

Dual Plate Wafer Check Valve: API 594, Class 150–2500

In a dual plate check valve, two half discs close around a central hinge pin with spring assistance. Its short face-to-face and low weight allow it to replace a swing check valve, and because it closes quickly when flow stops, it reduces water hammer on pump lines.

Technical specifications

Type	Wafer, lug, double-flanged; retainerless or pinned design
Pressure class	ASME Class 150–2500
End connections	Between ASME B16.5 / B16.47 flanges
Seat	Metal (hard-faced) or elastomer (NBR, EPDM, FKM)
Materials	WCB, LCC, CF8M, duplex; plates 316 / duplex; Inconel springs
Testing	API 598



Key features

- Short face-to-face and low weight
- Spring-assisted fast closing against water hammer
- Horizontal and vertical upward flow installation
- Metal or elastomer seat option

Wafer face-to-face dimensions (API 594, mm)

Wafer-type dual plate check valves are clamped between two flanges with stud bolts; face-to-face dimensions follow API 594 and are approximately 1/3 to 1/6 of those of a swing check valve of the same size and class.

NPS	DN	Class 150	Class 300	Class 600
2	50	60	60	60
2½	65	67	67	67
3	80	73	73	73
4	100	73	73	79
6	150	98	98	136
8	200	127	127	165
10	250	146	146	213
12	300	181	181	229

NPS	DN	Class 150	Class 300	Class 600
14	350	184	222	273
16	400	191	232	305
18	450	203	264	362
20	500	219	292	368
24	600	222	318	438

Lug and double-flanged types within API 594 Type A have the same face-to-face dimension; double-flanged types are also available in a long pattern. Exact dimensions are shown on the GA drawing supplied with the quotation.

Part materials

Part	Carbon steel	Stainless steel
Body	A216 WCB (hardfaced seat)	A351 CF8M (hardfaced seat)
Plates (discs)	A216 WCB + CoCr hardfacing	A351 CF8M + CoCr hardfacing
Hinge pin	A276 410	A276 316
Spring	Alloy X-750	Alloy X-750 / SS316
Spring retainer	A182 F6a	A182 F316

On request: duplex (A995 4A / F51), aluminum bronze and nickel alloy bodies; soft-seated (EPDM, NBR, FKM) versions for water service.