

RS 25÷200/E-EV BLU SERIES

The RS/E C05, BLU and RS/EV BLU burners series covers a firing range from 44 to 2400 kW, and it is based on a new Digital Burner Management System, Riello REC27-37 or Siemens LMV52, which is able to manage the air-fuel ratio by independent servomotors in order to obtain a perfect output control and to assure a correct combustion and safe operation on all modulation range. Operation can be "two stage progressive" or, alternatively, "modulating" with the installation of the dedicated probe (with burner models equipped with REC27-37 control box, an additional PID logic regulator is required). RS/E BLU burners series guarantees high efficiency levels in all the various applications, thus reducing fuel consumption and running costs; specifics versions are available to operate with **Variable Speed Drive technology** base on the control of a Frequency Inverter that modifies the air flow through the motor speed variation. Optimisation of sound emissions is guaranteed by the special design of the air suction circuit and by **incorporated sound proofing material**. Finally, new RS/E-EV BLU burner models, equipped with Siemens LMV52 control box and compatible with combustion optimization based on the residual O₂ content in the exhaust fumes, are now available.



Guidelines for installation of burners in conformity to EU Regulation:

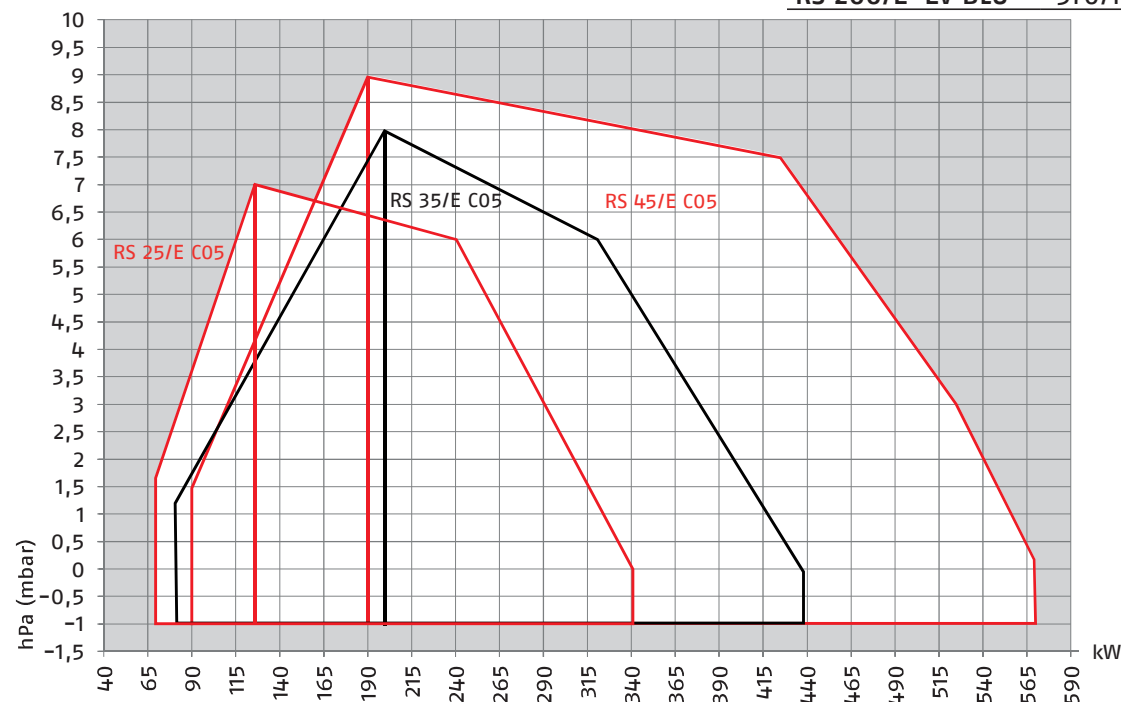
A RIELLO burner (Heat Generator), where it is matched with a water-based boiler (Heater Housing) with a nominal output ≤ 400 kW, providing heat for heating purposes and heat to deliver sanitary hot water, can be installed:

- With boilers (heater housings) already in service in the field, for replacement of identical products, in conformity to Article 1, paragraph 2, point (G) of the EU Regulation No. 813/2013;
- With boilers (heater housings) on a new installation, if they have emissions complying with the requirement of Annex II, paragraph 4 of the EU regulation No. 813/2013.

FIRING RATES

RS 25/E C05	70/125 ÷	340 kW
RS 35/E C05	82/200 ÷	440 kW
RS 45/E C05	90/190 ÷	570 kW

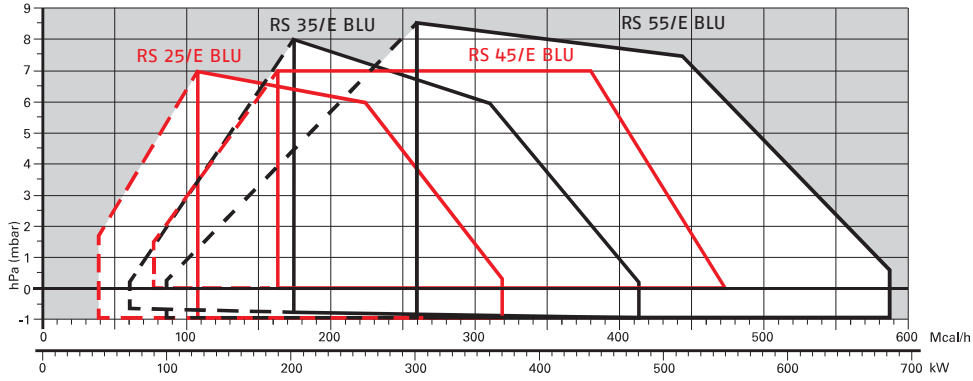
RS 25/E BLU	45/125 ÷	370 kW
RS 35/E BLU	72/202 ÷	480 kW
RS 45/E BLU	90/190 ÷	550 kW
RS 55/E BLU	100/300 ÷	680 kW
RS 68/E-EV BLU	150/350 ÷	860 kW
RS 120/E-EV BLU	300/600 ÷	1300 kW
RS 160/E-EV BLU	300/930 ÷	1860 kW
RS 200/E-EV BLU	570/1375 ÷	2400 kW



Low NOx Modulating Gas Burners

RS 25÷200/E-EV BLU SERIES

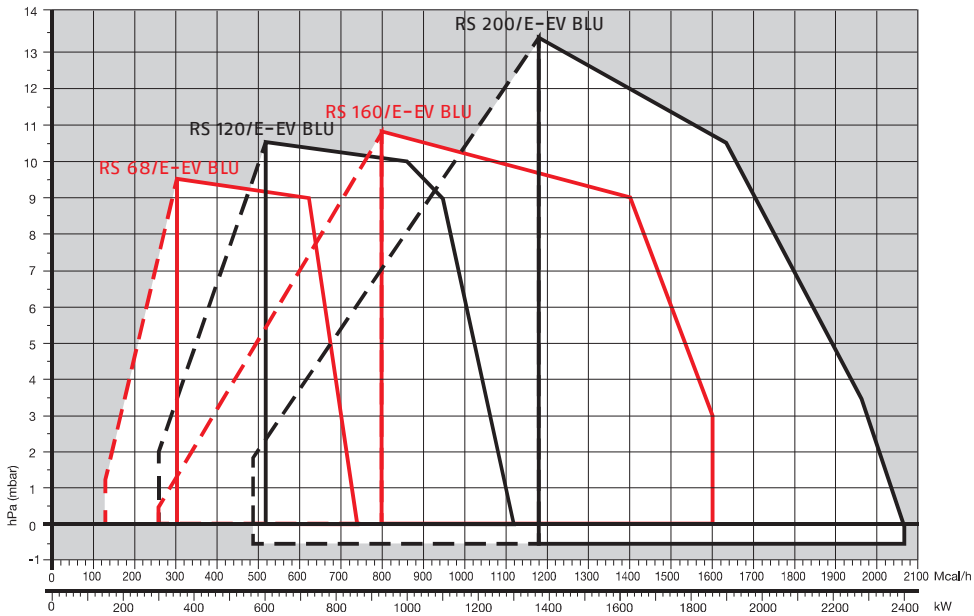
FIRING RATES



□ 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.

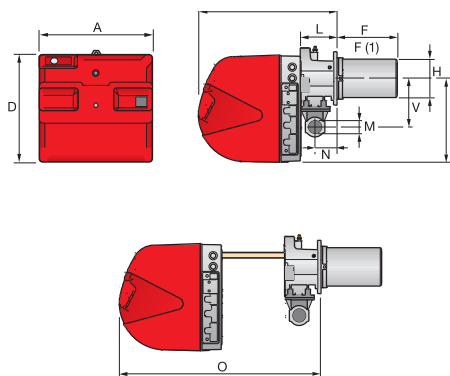


RS 25÷200/E-EV BLU SERIES

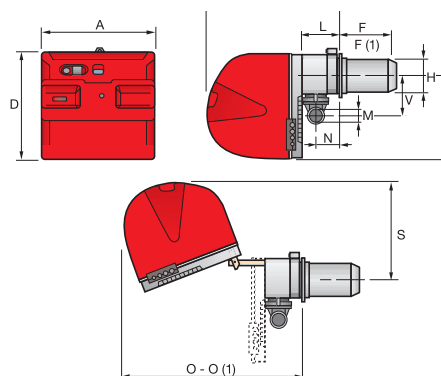
Overall dimensions (mm)

Burner models equipped with REC27-37 control box

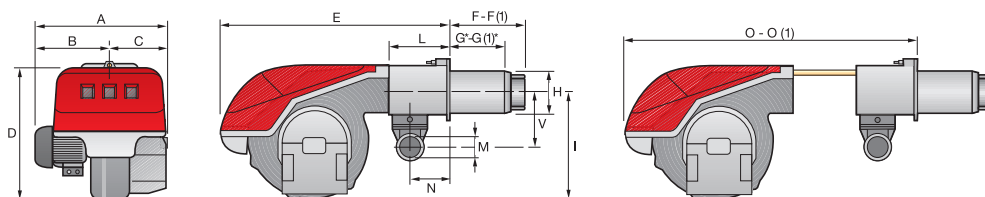
RS 25/E - 35/E BLU - RS 25/E - 35/E C05



RS 45/E BLU - RS 45/E C05 - RS 55/E BLU



RS 68/E-EV - 120/E-EV - 160/E-EV - 200/E-EV BLU



MODEL	A	B	C	D	E	F - F(1)	G* - G(1)*	H	I	L	M	N	O - O(1)	S	V
▶ RS 25/E C05	442	-	-	422	508	230 - 365	- -	140	305	138	1 1/2"	84	780 - -	-	177
▶ RS 35/E C05	442	-	-	422	508	198 - 333	- -	152	305	138	1 1/2"	84	780 - -	-	177
▶ RS 45/E C05	476	-	-	474	580	192 - 327	- -	160	352	164	1 1/2"	108	810 - 810	367	168
▶ RS 25/E BLU	442	-	-	422	508	230 - 365	- -	140	305	138	1 1/2"	84	780 - -	-	177
▶ RS 35/E BLU	442	-	-	422	508	230 - 365	- -	152	305	138	1 1/2"	84	780 - -	-	177
▶ RS 45/E BLU	476	-	-	474	580	229 - 354	- -	160	352	164	1 1/2"	108	810 - 810	367	168
▶ RS 55/E BLU	533	300	-	490	640	255 - 390	- -	189	352	222	2"	134	870 - -	-	221
▶ RS 68/E-EV BLU	527	312	215	555	840	255 - 390	200 - 335	189	430	214	2"	134	1161 - 1296	-	221
▶ RS 120/E-EV BLU	553	338	215	555	840	255 - 390	200 - 335	189	430	214	2"	134	1161 - 1296	-	221
▶ RS 160/E-EV BLU	671	366	305	555	863	373 - 503	272 - 402	221	436	221	2"	141	1442 - 1587	-	264
▶ RS 200/E-EV BLU	737	432	305	555	863	373 - 503	272 - 402	221	436	221	2"	141	1442 - 1587	-	264

(1) dimension with extended head.

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

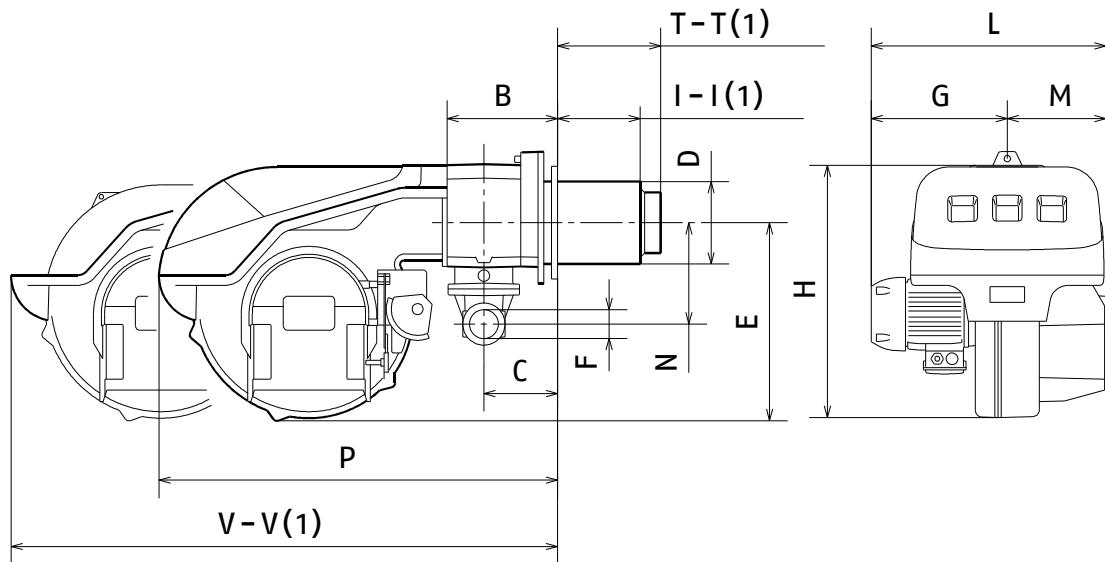
Low NOx Modulating Gas Burners

RS 25÷200/E-EV BLU SERIES

Overall dimensions (mm)

Burner models equipped with LMV52 control box

RS 68/E-EV - 120/E-EV - 160/E-EV - 200/E-EV BLU



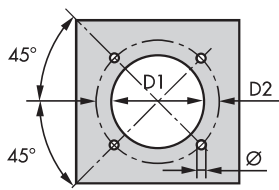
MODEL	B	C	D	E	F	G	H	I* - I (1)*	L	M	N	P	T - T(1)	V - V(1)
▶ RS 68/E-EV BLU	217	137	189	425	2"	305	640	200 - 335	575	270	221	1010	255 - 390	1350 - 1485
▶ RS 120/E-EV BLU	217	137	189	425	2"	330	640	200 - 335	600	270	221	1010	255 - 390	1350 - 1485
▶ RS 160/E-EV BLU	230	141	222	435	2"	366	650	272 - 402	681	315	260	1035	373 - 503	1442 - 1589
▶ RS 200/E-EV BLU	230	141	222	435	2"	427	650	272 - 402	742	315	260	1035	373 - 503	1442 - 1589

(1) dimension with extended head.

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

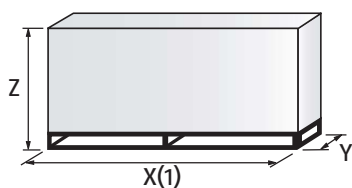
Overall dimensions (mm)

BURNER - BOILER MOUNTING FLANGE



MODEL	D1	D2	Ø
▶ RS 25/E C05	160	224	M8
▶ RS 35/E C05	160	224	M8
▶ RS 45/E C05	165	224	M8
▶ RS 25/E BLU	160	224	M8
▶ RS 35/E BLU	160	224	M8
▶ RS 45/E BLU	165	224	M12
▶ RS 55/E BLU	195	275-325	M12
▶ RS 68/E-EV BLU	195	275-325	M12
▶ RS 120/E-EV BLU	195	275-325	M12
▶ RS 160/E-EV BLU	230	325-368	M16
▶ RS 200/E-EV BLU	230	325-368	M16

PACKAGING



MODEL	X(1)	Y	Z	kg
▶ RS 25/E C05	1000	485	500	39
▶ RS 35/E C05	1000	485	500	40
▶ RS 45/E C05	1015	500	630	48
▶ RS 25/E BLU	1000	485	500	39
▶ RS 35/E BLU	1000	485	500	40
▶ RS 45/E BLU	1015	500	630	48
▶ RS 55/E BLU	1405	700	660	44
▶ RS 68/E-EV BLU	1405	700	660	78
▶ RS 120/E-EV BLU	1405	700	660	84
▶ RS 160/E-EV BLU	1405-1420	1000	660	89
▶ RS 200/E-EV BLU	1405-1420	1000	660	125

(1) dimension with standard and extended head

Low NOx Modulating Gas Burners

RS 25÷200/E-EV BLU 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)
 /EVi Electronic cam with integrated inverter

Emission: ... or C01 Class 1 EN676
 MZ Class 2 EN676
 BLU Class 3 EN676
 MX Class 3 EN676
 C05 Class 5 EN676 (NOx < 56 mg/kWh)

Head length: TC standard head
 TL extended head

Flame control system: FS1 Standard/Intermittent (at least 1 stop every 24 h)
 FS2 Continuous (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/50-60H
110/50-60	110V/50-60Hz

R	S	120	/E	BLU	TC	FS1	3/230-400/50	230/50-60
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BASIC DESIGNATION

EXTENDED DESIGNATION

RS 25÷200/E-EV BLU SERIES

Specification

STATE OF SUPPLY BURNER MODELS EQUIPPED WITH REC27-37 CONTROL BOX

RS 25/E - 35/E BLU and C05 models

Monoblock forced draught Low NOx gas burner with two stage progressive or modulating operation, with a specific kit, fully automatic, made up of:

- Microprocessor-based Digital Burner Management System (RS/E models)
- Display Interface operating unit to adjust the system
- Air suction circuit **with sound proofing material**
- High performance fan with straight blades
- Air damper for air flow setting and butterfly valve for regulating fuel output controlled by independent stepper motor actuators
- Starting motor at 2800 rpm, single-phase/220-230V/50-60Hz
- low emission 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 electrodes
 - ionisation probe
 - gas distributor
 - flame stability disk
- Exclusive patented HCS (Housing Cooling System) with high thermal insulation and air circulation with continuous air volume refresh for an active cooling system and avoid heat transfer to the electrical component housing
- Minimum air pressure switch stops the burner in case of insufficient air quantity at the combustion head
- Plugs and sockets for electrical connection, accessible from the external of the cover
- Burner on/off selection switch
- Flame inspection window
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- IP X0D (IP 40) electric protection level.

Standard equipment:

- 1 gas train flange
- 1 flange gasket
- 4 screws for fixing the flange
- 1 thermal screen
- 4 screws for fixing the burner flange to the boiler
- 3 plugs for electrical connection (RS 25-35/E C05 single-phase)
- 4 plugs for electrical connection (RS 35/E C05 three-phase)
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Specification

STATE OF SUPPLY BURNER MODELS EQUIPPED WITH REC27-37 CONTROL BOX

RS 45/E C05 – RS 45/E – 55/E – 68/E-EV – 120/E-EV – 160/E-EV – 200/E-EV BLU models

Monoblock forced draught Low NOx gas burner with two stage progressive or modulating operation, with a specific kit, fully automatic, made up of:

- Microprocessor-based Digital Burner Management System (RS/E models)
- Microprocessor-based Digital Burner Management System with Variable Speed Drive technology for the control of a Frequency Inverter (RS/EV models)
- Display Interface operating unit to adjust the system
- Air suction circuit lined with sound-proofing material
- Fan with reverse curve blades (straight blades on the 160/E-EV – 200/E-EV BLU model) high performance with low sound emissions
- Air damper for air flow setting and butterfly valve for regulating fuel output controlled by independent stepper motor actuators
- Starting motor at 2800 rpm, three-phase 400V with neutral, 50Hz (single-phase, 230V and 50Hz for the RS 45/E BLU – RS 45/E C05 models)
- Low emission 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 electrodes
 - ionisation probe
 - gas distributor
 - flame stability disk
- Maximum gas pressure switch to stop the burner in the case of excess pressure on the fuel supply line (on RS 55-68-120-160-200/E-EV BLU models)
- Minimum air pressure switch stops the burner in case of insufficient air quantity at the combustion head
- Burner on/off selection switch
- Flame inspection window
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- IP 44 electric protection level.

Standard equipment:

- 1 gas train flange
- 1 flange gasket
- 4 screws for fixing the flange
- 1 thermal screen
- 4 screws for fixing the burner flange to the boiler
- Wiring loom fittings for the electrical connection (for RS 45/E C05 – RS 45/E BLU models)
- 2 slide bar extensions (for extended head models and RS 160/E-EV – 200/E-EV BLU)
- Pressure switch for valve proofing system (RS 120-160-200/E-EV BLU models)
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

RS 25÷200/E-EV BLU SERIES

Specification

STATE OF SUPPLY BURNER MODELS EQUIPPED WITH LMV52 CONTROL BOX

RS 68/E-EV – 120/E-EV – 160/E-EV – 200/E-EV BLU models

Monoblock forced draught Low NOx gas burner with two stage progressive or modulating operation, with a specific kit, fully automatic, made up of:

- Air suction circuit lined with sound-proofing material
- Fan with reverse curve blades (straight blades on the 160/E-EV – 200/E-EV BLU model) high performance with low sound emissions
- Air damper for air flow setting and butterfly valve for regulating fuel output controlled by independent stepper motor actuators
- Starting motor at 2800 rpm, three-phase 400V with neutral, 50Hz (single-phase, 230V and 50Hz for the 45/E C05 model)
- LMV52 Digital Burner management system for air/fuel setting and O₂ Control Ready; with output PID modulation control included (RS 68-120-160-200/E O₂ BLU)
- LMV52 Digital Burner management system for air/fuel setting, O₂ Control Ready and Operation with Variable Speed Drive (VSD); with output PID modulation control included (RS 68-120-160-200/EV O₂ BLU)
- AZL Display Interface, for combustion system commissioning and monitoring
- Low emission 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 electrodes
 - ionisation probe
 - gas distributor
 - flame stability disk
- Maximum gas pressure switch to stop the burner in the case of excess pressure on the fuel supply line (on RS 55-68-120-160-200/E-EV BLU models)
- Minimum air pressure switch stops the burner in case of insufficient air quantity at the combustion head
- Burner on/off selection switch
- Flame inspection window
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- IP 44 electric protection level.

Standard equipment:

- 1 gas train flange
- 1 flange gasket
- 4 screws for fixing the flange
- 1 thermal screen
- 4 screws for fixing the burner flange to the boiler
- Wiring loom fittings for the electrical connection (for RS 45/E C05 model)
- 2 slide bar extensions (for extended head models and RS 160/E-EV – 200/E-EV BLU)
- Pressure switch for valve proofing system (RS 120-160-200/E-EV BLU models)
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Low NOx Modulating Gas Burners

RS 25÷200/E-EV BLU SERIES

Available models

Burners

Models with electronic cam (REC 27)

CODE	MODEL				HEAT OUTPUT		TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
					NATURAL GAS				
					(kW)	(Nm ³ /h)			
3910710	RS 25/E BLU	TC FS1	1/220-230/50-60	220-230/50-60	44/125÷370	4,5/13÷37	0,6	CE-0085BS0379	(1)(3)
3910711	RS 25/E BLU	TL FS1	1/220-230/50-60	220-230/50-60	44/125÷370	4,5/13÷37	0,6	CE-0085BS0379	(1)(3)
20159211	RS 25/E C05	TC FS1	1/220-230/50-60	220-230/50-60	70/125÷340	4,5/12,5÷34	0,6	CE-0123CT1607	(1)(3)
20159212	RS 25/E C05	TL FS1	1/220-230/50-60	220-230/50-60	70/125÷340	4,5/12,5÷34	0,6	CE-0123CT1607	(1)(3)
3910810	RS 35/E BLU	TC FS1	1/220-230/50-60	220-230/50-60	70/200÷480	7/20÷48	0,7	CE-0085BS0379	(1)(3)
3910811	RS 35/E BLU	TL FS1	1/220-230/50-60	220-230/50-60	70/200÷480	7/20÷48	0,7	CE-0085BS0379	(1)(3)
20159213	RS 35/E C05	TC FS1	1/220-230/50-60	220-230/50-60	82/200÷440	7/20÷48	0,7	CE-0123CT1607	(1)
20159214	RS 35/E C05	TL FS1	1/220-230/50-60	220-230/50-60	82/200÷440	7/20÷48	0,7	CE-0123CT1607	(1)
3897332	RS 45/E BLU	TC FS1	1/230/50	230/50-60	90/190-550	9/19-55	0,7	CE-0085BS0380	(1)(3)
3897333	RS 45/E BLU	TL FS1	1/230/50	230/50-60	90/190-550	9/19-55	0,7	CE-0085BS0380	(1)(3)
20159218	RS 45/E C05	TC FS1	1/230/50	230/50-60	90/190-550	9/19-55	0,7	CE-0085BS0380	(1)(3)
20159219	RS 45/E C05	TL FS1	1/230/50	230/50-60	90/190-550	9/19-55	0,7	CE-0085BS0380	(1)(3)
20038491	RS 55/E BLU	TC FS1	3/230-400/50	230/50-60	100/300-680	10/30-68	1,5	CE-0085CM0293	(1)(3)
20038492	RS 55/E BLU	TL FS1	3/230-400/50	230/50-60	100/300-680	10/30-68	1,5	CE-0085CM0293	(1)(3)
3897432	RS 68/E BLU	TC FS1	3/230-400/50	230/50-60	150/350-860	15/35-86	2,0	CE-0085BS0267	(2)(3)
3897433	RS 68/E BLU	TL FS1	3/230-400/50	230/50-60	150/350-860	15/35-86	2,0	CE-0085BS0267	(2)(3)
3897632	RS 120/E BLU	TC FS1	3/230-400/50	230/50-60	300/600-1300	30/60-130	2,8	CE-0085BS0268	(2)(4)
3897633	RS 120/E BLU	TL FS1	3/230-400/50	230/50-60	300/600-1300	30/60-130	2,8	CE-0085BS0268	(2)(4)
3788032	RS 160/E BLU	TC FS1	3/400/50	230/50-60	300/930-1860	30/93-186	5,3	CE-0085BS0266	(2)(4)
3788033	RS 160/E BLU	TL FS1	3/400/50	230/50-60	300/930-1860	30/93-186	5,3	CE-0085BS0266	(2)(4)
3899810	RS 200/E BLU	TC FS1	3/400/50	230/50-60	570/1375-2400	57/138-240	6,5	CE-0085BT0419	(2)(4)
3899811	RS 200/E BLU	TL FS1	3/400/50	230/50-60	570/1375-2400	57/138-240	6,5	CE-0085BT0419	(2)(4)
3899840	RS 200/E BLU	TC FS1	3/230/50	230/50-60	570/1375-2400	57/138-240	6,5	CE-0085BT0419	(2)(4)

Models with electronic cam (LMV 52) - O₂ Control Ready

CODE	MODEL				HEAT OUTPUT		TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
					NATURAL GAS				
					(kW)	(Nm ³ /h)			
20174458	RS 68/E O ₂ BLU	TC FS1/FS2	3/400/50	1N/230/50	150/350-860	15/35-86	2,0	CE-0085BS0267	(2)(4)
20174463	RS 68/E O ₂ BLU	TL FS1/FS2	3/400/50	1N/230/50	150/350-860	15/35-86	2,0	CE-0085BS0267	(2)(4)
20165996	RS 120/E O ₂ BLU	TC FS1/FS2	3/400/50	1N/230/50	300/600-1300	30/60-130	2,8	CE-0085BS0268	(2)(4)
20174465	RS 120/E O ₂ BLU	TL FS1/FS2	3/400/50	1N/230/50	300/600-1300	30/60-130	2,8	CE-0085BS0268	(2)(4)
20166113	RS 160/E O ₂ BLU	TC FS1/FS2	3/400/50	1N/230/50	300/930-1860	30/60-130	5,3	CE-0085BS0266	(2)(4)
20164535	RS 160/E O ₂ BLU	TL FS1/FS2	3/400/50	1N/230/50	300/930-1860	30/60-130	5,3	CE-0085BS0266	(2)(4)
20171269	RS 200/E O ₂ BLU	TC FS1/FS2	3/400/50	1N/230/50	570/1375-2400	30/93-186	6,5	CE-0085BT0419	(2)(4)
20166368	RS 200/E O ₂ BLU	TL FS1/FS2	3/400/50	1N/230/50	570/1375-2400	30/93-186	6,5	CE-0085BT0419	(2)(4)

Natural gas, net calorific value: 10 kWh/Nm³ - Density: 0,71 kg/Nm³

The burners of RS/E BLU series are in according to 2016/426/EU - 2014/30/EU - 2014/35/EU - 2006/42 EC Directive and EN 676.

(1) With plug and socket.

(2) With terminal board.

(3) Seal control function is included on Burner Digital Management System; it is necessary to add the PVP kit on the gas train as Accessory (see Gas Train Accessories paragraph).

(4) Seal control function is included on Burner Digital Management System; it is necessary to add the PVP kit (included as burner standard equipment) on the gas train. In case of matching with VGD 50/1 gas train, additional flange kit code 20185515 is needed.

RS 25÷200/E-EV BLU SERIES

Available models

Burner

Models with electronic cam (REC 37) – Operation with Variable Speed Drive (VSD)

CODE	MODEL				HEAT OUTPUT		TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
					NATURAL GAS				
					(kW)	(Nm ³ /h)			
20013995	RS 68/EV BLU	TC FS1/FS2	3/230-400-50	230/50-60	150/350-860	15/35-86	2,0	CE-0085BS0267	(2)(3)(5)
20010976	RS 120/EV BLU	TC FS1/FS2	3/230-400-50	230/50-60	300/600-1300	30/60-130	2,8	CE-0085BS0268	(2)(4)(5)
20014609	RS 120/EV BLU	TL FS1/FS2	3/230-400-50	230/50-60	300/600-1300	30/60-130	2,8	CE-0085BS0268	(2)(4)(5)
20010988	RS 160/EV BLU	TC FS1/FS2	3/400/50	230/50-60	300/930-1860	30/93-186	5,3	CE-0085BS0266	(2)(4)(5)
20006982	RS 200/EV BLU	TC FS1/FS2	3/400/50	230/50-60	570/1375-2400	57/138-240	6,5	CE-0085BT0419	(2)(4)(5)

Models with electronic cam (LMV 52) – O₂ Control Ready – Operation with Variable Speed Drive (VSD)

CODE	MODEL				HEAT OUTPUT		TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
					NATURAL GAS				
					(kW)	(Nm ³ /h)			
20172153	RS 68/EV O ₂ BLU	TC FS1/FS2	3/400/50	1N/230/50	150/350-860	15/35-86	2,0	CE-0085BS0267	(2)(4)(5)
20172154	RS 68/EV O ₂ BLU	TL FS1/FS2	3/400/50	1N/230/50	150/350-860	15/35-86	2,0	CE-0085BS0267	(2)(4)(5)
20154943	RS 120/EV O ₂ BLU	TC FS1/FS2	3/400/50	1N/230/50	300/600-1300	30/60-130	2,8	CE-0085BS0268	(2)(4)(5)
20172155	RS 120/EV O ₂ BLU	TL FS1/FS2	3/400/50	1N/230/50	300/600-1300	30/60-130	2,8	CE-0085BS0268	(2)(4)(5)
20158956	RS 160/EV O ₂ BLU	TC FS1/FS2	3/400/50	1N/230/50	300/930-1860	30/60-130	5,3	CE-0085BS0266	(2)(4)(5)
20172156	RS 160/EV O ₂ BLU	TL FS1/FS2	3/400/50	1N/230/50	300/930-1860	30/60-130	5,3	CE-0085BS0266	(2)(4)(5)
20172159	RS 200/EV O ₂ BLU	TC FS1/FS2	3/400/50	1N/230/50	570/1375-2400	30/93-186	6,5	CE-0085BT0419	(2)(4)(5)
20156077	RS 200/EV O ₂ BLU	TL FS1/FS2	3/400/50	1N/230/50	570/1375-2400	30/93-186	6,5	CE-0085BT0419	(2)(4)(5)

Natural gas, net calorific value: 10 kWh/Nm³ – Density: 0,71 kg/Nm³

The burners of RS/E BLU series are in according to 2016/426/EU – 2014/30/EU – 2014/35/EU – 2006/42 EC Directive and EN 676.

(1) With plug and socket.

(2) With terminal board.

(3) Seal control function is included on Burner Digital Management System; it is necessary to add the PVP kit on the gas train as Accessory (see Gas Train Accessories paragraph).

(4) Seal control function is included on Burner Digital Management System; it is necessary to add the PVP kit (included as burner standard equipment) on the gas train. In case of matching with VGD 50/1 gas train, additional flange kit code 20185515 is needed.

(5) Frequency Inverter, to be ordered as separated accessory; please refer to "Burner Accessories" paragraph.

Low NOx Modulating Gas Burners

RS 25÷200/E-EV BLU SERIES

Available models

Gas Trains

CODE	GAS TRAIN		ADAPTER CODE						
	MODEL	Ø	RS 25	RS 35-45	RS 55	RS 68	RS 120	RS 160	RS 200
3970599*	MB 407/1 - RT 52	Rp ¾"	3000824		3000824 + 3000843	●	●	●	●
3970258*	MB 410/1 - RT 52	Rp 1" ¼	3010124		3010126			●	●
3970600*	MB 410/1 - RT 52	Rp ¾"	3000824		3000824 + 3000843			●	●
3970256*	MB 412/1 - RT 52	Rp 1" ½	□	□	3000843				●
3970250*	MB 415/1 - RT 52	Rp 1" ½	□		3000843				
3970257*	MB 420/1 - RT 52	Rp 2"	3000822		□				
20137718*	VGD 50/1 - RT 122 (1)	Rp 2"	3000822		□				
20140762*	VGD 65/1 - FT 122	DN 65 (2)	●	●	3000826				
20140763*	VGD 80/1 - FT 122	DN 80	●	●	3000826				
20169193*	VGD 100/1 - FT 122	DN 100	●	●	●	●	●	3010370 + 3000826	
20169195*	VGD 125/1 - FT 122	DN125	●	●	●	●	●	●	●

Please see designation of Gas Train Series in the page before the Catalogue index.

* 230V/50Hz -220V/60Hz electrical supply.

The valves 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 REC control box, by installation on gas train of a pressure switch (please see Gas train accessories paragraph); it is included as standard equipment on RS 120/E-EV-160/E-EV-200/E-EV BLU models.

(1) Additional flange kit code 20185515 needed for seal control function.

(2) øin = DN 65, øout = DN 80

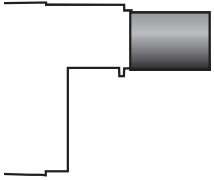
To select the gas train please refer to the technical data leaflet and/or instruction manual.

● Not available.

□ Additional adapter not necessary, the gas train may be connected directly to the burner.

Burner accessories

Extended head kit



“Standard head” burners can be transformed into “extended head” versions, by using the special kit. The KITS available for the various burners, giving the original and the extended lengths, are listed below.

BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ RS 25/E BLU	230	365	3010430
▶ RS 25/E C05	230	365	20177160
▶ RS 35/E BLU	230	365	3010431
▶ RS 35/E C05	192	327	20177164
▶ RS 45/E BLU	229	354	20006586
▶ RS 45/E C05	192	327	20177165
▶ RS 55/E BLU	255	390	20040373
▶ RS 68/E-EV - 120/E-EV BLU	255	390	3010177
▶ RS 160/E-EV BLU	373	503	3010442
▶ RS 200/E-EV BLU	373	503	3010474

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
▶ RS 25/E - 35/E BLU - C05	3010449
▶ RS 45/E C05	3010094
▶ RS 45/E - 55/E - 68/E-EV - 120/E-EV - 160/E-EV - 200/E-EV BLU	3010094

Note: the Post-ventilation function is obtainable by modification of the Digital Burner Management System parameters (see burner instruction manual).

OCI412 interface kit

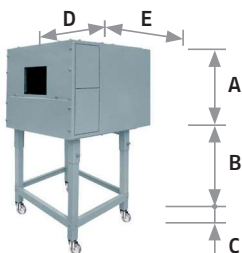


Interface kit between the REC27-37 and a Modbus system, such as a building automation and control system (BACS).

The Modbus interface is based on the RS-485 standard.

BURNER	KIT CODE
▶ All models equipped with REC27-37 control box	3010437

Sound proofing box



If noise emission needs reducing even further, sound-proofing boxes are available. When a lower “B” dimension is required, it is available the Box Support Kit code 20065135 which allows to reduce it at the fixed dimension of 55 mm. The sound-proofing boxes are 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 25/E - 35/E BLU - C05								
▶ RS 45/E C05	C1/3	650	372 - 980	110	690	770	10	3010403
▶ RS 45/E - 55/E BLU								
▶ RS 68/E-EV - 120/E-EV BLU								
▶ RS 160/E-EV - 200/E-EV BLU	C4/5	850	160 - 980	110	980	930	10	3010404

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

Low NOx Modulating Gas Burners

RS 25÷200/E-EV BLU SERIES

Burner accessories

Accessories for modulating operation



To obtain modulating operation, RS/E-EV BLU burners equipped with REC27-37 control box require a regulator with three point outlet controls.

On RS 25/E - 35/E BLU the regulator is connected to the burner electrical wiring by plug-in system in order to make the connection easier and faster.

The following table lists the accessories for modulating operation with their application range.

For remote setpoint use RWF 55.

In the RS/E-EV BLU burners equipped with Siemens LMV52, the PID regulator is integrated inside the control box.

BURNER	REGULATOR TYPE	REGULATOR CODE
▶ RS 25 - 35 - 45/E C05	RWF 50.2	20083339
▶ RS 25/E - 35/E - 45/E - 55/E BLU	RWF 55.5	20098541
▶ RS 68/E-EV - 120/E-EV - 160/E-EV - 200/E-EV BLU	RWF 50.2	20099869
▶ equipped with REC27-37 control box	RWF 55.5	20099905



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)	PROBE 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

Head kit for "reverse flame chamber"



In certain cases, the use of the burner on reverse flame boilers can be improved by using an additional Pipes Kit.

BURNER	KIT CODE (*)
▶ RS 68/E-EV BLU	3010247
▶ RS 120/E-EV BLU	3010248
▶ RS 160/E-EV BLU	3010249
▶ RS 200/E-EV BLU	20035848

(*) CE approval on field is required

Ground fault interrupter kit

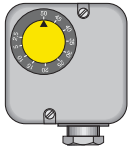


A "Ground fault interrupter kit" is available as a safety device in case of electrical system fault.

BURNER	KIT CODE
▶ RS 25/E - 35/E BLU - C05	3010448
▶ RS 45/E C05 - RS 45 - 55/E BLU	20098335
▶ RS 68/E-EV - 120/E-EV - 160/E-EV - 200/E-EV BLU	20098337

Burner accessories

Gas max pressure switch



If necessary a Gas max pressure Switch kit is available and connectable to the burner electrical wiring through Plugs & Sockets system.

BURNER	CODE
▶ RS 25/E - 35/E BLU - C05	3010418

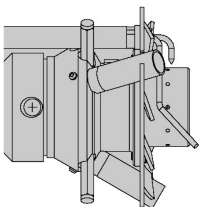
Volt free contact kit



A volt free contact kit is available for installation onto the burner. It can be used for a remote interface between burner operating signals. Every burner can be equipped with a single kit for a remote check of the flame presence signal and the burner lock-out indication.

BURNER	KIT CODE
▶ RS 25/E - 35/E BLU - C05	3010419

LPG kit



For burning LPG gas, a special kit is available to be fitted to the combustion head on the burner, as given in the following table:

BURNER	KIT CODE FOR 'STANDARD HEAD'	KIT CODE FOR 'EXTENDED HEAD'
▶ RS 25/E BLU	3010423	3010423
▶ RS 25/E C05	(1)	(1)
▶ RS 35/E BLU	3010424	3010424
▶ RS 35/E C05	(1)	(1)
▶ RS 45/E BLU	20156901*	20156901*
▶ RS 45/E C05	(1)	(1)
▶ RS 55/E BLU	20144368*	20161511*
▶ RS 68/E - EV BLU	3010433*	20092589*
▶ RS 120/E - EV BLU	20085367*	20085367*
▶ RS 160/E - EV BLU	20008971*	20008971*
▶ RS 200/E - EV BLU	3010491	3010491

(*) CE approval on field is required.
(1) Not available

PC Interface kit



To connect the control box to a personal computer for the transmission of operation, fault signals and detailed service information, an interface adapter with PC software are available.

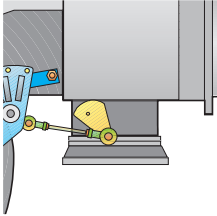
BURNER	KIT CODE
▶ All models equipped with REC 27-37 control box	3010436
▶ All models equipped with LMV52 control box	3010388

Low NOx Modulating Gas Burners

RS 25÷200/E-EV BLU SERIES

Burner accessories

DN80 gas flange kit



To modify the standard 2" burner gas input connection in to DN80 connection, a specific gas flange is available.

BURNER	KIT CODE
▶ RS 68/E-EV - 120/E-EV - 160/E-EV - 200/E-EV BLU	3010439

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



The motor speed variation for the RS/EV BLU 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 68/EV BLU	1,5	20163060
▶ RS 120/EV BLU	3,0	20163064
▶ RS 160/EV - 200/EV BLU	5,5	20163071

Spacer kit



If burner head penetration into the combustion chamber needs reducing, varying thickness spacers are available, as given in the following list.

BURNER	SPACER THICKNESS S (mm)	KIT CODE
▶ RS 25/E - 35/E BLU - C05 - RS 45/E C05	110	3010095
▶ RS 55/E - 68/E-EV - 120/E-EV BLU	135	3010129
▶ RS 160/E-EV - 200/E-EV BLU	102	3000722

Oxygen Control kit (QGO₂) for RS/E-EV BLU burners with LMV52 control box only



The QGO₂ is an oxygen analyzer with relevant probe which controls and supervises the residual oxygen content in exhaust gases.

BURNER	KIT CODE
▶ All models equipped with LMV52 control box	20045187*

An additional transformer kit is needed to guarantee the power supply to the PLL device in case of installation where the distance between the last servomotor and the PLL kit is greater than 20 meters.

Please contact Riello Burners Commercial and Technical Department, our Application Engineers will be pleased to help you.

* Installation outside the burner cover

Kit efficiency with oxygen control kit (RS/E-EV BLU burners with LMV52 control box only)



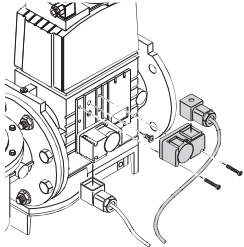
The kit includes two temperature sensors: one for air and one for exhaust gas detection. They must be wired to oxygen control kit interface to allow the LMV 52 efficiency calculation. The value is showed on AZL display.

BURNER	KIT CODE
▶ All models equipped with LMV52 control box	3010377

RS 25÷200/E-EV BLU SERIES

Gas train accessories

PVP (Pressure Valve Proving) kit *



The seal control function is included on Burner Digital Management System, it is only necessary to add the PVP kit on the gas train.

The PVP is included as standard equipment on RS 68/E-EV BLU models equipped with LMV52 control box and on all RS 120/E-EV-160/E-EV-200/E-EV BLU models.

GAS TRAIN	KIT CODE
▶ All MB models, VGD 65/1 - 80/1 - 100/1 - 125/1	3010344 (*)
▶ VGD 50/1	3010344 + 20185515 (**)

(*) Code 3010344 not necessary for RS 68/E-EV BLU models equipped with LMV52 control box and for all RS 120/E-EV - RS 160/E-EV - RS 200/E-EV BLU models, where it is included as a standard.

(**) Code 20185515 always needed in case of seal control needed for VGD 50/1 gas train. Code 3010344 not necessary for RS 68/E-EV BLU models equipped with LMV52 control box and for all RS 120/E-EV - RS 160/E-EV - RS 200/E-EV BLU models, where it is included as a standard.

Stabiliser spring



Accessory springs are available to vary the pressure range of the gas train composed. 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
▶ VGD/1 series	Neutral	0 - 22	20181839
	Yellow	15 - 120	20141900
	Red	100 - 250	20141901

Adapters

When the diameter of the gas train is different from the set diameter of the burners, an adapter must be fitted between the gas train and the burner.

Below are given the available adapters; please see on the Gas Train list the correct adapter codes to select.

ADAPTER	LENGTH mm	ADAPTER CODE
2" 1" 1/2	70	3000822
3/4" 1" 1/2	31	3000824
DN 65 2" 1/2 2"	300	3000825
2" 1/2 1" 1/2		
DN 80 2" 1/2 2"	300	3000826
1" 1/2 2"	35	3000843
1" 1/4 1" 1/2	35	3010124
1" 1/4 2"	35	3010126

