



**Greater Cairo Foundries**

شركة مسابك القاهرة الكبرى ش.م.م

## GCF NON RETURN CHECK VALVE SWING TYPE



# GCF NON RETURN CHECK VALVE SWING TYPE SERIES 5300

The GCF series 5300 is a Ductile Iron Swing Check Valve which is used with rising flow to prevent flow reversal in order to reduce hammer and protect the system itself. It is suitable for single and multi-pump water and sewage applications. Series 5300 comply with DIN 3232 - DIN 3202 F6. They can be supplied with counter weights and hydraulic dampers upon client request.

## DESIGN FEATURES

### Resistance to flow

Minimized by the smooth interior design

### Ease of maintenance

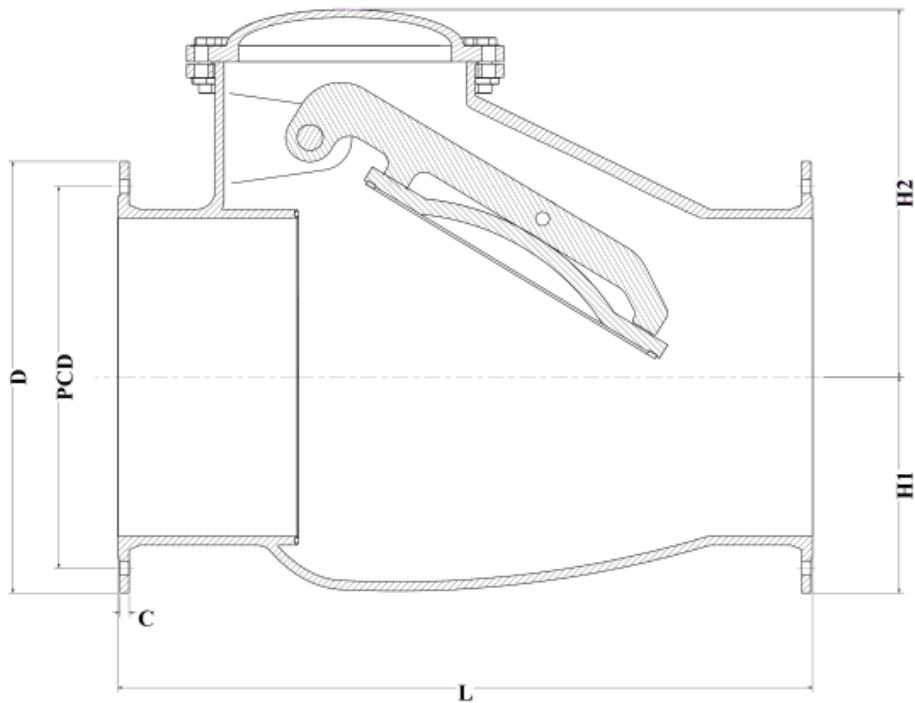
Removable cover on top of valve body casing facilitates inspection and cleaning

### O-ring design

Most Swing Check Valve designs still rely on the use of packing or “stuffing boxes.” The 5300 Series uses o-rings that are easily replaceable and readily available



# VALVE DIMENSIONS



## VALVE DIMENSION TABLE SERIES 5300

VALVE DIMENSIONS SERIES 5300														
Size DN Mm	Face to Face L mm	Valve Height		Approx. weight Kg	PN10 Flange Rating					PN16 Flange Rating				
		H mm	H1 Mm		D Mm	C mm	Bolt PCD	Holes No	Details Ø	D (mm)	C (mm)	Bolt PCD	Holes No	Details Ø
100	300	170	120	40	220	19	180	8	19	220	19	180	8	19
150	400	220	150	70	285	19	240	8	23	285	19	240	8	23
200	500	310	175	134	340	20	295	8	23	340	20	295	12	23
250	600	340	205	173	400	22	350	12	23	400	22	355	12	28
300	700	370	205	221	455	24.5	400	12	23	455	24.5	410	12	28
350	800	435	265	365	505	24.5	460	16	23	520	26.5	470	16	28
400	900	495	295	460	565	24.5	515	16	28	580	28	525	16	31
450	1000	588	313	550	615	25.5	565	20	28	640	30	585	20	31
500	1100	680	365	765	670	26.5	620	20	28	710	31.5	650	20	34
600	1300	735	435	970	780	30	725	20	31	840	36	770	20	37
700	1500	870	465	1450	895	32.5	840	24	31	910	39.5	840	24	37
800	1700	950	525	2370	1015	35	950	24	34	1025	43	950	24	40
900	1900	1045	625	3330	1115	37.5	1050	28	34	1125	46.5	1050	28	40
1000	2100	1225	720	3770	1230	40	1160	28	37	1255	50	1170	28	43
1200	2500	1400	750	4520	1455	45	1380	32	40	1485	57	1390	32	49

# OPERATION OPTIONS

## COUNTER WEIGHT

Closes itself with the disc mass, possible to apply a counter-weight against opening or closing

## HYDRAULIC DAMPER

Available as options, Hydraulic Dampers are designed to control the opening and closing speeds of the valve, which can be very helpful in eliminating down line surges and valve wear. Dampers are field adjustable and its designs utilize a high quality hydraulic cylinder to impact disc movement. Pneumatic cylinders can also be added to the units' exterior and offer a simple, cost effective way to absorb the slamming common to most swing check units

please send us these data to help you for sizing the valve and select the suitable method for damping (counter weight or hydraulic damper )

- max. & min. flow rate (m<sup>3</sup>/hr)
- head loss (m)
- operating pressure (bar)
- velocity (m/sec)

### How swing check valve hydraulic damper works

#### 1- Opening:

Discharge velocity head from the pump causes the disc to open and raises the outside weighted lever and pushing the cylinder rod upward. The oil over the cylinder piston will flow into lower portion of the cylinder.

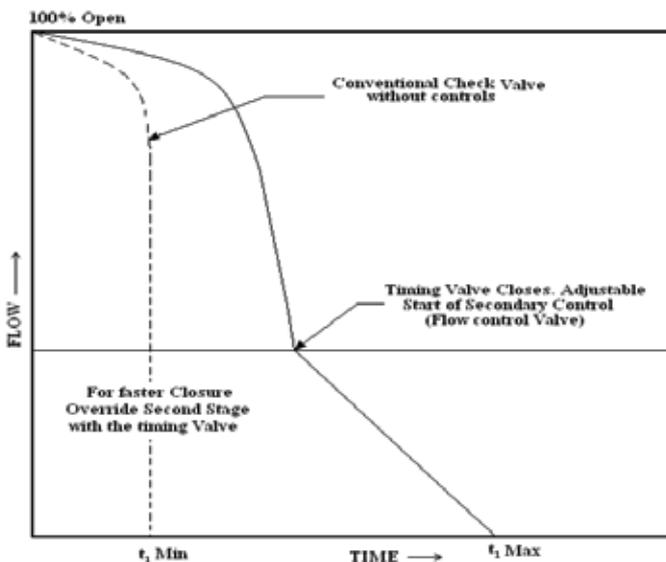
#### 2- Two stages of controlled closure:

The cylinder provides two stages developed by the "Timing valve". The Timing Valve allows fast closure of the disc from full open to any degree of closure then it slows the closure speed until final closure. This will minimize damaging water hammer.

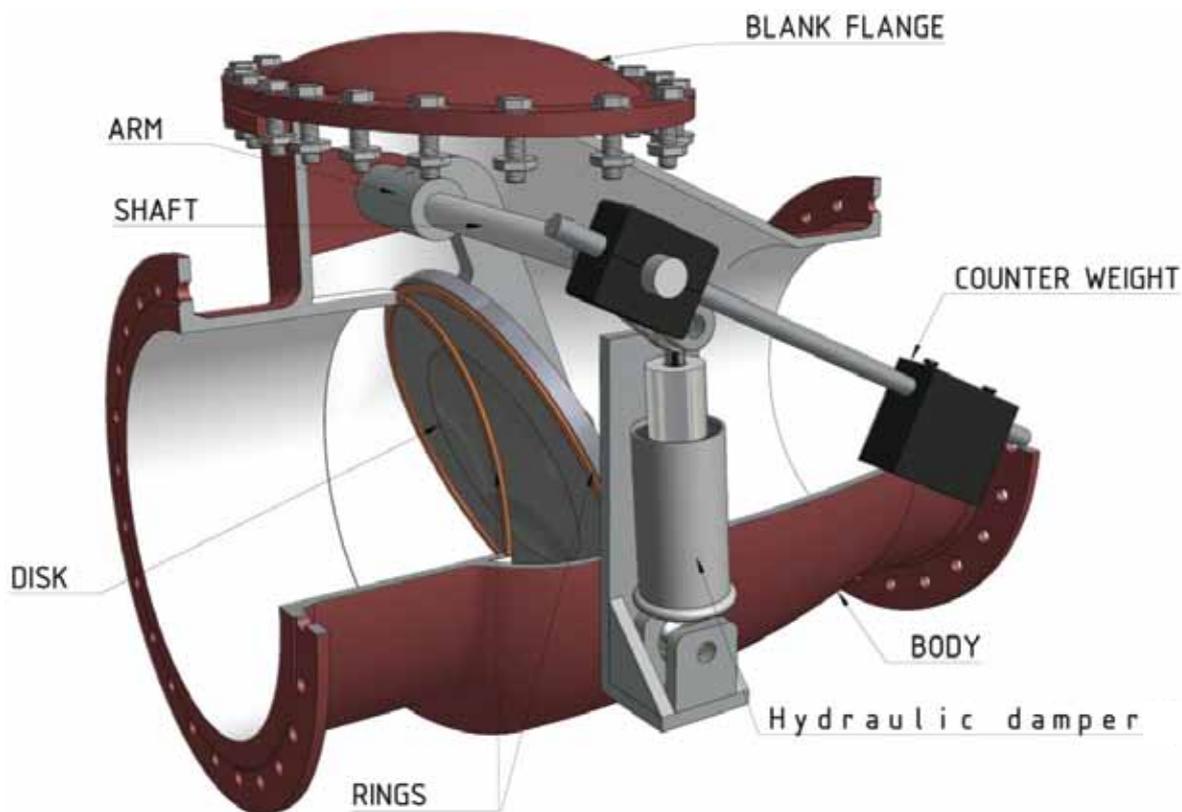
The two stage closure function is as follows:

1st Stage: Rapid closure from full open to any degree of closing 2nd Stage: Slow speed towards shut-off.

## TWO STAGES CLOSING CHARACTERISTICS



# MATERIAL SELECTION



## Material Selection and specification

Part Name	Material	Material Number	Remark
Body, Disc, Cover, and Arm	Ductile Iron A	ISO1083 grade 500-7	Equivalent to DIN 1693 (GGG50), EN GJS -500-7, and ASTM A536-80GRADE70-50-05
	Ductile Iron B	ISO1083 grade 400-15	Equivalent to GGG40, EN GJS -400-15 and BS2789: 1985 GRADE 420/12
	Grey Cast Iron	GG25	BS1452:1990 Grade 250, ASTM48-76GRAD40B
Body and Wedge Seat Rings	Leaded Gun Metal	LG2	BS1400:1961LG2-C ,ASTMB143-1961GRADE1A
	High Tensile Bronze		
	Naval Brass	C46400	ASTM B -21
	Commercial Brass		
Shaft	Austenitic Stainless Steel	SS304 and SS316	BS304S15,ASTM276-1967GRADE304
	Martensitic Stainless Steel	X20Cr13	BS420S37,ASTM276-1967GRADE420
Body / Cover Bolts and Nuts	Austenitic Stainless Steel	SS304 and SS316	BS304S15,ASTM276-1967GRADE304
	Galvanized Steel	Grade 4.6 and 8.8	BS970-1955EN3D
	Austenitic Stainless Steel	SS304 and SS316	BS304S15,ASTM276-1967GRADE304

Other Materials available upon request



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