CLAIMS

1. A female-end valve stem of a fluid connector, comprising a female-end rear stem part and a female-end front column part arranged at a front end of the female-end rear stem part, wherein a flattened part is provided at a rear end of the female-end rear stem part and has flat surfaces on both sides in a thickness direction, a thickness of the flattened part decreases gradually in a rearward direction to guide a flow forward.

2. The female-end valve stem of the fluid connector according to claim 1, wherein support ribs extend laterally from both sides of the flattened part in a width direction, and are fixedly connected to a female-end body.

3. The female-end valve stem of the fluid connector according to claim 2, wherein mating cambered surfaces are formed on the both sides of the flattened part.

4. The female-end valve stem of the fluid connector according to claim 3, wherein the mating cambered surfaces are formed on the both sides of the flattened part in the width direction and at a rear side of the support ribs; the mating cambered surfaces are located on a same cylindrical surface and located at both ends in a radial direction respectively, and are coaxial with the female-end front column part.

5. The female-end valve stem of the fluid connector according to claim 4, wherein a portion of the flattened part at a front side of the support ribs has a width gradually decreased and a constant thickness.

6. The female-end valve stem of the fluid connector according to any one of claims 1 to 5, wherein an annular groove is provided on a side surface of the female-end front column part to receive a sealing ring.

7. A female-end structure of a fluid connector, comprising a female-end body, a female-end valve sleeve, a female-end elastic member, and the female-end valve stem according to any one of claims 2 to 6, wherein the female-end valve stem is connected to the female-end body, a female-end interface annular gap is formed between the female-end front column part of the female-end valve stem and an interface of the female-end body, the female-end valve sleeve is

movably arranged in the female-end body and connected to the female-end body via the female-end elastic member, the female-end valve sleeve has a sealing part matched with the female-end interface annular gap.

8. The female-end structure of the fluid connector according to claim 7 insofar dependent on claim 3, wherein the mating cambered surfaces on the both sides of the flattened part of the female-end valve stem are in contact fit with an inner wall surface of the female-end body, and are centered by the contact fit.

9. The female-end structure of the fluid connector according to claim 8, wherein the female-end body comprises a rear cap part and a butt tube detachably connected to the rear cap part, the butt tube is provided with an interface, the female-end valve sleeve is disposed in the butt tube, a front end of the rear cap part is arranged on the butt tube; the support ribs of the female-end valve stem are fixedly clamped between a cap bottom of the rear cap part and the butt tube; a flow guiding channel is provided at a middle portion of the rear cap part, an inner wall of the flow guiding channel is in contact fit with the mating cambered surfaces.

10. The female-end structure of the fluid connector according to claim 9, wherein a groove for receiving the support ribs is provided on the cap bottom of the rear cap part, the female-end elastic member abuts against bottom of the rear cap part.

11. A fluid connector comprising a male-end structure, and the female-end structure according to any one of claims 7 to 10, wherein the male-end structure comprises a male-end body, a male-end piston and a male-end elastic member, a front end of the male-end body has a front interface part matched with the female-end interface annular gap of the female-end structure, a rear enlarged hole is formed at a rear inner side of the front interface part so as to form a clearance for flow of fluid when the rear enlarged hole moves to the female-end interface annular gap, the male-end piston is movably connected to the male-end body via the male-end elastic member.

12. The fluid connector according to claim 11, further comprising a first locking ball connected to the female-end body of the female-end structure in such a manner as to be movable laterally, a sliding sleeve connected to the female-end body in such a manner as to be

slidable in a forward and backward direction, and a locking elastic member configured to prevent the sliding sleeve from moving away from a locking position, wherein a locking groove is provided on an outer side of the male-end body and configured to be engaged with the first locking ball; the sliding sleeve is configured to prevent the first locking ball from disengaging from the locking groove when being in the locking position and to enable the first locking ball to be disengaged from the locking groove when the sliding sleeve slides relative to the female-end body and moves away from the locking position.

13. The fluid connector according to claim 12, further comprising a second locking ball connected to the female-end body in such a manner as to be movable laterally, wherein the second locking ball abuts against an inner guiding inclined surface of the sliding sleeve when the sliding sleeve is in the locking position, a pushing inclined surface is provided on the male-end body in front of the locking groove, and configured to push the second locking ball to move laterally and outwardly when the pushing inclined surface moves into the female-end body, the second locking ball moving laterally and outwardly can push the inner guiding inclined surface to move forwards or backwards so that the sliding sleeve moves away from the locking position.

14. The fluid connector according to any one of claims 11 to 13, wherein the male-end piston comprises a male-end front column part and a male-end rear stem part being coaxial with the male-end front column part, a plurality of projecting plate parts are evenly arranged in a circumferential direction on the male-end rear stem part and extend radially, an outer edge of each of the projecting plate parts is in contact fit with the rear enlarged hole.

15. The fluid connector according to claim 14, wherein the male-end rear stem part is connected to the male-end front column part via a flow guiding circular truncated cone part so as to form a continuous convergence; a front end of each of the projecting plate parts contacts and is connected with the flow guiding circular truncated cone part.

16. The fluid connector according to claim 14, wherein the male-end rear stem part has a rear end in a conical structure for guiding flow of fluid.

17. The fluid connector according to claim 14 wherein outer edges of the projecting plate

parts are located on a same cylindrical surface.

18. The fluid connector according to claim 14, wherein a stepped surface is formed on each of the projecting plate parts; the stepped surfaces of the projecting plate parts are located on a same cylindrical surface, the male-end elastic member is arranged on the stepped surfaces.

19. The fluid connector according to claim 14, wherein each of the projecting plate parts has a thickness gradually decreased outwardly in a radial direction.