Description

SUCTION PUMP FOR A DISPENSER UNIT AND DISPENSER UNIT

Technical Field

[0001] The invention relates to a suction pump which is constructed in particular as a bellows pump and is provided for a dispenser unit for the delivery of medium in paste, foam or liquid form, in particular of a liquid soap, a skin protection cream or another liquid cleansing- or care product for the skin. The suction pump has fastening means here for its sealed fastening to a storage container for the liquid medium and has a pumping chamber, having an elastic wall, able to be compressed elastically as a result of a pumping force in a pumping direction, which is connected fluidically directly or indirectly on the one hand with intercalation of an outlet valve with a delivery means to deliver a defined quantity of the medium, and on the other hand is able to be connected fluidically directly or indirectly with the storage container with intercalation of an inlet valve.

[0002] The invention further relates to a dispenser unit for the delivery of a medium in liquid, paste or foamed form, wherein the medium is provided in particular in liquid or paste form in the storage container. These dispenser units have a dispenser housing into which a filling insert is able to be placed. The filling insert preferably consists of a storage container produced by a blow moulding process and the suction pump which is mounted thereon. Such filling inserts are mostly inserted into the dispenser housing after opening up a housing cover, such that the suction pump is gripped with its head region through the insertion movement by a mounting device, often constructed in the form of a so-called “catcher clip” and is thus coupled with the actuating device. This actuating device can be a mechanical press button, for example a so-called “push button”, which is connected with the mounting device via a lever. Alternatively, a contactless actuation can also be provided, in

which the user triggers a sensor which in turn causes an electrical actuator to actuate the suction pump.

Prior Art

[0003] Dispenser units of this type are known from **EP 1711094** A. Suction pumps of the above-mentioned type are, moreover, generally known under the term bellows pump. The bellows pumps have a pumping chamber, delimited by the rubber wall, which is generally compressed manually by squeezing together, with the medium situated in the pumping chamber being hereby pressed out. Such bellows pumps have the advantage that they are able to be produced particularly easily and at a favourable price.

[0004] The disadvantage of the known bellows pumps consists, however, in that they are only moderately suitable for use in delivery devices, because the squeezing movement which is able to be carried out in a simple manner by the human hand is only able to be converted mechanically with difficulty and with additional guide elements, in order for example to avoid a lateral migration of the delivery opening. The use of bellows pumps is also problematical when a precise quantity of a medium must be delivered in a defined manner, because usually the pumping chamber can not be fully compressed, to avoid damage to the elastic wall, and the volume of the delivery can be dependent on the deformation geometry of the elastic wall.

[0005] A further disadvantage of the bellows pumps consists in that in connection with dispenser units, the insertion of the filling inserts, which are formed from a storage container and the suction pump connected therewith, is only able to be carried out with difficulty. When a filling insert is pushed into the unfolded dispenser housing, the mounting device presses against a functional element of the pump, in order for example to produce the connection, via the “catcher clip”, between the actuating device or the actuator and the pumping means. This insertion movement must lead reliably to the mechanical coupling of the pump with the

actuating device or with the actuator, even when it is not carried out very carefully, because otherwise the dispenser would remain without function.

[0006] With the use of bellows pumps, the problem now exists that owing to the elastic wall, the lower pump part can evade the grasp of the "catcher clip". It can therefore happen that the pump places itself "transversely" and by actuation of the dispenser the elastic wall is indeed compressed but the medium is delivered into the dispenser housing transversely to the actually intended delivery direction. An only partially successful mounting is of course also possible. It is obvious that in both cases, a malfunction of the dispenser is the result.

Representation of the invention

[0007] It is therefore an object of the invention, with regard to the suction pump, to provide a suction pump with an elastic wall, which can be used in a delivery device, in particular a dispenser unit, with as great a freedom from error as possible, with, at the same time, a simple and favourably priced construction. With regard to the dispenser unit, it is an object of the invention to provide a dispenser unit in which a suction pump with an elastic pumping chamber is able to be used as free from error as possible.

[0008] The object with regard to the suction pump is solved according to the invention in that guide means are provided which are arranged such that they are able to eliminate a migration of the elastic wall of the pumping body transversely to the pumping direction during the compression of the pumping body.

[0009] The object with regard to the dispenser is solved according to the invention in that the housing has a mounting device which is constructed and arranged such that by the insertion of the filling insert into the final position, the head region of the suction pump, cooperating with the actuating device, is automatically held by the mounting device during the

insertion, with a bending of the elastic pumping chamber by the guide means being prevented.

[0010] Through the suction pump according to the invention, the advantage of a conventional piston/cylinder pump can be combined with a bellows pump. Through the provision of the guide means, the compression movement is limited to a preferred direction of the pumping movement. In a conventional dispenser, for example, this is the vertical direction, with the storage container then being mounted with the suction pump downwards into the dispenser housing, and the guide means being constructed such that despite the elastic wall a migration into one of the horizontal directions is prevented. The pumping body can therefore only be compressed in a vertical direction, so that even the friction force on applying the mounting device onto a head region of the suction pump can not lead to the head region being displaced in a transverse direction.

[0011] In a particularly simple development of the suction pump, the pumping chamber is formed by the elastic wall and head- and a base region. The base region is arranged at the top with the filling insert standing on the head and has the inlet valve. This inlet valve is constructed so that on decompression of the pumping chamber, medium is able to be drawn out of the storage container into the pumping chamber and closes on compression of the pumping chamber. In the head region, in turn, the outlet valve is arranged, which delivers the medium on compression of the pumping chamber and closes on decompression of the pumping chamber. In particular in the head region, but possibly also in the base region, further functional elements can be provided, in particular for foaming the medium or for preventing dripping.

[0012] In a preferred development of the invention, the guide means act at least on the movable head region, and the base region is secured relative to the dispenser housing. Here, the guide means ensure that the head region is only movable relative to the secured base region in the preferred pumping direction.

[0013] In order to ensure a first protection from malfunctions, it can also be sufficient to provide guide means which apply a guiding force only in one direction. In the case of the above-mentioned dispenser unit, for instance a protection from migration as a reaction to the insertion movement can already be sufficient, so that here the guidance is "only" produced by an abutment which is opposed to the insertion movement. For this, the guide means must prevent the head region of the bellows pump from being movable in the direction of the rear wall of the housing in the case of an insertion of the filling insert directed from the front in the direction of the rear wall of the housing. To increase the functional reliability, however, preferably a more extensive, preferably complete guidance of the head region will take place over the entire range of movement. The guidance therefore then takes place over the entire displacement path of the head region in all directions transversely to the preferred pumping direction.

[0014] The head region of the suction pump can be provided with a rim projecting outwards in the manner of a flange which, on insertion into the dispenser housing, is grasped by the mounting device, in particular by the "catcher clip". This rim is, for example, embodied in a plate shape and is arranged so that the mounting device can not damage the elastic wall. Depending on the embodiment of the wall, the head region can itself be constructed in a plate shape or can have a section constructed in a plate shape, which is connected for example by a spacer with the part of the head region adjoining the elastic wall.

[0015] The guide means can be constructed both as inner and also as outer guide means. In the case of the outer guide means, the suction pump has a pumping body on which the pumping chamber is arranged. In the simplest case, the pumping body can be formed by the base region from which the guide means, for example in the form of guide rods, extend in the direction of the head region, where they can penetrate bearing eyes, for example, which are arranged in the head region, to form the guide.

[0016] Alternatively, of course, the guide means can also be formed by a wall of the pumping body, which can be pushed together like a concertina in the manner of a telescope rod. Finally, it is possible for the head region to have a rim projecting outwards in the manner of a piston, which is guided in the preferred pumping direction in the pumping body, which is then embodied in the manner of a cylinder, with a further part of the head region, for connection to the actuating device, adjoining the piston-like region, facing away from the pumping chamber, which further part projects out from the cylindrical region in all positions of the head region. For example, this can be a delivery tube with a plate-like rim projecting laterally in the lower region, onto which the mounting device can be applied.

[0017] Alternatively, the head region can also have a cylindrical wall section, projecting upwards in the direction of the base region, which is connected with a plate-like region which, in turn, is connected with the elastic wall of the pumping chamber. The cylindrical wall region of the head region can, in turn, then be either guided on the pumping body or else on the base region.

[0018] To secure the suction pump during transportation, the base region can be constructed in this embodiment so that it can be moved into a transportation position. Here, the height of the cylindrical ring corresponds at least to the height of the pumping chamber, so that the base region can be displaced onto the upper rim of the ring, so that the entire pumping chamber is arranged within the cylindrical ring.

[0019] An alternative embodiment of a suction pump with transportation security has a base region which extends in the manner of a bell in the direction of the head region, wherein the elastic wall of the pumping chamber adjoins the lower region of the bell-like side region of the base part. To form the transportation security, the entire elastic part of the wall of the pumping chamber together with the head region can then be turned

inwards, so that the head and base regions lie substantially against each other and the pump is put out of function.

[0020] The mounting aid can be embodied here so that through the insertion movement not only is a rim of the head part grasped and the latter is thus coupled with the actuating device, but also at the same time the transportation security is deactivated by the insertion, and the mounting aid, with pushing in for the first time, brings about a coverage of such a large distance of the head region that the elastic wall region of the pumping chamber is turned outwards again.

[0021] Alternatively or in addition to an outer guidance, the guide means can also be arranged in the interior of a pumping chamber. For this, the head region can for example be connected with the base region via guide rods constructed in the manner of telescope rods, which are arranged inside the elastic wall. These guide means can be arranged for example centrally inside the pumping chamber, so that the telescope rod is constructed as a hollow rod or tube and has a lateral inlet for the medium which is to be pumped. On compression of the pumping chamber, the medium is then firstly driven through this lateral inlet of the telescope rod and then through the hollow telescope rod itself outwards. The valve of the head region can still remain here in the actual head region, or else in the region of the lateral opening of the telescope rod. Alternatively or in addition, further guide rods can also be provided in the outer region of the pumping chamber.

[0022] A particularly advantageous embodiment of the invention uses the push rods of the inlet valve and/or of the outlet valve to form the guide means. For this, the respective valve is provided with a push rod which has the valve means, i.e. for example the sealing membrane. The push rod is extended beyond the region of the valve means and has a guide section in this extended region which is guided with guide means which are arranged on the pumping body or, depending on which valve has the guiding push rod, are arranged on the head region or the base region.

For this, the respective part of the guide preferably has bearing eyes in which the guide section is mounted so as to be movable in the preferred pumping direction.

[0023] A further preferred embodiment uses a shared push rod for both valves. This shared push rod is preferably constructed as a central push rod penetrating the pumping chamber, wherein on the side of one of the valves the switching element is securely connected with the push rod and on the side of the other valve the switching element is movably mounted on the push rod. Here, for example, on the side of the outlet valve the switching valve can be securely connected with the push rod, whereas the switching element on the side of the inlet valve is movably guided on the push rod, so that both valves can operate in a pressure-controlled manner independently of each other. On compression of the bellows valve, the push rod will then extend into the storage container or into an intermediate region arranged between the suction pump and the storage container.

[0024] The above-mentioned embodiment can be produced for example in that the switching element of the inlet valve has a sleeve-like part, through which the push rod is guided in a longitudinally movable manner. The mobility of the switching element can be limited relative to the push rod in both directions by stops, whereby then at the same time also the compression movement of the bellows pump as a whole is established. This can, for example, prevent damage to the elastic wall material by deformations which are too extreme. In this embodiment, the mounting of the push rod is preferably realized by the valve seat of one or both valves, i.e. of the inlet valve and of the delivery valve. Alternatively or in addition, the push rod can also be mounted movably inside or outside the pumping chamber in the preferred pumping direction to form an (additional) guide.

[0025] In all embodiments, the outlet valve can be provided with a pusher which extends in the direction directed away from the pumping chamber and in

the lower region has a plate region which is able to be coupled with the actuating device of the dispenser. This does not necessarily have to be a plate region; the coupling can also be produced by any other mechanical device.

[0026] In connection with the present invention, all forms of valve actuating devices come into consideration as the actuating device, in particular a mechanical push button or else an electrical actuator which can be triggered via a sensor arrangement. The push rod of the outlet valve, extending away from the pumping chamber, is preferably constructed in a hollow cylindrical shape, so that through this push rod the medium can be conveyed for delivery. Here, the push rod therefore forms the delivery duct for the medium. To form an additional drip protection, an additional seal or an additional valve means can be provided in the delivery duct, irrespective of whether this is formed by the push rod or is constructed as a separate duct, wherein here for instance a membrane seal comes into consideration.

[0027] The dispenser unit according to the invention comprises a housing into which the filling insert is able to be inserted. This filling insert comprises, as already described above, the storage container and the suction pump arranged therein. The suction pump, in turn, is constructed as a bellows pump and has a head region which is movable in the direction of a base region to transfer an actuating force, irrespective of whether this is applied via an electrical actuator or a "push button", wherein the suction pump has guide means which ensure a guidance of the head region in the preferred pumping direction. Usually, the filling insert with the suction pump is inserted downwards in the housing, so that the preferred pumping direction is the downwardly directed vertical direction and the delivered medium can therefore drip directly from the delivery site for example onto the user's hand.

[0028] The dispenser unit preferably has a mounting device which can be constructed in the form of a "catcher clip". This clip is a U-shaped clip

with rounded or bent arms which on insertion of the filling insert engage behind a rim of the movable part of the suction pump, in particular a rim of the head region, wherein the mounting device is, in turn, functionally coupled with the mechanism of the housing in such a way that a movement of the actuating device brings about a movement of the rim of the suction pump which is coupled with the mounting device. Hereby, in the present case, the elastic pumping chamber is compressed and the medium is driven out from this pumping chamber in the preferred pumping direction.

[0029] If the suction pump has the transportation security described above, the dispenser unit can have an additional mounting aid which cooperates with a further mounting element on the movable part of the suction pump. This additional mounting aid can bring about the first path for deactivation of the transportation security, i.e. for example the outward turning of the elastic wall of the pumping chamber, in which through the insertion movement the additional mounting element slides along a guide surface of the further mounting aid and hereby brings about the corresponding displacement of the head region into the position of use.

[0030] Alternatively, the additional mounting aid can also be arranged upstream of the first mounting aid, in which for example the "catcher clip" has arms which are bent very intensively in the preferred pumping direction.

[0031] The suction pump can, finally, have a drip protection which is arranged behind the pumping chamber. Such a drip protection can be formed by a membrane seal which can be constructed for example in the manner of a heart valve with several, for example, three sails, with the sails being folded to a closed circle in the state of rest and on the occurrence of a pressure driving out the medium, are pressed apart in the delivery direction. For this, the sails are connected with the rims, respectively facing away from the other sails, with the wall of the delivery duct and preferably overlap each other in the state of rest with the respectively other rims.

[0032] If medium is now pressed through this seal, the flap-like sails open in the direction of the wall and the medium can flow through. With decreasing pressure, on the other hand, the sails close again owing to the elastic restoring forces. Through this movement, directed contrary to the flow direction, the medium is thereby sucked back into the delivery duct again, so that a dripping can be avoided.

[0033] Of course, other steps can also be provided to form a drip protection or a similar function. These can, for example, be siphon-like reversals of the flow direction in the delivery duct or valves or flaps, for example loaded by a spring in the closing direction and able to be switched by the pumping pressure.

[0034] Further features and advantages of the invention will become apparent from the sub-claims and from the following description of preferred example embodiments with the aid of the drawings.

Brief description of the drawings

[0035] In the drawings:

[0036] Fig. 1 shows a side view of a dispenser unit according to the invention,

[0037] Fig. 2 shows a simplified illustration of a suction pump according to the invention, in section, and

[0038] Fig. 3 shows a further development of a suction pump according to the invention.

Best way to carry out the invention

[0039] In Figure 1 a dispenser unit with a dispenser housing 1 is illustrated, which is able to be filled via a filling insert. The filling insert is formed by a suction pump and by a storage container 2, onto which the suction pump is applied. The suction pump, in turn, is constructed as a bellows pump which has a head region 3, a base region 4 and an elastic wall 5 arranged therebetween.

[0040] In Figure 2 a first development of the suction pump is reproduced diagrammaticaly in an enlarged illustration. This suction pump is constructed as a bellows pump and has a head region 3 which is held so

as to be movable relative to the dispenser housing 1. The head region 3 is connected with the base region 4 via the elastic wall 5. In order to prevent a lateral migration of the movable head region 3, the head region 3 is additionally guided via guide means 8, with the guide means 8 being constructed here as external guide means 8, which are connected on the one hand with the base region 4 and on the other hand are guided through bearing eyes of the head region 3. In this way, the head region 3 is prevented from migrating in the insertion direction on insertion of the filling insert into the dispenser housing 1, so that a secure mounting is possible and thereby a malfunction of the bellows valve can be prevented.

Way(s) to carry out the invention

[0041] Figure 3 shows a further development of a bellows valve, in which the guide means 8 are constructed as internal guide means 8. For this, the inlet valve and the outlet valve have a shared push rod 6, wherein the valve means of one of the two valves, here that of the inlet valve of the bellows pump, are arranged on a sleeve which is mounted movably on the shared pusher 6, so that both valves can fulfil their respective function independently of each other.

[0042] The bellows pump which is illustrated here has in addition a push rod 6, which is constructed in a hollow cylindrical shape, and has a lateral inlet opening in the region of the pumping chamber. Through this, the medium situated in the pumping chamber 7 can be driven out, on compression of the elastic wall 5, passing the lateral opening and the push rod 6 constructed as a hollow rod, in the preferred pumping direction V.

[0043]

[0044] **List of reference numbers:**

[0045] 1 dispenser housing

[0046] 2 storage container

[0047] 3 head region

[0048] 4 base region

[0049] 5 elastic wall

[0050] 6 shared pusher of the inlet and outlet valves

[0051] 7 pumping chamber

[0052] 8 guide means

[0053] V preferred valve direction

Claims

1. Suction pump, in particular constructed as a bellows pump, for a dispenser unit for the delivery in paste, foam or liquid form of a medium, in particular for the delivery of a liquid soap, a skin protection cream or another liquid cleansing or care product for the skin, with a fastening means for the sealed fastening of the suction pump on a storage container (2) for the liquid medium and with a pumping chamber (7), having an elastic wall (5), able to be compressed elastically as a result of a pumping force in a pumping direction, which is fluidically connected directly or indirectly on the one hand with intercalation of an outlet valve with a delivery means for the delivery of a defined quantity of the medium and on the other hand is able to be fluidically connected directly or indirectly with intercalation of an inlet valve with the storage container (2), **characterized in that** guide means (8) are provided which are arranged such that they are able to eliminate a migration of the elastic wall (5) of the pumping body transversely to the pumping direction during the compression of the pumping body.
2. Suction pump for a dispenser unit for the delivery of a medium in paste, foam or liquid form according to Claim 1, characterized in that the pumping chamber (7) has a head region (3), movable as a result of the pumping movement in the pumping direction, having the outlet valve, a base region (4), not movable in the pumping direction, having the inlet valve, and the elastic wall (5) arranged between the head region (3) and the base region (4), which forms with the head region (3) and the base region (4) a closed pumping chamber (7), with the exception of the inlet valve and the outlet valve, wherein the guide means (8) act at least on the movable head region (3).
3. Suction pump for a dispenser unit for the delivery of a medium in paste, foam or liquid form according to Claim 2, characterized in that the head region (3) has a rim projecting outwards in the manner of a flange for connection with an actuating device of a dispenser housing.

4. Suction pump for a dispenser unit for the delivery of a medium in paste, foam or liquid form according to Claim 3, characterized in that the head region (3) has an in particular plate-shaped wall region adjoining the pumping chamber (7), wherein the rim, projecting outwards in the manner of a flange, for connection with the actuating device of the dispenser housing is arranged on the wall region or is connected with the wall region via a spacer.
5. Suction pump for a dispenser unit for the delivery of a medium in paste, foam or liquid form according to one of the preceding claims, characterized in that the pumping chamber (7) is arranged on a pumping body, wherein the guide means (8) are formed by an outer guide arranged on the pumping body, which guide at least parts of the region of the pumping chamber (7), which is movable in the pumping direction, during the pumping movement in the pumping direction.
6. Suction pump for a dispenser unit for the delivery of a medium in paste, foam or liquid form according to the preceding claim, characterized in that the pumping body comprises a ring surrounding the pumping chamber (7), wherein the head region (3) is formed from a central part connected with the elastic wall (5), and of an outer wall part in the shape of a hollow cylinder, which is guided on the outer side or on the inner side of the ring in the manner of a telescopic connection.
7. Suction pump for a dispenser unit for the delivery of a medium in paste, foam or liquid form according to one of the two preceding claims, characterized in that the base region (4), for movement of the entire pump from a transportation position into a position of use is mounted displaceably inside the ring, wherein the height of the ring corresponds at least to the height of the pumping chamber (7).
8. Suction pump for a dispenser unit for the delivery of a medium in paste, foam or liquid form according to one of Claims 5 or 6, characterized in that the base region (4) is formed by a central region and by a wall-like side region, extending in the manner of a bell in the direction of the head region (3), wherein the elastic wall (5) is connected on the lower rim of the lateral region

with the base region (4) and to form a transportation security the head region (3) is movable by turning inward the elastic wall (5) between the side region.

9. Suction pump for a dispenser unit for the delivery of a medium in paste, foam or liquid form according to the preceding claim in connection with Claim 3 or 4, characterized in that the outer guide means (8) are formed by guide rods arranged parallel to the pumping direction, between which the pumping chamber (7) is held transversely to the pumping direction.
10. Suction pump for a dispenser unit for the delivery of a medium in paste, foam or liquid form according to the preceding claim, characterized in that the head region (3) has at least one guide region, projecting laterally and having at least one bearing eye, wherein the guide means (8) are formed by guide rods which penetrate the bearing eye and along which the bearing eye and hence the head region (3) is guided during the pumping movement.
11. Suction pump for a dispenser unit for the delivery of a medium in paste, foam or liquid form according to one of the preceding claims, in particular according to Claims 1 to 4, characterized in that at least a portion of the guide means (8) are constructed as internal guide means (8), which are arranged inside the pumping chamber (7).
12. Suction pump for a dispenser unit for the delivery of a medium in paste, foam or liquid form according to Claim 11 in connection with Claim 2, characterized in that between the head region (3) and the base region (4) at least one telescope rod is arranged, connecting the head region and the base region (4) with each other for the formation of the guide means (8).
13. Suction pump for a dispenser unit for the delivery of a medium in paste, foam or liquid form according to Claim 12, characterized in that the telescope rod is arranged centrally inside the pumping chamber (7) and is constructed as a hollow rod, with the medium being able to be conveyed at least through the telescope rod.
14. Suction pump for a dispenser unit for the delivery of a medium in paste, foam or liquid form according to Claim 11 in connection with Claim 2, characterized in that the guide means (8) is formed by a push rod of the inlet valve or of the

outlet valve, wherein the push rod at least partially surrounds the valve means and is extended beyond the valve region with a guide section at least into the pumping chamber (7) and the guide section is mounted so as to be movable in the pumping direction to form the guide means (8) in the suction pump.

15. Suction pump for a dispenser unit for the delivery of a medium in paste, foam or liquid form according to the preceding claim, characterized in that the inlet valve and the outlet valve have a shared push rod (6) penetrating the pumping chamber (7), wherein a switching element of the outlet valve is securely connected with the push rod (6) and a switching element of the inlet valve is held movably on the push rod (6).
16. Suction pump for a dispenser unit for the delivery of a medium in paste, foam or liquid form according to the preceding claim, characterized in that the switching element of the inlet valve has a sleeve-like part through which the push rod (6) is guided in a longitudinally movable manner, wherein the mobility of the switching element relative to the push rod (6) is limited by stops in both directions.
17. Suction pump for a dispenser unit for the delivery of a medium in paste, foam or liquid form according to one of the two preceding claims, characterized in that the bearing of the push rod (6) is realized by the valve seat of the inlet valve and/or of the outlet valve.
18. Suction pump for a dispenser unit for the delivery of a medium in paste, foam or liquid form according to one of Claims 15 to 17, characterized in that the push rod (6) is arranged inside or outside the pumping chamber (7) so as to be movable in the pumping direction.
19. Suction pump for a dispenser unit for the delivery of a medium in paste, foam or liquid form according to one of the preceding claims, characterized in that the outlet valve has a pusher forming the switching element and a plate region arranged therebeneath, wherein the plate region is able to be coupled with an actuating device of a dispenser and is able to apply the actuating

force of the actuating device onto the elastically compressible pumping chamber (7).

20. Suction pump for a dispenser unit for the delivery of a medium in paste, foam or liquid form according to one of the preceding claims, characterized in that the push rod of the outlet valve is constructed in the form of a hollow cylinder and the delivery of the medium takes place through the delivery duct arranged in the push rod.
21. Suction pump for a dispenser unit for the delivery of a medium in paste, foam or liquid form according to one of the preceding claims, characterized in that in the delivery duct at least one additional valve- or sealing means is arranged, in particular a membrane seal to form an additional drip protection.
22. Dispenser unit for the delivery of an in particular liquid or paste medium in foam or liquid form with a suction pump according to one of the preceding claims, characterized in that the dispenser comprises a housing into which a filling insert is able to be inserted, wherein the filling insert is formed by the storage container (2) and the suction pump connected therewith, and the dispenser has an actuating device which is connected with a part of the movable head region (3) of the suction pump for the transfer of an actuating force when the dispenser is filled.
23. Dispenser unit according to the preceding claim, characterized in that the housing has a mounting device constructed in particular in the form of a U-shaped clip with rounded or bent arms, which is constructed and arranged such that by the insertion of the filling insert into the final position, the head region (3) of the suction pump, cooperating with the actuating device, is held by the mounting device automatically during the insertion, with a bending of the elastic pumping chamber (7) being prevented by the guide means (8).
24. Dispenser unit according to the preceding claim with a suction pump according to Claim 7, characterized in that a further mounting aid is provided, which on insertion of the filling insert firstly comes into engagement with a mounting element connected with the base region (4), wherein the further mounting aid and the mounting element are constructed such that through

the insertion movement, the mounting element slides along a guide surface of the further mounting aid and hereby the displacement of the suction pump from the transportation position into the position of use is brought about.

25. Dispenser unit for the delivery of a liquid medium in foam or liquid form according to one of the preceding claims, characterized in that the actuating force is applied directly or indirectly via an actuating button on the dispenser housing (1), wherein the actuating button is constructed such that a triggering of the actuating button produces an actuating force of an actuator, which is connected with the head region (3) of the suction pump such that the actuating force is able to be transferred to the head region (3).
26. Dispenser unit for the delivery in foam or liquid form of a liquid medium according to the preceding claim, characterized in that the actuating button is a sensor switching in a contactless manner, and the actuator is an actuating member which is able to be switched electrically via the sensor and which acts on the head region (3) directly or via a linkage.