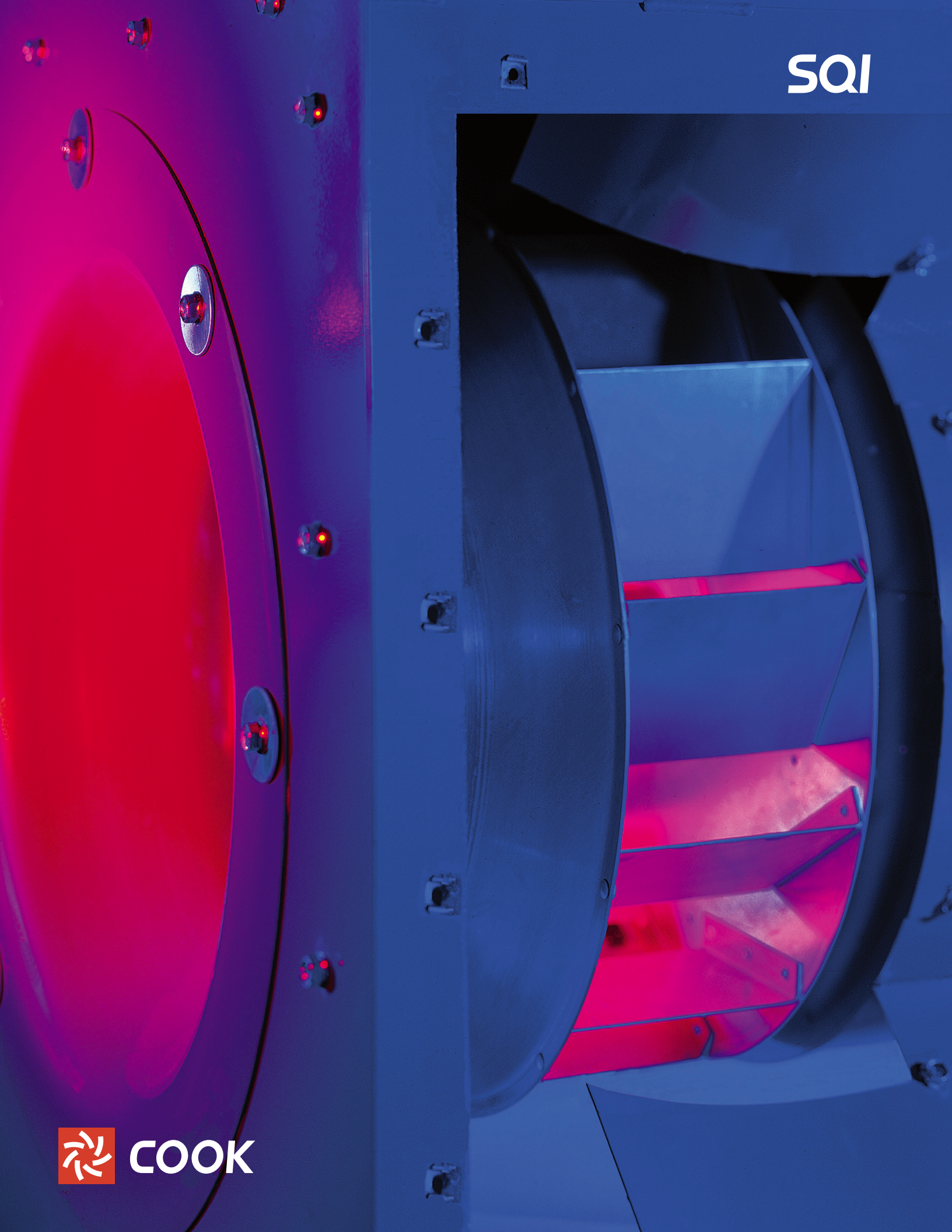


SQI

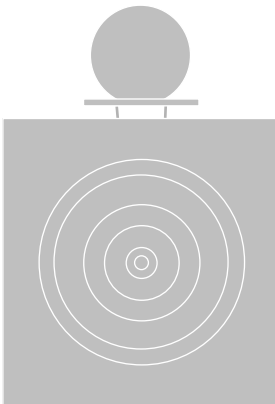
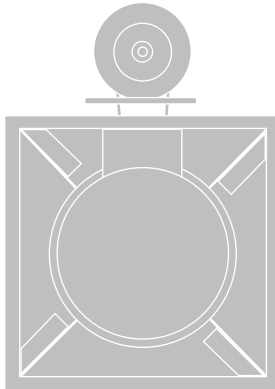
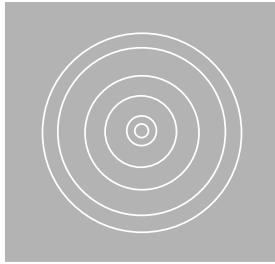


COOK

# SQL

## Square Centrifugal Inline Blowers

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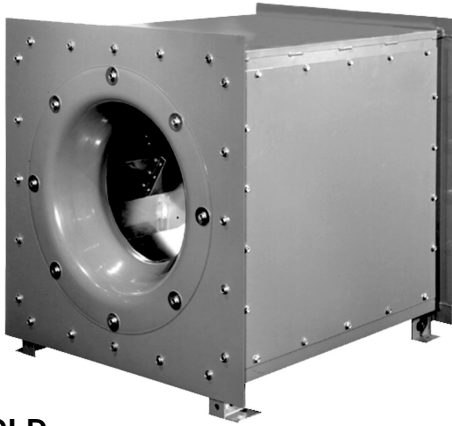
# Introduction

Cook's Square Centrifugal Inline fans provide maximum performance and durability in a rugged inline design. The SQI is suitable for a wide variety of commercial and industrial air moving applications. Applications include general ventilation, dishwasher exhaust, spark resistant ventilation and outdoor installations.



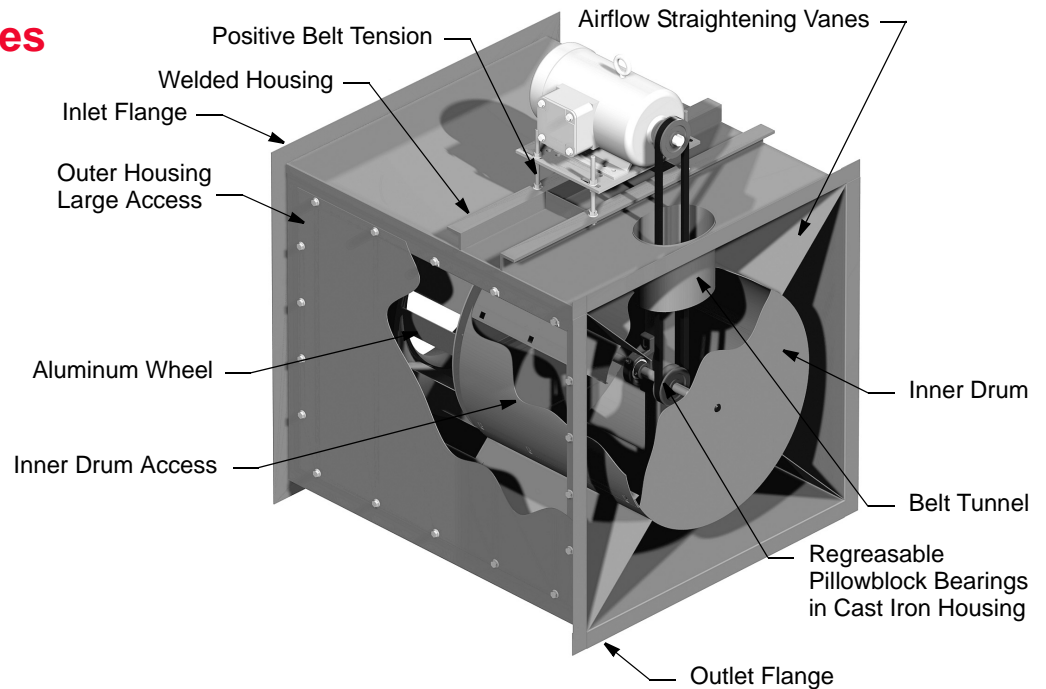
**SQI-B/SQI-HP**

- SQI units feature a compact, straight through airflow design.
- Welded steel housing with integral inlet and outlet flanges.
- Airflow straightening vanes that increase efficiency.
- An inner drum and belt tunnel that completely encloses the drive components.
- SQI is available in 7 direct drive sizes and 15 belt drive sizes. Capacities range from 170 to 30,000 CFM with static pressures from 0 to 3 inches.
- SQI-HP is available in 13 belt drive sizes. Capacities range from 700 CFM to 24,000 CFM with static pressures from 1/4 to 5 inches.



**SQI-D**

## Construction Features



## Square Centrifugal Inline Blower Direct Drive

**Description:** Fan shall be duct mounted, direct driven centrifugal square inline.

**Certifications:** Fan shall be manufactured at an ISO 9001 certified facility. Fan shall be listed by Underwriters Laboratories (UL 705) and UL listed for Canada (cUL 705). Fan shall bear the AMCA Certified Ratings Seal for Sound and Air Performance.

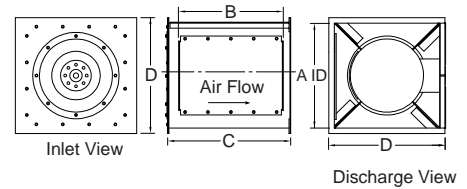
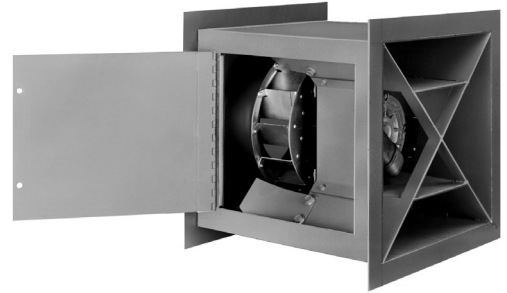
**Construction:** The fan shall be of bolted and welded construction utilizing corrosion resistant fasteners. Housing shall be minimum 18 gauge steel with airflow straightening vanes and integral duct flanges. Hinged access door shall be located in the specified position. Unit shall bear an engraved aluminum nameplate. Nameplate shall indicate design CFM and static pressure. Unit shall be shipped in ISTA Certified Transit Tested Packaging.

**Coating:** Steel fan components shall be Lorenized<sup>®</sup> with an electrostatically applied, baked polyester powder coating. Each component shall be subject to a five stage environmentally friendly wash system, followed by a minimum 2 mil thick baked powder finish. Paint must exceed 1,000 hour salt spray under ASTM B117 test method.

**Wheel:** Wheel shall be centrifugal backward inclined, constructed of 100 percent aluminum, including a precision machined cast aluminum hub. Wheel inlet shall overlap an aerodynamic aluminum inlet cone to provide maximum performance and efficiency. Wheel shall be balanced in accordance with AMCA Standard 204-96, Balance Quality and Vibration Levels for Fans.

**Motor:** Motor shall be heavy duty type with permanently lubricated sealed ball bearings and furnished at the specified voltage and phase.

**Product:** Fan shall be model SQI-D as manufactured by Loren Cook Company of Springfield, Missouri.



### SQI-D Dimension Data

Size	A	B	C	D	Approx. Ship Wt.-Lbs.*
70	10-1/8	9-3/4	11-3/4	13-1/8	38
80	13	13	15-1/8	16	43
90	14-7/16	14-3/8	16-13/16	17-1/2	55
120	17-3/8	17-3/4	20-3/16	20-1/2	175
135	19-1/2	20-1/4	22-11/16	22-5/8	232
150	21-5/8	22-13/16	25-1/4	24-3/4	285
165	23-13/16	25-5/16	27-3/4	26-15/16	305

All dimensions in inches. \*Weights in pounds, with motor.

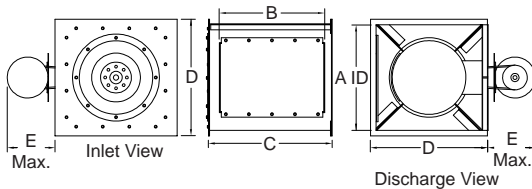
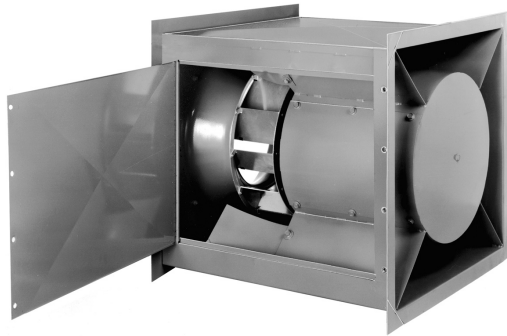


Loren Cook Company certifies that the SQI-D shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program.



Type SQI-D is furnished standard with UL 705 & cUL 705 listing (Power Ventilator/ZACT) when furnished with factory supplied motor.

## Square Centrifugal Inline Blower Belt Drive



Loren Cook Company certifies that the SQI-B shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program.



Type SQI-B is furnished standard with UL 705 & cUL 705 listing (Power Ventilator/ZACT) when furnished with factory supplied motor.

**Description:** Fan shall be duct mounted, belt driven centrifugal square inline.

**Certifications:** Fan shall be manufactured at an ISO 9001 certified facility. Fan shall be listed by Underwriters Laboratories (UL 705) and UL listed for Canada (cUL 705). Fan shall bear the AMCA Certified Ratings Seal for Sound and Air Performance.

**Construction:** The fan shall be of bolted and welded construction utilizing corrosion resistant fasteners. Housing shall be minimum 18 gauge steel with air-flow straightening vanes and integral duct flanges. Adjustable motor plate shall utilize threaded studs for positive belt tensioning. Access door, motor and mounting feet shall be located in the specified position. Unit shall bear an engraved aluminum nameplate. Nameplate shall indicate design CFM, static pressure and maximum fan RPM. Unit shall be shipped in ISTA Certified Transit Tested Packaging.

**Coating:** Steel fan components shall be Lorenized<sup>®</sup> with an electrostatically applied, baked polyester powder coating. Each component shall be subject to a five stage environmentally friendly wash system, followed by a minimum 2 mil thick baked powder finish. Paint must exceed 1,000 hour salt spray under ASTM B117 test method.

**Wheel:** Wheel shall be centrifugal backward inclined, constructed of 100 percent aluminum, including a precision machined cast aluminum hub. Wheel inlet shall overlap an aerodynamic aluminum inlet cone to provide maximum performance and efficiency. Wheel shall be balanced in accordance with AMCA Standard 204-96, Balance Quality and Vibration Levels for Fans.

**Motor:** Motor shall be heavy duty type with permanently lubricated sealed ball bearings and furnished at the specified voltage, phase and enclosure.

**Bearings:** Bearings shall be designed and individually tested specifically for use in air handling applications. Construction shall be heavy duty regreasable ball type in a cast iron housing selected for a minimum L50 life in excess of 200,000 hours at maximum cataloged operating speed.

**Belts and Drives:** Belts shall be oil and heat resistant, non-static type. Drives shall be precision machined cast iron type, keyed and securely attached to the wheel and motor shafts. Drives shall be sized for 150% of the installed motor horsepower. The variable pitch drives must be factory set to the specified fan RPM.

**Product:** Fan shall be model SQI-B as manufactured by Loren Cook Company of Springfield, Missouri.

### SQI-B Dimension Data

Size	A	B	C	D	E	Max. Mtr. Frame	Approx. Ship Wt.-Lbs.*
90	14-7/16	14-3/8	16-13/16	17-1/2	14-5/16	143T	125
120	17-3/8	17-3/4	20-3/16	20-1/2	14-5/16	145T	150
135	19-1/2	20-1/4	22-11/16	22-5/8	14-5/16	145T	200
150	21-5/8	22-13/16	25-1/4	24-3/4	14-5/16	145T	250
165	23-13/16	25-5/16	27-3/4	26-15/16	14-5/16	182T	255
180	26	27-13/16	30-1/4	29-1/8	14-5/16	182T	275
195	28-3/16	30-1/8	32-3/4	31-5/16	14-5/16	182T	325
210	30-3/8	32-5/8	35-1/4	33-1/2	14-5/16	182T	375
225	32-1/2	35-3/16	37-13/16	35-5/8	17-1/2	184T	425
245	35-3/8	38-9/16	41-3/16	38-1/2	17-1/2	213T	425
270	39	42-3/4	45-3/8	42-1/8	17-1/2	213T	450
300	43-7/16	47-13/16	50-7/16	46-1/2	17-1/2	213T	475
330	47-5/8	52-13/16	55-7/16	50-3/4	17-1/2	215T	555
365	52-3/4	58-15/16	61-3/8	55-7/8	17-1/2	215T	652
402	58-1/4	61-3/4	64-1/4	61-1/2	17-1/2	215T	750

All dimensions in inches. \*Weights in pounds, less motor and drives.

## Square Centrifugal High Pressure Inline Blower Belt Drive

**Description:** Fan shall be duct mounted, belt driven high pressure centrifugal square inline.

**Certifications:** Fan shall be manufactured at an ISO 9001 certified facility. Fan shall be listed by Underwriters Laboratories (UL 705) and UL listed for Canada (cUL 705).

**Construction:** The fan shall be of bolted and welded construction utilizing corrosion resistant fasteners. Housing shall be minimum 18 gauge steel with airflow straightening vanes and integral duct flanges. Adjustable motor plate shall utilize threaded studs for positive belt tensioning. Access door and mounting feet shall be located in the specified position. Unit shall bear an engraved aluminum nameplate. Nameplate shall indicate design CFM, static pressure and maximum fan RPM. Unit shall be shipped in ISTA Certified Transit Tested Packaging.

**Coating:** Steel fan components shall be Lorenized<sup>®</sup> with an electrostatically applied, baked polyester powder coating. Each component shall be subject to a five stage environmentally friendly wash system, followed by a minimum 2 mil thick baked powder finish. Paint must exceed 1,000 hour salt spray under ASTM B117 test method.

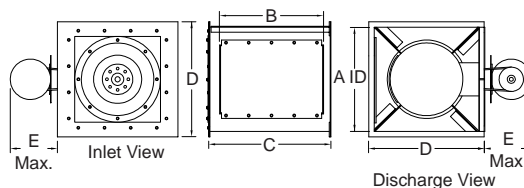
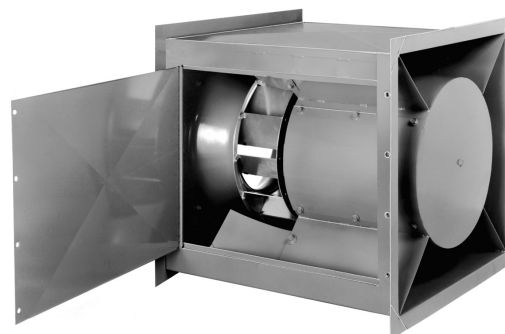
**Wheel:** Wheel shall be centrifugal backward inclined, constructed of 100 percent aluminum, including a precision machined cast aluminum hub. Wheel inlet shall overlap an aerodynamic aluminum inlet cone to provide maximum performance and efficiency. Wheel shall be balanced in accordance with AMCA Standard 204-96, Balance Quality and Vibration Levels for Fans.

**Motor:** Motor shall be heavy duty type with permanently lubricated sealed ball bearings and furnished at the specified voltage, phase and enclosure.

**Bearings:** Bearings shall be designed and individually tested specifically for use in air handling applications. Construction shall be heavy duty regreaseable ball type in a cast iron housing selected for a minimum L50 life in excess of 200,000 hours at maximum cataloged operating speed.

**Belts and Drives:** Belts shall be oil and heat resistant, non-static type. Drives shall be precision machined cast iron type, keyed and securely attached to the wheel and motor shafts. Drives shall be sized for 150% of the installed motor horsepower. The variable pitch motor drive must be factory set to the specified fan RPM.

**Product:** Fan shall be model SQI-HP as manufactured by Loren Cook Company of Springfield, Missouri.



Type SQI-HP is furnished standard with UL 705 & cUL 705 listing (Power Ventilator/ZACT) when furnished with factory supplied motor.

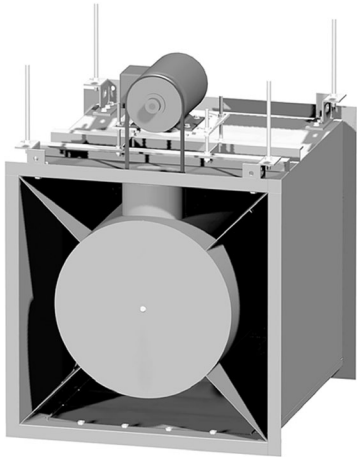
### SQI-HP Dimension Data

Size	A	B	C	D	E	Max. Mtr. Frame	Approx. Ship Wt.-Lbs*.
135	19-1/2	20-1/4	22-11/16	22-5/8	14-5/16	145T	200
150	21-5/8	22-13/16	25-1/4	24-3/4	14-5/16	145T	250
165	23-13/16	25-5/16	27-3/4	26-15/16	14-5/16	182T	255
180	26	27-13/16	30-1/4	29-1/8	14-5/16	182T	275
195	28-3/16	30-1/8	32-3/4	31-5/16	14-5/16	182T	325
210	30-3/8	32-5/8	35-1/4	33-1/2	14-5/16	182T	375
225	32-1/2	35-3/16	37-13/16	35-5/8	17-1/2	184T	425
245	35-3/8	38-9/16	41-3/16	38-1/2	17-1/2	213T	425
270	39	42-3/4	45-3/8	42-1/8	17-1/2	213T	450
300	43-7/16	47-13/16	50-7/16	46-1/2	17-1/2	213T	475
330	47-5/8	52-13/16	55-7/16	50-3/4	17-1/2	215T	555
365	52-3/4	58-15/16	61-3/8	55-7/8	17-1/2	215T	652
402	58-1/4	61-3/4	64-1/4	61-1/2	17-1/2	254T	750

All dimensions in inches. \*Weights in pounds, less motor and drives.

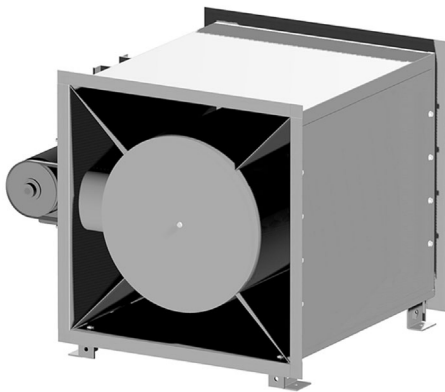
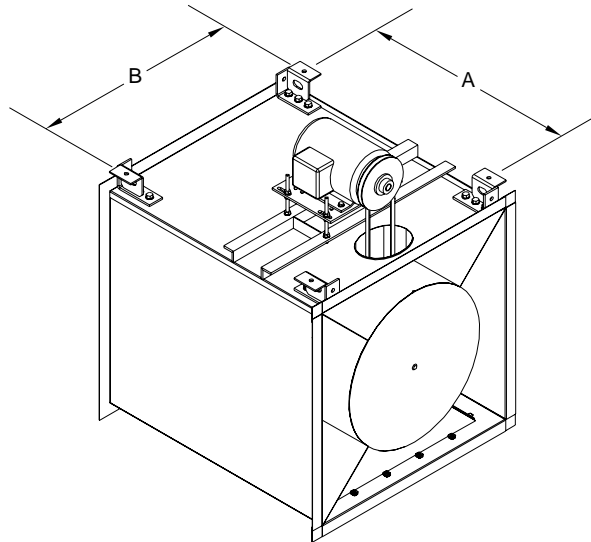
# Installation

The SQI is equipped with factory installed mounting brackets for a wide range of options. The mounting bracket design allows for use with vibration isolators. All mounting configurations are viewed facing the discharge of the fan.



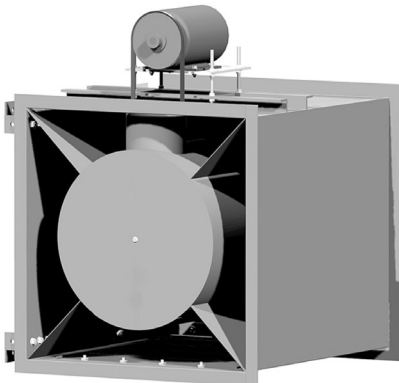
## Horizontal Ceiling

Specify access door at 3:00, 6:00 or 9:00 position.



## Horizontal Floor

Motor and Access should not be placed at 6:00 position.



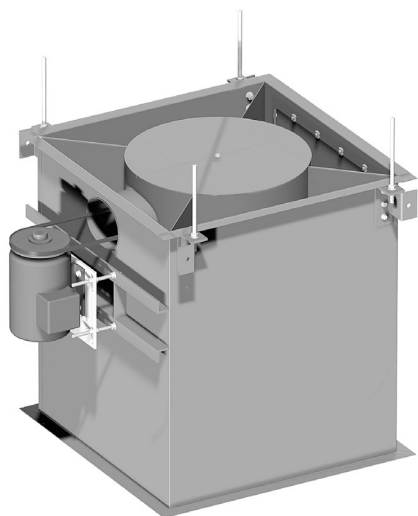
## Wall Mount

Specify wall position at 3:00, 9:00 or vertical wall mount installation.

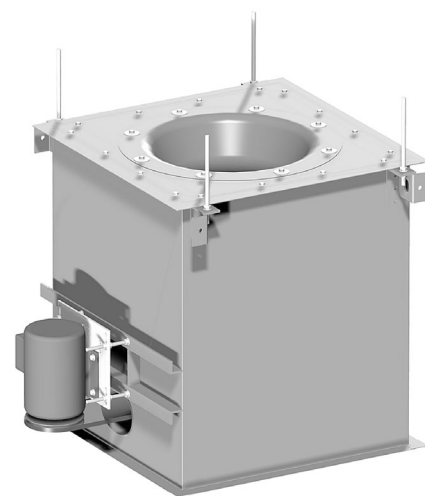
Dimension Data

Size	A	B
70	8-15/16	9-1/4
80	12-3/16	12-1/8
90	13-15/16	13-1/2
120	17-5/16	16-7/16
135	18-9/16	19-13/16
150	20-7/8	20-11/16
165	23-3/8	22-7/8
180	25-7/8	25-1/16
195	28-3/8	27-1/4
210	30-7/8	29-1/2
225	33-7/16	31-5/8
245	36-13/16	34-1/2
270	41	38-1/8
300	46-1/16	42-9/16
330	51-1/16	46-3/4
365	57	51-7/8
402	59-7/8	57-1/2

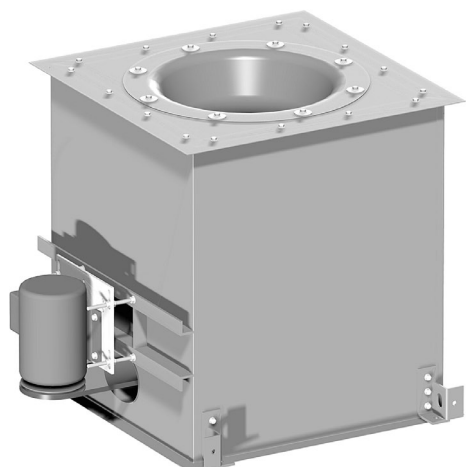
All dimensions in inches.



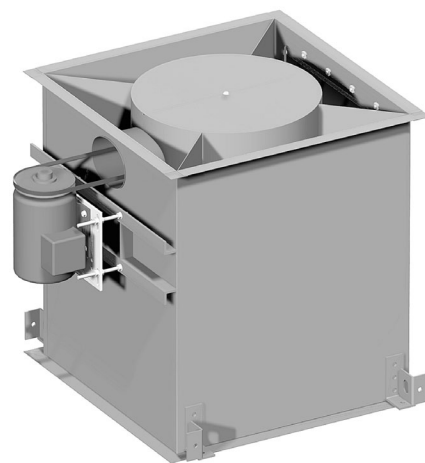
**Vertical Ceiling - Upblast**



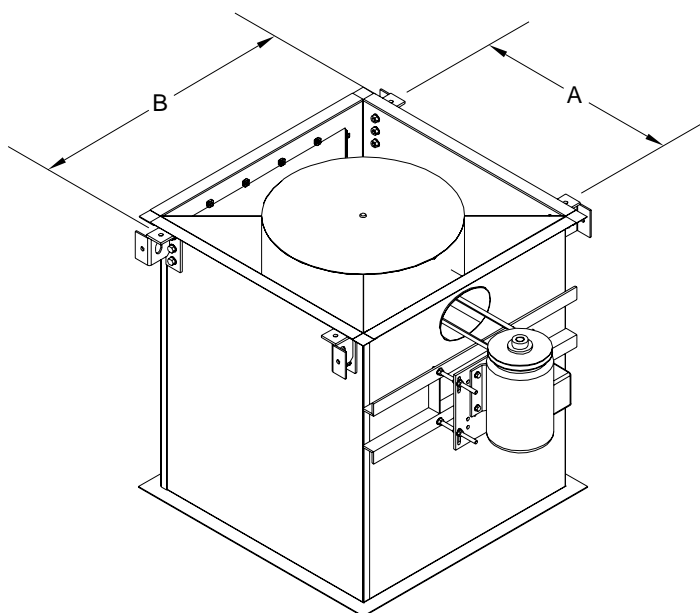
**Vertical Ceiling - Downblast**



**Vertical Floor - Downblast**



**Vertical Floor - Upblast**



**Dimension Data**

Size	A	B
70	6-3/8	14-13/16
80	9-1/4	17-1/16
90	10-5/8	18-7/16
120	13-9/16	21-3/8
135	15-11/16	23-1/2
150	17-13/16	25-5/8
165	20	27-13/16
180	22-3/16	30
195	24-3/8	32-3/16
210	26-9/16	34-3/8
225	28-11/16	36-1/2
245	31-9/16	39-3/8
270	35-3/16	43
300	39-5/8	47-7/16
330	43-13/16	51-5/8
365	48-15/16	56-3/4
402	54-9/16	62-3/8

All dimensions in inches.



# Accessories

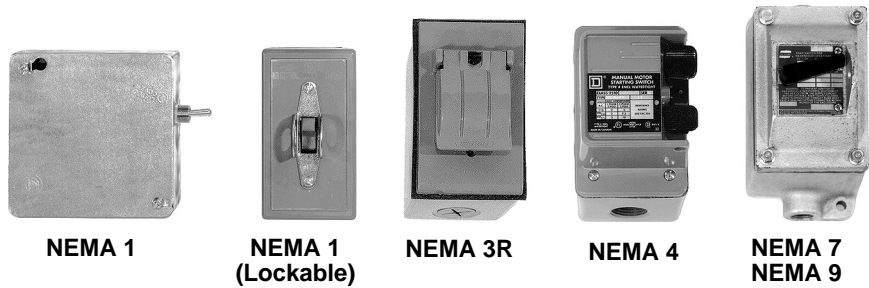
## Disconnect Switches

**NEMA 1** - Indoor, general purpose.

**NEMA 1 (Lockable)** - Indoor, general purpose with lockable switch.

**NEMA 3R** - Exterior mount, weather resistant.

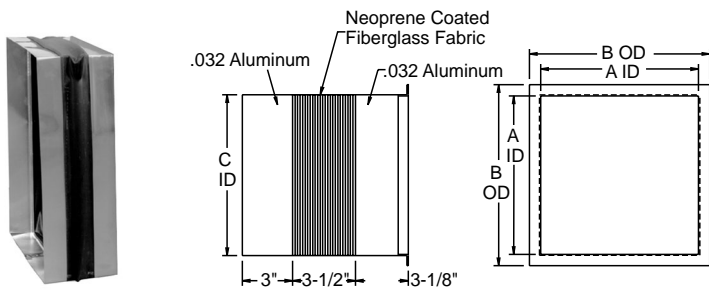
**NEMA 7 & NEMA 9 (Lockable)** - Indoor, explosion proof.



Cook's FSC is a variable speed controller which can offer excellent energy conservation and lower sound levels when 100 percent of a direct drive fan operating capacity is not required. The FSC employs solid state circuitry for long-life and dependability. The FSC is available only on 115V and 230V shaded pole or permanent split capacitor direct drive motors and is not available on 1140 RPM and 1725 RPM motors. The FSC is normally shipped loose for field installation. Optional pre-wiring is available.



## Flexible Duct Connector

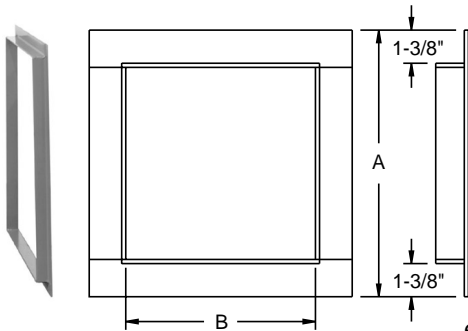


Size	A	B	C	Size	A	B	C
70	10-1/8	13-1/8	10-3/8	210	30-1/2	33-1/2	30-3/4
80	13	16	13-1/4	225	32-5/8	35-5/8	32-7/8
90	14-9/16	17-9/16	14-13/16	245	35-1/2	38-1/2	35-3/4
120	17-1/2	20-1/2	17-3/4	270	39-1/8	42-1/8	39-3/8
135	29-5/8	22-5/8	19-7/8	300	43-1/2	46-1/2	43-3/4
150	21-3/4	24-3/4	22	330	47-3/4	50-3/4	48
165	23-15/16	26-15/16	24-3/16	365	52-7/8	55-7/8	53-1/8
180	26-1/8	29-1/8	26-3/8	402	58-1/2	61-1/2	58-3/4
195	28-15/16	31-5/16	28-9/16				

All dimensions in inches.

Flex Duct Connectors are available for the inlet or outlet of the SQI. These connectors provide a flexible connection between the fan and the attached ductwork. This reduces the transmission of noise and vibration to the ductwork as well as allowing for slight misalignment and easy removal of the fan without disturbing the rigid ductwork. Flex Duct Connectors consist of reinforced neoprene fabric and aluminum bands.

## Inlet/Outlet Companion Flange

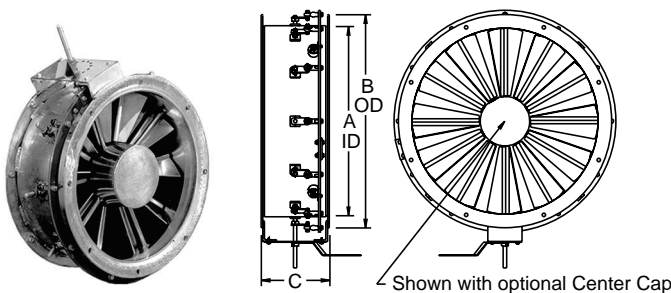


Size	A	B	Size	A	B
70	13-7/8	10-1/8	210	33-1/2	30-1/2
80	16	13	225	35-5/8	32-5/8
90	17-9/16	14-9/16	245	38-1/2	35-1/2
120	20-1/2	17-1/2	270	42-1/2	39-1/2
135	22-5/8	19-5/8	300	46-1/2	43-1/2
150	24-3/4	21-3/4	330	50-3/4	47-3/4
165	26-15/16	23-15/16	365	55-5/8	52-5/8
180	29-1/8	26-1/8	402	61-1/4	58-1/4
195	31-5/16	28-5/16			

All dimensions in inches.

Inlet or Outlet Companion Flanges are attached to the adjacent ductwork to provide an exact mate to the flanged connection on the fan.

## External Inlet Vane Damper

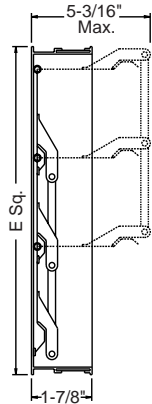


Size	A	B	C	Size	A	B	C
120	12-7/8	15-7/8	14	300	30-1/4	34-1/4	14
135	14-3/8	17-3/8		330	33-1/4	37-1/4	
150	15-7/8	18-7/8		365	36-3/4	40-3/4	
165	17-3/8	20-3/8		402	40-1/2	44-1/2	
180	18-7/8	21-7/8		445	44-3/4	48-3/4	
195	20	23		490	50-1/4	54-1/4	
210	21-3/4	24-3/4		540	55-1/4	59-1/4	
225	23-1/4	26-1/4		600	61-1/4	65-1/4	
245	25-1/4	28-1/4		660	67-1/4	71-1/4	
270	27-1/4	31-1/4		730	74-1/4	78-1/4	

All dimensions in inches. \*Weights in pounds.

External Inlet Vane Dampers are used to provide precise air volume control while maintaining maximum efficiency and stable operation at reduced load conditions. Inlet Vane Dampers are available in aluminum construction on sizes 120 through 402. These dampers are factory mounted and provided with an adjustment arm for manual or actuated control (actuator furnished by others). Cataloged performance is based on fans without inlet vane dampers.

## Automatic Backdraft Damper

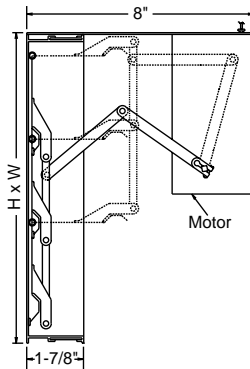


Automatic Backdraft Dampers feature an extruded aluminum frame, aluminum blades and aluminum hinge pins with nylon bushings. These dampers are shipped loose for field installation.

Size	E-Sq.	
	SQI-B/SQI-HP	SQI-D
70	-	9-7/8
80	-	12-3/4
90	14-3/16	14-3/16
120	17-1/8	17-1/8
135	19-3/8	19-3/8
150	21-3/8	21-3/8
165	23-9/16	23-9/16
180	25-3/4	-
195	27-15/16	-
210	30-1/8	-
225	32-1/4	-
245	35-1/8	-
270	38-3/4	-
300	43-1/8	-
330	47-3/8	-
365	52-1/2	-
402	58-1/4	-

All dimensions in inches.

## Motorized Backdraft Damper



Motorized Backdraft Dampers feature an extruded aluminum frame, aluminum blades and aluminum hinge pins with nylon bushings. These dampers are shipped loose for field installation.

Size	E-Sq.	
	SQI-B/SQI-HP	SQI-D
70	-	9-7/8
80	-	12-3/4
90	14-3/16	14-3/16
120	17-1/8	17-1/8
135	19-3/8	19-3/8
150	21-3/8	21-3/8
165	23-9/16	23-9/16
180	25-3/4	-
195	27-15/16	-
210	30-1/8	-
225	32-1/4	-
245	35-1/8	-
270	38-3/4	-
300	43-1/8	-
330	47-3/8	-
365	47-3/8	-
402	58-1/4	-

All dimensions in inches.

## Weather Proofing

Weather Proofing consists of a weather resistant fan housing and motor cover.

## Belt Guard

Belt Guards are available which cover the drive assembly on the top, front and sides. The belt guard is constructed of minimum 18 gauge Lorenized® steel and has an open back which allows inspection and belt tensioning without removing the guard. Belt guards are factory installed.

## Inlet Safety Screen

Inlet Safety Screens are used in non-ducted installations to protect personnel and prevent debris from entering the fan. This screen is constructed of 1/2" x 1/2" galvanized welded wire and is factory installed.

## Outlet Safety Screen

Outlet Safety Screens are used on non-ducted installations to protect personnel and prevent debris from entering the fan. This screen is constructed of 16 gauge 1/2" x 1" expanded metal complete with mounting frame. This assembly is Lorenized® and factory installed.

## Insulated Housing

An acoustical lining is available for the interior of the SQI. This fiberglass duct liner provides a reduction in noise of approximately 3dB in each of the eight octave bands.

## Aluminum Construction

All aluminum construction is available on all sizes of the SQI's.

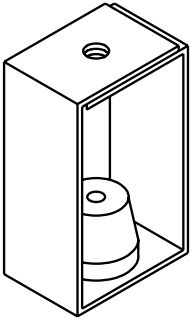
## Special Coatings

Special Coatings are available for cosmetic or protective purposes.

# Accessories

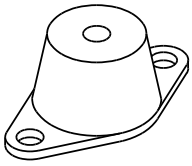
## Isolators

### Rubber-in-Shear - Ceiling Mounted



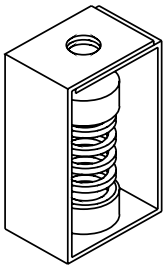
Unit	Rated Load
RC-75	75
RC-125	125
RC-175	175
RC-300	300
RC-450	450
RC-700	700
RC-1100	1100
RC-2000	2000

### Rubber-in-Shear - Floor Mounted



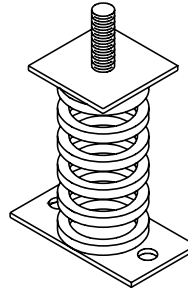
Unit	Rated Load
RF-55	55
RF-120	120
RF-220	220
RF-375	375
RF-600	600
RF-1100	1100
RF-2250	2250

### Spring - Ceiling Mounted



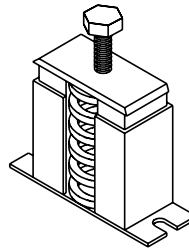
Unit	Rated Load	Spring. Rate (lbs./in.)
SC-35	35	23
SC-70	70	51
SC-125	125	100
SC-245	245	206
SC-370	370	370
SC-500	500	500
SC-1000	1000	870
SC-1700	1700	1700

### Free Standing Spring - Floor Mounted



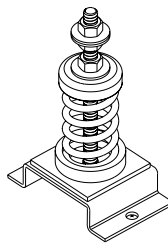
Unit	Rated Load	Spring. Rate (lbs./in.)
SF-70	70	51
SF-120	120	98
SF-220	220	196
SF-370	370	366
SF-625	625	419
SF-1250	1250	1096
SF-1700	1700	1700

### Housed Spring - Floor Mounted



Unit	Rated Load	Spring. Rate (lbs./in.)
HF-120	120	98
HF-220	220	196
HF-320	320	302
HF-370	370	366
HF-500	500	500
HF-700	700	700
HF-800	800	588
HF-1000	1000	826
HF-1250	1250	1098
HF-1700	1700	1700

### Restrained Spring - Floor Mounted



Unit	Rated Load	Spring. Rate (lbs./in.)
RS-70	70	51
RS-120	120	98
RS-220	220	196
RS-370	370	366
RS-625	625	419
RS-1250	1250	1096
RS-1700	1700	1700



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