

A short Introduction of PACKMAN Modular Gas Burners

RGB-M Series or RAADMAN mono-block modular gas burners, covering a firing range from 190 to 25000 kW, are designed for a wide range of domestic and industrial applications. All RAADMAN modular burners are equipped with AUTOFLAME, LAMTEC, or SIEMENS electronic control system with capability of full air/gas ratio control throughout entire burner operating range. These burners have been tested and evaluated based on Iran national standard ISIRI-7595 (BS-EN 676). According to performed experiments, the values of CO even in low excess air operation is lower than 30 mg/kWh. The precise design of combustion head results a full gas-air mixture that guarantees high efficiency levels in all various applications. Burner superior design accompanied by high quality electronic devices have also resulted a further improvement in boiler's performance in order to decrease fuel cost and emissions.

RGB-M-805-MF (1600-8000 kW)

RGB-M-805-MF is an electronic gas fuel burner with 1:8 turn down ratio and four head which is appropriate for water tube boiler. The values of CO and NOx during burner operation are lower than 30 and 120 mg/kWh, respectively. Therefore, the burner's NOx class of II is reported and approved. Compact design, silent operation due to injected absorbing material, backward fan wheel and independent actuators are the most considerable advantages for this burner.

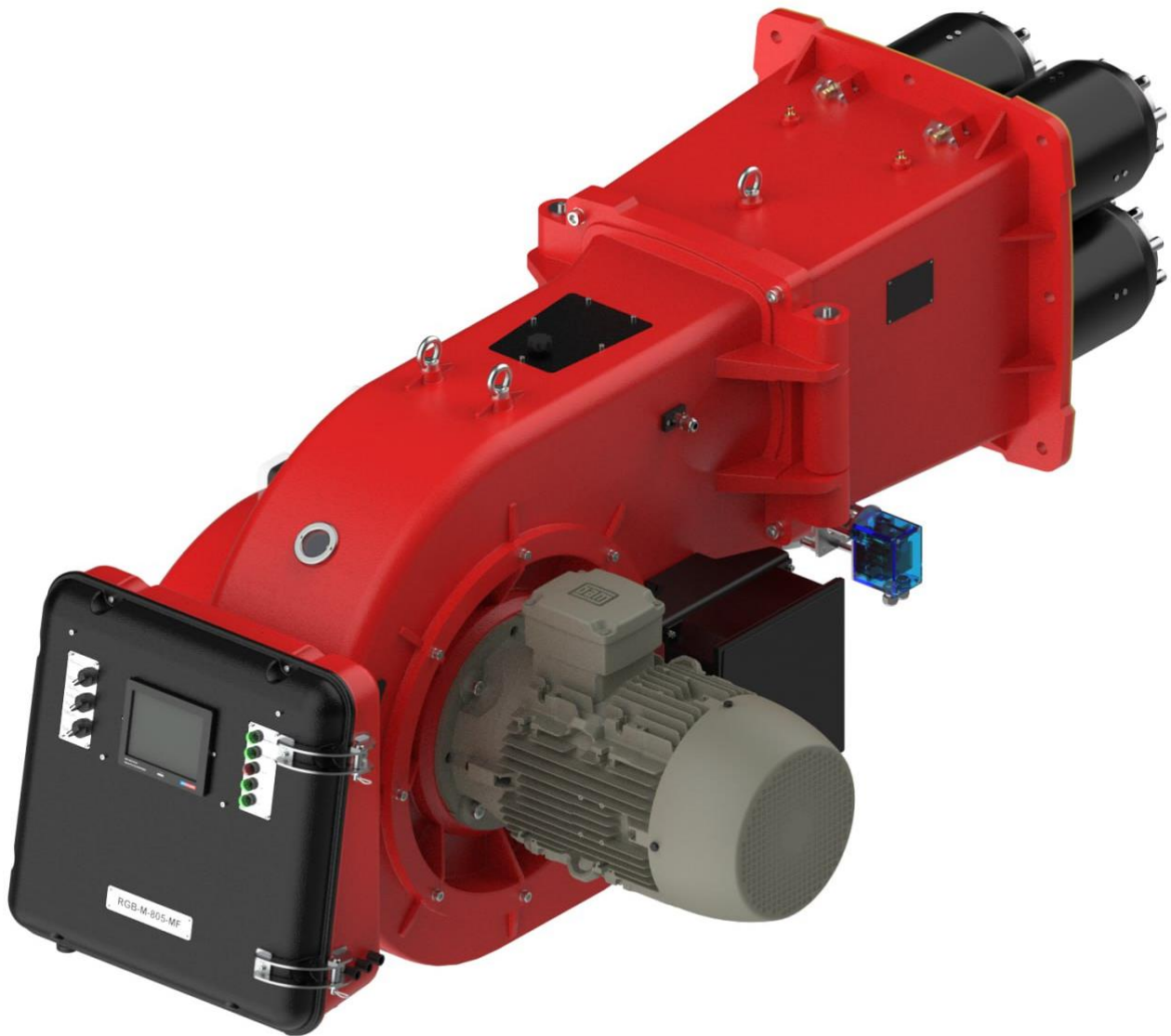


Figure 1- RGB-M-805-MF

Burner Certificate

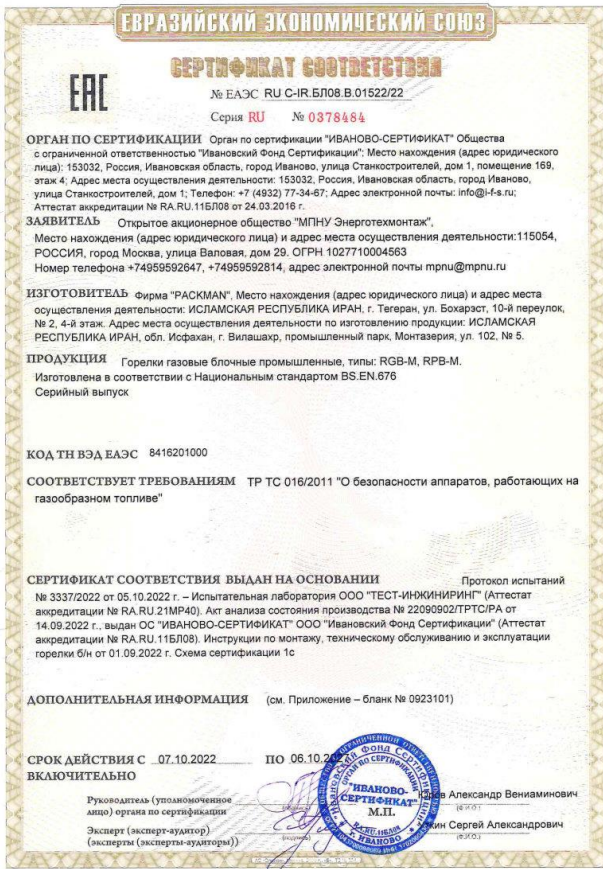


Figure 2 -Burner certification based on the Eurasian Conformity (EAC), Equal to the BS-EN 676 international standard.

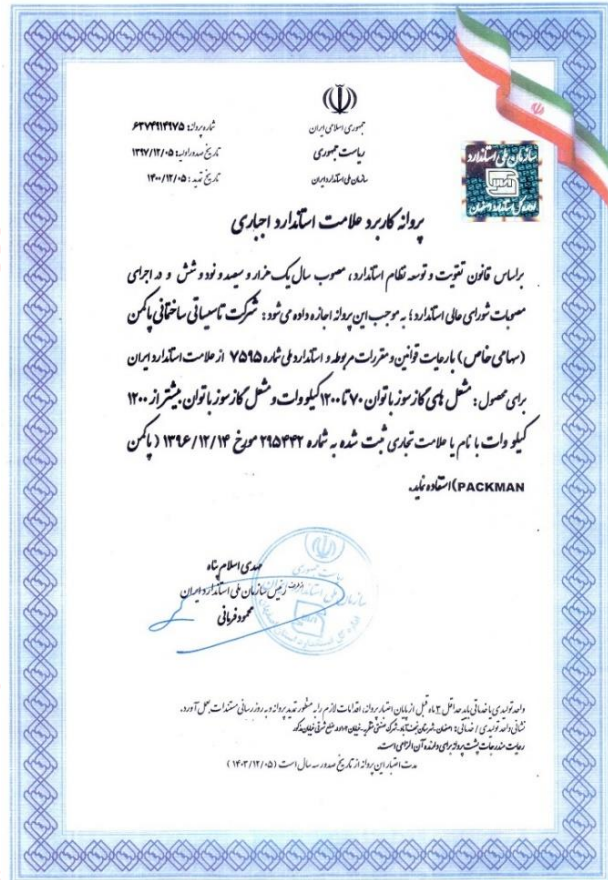


Figure 3 -Burner certification based on the Iran national standard ISIRI-7595, Equal to the BS-EN 676 international standard.

General Dimension

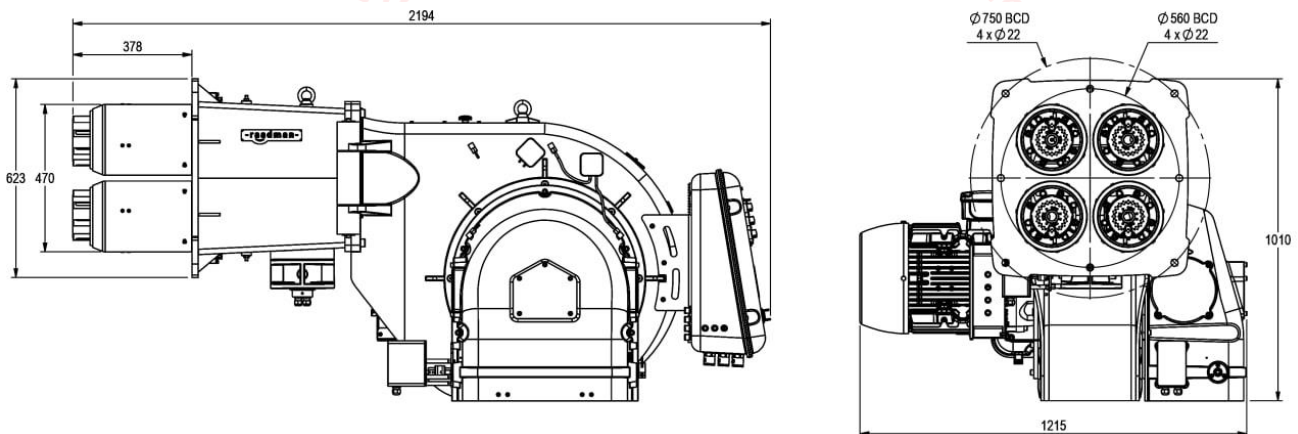


Figure 4 – RGB-M-805-MF Dimensions

Notice: Any illegal copy or any kind of partial reversed engineering could be followed by the owner; and this company has the authority to track it by LAW.

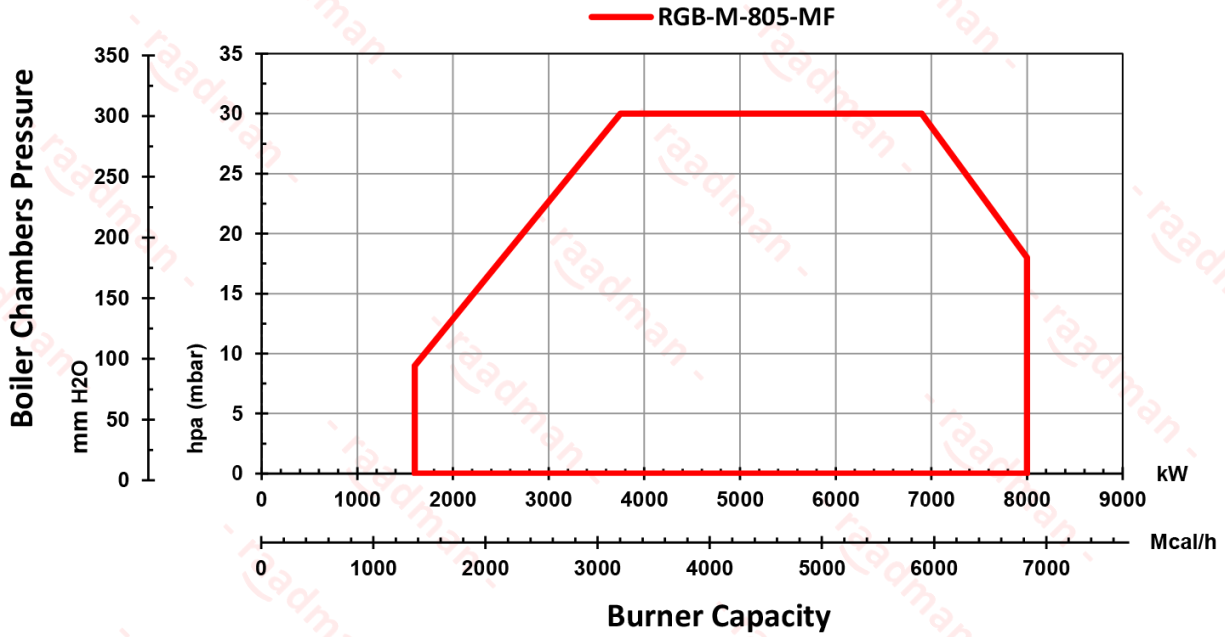


Figure 5 – Burner Firing Diagram

RGB-M-805-MF Technical and Functional Features

- Highly efficient gas burners for domestic and industrial applications.
- Light weight and optimized geometry.
- Mono-bloc design and fully enclosed aluminum air housing.
- Compatible with water tube boiler.
- Simple Installation, adjustment and maintenance.
- Modular operation
- Ability to work based on Air-Fuel control curve.
- Easy access to internal components.
- Engineered for maximize efficiency and fuel cost savings.
- Designed in accordance with ISIRI-7595 and EAC (BS-EN 676)
- Equipped with high quality and reliable electronic devices.

Table 1 - RGB-M-805-MF Combustion Specification

Item	Description
Fuels:	Natural Gas
Gas capacity*:	1600-8000 kW
operation:	Electronic modular system
Gas pollution:	II class of NOx according to BS-EN 676
Certificates:	ISIRI 7595, EAC
Certificate No:	6374915975, 0378484
Other abilities:	<ul style="list-style-type: none"> - Low excess air operation - Ability to run according to the Air/fuel ratio curve - Ability of Communication with external systems via DTI. - Independent ignition point position for safe burner starts. - Adjustable pre-purge and post purge time.



	<ul style="list-style-type: none"> - Absence of joint clearance using linkage-less actuators avoiding mechanical hysteresis. - Easy commissioning using modular human interface. - Parameter's indication. - History of errors. - Mono-bloc configuration. - Including valve proving system. - High turn down ratio for avoiding any shut down in low required loads. - Economical price using central burner controllers (With improved technology and ease of use, combustion plant is becoming even more economical as: NO additional burner controller is required, less installation work with less errors, NO additional cost for valve proving, Taking less time for commissioning and service work) <p><u>Options**:</u></p> <ul style="list-style-type: none"> - Ability to install a variable speed drive for avoiding any impact in startup - Ability of running with O₂, CO, CO₂, NO and SO₂ sensors. - Ability of working with FGR for further reduction in the NOx level. - Ability of working with LPG with LPG kit.
--	--

* Reference conditions: Ambient temperature 20°C - Gas temperature 15°C - Barometric pressure 1013 mbar - Altitude 0 m

** Kindly note that the options are not included in the routine offers and they need to be ordered by the customers. Please contact us for further information or assistance.

Table 2 - Burner Equipment and Accessories

Power System		
Item	Specification	Brand*
Main motor	18.5 kW, 3 Phase, B5, 380-400 Volt, 50 Hz, 2900 rpm	--
Bi-metal	LRD325	SCHNEIDER
Contactors	LC1D50, LC1D40	SCHNEIDER
Selector switches	XB4 BD21	SCHNEIDER
Star-Delta Timing Relay	RE22R1QCMU	SCHNEIDER
Burner Management System		
Item	Specification	Brand*
Main controller (Mini MK8)	4 Channel with Burner Management Control, 7" full color touch screen	AUTOFLAME
Fuel actuator	Small Servo Motor, 230V 50Hz (Fuel actuator) 4Nm, 3ft lbs - Supplied with 2off PG11 Metal Glands	AUTOFLAME
Air actuator	Large Servo Motor, 230V 50/60Hz, Metal Housing (Head actuator) 25Nm, 18ft lbs - Supplied with 2off PG11 Glands	AUTOFLAME
Flame scanner	MM80004/HS High Sensitivity, End/Side View UV Scanner	AUTOFLAME
Ignition System		
Item	Specification	Brand*
Transformer	Tra.f.a.n union single wire	TRAFO
Other Components		
Item	Specification	Brand*
Air pressure switch (Min switch)	LGW 10 A2, 1-10 mbar	DUNGS
Boiler chamber pressure switch (Max switch)	LGW 50 A2, 2.5-50 mbar	DUNGS

Other Components (Optional features**, replacement of maximum air pressure switch and leak test pressure switch)		
Item	Specification	Brand*
Air pressure sensor**	MM80013 Pressure Range: ±137 mbar Zero Range: ±2.74	AUTOFLAME

* Though these brands are common in this type of burner, they would may change based on available components in the market or according to the policy of Packman Co.

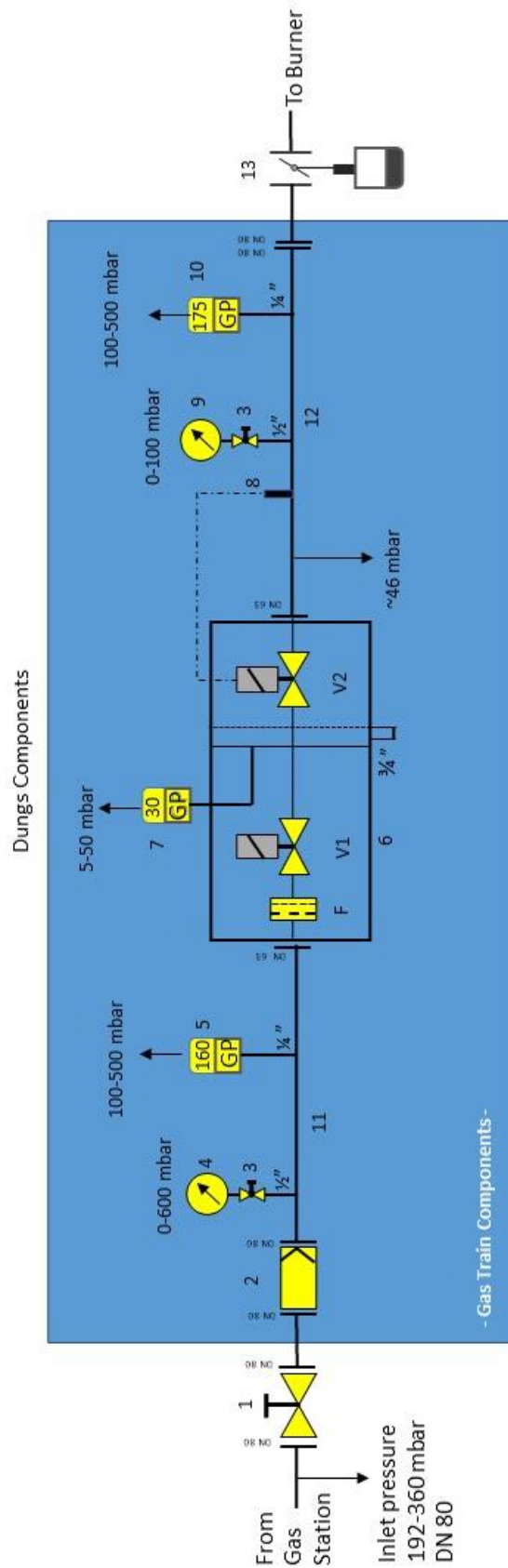
** These types of sensors are used for monitoring and drawing the air pressure graph with the help of the Autoflame Mini MK8 controller in Burners and combustion chambers, and regarding the controller, it is quite recommended to use air pressure sensor instead of maximum air pressure switch. Kindly note that air pressure sensor set is an optional item and can be easily ordered while placing the order of the burner

Table 3- Recommended Gas Train

Standard Gas Train: Separated items, DN 80, Lower than 500 mbar			
Item	QTY	Specification	Brand*
Multi-block Solenoid Valve	1	MBE-VB-65, Working Pressure, 700 mbar Valve Drive VD-V-AC, Valve Drive VD-R-AC DN65	DUNGS
Pressure transmitter	1	PS-50/200	DUNGS
GF 6080/4	1	Gas Filter, Max operating pressure = 6 bar, DN 80	DUNGS
GW 150 A6	1	Gas pressure switch, Range: 5-150 mbar - with plug	DUNGS
GW 50 A6	1	Gas pressure switch, Range: 5-50 mbar - with plug	DUNGS
GW 500 A6	1	Gas pressure switch, Range: 100-500 mbar - with plug	DUNGS
Pressure indicator	1	Range: 0-600 mbar, Rp ½	DUNGS
Pressure indicator	1	Range: 0-100 mbar, Rp ½	
Collector 1	1	DN 80 - DN 65	
Collector 2	1	DN 65 - DN 80	

* Though these brands are common in this type of burner, they would may change based on available components in the market (such as MADAS, Kromschroder, etc.) or according to the policy of Packman Co.

Burner Model: RGB-M-805-MF - Output : 1600 – 8000 kW
 Gas consumption: 800 m³/h - General Pipe size : DN 80



- 1: Ball valve(Out of scope)
- 2: Gas filter
- 3: Push button valve
- 4: Pressure Gauge/(0-600 mbar)
- 5: Min gas pressure switch
- 6: Multi-block solenoid valve
- 7: Leak test gas pressure switch
- 8: Pressure transmitter (PS-50/200)
- 9: Pressure Gauge/(0-100 mbar)
- 10: Max gas pressure switch
- 11: Collector 1
- 12: Collector 2
- 13: Butterfly valve (Installed on Burner)

Figure 6-Gas train Diagram RGB-M-805-MF



- SMILE INTO THE FUTURE -

www.raadmanburner.com