

# Data sheet

Serie RHGB



# SERIES RHGB

Recuperative high-velocity burner with steel recuperator for the direct and indirect heating of industrial furnaces 7-250 kW



## Specifications & Advantages

- High-velocity burner with integrated steel recuperator for efficient heat recovery, for direct and indirect heating
- Wide power scope, from 7 to 250 kW
- Maximum application temperature up to 1150°C
- High efficiency
- Low-emission multi-stage combustion
- Excellent temperature distribution due to high burner velocity
- 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

## Technical specifications

Burner type RHGB		15	25	40	80	100	160	250
Nominal thermal capacity [1]	kW	15	25	40	80	100	160	250
Nominal thermal capacity [1]	BTU/h	~51000	~85000	~136000	~273000	~341000	~546000	~853000
Minimum thermal capacity [1]	kW	7	13	25	40	50	80	100
Minimum thermal capacity [1]	BTU/h	~24000	~44000	~85000	~136000	~171000	~273000	~341000
Nominal gas connection pressure [2]	mbar	50	50	50	50	70	50	70
Nominal air connection pressure, indirect heating [2]	mbar	60	60	80	80	90	80	90
Nominal ejector air connection pressure, direct heating [2] [3]	mbar	60	60	80	90	100	90	130
Necessary volumetric ejector air flow [3]	Nm <sup>3</sup> /h	20	20	60	150	190	260	350
Maximum recuperator temperature	°C	1150	1150	1150	1150	1150	1150	1150
Nominal diameter of recuperator	mm	102	130	130	180	180	230	230
Nominal diameter gas connection	DN	15	15	15	15	20	20	25
Nominal diameter combustion air connection	DN	25	25	25	40	40	50	65
Nominal diameter cooling air connection	DN	25	40	40	40	40	50	65
Nominal diameter ejector air connection	DN	25	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.

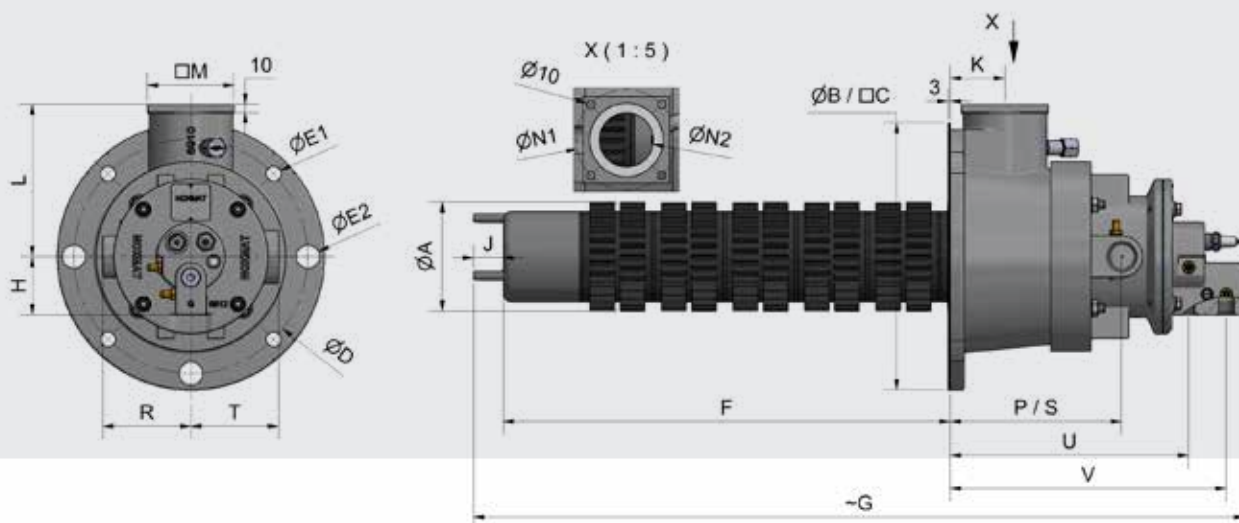
[3] Reference values, based on furnace temperature of 1000°C and 90% waste gas extraction at nominal burner capacity.

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



# SERIES RHGB

## Principal dimensions / Basic burner

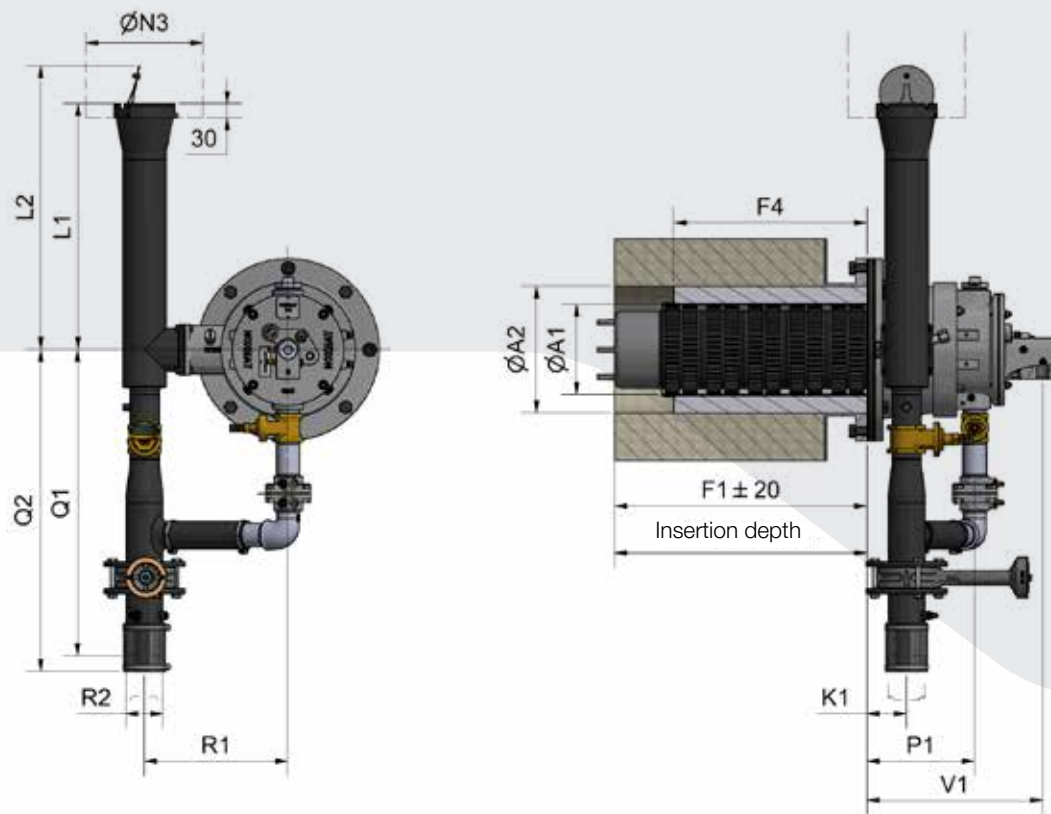


Burner size	Principal dimensions								
	A	B	C	D	E1/E2	F*	G	H	J
	mm								
RHGB 15	102	265	--	225	19/28	535	950	80	20
RHGB 25	130	--	250	280	18/--	535	920	70	35
RHGB 40	130	--	250	280	18/--	535	920	70	35
RHGB 80	180	375	--	335	18/28	535	930	50	35
RHGB 100	180	375	--	335	18/28	535	950	60	35
RHGB 160	230	490	--	445	24/34	535	970	70	10
RHGB 250	230	490	--	445	24/24	535	970	70	10

Burner size	Connection dimensions														
	Waste gas					Combustion air			Cooling air**			Purge air		Combustion	
	K	L	M	N1	N2	P	R		S	T		U		V	
	mm					mm		inch	mm		inch	mm	inch	mm	inch
RHGB 15	60	150	$\phi 90$	--	55	185	85	G1	185	85	G1	270	G3/8	315	Rp1/2
RHGB 25	65	180	104	120	65	205	105	G1	205	105	G1.1/2	285	G3/8	330	Rp1/2
RHGB 40	65	180	104	120	65	205	105	G1	205	105	G1.1/2	285	G3/8	330	Rp1/2
RHGB 80	65	210	104	120	65	205	123	G1.1/2	205	123	G1.1/2	288	G3/8	330	Rp1/2
RHGB 100	65	210	104	120	65	205	123	G1.1/2	205	123	G1.1/2	288	G3/8	345	Rp3/4
RHGB 160	80	265	134	160	92	240	174	G2	240	175	G2**	342	G3/8	400	Rp3/4
RHGB 250	80	265	134	160	92	240	175	G2.1/2	240	176	G2**	342	G3/8	400	Rp1

(\*) Length variable; (\*\*) optional

## Principal dimensions / Connecting dimensions Direct heating



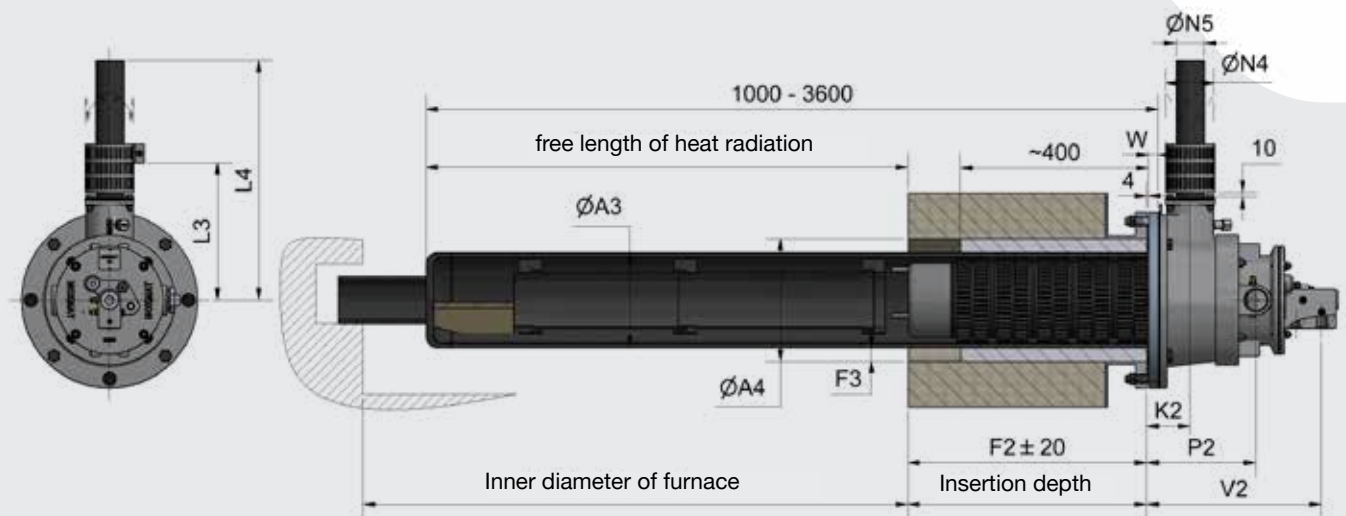
Burner size	Principal dimensions			
	A1	A2	F1	F4
	mm			
RHGB 15	106	160	519	398
RHGB 25	135	200	521	398
RHGB 40	135	200	521	398
RHGB 80	185	260	519	400
RHGB 100	185	260	519	400
RHGB 160	236	300	519	400
RHGB 250	251	300	519	400



# SERIES RHGB

Burner size	Connection dimensions									
	Waste gas				Combustion and Ejector air					Gas
	K1	L1	L2	N3	P2	Q1	Q2	V2	V1	V1
	mm				mm					mm
RHGB 15	76	506	583	240	201	375±10	398	250	34	331
RHGB 25	79	506	583	240	219	375±10	404	281	34	344
RHGB 40	79	506	583	240	219	375±10	404	281	34	344
RHGB 80	81	506	583	240	221	630±10	658	311	76	346
RHGB 100	81	506	583	240	221	690±10	722	311	76	361
RHGB 160	96	1031	1127	280	256	720±10	753	350	89	416
RHGB 250	96	1031	1127	280	256	770±10	800	350	89	416

## Principal dimensions / Connecting dimensions Indirect heating



Burner size	Principal dimensions			
	A3	A4	F2	F3
	mm			
RHGB 15	120	181	513	30
	150	207	495	28
RHGB 25	150	207	508	28
	200	261	497	30
RHGB 40	150	207	508	28
	200	261	497	30
RHGB 80	200	261	508	30
RHGB 100	200	261	508	30
RHGB 160	236**	k.A.	512	k.A.
RHGB 250	251**	k.A.	512	k.A.

Burner size	Connection dimensions							
	Waste gas					CA	Gas	Jacket tube
	K2	L3	L4	N4	N5	P2	V2	W
	mm					mm	mm	mm
RHGB 15	82	229	450	102	42	207	337	15
	100	229	450	102	42	225	355	15
RHGB 25	92	262	480	102	42	232	357	20
	103	262	480	102	42	243	368	20
RHGB 40	92	262	480	102	48	232	357	20
	103	262	480	102	48	243	368	20
RHGB 80	92	292	510	102	60	232	357	20
RHGB 100	92	292	510	102	60	232	372	20
RHGB 160	103	347	565	140	89	263	423	20
RHGB 250	103	347	565	140	89	263	423	20

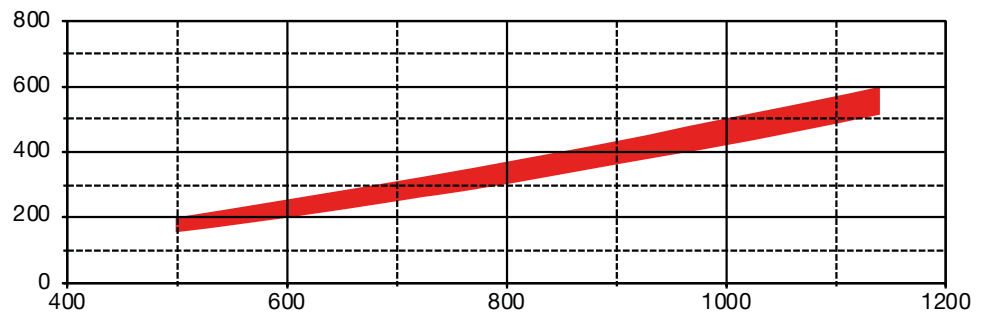
\*only when using P and double P-nozzles

\*\*required inner diameter of the steel tube

# TYPICAL PERFORMANCE CHARACTERISTICS

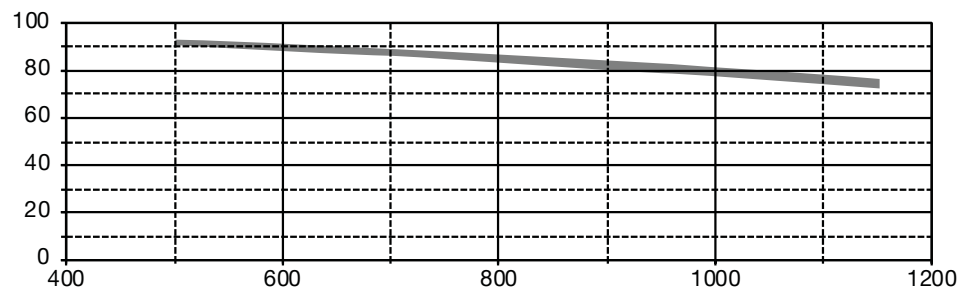
## RHBG 15

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:

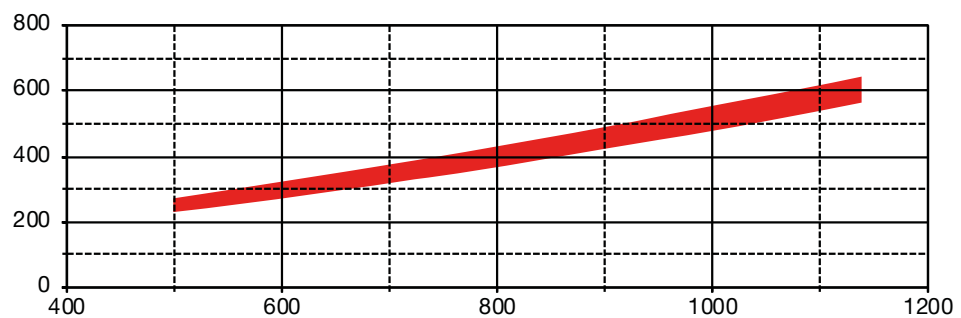
- indirect heating (with radiant tubes)
- direct heating with 100 % exhaust gas extraction
- continuous operation at nominal burner capacity
- natural gas
- $\lambda = 1,10 \dots 1,20$

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.



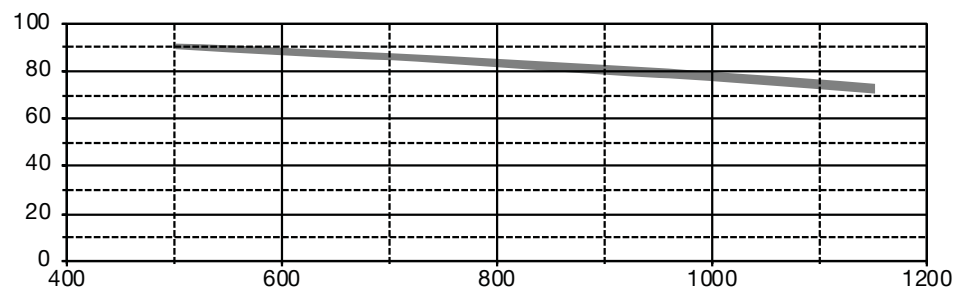
## RHBG 25

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:

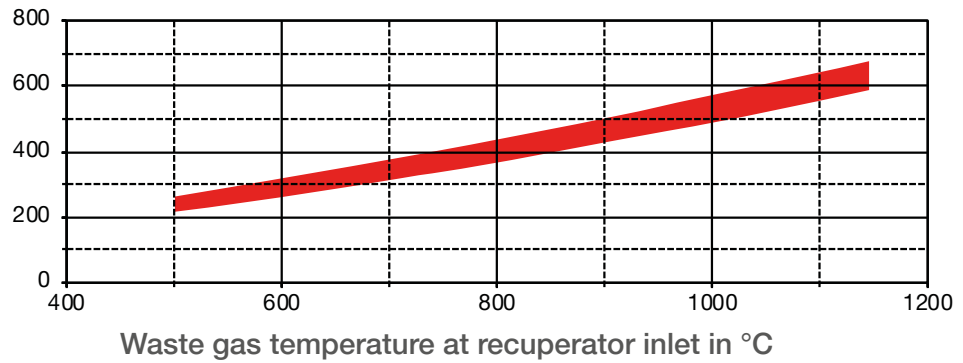
- indirect heating (with radiant tubes)
- direct heating with 100 % exhaust gas extraction
- continuous operation at nominal burner capacity
- natural gas
- $\lambda = 1,10 \dots 1,20$

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.

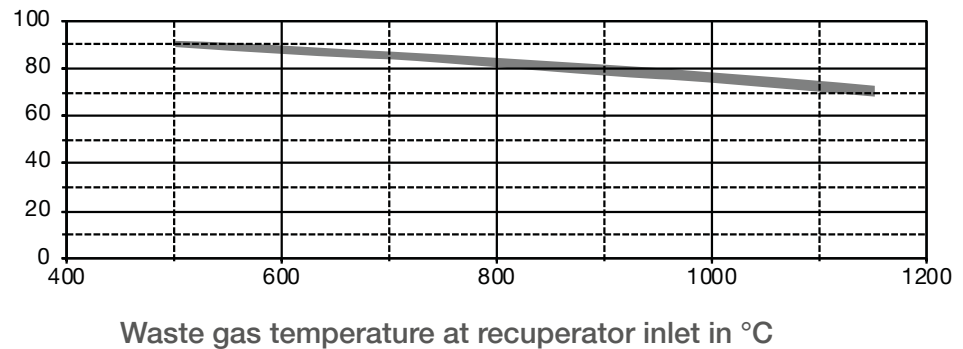
# TYPICAL PERFORMANCE CHARACTERISTICS

## RHBG 40

Waste gas temperature at recuperator outlet in °C



Firing efficiency rate in %



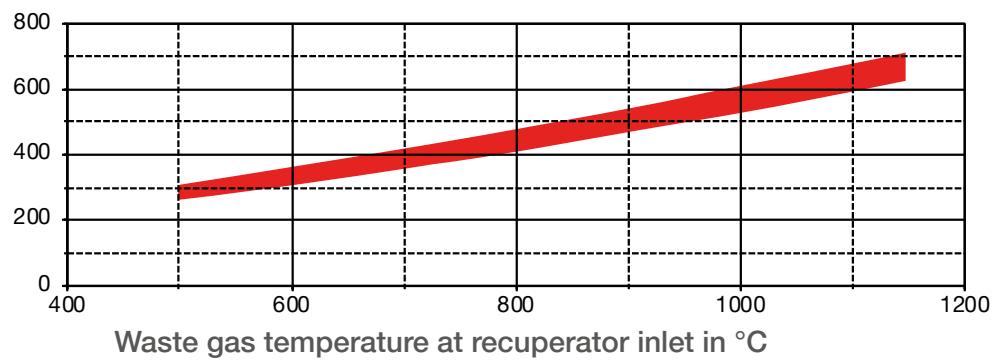
The above illustrations are valid for:

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

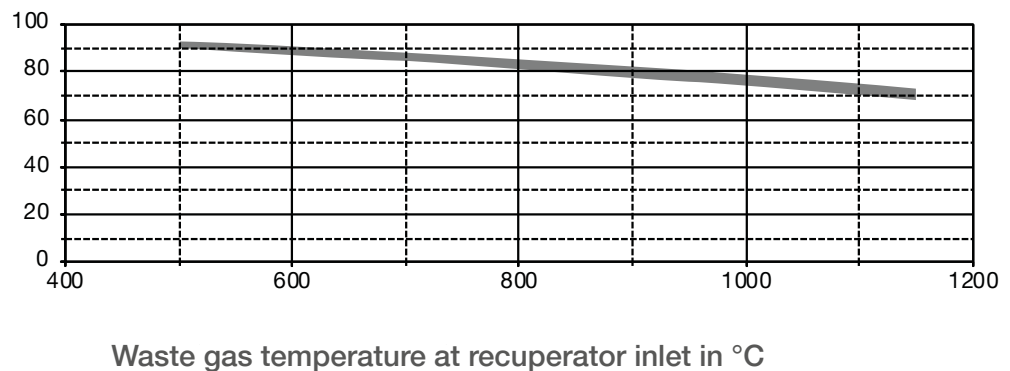
The parameters specified shall be regarded as recommended ones. They are dependent on various factors that may vary in practice from the conditions specified above. Parameters for special conditions of use can be obtained from NOXMAT GmbH on request.

## RHBG 80

Waste gas temperature at recuperator outlet in °C



Firing efficiency rate in %



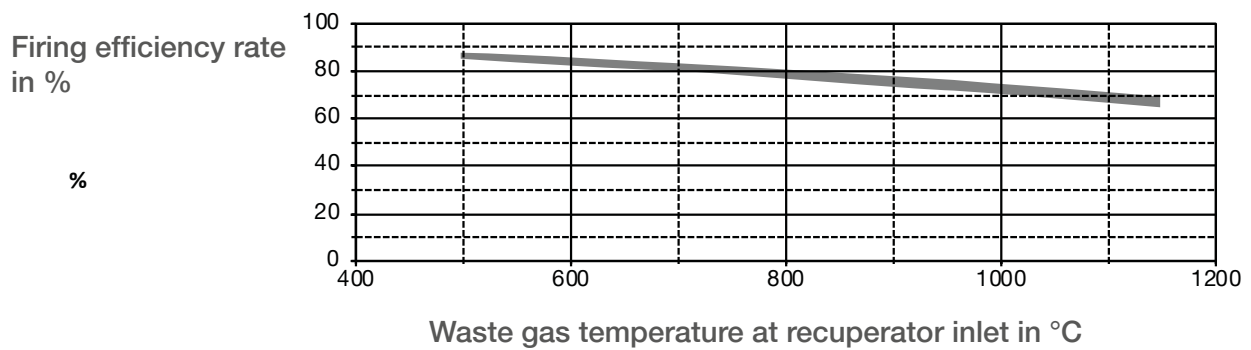
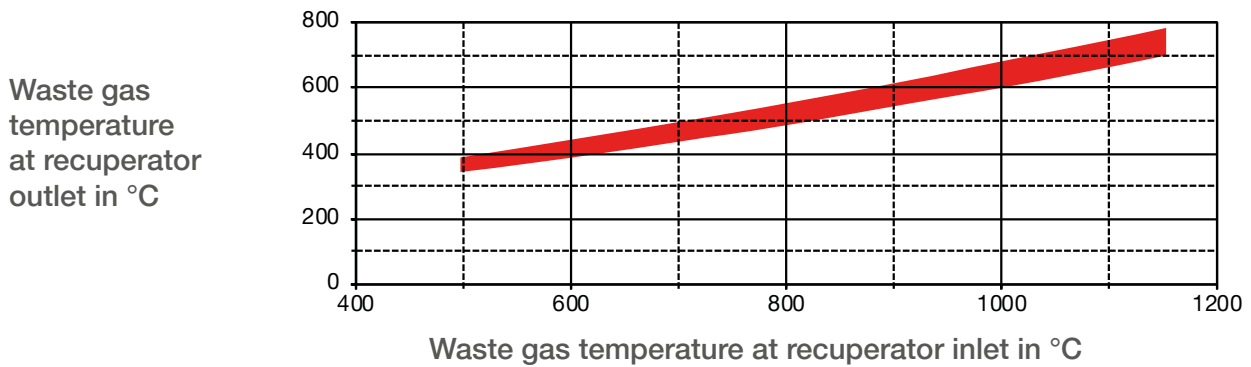
The above illustrations are valid for:

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

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

## RHBG 160

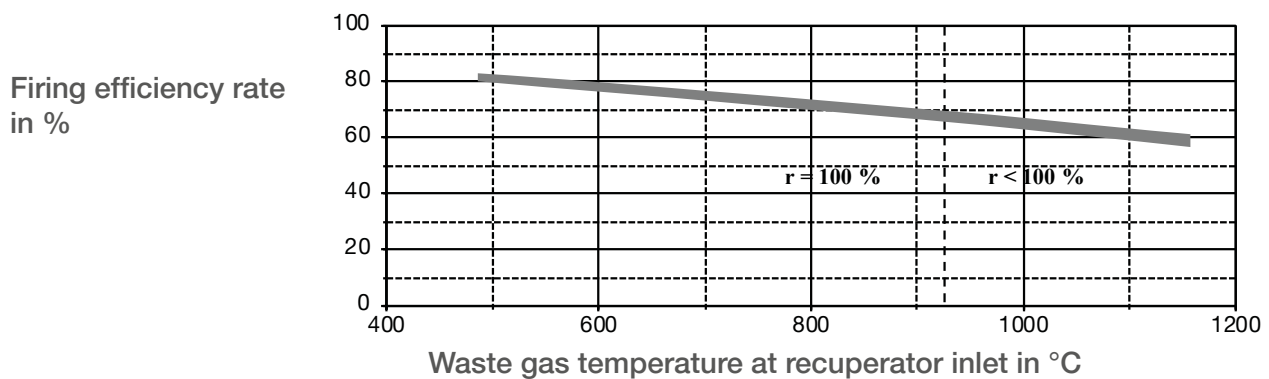
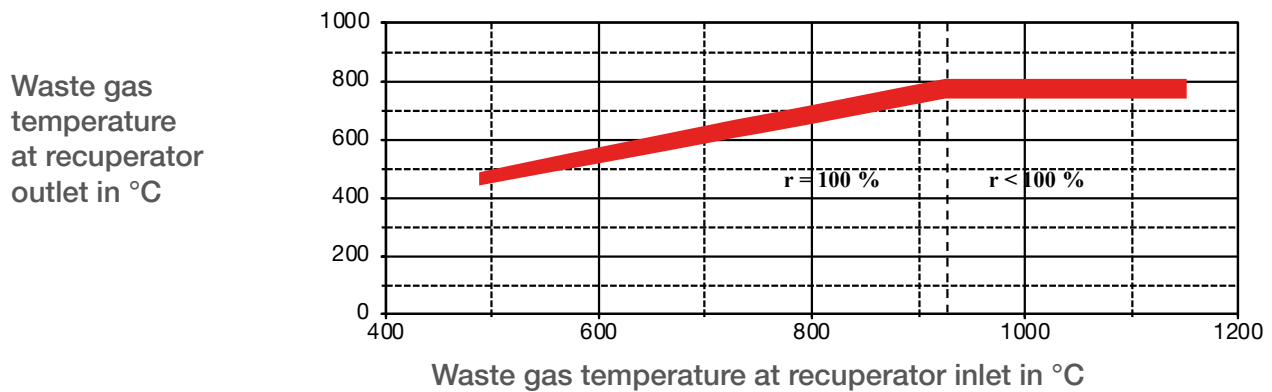


The above illustrations are valid for:

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

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.

## RHBG 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
- natural gas
- $\lambda = 1,10 \dots 1,20$

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.

# NOXMAT

industrial heating technology

## **NOXMAT GmbH**

Ringstraße 7, D-09569 Oederan

Phone: +49 37292 65 03 0

Fax: +49 37292 65 03 29

E-mail: [info@noxmat.de](mailto:info@noxmat.de)

[www.noxmat.com](http://www.noxmat.com)

Subject to technical changes without notice.  
NOXMAT is a registered trademark.  
NOX/DB/RHGB/EN/2023