ABSTRACT OF THE DISCLOSURE

A refrigerator receiver-dryer cylinder having a fitting with an axially extending body portion attached to the top of the cylinder. The axial body portion has side and end outlet and outlet ports which permit the axial body portion to be of minimum cross section dimension. The fitting body is centered on the cylinder top and the passage portions are offset from the center of the cylinder. A tube has its upper end attached to the outlet passage at the latter's off-center location and is bent so that its lower end is central of the cylinder and passes through centrally located openings in desiccant supporting baffle plates within the cylinder. One of the baffle plates is supported by a self-locking clip on the tube.

BACKGROUND OF THE INVENTION

Refrigeration receiver-dryer cylinders receive a mixture of liquid and gas from the system, remove any water that is present and store the liquid refrigerant for return to the system through a tube that extends from the bottom of the cylinder to a fitting at its top. The fitting has a body with inlet and outlet passages communicating with the cylinder interior and the tube connects to the outlet passage and extends downward through a pair of spaced baffle plate having desiccant material therebetween. Here-tofore such receiver-dryer cylinders have been formed either with the outlet passage in the fitting body located on the center line of the cylinder so that a straight tube connected to the outlet port can pass centrally through the plates, or with both the outlet passage and the baffle plate openings off-center so that a straight tube connected to the outlet passage will pass through the plates. In the first of these arrangements the fitting body is of greater diameter, and hence greater cost. In the second arrangement it is expensive to make the baffle plates with the off-center holes.

SUMMARY OF THE INVENTION

The present invention provides a receiver-dryer that is more economical to manufacture than previous forms. This is accomplished by making the inlet and outlet passages in the fitting body equidistantly offset from the central longitudinal axis so that the body may be of minimum cross section dimension and providing on-center openings in the baffle plates through which the tube extends. The tube is bent during assembly of the parts so that its upper end will connect to the off-center outlet passage and its lower end will pass through the on-center openings in the baffle plates. Furthermore, one of the baffle plates is brazed to the cylinder at the same time that other parts of the assembly are brazed and the other baffle plate is held in position by a simple self-locking clip on the tube.

DESCRIPTION

FIG. 1 is a longitudinal cross section view of the receiver-dryer.
FIG. 2 is a bottom view of the fitting.
FIG. 3 is a bottom view of the top cap.
FIG. 4 is a plan view of the clip.
3,545,227

Let passage where it is connected to the tube being radially offset from the central axis of the cylindrical body.

2. The receiver-dryer of claim 1 in which the inner portion of the inlet passage is also radially offset from the axis of the cylindrical body.

3. The receiver-dryer of claim 1 in which the tube has a bend between the upper plate and the fitting whereby the axis of the tube upper portion is parallel to the axis of the tube lower portion.

4. The receiver-dryer of claim 1 in which the inner portion of the inlet passage is radially offset from the central axis of the housing the same distance as the inner portion of the outlet passage.

5. The receiver-dryer of claim 1 in which one of the plates is fixed to the cylindrical body and the other is slidable in the cylindrical body and supported by a self-locking means that engages the tube.

6. The receiver-dryer of claim 1 in which the fitting is generally rectangular in horizontal cross section.

7. The receiver-dryer of claim 1 in which the lower end of the fitting has a pair of parallel straight sides and a pair of curved sides and the upper end wall has an opening corresponding in shape to said lower end of the fitting and receiving the same.

8. A receiver-dryer comprising a cylindrical body having an upper end and a lower end, a fitting mounted on the upper end and having inlet and outlet passages communicating with the interior of the cylindrical body, upper and lower baffle plates within the cylindrical body and extending thereacross and having desiccant material therebetween, one of the plates having a fixed position in the cylindrical body and the other plate being slidable relative thereto, and self-locking means fixing the position of the slidable plate.

9. The receiver-dryer of claim 8 in which the upper plate is fixed to the cylinder body and the self-locking means engages the lower plate and the tube.

10. The receiver-dryer of claim 8 in which the self-locking means comprises a frusto-conical spring washer engaging the slidable plate and the tube and permits movement of the slidable plate in one direction on the tube but not in the other direction.

11. The receiver-dryer of claim 8 in which the self-locking means comprises a frusto-conical washer having spring fingers that releasably engage the tube.

References Cited

UNITED STATES PATENTS

2,325,657 8/1943 Burkness 62—474X
2,365,149 12/1944 Anderson 62—474X
2,758,719 8/1956 Line 62—474X
3,080,977 3/1963 Jones 62—474X

WILLIAM J. WYE, Primary Examiner

U.S. Cl. X.R.

62—85, 475