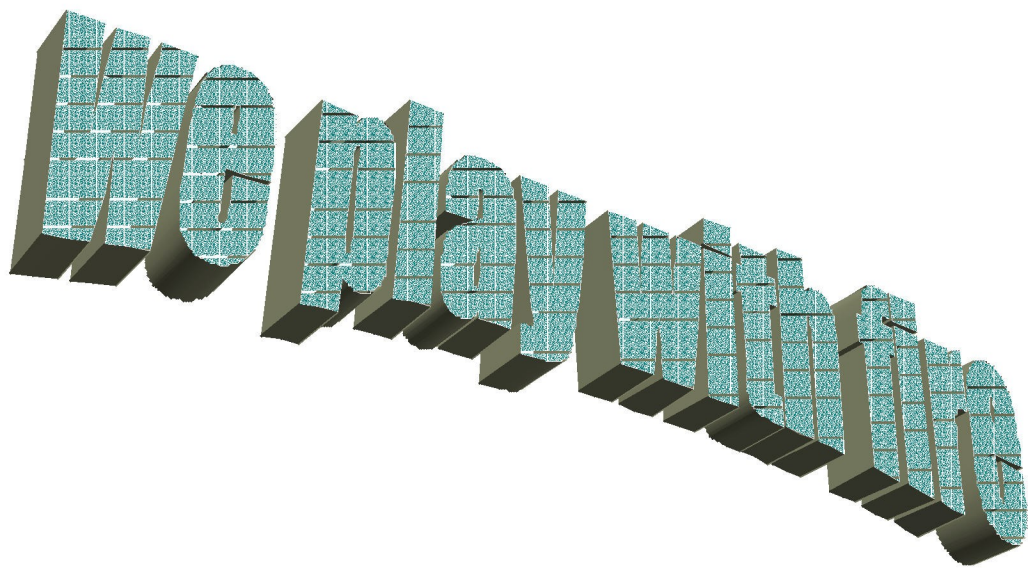


IBN

Prematechnik



IBN

Industry Burners Novy

Introduction

IBN is a middle sized engineering company offering solutions and applications of combustion and environmental technology.

The headquarter is located in Darmstadt near Frankfurt / M. , Germany closed to big International Airport and highway net. One international office, workshop and test facility are located in Brno, Czech Republic.

The company was established in 1989. The president of the company is Mr. Lubor Novy.

It operates in turn-key and also partial modulated supply modus, mainly as a supplier of Low NOx burners for reforming heaters of oil refineries and chemical plants like methanol, ethan and ammonia urea plants. The burners are armed with pilots, ignition and flame monitoring accessory according to client wishes and international security standards like EN 467.

Further clients for burner assembly are owners of thermal power plants. IBN can supply or modify on steam boilers the referenced burner units up to 35 MW.

As the burner accessory, IBN can also supply complete or local control systems in BMS or PLS structure.

Further products of higher combustion technology are complete direct fired heaters and incinerators for gasous and liquid wastes, ground or pit flares as half opened burning systems with complete control- and monitoring system.

Delivery steps are :

- Solving studies, design proposal
- Final design considering client standards and specifications
- Fabrication documents (CAD-drawings, flowsheets, PQR, WPS, wiring plans)
- Fabrication supervising
- Internal and final inspection, final documentation
- Start-up, adjustment for operation, instruction of plant personell

IBN cooperates with reliable partners of mechanical fabrication and electronical accessory.

The company is in continuously development of products and system technology to keep contact to high level of combustion technique.

Near explanation and reference list please see enclosed sheets.

IBN - PREMATECHNIK , Pfungstädter Straße 87, 64297 Darmstadt, Germany
Phone 0049 (0) 6151 503623 / 24 Fax 0049 (0) 6151 503619
www.prematechnik.eu - info@prematechnik.eu

IBN

Industry Burners Novy

Low NOx and Ultra Low NOx Combustion Technology

Gas Burners for standard- and special applications

Oil Burners for standard- and special applications

Combination Burners

Direct fired heaters

Incinerators

Ignition equipment

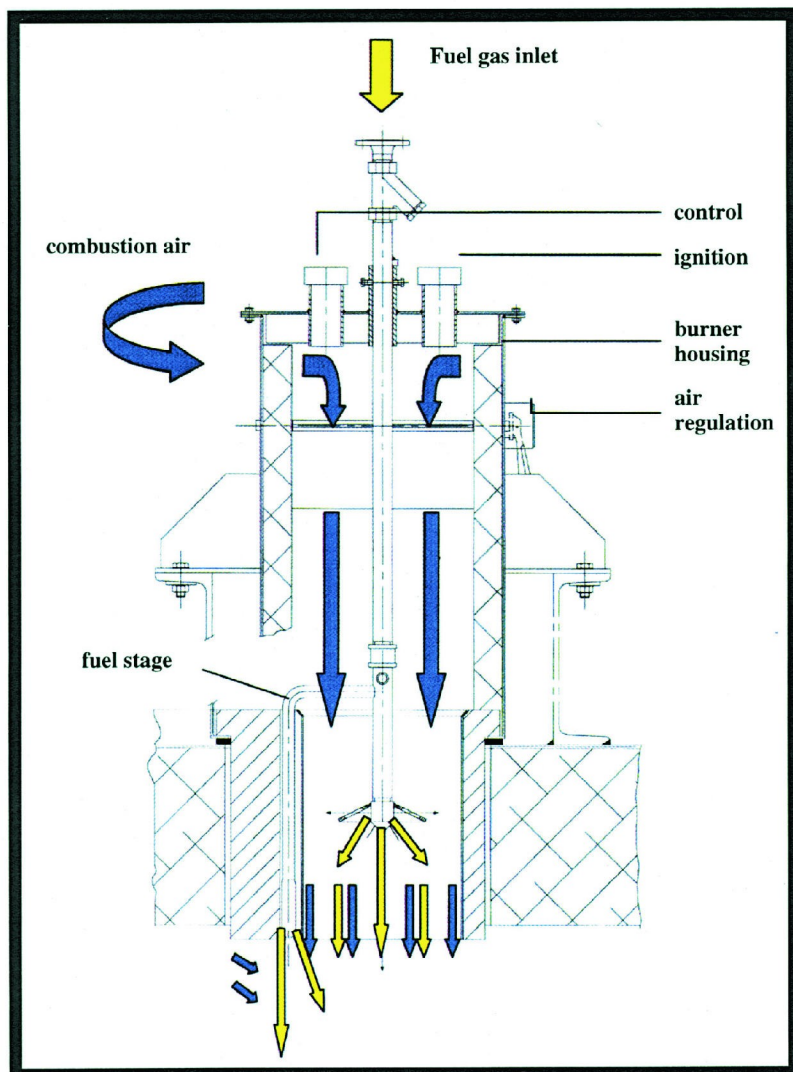
Control, monitoring and detecting systems

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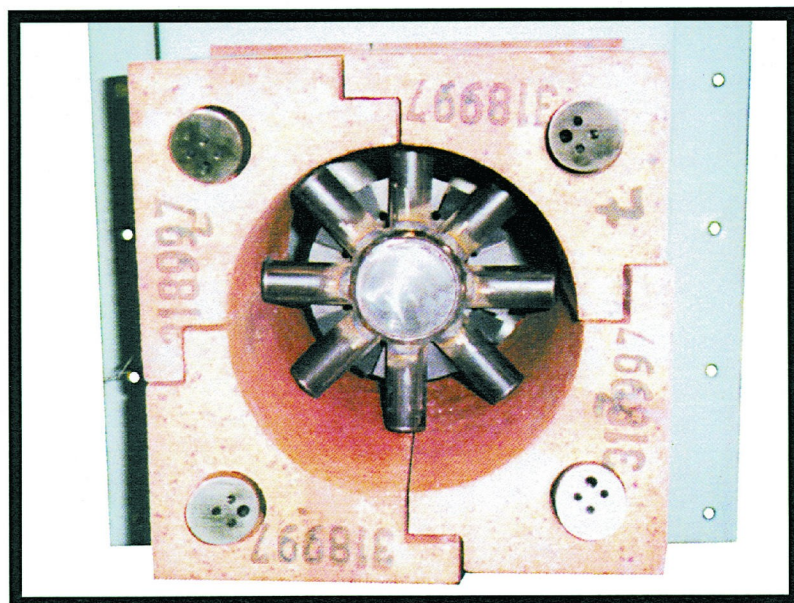
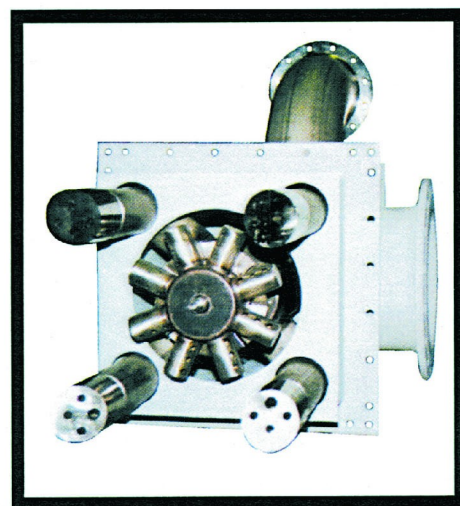
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BURNER SYSTEM

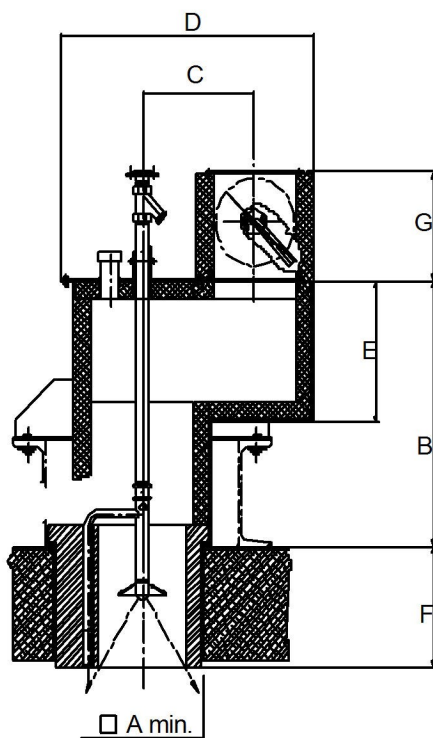


LOW NO_x DOWN FIRING BURNER TYPE IBN - DFB / 5

Especially suitable for reforming heaters. This burner distinguishes itself by its slim flame with a distinct sharp contour eliminating damage to the process tubes due to overheating. This type of burner can be supplied and is offered as natural draft burner as well as forced draft with or without preheated air. The standard size ranges between 0,5 and 6 MW. Due to its staged fuel gas operation the NO_x development remains below 150 mg/Nm³ in the flue gases.



IBN - DFFD BURNER



BURNER APROXIMETELY DIMENSIONS

BURNER SIZE MW	DIM. A	DIM. B	DIM. C	DIM. D	DIM. E	DIM. F	DIM. G
0,5	370	800	380	860	400	300	300
0,8	420	900	430	910	450	350	400
1,2	420	900	430	910	450	350	400
1,8	470	1000	500	1000	500	350	400
2,6	570	1100	550	1100	550	350	400
3,8	670	1250	700	1400	620	350	400
5,7	870	1400	900	1800	700	350	400

Remark : Exact dimensioning in case of order acc. to actually design data
 Dimensions are valid for ambient air temperature up to
 preheated air at 250°C and 100 mm WC air pressure

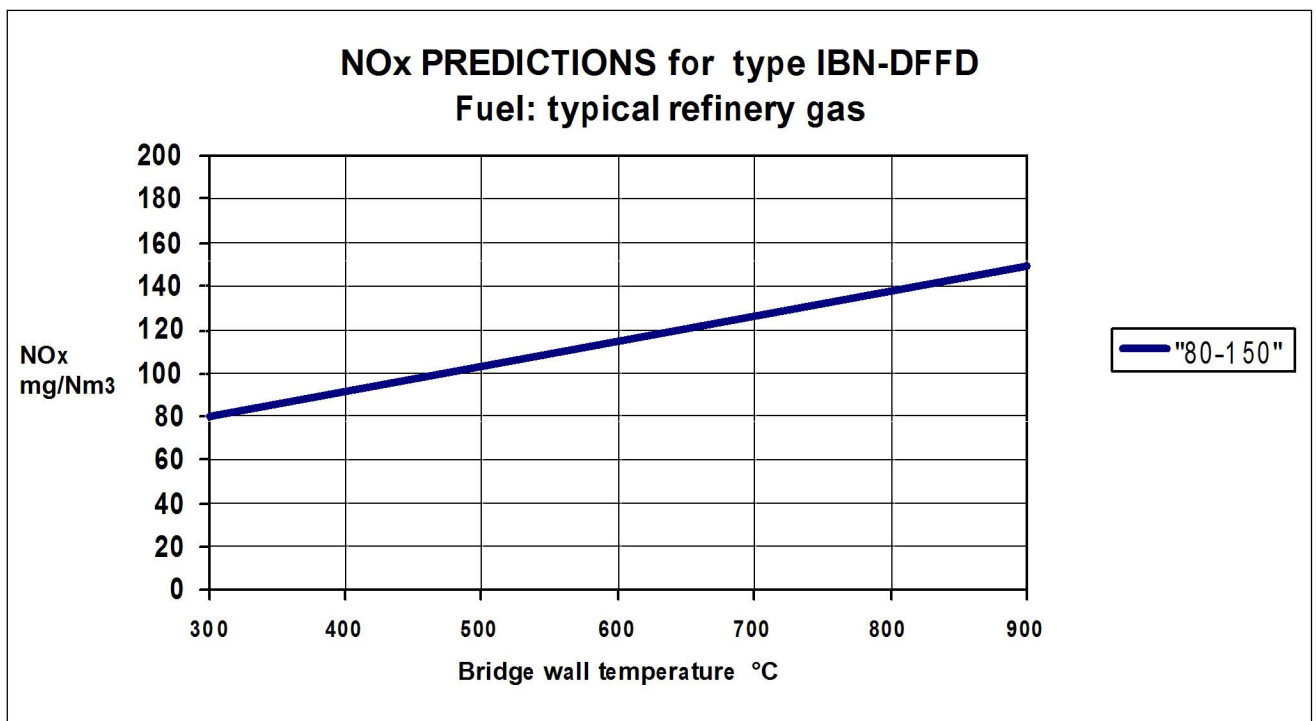
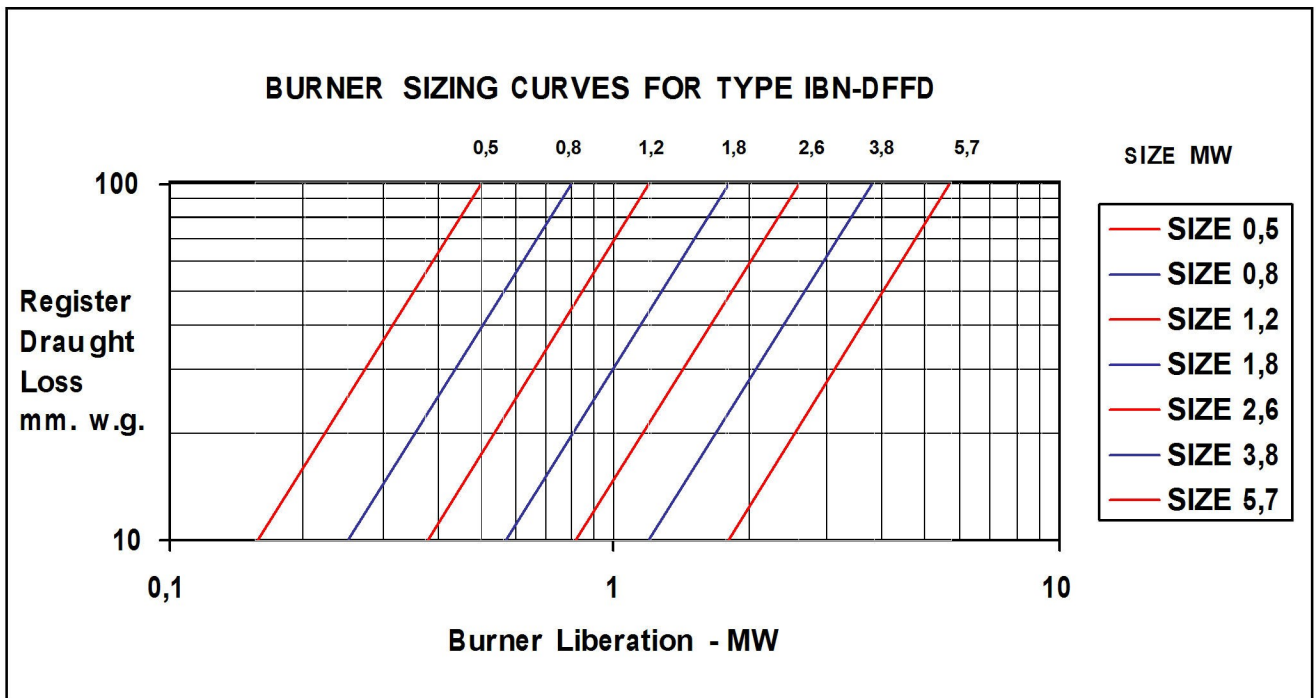
PROCESS APPLICATIONS - AMMONIA
 METHANOL
 HYDROGEN

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Phone 0049 (0) 6151 503623 / 24 Fax 0049 (0) 6151 503619

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IBN - DFFD - BURNER



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Phone 0049 (0) 6151 503623 / 24 Fax 0049 (0) 6151 503619

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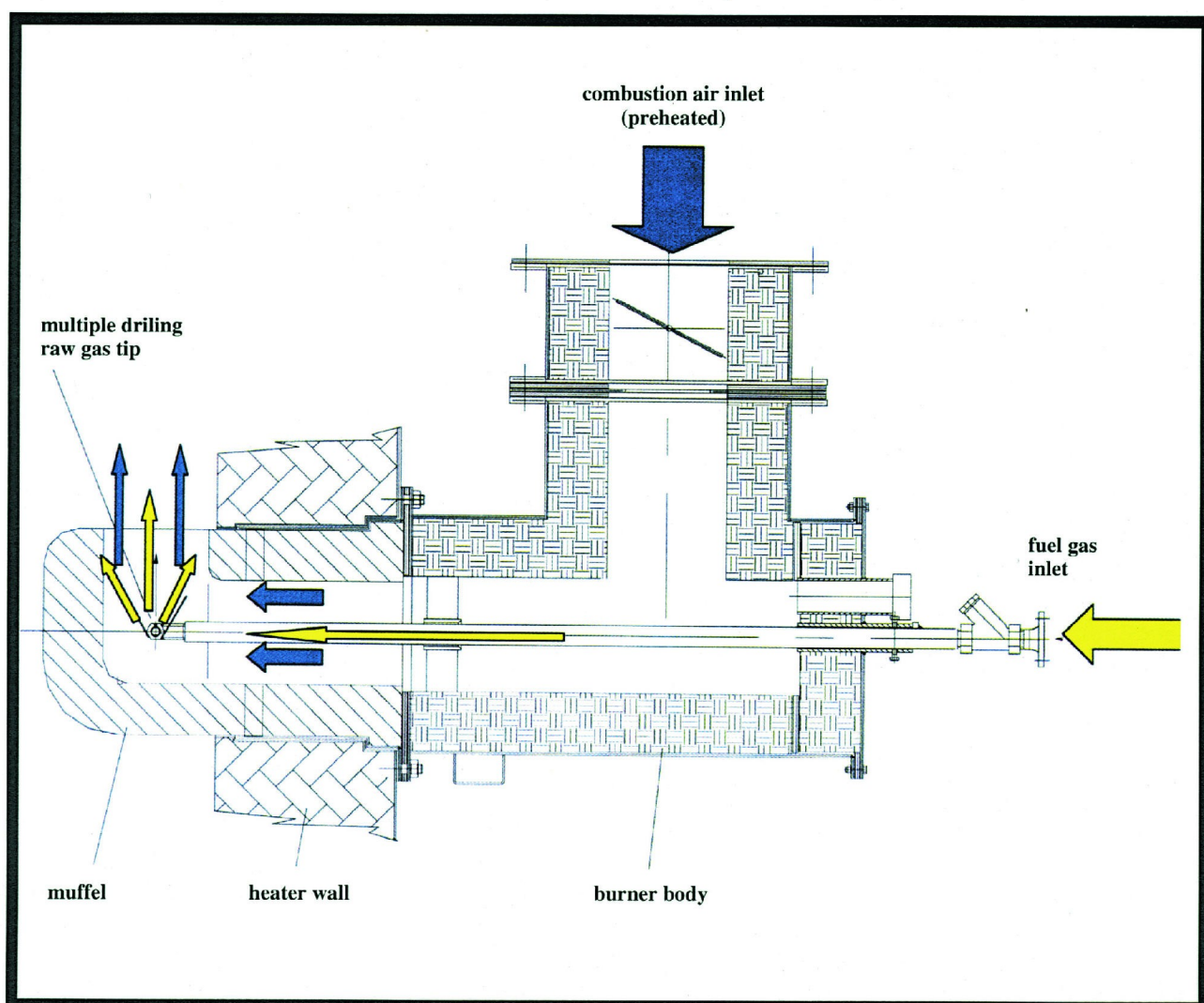
BURNER SYSTEM

LOW NO_x SIDE WALL FLAT FLAME BURNER TYPE

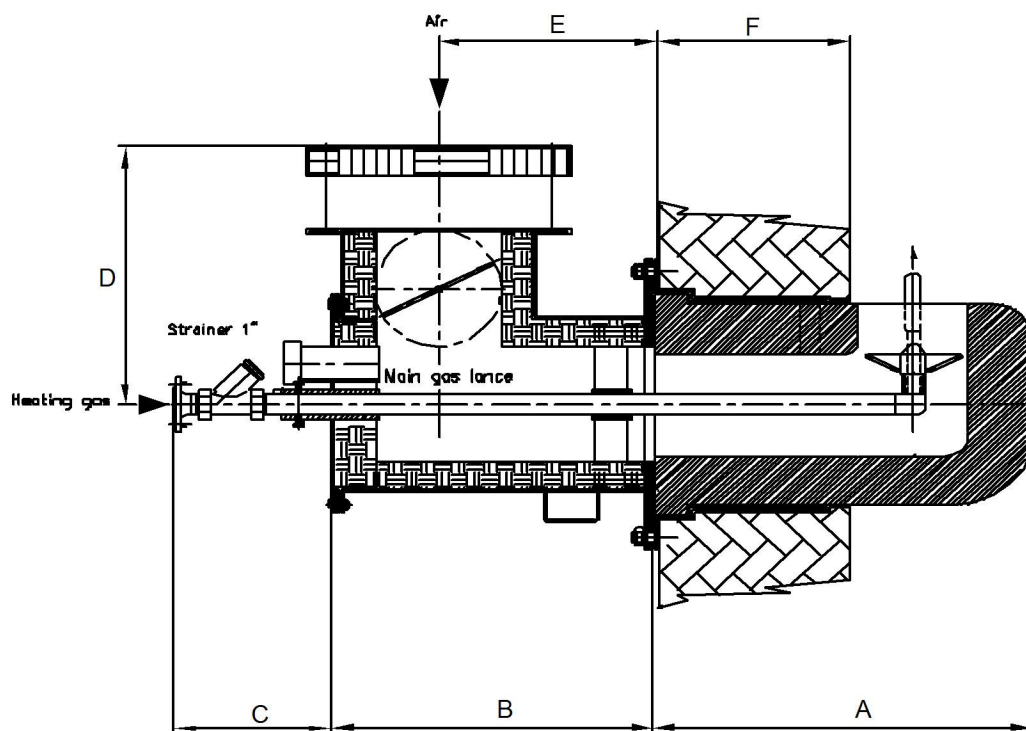
IBN - FFB / 5

This burner type is suitable for heaters where it is required to have a flat flame day the side of the wall. It produces a stable flat flame due to its special construction and the multiple drilled tube gas jet. The burner muffle tile holds in a separate stainless steel housing flanged onto the outer furnace steel wall. The burner housing can be flanged separately onto the furnace housing.

Our standardised burner sizes are available for a capacity between 0,5 and 4 MW either as natural draft burners or, depending on requirement, as forced draft burners with or without preheated air. The NO_x development with this burner is below 200 mg/Nm³ in the flue gases.



IBN - FFSW - BURNER



BURNER APROXIMETELY DIMENSIONS

BURNER SIZE MW	DIM. A	DIM. B	DIM. C	DIM. D	DIM. E	DIM. F
0,5	570	450	250	400	300	330
0,8	620	500	250	450	350	330
1,2	670	500	250	450	350	330
1,8	720	550	250	500	400	330

Remark : Exact dimensioning in case of order acc. to actually design data

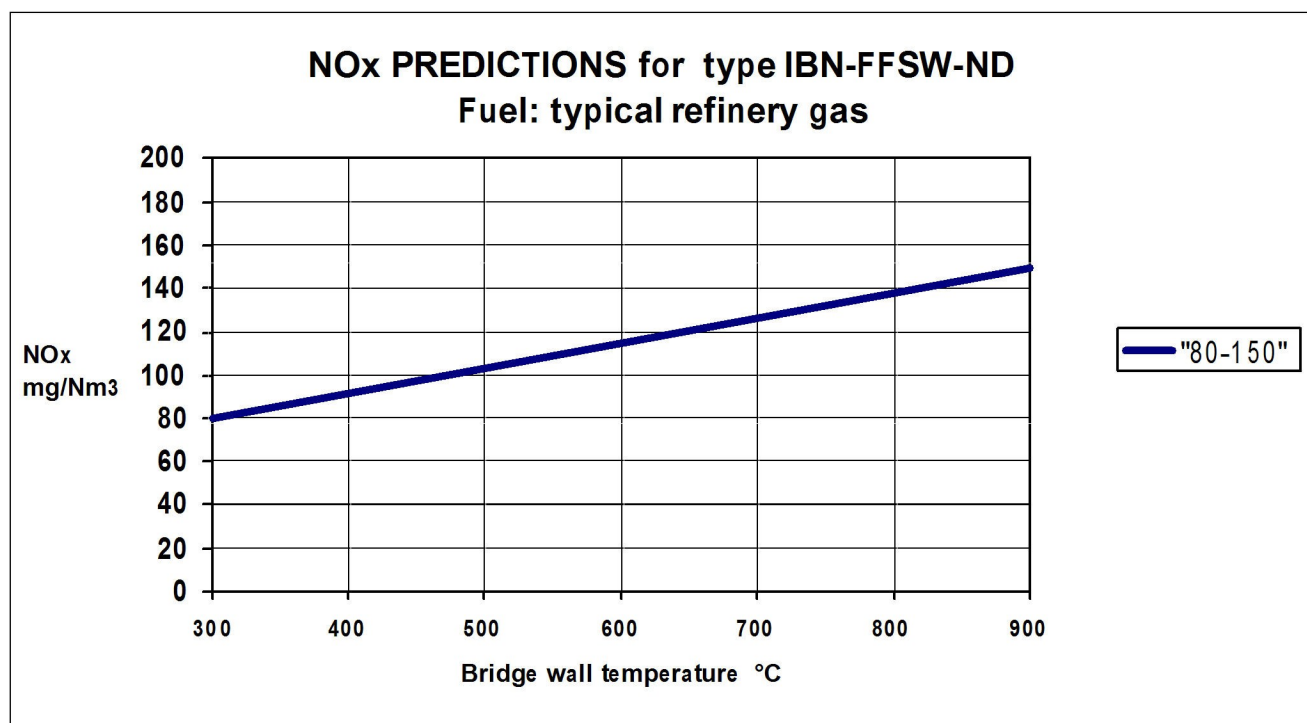
PROCESS APPLICATIONS - ETHAN CRACKING
ETHYLEN PLANT

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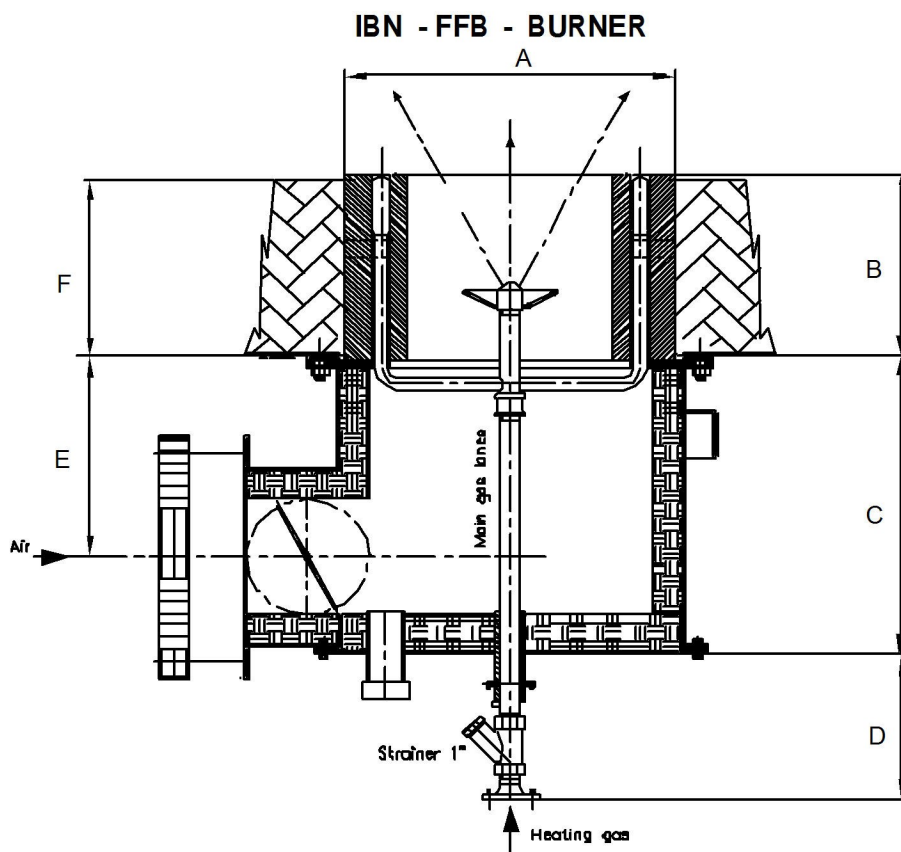
IBN - FFSW - ND - BURNER



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BURNER APROXIMETELY DIMENSIONS

BURNER SIZE MW	DIM. A	DIM. B	DIM. C	DIM. D	DIM. E	DIM. F
0,5	490	370	450	250	300	340
0,8	540	370	500	250	350	340
1,2	540	370	500	250	350	340
1,8	590	370	550	250	400	340

Remark : Exact dimensioning in case of order acc. to actually design data

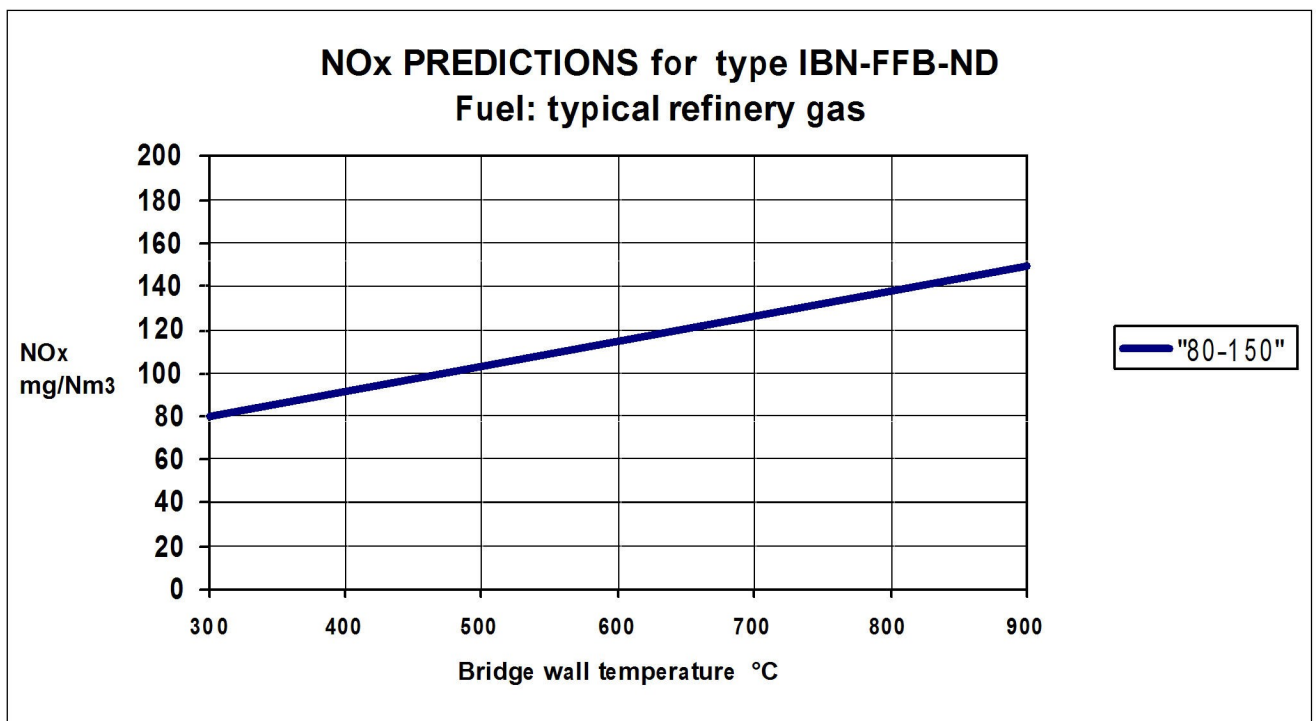
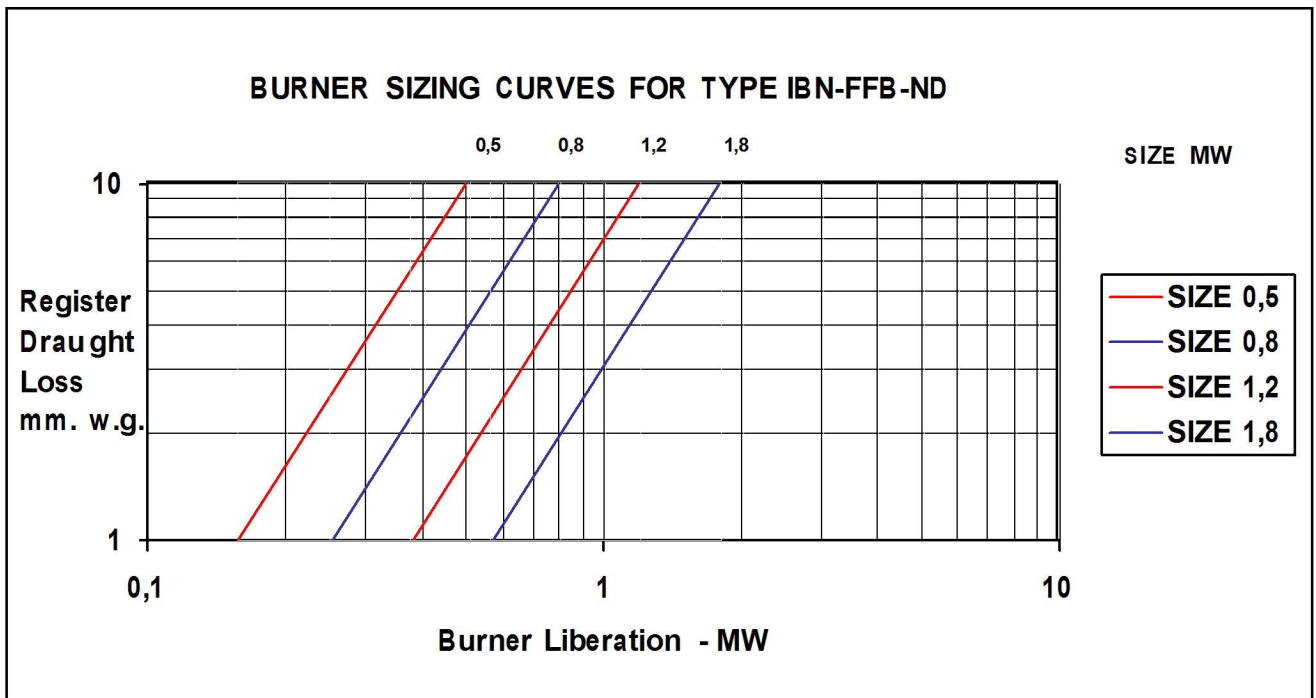
**PROCESS APPLICATIONS - ETHAN CRACKING
ETHYLEN PLANT**

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IBN - FFB - ND - BURNER

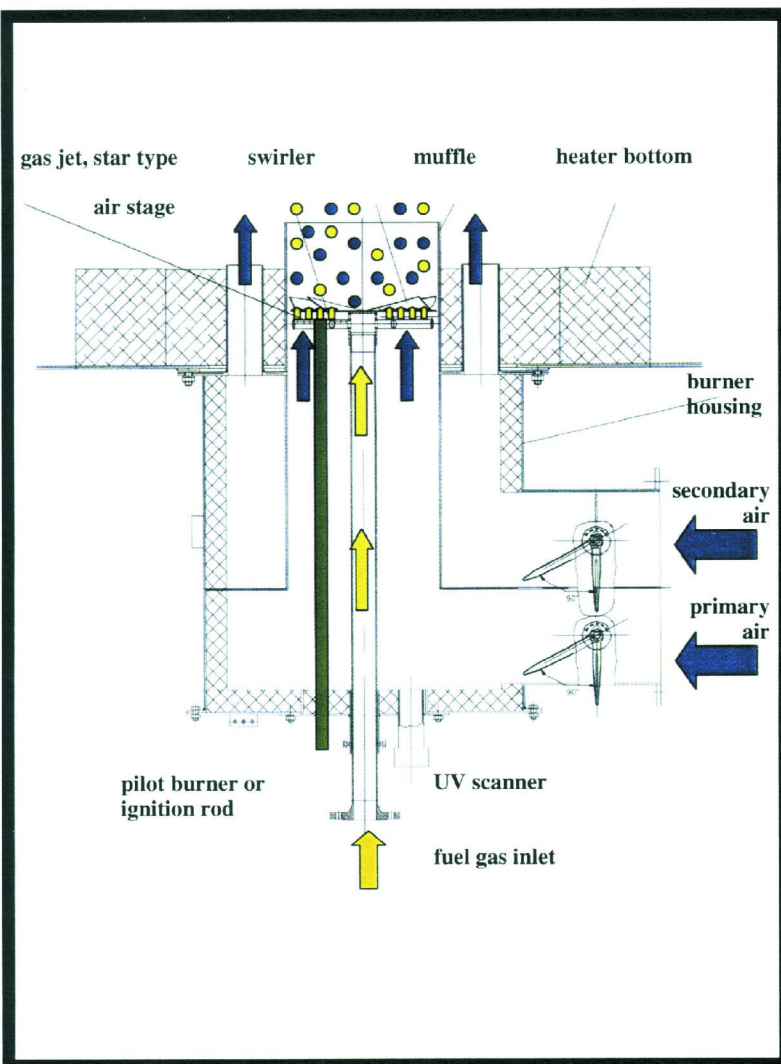


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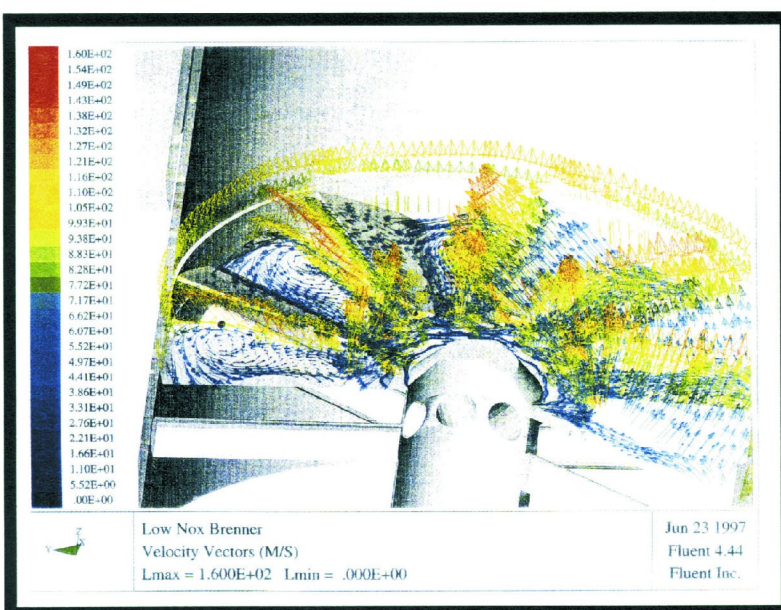
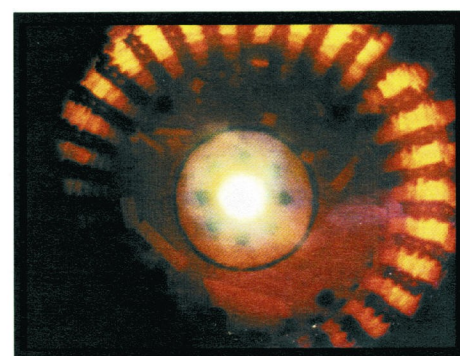
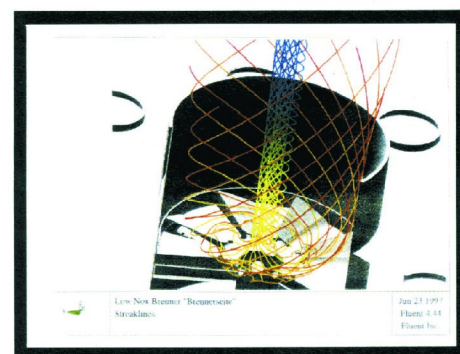
BURNER SYSTEM



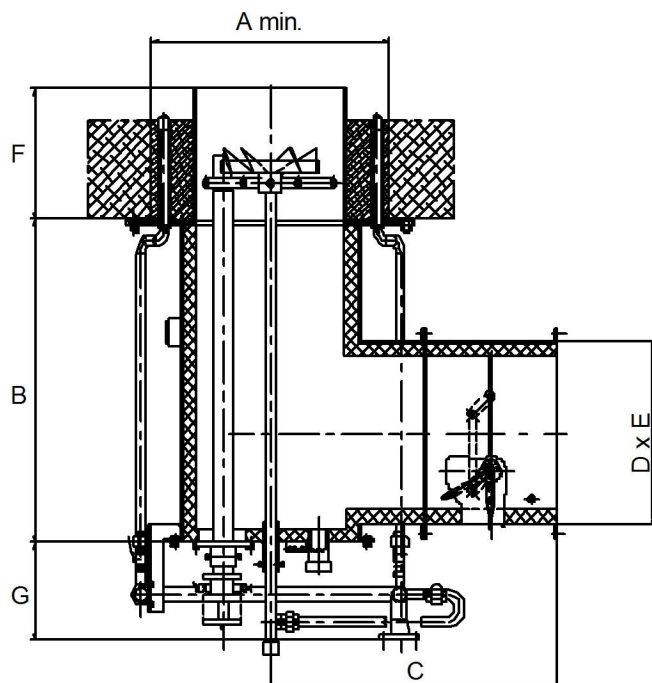
LOW NO_x SHORT FLAME BURNER TYPE IBN - IS

Special application for heaters with specific Short furnace or for rising of heater capacity protecting the furnace convection zone against overheating. Available as either natural draft or forced draft burner, either as gas or combination gas oil burner. This burner can be installed either as side wall burner or as bottom burner. The NO_x development is below 200 mg/NM³ independent of whether the burner is air staged operated or fuel staged. Our experience is based on a capacity on 25 MW.

Burners are available in the capacity range from 0,5 to 50 KW combustion air can be preheated up to 100° C.



IBN - IS - BURNER



BURNER APPROXIMATELY DIMENSIONS

BURNER SIZE MW	DIM. d.A	DIM. B	DIM. C	DIM. D	DIM. E	DIM. F	DIM. G
0,5	600	700	600	350	400	300	300
0,8	600	700	600	350	400	300	300
1,2	700	800	700	450	500	300	300
1,8	700	800	700	450	500	300	300
2,6	700	800	700	450	500	300	300
3,8	800	900	800	500	600	300	300
5,7	800	900	800	500	600	300	300
8,8	800	1000	900	550	650	350	300
14	800	1000	1000	600	700	350	300
20	1000	1100	1000	600	700	400	300

Remark : Dimensions in case of order can be changed to suit design data.

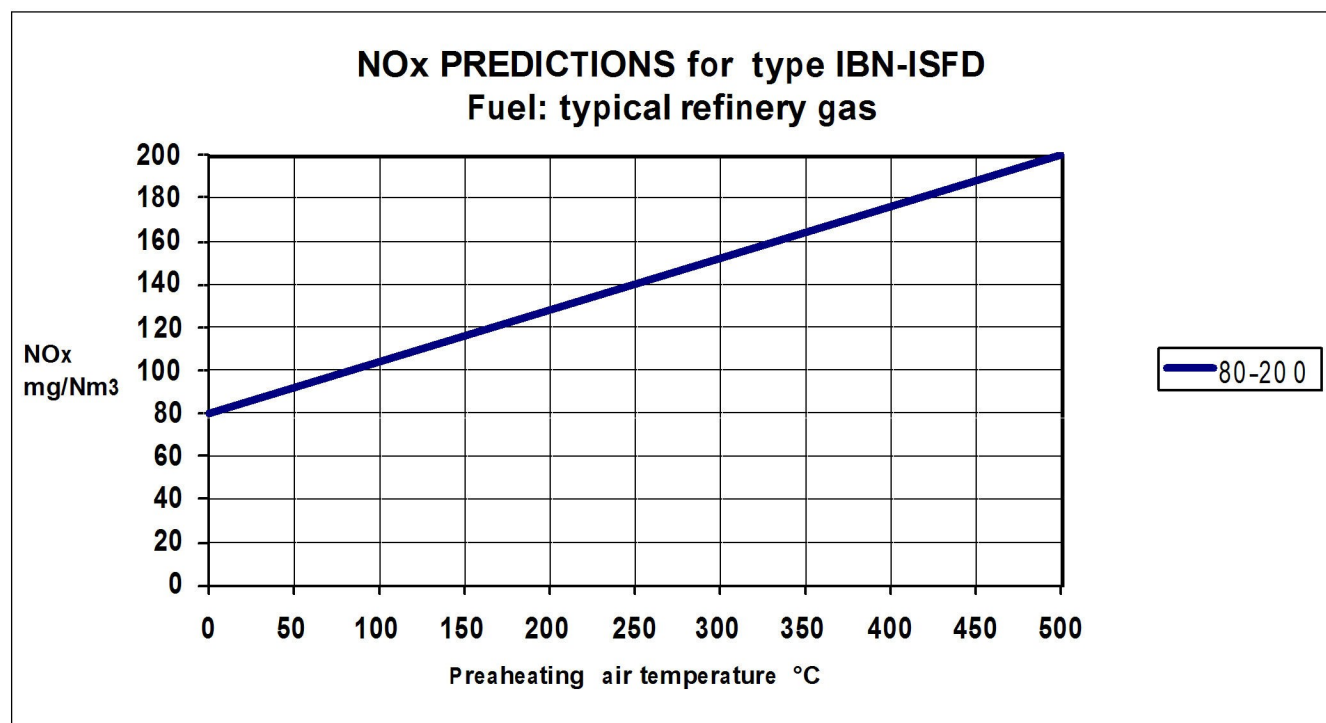
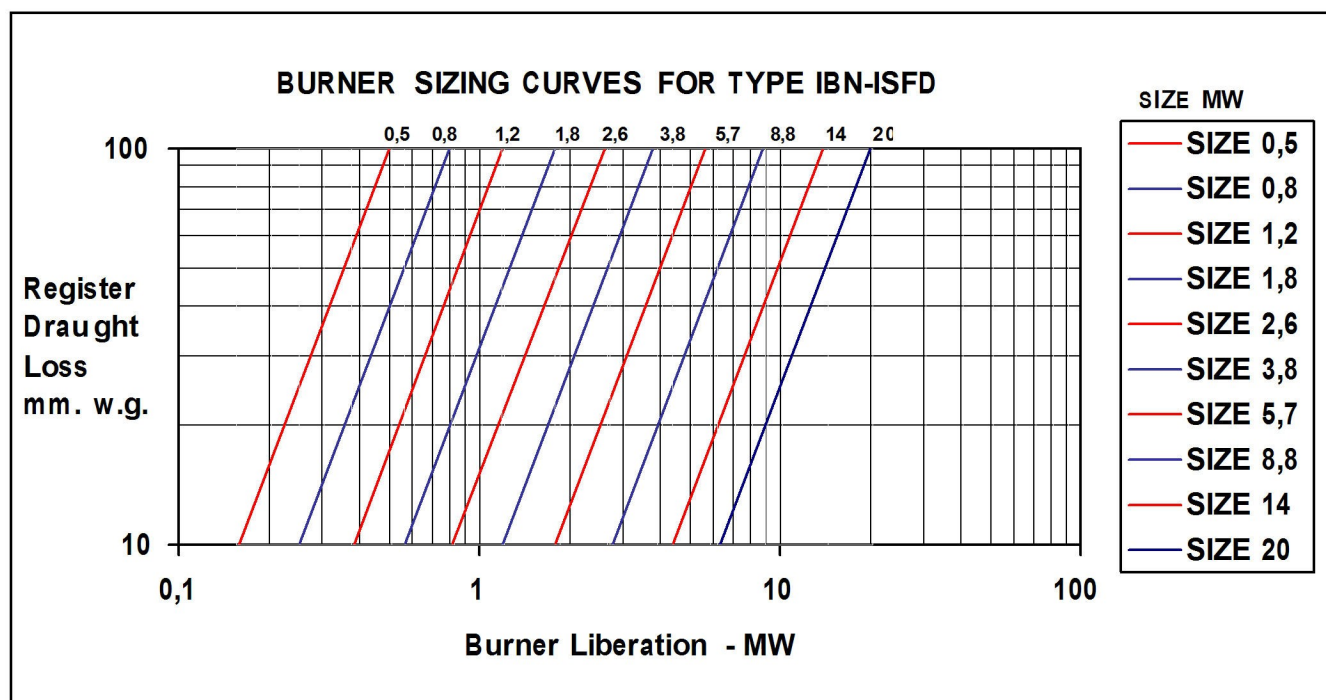
Dimensions are valid for ambient air temperature up to
preheated air at 250°C and 100 mm WC air pressure

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IBN - IS - BURNER

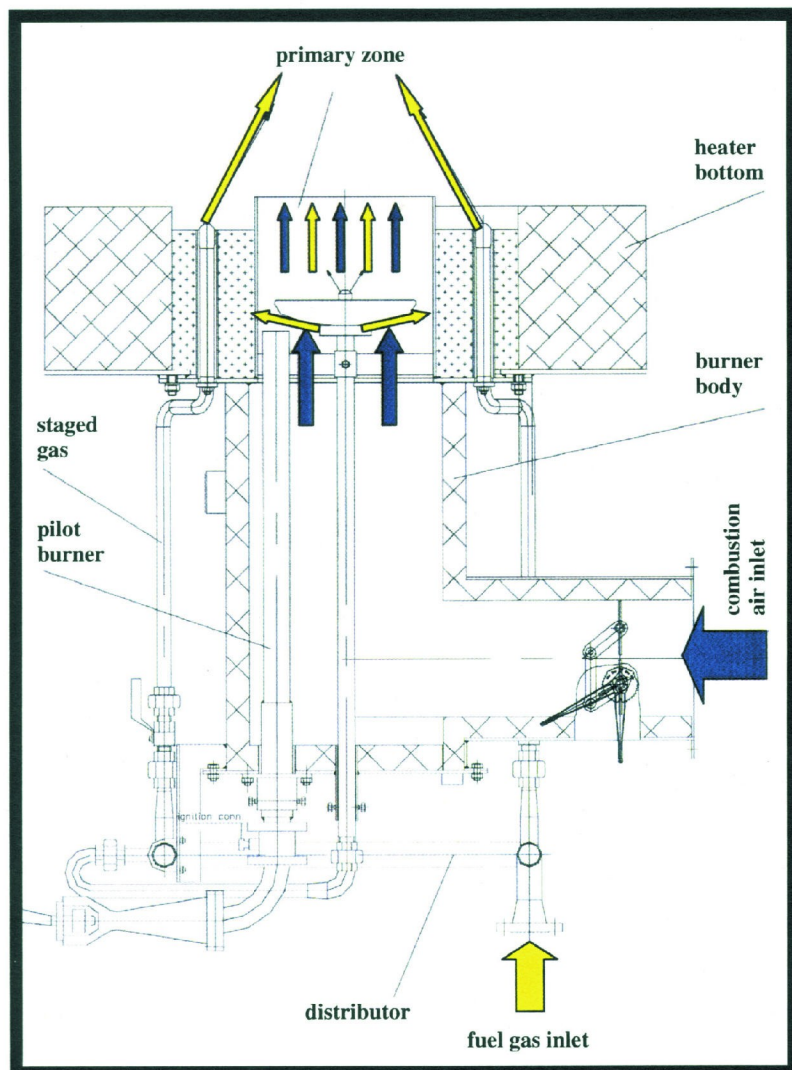


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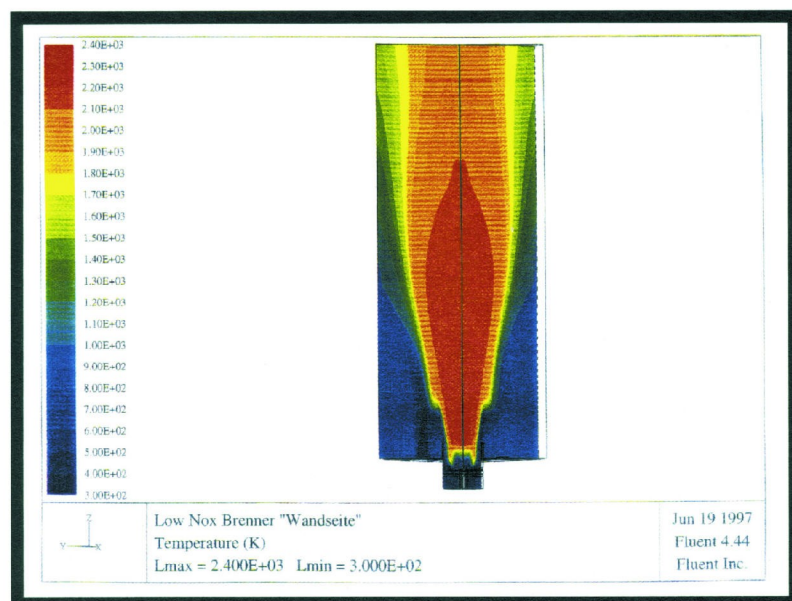
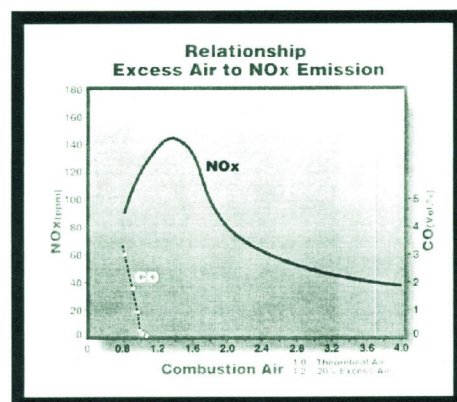
BURNER SYSTEM



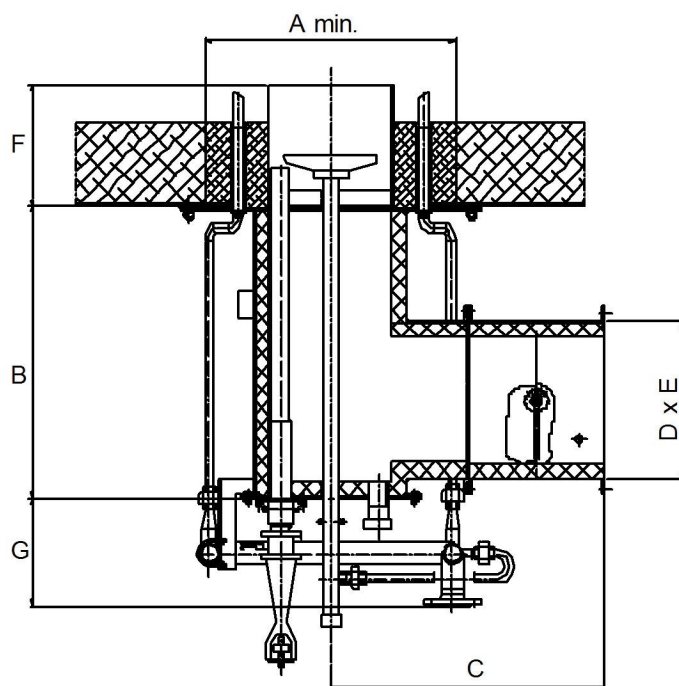
ULTRA LOW NO_x

BURNER TYPE IBN - Q

This burner is manufactured in two varieties, either as gas burner or as a combination gas oil burner. To be installed as bottom burner or as side wall burner with straight flame. Depending on the individual requirement we supply this either as natural draft or forced draft. The operating capability of our standardised burner type ranges between 0,5 - 25 MW. This burner distinguishes itself by its extreme low NO_x development which is below 50 mg/Nm³ in flue gas. At present the best measured value is 36 mg/Nm³ burning refinery gas at a bridge wall temperature of 920°C and pre heating air with 350°C.



IBN - Q - BURNER



BURNER APPROXIMATELY DIMENSIONS

BURNER SIZE MW	DIM. d.A	DIM. B	DIM. C	DIM. D	DIM. E	DIM. F	DIM. G
0,5	600	700	600	350	400	300	300
0,8	600	700	600	350	400	300	300
1,2	700	800	700	450	500	300	300
1,8	700	800	700	450	500	300	300
2,6	700	800	700	450	500	300	300
3,8	800	900	800	500	600	300	300
5,7	800	900	800	500	600	300	300
8,8	800	1000	900	550	650	350	300
14	800	1000	1000	600	700	350	300
20	1000	1100	1000	600	700	400	300

Remark : Dimensions in case of order can be changed to suit design data.

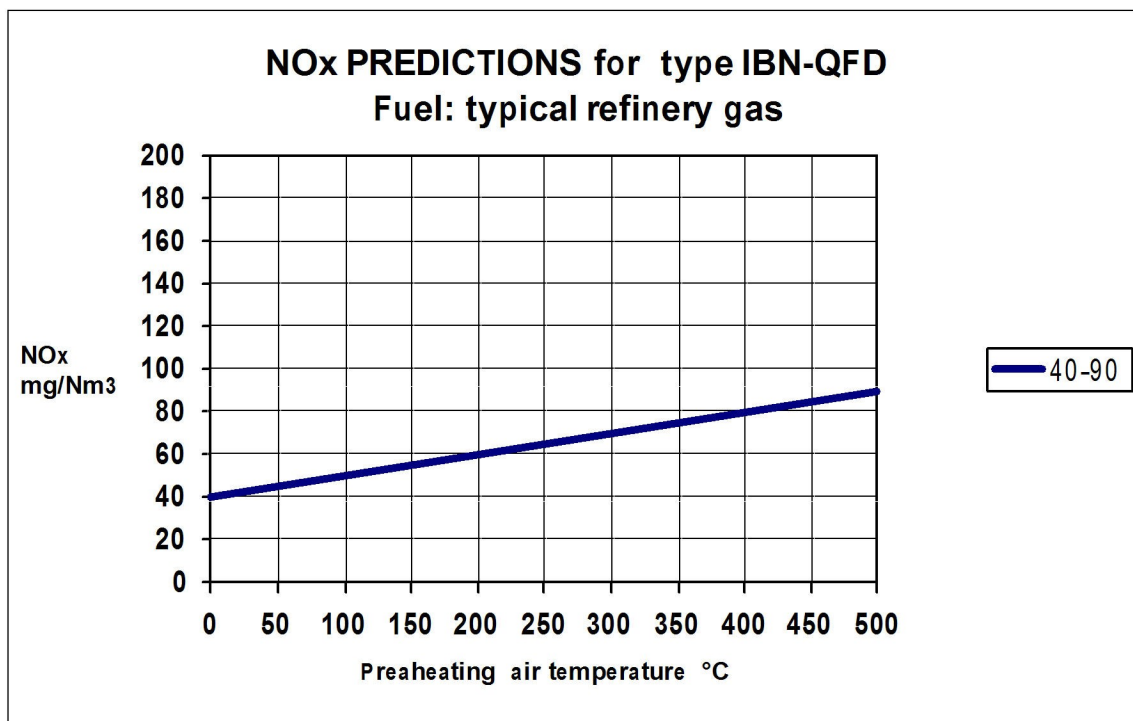
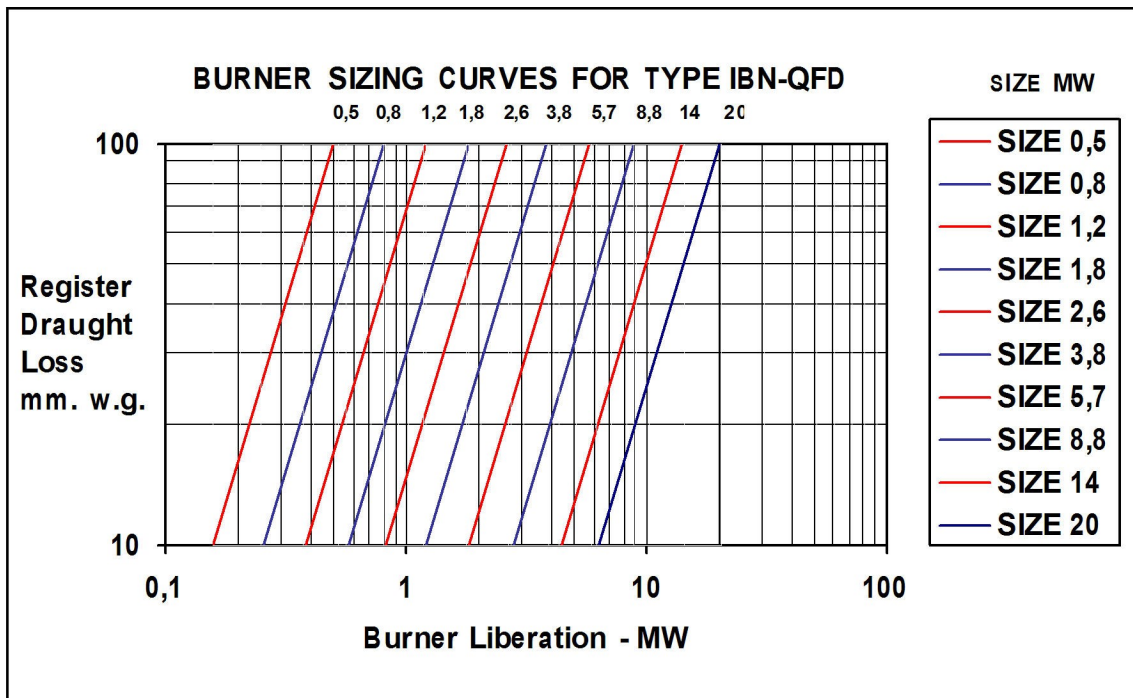
Dimensions are valid for ambient air temperature up to
preheated air at 250°C and 100 mm WC air pressure

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IBN - QFD - BURNER



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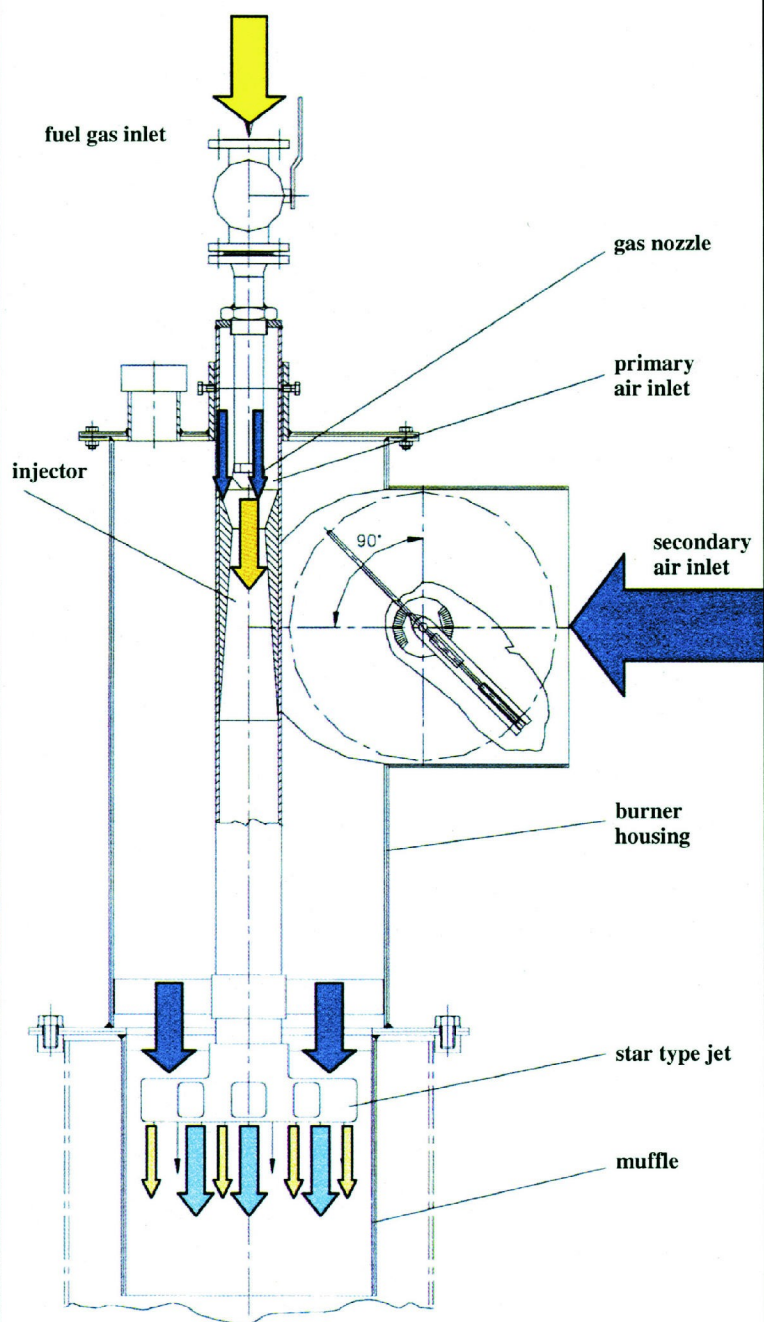
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BURNER SYSTEM

INJECTION GAS BURNER TYPE IBN - IGB

To be installed for the heating of heating pipes suitable for the heating of gaseous or fluid medium. The internally placed injector can be utilised as pressure intensifier for the system. Therefore, suitable for the application in areas without secured electrical supply. This burner can be operated with either gas or oil.

The construction allows every mounting position.



BURNER SYSTEM

PILOT BURNER TYPE

IBN VBP / ND / EI / IR / 60

For safe ignition and supporting of main flames burner. High flame stability by splitting of primary pre-mix and secondary zone. High capacity of 25 to 70 KW. Firing all refinery and natural gases as well as propane/butane. Inner guided and protected ignition and flame detection ionisation rods. Self-earthing robust connectors and cables for high voltage up to 15 kV. Easy handling of gas spud without removal of pilot body. Available with large volume air filter against dust and pollution.

