CLAIMS

1. Device (20) for UV-spectrometric analysis of gaseous compounds, said device (20) comprising:

- a measurement channel (5) intended to accommodate a flow of sample gas to be analyzed,

- a window member (16) transparent for ultraviolet radiation arranged at a first end (5a) of the measurement channel (5),

- a radiation source (11) capable of generating ultraviolet radiation arranged to emit radiation through the window member (16) and into the measurement channel (5),

- a spectrographic member (3) for measuring of ultraviolet radiation emitted by the radiation source (11) arranged at a second, opposite, end (5b) of the measurement channel (5),

wherein the device (20) is arranged such that ultraviolet radiation entering the measurement channel (5) at the first end (5a) can propagate through the measurement channel (5), interact with the accommodated gas and be measured by the spectrographic member (3) at the second end (5b) of the measurement channel (5),

characterized in

that the spectrographic member (3) is provided with an opening (12) through which ultraviolet radiation passes into the spectrographic member (3) during operation of the device (20), wherein the second end (5b) of the measurement channel (5) is open towards the spectrographic member (3) such that an inside of the spectrographic member (3) and the measurement channel (5) are in communication via said opening (12), wherein the spectrographic member (3) is arranged to be filled with a protection gas, and wherein the device (20) is arranged such that protection gas fed to the spectrographic member (3) is allowed to flow through said opening (12) and into the measurement channel (5).

2. Device (20) according to claim 1
characterized in
that the first end (5a) of the measurement channel (5) is open towards the window member (16) and in that a channel (6, 18) for guiding a protection gas is arranged in connection to the window member (16) such that protection gas fed through the protection gas channel (6, 18) is allowed to flow over and cover the side of the window member (16) facing the measurement channel (5) and to flow further into the measurement channel (5).

3. Device (20) according to claim 2,
characterized in
that a void (18) is arranged adjacent the window member (16) at the side of the window member (16) facing the measurement channel (5), wherein the void (18) is in communication with the open end (5a) of the measurement channel (5) and wherein the void (18) is provided with a void inlet (6) such that when a protection gas is fed to said void inlet (6), the protection gas is allowed to fill the void (18) and flow further into the measurement channel (5).

4. Device (20) according to claim 1 or 2,
characterized in
that the measurement channel (5) is provided with at least one inlet (9) for feeding sample gas into the measurement channel (5) and at least one outlet (10) for leading sample gas and protection gas out from the measurement channel (5).

5. Device (20) according to any of the above claims,
characterized in
that it comprises seal members arranged such as to prevent air that surrounds the device from entering the measurement channel (5).

6. Device (20) according to claim 4,

characterized in
that it comprises a gas chromatography column (8) for connection to the sample gas inlet (9).

7. Device (20) according to claim 2 or 3,
characterized in
that it comprises a gas flow regulator (1) arranged to regulate the flow of protection gas fed to the protection gas channel (6, 18).

8. Device (20) according to any of the above claims,
characterized in
that the gas flow regulator (1) is arranged to regulate the flow of sample gas.

9. Device (20) according to any of the above claims,
characterized in
that the gas flow regulator (1) is arranged to regulate the flow of protection gas fed to the spectrographic member (3).

10. Device (20) according to any of the above claims,
characterized in
that the measurement channel (5) has an elongated shape, wherein the window member (16) and the spectrographic member (3) are positioned at opposite ends (5a, 5b) of the measurement channel (5).

11. Device (20) according to claim 10,
characterized in
that the measurement channel (5) is a silica tube.

12. Device (20) according to any of the above claims,
characterized in
that the measurement channel (5) is arranged in a casing (17) adapted to be heated.

13. Device (20) according to any of the above claims,
characterized in
that the radiation source (11) is a deuterium lamp.

14. Device (20) according to claim 13,
characterized in
that the window member (16) forms an integrated part of the deuterium lamp.

15. Device (20) according to any of the above claims,
characterized in
that the window member (16) is made of an alkaline earth metal fluoride.

16. Device (20) according to claim 15,
characterized in
that the window member (16) is made of MgF_2.

17. Device (20) according to any of the above claims,
characterized in
that the spectrographic member (3) comprises reflectors and registration element adapted to short wavelength ultraviolet radiation.

18. Device (20) according to any of claims 1-14,
characterized in
that the window member (16) is made of quartz.

CLAIMS

1. Device for UV-spectrometric analysis of gaseous compounds, said device comprising:

a measurement channel configured to accommodate a flow of sample gas to be analyzed,

a window member transparent for ultraviolet radiation arranged at a first end of the measurement channel,

a radiation source capable of generating ultraviolet radiation arranged to emit radiation through the window member and into the measurement channel,

a spectrographic member for measuring of ultraviolet radiation emitted by the radiation source arranged at a second, opposite, end of the measurement channel,

wherein the device is arranged such that ultraviolet radiation entering the measurement channel at the first end can propagate through the measurement channel, interact with the accommodated gas and be measured by the spectrographic member at the second end of the measurement channel,

wherein the spectrographic member is provided with an opening through which ultraviolet radiation passes into the spectrographic member during operation of the device,

wherein the second end of the measurement channel is open towards the spectrographic member such that an inside of the spectrographic member and the measurement channel are in communication via said opening,

wherein the spectrographic member is arranged to be filled with a protection gas, and

wherein the device is arranged such that protection gas fed to the spectrographic member is allowed to flow through said opening and into the measurement channel.

2. Device according to claim 1, wherein the first end of the measurement channel is open towards the window member and in that a channel for guiding a protection gas is arranged in connection to the window member such that protection gas fed through the protection gas channel is allowed to flow over and cover the side of the window member facing the measurement channel and to flow further into the measurement channel.

3. Device according to claim 2, wherein a void is arranged adjacent the window member at the side of the window member facing the measurement channel, wherein the void is in communication with the open end of the measurement channel and wherein the void is provided with a void inlet such that when a protection gas is fed to said void inlet, the protection gas is allowed to fill the void and flow further into the measurement channel.

4. Device according to claim 1, wherein the measurement channel is provided with at least one inlet for feeding sample gas into the measurement channel and at least one outlet for leading sample gas and protection gas out from the measurement channel.

5. Device according to, claim 1, further comprising seal members arranged such as to prevent air that surrounds the device from entering the measurement channel.

6. Device according to claim 4, further comprising a gas chromatography column for connection to the sample gas inlet.

7. Device according to claim 2, further comprising a gas flow regulator arranged to regulate the flow of protection gas fed to the protection gas channel.

8. Device according to claim 1, wherein the gas flow regulator is arranged to regulate the flow of sample gas.

9. Device according to claim 1, wherein the gas flow regulator is arranged to regulate the flow of protection gas fed to the spectrograph ic member.

10. Device according to claim 1, wherein the measurement channel has an elongated shape, wherein the window member and the spectrograph ic member are positioned at opposite ends of the measurement channel.

11. Device according to claim 10, wherein the measurement channel is a silica tube.

12. Device according to claim 1, wherein the measurement channel is arranged in a casing adapted to be heated.

13. Device according to claim 1, wherein the radiation source is a deuterium lamp.

14. Device according to claim 13, wherein the window member forms an integrated part of the deuterium lamp.

15. Device according to claim 1, wherein the window member is made of an alkaline earth metal fluoride.

16. Device according to claim 15, wherein the window member is made of MgF_2.

17. Device according to claim 1, wherein the spectrograph is member comprises reflectors and registration element adapted to short wavelength ultraviolet radiation.

18. Device according to claim 1, wherein the window member is made of quartz.