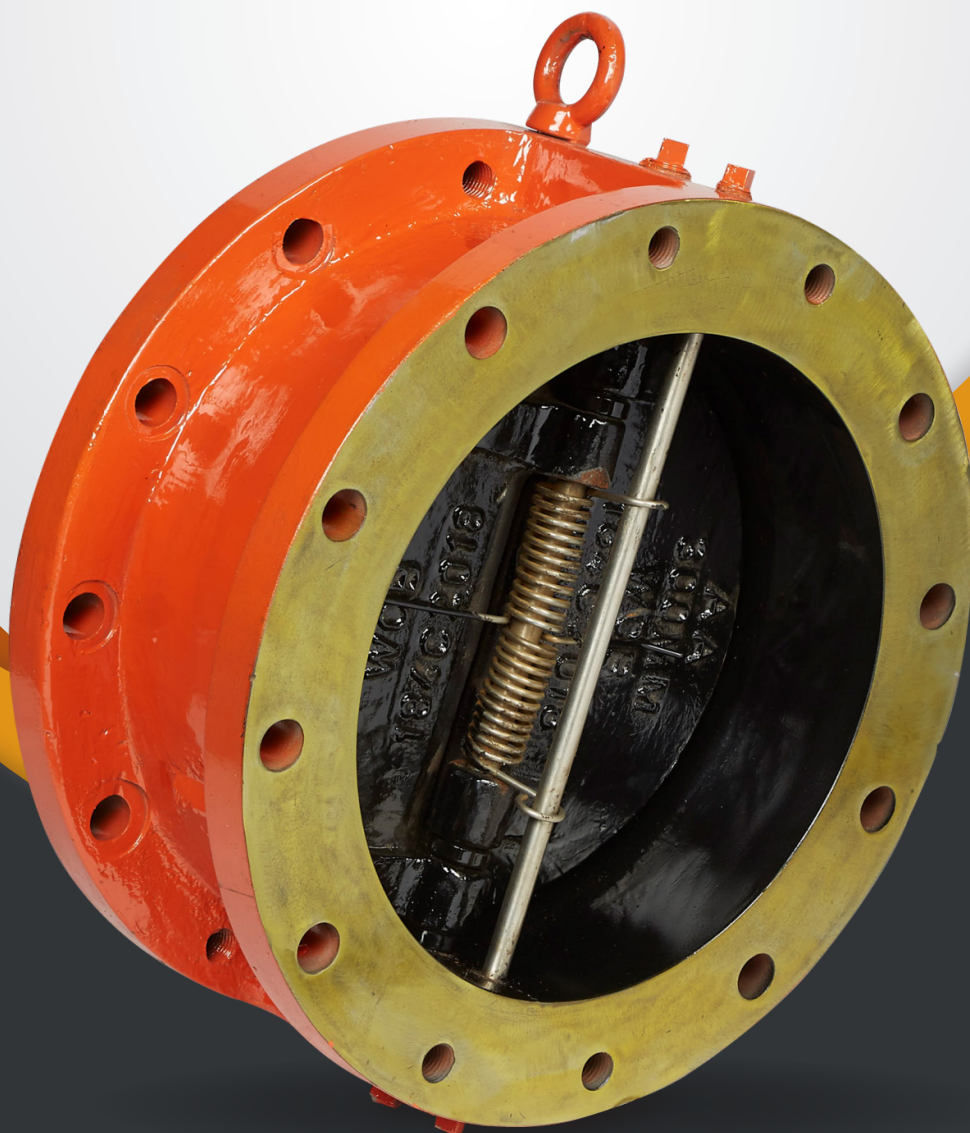




Enriching Lives

DUAL PLATE CHECK VALVE

AS PER API: 594



KIRLOSKAR BROTHERS LIMITED

Established 1888

A Kirloskar Group Company

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ABOUT KBL

Kirloskar Brothers Limited (KBL) is a world-class pump manufacturing company with expertise in the engineering and manufacturing of fluid management systems. Established in 1888 and incorporated in 1920, KBL is the mother company of the Kirloskar Group. KBL provides complete fluid management solutions for large infrastructure projects in the areas of water supply, power plants, irrigation, building & construction, oil & gas industry, and marine & defence. KBL manufactures industrial, agriculture and domestic pumps, valves and hydro-turbines.

Over the years, KBL has developed innovative products, which have enabled it to carve a niche globally. It is a global conglomerate and is equipped with the best technologies in the world. It is also India's largest centrifugal pump manufacturer with nine manufacturing facilities in India along with other international subsidiaries and operations in the Netherlands, South Africa, Thailand, the United Kingdom, and the United States of America. KBL has over 16,000 channel partners globally and is supported by best-in-class Pan-India network of authorised service and refurbishment centres.

KBL is the first Indian pump manufacturing company to be certified for Integrated Management System, (ISO 9001:2015, ISO 14001:2015, ISO 45001:2018, ISO 50001:2018).

Its factories deploy Total Quality Management tools using the European Foundation for Quality Management (EFQM) model.

Indian subsidiaries and joint ventures

- Kirloskar Ebara Pumps Limited (KEPL) manufactures API, Non-API pumps, and steam turbines.
- Kirloskar Corrocoat Private Limited (KCPL) is the leading solution provider in long-term corrosion protection and energy conversion.

- Karad Projects and Motors Limited (KPML) is a motor manufacturing company with expertise in the manufacture of stampings, stators, rotors, AC rotating machines, aluminium die-cast connecting rods and pump assemblies. It also houses a notable foundry facility specialising in the manufacture of a wide range of carbon steel, alloy steel, stainless steel and cast iron castings for industries such as pumps, valves, turbines, shipping, heavy engineering applications and more.

International, subsidiaries and joint ventures

- SPP Pumps Limited, United Kingdom is a 140-year-old leading pumps manufacturer of centrifugal pumps and associated systems, a global principal in the design, supply and servicing of pumps, renowned fire pump packages and high-quality equipment for a wide range of applications and industry sectors. It is the largest pump manufacturer in the United Kingdom.
- SyncroFlo, Inc., United States of America manufactures pre-assembled pumping systems and provides solutions for HVAC systems, fire protection and turf irrigation.
- Rodelta Pumps International is a Dutch pump manufacturing company that offers products for flood control, irrigation, drinking water, wastewater, pulp & paper, power, chemical, oil & gas and general industries.
- Kirloskar Brothers Thailand Limited (KBTL), Bangkok is the Thailand Board of Investment (BOI) promoted headquarters and assembly plant of the KBL Group companies for the ASEAN and East Asia regions.
- Braybar Pumps (Pty) Limited, Republic of South Africa is engaged in the manufacturing and sales of high-head multi-stage pumps, rubber-lined slurry pumps and metal-lined bearings.

Pumps | Valves | Hydro Turbines | Turnkey Projects

Water Resource Management | Irrigation | Power | Industry | Oil & Gas | Marine & Defence | Building & Construction | Distribution (Small Pumps) | Valves | Customer Service & Spares



Global Headquarter:
"Yamuna", Baner, Pune.



DUAL PLATE CHECK VALVE (DPCV)

Widely accepted by Municipal Corporations, Irrigation authorities, Water supply authorities, National Thermal Power Corporation, and Industrial users.

Designed as per latest edition of API: 594 specifications.

Applications:

- Dual Plate Check Valves (DPCV) are used in pipe lines to prevent reverse flow of water and water hammer the pumps from rising mains.
- Suitable to handle water, Cooling water, chilled / hot water system, Sea water, Potable water, Raw water having turbidity upto 5000 ppm and temperature upto 45°C.
- Oil & Gas: On shore / Off shore.
- Metallurgical & Chemical process.

Special Features:

- DPCV is lighter in weight and compact in size compared to conventional Non Return Valve
- Lapped Body and Disc seats for drop tight seat
- High torsion springs ensures quick valve closure
- Innovative Hinge pin design allows disc assembly to lift off seat prior to disc rotation preventing heel of each disc from scrapping across the body seat
- Flexible Installation to suit pipe orientation
- Reduces pipe supports, simplifies piping, easier, less costly installation
- Spring - loaded, double door design has low cracking pressure
- Discs open 85° to ensure positive closing
- Materials and trims available for all services within temperature range
- Resilient or Metal - to - Metal seat available

Design Features:

• LAPPED BODY AND DISC SEATS:

The heart of each valve is the seat/seal interface. Our valves are manufactured using the modern machining methods and equipment to achieve maximum flatness with a fine lapped finish. The end result is valves that easily meet and exceed test requirements of API 598

• VALVE DISC:

The dual-plate design produces maximum strength with minimum opening and closing time.

• SEALS:

Specially designed flat, full contact seals maintain positive shutoff at low working pressures. In case of Resilient seated BUNA-N, Viton, EPDM and other materials are molded on the body. For Metal to Metal seating seat surface will be either weld overlay or Integral as per Body & Disc material of construction or separate seat rings fixed in the Body.

• SPRINGS:

Torsion springs assist valve plate closure, preventing flow reversal, and consistent valve response ensures against slamming and water hammer. Extended leg springs prevent seat wear caused by scrubbing.

• HINGE PIN:

The Hinge Pin is of heavy-duty corrosion-resistant Construction

• THRUST WASHERS:

This reduces friction and wear of valve plate hinges.

- **SUPERIOR HINGE DESIGN:**

In order to eliminate seat wear during the opening cycle, all Dual plate check valves incorporate clearance between the hinge pin and holders, or hinge pin and disc bore. This clearance allows the disc assembly to lift off the seat prior to disc rotation preventing the heel of each disc from scraping across the body seat.

- **INDEPENDENT PLATE SUSPENSION:**

For valve sizes 500NB and above, each plate is supported independent of each other. In any position (Horizontal or Vertical) each plate's weight is directly transferred to the body.

Material of Construction:

Scope	Standard Supply	Optional
Body	CI IS: 210 Gr. FG 260 (CL-125) SGI IS:1865 Gr. 500/7 (CL-150) CS ASTM A216 Gr. WCB (CL-150)	SGI IS: 1865 Gr. 400/15, SS ASTM A 351 Gr. CF8, SS ASTM A 351 Gr. CF8M
Door/Disc/Plate	CS ASTM A216 Gr. WCB	SS ASTM A 351 Gr. CF8, SS ASTM A 351 Gr. CF8, SS ASTM A 351 Gr. CF8M, SS ASTM A 351 Gr. CF3M, SS ASTM A 351 Gr. CA15
Door Seat	SS410 Weld Deposited	AISI SS 304, AISI SS 316
Body Seat	Soft Seated- NBR Metal Seated- SS410 Weld Deposited/CA15	Soft Seated- EPDM Metal Seated- SS304,SS316 Weld Deposited / CF8/CF8M
Hinge Pin/Stop Pin	SS 410	SS 304, SS 316
Spring	SS 316	Inconel
Body/Plate Bearing	SS410	SS 304,SS 316
Plugs	SS410	SS 304, SS 316

Note: 1. For special material of construction, please contact Design Office.

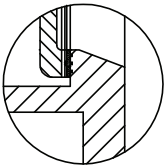
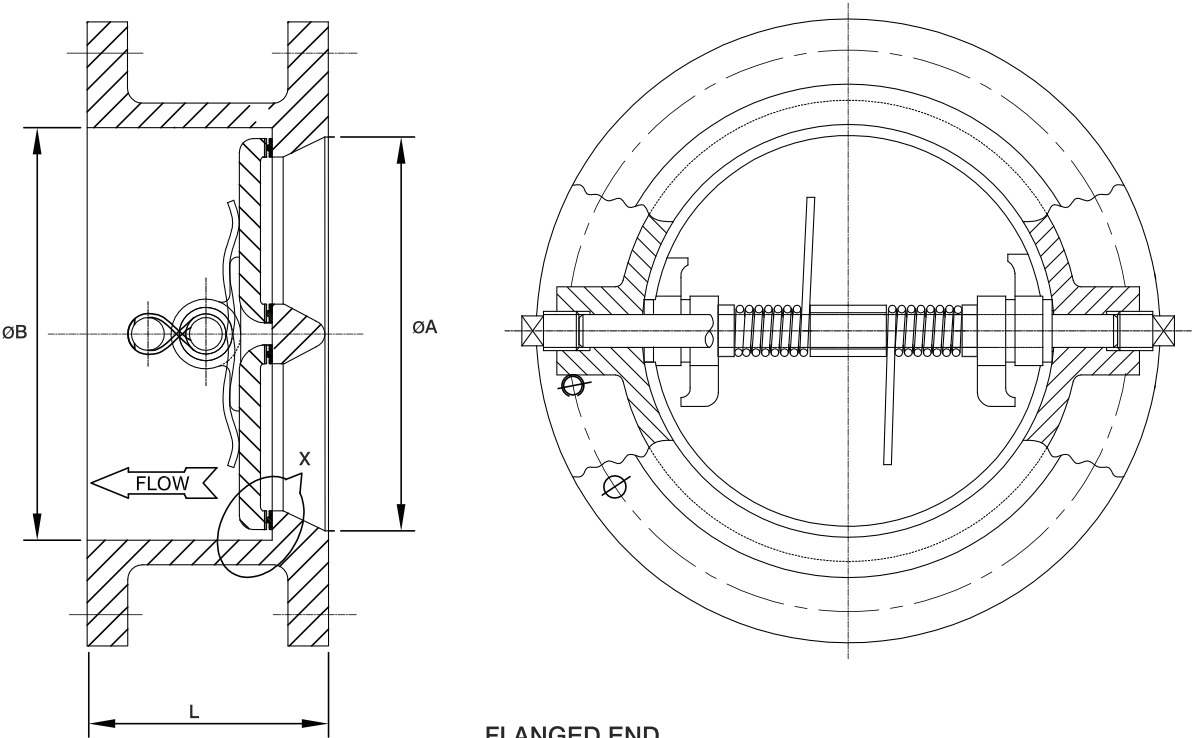
2. Optional: Special Protective coating for Body / Disc (Corrocoat / Ebonite / EPDM Lining) as per requirement

Technical Specifications:

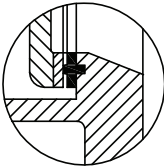
Design and Manufacturing Standard	API: 594
Testing and Inspection	API: 598
Pressure Temperature Rating	ASME B 16.34
Face to Face Dimension	API: 594

Note: 1. For Higher Pressure Rating contact Design Office.

General Outline Drawing:

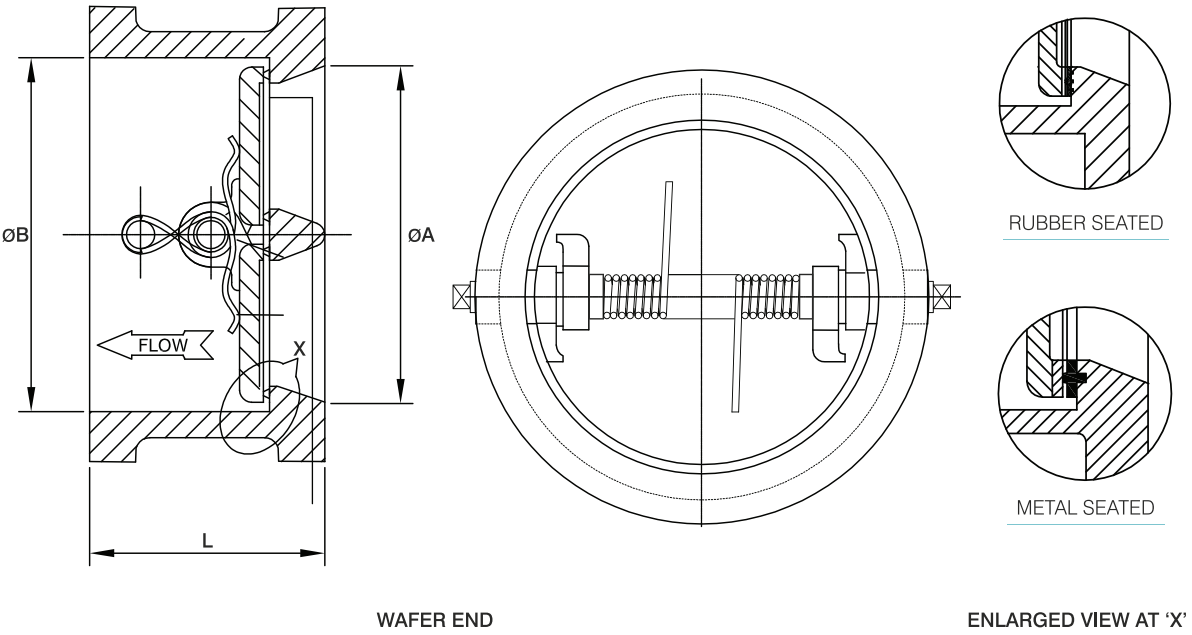


RUBBER SEATED



METAL SEATED

ENLARGED VIEW AT 'X'



General Outline Dimensions:

Valve Size	øA	øB Approx.	L	
			Class 125	Class 150
50	50	60	54	60
65	65	78	60	67
80	80	90	67	73
100	100	114	67	73
125	125	135	83	83
150	150	168	95	98
200	200	218	127	127
250	250	270	140	146
300	300	319	181	181
350	350	370	184	184
400	400	410	191	191
450	450	455	203	203
500	500	508	213	219
600	600	605	222	222
700	700	710	305	305
800	800	802	368	368
900	900	910	368	368
1000	1000	1000	432	432
1100	1100	1111	432	432
1200	1200	1200	524	524
1400	1400	1400	540	540
1500	1500	1500	660	660
2000	2000	2000	927	927
2600	2600	2600	1321	1321

Note: 1. All Dimensions are in 'mm' otherwise stated.

2. Dimensions of valve sizes not covered in API 594 are as per KBL standard.

End Connection:

Scope	Flange Drilling Standard
Standard Supply	IS : 1538 Table 4 & 6
Optional	BSEN 1092 - 2 PN 10, PN 16
	BS: 10 - Table D / E / F
	IS : 1538 Table 5
	ANSI B 16.1 / 16.5 / 16.47
	IS : 6392

Note: 1. Water end connection valves suitable for above drilling standards are also available on request.

Accessories:

- Companion Flange
- Bypass Arrangement (across the pipe line)
- 2000mm and 2600mm Valve sizes are with spring housing / damping arrangement

Hydrostatic Test Pressures:

Size Range	Material of Construction	Pressure Rating	Body Test : Bar (Kgf/Cm ²)	Seat Test : Bar (Kgf/Cm ²)
50 mm to 300 mm	CI/SGI/CS/SS	Class-125	25 (25.49)	14 (14.27)
350 mm to 2600 mm	CI/SGI/CS/SS	Class-125	19 (19.37)	11 (11.21)
50 mm to 2600 mm	Ductile Iron	Class-150	26 (26.51)	17 (17.33)
50 mm to 2600 mm	Steel	Class-150	30 (30.59)	22 (22.43)

Note: 1. Body Test : 01 Minutes (Below 350 mm) and 05 Minutes (Above 300 mm)
2. Seat Test : 01 Minutes (Below 350 mm) and 02 Minutes (Above 300 mm)

Size	Material of Construction	Pressure Rating	Body Test Pressure (bar)	Seat Test Pressure (bar)
50mm - 300mm	CI/SGI/CS/SS	CL125	25	14
350mm & Above	CI/SGI/CS/SS		19	11
50mm - 1200mm	SGI	CL150	26	17
	CS/SS		30	22
50mm - 1200mm	SGI	CL300	66	44
	CS/SS		79	58



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REGISTERED OFFICE & GLOBAL HEADQUARTERS

“Yamuna”, S. No. 98/(3-7), Plot No. 3, Baner,
Pune - 411 045, Maharashtra, India.

Toll Free: 1800-123-4443 | **Phone:** +91 (20) 67214444

Email: marketing@kbl.co.in | **Fax No.** 020 67211060

Website: www.kirloskarpumps.com | **CIN No.** L29113PN1920PLC000670

OUR COMPANIES



BRAYBAR PUMPS (PTY) LTD
Republic of South Africa



KARAD PROJECTS AND MOTORS LIMITED
India



KIRLOSKAR BROTHERS (THAILAND) LIMITED
Thailand



KIRLOSKAR CORROCOAT PRIVATE LIMITED
India



KIRLOSKAR EBARA PUMPS LIMITED
India



RODELTA PUMPS INTERNATIONAL B.V.
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SPP PUMPS LIMITED
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SYNCROFLO, INC.
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