CLAIMS

1. A gas isolation valve comprising:

a housing with at least one inlet and at least one outlet;

a valve member located within the housing and being moveable between first and second positions for controlling, in use, the flow of a fluid from an inlet to an outlet of the valve;

at least two spaced-apart valve seats in which the valve member is seated so as to form a cavity bounded by the valve seats, an exterior surface of the valve member and an interior surface of the housing;

a first conduit extending between the exterior of the housing and the cavity; and

a second conduit extending between the cavity and a bore of the valve member, through which conduits, in use, a purge gas can be introduced into the cavity and bore;

wherein the valve member is rotatable between first and second positions such that the bore aligns with an inlet and an outlet in the first position; and

wherein the purge gas is dead-headed when the valve member is in the second position.

2. A gas isolation valve comprising:

a housing with at least one inlet and at least two outlets;

a valve member located within the housing and being moveable between first and second positions for controlling, in use, the flow of a fluid from an inlet to an outlet of the valve;

wherein the valve member is rotatable between said first and second positions such that the bore aligns with the inlet and a first outlet in the first position and an inlet and a second outlet in the second position;

at least three spaced-apart valve seats in which the valve member is seated so as to form a cavity bounded by the valve seats, an exterior surface of the valve member and an interior surface of the housing;

a first conduit extending between the exterior of the housing and the cavity; and

a second conduit extending between the cavity and a bore of the valve member, through which conduits, in use, a purge gas can be introduced into the cavity and bore.

3. The gas isolation valve as claimed in claims 1 or 2, wherein a pressurized purge gas can be introduced into the cavity and bore.

4. The gas isolation valve as claimed in any preceding claim, further comprising a non-return valve for inhibiting or preventing egress of purge gas from the housing via the first conduit, preferably wherein the non-return valve comprises a spring manufactured from an alloy having a high nickel content.

5. The gas isolation valve as claimed in any preceding claim, further comprising a manifold through which, in use, the purge gas is introduced into the purge gas conduit from outside the housing, preferably further comprising a heater for heating the purge gas within the manifold prior to entering the cavity, preferably wherein the heater comprises a cartridge heater, and/or wherein the heater is sized to minimize condensation within the cavity.

6. The gas isolation valve as claimed in claim 5, wherein the manifold comprises means for increasing turbulence of the purge gas flowing through it; and/or wherein the manifold comprises a tortuous flow path for purge gas flowing through it; and/or wherein the manifold comprises a flow path for purge gas flowing through it, the flow path comprising baffles; and/or wherein the manifold comprises a flow path for purge gas flowing through it, the flow path comprising a packing material; and/or further comprising a purge gas supply connected to an inlet of the manifold.

7. The gas isolation valve of any preceding claim, further comprising means for monitoring the pressure or flow of the purge gas in the cavity and/or in the first conduit, and/or in the second conduit, and/or in the manifold.

8. The gas isolation valve as claimed in claim 7, further comprising means for monitoring the pressure or flow of the purge gas in the purge gas supply, preferably wherein the means for monitoring the pressure of the purge gas comprises a pressure transducer.

9. The gas isolation valve of claim 8 when dependent on claim 7, wherein the pressure transducer is positioned within the purge gas supply and wherein a valve and a pressure regulator are provided upstream of the pressure transducer along with a valve for isolating the purge gas within the cavity and the manifold, the pressure transducer being adapted to monitor the pressure of the isolated purge gas.

10. The gas isolation valve of any of claims 7 to 9, wherein the means for monitoring the flow of the purge gas comprises a flow transducer.

11. The gas isolation valve of claim 10, wherein the flow transducer is positioned within the purge gas supply for monitoring the flow rate of the purge gas.

12. The gas isolation valve of any preceding claim, wherein wetted components of the gas isolation valve are compatible with gases selected from the group consisting of: fluorine; chlorine; and hydrogen bromine.

13. A system comprising: a vacuum pump having an exhaust; and a pair of abatement systems teed into the exhaust; wherein the gas isolation valve as claimed in any preceding claim is positioned upstream from each of the abatement systems.