6WC SERIES

MODELS
910WB & 910WE

IRON WAFER CHECK VALVE

INSTALLATION
OPERATION
MAINTENANCE
GUIDE

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INTRODUCTION

The APOLLO® Iron Wafer Check valves provide full flow capabilities. It provides dependable and economical protection against reverse flow. It can reliably be installed in most plumbing and heating systems (or building service piping).

Each valve is classified by its pressure rating. All valves designated as Class 125 comply with MSS SP-71 Standard Practice.

Table 1. APOLLO® Series & Model Numbers

SERIES	MODEL	DESCRIPTION
6WC-10x-N1	**910WB**	**Class 125 Flanged Iron Wafer Check Valve Buna-N Seat**
6WC-10x-E1	**910WE**	**Class 125 Flanged Iron Wafer Check Valve EPDM Seat**

Table 2. APOLLO® Pipe Size (x) Designations

Pipe Size	Apollo code		Pipe Size	Apollo code		Pipe Size	Apollo code		Pipe Size	Apollo code
2”	**8**		**5”**	**B**		**12”**	**H**		**20”**	**N**
2-1/2”	**9**		**6”**	**C**		**14”**	**J**		**24”**	**P**
3”	**0**		**8”**	**E**		**16”**	**K**			
4”	**A**		**10”**	**G**		**18”**	**M**			

Example: 6WC-10x-x1

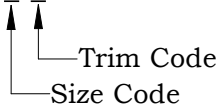


Table 3. APOLLO® Iron Wafer Check Valve Material Designation

PART	MATERIAL
BODY	CAST IRON (ASTM A126 CL B)
SEAT RING	BUNA-N or EPDM
DISC	ALUMINUM BRONZE
SPRING	STAINLESS STEEL
STEM	STAINLESS STEEL
SCREW	CARBON STEEL
PIN	STAINLESS STEEL

Pressure/Temperature Ratings

Class 125
Saturated Steam (EPDM only): 125 psi (8.6 Bar) to 353°F(178°C) (2”-12”)
100 psi (6.9 Bar) to 338°F(170°C) (14”-24”)
Cold Working Pressure: 200 psi (13.8 Bar) at 100°F (2”-12”)
150 psi (10.3 Bar) at 100°F (14”-24”)

Product Marking
All APOLLO® Wafer Check Valves are equipped with a nameplate attached to the valve (Figure 1). This plate provides the model number, part number, size, max pressure rating, and date of manufacture.

Apollo® INTERNATIONAL MADE IN CHINA	SIZE	MAX	MFG	MODEL
	(IN)	PSIG	DATE	910WB
	3	200	0413	6WC100N1

Figure 1. APOLLO® IRON WAFER CHECK VALVE NAMEPLATE

INSTALLATION

APOLLO® Wafer Check Valves are designed for use between the faces of ANSI 125 and 150 pound flat flanges. Raised faced flanges are not recommended.
To improve service life and efficiency, Wafer Check Valves are to be used in a steady flow application. Wafer Check Valves are not recommended to be used in an application where physical or thermal shock-load may be present.

Installation Instructions

Step 1. Check to make sure that the pipe flange and valve sealing faces are clean and free from any debris (pipe scale, welding slag, etc.).

Step 2. Check the valve nameplate to ensure that the pressure and valve materials are correct for the application.

WARNING! – APOLLO® Wafer Check Valves should never be installed where service conditions could exceed the valve ratings. Failure to heed warning may result in personal injury or property damage.

Step 3. Place the valve between the two flanges of the pipe and put the seal gasket between the valve flange and the pipe flange; make sure that it is correctly positioned.

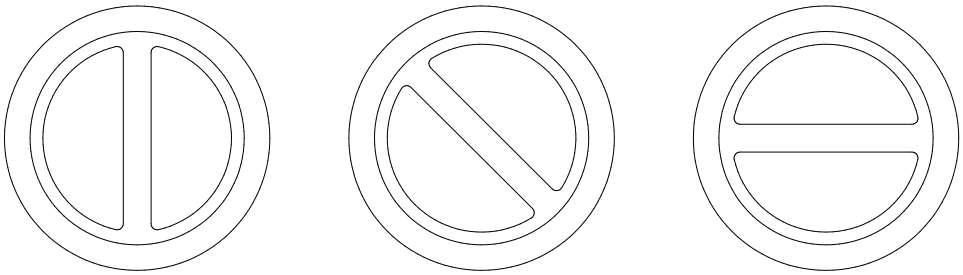
Horizontal Installation: Check Valve should be installed with rib perpendicular to the flow. **See Figure 2 for Correct Horizontal Positioning.**

Vertical Installation: Check Valve can only be installed vertically with flow direction upward. Arrow on body indicates the correct direction of flow. Valve should be installed with rib parallel to the incoming horizontal piping, so that it creates equal loading on the plates. **See Figure 3 for Correct Vertical Positioning.**

Step 4. To improve service life and efficiency, check valves should be installed 5 to 10 pipe diameters from any tees, elbows, pumps, swages, expansions and reductions.

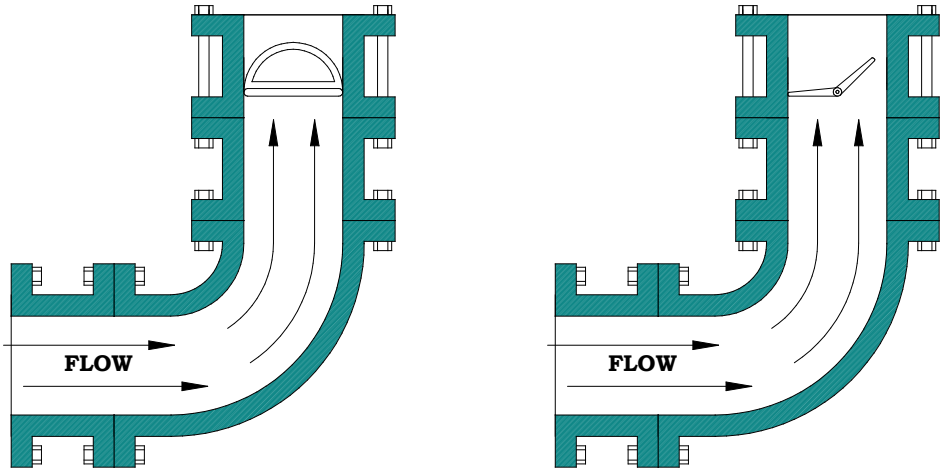
Step 5. Assemble the valve to the pipe using properly sized bolts for application. See Table 4. Progressively tighten to the torque value recommended by the seal gasket provider. See Figure 4 for recommended method.

After the valve installation on the line and before the line pressurization, the following activities must be performed:
- the packing bolts must be verified for tightness, DO NOT OVERTIGHTEN.
- the valve must be fully stroke operated



Correct Positioning Incorrect Positioning Incorrect Positioning

FIGURE 2. APOLLO® Iron Wafer Check Valve Horizontal Installation



Correct Positioning Incorrect Positioning

FIGURE 3. APOLLO® Iron Wafer Check Valve Vertical Installation

Table 4. Stud/Bolt Iron Flange – Class 125

Valve Size		Diameter	Length	Qty
(in)	(mm)			
2	50	5/8”	3-1/2”	4
2.5	65	5/8”	3-3/4”	4
3	80	5/8”	3-3/4”	4
4	100	5/8”	3-3/4”	8
5	125	3/4”	4”	8
6	150	3/4”	4-1/4”	8
8	200	3/4”	4-1/2”	8
10	250	7/8”	4-3/4”	12
12	300	7/8”	5”	12
14	350	1”	5-1/2”	12
16	400	1”	5-1/2”	16
18	450	1-1/8”		16
20	500	1-1/8”		20
24	600	1-1/4”		20

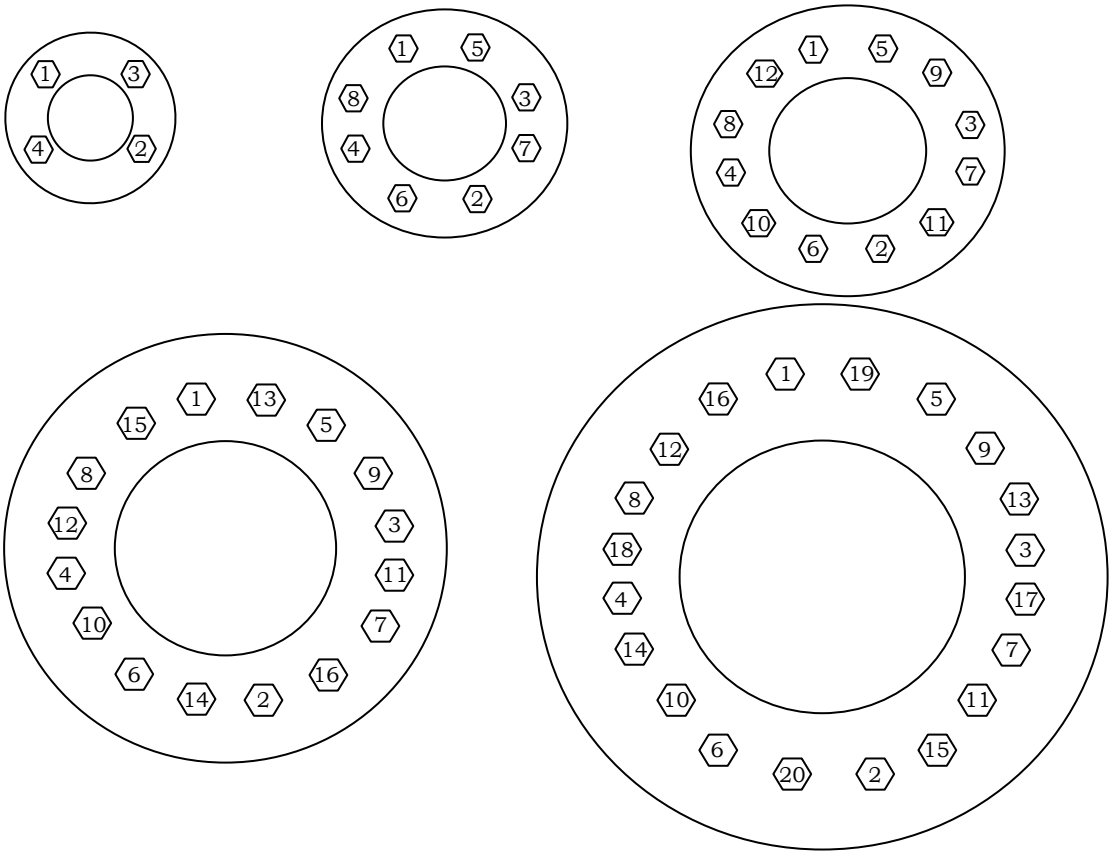


FIGURE 4. Flange Bolt Tightening Sequence

OPERATION

APOLLO® Iron Wafer Check valves are designed to prevent reverse flow in piping systems. They are comprised of two spring loaded half-moon discs that open and close in response to the inlet flow pressures and reverse flow pressures. When the required inlet pressure is present disc will open. When there is inadequate inlet pressure the disc will close preventing any reverse flow in the piping system.

MAINTENANCE

APOLLO® Iron Wafer Check valves are designed for extended service with minimal wear and servicing. Replacement parts are not available.

WARNING! – The pipeline on either side of the valve MUST be depressurized and drained prior to repair.

Valve Leakage

Valve should be periodically inspected for leakage. If the valve is found to be leaking, check the flange bolt torque and the flange gasket. If leakage is still present, valve may need to be removed to inspect the seating surfaces for imperfections.

No Flow

Inspect the Check Valves to make sure flow direction matches the directional arrow that is cast on the body of the Check Valve.

Slamming

Check Valve will need to be removed to verify that the spring is providing the proper tension.

Vibration

Confirm that the check valve is 5 to 10 pipe diameters from any turbulence producing devices (tees, elbows, pumps, swages, expansions and reductions). Vibration can also be caused if the flow rate is above the recommended range.

AMENDMENT REGISTER

DATE	REV	SECTION	PAGE	DESCRIPTION
09/25/13	A	All	All	Released new engineering standard
10/10/13	B	Introduction	3	Updated Pressure & Temperature Ratings