

# MVRT 520

## METALLIC VOLUMETRIC FOR RADIANT TUBE

### MVRT 520

|   |  |     |
|---|--|-----|
| Maximum output [kW]   |  | 520 |
| Minimum Power (air/gas modulating) [kW]   |  | 52  |
| Fuel pressure at maximum power [mbar]<br>(measured at tapping P <sub>1,F</sub> - pag. 2)      | Natural gas (8250 kcal/Nm <sup>3</sup> ) | 65  |
|   | LPG (22500 kcal/Nm <sup>3</sup> )        | 60  |
| Air inlet pressure at maximum power [mbar]<br>(measured at tapping P <sub>1,A</sub> - pag. 2) | Natural gas (8250 kcal/Nm <sup>3</sup> ) | 18  |
|   | LPG (22500 kcal/Nm <sup>3</sup> )        |     |
| Flame length at maximum power [mm]<br>(measured from the end of the burner body)              | Natural gas (8250 kcal/Nm <sup>3</sup> ) | 900 |
|   | LPG (22500 kcal/Nm <sup>3</sup> )        |     |
| Flame speed at maximum power [m/s]<br>(with 20% excess of air)                                | Medium speed                             |     |
| Flame detection   | Ionization probe or UV cell              |     |
| Fuel  | Natural gas, LPG                         |     |

All information is based on laboratory tests in a neutral pressure chamber. Different conditions and chamber sizes can affect the data.

All information is based on a standard combustor design. Modifications to the combustor will alter performance and pressures.

All data are based on gross calorific values.

All the information is based on tests undertaken using air and gas piping of generally acceptable design. Any deviation will affect the accuracy of orifice readings.

The information reported on this document may be subject to change without notice.

The data listed on this paper are purely for informational purposes and not binding.

ELCO reserves the right to change the construction and/or configuration of its products in every moment without being obligated to alter previous supplies.

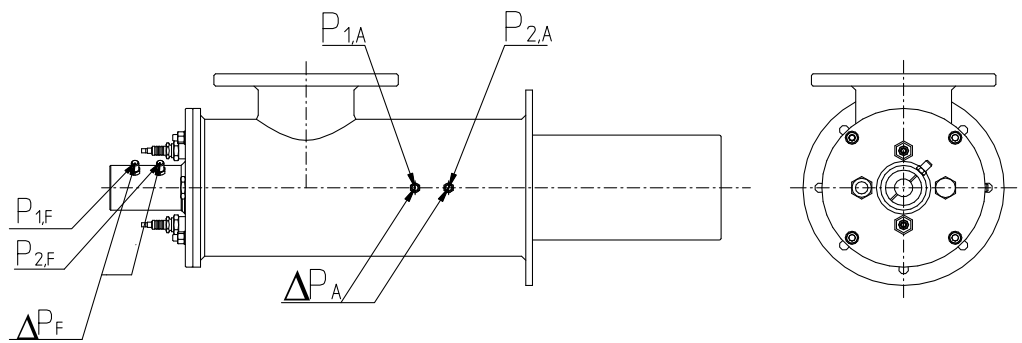
## CHARACTERISTICS OF THE BURNER

Fuel 1: natural gas  
 Fuel 1 orifice:  $\varnothing 20$

Fuel 2: LPG  
 Fuel 2 orifice:  $\varnothing 14$

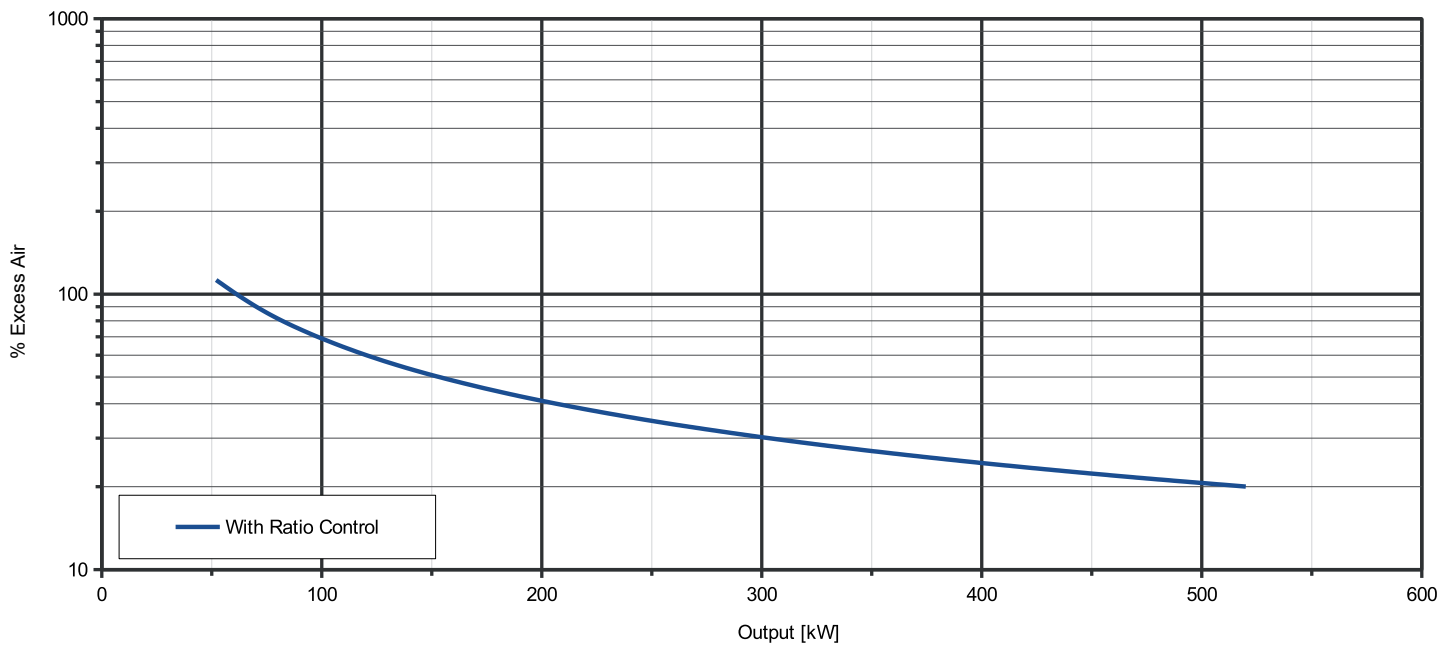
Comburent: air  
 Comburent orifice:  $\varnothing 120$

Stainless steel cone exit:  $\varnothing 106$



## OPERATING RANGE

TYPICAL OPERATING RANGE



**LEGENDA**

$Q_F$  Fuel flow  
 $Q_A$  Air flow

$P_{1,F}$  Fuel pressure before the diaphragm  
 $P_{1,A}$  Air pressure before the diaphragm  
 $P_{2,F}$  Fuel pressure after the diaphragm

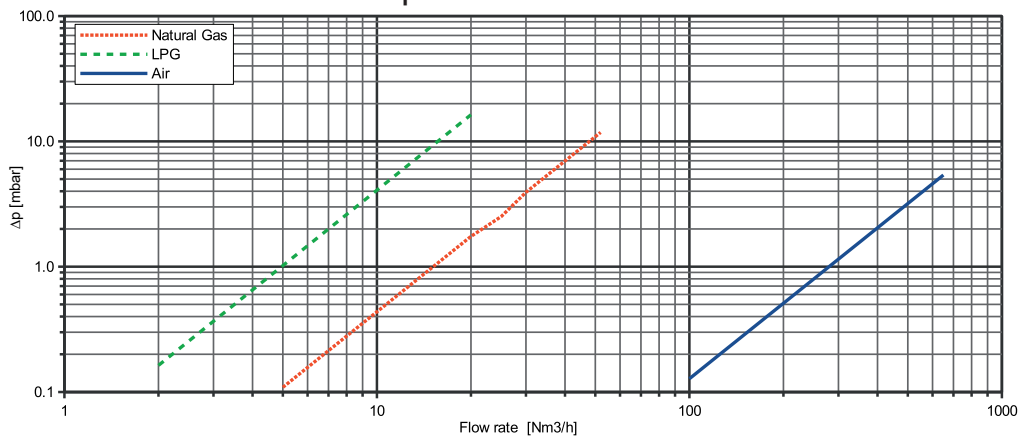
$P_{2,A}$  Air pressure after the diaphragm  
 $\Delta P_F$  Differential fuel pressure between tapping 1 and 2  
 $\Delta P_A$  Differential air pressure between tapping 1 and 2

**FLOW RATE CURVES**

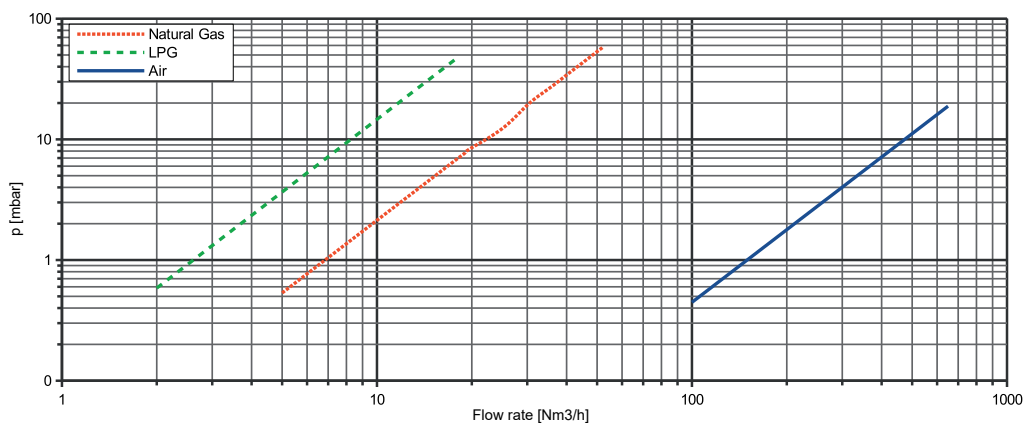
| $Q_F$ [Nm <sup>3</sup> /h] | FUEL             |       |                     |       |
|----------------------------|------------------|-------|---------------------|-------|
|                            | $P_{1,F}$ [mbar] |       | $\Delta P_F$ [mbar] |       |
|                            | Natural gas      | LPG   | Natural gas         | LPG   |
| 2                          |                  | 0.59  |                     | 0.16  |
| 3                          |                  | 1.32  |                     | 0.37  |
| 5                          | 0.53             | 3.66  | 0.11                | 0.65  |
| 6                          | 0.77             | 5.27  | 0.16                | 1.02  |
| 7                          | 1.05             | 7.18  | 0.21                | 1.47  |
| 9                          | 1.73             | 11.86 | 0.35                | 2.00  |
| 9                          | 1.73             | 11.86 | 0.35                | 3.30  |
| 10                         | 2.13             | 14.64 | 0.44                | 4.08  |
| 12                         | 3.07             | 21.09 | 0.63                | 5.87  |
| 16                         | 5.46             | 37.49 | 1.12                | 7.99  |
| 18                         | 6.91             | 47.45 | 1.41                | 10.44 |
| 19                         | 7.70             | 52.86 | 1.57                | 13.21 |
| 19                         | 7.70             | 52.86 | 1.57                | 14.72 |
| 20                         | 8.54             | 58.58 | 1.74                | 16.31 |
| 25                         | 12.29            |       | 2.51                |       |
| 30                         | 19.21            |       | 3.93                |       |
| 35                         | 26.14            |       | 5.34                |       |
| 40                         | 34.15            |       | 6.98                |       |
| 42                         | 37.65            |       | 7.69                |       |
| 44                         | 41.32            |       | 8.44                |       |
| 46                         | 45.16            |       | 9.23                |       |
| 48                         | 49.17            |       | 10.05               |       |
| 50                         | 53.36            |       | 10.90               |       |
| 52                         | 57.71            |       | 11.79               |       |

| $Q_A$ [Nm <sup>3</sup> /h] | AIR       |              |
|----------------------------|-----------|--------------|
|                            | $P_{1,A}$ | $\Delta P_A$ |
|                            | [mbar]    | [mbar]       |
| 100                        | 0.45      | 0.13         |
| 120                        | 0.64      | 0.18         |
| 140                        | 0.87      | 0.25         |
| 180                        | 1.45      | 0.41         |
| 200                        | 1.78      | 0.51         |
| 240                        | 2.57      | 0.73         |
| 260                        | 3.02      | 0.86         |
| 280                        | 3.50      | 1.00         |
| 300                        | 4.01      | 1.15         |
| 340                        | 5.16      | 1.47         |
| 360                        | 5.78      | 1.65         |
| 380                        | 6.44      | 1.84         |
| 400                        | 7.14      | 2.04         |
| 420                        | 7.87      | 2.25         |
| 440                        | 8.64      | 2.47         |
| 460                        | 9.44      | 2.70         |
| 480                        | 10.28     | 2.94         |
| 500                        | 11.15     | 3.19         |
| 520                        | 12.06     | 3.45         |
| 540                        | 13.01     | 3.72         |
| 560                        | 13.99     | 4.00         |
| 580                        | 15.01     | 4.29         |
| 600                        | 16.06     | 4.59         |
| 650                        | 18.85     | 5.39         |

**$\Delta p$  Vs. Flow Rate Curve**



**Inlet Static Pressure**



DIMENSIONS [mm]

