Claims

~~1. A stirring member (90, 102, 107, 115, 121) for an industrial stirrer, in particular for a stirring rod arrangement (29) for connecting to a stirring mechanism combinable with a container (20) for receiving liquids, wherein the container comprises a filling opening closable with a lid (28) for filling the container in an upper bottom wall (26), wherein the stirring member is connectable to a rod-shaped stirring member carrier (30) of the stirring rod arrangement, wherein the stirring member comprises a bearing end (91) and a stirring member end (94, 108, 114) connected to the bearing end via a link (92) and having a flow tube (93, 111, 116), wherein the flow tube comprises a tube wall (128, 129) characterized in that~~

~~the flow tube comprises an annularly formed accumulating surface (95, 105, 109, 117, 122) at its flow inlet cross section (98), wherein the accumulating surface comprises at least one circular ring sector (96, 103) which is inclined with respect to an inflow plane (97) of the flow inlet cross section.~~

~~2. The stirring member according to claim 1 characterized in that~~

~~the inclined circular ring sector (96, 103) extends over at least 90°, preferably at least 180°, particularly preferably at least 270°, of the accumulating surface (95, 105, 109, 117, 122) with respect to an circular ring center (101, 104, 118).~~

~~3. The stirring member according to claim 2, characterized in that~~

~~the accumulating surface (95) comprises at least one surface sector (99) which is inclined at a surface sector angle ζ with respect to a level partial surface (100) of the accumulating surface, wherein the surface sector angle ζ is 5° to 20°, preferably 10°.~~

~~4. The stirring member according to claim 1 or 2, characterized in that the inclined circular ring sector (103) extends over more than 360° of the accumulating surface (105, 109, 117, 122) based relatively on an circular ring center (101, 104, 118, 127).~~

~~5. The stirring member according to any one of the preceding claims, characterized in that the circular ring sector (96, 103) is inclined at a surface sector angle ζ, wherein the surface sector angle is consistent.~~

~~6. The stirring member according to claim 2 or 4, characterized in that the circular ring sector (96, 103) is inclined at a surface sector angle ζ, wherein the surface sector angle is continuously changed along the circular ring sector regarding a non-linear, preferably trigonometric, function.~~

~~7. The stirring member according to claim 2 or 4, characterized in that the circular ring sector is inclined at a surface sector angle ζ, wherein the surface sector angle continuously increases relative to an circular ring center (127) with decreasing distance to the accumulating surface (109).~~

~~8. The stirring member according to claim 7, characterized in that the accumulating surface (109) is formed as a bell-shaped opening (110).~~

~~9. The stirring member according to claim 2 or 4, characterized in that the circular ring sector is inclined at a surface sector angle ζ, wherein~~

~~the surface sector angle is continuously changed relative to an circular ring center (118) with decreasing distance of the accumulating surface (117) regarding a non-linear, preferably trigonometric, function.~~

~~10. The stirring member according to claim 9,~~
~~characterized in that~~
~~the accumulating surface (122) is formed as a wavelike opening.~~

~~11. A stirring rod arrangement for an industrial stirrer, in particular for connecting to a stirring mechanism combinable with a container (20) for receiving liquids, wherein the container, comprises a filling opening closable with a lid (28) for filling the container in an upper bottom wall (26), wherein the stirring rod arrangement comprises a rod-shaped stirring member carrier (30) formed as a hollow shaft for receiving a stirring mechanism shaft (38),~~
~~characterized in that~~
~~the stirring rod arrangement comprises stirring members (32, 82) pivotably connected to the stirring member carrier according to any one of the preceding claims.~~

~~12. The stirring rod arrangement according to claim 11,~~
~~characterized in that~~
~~a free stirring member end (48, 83) of the stirring members (90, 102, 107, 115, 121) is pivoted against a rotational axis (47) of the stirring member carrier in a mounting configuration, wherein a spring device is arranged between the stirring members (90, 102, 107, 115, 121) and the stirring member carrier in such a way that a centrifugal force is applied to the stirring members in an operational configuration in consequence of a rotation of the stirring member carrier and the stirring members take up a pivoted position, which is dependent on the rotational speed of the stirring member carrier, at a stirring angle δ formed with respect to the rotational axis, wherein the free stirring member ends are arranged at a~~

~~stirring distance r from the rotational axis and the spring force acts against the centrifugal force, the spring force becoming stronger as the stirring angle increases.~~

~~13. The stirring rod arrangement according to claim 12, characterized in that~~
~~the free stirring member ends (94, 108, 114) of the stirring members (90, 102, 107, 115, 121) are arranged underneath pivot bearings (43) formed at the stirring member carrier (30) in the mounting configuration.~~

~~14. The stirring rod arrangement according to claim 12 or 13, characterized in that~~
~~the spring device is formed as a leg spring.~~

~~15. A transport and storage container for liquids having a container (20) formed as an internal container made of plastic, said container (20) comprising a filling opening closable with a lid (28) for filling the container in an upper bottom wall (26), and an outlet connection at a front side for connecting an outlet fitting, as well as a lower bottom wall connecting two lateral walls (23, 24), a rear wall (25) and a front wall (22) of the container for supporting the container on a pallet floor of a transport pallet having an outer jacket for receiving the container, characterized in that~~
~~the lid is provided with a stirring rod arrangement according to any one of the claims 11 to 14.~~

1. A stirring member for a stirring rod arrangement for connecting to a stirring mechanism combinable with a container for receiving liquids, wherein the container comprises a filling opening closable with a lid for filling the container in an upper bottom wall, wherein the stirring member is connectable to a rod-shaped stirring member carrier of the stirring rod arrangement, wherein the stirring member comprises a bearing end and a stirring member end connected to the bearing end via a link and

having a flow tube, wherein the flow tube comprises a tube wall, wherein the flow tube comprises an annularly formed accumulating surface with an outer edge at its flow inlet cross section, wherein the accumulating surface comprises at least one circular ring sector which is inclined with respect to an inflow plane of the flow inlet cross section.

2. The stirring member according to claim 1, wherein the inclined circular ring sector extends over at least 90° of the accumulating surface with respect to a circular ring center.

3. The stirring member according to claim 2, wherein the inclined circular ring sector extends over at least 180° of the accumulating surface with respect to the circular ring center.

4. The stirring member according to claim 2, wherein the inclined circular ring sector extends over at least 270° of the accumulating surface with respect to the circular ring center.

5. The stirring member according to any one of claims 2 to 4, wherein the accumulating surface comprises at least one surface sector which is inclined at a surface sector angle ζ with respect to a level partial surface of the accumulating surface, wherein the surface sector angle ζ is 5° to 20°.

6. The stirring member according to claim 5, wherein the surface sector angle ζ is 10°.

7. The stirring member according to any one of claims 1 to 4, wherein the inclined circular ring sector extends over more than 360° of the accumulating surface with respect to a circular ring center.

8. The stirring member according to any one of claims 1 to 7, wherein the circular ring sector is inclined at a surface sector angle ζ, wherein the surface sector angle is consistent.

9. The stirring member according to any one of claims 2 to 4 and 7, wherein the circular ring sector is inclined at a surface sector angle ζ, wherein the surface sector angle is continuously changed along the circular ring sector regarding a non-linear function.

10. The stirring member according to claim 9, wherein the non-linear function is a trigonometric function.

11. The stirring member according to any one of claim 2 to 4 and 7, wherein the circular ring sector is inclined at a surface sector angle ζ, wherein the surface sector angle continuously increases relative to an circular ring center with decreasing distance to the accumulating surface.

12. The stirring member according to claim 11, wherein the accumulating surface is formed as a bell-shaped opening.

13. The stirring member according to any one of claims 2 to 4 and 7, wherein the circular ring sector is inclined at a surface sector angle ζ, wherein the surface sector angle is continuously changed relative to a circular ring center with decreasing distance of the accumulating surface regarding a non-linear function.

14. The string member according to claim 13, wherein the non-linear function is a trigonometric function.

15. The stirring member according to claim 13 or 14, wherein the accumulating surface is formed as a wavelike opening.

16. A stirring rod arrangement for an industrial stirrer for connecting to a stirring mechanism combinable with a container for receiving liquids, wherein the container, comprises a filling opening closable with a lid for filling the container in an upper bottom wall, wherein the stirring rod arrangement comprises a rod-shaped stirring member carrier formed as a hollow shaft for receiving a stirring mechanism shaft, wherein the stirring rod arrangement comprises stirring members pivotably connected to the stirring member carrier according to any one of claims 1 to 15.

17. The stirring rod arrangement according to claim 16, wherein a free stirring member end of the stirring members is pivoted against a rotational axis of the stirring member carrier in a mounting configuration, wherein a spring device is arranged between the stirring members and the stirring member carrier in such a way that a centrifugal force is applied to the stirring members in an operational configuration in consequence of a rotation of the stirring member carrier and the stirring members take up a pivoted position, which is dependent on the rotational speed of the stirring member carrier, at a stirring angle δ formed with respect to the rotational axis, wherein the free stirring member ends are arranged at a stirring distance r from the rotational axis and the spring force acts against the centrifugal force, the spring force becoming stronger as the stirring angle increases.

18. The stirring rod arrangement according to claim 17, wherein the free stirring member ends of the stirring members are arranged underneath pivot bearings formed at the stirring member carrier in the mounting configuration.

19. The stirring rod arrangement according to claim 17 or 18, wherein the spring device is formed as a leg spring.

20. A transport and storage container for liquids having a container formed as an internal container made of plastic, said container comprising a filling opening closable with a lid for filling the container in an upper bottom wall, and an outlet connection at a front side for connecting an outlet fitting, as well as a lower bottom wall connecting two lateral walls, a rear wall and a front wall of the container for supporting the container on a pallet floor of a transport pallet having an outer jacket for receiving the container, wherein the lid is provided with a stirring rod arrangement according to any one of claims 16 to 19.