

# Heat, Without the Flame

**EXPLOSION PROOF HEAT**  
FOR NATURAL GAS AND OIL INDUSTRIES.

# THERMCAT CATALYTIC HEATERS

Manufactured by Scott Can Industries Ltd. for IMAC Systems, Inc.

## FEATURES

- Fuel efficient, high performance catalyst
- No moving parts
- Stainless steel construction
- Long-life, reliable catalyst pad
- Heating pad protected by integral fiberglass cover
- Available AC or DC startup
- Natural gas or LPG operation
- Custom built sizes



Systems, Inc.

International Measurement and Control Systems

90 Main Street, PO Box 1605 • Tullytown, PA 19007

1-800-955-4GAS • Phone: (215) 946-2200 • Fax: (215) 943-2984

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# DIMENSIONS

Other custom sizes available upon request.

RACK SIZE	AVAILABLE VOLTAGE					MIN. FUEL INPUT		MAX FUEL INPUT	GAS FLOW AT MAX INPUT		SHIP WT.	
	Inches	12V	120V	240V	480V	600V	Nat. Gas BTU/hr	LPG BTU/hr	Nat. Gas or LPG BTU/Hr	Nat. Gas Cu. ft/hr	LPG Cu. ft/hr	Lbs.
6 x 6	X	X					500	375	1125 to 1500	1.1 to 1.5	0.4 to 0.6	6
6 x 12	X	X					1000	750	2000 to 3000	2.0 to 3.0	0.8 to 1.2	6
6 x 24	X	X					2000	1500	4000 to 6000	4.0 to 6.0	1.6 to 2.4	9
8 x 8	X	X					1000	700	2100 to 2800	2.1 to 2.8	0.84 to 1.1	6
10 x 12	X	X					1700	1250	3400 to 5000	3.4 to 5.0	1.4 to 2.0	9
12 x 12	X	X					2000	1500	4000 to 6000	4.0 to 6.0	1.6 to 2.4	9
12 x 24	X	X	X				4000	3000	8000 to 12000	8.0 to 12.0	3.2 to 4.8	16
12 x 36	X	X	X				6000	4500	13500 to 18000	13.5 to 18.0	5.4 to 7.2	21
12 x 48	X	X	X	X	X		8000	6000	16000 to 24000	16.0 to 24.0	6.4 to 9.6	27
12 x 60		X	X	X	X		10000	7500	22500 to 30000	22.5 to 30.0	9.0 to 12.0	34
18 x 24	X	X	X	X	X		6000	4500	12000 to 18000	12.0 to 18.0	4.8 to 7.2	21
18 x 36		X	X	X	X		9000	6750	20250 to 27000	20.2 to 27.0	8.1 to 10.8	32
18 x 48		X	X	X	X		12000	9000	27000 to 36000	27.0 to 36.0	10.8 to 14.4	42
18 x 60		X	X	X	X		15000	11250	33750 to 45000	33.7 to 45.0	13.5 to 18	52
18 x 72		X	X	X	X		18000	13500	40500 to 54000	40.5 to 54.0	16.2 to 21.6	62
24 x 24	X	X	X				8000	6000	16000 to 24000	16.0 to 24.0	6.4 to 9.6	27
24 x 30	X	X	X				10000	7500	22500 to 30000	22.5 to 30.0	9.0 to 12.0	35
24 x 36	X	X	X	X	X		12000	9000	27000 to 36000	27.0 to 36.0	10.8 to 14.4	42
24 x 48	X	X	X	X	X		16000	12000	32000 to 48000	36.0 to 48.0	14.4 to 19.2	55
24 x 60		X	X	X	X		20000	15000	45000 to 60000	45.0 to 60.0	18.0 to 24.0	69
24 x 72		X	X	X	X		24000	18000	54000 to 72000	54.0 to 72.0	21.6 to 28.8	82
8" Dia.	X	X					700	525	1400 to 2100	1.4 to 2.1	0.56 to 0.84	6

## DESCRIPTION

**THERMCAT gas-fired catalytic infrared heating** is a flameless, explosion-proof, safe, and proven process that produces uniform heat capable of being directed to the area where heat is needed. Infrared radiant heaters are extremely safe, even with very high face temperatures.

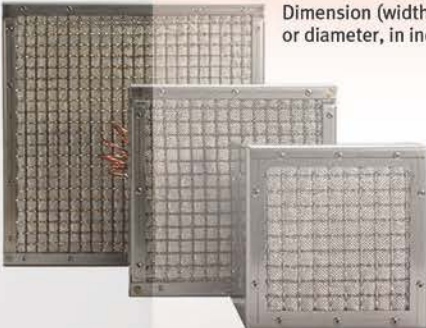
The temperature of the catalyst pad is raised to an activity temperature through pre-heating. Once the necessary temperature is achieved, the fuel enters the heater and is dispersed through a catalyst pad at the face. At the same time, oxygen from the air diffuses through the catalyst pad from the front. Where the fuel and oxygen meet, oxidation, or counter current combustion occurs, hence catalytic combustion. The reaction happens without a flame and at a low enough temperature so that a fire or explosion will not take place. This reaction, which is simulated by the promoted platinum catalyst, occurs below the flame ignition temperature of the gas, therefore, no flame is involved in the combustion process. This creates far wave infrared emitters (radiant heat) which are readily and efficiently absorbed by materials. Once the oxidation begins, the catalytic reaction continues until either the fuel supply or the oxygen is eliminated.



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# Part Number Matrix

TC —															
 <p>Dimension (width x length) or diameter, in inches</p>					<p>WS = Wand Start, no Pre-Heating Element</p> <p>NC = Standard Heater, including Pre-Heating Element, Non-Certified Junction Box</p> <p>FM = Same as NC but also includes Certified Junction Box, Thermocouple and Safety Valve (FM Approved)</p> <p>CS = Same as FM but also includes Low Pressure Regulator and Manual Shutoff Valve (CSA approved)</p>		<p>A = Natural Gas</p> <p>B = LPG Fuel</p>		<p>0 = No Starting Element (WS Only)</p> <p>1 = 12V DC Starting Element</p> <p>2 = 120V AC Starting Element</p> <p>3 = 240V AC Starting Element</p> <p>4 = 480V AC Starting Element</p> <p>5 = 600V AC Starting Element</p>		<p>Special Instructions</p> <p>00 = Nothing</p> <p>01 = Flat Brackets (Angles are standard)</p> <p>02 = Side Mount Fuel Inlet</p>				
<p>EXAMPLE: IMAC Thermcat 12 x 24 Heater, FM Certified, Natural Gas, 12V</p>					TC —	1	2	2	4	F	M	A	1	0	0
<p>EXAMPLE: IMAC Thermcat 8" Round Heater, Wand Start, Natural Gas</p>					TC —	0	0	0	8	W	S	A	0	0	0

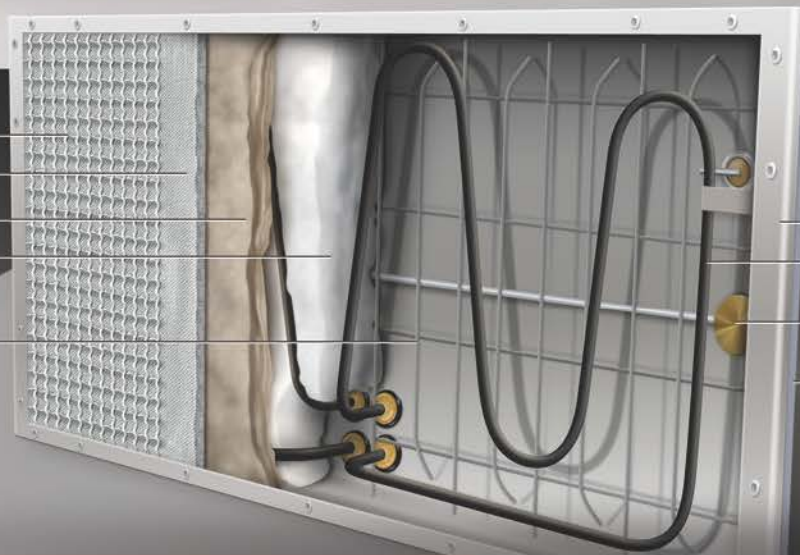
Wire Mesh Screen

Fiberglass Protective Cover

Catalyst Pad

Insulation Pad

Insulation Support



Bezel

Preheat Elements

Gas Distributor

Emitter Housing

## APPLICATIONS

- Gas meters, chokes, orifice taps, and valves
- Regulators and control valves
- Separators
- Gas wellhead heaters
- General instrumentation and enclosures
- Oil production
- Space and pipeline heaters
- Storage tanks and wells
- Dehydrators
- Compressor facilities
- Gate stations
- Transit garages and aircraft hangars
- CNG/LNG/LPG facilities

## CERTIFICATIONS

- Each unit is 100% tested for temperature, flammability, and gas seal
- Safe, proven, and economical system
- Available models approved by CGA/CSA/AGA and FM
- Tested in service in rugged Northern Canada for over 15 years
- Available Models in different certification levels including: Non-Certified, Factory Mutual (FM) Certified for use in Class 1, Division 2, Group 'D' Locations and CSA Certified for use in Class 1, Division 1 and 2, Group 'D' Locations

## ACCESSORIES AVAILABLE

- Enclosures for gas meters, chokes, orifices, regulators, and valves
- Thermo-fan (explosion proof)
- Vent hoods starter cables
- Protection grills
- Wall and floor stands
- Temperature controllers
- Gas pressure regulators
- Safety shut-off valves
- Pressure gauges
- Gas line filters
- Thermocouples
- Ball valves
- Fittings
- And more



**When the highest  
quality, best  
standard of care,  
and greatest degree  
of innovation  
are required,  
IMAC Systems, Inc.  
will deliver on a  
promise of  
exceeding  
expectations.**

## **ABOUT IMAC SYSTEMS, INC.**

IMAC Systems, Inc. was established in 1978 in Yardley, PA. Six expansions and 30+ years later, IMAC Systems, Inc. owns and occupies a state-of-the-art manufacturing facility on the Delaware River in Bucks County, PA. The facilities include a complete gas meter repair and calibration shop and a high-precision CNC machine shop that specializes in close tolerance, sophisticated machining.

IMAC Systems, Inc. is a 3rd generation, family-owned private business that continues to pride itself on a sound history of dependable quality, quick turnaround, and American-made craftsmanship. By remaining steadfast in our dedication to providing the very best service and skill, we are able to stay competitively priced and find viable solutions to our customers' most complex challenges.

When the highest quality, best standard of care, and greatest degree of innovation are required, IMAC Systems, Inc. will deliver on a promise of exceeding expectations.

### **Why IMAC Systems is Different**

We don't mass assemble! Our products are:

- **Individually Made**
- **Individually Tested**
- **Guaranteed High Quality**
- **Competitively Priced**



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