

24 Hour Fire Protection for Commercial Kitchens



Badger Fire Protection



RANGE GUARD®


FIRE SUPPRESSION SYSTEM

Badger Range Guard™ Wet Chemical Systems

The heart and soul of every dining establishment is the kitchen. Equipped with ranges, broilers, fryers and a myriad of other high-temperature cooking appliances – no other environment demands proper fire protection more than today's modern cooking facilities.

The Badger Range Guard system is specifically designed for the challenging demands posed by cooking applications. By offering one of the most flexible system configurations in the industry, Badger provides efficient, economical protection for all types of cooking facilities and design layouts. Our customized approach allows you to specify the type of detection, control and cylinder sizes to fit your application.

Investing in a Badger Range Guard system guarantees more than just code compliance – including UL300, NFPA 96 & 17A – it provides automatic, round the clock protection from the devastating consequences of fire.

Benefits:

Economical. Cost-effective, pre-engineered system simplifies design and installation.

Easy-to-maintain. Semi-annual system inspections and routine maintenance per NFPA regulations are performed quickly and efficiently by your local Badger distributor.

Proven Protection. Providing the best in kitchen fire protection for over 40 years, Badger fire suppression systems are the choice of countless restaurants and cooking facilities worldwide.

Global Network. Designed, installed and serviced by our factory-trained, global network of Badger Fire Protection distributors.

Customized Solution. System design and installation provided by your local distributor, delivering a superior code-compliant solution which is tailored to your fire protection needs.

Robust Design. Meets strict UL 300 fire test criteria, suppressing fire without the need for secondary agent or system connections.

Reliable. Badger stands behind every Range Guard system with a best-in-class six-year warranty.

Badger Fire Protection
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Customers Protected:

- Fast Food Chains
- Hotels & Lodging
- Fine Dining
- Healthcare Facilities
- Sports Stadiums and Complexes
- Casual & Family Dining
- Educational Facilities
- Supermarkets/Groceries
- Institutional Facilities
- Diners
- Corporate Cafeterias
- Nursing Homes
- Shopping Mall Food Courts

Applications:

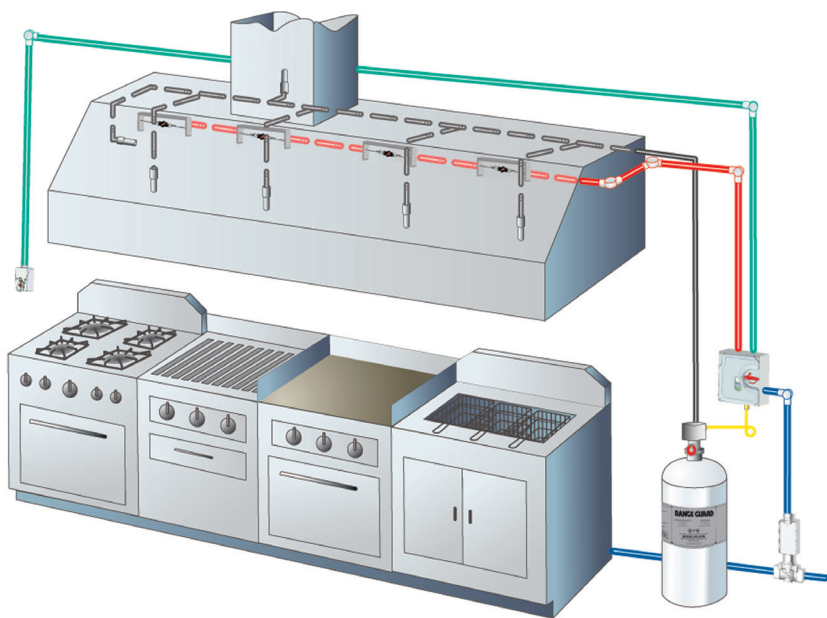
- Hoods, Plenums & Filters
- Ductwork
- Fryers
- Ranges
- Char-broilers
- Woks
- Griddles
- Salamanders
- Tilt Skillets and more...

Approvals & Listings:

- UL Listed
- ULC Listed
- NYC FD COA #5651

How the Range Guard System Works

1. Fire is detected by the Badger mechanical link or, electric Detect-A-Fire®, or the system is manually activated by a remote pull station.
2. The UCH™ Control simultaneously actuates up to 20 pressurized agent storage containers, shuts down fuel and power sources to the appliances and activates the building fire alarm.
3. Badger Karbaloy wet chemical agent, designed specifically for the challenges posed by oil and grease in a kitchen environment, is propelled through the system piping by the stored pressure container.
4. The Badger Karbaloy agent discharges from strategically positioned nozzles protecting the hood, duct and appliances. Karbaloy agent quickly suppresses the flames and forms a protective layer that not only extinguishes the fire, but also prevents re-ignition.



Badger Range Guard System Components

- UCH Control
- Range Guard Agent Storage Container
- Thermo Bulb, Fusible Link or Electric Detection
- Manual Remote Release
- Mechanical or Electric Gas Valve
- Customized Discharge Nozzles
- Karbaloy Wet Chemical Agent



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Badger Range Guard® Nozzle Parameters*

Duct (see page 2 for coverage table)	Perimeter Max	Diameter Max	Length	Nozzle Type	Flows	Manual Page #
Up to 50" Perimeter Duct (11.78" max throw)	50"	15.91"	Unlimited	ADP	1	3-35
Up to 100" Perimeter Duct (11.78" max throw)	100"	31.83"	Unlimited	ADP (min 2)	1 ea	3-36
Greater than 100" Perimeter Duct (11.78" max throw)	Refer to manual	Refer to manual	Unlimited	ADP	1 ea	3-37
Plenum	Length Max	Width Max	Filters	Nozzle Type	Flows	Manual Page #
Plenum	10'	4'	"V" Bank or Single	ADP	1	3-33
Appliance	Cooking Area (inches)	Nozzle Height/Dist (inches)	Nozzle Position	Nozzle Type	Flows	Manual Page #
Range, Four-Burner	28 X 28	20 to 42	Within 9" radius of mid point	R	1	3-15
Range, Low Proximity	24 x 24	16 to 20	Centered over hazard	LPR	1	3-18
Griddle (with or without raised ribs)	30 X 42	13 to 48	On perimeter, aim w/in 3" rad of ctr	ADP	1	3-27
Fryer, Single Vat (Drip Board up to 5")	18 X 18	27 to 45	45° to 90° from horizontal	F	2	3-6
Fryer, Single Vat (2 nozzle, Drip Board up to 6-1/2")	18-1/2 X 18	27-1/2 to 45	45° to 90° from horizontal	(2) F	2 ea	3-7
Fryer, Single Vat (Drip Board up to 10-1/2")	14 x 14	27-1/2 to 45	45° to 90° from horizontal	F	2	3-9
Fryer, Single Vat (Drip Board less than 1")	24 x 24	27-1/2 to 46	On or within perimeter	F	2	3-10
Fryer, Single Vat - Low Prox (Drip Board up to 7-3/4")	14 X 15-1/2	12 to 24	3.5" to 13.5" offset* Min 8 flow pts on system	LPF	2	3-12
Fryer, Split Vat (Drip Board up to 6")	14 x 15	27 to 45	45° to 90° from horizontal	F	2	3-8
Fryer, Split Vat - Low Proximity (Drip Board to 6")	14 x 15	16 to 27	On or within perimeter	ADP	1	3-11
Krispy Kreme Model 270 d/h Doughnut Fryer	93 x 33	22-1/2 to 29-1/2	See Table 3-11 & Fig 3-9	(8) ADP	1 ea	3-14
Wok (3" to 8" deep)	14 to 28 dia	35 to 56	2" offset from center	GRW	1	3-28
Tilt Skillet / Braising Pan	24 x 24	27-1/2 to 46	Front edge, within perimeter	F	2	3-29
Upright Broiler, Salamander Broiler	30-1/4 X 34	Top 4" of broiler comp	See Table 3-19	ADP	1	3-20
Chain Broiler, Closed Top	28 X 29	See Table 3-24	See Table 3-24 & Fig 3-20	ADP	1	3-25
Chain Broiler, Open Top	28 X 29	See Table 3-25	See Table 3-25 & Fig 3-21	(2) ADP	1 ea	3-26
Charbroiler, Gas - Pumice, Lava, Ceramic, Synth Rock	25-1/4 X 24	30 to 48	On or within perimeter; max 2 rock layers	F	2	Addendum
Charbroiler, Gas - Radiant / Electric – option 1	21 X 24	24 to 48	45° to 90° from horizontal	GRW	1	3-22
Charbroiler, Gas - Radiant / Electric – option 2	25-1/4 x 36	34 to 45	On or within perimeter	F	2	Addendum
Charcoal Broiler, Natural or Mesquite Charcoal	24 X 24	24 to 48	45° - 90°; max 6" fuel depth	ADP	1	3-23
Mesquite Log Charbroiler (wood chips, chunks or logs)	30 X 24	24 to 48	45° - 90°; max 10" fuel depth	DM	3	3-24

*Summary sheet for reference only. Refer to Badger Range Guard Design, Installation, Operation & Maintenance Manual P/N 60-9127100-000 for complete design and installation requirements.

Badger Range Guard® System Parameters*



Controls & Detection	UCH Control System	A+ Control Head
	87-120099-002	87-120010-000
Detection Line		
Max Number of Corner Pulleys	50 (each line)	40
Max Cable Length	200 ft (each line)	200 ft
Manual Pull		
Max Number of Corner Pulleys	50 Release-to-Trip (each line) 30 Pull-to-trip line	40
Max Length of Cable	200 ft Release-to-Trip (each line) 100 ft Pull-to-Trip line	Inline w/detection cable
Mechanical Gas Line		
Max Number of Corner Pulleys	30	16
Max Length of Cable	100 ft	50 ft
Actuation Parameters (1/4" copper tubing, compression or flare fittings)		
Cylinder quantity & actuation line lengths	Up to 20 cylinders 1-12 Cylinders: 106 ft max, 5 ft min 13-20 Cylinders: 91 ft max, 5 ft min	Up to 5 cylinders 23 ft max total Min 3 ft to 1 st cylinder
Fusible & Thermobulb Link Detectors		
Type	ML, A-360, BTBS, BTBR, DAF	A-360, BTBS, BTBR
Max Quantity	40 (each line)	40
Detector Brackets		
Model	60-120064-001,WK-804548-000	60-120064-001
Microswitches		
Max Quantity	4 (pigtail or terminal type)	2 (pigtail type only)

Cylinders			
Cylinder	Flow Points	Diam (in)	Height (in) (top of SVA)
RG-1.25G	4	8	17
RG-2.5G	8	9	22-3/4
RG-4GS	12	12-1/4	20-3/4
RG-4GM	12	10	26-3/16
RG-6G	18	10	36-15/16

Piping	
Flow Demand	Min Pipe Size
1 – 2	1/4"
1 - 8	3/8"
1 – 12	1/2"
13 – 24	3/4"
25 - 48	1"

Rectangular Duct Coverage			
Single ADP Duct Coverage		Two ADP Duct Coverage	
Side A (in)	Max Side B (in)	Side A in (mm)	Max Side B in (mm)
21.0	4.0	44.0	6.0
20.5	4.5	43.0	7.0
20.0	5.0	42.0	8.0
19.5	5.5	41.0	9.0
19.0	6.0	40.0	10.0
18.5	6.5	39.0	11.0
18.0	7.0	38.0	12.0
17.5	7.5	37.0	13.0
17.0	8.0	36.0	14.0
16.5	8.5	35.0	15.0
16.0	9.0	34.0	16.0
15.5	9.5	33.0	16.8
15.0	10.0	32.0	17.2
14.5	10.5	31.0	17.7
14.0	11.0	30.0	18.1
13.5	11.5	29.0	18.5
13.0	12.0	28.0	18.9
12.5	12.5	27.0	19.3
		26.0	19.7
		25.0	19.9
		24.0	20.2
		23.0	20.5
		22.0	20.8
		21.0	21.0

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