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(72) Inventors:
• **Jasper, Carl**
Stone, Staffordshire ST15 0SR (GB)
• **Morgan, Glyn**
Stone, Staffordshire ST15 0SR (GB)

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(74) Representative: **Parnham, Kevin et al**
Parnham IP Services Limited
Nottingham Clean Tech Centre
63-67 St Peter's Street
Nottingham NG7 3EN (GB)

(71) Applicant: **Scalemaster Limited**
Stone, Staffordshire ST15 0SR (GB)

(54) **Magnetic sludge filter**

(57) Accurate dosing of heating systems with water treatment chemicals such as inhibitor can be difficult. By providing a separable vessel (1, 21, 31, 41) of suitable

inherent volumetric size or with markings (25) or an insert (3, 23) the volume of inhibitor chemical (42) can be more accurately controlled or selected.

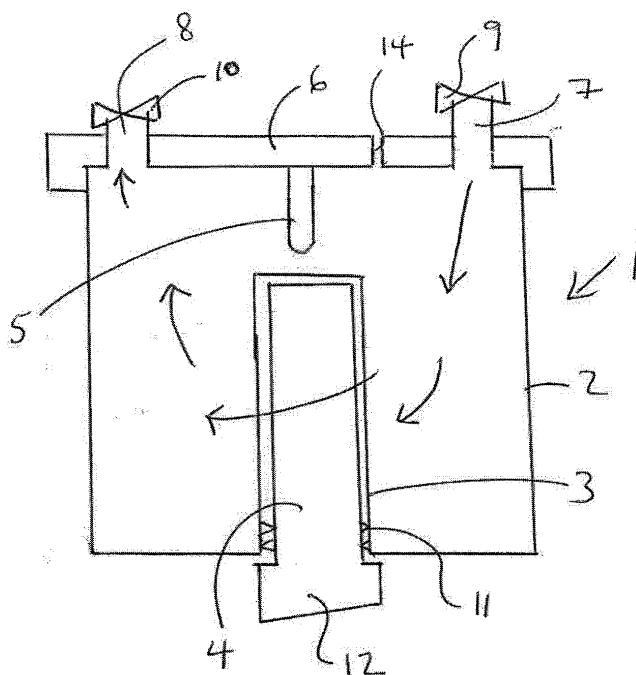


Figure 1



EUROPEAN SEARCH REPORT

 Application Number
 EP 13 16 7542

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1 The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 25 August 2016	Examiner Holubov, Carol
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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EUROPEAN SEARCH REPORT

Application Number
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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (IPC)
Place of search		Date of completion of the search	Examiner
The Hague		25 August 2016	Holubov, Carol
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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EPO FORM 1503 03.02 (P04C01)



Application Number

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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing claims for which payment was due.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):

☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

☒ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

1, 3, 4(completely); 6-12(partially)

☐ The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).



LACK OF UNITY OF INVENTION
SHEET B

Application Number

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The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1, 3, 4(completely); 6-12(partially)

independent claims 1 and 3, and the dependent claims 6-12 inasmuch as they depend on either claim 1 or claim 3, directed to magnetic sludge filter for a wet heating system, the filter having means (claim 1) or a vane (claim 3) to direct a fluid flow in use.

Also independent claim 4, directed to a magnetic sludge filter for a wet heating system, the filter comprising a manifold having a valve operable to remove air from the vessel.

2. claims: 2(completely); 8-12(partially)

independent claim 2, and dependent claims 8-12 inasmuch as they depend on claim 2, directed to a magnetic sludge filter for a wet heating system, the filter comprising a magnetic element comprising a probe extending from the exterior into the recess, the probe having apertures to receive magnetic parts (interpretation based on description) edge to edge in a stack.

3. claims: 5, 13-15(completely); 6-12(partially)

independent claim 5, and the dependent claims 6-12 inasmuch as they depend on claim 5, directed to a magnetic sludge filter for a wet heating system, the filter comprising a vessel that is securable to and separable from a manifold, the magnetic element retained in association with the vessel, the vessel being configured or chosen for consistency with a desired dosing portion volume for a wet heating system associated with the filter in use. Method claims 13, its dependent claim 15, is directed to a method of providing a desired dosing portion of regulator/inhibitor chemical to a wet heating system comprising a magnetic sludge filter, comprising steps relating to the features (magnet/vessel association, manifold, valves) of claim 5. Independent method claim 14, directed to a method of providing a desired dosing portion of regulator/inhibitor chemical to a wet heating system, comprising steps relating to some features (manifold, valves, consistency of vessel with desired dosing portion) of claim 5. These claims have in common the aspect of the vessel being used for dosing the system with regulator/inhibitor chemical, and (different) means for providing a desired dosing.

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

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5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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25-08-2016

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82