



Our ultra-lightweight model for extra roof load margin



 Modulating operation for the most demanding requirements

Increases the efficiency of the DSX tube heater system:

Our **TRIGOMAX® condensing system** extracts usable heat from exhaust gases.

# DSX tube heater

## Efficient and sustainable building heating with infrared heat

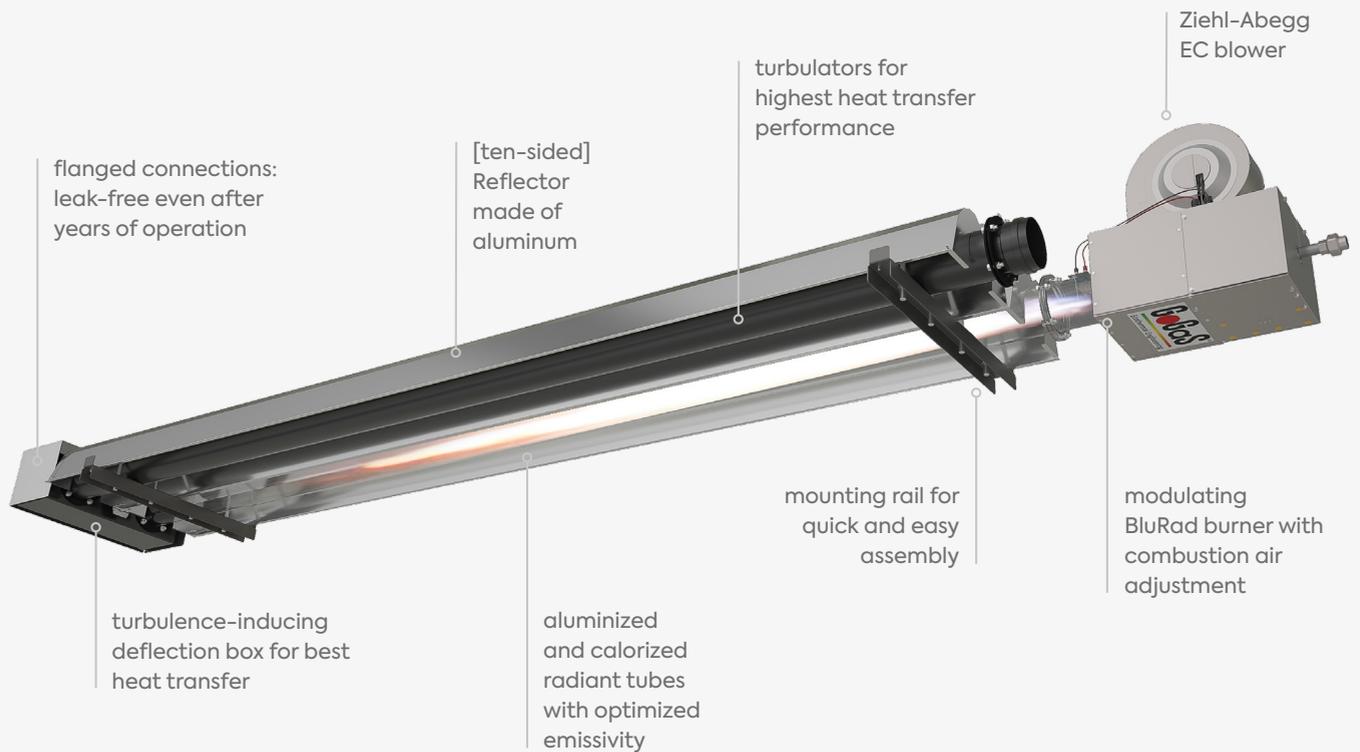
 Silicone free versions available



# DSX tube heater

## Infrared heat

The perfect combination: latest generation burner, reflector with innovative geometry and high quality materials.



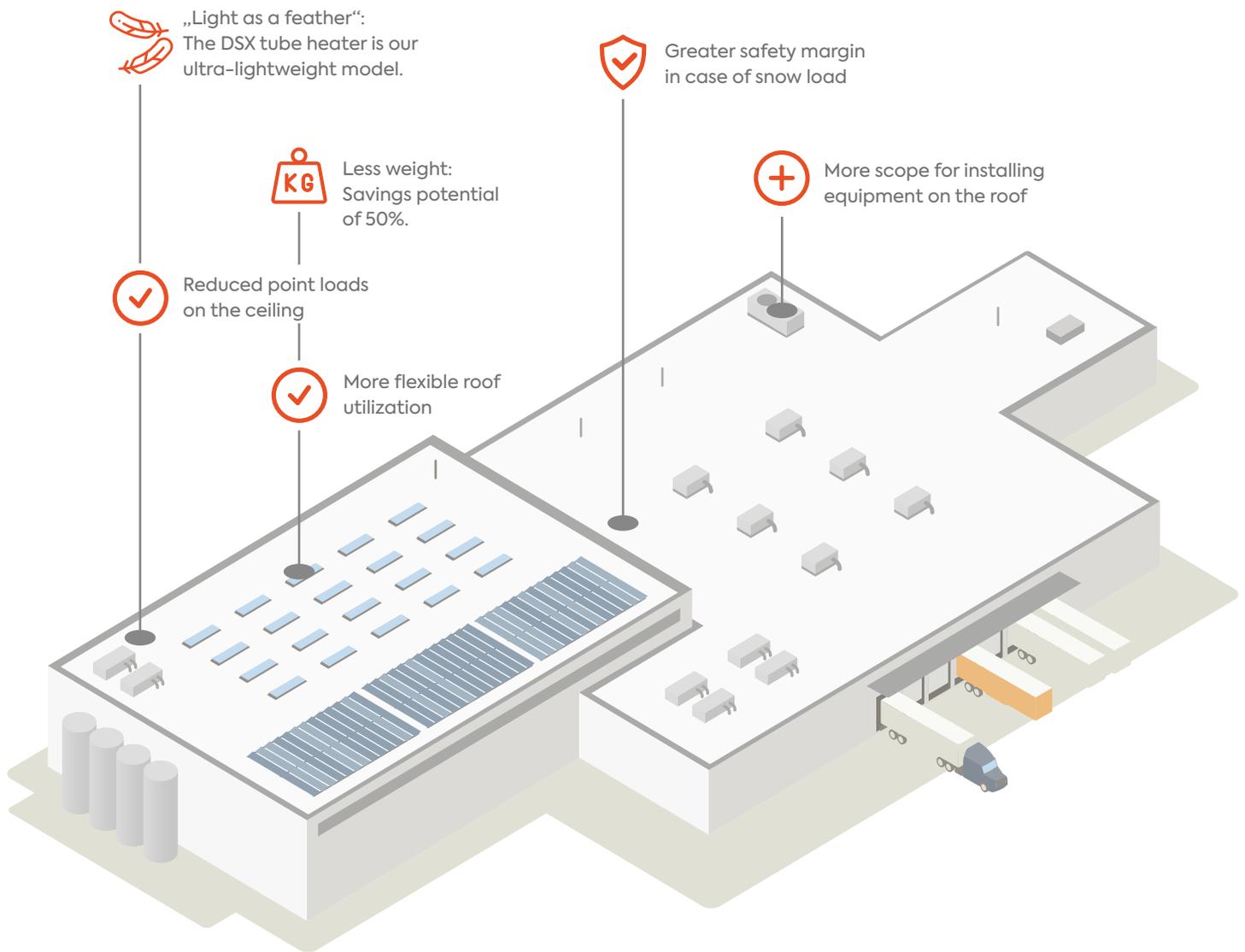
### Your advantages

Only high-quality components are used for our DSX series tube heaters. Cleverly matched to each other, the burner, reflector and radiation tubes produce the optimum combination:

- ✓ modulating burner with combustion air adjustment and highly efficient EC fan
- ✓ dimensionally stable aluminum reflectors with unique geometry
- ✓ aluminized and calorized radiant tubes
- ✓ light but stable construction
- ✓ narrow design, suitable for sprinklers, FM Global compliant
- ✓ maximum efficiency with seasonal efficiency of up to 94%
- ✓ LOW NOx protects our environment
- ✓ modulating operation for maximum comfort
- ✓ free of ceramic insulating materials

# Our ultra-lightweight model

The DSX tube heater is our lightest on the on the market.



The use of the building roof depends on the existing ceiling load. If heavy tube heaters are installed, they put a lot of weight on the ceiling, and consequently there is less margin for installing equipment on the roof. If the load increases further (for example, due to snowfall) operations may even have to be temporarily suspended. Every kilogram saved on the ceiling thus reduces the risk of lost sales and disruptions to production.

The reduced point loads on the roof are strong arguments in favor of our lightweight and uncompromisingly stable tube heaters. The reduced weight enables more efficient insulation systems and also the operation of larger photovoltaic systems or gas engine heat pumps. The advantages are obvious: A smaller carbon footprint, more flexible use of the roof area and long-term cost savings by intensifying the existing use of materials.

## Reflector – less is more

The unique geometry of the DSX reflector is impressive: 11-fold canted, creating 10 reflection surfaces. These direct the infrared energy specifically into the area to be heated. The DSX reflectors are made of high-quality aluminum. The properties of the material are optimal: it is dimensionally stable, reflects the radiation perfectly without significant upward radiation and stays permanently functional. The design of the U-beam with two individual reflectors ensures the best radiation yield.

Due to the small distance between the beam tube and the reflector, convection losses are reduced and the radiation efficiency is increased. Thanks to unique geometry and perfect choice of materials, no insulation of the reflector is required. Firmly anchored turbulators ensure maximum heat transfer efficiency.



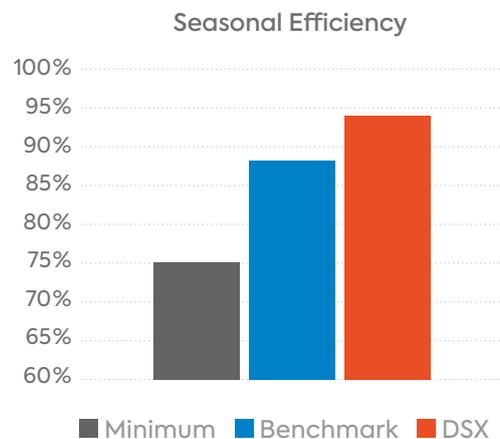
Radiant efficiency increase > for 50% more radiant fraction

## Exceeds the Ecodesign Directive

The current Ecodesign Directive (ErP Directive) specifies the minimum values for the so-called „Seasonal Efficiency“.

Tube heaters that do not meet these requirements will no longer have access to the European market.

With 94% Seasonal Efficiency, the DSX not only exceeds the minimum requirements, but even exceeds the benchmark values of the Ecodesign Directive.

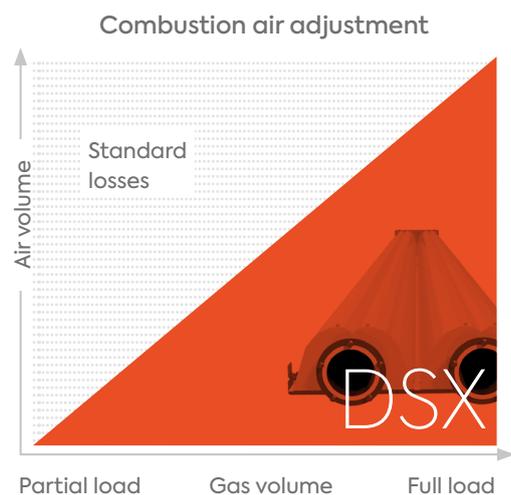


## Optimum gas-air mixture

According to the current ErP directive, 85% of tube heaters are operated at partial load.

With reduced power requirements, the demand for combustion air also decreases. For this reason, the DSX works with a combustion air adjustment: gas and air are optimally mixed, depending on the required power.

In this way, the tube heater always operates at maximum efficiency and achieves high efficiencies.





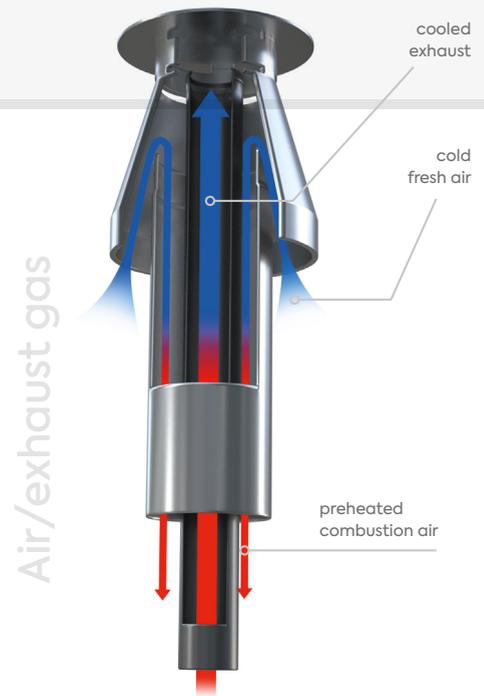
## Modulating operation for more comfort

The DSX is designed for modulating operation. Modulation is achieved electronically by adjusting the gas flow rate. This keeps the temperature level pleasantly constant and provides more comfort and convenience.

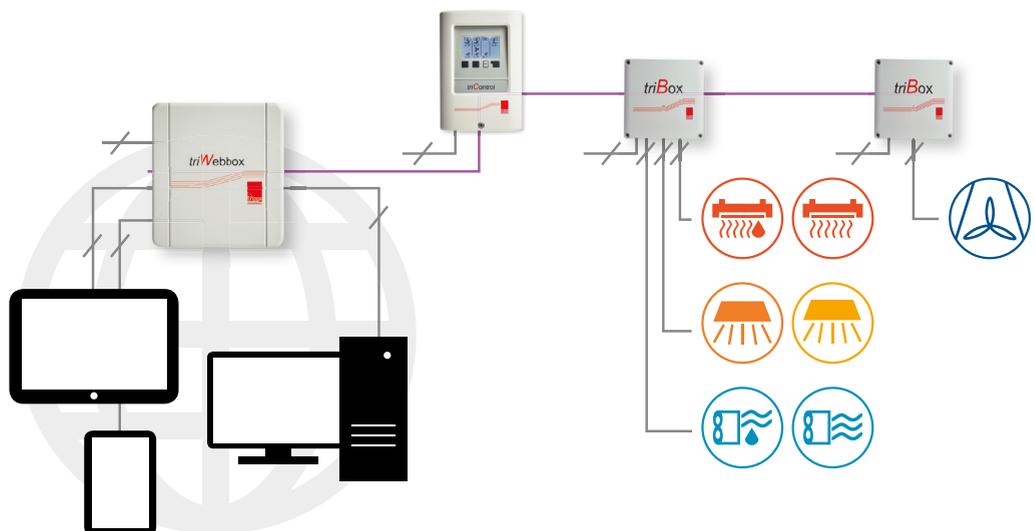
## Using exhaust gas heat productively

The DSX is equipped as standard with an air-flue gas system (LAS). This means that the heat from the exhaust gases is used to preheat the cooler combustion air. Due to the double-shell pipe, only one roof or wall duct is required for this purpose.

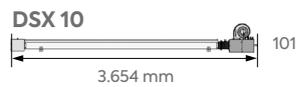
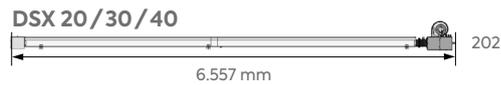
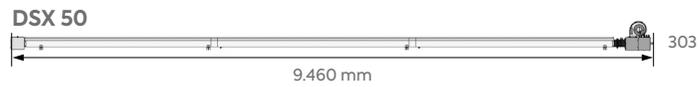
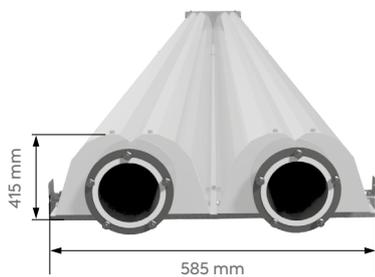
The LAS design increases the efficiency and thus the effectiveness of the tube heater. The reduced energy consumption has a positive effect on the EnEV rating and energy costs. And last but not least: Our environment also benefits from this resource-saving mode of operation.



## Intelligent controller triControl



# Technical data



			DSX 10	DSX 20	DSX 30	DSX 40	DSX 50	DSX 60	DSX 70
Nominal heat load v <sup>1</sup>	[kW]	min	7	12	17	22	29	37	42
		max	10	20	28	36	50	60	66
Seasonal Efficiency	[%]	modulating	93	94	93	92	92,5	91,5	90,5
Radiation factor		Full load	0,78	0,78	0,77	0,77	0,76	0,76	0,74
		Minimum load	0,72	0,72	0,72	0,72	0,71	0,71	0,71
Power supply	[V/Hz]	230 / 50							
Elect. power consumption	[VA]				105		130		
Current	[A]				0,5		0,6		
Gas connection	[inch]				1/2		3/4		
Gas connection pressure	[mbar]	G20	20-60						
		G25	20-60						
Gas consumption	[m <sup>3</sup> /h]	G20	1,1	2,1	3	3,8	5,3	6,3	6,93
		G25	1,2	2,5	3,6	4,5	6,2	7,4	8,25
	[kg/h]	G31	-	-	-	-	3,9	-	-
Weight	[kg]		60	91	91	91	123	154	154
Width	[mm]	585							
NOx <sup>2</sup>	[mg/kWh]		38	44	71	87	97	80	92
NOx class <sup>2</sup>			5		4				

1) Rounded values: for exact dimensions, please refer to the technical documentation

2) Values for natural gas E

We look forward to hearing from you!