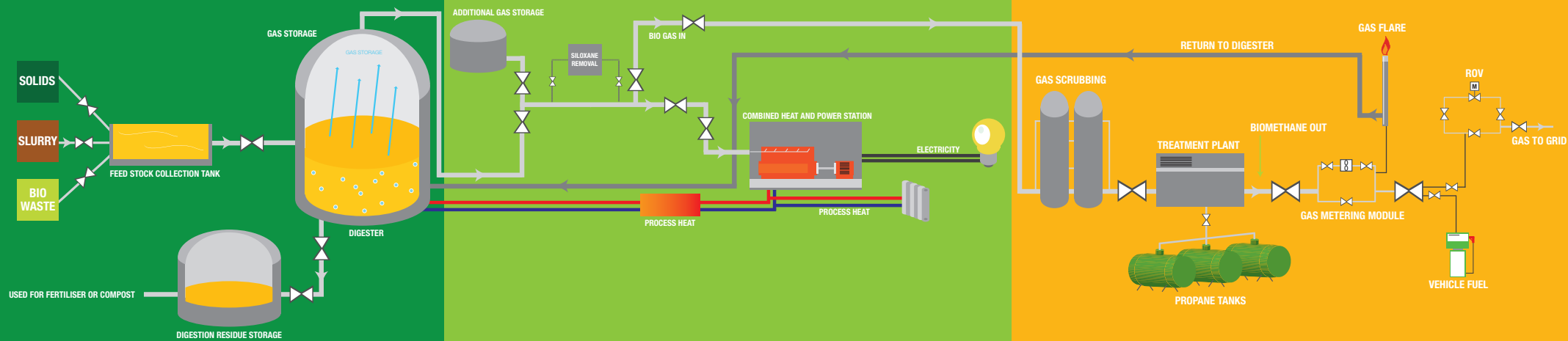


GENERIC BIOMETHANE PLANT SCHEMATIC



FEEDSTOCK AND DIGESTER SECTION

Common feedstock streams include:

The material that is used in anaerobic digestion is called feedstock. What goes into a digester determines what comes out, so careful choice of feedstocks is essential.

- Food and Drink Waste
- Processing Residues
- Agricultural Residues
- Crops
- Sewage Sludge

Once you know the type of feedstock choosing the right type of valve is even easier,

BIOGAS SECTION

Here the gas is used for different processes including:

- Heat only
- Electricity only
- Combined heat and power (CHP)

It can also go through a process to have the siloxane removed before going onto the Biomethane section

BIOMETHANE SECTION

At this stage of the process the gas is refined and treated to be sent to different locations including

- Vehicle fuel
- Gas to grid
- Combined heat and power (CHP)

It is important when choosing valves and fittings for use on a biogas plant that the correct products are chosen for each particular section of the process. Overall in the connecting pipeline assemblies you could have a requirement for knife gate, wedge gate, resilient seated, butterfly, ball and non-return valves depending on the process. To select the correct valve for the application the following general points should be taken into consideration:

- Carbon steel should not be used on biogas due to the H_2S content. It is recommended for these applications that stainless steel be used for valve internals and the valve bodies be either cast/ductile iron or stainless steel.
- Consider the level of H_2S when choosing valve sealing materials. Viton is recommended over nitrile if the H_2S content is above 200 ppm.

- Consider the pressure drop through the valve. Use clear bore wherever possible. Consider that butterfly valves have line restriction.
- Knife gates are recommended if the feedstock is more than 10% solids.

AVK manufacture a vast range of valves including the types detailed above. To find our recommendation for the correct product for your application use the colour coding in this schematic and the following product section.*