SAHARA-SORB

EQUILIBRIUM RELATIONSHIP

OF WATER CONTENT, BED TEMPERATURE, AND DEWPOINT

INSTRUCTIONS

1. On "DEWPOINT, °F" SCALE, locate the PRESSURE DEWPOINT of the air coming into the dryer.

   DRAW A HORIZONTAL LINE ①

1A. For 100 PSIG system pressure, if the pressure dewpoint is not known, locate the AMBIENT WET BULB TEMPERATURE on the "AMBIENT WET BULB, °F" SCALE.

   For multi-stage compressors, locate the COMPRESSOR COOLING WATER TEMPERATURE on the appropriate "STAGE" SCALE.

   The LOWER of the two is the PRESSURE DEWPOINT.

2. On "BED TEMPERATURE, °F" SCALE, locate the TEMPERATURE of the air coming into the dryer.

   DRAW A VERTICAL LINE ②

3. The INTERSECTION of lines ① and ② determines the "EQUILIBRIUM WATER LOAD, WT%".

   From the intersection and approximately parallel to adjacent lines:

   DRAW A DIAGONAL LINE ③

4. On "BED TEMPERATURE, °F" SCALE, locate the TEMPERATURE of the air coming out of the dryer aftercooler (usually 10°F higher than cooling water temperature).

   DRAW A VERTICAL LINE ④

5. From the INTERSECTION of lines ③ and ④:

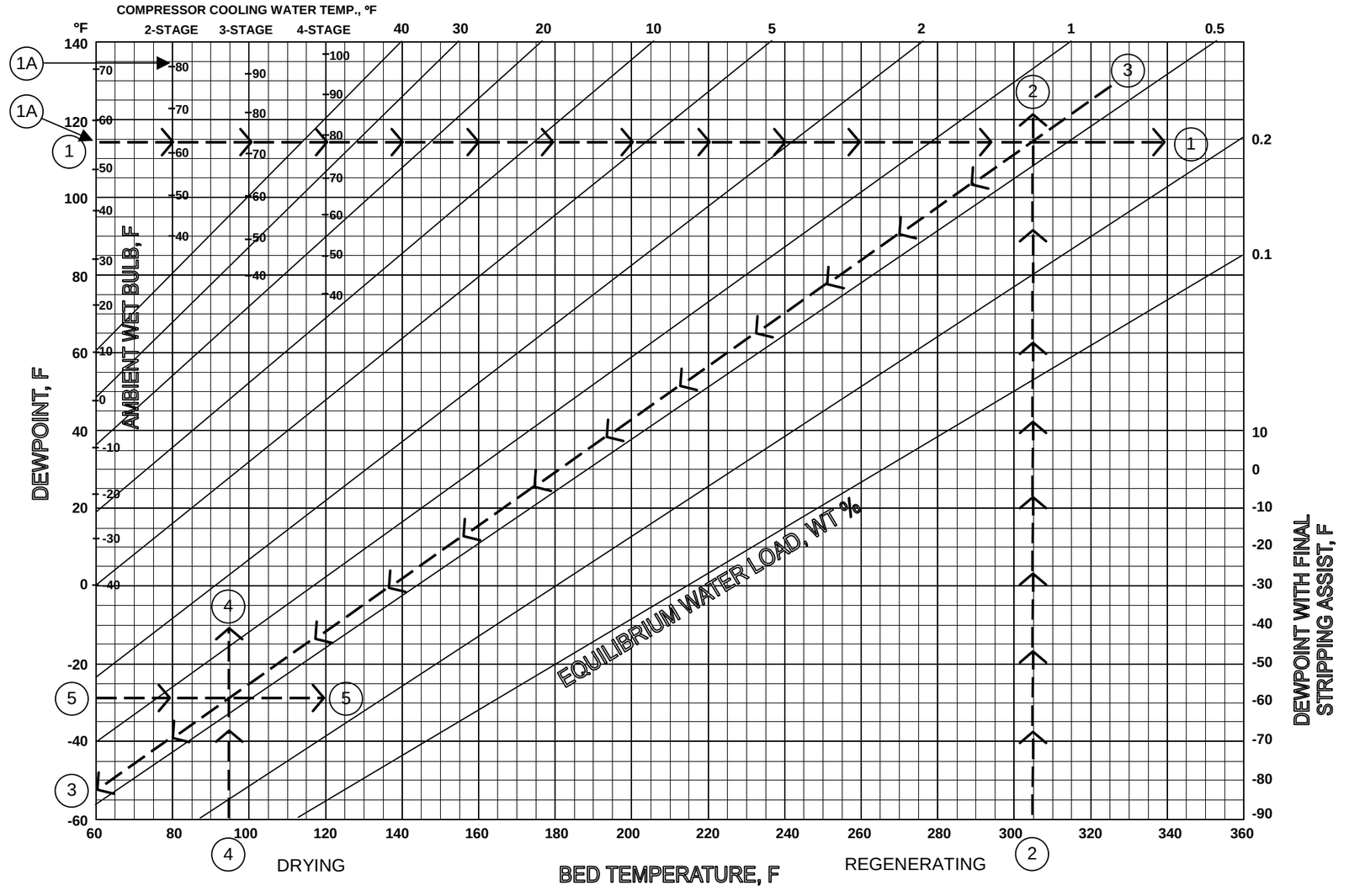
   DRAW A HORIZONTAL LINE ⑤

6. From "DEWPOINT, °F" SCALE:

   For an SP DRYER, use left column

   For an HC DRYER, use right column

   READ LOWEST ATTAINABLE DEWPOINT



EXAMPLE

1. Enter pressure "DEWPOINT" to dryer, if known (i.e. 114°F.)
1A. Otherwise, use lesser of "AMBIENT WET BULB" (i.e. 55°F.)
2. Enter "TEMPERATURE" to dryer (i.e. 305°F.)
3. Draw "EQUILIBRIUM WATER LOAD" line (i.e. 0.6%.)
4. Enter cooler discharge "TEMPERATURE" (i.e. 95°F.)
5. Read lowest attainable "DEWPOINT" (i.e. -29°F.)
6. Extend line to right to read dewpoint with final stripping assist (Model HC).

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