

ER SERIES

The industrial burners ER series are designed especially for water tube boilers used in big civil installations and industrial processes with a remarkable thermal demand.

These burners allow to realise a modular and flexible combustion system adding a preparation fuel unit (regulation pressure group set, preheating/pumping oil station), a gas train, a control panel and a fan.

Preheated air can also be used as in the oil diathermic generators and other heat recovery systems.

The modulating regulation always allows to reach a wide modulation ratio and optimal fluid-dynamics conditions for a good combustion.

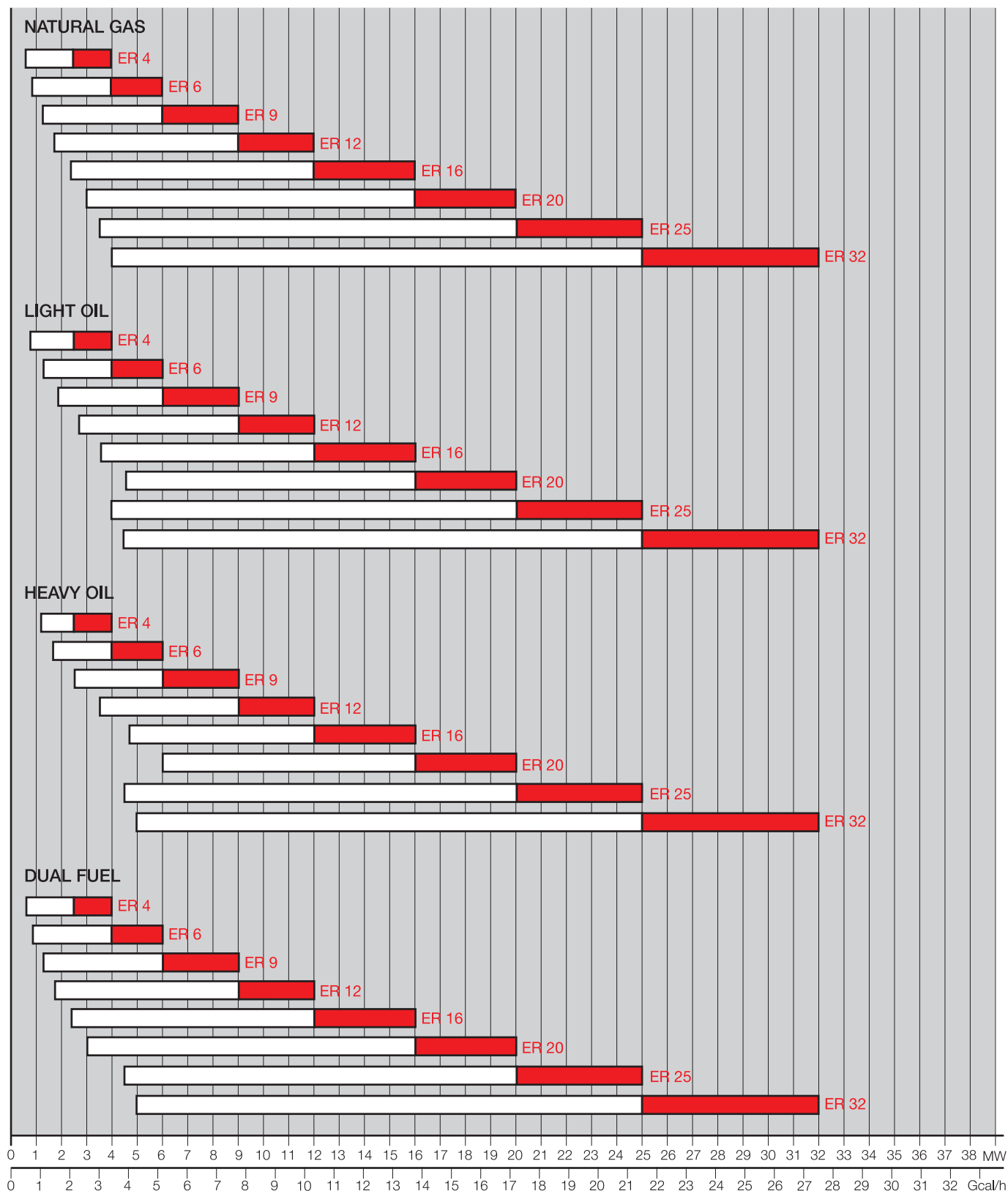
ER 4	540/2500 ÷	4000 kW
ER 6	840/4000 ÷	6000 kW
ER 9	1250/6000 ÷	9000 kW
ER 12	1750/9000 ÷	12000 kW
ER 16	2350/12000 ÷	16000 kW
ER 20	3000/16000 ÷	20000 kW
ER 25	3500/20000 ÷	25000 kW
ER 32	4000/25000 ÷	32000 kW



Industrial Oil, Gas and Dual Fuel Air Register Burners

ER SERIES

FIRING RATES



Test conditions conforming to EN 267 - EN 676:
 Temperature: 20°C - Pressure: 1013,5 mbar - Altitude: 0 m a.s.l.

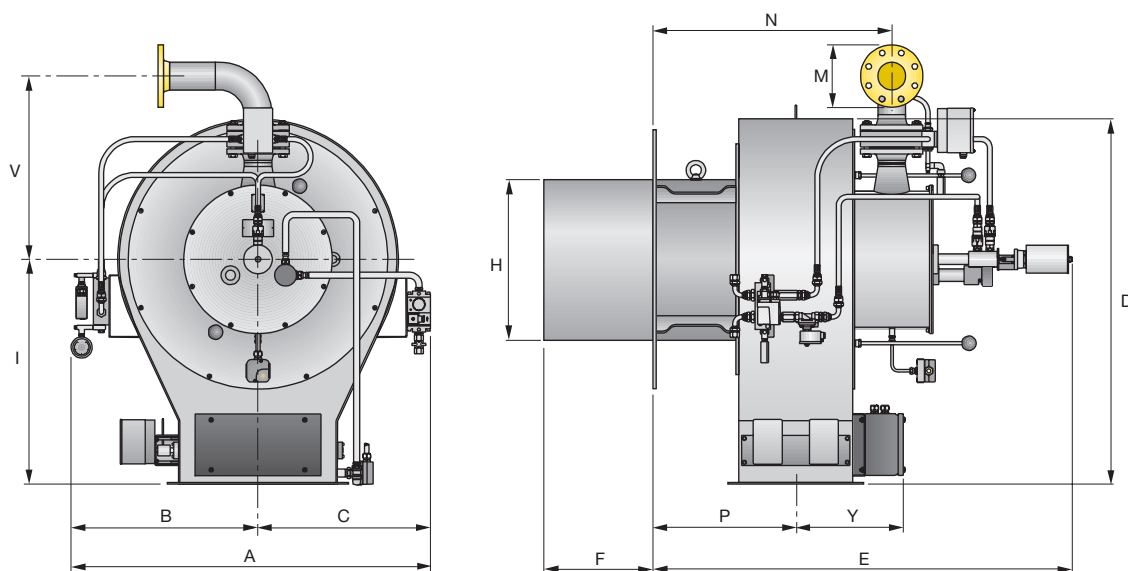
Modulation range Working field

ER SERIES

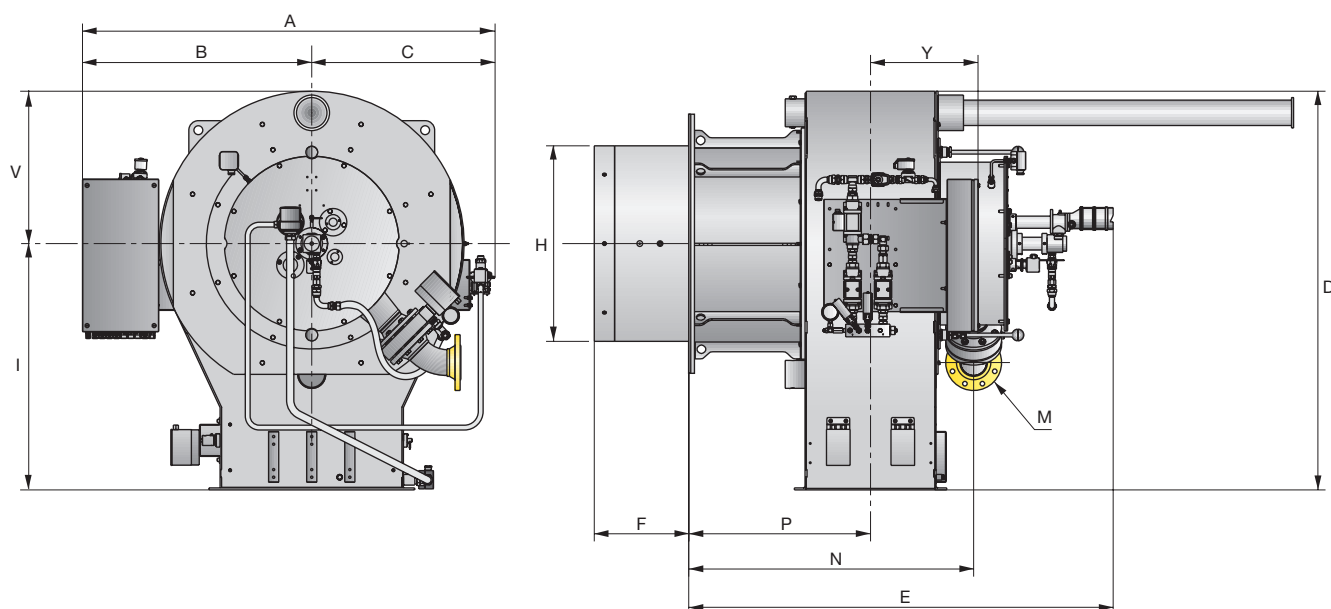
Overall dimensions (mm)

BURNER

ER 4 - 6 - 9 - 12



ER 16 - 20 - 25 - 32

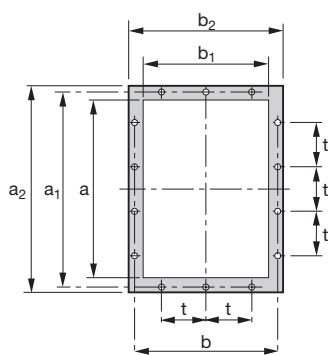


MODEL	A	B	C	D	E	F	H	I	M	N	P	Y	V
► ER 4	855	455	400	835	1160	330	370	530	DN65	605	380	307	542
► ER 6	855	455	400	835	1160	330	430	530	DN65	605	380	307	542
► ER 9	1150	600	550	1170	1345	350	520	720	DN80	765	457	345	588
► ER 12	1150	600	550	1170	1345	350	600	720	DN80	765	457	345	588
► ER 16	1623	903	720	1570	1670	372	690	970	DN100	1122	716	423	600
► ER 20	1623	903	720	1570	1670	372	770	970	DN100	1122	716	423	600
► ER 25	1835	1007	828	1758	1952	472	870	1050	DN125	1294	794	487	708
► ER 32	1835	1007	828	1758	1952	472	980	1050	DN125	1294	794	487	708

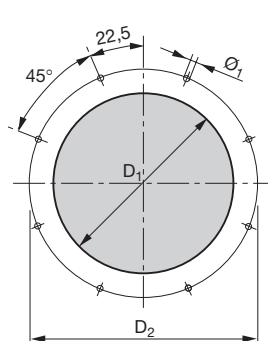
Overall dimensions (mm)

BURNER - BOILER MOUNTING FLANGE

AIR DUCT CONNECTION

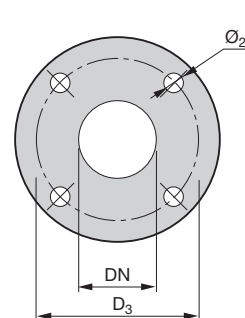


FIXING TO THE BOILER

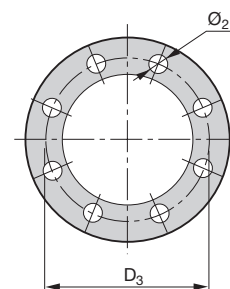


GAS SUPPLY

ER 4-6

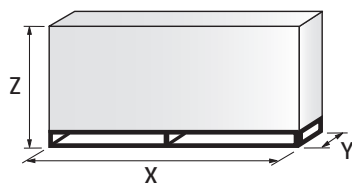


ER 9÷32



MODEL	a	a ₁	a ₂	b	b ₁	b ₂	D ₁	D ₂	D ₃	t	Ø ₁	Ø ₂
► ER 4	400	444	480	324	280	360	380	552	145	148	M18	18
► ER 6	400	444	480	324	280	360	440	552	145	148	M18	18
► ER 9	500	551	580	405	355	435	530	800	160	125	M18	18
► ER 12	500	551	580	405	355	435	620	800	160	125	M18	18
► ER 16	710	775	810	567	500	600	710	970	180	160	M20	18
► ER 20	710	775	810	567	500	600	790	970	180	160	M20	18
► ER 25	900	968	1018	708	640	758	930	1200	210	200	M20	18
► ER 32	900	968	1018	708	640	758	1050	1200	210	200	M20	18

PACKAGING



MODEL	X	Y	Z	kg
► ER 4	2090	1460	1680	200
► ER 6	2090	1460	1680	200
► ER 9	2300	1750	1900	300
► ER 12	2300	1750	1900	300
► ER 16	2450	1850	2000	500
► ER 20	2450	1850	2000	500
► ER 25	3000	2500	2300	800
► ER 32	3000	2500	2300	1550

ER SERIES

Specification

DESIGNATION OF SERIES

Series: ER																																				
Size: 4 - 6 - 9 - 12 - 16 - 20 - 25 - 32																																				
<table><tr><td>Fuel:</td><td>S</td><td>Natural gas</td><td>NS</td><td>Heavy oil/natural gas</td></tr><tr><td></td><td>L</td><td>Light oil</td><td>NAS</td><td>Heavy oil assisted atomizing/Natural gas</td></tr><tr><td></td><td>N</td><td>Heavy oil</td><td>LS</td><td>Light oil/Natural gas</td></tr><tr><td></td><td>NA</td><td>Heavy oil assisted atomizing</td><td>LP</td><td>Light oil/LPG</td></tr><tr><td></td><td>P</td><td>LPG</td><td>NAP</td><td>Heavy oil assisted atomizing/LPG</td></tr></table>												Fuel:	S	Natural gas	NS	Heavy oil/natural gas		L	Light oil	NAS	Heavy oil assisted atomizing/Natural gas		N	Heavy oil	LS	Light oil/Natural gas		NA	Heavy oil assisted atomizing	LP	Light oil/LPG		P	LPG	NAP	Heavy oil assisted atomizing/LPG
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<table><tr><td>Emissions *:</td><td>C11 = class 1 oil - class 1 oil</td></tr><tr><td></td><td>C23 = class 2 oil - class 3 gas</td></tr><tr><td></td><td>C03 = No oil - class 3 gas</td></tr><tr><td></td><td>C01 = No oil - class 1 gas</td></tr><tr><td></td><td>C10 = class 1 oil - No gas</td></tr><tr><td></td><td>C20 = class 2 oil - No gas</td></tr></table>												Emissions *:	C11 = class 1 oil - class 1 oil		C23 = class 2 oil - class 3 gas		C03 = No oil - class 3 gas		C01 = No oil - class 1 gas		C10 = class 1 oil - No gas		C20 = class 2 oil - No gas													
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	C20 = class 2 oil - No gas																																			
<table><tr><td>Head length:</td><td>TC</td><td>standard head</td></tr><tr><td></td><td>TL</td><td>extended head</td></tr></table>												Head length:	TC	standard head		TL	extended head																			
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	TL	extended head																																		
<table><tr><td>Flame safeguard:</td><td>FS1</td><td>= standard checking (1 stop/24 h)</td></tr><tr><td></td><td>FS2</td><td>= continuous self checking</td></tr></table>												Flame safeguard:	FS1	= standard checking (1 stop/24 h)		FS2	= continuous self checking																			
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<table><tr><td>Fuel supply:</td><td>FR</td><td>= from right</td></tr><tr><td></td><td>FL</td><td>= from left</td></tr></table>												Fuel supply:	FR	= from right		FL	= from left																			
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<table><tr><td>Air supply:</td><td>A0</td><td>= from the bottom</td></tr><tr><td></td><td>A180</td><td>= from the top</td></tr></table>												Air supply:	A0	= from the bottom		A180	= from the top																			
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	A180	= from the top																																		
<table><tr><td>Air max temperature:</td><td>T50</td><td>= 50 °C</td></tr><tr><td></td><td>T150</td><td>= 150 °C</td></tr><tr><td></td><td>T250</td><td>= 250 °C</td></tr></table>												Air max temperature:	T50	= 50 °C		T150	= 150 °C		T250	= 250 °C																
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	T250	= 250 °C																																		
<table><tr><td>Auxiliary voltage:</td><td>230/50-60</td><td>230V/50-60Hz</td></tr><tr><td></td><td>110/50-60</td><td>110V/50-60Hz</td></tr></table>												Auxiliary voltage:	230/50-60	230V/50-60Hz		110/50-60	110V/50-60Hz																			
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ER	4	S	E	C03	TC	FS1	FR	A0	T50	230/50-60																										
BASIC DESIGNATION																																				
EXTENDED DESIGNATION																																				

* Estimated, not guaranteed emissions values, considering a hot water boiler with thermal load of 1,1 MW/m³

Industrial Oil, Gas and Dual Fuel Air Register Burners

ER SERIES

Specification

STATE OF SUPPLY

Oil burner

Forced draught oil burner with modulating operation and separate supplies, fully automatic, made up of:

- Sheet-steel airlock painted with a front cover for access to the internal elements
- Air dampers for air setting controlled by two independent high precision servomotors
- Combustion head fitted with:
 - stainless steel end cone, resistant to corrosion and high temperatures
 - pilot burner with gas train and ignition electrodes
 - flame stability disk made up of axial swirlers
- Flame shape regulation device
- Photocell for flame detection
- Minimum air pressure switch
- Nozzle pipe
- Safety nozzle valve
- Valves group with safety oil valves
- Automatic regulator of oil delivery controlled by a high precision servomotor
- Maximum oil pressure switch on the return circuit
- Pressure gauge on the delivery circuit
- Pressure gauge on the return circuit
- Electrical box with ignition transformer
- IP 54 electric protection level.

Standard equipment:

- Screws for fixing the burner flange to the boiler
- Thermal screen
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Gas burner

Forced draught gas burner with modulating operation and separate supplies, fully automatic, made up of:

- Sheet-steel airlock painted with a front cover for access to the internal elements
- Air dampers for air setting controlled by two independent high precision servomotors
- Combustion head fitted with:
 - stainless steel end cone, resistant to corrosion and high temperatures
 - gas distributor with multiple pipes
 - pilot burner with gas train and ignition electrodes
 - uv photocell
 - flame stability disk made up of axial swirler
- Flame shape regulation device
- Minimum air pressure switch
- Maximum gas pressure switch
- Automatic regulator for gas delivery, controlled by a high precision servomotor
- Gas pressure test point to the combustion head
- Electrical box with ignition transformer
- IP 54 electric protection level.

Standard equipment:

- Screws for fixing the burner flange to the boiler
- Thermal screen
- Screws for fixing the gas train flange to the burner
- Gas train gasket
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Dual fuel burner (oil/gas)

Forced draught dual fuel burner with modulating operation and separate supplies, fully automatic, made up of:

- Sheet-steel airlock painted with a front cover for access to the internal elements
- Air dampers for air setting controlled by two independent high precision servomotors

Specification

STATE OF SUPPLY

- Combustion head fitted with:
 - stainless steel end cone, resistant to corrosion and high temperatures
 - gas distributor with multiple pipes
 - pilot burner with gas train and ignition electrodes
 - flame stability disk made up of axial swirler
- Flame shape regulation device
- UV photocell for flame detection
- Nozzle pipe
- Safety nozzle valve
- Valves group with safety oil valves
- Automatic regulator of oil and gas delivery controlled by a high precision servomotor
- Maximum oil pressure switch on the return circuit
- Pressure gauge on the delivery circuit
- Pressure gauge on the return circuit
- Minimum air pressure switch
- Maximum gas pressure switch
- Gas pressure test point to the combustion head
- Electrical box with ignition transformer
- IP 54 electric protection level.

Standard equipment:

- Screws for fixing the burner flange to the boiler
- Thermal screen
- Screws for fixing the gas train flange to the burner
- Gas train gasket
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Industrial Oil, Gas and Dual Fuel Air Register Burners

ER SERIES

Models available

Burners

MODEL	FUEL	HEAT OUTPUT *		
		(kW)	OIL (kg/h) max	GAS (Nm³/h) max
ER 4 S E ...	Natural gas	540/2500-4000	---	400
ER 4 L E ...	Light oil	820/2500-4000	337	---
ER 4 N E ...	Heavy oil	1100/2500-4000	357	---
ER 4 P E ...	LPG	540/2500-4000	---	155
ER 4 NP E ...	Heavy oil/LPG	1100/2500-4000	357	155
ER 4 NS E ...	Heavy oil/Natural gas	1100/2500-4000	357	400
ER 4 LS E ...	Light oil/Natural gas	820/2500-4000	337	400
ER 4 LP E ...	Light oil/LPG	820/2500-4000	337	155
ER 4 NA E ...	Heavy oil steam atomising	1100/2500-4000	357	---
ER 4 NAS E ...	Natural gas / heavy oil steam atomising	1100/2500-4000	357	400
ER 6 S E ...	Natural gas	840/4000-6000	---	600
ER 6 L E ...	Light oil	1250/4000-6000	506	---
ER 6 N E ...	Heavy oil	1700/4000-6000	536	---
ER 6 P E ...	LPG	840/4000-6000	---	233
ER 6 NP E ...	Heavy oil/LPG	1700/4000-6000	536	233
ER 6 NS E ...	Heavy oil/Natural gas	1700/4000-6000	536	600
ER 6 LS E ...	Light oil/Natural gas	1250/4000-6000	506	600
ER 6 LP E ...	Light oil/LPG	1250/4000-6000	506	233
ER 6 NA E ...	Heavy oil steam atomising	1700/4000-6000	536	---
ER 6 NAS E ...	Natural gas / heavy oil steam atomising	1700/4000-6000	536	600
ER 9 S E ...	Natural gas	1250/6000-9000	---	900
ER 9 L E ...	Light oil	1870/6000-9000	759	---
ER 9 N E ...	Heavy oil	2500/6000-9000	804	---
ER 9 P E ...	LPG	1250/6000-9000	---	349
ER 9 NP E ...	Heavy oil/LPG	2500/6000-9000	804	349
ER 9 NS E ...	Heavy oil/Natural gas	2500/6000-9000	804	900
ER 9 LS E ...	Light oil/Natural gas	1870/6000-9000	759	900
ER 9 LP E ...	Light oil/LPG	1870/6000-9000	759	349
ER 9 NA E ...	Heavy oil steam atomising	2500/6000-9000	804	---
ER 9 NAS E ...	Natural gas / heavy oil steam atomising	2500/6000-9000	804	900
ER 12 S E ...	Natural gas	1750/9000-12000	---	1200
ER 12 L E ...	Light oil	2600/9000-12000	1012	---
ER 12 N E ...	Heavy oil	3500/9000-12000	1071	---
ER 12 P E ...	LPG	2100/9000-12000	---	465
ER 12 NP E ...	Heavy oil/LPG	3500/9000-12000	1071	465
ER 12 NS E ...	Heavy oil/Natural gas	3500/9000-12000	1071	1200
ER 12 LS E ...	Light oil/Natural gas	2600/9000-12000	1012	1200
ER 12 LP E ...	Light oil/LPG	2600/9000-12000	1012	465
ER 12 NA E ...	Heavy oil steam atomising	3500/9000-12000	1071	---
ER 12 NAS E ...	Natural gas / heavy oil steam atomising	3500/9000-12000	1071	1200

Further version available on request

* Max capacity is referred to:

Light oil net calorific value 11,86 kWh/kg - 10200 kcal/kg - Viscosity at 20°C 4-6 mm²/s (cSt)

Heavy oil net calorific value 11,1-11,3 kWh/kg - 9545-9720 kcal/kg - Viscosity at 20°C 500 mm²/s (cSt)

G20 net calorific value 10 kWh/Nm³ - Density 0,71 kg/Nm³

G25 net calorific value 8,6 kWh/Nm³ - Density 0,78 kg/Nm³

LPG net calorific value 25,8 kWh/Nm³ - Density 2,02 kg/Nm³

ER SERIES

Models available

Burners

MODEL	FUEL	HEAT OUTPUT *		
		(kW)	OIL (kg/h) max	GAS (Nm³/h) max
ER 16 S E ...	Natural gas	2350/12000-16000	---	1600
ER 16 L E ...	Light oil	3500/12000-16000	1349	---
ER 16 N E ...	Heavy oil	4700/12000-16000	1428	---
ER 16 P E ...	LPG	2800/12000-16000	---	620
ER 16 NP E ...	Heavy oil/LPG	4700/12000-16000	1428	620
ER 16 NS E ...	Heavy oil/Natural gas	4700/12000-16000	1428	1600
ER 16 LS E ...	Light oil/Natural gas	3500/12000-16000	1349	1600
ER 16 LP E ...	Light oil/LPG	3500/12000-16000	1349	620
ER 16 NA E ...	Heavy oil steam atomising	4700/12000-16000	1428	---
ER 16 NAS E ...	Natural gas / heavy oil steam atomising	4700/12000-16000	1428	1600
ER 20 S E ...	Natural gas	3000/16000-20000	---	2000
ER 20 L E ...	Light oil	4500/16000-20000	1686	---
ER 20 N E ...	Heavy oil	6000/16000-20000	1786	---
ER 20 P E ...	LPG	3600/16000-20000	---	775
ER 20 NP E ...	Heavy oil/LPG	6000/16000-20000	1786	775
ER 20 NS E ...	Heavy oil/Natural gas	6000/16000-20000	1786	2000
ER 20 LS E ...	Light oil/Natural gas	4500/16000-20000	1686	2000
ER 20 LP E ...	Light oil/LPG	4500/16000-20000	1686	775
ER 20 NA E ...	Heavy oil steam atomising	6000/16000-20000	1786	---
ER 20 NAS E ...	Natural gas / heavy oil steam atomising	6000/16000-20000	1786	2000
ER 25 S E ...	Natural gas	3500/20000-25000	---	2500
ER 25 L E ...	Light oil	3500/20000-25000	2107	---
ER 25 N E ...	Heavy oil	3500/20000-25000	2232	---
ER 25 P E ...	LPG	3500/20000-25000	---	968
ER 25 NP E ...	Heavy oil/LPG	3500/20000-25000	2232	968
ER 25 NS E ...	Heavy oil/natural gas	3500/20000-25000	2232	2500
ER 25 LS E ...	Light oil/natural gas	3500/20000-25000	2107	2500
ER 25 LP E ...	Light oil/LPG	3500/20000-25000	2107	968
ER 25 NA E ...	Heavy oil steam atomising	3500/20000-25000	2232	---
ER 25 NAS E ...	Natural gas / heavy oil steam atomising	3500/20000-25000	2232	2500
ER 32 S E ...	Natural gas	4000/25000-32000	---	3200
ER 32 L E ...	Light oil	4000/25000-32000	2711	---
ER 32 N E ...	Heavy oil	4000/25000-32000	2857	---
ER 32 P E ...	LPG	4000/25000-32000	---	1240
ER 32 NP E ...	Heavy oil/LPG	4000/25000-32000	2857	1240
ER 32 NS E ...	Heavy oil/natural gas	4000/25000-32000	2857	3200
ER 32 LS E ...	Light oil/natural gas	4000/25000-32000	2711	3200
ER 32 LP E ...	Light oil/LPG	4000/25000-32000	2711	1240
ER 32 NA E ...	Heavy oil steam atomising	4000/25000-32000	2857	---
ER 32 NAS E ...	Natural gas / heavy oil steam atomising	4000/25000-32000	2857	3200

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G25 net calorific value 8,6 kWh/Nm³ - Density 0,78 kg/Nm³

LPG net calorific value 25,8 kWh/Nm³ - Density 2,02 kg/Nm³

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