

Claims

1. Device for driving a flexible lance for cleaning a heat exchanger duct or the like, provided with a frame in which a driving mechanism is arranged for moving this flexible lance in a driving direction in the direction of an outlet opening, wherein the driving mechanism is provided with a clamp member which can be clamped on the flexible lance and which is movable in the frame towards and away from this outlet opening, wherein said clamp member is mounted on an endless drive element, wherein the active part of the endless drive runs parallel to the driving direction, wherein the drive mechanism further comprises at least one non-driven counter roller arranged opposite said clamp member, wherein the lance is clamped between the clamp member and the counter roller.
2. Device for driving a flexible lance according to claim 1, wherein the counter roller is biased in a direction towards the clamping element for clamping the lance there between.
3. Device for driving a flexible lance according to claim 1 or 2, wherein the driving mechanism is provided with a plurality of counter rollers, wherein the rotation axes of said counter rollers substantially extend in a plane parallel to said driving direction.
4. Device according to claim 2 and 3, wherein the plurality of rollers is arranged on a separate counter roller frame mounted in the frame, wherein the counter roller frame is movable with respect to said frame, wherein the counter roller frame is biased in the frame.
5. Device for driving a flexible lance according to claim 3 or 4, wherein at least two of the counter rollers are movable with respect to each other in a direction towards and away from the lance to be driven.
6. Device for driving a flexible lance according to claims 5, wherein at least two counter rollers are arranged on a subframe, wherein the subframe is arranged pivotally allowing relative movement of the counter rollers.
7. Device for driving a flexible lance according to at least claims 4 and 6, wherein the subframe is pivotally arranged in the counter roller frame.

8. Device for driving a flexible lance according to any of the preceding claims, wherein the endless drive element comprises a plurality of separate clamp members arranged along the length thereof.
- 5 9. Device for driving a flexible lance according to claim 8, wherein the clamp members are arranged to pivotally connect to the endless drive element.
10. Device for driving a flexible lance according to claim 8 and 9, wherein the clamp members are arranged at mutual distances on the endless drive element along the length thereof.
- 10 11. Device for driving a flexible lance according to claim 9 or 10, wherein a counter roller is at least located near end of the active part of the endless drive element.
- 15 12. Device for driving a flexible lance according to claim 11, wherein counter rollers are located at least at both ends of the active parts of the endless drive element.
- 20 13. Device for driving a flexible lance according to any of the claims 8 - 12, wherein a clamp member comprises a base member arranged to connect to the endless drive element, wherein the base member holds a plastic engaging member.
14. Device for driving a flexible lance according to claim 13, wherein the base member is substantially U-shaped, wherein the engaging member is received between the legs of the U-shape.
- 25 15. Device for driving a flexible lance according to any of the preceding claims, wherein the clamp member is provided with an engaging surface at least partially formed complementary to the lance to be engaged.
- 30 16. Device for driving a flexible lance according to claim 15, wherein the clamp member with a V-shaped slot.
- 35 17. Device for driving a flexible lance according to claim 15 or 16, wherein the counter roller is arranged to substantially engage the engaging surface of the clamp member if no lance is supplied to the drive system, such that the distance between the axis of the counter roller and upper end of the clamp member on the active path, which is in contact with the counter roller, is equal or less than the radius of the counter roller.

18. Endless drive element provided with clamp members for use in device according to any of the preceding claims.