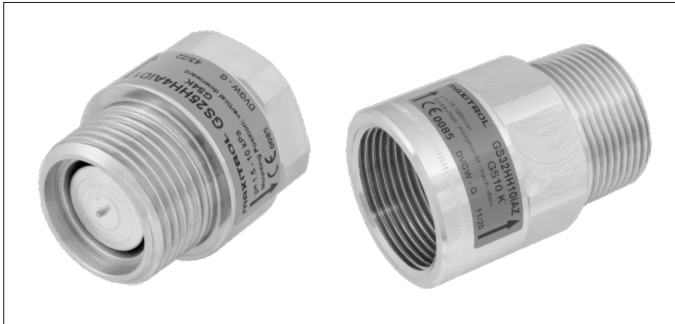


## SENTRY GS Excess Flow Valves Residential Installation (Australia/New Zealand)

AS/NZS5601.1  
CE 0085

### SIZING / INSTALLATION INSTRUCTIONS



SENTRY GS in steel housing, models AI and IA

#### ⚠ WARNING

##### WHAT TO DO IF YOU SMELL GAS

- Do NOT operate any appliance.
- Do NOT touch any electrical switch; do NOT use any phone in your building.
- Immediately evacuate the area and contact the gas supplier. Follow the gas supplier's instructions.
- If you can NOT reach the gas supplier, call the fire department.

Read these instructions carefully and completely before installing or operating. Failure to follow them could result in a fire or explosion causing property damage, personal injury, or loss of life. Service and installation **must** be performed by a trained/experienced service technician.

#### ⚠ WARNING

- All products used with combustible gas **must** be installed and used **strictly** in accordance with the instructions of the Original Equipment Manufacturer (OEM) and with all applicable government codes and regulations, e.g. plumbing, mechanical, and electrical codes and practices. These instructions do NOT supersede OEM's installation or operating instructions.
- Do NOT use a product if you suspect it has been subjected to high temperatures, damaged, tampered with, or taken apart. Do NOT use a product if you suspect it has been under water or that liquid has seeped into the product. Any of these incidents can cause leakage or other damage that may affect proper operation and cause potentially dangerous combustion problems.
- Excess Flow Valves (EFVs) close, shutting off the gas flow at a range between  $f_s \text{ min} = 1.3$  and  $f_s \text{ max} = 1.45$ . The total capacities shown in the tables on page 2 must not exceed the nominal flow rate.
- Do not remove the SENTRY GS EFV from plastic packaging until ready for installation. The SENTRY GS EFV must be kept free of contaminants while in storage and during the installation.
- Do not install the SENTRY GS EFVs into a contaminated gas system.
- There are no serviceable parts inside the SENTRY GS EFV. DO NOT remove parts or disassemble!
- Do not subject the SENTRY GS EFV to severe impact.

#### ⚠ WARNING

SENTRY GS EFVs max. closing flow rate must NOT exceed the gas meter maximum flow rate capacity.

#### ⚠ WARNING

- All SENTRY GS excess flow valve installations to be installed by an Licensed Gas Fitter in accordance with National standard (AS/NZS5601.1-2022).
- Main-Line EFV at Gas Meter outlet to be sized by: Total Home Gas Appliance Rating / (Total MJ/hr)
- Additional In-Line OR Branch-Line EFVs may be required. All excess flow valve sizing must take into account the pressure drop through the SENTRY GS when considering the multilayer pipe manufacturers' pipe sizing charts.

### DESCRIPTION

- Excess Flow Valves (EFVs) close, shutting off the gas flow at a range between  $f_s \text{ min} = 1.3$  and  $f_s \text{ max} = 1.45$ .
- The EFV is installed downstream of the regulator and prior to any multilayered pipe.
- SENTRY GS EFVs are equipped with a by-pass orifice that allows the EFV to reopen after the downstream line has been repaired and repressurized.
- A lower operating pressure range of 1.25 - 10 kPa, is supported for AU/NZ\*.

\*Note: The internal overflow volume can be slightly higher in this case due to lower pressure.

### TECHNICAL DATA

See details on label of the SENTRY GS EFV.

Approvals	Complies with AS/NZS5601.1 (Clause 5.2.11); Pressure Equipment Directive (2014/68/EU); DVGW-Technical Rule G 600 (TRGI 2018 and TRF 2021); DIN 30652-1
Registration	CE-0085BO0402
Fuel gases	suitable for the three gas families according to DVGW-Code of Practice DIN EN 437
Mounting position	Indicated on product label
Ambient temperature range	-20 °C to +60 °C
Pipe sizes	DN15, DN20, DN25, DN32, DN40, DN50
Thread connections	according DIN EN 10226-1 (ISO 7-1)
Closing factor $f_s$	$f_{s \text{ min}} = 1.3$ ; $f_{s \text{ max}} = 1.45$
Operating pressure range	AU/NZ 1.25–10 kPa (EU 1.5–10 kPa)
Pressure drop	≤ 50 Pa
Pressure drop (at max. closing flow)	105 Pa
Overflow volume	max. 30 l/hr air at 10 kPa
Installation point	downstream of the regulator and prior to any multilayered pipe
Maximum pressure at which the valve can be tested	15 kPa (150 mbar)

Label color	white	yellow	brown	green	red	orange
(Nominal Flow Rate $V_{\text{Gas}}$ Natural Gas [ $\text{m}^3/\text{h}$ ]; $d=0.64$ )	1.6	2.5	4	6	10	16

#### NOTICE

Use an open-end spanner to install the SENTRY GS. Do NOT use a pipe wrench.



**MODEL NUMBERING SYSTEM**

**Nominal Flow Rate  $V_{Gas}$  Natural Gas;  $d=0.64$**   
1.6-16 m<sup>3</sup>/h

**Model**  
H: GS  
T: GS with integrated TCO

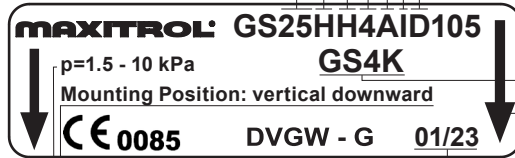
**Operating Pressure Range**  
H: 1.5-10 kPa

**Pipe Sizes**  
DN15, 20, 25, 32, 40, 50

**Connection Thread Inlet (DIN EN 10226-1/ISO 7-1)**  
A - External thread (conical)  
I - Internal thread (parallel)

**Connection Thread Outlet (DIN EN 10226-1/ISO 7-1)**  
A - External thread (conical)  
I - Internal thread (parallel)

**Mounting Position**  
Z: horizontal or upward flow direction  
D: downward only



**Nominal Flow Rate  $V_{Gas}$  Natural Gas;  $d=0.64$**   
**Gas Flow Direction**

**Operating Pressure Range**  
**Mounting Position**  
**Manufacturing Date** (e.g. 01 = week / 23 = year 2023)

**CONVERSION TABLES FOR SELECTING A SENTRY GS EXCESS FLOW VALVE**

SENTRY GS EFV are selected by determining the total nominal load of all gas appliances. When multilayer piping is used, it is necessary to recalculate the GS function. For multilayer piping always refer to the manufacturer’s instructions for correct sizing.

**Table 1: NG Australia**

Rel. Density: 0.6; Heating value: 38 MJ/m<sup>3</sup>

GS Type	Nom. flow	One gas appliance (with max. 80% VN)		Several gas devices added up to max. load		max. closing flow
		m <sup>3</sup> /h	[kWh] [MJ/hr]	[kWh] [MJ/hr]	[kWh] [MJ/hr]	
GS1.6K	1.7	14	50	17	61	2.5
GS2.5K	2.6	22	79	27	97	3.8
GS4K	4.1	34	122	43	155	6.0
GS6K	6.2	52	187	65	234	9.0
GS10K	10.3	87	313	109	392	15.0
GS16K	16.5	139	500	174	626	24.0

**Table 2: LPG (propane) Australia**

Rel. Density: 1.5; Heating value: 96 MJ/m<sup>3</sup>

GS Type	Nom. flow	One gas appliance (with max. 80% VN)		Several gas devices added up to max. load		max. closing flow
		m <sup>3</sup> /h	[kWh] [MJ/hr]	[kWh] [MJ/hr]	[kWh] [MJ/hr]	
GS1.6K	1.1	20	72	28	101	1.6
GS2.5K	1.6	30	108	43	155	2.4
GS4K	2.6	48	173	69	248	3.8
GS6K	3.9	73	263	104	374	5.7
GS10K	6.5	122	439	174	626	9.5
GS16K	10.4	195	702	278	1001	15.2

**Table 3: LPG (butane) New Zealand**

Rel. Density: 2.08; Heating value: 125.7 MJ/m<sup>3</sup>

GS Type	Nom. flow	One gas appliance (with max. 80% VN)		Several gas devices added up to max. load		max. closing flow
		m <sup>3</sup> /h	[kWh] [MJ/hr]	[kWh] [MJ/hr]	[kWh] [MJ/hr]	
GS1.6K	0.9	22	79	31	112	1.4
GS2.5K	1.4	34	122	48	173	2.1
GS4K	2.2	54	194	77	277	3.3
GS6K	3.3	81	292	116	418	4.9
GS10K	5.5	136	490	194	698	8.1
GS16K	8.9	217	781	310	1116	12.9

(The flow rates above are based upon the heating value and relative density given for natural gas and propane in AS/NZS5601.1 and for butane the values given in AS/NZS5263.0)

**SELECTING A SENTRY GS EXCESS FLOW VALVE**

**NOTICE**

- Conduct pressure/tightness test with SENTRY GS EFV in open position!
- Note the flow direction!

- Before Installation:** Compare actual SENTRY GS EFV with planned type (see specification on label and technical details). Make sure the piping system is depressurized. The maximum gas meter flow rate must be greater than the shutoff rate of the EFV.
- Installation Point:** Install downstream of the regulator and prior to any multilayered pipe.
- Gas Flow Direction:** Indicated by arrow on the label.
- Mounting Position:** As indicated on label.

**Re-opening the SENTRY GS EFV:**

- Close the main gas manual shut-off valve upstream next to the SENTRY GS.
- Repair the downstream pipe.
- After approximately 1 minute, slowly reopen the main gas manual shut-off valve.

**NOTICE**

If the SENTRY GS EFV is not directly downstream of the main gas manual shut-off valve, it may be necessary to wait more than 1 minute for the SENTRY GS EFV to reset.

