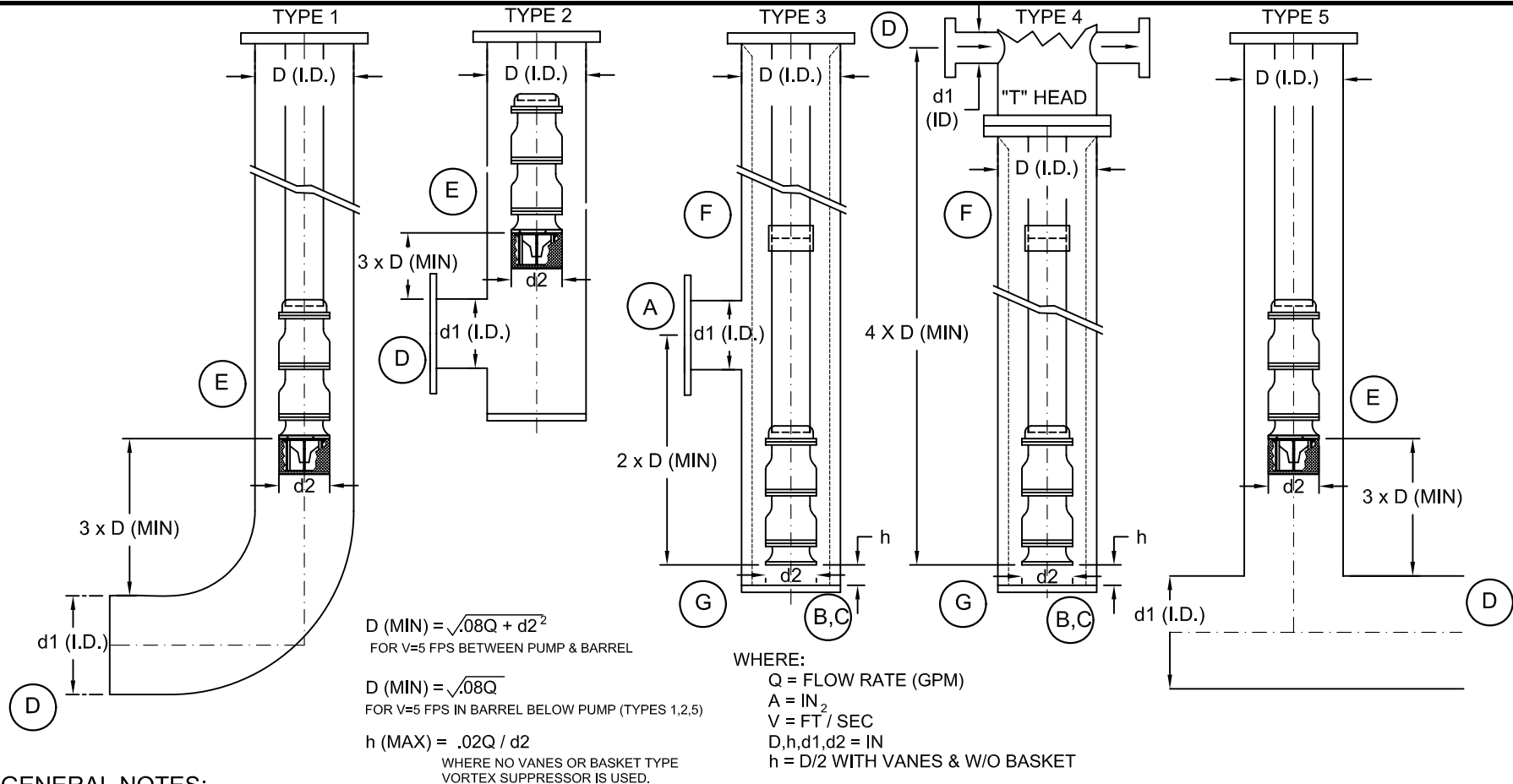


PUMP SUCTION BARREL DESIGN CRITERIA



GENERAL NOTES:

1. FOR BARRELS WITH INSIDE DIMENSIONS PHYSICALLY TOO SMALL TO WELD VANES TO BARREL I.D., ATTACH VANES TO PUMP.
2. WE RECOMMEND A GOOD BASKET TYPE VORTEX SUPPRESSOR ON ALL BARREL APPLICATIONS REGARDLESS OF SIZE OR FLOW CONDITIONS.
3. MINIMUM FIVE (5) X d1 DIAMETERS STRAIGHT RUN AT ALL SUCTION INLETS.
4. THE ABOVE DESIGNS ARE FOR FLOW RATES OF 5000 GPM OR LESS.
FOR FLOW GREATER THAN 5000 GPM, A MODEL STUDY IS RECOMMENDED.

SPECIFIC NOTES:

- A. INLET VELOCITY LESS THAN 4 FT/SEC. VERTICAL SPLITTER PLATE RECOMMENDED IN SUCTION NOZZLE.
- B. CAUTION: SOME SUCTION BELL BEARINGS PROTRUDE BELOW BELL.
- C. FLOW VELOCITY BETWEEN PUMP AND BARREL BOTTOM SHOULD BE LESS THAN OR EQUAL TO 5 FPS.
- D. GENERALLY, WE RECOMMEND INLET VELOCITY LESS THAN 5 FT/SEC
- E. VORTEX SUPPRESSOR IS REQUIRED, PREFERABLY SCREENED BOTTOM.
- F. APPLICATIONS WITH FLOWS GREATER THAN OR EQUAL TO 3,000 GPM AT NORMAL OPERATING CONDITIONS REQUIRE A MINIMUM OF TWO FLOW STRAIGHTENING VANES CENTERED ON THE INLET TO THE BARREL AND EXTENDING FROM BARREL BOTTOM TO THE MAX. WATER LEVEL OR TOP OF THE BARREL.
- G. FOR APPLICATIONS WITHOUT A BASKET TYPE VORTEX SUPPRESSOR HAVING A SOLID BOTTOM, VANES SHOULD EXTEND ACROSS BARREL BOTTOM AND AN ADDITIONAL VANE ACROSS BARREL BOTTOM AT 90 DEGREES TO OTHER VANE.



**SMITH PUMP
COMPANY**

DWG. NO. T:\CAD DWG\BARRELS\DESIGNS\
BARREL DESIGN.dwg

DATE
03/31/03

SCALE
NONE

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