



TI-GCM-11
CM Issue 2

Condensate Pipe Sizing

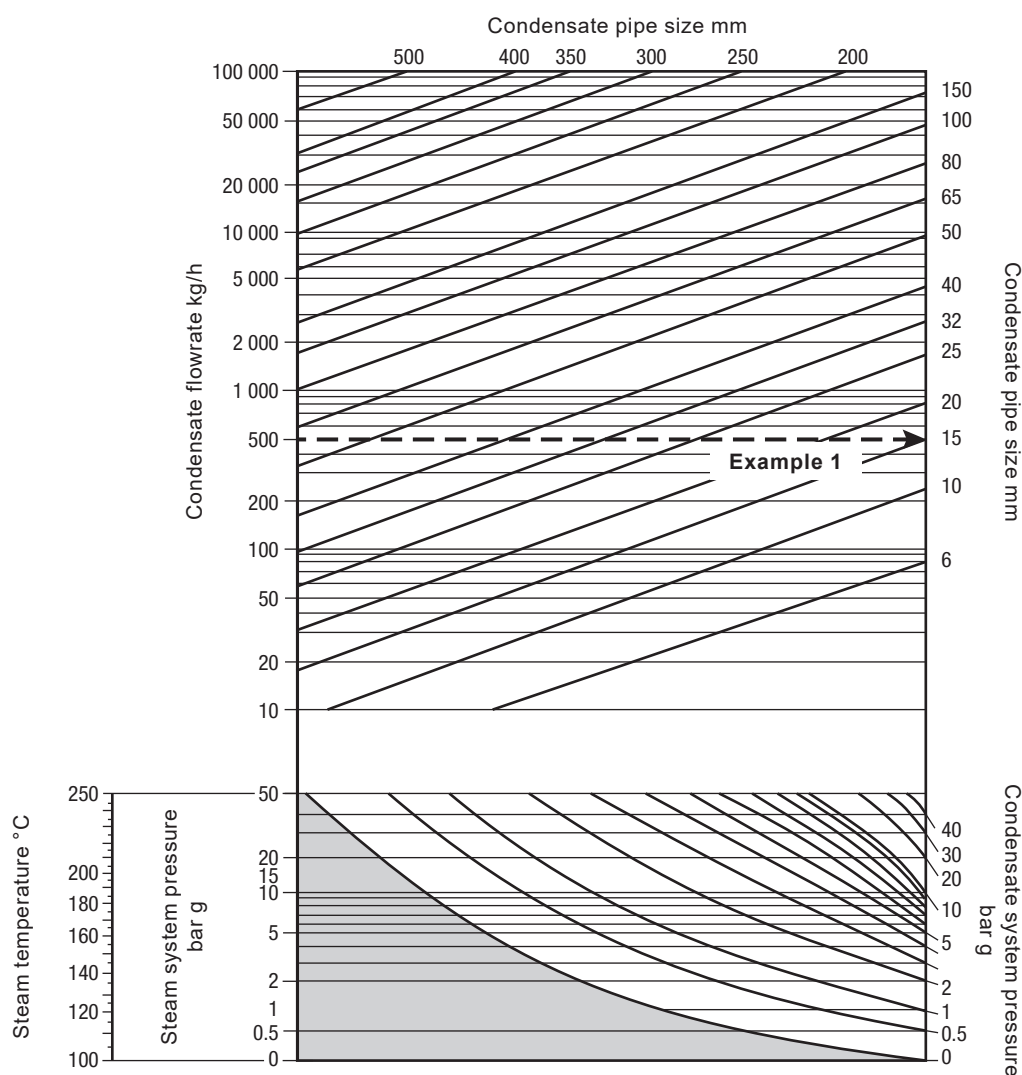
Condensate pipe sizing

Condensate pipes operate in 4 basic ways:

1. Drain lines to traps.
2. Discharge lines from traps.
3. Common discharge lines.
4. Pumped lines.

Types 2 and 3 will usually contain flash steam whilst types 1 and 4 will not.

The condensate pipe sizing chart can be used to size all of the above types, and is suitable for lines up to 100 m long.

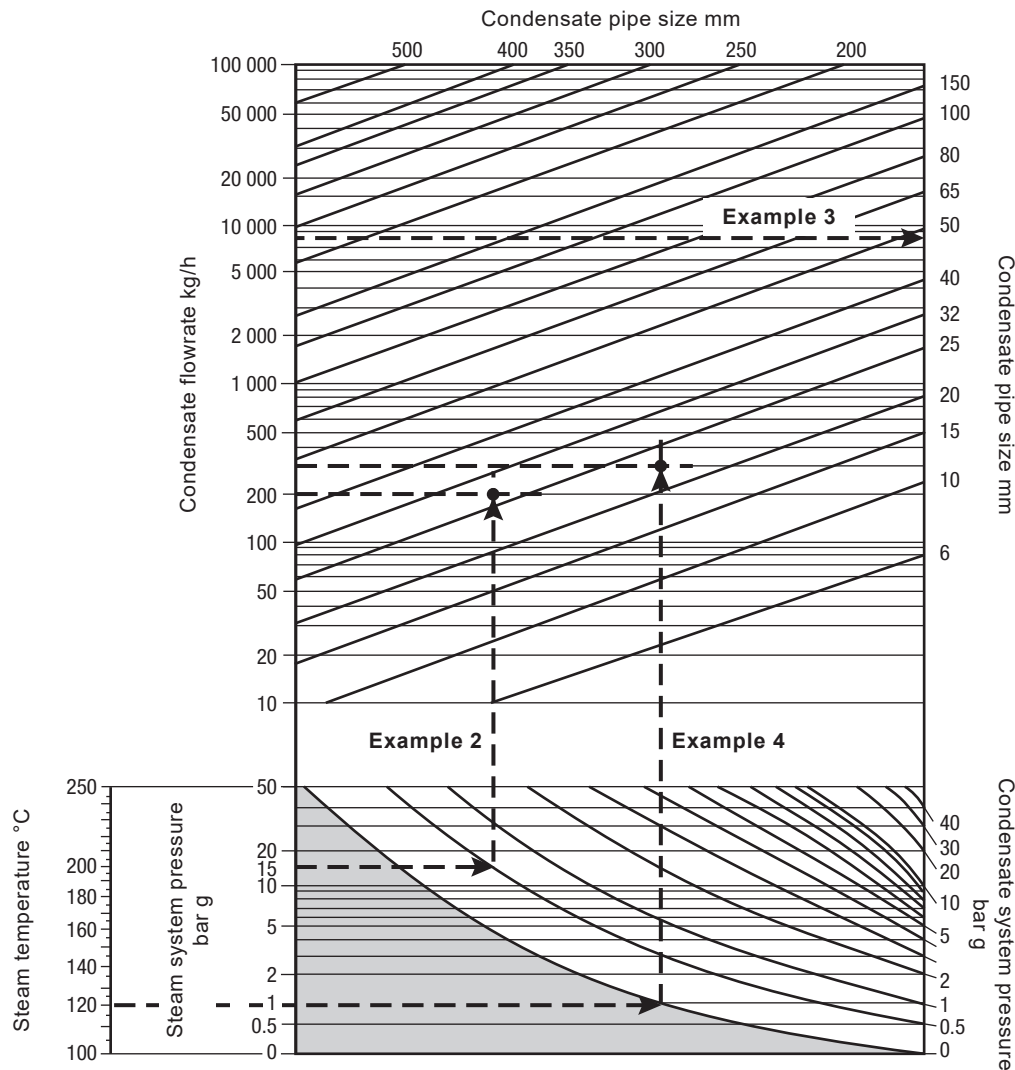


Example 1 - Drain lines to traps:

Scenario: Drain 500 kg/h from process to trap.

How to size: Enter the top chart at 500 kg/h and draw a line horizontally across to the pipe size.

Result: If the selection sits between two sizes, choose the smaller size (15 mm).



Example 2 - Discharge lines from traps:

Scenario: Discharge 200 kg/h from 15 bar g to 0.5 bar g.

How to size: Enter the bottom of the chart at 15 bar g and draw a line to the 0.5 bar condensate pressure line. Draw a line vertically upwards to meet the 200 kg/h line on the upper half of the chart.

Result: If the line is rising choose the larger size (32 mm), if the line falls choose the lower size (25 mm).

Example 3 - Pumped lines:

Scenario: Pump 2000 kg/h from the pump to the hotwell tank. If it is an electrical pump use the pump discharge rate, not the collection rate. For pressure powered pumps and APTs use 4 x the collection rate. For this example we will use an APT which has the following discharge rate = 4 x 2000 kg/h = 8000 kg/h.

How to size: Enter the upper half of the chart at 8000 kg/h and draw a line horizontally to the pipe size.

Result: If the line is less than 100 m use the lower size, if it is longer than 100 m, use the larger size.

Example 4 - Discharge lines from thermostatic traps:

Scenario: Condensate at 120 °C is discharging to atmosphere (300 kg/h at 120 °C).

How to size: Using the temperature scale, enter the lowest half of the chart at 120 °C and draw a line horizontally to the atmospheric condensate pressure line (0 bar g). Proceed by drawing a line vertically upwards to meet the 300 kg/h line on the upper half of the chart.

Result: If the line is falling, choose the lower size; if the line is rising, choose the larger size.

