~~CLAIMS~~

~~1. An assembly suitable for dispensing liquid from a compressible bag, the assembly comprising an apparatus and a flexible mat,~~

~~the apparatus comprises a housing having a dispensing end and an opposite rear end, a floor comprising a flat floor surface, a pair of parallel guiding tracks and a roller arrangement comprising a roller body having a first and a second roller body ends and a roller surface with a cross sectional circumference, the roller arrangement has a first roller arrangement end and a second roller arrangement end, respectively engaged with said respective guiding tracks, wherein said guiding tracks are located to guide said roller arrangement to roll said roller arrangement from the rear end location towards the dispensing end,~~

~~said mat has a length extending between a first mat end and a second mat end, wherein the first mat end is mounted to or adapted to be mounted to said roller body and the mat is located at least partly on the flat floor between said guiding tracks when said roller is located at said rear end location, preferably said second mat end is located closer to said dispensing end than the first mat end, at least when said roller arrangement is located at said rear end location, wherein said mat preferably is flexible and suitable for being rolled onto the roller body.~~

~~2. The assembly of claim 1, wherein said mat has a top surface and an opposite bottom surface facing said floor surface when unrolled from the roller body, wherein said bottom surface has a coefficient of static friction (CoSF) of about 0.3 or less, such as about 0.2 or less determined according to ASTM D3702-94 (2019), wherein said bottom surface preferably has a lower roughness than said top surface, optionally said bottom surface has a RA roughness of less than about 10 µm, such as of 1 µm or less and wherein said bottom surface preferably is at least partly provided by a low friction polymer comprising fluoropolymer.~~

~~3. The assembly of claim 2, wherein said mat comprises two or more layers which are interfacially bonded or which are interconnected at least at the first mat end and the second mat end, wherein said mounting of the mat to said roller body preferably is a chemical (Glue), a physical (tape) and/or a mechanical mounting (mounting in a groove and/or a projection on or in the roller body).~~

~~4. The assembly of any one of the preceding claims, wherein said floor surfaces has a CoSF) of about 0.4 or less, such as about 0.3 or less, determined according to ASTM D3702-94~~

~~(2019) preferably said floor comprises at least one of a rigid polymer and a fiber reinforced polymer, wherein the rigid polymer is selected from acrylic, polycarbonate, polyimide, PEEK (polyetheretherketone), Acetal (polyoxymethylene), polyamide or any combinations thereof and the fiber reinforced polymer, is reinforced with fibers selected from glass fibers, carbon fibers, basalt fibers, aramid fibers or any combinations comprising one or more of these.~~

~~5. The assembly of any one of the preceding claims, wherein said roller arrangement comprises a track engagement arrangement at each of its respective first second ends engaged with said respective guiding tracks, wherein at least one of said track engagement arrangements comprises a track slider engaged with said guiding track for sliding along the guiding tracks, preferably both of said track engagement arrangements comprises a track slider engaged with said guiding track for sliding along the guiding tracks.~~

~~6. The assembly of claim 5, wherein the track engagement arrangements are engaged with said respective guiding tracks to hold the roller body at a predefined and/or selectable distance to said flat floor surface when the roller arrangement passes from the rear end towards the dispensing end, preferably the track engagement arrangements are engaged with said respective guiding tracks to hold the roller body in a locked, predefined and/or selectable distance to said flat floor surface when the roller arrangement passes from the rear end towards the dispensing end, wherein said predefined and/or selectable distance to said flat floor surface preferably larger than the thickness of the mat, such as from about 2 mm to about 3 cm larger than the thickness of the mat.~~

~~7. The assembly of any one of the preceding claims, wherein said mat at its second mat end has a stop arrangement preventing the second end of the mat to be rolled onto the roller body, said stop arrangement is preferably adapted for being blocked by said track engagement arrangements when the track engagement arrangements reached the second end of the mat, optionally said stop arrangement comprises a rigid stopper such as a rigid rod.~~

~~8. The assembly of any one of the preceding claims, wherein said apparatus comprises a drive arrangement engaged with said roller arrangement for driving said roll of the roller arrangement from the rear end towards the dispensing end, said drive arrangement preferably comprises a spring arrangement and/or an electric motor, preferably the drive arrangement comprises a spring arrangement selected from a single spring or a multi spring arrangement, such~~

as a spring arrangement comprising two or more springs operating in parallel, said spring arrangement preferably being at least partly located in the roller body.

9. The assembly of claim 8, wherein said spring arrangement comprises at least one helical torsion spring located within the roller body, preferably said roller body forms a housing for said one or more helical torsion springs, wherein said roller arrangement preferably comprises an axle and wherein said roller body is arranged to rotate around said axle, wherein said at least one helical torsion spring is located between said roller body and said axle.

10. The assembly of claim 9 wherein the axle is rigidly connected to at least one axle flange and wherein a first end of the helical torsion spring is engaged with said roller body and a second end of the helical torsion spring is engaged with said axle flange, wherein the roller body preferably comprises a cylindrical body part and at least one roller flange perpendicular to the cylindrical body and wherein the first end of the helical torsion spring is engaged with said roller flange or said cylindrical body part, preferably at least one of said axle flanges is an engagement axle flange and at least one of said roller flanges is an engagement roller flange, wherein said engagement axle flange is engaged with said engagement roller flange.

11. The assembly of claim 10, wherein said engagement axle flange and said engagement roller flange forms a rotational restraint, restraining the rotation of the roller body to a predefined rotation rate, preferably said engagement axle flange and said engagement roller flange forms a rotational restraint, wherein a first of said engagement axle flange and said engagement roller flange comprises annular channels and a second of said engagement axle flange and said engagement roller flange comprises annular flanges or sections of flanges engaged into the annular channels of said first of said engagement axle flange and said engagement roller flange, preferably said annular channels comprises a lubricate, such as an oil or grease, preferably the lubricate is filling up space in the channels between the annular flanges or sections of flanges, preferably said lubricate can pass from one annular channel to another annular channel, e.g. through perforations in the annular flanges and/or between sections of flanges.

12. The assembly of any one of claims 8-11, wherein said spring arrangement comprises a loading arrangement for at least partly loading said spring arrangement, said loading arrangement is preferably arranged for at least partly loading said spring arrangement by unrolling the mat from the roller body and or by moving the roller arrangement in a direction from the dispensing end and

towards the rear end, wherein said spring arrangement preferably comprises a loading station for loading said spring arrangement, said loading station preferably being located to engage with said roller arrangement at rear end location of said housing optionally said loading station comprising a toothed wheel and a bar for rotating the toothed wheel, said roller body comprises a ring of tooths located to engage with said toothed wheel when said roller body is located in said loading station, preferably said ring of tooths is located on a periphery of a roller flange located at one of its roller body ends.

13. The assembly of claim 12, wherein said roller arrangement comprises a snap lock for temporarily holding said roller body in said loading station and wherein said roller arrangement preferably comprises a lever for releasing said roller body from said loading station.

14. The assembly of any one of the preceding claims, wherein the apparatus comprises at least one of

- a monitor sensor and a display for monitoring and displaying least one condition of a compressible bag arranged on the mat, the condition preferably comprises a temperature of a liquid in the bag and/or at least one dispensing condition, such as dispensing rate, dispensing status or dispensing time left;
- a regulator arrangement for automatic or remote controlling start or stop of dispensing of liquid from a bag located on the mat;
- a display for displaying a loading condition of said spring arrangement and
- a temperature regulating arrangement adapted to heat a liquid in a compressible bag located on the mat, preferably the temperature regulating arrangement comprises one or more heating elements incorporated into at least one of the mat, the floor and/or the lid or the temperature regulating arrangement comprises an air heat blower arranged for heating the space within the housing to a selected temperature and optionally the temperature regulating arrangement comprises at least one temperature sensor.

15. A system suitable for dispensing liquid from a compressible bag, the system comprising an assembly according to any one of the preceding claims and a compressible bag, the compressible bag has a rear end and a dispensing end, the dispensing end comprises a dispensing port suitable for being connected to a tubing arrangement for administering the liquid, wherein the track engagement arrangements preferably are engaged with said respective guiding tracks to hold the roller at a predefined and/or selectable distance to said flat floor surface when the roller

~~arrangement passes from the rear end towards the dispensing end, wherein said predefined and/or selectable distance to said flat floor surface preferably is from about 1 mm to about 2.5 cm larger than the combined thickness of the mat and the compressible bag in empty condition, such as from about 2 mm to about 2 cm, such as from about 4 mm to about 1 cm larger than the combined thickness of the mat and the compressible bag in empty condition.~~

~~16. The system of claim 15, wherein said system further comprises a tubing arrangement for administering the liquid wherein the tubing arrangement comprises a tube and a roller pinch clamp for adjusting the flow through the tube, wherein the roller pinch clamp comprises at least two adjustment rollers preferablylocated opposite to each other for directly and or indirectly via a support flange pinching the tube between the rollers, preferably said tubing arrangement comprises a spike and drip chamber connected between the dispensing port and the tube, the roller pinch clamp being integrated with the drip chamber or being located at a distance to the drip chamber along the tube of up to about 0.5 m.~~

CLAIMS

1. An assembly suitable for dispensing liquid from a compressible bag, the assembly comprising an apparatus and a flexible mat,

the apparatus comprises a housing having a dispensing end and an opposite rear end, a floor comprising a flat floor surface, a pair of parallel guiding tracks and a roller arrangement comprising a roller body having a first and a second roller body ends and a roller surface with a cross-sectional circumference, the roller arrangement has a first roller arrangement end and a second roller arrangement end, respectively engaged with said respective guiding tracks, wherein said guiding tracks are located to guide said roller arrangement to roll said roller arrangement from the rear end location towards the dispensing end,

said mat has a length extending between a first mat end and a second mat end, wherein the first mat end is mounted to or adapted to be mounted to said roller body and the mat is located at least partly on the flat floor between said guiding tracks when said roller is located at said rear end location, preferably said second mat end is located closer to said dispensing end than the first mat end, at least when said roller arrangement is located at said rear end location and wherein said mat when fully unrolled is extending from its mounting to the roller to a distance of 5 cm or less of said

dispensing end, preferably to a distance of 2 % or less of said dispensing end, such as to the dispensing end.

2. The assembly claim 1, wherein said mat has a top surface and an opposite bottom surface facing said floor surface when unrolled from the roller body, wherein said bottom surface has at least one of a lower roughness than said top surface and a coefficient of static friction (CoSF) of about 0.3 or less, such as about 0.2 or less, such as about 0.1 or less determined according to ASTM D3702-94 (2019) , preferably said bottom surface has a RA roughness of less than about 10 µm, such as of less than 5 µm, such as of 1 µm or less.

3. The assembly of claim 2, wherein said mat comprises two or more layers which are interfacially bonded or interconnected at least at the first mat end and the second mat end.

4. The assembly of any one of the preceding claims, wherein said mounting of the mat to said roller body is a mounting comprising at least one of a chemical mounting, a physical mounting and a mechanical mounting, preferably the mat is releasable mounted.

5. The assembly of any one of the preceding claims, wherein said floor surfaces has a CoSF) of about 0.4 or less, such as about 0.3 or less, such as about 0.2 or less determined according to ASTM D3702-94 (2019).

6. The assembly of any one of the preceding claims, wherein said roller arrangement comprises a track engagement arrangement at each of its respective first second ends engaged with said respective guiding tracks, wherein at least one of said track engagement arrangements comprises a track slider engaged with said guiding track for sliding along the guiding tracks, preferably both of said track engagement arrangements comprises a track slider engaged with said guiding track for sliding along the guiding tracks.

7. The assembly of any one of claim 6, wherein the track engagement arrangements are engaged with said respective guiding tracks to hold the roller body at a predefined and/or selectable distance to said flat floor surface when the roller arrangement passes from the rear end towards the dispensing end.

8. The assembly of any one of the preceding claims, wherein said mat at its second mat end has a stop arrangement preventing the second end of the mat to be rolled onto the roller body.

9. The assembly of any one of the preceding claims, wherein said stop arrangement is adapted for being blocked by said track engagement arrangements when the track engagement arrangements reached the second end of the mat, said stop arrangement preferably comprises a rigid stopper such as a rigid rod.

10. The assembly of any one of the preceding claims, wherein said apparatus comprises a drive arrangement engaged with said roller arrangement for driving said roll of the roller arrangement from the rear end towards the dispensing end, said drive arrangement preferably comprises a spring arrangement and/or an electric motor.

11. The assembly of claim 10, wherein said drive arrangement comprises a spring arrangement selected from a single spring or a multi spring arrangement and wherein spring arrangement being at least partly located in the roller body.

12. The assembly of claim 11, wherein said spring arrangement comprises at least one helical torsion spring located within the roller body, wherein said roller arrangement comprises an axle and wherein said roller body is arranged to rotate around said axle preferably said roller body forms a housing for said one or more helical torsion springs.

13. The assembly of claim 12, wherein said spring arrangement is arranged to drive said roller body to rotate around the axle, wherein the axle is rigidly connected to at least one axle flange and wherein a first end of the helical torsion spring is engaged with said roller body and a second end of the helical torsion spring is engaged with said axle flange, wherein the roller body comprises a cylindrical body part and at least one roller flange perpendicular to the cylindrical body and wherein the first end of the helical torsion spring is engaged with said roller flange or said cylindrical body part and preferably wherein at least one of said axle flanges is an engagement axle flange and at least one of said roller flanges is an engagement roller flange, wherein said engagement axle flange is engaged with said engagement roller flange, preferably to control, steer and/or restrain the rotation of the roller body.

14. The assembly of claim 13, wherein said engagement axle flange and said engagement roller flange forms a rotational restraint, wherein a first of said engagement axle flange and said engagement roller flange comprises annular channels and a second of said engagement axle flange and said engagement roller flange comprises annular flanges or sections of flanges engaged into the annular channels of said first of said engagement axle flange and said engagement roller flange.

15. The assembly of claim 14, wherein said annular channels comprises a lubricate filling up space in the annular channels between the annular flanges or sections of flanges , preferably said lubricate can pass from one annular channel to another annular channel of the annular channels, optionally through perforations in the annular flanges and/or between sections of flanges.

16. The assembly of any one of claims 11-15, wherein said spring arrangement comprises a loading arrangement for at least partly loading said spring arrangement wherein said loading arrangement is arranged for at least partly loading said spring arrangement by at least one of unrolling the mat from the roller body and/or by moving the roller arrangement in a direction from the dispensing end and towards the rear end.

17. The assembly of any one of claims 11-16, wherein said spring arrangement comprises a loading station for loading said spring arrangement, said loading station preferably being located to engage with said roller arrangement at rear end location of said housing, wherein said roller arrangement comprises a snap lock for temporarily holding said roller body in said loading station and wherein said roller arrangement preferably comprises a lever for releasing said roller body from said loading station.

18. The assembly of any one of the preceding claims, wherein the apparatus comprises at least one of

a monitor sensor and a display for monitoring and displaying least one condition of a compressible bag arranged on the mat, wherein the condition being selected from a temperature of a liquid in the bag, and a dispensing condition and

a regulator arrangement for automatic or remote controlling start or stop of dispensing of liquid from a bag located on the mat.

19. The assembly of claim 18, wherein the monitor sensor is a temperature regulating arrangement adapted to heat a liquid in a compressible bag located on the mat.

20. The assembly of claim 19, wherein the temperature regulating arrangement comprises one or more heating elements incorporated into at least one of the mat, the floor and the lid, wherein the temperature regulating arrangement comprises an air heat blower arranged for heating the space within the housing to a selected temperature.

21. A system suitable for dispensing liquid from a compressible bag, the system comprising an assembly according to any one of the preceding claims and a compressible bag, the compressible bag has a rear end and a dispensing end, the dispensing end comprises a dispensing port suitable for being connected to a tubing arrangement for administering the liquid.

22. The system of claim 21, wherein the track engagement arrangements are engaged with said respective guiding tracks to hold the roller at a predefined and/or selectable distance to said flat floor surface when the roller arrangement passes from the rear end towards the dispensing end, wherein said predefined and/or selectable distance to said flat floor surface is from about 1 mm to about 2.5 cm larger than the combined thickness of the mat and the compressible bag in empty condition, such as from about 2 mm to about 2 cm, such as from about 4 mm to about 1 cm larger than the combined thickness of the mat and the compressible bag in empty condition.

23. The system of any one of claims 21-22, wherein said system further comprises the tubing arrangement for administering the liquid wherein the tubing arrangement comprises a tube and a roller pinch clamp for adjusting the flow through the tube, wherein the roller pinch clamp comprises at least two adjustment rollers located opposite to each other for directly and or indirectly via a support flange pinching the tube between the rollers.

24. The system of claim 23, wherein said tubing arrangement comprises a spike and drip chamber connected between the dispensing port and the tube, the roller pinch clamp preferably being integrated with the drip chamber or being located at a

distance to the drip chamber along the tube of up to about 0.5 m, such as up to about 0.2 m, such as up to about 0.1 m.