entrained with a substantially equal portion of the vapour passing through each outlet. The drain is used to regulate the height of the fluid in the central chamber.

None of these solutions gives a satisfying solution for splitting a multiphase flow especially when the use of the equipment is subsea. An aim with the present invention is therefore to provide an alternative device and method for obtaining a splitting of a multiphase flow to several smaller flows which has mainly equal content when looking at the different fluids in the flow.

This is achieved with a manifold and methods as defined in the attached claims, where further details of the invention is given in the dependent claim and the following description.

According to the invention there is provided a manifold for use in a flow system. A manifold is as for a normal definition a pipe or chamber branching into several openings. The manifold is connectable to a feed pipe. According to the invention the manifold is formed with a lower part having an inner surface formed as a half cylinder with a longitudinal axis oriented mainly horizontal direction during normal use. The inner surface may also be formed with a full cylinder surface. There are in this inner surface arranged at least two outlets in a row oriented mainly parallel with the longitudinal axis. These outlets are connected to outlet pipe segments arranged with a centre axis of these pipe segments extending with a downward angle from the lower part of the manifold.

According to one aspect the manifold may be formed by a longitudinal main pipe section, where the pipe has a mainly circular cross section. The inlet of the manifold may be arranged at one end of this main pipe section. The centre axis of the main pipe section would then form the longitudinal axis of the manifold, and during normal use extend in a mainly horizontal direction. The outlets would then be arranged in a lower half of the main pipe section and connected to outlet pipe~~s~~ sections / segments arranged with a centre axis extending with a downward angle from the main pipe section.

According to the above~~an~~ aspect, all of the outlets may be arranged, when seen in a cross section of the lower part of the manifold or the main pipe section, with a main / centre axis of the pipe segments connected to the outlets, forming the same~~an~~ angle between 35-50 degrees in relation to a vertical axis.

According to an embodiment~~another aspect~~ the outlets may be arranged at a position and connected to the outlet pipes such that a main axis of the outlet pipe segments, at the outlet, forms an angle of 45 degrees with a vertical axis.

According to ~~yet~~ another embodiment~~aspect~~ the outlet pipes may be such connected to the main pipe that a centre axis of the outlet pipes, at the outlet, crosses the longitudinal axis of the lower part of the manifold or the main pipe section.

According to yet another embodiment~~aspect~~ there may to the lower part of the manifold or the main pipe sections be arranged two rows of outlets in the lower part or the lower half of the main pipe section. In one embodiment the outlet of one row is arranged in the same transverse plane as an outlet in the other row, in another embodiment the outlet in one row is arranged in a transverse plane in between transverse planes of neighboring outlets in the other row.

According to another embodiment~~aspect~~ the one inlet is arranged at one end of the main pipe section. The first outlet is then arranged in a distance from the inlet. In another embodiment there are two inlets one on each end of the longitudinal axis of the manifold.

According to the invention there is also provided a method for distributing a mixed flow into several pipes, comprising leading the flow mixture into a horizontal pipe where a liquid phase of the mixed flow would position itself in a lower part of the pipe and a gas phase in the rest of the cross section of the pipe, then taking mixture out of the pipe in at least two outlet pipe~~s~~ sections, both pipe sections being arranged at the same angle 30-50 degrees with a vertical axis, in the lower part of the pipe. In one embodiment the mixture is taken out into outlet pipes arranged at 45 degree with a vertical axis.

According to the invention there is also provided a method for cooling a multiphase fluid, comprising leading the multiphase fluid into a manifold according to the invention as described above and thereby splitting the flow into several multiphase flow fractions, then cooling each of the flow fractions separately and thereafter collecting the flow fractions to a common multiphase flow.

The invention will now be explained with non-limiting embodiments with reference to the attached drawings where;

Fig. 1 shows a principle sketch of the flow splitting manifold according to the invention,

Fig. 2 show a cross section through the manifold

Fig. 3 shows a principle sketch of a use of a manifold according to the invention.

Fig. 4A, B and C shows cross section through a manifold of different embodiments.

CLAIMS

1. Manifold for use in a flow system, comprising a longitudinal main pipe section ~~(1)~~ with one inlet ~~(13)~~ connectable to a feed pipe ~~(9)~~ and at least two outlets ~~(14)~~ arranged in a row along the main pipe section ~~(1)~~, where a centre axis ~~(15)~~ of the main pipe section ~~(1)~~ during normal use extends in a mainly horizontal direction characterized in that the outlets ~~(14)~~ are arranged in a lower half of the main pipe section ~~(1)~~ and connected to outlet pipe sections ~~(22)~~ arranged with a centre axis ~~(21)~~ extending with a downward angle from the main pipe section ~~(1)~~, and wherein all of the outlets ~~(14)~~ are arranged, when seen in a cross section of the main pipe section ~~(1)~~, with the centre axis ~~(21)~~ of the pipe sections ~~(22)~~ connected to the outlets ~~(14)~~ forming the same angle θ between 35-50 degrees in relation to a vertical axis ~~(3)~~.

2. Manifold according to claim 1, characterized in that the outlets ~~(14)~~ are arranged at a position and connected to the outlet pipe sections ~~(22)~~ such that a main axis ~~(21)~~ of the outlet pipe sections ~~(22)~~ at the outlet ~~(14)~~ forms an angle θ of 45 degrees with a vertical axis ~~(3)~~.

3. Manifold according to one of the preceding claims, characterized in that the outlet pipe sections ~~(22)~~ are such connected to the main pipe ~~(1)~~ that a centre axis ~~(21)~~ of the outlet pipes crosses a centre axis ~~(15)~~ of the main pipe section ~~(1)~~.

4. Manifold according to one of the proceeding claims, characterized in that there to the main pipe section ~~(1)~~ are arranged two rows of outlets ~~(14)~~ in the lower half of the main pipe section ~~(1)~~.

5. Manifold according to claim 4, characterized in that an outlet ~~(14)~~ of one row is arranged in the same transverse plane as an outlet ~~(14)~~ in the other row.

6. Manifold according to claim 1, characterized in that one inlet ~~(13)~~ is arranged at one end of the main pipe section ~~(1)~~.

7. Method for distributing a mixed flow into several pipes, comprising leading the flow mixture ~~(10)~~ into a horizontal pipe ~~(1)~~ where a liquid phase ~~(12)~~ of the mixed flow would position itself in a lower part of the pipe ~~(1)~~ and a gas phase ~~(11)~~ in the rest of the cross section of the pipe ~~(1)~~, then taking mixture out of the pipe in at least two outlet pipe sections ~~(22)~~, both pipe sections being arranged at the same angle 30-50 degrees with a vertical axis ~~(3)~~, in the lower part of the pipe ~~(1)~~.

8. Method according to claim 7, wherein mixture is taken out into outlet pipes ~~(22)~~ arranged at 45 degree with a vertical axis ~~(3)~~.

9. Method for cooling a multiphase fluid, comprising leading the multiphase fluid ~~(10)~~ into a manifold according to one of the claims 1 to 6 and thereby splitting the flow ~~(10)~~ into several multiphase flow fractions ~~(20)~~, then cooling each of the flow fractions ~~(20)~~ separately and thereafter collecting the flow fractions to a common multiphase flow.