

HOTCAT
CATALYTIC HEATERS:

HOTCAT LD CNG LETDOWN
Safe, Clean, Portable CNG decompression

 **BRUEST**
CATALYTIC HEATERS
www.bruestcatalyticheaters.com



TECHNOLOGY OVERVIEW

While natural gas is normally transmitted in pipelines at pressures up to 1400 PSIG, Compressed Natural Gas (CNG) is normally stored in pressure vessels up to 3600 PSIG. CNG must be brought down to a more manageable pressure to be usable. Due to the Joules Thompson Effect, where gas temperature will drop when the pressure drops, this letdown of pressure means heat must be put back into the gas stream to prevent freezing of sensitive instruments and pipelines.

Each of Bruest's LD series CNG Let Down Systems begins with Bruest's proven catalytic heaters. These heaters are rated for operation in Class 1 Division 1 or Division 2 locations. Furthermore, as catalytic heaters have virtually zero emissions, the LD series letdown stations are not only safe but environmentally friendly.

The LD series letdown stations offer a variety of starting power, packaging, and control options. Input starting power options range from 12VDC to 480VAC. The LD series is designed to be portable. The smallest system weighs less than 60 pounds. Larger systems can be skid mounted, containerized, or mounted on trailers for easy deployment to job sites.



Controls can be simple push-button start, or full PLC controlled with remote interface capabilities. The patent pending control system allows simultaneous connection of multiple CNG trailers to minimize variations in supply pressure.

In addition to these predefined systems, Bruest's engineering team is ready to offer customized packages to best meet individual application requirements.

MODELS & CAPACITIES

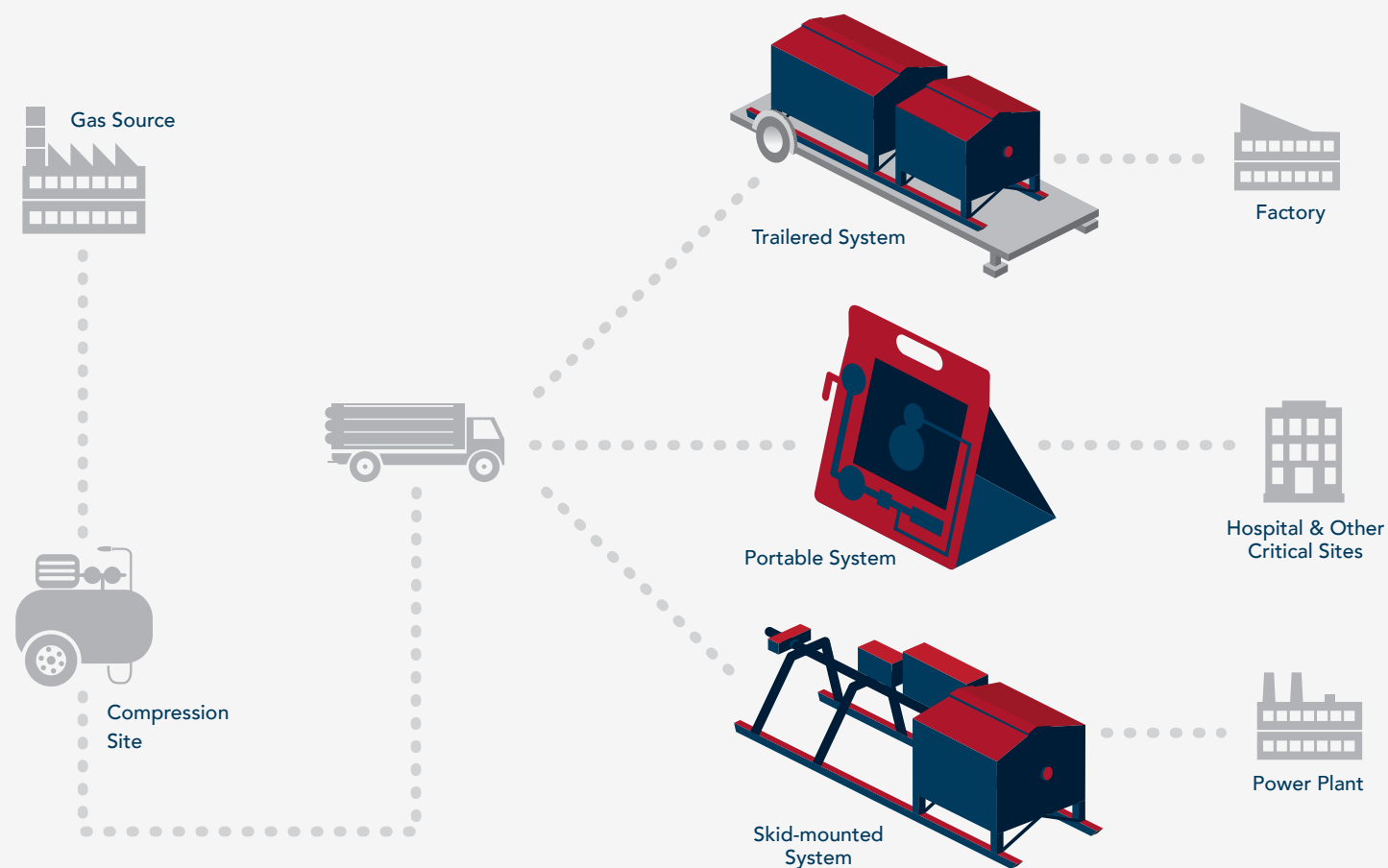
Bruest LD Series Systems are available as small portable units that can be moved between CNG supply trucks, skid mounted assemblies, or ISO containers and trailer systems for portability between job sites.

Portable Systems

Model	LDS001	LDS060	LDS080	LDS120
				
Heat Input	2500 BTU/H	12,000 BTU/H	24,000 BTU/H	36,000 BTU/H
Heaters	Single Heater	Dual Heaters	Dual Heaters	Dual Heaters
Flow Rate*	170 SCFH / 5 Nm3	1080 SCFH / 31 Nm3	1620 SCFH / 46 Nm3	2880 SCFH / 82 Nm3
Weight	~60 Pounds	~75 Pounds	~80 Pounds	~90 Pounds

*Flow rate based on 3600 PSIG inlet pressure, 50 PSIG outlet pressure, 50°F inlet temperature, and 40°F outlet temperature. Contact Bruest Application Engineering to verify sizing.

CNG LET DOWN SYSTEMS



■ SKID MOUNTED SYSTEMS

For higher flow rate applications, Bruest skid mounted systems start with the HOTCAT series of gas heaters. These heaters are coupled with Bruest's patent-pending control system design. Multiple mounting configurations allow for maximum flexibility to meet individual application requirements.

Each of the larger HOTCAT based CNG systems is customized to meet specific application requirements. Standard features include:

- Bruest HOTCAT natural gas line heaters
 - Virtually zero greenhouse gas emissions
 - Multiple zone control to reduce gas usage during low demand periods
 - Easy maintenance
 - No glycol requirements, reducing both startup and maintenance costs
- Class I, Division 1 and 2 classification for safe operation with minimal space requirements
- Multiple regulation for redundancy

- Patent pending control system
 - Allows multiple CNG supply containers to be connected simultaneously
 - Minimizes supply pressure variations to gas network
- Options include:
 - Cellular or satellite communication
 - Skid, container, or trailer configuration
 - Integrated generator with uninterruptible power system backup

■ LD APPLICATIONS

With the abundance of natural gas, CNG is rapidly becoming the fuel of choice for remote locations that do not have access to normal gas pipelines or in situations when gas supply has been interrupted. CNG can be 3 to 4 times lower in cost per MMBTU than Synthetic Natural Gas (SNG), diesel, fuel oil, and LPG.

In addition to the cost savings, Bruest's LD series letdown stations offer environmental savings as well. The catalytic heaters have virtually zero of the controlled emissions gasses; NOx is less than 10PPM in most cases.

■ TECHNICAL SUPPORT

For more than a half century, Bruest has provided flameless infrared catalytic heaters for high and low pressure pipeline applications. Today, much of our focus is the CNG sector, where Bruest letdown technology provides substantial advantages in remote monitoring capability, zone control, and compatibility with the requirements of hazardous locations.

As always, our focus is high quality systems that deliver superior value, ease and flexibility of use, low operational expense, minimal maintenance, and excellent environmental.

Bruest catalytic heaters are engineered for decades of dependable service. Many Bruest systems have been in continuous use for 20 years or more.

The Bruest Catalytic Team is committed to continuous improvement in every aspect of our work, from development and engineering through manufacturing and installation. We are committed to meeting the evolving needs of the natural gas industry.



■ WARRANTY

Bruest warrants the CNG system for 18 months from date of shipment or 12 months from commissioning, whichever is first.

■ HOW TO BUILD A SYSTEM

Use this chart to identify the capacity and features required for your application. For assistance or details, talk with a member of the Bruest Engineering Team.

BUILD A SYSTEM

LD	S	018	A	B	KC	XX
LD	-	Let Down System				
S	-	Heater Series				
	S	Bruest S Series Heaters				
	H	Bruest HOTCAT Heaters				
018	-	Heater Selection				
		S Series Heaters	HOTCAT Series Heaters			
		018 S1800	028	HC288		
		040 S4000	035	HC350		
		060 S6000	057	HC570		
		080 S8000	085	HC850		
		120 S12000	100	HC1000		
		160 S16000	130	HC1300		
			150	HC1500		
			170	HC1700		
			200	HC2000		
			280	HC2800		
A	-	Voltage Selection				
		1	12VDC			
		2	120VAC - 1 Phase			
		3	240VAC - 1 Phase			
		4	480VAC - 3 Phase			
B	-	Regulation Type				
	K	Swagelock				
	F	Fisher				
KC	-	Regulation Family				
	KC	Swagelock KCY				
	1B	Fisher 1301 Bronze Body				
	13	Fisher 1301				
XX	-	Other Options				
	01	16' 12VC Pigtail for XP Junction Box				

Contact us to discuss your applications, or for expert help in designing a system: sales@bruestcatalyticheaters.com • 620.331.0750 • 800.835.0557



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