

CLAIMS

1. A method of controlling monitoring of a vacuum system, said method comprising:
- 5        selecting at least one of a plurality of processes for monitoring said vacuum system from a data store storing said plurality of processes; and  
      executing said at least one selected process; wherein  
      one of said at least one selected processes comprises a process for monitoring a parameter of said vacuum system and for responding to changes in  
10        said parameter to trigger at least one of:  
      execution of a further one of said plurality of processes;  
      output of an alarm or notification signal; and  
      output of a control signal for controlling operation of at least one component of said vacuum system.
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2. A method according to claim 1, wherein  
      at least some of said plurality of processes stored within said data store comprise one or more of:
- 20        a process for monitoring a parameter of said vacuum system;  
      a process for monitoring at least one of: a value and rate of change of a value output by at least one sensor sensing a parameter of said vacuum system;  
      a process for comparing a value output by at least one sensor sensing a parameter of said vacuum system to a threshold value; and  
      a process for performing a predefined mathematical function on at least  
25        one parameter sensed by a sensor in said vacuum system; and  
      a process for adjusting a threshold at which to respond to changes in said parameter in dependence upon data from previously executed processes; and  
      a process for triggering an alarm, notification or control signal.
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3. A method according to any preceding claim, wherein said process of monitoring a parameter of said vacuum system comprises requesting said parameter from a data interface, said parameter requested comprising at least

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one of a current value of said parameter and one or more historic values of said parameter.

4. A method according to any preceding claim, wherein said step of selecting  
5 comprises one of:
  - periodically selecting at least one of said processes for execution from said data store;
  - selecting at least one of said processes for execution from said data store in response to an output of an executed process; and
  - 10 selecting at least one of said processes for execution in response to an input from a user.
5. A method according to claim 4, wherein said step of selecting comprises:
  - periodically selecting one of said plurality of processes for execution every  
15 predetermined first period;
  - periodically selecting another of said plurality of processes for execution plurality of processes for execution every predetermined second period, said predetermined second period being different to said predetermined first period.
- 20 6. A method according to any preceding claim, wherein said parameters comprise at least one of:
  - temperature;
  - flow rate;
  - vibrations;
  - 25 counter values;
  - pressure; and
  - power.
7. A method according to any preceding claim, comprising in response to  
30 determining execution of one of said processes failing, terminating operation of said process.

8. A method according to claim 7, comprising following terminating of said operation of said process deleting said process from said data store.
- 5 9. A method according to any preceding claim, comprising storing data determined from execution of said process in a further data store.
- 10 10. A method according to any preceding claim, comprising periodically storing said process to said data store at preselected points during execution of said process.
11. A method according to any preceding claim, wherein said step of selecting comprises uploading said process for execution from said data store and decrypting said process prior to said execution.
- 15 12. A method according to claims 10 and 11, comprising encrypting said process prior to storing said process to said data store.
- 20 13. A method according to any preceding claim, comprising a further step of at least one of adding, updating or deleting at least one process from said data store.
- 25 14. A computer program comprising a plurality of computer executable instructions which when executed by a processor are operable to control said computer to perform a method according to any one of claims 1 to 13.
15. A control system for controlling the monitoring of at least one vacuum system, said control system comprising:  
a processor; and  
30 a data store associated with said processor storing said computer program according to claim 14.

16. A control system according to claim 15, further comprising  
a data store storing a plurality of applications each comprising a plurality of  
computer executable instructions operable when executed by said processor to  
control said processor to perform a corresponding plurality of monitoring  
5 processes, at least some of said plurality of monitoring processes comprising one  
or more of:
- a process for monitoring a parameter of said vacuum system;
  - a process for monitoring at least one of: a value and rate of change of a  
value output by at least one sensor sensing a parameter of said vacuum system;
  - 10 a process for comparing a value output by at least one sensor sensing a  
parameter of said vacuum system to a threshold value; and
  - a process for performing a predefined mathematical function on at least  
one parameter sensed by a sensor in said vacuum sensor;
  - a process for adjusting a threshold at which to respond to changes in said  
15 parameter in dependence upon data from previously executed processes; and
  - a process for triggering an alarm, notification or control signal.
17. A vacuum system comprising at least one of: a vacuum pump and an  
abatement unit, a plurality of sensors, a data interface for receiving and storing  
20 data from said plurality of sensors, and a control system according to any one of  
15 or 16 for controlling the monitoring of said vacuum system.
18. A plurality of vacuum systems each comprising at least one of: a vacuum  
pump and an abatement unit, and a plurality of sensors; a data interface for  
25 receiving and storing data from said plurality of sensors of each of said vacuum  
systems; and a control system according to any one of 15 or 16 for controlling the  
monitoring of said plurality of vacuum systems.