SABAF S.p.A.
Via dei Carpini, 1
25035 Ospitaletto (Brescia) Italia

# TECHNICAL CHARACTERISTICS

# INSTRUCTIONS FOR USE, ASSEMBLY INSTRUCTIONS, MAINTENANCE INSTRUCTIONS

## MODEL 46 – 46R – 46M – 46MY - 46W – 46T – 46TY

## MANUALLY OPERATED GAS VALVE WITH FLAME SURVEILLANCE DEVICE

| | | | |
|---|---|---|---|
| Gas Safety Certified | | CE | |
| **AS 4624 - 2005** | | **EN 126:2012<br>EN13611:2019 + AC:2021** | |
| **models** | **46 – 46R – 46M (SAI-400154)** | **models** | **46 – 46R – 46M – 46MY - 46W – 46T – 46TY (51CQ4632)** |

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## GENERAL INSTRUCTIONS

| Feature | Description |
|---|---|
| Type | 2 - conical plug valve |
| applications | hot plates, ovens, grills etc |
| types of gas used | 1st – 2nd – 3rd family |
| group | 1 |
| number of outlets | 1 |
| nominal diameter | 8 |
| maximum working pressure | 6.5 kPa |
| minimum working temperature (body) | 0°C |
| maximum working temperature (body) | 80/130°C |
| nominal flow rate | 0.23 $m^3/h$ (test gas: air - pressure drop 125 Pa - AS 4624-2005)<br>0.206 $m^3/h$ (test gas: air - pressure drop 100 Pa - EN 126-2012) |
| Reduced flow rate | 0.056 $m^3/h$ (test gas: air – pressure drop 125 Pa - AS 4624-2005)<br>0.05 $m^3/h$ (test gas: air – pressure drop 100 Pa - EN 126-2012) |
| opening angle of max. flow rate | 90° |
| opening angle of min. flow rate | 210° (160° mod 46R – 270° mod 46MY; 46TY - 290° mod 46M;46T – 300° mod 46W) |
| external leak tightness | leakage ≤ 60 cc/h (1 ml/min) (air - pressure 15 kPa) |
| internal leak tightness | leakage ≤ 20 cc/h (0.3 ml/min) (air - pressure 15 kPa) |
| gas valve continued operation | 40,000 cycles (EN 126:2012 - EN 13611:2019 + AC:2019)<br>10,000 cycles (AS 4624 – 2005) |
| Flame supervisor device continued operation | 10,000 cycles (EN 126:2012 - EN 13611:2019 + AC:2019)<br>2,000 cycles (AS 4624 – 2005) |
| inlet gas connection | bracket, flange (see attached sheets) |
| outlet gas connection | see attached sheets |
| storage temperature range | -15°C to + 50°C |
| hold-on current/drop-out current (safety device) | ≤ 180 mA / ≥ 60 mA (version 1)<br>≤ 110 mA / ≥ 20 mA (version 2)<br>≤ 60 mA / ≥ 10 mA (version 3) |
| Themocouples maximum closing time | 90 sec |

These valves can be used with pipes of various diameters and flat manifolds.
To ensure a perfect seal, place an elastomer gasket between the manifold and the valve.
Gaskets of different materials can be used for the manifold depending on the temperature reached: silicon elastomer gaskets are resistant up to 130°C (all colors except black) while nitrile elastomer gaskets are resistant up to 80°C (black gasket).

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## INSTRUCTIONS FOR USE

To turn the valve on, simultaneously press and turn the control shaft. Holding down the control shaft and turning it anti-clockwise allows the gas to pass to the burner. A few seconds after the burner ignites, the thermocouple generates enough current to hold the safety magnet open. The control shaft needs no longer be pressed down.
If indicated in the assembly drawing, to turn the valve on is necessary, starting from the close position (0°A), to turn the operating spindle anti-clockwise up to 90°A; only in this position the safety valve can be opened and consequently is possible to held-on the magnet.
If the valve has a microswitch, press down on the control shaft activating the microswitch which drives the thermoelectric lighting device (see table 1).
Maximum flow-rate is reached after turning the control shaft through 90°; reduced flow-rate is reached by continuing the rotation up to 210° (160° mod 46R – 270° mod 46MY-46TY - 290° mod 46M-46T – 300° mod 46W).
If the flame should accidentally go out, the thermocouple cools and the current is reduced, the safety magnet is closed and the flow of gas is blocked after a few seconds.
The valve has an adjustable perforated metering screw (by-pass) which fixes the reduced flow-rate at a preset value when fully tightened. If a different type of gas is used, the amount of reduced flow can be adjusted by turning the by-pass with a screwdriver.

| TABLE 1 - MICROSWITCH CHARACTERISTICS | |
|---|---|
| Nominal tension | 250 V |
| Method for operation | push-button |
| Max. operating temperature | 125 °C |
| Contact distance | small – standard |
| Protection level | IP00 |
| Insulation class | I |
| Pollution situation | standard |
| Heat-resistance | category D |
| Tracking index | PTI250 |

## ASSEMBLY INSTRUCTIONS

**The valves are designed to be used inside the cooking appliances, protected from any possible infiltrations of liquid or dirt and from the atmospheric agents. The non-observance of this prescription can compromise the correct working and the safety of the product.**
The valves are designed to be used with manifolds of different diameters using flange or bracket fastenings.
To ensure a perfect seal, place an elastomer gasket between the ramp and the valve.
The outlet is designed for an injector or connection pipe to the burner.
To avoid damage that may compromise correct functioning of the valve, do not exceed the tightening torques listed in the attached tables.
**To avoid dirt or other material entering the equipment which may affect functioning of the valve, a suitable filter should be mounted on the manifold supply inlet**.

## MAINTENANCE INSTRUCTIONS

Maintenance of the taps is not foreseen, in case of failure or incorrect operation replace the tap with a new one (same model and same characteristics).

**NB.: Leak test should be performed using a suitable appliance. Leak test mustn't be done by means of a flame or immersion of the valve in water or other liquids. The non-observance of this prescription can compromise the correct working and the safety of the product.**

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## VARIANTS

### INLET VARIANTS

| inlet | denomination | | assembly | | |
|---|---|---|---|---|---|
| 1 – 1N | single bracket | 1 screw | tube diameter 14 mm | (hole diameter | 8.2 mm) |
| 2 - 2N | single bracket | 1 screw | tube diameter 16 mm | (hole diameter | 8.2 mm) |
| 3 | bracket | 1 screw | tube diameter 16 mm | (hole diameter | 8.2 mm) |
| 4 – 4N | bracket | 1 screw | tube diameter 16 mm | (hole diameter | 8.2 mm) |
| 4a – 4aN | bracket | 2 screws | tube diameter 16 mm | (hole diameter | 8.2 mm) |
| 5 – 5N | single bracket | 1 screw | tube diameter 18 mm | (hole diameter | 8.2 mm) |
| 6 | bracket | 1 screw | tube diameter 18 mm | (hole diameter | 8.2 mm) |
| 7 | bracket | 1 screw | tube diameter 18 mm | (hole diameter | 11 mm) |
| 8 – 8N | bracket | 1 screw | tube diameter 18 mm | (hole diameter | 8.2 mm) |
| 8a – 8aN | bracket | 2 screws | tube diameter 18 mm | (hole diameter | 8.2 mm) |
| 9 – 9N | bracket | 2 screws | tube diameter 1/2"gas | (hole diameter | 8.2 mm) |
| 10 | bracket | 1 screw | tube diameter 1/2"gas | (hole diameter | 8.2 mm) |
| 11 – 11N | bracket | 1 screw | tube diameter 1/2"gas | (hole diameter | 8.2 mm) |
| 12 – 12N | bracket | 2 screws | tube diameter 15 mm | (hole diameter | 8.2 mm) |
| 13 – 13N | bracket | 2 screws | tube diameter 16 mm | (hole diameter | 8.2 mm) |
| 13a | bracket | 2 screws | tube diameter 14 mm | (hole diameter | 8.2 mm) |
| 13b – 13bN | single bracket | 1 screw | tube diameter 16 mm | (hole diameter | 8.2 mm) |
| 13c – 13cN | single bracket | 1 screw | tube diameter 16 mm | (hole diameter | 8.2 mm) |
| 14 | flange | 2 screws | flat tube | (hole diameter | 5.7 mm) |
| 15 | bracket | 2 screws | tube diameter 8 mm | (hole diameter | 5.7 mm) |
| 16 | bracket | 2 screws | tube diameter 10 mm | (hole diameter | 5.7 mm) |
| 17 | bracket | 2 screws | tube diameter 16 mm | (hole diameter | 6.2 mm) |
| 17a | bracket | 2 screws | tube diameter 16 mm | (hole diameter | 6.2 mm) |
| 18 – 18N | bracket | 2 screws | tube diameter 14 mm | (hole diameter | 8.2 mm) |
| 19 – 19N | bracket | 2 screws | tube diameter 19 mm | (hole diameter | 8.2 mm) |
| 20 | bracket | 2 screws | tube diameter 17 mm | (hole diameter | 8.2 mm) |
| 21 | single bracket | 1 screw | tube diameter 8 mm | (hole diameter | 5.7 mm) |
| 22 | single bracket | 1 screw | shaped tube | (hole diameter | 8.2 mm) |

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# OUTLET VARIANTS

| outlet | denomination | assembly |
|---|---|---|
| A | injector | injector + external thread |
| B | injector | injector |
| C | tube diameter 6.35 mm | compression fitting |
| D | tube diameter 6.35 mm | compression fitting |
| E | G ¼"gas | flared tube |
| F | M 14 x 1.5 | flared tube |
| G | M 15 x 1.5 | flared tube |
| H | M 16 x 1.5 | flared tube |
| I | tube diameter 6 mm | compression fitting |
| J | tube diameter 8 mm | spring + gasket + flared tube |
| J2 | tube diameter 7 mm | spring + gasket + flared tube |
| J3 | tube diameter 6.35 mm | spring + gasket + flared tube |
| L | tube diameter 7 mm | compression fitting |
| M | tube diameter 8 mm | compression fitting |
| N | tube diameter 8 mm | compression fitting |
| O | M 12 x 1 | flared tube |
| P | tube diameter 9.525 mm | compression fitting |
| Q | tube diameter 8 mm | spring + gasket + flared tube |
| Q2 | tube diameter 7 mm | spring + gasket + flared tube |
| Q3 | tube diameter 6.35 mm | spring + gasket + flared tube |
| R | injector | injector |
| S | tube diameter 7 mm | compression fitting |
| T | tube diameter 6 mm | compression fitting |
| W | M 16 x 1.25 | flared tube |
| Z | M 6 x 0.75 | flared tube |

Max. torque values:

| maximum torque value | | |
|---|---|---|
| ***Component*** | **Nm** | **lbf.in** |
| Nut + (olive) + tube for outlet of valves | 15 | 133 |
| Screws for fixing brackets | 1.5 | 13 |
| Injectors | 4 | 35 |

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## MANUFACTURING DATE CODES

| MONTH | CODE |
|---|---|
| JANUARY | N |
| FEBRUARY | O |
| MARCH | P |
| APRIL | R |
| MAY | S |
| JUNE | T |
| JULY | U |
| AUGUST | V |
| SEPTEMBER | W |
| OCTOBER | X |
| NOVEMBER | Y |
| DECEMBER | Z |

| YEAR | CODE |
|---|---|
| 2020 | 0 |
| 2021 | 1 |
| 2022 | 2 |
| 2023 | 3 |
| 2024 | 4 |
| 2025 | 5 |
| 2026 | 6 |
| 2027 | 7 |
| 2028 | 8 |
| 2029 | 9 |
| | |
| | |

EXAMPLE: A COMPONENT PRODUCED IN APRIL 2023 IS MARKED

**R3**

Alternatively, on the component can be marked a four digit code indicating the week (first two digits) and the year of production (last two digits).

EXAMPLE: A COMPONENT PRODUCED THE 14$^{TH}$ WEEK OF 2023 IS MARKED

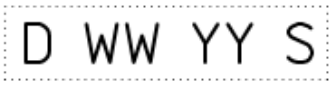
**1423**

Alternatively, on the component can be marked the day (first digits), the month (according with the code in table above) and the year of production (last two digits).

EXAMPLE: A COMPONENT PRODUCED IN APRIL, 19 2023 IS MARKED

**19 R 23**

Alternatively, on the component can be laser marked a six digit code indicating the day (first digit), week (second and third digit), the year of production (fourth and fifth digit) and the shift of production (last digit).




- D= day of production

(Monday=”1”, Tuesday =”2”; Wednesday=”3”; Thursday=”4”; Friday=”5”; Saturday=”6”; Sunday=”7”)

- WW= week of production

- YY= year of production

(2012 = “12”; 2013 = “13”; 2014 = “14”; ….)

- S= shift of production

(1°shift = “1”; 2° shift =”2”; 3° shift =”3”)