

# Regulator Outlet Fitting Chart

There is a vast array of different fittings that can be used on the outlet of a regulator to connect it to the user process/application. Following is a summary of the more commonly used types of fittings. The “Gascon Numbering Code” is a simple way of quickly specifying the required outlet fittings. These codes are used as part of the regulator part numbering system, refer ordering information section of regulator specification sheets.

## Twin Ferrule Compression Fittings

Typical brand names include Swagelok, Parker A-Lok, Hoke Grylok or Hylok. In these fittings, the ferrules compress/swage into the tubing creating a leak tight seal. Once tightened the ferrules and nut cannot be removed from the tubing. The tubing used with these fittings can be either metal or rigid plastics. The tubing material must be softer than the fitting material, (eg. stainless steel tube must not be used with brass fittings). The size of the fitting is based on the nominal outside diameter of the tubing.



Connection Size	Gascon Numbering Code
1/16" Compression	1S
1/8" Compression	2S
3/16" Compression	3S
1/4" Compression	4S
3/8" Compression	6S
1/2" Compression	8S
5/8" Compression	10S
3/4" Compression	12S
1" Compression	16S
4mm Compression	4mm
6mm Compression	6mm
8mm Compression	8mm
10mm Compression	10mm

For brass bodies regulator the default fitting material is brass. For stainless steel bodied regulators the default fitting material is stainless steel. To have a stainless steel fitting on a brass bodied regulator, add the suffix “S” after the numbering code. eg. 4SS for a 1/4" stainless steel fitting

## Threaded Nut/Nipple Fittings

These fittings have an external thread and an internal angle seating face, onto which a matching nut/nipple seals. They are more commonly used on welding or general industrial compressed gas equipment. The threads can be right handed or left handed (left hand should be marked with notches). The 5/8"-18UN fittings are commonly used on Australian equipment, 9/16"-18UN are common to American equipment, and 3/8" BSP are common on British/European equipment. These fittings seal metal-to-metal, and there is no need to use PTFE tape on them.



Connection Size	Gascon Numbering Code
1/4" BSP	14BSP
9/16"-18UN RH	916RH
9/16"-18UN LH	916LH
5/8"-18UN RH	58RH
5/8"-18UN LH	58LH
3/8" BSP RH	38RH
3/8" BSP LH	38LH
1/2" BSP	12BSP
5/8" BSP	58BSP

## Hose Barb Fittings

These fittings are designed for use with soft flexible plastic tubing (PVC, vinyl) that is pushed over the barbed section of the connection. For the hose to fit correctly the barb size needs to be slightly larger than the inside diameter of the hose. They are only used at lower pressures (the hose maximum working pressure is usually the limiting factor). A clamping clip is normally used to secure the hose to the barb.



Connection Size	Gascon Numbering Code
1/8" Hose Barb	2B
3/16" Hose Barb	3B
1/4" Hose Barb	4B
5/16" Hose Barb	5B
3/8" Hose Barb	6B
1/2" Hose Barb	8B

For brass bodies regulator the default fitting material is brass. For stainless steel bodied regulators the default fitting material is stainless steel.

## Hose Push Fittings

These fittings are for use with “rigid” plastic tubing (eg. nylon, Teflon ...). The fitting uses a built in o-ring seals to seal on the outside diameter of the tubing. A push ring allows the tube to be removed from the fitting. The size of the fitting is based on the outside diameter of the tubing it is intended for. Both imperial and metric size are available. but metric is more common

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Connection Size	Gascon Numbering Code
4mm	4PF
6mm	6PF
8mm	8PF
10mm	10PF
1/8"	18PF
1/4"	14PF
3/8"	38PF

## Threaded Fittings

Threaded fittings are often required on the outlet of regulator so the other associated equipment can be connected to the regulator, eg. hoses, valves, ...etc. Gascon Systems uses NPT threads (national pipe taper) on its regulators. There are other standard thread types that are used on regulators such as BSP and BSPT, but NPT are probably the most commonly used in Australia.



Connection Size	Gascon Numbering Code
1/8" NPT Female	2F
1/4" NPT Female	4F #1
3/8" NPT Female	6F
1/2" NPT Female	8F #1
3/4" NPT Female	12F
1/8" NPT Male	2M
1/4" NPT Male	4M
3/8" NPT Male	6M
1/2" NPT Male	8M
3/4" NPT Male	12M
1" NPT Male	16M

4F (1/4"NPT female) is the default regulator body connection thread on most Gascon regulators. Some larger regulator may have 8F (1/2"NPT female) connections.

## Elbow Twin Ferrule Compression Fittings

These fittings are the same as the normal twin ferrule compression fittings, except in a 90° elbow.



Connection Size	Gascon Numbering Code
1/8" Compression	2SE
3/16" Compression	3SE
1/4" Compression	4SE
3/8" Compression	6SE
1/2" Compression	8SE

For brass bodies regulator the default fitting material is brass. For stainless steel bodied regulators the default fitting material is stainless steel. To have a stainless steel fitting on a brass bodied regulator, add the suffix "S" after the numbering code. eg. 4SES for a 1/4" stainless steel fitting

## Flare Fittings

Flare fittings refer to fittings where the end of a tube is flared open with a special tool to a certain angle. The flared internal section of the tube then seals, metal-to metal, on a matching angled face of the other half of the fitting. In the compressed gas industry, several different standard flare fittings used. There is a SAE 45° flare fitting. These tend to be used on low pressure liquid vessel connections. There is the AN 37° flare fitting. These are commonly used in aircraft gas systems equipment. There is also the JIC 37° flare fitting. While the basic dimensions of these is the same as the AN flare they are produced to less exacting tolerances, and for this reason are not recommended for use.



Connection Size	Gascon Numbering Code
1/4" 37° AN Flare	4AN
3/8" 37° AN Flare	6AN
1/4" 45° SAE Flare	14SAE
3/8" 45° SAE Flare	38SAE
1/2" 45° SAE Flare	12SAE
5/8" 45° SAE Flare	58SAE

## Miscellaneous Outlet Fittings

### Fine adjustment/needle valve (code = FA)

Fine adjustment or needle valves are used to control the flow gas from a regulator. For lower flow applications a fine adjustment valve can be used as an ON/OFF valve. Other outlet fitting options can be added to this type of valve, eg. for fine adjustment valve with a 1/8" hose barb use "FA-2B"



### Ball Valve (code = BV)

Ball valves are normally used as ON/OFF valves on general gas applications. Other outlet fitting options can be added to this type of valve, eg. for ball valve with a 1/4" tube fitting use "BV-4S"



### Diaphragm valve (code = DK)

Diaphragm valves are normally used as ON/OFF valves on ultra high purity gas applications. Other outlet fitting options can be added to this type of valve, eg. for diaphragm valve with a 1/4" tube fitting use "DK-4S"



### Medical sleeved indexed fitting (code = SIS)

These are a range of gas specific connection made to an Australian Standard. On preset regulator these fitting would be self sealing. The gas type need to specific with these fittings.



### Flowmeter (code = FM)

Flowmeters are frequently used on the outlet of regulators Using the code "FM" will indicate that flowmeter is required but is does not specify the details of the flowmeter. To define the flowmeter more information including, the gas, flow range and working pressure is required.



### Flashback Arrestor (code = FBA)

Flashback arrestor may be required in some applications for flammable or oxidising gases. To assist is determining the correct flashback arrestor more information, including the gas, flow capacity and working pressure is required.

