

How to Select and Size Armstrong Drain Traps



For Draining Water From a Light Liquid

Armstrong dual gravity drain traps for draining water from a light liquid are described on pages LD-460 and LD-461. All models shown are identical to corresponding models of traps used to drain liquid from a gas except that float weights are modified to make them suitable for draining water from a light liquid.

Dual gravity drain trap* selection requires that you know the peak heavy liquid load, maximum operating pressure, and specific gravity of the light liquid. With this information you can determine the orifice size required from Chart LD-439-1 and find the specific drain trap that will meet your conditions from the pressure tables on the dual gravity pages.

Selection Procedure for Draining Water from a Light Liquid

1. Assume a required safety factor of 2:1. Multiply the peak load in kg per hour by 2. (See paragraph on "Safety Factors.")
2. From Capacity Chart LD-439-1, find the intersection of actual load times safety factor and the minimum operating pressure differential. Follow the pressure line immediately above this point to intersect the next higher orifice capacity curve. Then follow this curve downward and to the left to get the orifice size.

3. Inspect the tables on pages LD-460 and LD-461 to find the smallest trap that can open the predetermined orifice size at the maximum operating pressure differential. Do not oversize dual gravity drain traps. Oversizing will cause excessive fluctuation of the interface between the two liquids.

Note: While drain traps are sized on the basis of operating pressure differential, forged steel must be used when total pressure in the drain trap exceeds 17 bar.

How to Order Dual Gravity Drain Traps

Specify:

- Drain trap size by number
- Orifice size
- Pipe connections – size and type
- Specific gravity of light liquid
- Weight of water discharge per hour
- Maximum operating pressure

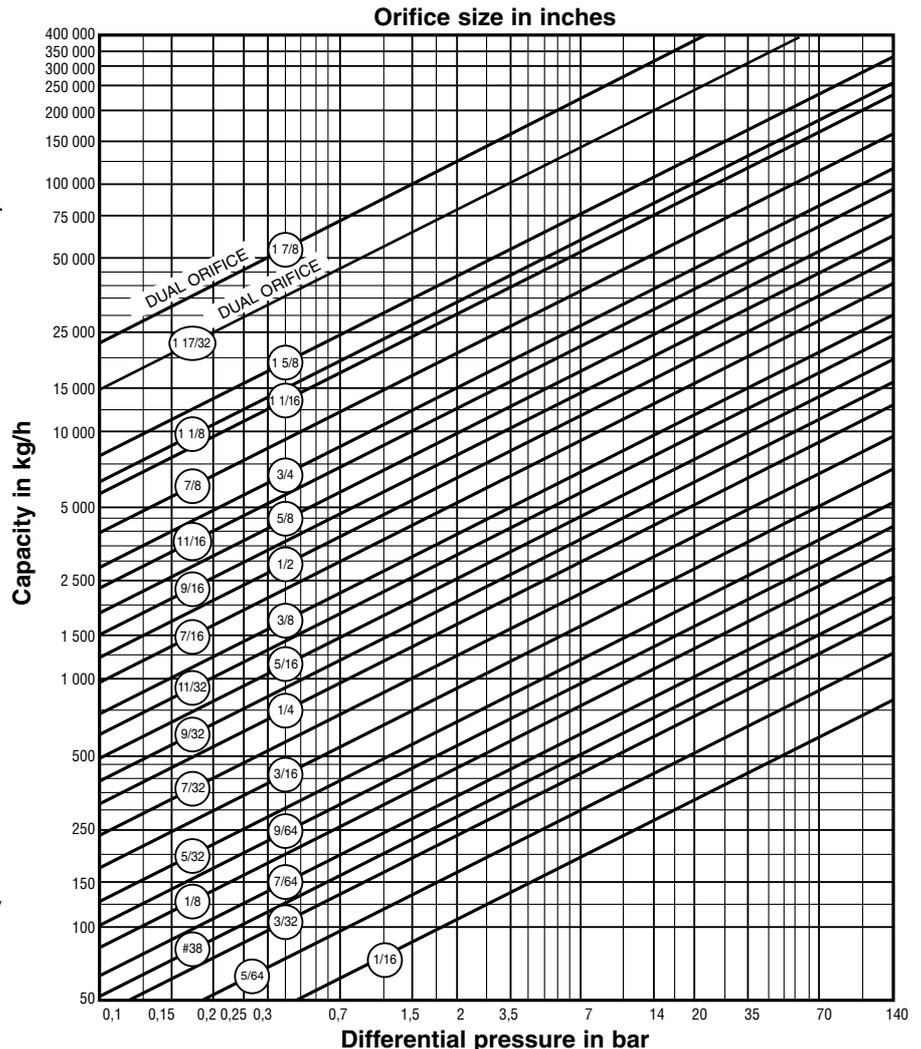
If you are not sure of the drain trap size to use, then specify:

- Specific gravity of light liquid
- Capacity in kg of water per hour with safety factor included
- Working pressure – maximum and minimum

Chart LD-439-1.

Calculated Cold Water Capacity of Armstrong Drain Trap Orifices at Various Pressures

Actual capacity also depends on trap configuration, piping and flow to trap. It is important to allow for safety factors and fluid density variations due to temperature.



* Floats for dual gravity drain traps are weighted with quenching oil which, in the unlikely possibility of float failure, may be dispersed through the system. If this is a hazard, consult the Armstrong Application Engineering Department.

Guidelines for Draining Liquids