PROCESS INDUSTRY PRACTICES

May 2017

Pipeline Systems

PIP PLSMV005
Carbon Steel Check Valve Descriptions

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 purposes 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.

This Practice is subject to revision at any time.

PUBLISHING HISTORY
Issued May 2017

Not printed with State funds

PIP PLSMV005
Carbon Steel Check Valve Descriptions

Table of Contents

1. Scope

This Practice provides requirements for suppliers providing carbon steel check valves included in PIP Pipeline Systems Line Class Material Specifications.

2. References

Applicable parts of the following Practice 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.

2.1 Process Industry Practices (PIP)

– PIP PLCM0004 – *Pipeline Systems Valve Commodity Codes Designation System*

3. Valve Designation System

3.1 For a full explanation of the format used to structure the valve numbers listed within this Practice, refer to *PIP PLCM0004.*

3.2 This Practice provides descriptions for three types of check valves: dual plate, lift and swing. Therefore, the two characters following the Pipeline Systems identifier, L, in the valve numbers are CD (dual plate), CL (lift), and CS (swing).

3.3 The valves listed in Section 5 and Section 6 of this Practice are sorted by the unique valve number designation in ascending alphanumeric sequence (e.g., LCL03CB500, LCS03CA500).

4. Notes

4.1 Occasionally, valve size ranges listed in this Practice are broader than the size ranges shown for the same valves on a piping line class material specification. While the "most common practice" has been used to specify valve size ranges on line class specifications, a purchaser may need to utilize a valve in a size outside this "common practice" choice. Thus, for reference purposes, the full size range for which a given valve is typically manufactured is shown in this Practice.

4.2 Requirements for accessories (e.g., dampeners, dash pots, slam retarders, power assists) for swing check valves are not specified in piping line specifications or valve descriptions. Purchasers shall define the requirements for such accessories in their specifications.

4.3 Because of current practice at many pipeline facilities, only NACE-compliant valves are specified. These valves are technically acceptable for both sweet and sour services. For use of non-NACE-compliant valves or for applications involving severe sour and corrosive services, engineering review is required.

4.4 Pressure and temperature rating can be limited by certain components (e.g. soft seats and seals) permitted by this Practice. Manufacturers' recommended pressure-temperature restrictions shall be consulted.

4.5 It is common pipeline practice to inject inhibitors and other chemicals for corrosion control. The manufacturer shall be consulted on the suitability of service under these conditions for all components (including soft seats and seals) permitted by this Practice.

5. Cross Reference

Valve Number	Applicable Line Classes (PLX-)
LCD01CB500	1CS5S01
LCD01CB700	1CS5S01
LCD01CB701	1CS5S01
LCD03CB500	3CS5S01
LCD03CB700	3CS5S01
LCD03CB701	3CS5S01
LCD06CB500	6CS5S01
LCD06CB700	6CS5S01
LCD06CB701	6CS5S01
LCD09CB500	9CS5S01
LCD09CB700	9CS5S01
LCD09CB701	9CS5S01
LCD15CB700	15CS5S01
LCD15CB701	15CS5S01
LCL01CB500	1CS5S01
LCL03CB500	3CS5S01
LCL06CB500	6CS5S01
LCL08CB000	1CS5S01, 3CS5S01, 6CS5S01
LCL08CB300	1CS5S01, 3CS5S01, 6CS5S01
LCL15CB500	15CS5S01
LCS01CB500	1CS5S01
LCS01CB501	1CS5S01
LCS03CB500	3CS5S01
LCS03CB501	3CS5S01
LCS06CB500	6CS5S01
LCS06CB501	6CS5S01
LCS09CB500	9CS5S01
LCS09CB501	9CS5S01
LCS15CB500	15CS5S01
LCS15CB501	15CS5S01

6. Valve Descriptions

Description of CHECK Valve (LCD01CB500):

Type: . . . . . Check
Design Type: . . . . . Dual Plate, Retainerless
Valve Size: . . . . . NPS 8 -to- NPS 24
Service:. . . . . Sour Service (NACE)
Class: . . . . . ASME 150
Ends: . . . . . Flanged RF
Body: . . . . . CS (ASTM A216-WCB)
Trim: . . . . . API 594 TRIM 1
Hinge Pin: . . . . . 410 SS
Springs: . . . . . Inconel X-750
Stop Pin: . . . . . 410 SS
Body Type: . . . . . Double Flanged
Installation: . . . . . Horizontal - Hinge Pin Vertical or Vertical - Upward
The standards are:

DESIGN:	API 594 Type A
ENDS:	ASME B16.5
RATING:	ASME B16.34
TESTING:	API 598
DIMENSIONAL:	API 594
CERTIFICATION:	ANSI/NACE MR0175/ISO 15156