



Gas-fired infrared heaters

Energy-efficient heating systems for industrial, commercial, sports and outdoor applications.

Schwank
INNOVATIVE HEATING SOLUTIONS



Schwank Infrared Heating Solutions

Schwank offers North America's most energy-efficient gas-fired infrared heating systems for commercial, industrial, hospitality, sports and outdoor applications. Your customers and employees will enjoy comfortable heat, while you benefit from increased productivity and profits. Quick payback and up to 60% in energy savings, Schwank heaters not only pay for themselves but also put money in your pocket!

Schwank Free Design Service

A properly designed infrared radiant heating system not only optimizes fuel savings, but also ensures that personnel comfort is uniform throughout all work areas. Contact your local contractor or authorized Schwank distributor to submit a heating design survey of your building. A no obligation radiant heating design will be returned within a couple business days.

Schwank offers:

- ✓ Up to 60% energy savings and carbon footprint reduction
- ✓ The best on-time delivery performance
- ✓ Longest warranties in the industry
- ✓ Complete heating solutions from one source: luminous [high-intensity], tube [low-intensity], patio and stadium heaters
- ✓ Fuel cost analysis and investment evaluation
- ✓ Professional planning and free CAD design layout

Schwank Key Contact Directory

Customer Service:

Order entry & tracking, and inside sales
csr@schwankgroup.com

Technical Support:

Technical assistance, parts, and pricing
tso@schwankgroup.com

Design Services:

design@schwankgroup.com

Schwank Catalogue Index

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ultraSchwank

North America's highest-efficiency tube heating solution for demanding industrial and distribution environments



Experience counts:

Schwank is the worldwide market leader and most trusted brand with over 2 million heating appliances sold



The New Definition of Energy Efficiency

ultraSchwank is the most efficient tube [low intensity] heater for industrial and commercial applications.

- Up to 68.4%* radiant efficiency, for up to 50% fuel savings
- Long flame and more uniform heat reduces convection heat losses and directs more heat to the floor where it is required: the highest comfort achieved!
- The first tube heater designed with an insulated reflector system. Captures convection heat and increases tube and inner reflector surface temperatures for superior heat retention and greater comfort at lower air temperatures
- Green technology. Fuel costs and CO₂ footprint reduced up to 50%

Excellent Investment

- High return on investment and quick payback, as low as 1 year
- Contributes up to 10 out of 30 LEED points [energy and atmosphere category] for new and retrofit commercial projects

Up to 68.4%* Radiant Efficiency

ultraSchwank has a radiant output up to 50% higher than any conventional system.

- Lowest fuel cost
- Fewer heaters required
- Smaller gas pipes
- Lower installation cost

More Comfort for Less

ultraSchwank produces and directs more heat where it is needed, while using up to 50% less BTU/hr than most conventional heating systems.

*Independent lab tested: EN 416-2 standard [calorific value] UHE 200,000 BTU/hr-60 Ft.

Schwank
INNOVATIVE HEATING SOLUTIONS



ultraSchwank - North America's most efficient tube heater

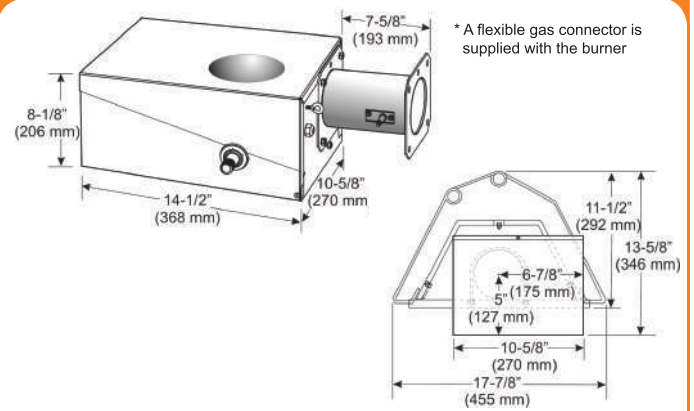
The Schwank Advantage:

- Worldwide market leader in infrared heating
- Highly rated customer service in the industry:
 - The quickest lead times, as short as two days
 - The best on-time performance, over 99% during normal periods, and over 95% during peak seasons
 - The best quality in the industry: our service claims are less than 0.8% of sales
- Complete heating solutions from one source: luminous [high intensity], tube, patio and stadium heaters
- Fuel cost analysis and investment evaluation
- Professional planning and free design support
- 10-year warranty replacement on the radiant tube

Our References Include:

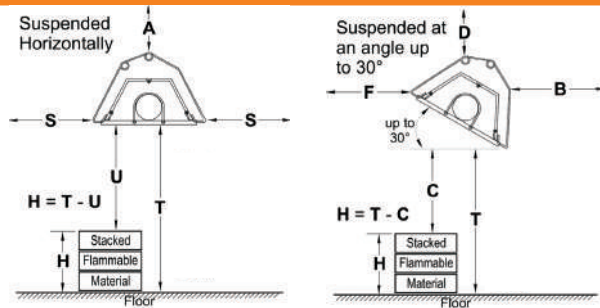
US Army, Canadian Armed Forces, Amazon.com, Ford, Chrysler, BMW, Sears, UPS, US Steel, Bombardier, Alstom, Siemens, WalMart, DHL, Delta Airlines, Continental Airlines and Air Canada.

Dimensions and Specifications



MODEL	INPUT BTU/HR	SYSTEM LENGTH	WEIGHT LBS.
UHE 60-20	60,000	21'6"	190
UHE 60-30	60,000	31'2"	272
UHE 90-30	90,000	31'2"	272
UHE 90-40	90,000	40'10"	354
UHE 130-40	130,000	40'10"	354
UHE 130-50	130,000	50'6"	436
UHE 160-50	160,000	50'6"	436
UHE 160-60	160,000	60'2"	518
UHE 200-50	200,000	50'6"	436
UHE 200-60	200,000	60'2"	518
UHE 200-70	200,000	69'10"	600

Clearances to Combustibles



MODEL	SUSPENDED HORIZONTALLY			SUSPENDED AT AN ANGLE UP TO 30°			
	A	S	U	D	B	F	C
UHE 60	0.5"	16"	45"	1.0"	3.25"	35"	41"
UHE 90	1.25"	26"	70"	2.5"	5.25"	50"	60"
UHE 130	1.5"	30"	86"	3.0"	6.25"	57"	70"
UHE 160	3.0"	45"	105"	5.5"	10.0"	75"	85"
UHE 200	3.5"	56"	111"	8.0"	12.5"	90"	93"

* "T" is a measured distance on site.

Gas pressure	Line minimum:	5" W.C. NG
	Line maximum:	14" W.C. NG
	Manifold:	3.5" W.C. NG
Gas inlet	1/2"	
Electrical	120V, 60 Hz, 1.5 AMPS [internal 24V burner components 21VA]	

Distributor info:



USA: 2 Schwank Way, Waynesboro, GA 30830 | Canada: 5285 Bradco Blvd. Mississauga, ON L4W 2A6
Tel: 1-877-446-3727 | Fax: 1-866-361-0523 | www.schwankgroup.com | csr@schwankgroup.com



M090904 RL:5 RD:Mar-2011

Schwank
INNOVATIVE HEATING SOLUTIONS



premierSchwank
Commercial/Industrial Tube Heater



Innovation that lowers your fuel cost and increases comfort

The **premierSchwank** boasts high comfort and provides significant energy savings and a carbon footprint reduction of up to 50%.

The long and laminar flame of this tube heater provides an even heat distribution and is easy to install, access, and maintain. **premierSchwank** provides the highest employee comfort by creating a uniform distribution of heat.

Experience Counts: Schwank is the worldwide market leader and most trusted brand with over 2 million heating appliances sold.

Also Available in Pre-Assembled U-Tube P40 Model



Features

- 24 or 120 volt control
- Whisper-Jet technology makes heater extremely quiet
- Easy access to "clamshell" burner box
 - Pre-installed igniter
 - Status indicator lights
 - Combustion air collar included

Optional Accessories *See back for more details.*

- Air Intake Wall Cap
- Horizontal Flue Vent Terminal
- Elbow Kit

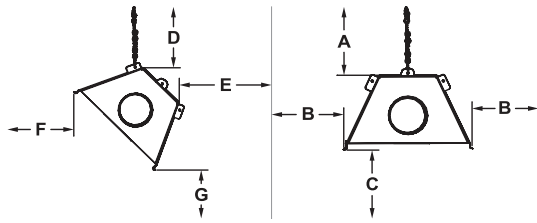
*Also Available in **duraSchwank** model for Harsh Environment Applications - See **duraSchwank** brochure for more details*

Contact us today for a FREE design and quote!

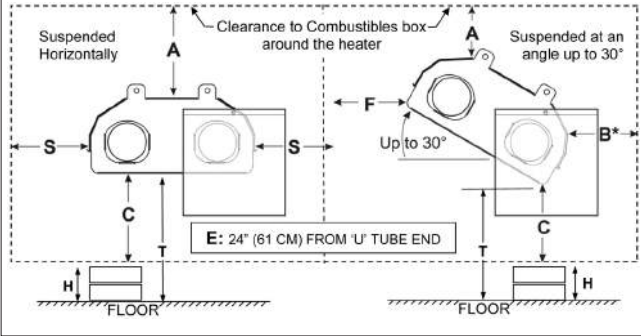
premierSchwank – Technical Specifications, Controls, & Accessories

Clearances to Combustibles

STS-JZ Straight Tube System



*P40U Packaged U-Tube



MODELS	SUSPENDED AT AN ANGLE UP TO 45°				SUSPENDED HORIZONTALLY		
	D	E	F	G	A	B	C
STS-JZ 200	13"	6"	74"	70"	14"	44"	76"
STS-JZ 175	12"	6"	72"	68"	13"	42"	74"
STS-JZ 155	5.5"	1"	44"	64"	3.5"	19"	64"
STS-JZ 130	4.5"	1"	35"	60"	3.3"	11"	60"
STS-JZ 110	3.5"	1"	26"	54"	2.0"	10"	54"
STS-JZ 100	6.5"	1"	57"	68"	6.0"	22"	68"
STS-JZ 80	3.0"	1"	23"	38"	1.75"	6"	38"
STS-JZ 60	2.75"	1"	24"	32"	2.25"	7"	32"
P40U*	5"	12"	36"	53"	5"	24"	53"

Optional Accessories

Fresh air intake wall cap	JS-0532-VC
4" Horizontal flue vent terminal (wall)	JA-0528-XX
90° Elbow kit with reflector cap (Combine with two 90° to create 180° elbow)	JS-0508-JZ
#2 Lion chain	JL-0800-XX

Consult your local authorized dealer for other Schwank accessories:

- Line-voltage and 24V thermostat and controls
- Side reflector extensions

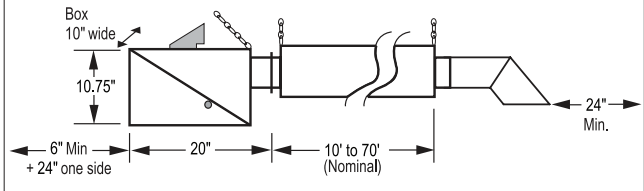
Additional resources:



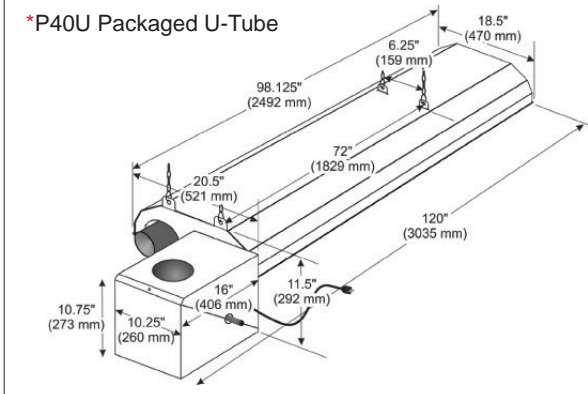
Distributor info:

Dimensions and Specifications

STS-JZ Straight Tube System



*P40U Packaged U-Tube

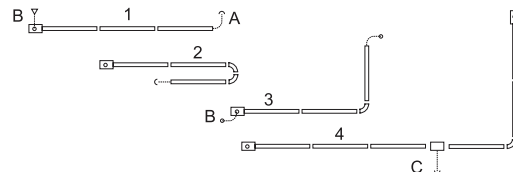


MODEL	INPUT (BTU/HR) U.S.A.* SEA LEVEL TO 2,000' CANADA* SEA LEVEL TO 4,500'	HEATER LENGTH						
		10'	20'	30'	40'	50'	60'	70'
STS-JZ 200	200,000					■	■	■
STS-JZ 175	175,000					■	■	■
STS-JZ 155	150,000				■	■	■	
STS-JZ 130	130,000			■	■	■		
STS-JZ 110	110,000			■	■			
STS-JZ 100	100,000		■					
STS-JZ 80	80,000		■	■	■			
STS-JZ 60	60,000		■	■				
STS-JZ 45	45,000		■					
P40U*	40,000	■						
HEATER LENGTH		10'	21'4"	31'	40'8"	50'4"	60'	69'8"
SHIPPING WEIGHT (LBS.)		100	150	200	240	315	360	430

* HIGH ALTITUDE: De-rate heater 4% for each additional 1,000 ft. of elevation

Gas Pressure	Line Minimum:	5" W.C. NG	11" W.C. LP
	Line Maximum:	14" W.C. NG	14" W.C. LP
	Manifold	3.5" W.C. NG	10" W.C. LP
Gas Inlet	1/2"		
Flue & Air Vent	4"		
Electrical	120V, 60 Hz, 1.5 AMPS		

Flexible Layout of Straight Tube Systems



System Configuration

- Straight line
- "U" tube with two 90° elbow kits
- "L" tube with 90° elbow kit
- Common 6" TEE flue vent

Venting Options

- 4" flue vent through wall or roof
- 4" intake air from wall or roof
- 6" common vent through wall or roof

USA: 2 Schwank Way, Waynesboro, GA 30830 | Canada: 5285 Bradco Blvd. Mississauga, ON L4W 2A6
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M071714 RL-v1.1 RD: July-2014

Schwank
INNOVATIVE HEATING SOLUTIONS



compactSchwank

U-Tube Residential Garage Heater



The perfect heating solution for car enthusiasts and hobbyists!

Schwank's residential garage heater provides the perfect comfort for your garage and workshop all year round and eliminates condensation that can damage your tools.

The innovative infrared radiant tube heater design of the **compactSchwank** offers an efficient heavy duty garage heater that is economical yet ideal for garage and workshop applications by keeping your garage floor, tools, and equipment warm and dry throughout the winter.

Experience Counts: Schwank is the worldwide market leader and most trusted brand with over 2 million heating appliances sold.

Cost Effective, Durable, Highly Efficient



Features

- Pre-assembled for an easy installation right out of the box
- Overhead mounting leaves more space in the garage and workshop
- Whisper quiet operation
- Low clearances and hanging heights to easily mount in any garage or workshop

Optional Accessories [See back for more details.](#)

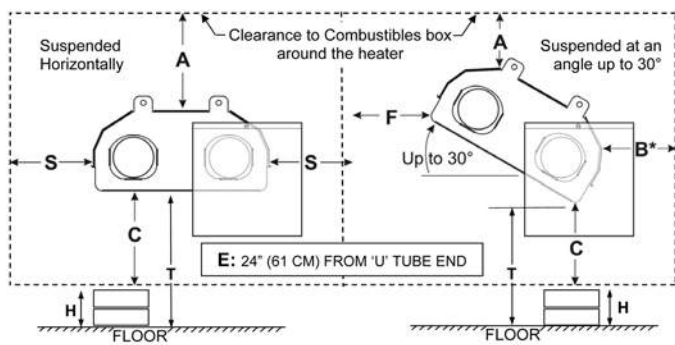
- Suspension Hardware
- Hanging Chain
- 24 Volt Thermostat

Contact us today for a FREE heated garage quote!

compactSchwank - Technical Specifications & Accessories

Information below is intended only as a reference and should not be used when installing equipment. Please ensure you locate the most recent instruction manual for accurate and up to date information.

Clearances to Combustibles



MODEL	SUSPENDED HORIZONTALLY			SUSPENDED AT AN ANGLE UP TO 30°				
	A: TOP inches (cm)	C: BELOW inches (cm)	S: SIDES inches (cm)	A: TOP inches (cm)	C: BELOW inches (cm)	F: FRONT inches (cm)	B: BACK AT 30° inches (cm)	B: BACK < 30° inches (cm)
P40-R	5 (12.7)	53 (135)	24 (61)	5 (12.7)	53 (135)	36 (91.5)	12 (30.5)	24 (61)
E: 'U' END of Heater: 24" (61 cm) (horizontal or angled)								

Heater Information

BURNER: 40,000 Btu/h Natural Gas (optional conversion kit for LPG), 120V 3-Pronged Plug, 24V Thermostat with 20 ft of 18/2 wire;

TUBE / REFLECTOR SYSTEM: Corrosion resistant aluminized steel construction, 4 inch diameter U-tube provides 17 ft of heat exchange tube in compact 10 ft length; includes 4 ft Lion Chain and four safety snap hooks.

Note: This heater is approved as a Vented Room Heater suitable for residential use

- Overhead suspended type
- ANSI/CSA Standards and Code requirements do not allow direct connection of an outside combustion air duct to the heater
- Rigid connection to the gas supply is in compliance with Gas Code requirements
- Optionally, an installer may choose to connect to the gas supply using a metallic flexible gas connector

What's in the Box?

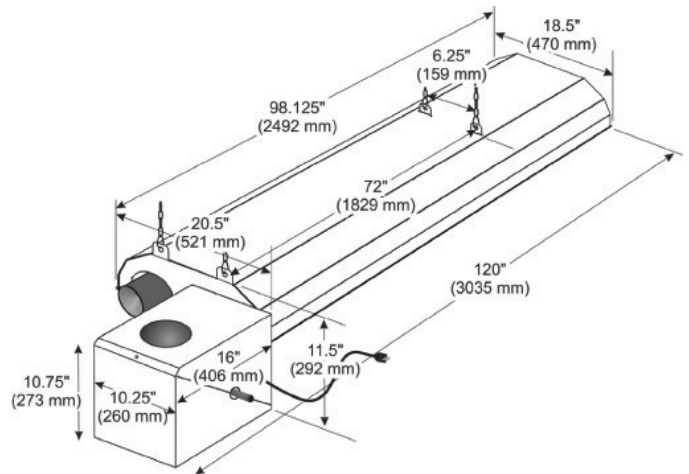
24 volt Luminous Digital Thermostat	QTY: 1
Thermostat Wire - 20'	QTY: 1
Safety Snap Hooks	QTY: 4
#2 Lion Chain x 4 ft. - 115 LBS Work Load	QTY: 1

Optional Accessories

4" horizontal flue vent terminal (wall)	JA-0528-XX
TruTemp infrared setback thermostat	JM-0150-XX
Field Conversion Kit - NG to LP	JS-0555-XA
Flexible Gas Connector 1/2" x 24"	JL-0771-XX

Distributor info:

Dimensions and Specifications



MODEL	INPUT BTU/HR U.S.A.* SEA LEVEL TO 2,000' CANADA*: SEA LEVEL TO 4,500'	HEATER LENGTH	SHIPPING WEIGHT (LBS)
P40-R	40,000	10'	100
* HIGH ALTITUDE: De-rate heater 4% for each additional 1,000 ft. of elevation			
Gas Pressure	Line Minimum:	5" W.C. NG	11" W.C. LP
	Line Maximum:	14" W.C. NG	14" W.C. LP
	Manifold	3.5" W.C. NG	10" W.C. LP
Gas Inlet	1/2"		
Flue & Air Vent	4"		
Electrical	120V, 60 Hz, 145 VA, 4 ft. cord and plug		

Additional resources:



I/O Manual



Cut Sheet



Find a Distributor

Our customers include:



USA: 2 Schwank Way, Waynesboro, GA 30830 | Canada: 5285 Bradco Blvd. Mississauga, ON L4W 2A6
Tel: 1-877-446-3727 | Fax: 1-866-361-0523 | www.schwankusa.com | csr@schwankgroup.com



M120114 RL: v1.2 RD: Dec-2014

Schwank
INNOVATIVE HEATING SOLUTIONS



duraSchwank
Harsh Environment Tube Heater



Moisture-proof, efficient heating for harsh environments

duraSchwank is suitable for all industrial and commercial spaces that may be wet, damp or contain airborne contaminants. They hold the highest energy efficiency ratings in all of North America converting up to 50% of gas input into usable radiant energy.

Unlike conventional heaters that only warm the surrounding air, the radiant energy from **duraSchwank** is immediately absorbed by everyone below creating a more comfortable atmosphere.

Experience Counts: Schwank is the worldwide market leader and most trusted brand with over 2 million heating appliances sold.

Also Available in

Pre-Assembled U-Tube P40 Model



Features

- Frost-free protection to allow flawless operation during winter time
- Moisture resistant burner enclosure
- Whisper-Jet technology makes heater extremely quiet
- Optional stainless steel tube/reflector system for corrosive environments
- Aluminized steel tube system ensures durability and corrosion-free operation

Optional Accessories See back for more details.

- NEMA 4X Thermostat
- Horizontal Flue Vent Terminal
- Elbow Kit

Also Available in stainless steel burner box

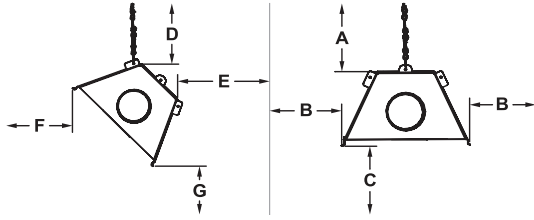
Contact us today for a FREE design and quote!



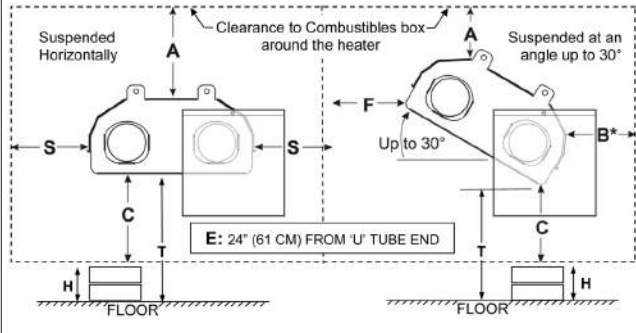
duraSchwank - Technical Specifications & Optional Accessories

Clearances to Combustibles

SPW/STW-JZ Straight Tube System



*P40U-P/P40U-W Packaged U-Tube



MODELS	SUSPENDED AT AN ANGLE UP TO 45°				SUSPENDED HORIZONTALLY		
	D	E	F	G	A	B	C
SPW/STW-JZ 200	13"	6"	74"	70"	14"	44"	76"
SPW/STW-JZ 175	12"	6"	72"	68"	13"	42"	74"
SPW/STW-JZ 155	5.5"	1"	44"	64"	3.5"	19"	64"
SPW/STW-JZ 130	4.5"	1"	35"	60"	3.3"	11"	60"
SPW/STW-JZ 155	3.5"	1"	26"	54"	2.0"	10"	54"
SPW/STW-JZ 110	6.5"	1"	57"	68"	6.0"	22"	68"
SPW/STW-JZ 80	2.5"	1"	17"	34"	1.5"	5.5"	34"
SPW/STW-JZ 60	2.75"	1"	24"	32"	2.25"	7"	32"
P40U-P/P40U-W*	5"	12"	36"	53"	5"	24"	53"

Optional Accessories

NEMA 4X Rated Thermostat	JS-0570-XX
4" Horizontal flue vent terminal (wall)	JA-0528-XX
90° Elbow kit with reflector cap (Combine with two 90° to create 180° elbow)	JS-0508-JZ
#2 Lion chain	JL-0800-XX
Tuxedo Grille – Matte Black 10 ft. Kit (Straight Tubes Only)	TG-0010-XX
Protective Guard Screen (P40U-P & P40U-W Only)	JS-0502-UR-GK

Consult your local authorized dealer for other Schwank accessories:

- Line-voltage and 24V thermostat and controls
- Side reflector extensions

Additional resources:



I/O Manual - SPW/STW-JZ

I/O Manual - P40U-P/-W

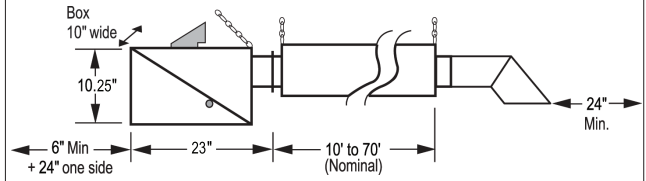
Free Design Form

Find a Distributor

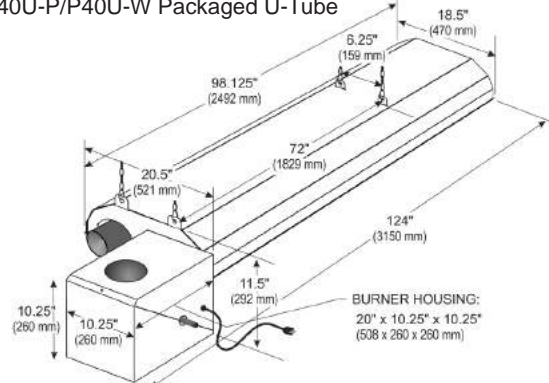
Distributor info:

Dimensions and Specifications

SPW/STW-JZ Straight Tube System



*P40U-P/P40U-W Packaged U-Tube

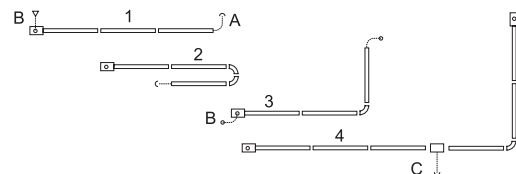


MODEL	INPUT (BTU/HR) U.S.A.* SEA LEVEL TO 2,000' CANADA* SEA LEVEL TO 4,500'	HEATER LENGTH						
		10'	20'	30'	40'	50'	60'	70'
SPW/STW-JZ 200	200,000					■	■	■
SPW/STW-JZ 175	175,000					■	■	■
SPW/STW-JZ 155	150,000					■	■	■
SPW/STW-JZ 130	130,000				■	■	■	
SPW/STW-JZ 110	110,000				■	■	■	
SPW/STW-JZ 80	80,000		■	■	■	■		
SPW/STW-JZ 60	60,000		■	■	■			
SPW/STW-JZ 45	45,000		■					
P40U-P/P40U-W*	40,000	■						
HEATER LENGTH		10'4"	21'7"	31'3"	40'11"	50'7"	60'3"	69'11"
SHIPPING WEIGHT (LBS.)		100	150	200	240	315	360	430

* HIGH ALTITUDE: De-rate heater 4% for each additional 1,000 ft. of elevation

Gas Pressure	Line Minimum:	5" W.C. NG	11" W.C. LP
	Line Maximum:	14" W.C. NG	14" W.C. LP
	Manifold	3.5" W.C. NG	10" W.C. LP
Gas Inlet	1/2"		
Flue & Air Vent	4"		
Electrical	120V, 60 Hz, 1.5 AMPS		

Flexible Layout of Straight Tube Systems



System Configuration

- Straight line
- "U" tube with two 90° elbow kits
- "L" tube with 90° elbow kit
- Common 6" TEE flue vent

Venting Options

- 4" flue vent through wall or roof
- 4" intake air from wall or roof
- 6" common vent through wall or roof

USA: 2 Schwank Way, Waynesboro, GA 30830 | Canada: 5285 Bradco Blvd. Mississauga, ON L4W 2A6
Tel: 1-877-446-3727 | Fax: 1-866-361-0523 | www.schwankusa.com | csr@schwankgroup.com



M061714 RL: v1.0 RD: June-2014



Efficiency, economy and performance in one package

One of the most economical radiant tube heaters on the market for heating distribution and production facilities. Built using Schwank's low cost heating system design, the **builderSchwank** energy efficient heater provides comfort and a quick payback period.

Also Available in 2-Stage [SET] Model

Schwank 2-Stage builder series heater adjusts heat output to meet changing heating needs. This heater lowers energy consumption and increases equipment life by reducing ON-OFF cycles by up to 35%.

Experience Counts: Schwank is the worldwide market leader and most trusted brand with over 2 million heating appliances sold.

Also Available in Pre-Assembled U-Tube P40 Model



Features

- Line voltage and 24 volt thermostat ready
- Whisper-Jet technology makes heater extremely quiet
- Easy access to "clamshell" burner box
- Reflector & end caps improve IR heat

Optional Accessories [See back for more details.](#)

- Air Intake Wall Cap
- Horizontal Flue Vent Terminal
- Elbow Kit

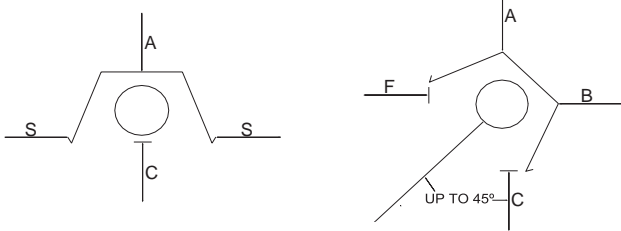
Contact us today for a FREE design and quote!

builderSchwank - Technical Specifications, Controls, & Accessories

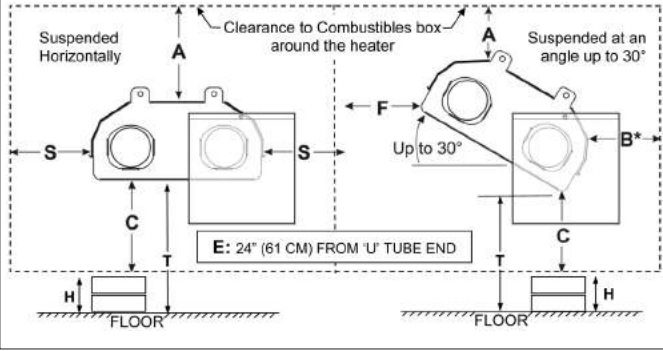
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Clearances to Combustibles

S100 Straight Tube System

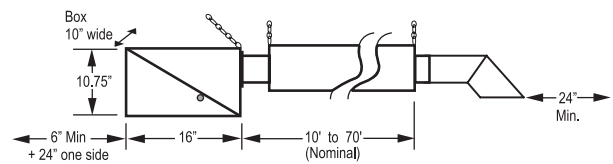


*P40U Packaged U-Tube

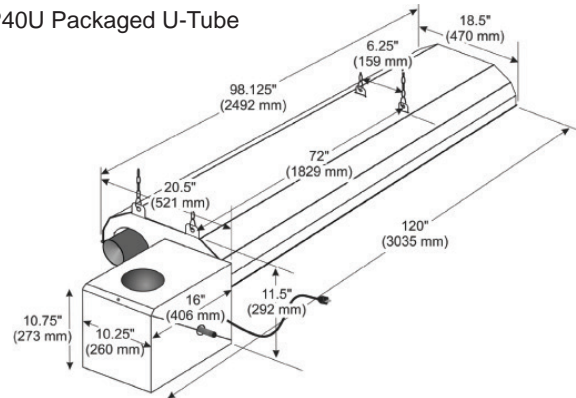


Dimensions and Specifications

S100 Straight Tube System



*P40U Packaged U-Tube



MODEL	INPUT BTU/HR U.S.A.: SEA LEVEL TO 2,000' CANADA*: SEA LEVEL TO 4,500'	AVAILABLE LENGTH						
		10'	20'	30'	40'	50'	60'	70'
S100 200	200,000					■	■	■
S100 175	175,000					■	■	■
S100 155	155,000				■	■	■	
S100 130	130,000			■	■	■		
S100 110	110,000			■	■	■		
S100 100	100,000		■					
S100 80	80,000		■	■	■			
S100 60	60,000		■	■				
S100 45	45,000	■	■					
P40U*		■						
HEATER LENGTH		11'8"	21'4"	31'	40'8"	50'4"	60'	69'8"
SHIPPING WEIGHT [LBS.]		100	150	200	240	315	360	430

*HIGH ALTITUDE: De-rate heater 4% for each additional 1,000 Ft. of elevation

Gas pressure	Line minimum:	5" W.C. NG	11" W.C. LP
	Line maximum:	14" W.C. NG	14" W.C. LP
	Manifold:	3.5" W.C. NG	10" W.C. LP
Gas inlet	1/2"		
Flue & air vent	4"		
Electrical	120V, 60 Hz, 1.5 AMPS		

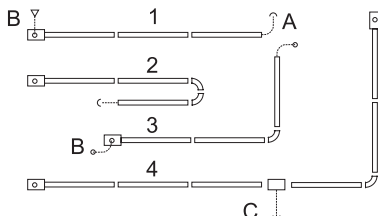
Optional Accessories

Fresh air intake wall cap	JS-0532-VC
4" Horizontal flue vent terminal (wall)	JA-0528-XX
90° Elbow kit with reflector cap (Combine with two 90° to create 180° elbow)	JS-0508-JZ
#2 Lion chain	JL-0800-XX

Consult your local authorized dealer for other Schwank accessories:

- Line-voltage and 24V thermostat and controls
- Side reflector extensions

Flexible Layout



System Configuration

1. Straight line
2. "U" tube with two 90° elbow kits
3. "L" tube with 90° elbow kit
4. Common 6" TEE flue vent

Venting Options

- A. 4" flue vent through wall or roof
- B. 4" intake air from wall or roof
- C. 6" common vent through wall or roof

Distributor Information:



Inst. Manual - S100 Inst. Manual - P40U Replacement Parts List Find a Distributor

USA: 2 Schwank Way, Waynesboro, GA 30830 | Canada: 5285 Bradco Blvd. Mississauga, ON L4W 2A6
Tel: 1-877-446-3727 | Fax: 1-866-361-0523 | www.schwankusa.com | csr@schwankgroup.com



M121014 RL: v1.4 RD: Jan-2015

supraSchwank

The only infrared heater with up to 65% energy savings

The most efficient infrared heater



Experience counts:

Schwank is the worldwide market leader and most trusted brand with over 2 million heating appliances sold.



The New Definition of Energy Efficiency

supraSchwank is the heater with the highest efficiency for industrial and commercial applications.

- supraSchwank offers the highest conversion rate of any IR heater in the market: 81%*

How did Schwank build the highest efficiency heater:

- supraSchwank's fully insulated heater is made of Feran, one of the most reflective materials. Minimizes convection heat losses
- Patented Delta Mixing Chamber preheats gas/air combustion mixture for uniform and ultra efficient heat delivery to work level
- Cleantech. Fuel costs and CO₂ emissions reduced up to 65%

Excellent Investment

- supraSchwank is so efficient that it pays for itself
- Quick payback and high return on investment
- Contributes up to 10 out of 30 LEED points [energy and atmosphere category] for new and retrofit commercial projects

81% Radiant Efficiency*

- Lowest operating cost, fewer heaters required and lower gas pipe cost
- The only heater which can provide heat from ceilings up to 200 feet high: more comfort directed to workplace
- Clean and efficient: supraSchwank offers ultimate safety and fuel savings

More Comfort for Less

supraSchwank produces and directs more heat where where it is needed, while using up to 65% less BTU/hr than most conventional heating systems.



*certified by CSA International according to the ANSI Z83.19b standard [supraSchwank 30] and EN 419-2

Schwank
INNOVATIVE HEATING SOLUTIONS



supraSchwank - The only infrared heater with up to 65% energy savings

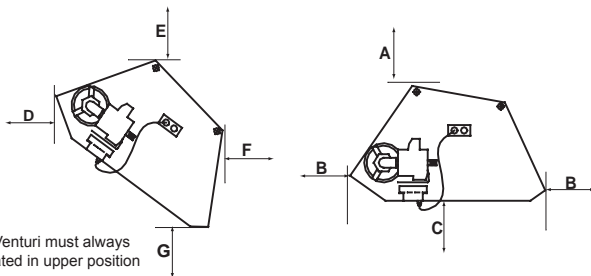
The Schwank Advantage:

- Worldwide market leader in infrared heating
- Highly rated customer service in the industry:
 - The quickest lead times, as short as two days
 - The best on-time performance, over 99% during normal periods, and over 95% during peak seasons
 - The best quality in the industry: our service claims are less than 0.8% of sales
- Complete heating solutions from one source: luminous [high intensity], tube, patio and stadium heaters
- Fuel cost analysis and investment evaluation
- Professional planning and free design support
- Comprehensive warranty: 10 years ceramic burner, 3 years all other components

Our References Include:

US Army, Canadian Armed Forces, Amazon.com, Ford, Chrysler, BMW, Sears, UPS, US Steel, Bombardier, Alstom, Siemens, WalMart, DHL, Delta Airlines, Continental Airlines and Air Canada.

Clearances to Combustibles

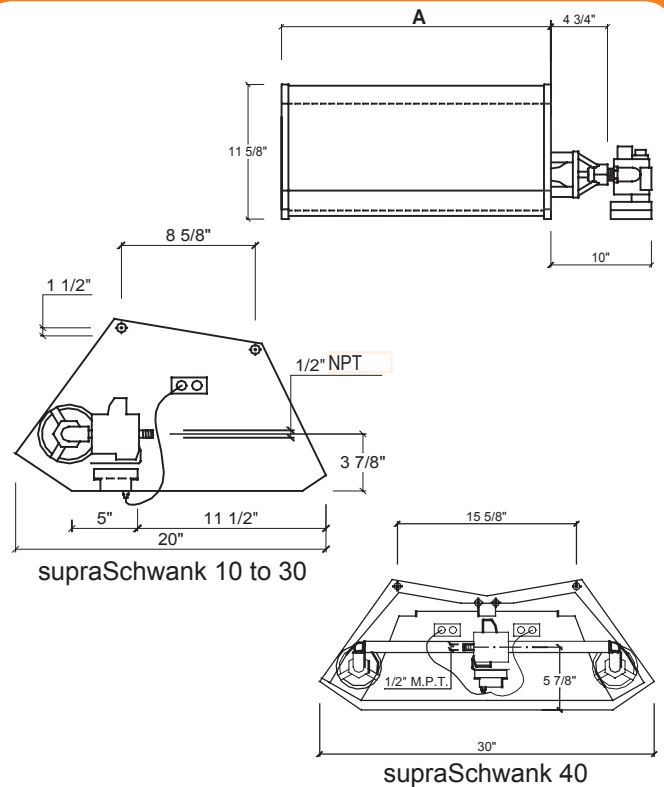


MODEL	SUSPENDED AT AN ANGLE UP TO 30°				SUSPENDED HORIZONTALLY		
	F	G	E	D	A	B	C
supraSchwank 10	8"	66"	24"	66"	16"	30"	90"
supraSchwank 15	8"	66"	24"	66"	16"	30"	96"
supraSchwank 20	8"	69"	24"	69"	16"	33"	100"
supraSchwank 30	8"	72"	24"	72"	16"	36"	105"
supraSchwank 40	8"	36"	48"	78"	20"	40"	110"

Gas pressure	Line minimum:	6" W.C. NG	11" W.C. LP
	Line maximum:	14" W.C. NG	14" W.C. LP
	Manifold:	5" W.C. NG	10" W.C. LP
Gas inlet	1/2"		
Electrical	24VAC, 60 Hz, 0.55 AMPS		

Distributor info:

Dimensions and Specifications

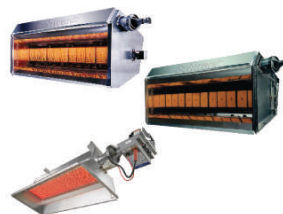


MODEL	INPUT	OUTPUT	DIM. A	WEIGHT LBS.	MIN MOUNTING HEIGHT
	BTU/hr	IR BTU/hr			
supraSchwank 10	29,500	22,800	23.87"	37	15"
supraSchwank 15	44,000	34,600	34.60"	53	18"
supraSchwank 20	59,000	46,700	45.75"	62	20"
supraSchwank 30	88,500	71,800	67.50"	82	24"
supraSchwank 40	118,000	95,800	45.75"	120	28-34"

Schwank Tube Heater Series



Schwank Luminous Heater Series



patioSchwank Series



USA: 2 Schwank Way, Waynesboro, GA 30830 | Canada: 5285 Bradco Blvd. Mississauga, ON L4W 2A6
Tel: 1-877-446-3727 | Fax: 1-866-361-0523 | www.schwankgroup.com | csr@schwankgroup.com



M091119 RL:5 RD:Mar-2011



Infrared heating with energy savings up to 50%

primoSchwank is the ideal solution for supplying building heat, spot or work level heating by reaching its full operating temperature in 60 seconds. It directs more infrared heat where it is needed compared to conventional heating systems, while minimizing convection heat losses.

The **primoSchwank** lowers operating costs since less fuel input is required than conventional heating systems. A high return on investment yields a quick payback in as little as 1 year.

Experience Counts: Schwank is the worldwide market leader and most trusted brand with over 2 million heating appliances sold.

Features

- Patented Delta Mixing Chamber preheats gas/air combustion mixture to provide highly efficient heat delivery to work level
- Green technology: fuel costs and CO2 emissions reduced up to 50%
- 68% radiant factor*

Optional Accessories [See back for more details.](#)

- ThermoControl Plus
- TruTemp
- Lion Chain

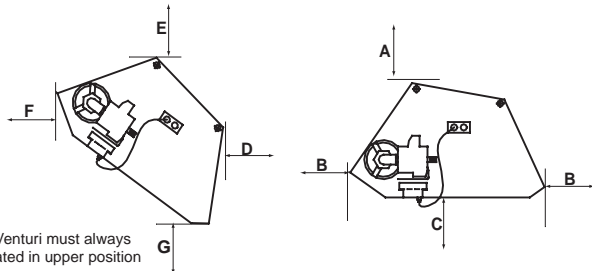
Contact us today for a FREE design and quote!

* primoSchwank 30: verified by independent lab when tested to ANSI Z83.6 standard (currently ANSI Z83.19b/CSA 2.35b) and by DVGW when tested to EN 419-2 standard

primoSchwank - Technical Specifications, Controls, & Accessories

Information below is intended only as a reference and should not be used when installing equipment. Please ensure you locate the most recent instruction manual for accurate and up to date information.

Clearances to Combustibles



Note: Venturi must always be located in upper position

MODEL	SUSPENDED AT AN ANGLE UP TO 30°				SUSPENDED HORIZONTALLY		
	G	D	E	F	A	B	C
primoSchwank 10	67"	8"	24"	67"	18"	30"	90"
primoSchwank 15	66"	8"	24"	66"	18"	30"	96"
primoSchwank 20	70"	8"	24"	70"	18"	36"	100"
primoSchwank 30	74"	8"	24"	74"	18"	42"	105"

Heater Controls & Thermostats

ThermoControl Plus

Intelligent Infrared Heater Control



- Easy to use menu and graphical interface
- Minimal set up and configuration
- Handles up to 8 control zones for single and two-stage applications
- 8 programmable holiday periods per heating zone
- Data acquisition software offers reporting and analysis capabilities

TruTemp

Infrared Setback Thermostat



- Setback reduces control temperature by 9°F [5°C] when a building is unoccupied
- Setback is activated at night time by turning off lights
- Mounts on standard 4" [10cm] electrical box or directly to wall
- Tamper-proof option

Optional Accessories

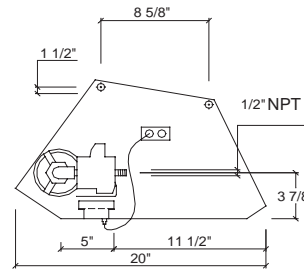
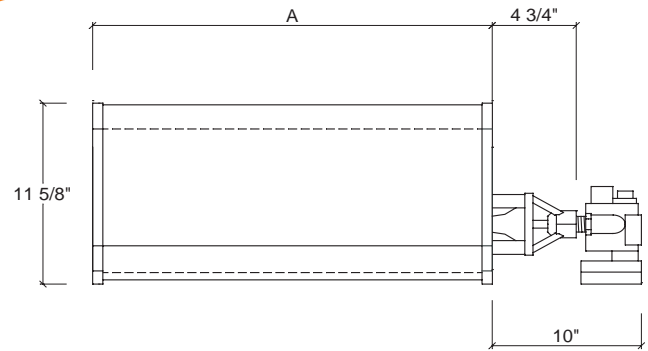
Flexible Gas Connector 1/2" x 24"	JL-0771-XX
#2 Lion Chain, roll 200'	JL-0800-XX
Safety Snap Hooks 2" - Package of 24	JL-0800-SH
Safety Snap Hooks 2" - Package of 100	JL-0800-SH-B

Consult your local authorized dealer for other Schwank accessories:

- Line-voltage and 24V thermostat and controls
- Side reflector extensions

Distributor Information:

Dimensions and Specifications



MODEL	INPUT	OUTPUT	DIMENSION A	WEIGHT LBS.	ELECT.
	BTU/hr	IR BTU/hr			
primoSchwank 10	37,500	24,600	23.75"	23.5	24 VAC 60 Hz 0.55 A
primoSchwank 15	56,000	35,400	34.50"	33.6	
primoSchwank 20	75,000	49,050	45.62"	40.3	
primoSchwank 30	113,000	76,500	67.32"	54.9	

Gas Pressure	Minimum Line Pressure	6" W.C. NG	11" W.C. LP
	Maximum Line Pressure	14" W.C. NG	14" W.C. LP
	Manifold Line Pressure	5" W.C. NG	10" W.C. LP
Gas Inlet	1/2"		
Electrical	24 VAC, 60 Hz, 0.55 AMPS		



Instruction Manual



Technical Specs



BC Place Video

Our customers include:



USA: 2 Schwank Way, Waynesboro, GA 30830 | Canada: 5285 Bradco Blvd. Mississauga, ON L4W 2A6
Tel: 1-877-446-3727 | Fax: 1-866-361-0523 | www.schwankusa.com | csr@schwankgroup.com



M110514 RL: v1.1 RD: Nov-2014

ecoSchwank

Efficiency, economy and performance



Experience counts:

Schwank is the worldwide market leader and most trusted brand with over 2 million heating appliances sold.

Luminous Heater [high intensity]

Suitable for industrial and commercial applications

- Unique patented ceramic tile design increases radiant efficiency and reduces fuel cost up to 50%
- Up to 50% more radiant efficient than other standard radiant heaters
- Delivers uniform and reliable comfort to industrial and commercial facilities with high ceilings 16 to 70 feet
- Efficient, yet low investment. Meets the demands of tight budget projects
- Reaches full operating temperature within 2 minutes. Rapid rise to operating temperature makes the ecoSchwank ideal for supplying total building heat, for spot or work level heating.

Great Value

- Up to 50% energy savings and high return on investment
- Request our free ROI analysis

Price and performance in One Package

- When you need a gas-fired infrared heater that delivers both low investment and economy, there is only one choice: *ecoSchwank*

More Comfort

- ecoSchwank quickly produces and directs more infrared heat compared to conventional forced air systems



Schwank
INNOVATIVE HEATING SOLUTIONS



ecoSchwank - Efficiency, economy and performance in one package

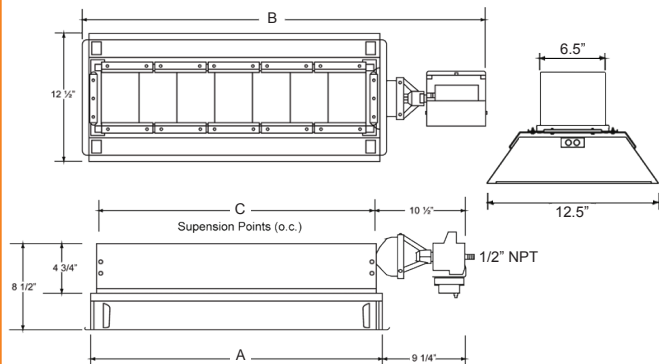
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- Highly rated customer service in the industry:
 - The quickest lead times, as short as two days
 - The best on-time performance, over 99% during normal periods, and over 95% during peak seasons
 - The best quality in the industry: our service claims are less than 0.8% of sales
- Complete heating solutions from one source: luminous [high intensity], tube, patio and stadium heaters
- Fuel cost analysis and investment evaluation
- Professional planning and free design support
- Comprehensive warranty: 10 years ceramic burner, 3 years all other components

Our References Include:

US Army, Canadian Armed Forces, Amazon.com, Ford, Chrysler, BMW, Sears, UPS, US Steel, Bombardier, Alstom, Siemens, WalMart, DHL, Delta Airlines, Continental Airlines and Air Canada.

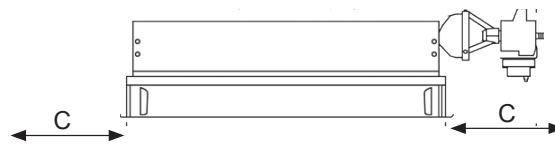
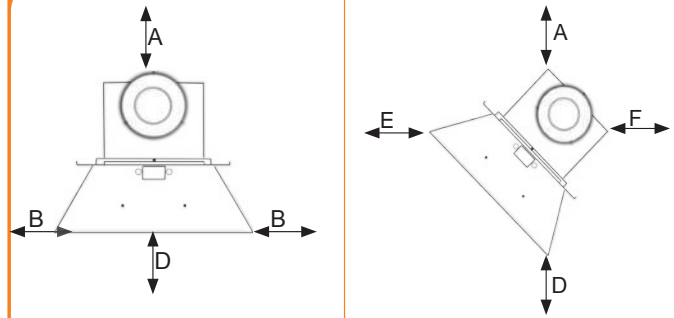
Dimensions and Specifications



MODEL	DIMENSIONS			INPUT BTU/HR	WEIGHT LBS.	ELECT.
	A	B	C			
ecoSchwank 6	13.50"	24"	11.28"	21,500	22	24 VAC 60 Hz 0.55 A
ecoSchwank 10	20.50"	30.25"	15.50"	35,000	26	
ecoSchwank 13	28.00"	38.50"	18.50"	50,000	31	
ecoSchwank 18	38.75"	48.50"	29.5"	65,000	38	
ecoSchwank 26	53.25"	63.75"	44"	100,000	45	

Distributor info:

Clearances to Combustibles



MODEL	SUSPENDED HORIZONTALLY				SUSPENDED AT AN ANGLE UP TO 30°	
	A	B	D	C	E	F
ecoSchwank 6	24"	27"	60"	24"	60"	24"
ecoSchwank 10	24"	27"	60"	24"	60"	24"
ecoSchwank 13	24"	27"	78"	24"	78"	24"
ecoSchwank 18	30"	33"	84"	30"	84"	30"
ecoSchwank 26	36"	33"	84"	30"	84"	30"

GAS SUPPLY 1/2" NPT GAS INLET PIPE SIZE		Minimum Line Pressure	
		Natural Gas	6" W.C.
Propane Gas	Minimum Line Pressure	11" W.C.	14" W.C.
	Manifold Line Pressure	10" W.C.	



USA: 2 Schwank Way, Waynesboro, GA 30830 | Canada: 5285 Bradco Blvd. Mississauga, ON L4W 2A6
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M091115 RL:5 RD:Mar-2011



Extend your patio season and increase your revenue!

Heating your outdoor patio is essential for any restaurant owner looking to maximize profits. By creating a comfortable outdoor environment restaurant owners can benefit from additional seats in the colder months of the year.

The **supremeSchwank** allows restaurant owners to create a comfortable outdoor atmosphere for their customers allowing them to stay longer and spend more.

Experience Counts: Schwank is the worldwide market leader and most trusted brand with over 2 million heating appliances sold.



Features

- Sleek Black enclosure to enhance the aesthetics of your patio
- Overhead mounting leaves more space for seating and keeps aisles clear
- Weather resistant housing ensures longevity of the heater for years to come
- Built in gas lines eliminate portable propane tanks, making the patio more efficient on your gas bill and safer for customers

Optional Accessories See back for more details.

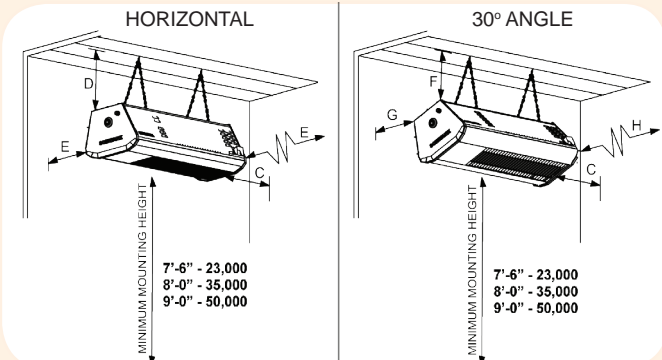
- Patio Remote Control
- PatioPanel
- Wall mounting brackets and arm kits

Contact us today for a FREE patio design and quote!



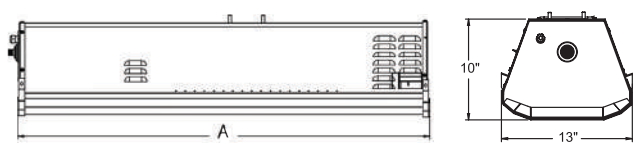
supremeSchwank - Technical Specifications, Controls, & Accessories

Clearances to Combustibles



MODEL	ENDS	HORIZONTAL			ANGLE UP TO 30°		
		C	D	E	F	G	H
2312 N/L	OUTDOOR	3"	5.5"	7.0"	9.5"	1.0"	9.5"
2312 N/L	INDOOR	4"	8.0"	10.0"	12.5"	2.5"	14.0"
2313 N/L	OUTDOOR	5"	7.5"	9.0"	9.5"	1.5"	21.0"
2313 N/L	INDOOR	6"	10.5"	14.5"	14.5"	2.5"	26.0"

Dimensions & Specifications



MODEL	VOLTAGE VAC	CURRENT AMPS	INPUT BTU/HR	TOTAL WEIGHT [lbs.]	HEATER LENGTH A
2312-N/L	24	40 VA*	23,000	32	30 1/2"
2313-N/L			35,000	44	43 1/2"

* For multiple heater installations: 40VA for the first heater and 20VA for each additional heater

Suggested Mounting for Comfort**

Mounting Parameters	MODEL 2312		MODEL 2313		MODEL 2315	
	HORIZONTAL	30°	HORIZONTAL	30°	HORIZONTAL	30°
Min. mounting height to patio floor	7'6"	7'6"	8'0"	8'0"	9'0"	9'0"
Side distance to patio edge	3'6"	3'6"	4'0"	4'0"	5'0"	5'0"
Side distance between heaters	6'0"	6'0"	8'0"	8'0"	10'0"	10'0"
Distance to wall in front	6'0"	7'0"	7'0"	8'0"	8'0"	9'0"
Distance to heater in front	12'0"	14'0"	14'0"	16'0"	16'0"	18'0"

** Note: These mounting distances are suggested, and are subject to on site conditions. If in doubt, contact your Schwank distributor. These heaters are designed and certified for use outdoors in accordance with current ANSI standards. Schwank warrants that the heaters will operate as designed for wind conditions up to 10 MPH. Please note that adverse wind and weather conditions will reduce the effectiveness of the heaters.

Heater Controls

Remote Control

Full Control Right at Your Fingertips



- Includes wires and instructions
- Receiver and handset are required
- Control up to 4 individual heaters or up to 4 zones with multiple heaters in each zone
- Wireless remote control keypad transmitter is optional
- Weather resistant: outdoor or indoor installation
- No more misplaced handsets

Hand set is required for master programming of receiver or keypad

Model Numbers

Remote Control Receiver Kit	JP-1236-RK
Hand Set Control	JP-1236-HS
Wireless Remote Control Keypad (optional)	JP-1236-KT

patioPanel

Immediate Comfort With the Flick of a Switch



- Central/Remote control of single-stage heater systems
- patioPanel and switches have 24 volt capacity
- Control up to 12 heaters at a time
- For best comfort control, assign one heater to each patioPanel switch
- Easy to use and configure

Models Available:

PCP-4 (Up to 4 heaters),
PCP-8 (Up to 8 heaters),
PCP-12 (Up to 12 heaters)

*24 Volt transformer not included

Distributor info:

Optional Accessories

Each supremeSchwank heater is supplied with a hanging bracket for overhead suspension	
Wall mounting bracket (30° mounting angle)	JP-2300-MB
Wall mounting arm kit	JP-2300-MK
Post mounting kit	JP-2300-PK
Black Flexible Gas Connector	JL-0771-OD

Additional resources:



I/O Manual



Find a Distributor



Patio Heater Video

Our customers include:



USA: 2 Schwank Way, Waynesboro, GA 30830 | Canada: 5285 Bradco Blvd. Mississauga, ON L4W 2A6
Tel: 1-877-446-3727 | Fax: 1-866-361-0523 | www.schwankusa.com | csr@schwankgroup.com



M061714 RL: v1.0 RD: June-2014

Schwank
INNOVATIVE HEATING SOLUTIONS



bistroSchwank
Stainless Steel Patio Heater



*Also available in black finish.



Keep your outdoor restaurant patio open all year long!

If your outdoor restaurant patio isn't already heated then you are leaving money on the table by relying on warm weather to keep your patio open.

Thanks to the affordability and performance of the **bistroSchwank** outdoor patio heater, you can keep your patio open during colder temperatures and create the perfect patio ambiance for your customers.

Experience Counts: Schwank is the worldwide market leader and most trusted brand with over 2 million heating appliances sold.



Warm customers =

happy customers = more profits

Features

- Black or Stainless Steel enclosure to enhance the aesthetics of your patio
- Overhead mounting leaves more space for seating and keeps aisles clear
- Weather resistant housing ensures longevity of the heater for years to come
- Built in gas lines eliminate portable propane tanks, making the patio more efficient on your gas bill and safer for customers

Optional Accessories See back for more details.

- Patio Remote Control
- PatioPanel
- Wall mounting brackets and arm kits

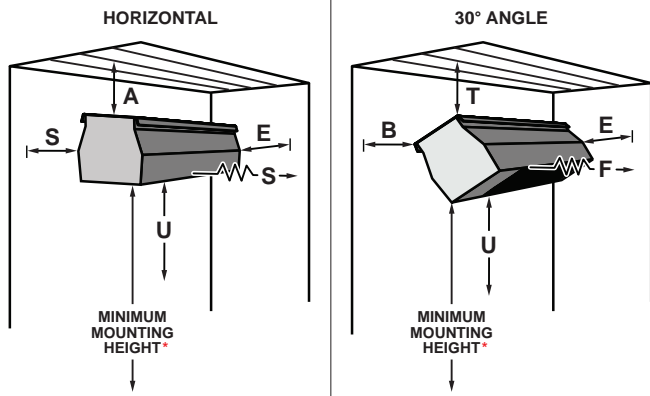
Also Available in a 2-Stage Model

The all new **bistroSchwank 2152** provides dual heat settings for controlled comfort.



bistroSchwank - Technical Specifications, Controls, and Accessories

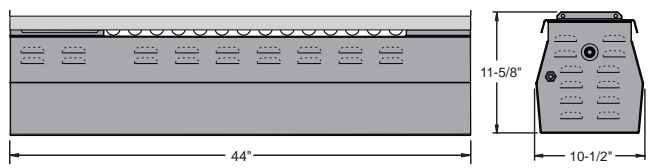
Clearances to Combustibles



MODEL				HORIZONTAL		30° ANGLE		
		E ENDS	U UNDER	A ABOVE	S SIDES	T ABOVE	B BACK	F FRONT
2135	OUTDOOR	14"	*	13"	14"	17"	9"	60"
2135	INDOOR	14"	45"	18"	18"	20"	11"	60"
2150/2152	OUTDOOR	14"	*	16"	19"	20"	8"	62"
2150/2152	INDOOR	14"	60"	21"	23"	25"	10"	62"

Note: For mounting angles between horizontal and 30°, use the higher applicable clearance.

Dimensions and Specifications



MODEL	INPUT BTU/HR	TOTAL WEIGHT	HEATER LENGTH	VOLTAGE AC	CURRENT AMPS
2135-N/L	35,000	39 lb.	44"	24	40 VA**
2150-N/L	50,000	44 lb.	44"		
2152-N/L	50,000/36,500	44 lb.	44"		

** For multiple heater installations: 40VA for the first heater and 20VA for each additional heater

Mounting Height Above Floor/Deck

	MODEL 2135	MODEL 2150/2152
Minimum Mounting Height*	8'-0"	9'-0"
Suggested Height for Comfort	9'-0"	10'-0"

* Mounting heights are suggested and are subject to site conditions and the separation distance between heater and closest subject. If in doubt contact your Schwank distributor. Series 2100 is design certified for outdoor use in accordance with current ANSI standards. Schwank warrants that the heater will operate as certified in wind conditions up to 10 mph. Please note that adverse wind condition will reduce the effectiveness of the heater.

Heater Controls

Remote Control

Full Control Right at Your Fingertips



- Includes wires and instructions
- Receiver and handset are required
- Control up to 4 individual heaters or up to 4 zones with multiple heaters in each zone
- Wireless remote control keypad transmitter is optional
- Weather resistant: outdoor or indoor installation
- No more misplaced handsets

Hand set is required for master programming of receiver or keypad

Note: Remote Control and patioPanel are not compatible with electric heater series or Parasol series (Optional 24V Ignition Parasol is compatible with patio remote controls)

patioPanel

Immediate Comfort With the Flick of a Switch



- Central/Remote control of single-stage heater systems
- patioPanel and switches have 24 volt capacity
- Control up to 12 heaters at a time
- For best comfort control, assign one heater to each patioPanel switch
- Easy to use and configure

Models Available:
PCP-4 (Up to 4 heaters),
PCP-8 (Up to 8 heaters),
PCP-12 (Up to 12 heaters)
24 Volt transformer not included

2-Stage Control Switches

Dual Heat Settings for Controlled Comfort



- Low-High Stage Control Illuminated Switches
- Brushed stainless steel plate cover
- Standard electrical box to suit is supplied
- 24Vac capacity (install system transformer prior to switches)
- Each switch controls from 1 to 4 heaters in a zone

Compatible only with 2-Stage heater models

Optional Accessories

Each 2100 series heater is supplied with a hanging bracket for overhead suspension

Wall mounting bracket (30° mounting angle)	JP-2100-MB
Wall mounting arm kit	JP-2300-MK
Post mounting kit	JP-2300-PK
Black Flexible Gas Connector	JL-0771-OD

Distributor info:

Additional resources:



I/O Manual



Replacement Parts List



Mounting Instructions

Our customers include:



USA: 2 Schwank Way, Waynesboro, GA 30830 | Canada: 5285 Bradco Blvd. Mississauga, ON L4W 2A6
Tel: 1-877-446-3727 | Fax: 1-866-361-0523 | www.schwankusa.com | csr@schwankgroup.com



M061714 RL: v1.1 RD: June-2014

Schwank
INNOVATIVE HEATING SOLUTIONS



comfortSchwank
Restaurant Patio Heater Tube Heater



Extend your patio season and increase your seating capacity!

Schwank's restaurant patio heaters provide the perfect comfort for your customers and increases your revenue by having more tables open during colder seasons.

The infrared radiant tube heater design of the **comfortSchwank** offers customers an efficient heavy duty outdoor heater that is economical yet ideal for outdoor patio applications.

Experience Counts: Schwank is the worldwide market leader and most trusted brand with over 2 million heating appliances sold.



Increase seats, Increase comfort, Increase profits

Features

- Whisper-Jet technology for silent operation
- Overhead mounting leaves more space for seating and keeps aisles clear
- Corrosion & moisture resistant to ensure longevity of the heater
- Structural gas supply eliminates portable propane tanks, making the patio more efficient on your gas bill and safer for customers
- Low clearances and hanging heights to easily mount to any patio structure and design

Optional Accessories [See back for more details.](#)

- Patio Remote Control
- PatioPanel
- Tuxedo Grille

Also Available in pre-assembled U-Tube **P40** model

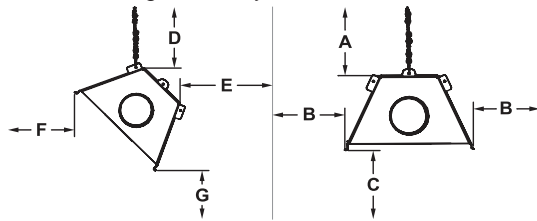
Contact us today for a **FREE** patio design and quote!



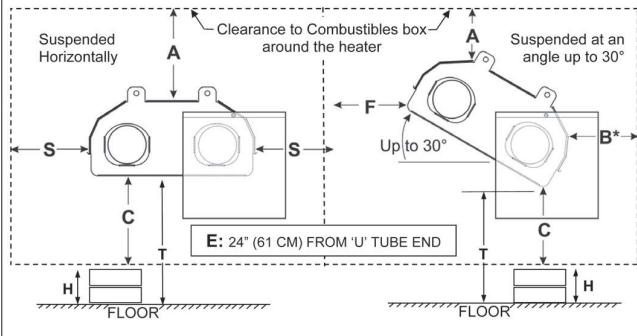
comfortSchwank – Technical Specifications & Optional Accessories

Clearances to Combustibles

SPW/STW-JZ Straight Tube System

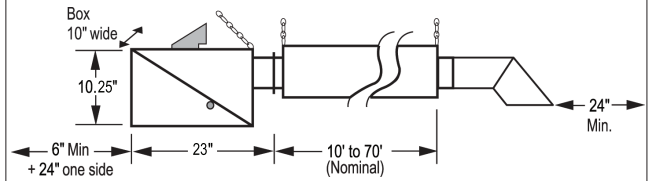


*P40U-P/P40U-W Packaged U-Tube

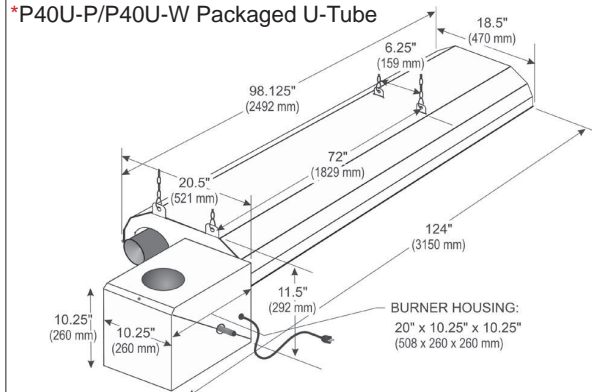


Dimensions and Specifications

SPW/STW-JZ Straight Tube System



*P40U-P/P40U-W Packaged U-Tube



MODELS	SUSPENDED AT AN ANGLE UP TO 45°				SUSPENDED HORIZONTALLY		
	D	E	F	G	A	B	C
SPW/STW-JZ 200	13"	6"	74"	70"	14"	44"	76"
SPW/STW-JZ 175	12"	6"	72"	68"	13"	42"	74"
SPW/STW-JZ 155	5.5"	1"	44"	64"	3.5"	19"	64"
SPW/STW-JZ 130	4.5"	1"	35"	60"	3.3"	11"	60"
SPW/STW-JZ 155	3.5"	1"	26"	54"	2.0"	10"	54"
SPW/STW-JZ 110	6.5"	1"	57"	68"	6.0"	22"	68"
SPW/STW-JZ 80	2.5"	1"	17"	34"	1.5"	5.5"	34"
SPW/STW-JZ 60	2.75"	1"	24"	32"	2.25"	7"	32"
P40U-P/P40U-W*	5"	12"	36"	53"	5"	24"	53"

MODEL	INPUT (BTU/ HR) U.S.A.: SEA LEVEL TO 2,000' CANADA: SEA LEVEL TO 4,500'	HEATER LENGTH						
		10'	20'	30'	40'	50'	60'	70'
SPW/STW-JZ 200	200,000					■	■	■
SPW/STW-JZ 175	175,000					■	■	■
SPW/STW-JZ 155	150,000				■	■	■	
SPW/STW-JZ 130	130,000			■	■	■		
SPW/STW-JZ 110	110,000			■	■	■		
SPW/STW-JZ 80	80,000		■	■	■			
SPW/STW-JZ 60	60,000		■	■				
SPW/STW-JZ 45	45,000		■					
P40U-P/P40U-W*	40,000	■						
HEATER LENGTH		10'4"	21'7"	31'3"	40'11"	50'7"	60'3"	69'11"
SHIPPING WEIGHT (LBS.)		100	150	200	240	315	360	430

* HIGH ALTITUDE: De-rate heater 4% for each additional 1,000 ft. of elevation

Gas Pressure	Line Minimum:	5" W.C. NG	11" W.C. LP
		Line Maximum:	14" W.C. NG
	Manifold	3.5" W.C. NG	10" W.C. LP
Gas Inlet	1/2"		
Flue & Air Vent	4"		
Electrical	120V, 60 Hz, 1.5 AMPS		

Optional Accessories

NEMA 4X Rated Thermostat	JS-0570-XX
4" Horizontal flue vent terminal (wall)	JA-0528-XX
90° Elbow kit with reflector cap (Combine with two 90° to create 180° elbow)	JS-0508-JZ
#2 Lion chain	JL-0800-XX
Tuxedo Grille – Matte Black 10 ft. Kit (Straight Tubes Only)	TG-0010-XX
Protective Guard Screen (P40U-P & P40U-W Only)	JS-0502-UR-GK

Consult your local authorized dealer for other Schwank accessories:
 ■ Line-voltage and 24V thermostat and controls
 ■ Side reflector extensions

Additional resources:



Distributor info:

Our customers include:



USA: 2 Schwank Way, Waynesboro, GA 30830 | Canada: 5285 Bradco Blvd. Mississauga, ON L4W 2A6
 Tel: 1-877-446-3727 | Fax: 1-866-361-0523 | www.schwankusa.com | csr@schwankgroup.com



M061714 RL: v1.0 RD: June-2014



Parasol 4000 Series

Portable and Fixed Mount Patio Heaters



Portable LP



Fixed Mount NG



Portable LP



Fixed Mount NG

Features

- Black or stainless steel enclosure to enhance the aesthetics of your patio
- Heat any area on your patio without needing an overhead structure
- Sturdy 4" wheels for stability and easy portability [portable model only]
- Portable propane or fixed mount natural gas models available

Also Available in 24V ignition and control model

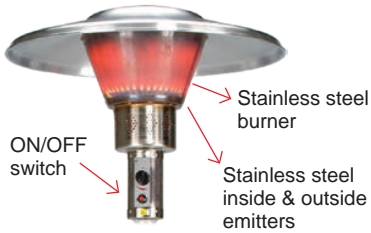
– See back for more details

Contact us today for a FREE design and quote!

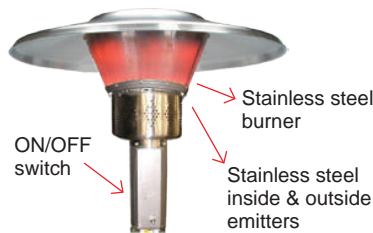
Parasol 4000 - Technical Specifications & Additional Resources

Information below is intended only as a reference and should not be used when installing equipment. Please ensure you locate the most recent instruction manual for accurate and up to date information.

Parasol 4000 - Fixed Mount Model



Standard



24V Ignition & Control

Parasol 4000 - Portable Model



Sturdy 4" diameter wheels:

- Easy portability
- Added stability

Dimensions and Specifications

Portable:	FINISH	DIMENSIONS	INPUT BTU/HR	FUEL	GAS PRESSURE		INLET	GAS SUPPLY	WEIGHT LBS.
					MIN	MAX			
4005-CB	Stainless Steel	90"x32"	38,000	LP	11"w.c.	14"w.c.	QCC	20 lb. cylinder	60
4002-CB	Black								
Fixed Mount:	FINISH	DIMENSIONS	INPUT BTU/HR	FUEL	GAS PRESSURE		INLET	GAS SUPPLY	WEIGHT LBS.
4SN5-CB*	Stainless Steel	90"x32"	38,000	NG	5"w.c.	7"w.c.	1/2"	Piped from central supply	60
4BN6-CB*	Black	95"x32" [24V model]							

* 24V Model: Add suffix "-24V" to fixed mount model numbers to specify 24V control option.

Parasol 4000 is design certified by CSA International for use outdoors in accordance with current ANSI standards.

Schwank warrants that the heater will operate as designed for wind conditions up to 10 MPH. Please note that adverse wind and weather conditions will reduce the effectiveness of any heating system.

Additional resources:



Instruction Manual
Portable Model



Instruction Manual
Fixed Mount Model



Instruction Manual
24 Volt Model



Patio Heater Catalog



Find a Distributor



Patio Heater Video

Distributor info:

Our customers include:



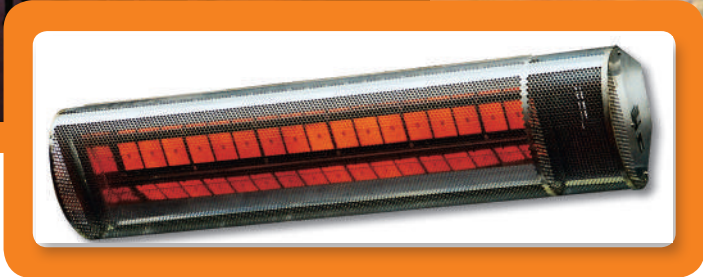
USA: 2 Schwank Way, Waynesboro, GA 30830 | Canada: 5285 Bradco Blvd. Mississauga, ON L4W 2A6
Tel: 1-877-446-3727 | Fax: 1-866-361-0523 | www.schwankusa.com | csr@schwankgroup.com



M111314 RL: v1.1 RD: November-2014

sportSchwank

Comfort on cold days in Stadiums



Experience counts:

Schwank has heated the most pro stadiums in the world!

From Graham Hughes, technical building services consultant for the Chelsea Football Club, a Major League soccer team based in West London [UK]:

“Schwank stadium heating has clearly exceeded all our expectations. The warmth is well received by the VIPs, and they really appreciate comfort on cold days.”

Setting the Industry Standard

Just like the sun on cold winter days, sportSchwank infrared radiant heaters will provide spectators with sensible comfort.

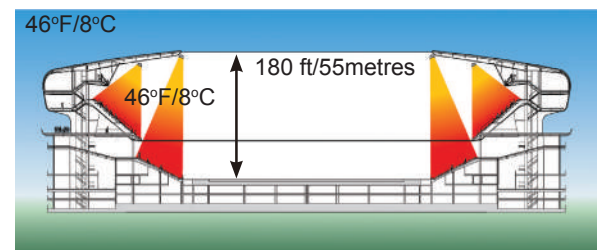
- Increased comfort for your customers
- Ideal for sporting events or concerts
- Heat VIP sections or entire stadiums
- Build sportSchwank into the initial design or retrofit your facility

Stands heated for less than 5 cents per fan per game

Our experience will enable you to design and install a heating grid that gives you maximum return on investment and optimal comfort.

Schwank warms people in the stands, not air around them!

- Installation can be done as high as 180 feet above the seats
- Fans enjoy 64°F comfort on a 46°F day



Maximize your Outdoor Venue

sportSchwank offers a level of warmth and comfort that has been well received by sports fans and outdoor venue attendees all over the world.

Schwank
INNOVATIVE HEATING SOLUTIONS



sportSchwank - Comfort on cold days in Stadiums

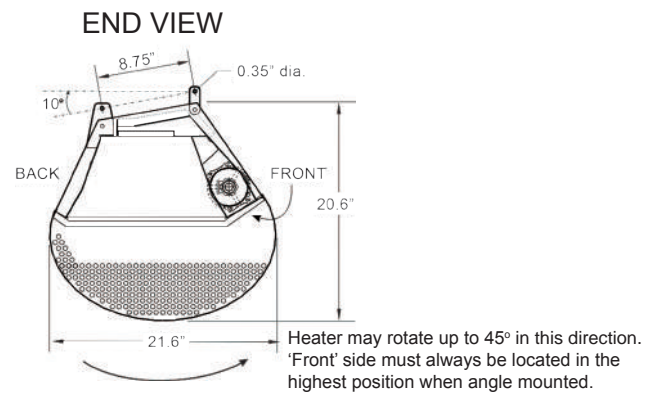
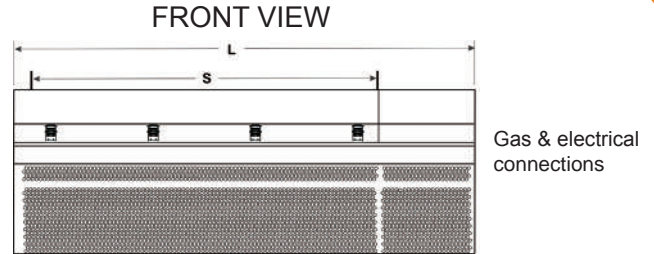
The Schwank Advantage:

- Worldwide market leader in infrared heating
- Highly rated customer service in the industry:
 - The quickest lead times, as short as two days
 - The best on-time performance, over 99% during normal periods, and over 95% during peak seasons
 - The best quality in the industry: our service claims are less than 0.8% of sales
- Complete heating solutions from one source: luminous [high intensity], tube, patio and stadium heaters
- Fuel cost analysis and investment evaluation
- Professional planning and free design support
- Comprehensive warranty: 10 years ceramic burner, 3 years all other components

Our References Include:

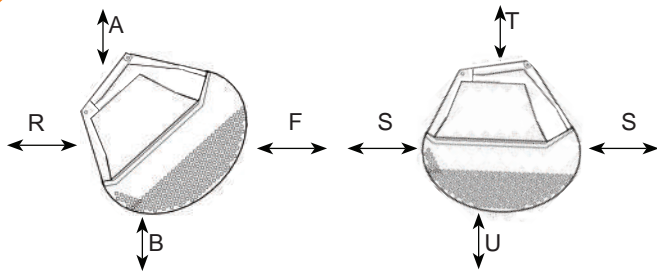
Rutgers Stadium [NJ, USA], Power & Light District *Live!* Plaza [Kansas City, USA], Real Madrid [Madrid, Spain], Chelsea FC [London, UK], Rotterdam Stadium [Netherlands] and Munich Olympic Park [Germany].

Dimensions and Specifications



MODEL	DIMENSIONS		INPUT BTU/HR	WEIGHT LBS.	ELECT.
	L	S			
sportSchwank 10	35"	21.7"	37,500	50	24 VAC 60 Hz 0.55 A
sportSchwank 15	50"	32.6"	56,000	71	
sportSchwank 20	57"	43.5"	75,000	94	
sportSchwank 30	78.7"	65"	103,000	132	

Clearances to Combustibles



MODEL	SUSPENDED AT AN ANGLE UP TO 30°				SUSPENDED HORIZONTALLY		
	A	R	B	F	T	S	U
sportSchwank 10	24"	8"	66"	66"	18"	30"	90"
sportSchwank 15	24"	8"	66"	66"	18"	30"	96"
sportSchwank 20	24"	8"	70"	70"	18"	36"	100"
sportSchwank 30	24"	8"	74"	74"	18"	42"	105"

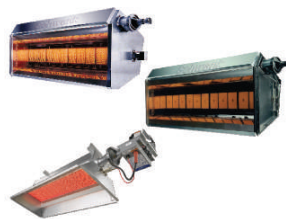
Gas Supply: 1/2" NPT gas inlet pipe size	Natural Gas	Minimum Line Pressure	6" W.C.
		Maximum Line Pressure	14" W.C.
		Manifold Pressure	5" W.C.

Distributor info:

Schwank Tube Heater Series



Schwank Luminous Heater Series



patioSchwank Series



USA: 2 Schwank Way, Waynesboro, GA 30830 | Canada: 5285 Bradco Blvd. Mississauga, ON L4W 2A6
Tel: 1-877-446-3727 | Fax: 1-866-361-0523 | www.schwankgroup.com | csr@schwankgroup.com



M091120 RL:5 RD:Mar-2011

TruTemp

The only true thermostat for infrared heating



Experience counts:

Schwank is the worldwide market leader and most trusted brand with over 2 million heating appliances sold.

The Infrared Setback Thermostat

The only automatic thermostat that senses and averages radiant and ambient temperatures to maintain comfort temperature in a workspace while reducing fuel consumption by up to 15%. Conventional thermostats measure only air temperature.

- TruTemp features a 9°F setback built to preserve thermal mass when a building is unoccupied and to reduce energy consumption
- Setback feature activated night time by turning off lights
- Tamper-proof [optional], to ensure control of temperature settings
- Lightweight and compact design mounts on standard 4" electrical box or directly to wall

Excellent Investment

- Competitively priced. TruTemp is so economical, you can install one for each heater for maximum control. Up to 12 luminous [high intensity] heaters or 7 tube heaters can be controlled in a single zone
- Energy savings provide instant payback

Superior Performance

TruTemp setback thermostat delivers superior performance. Conventional thermostats give up a large percentage of possible fuel savings by measuring only *air temperature*.

More Comfort

Improves comfort and productivity: work environment is no longer subject to temperature peaks and valleys.



Schwank
INNOVATIVE HEATING SOLUTIONS



TruTemp - The only true thermostat for infrared heating

The Schwank Advantage:

- Worldwide market leader in infrared heating
- Highly rated customer service in the industry:
 - The quickest lead times, as short as two days
 - The best on-time performance, over 99% during normal periods, and over 95% during peak seasons
 - The best quality in the industry: our service claims are less than 0.8% of sales
- Complete heating solutions from one source: luminous [high intensity], tube, patio and stadium heaters
- Fuel cost analysis and investment evaluation
- Professional planning and free design support

Our References Include:

US Army, Canadian Armed Forces, Amazon.com, Ford, Chrysler, BMW, Sears, UPS, US Steel, Bombardier, Alstom, Siemens, WalMart, DHL, Delta Airlines, Continental Airlines and Air Canada.

Ten reasons why it pays to choose TruTemp:

1. Cuts energy use and carbon footprint up to an additional 15%.
2. Improved employee comfort control.
3. Automatically senses if building is occupied – no need for cumbersome programming.
4. A setback override switch provides the flexibility to handle different conditions.
5. Optional tamper resistant design.
6. Mounts easily on standard 4” electrical box.
7. Concealed setting graduated in both Fahrenheit and Celsius scales.
8. 9°F [5°C] setback built in to preserve thermal mass when building is unoccupied and to reduce energy use during reoccupied heat-up.
9. Simple proven design - low price, high performance with extra features.
10. Specifically designed for gas-fired infrared heating technology.

Comfort Formula

Radiant temperature surface	+	Ambient air temperature	=	Comfort temperature
2				

Example

80° Radiant temperature surface	+	60° Ambient air temperature	=	70° Comfort temperature
2				

Only TruTemp maintains a true sensible comfort temperature in a work space. Here's how:

1. Introduction of cold air or natural heat loss lowers interior air temperature.
2. TruTemp setback thermostat senses the temperature change.
3. Infrared heaters provide instant radiant heat and raise the temperature of surfaces and the thermal mass sufficiently to maintain comfort level.
4. Radiant heat from thermal mass and surfaces creates constant comfort at lower ambient temperature.
5. Lower interior ambient air temperature means less heat loss.
6. Less heat loss means more energy savings and lower carbon emissions.

Distributor info:



USA: 2 Schwank Way, Waynesboro, GA 30830 | **Canada:** 5285 Bradco Blvd. Mississauga, ON L4W 2A6
Tel: 1-877-446-3727 | Fax: 1-866-361-0523 | www.schwankgroup.com | csr@schwankgroup.com



M091116 RL:5 RD:Mar-2011

ThermoControl Plus

Intelligent BMS control for infrared heating

Engineered for IR Heating Systems



Experience counts:
Schwank is the worldwide market leader and most trusted brand with over 2 million heating appliances sold.

Intelligent Control for gas-fired Infrared Heating Systems

Smart, versatile and compact: ThermoControl Plus is the first programmable controller engineered to optimize the performance of your Schwank infrared heating system by adjusting heat delivery according to building requirements, outside temperature and desired comfort level.

Smart

- Data acquisition software offers reporting and analysis capabilities and supports BMS
- Smart adaptive recovery function saves energy, and guarantees optimal comfort at all times
- Easy to use menu system and graphical interface
- CM 232/485 interface with automatic detection [plug and play], no installation software required
- Minimal set up and configuration required

Excellent Investment

- High Performance at low cost
- Additional energy savings up to 15% compared to conventional warm air thermostats

Versatile

- 1 model handles many field requirements and up to 8 control zones for single and two stage applications
- Simplifies and optimizes operations through remote and Ethernet accessibility
- Efficient integration of IR heating systems
- 8 programmable holiday periods [by calendar dates] per heating zone
- Easy to install and simple to use



Schwank
INNOVATIVE HEATING SOLUTIONS



ThermoControl Plus - Intelligent BMS control for infrared heating

The Schwank Advantage:

- Worldwide market leader in infrared heating
- Highly rated customer service in the industry:
 - The quickest lead times, as short as two days
 - The best on-time performance, over 99% during normal periods, and over 95% during peak seasons
 - The best quality in the industry: our service claims are less than 0.8% of sales
- Complete heating solutions from one source: luminous [high intensity], tube, patio and stadium heaters
- Fuel cost analysis and investment evaluation
- Professional planning and free design support

Our References Include:

US Army, Canadian Armed Forces, Amazon.com, Ford, Chrysler, BMW, Sears, UPS, US Steel, Bombardier, Alstom, Siemens, WalMart, DHL, Delta Airlines, Continental Airlines and Air Canada.

Technical Specifications & Features

- Control Relays: 24V, 50/60 Hz, 6.3 Amp max. load
- Includes 100V transformer and external zone relays to activate exhaust fan and heaters
- Input: black bulb sensor 5-174 Ω, -22 to 104°F [-30 to 40 °C]
- 1 or 2 stage radiant heating control [zone specific]
- Operating Temperature: 32 to 122°F [0 to 50°C]
- Temperature control range: 37 to 95°F [3 to 35°C]
- Temperature averaging capability [4 indoor sensors/zone]
- Includes outdoor temperature sensor
- Enclosure: NEMA 13 watertight; and UV-resistant
- Optional communications cards: CM/RS 232; CM/RS 485
- EEPROM memory and battery backup

Dimensions and Specifications

Indoor black bulb sensors required:	Thermo Control Plus 1	Thermo Control Plus 2	Thermo Control Plus 4
Single stage zones	2	Up to 4	Up to 8
Two stage zones	1	Up to 2	Up to 4
Internal control relays [24 V]	2	4	8
Zone relays included	2 x 12 FLA	4 x 12 FLA	8 x 12 FLA
Dimensions: inches mm	7-3/4 x 8-1/2 x 5-1/2 [205 x 265 x 140]	7-3/4 x 8-1/2 x 5-1/2 [205 x 265 x 140]	10-3/4 x 8-1/2 x 5-1/2 [275 x 265 x 140]
NEMA 13 enclosure	Yes	Yes	Yes

Optional Accessories:

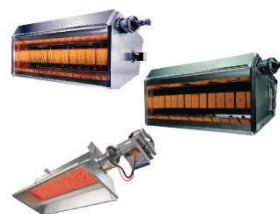
Indoor black bulb sensor JM-0505-XX
 Setback override switch JM-0509-XX
 CM/RS 232 Data logger
 CM/RS 485 BMS interface

Distributor info:

Schwank Tube Heater Series



Schwank Luminous Heater Series



patioSchwank Series



USA: 2 Schwank Way, Waynesboro, GA 30830 | Canada: 5285 Bradco Blvd. Mississauga, ON L4W 2A6
 Tel: 1-877-446-3727 | Fax: 1-866-361-0523 | www.schwankgroup.com | csr@schwankgroup.com



M091118 RL:5 RD:Mar-2011

Schwank Case Study

Heating BC Place with the advanced and efficient supraSchwank



"The advanced technology of the supraSchwank heaters allows BC Place to concentrate heat where it is most required to comfortably heat our guests without wasting unnecessary heat and energy"

Brian Griffin,
Director, Facility Operations
BC Place



About The Facility

BC Place is a year-round, open-air multifunctional facility for various events such as concerts, sporting events, and consumer shows. It is the largest sports, exhibition and entertainment venue of its kind in British Columbia, Canada.

BC Place is home to the Vancouver Whitecaps FC MLS franchise, the BC Lions Football Club and the BC Sports Hall of Fame and was the host venue for the Opening and Closing Ceremonies of the Vancouver 2010 Olympic Winter Games. BC Place prides itself as being one of the most technologically advanced stadiums in the world.

Equipment

- supraSchwank
- ThermoControl Plus

Facility

- 247,000 square-foot multi-functional stadium

The Issue

BC Place had numerous problems with their previous roof and heating system. The roof being inflated by air blowers was nearing the end of its life span and was very costly to heat. In 2007, accidental over-inflation caused a large rip in the roof and the air-supported fabric dome collapsed. The forced air system heated the entire volume and was unable to effectively heat the ground level. This increased costs as BC Place was forced to increase heat output in order to force the warmed air to the field level.

In 2008, the B.C. Government announced it would perform a major overhaul of the stadium to be completed by September of 2011. The new stadium required 247,000 sq. ft. at field level to be heated effectively to provide exceptional comfort to guests and performers.

Schwank
INNOVATIVE HEATING SOLUTIONS



Schwank Case Study

Heating BC Place with the advanced and efficient supraSchwank



Products used to heat BC Place:



supraSchwank



ThermoControl Plus



Implementation

74 supraSchwank heaters were installed 170 feet above the field increasing the comfort temperature by approximately 10 degrees F with an input of 6.5 million Btuh. The intelligent ThermoControl Plus system was installed to allow temperature control in four zones to easily achieve comfort for a wider variety of events.

supraSchwank, the world's most energy efficient outdoor infrared heater, is the only heater capable of providing sensible comfort to venues at the field level 170 feet below.

Results

With the advanced technology of the supraSchwank radiant heaters, BC Place was able to isolate heat to the floor for specific types of events and avoid unnecessarily heating the entire volume of air in the stadium.

The ThermoControl Plus system provides the ability to optimize the performance of the supraSchwank heating system by adjusting heat delivery according to outside temperature and desired comfort level. These features make any stadium a truly year-round venue by providing climate control, comfort and efficiency with the advanced and powerful supraSchwank radiant heater.

Schwank
INNOVATIVE HEATING SOLUTIONS



USA
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2 Schwank Way
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CANADA
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Mississauga, ON, L4W 2A6
Tel.: 1-887-446-3727
E-mail: csr@schwankgroup.com
Internet: www.schwankgroup.com

Schwank Case Study:

Tier one automotive company cuts fuel costs and carbon footprint by 65%



“Our creative approach guarantees up to 40% energy savings for any application. It is therefore crucial for us, to partner with a company like Schwank that can meet and exceed these requirements.”

Daryn Bozek,
President,
Thermo Source LLC.



Equipment
supraSchwank
TruTemp infrared thermostat

Facility
896,000 square-foot manufacturing
plant

Results

- Over \$150,000 in annual energy costs within first year
- 65% energy and carbon footprint reduction



The Facility

Tower Automotive is one of the largest independent global suppliers of automotive metal structural components and assemblies. Customers include Ford Motor Company, General Motors, Chrysler, Honda, Toyota, Volkswagen, and Volvo. Providing a broad range of metal structures from stampings to complex body and frame assemblies,

Tower Automotive of Elkton, Michigan, a 985,873 square-foot facility, is a “tier one” automotive supplier, and one of the largest contract stamping companies in the United States.

The automotive supplier base is broken into “tiers” for definition of supplier status along the supply chain. Tier one suppliers are those that supply the original equipment manufacturers [OEMs], or major automotive assembly firms

The Issue

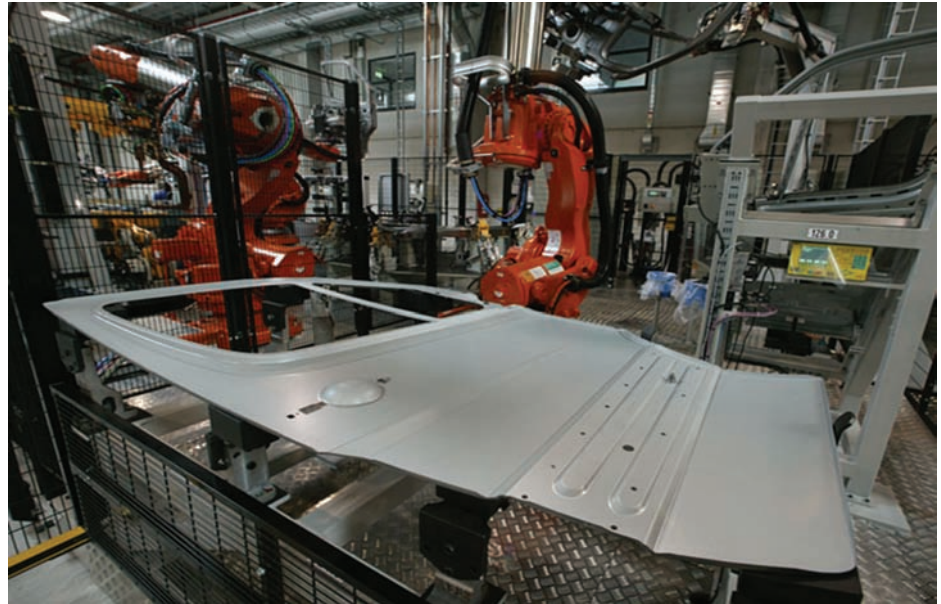
Tower Automotive had numerous problems with their existing heating system. The system was expensive to maintain, consumed excessive fuel, and triggered complaints from the unionized workforce due to uncomfortable temperatures

Schwank surveyed the Tower Automotive facility in Elkton, Michigan with Thermo Source, an independent energy management contractor that performs commercial grade energy audits and identifies excessive utility costs. Based on information gathered, Schwank designed a heating system that achieved the right balance in satisfying employee comfort and maximizing energy savings. Schwank supplied supraSchwank, the most efficient gas-fired infrared heating system for maximum radiant output with a high return on investment and low life-cycle cost.



Schwank Case Study:

Tier one automotive company cuts fuel costs and carbon footprint by 65%



Implementation

A total of 210 supraSchwank luminous heaters were installed throughout the 896,000 square foot facility. Schwank unique TruTemp infrared thermostats with automatic setback and recovery capability, were installed to ensure employee comfort and efficient operation in 28 heating zones.

Tower Automotive realized that energy efficiency is not just about saving fuel or being green. Instead, they realized early on, that investment in energy conservation is smart business that yielded a greater return on investment than expected. Energy efficiency implementation assisted Tower Automotive to gain the competitive edge.

Results

After the installation of the supraSchwank heating system, improved comfort assured employee performance production. The numbers showed that annual fuel cost was reduced from \$233,000 to only \$82,000.

In addition, the new infrared heating system reduced CO₂ emissions from an estimated 2,500 tons/year to 875 tons/year, a 65% reduction which helped the company achieve U.S. Environmental Protection Agency's [EPA] compliant status in the areas of waste management and CO₂ emissions, long before they became mandatory in 2010.

Schwank Case Study:

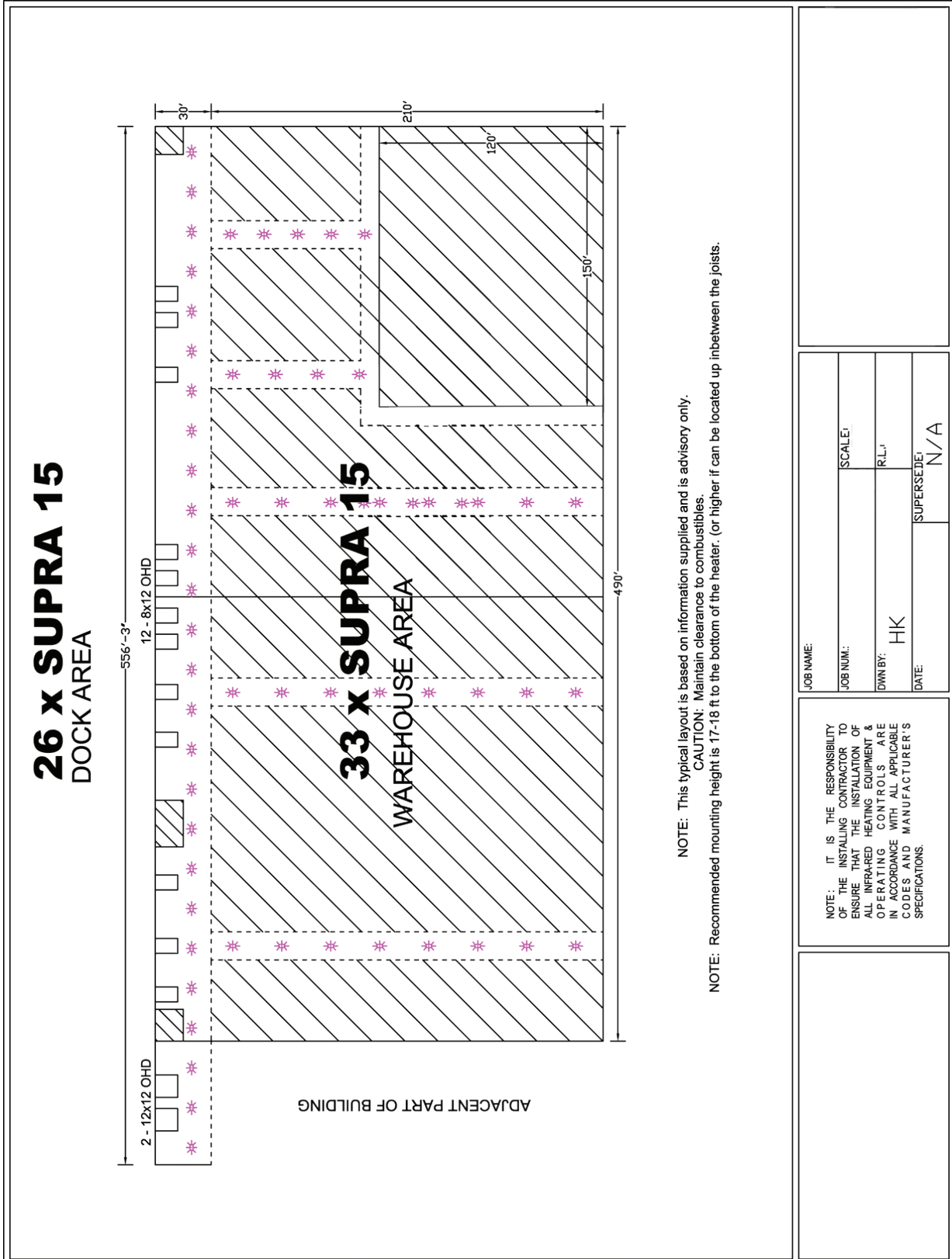
Tier one automotive company cuts fuel costs and carbon footprint by 65%

Automotive Manufacturer - supraSchwank



Schwank Case Study:

Tier one automotive company cuts fuel costs and carbon footprint by 65%



<p>NOTE: IT IS THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR TO ENSURE THAT THE INSTALLATION OF ALL INFRARED HEATING EQUIPMENT & OPERATING CONTROLS ARE IN ACCORDANCE WITH ALL APPLICABLE CODES AND MANUFACTURER'S SPECIFICATIONS.</p>		<p>JOB NAME:</p>	
<p>JOB NUM:</p>		<p>SCALE:</p>	
<p>DWN BY: HK</p>		<p>R.L.:</p>	
<p>DATE:</p>		<p>SUPERSEDE: N/A</p>	

Schwank Case Study: Improved comfort with 65% energy and carbon footprint reduction



"The benefits for Air Canada have been improved working conditions, greater efficiency, and the ability to reduce aircraft maintenance costs."

Brian Sikorski,
Project Manager,
E-Factor Engineering Inc.



Equipment
supraSchwank
TruTemp infrared thermostat

Facility
55,000 square-foot aircraft
maintenance hangar

Results

- Over \$200,000 in annual energy costs within first year
- 65% energy and carbon footprint reduction



The Facility

Air Canada, Hangar 101 located in Calgary International Airport, AB, is a 55,000 square-foot aircraft maintenance and operations facility with an average ceiling height over 64 feet, 1.33 air changes, and an estimated heat loss of 7,200 Btuh.

Air Canada is a full-service airline and the largest provider of scheduled passenger services in the Canadian market, the Canada-U.S. transborder market, and in the international market to and from Canada. Together with its regional affiliate Jazz, Air Canada serves over 33 million customers annually and provides direct passenger service to over 170 destinations on five continents. Air Canada is a founding member of Star Alliance, and offers the world's most comprehensive air transportation network.

The Issue

Air Canada was aggressively looking for ways to improve and satisfy employee comfort, reduce costs, and conserve energy. Air Canada contracted the services of E-Factor Engineering, an energy contractor specializing in HVAC design and energy retrofits, to complete an operational review of its Calgary aircraft maintenance facilities and to make recommendations to improve comfort while saving energy.

Schwank luminous [high intensity] heaters were selected, as they provide the most energy-efficient comfort to large industrial facilities, such as aircraft hangars, that have larger energy requirements (Btuh/Sq Ft) due to large infiltration loads, vehicle access requirements, poor insulation, and high ceilings.

Schwank
INNOVATIVE HEATING SOLUTIONS



Schwank Case Study: Improved comfort with 65% energy and carbon footprint reduction



Implementation

Working in cooperation with E-Factor Engineering, Schwank designed, and implemented a major heating system upgrade for Air Canada's hangar 101. Forty eight supraSchwank luminous heaters [high intensity] were installed. In addition, a new BMS system, including five TruTemp infrared thermostats with automatic setback and recovery capability, replaced the existing 1980's vintage controls.

Only Schwank luminous heaters can eliminate "cold spots" in hangars, because they do not heat air directly, and are not subject to air stratification. They are also less affected by open doors and high infiltration or air exchange rates.

Results

The installation of high-efficiency luminous infrared heaters, along with revisions to the control strategies saves Air Canada over \$200,000 in annual energy costs. In the first year alone, fuel costs for hangar 101 were reduced from \$333,000 to \$120,000. Air Canada also achieved a major reduction in CO₂ emissions from 1,400 tons to 500 tons.

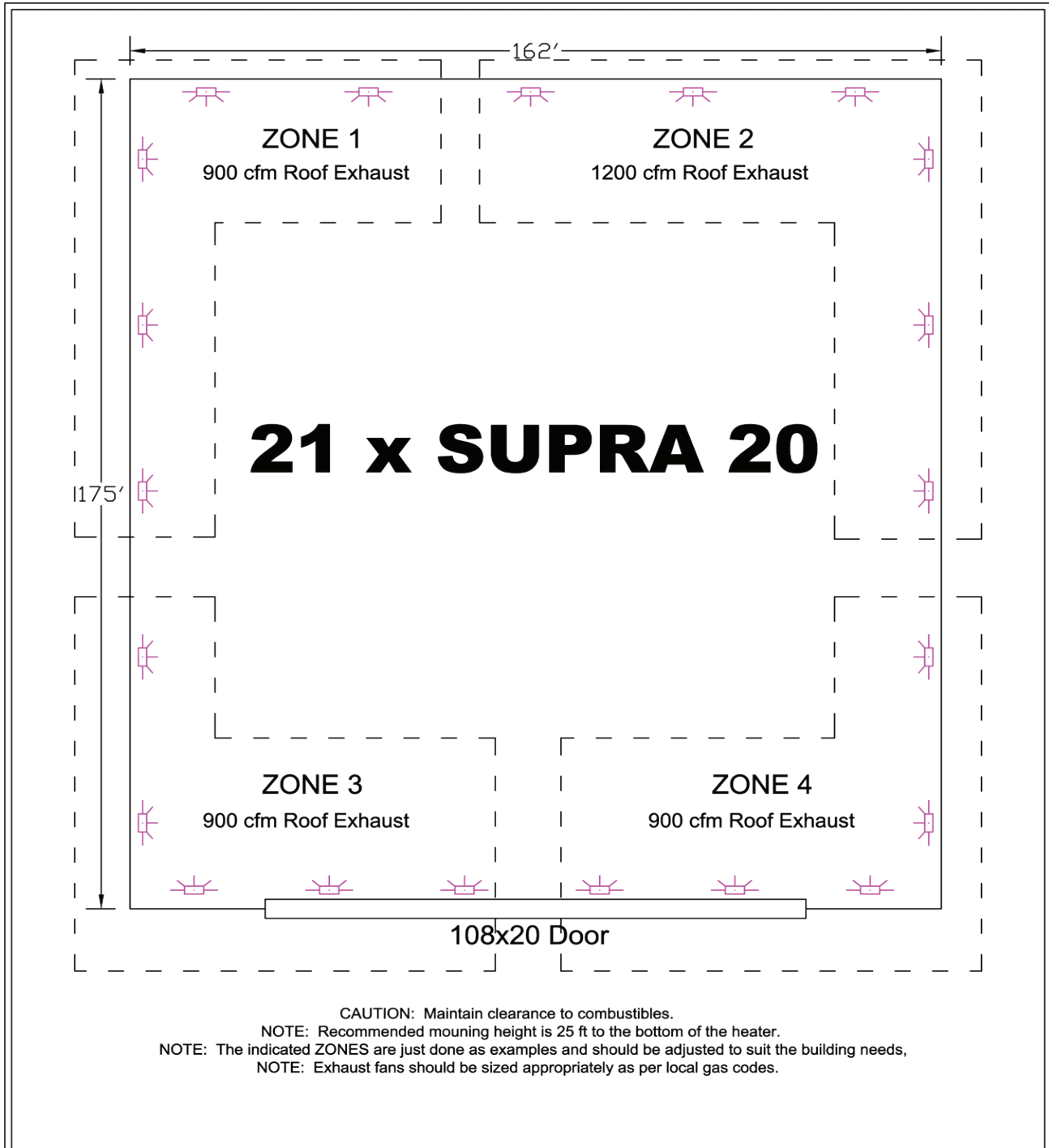
Additional reported benefits included improved comfort, reduced personnel complaints, improved indoor air quality, and extended equipment life with reduced maintenance and low life cycle cost.

Schwank Case Study: Improved comfort with 65% energy and carbon footprint reduction

Aircraft Hangar - supraSchwank



Schwank Case Study: Improved comfort with 65% energy and carbon footprint reduction



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	JOB NUM.:		
	DWN BY: HK	SUPERSEDE:	
	DATE:		

Schwank Case Study:

An intelligent concept for logistics.

Energy savings as a key foundation



“Maximum employee comfort and minimum operating costs are the most important issues for us.”

Dirk Wolf,
Industrial Engineer
Amazon.com Inc.



The Facility

Amazon.com Inc. founded in 1994 in the US, is one of the largest Internet global retailers. Originally billing itself as the world’s largest bookstore, today, Amazon.com delivers almost anything, and everything.

In the past years, the demand for Amazon.com products increased so dramatically in Europe, that it became necessary to open a new distribution center. Due to its central location and accessibility, Leipzig was selected as the location for the new logistics giant. With an area of 753,000 square feet, the new distribution center is larger than 15 football fields combined.

The Leipzig distribution center handles bulky and heavy items such as home appliances & furnishings, hardware, and sports & outdoors equipment, and employs 400 workers in two shifts, but just before Christmas, shifts are increased to three.

The Issue

Although the majority of products stored require only freeze protection, the inbound and outbound loading areas, as well as the assembly area require comfort temperatures. Reliable heating was essential at the 48 loading docks. A comfort temperature of 68°F was desired in the stock room and picking areas. Spot heating was installed for selected work stations.

In light of Amazon.com’s specific requirements, Schwank developed a custom made heating solution, one that provides comfort and flexibility to the different areas. Moreover, Amazon.com required a cost-efficient solution, one that contributes to keeping operations cost under control.



Equipment
ultraSchwank
ThermoControl Plus BMS system

Facility
753,500 square-foot distribution center

Results

- Employee comfort is maintained despite cold air infiltration from 48 loading docks

Schwank
INNOVATIVE HEATING SOLUTIONS



Schwank Case Study:

An intelligent concept for logistics.

Energy savings as a key foundation



Implementation

Schwank developed a tailored solution, based on its proprietary logistics-heating concept. In the loading docks, infrared heat acts as a protective shield, sheltering workers from the cold and providing a comfortable environment and uniform heat, so that even when loading dock doors remain open in the winter, the area stays warm. The heating system is remotely monitored through Schwank's ThermoControl Plus BMS controllers, allowing for the flexible setup of 15 independent heat zones.

Due to the system's optimized and environmentally friendly combustion, a very high radiant factor and high energy yield has been achieved.

Results

An efficient system that ensures uniform heat distribution and is easy to install, maintain, and operate. Intelligent controls allow the system to provide complete heat coverage to the warehouse area, and flexible heating to the picking area when required.

Due to the effectiveness and efficiency of Schwank heating systems, Amazon.com awarded Schwank two additional projects for distribution facilities in Great Britain and Germany.

Schwank's unique Logistics Heating Concept is based on the latest scientific research and the experience that comes from heating over 86 million square feet logistics facilities every year.

Schwank
INNOVATIVE HEATING SOLUTIONS



USA

Schwank USA Inc.
2 Schwank Way
Waynesboro, GA 30830
Tel.: 1-877-446-3727
E-mail: csr@schwankgroup.com
Internet: www.schwankgroup.com

CANADA

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Mississauga, ON, L4W 2A6
Tel.: 1-877-446-3727
E-mail: csr@schwankgroup.com
Internet: www.schwankgroup.com

Schwank Case Study:

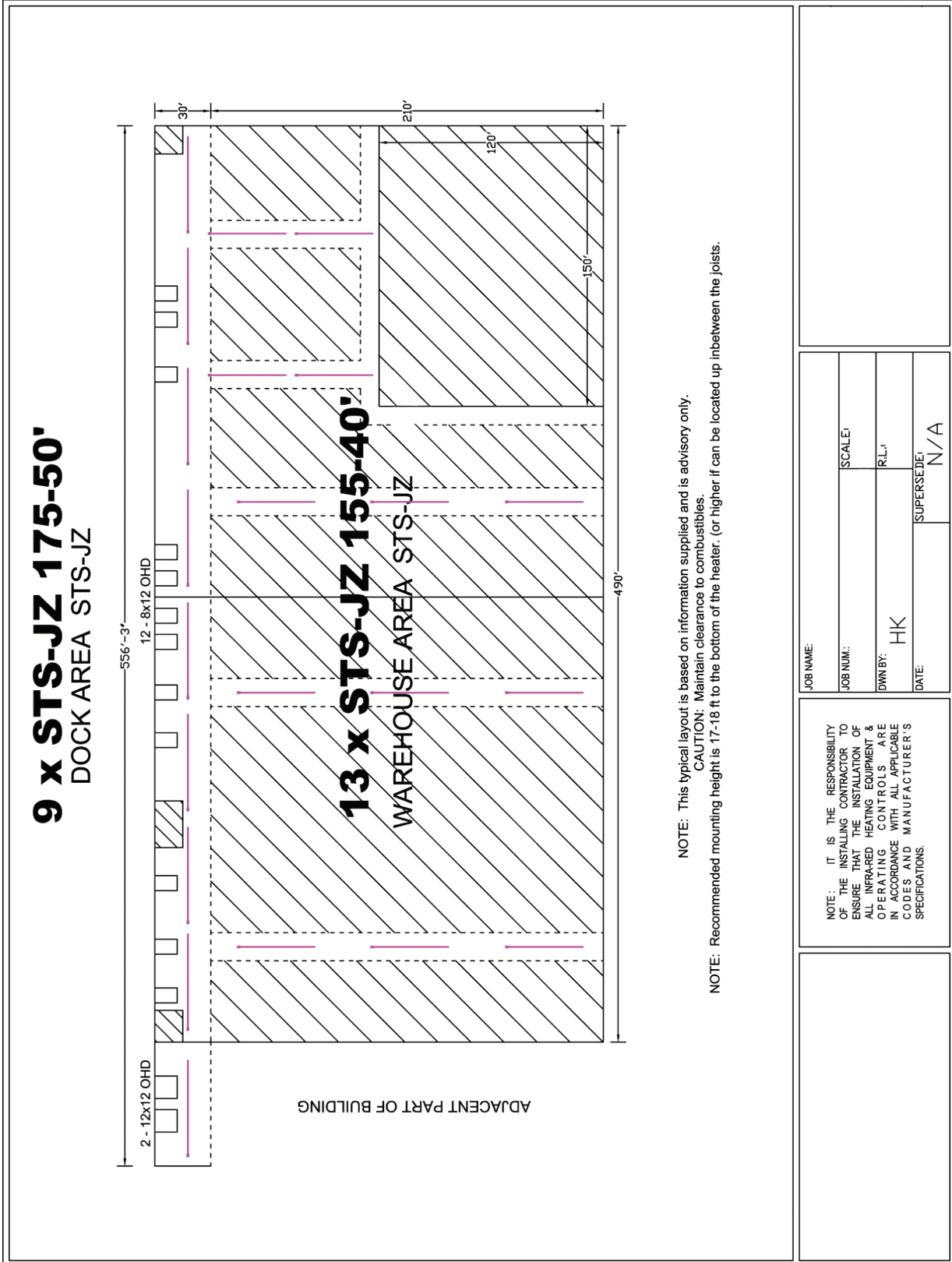
An intelligent concept for logistics.
Energy savings as a key foundation



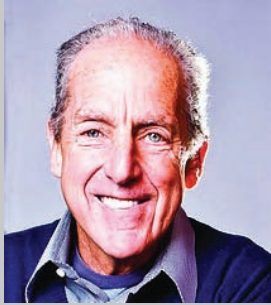
Schwank Case Study:

An intelligent concept for logistics.

Energy savings as a key foundation

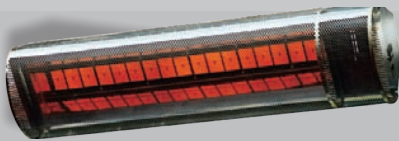


Schwank Case Study: Schwank creates a winter oasis in the heart of Kansas City



"The infrared heating system provided by Schwank, completes our Live Plaza and allows us to offer a winter oasis in the heart of Kansas City."

David Cordish,
President,
The Cordish Companies



Equipment
sportSchwank
ThermoControl Plus BMS System

Facility
25,000 square-foot outdoor venue

Results

- Provides sensible comfort during cold weather to up to 8,000 attendees

The Facility

The area, near downtown Kansas City needed help. The area started to decay in the early 80's, and while the action moved to malls in the suburbs [a typical urban story], the city had serious problems, including tumbleweeds blowing down the street after 5 p.m.

A turning point for the rejuvenation of downtown Kansas was the successful launch of the Power and Light District by the Cordish Group. The district covers a total area of 603,000 square feet, and occupies more than nine blocks. The development includes a large theater, several chain restaurants and bars, and "The Live Block Plaza", an outdoor entertainment area hosting up to 8,000 attendees.

At the heart of the Power & Light District is Kansas City Live!, a one block area devoted to live music and entertainment venues. At the center is a covered outdoor plaza used for concerts and other events.

The Issue

The challenge was to provide comfort heat during cold weather to the spectators in the Live! Plaza, a 25,000 square-foot outdoor venue covering an entire city block in downtown Kansas City.

Schwank installed an outdoor heating system that creates a 20 degree temperature rise for the City Live! area, and in particular the area covered by the overhead canopy. Schwank's complete solution included heaters and controls required to provide uniform heating coverage.

Schwank
INNOVATIVE HEATING SOLUTIONS



Schwank Case Study: Schwank creates a winter oasis in the heart of Kansas City



Implementation

The heating system included fifty six sportSchwank heaters, mounted beneath the canopy covering the Live! Plaza, several temperature sensors, and a ThermoControl Plus unit, Schwank's proprietary infrared control system.

Schwank was the first heating system installed directly under a light weight, single skin membrane ETFE roof system [Ethylene TetraFluoro Ethylene]. The structure measures 29,000 sq.ft. and rises 80 ft. off the ground. The roof was the first installation of its kind in the United States.

sportSchwank, the world's most energy efficient outdoor infrared heater, was the only heater capable of providing sensible comfort to the Live! Plaza outdoor areas.

Results

The KC Live Stage hosted a first New Year's party in January, during an evening when the outdoor temperature dropped to 30°F. Sportschwank heaters were turned on and almost immediately spectators removed winter coats and enjoyed the party in comfort. A winter oasis was created.

Today, live entertainment is a frequent happening on the KC Live! Stage, including a winter concerts series and special events throughout the year.

The development of the Power & Light District was instrumental in revitalizing Kansas City's downtown.

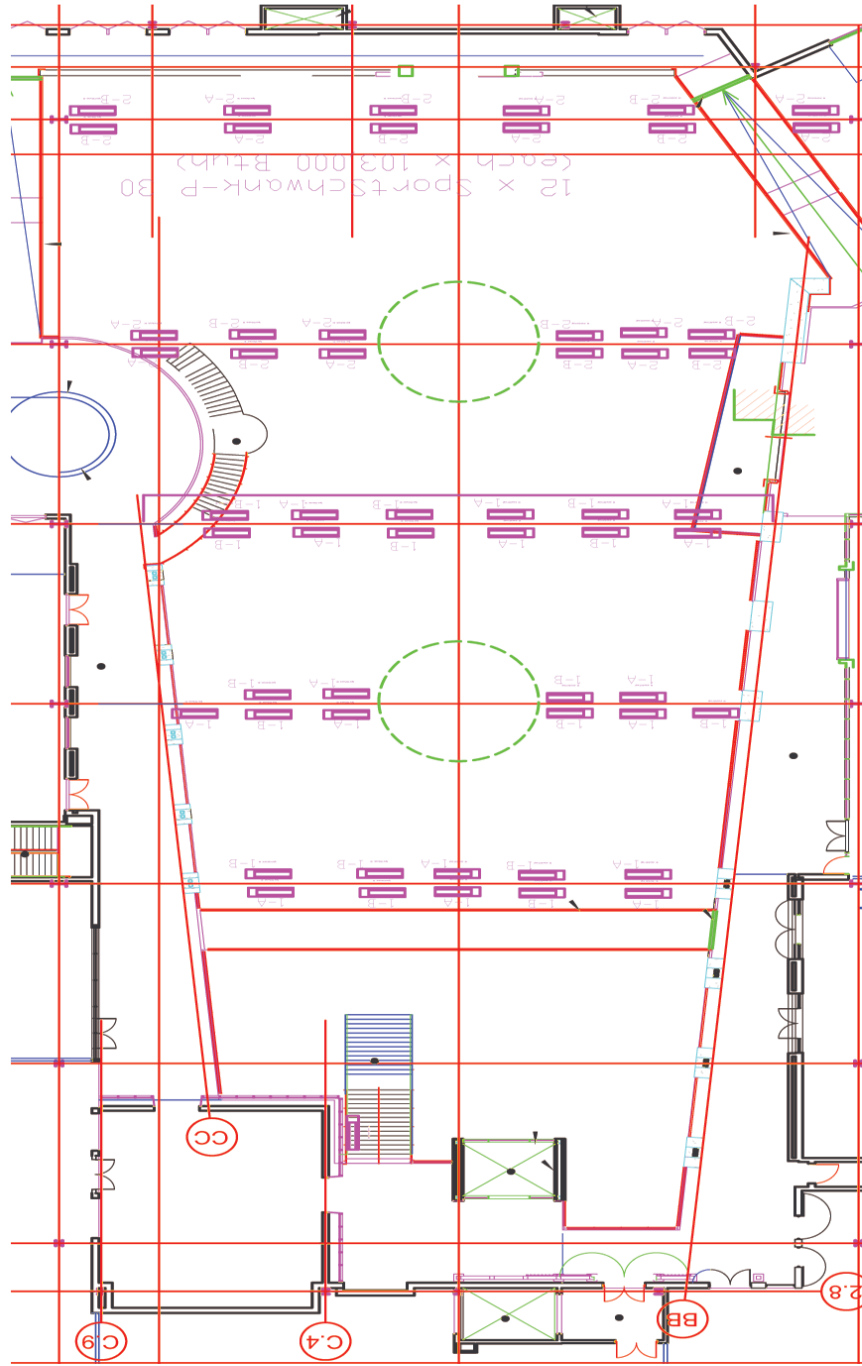
Schwank Case Study: Schwank creates a winter oasis in the heart of Kansas City

Outdoor Concert Venue - sportSchwank



Schwank Case Study: Schwank creates a winter oasis in the heart of Kansas City

56 x sportSchwank 30



JOB NAME:

JOB NUM.:

SCALE:

DWN BY:

R.L.I.

DATE:

SUPERSEDE:

HK

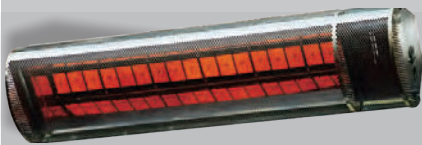
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Schwank Case Study: Rutgers VIP fans enjoy the game in comfort during the fall season



“It adds a great game-day atmosphere for our fans...I think our VIPs are thrilled.”

Jason Baum,
Assistant Athletic Director, Rutgers
University



Equipment
sportSchwank
TruTemp infrared thermostat

Facility
6,500 square-foot VIP area.
Rutgers football stadium

Results

- Temperature lift of 22° F
- VIP spectators enjoy the game in comfort despite strong winds



The Facility

The original Rutgers Stadium, located in the Busch Campus of Rutgers University in Piscataway, New Jersey, USA, was completed in 1938. The stadium was inaugurated on November 5, 1938 and served the university's football program until 1992, hosting 225 football games.

The current Rutgers Stadium was built on the site of the original stadium. The home of the Scarlet Knights opened on September 3, 1994. By 2007, Rutgers averaged a record attendance of 44,000 fans per game.

In January 2008, the Board of Governors of Rutgers University announced a \$102 million stadium expansion project in order to increase the stadium's seating capacity to nearly 53,000. The first phase of the project included the development of the club seat area, and related infrastructure.

The Issue

With the creation of the premium club area and loge boxes emerged the need to keep VIP spectators comfortable during the fall season.

Rutgers was the first football stadium in North America to be heated using sportSchwank. These luminous heaters were engineered to heat stadiums by generating a comfortable perceived temperature, despite prevailing low air temperatures –this is the same noticeable impact the sun has on cold winter days.

The sportSchwank applies the principle of the sun, but can be easily turned on and off like a light bulb.

Schwank
INNOVATIVE HEATING SOLUTIONS



Schwank Case Study: Rutgers VIP fans enjoy the game in comfort during the fall season



Implementation

40 sportSchwank heaters were installed in the club seating area of the Rutgers Football Stadium to cover an area of 6,500 sq.ft., or 852 club seats. A total heat input was required to provide a temperature lift of 22° F. sportSchwank's unique stainless steel enclosure protects the heaters against extreme weather conditions and safeguards combustion in wind gusts. This makes sportSchwank the only heater capable of handling heating requirements in open spaces such as stadiums and open venues.

Mounting brackets were designed to fasten heaters to the existing roof structure, without obstructing the view of high-definition flat screen TVs. In addition, 8 Schwank TruTemp setback thermostats and a remote control system were installed to provide added flexibility.

Results

November 2008, with the game-time temperature at 35° F and with winds gusting up to 37MPH, Rutgers fired up the Schwank heaters for the first time and VIP spectators enjoyed the game in balmy comfort and were very pleased with the heaters' performance. Rutgers has the reputation of being one the windiest stadiums in North America. As Rutgers' place kicker put it: "Jersey winds are Jersey winds".

In these harsh weather conditions only high-efficiency sportSchwank heaters provide reliable comfort to spectators effectively and efficiently.

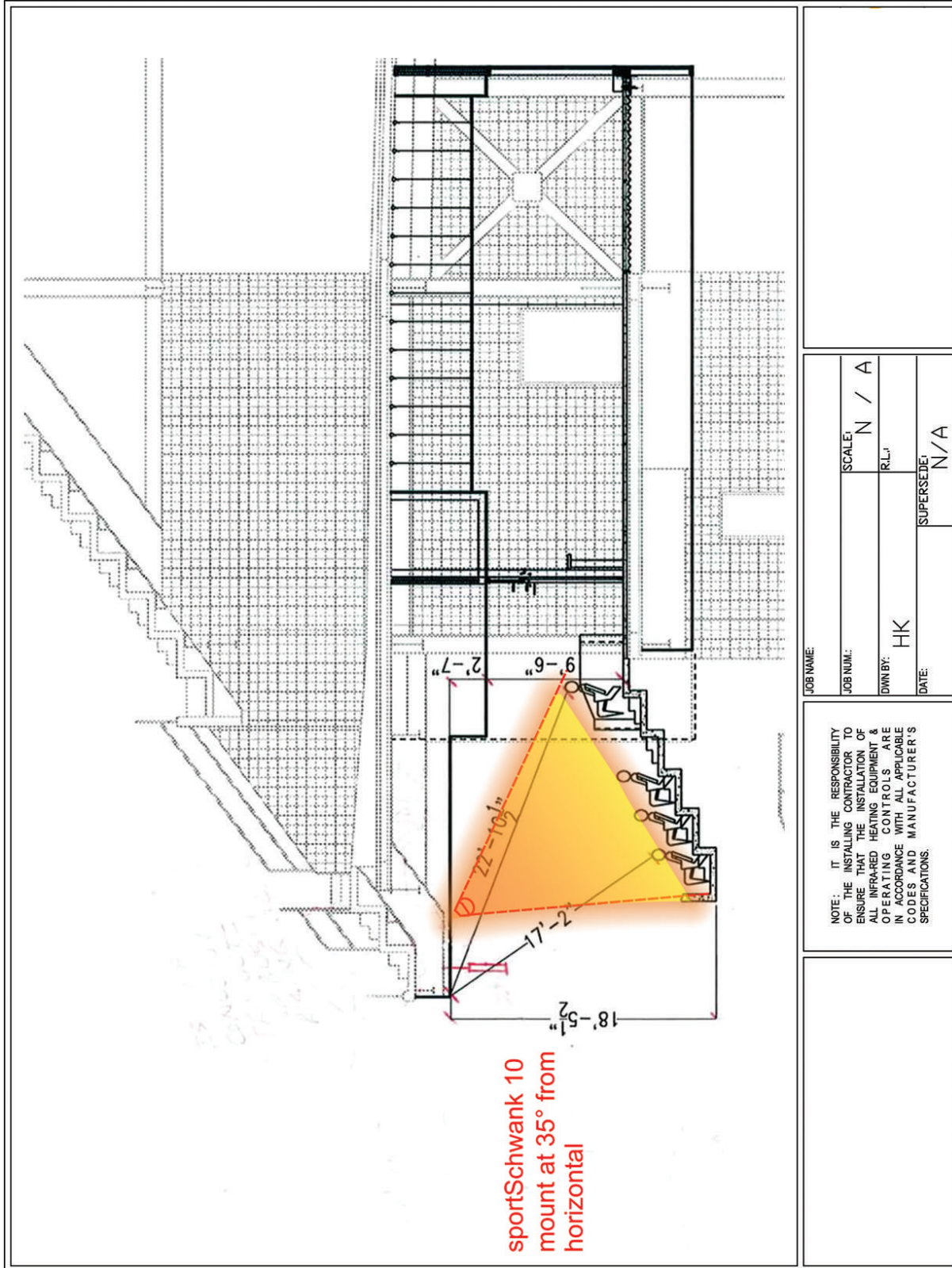
Schwank Case Study: Rutgers VIP fans enjoy the game in comfort during the fall season

Rutgers Football Stadium - sportSchwank Series



Schwank Case Study:

Rutgers VIP fans enjoy the game in comfort during the fall season



Schwank Case Study: How Schwank heaters solved the arena heating challenge



"The heaters heat the area well. We have them close to 15 years."

Aaron Mathews,
Rink Manager,
Acton Arena and Community Centre



Equipment
ecoSchwank
premierSchwank

Facility
108'x32' ice rink.

- Results**
- Ice is kept fast and hard
 - Spectators enjoy the games in comfortable heat
 - Refrigeration costs reduced by up to 12%



The Facility

Ice skating rinks have for a long time been a popular form of winter recreation. Existing ice rink facilities are being pushed to operate for longer seasons and new facilities are opening for 12 month seasons to satisfy the needs for ice.

While ice rinks are already one of the most energy intensive forms of recreation, adding ice surfaces and lengthening ice seasons will only add to energy costs for ice rink operation.

The Acton Arena is a 108' x 32' ice rink with eight rows of seating and additional seating at each corner of the spectator rink. The rink is open seven days a week from August 1st to April 30th.

The Issue

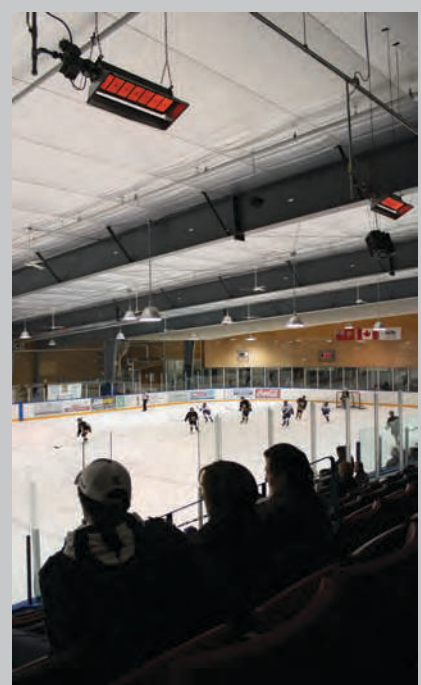
Heating an ice rink is quite expensive. Not only does it require energy to heat the entire volume of air in the ice rink area, but it also creates a higher convective heat load on the ice which must be removed by the refrigeration system. One alternative to heating the ice rink stands is by installing infrared luminous [high-intensity] heaters.

Schwank heating specialists are experts on heating a hockey arena. Heating arenas is a challenging task because there are opposite requirements to be met: to keep spectators warm while maintaining the ice cool. Over the years, many solutions ranging from forced air heating to low efficiency infrared tube heaters were tried at the Acton arena with unsatisfactory results. Only Schwank luminous [high-intensity] heaters can direct heat where it is needed, keeping spectators warm and the ice fast and hard.

Schwank
INNOVATIVE HEATING SOLUTIONS



Schwank Case Study: How Schwank heaters solved the arena heating challenge



Implementation

The engineering firm, PBK Architects and Engineers Ltd., specified Schwank infrared heaters, switching from a competitor, after comparing the unmatched performance of Schwank infrared heaters.

Schwank heaters were installed for spectator heating in the Acton arena. Strategically located, they provide uniform heat to all spectators along the entire length of the arena. In addition, high efficiency premier Schwank tube heaters were installed for space heat in the service equipment and “barrier free” viewing areas.

Results

Heating costs were reduced and the convective heat load on the ice was drastically reduced since the air in contact with the ice is much cooler. The energy savings varies with the amount of time the heaters are actually used, but refrigeration energy savings range from 5-12% annually.

Independent studies have proven that, Schwank heaters produce more infrared heat output per unit of fuel input. This advanced efficiency ensures increased spectator comfort at lower operating cost, and less impact on ice-making capabilities.

Close to 15 years after being installed, the rink manager and spectators keep enjoying hockey games in comfortable heat. To this date, none of the heater parts have failed.

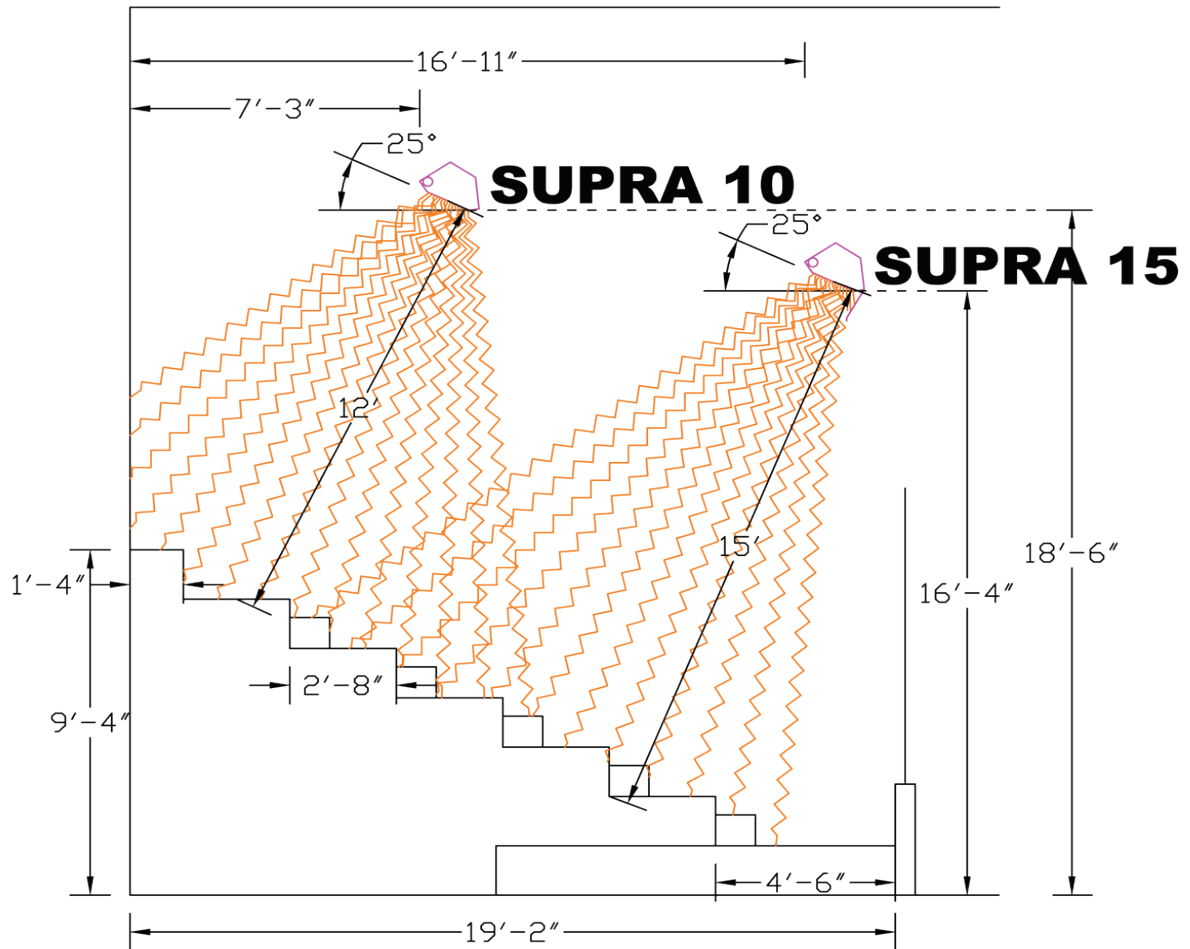
Schwank Case Study: How Schwank heaters solved the arena heating challenge

Hockey Arena - supraSchwank and ecoSchwank



Schwank Case Study: How Schwank heaters solved the arena heating challenge

SIDE VIEW



CAUTION: Maintain clearance to combustibles.

NOTE: Recommended mounting height is as indicated on "Side View" drawing.

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JOB NAME: Arena		SCALE: N / A	
JOB NUM.:		R.L.:	
DWN BY: HK		SUPERSEDE: N/A	
DATE:			

Schwank Case Study:

Schwank's cutting edge technology delivers energy savings, comfort and noise control



"At Applewood, we are constantly re-investing in the latest equipment and technologies, to ensure that we remain at the leading edge of our industry."

The new ultraSchwank radiant tube heating system from Schwank is much quieter and more energy-efficient than the previous Schwank system installed at our other factory."

Anthony Menecola
President
Applewood Glass & Mirror Inc.



Equipment
ultraSchwank

Facility
50,000 square-foot specialty glass manufacturing plant

Results

- 58% fuel savings
- Employee comfort is maintained despite cold air infiltration from loading docks



The Facility

Established in 1979, Applewood Glass & Mirror Inc. has been the leader in the architectural glazing industry for many years.

The company moved to a brand new facility near Toronto, where it operates a 50,000 square foot state-of-the-art facility with the capacity to handle a wide range of aluminum and structural glazing products, ranging from simple entrance and window frames to large pre-glazed curtain wall projects.

Since energy costs account for 14% of direct glass production costs, the major concerns for Anthony Menecola, Applewood's President, were to reduce natural gas consumption and noise level in the shop area, while ensuring employee comfort.

The Issue

The challenge was to provide uniform heat to the shop area, as it is part of a "glass building" designed to showcase the range and quality of Applewood's products. This area is enclosed within four walls. Only one of them is shared with office space, which is heated. Another has five loading docks and the two remaining walls have spectacular floor to ceiling windows. Moreover, one of these walls is opposite the loading docks, causing cold air to flow through the shop area.

In addition, due to massive amounts of glass processed and treated at the facility, glass dust is an ever-present health hazard. Therefore, for this particular application, gas-fired radiant tube heaters are the safest alternative, as these can be ducted outside for safe and trouble-free sealed combustion.

Schwank
INNOVATIVE HEATING SOLUTIONS



Schwank Case Study:

Schwank's cutting edge technology delivers energy savings, comfort and noise control



Implementation

Applewood moved to its new Southfield facility in early 2009. Anthony Menecola, chose Schwank to provide comfort to the 40,000 square foot production area with high ceilings, wide open spaces, glass windows, and concrete floors. Applewood's other facility in Wolfsdale is heated by an earlier Schwank model of tube heaters. Anthony was very satisfied with the equipment's performance and low maintenance costs.

The product chosen for Southfield was ultraSchwank, the most efficient radiant tube heater in North America. This is a new generation of technology leapfrogging other conventional tube heaters, a culmination of three years of research and development.

Results

Despite the structural challenges, Schwank was able to provide the perfect heating solution for this unique environment. Larger capacity heaters were installed above the loading docks, to offset high air infiltration. In addition, heaters installed near aluminum and glass walls, were fitted with large capacity burners, to reduce the effect of cold air convection.

Applewood achieved fuel savings of 58% compared to conventional heating systems, and 23% compared to standard radiant tube heating equipment. Applewood employees have reported to be very comfortable at their new location, and they also noticed substantial noise reduction.

Schwank Case Study:

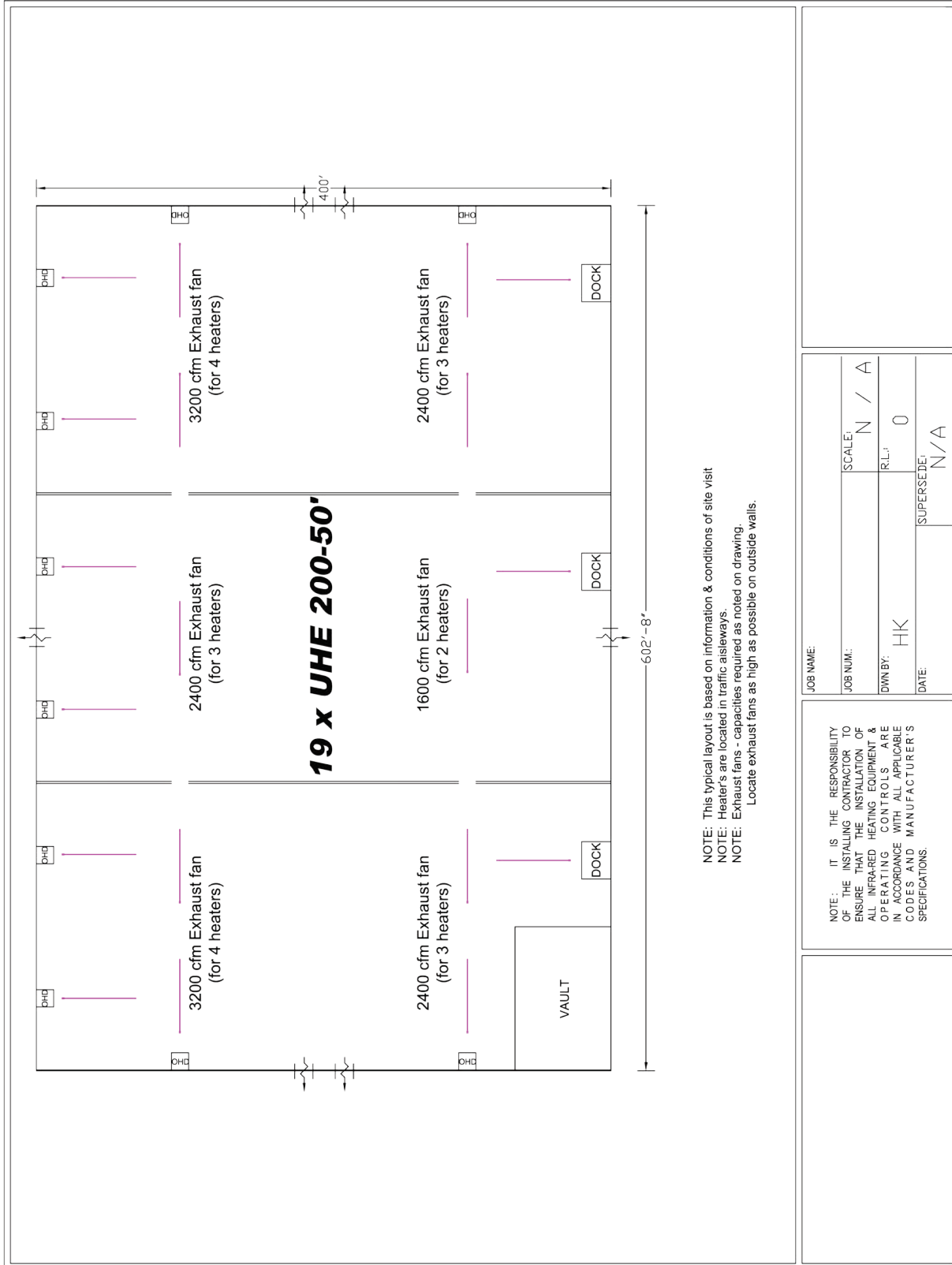
Schwank's cutting edge technology delivers energy savings, comfort and noise control

Architectural Glass Manufacturer - ultraSchwank



Schwank Case Study:

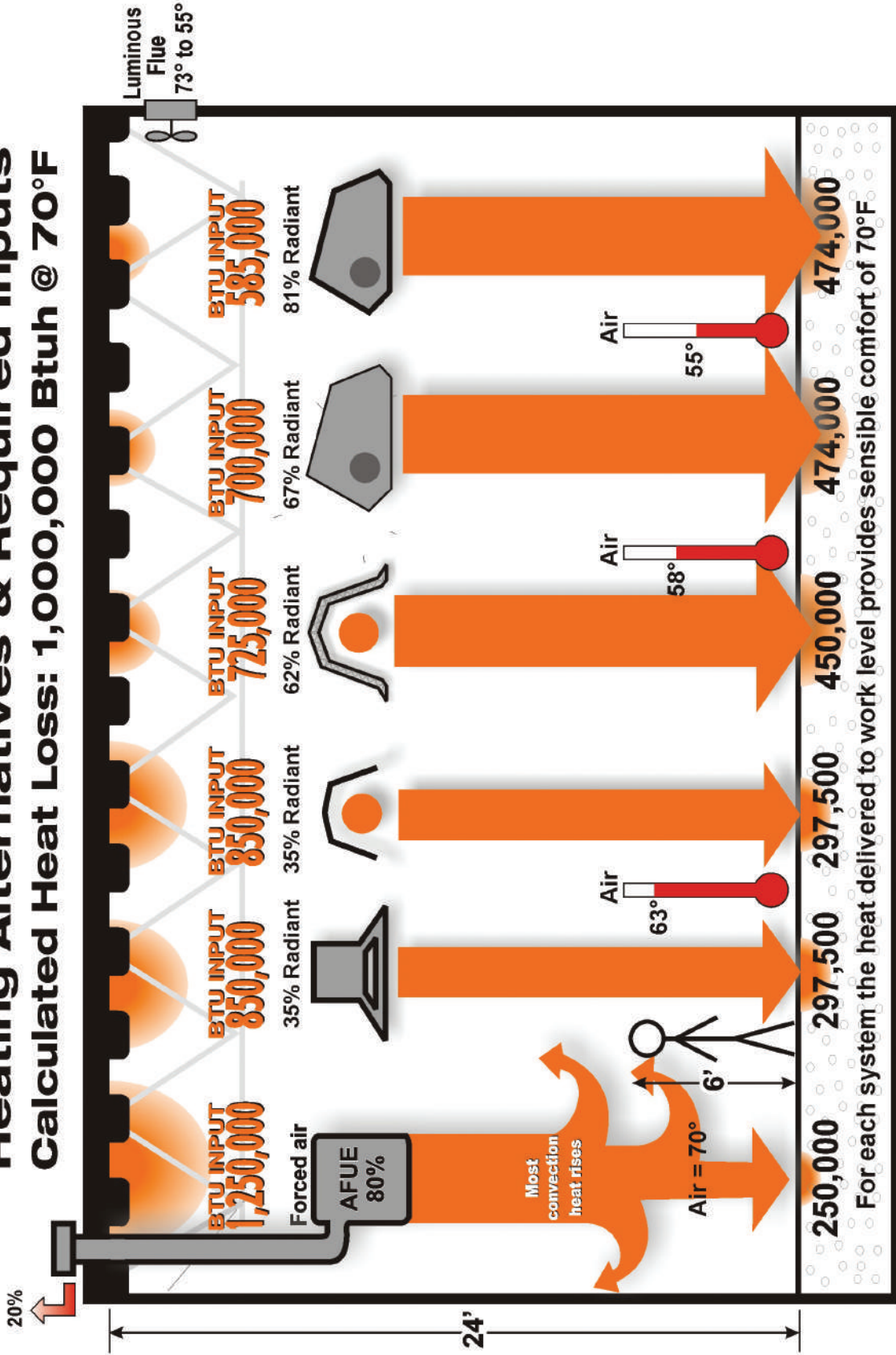
Schwank's cutting edge technology delivers energy savings, comfort and noise control



Schwank Product Warranty

	Warranty Term [Years]					
	All Heaters	Luminous	Tube Heaters		Parasol 4000	
	Components	Ceramic Tile	Burner Cap	Radiant Tubes	Burner	Mantle
Luminous Heaters						
supraSchwank	5	15				
primoSchwank	5	15				
ecoSchwank	2	10				
Tube Heaters						
ultraSchwank	3		10	10		
premierSchwank	3		10	10		
compactSchwank	3		10	10		
duraSchwank	3		10	10		
builderSchwank	2		5	5		
Outdoor Heaters						
sportSchwank	3	15				
bistroSchwank 2100/2152	1	3				
supremeSchwank 2300	1	3				
comfortSchwank 3000	3		10	10		
Parasol 4000	1				3	3
IEP Electric Series	1					
Optional accessories and replacement parts are covered under the parts manufacturer's warranty: Typically 1 year						
<p>Schwank warrants to the Purchaser that Schwank gas-fired infrared radiant space heaters and all parts are free from defects in material or workmanship under normal use and service. Product warranties consists only of providing a like replacement part for a defective part during the term of the warranty. F.O.B. Schwank.</p> <p>Please note, that all the above does not constitute a description of product warranty. This table is intended only as a summary of general warranty term information and is subject to change without notice. A complete product warranty statement is supplied within each product manual.</p>						

Heating Alternatives & Required Inputs Calculated Heat Loss: 1,000,000 Btuh @ 70°F



$$T_{\text{comfort}} = \frac{T_{\text{radiant}} + T_{\text{ambient}}}{2}$$

AS RADIANT HEAT INCREASES:

- AIR TEMPERATURE, ΔT, and BUILDING HEAT LOSS DECREASE
- REDUCED INPUT and OPERATING COST



Schwank Literature Request Form

Luminous Heaters

Item	Part #	Qty.
supraSchwank Brochure	M091119	
supraSchwank Technical Specifications	TS090903	
primoSchwank Brochure	M091117	
primoSchwank Technical Specifications	TS090921	
supra-/primoSchwank 10-30 I&O Manual	IM091112	
supra-/primoSchwank-40 I&O Manual	IM100115	
ecoSchwank Brochure	IM091115	
ecoSchwank I&O Manual	IM100117	
ecoSchwank 36-52 I&O Manual	IM100116	
ecoSchwank Millivolt I&O Manual	IM090128	

Tube Heaters

Item	Part #	Qty.
ultraSchwank - UHE Brochure	M090904	
ultraSchwank - UHE I&O Manual	IM100205	
ultraSchwank - UHE Technical Specifications	TS091031	
premierSchwank - STS-JZ Brochure	M091006	
premierSchwank STS-JZ I&O Manual	IM100420	
duraSchwank -STW/SPW Brochure	M100323	
duraSchwank - STW I&O Manual	IM091224	
duraSchwank - SPW I&O Manual	IM091223	
builderSchwank - S100 Brochure	M091114	
builderSchwank - S100 I&O Manual	IM090513	
Two-Stage SET I&O Manual	IM091221	
Two-Stage SET Technical Specifications	TS090922	

Residential Heaters

Item	Part #	Qty.
compactSchwank - P40R Brochure	M091121	
compactSchwank - P40R I&O Manual	IM090831	

Outdoor Heaters

Item	Part #	Qty.
sportSchwank Brochure	M091120	
sportSchwank I&O Manual	IM080731	
supremeSchwank 2300 Brochure	M091123	
supremeSchwank 2300 Technical Specifications	TS090825	
supremeSchwank 2300 I&O Manual	IM110107	
bistroSchwank 2100/2152 Brochure	M061714	
bistroSchwank 2100/2152 I&O Manual	IM110107	
comfortSchwank 3000 Brochure	M091124	
comfortSchwank 3000 Technical Specifications	TS050624	
Parasol 4000 Brochure	M091122	
Parasol 4000-CB Technical Specifications	TS080730	
Parasol 4002/5-CB I&O Manual	IM080811	
Parasol 4002-CB I&O Manual	IM100310	
Remote Control Technical Specifications	TS090331	
Remote Control I&O Manual	IM060930	

Return Request Form to:

E-mail:

Fax:

Your Name:

Date:

Company Name:

Address:

Energy Management

Item	Part #	Qty.
TruTemp Brochure	M091116	
TruTemp I&O Manual	IM080326	
ThermoControl Plus Brochure	M091118	
ThermoControl Plus I&O Manual	IM100630	

Price Lists

Item	Part #	Qty.
General Info	PLGEN100501	
Luminous Heaters [high intensity]	PLLUM100502	
Tube Heaters [USA]	PLTUBUS100503	
Tube Heaters [CDN]	PLTUBCDN100504	
Patio Heaters [USA]	PLPATUS100505	
Patio Heaters [CDN]	PLPATCDN100506	
Addendum:		
sportSchwank		
ultraSchwank		
patioSchwank 4000-24V		
ThermoControl Plus	PLUHE100624A	

General Information

Item	Part #	Qty.
Schwank Condensed Catalog	PSC100101	
Engineering Catalog	ENG100102	
Schwank Replacement Parts Catalog	RPC100501	
patioSchwank Catalog	PBK100123	
Schwank Stadium Catalog	SBK100331	
Schwank Small 8x8 Sales Booklet	M100309	
Heating Comparison Brochure	PM091231	
Schwank General Brochure	M100111	

The following forms are available at:
<http://www.schwankusa.com/resources/>

Item	Part #	Qty.
Credit Application		
Schwank Project Quotation Request		
Schwank Case Study Form		
Schwank Design Data Input Form		
Schwank Product Warranty		
Return Authorization Form		

CompuSchwank Heat Loss Design Data

Complete this form by entering text, and numbers. Check boxes and buttons as required below. E-mail to: design@schwankgroup.com or print and fax the completed form to: 1-866-361-0523

* INDICATES REQUIRED INFORMATION			
Distributor Name *	Phone *	HEATERS TO USE *	
Contact Name at Distributor *	Fax *	Luminous Type:	
YOUR COMPANY Name *	supraSchwank <input type="checkbox"/>		
Address *	primoSchwank <input type="checkbox"/>		
City *	ecoSchwank <input type="checkbox"/>		
State / Province *	Zip / Postal Code	Tube Type:	
Phone *	Fax *	ultraSchwank <input type="checkbox"/>	
CONTACT Name *	premierSchwank <input type="checkbox"/>		
E-Mail	comfortSchwank <input type="checkbox"/>		
PROJECT LOCATION (city) *	duraSchwank <input type="checkbox"/>		
PROJECT NAME *	builderSchwank <input type="checkbox"/>		
Degree Days Below 55° F	Two-stage <input type="checkbox"/>		
Design Temperature ° F *	Outdoor Temperature*:		Let Schwank Recommend <input type="checkbox"/>
	Indoor Temperature*:		

Require information for preliminary quotation <input type="radio"/>	Require layout for quotation <input type="radio"/>	Require layout for design/ installation <input type="radio"/>
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FUEL TYPE *	
Natural Gas <input type="radio"/>	
Propane <input type="radio"/>	

Floor Plan Sketch	BUILDING PROPERTIES
Please check box on the sketch below to indicate the orientation of the roof ridge (if 'peaked').	
<p>* Length: <input type="text"/> ft</p> ft (top right), * Width: <input type="text"/> ft (bottom left), * Length: <input type="text"/> ft (bottom center). At the bottom right, 'Height of Ceiling Peak / Under Deck*' has a <input type="text"/> ft field, and 'Roof Height at Eaves (Low Wall)*' has a <input type="text"/> ft field."/>	
<p>* Areas marked are minimum data required to proceed with a design.</p>	

Please e-mail the completed form to design@schwankgroup.com or fax to: 1-866-361-0523

Material Description	Specify insulation thickness in inches or 'R' value					
WALL MATERIALS *			inches	or ->		R value
<i>(If wall has different materials, specify the height of each)</i>			inches	or ->		R value
ROOF MATERIALS *			inches	or ->		R value

DOORS*	Width	Height	Type	Qty	Door in Wall #	<i>Refer to Wall #'s on Floor Plan Sketch Page 1.</i>
Doors A	ft	ft				
Doors B	ft	ft				
Doors C	ft	ft				
Doors D	ft	ft				
Doors E	ft	ft				

WINDOWS*	Length	Height	Qty	Belongs to Wall	BUILDING CONSTRUCTION*
Windows F	ft	ft			Loose <input type="radio"/>
Windows G	ft	ft			Average <input type="radio"/>
Windows H	ft	ft			Tight <input type="radio"/>

SKYLIGHTS*	Width	Length	Qty	Existing Exhaust Fan Volume*	cfm
Skylight K	ft	ft			
Skylight L	ft	ft		Exhaust Fan operates	min/hr

Incoming Cold Materials*	lbs/hr	Number of Incoming Cars/hr *	
Description of Cold Material			Number of Incoming Trucks/hr
Specific Heat of Cold Material	BTU/lb		(please specify the height) * /hr
			ft High

Fuel Cost Comparison required? Yes <input type="radio"/> (please complete below) No <input type="radio"/>							
Enter the cost value in cents (\$1.25 = 125)							
Compare with:							
	NG		LP		Electrical		#2 Oil
<u>Local Fuel Cost</u>		per THERM		per gal.			per gal.
(Enter cost in cents) USA		or cents per m ³		or per liter	cents per kwh		or per liter
CAN							

Compare to: Unit Heaters <input type="checkbox"/> Furnace <input type="checkbox"/> Boiler <input type="checkbox"/>			
Efficiency (refers to above three options)	Standard <input type="radio"/>	Mid <input type="radio"/>	High (Condensing) <input type="radio"/>
Obstructions to locating of heaters (i.e. cranes, inventory, shelving) (please indicate on the sketch)			
NOTES & REMARKS:			
Date required *		The standard turnaround time is 2 to 3 business days	
		Schwank cannot guarantee return of design sooner than that	

Areas marked * are minimum data required to proceed with a design.

Please e-mail the completed form to design@schwankgroup.com or fax to: 1-866-361-0523

Additional project sketches or drawings are welcomed



Schwank
INNOVATIVE HEATING SOLUTIONS



USA: 2 Schwank Way, Waynesboro, GA 30830 | **Canada:** 5285 Bradco Blvd. Mississauga, ON L4W 2A6
Tel: 1-877-446-3727 | Fax: 1-866-361-0523 | www.schwankgroup.com | csr@schwankgroup.com

Schwank Catalog
PSC100101
RL:V2.2

