- raadman -
Burner



Electronic Modulating Burners

Mono-Bloc Type

Last Update | July 2026

Raadman Burner



Firing range: 0.02-45 MW

Hot Water Boilers, Steam Boilers, Thermal Oil Boilers, Condensing Boilers








Firing range: 0.01-60 MW

Boilers, Steam Units, Fired Heaters, Reformer Furnaces, Cracking Furnaces






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Raadman Industrial Group

Raadman Industrial Group, established in 2011, is a leading manufacturer of industrial burners and a provider of advanced combustion solutions. From the beginning, Raadman has focused on developing innovative technologies, building technical expertise, and manufacturing reliable burners designed to meet the specific requirements of various industries.

Through continuous innovation and strong collaborations with international universities and European technology partners, Raadman has developed advanced combustion systems that comply with high European standards in performance, efficiency, and reliability.



At Raadman, integrity, professionalism, and engineering excellence are the foundation of our work. We are committed to developing high-quality combustion solutions that deliver advanced technology, reliable performance, and environmental sustainability. By using the latest innovations in combustion technology and complying with international standards, Raadman designs efficient systems that reduce fuel consumption and minimize emissions.

With a strong focus on customer satisfaction, continuous improvement, and technical support, Raadman has built a trusted reputation in domestic and international markets, providing reliable combustion solutions for a wide range of industries.

Strategic Objectives

- Optimizing flame shape and geometry
- Reducing combustion-related emissions and environmental impact
- Enhancing efficiency by simultaneously considering flame behavior and heat exchanger structure
- Implementing intelligent combustion control systems to improve safety
- Manufacturing high-quality and durable products
- Advancing technical knowledge in industrial combustion technologies

Raadman Burner Certificates



ISIRI-7594



ISIRI-7594



EAC-0378484



EAC-0378483



ISO-31000



ISO-10004



Raadman International Markets

RUSSIA	IRAQ	OMAN	U.A.E	EGYPT
REPUBLIC OF BELARUS	TAJIKISTAN	KAZAKHSTAN	QATAR	LIBYA
UZBEKISTAN	TURKMENISTAN	AZERBAIJAN	MALAYSIA	NAKHCHIVAN
SAUDI ARABIA	COLOMBIA	TURKEY	AFGHANISTAN	TANZANIA

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be in touch with us



Interactive Catalogue

Every **product name (highlighted in red)** featured in this catalog is digitally connected. Click any product name to access its dedicated online page and explore the latest technical specifications, performance data, documentation, downloads, and engineering resources.

product name

Dimensions	Back Pressure curve	Emission Level	Documents	VIP Documents

R LG B-M/M-705/LN-DB-SF-FGR

Option: FGR*

Combustion Head Type:
Blank: Normal Flame
SF: Short Flame

DB: Dual Block Burner

Blank: NOx class: II acc. to EN-676
LN: Low NOx with Class III acc. to EN-

Ultra Low Nox
PE: Pre-mixed Gas Burner
PM: Post-Mixed Gas Burner

Reference of approximate Capacity x 10 kW

Operation:

Blank:	Two Stage or One Stage
M:	Natural Gas, LPG: Electronic Modulating Light Oil, Heavy Oil: Two/Three Stage Progressive
MC:	Natural Gas, LPG: Mechanical Modulating Light Oil, Heavy Oil: Two/Three Stage Progressive
MS:	Natural Gas, LPG: Mechanical Staging Light Oil, Heavy Oil: Two/Three Stage Progressive
M/M:	Natural Gas, LPG: Electronic Modulating Light Oil, Heavy Oil: Electronic Modulating

B: Burner

Type of Fuel

G:	G=Natural gas
GP:	G=Natural gas, P=Propane
LG:	L=Light oil, G=Natural gas
LH:	L=Light oil, H= Heavy oil
LGP:	L=Light oil, G=Natural gas, P=Propane
LHGP:	L=Light oil, H= Heavy oil, G=Natural gas, P=Propane

P: Premixed or Post-mixed Gas Burner

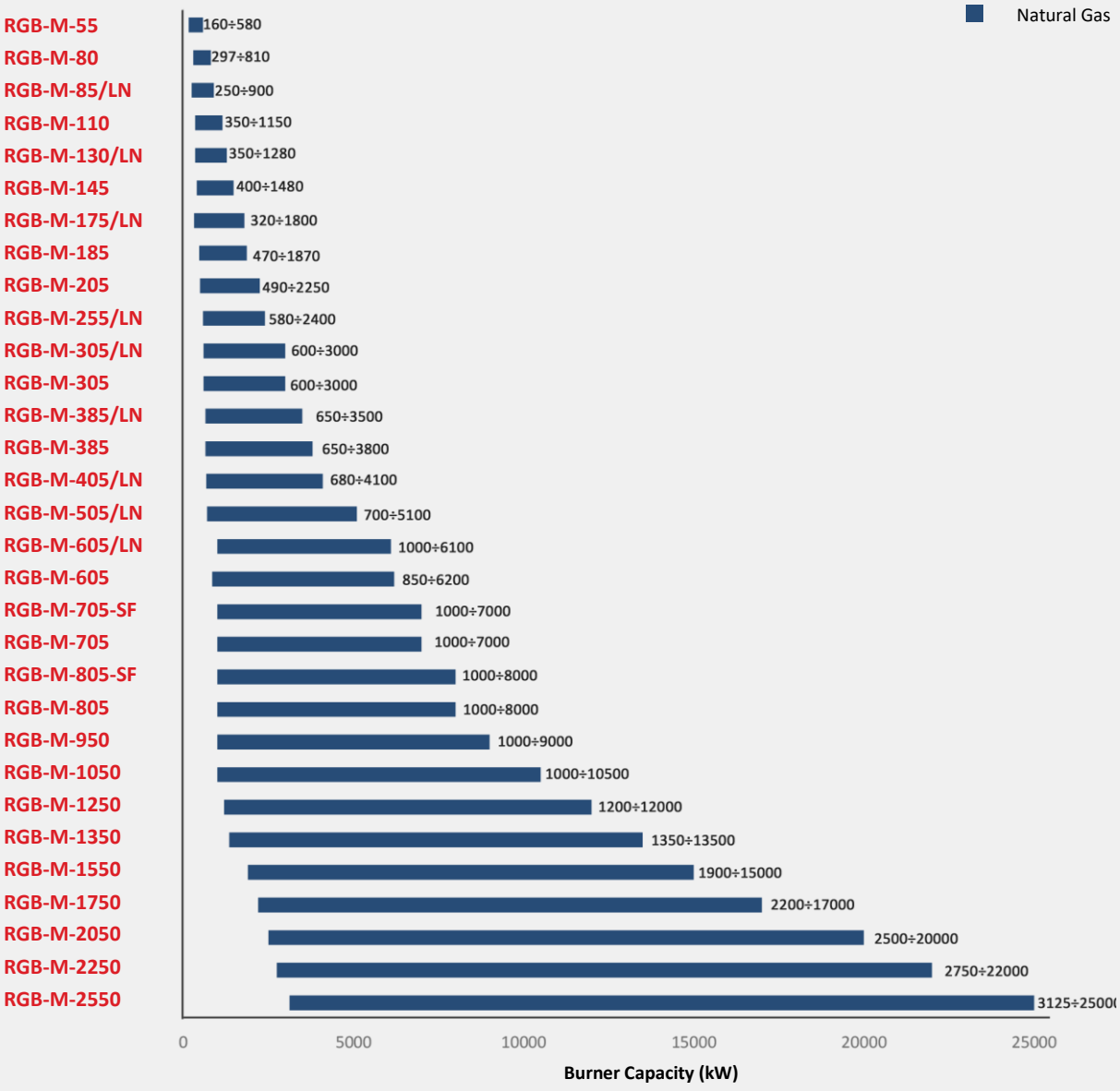
Product Family Name: RAADMAN

*FGR=Flue Gas Recirculation

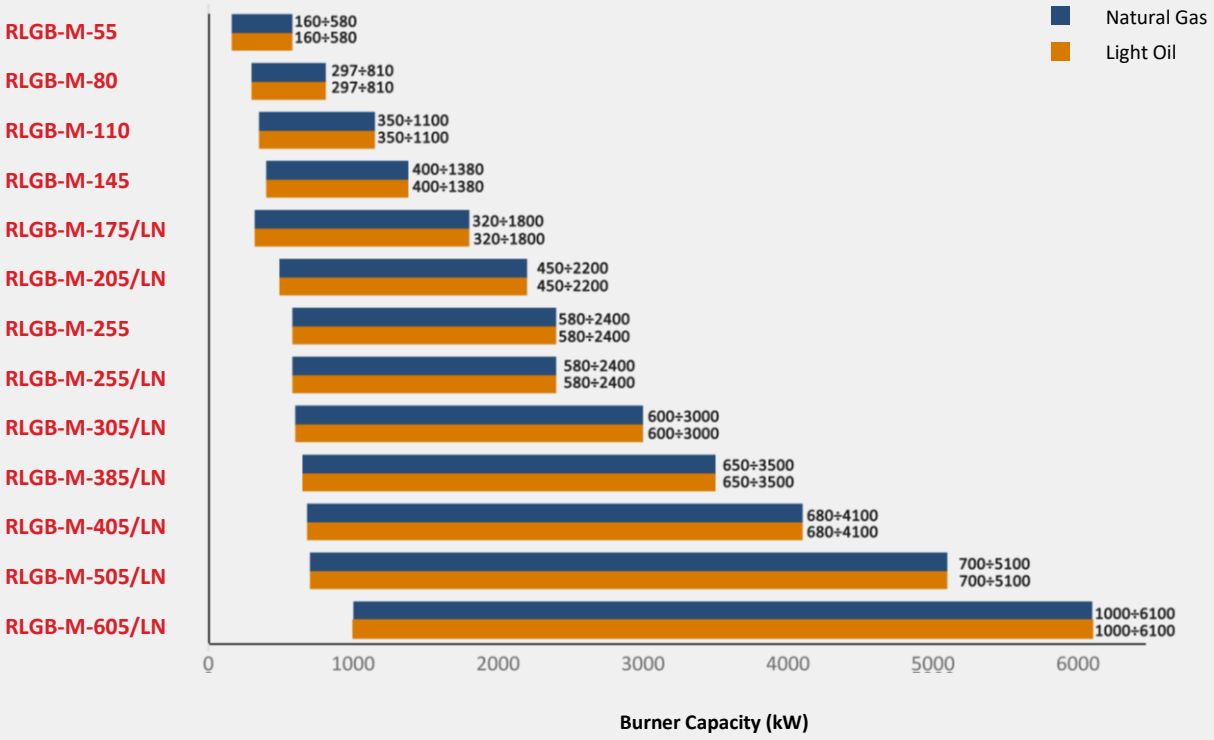
Firing Ranges

Electronic Modulating Monoblock Burners

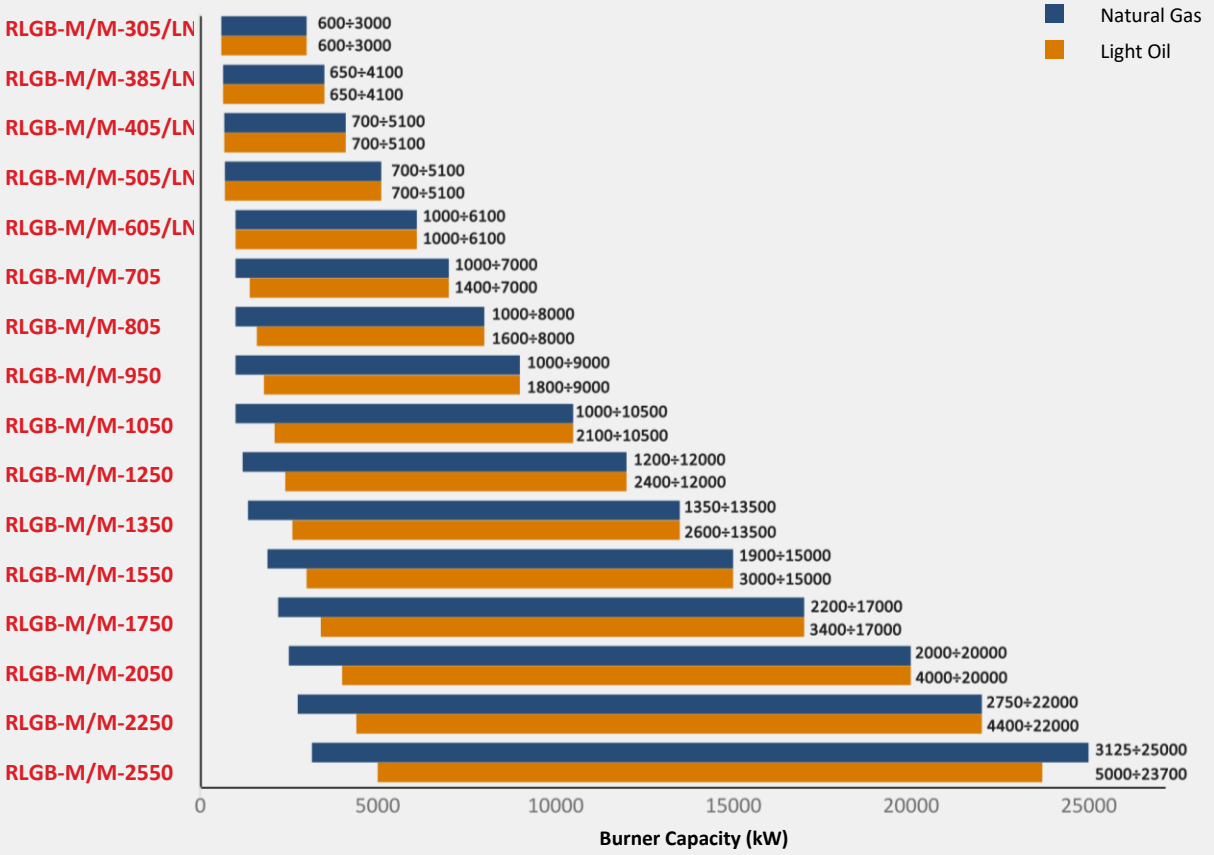
Gas Burners (RGB-M series):



Dual Fuel Burners (RLGB-M series):



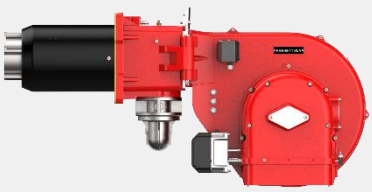
Dual Fuel Burners (RLGB-M/M series):




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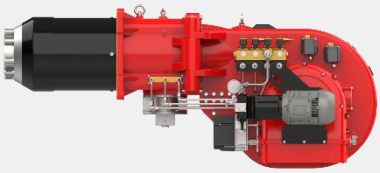
Electronic Modulating Gas burners (RGB-M series)



RGB-M series capacity diagram
RGB-M series dimension
RGB-M series technical data

Page 17-32

Electronic Modulating Dual fuel burners (RLGB-M series)



RLGB-M series capacity diagram
RLGB-M series dimension
RLGB-M series technical data

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Fully Electronic Modulating Dual fuel burners (RLGB-M/M series)



RLGB-M/M series capacity diagram
RLGB-M/M series dimension
RLGB-M/M series technical data

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Technical and Functional Features

- Highly efficient gas/oil burners for domestic and industrial application
- Compatible with all types of combustion chambers according to EN303 standard
- Designed to maximize efficiency and fuel cost savings
- Based on Iran national standard ISIRI-7595 and ISIRI 7594 (BS-EN 676 and BS-EN 267) for gas and oil fuel, respectively.
- Compact design with enclosed aluminum air housing
- High-quality with low-emissions combustion
- Sound proofing materials incorporated in the air suction circuit
- Full electronic modulating operation with air/gas ratio control
- Capable of running with Variable Speed Drive (VSD) to reduce noise levels and enhance the lifespan of fan wheel motor
- Capable of operating with either of pressure based or Air/steam atomizers in dual fuel version
- Capable of operating with FGR (Flue Gas Recirculation) technology for additional reduction in NOx levels (optional)
- Light weight and optimized geometry
- Easy installation, adjustment, and maintenance

Electronic Modulating Operation

Fossil fuel burners are often used as the principal means for delivering energy to industrial furnaces and boilers. increasing emphasis on reducing energy costs has led manufacturers to concentrate on new burner design techniques. As a result, significant improvements in efficiency gains have been made over the years. The most effective strategies are burner management and control systems.

Fully modulating burners are designed to operate safely throughout its firing range from high fire to low fire. The most common turndown ratings in commercial boilers range from 1-3 up to 1-10. Turndown is how far the burner firing rate can be lowered and still effectively fire. High turndown is used to reduce the burner cycling and maintain a consistent temperature or pressure in the boiler. This is crucial if the boiler is used in an industrial process that requires a consistent temperature or pressure.

Each raadman burners with identification of -M- or -M/M- are equipped with an electronic microprocessor management panel which controls the air damper servomotor as well as the fuel servomotors. Using electronic modulation, hysteresis is prevented by the precise control of the separated and independent servomotors and the software linked by can-BUS.

The high precision regulation is due to the absence of mechanical clearance normally found in mechanical regulation cams on traditional modulating burners. The LAMTEC Burner Tronic BT300 or AUTOFLAME MINI MK8, Mini MK9 as well as Siemens LMV2/3, LM51/52 as the most popular brands, are frequently used in raadman Modulating burners. The burner Control Systems combine the benefits of an electronic fuel/air ratio controller with an electronic burner control unit. Up to five motorized actuators can be assigned to modulate air and fuel drives with the option of an additional module to add variable speed drive control for the combustion air fan.

Additional modules are available for field bus interfacing, load control and dual fuel operation.

These modulating systems include many standard burner functions as standard; these include: integrated valve proving, ambient temperature compensation, flame monitoring and operating hours and system start-up counters. Oxygen trim, CO control, load control and dual fuel functionality are all available options that are used to enhance system benefits, flexibility and efficiency. These controllers are particularly suited for using on mono-block burners.

The fuel/air ratio curves and operating parameters are set and adjusted using either UI300 HMI or AZL50 for LAMTEC and Siemens respectively or using their LSB Remote Software's. The fuel/air ratio can be optimized to compensate combustion variables by implementing oxygen trim or CO control to ensure that the burner operates to its maximum possible efficiency.

The burner and fuel/air ratio controller can be adjusted for a wide range of combustion tasks by setting parameters. In case of BT300, or LMV2/3/5, oil and gas can be set to start with and without a pilot burner. The integrated valve proving system can be run before ignition or after burner shutdown. In case of operation with gas, starting without pre-purge is possible in accordance with BS-EN 676 and BS-EN 267.

Key features and benefits include:

- Integrated linkage-less control, burner flame safeguard and modulation PID control
- Single or dual fuel (or multi fuel) application

- Controls up to 5 independent actuators for optimal efficiency in low NOx burner application
- Integrated PID temperature/ pressure controller with auto tune for extremely accurate process control
- Variable Speed Drive control with actual RPM speed sensor provides reliable, efficient and safe control of the combustion air blower
- Optional O2-CO trim in LAMTEC and Siemens and Simultaneous & continuous sampling of up to 6 exhaust gases: O2, CO2, CO, NO, NO2, SO2 in AUTOFLAME.
- Integrated gas valve proving system that checks for leak on every burner cycle for increased safety
- Up to 10 programmable points per fuel-air ratio curve for greater flexibility and tighter control
- 999 highly repeatable actuator position for precise control
- Digital positioning feedback from actuators ensures unmatched repeatability
- Independent ignition position
- Ability of being connected to building management system using different type of protocols
- World-wide approvals and technical supports
- Fuel/Air ratio control
- Full color touch screen in AUTOFLAME
- Fully adjustable PID load control for temperature or pressure
- Internal flame safeguard – full flame supervision with self-check UV, IR and ionization
- Gas valve train leak supervision and high/low gas pressure monitoring in AUTOFLAME
- Air pressure proving and monitoring in Mini MK8
- User definable optimum ignition position – golden start in AUTOFLAME
- User definable flue gas recirculation start position
- External voltage load control
- Outside temperature compensation of boiler setpoint
- Second setpoint with run times
- Various boiler load detectors available
- Fuel flow metering capability – instantaneous and totalized
- Password protection of all safety related functions in AUTOFLAME
- Infra-red port for upload/download of commissioning data
- Fully adjustable user options within the system to tailor sequencing operation to the application
- System control for isolation of valves or pumps (2 port valve operation)
- Standby setpoint and warming for lag boilers via a standby pressure and timing sequence aqua-stat
- Download all commissioning data from an MM module to a PC via Download Manager

Mini Mk9 – Next-Level Combustion Control Technology

The **Mini Mk9** introduces a new generation of micro-modulating combustion control, combining advanced connectivity, intelligent monitoring and enhanced optimization capabilities for modern burner management applications.

Key **Features**

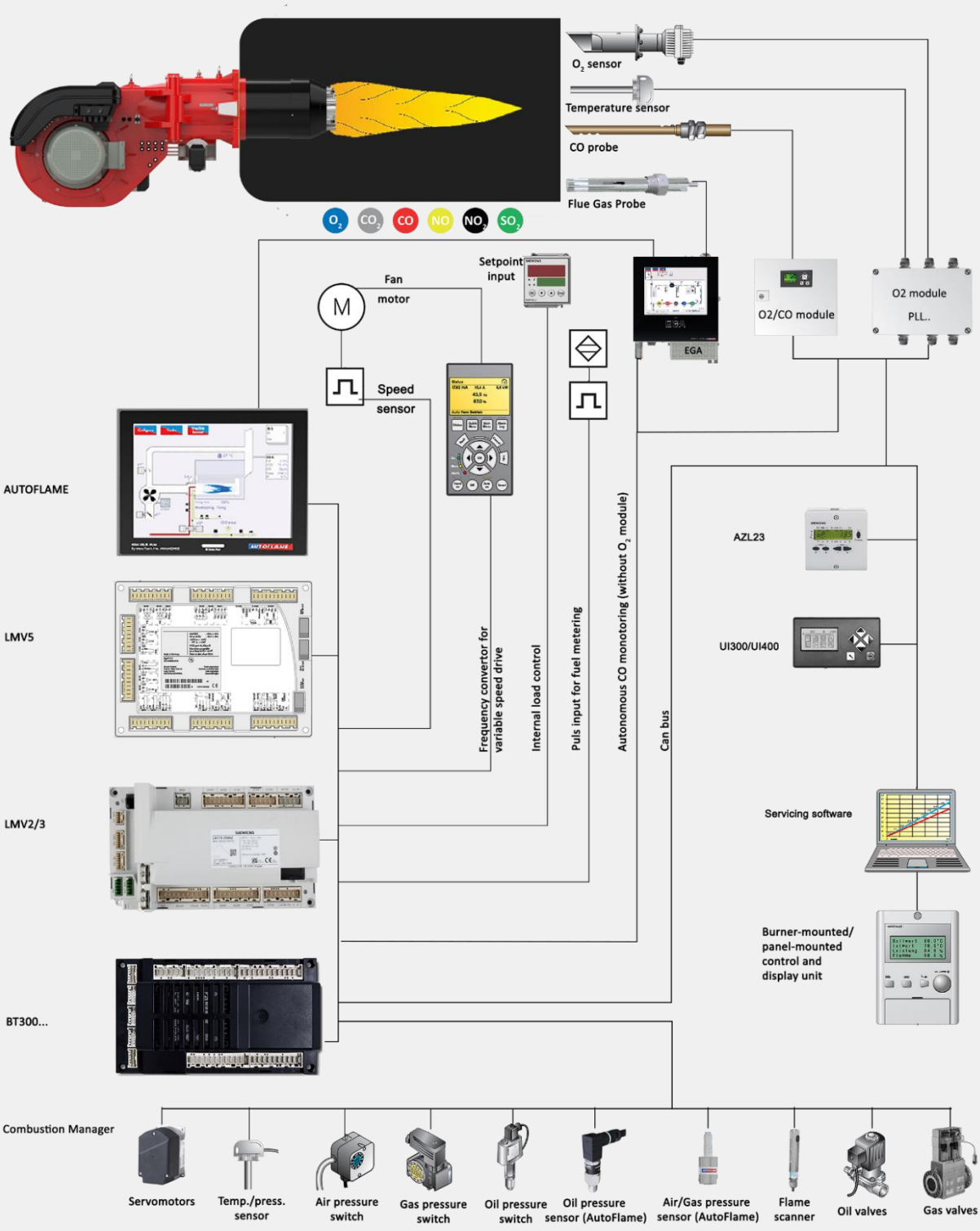
- Full color capacitive multi-touchscreen interface with modern graphical menu navigation.
- Integrated Bluetooth, WiFi and Ethernet connectivity for advanced system access and configuration.
- Direct MODBUS and BACnet communication for seamless Building Management System (BMS) integration.
- Wireless commissioning data upload/download and software updates via the Mk9 Download Manager App.
- Support for up to three servomotors, one VSD/VFD and one PWM fan output.
- Direct connection of O_2 sensors for combustion trim optimization.
- Interface with exhaust gas analyzers for advanced emissions monitoring and combustion adjustment.
- Intelligent Boiler Sequencing (IBS) for efficient multi-boiler load management.
- Enhanced system logging with detailed records of operating status, alarms, warnings and lockouts.
- Advanced commissioning functions including Single Point Change and user-defined optimization settings.
- Fuel flow metering capability with instantaneous and totalized consumption monitoring.
- QR code registration and simplified system management.





Raadman 7 MW Burner Equipped with an FGR System

Burner Management System Overview




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Electronic Modulating Mono Block Burners

Heat Rated Output: 160-25000 kW

- SMILE INTO THE FUTURE -

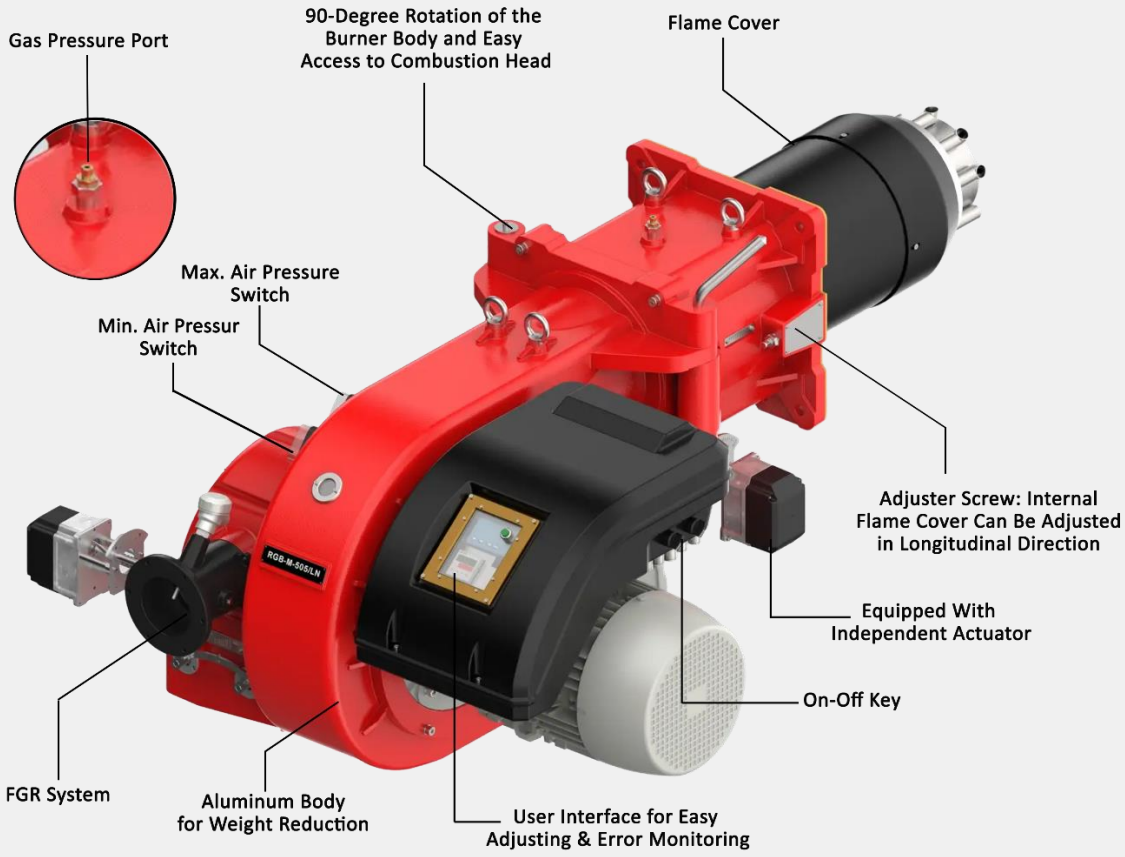
www.raadmanburner.com

8040192114Z3@8D8I2H7@1V46631

Gas burners (RGB-M Series)

RGB-M Series or RAADMAN Modulating gas burners, covering a firing range from 160 to 25000 kW, are designed for a wide range of domestic and industrial applications. All RAADMAN electrical modulating burners are equipped with LAMTEC or SIEMENS electronic control system with capability of full air/gas ratio control throughout burner entire operating range. These burners have been tested and evaluated based on Iran national standard ISIRI-7595 (BS-EN 676). According to the conducted experiments, even in low excess air operation, the values of CO are consistently lower than 30 mg/kWh, and in some instances, values close to zero have also been reported. The precise design of the combustion head results in a full gas-air mixture ensuring high efficiency levels in a wide range of applications.

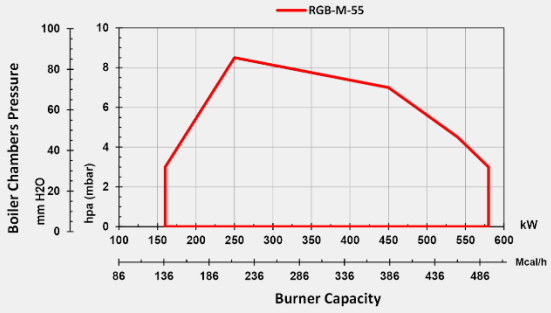
The superior design of the burner, coupled with high-quality electronic devices, has further enhanced the performance of the boiler, leading to a reduction in fuel costs and emissions.



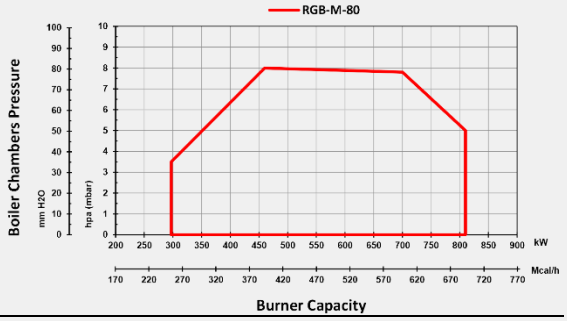
Burner Selection: Capacity and Working Diagram

Modulating Gas Burners

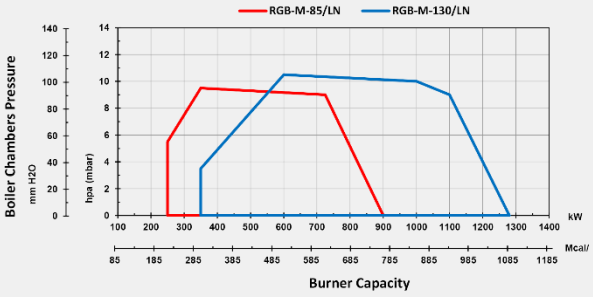
Burner	Capacity (kW)	Turn down
RGB-M-55	NG: 160-580	1:3



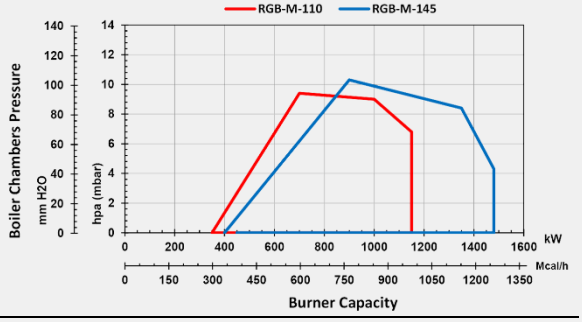
Burner	Capacity (kW)	Turn down
RGB-M-80	NG: 297-810	1:3



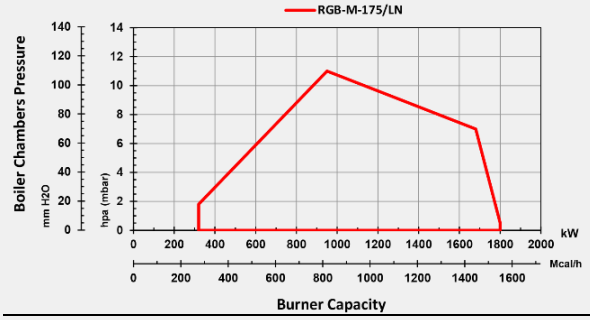
Burner	Capacity (kW)	Turn down
RGB-M-85/LN	NG: 250-900	1:3
RGB-M-130/LN	NG: 350-1280	1:3



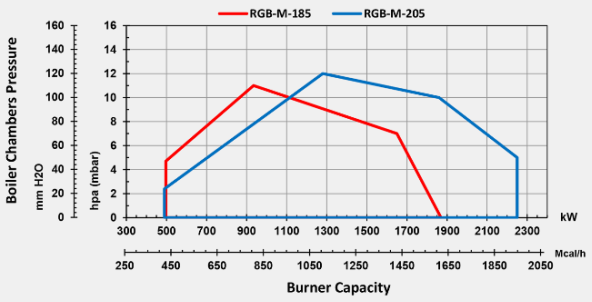
Burner	Capacity (kW)	Turn down
RGB-M-110	NG: 350-1150	1:3
RGB-M-145	NG: 400-1480	1:4



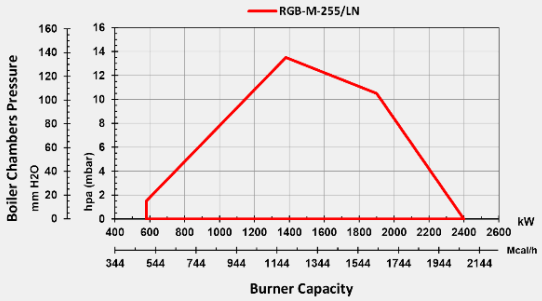
Burner	Capacity (kW)	Turn down
RGB-M-175/LN	NG: 320-1800	1:5



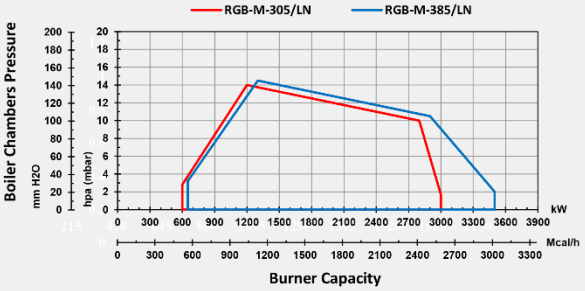
Burner	Capacity (kW)	Turn down
RGB-M-185	NG: 470-1870	1:4
RGB-M-205	NG: 490-2250	1:4



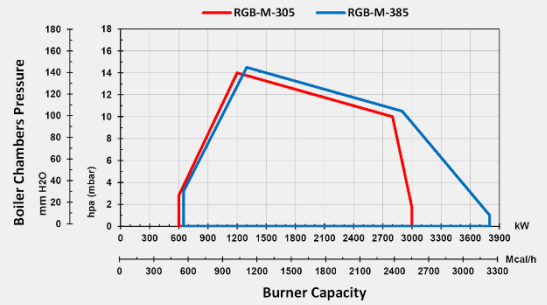
Burner	Capacity (kW)	Turn down
RGB-M-255/LN	NG: 580-2400	1:4



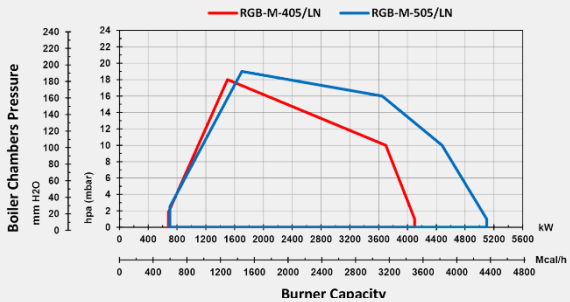
Burner	Capacity (kW)	Turn down
RGB-M-305/LN	NG: 600-3000	1:5
RGB-M-385/LN	NG: 650-3500	1:5



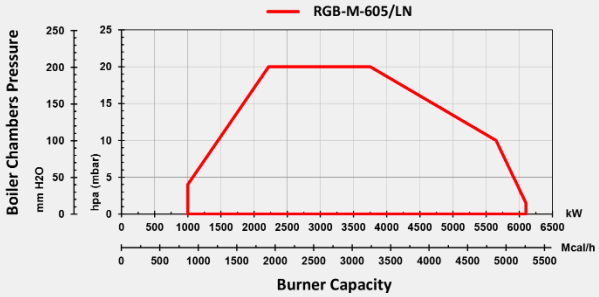
Burner	Capacity (kW)	Turn down
RGB-M-305	NG: 600-3000	1:5
RGB-M-385	NG: 650-3800	1:5



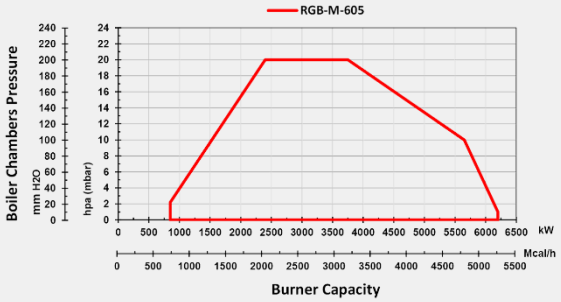
Burner	Capacity (kW)	Turn down
RGB-M-405/LN	NG: 680-4100	1:6
RGB-M-505/LN	NG: 700-5100	1:7



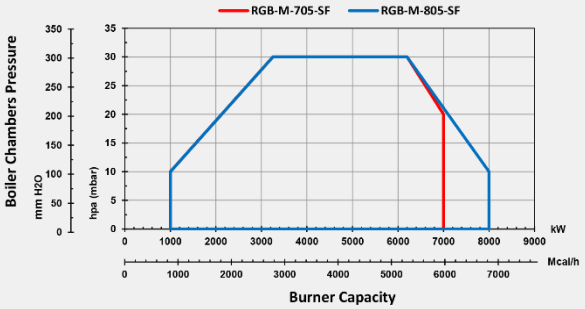
Burner	Capacity (kW)	Turn down
RGB-M-605/LN	NG: 1000-6100	1:6



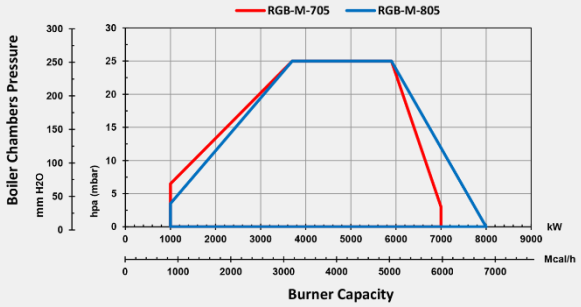
Burner	Capacity (kW)	Turn down
RGB-M-605	NG: 850-6200	1:7



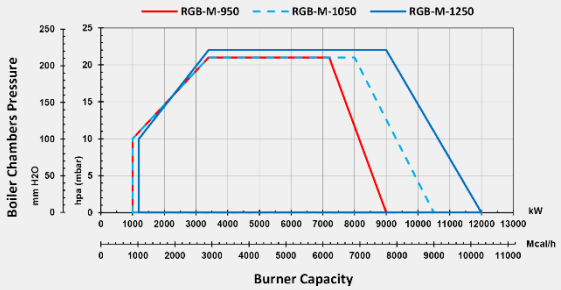
Burner	Capacity (kW)	Turn down
RGB-M-705-SF	NG: 1000-7000	1:7
RGB-M-805-SF	NG: 1000-8000	1:8*



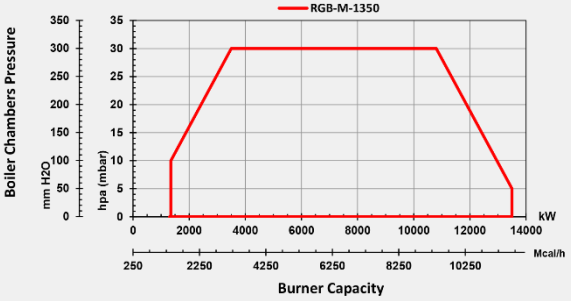
Burner	Capacity (kW)	Turn down
RGB-M-705	NG: 1000-7000	1:7
RGB-M-805	NG: 1000-8000	1:8*



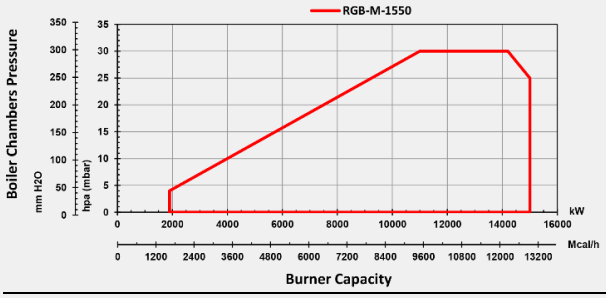
Burner	Capacity (kW)	Turn down
RGB-M-950	NG: 1000-9000	1:9*
RGB-M-1050	NG: 1000-10500	1:10*
RGB-M-1250	NG: 1200-12000	1:10*



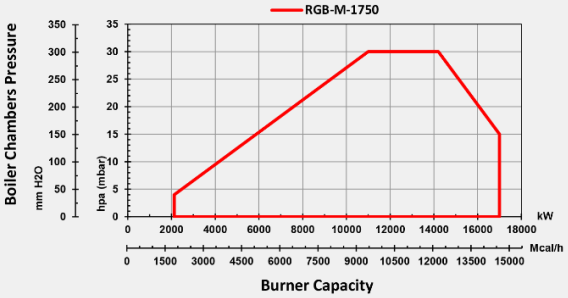
Burner	Capacity (kW)	Turn down
RGB-M-1350	NG: 1350-13500	1:10*



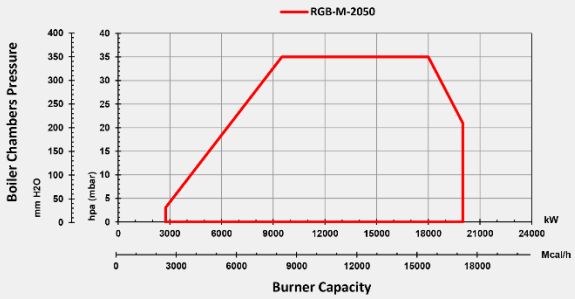
Burner	Capacity (kW)	Turn down
RGB-M-1550	NG:1900-15000	1:8*



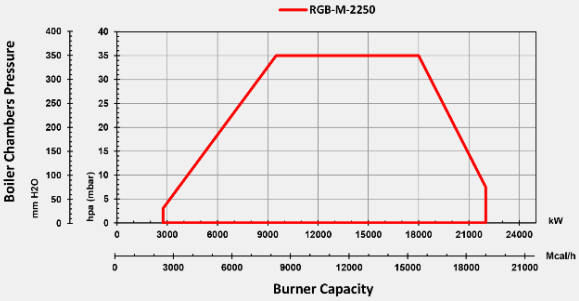
Burner	Capacity (kW)	Turn down
RGB-M-1750	NG: 2200-17000	1:8*



Burner	Capacity (kW)	Turn down
RGB-M-2050	NG:2500-20000	1:8*



Burner	Capacity (kW)	Turn down
RGB-M-2250	NG:2750-22000	1:8*



Burner	Capacity (kW)	Turn down
RGB-M-2550	NG: 3150-25000	1:8*



About the working diagram: Working diagrams for gasous fuel burners are certified in accordance with BS-EN 676.The firing rate diagram has been obtained considering the ambient temperature of 20°C and atmospheric pressure of 1013 mbar (Sea level condition).

* Special note: Turn-down ratio higher than (1:8, 1:9, 1:10, etc.) are accessible for the burner with the head actuator. Otherwise, without a head actuator, the max. turn-down ratio is 1:6.




RAADMAN
raadman
Burner
- raadman -
Burner
- raadman -

Technical Data: RGB-M Series

- N.G operation: Electronic Modulating

Power system		Power management system				
Burner	Motor(kW/PH/V/HZ/rpm)	Controller		Actuator (N.M)		
		Brand	Model	Air	Fuel	Head
RGB-M-55	0.75/3/380-400/50/2840	LAMTEC	BT320	1.2	0.8	--
RGB-M-80	1.1/3/380-400/50/2840	LAMTEC	BT320	1.2	1.2	--
RGB-M-85/LN	1.5 /3/380-400/50/2840	LAMTEC	BT320	1.2	1.2	--
		SIEMENS	LMV27/37			
RGB-M-110	1.5 /3/380-400/50/2840	LAMTEC	BT320	3	1.2	--
		SIEMENS	LMV27/37			
RGB-M-130/LN	2.2 /3/380-400/50/2840	LAMTEC	BT320	3	1.2	--
		SIEMENS	LMV3...			
RGB-M-145	2.2 /3/380-400/50/2840	LAMTEC	BT320	3	1.2	--
		SIEMENS	LMV27/37			
RGB-M-175/LN	4 /3/380-400/50/2840	LAMTEC	BT320	3	1.2	--
		SIEMENS	LMV3...			
RGB-M-185	5.5 /3/380-400/50/2840	LAMTEC	BT320	3	1.2	--
		SIEMENS	LMV27/37			
RGB-M-205	5.5 /3/380-400/50/2840	LAMTEC	BT320	3	1.2	--
		SIEMENS	LMV27/37			
RGB-M-255/LN	5.5 /3/380-400/50/2840	LAMTEC	BT320	3	1.2	--
		SIEMENS	LMV27/37			
RGB-M-305/LN	7.5 /3/380-400/50/2900	LAMTEC	BT320	3	1.2	--
		SIEMENS	LMV27/37			
RGB-M-305	7.5 /3/380-400/50/2900	LAMTEC	BT320	3	1.2	--
		SIEMENS	LMV27/37			
RGB-M-385/LN	7.5 /3/380-400/50/2900	LAMTEC	BT320	3	1.2	--
		SIEMENS	LMV27/37			
RGB-M-385	7.5 /3/380-400/50/2900	LAMTEC	BT320	3	1.2	--
		SIEMENS	LMV27/37			
RGB-M-405/LN	11 /3/380-400/50/2900	LAMTEC	BT320	9	1.2	--
		SIEMENS	LMV27/37	10	1.2	
RGB-M-505/LN	11 /3/380-400/50/2900	LAMTEC	BT320	9	1.2	--
		SIEMENS	LMV27/37	10	1.2	
RGB-M-605/LN	15 /3/380-400/50/2900	LAMTEC	BT320	9	1.2	--
		SIEMENS	LMV27/37	10	1.2	
RGB-M-605	15 /3/380-400/50/2900	LAMTEC	BT320	9	1.2	--
		SIEMENS	LMV27/37	10	1.2	
RGB-M-705-SF RGB-M-705	18.5 /3/380-400/50/2840	SIEMENS	LMV	10	1.2	--
		AUTOFLAME	MINI MK9	25	4	

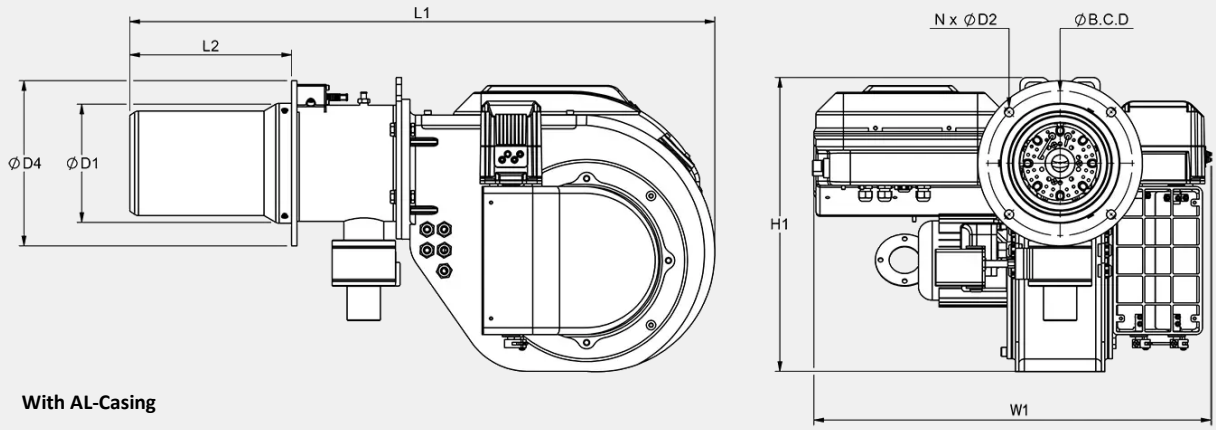
Power syste		Power management system				
Burner	Motor(kW/PH/V/HZ/rpm)	Controller		Actuator (N.M)		
		Brand	Model	Air	Fuel	Head*
RGB-M-805-SF	18.5 /3/380-400/50/2840	SIEMENS	LMV 5...	20	3	--
		AUTOFLAME	MINI MK9	25	4	
RGB-M-805	22 /3/380-400/50/2840	SIEMENS	LMV 5...	20	3	--
		AUTOFLAME	MINI MK9	25	4	
RGB-M-950	22/3/380-400/50/2840	SIEMENS	LMV 5...	20	3	20
		AUTOFLAME	MINI MK9	25	4	25
RGB-M-1050	22/3/380-400/50/2840	SIEMENS	LMV 5...	20	3	20
		AUTOFLAME	MINI MK9	25	4	25
RGB-M-1250	30/3/380-400/50/2840	SIEMENS	LMV 5...	20	3	20
		AUTOFLAME	MINI MK9	25	4	25
RGB-M-1350	37/3/380-400/50/2840	SIEMENS	LMV 5...	20	3	20
		AUTOFLAME	MINI MK9	25	4	25
RGB-M-1550	45/3/380-400/50/2900	SIEMENS	LMV 5...	20	3	20
		AUTOFLAME	MINI MK9	25	4	25
RGB-M-1750	45/3/380-400/50/2900	SIEMENS	LMV 5...	20	3	20
		AUTOFLAME	MINI MK9	25	4	25
RGB-M-2050	55/3/380-400/50/2900	SIEMENS	LMV 5...	35	3	35
		AUTOFLAME	MINI MK9	25	4	40
RGB-M-2250	75/3/380-400/50/2900	SIEMENS	LMV 5...	35	3	35
		AUTOFLAME	MINI MK9	25	4	40
RGB-M-2550	75/3/380-400/50/2900	SIEMENS	LMV 5...	35	3	35
		AUTOFLAME	MINI MK9	25	4	40

Note:Using combustion head actuator is necessary in burners with capacity of 15 mW and higher.


Compact Intelligence, Powerful Results!
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General Dimension: RGB-M Series

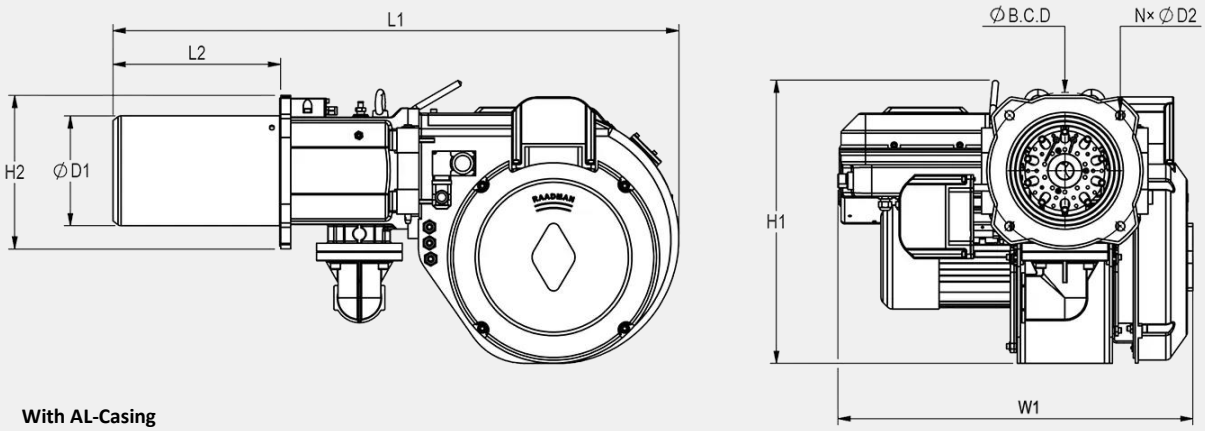
RGB-M-55



With AL-Casing

Burner Type	L_1	L_2	W_1	H_1	D_1	D_2	D_3	N	B.C.D
RGB-M-55	850	235	576	427	179	13.5	240	4	210

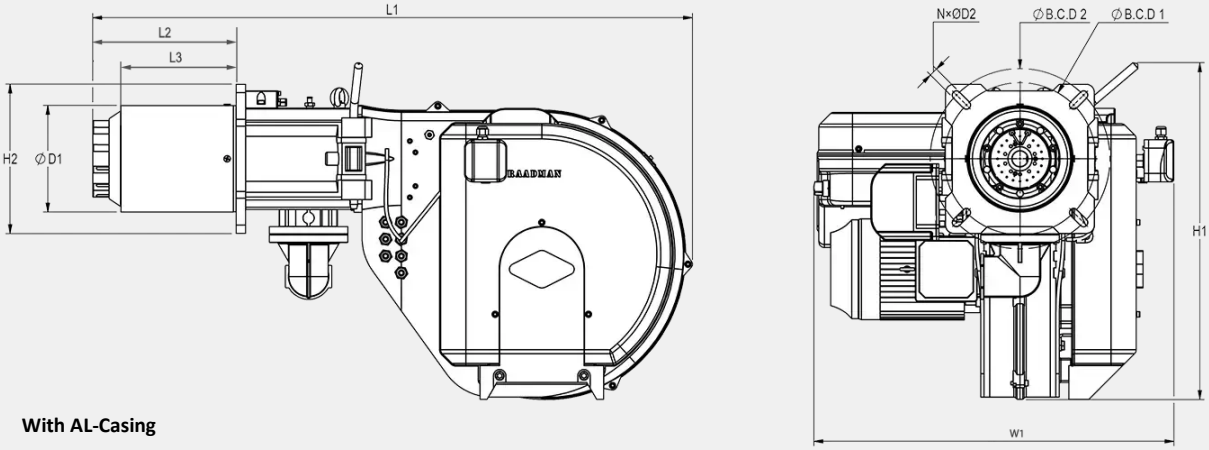
RGB-M-80



With AL-Casing

Burner Type	L_1	L_2	W_1	H_1	H_2	D_1	D_2	N	B.C.D
RGB-M-80	921	273	578	461	254	183	15	4	255

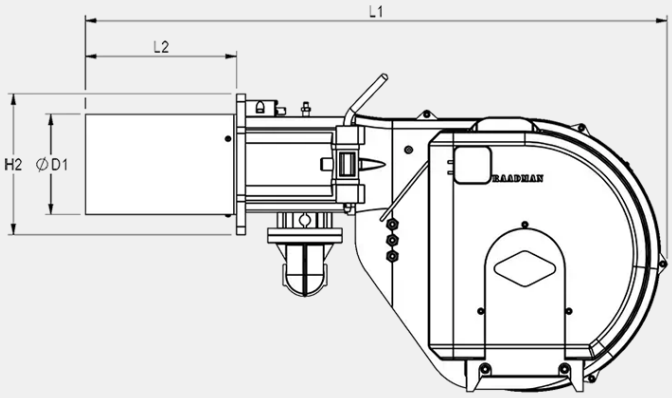
RGB-M-85/LN, RGB-M-130/LN

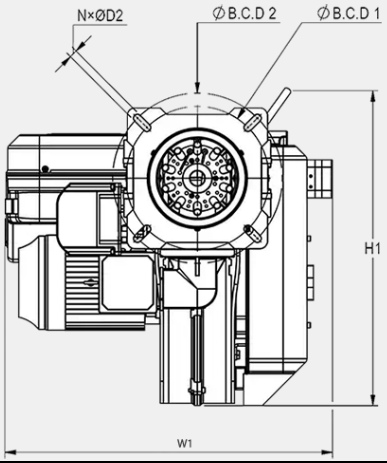


With AL-Casing

Burner Type	L_1	L_2	L_3	W_1	H_1	H_2	D_1	D_2	N	B.C.D1	B.C.D2
RGB-M-85/LN	1068	255	205	641	598	265	194	15	4	270	320
RGB-M-130/LN	1072	260	205	641	598	265	194	15	4	270	320

RGB-M-110, RGB-M-145

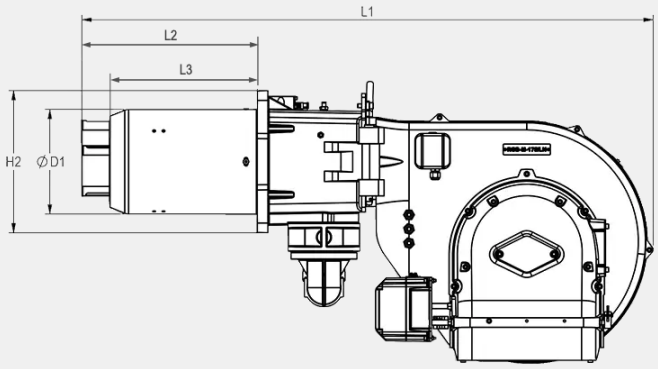


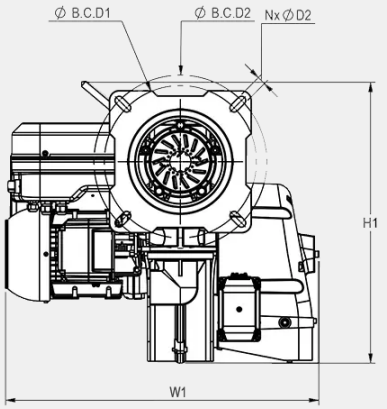


With AL-Casing

Burner Type	L_1	L_2	W_1	H_1	H_2	D_1	D_2	N	B.C.D1	B.C.D2
RGB-M-110	1066	254	638	598	265	184	15	4	270	320
RGB-M-145	1097	285	638	598	265	194	15	4	270	320

RGB-M-175/LN

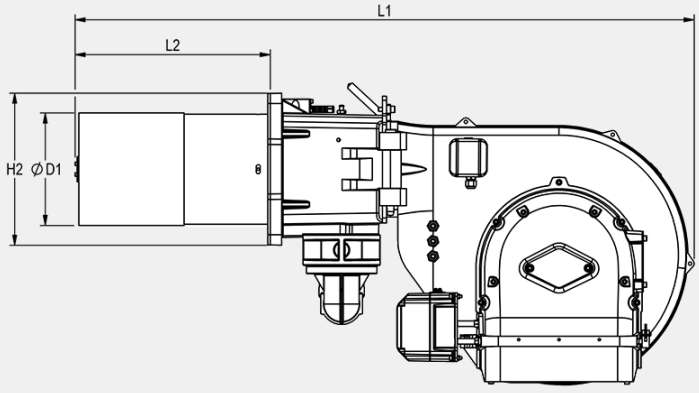


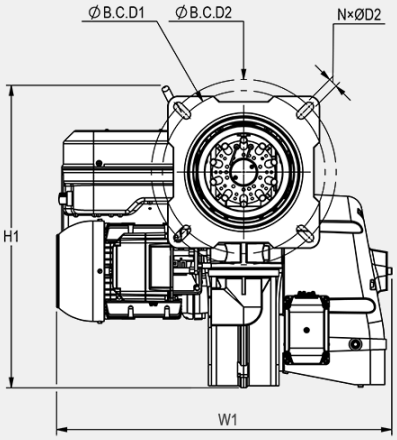


With AL-Casing

Burner Type	L_1	L_2	L_3	W_1	H_1	H_2	D_1	D_2	N	B.C.D1	B.C.D2
RGB-M-175/LN	1213	373	312	665	598	302	226	18	4	323	367

RGB-M-185, RGB-M-205

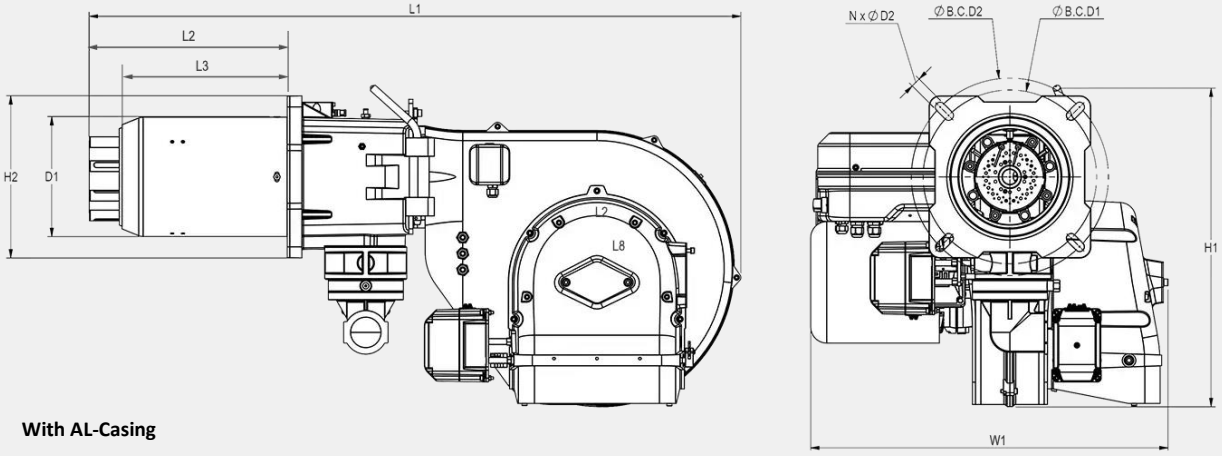




With AL-Casing

Burner Type	L_1	L_2	W_1	H_1	H_2	D_1	D_2	N	B.C.D1	B.C.D2
RGB-M-185	1229	387.5	665	598	301	223	18	4	323	367
RGB-M-205	1229	387.5	665	598	301	223	18	4	323	367

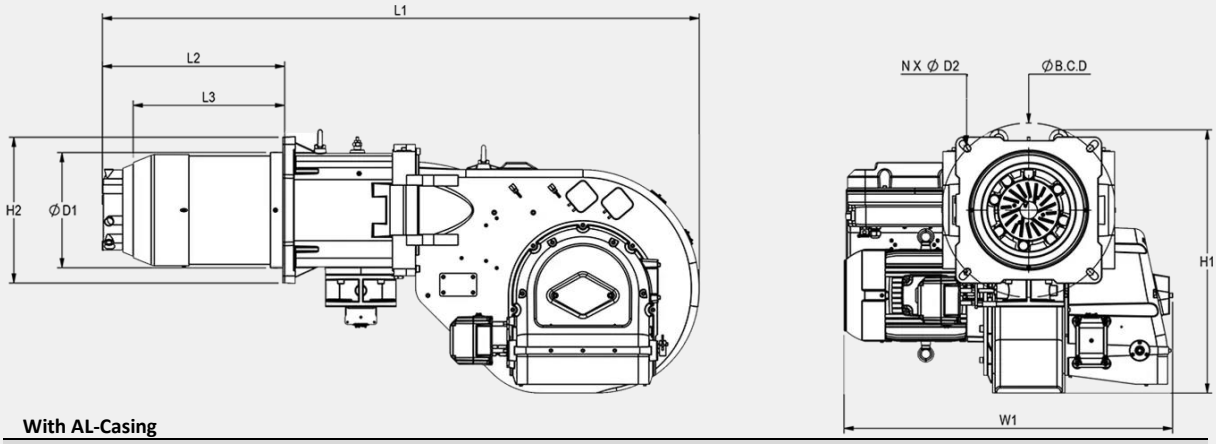
RGB-M-255/LN



With AL-Casing

Burner Type	L_1	L_2	L_3	W_1	H_1	H_2	D_1	D_2	N	B.C.D1	B.C.D2
RGB-M-255/LN	1214	374	312	762	598	300	226	18	4	323	368

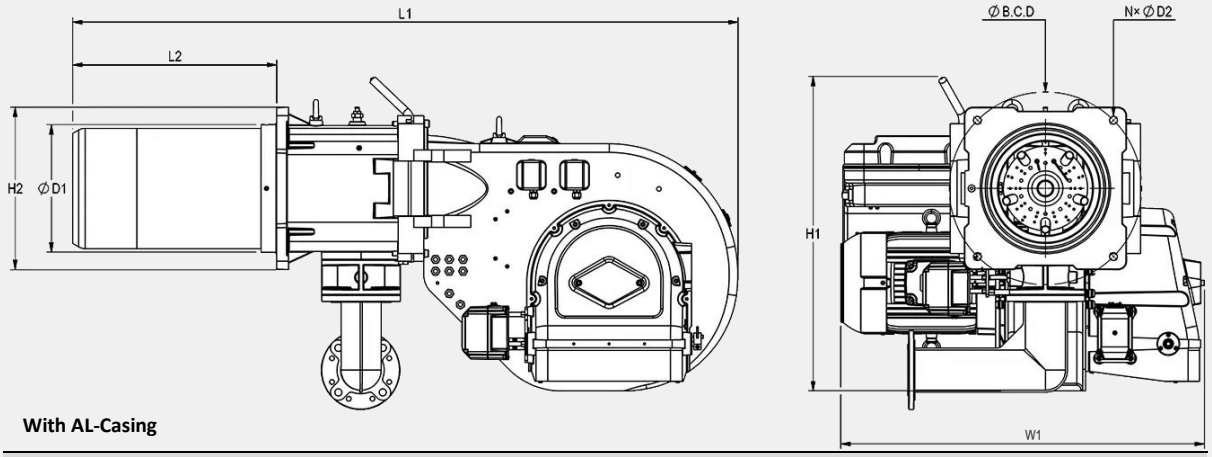
RGB-M-305/LN, RGB-M-385/LN



With AL-Casing

Burner Type	L_1	L_2	L_3	W_1	H_1	H_2	D_1	D_2	N	B.C.D
RGB-M-305/LN	1675	514	427	927	741	413	328	20	4	490
RGB-M-385/LN	1675	514	427	927	741	413	328	20	4	490

RGB-M-305, RGB-M-385



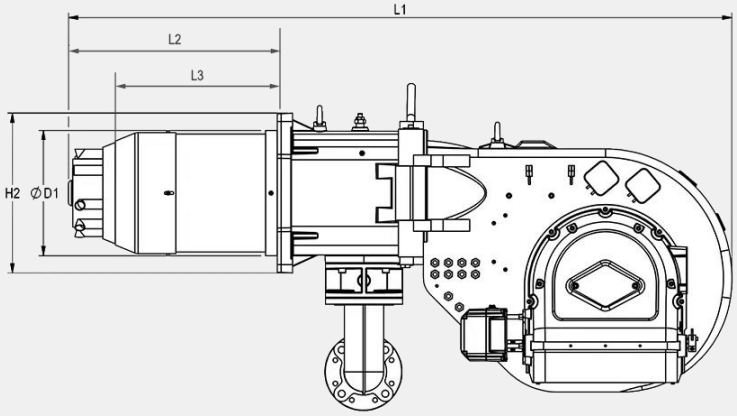
With AL-Casing

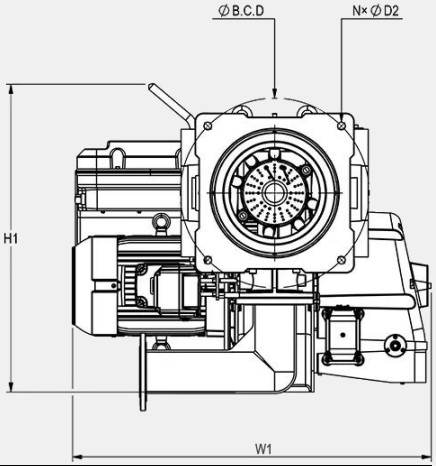
Burner Type	L_1	L_2	W_1	H_1	H_2	D_1	D_2	N	B.C.D
RGB-M-305	1689	520	927	741	413	328	20	4	490
RGB-M-385	1689	520	927	741	413	328	20	4	490



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RGB-M-405/LN, RGB-M-505/LN

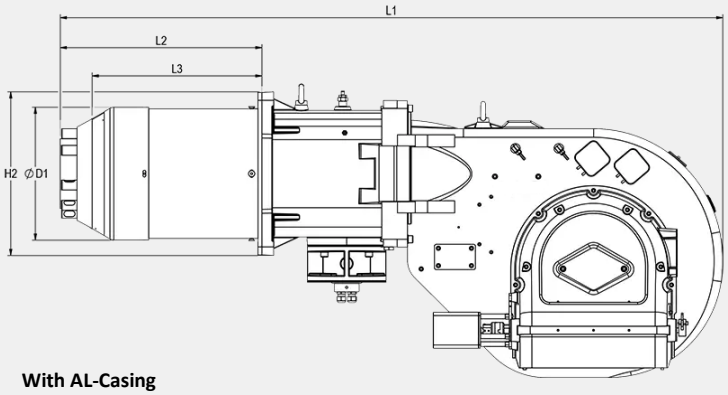


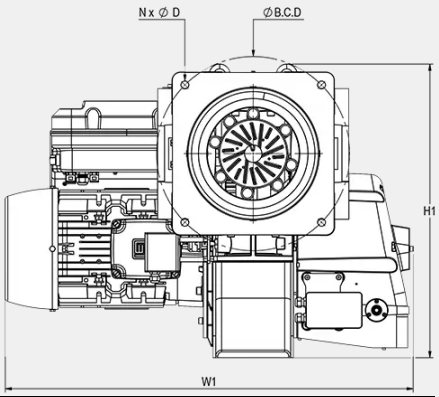


With AL-Casing

Burner Type	L_1	L_2	L3	W_1	H_1	H_2	D_1	D_2	N	B.C.D
RGB-M-405/LN	1721	552	433	930	798	413	328	20	4	490
RGB-M-505/LN	1721	552	433	1026	798	413	328	20	4	490

RGB-M-605/LN

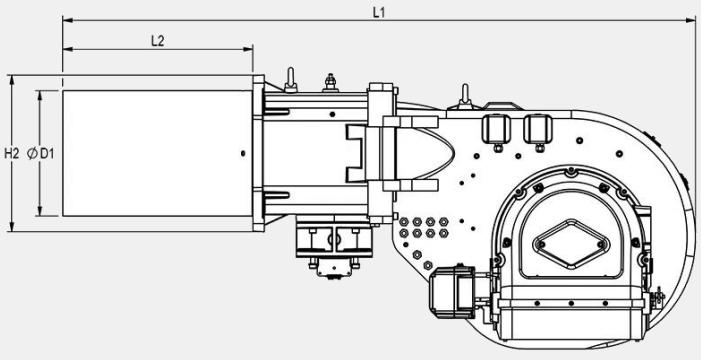


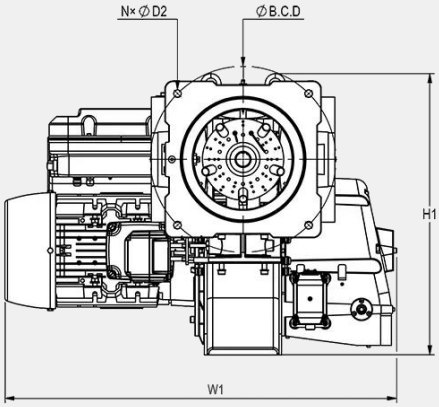


With AL-Casing

Burner Type	L_1	L_2	L_3	W_1	H_1	H_2	D_1	D_2	N	B.C.D
RGB-M-605/LN	1681	512	430	1035	741	413	336	20	4	490

RGB-M-605

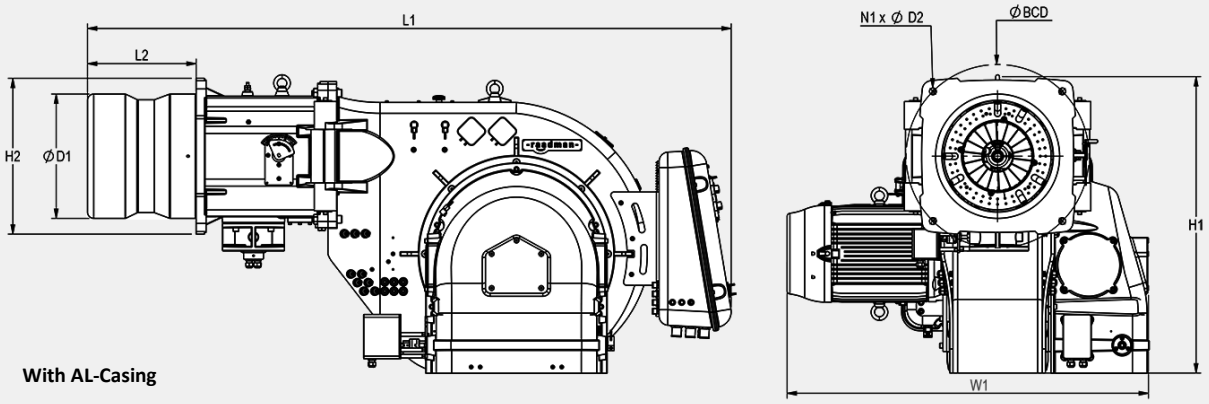




With AL-Casing

Burner Type	L_1	L_2	W_1	H_1	H_2	D_1	D_2	N	B.C.D
RGB-M-605	1671	502	1035	741	413	334	20	4	490

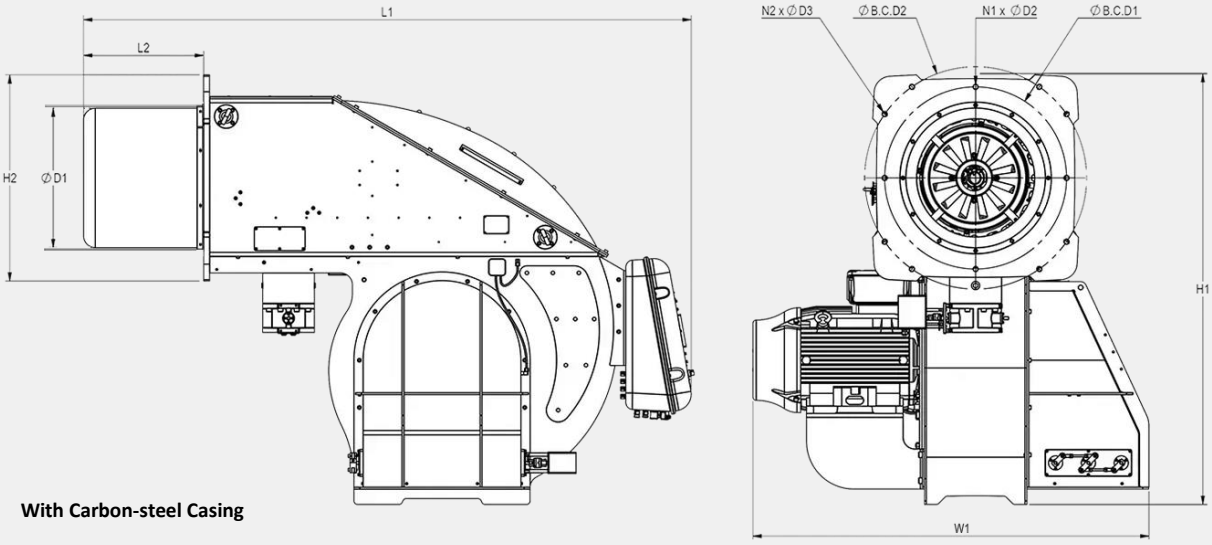
RGB-M-705-SF, RGB-M-705, RGB-M-805-SF, RGB-M-805, RGB-M-950, RGB-M-1050



With AL-Casing

Burner Type	L_1	L_2	W_1	H_1	H_2	D_1	D_2	D_3	N_1	N_2	B.C.D1*	B.C.D2*
RGB-M-705-SF	2111	350	1168	950	501	400	----	22	4	-	590	----
RGB-M-705	2161	420	1212	950	501	400	----	22	4	-	590	----
RGB-M-805-SF	2111	350	1168	950	501	400	----	22	4	-	590	----
RGB-M-805	2161	420	1212	950	501	400	----	22	4	-	590	----
RGB-M-950	2375	428	1328	1046	595	480	17.5	22	8	4	650	700
RGB-M-1050	2375	428	1328	1046	595	480	17.5	22	8	4	650	700

RGB-M-950, RGB-M-1050, RGB-M-1250, RGB-M-1350, RGB-M-1550, RGB-M-1750, RGB-M-2050, RGB-M-2250, RGB-M-2550



With Carbon-steel Casing

Burner Type	L_1	L_2	W_1	H_1	H_2	D_1	D_2	D_3	N_1	N_2	B.C.D1*	B.C.D2*
RGB-M-950	2060	428	1300	1046	613	480	17.5	22	8	4	650	700
RGB-M-1050	2060	428	1300	1046	613	480	17.5	22	8	4	650	700
RGB-M-1250	2008	367	1313	1320	613	480	17.5	--	8	--	650	--
RGB-M-1350	2258	367	1550	1546	660	480	20	20	4	4	590	790
RGB-M-1550	2585	510	1762	1822	872	608	20	20	4	8	770	940
RGB-M-1750	2585	510	1762	1822	872	608	20	20	4	8	770	940
RGB-M-2050	2790	508	1963	1906	872	608	20	20	4	8	770	940
RGB-M-2250	2790	508	2072	1906	872	608	20	20	4	8	770	940
RGB-M-2550	2790	508	2072	1906	872	608	20	20	4	8	770	940

*** Note:** For the hole patterns of the burner flange, kindly refer to the burner technical proposals while placing an order.


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Electronic Modulating Dual Fuel Burners

Heat Rated Output: 160-6100 kW

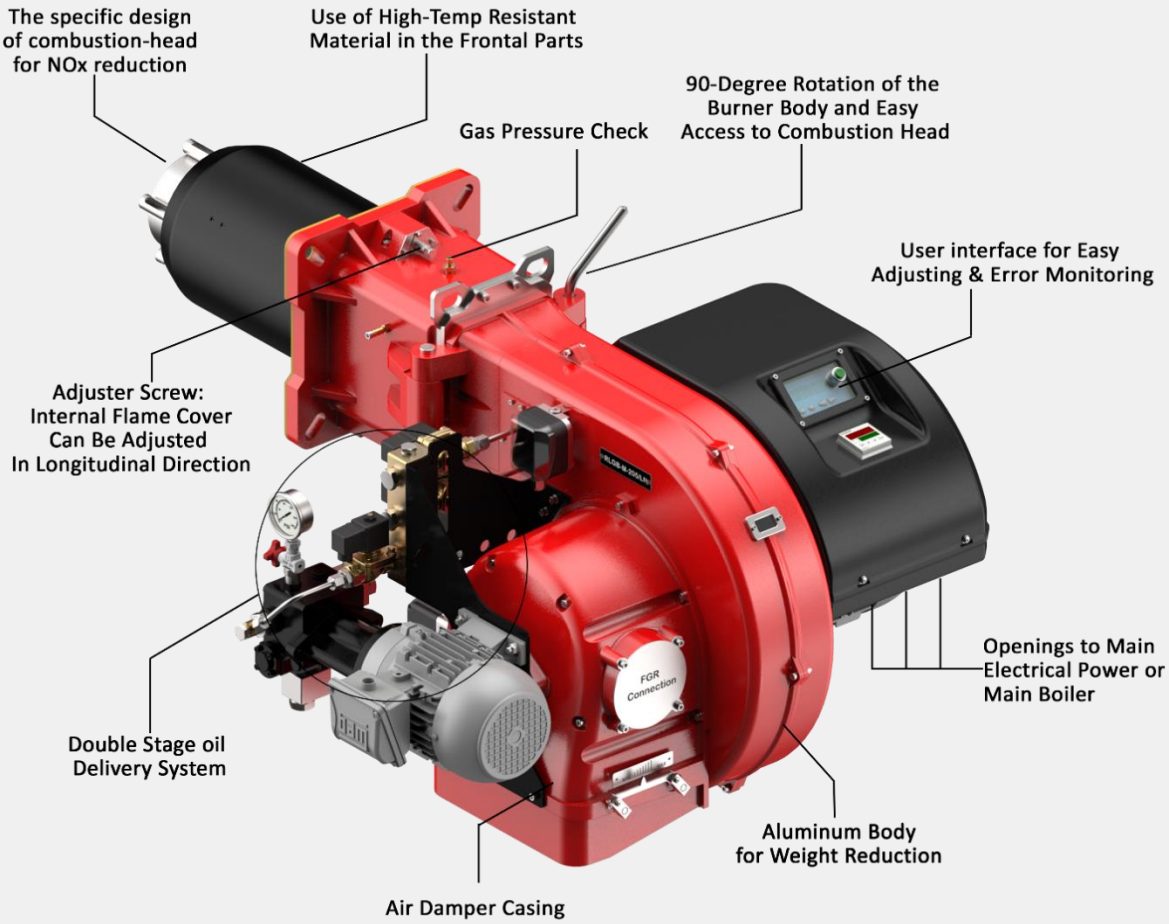
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8040I9Z1I4Z3@8D8I2H7@1V46631

Dual Fuel Burners (RLGB-M Series)

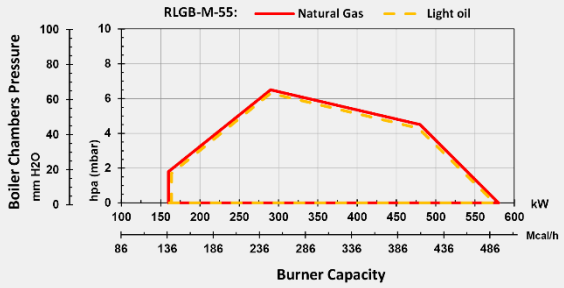
RLGB-M Series or RAADMAN Modulating dual fuel burners, covering a firing range from 700 to 25000 kW, are designed for a wide range of domestic and industrial applications. These burners have been tested and evaluated in accordance with Iran national standard ISIRI-7595 (BS-EN 676) and ISIRI-7594 (BS-EN 267) for gas and oil operation respectively. According to the conducted experiments, the values of CO during low excess air operation are lower than 30 mg/kWh with some cases reporting values very close to zero. The precise design of combustion head results in a complete gas-air mixture, ensuring high efficiency levels in various applications. These burners are equipped with LAMTEC and SIEMENS control system capable of full air/gas ratio control throughout entire burner operating range as well as devices of well-known European companies such as Dungs, Kromschroder and Suntec.
The superior design of the burner, complemented by high-quality electronic devices, has led to a further enhancement in the boiler's performance, contributing to decreased fuel costs and emissions.



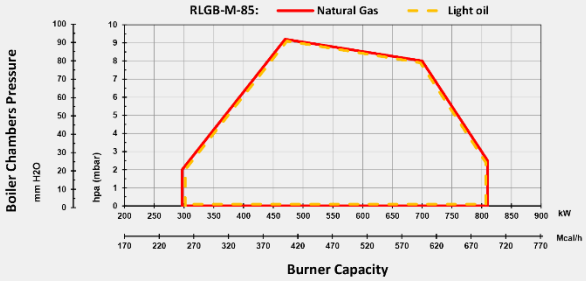
Burner Selection: Capacity and Working Diagram

Modulating Dual-fuel Burners

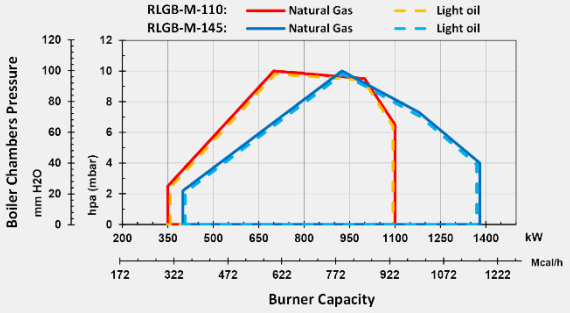
Burner	Capacity (kW)	Turn down
RLGB-M-55	NG: 160-580	1:3
	LFO: 160-580	1:3



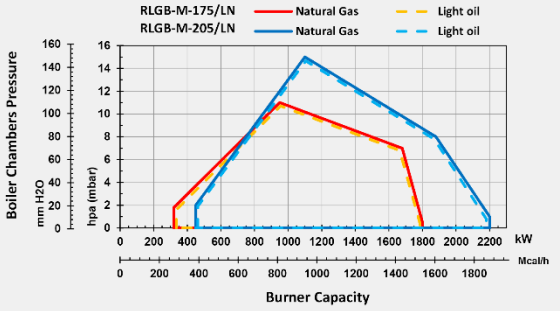
Burner	Capacity (kW)	Turn down
RLGB-M-85	NG: 297-810	1:3
	LFO: 297-810	1:3



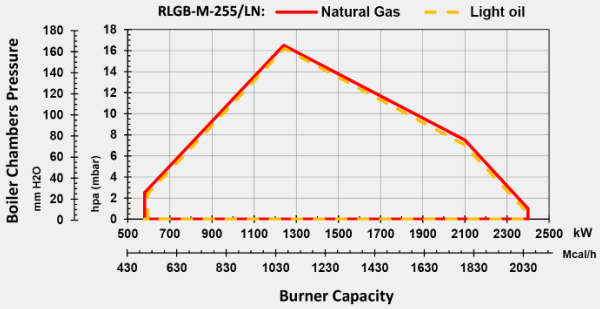
Burner	Capacity (kW)	Turn down
RLGB-M-110	NG: 350-1100	1:3
	LFO: 350-1100	1:3
RLGB-M-145	NG: 400-1380	1:4
	LFO: 400-1380	1:4



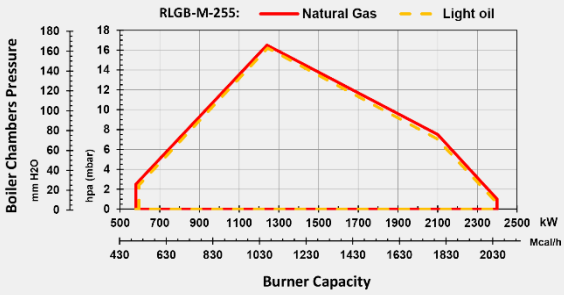
Burner	Capacity (kW)	Turn down
RLGB-M-175/LN	NG: 320-1800	1:5
	LFO: 320-1800	1:5
RLGB-M-205/LN	NG: 450-2200	1:5
	LFO:450-2200	1:5



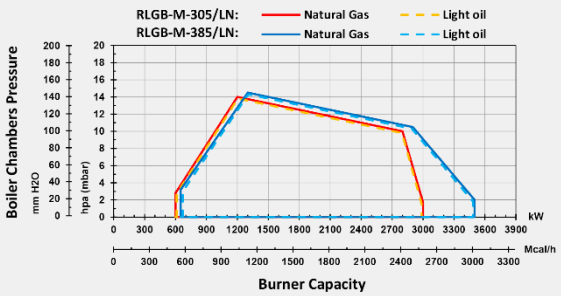
Burner	Capacity (kW)	Turn down
RLGB-M-255/LN	NG: 580-2400	1:4
	LFO: 580-2400	1:4



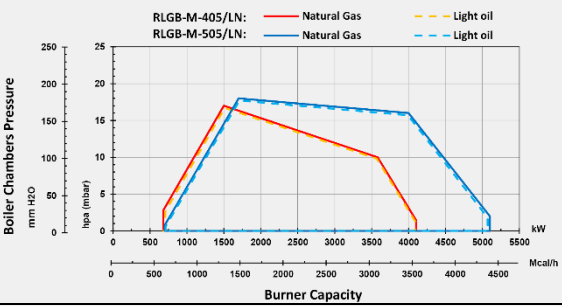
Burner	Capacity (kW)	Turn down
RLGB-M-255	NG: 580-2400	1:4
	LFO: 580-2400	1:4



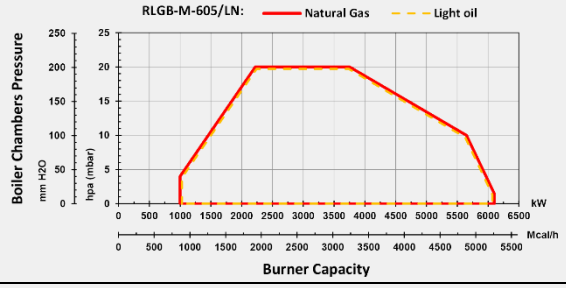
Burner	Capacity (kW)	Turn down
RLGB-M-305/LN	NG: 600-3000	1:5
	LFO: 600-3000	1:5
RLGB-M-385/LN	NG: 650-3500	1:5
	LFO: 650-3500	1:5



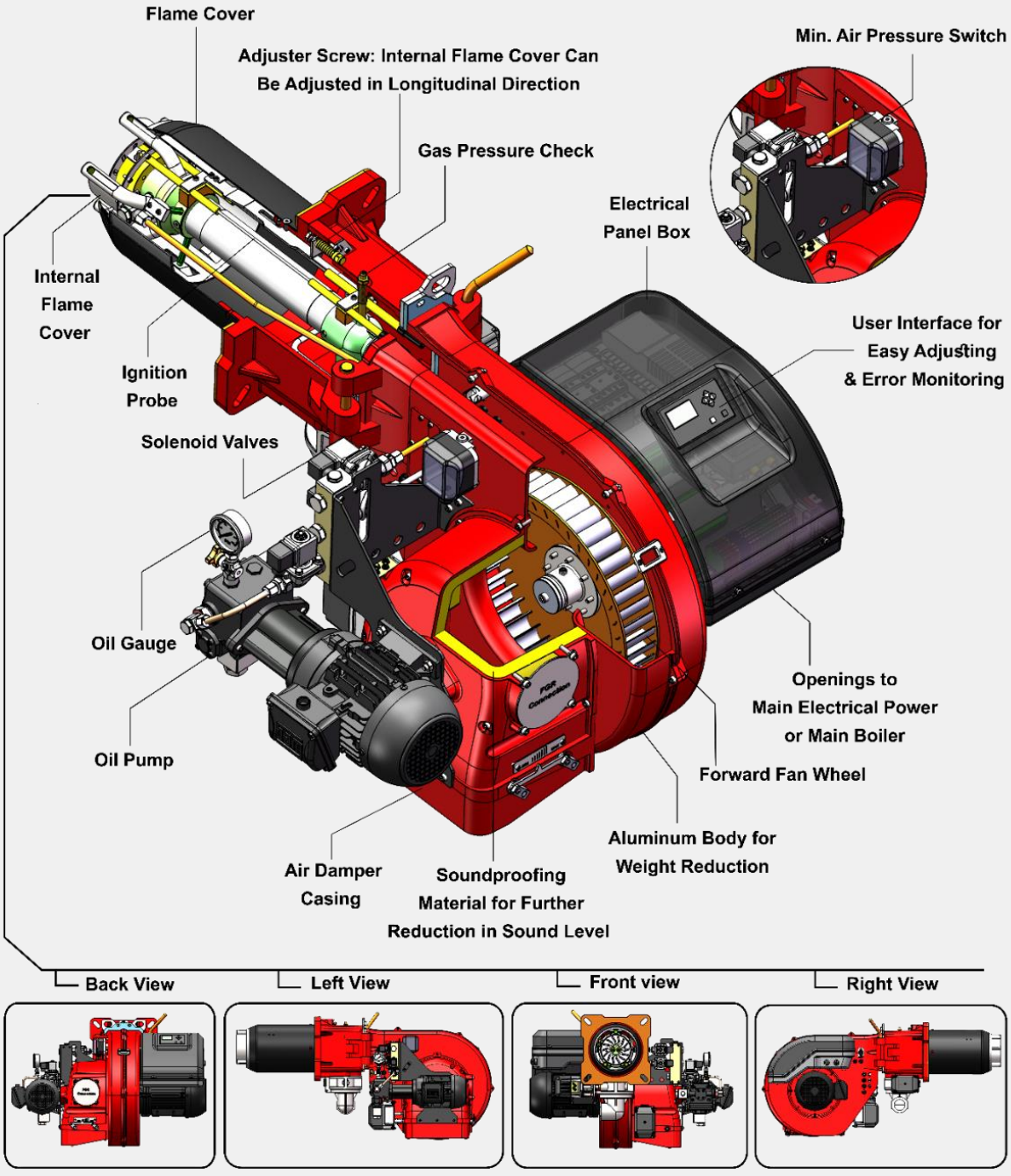
Burner	Capacity (kW)	Turn down
RLGB-M-405/LN	NG: 680-4100	1:6
	LFO: 680-4100	1:6
RLGB-M-505/LN	NG: 700-5100	1:7
	LFO: 700-5100	1:7



Burner	Capacity (kW)	Turn down
RLGB-M-605/LN	NG: 1000-6100	1:6
	LFO: 1000-6000	1:6



About the working diagram:
The working diagrams for natural gas and light fuel oil are certified in accordance with BS-EN 676 and BS-EN 267, respectively.
The firing rate diagram has been obtained considering the ambient temperature of 20°C and atmospheric pressure of 1013 mbar (Sea level condition).



Technical Data: RLGB-M Series

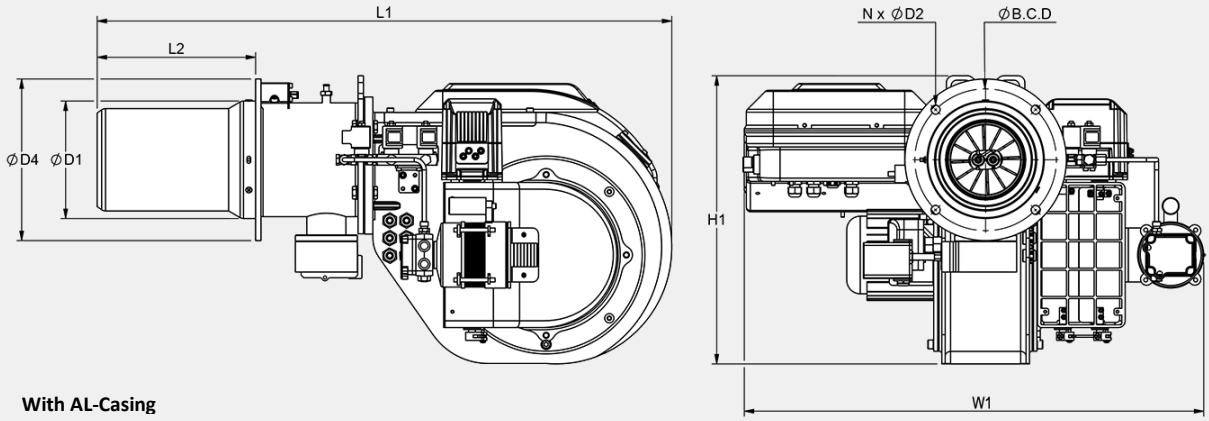
- N.G operation: Electronic Modulating
- LFO operation: II or III Stage

Burner	Power system	Power management system				
	Motor(kW/PH/V/HZ/rpm)	Controller		Actuator(N.M)		
		Brand	Mode	Air	Fuel	Head
RLGB-M-55	0.75 /3 /380-400 /50 /2840	LAMTEC	BT340	1.2	0.8	--
RLGB-M-85	1.1 /3 /380-400 /50 /2840	LAMTEC	BT340	1.2	1.2	--
RLGB-M-110	1.5 /3 /380-400 /50 /2840	LAMTEC	BT340	1.2	1.2	--
		SIEMENS	LMV2...			
RLGB-M-145	2.2 /3 /380-400 /50 /2840	LAMTEC	BT340	3	1.2	--
		SIEMENS	LMV2...			
RLGB-M-175/LN	4 /3 /380-400 /50 /2840	LAMTEC	BT340	3	1.2	--
		SIEMENS	LMV2...			
RLGB-M-205/LN	5.5 /3 /380-400 /50 /2840	LAMTEC	BT340	3	1.2	--
		SIEMENS	LMV2...			
RLGB-M-255/LN	5.5 /3 /380-400 /50 /2840	LAMTEC	BT340	3	1.2	--
		SIEMENS	LMV2...			
RLGB-M-255	5.5 /3 /380-400 /50 /2840	LAMTEC	BT340	3	1.2	--
		SIEMENS	LMV2...			
RLGB-M-305/LN	7.5 /3 /380-400 /50 /2940	LAMTEC	BT340	3	1.2	--
		SIEMENS	LMV2...			
RLGB-M-385/LN	7.5 /3 /380-400 /50 /2940	LAMTEC	BT340	3	1.2	--
		SIEMENS	LMV2...			
RLGB-M-405/LN	11 /3 /380-400 /50 /2940	LAMTEC	BT340	9	1.2	--
		SIEMENS	LMV2...	10		
RLGB-M-505/LN	11 /3 /380-400 /50 /2940	LAMTEC	BT340	9	1.2	--
		SIEMENS	LMV2...	10		
RLGB-M-605/LN	15 /3 /380-400 /50 /2940	LAMTEC	BT340	9	1.2	--
		SIEMENS	LMV2...	10		


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General Dimension: RLGB-M Series

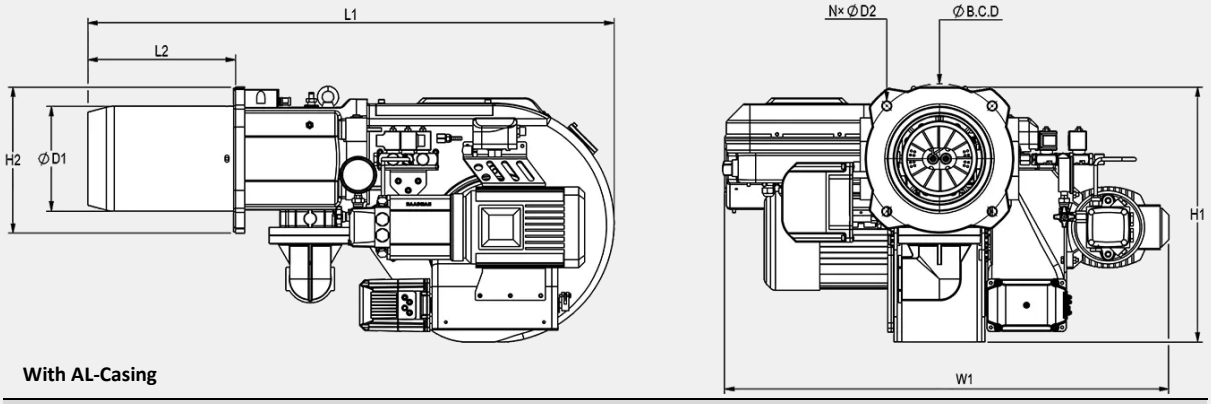
RLGB-M-55



With AL-Casing

Burner Type	L_1	L_2	W_1	H_1	D_1	D_2	D_4	N	B.C.D
RLGB-M-55	853	235	685	427	179	13.5	240	4	210

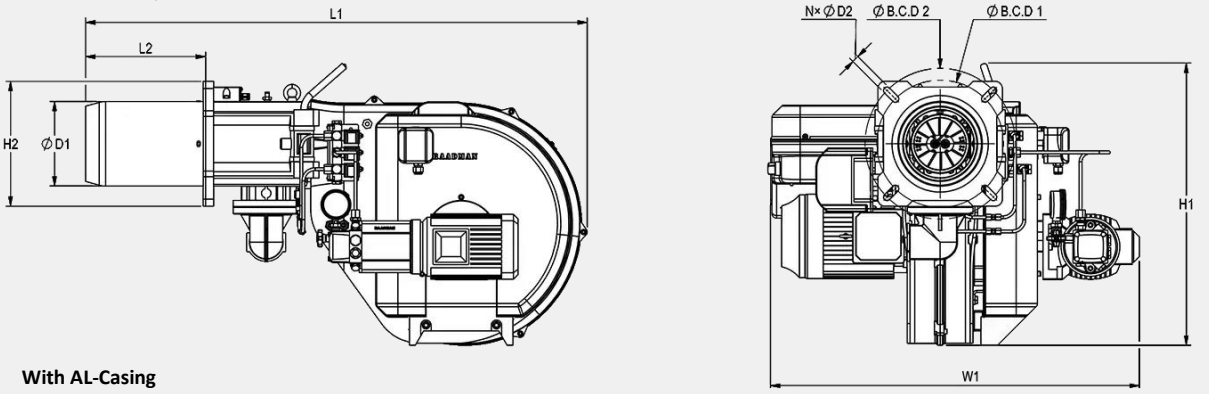
RLGB-M-85



With AL-Casing

Burner Type	L_1	L_2	W_1	H_1	H_2	D_1	D_2	N	B.C.D
RLGB-M-85	901	253	763	436	250	179	15	4	255

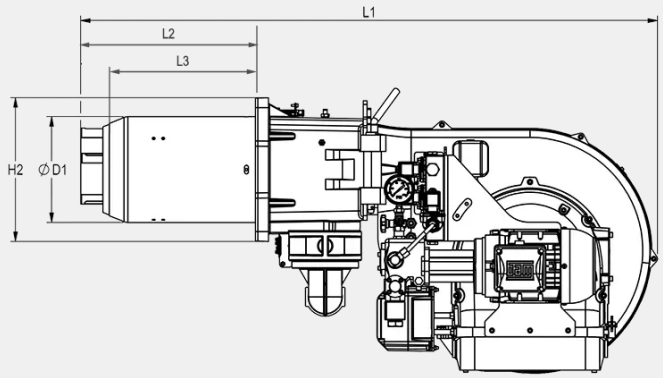
RLGB-M-110, RLGB-M-145

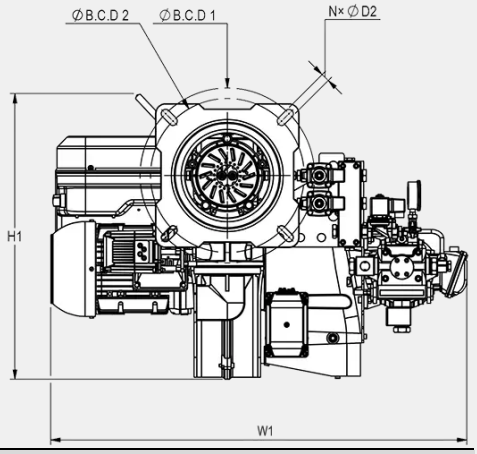


With AL-Casing

Burner Type	L_1	L_2	W_1	H_1	H_2	D_1	D_2	N	B.C.D1	B.C.D2
RLGB-M-110	1068	255	791	598	265	184	15	4	270	320
RLGB-M-145	1068	255	791	598	265	194	15	4	270	320

RLGB-M-175/LN, RLGB-M-205/LN

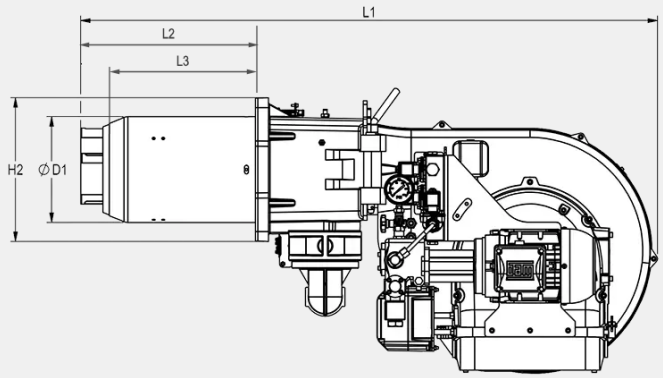


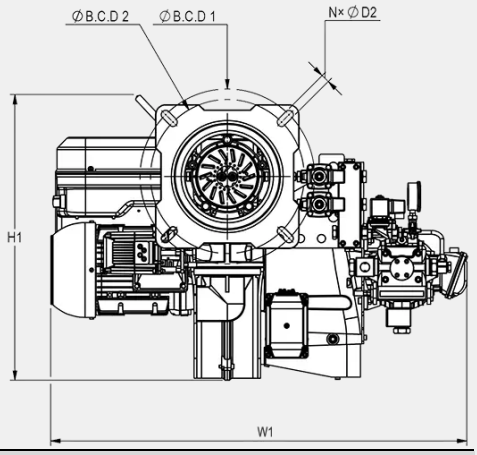


With AL-Casing

Burner Type	L_1	L_2	L_3	W_1	H_1	H_2	D_1	D_2	N	B.C.D1	B.C.D2
RLGB-M-175/LN	1213	373	312	875	598	302	226	18	4	323	367
RLGB-M-205/LN	1213	373	312	875	598	302	226	18	4	323	367

RLGB-M-255/LN

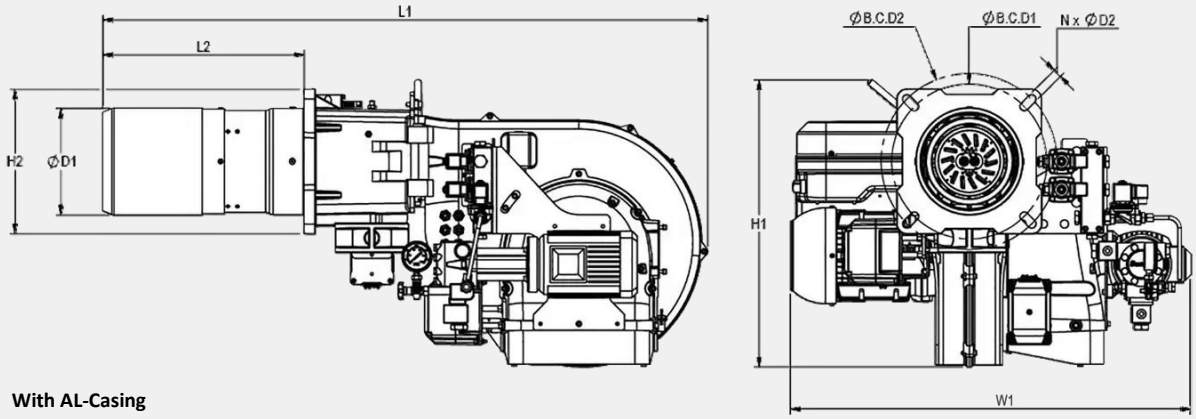




With AL-Casing

Burner Type	L_1	L_2	L_3	W_1	H_1	H_2	D_1	D_2	N	B.C.D1	B.C.D2
RLGB-M-255/LN	1213	373	312	875	598	302	226	18	4	323	367

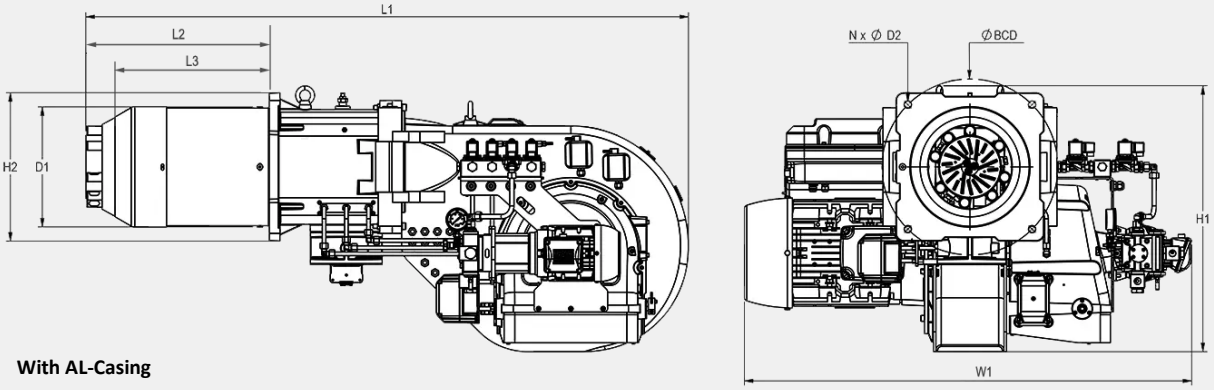
RLGB-M-255



With AL-Casing

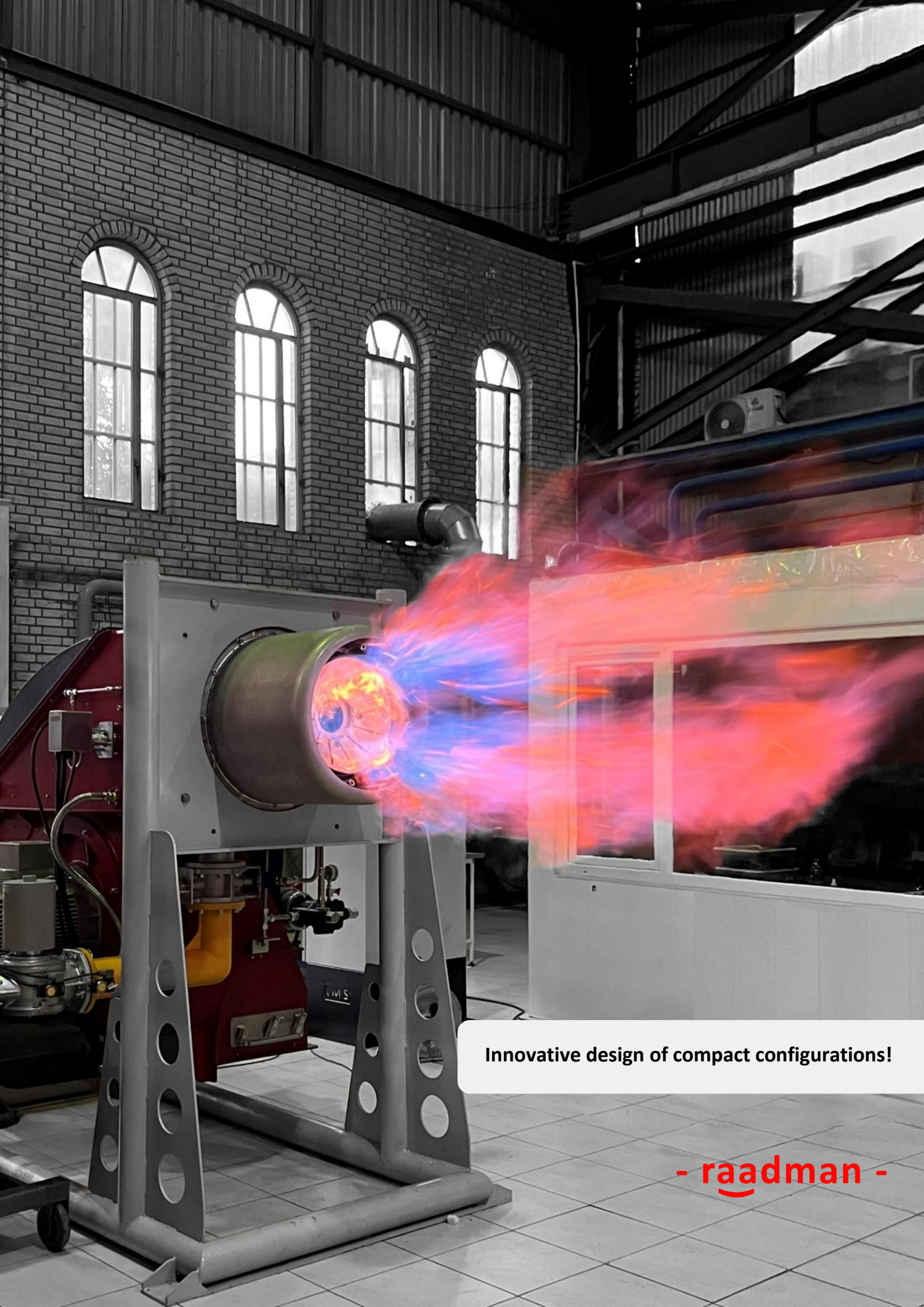
Burner Type	L_1	L_2	W_1	H_1	H_2	D_1	D_2	N	B.C.D1	B.C.D2
RLGB-M-255	1260	419	833	598	302	223	18	4	323	367

RLGB-M-305/LN, RLGB-M-385/LN, RLGB-M-405/LN, RLGB-M-505/LN, RLGB-M-605/LN



With AL-Casing

Burner Type	L_1	L_2	L_3	W_1	H_1	H_2	D_1	D_2	N	B.C.D
RLGB-M-305/LN	1683	514	427	1137	741	413	328	20	4	490
RLGB-M-385/LN	1683	514	427	1137	741	413	328	20	4	490
RLGB-M-405/LN	1683	514	431	1249	741	413	328	20	4	490
RLGB-M-505/LN	1683	514	431	1249	741	413	328	20	4	490
RLGB-M-605/LN	1680	512	430	1245	741	413	340	20	4	490



Innovative design of compact configurations!

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Fully Electronic Modulating Dual Fuel Burners

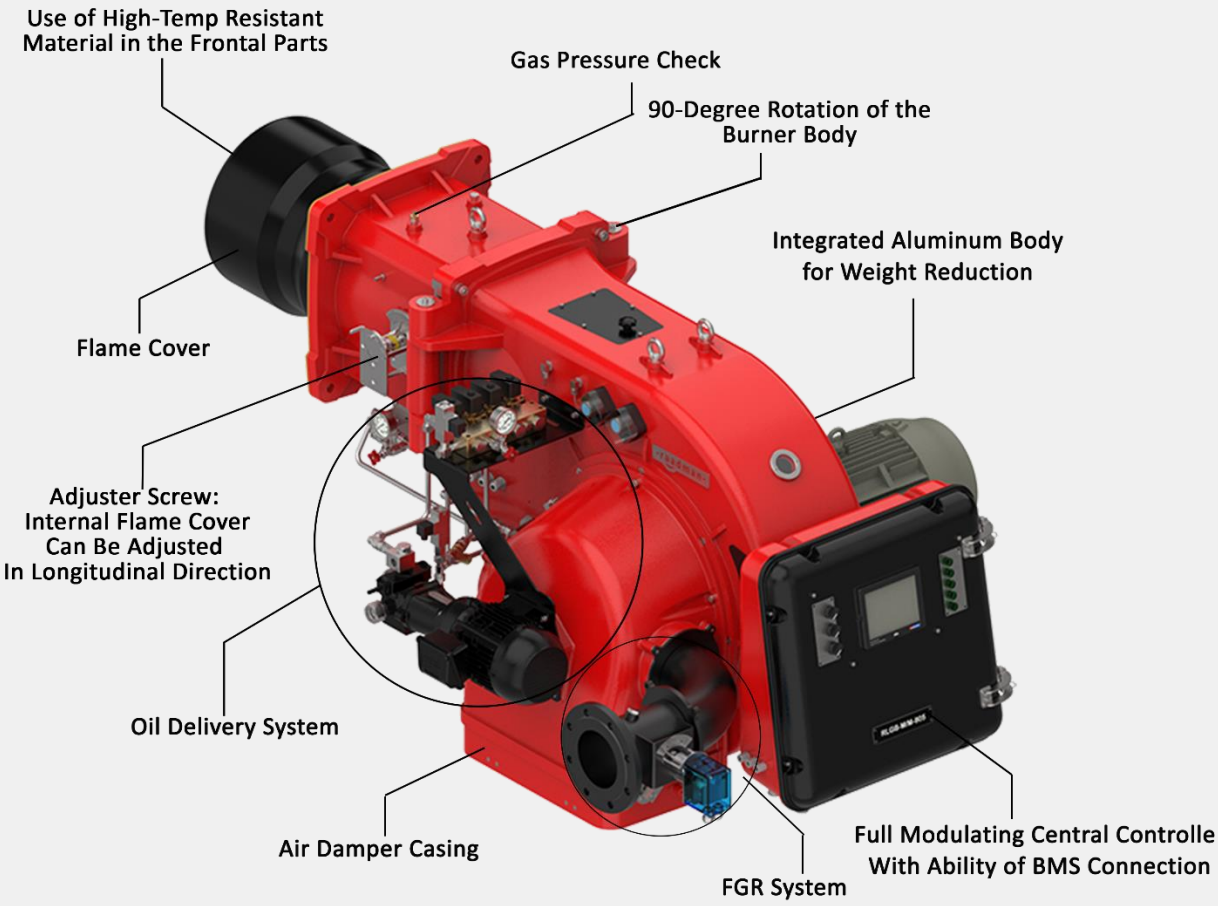
Heat Rated Output: 1000-25000 kW

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8040I9Z1I4Z3@8D8I2H7@1V46631

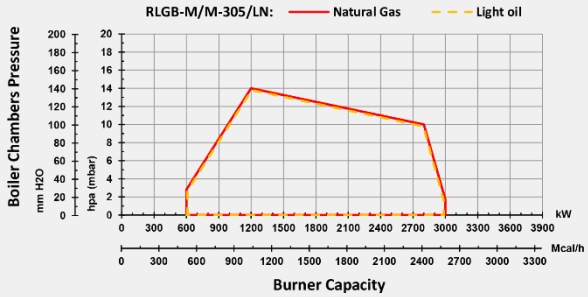
Dual Fuel Burners (RLGB-M/M Series)



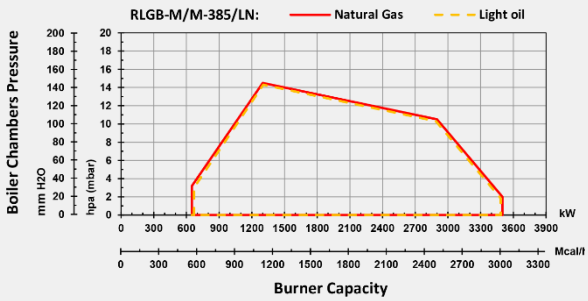
Burner Selection: Capacity and Working Diagram

Modulating Dual-Fuel Burner

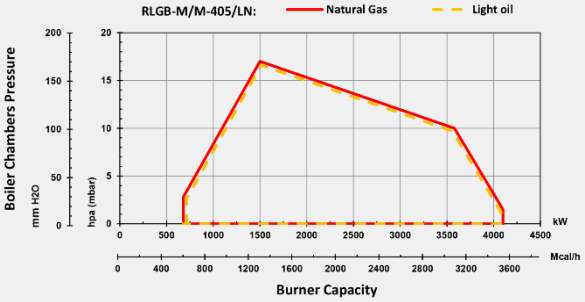
Burner	Capacity (kW)	Turn down
RLGB-M/M-305/LN	NG: 600-3000	1:5
	LFO: 600-3000	1:5



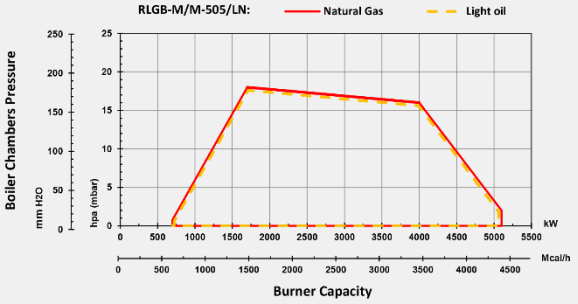
Burner	Capacity (kW)	Turn down
RLGB-M/M-385/LN	NG: 650-3500	1:5
	LFO: 650-3500	1:5



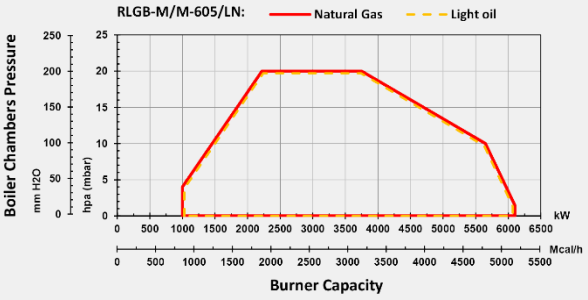
Burner	Capacity (kW)	Turn down
RLGB-M/M-405/LN	NG: 680-4100	1:6
	LFO: 680-4100	1:6



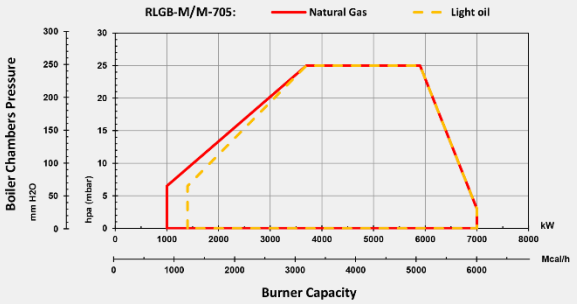
Burner	Capacity (kW)	Turn down
RLGB-M/M-505/LN	NG: 700-5100	1:7
	LFO: 700-5100	1:7



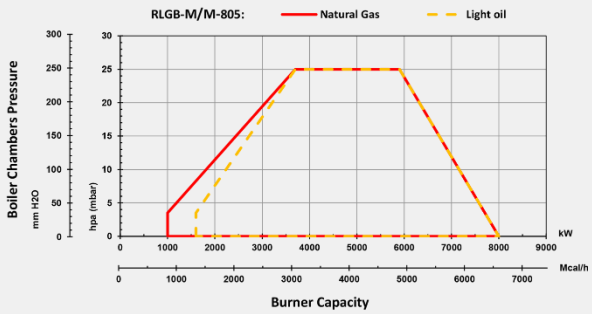
Burner	Capacity (kW)	Turn down
RLGB-M/M-605/LN	NG: 1000-6100	1:6
	LFO: 1000-6100	1:6



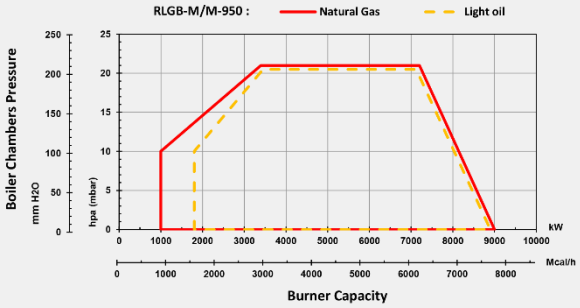
Burner	Capacity (kW)	Turn down
RLGB-M/M-705	NG: 1000-7000	1:7
	LFO: 1400-7000	1:5



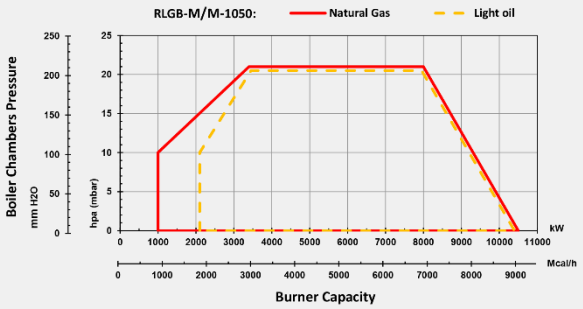
Burner	Capacity (kW)	Turn down
RLGB-M/M-805	NG: 1000-8000	1:8*
	LFO: 1600-8000	1:5



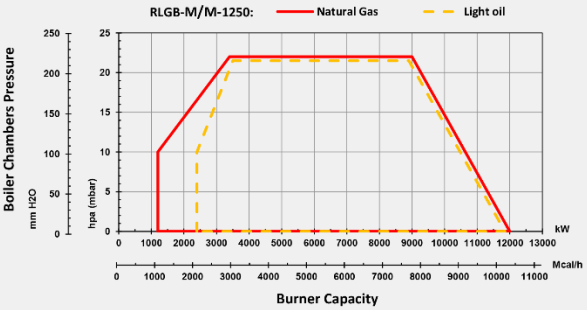
Burner	Capacity (kW)	Turn down
RLGB-M/M-950	NG: 1000-9000	1:9*
	LFO: 1800-9000	1:5



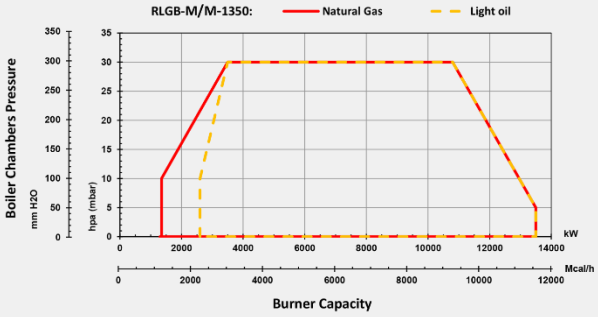
Burner	Capacity (kW)	Turn down
RLGB-M/M-1050	NG: 1000-10500	1:10*
	LFO: 2000-10500	1:5



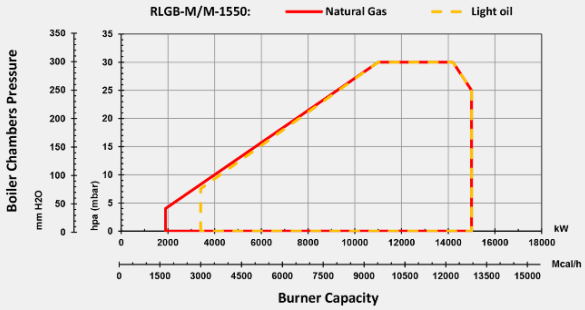
Burner	Capacity (kW)	Turn down
RLGB-M/M-1250	NG: 1200-12000	1:10*
	LFO: 2400-12000	1:5



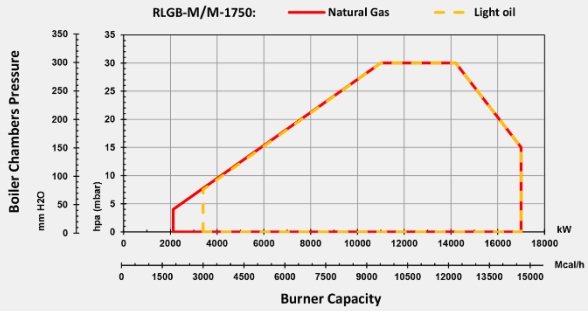
Burner	Capacity (kW)	Turn down
RLGB-M/M-1350	NG: 1350-13500	1:10
	LFO: 2600-13000	1:5



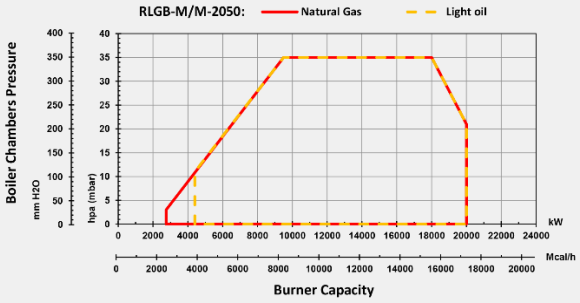
Burner	Capacity (kW)	Turn down
RLGB-M/M-1550	NG:1900-15000	1:8*
	LFO: 3100-15000	1:5



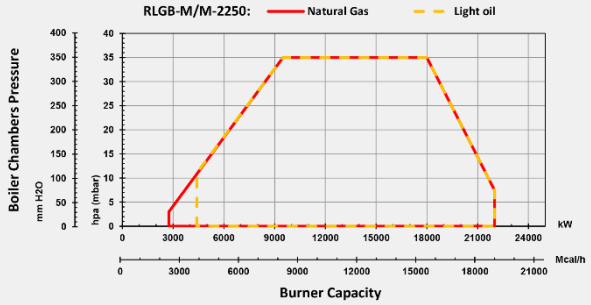
Burner	Capacity (kW)	Turn down
RLGB-M/M-1750	NG:2200-17000	1:8*
	LFO:3500-17000	1:5



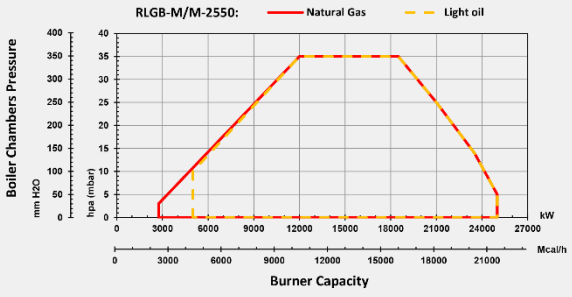
Burner	Capacity (kW)	Turn down
RLGB-M/M-2050	NG: 2500-20000	1:8*
	LFO: 4000-20000	1:5



Burner	Capacity (kW)	Turn down
RLGB-M/M-2250	NG:2750-22000	1:8*
	LFO:4400-22000	1:5



Burner	Capacity (kW)	Turn down
RLGB-M/M-2550	NG: 3125-25000	1:8*
	LFO: 5000-23700	1:5



*Special note: Turn-down ratio higher than (1:8, 1:9, 1:10, etc.) are accessible for the burner with the head actuator. Otherwise, without a head actuator, the maximum turn-down ratio is 1:6.



RLGB-M/M-1350

Optimized summer operation with a 1:10 turndown ratio, reducing natural gas consumption to 119 m³/h while maintaining a maximum capacity of 1,170 m³/h.

Technical Data: RLGB-M/M Series

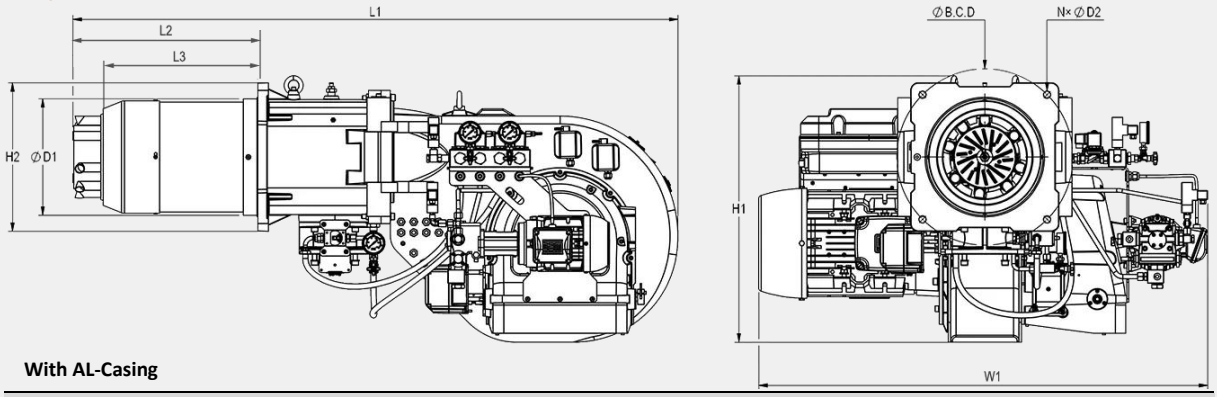
- N.G operation: Electronic Modulating
- LFO operation: Electronic Modulating

Power system		Power management system				
Burner	Motor(kW/PH/V/HZ/rpm)	Controller		Actuator (N.M)		
		Brand	Name	Air	Fuel	Head*
RLGB-M/M-305/LN	7.5 /3/380-400 /50 /2840	LAMTEC	BT340	3	3	--
		SIEMENS	LMV26			
RLGB-M/M-385/LN	7.5 /3/380-400 /50 /2840	LAMTEC	BT340	3	3	--
		SIEMENS	LMV26			
RLGB-M/M-405/LN	11 /3 /380-400 /50 /2840	LAMTEC	BT340	9	3	--
		SIEMENS	LMV26	10		
RLGB-M/M-505/LN	11 /3/380-400 /50 /2840	LAMTEC	BT340	9	3	--
		SIEMENS	LMV26	10		
RLGB-M/M-605/LN	15 /3/380-400 /50 /2840	LAMTEC	BT340	9	3	--
		SIEMENS	LMV26	10		
RLGB-M/M-705	18.5/3/380-400 /50 /2840	SIEMENS	LMV5...	10	3	--
		AUTOFLAME	MINI MK9	25	4	
RLGB-M/M-805	22 /3 /380-400 /50 /2840	SIEMENS	LMV5...	20	3	--
		AUTOFLAME	MINI MK9	25	4	
RLGB-M/M-950	22/3/380-400 /50 /2840	SIEMENS	LMV5...	20	3	20
		AUTOFLAME	MINI MK9	25	4	25
RLGB-M/M-1050	22/3/380-400 /50 /2840	SIEMENS	LMV5...	20	3	20
		AUTOFLAME	MINI MK9	25	4	25
RLGB-M/M-1250	30/3/380-400 /50 /2840	SIEMENS	LMV5...	20	20	20
		AUTOFLAME	MINI MK9	25	4	25
RLGB-M/M-1350	37/3/380-400 /50 /2840	SIEMENS	LMV5...	20	20	20
		AUTOFLAME	MINI MK9	25	25	25
RLGB-M/M-1550	45/3/380-400 /50 /2900	SIEMENS	LMV5...	20	20	20
		AUTOFLAME	MINI MK9	25	25	25
RLGB-M/M-1750	45/3/380-400 /50 /2900	SIEMENS	LMV5	20	20	20
		AUTOFLAME	MINI MK9	25	25	25
RLGB-M/M-2050	55/3/380-400 /50 /2900	SIEMENS	LMV5	35	20	35
		AUTOFLAME	MINI MK9	25	25	40
RLGB-M/M-2250	75/3/380-400 /50 /2900	SIEMENS	LMV5	35	20	35
		AUTOFLAME	MINI MK9	25	25	40
RLGB-M/M-2550	75/3/380-400 /50 /2900	SIEMENS	LMV5	35	20	35
		AUTOFLAME	MINI MK9	25	25	40

*Optional, note: Using combustion head actuator is necessary in burners with capacity of 15 mW and higher.

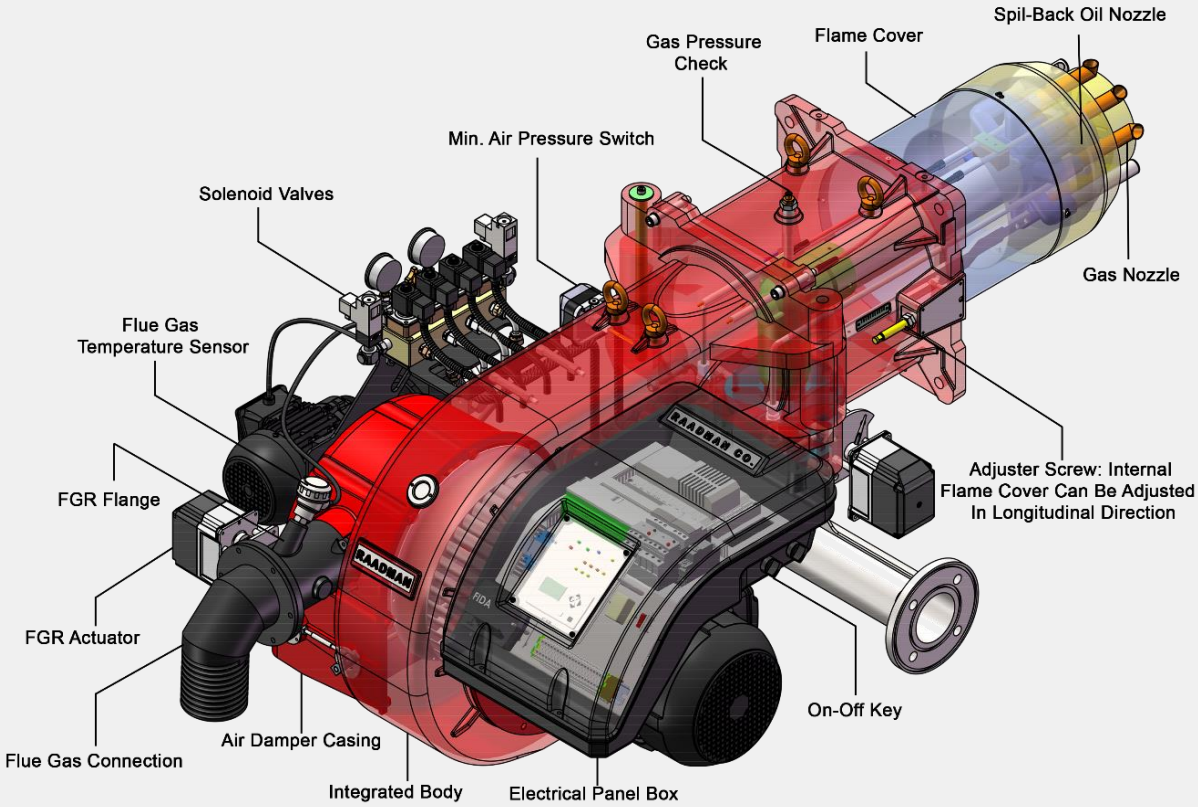
General Dimension: RLGB-M/M Series

RLGB-M/M-305/LN, RLGB-M/M-385/LN, RLGB-M/M-405/LN, RLGB-M/M-505/LN, RLGB-M/M-605/LN

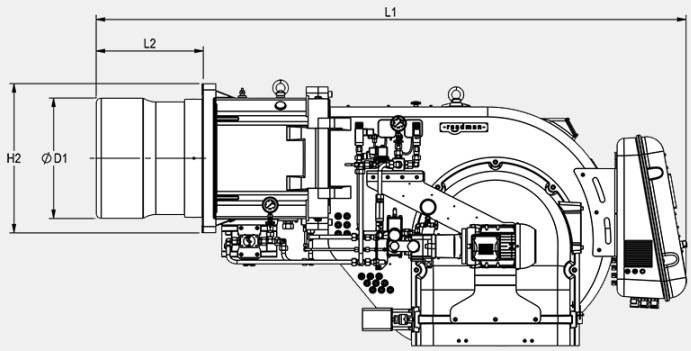


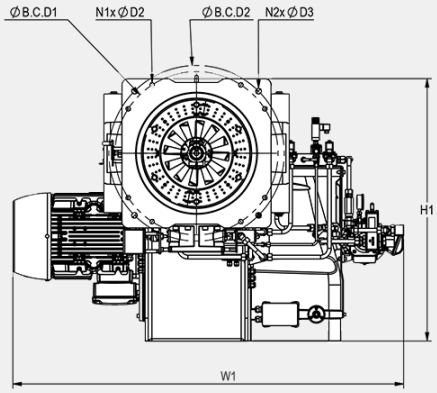
With AL-Casing

Burner Type	L_1	L_2	L_3	W_1	H_1	H_2	D_1	D_2	N	B.C.D
RLGB-M/M-305/LN	1683	514	427	1140	741	413	328	20	4	490
RLGB-M/M-385/LN	1683	514	427	1140	741	413	328	20	4	490
RLGB-M/M-405/LN	1683	514	431	1141	741	413	328	20	4	490
RLGB-M/M-505/LN	1683	514	431	1141	741	413	328	20	4	490
RLGB-M/M-605/LN	1680	512	430	1246	741	413	340	20	4	490



RLGB-M/M-705, RLGB-M/M-805, RLGB-M/M-950, RLGB-M/M-1050

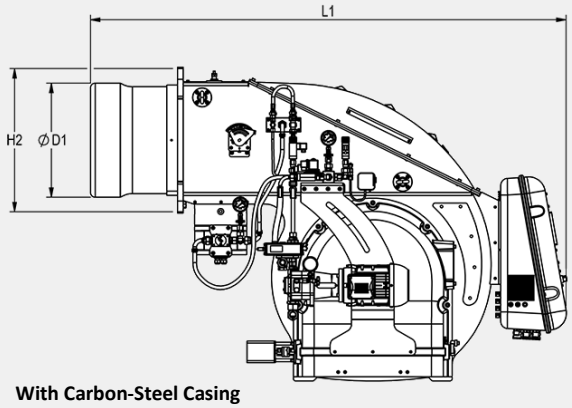


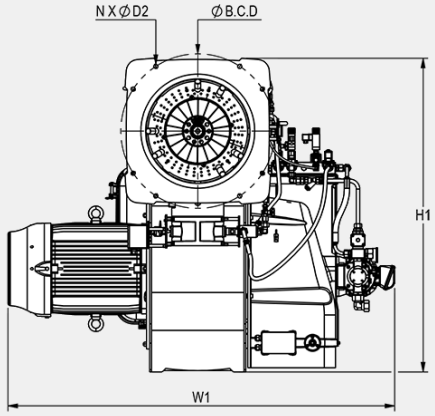


With AL-Casing

Burner Type	L_1	L_2	W_1	H_1	H_2	D_1	D_2	D_3	N_1	N_2	B.C.D1*	B.C.D2*
RLGB-M/M-705	2195	420	1457	955	502	400	----	22	--	4	----	590
RLGB-M/M-805	2195	420	1457	955	502	400	----	22	--	4	----	590
RLGB-M/M-950	2375	428	1559	1046	595	480	17.5	22	8	4	650	700
RLGB-M/M-1050	2375	428	1559	1046	595	480	17.5	22	8	4	650	700

RLGB-M/M-950, RLGB-M/M-1050, RLGB-M/M-1250, RLGB-M/M-1350, RLGB-M/M-1550, RLGB-M/M-1750, RLGB-M/M-2050, RLGB-M/M-2250, RLGB-M/M-2550





With Carbon-Steel Casing

Burner Type	L_1	L_2	W_1	H_1	H_2	D_1	D_2	D_3	N_1	N_2	B.C.D1*	B.C.D2*
RLGB-M/M-950	2069	428	1545	1326	613	480	17.5	22	8	4	650	700
RLGB-M/M-1050	2069	428	1545	1326	613	480	17.5	22	8	4	650	700
RLGB-M/M-1250	2008	367	1625	1324	613	480	17.5	--	8	--	650	----
RLGB-M/M-1350	2258	367	1625	1700	660	480	20	20	4	4	590	790
RLGB-M/M-1550	2585	510	1918	1822	872	608	20	20	4	8	770	940
RLGB-M/M-1750	2585	510	1918	1822	872	608	20	20	4	8	770	940
RLGB-M/M-2050	2790	508	2200	1906	872	608	20	20	4	8	770	940
RLGB-M/M-2250	2790	508	2212	1906	872	608	20	20	4	8	770	940
RLGB-M/M-2550	2790	508	2212	1906	872	608	20	20	4	8	770	940

* Note: For the hole patterns of the burner flange, kindly refer to the burner technical proposals while placing an order.

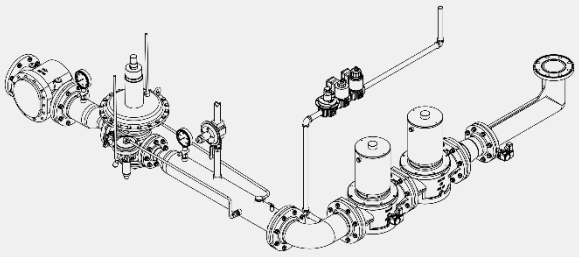

- raadman -

Gas Train Components

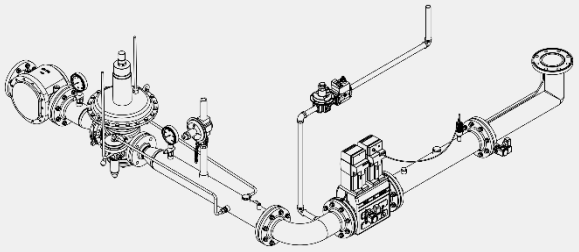
Pressure reduction and regulation units allow to bring gas pressure available in the line to values suited to the specific application. Gas trains include a series of safety and control devices for gas feeding to the burner. They are constructed and supplied with two different selection options (separated or assembled units). The selection has to be made on the specific application (available pressure, installation chances, etc). This permits to reach the best flexibility using pre-assembled units, which are also tested in the factory according to existing norms designed for easy installation.

Gas Train Selection

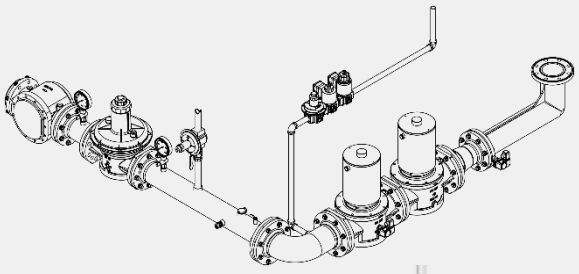
High-pressure Gas Supply, Standard Version
Used when:
Input pressure is between 500 mbar and 4 bar.
The total pressure loss in gas valves, Butterfly valve and combustion chamber resistance does not exceed 200 mbar.



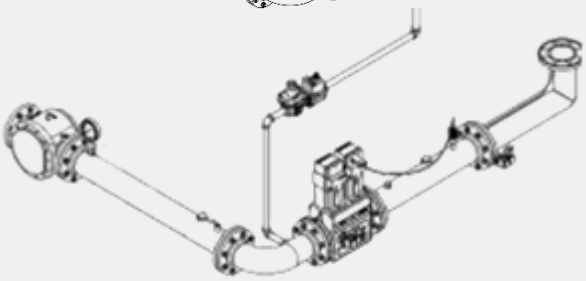
High-pressure Gas Supply, Multi Bloc Version
Used when:
Input pressure is between 360 mbar and 4 bar.
The total pressure loss in gas valves, Butterfly valve and combustion chamber resistance does not exceed 450 mbar.



Low-pressure Gas Supply
Input pressure is < 500 bar
The total pressure loss in gas valves, Butterfly valve and combustion chamber resistance does not exceed 200 mbar.



Low-pressure gas supply
Used when:
Input pressure is < 360 bar
The total pressure loss in gas valves, Butterfly gate valve and combustion chamber resistance does not exceed 450 mbar.



Ball Valve: To isolate the system from any other train in boiler room (Excluded from the burner gas train)

Filter: To protect rest of the system from any debris or dust that may be carried with gas stream. Debris may for example consist of parts accidently left in the pipe during construction.

Regulator: To keep the input pressure of a fluid to a desired value at its output. Based on the input pressure of the gas line, they are divided in two categories: Low pressure regulator, High pressure regulator.

Safety Valve: Single-stage solenoid valve, normally when closed, fast opening, fast closing, manual limitation of flowing gas volume by adjusting main volume.

Main Valve: Single-stage solenoid valve, normally when closed, slow opening, fast closing. Opening time adjustment with fast stroke range, Main volume adjustment.

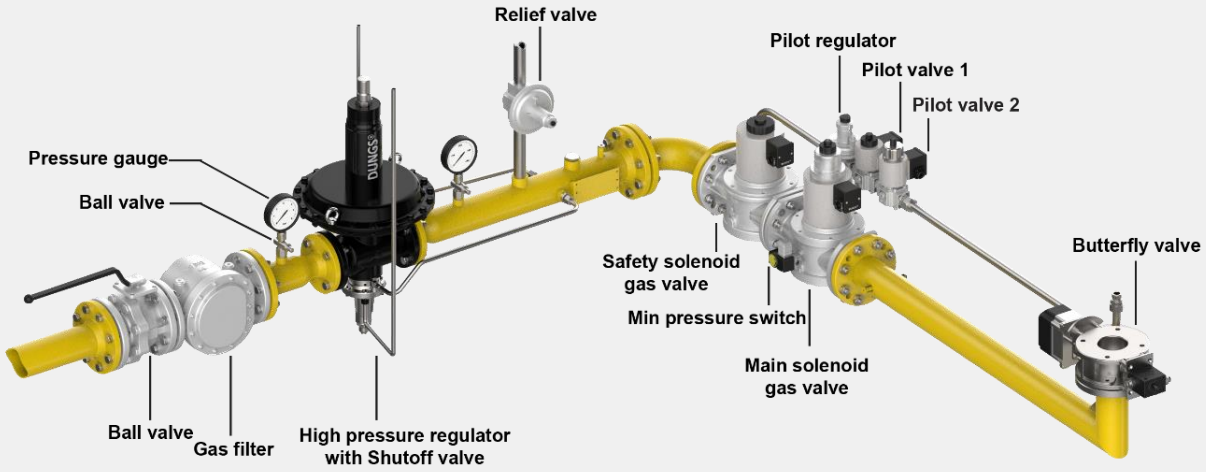
Note:
According to the BS-EN 676, valve proving system shall be used in burners with capacity above 1.2 MW. Consequently, MADAS-MTC10 or DungsVDK200 valve proving systems are highly recommended.

Layout of the Valve Train
On boilers with hinged doors, the valve train must be mounted on the opposite side to the boiler door hinges.

Break Points in the Valve Train
Break points in the valve train should be provided to enable the door of the heat generator to be swung open. The main gas line is best separated at the compensator.

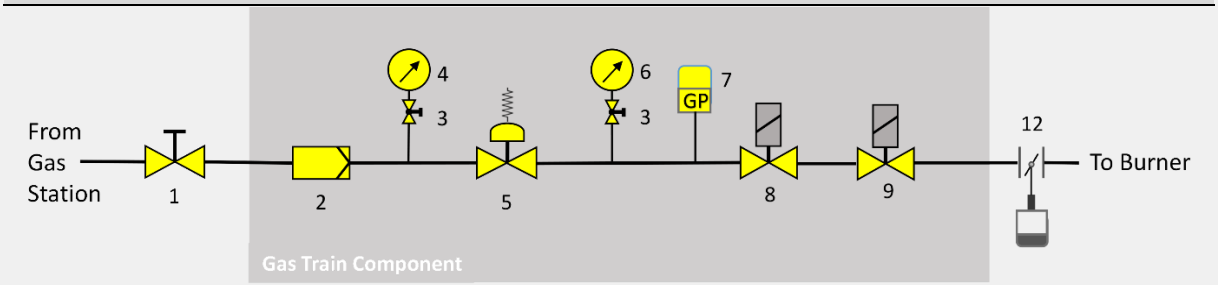
Support of the Valve Train

The valve train should be properly supported in accordance with the site conditions. See the raadman accessories list for various valve train support components.

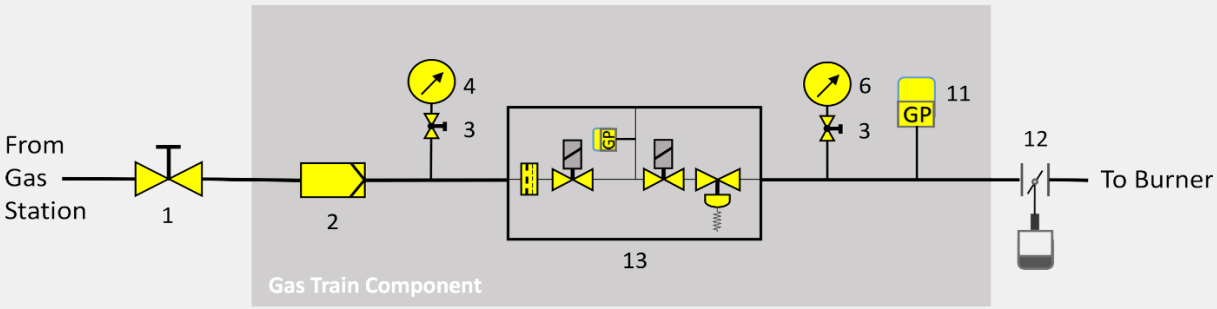


Gas Train Diagram

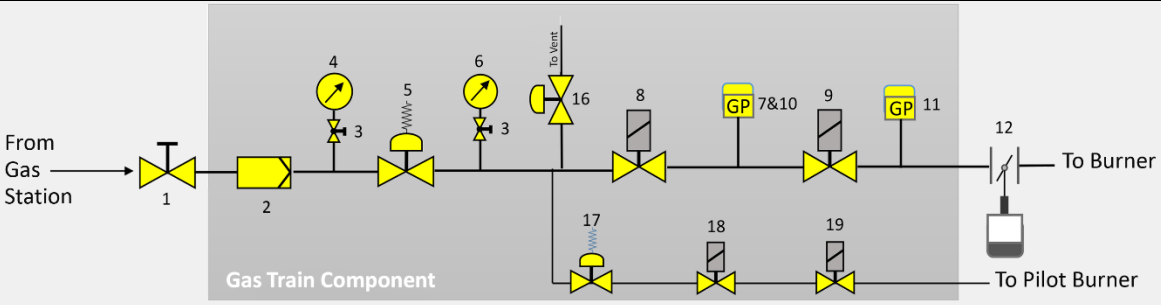
GT1 (Pressure input<360 mbar, separated items)



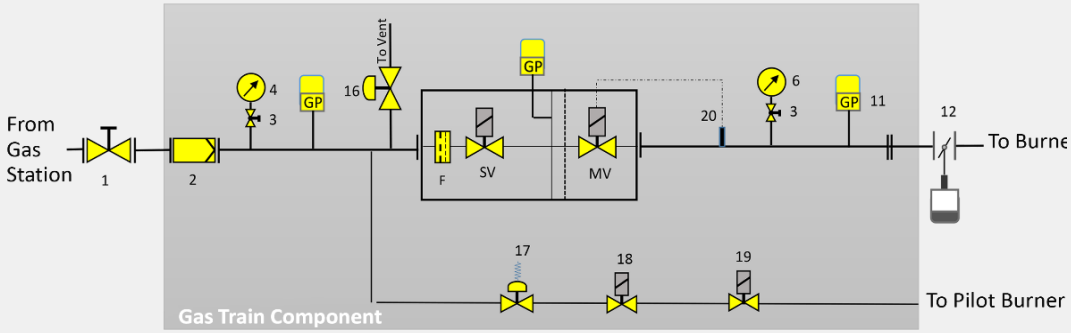
GT2 (Pressure input<360 mbar, multi bloc gas train)



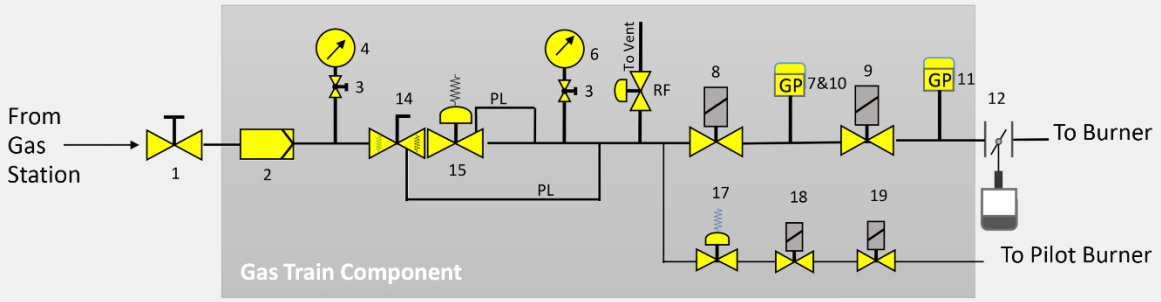
GT3 (Pressure input<360 mbar, separated gas train, with pilot)



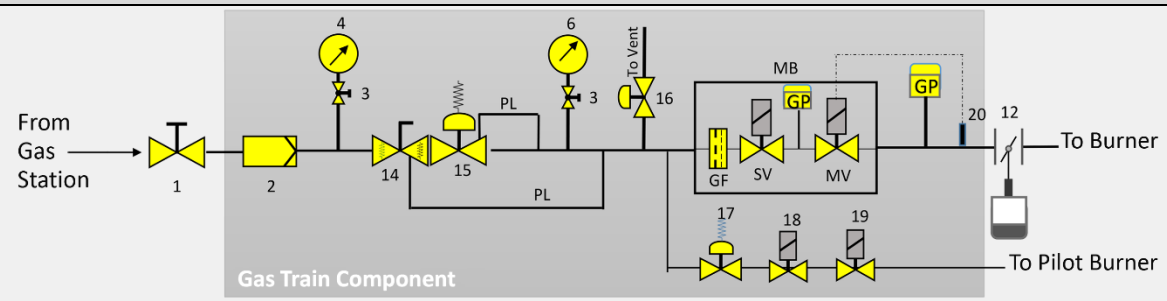
GT4 (Pressure input<360 mbar, multi block gas train, with pilot)



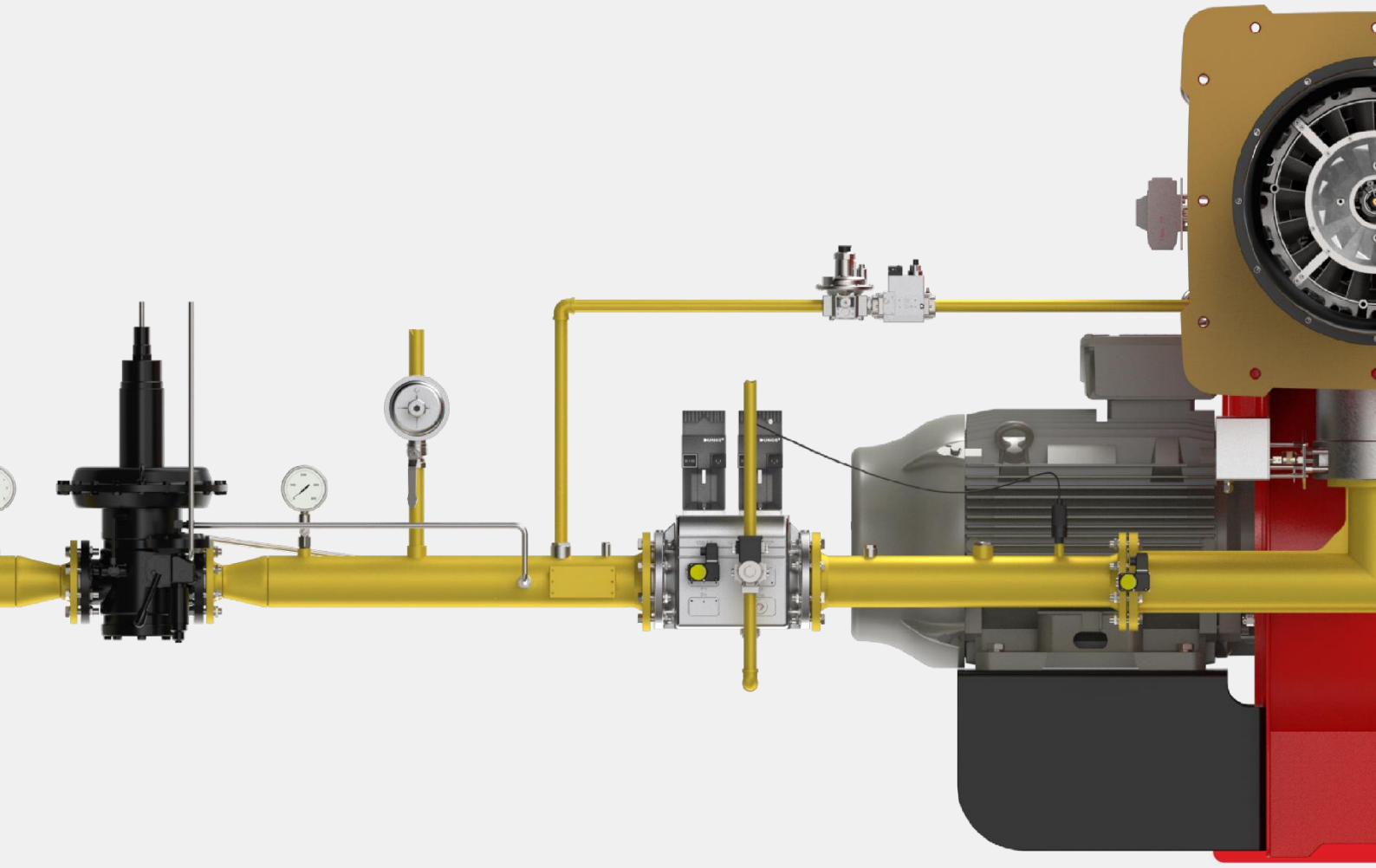
GT5 (Pressure input>360 mbar, separated gas train, with pilot)



GT6 (Pressure input>360 mbar, multi block gas train, with pilot)



1: Ball valve
2: Gas filter
3: Push button valve
4: Pressure Gauge
5: Pressure regulator (Low-pressure)
6: Pressure Gauge
7: Min. gas pressure switch
8: Safety gas valve
9: Main gas valve
10: Leak Test gas pressure switch
11: Max. gas pressure switch
12: Butterfly valve
13: Multi-Block Solenoid Valve
14: Shut-off valve
15: High pressure regulator
16: Relief valve
17: Pilot regulator
18: Pilot valve 1
19: Pilot valve 2
20: Pressure transmitter





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Gas Train Size

RGB-M Series				
Burner	**Gas model**	**Gas train size**	**ΔP B. V**	**ΔP C.H* (mbar)**
RGB-M-55	GT-1	Rp 1 ½	2	7.2
	GT-2	Rp 1 ½		
RGB-M-80	GT-1	Rp 1 ½	2	10.3
	GT-2	Rp 1 ½		
RGB-M-85/LN	GT-1	Rp 1 ½	2	11.7
	GT-2	Rp 1 ½		
RGB-M-110	GT-1	Rp 1 ½	2	9
	GT-2	Rp 1 ½		
RGB-M-130/LN	GT-1	Rp 1 ½	2	22.5
	GT-2	Rp 1 ½		
RGB-M-145	GT-1	Rp 2	2	8.6
	GT-2	Rp 2		
RGB-M-175/LN	GT-1	Rp 2	3	17
	GT-2	Rp 2		
RGB-M-185	GT-1	Rp 2	3	12
	GT-2	Rp 2		
RGB-M-205	GT-1	Rp 2	3	14.5
	GT-2	Rp 2		
RGB-M-255/LN	GT-1	DN65	3	24.9
	GT-2	Rp 2		
RGB-M-305/LN	GT-1	DN65	4	23
	GT-2	Rp 2		
RGB-M-305	GT-1	DN65	4	20.6
	GT-2	Rp 2		
RGB-M-385/LN	GT-1	DN80	4	27.3
	GT-2	DN65		
RGB-M-385	GT-1	DN80	4	31.7
	GT-2	DN65		
RGB-M-405/LN	GT-1	DN80	4	47
	GT-2	DN65		
RGB-M-505/LN	GT-1	DN80	4	56
	GT-2	DN65		
RGB-M-605/LN	GT-1	DN80	4	68
	GT-2	DN65		
RGB-M-605	GT-1	DN80	4	62.8
	GT-2	DN65		
RGB-M-705-SF	GT-3	DN100	4	78
	GT-4	DN80		
RGB-M-705	GT-3	DN100	4	85
	GT-4	DN80		
RGB-M-805-SF	GT-3	DN100	5	90
	GT-4	DN80		
RGB-M-805	GT-3	DN100	5	95
	GT-4	DN80		
RGB-M-950	GT-3	DN100	5	85
	GT-4	DN80		
	GT-5	DN80		
RGB-M-1050	GT-3	DN100	5	110
	GT-4	DN100		
	GT-5	DN100		

*Combustion head

RGB-M Series

Burner	Gas model	Gas train size	ΔP B. V	ΔP C.H* (mbar)
RGB-M-1250	GT-5	DN100	5	85
	GT-6	DN100		
RGB-M-1350	GT-4	DN100	6	100
	GT-5	DN100		
	GT-6	DN100		
RGB-M-1550	GT-4	DN100	7	110
	GT-5	DN100		
	GT-6	DN100		
RGB-M-1750	GT-4	DN100	7	125
	GT-5	DN100		
	GT-6	DN100		
RGB-M-2050	GT-5	DN125	15	150
	GT-5	DN125		
	GT-6	DN100		
RGB-M-2250	GT-5	DN125	15	165
	GT-5	DN125		
	GT-6	DN100		
RGB-M-2550	GT-4	DN125	17	160
	GT-5	DN125		
	GT-6	DN100		

RLGB-M Series

Burner	Gas model	Gas train size	ΔP B. V	ΔP C.H* (mbar)
RLGB-M-55	GT-1	Rp 1 ½	2	14
	GT-2	Rp 1 ½		
RLGB-M-85	GT-1	Rp 1 ½	2	6.2
	GT-2	Rp 1 ½		
RLGB-M-110	GT-1	Rp 2	2	9
	GT-2	Rp 2		
RLGB-M-145	GT-1	Rp 2	2	13
	GT-2	Rp 2		
RLGB-M-175/LN	GT-1	Rp 2	3	17
	GT-2	Rp 2		
RLGB-M-205/LN	GT-1	DN65	3	21.5
	GT-2	Rp 2		
RLGB-M-255/LN	GT-1	DN65	3	26
	GT-2	Rp 2		
RLGB-M-305/LN	GT-1	DN65	4	23
	GT-2	Rp 2		
RLGB-M-385/LN	GT-1	DN80	4	27.3
	GT-2	DN65		
RLGB-M-405/LN	GT-1	DN80	4	44
	GT-2	DN65		
RLGB-M-505/LN	GT-1	DN80	4	47
	GT-2	DN65		
RLGB-M-605/LN	GT-1	DN80	4	68
	GT-2	DN80		

*Combustion head

RLGB-M/M Series

Burner	Gas model	Gas train size	ΔP B. V	ΔP C.H* (mbar)
RLGB-M/M-305/LN	GT-1	DN65	4	23
	GT-2	DN65		
RLGB-M/M-385/LN	GT-1	DN65	4	27.3
	GT-2	DN65		
RLGB-M/M-405/LN	GT-1	DN80	4	44
	GT-2	DN65		
RLGB-M/M-505/LN	GT-1	DN80	4	47
	GT-2	DN65		
RLGB-M/M-605/LN	GT-1	DN80	4	68
	GT-2	DN65		
	GT-5	DN80		
RLGB-M/M-705	GT-3	DN100	5	85
	GT-5	DN80		
	GT-5	DN80		
RLGB-M/M-805	GT-3	DN100	5	95
	GT-5	DN80		
RLGB-M/M-950	GT-3	DN100	5	85
	GT-4	DN80		
	GT-5	DN80		
RLGB-M/M-1050	GT-3	DN100	5	110
	GT-4	DN80		
	GT-5	DN80		
RLGB-M/M-1250	GT-4	DN100	5	85
	GT-5	DN100		
	GT-6	DN100		
RLGB-M/M-1350	GT-4	DN100	6	100
	GT-5	DN100		
	GT-6	DN100		
RLGB-M/M-1550	GT-4	DN100	7	110
	GT-5	DN100		
	GT-6	DN100		
RLGB-M/M-1750	GT-4	DN100	7	125
	GT-5	DN100		
	GT-6	DN100		
RLGB-M/M-2050	GT-4	DN125	15	150
	GT-5	DN125		
	GT-6	DN100		
RLGB-M/M-2250	GT-4	DN125	15	165
	GT-5	DN125		
	GT-6	DN100		
RLGB-M/M-2550	GT-4	DN125	17	155
	GT-5	DN125		
	GT-6	DN100		

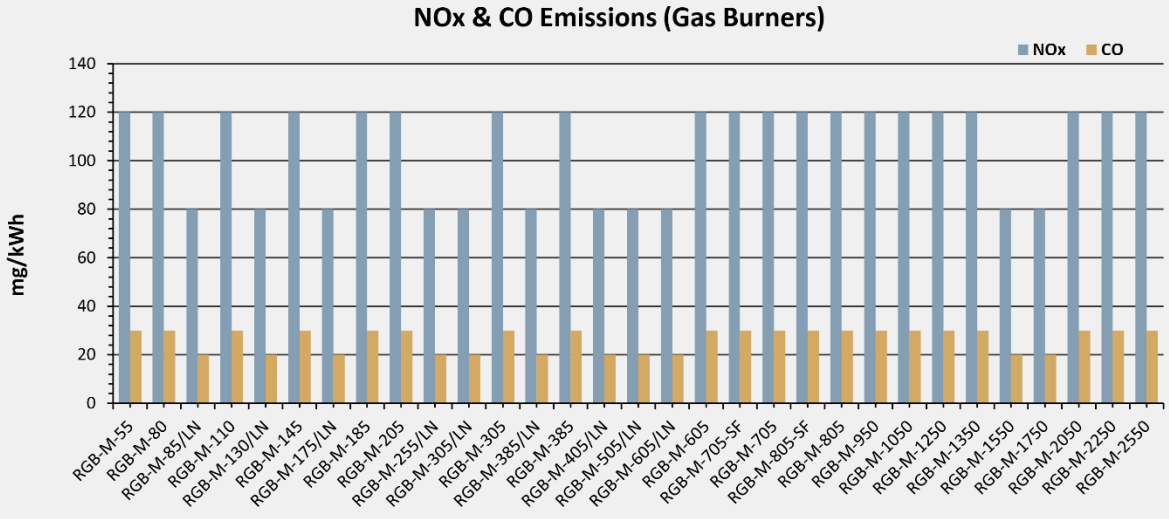
*Combustion head

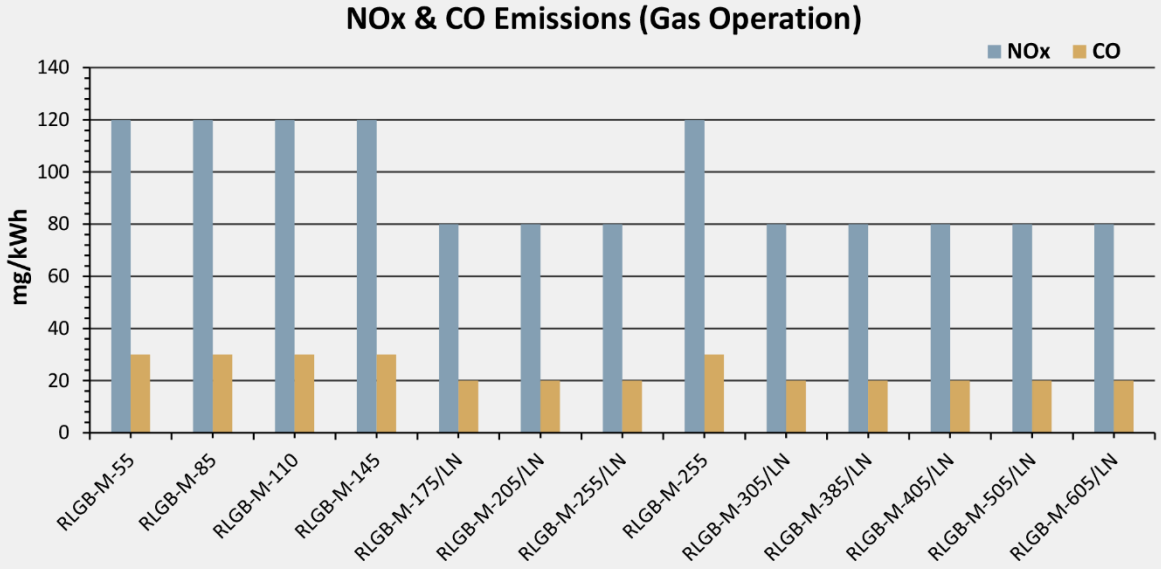
Special Note: The above gas train sizes are proposed based on costumer's requests and limits of the projects while placing an order. Therefore, we kindly ask the readers that assume this information as an initial and most likely offers.

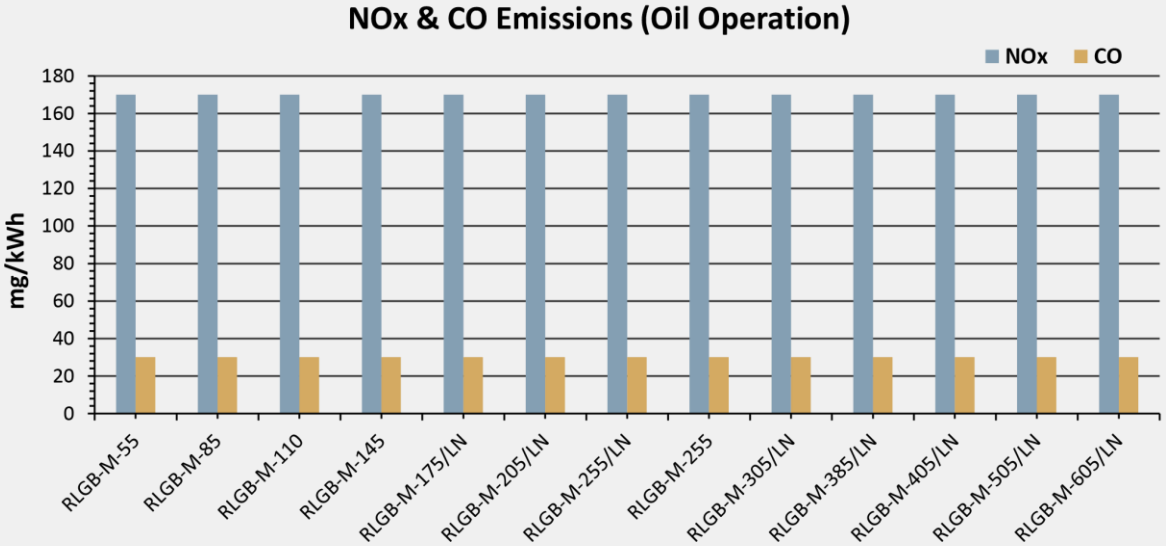


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2023-Tehran, Iran

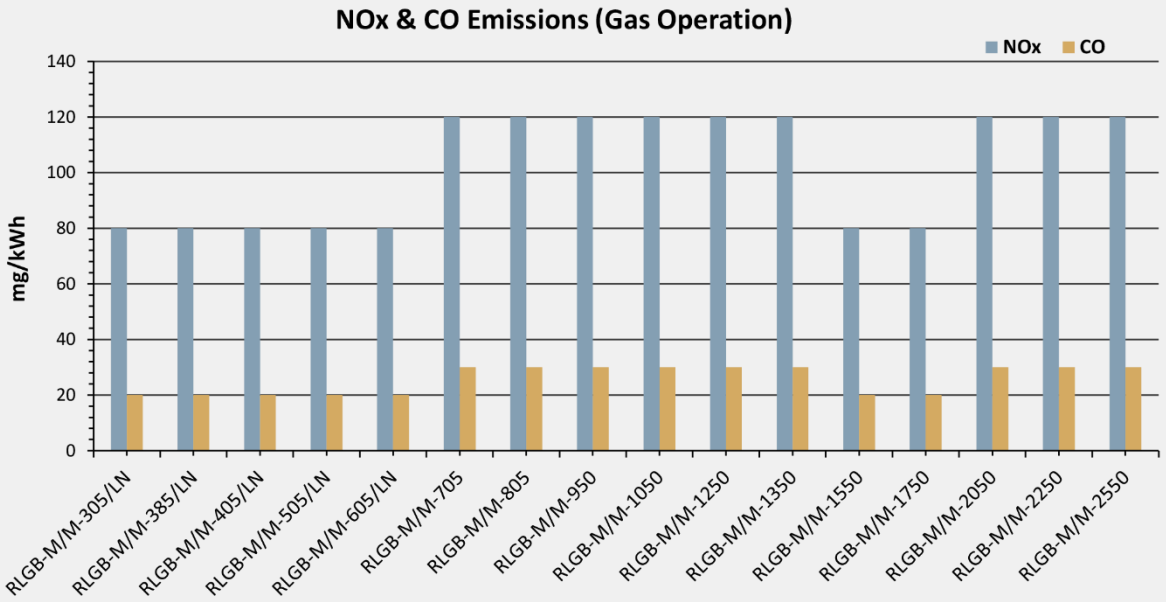
Emission

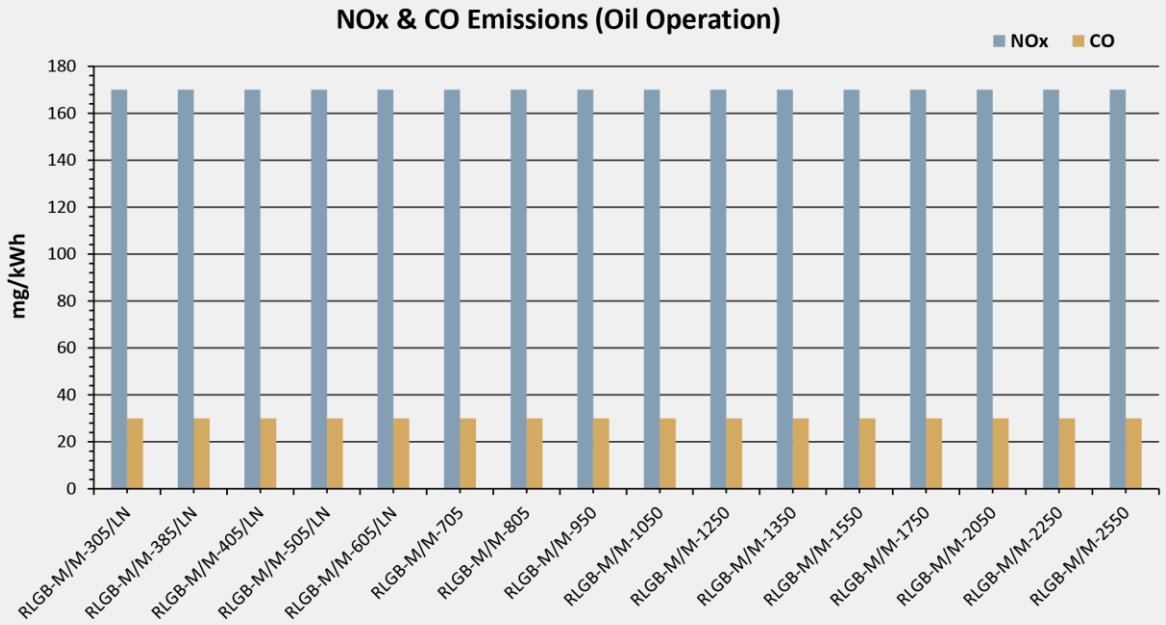

NOx & CO Emissions (Gas Burners)
NOx
CO
mg/kWh
0
20
40
60
80
100
120
140
RGB-M-55
RGB-M-80
RGB-M-85/LN
RGB-M-110
RGB-M-130/LN
RGB-M-145
RGB-M-175/LN
RGB-M-185
RGB-M-205
RGB-M-255/LN
RGB-M-305/LN
RGB-M-305
RGB-M-385/LN
RGB-M-385
RGB-M-405/LN
RGB-M-505/LN
RGB-M-605/LN
RGB-M-605
RGB-M-705-SF
RGB-M-705
RGB-M-805-SF
RGB-M-805
RGB-M-950
RGB-M-1050
RGB-M-1250
RGB-M-1350
RGB-M-1550
RGB-M-1750
RGB-M-2050
RGB-M-2250
RGB-M-2550


NOx & CO Emissions (Gas Operation)
NOx
CO
mg/kWh
0
20
40
60
80
100
120
140
RLGB-M-55
RLGB-M-85
RLGB-M-110
RLGB-M-145
RLGB-M-175/LN
RLGB-M-205/LN
RLGB-M-255/LN
RLGB-M-255
RLGB-M-305/LN
RLGB-M-385/LN
RLGB-M-405/LN
RLGB-M-505/LN
RLGB-M-605/LN

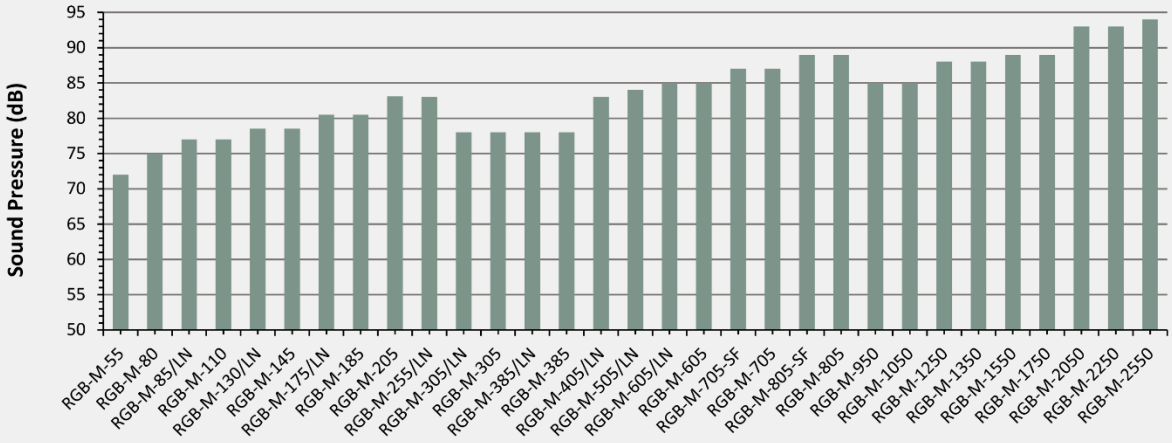

NOx & CO Emissions (Oil Operation)
NOx
CO
mg/kWh
0
20
40
60
80
100
120
140
160
180
RLGB-M-55
RLGB-M-85
RLGB-M-110
RLGB-M-145
RLGB-M-175/LN
RLGB-M-205/LN
RLGB-M-255/LN
RLGB-M-255
RLGB-M-305/LN
RLGB-M-385/LN
RLGB-M-405/LN
RLGB-M-505/LN
RLGB-M-605/LN

The Superiority of Low NOx Combustion

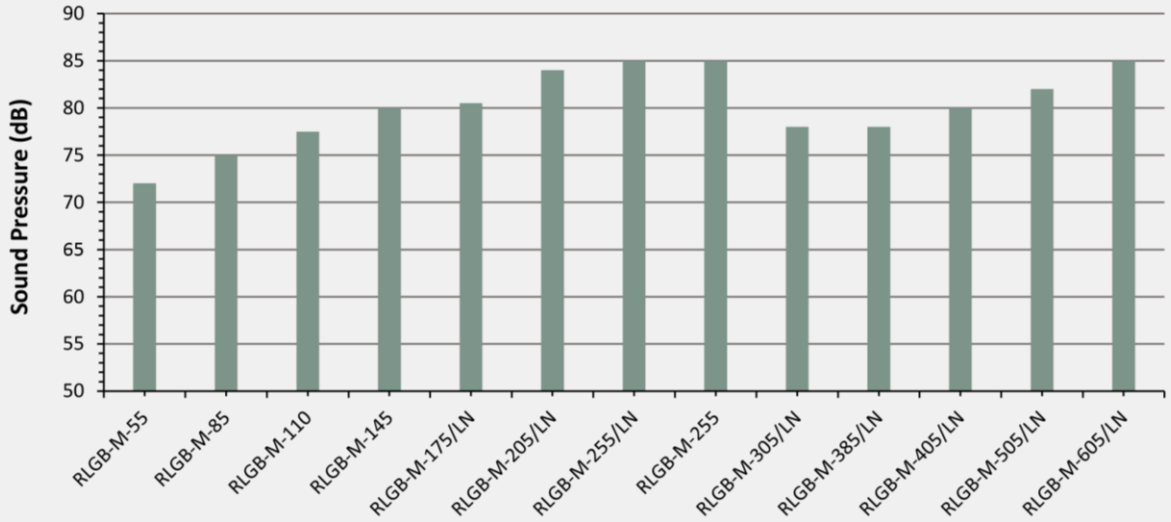




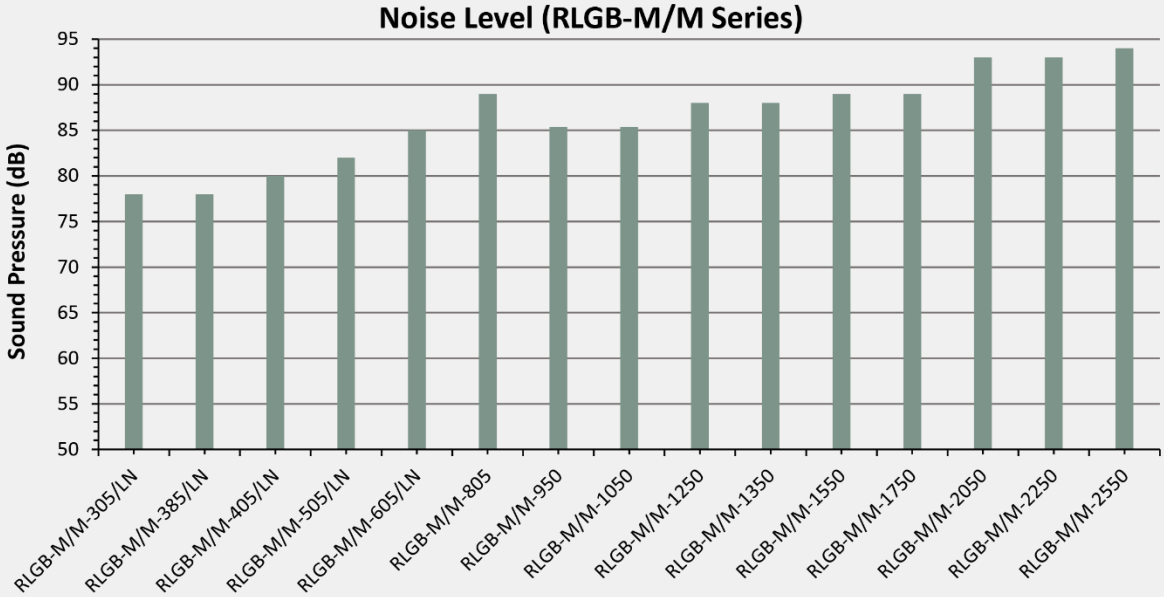
Noise level (RGB-M Series)

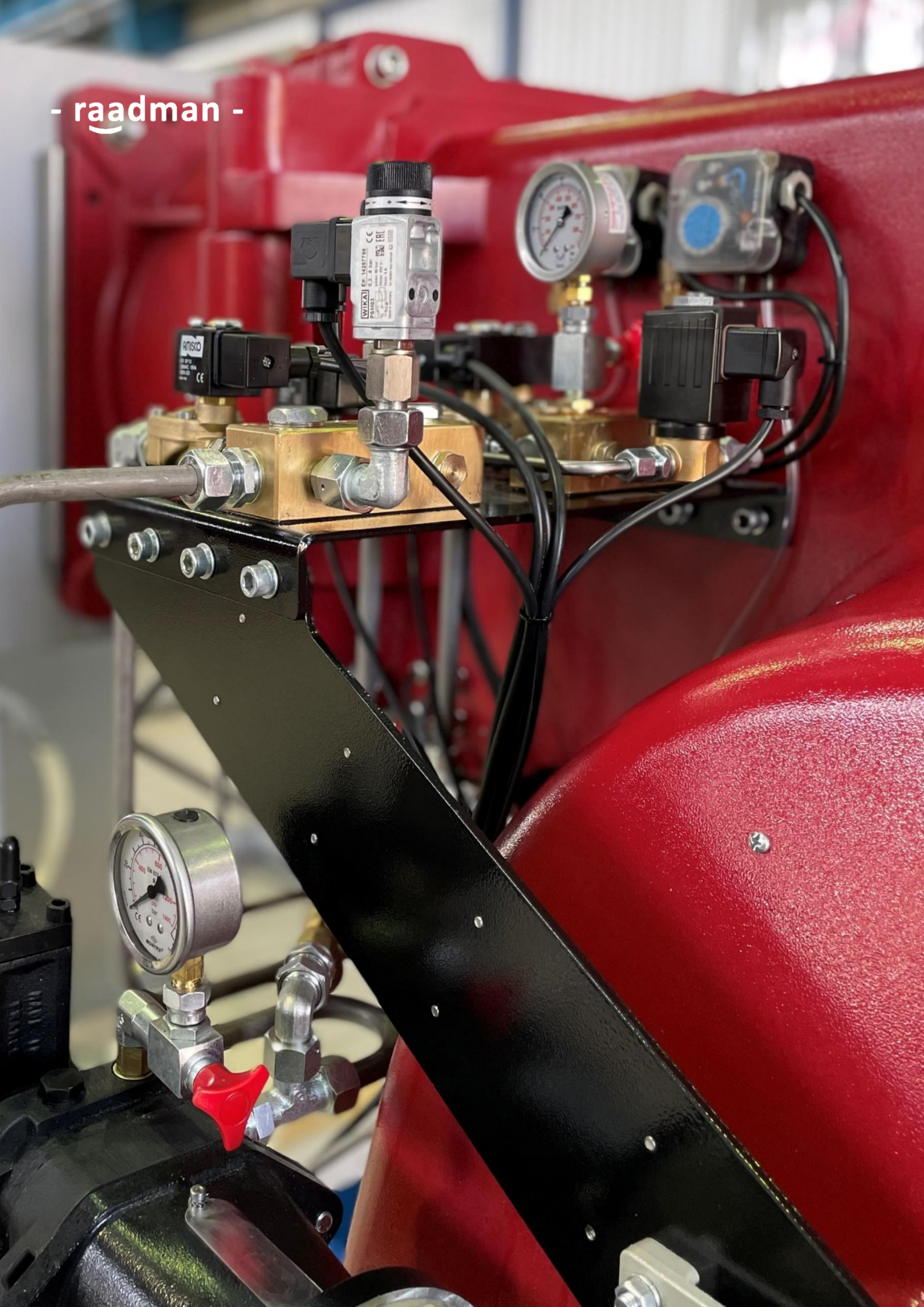


Noise level (RLGB-M Series)



Noise Level (RLGB-M/M Series)




- raadman -
WIKA
ASCO

Oil Delivery System

Generally, two types of atomizing principle are utilized in raadman modulating oil burners:

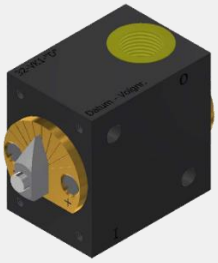
Pressure based spill back lances/atomizers:

All raadman pressure -based atomizing modulating oil burners are equipped with a burner lance and a fly-back oil atomizer. The burner-lance is especially suitable for using in or on an oil burner and is designed to operate spill back atomizers with integrated shut-off needle. The strong spring on the actuating rod pushes the needle in closed position. This ensures a reliable shut-off under all circumstances.

Fuel, branched off from the supply line actuates the piston for opening, either controlled by two external solenoid valves or by one 3/2 solenoid valve. The piston has a consistent movement. While opening, the needle inside the atomizer is retracted in the correct position by means of a spring at the back of the atomizer against a fixed stop on the needle itself.

During the pre-purge period of the burner, the needle is keeping the orifice closed and the fuel circulates through the lance at pre-set supply and return pressure. On both energized solenoid valves and the 3/2 solenoid valve, even after long idle intervals, there is an immediate atomization guarantees perfect ignition.

The burner-lance is suitable for supply pressures from 20 up to 40 bar and fuel temperatures up to 140°C.







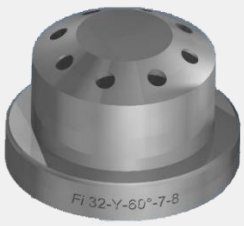
Air or steam lances/atomizers

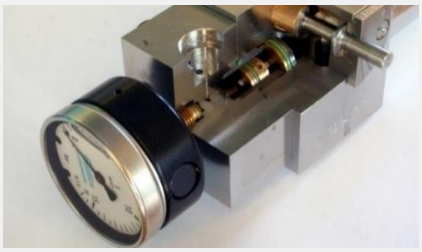
All raadman air/steam atomizing modular oil burners are equipped with a special burner lance and an air/steam atomizer. The burner-lance is designed to operate 32-Y atomizers with compressed air or steam.

The strong spring on the actuating rod pushes the needle in closed position. Compressed air, controlled by an external 3/2 solenoid valve, actuates the piston for opening. The piston has a fixed travel, pulling the needle in the correct position when it opens.

During the pre-purge period of the burner, the needle is keeping the central orifice in the reverse disc closed. On energizing the 3/2 solenoid valve, even after long idle intervals, there is immediate atomization guaranteeing perfect ignition.

The burner-lance is suitable for supplying pressures up to 16 bar and fuel temperatures up to 140°C.

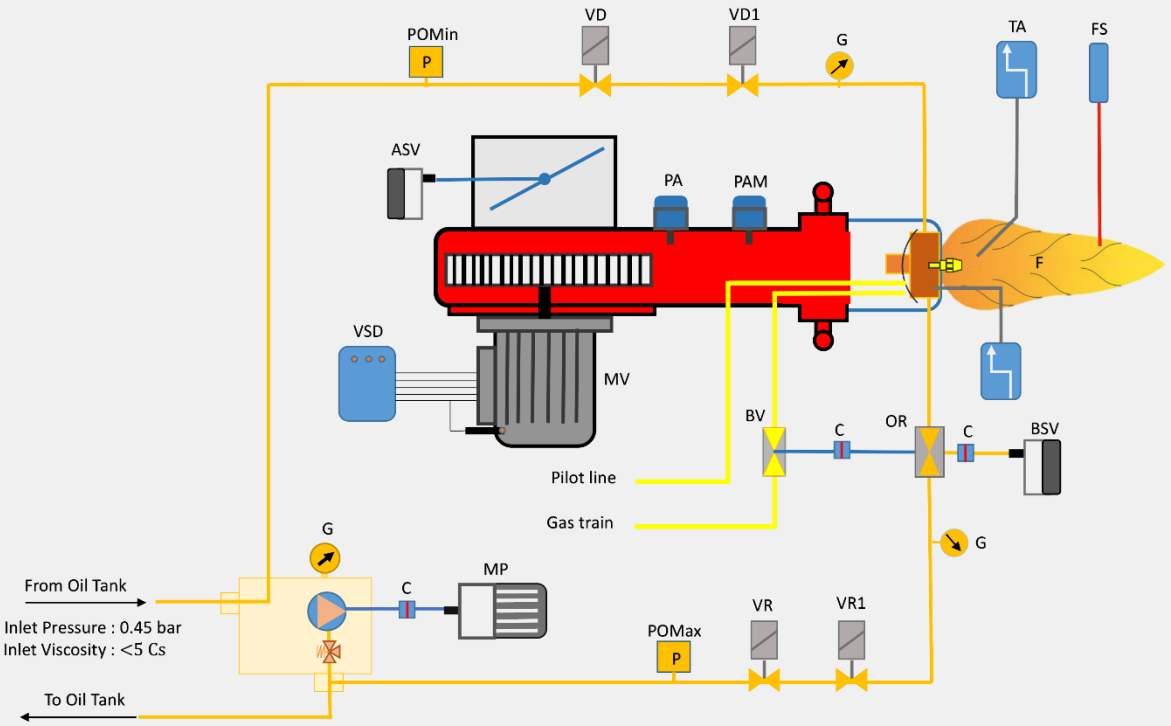




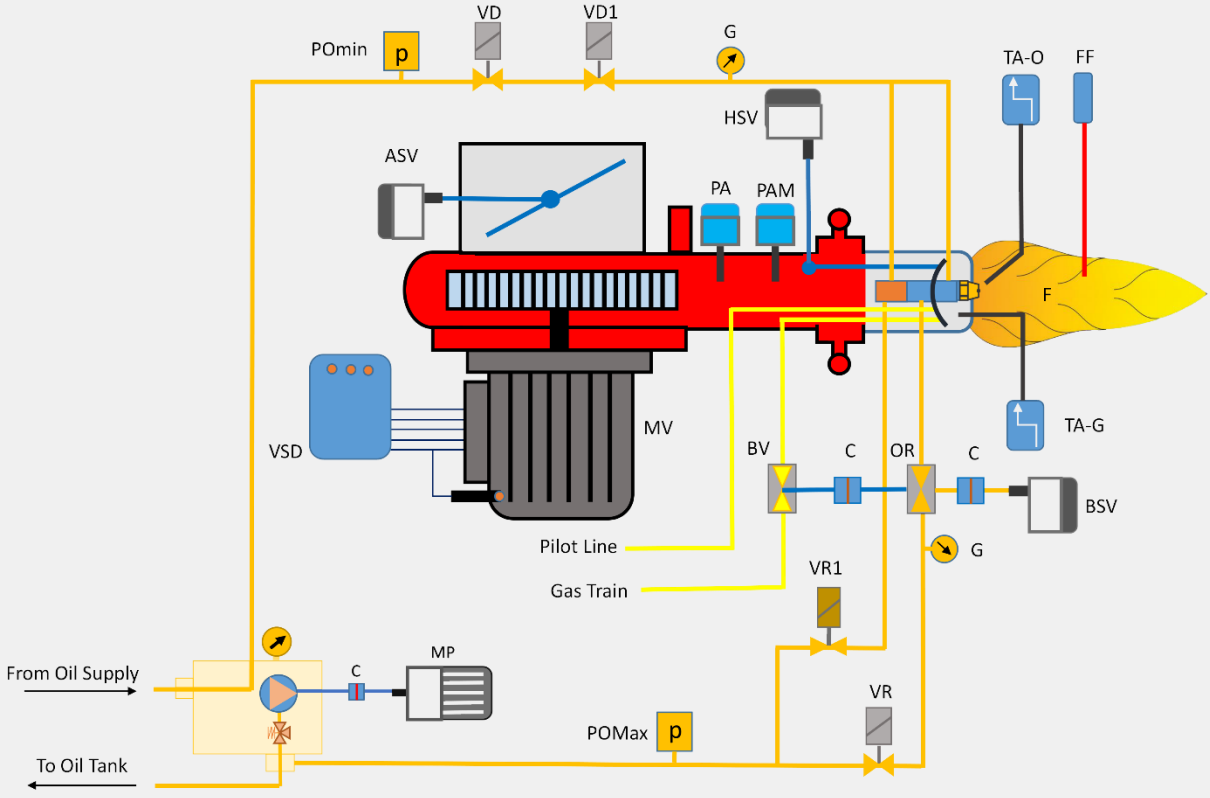


Modulating Dual Fuel Burner Type

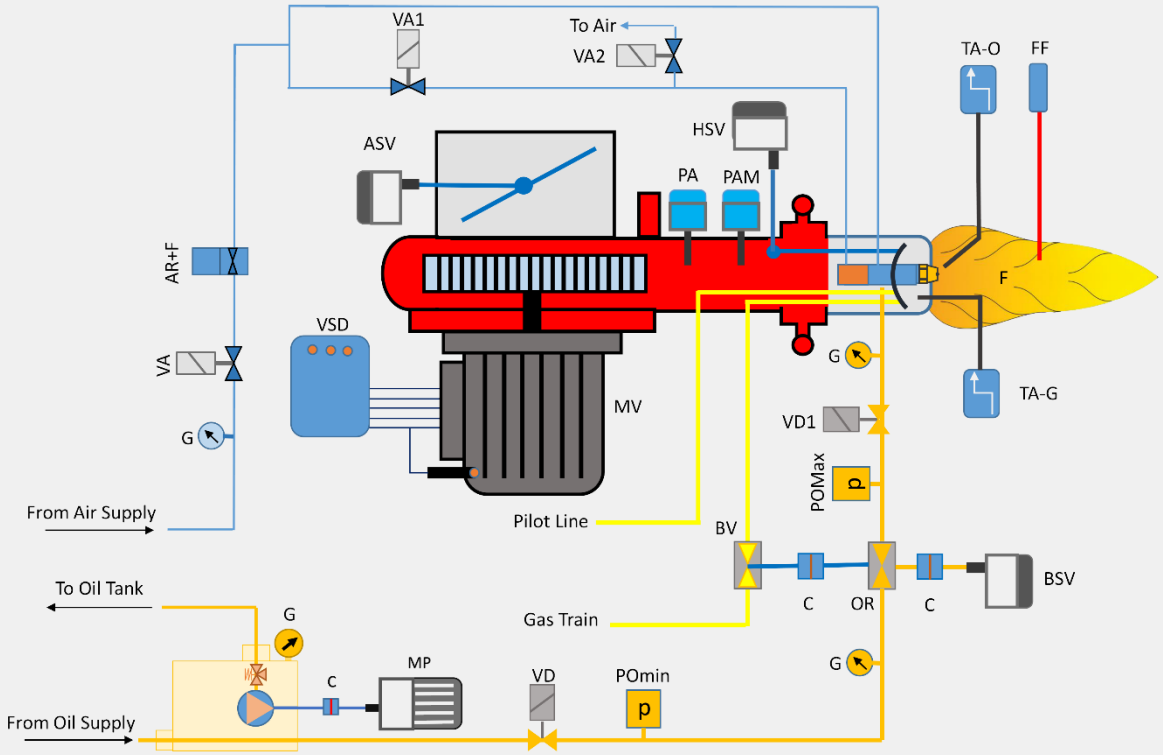
Type OL-I: (Pressure Based Atomizer – without Closing Needle)



Type OL-II: (Pressure Based Atomizer with Closing Needle)



Type OL-III: (Air/Steam Atomizing Technology with Closing Needle)



MP: Pump motor
FF: Flame sensor
VR: Return solenoid valve
VR1: Return solenoid valve
VR1(NO): Return solenoid valve (N.O)
VD: Light oil safety valve (N.C)
VD1: Light oil delivery valve (N.C)
VA1: Air solenoid valve1
VA2: Air solenoid valve2

PA: Min. Air pressure switch
PAM: Max. air pressure switch
POMin: Min. oil pressure switch
POMax: Max. oil pressure switch
VA: Air Valve
AR+F: Air regulator and filter
TA: Flame Scanner
FS: Flame Sensor
F: Gas or oil flame
TA-O: Oil ignition transformer

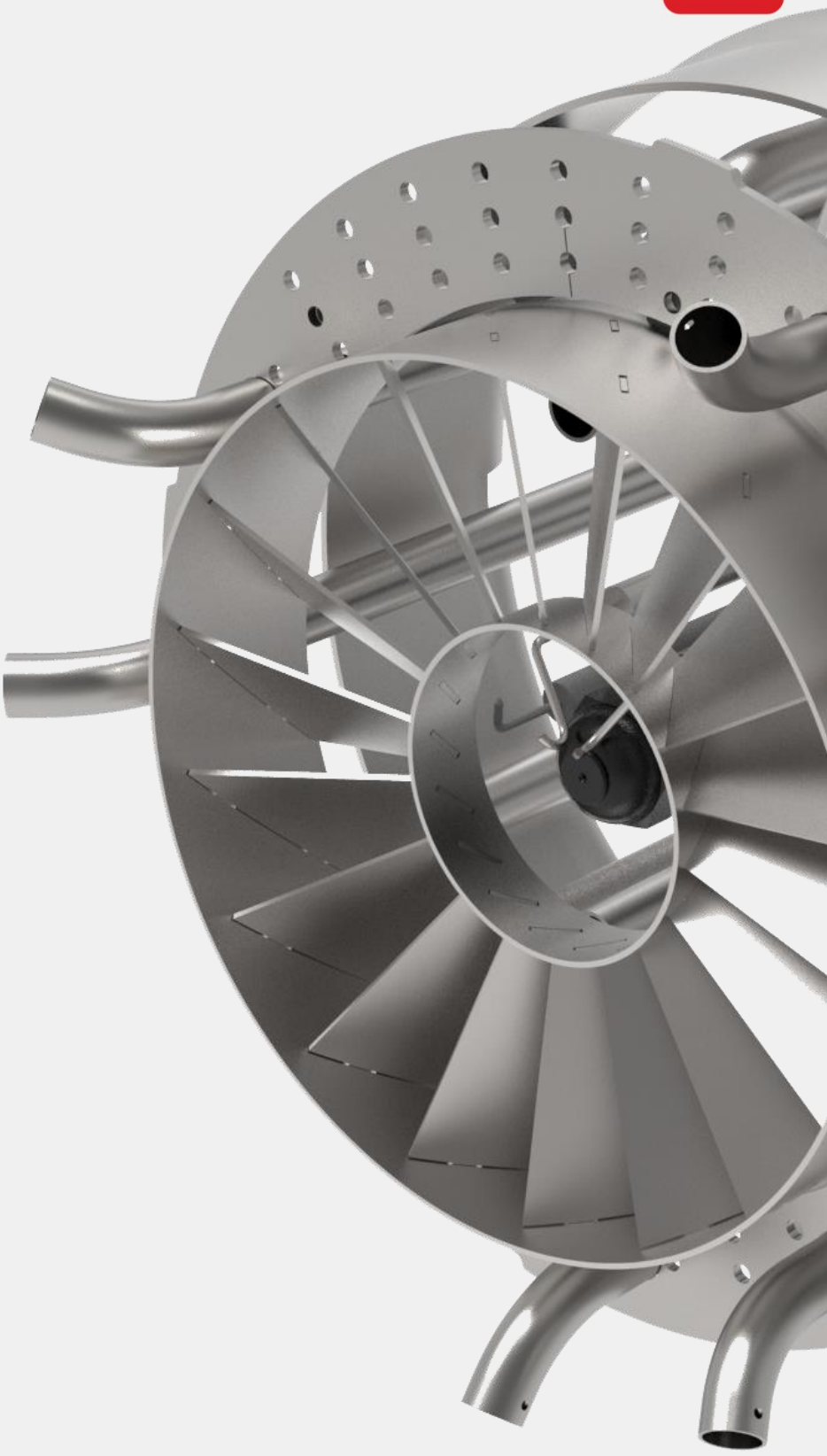
TA-G: Gas ignition transformer
BSV: Butterfly valve servomotor
ASV: Air damper servomotor
HSV: Head servomotor (Optional)
BV: Butterfly valve
OR: Oil Regulator
MV: Fan motor
VSD: Variable speed drive(optional)
C: Coupling
G: Gauge

A Look to the Future

with Low-NOx Burners:

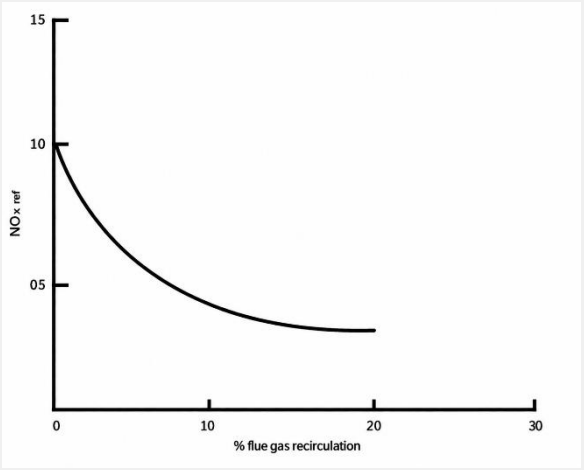
NOx gases play an important role in the formation of smog, producing the brown haze often observed over cities, particularly during the summer. When exposed to the UV rays in sunlight, NOx molecules break apart and form ozone (O3). The problem is made worse by the presence in the atmosphere of volatile organic compounds (VOC), which also interact with NOx to form dangerous molecules. Ozone at the ground level is a serious pollutant, unlike the protective ozone layer much higher up in the stratosphere.

Nitrogen oxides form when oxygen and nitrogen from the air interact during a high-temperature combustion event. Heating industry and industrial burners, in particular, produce large amounts of nitrogen oxides.
The idea of Low NOx burners is to control fuel and air mixing at each burner in order to create larger and more branched flames. Peak flame temperature is thereby reduced, and results in less NOx formation. The improved flame structure also reduces the amount of oxygen available in the hottest part of the flame thus improving burner efficiency.



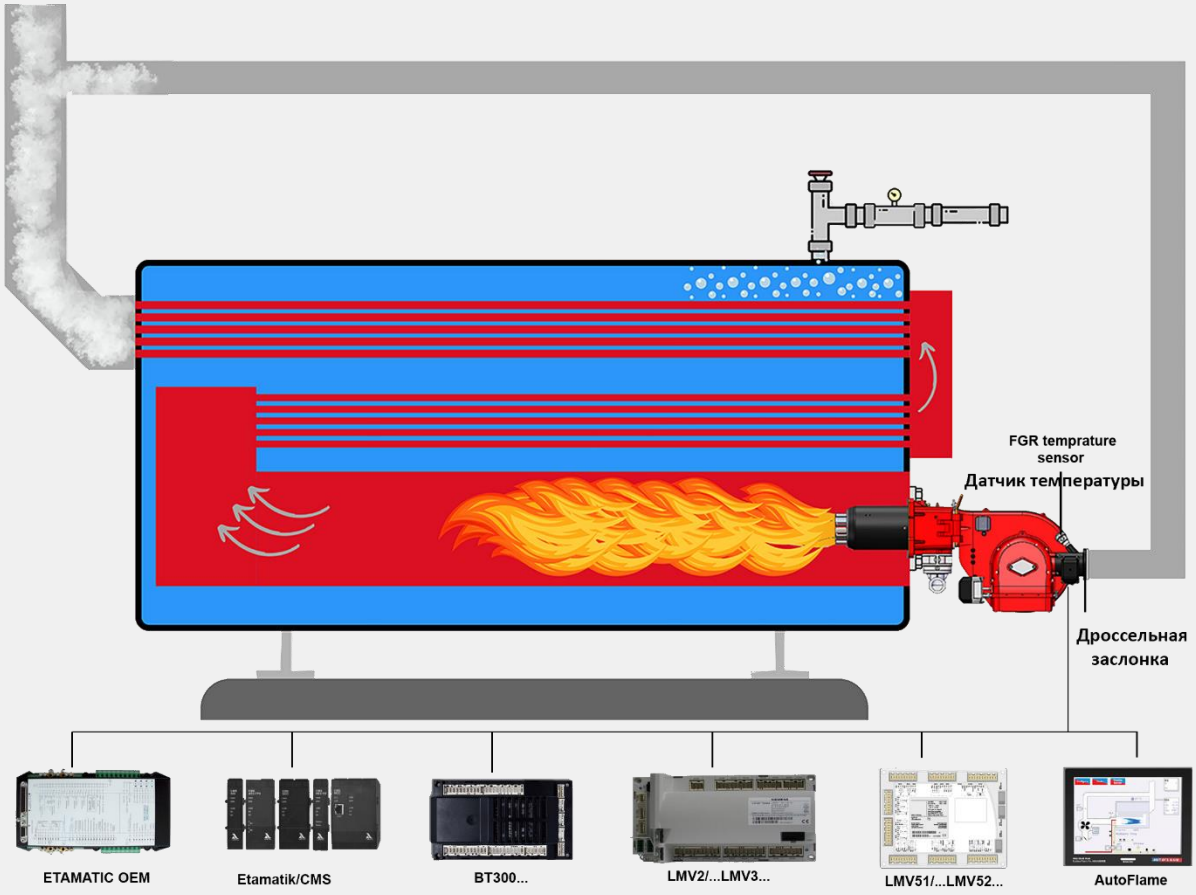
FGR Technology

Flue gas recirculation (FGR) can be a highly effective technique for reducing NOx emissions from burners, and it is relatively cost-effective to implement. Initial research on FGR primarily focused on boilers, revealing that recirculating up to 25% of the flue gases through the burner could decrease NOx emissions to as little as 25% of their usual levels.

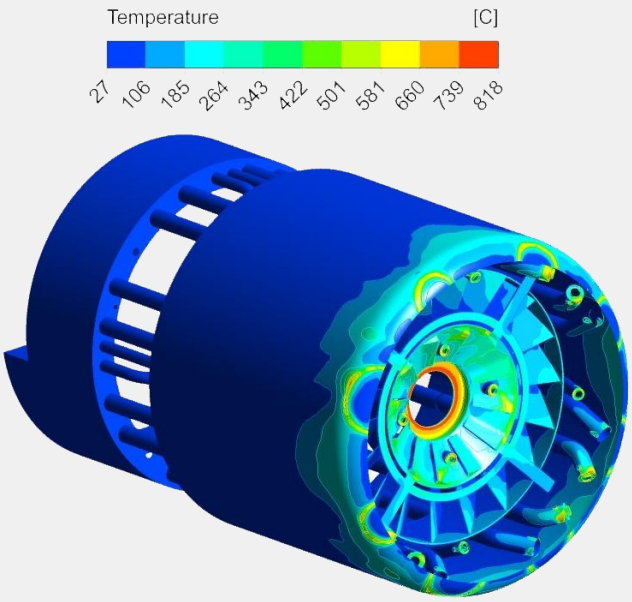


FGR technology, comprising a temperature sensor and flue gas damper with an actuator connected to a flange, allows a portion of the exhaust (flue) gas circulates back into the combustion zone. This process lowers the flame temperature and reduces nitrogen oxide (NOx) emissions from the flame.

When utilizing FGR, there is a reduction in radiation heat transfer, which may lead to a decrease in boiler efficiency, typically in the range of 0.25 percent to 1 percent, depending on the amount of FGR added. Plant experience shows that the combination of low NOx burners with re-burning using FGR system reduces the NOx level to approximately lower than 40 mg/kWh.



CFD Experts in R&D Department

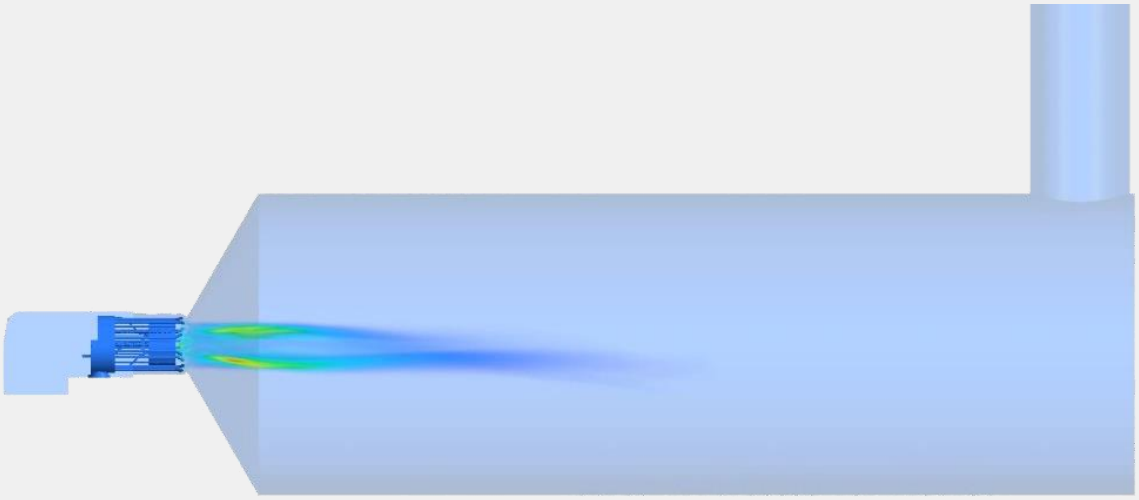


The industrial sector depends on the heat generated by burners in various combustion systems. Optimizing burner performance is critical to complying with stringent emissions requirements and to improve industrial productivity. Engineers engaged in the design and construction of advanced combustion equipment for the hydrocarbon process industries frequently employ Advanced CFD to advance new burner technology.

The science and technology of Computational Fluid Dynamics (CFD) have reached a level of maturity where performance predictions can be made with a significant degree of confidence. These predictions are derived from models covering a wide range of complex furnace, burner, and reactor geometries. While tremendous advances have been made in understanding the fundamentals of combustion, the remaining challenges are complex.

To make improvements, it is critical to understand the dynamics of the fuel fluid flow and the flame and its characteristics. Computational Fluid Dynamics offers a numerical modeling methodology that helps in this regard. Commercial CFD codes adopt a standardized approach to simulate chemical kinetics, approximating the consumption and production of chemical species. This requires the engineers to make simplifying assumptions about the chemistry considered in the simulation.

CFD can assist engineers in optimizing the flow through orifices, blades and swirlers to achieve a homogenous mixture of air and gas.



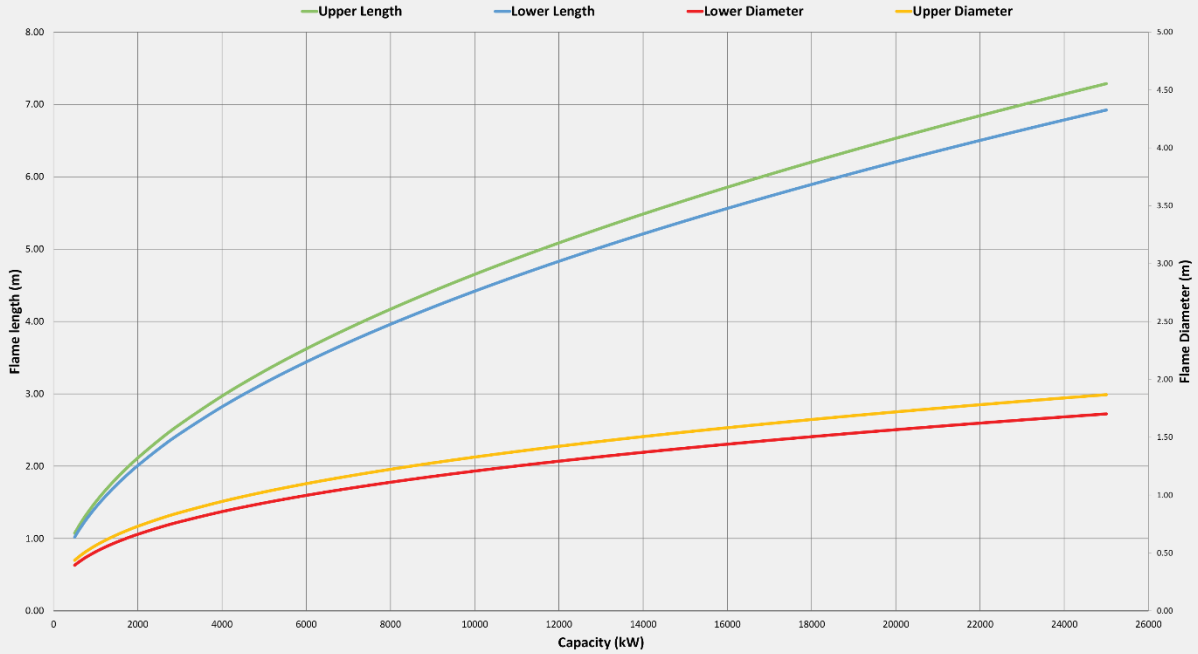


Ventilation System

The design of the fan blades is the outcome of thorough research and analysis, leading to the development of high-performing and efficient centrifugal fans. Our R&D team ensures compliance with all safety certifications at the design stage, ensuring that the fans are stable, reliable, and safe.

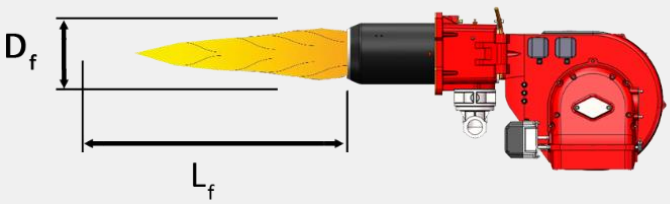
Thanks to improved CFD simulations and FEM analysis, blade design is optimized from both a structural and aerodynamic perspectives simultaneously, also helping to provide customized solutions for market requirements. Our team conducts comprehensive step-by-step analyses of a centrifugal fan, covering everything from its initial design to advanced CFD and FEA simulations, including Fluid-Structure Interaction (FSI) and modal analysis.

Flame Dimension



Note: Due to the possibility of changes in the flame dimensions because of variable geometry of combustion heads in the burners, the length and diameter of the burner flame are considered within a range of ±5%.

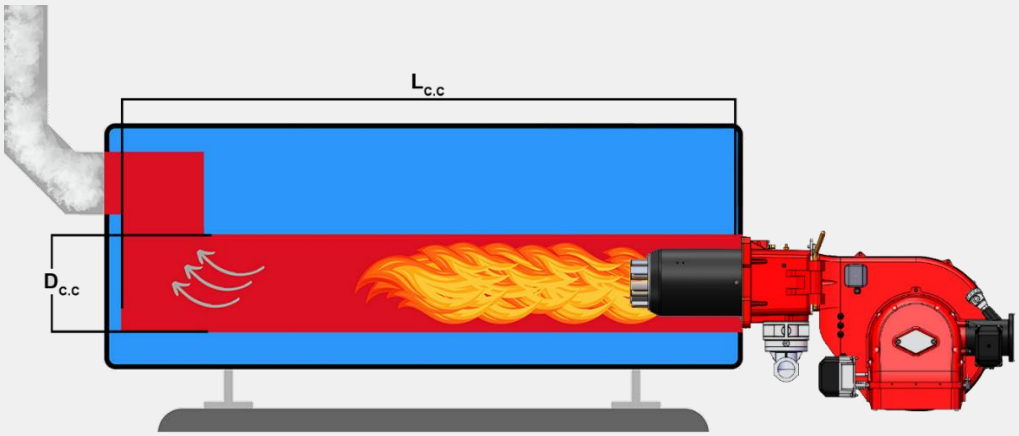
The flame dimensions which play an effective role in the burner efficiency and influence their compatibility to the boiler combustion chamber geometry, are presented in the above diagram.



Suggested combustion chamber dimension:

The raadman burners can be appropriately selected for all boilers which are according to the BS-2790, BS-855, EN-303, BS-EN 12953-3.

It is recommended that a flame fill 90% of combustion chambers at its maximum output.



Additional Options Available to Order

Exhaust Gas Analyzer (R-EGA)

The panel can operate both as a continuous and independent monitoring system, or it can be setup to feed back its readings to the boiler/burner panel or PCP that has MK8 MM or Mini MK9 MM controllers. This proves to be an efficient method for combustion trim.
Optimizing the efficiency and operation of EGA system works by extracting a wet sample from the exhaust gas continuously using a sampling probe. This sample is cooled down in the chiller in the EGA to extract the sample moisture, then the sample passes through filters to remove the moisture and extract the remaining particles before passing through a series of cells. Finally, by passing through a set of separate cells, it is used to analyze the content of the exhaust gas in the sample.



Variable Speed Drive (VSD)

A variable speed drive (VSD) is a type of motor drive used in electro-mechanical drive systems. It controls AC motor speed and torque by adjusting the motor input frequency and, depending on the topology, also manages associated voltage or current variation. VFDs may also be known as 'VFDs' (variable-frequency drive), ‘AFDs' (adjustable-frequency drives), 'ASDs' (adjustable-speed drives), 'AC drives', 'micro drives', 'inverter drives' or, simply, 'drives'. Using this speed controller can reduce the electrical energy consumption up 35 %.



Raadman Ventilation Motor Starter (RMS)

In burners with ventilation motor capacity of 22kW and above, the power circuit and control circuit need to be installed separately due to destructive effects of electrical noise that power circuit or high voltage has on the control devices. With Regard to this reason, raadman motor starter (RMS) in which the power circuit is embedded, is introduced.
* The burner ventilation motor starter (RMS Series) must be ordered with ventilation motor capacity of 30kW and larger than.



Reliable Worldwide Packing

- raadman -

Note:

Note:



- SMILE INTO THE FUTURE -

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