



PROCESS
INDUSTRY
PRACTICES

EDITORIAL CORRECTION
March 2022

Piping

**PIP PNF0200
Vents, Drains, and
Instrument Connection Details**

PURPOSE AND USE OF PROCESS INDUSTRY PRACTICES

In an effort to minimize the cost of process industry facilities, this Practice has been prepared from the technical requirements in the existing standards of major industrial users, contractors, or standards organizations. By harmonizing these technical requirements into a single set of Practices, administrative, application, and engineering costs to both the purchaser and the manufacturer should be reduced. While this Practice is expected to incorporate the majority of requirements of most users, individual applications may involve requirements that will be appended to and take precedence over this Practice. Determinations concerning fitness for purpose and particular matters or application of the Practice to particular project or engineering situations should not be made solely on information contained in these materials. The use of trade names from time to time should not be viewed as an expression of preference but rather recognized as normal usage in the trade. Other brands having the same specifications are equally correct and may be substituted for those named. All Practices or guidelines are intended to be consistent with applicable laws and regulations including OSHA requirements. To the extent these Practices or guidelines should conflict with OSHA or other applicable laws or regulations, such laws or regulations must be followed. Consult an appropriate professional before applying or acting on any material contained in or suggested by the Practice.

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PIP PNF0200 Vents, Drains, and Instrument Connection Details

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- PNF0701 – OR-01 – Orifice Flange Tap Connection – Threaded PMSs – Line Sizes \geq NPS 2
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- PNF0704 – OR-04 – Orifice Flange Tap Connection – Butt Weld PMSs – Line Sizes \geq NPS 2
- PNF0705 – OR-05 – Orifice Flange Tap Connection – Plastic Lined PMSs – Line Sizes \geq NPS 1
- PNF0706 – OR-06 – Double Valved Orifice Flange Tap Connection – Socket Weld PMSs – Line Sizes \geq NPS 2

1. Scope

This Practice provides fabrication and installation details for piping vents, drains, and instrumentation connections including:

- a. Hydrostatic Test Vents
- b. Hydrostatic Test Drains
- c. Valved Vents
- d. Valved Drains
- e. Pressure Connections
- f. Thermowell Connections
- g. Orifice Flange Tap Connections

Cross reference Table 1 is provided to relate the vent, drain, and instrument connection details to associated *PIP Piping Material Specifications*.

2. References

Applicable parts of the following Practices shall be considered an integral part of this Practice. The edition in effect on the date of contract award shall be used, except as otherwise noted. Short titles will be used herein where appropriate.

Process Industry Practices (PIP)

- PIP Piping Material Specifications
- PIP PCIFL100 – *Orifice Plate Installation Details*

3. Definitions

hydrostatic test vents and drains: Connections that are located at high points and low points of piping systems for use during leak testing only. Hydrostatic test vent and drain connections are shown on the detailed construction piping drawings and are provided as required based upon the physical piping configuration. Hydrostatic test vent and drain connections are not typically shown on the P&IDs. Hydrostatic test vent and drain connections are provided without valves. Temporary valves are provided for leak tests as required. Closure devices (i.e., plug, cap, or blind) are provided for permanent installation.

orifice flange tap connections: Valved connections for flow (differential pressure) instruments

pressure connections: Valved connections for pressure instruments

thermowell connections: Unvalved connections for the installation of thermowells

valved vents and drains: Connections that are located at high points and low points of piping systems for use during operation and/or maintenance. Valved vent and drain connections are shown on the P&IDs and detailed piping drawings, are always provided with valves and closure devices (e.g., plug, cap, or blind), and are located to be accessible by operations or maintenance personnel.