

Data Sheet

K-RHGB



SERIES K-RHGB

Recuperative high-velocity burner with ceramic recuperator for the direct and indirect heating of industrial furnaces 9-250 kW



Specifications & Advantages

- High-velocity burner with integrated ceramic recuperator for efficient heat recovery, for direct and indirect heating
- Wide power scope, from 9 to 250 kW
- Maximum application temperature up to 1300°C
- High efficiency
- Low-emission multi-stage combustion
- Excellent temperature distribution due to high burner momentum
- Easy direct ignition under full load thanks to a reliable ignition system
- Particularly maintenance-friendly, modular set-up
- All media connections can be adjusted at 90° angles
- Direct flame monitoring to ensure maximum safety in all stages of operation
- Separate cooling air connection possible to enable the specific operation of temperature ramps
- Easy and economical basic maintenance
- Available with basic or complete configuration

Technical specifications

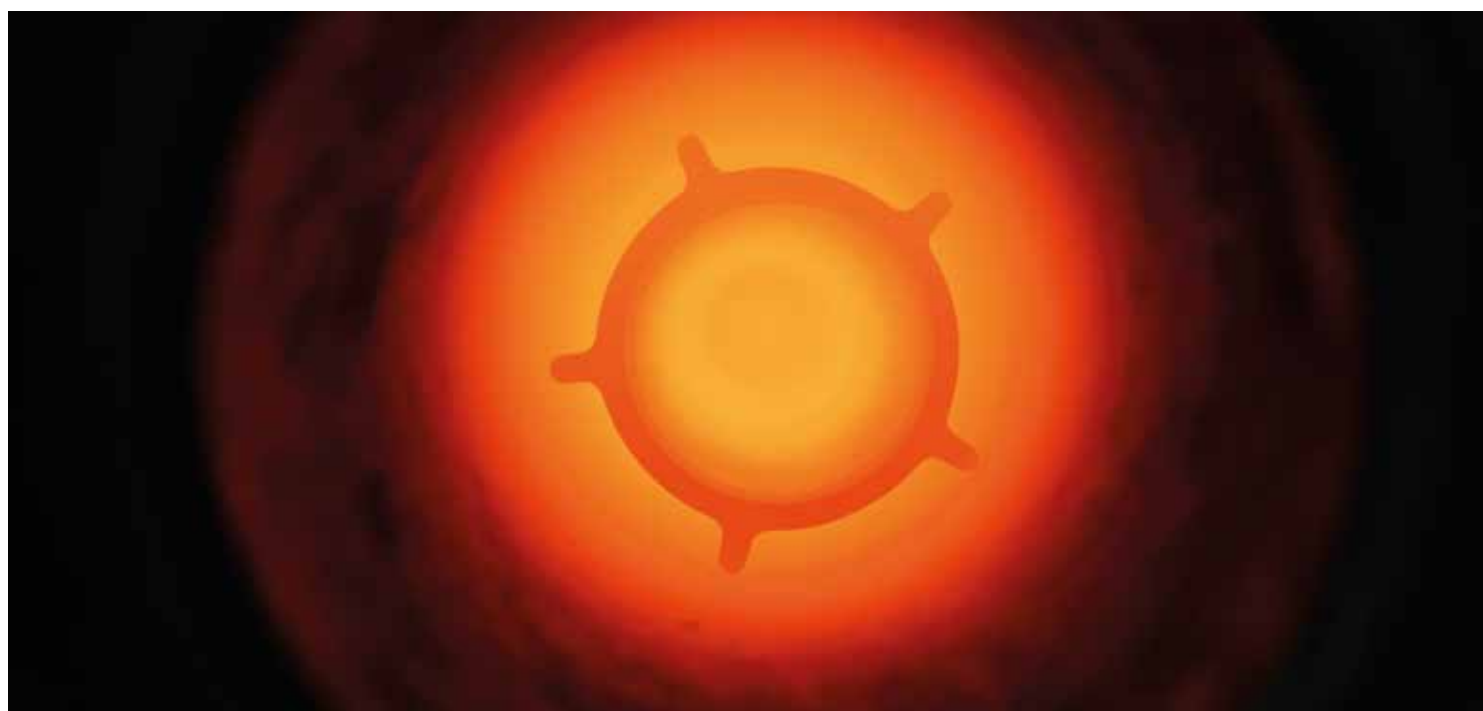
Burner type K-RHGB		15	25	40	80	160	250
Nominal thermal capacity [1]	kW	15	25	40	80	160	250
Nominal thermal capacity [1]	BTU/h	~51000	~85000	~136000	~273000	~546000	~853000
Minimum thermal capacity [1]	kW	9	13	25	40	80	100
Minimum thermal capacity [1]	BTU/h	~31000	~44000	~85000	~136000	~273000	~341000
Nominal gas connection pressure [2]	mbar	50	50	50	50	50	70
Nominal air connection pressure, indirect heating [2]	mbar	60	80	80	80	80	100
Nominal ejector air connection pressure, direct heating [2] [3]	mbar	60	80	90	100	120	130
Necessary volumetric ejector air flow [3]	Nm ³ /h	30	40	100	250	300	370
Maximum recuperator temperature	°C	1300	1300	1300	1300	1300	1300
Nominal diameter of recuperator	mm	85	100	125	150	208	208
Nominal diameter gas connection	DN	15	15	15	15	20	25
Nominal diameter combustion air connection	DN	25	25	40	40	50	65
Nominal diameter cooling air connection	DN	25	40	40	40	50	50
Nominal diameter ejector air connection	DN	25	25	40	65	80	80
Fuel gas [4]	NG, LNG, LPG						

Subject to technical changes without prior notice. [1] Other thermal capacities available upon request.

[2] Pressure variations should not exceed +/- 5%, this applies also to burners in grouped operation.

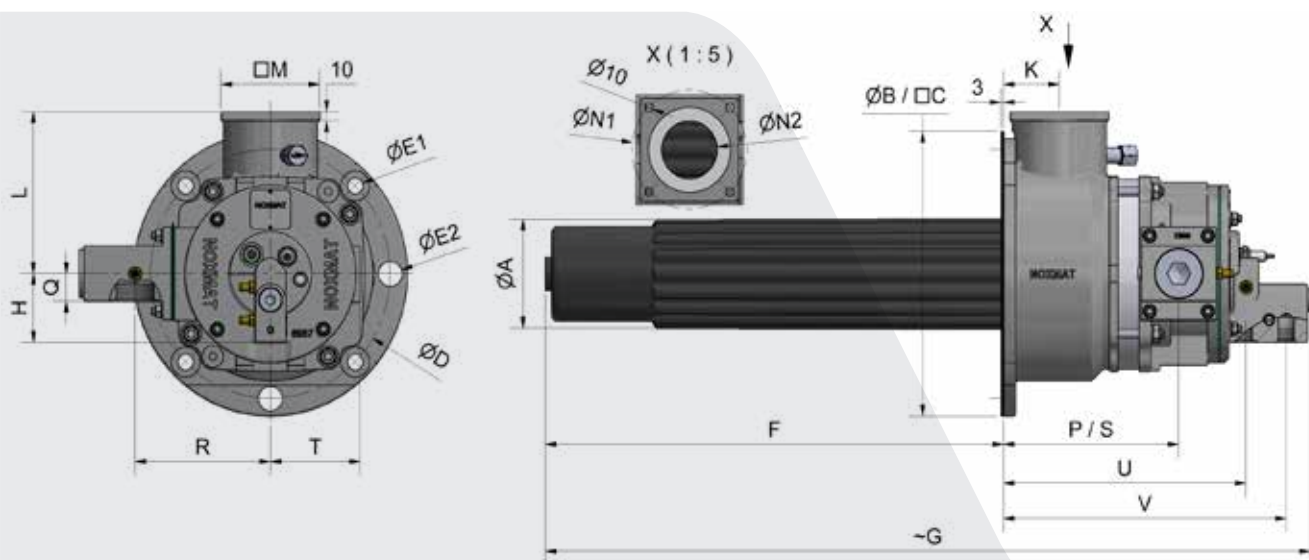
[3] Reference values, based on furnace temperature of 1200°C and 90% waste gas extraction at nominal burner capacity.

[4] Other fuel gas types must be agreed upon with the manufacturer.



SERIES K-RHGB

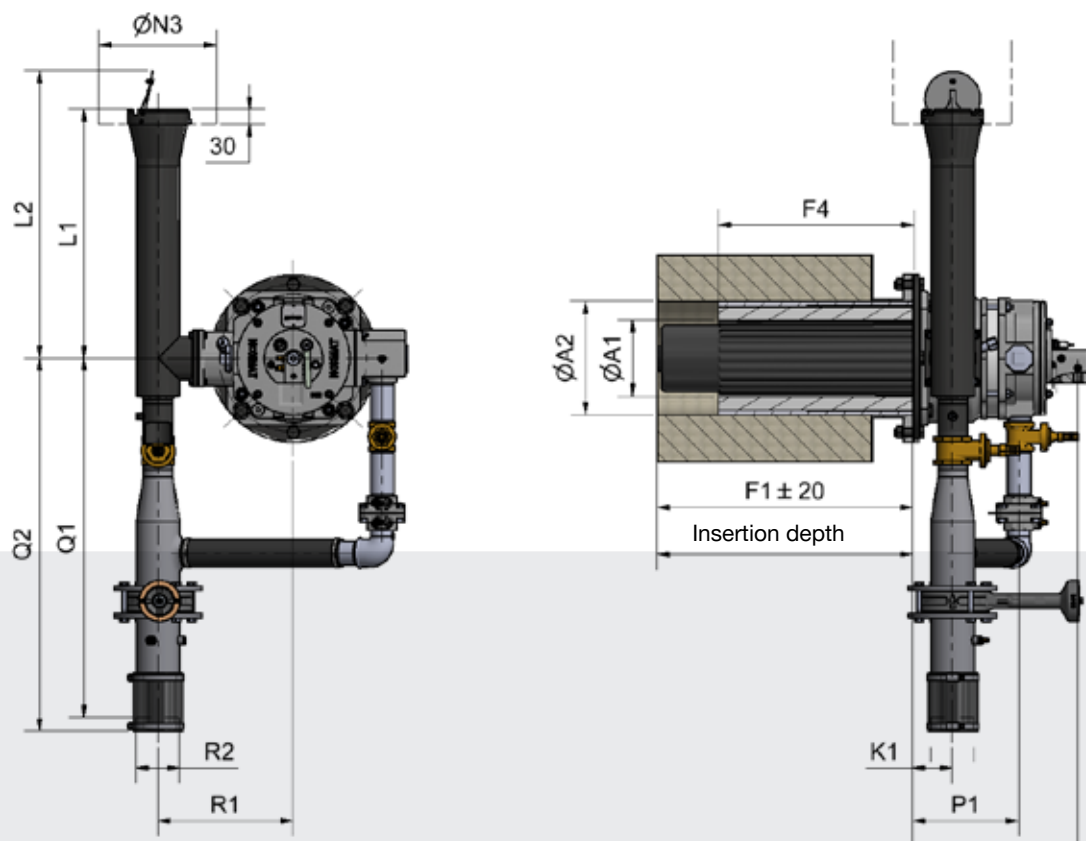
Principal dimensions / Basic burner



Burner size	Principal dimensions							
	A	B	C	D	E1/E2	F	G	H
	mm							
K-RHGB 15	85	--	180	210	18/--	535	910	80
K-RHGB 25	100	265	--	225	18/28	535	880	70
K-RHGB 40	125	--	252	280	18/--	535	890	77
K-RHGB 80	150	--	272	300	18/--	535	880	50
K-RHGB 160	208	440	--	395	24/34	535	960	70
K-RHGB 250	208	440	--	395	24/34	625	1052	70

Burner size	Connection dimensions															
	Waste gas					Combustion air				Cooling air		Purge air		Combustion gas		
	K	L	M	N1	N2	P	Q	R	S	T	U		V			
	mm					mm			inch	mm		inch	mm	inch	mm	inch
K-RHGB 15	60	130	96	110	35	185	30	125	G3/4	185	85	G3/4	259	G3/8	304	Rp1/2
K-RHGB 25	65	150	104	120	50	197	37	135	G1	197	98	G1.1/2	274	G3/8	319	Rp1/2
K-RHGB 40	65	180	115	134	65	205	30	158	G1.1/2	205	105	G1.1/2	283	G3/8	328	Rp1/2
K-RHGB 80	65	190	115	134	75	200	48	180	G1.1/2	200	123	G1.1/2	277	G3/8	319	Rp1/2
K-RHGB 160	85	245	134	160	82	240	41	234	G2	240	175	G2	332	G3/8	390	Rp3/4
K-RHGB 250	85	245	134	160	82	240	63	300	G2.1/2	240	175	G2	332	G3/8	390	Rp1

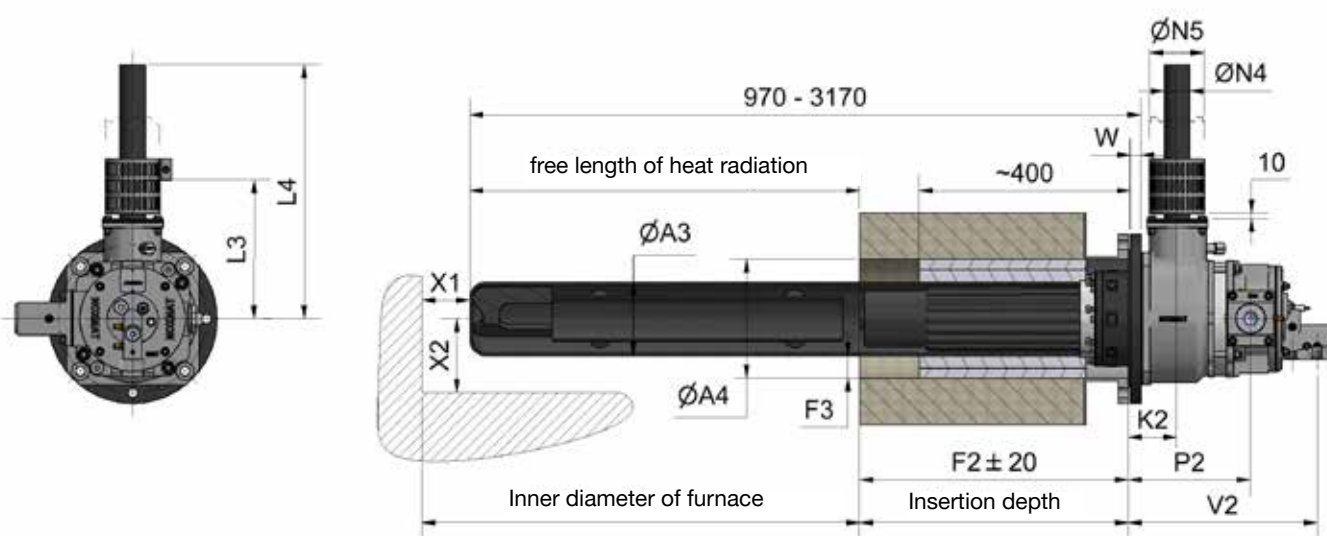
Principal dimensions / Connecting dimensions Direct heating



Burner size	Principal dimensions				Connection dimensions									
					Waste gas				Combustion and Ejector air				Gas	
	A1	A2	F1	F4	K1	L1	L2	N3	P1	Q1	Q2	R1	R2	V1
	mm				mm				mm				mm	
K-RHGB 15	90	150	535	418	76	506	583	240	201	365±10	396	231	34	320
K-RHGB 25	105	175	535	387	81	506	583	240	213	365±10	396	251	34	335
K-RHGB 40	130	200	535	395	81	506	583	240	221	365±10	396	281	34	346
K-RHGB 80	155	230	535	398	81	506	583	240	216	730±10	758	275	89	335
K-RHGB 160	216	300	535	389	99	1031	1131	280	254	720±10	751	330	89	404
K-RHGB 250	230	315	625	482	99	1031	1131	280	254	700±10	730	330	89	404

SERIES K-RHGB

Principal dimensions / Connecting dimensions Indirect heating

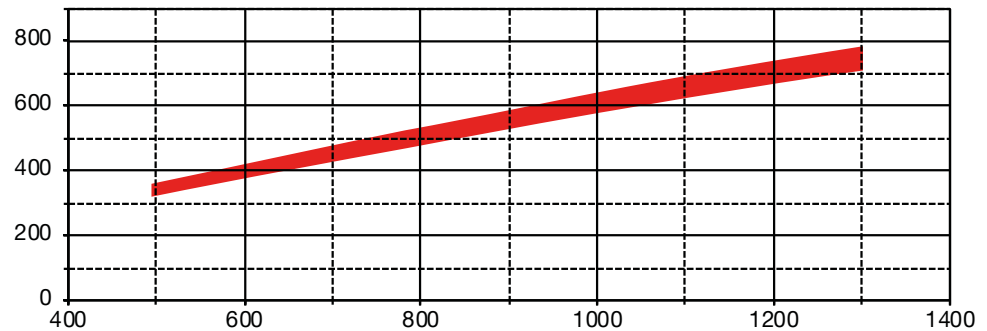


Burner size	Principal dimensions				Connection dimensions									
					Waste gas					CA	Gas	Jacket tube		
	A3	A4	F2	F3	K2	L3	L4	N4	N5	P2	V2	W	X1	X2
	mm				mm					mm	mm	mm	mm	mm
K-RHGB 15	100	160	513	30	82	212	430	42	102	207	326	15	90	100
	115	175	500	30	95	212	430	42	102	220	339	15	90	115
K-RHGB 25	115	175	513	31	87	232	450	42	102	219	341	15	90	115
	140	225	508	42	92	232	450	42	102	224	346	20	90	140
K-RHGB 40	140	225	508	42	92	262	480	48	102	231	357	20	90	140
	165	250	508	43	92	262	480	48	102	231	357	20	105	165
K-RHGB 80	165	250	508	43	92	262	480	60	102	227	346	20	105	165
	200	285	495	43	105	272	490	60	102	240	359	20	120	200

TYPICAL PERFORMANCE CHARACTERISTICS

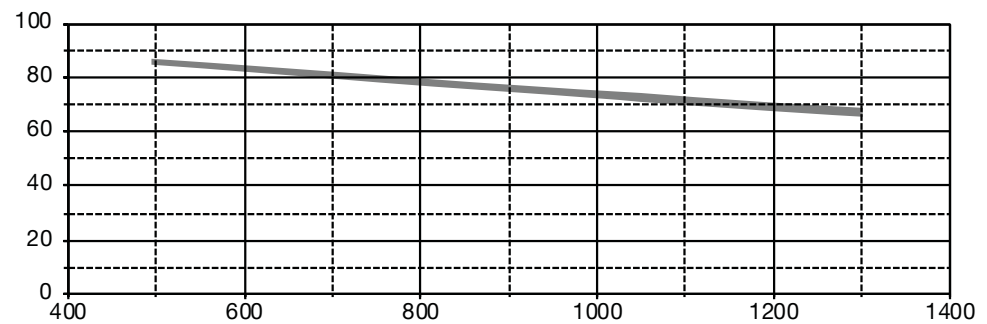
K-RHGB 15

Waste gas temperature at recuperator outlet in °C



Waste gas temperature at recuperator inlet in °C

Firing efficiency rate in %



Waste gas temperature at recuperator inlet in °C

The above illustrations are valid for:

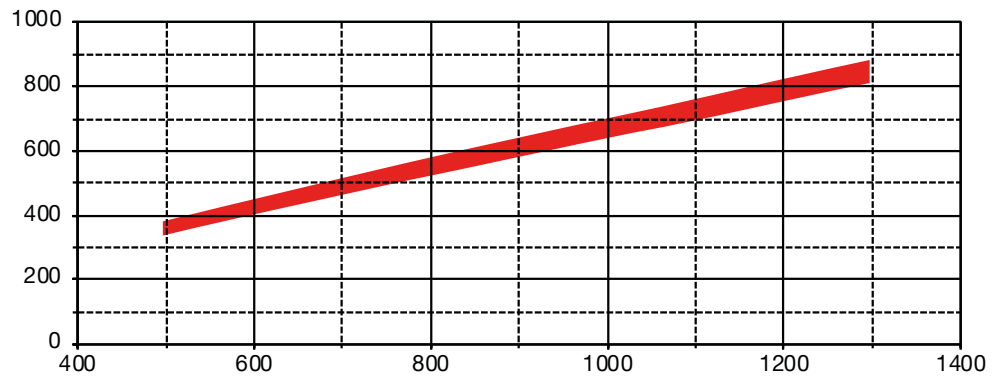
- indirect heating (with radiant tubes)
- direct heating with 100 % exhaust gas extraction
- continuous operation at nominal burner capacity
- $\lambda = 1,10 \dots 1,20$

The parameters specified shall be regarded as recommended ones. They are dependent on various factors that may vary in practice from the conditions specified above. Parameters for special conditions of use can be obtained from NOXMAT GmbH on request.

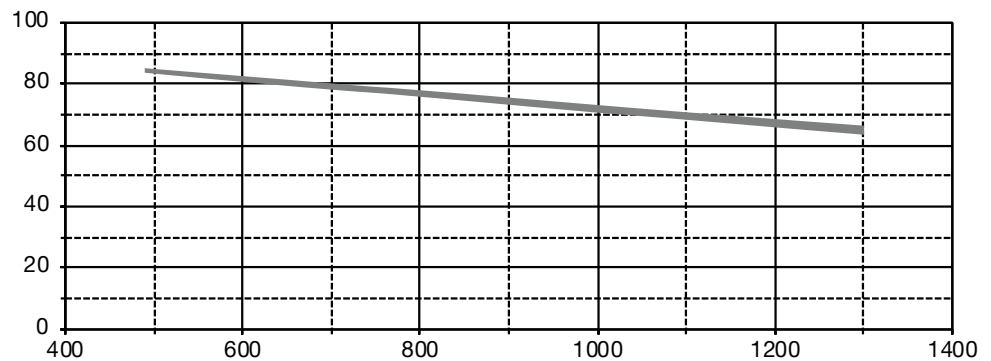
TYPICAL PERFORMANCE CHARACTERISTICS

K-RHGB 25

Waste gas temperature at recuperator outlet in °C



Firing efficiency rate in %



Waste gas temperature at recuperator inlet in °C

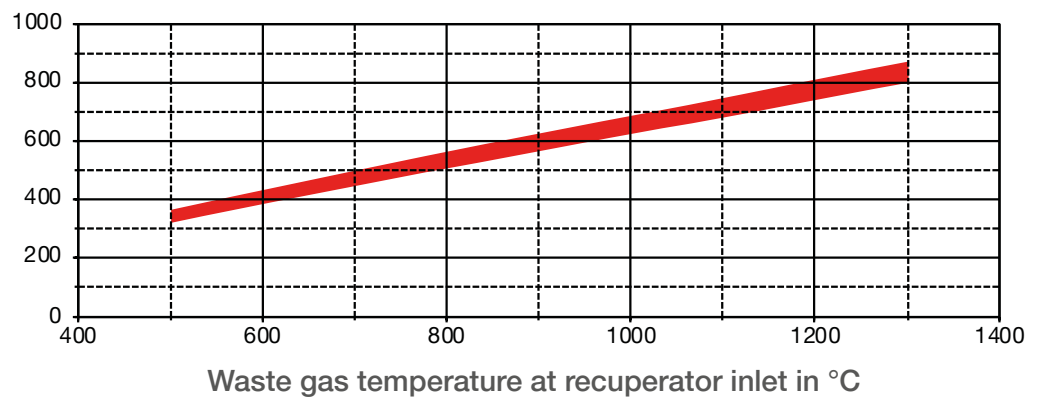
The above illustrations are valid for:

- indirect heating (with radiant tubes)
- direct heating with 100 % exhaust gas extraction
- continuous operation at nominal burner capacity
- $\lambda = 1,10 \dots 1,20$

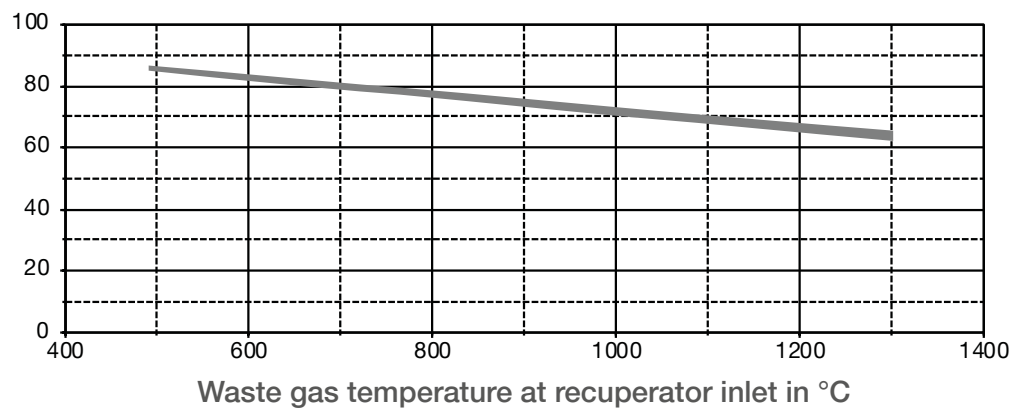
The parameters specified shall be regarded as recommended ones. They are dependent on various factors that may vary in practice from the conditions specified above. Parameters for special conditions of use can be obtained from NOXMAT GmbH on request.

K-RHGB 40

Waste gas temperature at recuperator outlet in °C



Firing efficiency rate in %



The above illustrations are valid for:

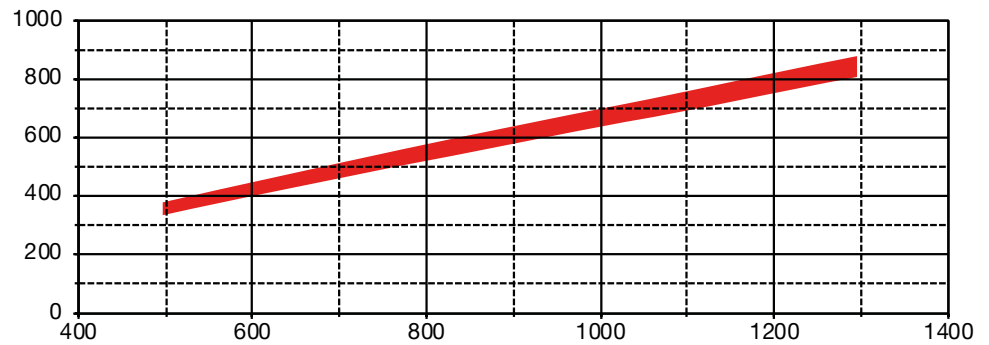
- indirect heating (with radiant tubes)
- direct heating with 100 % exhaust gas extraction
- continuous operation at nominal burner capacity
- $\lambda = 1,10 \dots 1,20$

The parameters specified shall be regarded as recommended ones. They are dependent on various factors that may vary in practice from the conditions specified above. Parameters for special conditions of use can be obtained from NOXMAT GmbH on request.

TYPICAL PERFORMANCE CHARACTERISTICS

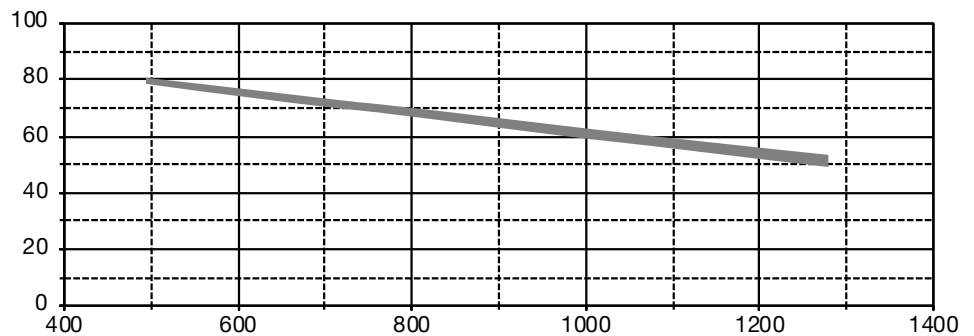
K-RHGB 80

Waste gas temperature at recuperator outlet in °C



Waste gas temperature at recuperator inlet in °C

Firing efficiency rate in %



Waste gas temperature at recuperator inlet in °C

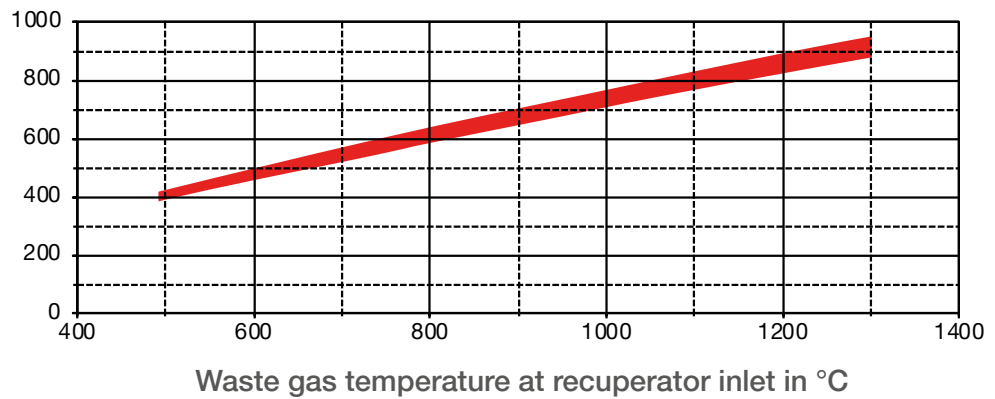
The above illustrations are valid for:

- indirect heating (with radiant tubes)
- direct heating with 100 % exhaust gas extraction
- continuous operation at nominal burner capacity
- $\lambda = 1,10 \dots 1,20$

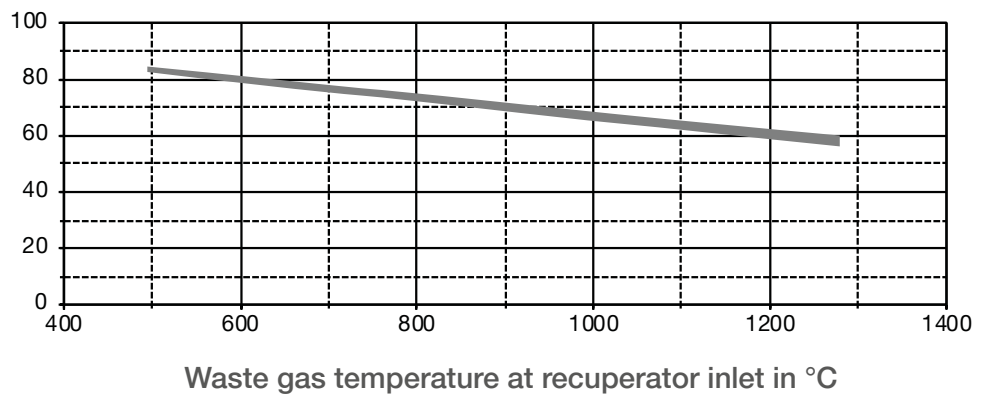
The parameters specified shall be regarded as recommended ones. They are dependent on various factors that may vary in practice from the conditions specified above. Parameters for special conditions of use can be obtained from NOXMAT GmbH on request.

K-RHGB 160

Waste gas temperature at recuperator outlet in °C



Firing efficiency rate in %



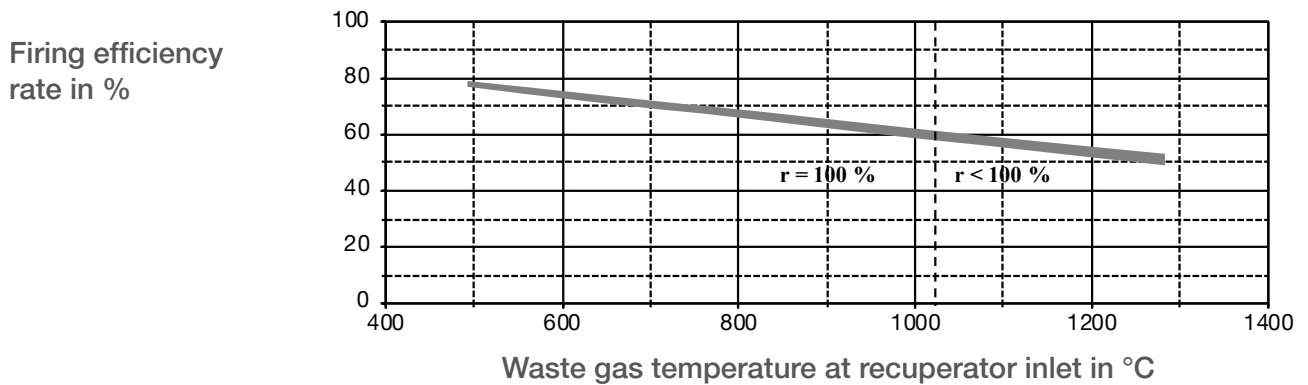
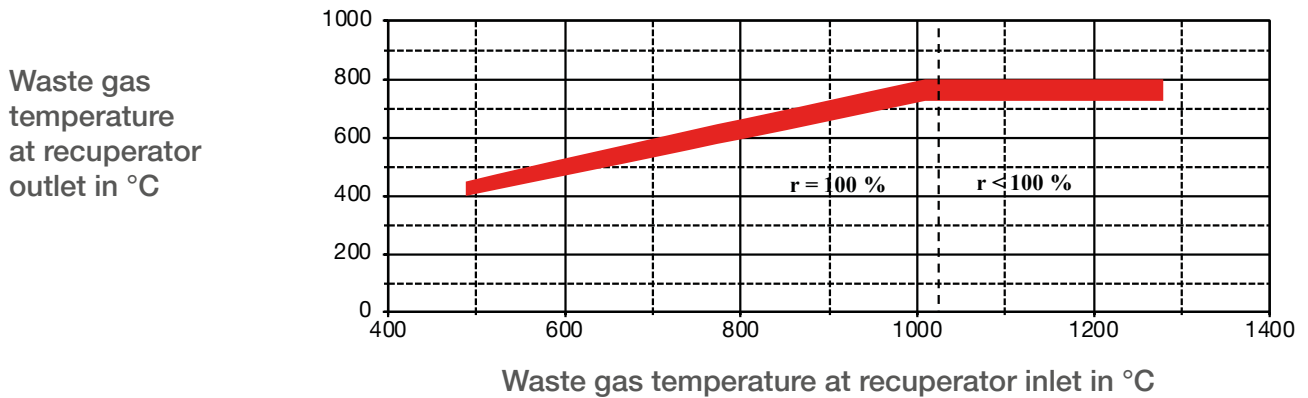
The above illustrations are valid for:

- indirect heating (with radiant tubes)
- direct heating with 100 % exhaust gas extraction
- continuous operation at nominal burner capacity
- $\lambda = 1,10 \dots 1,20$

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TYPICAL PERFORMANCE CHARACTERISTICS

K-RHGB 250



The above illustrations are valid for:

- indirect heating (with radiant tubes)
- direct heating with exhaust gas extraction r
- continuous operation at nominal burner capacity
- $\lambda = 1,10 \dots 1,20$

The parameters specified shall be regarded as recommended ones. They are dependent on various factors that may vary in practice from the conditions specified above. Parameters for special conditions of use can be obtained from NOXMAT GmbH on request.

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