

EXTRACTS FROM:

REPORT NO. RD-8.1

BY HAROLD E. STRAUB, P.E.

CHIEF RESEARCH ENGINEER

TITUS MANUFACTURING CO.

PHOTOGRAPHS OF SMOKE TESTS DEMONSTRATING AIR
FLOW CHARACTERISTICS WITH DIFFERENT SPACING
OF TURNING VANES.

TYPE "Y" IS TWO-INCH RADIUS "HOLLOW" VANE

TYPE "V" IS FOUR-INCH RADIUS "HOLLOW" VANE

TITUS MANUFACTURING CORPORATION

WATERLOO, IOWA

PROJECT NO. R-D-8.1

OCTOBER 11, 1963

The purpose of this report is to show the air flow patterns of the Titus Z and Y turning vanes with standard and double spacing. The photographs shown in this report were taken at the Titus Research Laboratory under actual flow conditions.



This shows the typical velocity profile of the turning effect in a duct without turning vanes. Notice the high velocity air stream on the top portion of the duct. A void can be seen in the lower right portion of the duct as the air stream passes around the corner.

The loss of effective area in a turn such as this increases the pressure loss. (1)

(1) Superscript numerals indicate the references listed at the end of the report.

