GoGaS
Ecothermal Engineering

DSF TRIGOMAX®
CONDENSING INFRARED TUBE HEATER

ErP READY

Patented heat recovery for tube heaters
creates maximum efficiency

DSF tube heater with [ten sided] reflector

DSF tube heater with [ten sided] reflector uses a ten facetted reflector geometry, high-grade aluminium and new flexibility arranging the tube heater. This is the future of efficient room heating.

Top energy efficiency

Tube heater work with the unrivalled sun warmth principle. Infrared ray heat are most pleasant for humans: Despite lower surrounding temperature the warmth is perceived as comfortable.

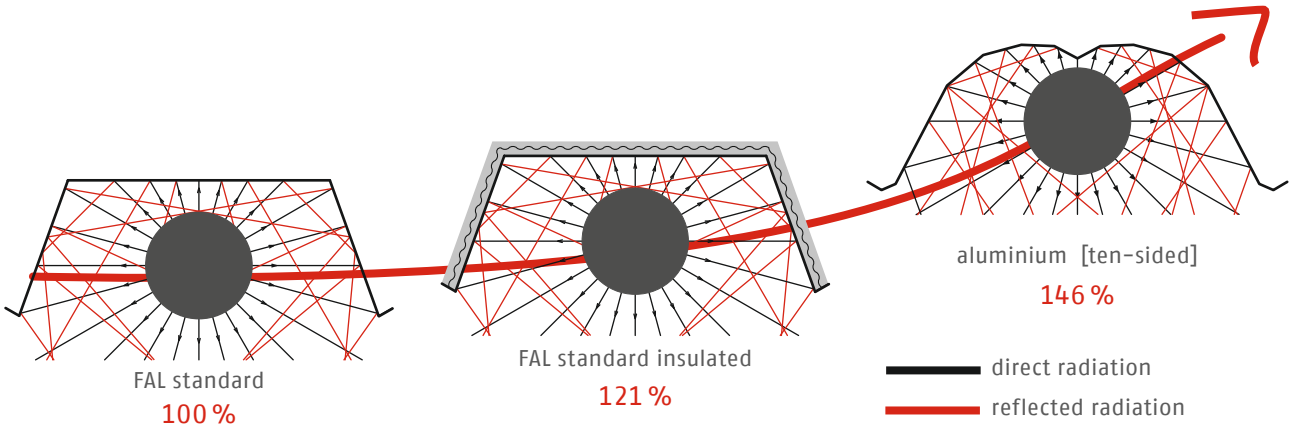
The tube heater system DSF is a decentralised heating system. Which means that the heat is generated and used where it is needed and distribution losses are minimized. The heater is generally made up of a gas burner, radiation pipes and reflectors. Only adjusted perfectly its potential developes.

Reflector as efficiency multiplier

An ingenious idea produced the sophisticated form of the reflector. Via the edged cap geometry ten reflector surfaces where created, which reflect the infrared energy past the pipe directly at the supposed area.

A bounce-back-effect, where the heat reflects back at the pipe, is prevented. The revolutionary geometry of the ten sided aluminium reflector creates a sensational increase in the radiation efficiency. The reflector geometry directs 100% of the infrared energy into the lounge and working area of the room.

Comparison radiation efficiency of different reflectors



Aluminium acts as a mirror

The optimal material for a reflector is aluminium. It reflects the radiation perfectly without emitting warmth upwards. Contrary to other material which darkens over time the surface stays shiny and effective. This makes an insulation superfluous. Furthermore the new DSF tube heater is a visual highlight. For every room there is an optimal DSF-configuration. Due to its extreme flexibility the GoGaS tube heater DSF can be integrated exact into the room architecture and use.

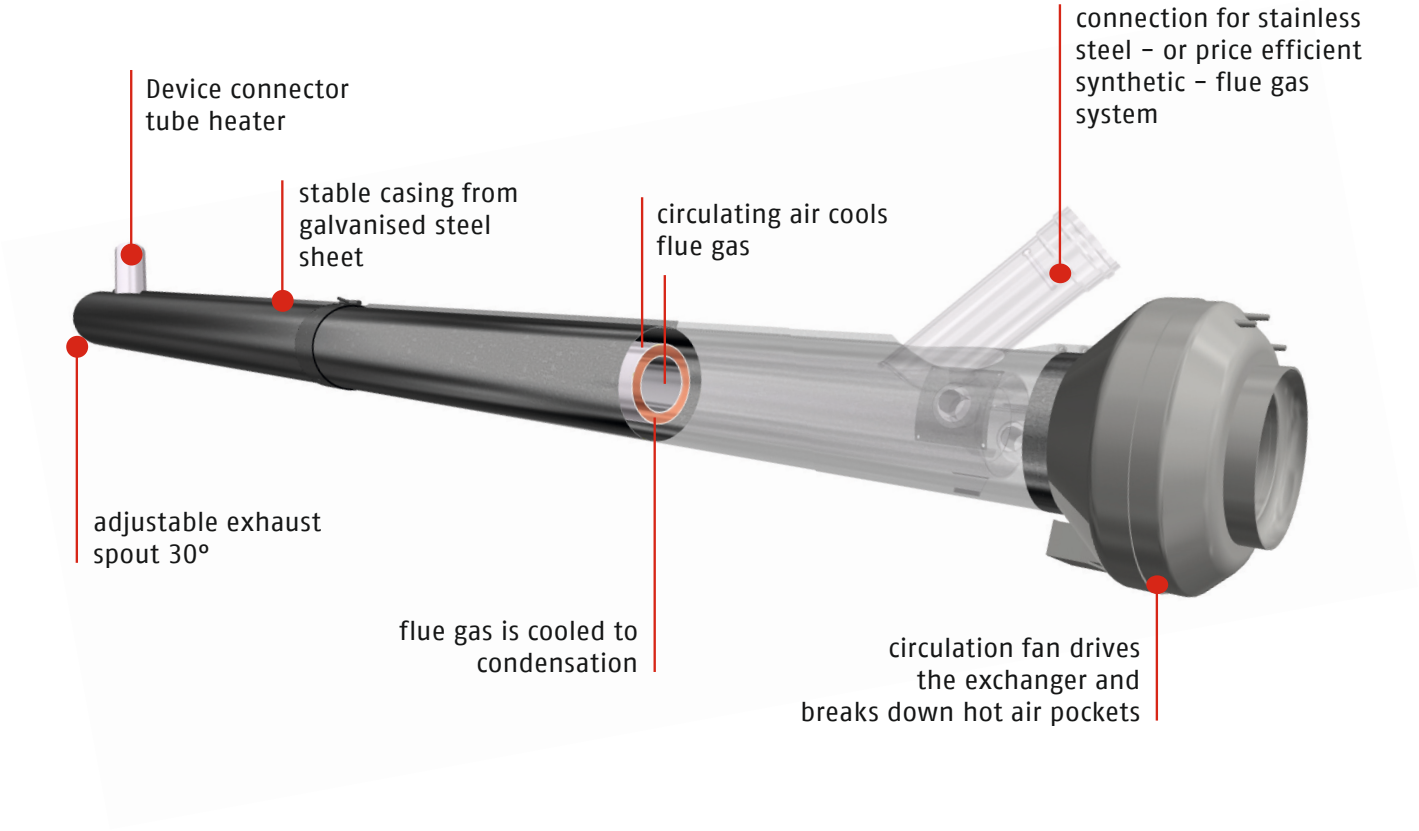
Doing more with less!

Due to the innovative geometry and the optimal material expensive insulation is unnecessary.

As a combined heating system with the TRIGOMAX® it can reach a thermal efficiency of up to 110%.

TRIGOMAX® CONDENSING SYSTEM

Can the efficiency of the tube heater system DSF be increased? Yes! TRIGOMAX® creates usable heat from flue gas.



If today another flue gas exchanger is patented true innovation has to be involved.

A three switch annular gap heat exchanger with an exchanger surface of more than 2.5 m² made from aluminium creates the virtually complete heat exchange from hot flue gas to ambient air. This way a combustion efficiency of up to 110% is reached. Only the patented TRIGOMAX® system by GoGaS can hold this efficiency level on full load. 800 m³ ambient air are heated by 10 to 15 Kelvin every hour and directly brought into the room. No delay, no storing, no losses.

Opposed to ambient air heating, the flue gas cools for up to 180 K in the deep condensation area. From years of accepted losses now comes profit: ecological and economic. The welded and quality tested heat exchanger reliably prevents mixing of flue gas and ambient air. The intern system temperature surveillance allows the use of synthetic UV resistant flue gas systems.

Desirable side effects

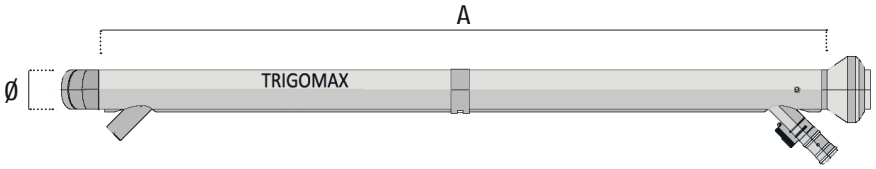
Destratifikation brings further comfort and more savings. That means solar, system and production heat cushions are removed. Furthermore places hard to reach profit from better air and heat distribution.

This way e.g. in a 10.000 m² Logistics hall 35 % savings and an increase in comfort can be registered.

TRIGOMAX® – The Original!

DSF TRIGOMAX® CONDENSING INFRARED TUBE HEATER

Air performance [m³/h]	Electrical power consumption [W]		Length [m]¹		Weight [kg]	Condensate quantity [l/kWh]
	Standard	Silence	A	Ø		
800	153	117	3,7	0,2	67	bis zu 0,164



in combination with DSF tube heaters:

Standard model further versions on request	Capacity [kW]	TYPE	Length [m]¹			Weight [kg]
		DSF	A	B	C	
	10	10/2	5,8			40,5
	20	20/2	5,8			40,5
		20/3	8,7			55,3
		20/4	11,6			70,2
	30	30/3	8,7			55,3
		30/4	11,6			70,2
	40	40/4	11,6			70,2
		40/5	14,5			86,3
	10	10/11	3,5	3,5		45
	20	20/21	6,4	3,5		59,8
		20/22	6,4	6,4		74,7
		20/31	9,3	3,5		74,7
	30	30/21	6,4	3,5		59,8
		30/22	6,4	6,4		74,7
		30/31	9,3	3,5		74,7
	40	40/22	6,4	6,4		74,7
		40/31	9,3	3,5		74,7
	40	40/211	6,4	4	3,5	79,2
	10	10/101	4,6	1,1		61
	20	20/101	4,6	1,1		61
	30	30/202	7,5	1,1		91
	40	40/202	7,5	1,1		91

¹ rounded values, for exact dimensions please refer to the technical documentation

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