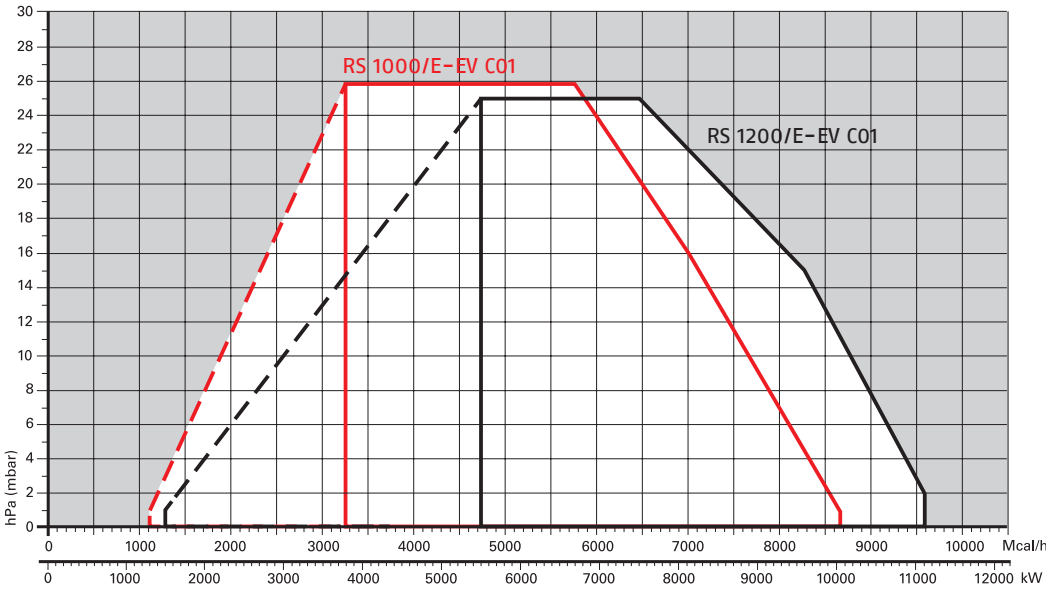
RS 1000÷1200/E-EV C01 SERIES

The well-known RS 300-800/E-EV Burner Series, till now available up to 8 MW, has been upgraded with two new powerful burner models, the RS 1000-1200/E-EV models that extend his max output up to 12 MW and make the Burner Series even more complete and suitable for matching with the various Heat and Steam Generators in today's market.
The New Burner Models take the reliability of combustion and the solidity typical of Riello's Burners and match them with the most advanced solutions on Power Output Control and Ventilation Technology; as result a 12 MW output is supplied with a User Friendly monoblock machine assuring easiness of installation and servicing, and safe operation.
An easy access to internal components is ensured by the burner opening hinge.
The New Gas Models are available with Modulating operation managed through Mechanical Cam, for a simple commissioning and to supply with precision the demanded power, guaranteeing high efficiency and setting stability, obtaining fuel consumption and operating costs reduction.

RS 1000/E-EV C01	1100/4000 ÷ 10100 kW
RS 1200/E-EV C01	1500/5500 ÷ 11100 kW

GAS

FIRING RATES



Useful working field for choosing the burner

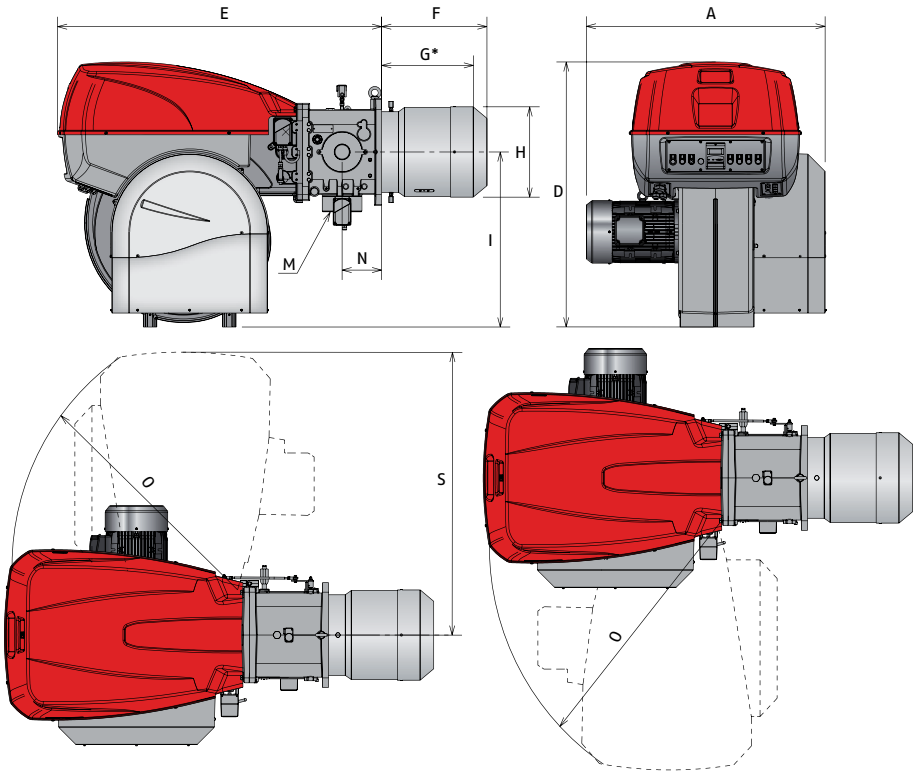
Modulation range

Test conditions conforming to EN676
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

RS 1000-1200/E-EV C01 SERIES

Overall dimensions (mm)

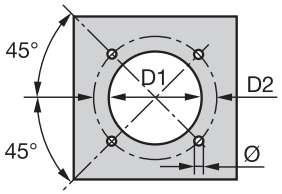
BURNER



MODEL	A	D	E	F	G*	H	I	M	N	O	S
▶ RS 1000/E-EV C01	1206	1338	1637	538	485	413	885	DN80	200	1350	1493
▶ RS 1200/E-EV C01	1250	1338	1637	539	485	456	885	DN80	200	1350	1493

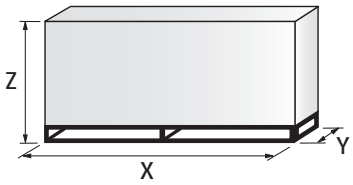
* Maximum depth of the boiler door including the depth of the burner flange insulating gasket.

BURNER - BOILER MOUNTING FLANGE



MODEL	D1	D2	Ø
▶ RS 1000/E-EV C01	460	608	M20
▶ RS 1200/E-EV C01	500	608	M20

PACKAGING



MODEL	X	Y	Z	kg
▶ RS 1000/E-EV C01	2400	1400	1595	500
▶ RS 1200/E-EV C01	2400	1400	1595	550

RS 1000÷1200/E-EV C01 SERIES

Specification

DESIGNATION OF SERIES

Series: R

Fuel:		
	S	Natural Gas
	L	Light oil
	LS	Light oil/Natural Gas
	N	Heavy oil

Size

Setting :		
	/1	Single stage
	/B	Two stage
	/M	Modulating - Mechanical cam
	/E	Electronic cam
	/P	Proportioning air/gas valve
	/EV	Electronic cam predisposed for variable speed (with inverter)

Emission :		
	C11 or ...	Class 1 EN267 - EN676
	C22 or MZ	Class 2 EN267 - EN676
	C33 or BLU	Class 3 EN267 - EN676
	C23 or MX	Class 2 EN267 - Class 3 EN676
	C13	Class 1 EN267 - Class 3 EN676

Head length:		
	TC	standard head
	TL	extended head

Flame control system:		
	FS1	Standard (1 stop every 24 h)
	FS2	Continuous working (1 stop every 72 h)

Electrical supply to the system:	
1/230/50	1/230V/50Hz
3/230/50	3/230V/50Hz
3/400/50	3N/400V/50Hz
3/230-400/50	3/230V/50Hz - 3N/400V/50Hz
3/220/60	3/220V/60Hz
3/380/60	3N/380V/60Hz
3/220-380/60	3/220/60Hz - 3N/380V/60Hz

Auxiliary voltage:		
	230/50-60	230V/50-60Hz
	110/50-60	110V/50-60Hz

R	S	300	/E	C01	TC	FS2	3/230-400/50	230/50-60

BASIC DESIGNATION

EXTENDED DESIGNATION

GAS

Specification

STATE OF SUPPLY

Monoblock forced draught gas burner with modulating operation, fully automatic, made up of:
- High performance fan with reverse curve blades
- Air suction circuit lined with sound-proofing material
- Air damper for air setting controlled by a high precision servomotor
- Air pressure switch
- Fan starting motor at 2900 rpm, three-phase 230/400 - 400/690 V with neutral, 50Hz
- Low emission mobile combustion head, that can be set on the basis of required output, fitted with:
    - stainless steel end cone, resistant to corrosion and high temperatures
    - ignition by gas pilot with gas train
    - flame stability disk
- Automatic regulator for gas delivery, controlled by a high precision servomotor
- Maximum gas pressure switch, with pressure test point, for halting the burner in the case of over pressure on the fuel supply line
- Module for air/fuel setting and output modulation with incorporated PID control of temperature or pressure of the heat generator (LMV 51.100 on RS/E C01, LMV 52 on RS/EV C01)
- AZL Display Interface, for combustion system commissioning and monitoring, included in both RS1000-1200/E and /EV models
- Burner safety control included on Electronic Cam device
- IRD sensor for flame detector
- Star/delta starter for the fan motor
- Main electrical supply terminal board
- Burner on/off switch
- Auxiliary voltage led signal
- Manual or automatic output increase/decrease switch
- Burner working led signal
- Contacts motor and thermal relay with release button
- Motor internal thermal protection
- Motor failure led signal
- Burner failure led signal and lighted release button
- Emergency button
- Coded connection plugs-sockets
- Burner opening hinge
- Lifting rings
- IP 54 electric protection level

Standard equipment:
- 1 flange gasket
- 4 screws for fixing the flange
- 1 thermal screen
- 4 screws for fixing the burner flange to the boiler
- Seal control pressure switch (for installation on gas train)
- DN 80 gas supply connector for gas train connection
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

Burners

CODE	MODEL					HEAT OUTPUT NATURAL GAS (kW)	HEAT OUTPUT NATURAL GAS (Nm³/h)	TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
20062014	RS 1000/E C01	TC	FS1-FS2	3/400/50	230/50-60	1300/3800-10100	130/380-940	24	In progress	(1)
20061950	RS 1200/E C01	TC	FS1-FS2	3/400/50	230/50-60	1500/5500-11100	150/550-1150	27,2	In progress	(1)
20062128	RS 1000/EV C01	TC	FS1-FS2	3/400/50	230/50-60	1300/3800-10100	130/380-940	24	In progress	(1)
20062129	RS 1200/EV C01	TC	FS1-FS2	3/400/50	230/50-60	1500/5500-11100	150/550-1150	27	In progress	(1)

Natural gas, net calorific value: 10 kWh/Nm³ - Density: 0,71 kg/Nm³
(1) according to 2009/142 - 2006/42 - 2006/95 - 2004/108 EC Directives

Gas Trains

Gas train Code	Gas train Model	Ø	Adapter Code RS 1000	Adapter Code RS 1200
3970221*	MBC 1200/1 - RSM 60	Rp 2"	20066253 / (20068058)[1]	
3970222*	MBC 1900/1 - FSM 40	DN 65	20066263 / (20065924 + 20066263)[1]	
3970223*	MBC 3100/1 - FSM 40	DN 80	20066268 / (20065937 + 20066268)[1]	
3970224*	MBC 5000/1 - FSM 80	DN 100	20066278 / (20065960 + 20066278)[1]	
20044659*	CB 525/1 - RSM 30	Rp 2"	20066263 / (20065924 + 20066263)[1]	●
3970147*	CB 5065/1 - FSM 30	DN 65	20066268 / (20065937 + 20066268)[1]	
3970148*	CB 5080/1 - FSM 30	DN 80	20066278 / (20065960 + 20066278)[1]	
3970149*	CB 50100/1 - FSM 30	DN 100	20066284 / (20065968 + 20066284)[1]	
20015871*	CB 50125/1 - FSM 30	DN 125	20066284 / (20065968 + 20066284)[1]	

Please see designation of Gas Train Series in the page before the Catalogue index.
* 230V/50Hz -220V/60Hz electrical supply.
The valve seal control device is compulsory (conforming to EN 676) on gas trains to burners with a maximum output over 1200 kW.
The seal control function is managed by LMV control box, by installation on gas train of a pressure switch supplied, as standard equipment with the burner.
To select the gas train please refer to the technical data leaflet and/or instruction manual.
● Not available.
1) To be used with gas train and burner opening on the left (fan motor side).

Burner accessories

Variable Speed Drive (VSD) for RS/EV series only

The motor speed variation for the RS/EV C01 burners series is obtained thanks to a frequency converter: variable speed drive (VSD), provided with a programming panel with start-up assistant. It always must be ordered with RS/EV series.

BURNER	MAX POWER (kW)	KIT CODE
▶ RS 1000/EV C01	22	3090913
▶ RS 1200/EV C01	30	20030338

Accessories for modulating operation

To obtain modulating operation, the RS/E C01 series of burners requires a regulator with three point outlet controls. The following table lists the accessories for modulating operation with their application range. In RS/EV models PID regulator is integrated inside LMV 52 control box.

BURNER	POWER CONTROLLER TYPE	CODE
▶ All models	RWF 40 - Basic version with 3 position output	3010356
	RWF 40 - High version with additional modulating output and RS 485 Interface	3010357

The relative temperature or pressure probes fitted to the regulator must be chosen on the basis of the application.

BURNER	PROBE TYPE	RANGE (°C) (bar)	CODE
▶ All models	Temperature PT 100	-100 ÷ 500°C	3010110
	Pressure 4 ÷ 20 mA	0 ÷ 2,5 bar	3010213
	Pressure 4 ÷ 20 mA	0 ÷ 16 bar	3010214
	Pressure 4 ÷ 20 mA	0 ÷ 25 bar	3090873

Display and Operating Unit (AZL) for RS/E models

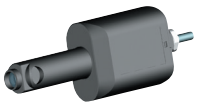
This tool is needed for combustion system commissioning and monitoring.
The AZL, Display and Operating Unit, is included in RS/EV and RS1000-1200/E-EV models.

BURNER	KIT CODE
▶ All models *	3010469

* for Russian language only

Burner accessories

Infrared Flame Detector (IFD)



For the supervision of gas, oil or other flame that emit infrared radiation, the RS/E-EV C01 series of burners can be equipped with infrared flame detector.
The infrared flame detector are suited for burners of any capacity, either in continuous or intermittent operation.

BURNER	CODE
▶ All models	3010354

Oxygen Control kit (QGO_2) for RS/EV series only

The QGO_2 is an oxygen analizer with relevant probe which controls and supervises the residual oxygen content in exhaust gases.

BURNER	KIT CODE
▶ All models	3010378
	20045187*

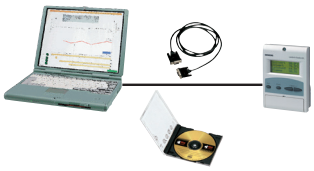
* Installation outside the burner cover

Kit efficiency with oxygen control kit (for RS/EV only)

The kit includes two temperature sensors: one for air and one for exhaust gas detection. They must be wired to oxygen control kit interface to allow the LMV 52 efficiency calculation. The value is showed on AZL display.

BURNER	KIT CODE
▶ All models	3010377

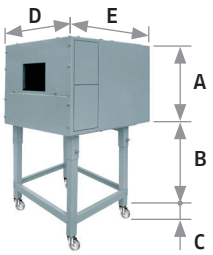
PC Interface Software (ACS 450)



PC tool for convenient programming and burner settings, process visualization, data recording, selection of AZL language, software update AZL.

BURNER	CODE
▶ All models	3010388

Sound proofing box



If noise emission needs reducing even further, sound-proofing boxes are available.
In case of generator heights, where a lower dimension "B" is required, ask for the Box Support Kit code 20065135. The useful dimensions are 40 mm less than the total dimensions indicated in the table (A, D, E). Not suitable for outdoor use.

BURNER	BOX TYPE	A (mm)	B (mm) min-max	C (mm)	D (mm)	E (mm)	[dB(A)] (*)	BOX CODE
▶ RS 1000-1200/E-EV C01	C8	1425	285 - 1000	110	1500	1800	10	3010401

(*) Average noise reduction according to EN 15036-1 standard

Burner accessories

Continuous ventilation kit

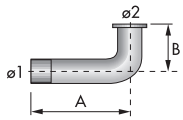
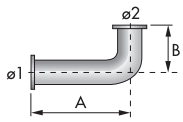
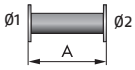
If the burner requires continuous ventilation in the stages without flame, a special kit is available as given in the following table:

BURNER	KIT CODE
▶ **All models**	3010094

Gas train accessories

Adapters

In certain cases, an adapter must be fitted between the gas train and the burner, when the diameter of the gas train is different from the set diameter of the burner. Below are given the available adapters; please see on the Gas Train list the correct adapter codes to select.

ADAPTER	DIMENSIONS Ø1 DN	Ø2 DN	A mm	B mm	ADAPTER CODE
	2"	65 / 80	780	230	20068058
	2"	65 / 80	230	375	20066253
	65	65 / 80	230	375	20066263
	80	65 / 80	230	375	20066268
	100	65 / 80	230	375	20066278
	125	65 / 80	245	375	20066284
	65	65	800	-	20065924
	80	80	800	-	20065937
	100	100	800	-	20065960
	125	125	800	-	20065968

Gas train accessories

Stabiliser spring

To vary the pressure range of the gas train stabilisers, accessory springs are available. The following table shows these accessories with their application range. Please refer to the technical manual for the correct choice of spring.

GAS TRAIN	SPRING COLOUR	SPRING PRESSURE RANGE mbar	SPRING CODE
▶ MBC 1900/1 - 3100/1 MBC 5000/1	White	4 - 20	3010381
	Red	20 - 40	3010382
	Black	40 - 80	3010383
	Green	80 - 150	3010384
▶ CB 5065/1 - 5080/1	Red	25 - 55	3010133
	Black	60 - 110	3010135
	Pink	100 - 150	3090456
	Grey	140 - 200	3090992
▶ CB 50100/1	Red	25 - 55	3010134
	Black	60 - 110	3010136
	Pink	100 - 150	3090489
	Grey	140 - 200	3092174
▶ CB 50125/1	Red	25 - 55	3010315
	Yellow	30 - 70	3010316
	Black	60 - 110	3010317
	Pink	100 - 150	3010318