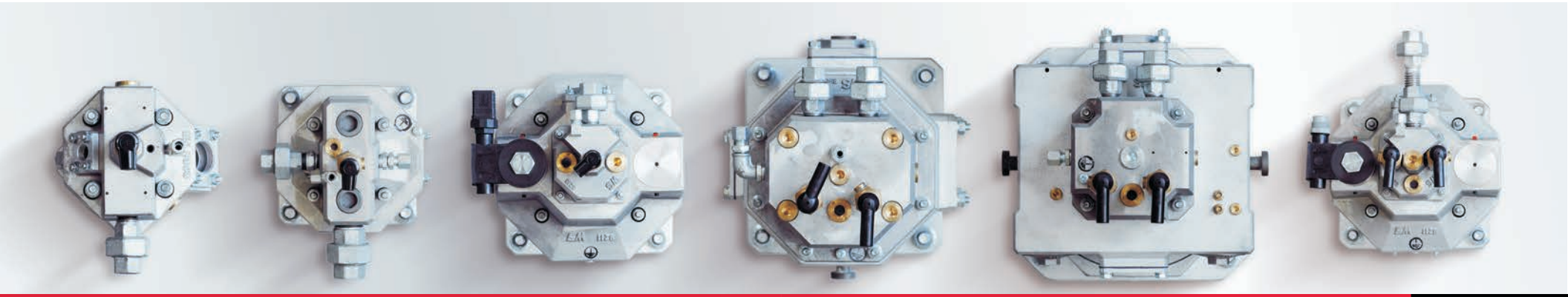
Product Overview

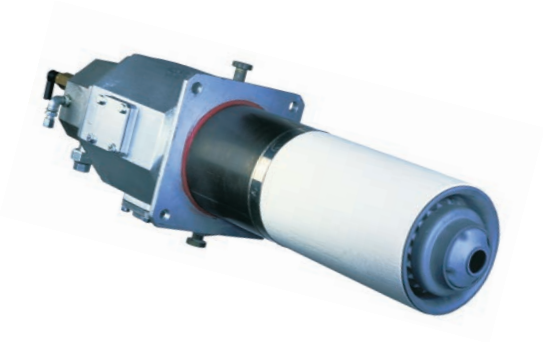


Industrial Burners and Radiant Tubes

FLOX®

WS Wärmeprozesstechnik GmbH

Self Recuperative Burners

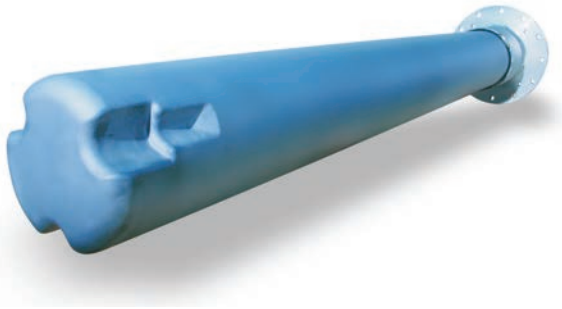


	REKUMAT® C	REKUMAT® M	REKUMAT® S
model	C80, C100, C150, CX200	M150, M200, M250, M300	S100, S150, S200
input range	5kW to 100kW	15kW to 300kW	10kW to 140kW
firing mode	direct heating and radiant tube heating		
combustion mode	FLOX / Flame		
temperature range	up to 1.350C direct heating up to 1.250C radiant tube	up to 1.050C direct heating up to 1.000C radiant tube	up to 1.050C direct heating up to 1.000C radiant tube
fuel	natural gas, Methane, Propane, Butane, LPG and other clean gaseous fuels		
flame safety	flame rod or UV sensor		
heat exchanger type	corrugated SiSiC ceramic	finned tube, metal alloy	gap flow, metal alloy
industries	ferrous and non- ferrous heat treating, forging, aero-space, foundry, automotive	ferrous and non- ferrous heat treating, aero-space, automotive, petro-chem	ferrous and non- ferrous heat treating, aero-space, automotive, petro-chem

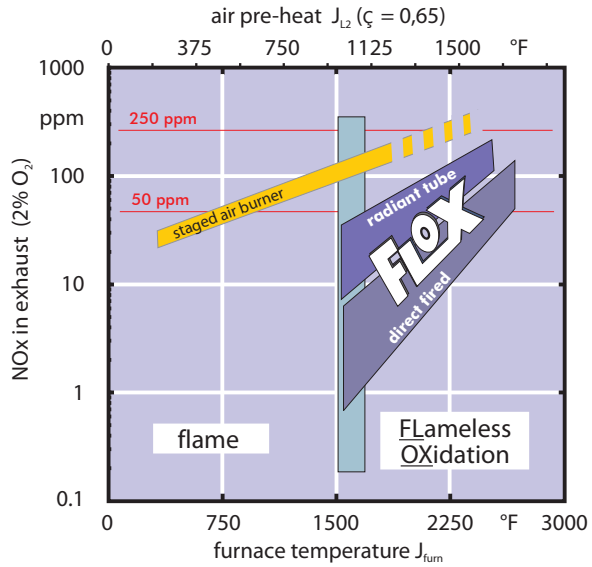
Self Regenerative Burners

	REGEMAT® M350	REGEMAT® M250
model	M350	M250
input range	200kW to 400kW	120kW to 160kW
firing mode	direct heating	direct heating and radiant tube
combustion mode	FLOX / Flame / Boost	FLOX / Flame
temperature	up to1.350C	up to1.050C direct heating up to 1.000C radiant tube heating
fuel	natural gas, Methane, Propane, Butane, LPG and other clean gaseous fuels	
flame safety	flame rod or UV sensor	
heat exchanger type	honeycomb structured ceramic regenerator	
industries	ferrous and non-ferrous heat treating, forging, foundry, aero-space, automotive, pertro-chem	ferrous and non-ferrous heat treating, aero-space, automotive

Radiant Tubes



	P-Tubes	Ceramic Radiant Tubes
model	single P-tube & double P-tubes	single ended radiant tubes (SER's)
length	up to 3.300mm overall	up to 2.800mm overall
diameter	application specific	80, 100, 145, 195 and 250mm
construction	fabricated or cast, with insulated bung assembly and end support	slip cast with metal mounting flange
material	high Ni alloys	SiSiC, reaction bonded
temperature	up to 1.000C tube temperature	up to 1.250C zone temperature with reduced heat flux density
heat flux density	up to 30kW/m^2	up to 55kW/m^2
applications	galvanizing lines, annealing lines, continuous process lines, batch furaces	high temperature heat treating of ferrous and non-ferrrous materials, silicon steel lines, batch furnaces, continuous process lines



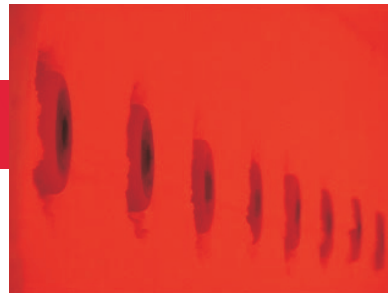
The patented FLOX® combustion principle:

FLOX® is an acronym for "FLamless Oxidation", which describes a method of combustion occurring at high chamber temperatures, typically above 850C. Contrary to a classical flame, with one highly intensive reaction zone near the burner nozzle, the FLOX reaction is homogeneous without flame fronts. Ignition is achieved by recirculation of the hot waste gases. This method guarantees stable combustion over a wide load range even when using fuels with low calorific values. Temperature peaks as seen in flame fronts are eliminated. Thus, NOx emissions are substantially reduced, even at high air pre-heat temperatures.

FLOX®

FLOX® - Fire Without Flame

FLOXcombustion	above 850C chamber temperature
Flame combustion	below 820C chamber temperature
flame supervision	not neccessary in FLOX mode (above auto ignition)
FLOX supervision	via fail safe temperature supervision
emissions	significant reduction of nitrogen oxides (NOx)
uniformity	more uniform combustion chamber temperatures
equipment life	reduced thermal stress results in longer equipment lifetime and reduced maintenance



FLOX®

Rekumat M200 burner firing into an open combustion chamber in FLOX mode.	Rekumat M200 burner firing into an open combustion chamber in Flame mode
no visible flame	visible high velocity flame
noticeably cooler burner nozzles (dark color)	red hot SiSiC combustion chamber
Nox < 50ppm @ 1.180C and 650C air pre-heat	Nox < 220ppm @ 850C and 540C air pre-heat
± 7C temperature	± 7C temperature
no audible combustion noise	typical roaring associated with combustion

- ► high efficiency
- ► low NOx
- ► high reliability

Industrial Burners and Radiant Tubes

FLOX®

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