

# ISO 5167-3:2003-03 (E)

## Measurement of fluid flow by means of pressure differential devices inserted in circular cross-section conduits running full - Part 3: Nozzles and Venturi nozzles

---

<b>Contents</b>		<b>Page</b>
Foreword .....		iv
Introduction .....		v
<b>1</b>	<b>Scope .....</b>	<b>1</b>
<b>2</b>	<b>Normative references .....</b>	<b>2</b>
<b>3</b>	<b>Terms and definitions .....</b>	<b>2</b>
<b>4</b>	<b>Principles of the method of measurement and computation .....</b>	<b>2</b>
<b>5</b>	<b>Nozzles and Venturi nozzles .....</b>	<b>3</b>
5.1	ISA 1932 nozzle .....	3
5.2	Long radius nozzles .....	9
5.3	Venturi nozzles .....	13
<b>6</b>	<b>Installation requirements .....</b>	<b>18</b>
6.1	General .....	18
6.2	Minimum upstream and downstream straight lengths for installation between various fittings and the primary device .....	18
6.3	Flow conditioners .....	23
6.4	Circularity and cylindricity of the pipe .....	23
6.5	Location of primary device and carrier rings .....	24
6.6	Method of fixing and gaskets .....	25
Annex A (informative) Tables of discharge coefficients and expansibility [expansion] factors .....		26
Bibliography .....		30