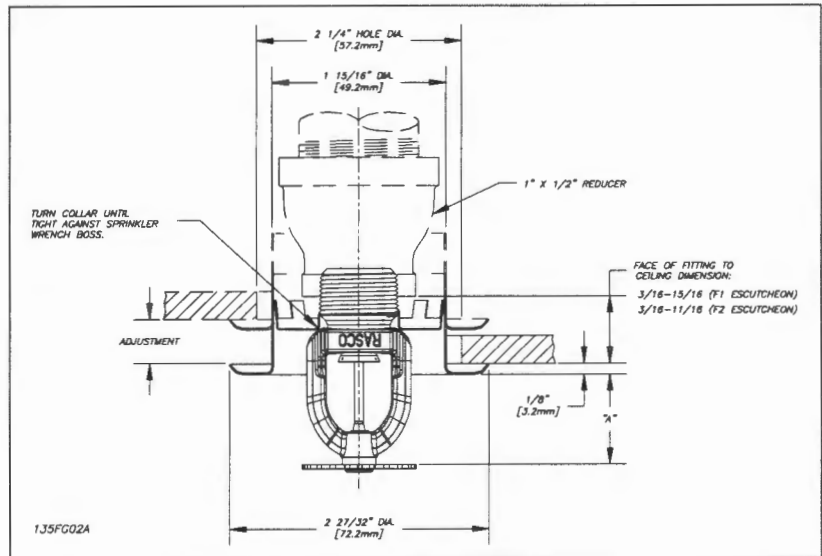


Fig. 2

Wrench; for installing Models F1 Res Recessed Pendent, CCP & SWC sprinklers use only the Model GFR2 sprinkler wrench; for installing Model F1 Res Recessed HSW sprinklers use only the Model GFR2 Sprinkler Wrench. Use of wrenches other than those specified may damage these sprinklers. Install F1 Res 44 with a ceiling to deflector distance of 4" - 12". Flow arrow on deflector must point away from near wall and "Top" marking must face ceiling.

Escutcheon*, F1 or F2, Data:

Type	Adjustment Inch (mm)	"A" Inch (mm)	Face of fitting to ceiling Inch (mm)
F1	3/4 (19.0)	Min.=3/4" (19.1) Max.=1 1/2" (38.1)	3/16 - 15/16 (4.7 - 24.0)
F2	1/2 (12.7)	Min.=15/16" (23.8) Max.=1 1/2" (38.1)	3/16 - 11/16 (4.7 - 17.4)

* Note: Escutcheons F1 or F2 may be used with Model F1 Res 49, 58 & 76 Recessed Pendent Sprinkler

Technical Data: F1Res 30 Pendent and Recessed Pendent

Thread Size	Nominal Orifice Inch (mm)	Sprinkler Temp. Rating		Max. Pressure psi (bar)	Max. Ambient Temp.		Actual K Factor	Sprinkler Length Inch (mm)
		°F	°C		°F	°C		
½" NPT (R½)	2 ¹ / ₆₄ " (8.2)	155	68	175 (12)	100	38	3.0	2.25 (57)
		175	79					

Deflector - to - ceiling
Maximum 1" (25mm) to 4" (100mm)

Max. Sprinkler Spacing ft (m)	Flow gpm (Lpm)	Pressure psi (bar)	Sprinkler Identification Number (SIN)
12 x 12 (3,6 x 3,6)	8 (30.3)	7.0 (0,48)	R3511
14 x 14 (4,3 x 4,3)	10 (37.8)	11 (0,76)	

Technical Data: F1Res 49 Pendent and Recessed Pendent.

Thread Size	Nominal Orifice Inch (mm)	Sprinkler Temp. Rating		Max. Pressure psi (bar)	Max. Ambient Temp.		Actual K Factor	Sprinkler Length Inch (mm)
		°F	°C		°F	°C		
½" NPT (R½)	7 ¹ / ₁₆ " (11)	155	68	175 (12)	100	38	4.9	2.25 (57)
		175	79		150	66		

Deflector - to - ceiling
Maximum 1" (25mm) to 4" (100mm)

Max. Sprinkler Spacing ft (m)	Flow gpm (Lpm)	Pressure psi (bar)	Sprinkler Identification Number (SIN)
12 x 12 (3,6 x 3,6)	13 (49)	7.0 (0,48)	R3516
14 x 14 (4,3 x 4,3)	13 (49)	7.0 (0,48)	
16 x 16 (4,9 x 4,9)	13 (49)	7.0 (0,48)	
18 x 18 (5,5 x 5,5)	17 (64.3)	12.0 (0,83)	
20 x 20 (6,1 x 6,1)	20 (75.7)	16.7 (1,14)	

Deflector - to - ceiling
Maximum 4" (100mm) to 8" (203mm)

Max. Sprinkler Spacing ft (m)	Flow gpm (Lpm)	Pressure psi (bar)	Sprinkler Identification Number (SIN)
12 x 12 (3,6 x 3,6)	15 (57)	9.4 (0,65)	R3516
14 x 14 (4,3 x 4,3)	16 (60.5)	10.6 (0,73)	
16 x 16 (4,9 x 4,9)	17 (64.3)	12.0 (0,83)	
18 x 18 (5,5 x 5,5)	19 (72)	15.0 (1,0)	
20 x 20 (6,1 x 6,1)	22 (83.2)	20.2 (1,4)	

***Note:** The F1 Res 49 pendent and recessed pendent residential sprinklers can be installed per NFPA 13 in beamed ceilings meeting the following criteria:
 1. Maximum beam depth = 7" (178mm)
 2. Beam spacing at or greater than 7.5 ft. (2.3m) on center.

Technical Data: F1Res 58 Pendent and Recessed Pendent.

Thread Size	Nominal Orifice Inch (mm)	Sprinkler Temp. Rating		Max. Pressure psi (bar)	Max. Ambient Temp.		Actual K Factor	Sprinkler Length Inch (mm)
		°F	°C		°F	°C		
½" NPT (R½)	½" (13)	155	68	175 (12)	100	38	5.8	2.25 (57)
		175	79		150	66		

Max. Sprinkler Spacing ft (m)	Flow gpm (Lpm)	Pressure psi (bar)	Ceiling -to- Deflector Inch (mm)	Sprinkler Identification Number (SIN)
12 x 12 (3,6 x 3,6)	16 (61)	7.6 (0,53)	1- 4 (25 - 100)	R3513
14 x 14 (4,3 x 4,3)	16 (61)	7.6 (0,53)		
16 x 16 (4,9 x 4,9)	16 (61)	7.6 (0,53)		
18 x 18 (5,5 x 5,5)	19 (72)	10.8 (0,75)		
20 x 20 (6,1 x 6,1)	22 (83.3)	14.4 (1,0)		

Technical Data: F1 Res 76 Pendant and Recessed Pendant

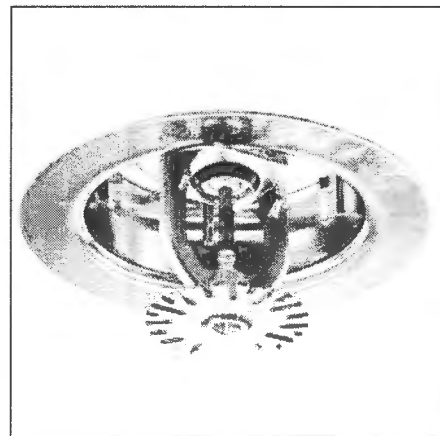
Thread Size	Nominal Orifice Inch (mm)	Sprinkler Temp. Rating		Max. Pressure psi (bar)	Max. Ambient Temp.		K Factor	Sprinkler Length Inch (mm)
		°F	°C		°F	°C		
3/4" NPT (R1/2)	17/32" (13.5)	155	68	175 (12)	100	38	7.6	2.25 (57)
		175	79		150	66		

Max. Sprinkler Spacing ft (m)	Flow gpm (Lpm)	Pressure psi (bar)	Sprinkler Identification Number (SIN)
12 x 12 (3,6 x 3,6)	21 (79.5)	7.6 (0,53)	R7618
14 x 14 (4,3 x 4,3)	21 (79.5)	7.6 (0,53)	
16 x 16 (4,9 x 4,9)	21 (79.5)	7.6 (0,53)	
18 x 18 (5,5 x 5,5)	21 (79.5)	7.6 (0,53)	
20 x 20 (6,1 x 6,1)	23 (87.1)	9.2 (0,63)	

- Model F1 Res 30, 49, 58 & 76 CCP Pendant



- Model F1 Res 30, 49, 58 & 76 Recessed Pendant / FP



FP push-on/thread-off escutcheon

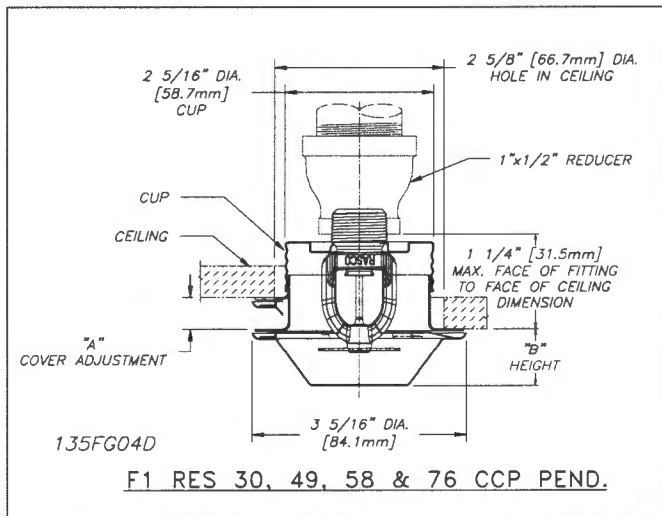


Fig. 3

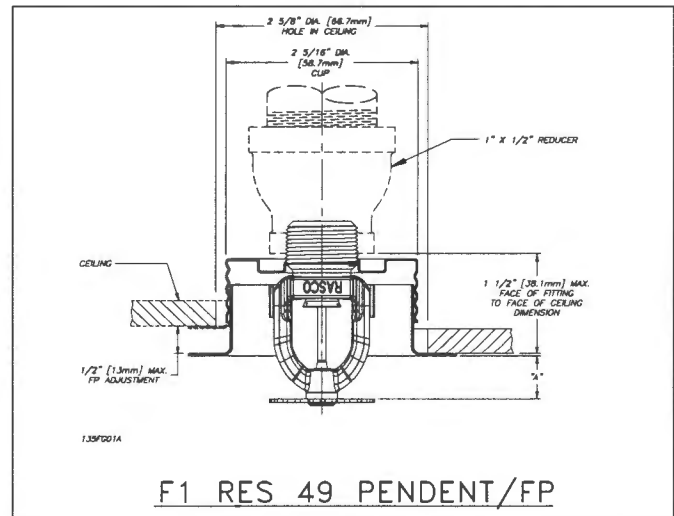


Fig. 4

Note: The F1 Res 76 will use a 1" x 3/4" reducer.

Technical Data: F1Res 30 CCP Pendant and Recessed Pendant/FP

Thread Size	Nominal Orifice Inch (mm)	Sprinkler Temp. Rating		CCP Assembly Temp. Rating		Max. Pressure psi (bar)	Max. Ambient Temp.		K Factor	Sprinkler Length Inch (mm)
		°F	°C	°F	°C		°F	°C		
½" NPT (R½)	2 1/64" (8.2)	155	68	135	57	175 (12)	100	38	3.0	2.25 (57)

Max. Sprinkler Spacing ft (m)	Flow gpm (Lpm)	Pressure psi (bar)	Sprinkler Identification Number (SIN)
12 x 12 (3,6 x 3,6)	8 (30.3)	7.0 (0,48)	R3511
14 x 14 (4,3 x 4,3)	11 (41.6)	13.4 (0,92)	

Technical Data: F1Res 49 CCP Pendant and Recessed Pendant/FP

Thread Size	Nominal Orifice Inch (mm)	Sprinkler Temp. Rating		CCP Assembly Temp. Rating		Max. Pressure psi (bar)	Max. Ambient Temp.		K Factor	Sprinkler Length Inch (mm)
		°F	°C	°F	°C		°F	°C		
½" NPT (R½)	7/16" (11)	155	68	135	57	175 (12)	100	38	4.9	2.25 (57)

CCP Options Data:

"A" Cover Adjustment Inch (mm)	"B" CCP Height Inch (mm)
½ (12.7)	15/16 (24)
5/16 (7.9)	¾ (19)

Max. Sprinkler Spacing ft (m)	Flow gpm (Lpm)	Pressure psi (bar)	Sprinkler Identification Number (SIN)
12 x 12 (3,6 x 3,6)	13 (49)	7.0 (0,48)	R3516
14 x 14 (4,3 x 4,3)	13 (49)	7.0 (0,48)	
16 x 16 (4,9 x 4,9)	14 (53)	8.2 (0,56)	
18 x 18 (5,5 x 5,5)	18 (68.1)	13.5 (0,93)	
20 x 20 (6,1 x 6,1)	20 (75.7)	16.7 (1,14)	

FP Data "A":

FP Position	"A" Inch (mm)
Max. Recessed	7/16 (11)
Min. Recessed	15/16 (24)

Note: Sprinklers shown in Fig. 3 and Fig. 4 are not suitable for installation in ceilings which have positive pressure in the space above.

Technical Data: F1Res 58 CCP Pendant and Recessed Pendant/FP

Thread Size	Nominal Orifice Inch (mm)	Sprinkler Temp. Rating		CCP Assembly Temp. Rating		Max. Pressure psi (bar)	Max. Ambient Temp.		K Factor	Sprinkler Length Inch (mm)
		°F	°C	°F	°C		°F	°C		
½" NPT (R½)	½" (13)	155	68	135	57	175 (12)	100	38	5.8	2.25 (57)

Max. Sprinkler Spacing ft (m)	Flow gpm (Lpm)	Pressure psi (bar)	Sprinkler Identification Number (SIN)
12 x 12 (3,6 x 3,6)	16 (61)	7.6 (0,53)	R3513
14 x 14 (4,3 x 4,3)	16 (61)	7.6 (0,53)	
16 x 16 (4,9 x 4,9)	16 (61)	7.6 (0,53)	
18 x 18 (5,5 x 5,5)	19 (72)	10.8 (0,75)	
20 x 20 (6,1 x 6,1)	22 (83.3)	14.4 (1,0)	

Technical Data: F1Res 76 CCP Pendant and Recessed Pendant/FP

Thread Size	Nominal Orifice Inch (mm)	Sprinkler Temp. Rating		CCP Assembly Temp. Rating		Max. Pressure psi (bar)	Max. Ambient Temp.		K Factor	Sprinkler Length Inch (mm)
		°F	°C	°F	°C		°F	°C		
¾" NPT (R¾)	17/32" (13.5)	155 175	68 79	135	57	175 (12)	100 150	38 66	7.6	2.25 (57)

Max. Sprinkler Spacing ft (m)	Flow gpm (Lpm)	Pressure psi (bar)	Sprinkler Identification Number (SIN)
12 x 12 (3,6 x 3,6)	21 (79.5)	7.6 (0,53)	R7618
14 x 14 (4,3 x 4,3)	21 (79.5)	7.6 (0,53)	
16 x 16 (4,9 x 4,9)	21 (79.5)	7.6 (0,53)	
18 x 18 (5,5 x 5,5)	22 (83.3)	8.4 (0,58)	
20 x 20 (6,1 x 6,1)	25 (94.6)	10.8 (0,74)	

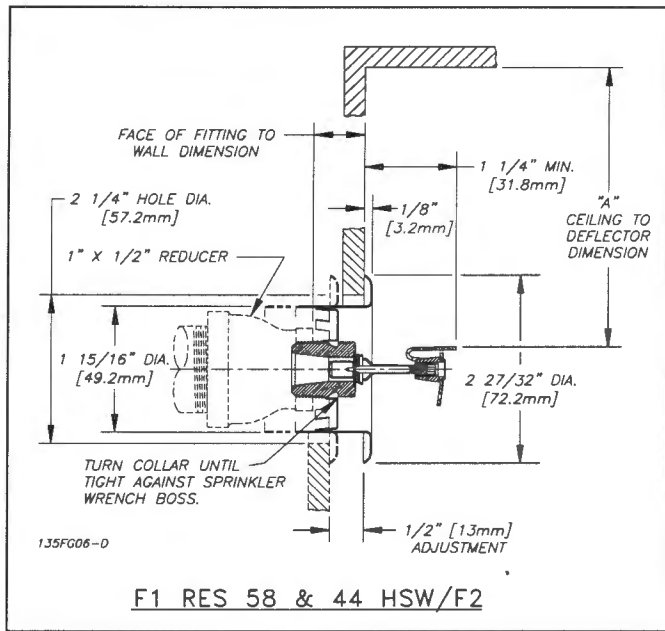
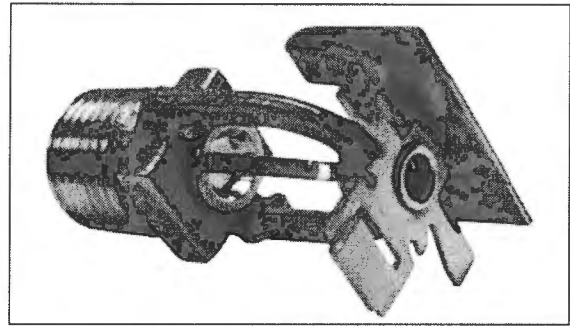
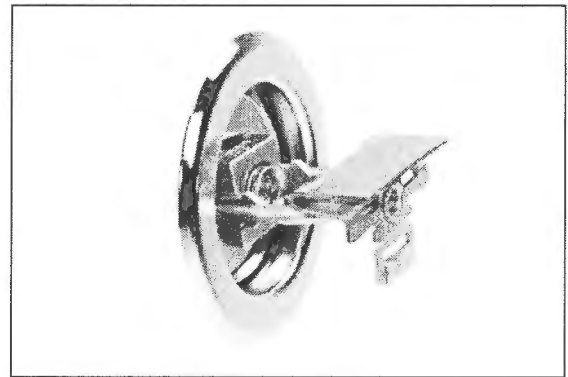


Fig. 5

• Model F1 Res 44 & 58 HSW



• Model F1 Res 44 & 58 Recessed HSW/F2



F2 escutcheon,
1/2" (13mm) adjustment

Technical Data: F1Res 44 HSW & HSW/F2

Escutcheon, F2, Data:

Thread Size	Nominal Orifice Inch (mm)	Sprinkler Temp. Rating		Max. Pressure psi (bar)	Max. Ambient Temp.		K Factor	Sprinkler Length Inch (mm)
		°F	°C		°F	°C		
1/2" NPT (R1/2)	3/8" (10)	155	68	175 (12)	100	38	4.4	2.45 (62)
		175	79		150	66		

Type	Adjustment Inch (mm)	Face of Fitting to wall Inch (mm)
F2	1/2 (13)	3/16 - 11/16 (4.7 - 17.4)

Max. Sprinkler Spacing ft (m)	"A" Ceiling to Deflector Inch (mm)	Sprinkler Temp. Rating °F (°C)		Flow gpm (Lpm)	Pressure psi (bar)	Sprinkler Identification Number (SIN)
12 x 12 (3,6 x 3,6)	4 - 6 (101 - 152)	155 (68)	175 (79)	12 (45,4)	7.5 (0,52)	R3531
14 x 14 (4,3 x 4,3)		155 (68)	175 (79)	14 (53,0)	10.2 (0,71)	
16 x 16 (4,9 x 4,9)		155 (68)	175 (79)	16 (60,6)	13.3 (0,92)	
16 x 18 (4,9 x 5,5)		155 (68)	175 (79)	18 (68,1)	16.8 (1,16)	
18 x 18 (5,5 x 5,5)		155 (68)	175 (79)	19 (72,0)	18.7 (1,29)	
16 x 20 (4,9 x 6,1)		155 (68)	175 (79)	23 (87,1)	27.4 (1,89)	
12 x 12 (3,6 x 3,6)	6 - 12 (152 - 305)	155 (68)	175 (79)	14 (53,0)	10.2 (0,71)	
14 x 14 (4,3 x 4,3)		155 (68)	175 (79)	16 (60,6)	13.3 (0,92)	
16 x 16 (4,9 x 4,9)		155 (68)	175 (79)	17 (64,4)	15.0 (1,04)	
16 x 18 (4,9 x 5,5)		155 (68)	175 (79)	20 (75,7)	20.7 (1,43)	
16 x 18 (4,9 x 5,5)		155 (68)	175 (79)	20 (75,7)	20.7 (1,43)	
16 x 20 (4,9 x 6,1)		155 (68)	175 (79)	23 (87,1)	27.4 (1,89)	

Technical Data: F1Res 58 HSW & HSW/F2

Thread Size	Nominal Orifice Inch (mm)	Sprinkler Temp. Rating		Max. Pressure psi (bar)	Max. Ambient Temp.		K Factor	Sprinkler Length Inch (mm)
		°F	°C		°F	°C		
1/2" NPT (R1/2)	1/2" (13)	155	68	175 (12)	100	38	5.8	2.45 (62)
		175	79		150	66		

Escutcheon, F2, Data:

Type	Adjustment Inch (mm)	Face of Fitting to wall Inch (mm)
F2	1/2 (13)	3/16 - 11/16 (4.7 - 17.4)

Max. Sprinkler Spacing ft (m)	"A" Ceiling to Deflector Inch (mm)	Sprinkler Temp. Rating °F (°C)		Flow gpm (Lpm)	Pressure psi (bar)	Sprinkler Identification Number (SIN)
12 x 12 (3,6 x 3,6)	4 - 6 (101 - 152)	155 (68)	175 (79)	16 (60,6)	7.6 (0,53)	R3533
14 x 14 (4,3 x 4,3)		155 (68)	175 (79)	18 (68,2)	9.7 (0,67)	
16 x 16 (4,9 x 4,9)		155 (68)	175 (79)	21 (79,5)	13.2 (0,91)	
16 x 18 (4,9 x 5,5)		155 (68)	175 (79)	25 (94,7)	18.6 (1,28)	
16 x 20 (4,9 x 6,1)		155 (68)	175 (79)	29 (109,8)	25 (1,73)	
12 x 12 (3,6 x 3,6)	6 - 12 (152 - 305)	155 (68)	175 (79)	22 (83,3)	14.4 (1,0)	
14 x 14 (4,3 x 4,3)		155 (68)	175 (79)	22 (83,3)	14.4 (1,0)	
16 x 16 (4,9 x 4,9)		155 (68)	175 (79)	26 (98,4)	20.1 (1,39)	
16 x 18 (4,9 x 5,5)		155 (68)	175 (79)	31 (117,4)	28.6 (1,97)	

• **Model F1 Res 44 SWC**

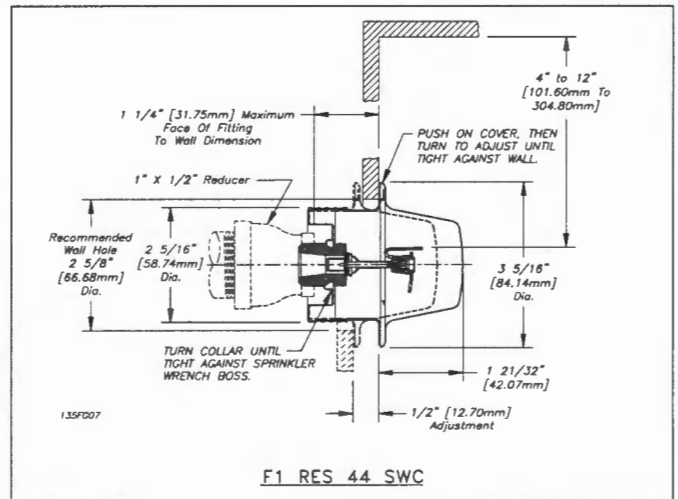
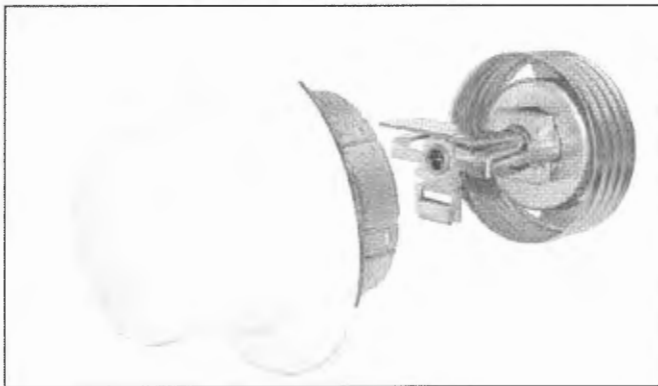


Fig. 6

Technical Data: F1Res 44 SWC

Thread Size	Nominal Orifice Inch (mm)	Sprinkler Temp. Rating		Cover Temp. Rating		Max. Pressure psi (bar)	Max. Ambient Temp.		K Factor	Sprinkler Length Inch (mm)
		°F	°C	°F	°C		°F	°C		
1/2" NPT (R1/2)	3/8" (10)	155	68	135	57	175 (12)	100	38	4.4	2.45 (62)

Max. Sprinkler Spacing ft (m)	"A" Ceiling to Deflector Inch (mm)	Flow gpm (Lpm)	Pressure psi (bar)	Sprinkler Identification Number (SIN)
12 x 12 (3,6 x 3,6)	4 - 6 (101 - 152)	13 (49,2)	8.7 (0,60)	R3531
14 x 14 (4,3 x 4,3)		14 (53,0)	10.2 (0,71)	
16 x 16 (4,9 x 4,9)		17 (64,3)	15.0 (1,1)	
16 x 18 (4,9 x 5,5)		19 (71,8)	18.7 (1,13)	
16 x 20 (4,9 x 6,1)		23 (87,1)	27.4 (1,89)	
12 x 12 (3,6 x 3,6)	6 - 12 (152 - 305)	14 (52,9)	10.2 (0,71)	
14 x 14 (4,3 x 4,3)		15 (56,7)	11.7 (0,81)	
16 x 16 (4,9 x 4,9)		18 (68,1)	16.8 (1,16)	
16 x 18 (4,9 x 5,5)		20 (75,6)	20.7 (1,43)	

Maintenance

Model F1 Res 30, 49, F1 Res 58, F1 Res 76 and F1 Res 44 Sprinklers should be inspected quarterly, and the sprinkler system maintained in accordance with NFPA 25, 13, 13D, and 13R. Do not clean sprinkler with soap and water, Ammonia or any other cleaning fluids. Remove dust by using a soft brush or gentle vacuuming. Remove any sprinkler which has been painted (other than factory applied) or damaged in any way. A stock of spare sprinklers should be maintained to allow quick replacement of damaged or operated sprinklers. Prior to installation, sprinklers should remain in the original cartons and packaging until used. This will minimize the potential for damage to sprinklers that could cause improper operation or non-operation.

Model F1 Res 30, 49 & 58 Pendent Sprinkler Specifications

Sprinklers shall be [cULus Listed] [New York City MEA Approved (258-93-E)] low flow residential pendent sprinklers engineered to provide a minimum design density of 0.05 gpm/ft² over the listed coverage area. Listed flows as specified by the manufacturer's technical data sheets are to be used. Residential sprinklers shall be installed in conformance with the manufacturer's installation guidelines and the applicable installation standard. Where pendent residential sprinklers are installed under sloped ceilings having a pitch from [4/12] to [8/12], the sprinklers shall be listed for such use. Deflector-to-ceiling distance listing shall be 1" to 8" maximum. Sprinkler frame and deflector shall be of bronze frame construction having a 1/2" NPT thread. Water seal assembly shall consist of a Teflon-coated Belleville spring washer with top-loaded extruded or cold head cup with 3 mm glass bulb containing no plastic parts, and having a temperature rating of [155°F (68°C)] [175°F (79°C)]. Sprinklers shall have a nominal K-factor of 3.0, 4.9 and 5.8. Standard finish: [Bronze] [Chrome-plated] [White Polyester] [Special finish— specify]. Residential pendent sprinklers shall be Reliable Model F1 Res 30, 49 & 58, SIN R3511, R3516 & R3513 (Bulletin 135).

Model F1 Res 49 & 58 Recessed Pendent/F1, Model F1 Res 30, 49 & 58 Recessed Pendent/F2, Model F1 Res 30, 49 & 58 Recessed Pendent/FP

Sprinklers shall be [cULus Listed] [New York City MEA Approved (258-93-E)] low flow residential recessed pendent sprinklers engineered to provide a minimum design density of 0.05 gpm/ft² over the listed coverage area. Listed flows as specified by the manufacturer's technical data sheets are to be used. Residential sprinklers shall be installed in conformance with the manufacturer's installation guidelines and the applicable installation standard. Where pendent residential sprinklers are installed under sloped ceilings having a pitch from [4/12] to [8/12], the sprinklers shall be listed for such use. Deflector-to-ceiling distance listing shall be 1" to 8" maximum. Sprinkler frame and deflector shall be of bronze frame construction having a 1/2" NPT thread. Water seal assembly shall consist of a Teflon-coated Belleville spring washer with top-loaded extruded or cold head cup with 3 mm glass bulb containing no plastic parts, and having a temperature rating of [155°F (68°C)] [175°F (79°C)]. Sprinklers shall have a nominal K-factor of 3.0, 4.9 & 5.8. Standard finish: [Bronze] [Chrome-plated] [White Polyester] [Special finish— specify]. Recessed escutcheon assembly shall

be a steel, two-piece escutcheon [with 1/2" adjustment (Model F2)] [with 3/4" adjustment (Model F1)] [of push-on and thread off design with 1/2" adjustment (Model FP)]. Standard finish shall be [brass][bright chrome] [white painted]. Residential recessed pendent sprinklers shall be Reliable [Model F1 Res 30, 49 & 58 Recessed Pendent/F1] [Model F1 Res 30, 49 & 58 Recessed Pendent/F2] [Model F1 Res 30, 49 & 58 Recessed Pendent/FP] SIN R3511, R3516 & R3513 (Bulletin 135).

Model F1 Res 30, 49 & 58 CCP Pendent (Concealed)

Sprinklers shall be [cULus Listed] [New York City MEA Approved (258-93-E)] low flow residential concealed sprinklers engineered to provide a minimum design density of 0.05 gpm/ft² over the listed coverage area. Listed flows as specified by the manufacturer's technical data sheets are to be used. Residential sprinklers shall be installed in conformance with the manufacturer's installation guidelines and the applicable installation standard. Where pendent residential sprinklers are installed under sloped ceilings having a pitch from [4/12] to [8/12], the sprinklers shall be listed for such use. Sprinkler frame and deflector shall be of bronze frame construction having a 1/2" NPT thread. Water seal assembly shall consist of a Teflon-coated Belleville spring washer with top-loaded extruded or cold head cup with 3 mm glass bulb containing no plastic parts, and having a temperature rating of 155°F (68°C). Cover plate assembly shall consist of a brass cover plate and copper alloy retainer flange. Method of attaching the cover plate to the sprinkler cup shall be a push-on and thread-off design allowing a 1/2" cover plate adjustment. Cover plate temperature rating shall be 135°F (57°C). A plastic protective cap shall be provided and factory installed inside the sprinkler cup to protect the sprinkler from damage, which could occur during construction before the cover plate is installed. Standard cover plate finish: [White] [Custom Color— specify]. Concealed pendent sprinklers shall be Reliable Model F1 Res 30, 49 & 58 CCP, SIN R3511, R3516 & R3513 (Bulletin 135).

Model F1 Res 44 Horizontal Sidewall Residential Sprinkler Specifications

Sprinklers shall be [cULus Listed] [New York City MEA Approved (258-93-E)] low flow residential horizontal sidewall sprinklers engineered to provide a minimum design density of 0.05 gpm/ft² over the listed coverage area. Listed flows as specified by the manufacturer's technical data sheets are to be used. Residential sprinklers shall be installed in conformance with the manufacturer's installation guidelines and the applicable installation standard. Where horizontal sidewall residential sprinklers are installed under sloped ceilings having a pitch from [4/12] to [8/12], the sprinklers shall be listed for such use. Sprinkler frame and deflector shall be of bronze frame construction having a 1/2" NPT thread. Water seal assembly shall consist of a Teflon-coated Belleville spring washer with top-loaded extruded or cold head cup with 3 mm glass bulb containing no plastic parts, and having a temperature rating of [155°F (68°C)] [175°F (79°C)]. Sprinklers shall have a nominal K-factor of 4.4 (62.8). Standard finish: [Bronze] [Chrome-plated] [White Polyester] [Special finish— specify]. Residential horizontal sidewall sprinklers shall be Reliable Model F1 Res 44, SIN R3531 (Bulletin 135).

Model F1 Res 44 Recessed Horizontal Sidewall Sprinkler

Use description for the Model F1 Res 44 horizontal sidewall sprinkler with the following modifications: Replace "horizontal sidewall sprinkler" with "recessed horizontal sprinkler." Add: Recessed escutcheon assembly shall be a steel, two-piece escutcheon with 1/2" adjustment (Model F2). Standard finish shall be [brass][bright chrome] [white painted] [Special finish- specify]. Residential recessed horizontal sidewall sprinklers shall be Reliable Model F1 Res 44/F2, SIN R3531 (Bulletin 135).

Model F1 Res 76 Pendent

Sprinklers shall be [cULus Listed] low flow residential pendent sprinklers engineered to provide a minimum design density of 0.05 gpm/ft² over the listed coverage area. Listed flows as specified by the manufacturer's technical data sheets are to be used. Residential sprinklers shall be installed in conformance with the manufacturer's installation guidelines and the applicable installation standard. Sprinkler frame and deflector shall be of bronze frame construction having a 3/4" NPT thread. Water seal assembly shall consist of a Teflon-coated Belleville spring washer with machined or cold head cup with 3 mm glass bulb containing no plastic parts, and having a temperature rating of [155°F (68°C)] [175°F (79°C)]. Sprinklers shall have a nominal K-factor of 7.6. Standard finish: [Bronze] [Chrome-plated] [White Polyester] [Special finish- specify]. Residential pendent sprinklers shall be Reliable Model F1 Res 76, SIN R7618 (Bulletin 135).

Model F1 Res 76 Recessed Pendent/F1, Model F1 Res 76 Recessed Pendent/F2, Model F1 Res 76 Recessed Pendent/FP

Sprinklers shall be [cULus Listed] low flow residential recessed pendent sprinklers engineered to provide a minimum design density of 0.05 gpm/ft² over the listed coverage area. Listed flows as specified by the manufacturer's technical data sheets are to be used. Residential sprinklers shall be installed in conformance with the manufacturer's installation guidelines and the applicable installation standard. Sprinkler frame and deflector shall be of bronze frame construction having a 3/4" NPT thread. Water seal assembly shall consist of a Teflon-coated Belleville spring washer with machined or cold head cup with 3 mm glass bulb containing no plastic parts, and having a temperature rating of [155°F (68°C)] [175°F (79°C)]. Sprinklers shall have a nominal K-factor of 7.6. Standard finish: [Bronze] [Chrome-plated] [White Polyester] [Special finish- specify]. Recessed escutcheon assembly shall be a steel, two-piece escutcheon [with 1/2" adjustment (Model F2)] [with 3/4" adjustment (Model F1)] [of push-on and thread off design with 1/2" adjustment (Model FP)]. Standard finish shall be [brass][bright chrome] [white painted]. Residential recessed pendent sprinklers shall be Reliable [Model F1 Res 76 Recessed Pendent/F1] [Model F1 Res 76 Recessed Pendent/F2] [Model F1 Res 76 Recessed Pendent/FP] SIN R7618 (Bulletin 135).

Model F1 Res 76 CCP Pendent (Concealed)

Sprinklers shall be [cULus Listed] low flow residential concealed sprinklers engineered to provide a minimum design density of 0.05 gpm/ft² over the listed coverage area. Listed flows as specified by the manufacturer's technical data sheets are to be used. Residential sprinklers shall be installed in conformance with the manufacturer's installation guidelines and the applicable installation standard. Sprinkler frame and deflector shall be of bronze frame construction having a 3/4" NPT thread. Water seal assembly shall consist of a Teflon-coated Belleville spring washer with machined or cold head cup with 3 mm glass bulb containing no plastic parts, and having a temperature rating of 155°F (68°C). Cover plate assembly shall consist of a brass cover plate and copper alloy retainer flange. Method of attaching the cover plate to the sprinkler cup shall be a push-on and thread-off design allowing a 1/2" cover plate adjustment. Cover plate temperature rating shall be 135°F (57°C). A plastic protective cap shall be provided and factory installed inside the sprinkler cup to protect the sprinkler from damage, which could occur during construction before the cover plate is installed. Standard cover plate finish: [White] [Custom Color- specify]. Concealed pendent sprinklers shall be Reliable Model F1 Res 76 CCP, SIN R7618 (Bulletin 135).

Finishes ⁽¹⁾

Standard Finishes		
Sprinkler	F1, F2, FP Escutcheons	Cover Plates
Bronze Chrome Plated White and Black Polyester Coated	Brass Bright Chrome Plated White Painted	White Painted Chrome
Special Application Finishes		
Sprinkler	F1, F2, Escutcheons	Cover Plates
Bright Brass Black Plated Black Paint Off White Satin Chrome	Bright Brass Black Plated Black Paint Off White Satin Chrome	Bright Brass Black Plated Black Paint Off White Satin Chrome

⁽¹⁾ Other finishes and colors are available on special order. Consult factory for details.

Note: Paint or any other coating applied over the factory finish will void all approvals and warranties.

Ordering Information

Specify:

1. Sprinkler Model
2. Sprinkler Type
3. Temperature Rating
4. Sprinkler Finish
5. Escutcheon Finish
6. Cover Plate Finish

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- Dry automatic sprinklers
- Intermediate level sprinklers
- Open sprinklers
- Spray nozzles
- Alarm valves
- Retarding chambers
- Dry pipe valves
- Accelerators for dry pipe valves
- Mechanical sprinkler alarms
- Electrical sprinkler alarm switches
- Water flow detectors
- Deluge valves
- Detector check valves
- Check valves
- Electrical system
- Sprinkler emergency cabinets
- Sprinkler wrenches
- Sprinkler escutcheons and guards
- Inspectors test connections
- Sight drains
- Ball drips and drum drips
- Control valve seals
- Air maintenance devices
- Air compressors
- Pressure gauges/identification signs
- Fire department connection

The equipment presented in this bulletin is to be installed in accordance with the latest published Standards of the National Fire Protection Association, Factory Mutual Research Corporation, or other similar organizations and also with the provisions of governmental codes or ordinances whenever applicable.

Products manufactured and distributed by Reliable have been protecting life and property for over 90 years, and are installed and serviced by the most highly qualified and reputable sprinkler contractors located throughout the United States, Canada and foreign countries.

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