



**TERMODA**

INTELLIGENT ENERGY SOLUTIONS!

## **Combustion PRODUCT LIST (HVAC Sector)**

AUGUST 2025



## ABOUT TERMODA | INTELLIGENT ENERGY SOLUTIONS

TERMODA is a UK-registered company strategically headquartered in the UAE, serving as a global energy innovation and solutions provider. The company connects advanced technologies with international markets, providing integrated energy systems to clients across North America, Europe, Asia, and Africa.



### Core Solution & Expertise

TERMODA delivers a full spectrum of energy technologies:

- **Heating Solutions** – Industrial/commercial boilers, burners, steam systems, and boiler room packages.
- **Cooling Solutions** – Chillers, HVAC Systems, Industrial Refrigeration, and District Cooling.
- **CHP Systems** – Combined heat & power solutions using gas or liquid fuels for maximum efficiency.
- **Renewable Energy** – Solar PV, solar thermal, wind power, and biomass solutions.
- **Energy Storage** – Thermal and electrical storage systems for optimized supply-demand balance.
- **Engineering & Automation** – Turnkey plant design, energy optimization, control systems, and monitoring.
- **Fuel Systems & Combustion** – Advanced multi-fuel combustion technologies, including oil atomization and gas firing.

### Capabilities

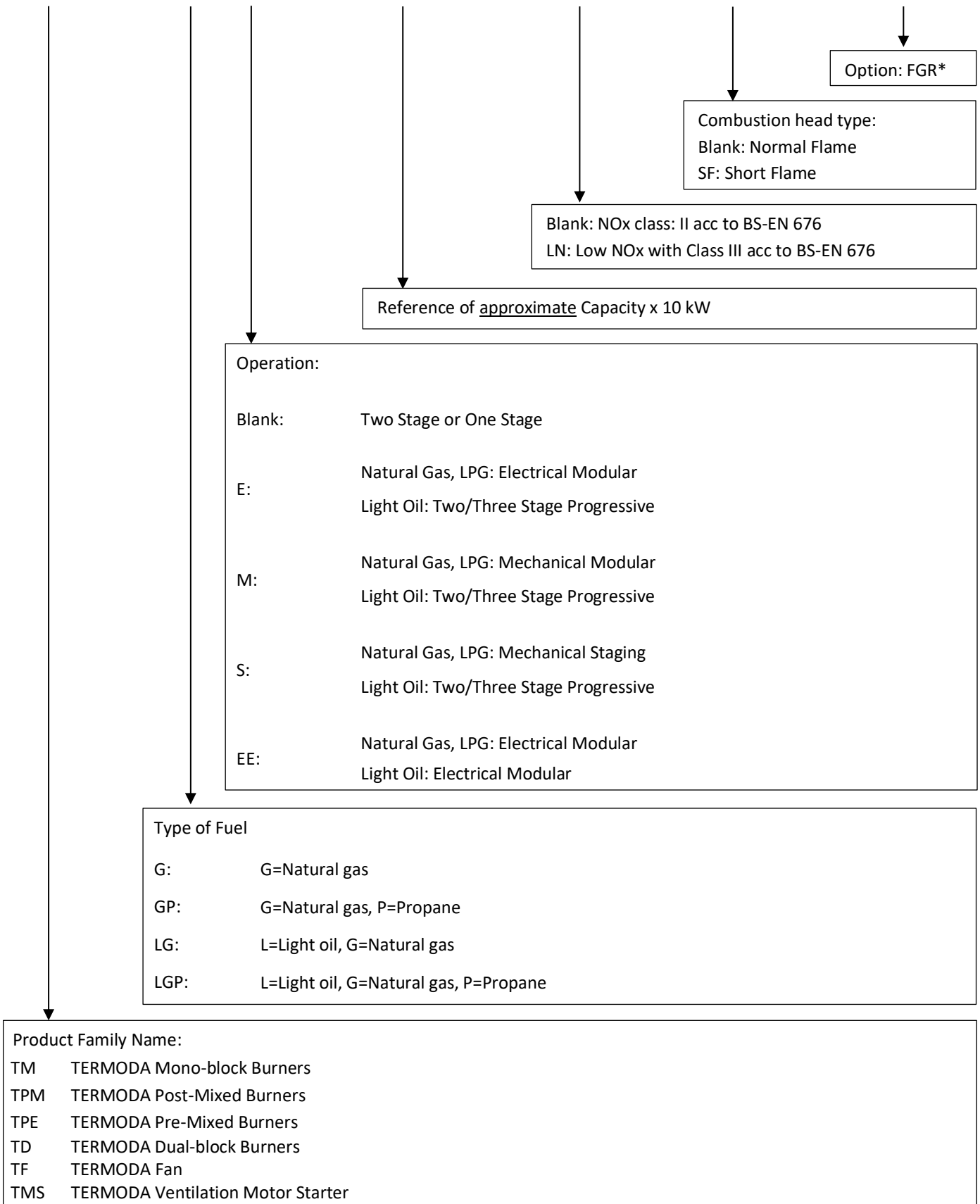
- End-to-end coverage of the entire energy chain: production → conversion → distribution → utilization → optimization.
- Supports retrofit projects and new system designs.
- Integrates engineering excellence with sustainability and regulatory compliance.

### Combustion Solutions

TERMODA specializes in advanced combustion technologies:

- High-efficiency burners and multi-fuel systems for industrial, commercial, and CHP applications.
- Integration of state-of-the-art controls, fuel atomization, and emission-reduction systems.
- Turnkey solutions for both new installations and retrofits, ensuring high performance and a low carbon footprint.
- Burner Capacity: From 0.5 MW up to 60 MW

# TM - G/E - 705 / LN - SF - FGR



## THERMODA Staging Gas Burners

THERMODA staging gas burners cover a firing range of 160 kW to 6200 kW in two/three stages of natural gas.

This category of burners includes all mechanical components, burner head, ignition devices, burner controllers such as Shokouh /Honeywell TMG or Siemens LFL, burner actuators, accessories of power system, ventilation motor, fan wheel, safety devices, and air pressure switches.

Gas train includes filter, regulator, main and safety valves, pressure gauges, minimum pressure switch, leak test pressure switch, and valve proving system for burners with a capacity of over 1.2 MW (All according to BS-EN 676).



### Staging Gas Burners (TM-G Series)

| N.O | Burner      | Capacity (kW) | Turn Down | CO (ppm) | NOx (mg/kWh) | Class of NOx |
|-----|-------------|---------------|-----------|----------|--------------|--------------|
| 1   | TM-G-20     | 85-215        | 1 : 2     | < 40     | < 130        | I            |
| 2   | TM-G-38     | 154-500       | 1 : 3     | < 11     | < 120        | II           |
| 3   | TM-G-55     | 160-580       | 1 : 3     | < 30     | < 120        | II           |
| 4   | TM-G-80     | 297-810       | 1 : 3     | < 30     | < 120        | II           |
| 5   | TM-G-85/LN  | 250-900       | 1 : 3     | < 20     | < 80         | III          |
| 6   | TM-G-110    | 350-1150      | 1 : 3     | < 30     | < 120        | II           |
| 7   | TM-G-130/LN | 350-1280      | 1 : 3     | < 20     | < 80         | III          |
| 8   | TM-G-145    | 400-1480      | 1 : 4     | < 30     | < 120        | II           |
| 9   | TM-G-175/LN | 320-1800      | 1 : 5     | < 20     | < 80         | III          |
| 10  | TM-G-185    | 470-1870      | 1 : 4     | < 30     | < 120        | II           |
| 11  | TM-G-205    | 490-2250      | 1 : 4     | < 30     | < 120        | II           |
| 12  | TM-G-255/LN | 580-2400      | 1 : 4     | < 20     | < 80         | III          |
| 13  | TM-G-305/LN | 600-3000      | 1 : 5     | < 20     | < 80         | III          |
| 14  | TM-G-305    | 600-3000      | 1 : 5     | < 30     | < 120        | II           |
| 15  | TM-G-385/LN | 650-3500      | 1 : 5     | < 20     | < 80         | III          |
| 16  | TM-G-385    | 650-3800      | 1 : 5     | < 30     | < 120        | II           |
| 17  | TM-G-405/LN | 680-4100      | 1 : 6     | < 20     | < 80         | III          |
| 18  | TM-G-505/LN | 700-5100      | 1 : 7     | < 20     | < 80         | III          |
| 19  | TM-G-605/LN | 1000-6100     | 1 : 6     | < 20     | < 80         | III          |
| 20  | TM-G-605    | 850-6200      | 1 : 7     | < 30     | < 120        | II           |

## THERMODA Staging Dual Fuel Burner

THERMODA staging dual-fuel burners cover a firing range of 160 kW to 6100 kW in two/ three stages of natural gas and light fuel oil.

This category of burners includes all mechanical components, burner head, flame tube, safety accessories, ignition devices, flame scanners, burner controllers such as Shokouh /Honeywell TMG or Siemens LFL, burner actuators, accessories of power system, ventilation motor, fan wheel, safety devices, and air pressure switches.

Gas train includes filter, regulator, main and safety valves, pressure gauges, minimum pressure switch, leak test pressure switch, and valve proving system for burners with a capacity of over 1.2 MW (All according to BS-EN 676).



Light oil system includes separate motor for oil pump, pump with pressure regulating valve, two/three main solenoid valve and one safety solenoid valve in feeding line, pressure gauge in feeding line, two/three nozzles for two/three stages operation (All according to BS-EN 267).

### Staging Dual Fuel Burners (TM-GL Series)

| N.O | Burner       | Capacity (kW) | Turn Down | CO (ppm)   | NOx (mg/kWh) | Class of NOx |
|-----|--------------|---------------|-----------|------------|--------------|--------------|
| 21  | TM-GL-55     | 160-580       | 1 : 3     | Gas<br>Oil | < 30<br>< 30 | Gas<br>Oil   |
| 22  | TM-GL-85     | 297-810       | 1 : 3     | Gas<br>Oil | < 30<br>< 30 | Gas<br>Oil   |
| 23  | TM-GL-110    | 350-1100      | 1 : 3     | Gas<br>Oil | < 30<br>< 30 | Gas<br>Oil   |
| 24  | TM-GL-145    | 400-1380      | 1 : 4     | Gas<br>Oil | < 30<br>< 30 | Gas<br>Oil   |
| 25  | TM-GL-175/LN | 320-1800      | 1 : 5     | Gas<br>Oil | < 20<br>< 30 | Gas<br>Oil   |
| 26  | TM-GL-205/LN | 450-2200      | 1 : 5     | Gas<br>Oil | < 20<br>< 30 | Gas<br>Oil   |
| 27  | TM-GL-255    | 580-2400      | 1 : 4     | Gas<br>Oil | < 30<br>< 30 | Gas<br>Oil   |
| 28  | TM-GL-305/LN | 600-3000      | 1 : 5     | Gas<br>Oil | < 20<br>< 30 | Gas<br>Oil   |
| 29  | TM-GL-385/LN | 650-3500      | 1 : 5     | Gas<br>Oil | < 20<br>< 30 | Gas<br>Oil   |
| 30  | TM-GL-405/LN | 680-4100      | 1 : 6     | Gas<br>Oil | < 20<br>< 30 | Gas<br>Oil   |
| 31  | TM-GL-505/LN | 700-5100      | 1 : 7     | Gas<br>Oil | < 20<br>< 30 | Gas<br>Oil   |
| 32  | TM-GL-605/LN | 1000-6100     | 1 : 6     | Gas<br>Oil | < 20<br>< 30 | Gas<br>Oil   |

## TERMODA Mechanical Staging Gas Burners

TERMODA mechanical staging gas burners cover a firing range of 1000 to 6200 kW, and are manufactured with high quality electro-mechanical accessories with easy installation and commissioning.

Thanks to the cam mechanism and butterfly valve, we have “Staging” operation in gas side. In this type of burner, one actuator opens the damper and butterfly valve to reach the desired stages.

This category of burners includes all mechanical components, burner head, cam mechanism, ignition devices, burner controllers such as Shokouh /Honeywell TMG or Siemens LFL, burner actuator, accessories of power system, ventilation motor, fan wheel, safety devices, and air pressure switches.

Gas train includes filter, regulator, main and safety valves, pressure gauges, minimum pressure switch, leak test pressure switch, and valve proving system for burners with a capacity of over 1.2 MW (All according to BS-EN 676).



### Mechanical Staging Gas Burners (TM-G/S Series)

| N.O | Burner        | Capacity (kW) | Turn Down | CO (ppm) | NOx (mg/kWh) | Class of NOx |
|-----|---------------|---------------|-----------|----------|--------------|--------------|
| 33  | TM-G/S-85/LN  | 250-900       | 1 : 3     | < 20     | < 80         | III          |
| 34  | TM-G/S-110    | 350-1150      | 1 : 3     | < 30     | < 120        | II           |
| 35  | TM-G/S-130/LN | 350-1280      | 1 : 3     | < 20     | < 80         | III          |
| 36  | TM-G/S-145    | 400-1480      | 1 : 4     | < 30     | < 120        | II           |
| 37  | TM-G/S-175/LN | 320-1800      | 1 : 5     | < 20     | < 80         | III          |
| 38  | TM-G/S-185    | 470-1870      | 1 : 4     | < 30     | < 120        | II           |
| 39  | TM-G/S-205    | 490-2250      | 1 : 4     | < 30     | < 120        | II           |
| 40  | TM-G/S-255/LN | 580-2400      | 1 : 4     | < 20     | < 80         | III          |
| 41  | TM-G/S-305/LN | 600-3000      | 1 : 5     | < 20     | < 80         | III          |
| 42  | TM-G/S-305    | 600-3000      | 1 : 5     | < 30     | < 120        | II           |
| 43  | TM-G/S-385/LN | 650-3500      | 1 : 5     | < 20     | < 80         | III          |
| 44  | TM-G/S-385    | 650-3800      | 1 : 5     | < 30     | < 120        | II           |
| 45  | TM-G/S-405/LN | 680-4100      | 1 : 6     | < 20     | < 80         | III          |
| 46  | TM-G/S-505/LN | 700-5100      | 1 : 7     | < 20     | < 80         | III          |
| 47  | TM-G/S-605/LN | 1000-6100     | 1 : 6     | < 20     | < 80         | III          |
| 48  | TM-G/S-605    | 850-6200      | 1 : 7     | < 30     | < 120        | II           |

## THERMODA Mechanical Staging Dual Fuel Burners

THERMODA mechanical staging dual-fuel burners cover a firing range of 1000 to 6100 kW, and are manufactured with high quality electro-mechanical accessories with easy installation and commissioning.

Thanks to the cam mechanism and butterfly valve we have “Staging” operation in gas side. In this type of burner, one actuator opens the damper and butterfly valve to reach the desired stages.

This category of burners includes all mechanical components, burner head, flame tube, and cam mechanism, safety accessories, ignition devices, flame scanners, burner controllers such as Shokouh /Honeywell TMG or Siemens LFL, burner actuators, accessories of power system, ventilation motor, fan wheel, safety devices, air pressure switches.



Gas train includes filter, regulator, main and safety valves, pressure gauges, minimum pressure switch, leak test pressure switch, and valve proving system for burners with a capacity of over than 1.2 MW (All according to BS-EN 676).

Light oil system includes separate motor for oil pump, pump with pressure regulating valve, double main solenoid valve and one safety solenoid valve in feeding line, pressure gauge in feeding line, two nozzles for two stage operation (All according to BS-EN 267).

### Mechanical Staging Dual Fuel Burners (TM-GL/S Series)

| N.O | Burner         | Capacity (kW) | Turn Down | CO (ppm) |      | NOx (mg/kWh) |       | Class of NOx |     |
|-----|----------------|---------------|-----------|----------|------|--------------|-------|--------------|-----|
| 49  | TM-GL/S-110    | 350-1100      | 1 : 3     | Gas      | < 30 | Gas          | < 120 | Gas          | II  |
|     |                |               |           | Oil      | < 30 | Oil          | < 170 | Oil          | II  |
| 50  | TM-GL/S-145    | 400-1380      | 1 : 4     | Gas      | < 30 | Gas          | < 120 | Gas          | II  |
|     |                |               |           | Oil      | < 30 | Oil          | < 170 | Oil          | II  |
| 51  | TM-GL/S-175/LN | 320-1800      | 1 : 5     | Gas      | < 20 | Gas          | < 80  | Gas          | III |
|     |                |               |           | Oil      | < 30 | Oil          | < 170 | Oil          | II  |
| 52  | TM-GL/S-205/LN | 450-2200      | 1 : 5     | Gas      | < 20 | Gas          | < 80  | Gas          | III |
|     |                |               |           | Oil      | < 30 | Oil          | < 170 | Oil          | II  |
| 53  | TM-GL/S-255    | 580-2400      | 1 : 4     | Gas      | < 30 | Gas          | < 120 | Gas          | II  |
|     |                |               |           | Oil      | < 30 | Oil          | < 170 | Oil          | II  |
| 54  | TM-GL/S-305/LN | 600-3000      | 1 : 5     | Gas      | < 20 | Gas          | < 80  | Gas          | III |
|     |                |               |           | Oil      | < 30 | Oil          | < 170 | Oil          | II  |
| 55  | TM-GL/S-385/LN | 650-3500      | 1 : 5     | Gas      | < 20 | Gas          | < 80  | Gas          | III |
|     |                |               |           | Oil      | < 30 | Oil          | < 170 | Oil          | II  |
| 56  | TM-GL/S-405/LN | 680-4100      | 1 : 6     | Gas      | < 20 | Gas          | < 80  | Gas          | III |
|     |                |               |           | Oil      | < 30 | Oil          | < 170 | Oil          | II  |
| 57  | TM-GL/S-505/LN | 700-5100      | 1 : 7     | Gas      | < 20 | Gas          | < 80  | Gas          | III |
|     |                |               |           | Oil      | < 30 | Oil          | < 170 | Oil          | II  |
| 58  | TM-GL/S-605/LN | 1000-6100     | 1 : 6     | Gas      | < 20 | Gas          | < 80  | Gas          | III |
|     |                |               |           | Oil      | < 30 | Oil          | < 170 | Oil          | II  |

## TERMODA Mechanical Modulating Gas Burners

TERMODA mechanical modulating gas burners cover a firing range of 1000 to 6200 kW, and are manufactured with high-quality electro-mechanical accessories with easy installation and commissioning.

Their operation is “modulating” at the gas side by installing a PID logic regulator and respective probes.

This category of burners includes all mechanical components, burner head, cam mechanism, ignition devices, burner controllers such as Siemens LFL, burner actuator, accessories of power system, ventilation motor, fan wheel, safety devices, and air pressure switches.

Gas train includes filter, regulator, main and safety valves, pressure gauges, minimum pressure switch, leak test pressure switch, and valve proving system for burners with a capacity of over than 1.2 MW (All according to BS-EN 676).



### Mechanical Modulating Gas Burners (TM-G/M Series)

| N.O | Burner        | Capacity (kW) | Turn Down | CO (ppm) | NOx (mg/kWh) | Class of NOx |
|-----|---------------|---------------|-----------|----------|--------------|--------------|
| 59  | TM-G/M-85/LN  | 250-900       | 1 : 3     | < 20     | < 80         | III          |
| 60  | TM-G/M-110    | 350-1150      | 1 : 3     | < 30     | < 120        | II           |
| 61  | TM-G/M-130/LN | 350-1280      | 1 : 3     | < 20     | < 80         | III          |
| 62  | TM-G/M-145    | 400-1480      | 1 : 4     | < 30     | < 120        | II           |
| 63  | TM-G/M-175/LN | 320-1800      | 1 : 5     | < 20     | < 80         | III          |
| 64  | TM-G/M-185    | 470-1870      | 1 : 4     | < 30     | < 120        | II           |
| 65  | TM-G/M-205    | 490-2250      | 1 : 4     | < 30     | < 120        | II           |
| 66  | TM-G/M-255/LN | 580-2400      | 1 : 4     | < 20     | < 80         | III          |
| 67  | TM-G/M-305/LN | 600-3000      | 1 : 5     | < 20     | < 80         | III          |
| 68  | TM-G/M-305    | 600-3000      | 1 : 5     | < 30     | < 120        | II           |
| 69  | TM-G/M-385/LN | 650-3500      | 1 : 5     | < 20     | < 80         | III          |
| 70  | TM-G/M-385    | 650-3800      | 1 : 5     | < 30     | < 120        | II           |
| 71  | TM-G/M-405/LN | 680-4100      | 1 : 6     | < 20     | < 80         | III          |
| 72  | TM-G/M-505/LN | 700-5100      | 1 : 7     | < 20     | < 80         | III          |
| 73  | TM-G/M-605/LN | 1000-6100     | 1 : 6     | < 20     | < 80         | III          |
| 74  | TM-G/M-605    | 850-6200      | 1 : 7     | < 30     | < 120        | II           |



## TERMODA Mechanical Modulating Dual Fuel Burners

TERMODA mechanical modulating dual-fuel burners cover a firing range of 1000 to 6100 kW, and are manufactured with high-quality electro-mechanical accessories with easy installation and commissioning.

Their operation is “Two-stage” for oil fuel and “modulating” for gas fuel by installing PID logic regulator and respective probes. This category of burners includes all mechanical components, burner head, cam mechanism, ignition devices, burner controllers such as Siemens LFL, burner actuator, accessories of power system, ventilation motor, fan wheel, safety devices, and air pressure switches.

Gas train includes filter, regulator, main and safety valves,

pressure gauges, minimum pressure switch, leak test pressure switch, and valve proving system for burners with a capacity of over than 1.2 MW (All according to BS-EN 676).

Light oil system includes separate motor for oil pump, pump with pressure regulating valve, double main solenoid valve and one safety solenoid valve in feeding line, pressure gauge in feeding line, two nozzles for two stage operation (All according to BS-EN 267).



### Mechanical Modulating Dual Fuel Burners (TM-GL/M Series)

| N.O | Burner         | Capacity(kW) | Turn Down | CO (ppm) |      | NOx (mg/kWh) |       | Class of NOx |     |
|-----|----------------|--------------|-----------|----------|------|--------------|-------|--------------|-----|
| 75  | TM-GL/M-110    | 350-1100     | 1 : 3     | Gas      | < 30 | Gas          | < 120 | Gas          | II  |
|     |                |              |           | Oil      | < 30 | Oil          | < 170 | Oil          | II  |
| 76  | TM-GL/M-145    | 400-1380     | 1 : 4     | Gas      | < 30 | Gas          | < 120 | Gas          | II  |
|     |                |              |           | Oil      | < 30 | Oil          | < 170 | Oil          | II  |
| 77  | TM-GL/M-175/LN | 320-1800     | 1 : 5     | Gas      | < 20 | Gas          | < 80  | Gas          | III |
|     |                |              |           | Oil      | < 30 | Oil          | < 170 | Oil          | II  |
| 78  | TM-GL/M-205/LN | 450-2200     | 1 : 5     | Gas      | < 20 | Gas          | < 80  | Gas          | III |
|     |                |              |           | Oil      | < 30 | Oil          | < 170 | Oil          | II  |
| 79  | TM-GL/M-255    | 580-2400     | 1 : 4     | Gas      | < 30 | Gas          | < 120 | Gas          | II  |
|     |                |              |           | Oil      | < 30 | Oil          | < 170 | Oil          | II  |
| 80  | TM-GL/M-305/LN | 600-3000     | 1 : 5     | Gas      | < 20 | Gas          | < 80  | Gas          | III |
|     |                |              |           | Oil      | < 30 | Oil          | < 170 | Oil          | II  |
| 81  | TM-GL/M-385/LN | 650-3500     | 1 : 5     | Gas      | < 20 | Gas          | < 80  | Gas          | III |
|     |                |              |           | Oil      | < 30 | Oil          | < 170 | Oil          | II  |
| 82  | TM-GL/M-405/LN | 680-4100     | 1 : 6     | Gas      | < 20 | Gas          | < 80  | Gas          | III |
|     |                |              |           | Oil      | < 30 | Oil          | < 170 | Oil          | II  |
| 83  | TM-GL/M-505/LN | 700-5100     | 1 : 7     | Gas      | < 20 | Gas          | < 80  | Gas          | III |
|     |                |              |           | Oil      | < 30 | Oil          | < 170 | Oil          | II  |
| 84  | TM-GL/M-605/LN | 1000-6100    | 1 : 6     | Gas      | < 20 | Gas          | < 80  | Gas          | III |
|     |                |              |           | Oil      | < 30 | Oil          | < 170 | Oil          | II  |

## TERMODA Electrical Modulating Gas Burners

TERMODA electrical modulating gas burners cover a firing range of 160 to 25000 kW, and are designed for a wide range of domestic and industrial applications.

Burner's superior design accompanied by high quality electronic devices has also resulted in a further improvement in the boiler's performance in order to decrease fuel consumption and emissions.

This category of burners includes all mechanical components, burner head, ignition devices, burner controllers, burner actuator, power system accessories, ventilation motor, fan wheel, safety devices, and air pressure switches. Electronic Modulating burner controller:

Autoflame (burners with capacity less than 6.5 MW in boiler/

burner packages), or Siemens depends on the manufacturer's policy, market availability or the customer's order.

Gas train includes filter, regulator, main and safety valves, pressure gauges, minimum and leak test pressure switches, system for burners with a capacity of over than 1.2 MW (All according to BS-EN 676).



### Electrical Modulating Gas Burners (TM-G/E Series)

| N.O | Burner        | Capacity (kW) | Turn Down | CO (ppm) | NOx (mg/kWh) | Class of NOx |
|-----|---------------|---------------|-----------|----------|--------------|--------------|
| 85  | TM-G/E-55     | 160-580       | 1 : 3     | < 30     | < 120        | II           |
| 86  | TM-G/E-80     | 297-810       | 1 : 3     | < 30     | < 120        | II           |
| 87  | TM-G/E-85/LN  | 250-900       | 1 : 3     | < 20     | < 80         | III          |
| 88  | TM-G/E-110    | 350-1150      | 1 : 3     | < 30     | < 120        | II           |
| 89  | TM-G/E-130/LN | 350-1280      | 1 : 3     | < 20     | < 80         | III          |
| 90  | TM-G/E-145    | 400-1480      | 1 : 4     | < 30     | < 120        | II           |
| 91  | TM-G/E-175/LN | 320-1800      | 1 : 5     | < 20     | < 80         | III          |
| 92  | TM-G/E-185    | 470-1870      | 1 : 4     | < 30     | < 120        | II           |
| 93  | TM-G/E-205    | 490-2250      | 1 : 4     | < 30     | < 120        | II           |
| 94  | TM-G/E-255/LN | 580-2400      | 1 : 4     | < 20     | < 80         | III          |
| 95  | TM-G/E-305/LN | 600-3000      | 1 : 5     | < 20     | < 80         | III          |
| 96  | TM-G/E-305    | 600-3000      | 1 : 5     | < 30     | < 120        | II           |
| 97  | TM-G/E-385/LN | 650-3500      | 1 : 5     | < 20     | < 80         | III          |
| 98  | TM-G/E-385    | 650-3800      | 1 : 5     | < 30     | < 120        | II           |
| 99  | TM-G/E-405/LN | 680-4100      | 1 : 6     | < 20     | < 80         | III          |
| 100 | TM-G/E-505/LN | 700-5100      | 1 : 7     | < 20     | < 80         | III          |
| 101 | TM-G/E-605/LN | 1000-6100     | 1 : 6     | < 20     | < 80         | III          |
| 102 | TM-G/E-605    | 850-6200      | 1 : 7     | < 30     | < 120        | II           |
| 103 | TM-G/E-705-SF | 1000-7000     | 1 : 7     | < 30     | < 120        | II           |
| 104 | TM-G/E-705    | 1000-7000     | 1 : 7     | < 30     | < 120        | II           |
| 105 | TM-G/E-805-SF | 1000-8000     | 1 : 8     | < 30     | < 120        | II           |
| 106 | TM-G/E-805    | 1000-8000     | 1 : 8     | < 30     | < 120        | II           |
| 107 | TM-G/E-950    | 1000-9000     | 1 : 9     | < 30     | < 120        | II           |
| 108 | TM-G/E-1050   | 1000-10500    | 1 : 10    | < 30     | < 120        | II           |
| 109 | TM-G/E-1250*  | 1200-12000    | 1 : 10    | < 30     | < 120        | II           |
| 110 | TM-G/E-1350*  | 1350-13500    | 1 : 10    | < 30     | < 120        | II           |
| 111 | TM-G/E-1550*  | 1900-15000    | 1 : 8     | < 20     | < 80         | II           |
| 112 | TM-G/E-1750*  | 2200-17000    | 1 : 8     | < 20     | < 80         | II           |
| 113 | TM-G/E-2250*  | 2750-22000    | 1 : 8     | < 30     | < 120        | II           |
| 114 | TM-G/E-2550*  | 3150-25000    | 1 : 8     | < 30     | < 120        | II           |

\*The burner ventilation motor starter (TMS Series) must be ordered with this burner type.

## TERMODA Electrical Modulating Dual Fuel Burners

TERMODA modulating dual fuel burners cover a firing range of 160 to 6100 kW, and are designed for a wide range of domestic and industrial applications.

These burners are equipped with PID controller with capability of full air/gas ratio control throughout entire burner operating range as well as devices from well-known European companies such as Dungs, Kromschroder and Suntec.

This category of burners includes all mechanical components, burner head, ignition devices, flame scanner, burner actuator, accessories of power system, ventilation motor, fan wheel, safety devices, air pressure switches.

Electronic modulating burner controller:

AutoFlame (burners with capacity less than 6 MW in boiler/burner packages), or Siemens.

Gas train includes filter, regulator, main and safety valves, pressure gauges, minimum and leak test pressure switches, for over 1.2 MW capacity burners (All according to BS-EN 676).

Light oil system includes separate motor for oil pump, pump with pressure regulating valve, two/three main solenoid valve and one safety solenoid valve in feeding line, pressure gauge in feeding line, two/three nozzles for two/three stage operation (All according to BS-EN 267).



### Electrical Modulating Dual Fuel Burners (TM-GL/E Series)

| N.O | Burner         | Capacity (kW) | Turn Down | CO (ppm) |      | NOx (mg/kWh) |       | Class of NOx |     |
|-----|----------------|---------------|-----------|----------|------|--------------|-------|--------------|-----|
| 115 | TM-GL/E-55     | 160-580       | 1 : 3     | Gas      | < 30 | Gas          | < 120 | Gas          | II  |
|     |                |               |           | Oil      | < 30 | Oil          | < 170 | Oil          | II  |
| 116 | TM-GL/E-85     | 297-810       | 1 : 3     | Gas      | < 30 | Gas          | < 120 | Gas          | II  |
|     |                |               |           | Oil      | < 30 | Oil          | < 170 | Oil          | II  |
| 117 | TM-GL/E-110    | 350-1100      | 1 : 3     | Gas      | < 30 | Gas          | < 120 | Gas          | II  |
|     |                |               |           | Oil      | < 30 | Oil          | < 170 | Oil          | II  |
| 118 | TM-GL/E-145    | 400-1380      | 1 : 4     | Gas      | < 30 | Gas          | < 120 | Gas          | II  |
|     |                |               |           | Oil      | < 30 | Oil          | < 170 | Oil          | II  |
| 119 | TM-GL/E-175/LN | 320-1800      | 1 : 5     | Gas      | < 20 | Gas          | < 80  | Gas          | III |
|     |                |               |           | Oil      | < 30 | Oil          | < 170 | Oil          | II  |
| 120 | TM-GL/E-205/LN | 450-2200      | 1 : 5     | Gas      | < 20 | Gas          | < 80  | Gas          | III |
|     |                |               |           | Oil      | < 30 | Oil          | < 170 | Oil          | II  |
| 121 | TM-GL/E-255    | 580-2400      | 1 : 4     | Gas      | < 30 | Gas          | < 120 | Gas          | II  |
|     |                |               |           | Oil      | < 30 | Oil          | < 170 | Oil          | II  |
| 122 | TM-GL/E-305/LN | 600-3000      | 1 : 5     | Gas      | < 20 | Gas          | < 80  | Gas          | III |
|     |                |               |           | Oil      | < 30 | Oil          | < 170 | Oil          | II  |
| 123 | TM-GL/E-385/LN | 650-3500      | 1 : 5     | Gas      | < 20 | Gas          | < 80  | Gas          | III |
|     |                |               |           | Oil      | < 30 | Oil          | < 170 | Oil          | II  |
| 124 | TM-GL/E-405/LN | 680-4100      | 1 : 6     | Gas      | < 20 | Gas          | < 80  | Gas          | III |
|     |                |               |           | Oil      | < 30 | Oil          | < 170 | Oil          | II  |
| 125 | TM-GL/E-505/LN | 700-5100      | 1 : 7     | Gas      | < 20 | Gas          | < 80  | Gas          | III |
|     |                |               |           | Oil      | < 30 | Oil          | < 170 | Oil          | II  |
| 126 | TM-GL/E-605/LN | 1000-6100     | 1 : 6     | Gas      | < 20 | Gas          | < 80  | Gas          | III |
|     |                |               |           | Oil      | < 30 | Oil          | < 170 | Oil          | II  |

## TERMODA Electrical Modulating Dual Fuel Burners

TM-GL/EE Series or TERMODA modulating dual fuel burners cover a firing range of 650 to 25000 kW, and they are designed for a wide range of domestic and industrial applications. They have modulating operation for both gas and light oil fuel.

This category of burners includes all mechanical components, burner head, ignition devices, flame scanner, burner actuator, accessories of power system, ventilation motor, fan wheel, safety devices, and air pressure switches.

Electronic modulating burner controller:

AutoFlame (burners with capacity less than 6.5 MW in boiler/burner packages), or Siemens. Gas train includes filter, regulator, main and safety valves, pressure gauges, minimum and leak test pressure switches (All according to BS-EN 676).

Light oil system includes separate motor for oil pump, pump with pressure regulating valve, solenoid valves in feeding line, pressure gauge in feeding and return line, atomizers, burner gun, strainer, and all necessary safety devices (All according to BS-EN 267).



### Electrical Modulating Dual Fuel Burners (TM-GL/EE Series)

| N.O | Burner          | Capacity (kW) | Turn Down | CO (ppm) |      | NOx (mg/kWh) |       | Class of NOx |     |
|-----|-----------------|---------------|-----------|----------|------|--------------|-------|--------------|-----|
| 127 | TM-GL/EE-305/LN | 600-3000      | 1 : 5     | Gas      | < 20 | Gas          | < 80  | Gas          | III |
|     |                 |               |           | Oil      | < 30 | Oil          | < 170 | Oil          | II  |
| 128 | TM-GL/EE-385/LN | 650-3500      | 1 : 5     | Gas      | < 20 | Gas          | < 80  | Gas          | III |
|     |                 |               |           | Oil      | < 30 | Oil          | < 170 | Oil          | II  |
| 129 | TM-GL/EE-405/LN | 680-4100      | 1 : 6     | Gas      | < 20 | Gas          | < 80  | Gas          | III |
|     |                 |               |           | Oil      | < 30 | Oil          | < 170 | Oil          | II  |
| 130 | TM-GL/EE-505/LN | 700-5100      | 1 : 7     | Gas      | < 20 | Gas          | < 80  | Gas          | III |
|     |                 |               |           | Oil      | < 30 | Oil          | < 170 | Oil          | II  |
| 131 | TM-GL/EE-605/LN | 1000-6100     | 1 : 6     | Gas      | < 20 | Gas          | < 80  | Gas          | III |
|     |                 |               |           | Oil      | < 30 | Oil          | < 170 | Oil          | II  |
| 132 | TM-GL/EE-705    | 1000-7000     | 1 : 7     | Gas      | < 30 | Gas          | < 120 | Gas          | II  |
|     |                 |               |           | Oil      | < 30 | Oil          | < 170 | Oil          | II  |
| 133 | TM-GL/EE-805    | 1000-8000     | 1 : 8     | Gas      | < 30 | Gas          | < 120 | Gas          | II  |
|     |                 |               |           | Oil      | < 30 | Oil          | < 170 | Oil          | II  |
| 134 | TM-GL/EE-950    | 1000-9000     | 1 : 9     | Gas      | < 30 | Gas          | < 120 | Gas          | II  |
|     |                 |               |           | Oil      | < 30 | Oil          | < 170 | Oil          | II  |
| 135 | TM-GL/EE-1050   | 1000-10500    | 1 : 10    | Gas      | < 30 | Gas          | < 120 | Gas          | II  |
|     |                 |               |           | Oil      | < 30 | Oil          | < 170 | Oil          | II  |
| 136 | TM-GL/EE-1250*  | 1200-12000    | 1 : 10    | Gas      | < 30 | Gas          | < 120 | Gas          | II  |
|     |                 |               |           | Oil      | < 30 | Oil          | < 170 | Oil          | II  |
| 137 | TM-GL/EE-1350*  | 1350-13500    | 1 : 10    | Gas      | < 30 | Gas          | < 120 | Gas          | II  |
|     |                 |               |           | Oil      | < 30 | Oil          | < 170 | Oil          | II  |
| 138 | TM-GL/EE-1550*  | 1900-15000    | 1 : 8     | Gas      | < 20 | Gas          | < 80  | Gas          | II  |
|     |                 |               |           | Oil      | < 30 | Oil          | < 170 | Oil          | II  |
| 139 | TM-GL/EE-1750*  | 2200-17000    | 1 : 8     | Gas      | < 20 | Gas          | < 80  | Gas          | II  |
|     |                 |               |           | Oil      | < 30 | Oil          | < 170 | Oil          | II  |
| 140 | TM-GL/EE-2250*  | 2750-22000    | 1 : 8     | Gas      | < 30 | Gas          | < 120 | Gas          | II  |
|     |                 |               |           | Oil      | < 30 | Oil          | < 170 | Oil          | II  |
| 141 | TM-GL/EE-2550*  | 3150-25000    | 1 : 8     | Gas      | < 30 | Gas          | < 120 | Gas          | II  |
|     |                 |               |           | Oil      | < 30 | Oil          | < 170 | Oil          | II  |

\*The burner ventilation motor starter (TMS Series) must be ordered with this burner type

## TERMODA Post-Mixed Burners

TERMODA post-mixed burners cover a firing range of 500 to 4000 kW.

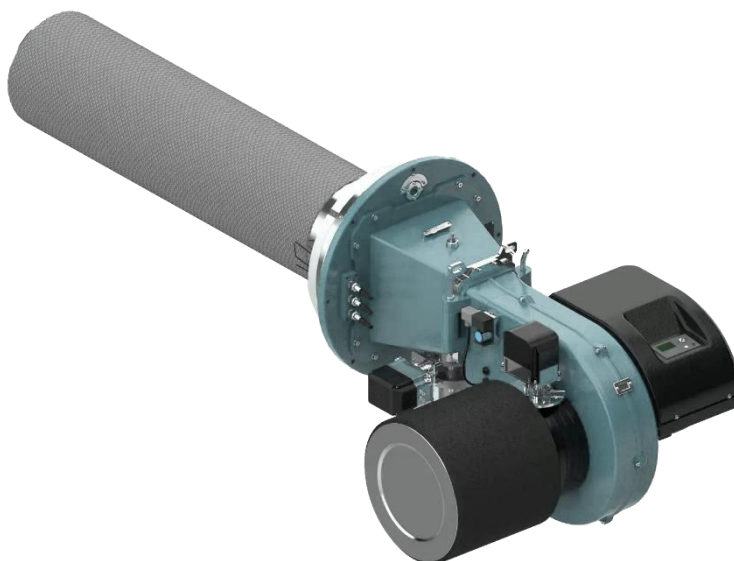
In post-mixed burner (TPM series), air and gas are thoroughly mixed before the burner head. Then, the mixture goes through high-temperature stainless steel, ceramics, and metal fiber heating heads.

In this type of burner, the mixing head has been innovatively designed for the complete mixing of fuel and air using a staging mechanism and a set of flow-rotating blades. The fuel and air are injected from independent paths and are mixed through two rows of rotating blades, due to the creation of vortices and turbulence in the flow.

Electronic Modulating burner controller:

AutoFlame (in boiler/burner packages), or Siemens.

Gas train includes filter, regulator, main and safety valves, pressure gauges, minimum and leak test pressure switches (All according to BS-EN 676).



### Post-Mixed Burners (TPM Series)

| N.O | Burner    | Capacity (kW) | Turn Down | CO (ppm) | NOx (mg/kWh) | Class of NOx  |
|-----|-----------|---------------|-----------|----------|--------------|---------------|
| 142 | TPM/E-50  | 125-500       | 1 : 4     | < 2      | < 40         | Ultra low Nox |
| 143 | TPM/E-80  | 200-800       | 1 : 4     | < 2      | < 40         | Ultra low Nox |
| 144 | TPM/E-125 | 300-1200      | 1 : 4     | < 2      | < 40         | Ultra low Nox |
| 145 | TPM/E-150 | 380-1500      | 1 : 4     | < 2      | < 40         | Ultra low Nox |
| 146 | TPM/E-175 | 430-1700      | 1 : 4     | < 2      | < 40         | Ultra low Nox |
| 147 | TPM/E-200 | 500-2000      | 1 : 4     | < 2      | < 40         | Ultra low Nox |
| 148 | TPM/E-265 | 650-2600      | 1 : 4     | < 2      | < 40         | Ultra low Nox |
| 149 | TPM/E-300 | 750-3000      | 1 : 4     | < 2      | < 40         | Ultra low Nox |
| 150 | TPM/E-400 | 1000-4000     | 1 : 4     | < 2      | < 40         | Ultra low Nox |

## TERMODA Pre-Mixed Burners

TERMODA pre-mixed burners cover a firing range of 500 to 4000 kW.

In pre-mixed burner (TPE series), air and gas are thoroughly mixed before the burner head. Then, the mixture goes through high-temperature stainless steel, ceramics, and metal fiber heating heads.

TPE Series of TERMODA burners are equipped with a centrifugal fan and a brushless electromotor that guarantee high performance, low sound emission, and optimized speed variation. The motor speed variation controls the regulation of gas delivery. Pre-mixed burner gas train consist of a pneumatic proportioning multiblock gas valve that regulates gas input by fan pressure feedback.



Thanks to standard mixing venturis, gas and combustion air are completely mixed before the fan wheel. Using the PWM pulse and, as a consequence, controlling the rotation of blower, the mixture is transferred to combustion area. Finally, a well spark, leads to a pre-mixed flame with minimum pollution.

### Pre-Mixed Burners (TPE Series)

| N.O | Burner    | Capacity (kW) | Turn Down | CO (ppm) | NOx (mg/kWh) | Class of NOx  |
|-----|-----------|---------------|-----------|----------|--------------|---------------|
| 151 | TPE/E-50  | 125-500       | 1 : 4     | < 2      | < 40         | Ultra low Nox |
| 152 | TPE/E-80  | 200-800       | 1 : 4     | < 2      | < 40         | Ultra low Nox |
| 153 | TPE/E-125 | 300-1200      | 1 : 4     | < 2      | < 40         | Ultra low Nox |
| 154 | TPE/E-150 | 380-1500      | 1 : 4     | < 2      | < 40         | Ultra low Nox |
| 155 | TPE/E-175 | 430-1700      | 1 : 4     | < 2      | < 40         | Ultra low Nox |
| 156 | TPE/E-200 | 500-2000      | 1 : 4     | < 2      | < 40         | Ultra low Nox |
| 157 | TPE/E-300 | 750-3000      | 1 : 4     | < 2      | < 40         | Ultra low Nox |
| 158 | TPE/E-400 | 1000-4000     | 1 : 4     | < 2      | < 40         | Ultra low Nox |



## TERMODA Electrical Modulating Gas Burners

TERMODA dual block gas burners cover a firing range of 7000 to 32000 kW, and they are designed for a wide range of domestic and industrial applications.

TD-Series burners are equipped with an electronic microprocessor management panel that controls the air damper servomotor and fuel servomotors as well as the head regulating sleeves. Using electronic modulation, hysteresis is prevented by the precise control of the separated and independent servomotors and the software linked by can-bus. The AutoFlame combustion managers or Siemens LMV51/52, as the most popular brands, are frequently used in TD-Series of TERMODA modulating burners. This control system can control fuel/air ratio by an electronic controller system.



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.

Gas train includes filter, regulator, main and safety valves, pressure gauges, minimum and leak test pressure switches (All according to BS-EN 676).

### Electrical Modulating Gas Burners (TD-G/E Series)

| N.O | Burner        | Capacity (kW) | Turn Down | CO (ppm) | NOx (mg/kWh) | Class of NOx |
|-----|---------------|---------------|-----------|----------|--------------|--------------|
| 159 | TD-G/E-705-SF | 1000-7000     | 1 : 7     | < 30     | < 120        | II           |
| 160 | TD-G/E-705    | 1000-7000     | 1 : 7     | < 30     | < 120        | II           |
| 161 | TD-G/E-805-SF | 1000-8000     | 1 : 8     | < 30     | < 120        | II           |
| 162 | TD-G/E-805    | 1000-8000     | 1 : 8     | < 30     | < 120        | II           |
| 163 | TD-G/E-950    | 1000-9000     | 1 : 9     | < 30     | < 120        | II           |
| 164 | TD-G/E-1050   | 1000-10500    | 1 : 10    | < 30     | < 120        | II           |
| 165 | TD-G/E-1250*  | 1200-12000    | 1 : 10    | < 30     | < 120        | II           |
| 166 | TD-G/E-1350*  | 1350-13500    | 1 : 10    | < 30     | < 120        | II           |
| 167 | TD-G/E-1550*  | 1900-15000    | 1 : 8     | < 20     | < 80         | II           |
| 168 | TD-G/E-1750*  | 2200-17000    | 1 : 8     | < 20     | < 80         | II           |
| 169 | TD-G/E-2250*  | 2750-22000    | 1 : 8     | < 30     | < 120        | II           |
| 170 | TD-G/E-2550*  | 3150-25000    | 1 : 8     | < 30     | < 120        | II           |
| 171 | TD-G/E-3250*  | 4000-32000    | 1 : 8     | < 30     | < 120        | II           |
| 172 | TD-G/E-4550 * | 5625-45000    | 1 : 8     | < 30     | < 120        | II           |

\* The burner ventilation motor starter (TMS Series) must be ordered with this burner type

## TERMODA Electrical Modulating Dual Fuel Burners

Full electronic modulating burners are designed to operate safely throughout their firing range of high fire to low fire. 1:8 up to 1:10 are the most common turndown ratings in TD-Series burner. 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.

This category of burners includes all mechanical components, burner head, ignition devices, flame scanner, burner actuator, accessories of power system, safety devices, and air pressure switches.

Electronic modulating burner controller:

AutoFlame, or Siemens, depend on the manufacturer's policy, market availability, and suitability as well as negotiating with customers.



Gas train includes filter, regulator, main and safety valves, pressure gauges, minimum and leak test pressure switches (All according to BS-EN 676).

Light oil system includes separate motor for oil pump, pump with pressure regulating valve, solenoid valves in feeding line, pressure gauges in feeding and return line, atomizers, burner gun, strainer, and all necessary safety devices (All according to BS-EN 267).

### Electrical Modulating Dual Fuel Burners (TD-GL/EE Series)

| N.O | Burner         | Capacity(kW) | Turn Down | CO (ppm) |      | NOx (mg/kWh) |       | Class of NOx |    |
|-----|----------------|--------------|-----------|----------|------|--------------|-------|--------------|----|
| 173 | TD-GL/EE-705   | 1000-7000    | 1 : 7     | Gas      | < 30 | Gas          | < 120 | Gas          | II |
|     |                |              |           | Oil      | < 30 | Oil          | < 170 | Oil          | II |
| 174 | TD-GL/EE-805   | 1000-8000    | 1 : 8     | Gas      | < 30 | Gas          | < 120 | Gas          | II |
|     |                |              |           | Oil      | < 30 | Oil          | < 170 | Oil          | II |
| 175 | TD-GL/EE-950   | 1000-9000    | 1 : 9     | Gas      | < 30 | Gas          | < 120 | Gas          | II |
|     |                |              |           | Oil      | < 30 | Oil          | < 170 | Oil          | II |
| 176 | TD-GL/EE-1050  | 1000-10500   | 1 : 10    | Gas      | < 30 | Gas          | < 120 | Gas          | II |
|     |                |              |           | Oil      | < 30 | Oil          | < 170 | Oil          | II |
| 177 | TD-GL/EE-1250* | 1200-12000   | 1 : 10    | Gas      | < 30 | Gas          | < 120 | Gas          | II |
|     |                |              |           | Oil      | < 30 | Oil          | < 170 | Oil          | II |
| 178 | TD-GL/EE-1350* | 1350-13500   | 1 : 10    | Gas      | < 30 | Gas          | < 120 | Gas          | II |
|     |                |              |           | Oil      | < 30 | Oil          | < 170 | Oil          | II |
| 179 | TD-GL/EE-1550* | 1900-15000   | 1 : 8     | Gas      | < 20 | Gas          | < 80  | Gas          | II |
|     |                |              |           | Oil      | < 30 | Oil          | < 170 | Oil          | II |
| 180 | TD-GL/EE-1750* | 2200-17000   | 1 : 8     | Gas      | < 20 | Gas          | < 80  | Gas          | II |
|     |                |              |           | Oil      | < 30 | Oil          | < 170 | Oil          | II |
| 181 | TD-GL/EE-2250* | 2750-22000   | 1 : 8     | Gas      | < 30 | Gas          | < 120 | Gas          | II |
|     |                |              |           | Oil      | < 30 | Oil          | < 170 | Oil          | II |
| 182 | TD-GL/EE-2550* | 3150-25000   | 1 : 8     | Gas      | < 30 | Gas          | < 120 | Gas          | II |
|     |                |              |           | Oil      | < 30 | Oil          | < 170 | Oil          | II |

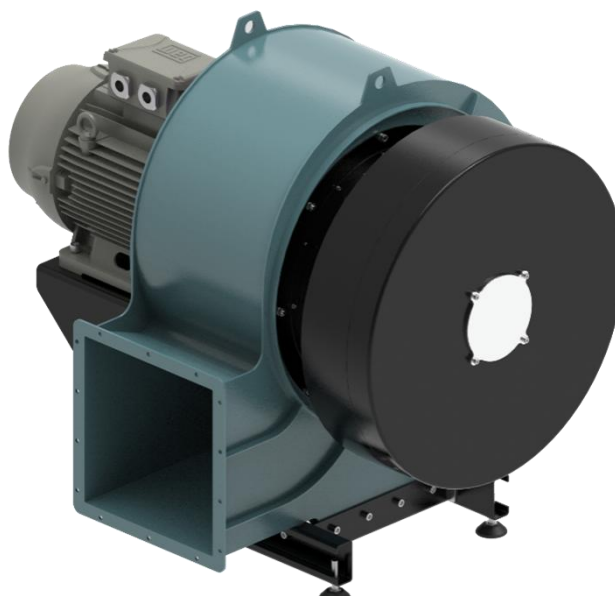
\* The burner ventilation motor starter (TMS Series) must be ordered with this burner type.



## TERMODA Ventilation System (TERMODA Fan)

In order to obtain a complete industrial combustion system, TERMODA burner is able to offer various components to be matched with the combustion heads of TD-Series, such as the centrifugal air fans.

The fans supply the airflow to the combustion head through the adduction channel, with the appropriate technical features required from the application. The delivered air processed from the fan is in a correct proportion to the fuel in order to guarantee the required burner output with a safe operation.



### Burner Ventilation System (TF Series)

| N.O | Model           | Burner firing rate (kW) | Air flow rate (m³/h) | Air pressure drop (mbar) | Real poer consumption (kW) | Avaliable motor in market (kW) |
|-----|-----------------|-------------------------|----------------------|--------------------------|----------------------------|--------------------------------|
| 183 | TF-800/55/22    | 7000                    | 8000                 | 55                       | 18                         | 22                             |
| 184 | TF-800/60/22    | 7000                    | 8000                 | 60                       | 19                         | 22                             |
| 185 | TF-920/55/22    | 8000                    | 9200                 | 55                       | 19                         | 22                             |
| 186 | TF-920/60/22    | 8000                    | 9200                 | 60                       | 19                         | 22                             |
| 187 | TF-1030/60/30*  | 9000                    | 10300                | 60                       | 28                         | 30                             |
| 188 | TF-1200/65/30*  | 10500                   | 12000                | 65                       | 28                         | 30                             |
| 189 | TF-1380/65/37*  | 12000                   | 13800                | 65                       | 33                         | 37                             |
| 190 | TF-1550/70/45*  | 13500                   | 15500                | 70                       | 40                         | 45                             |
| 191 | TF-1720/60/45*  | 15000                   | 17200                | 60                       | 41                         | 45                             |
| 192 | TF-1940/75/55*  | 17000                   | 19400                | 75                       | 51                         | 55                             |
| 193 | TF-2580/65/75*  | 22000                   | 25800                | 65                       | 70                         | 75                             |
| 194 | TF-2900/65/75*  | 25000                   | 29000                | 65                       | 74.3                       | 75                             |
| 195 | TF-3700/90/132* | 32000                   | 37000                | 90                       | 130.3                      | 132                            |

\* The burner ventilation motor starter (TMS Series) must be ordered with this burner ventilation system.

## TERMODA Motor Starter

In burners with ventilation motor capacity of 30kW 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, TERMODA motor starter (TMS) in which the power circuit is embedded, is introduced. The Most common ventilation motor starters are star-Delta and frequency converter which is also called VSD (Variable Speed Drive).



### Burner Ventilation Motor Starter (TMS Series)

| N.O | Power Model     | Motor Power (kW) | Method for Starter   | Panel Size |
|-----|-----------------|------------------|----------------------|------------|
| 196 | TMS-22-SD-I     | 22               | Star-Delta           | I          |
| 197 | TMS-30-SD-I     | 30               | Star-Delta           | I          |
| 198 | TMS-37-SD-I     | 37               | Star-Delta           | I          |
| 199 | TMS-45-SD-I     | 45               | Star-Delta           | I          |
| 200 | TMS-55-SD-I     | 55               | Star-Delta           | I          |
| 201 | TMS-75-SD-I     | 75               | Star-Delta           | I          |
| 202 | TMS-22-VSD-I    | 22               | Variable Speed Drive | I          |
| 203 | TMS-30-VSD-II   | 30               | Variable Speed Drive | II         |
| 204 | TMS-37-VSD-II   | 37               | Variable Speed Drive | II         |
| 205 | TMS-45-VSD-II   | 45               | Variable Speed Drive | II         |
| 206 | TMS-55-VSD-II   | 55               | Variable Speed Drive | II         |
| 207 | TMS-75-VSD-II   | 75               | Variable Speed Drive | II         |
| 208 | TMS-90-VSD-II   | 90               | Variable Speed Drive | II         |
| 209 | TMS-110-VSD-III | 110              | Variable Speed Drive | III        |
| 210 | TMS-132-VSD-III | 132              | Variable Speed Drive | III        |

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