DISC CHECK VALVES CATALOGUE

TILTING DISC AND DUAL PLATE FCA RT AND RD MODEL CHECK VALVES

FCA

FLOW CONTROL APPLICATIONS

FLOW CONTROL APPLICATIONS

FCA - WORKING CLOSELY WITH YOU TO ACHIEVE EXCELLENCE

Even with the most careful and meticulous planning, the success of a project can only be assured with good execution after the contract is signed. **FCA** team of engineering designers, production specialists, logistics experts and process engineers, plays its role to ensure quality products, timely delivery, smooth start-up and plant optimization.

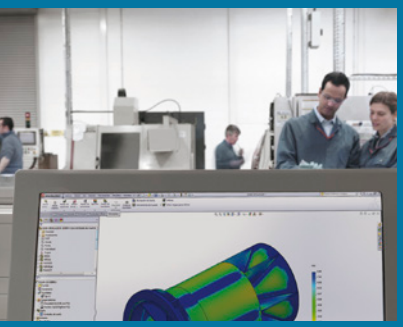
More and more customers trust our DNV certified solutions. **FCA** innovation-driven valves find solutions to any customer challenge or toughest application.

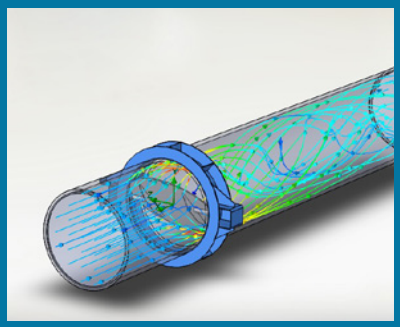
Our target-oriented dynamic team provides **FCA** with enough expertise to efficiently handle highly customized orders. Knowledge of how to manage our resources and capabilities ensures **FCA** to bring customers' expectations further.

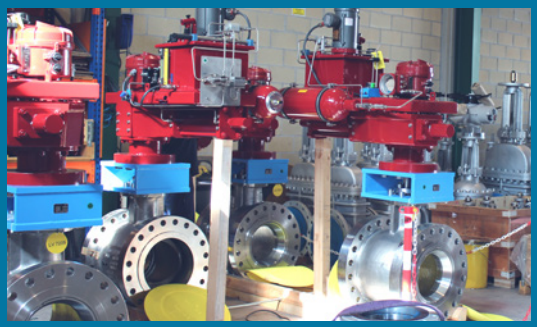
Advanced software applications including Finite Element Analysis (FEA), computational fluid dynamics and three-dimensional solid modeling, and our proven know-how, help **FCA** designing high specification valves that meet the most demanding working requirements.

FCA aims partnering with major EPCs and End Users to develop innovative solutions for their valving needs. **FCA** specific capabilities include valve design; stress and finite element analysis; flow analysis; MAST and torque calculation; actuator sizing; testing and test data analysis; and validation of retrofit changes.

FCA offers a wide range of solutions for the toughest industry applications to meet each customer's requirements. This target is only achievable having a flexible multidisciplinary team focused on each customer's particular needs. **FCA** puts effort and makes sure that offers the most complete package assuring the highest quality.







WORLDWIDE

THERE WHERE OUR CUSTOMER IS

From a global vision of the sector and development dynamics of each country, **FCA** offers revolutionary supply alternatives to the customer, preserving the quality from its full design in Ibarra (Spain). Thanks to innovative applications, a professional team and its experience, **FCA** ensures quick response and results tailored to the needs of the customers anywhere in the world.

Its international service network is geared towards local attention in order provide flexible, close and customized solutions; getting so successful responses to new market needs and continuing to expand the activity at a geographical and sectorial level.

FCA valves are used in a wide range of applications such as Hydro Power plants and dams, mineral processing, Oil and Gas, Chemical and Petrochemical plants, Pulp and Paper, Steel industry, Thermal Power plants, Water treatment, Water distribution and Water pump stations as principal applications. Oriented according to main **OIL & GAS, MINERALS**, **POWER** and **WATER** sectors.

FCA® OIL&GAS FCA® MINERALS FCA® POWER FCA® WATER

QUALITY

Due to the applications where our products are installed, our standards are highly demanding. **FCA** valves are engineered to meet most industry's or key player's requirements, providing full code compliance solutions.

FCA comply with ISO 9001-2000 quality standard, guaranteed and certified by DNV. Additionally, international certifications are met such as CE for Pressure Equipment Directive (97/23/EC), Directive 2006/42/EC for machinery, ATEX Directive 94/9/EC, GOST TR/CU, etc...

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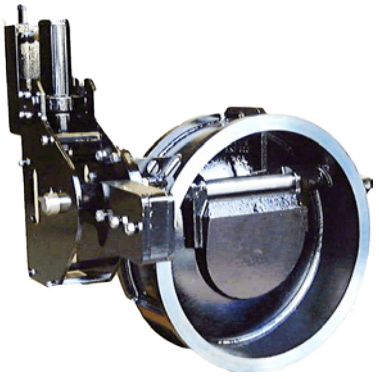


DESCRIPTION

The RT model FCA tilting disc check valve is a metal seated non-return valve, with a single disc and casted monoblock body. Dual plate model is also available as RD referenced model. Welding assembly structure and resilient seated configurations can also be requested. This models are lighter in weight and smaller in comparison to a conventionat swing or lift check valves. They give the maximum strength with the minimum opening time and a effective metal seated design is achieved by a precision machined procces over the body and disc edge. .

As standard, torsion springs assist closure for **RD** dual plate model check valve to prevent flow reversal and to provide a high level of tightness. This valve design reduces pressure drop and minimize slamming.

In **RT** tilting disc model check valve an oblique seat is integrated in the disc, and allows a quick shut-off. Additionally, an auxiliary spring and counterweight can also be provided in order to improve the shut-off performance and avoid water hammer in liquid media.

Face to face dimensions according to EN 558-1. As standard Wafer type construction is adopted and fits most pipe flanges in accordance with ANSI, DIN and other international standards. Double flanged configuration on request.

APPLICATIONS

- Water.
- Steam.
- Pulp and paper.
- Food.
- Oil & Gas.
- etc…

SECTORS

- Paper industry.
- Cement industry.
- Chemical & Petrochemical plants.
- Mining & Siderurgy.
- Water treatment plants.
- etc...

SIZES

- DN 50/2" to DN 1200/48".

Other sizes on request.

PRESSURE RANGE

- DIN PN10 / PN16 / PN25 / PN40 & PN63.

Other pressures on request.

DIRECTIVES

Pressure Equipment Directive: DIR 97/23/CE (PED) group II Cat. I module A fluids.

Other Directives: DIR 2006/42/CE, DIR 94/9/CE, GOST TR/CU.

TESTING

FCA RT and RD Disc Check valves have been hydrostatically tested according to API 598.

TECHNICAL SPECIFICATIONS

NOMINAL PRESSURE (bar)		PN10	PN16	PN25	PN40	PN63
TEST PRESSURE	**Shell Test**	15	24	37.5	60	94.5
	Seal Test	11	17.6	27.5	44	69.3

DESIGN FEATURES

BODY

The monoblock body is produced in carbon steel or in stainless steel and is coated with anti-corrosion treatment that provides the necessary protection against corrosion and an excellent surface finish. As standard designed in wafer style and with casted-in lifting point. An arrow cast into the body indicates the flow direction.

DISC

In carbon steel or stainless steel. It provides an almost zero leakage on metal seated valves and gives enough intensity and rigidity. Lightweight and optimized design to reduce pressure drop across the valve in open position and reduce the opening pressure.

SHAFT

Solid shafts for disc and body connection are precisely designed, in stainless steel, to give the maximum stregth to ensure operational performance and service life of the valve. One or two shafts according to disc check valve size.

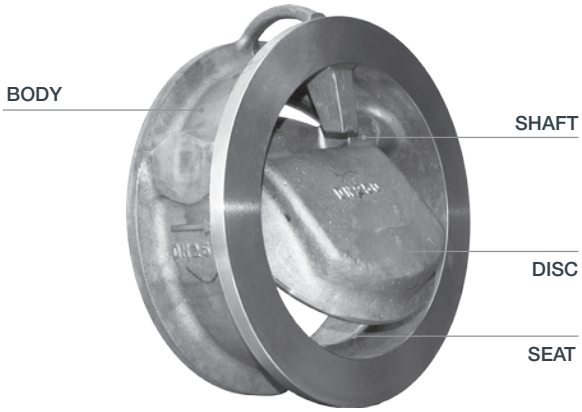
SPRINGS

Activate check valve plates and distribute the load force evenly across each plate, ensuring quick sure response for RD model check valve.

Auxiliary spring can also be supplied for RT tilting disc model, providing a faster closing reaction.

SEAT

For resilient seated design there are several different elastomer compounds lining on the body to meet different application demands.



RT - Tilting disc model

RTD - Dual plate model

MATERIALS

BODY	A216 WCB / A351 CF8M / DUPLEX 4A / 5A
SEAT	A216 WCB / A351 CF8M / DUPLEX 4A / SOFT
SHAFT	AISI 304 / AISI 316 / F51
DISC	A216 WCB / A351 CF8M / DUPLEX 4A / 5A

Special applications available under request

ANTI-CORROSIVE TREATMENTS

As standard, iron or carbon steel components are painted with an anti-corrosive treatment, providing the necessary protection against corrosion and an excellent surface finish.

Painting consists of:

- Epoxy primer with excellent corrosive protection and adhesion on every type of metal.
- BLUE RAL-5019 painting.

Depending on the valve application, FCA offers special treatments for specific abrasive and corrosive solutions like hardening, valve or component protective coating, etc... More information on request.

CE SECURITY MARKED

Following the CE norms, all valves equipped with automatic actuators are supplied with shields, which prevent any objects from being accidentally trapped or dragged.

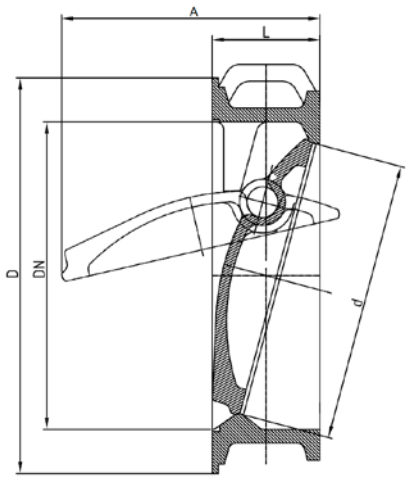
DRAWINGS & DIMENSIONS

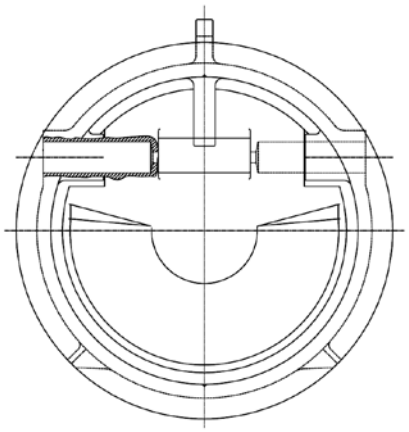
RT Tilting Disc Check valve

Standard version available form DN50/2'' to DN1200/48'', other sizes on request.

ACCESORIES AND OPTIONS

· Counter-weight.
· Hydraulic Damper.
· Superior sizes.
· Superior pressures.
· Different end connection types.





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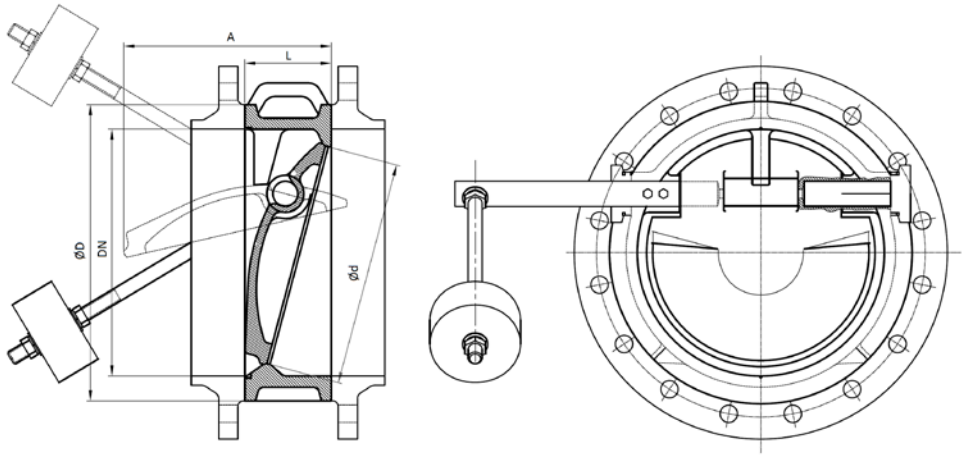
SIZE	DN	L	Ød	A	D			
					PN10	PN16	PN25	PN40
2''	**50**	43	44	57	107	107	107	107
3''	**80**	64	72	87	142	142	142	142
4''	**100**	64	90	100	162	162	162	168
6''	**150**	76	135	135	219	219	224	224
8''	**200**	89	180	178	273	273	284	291
10''	**250**	114	225	220	329	329	340	352
12''	**300**	114	270	262	378	384	401	418
14''	**350**	127	315	303	438	444	458	475
16''	**400**	140	365	355	490	496	515	547
18''	**450**	152	420	390	539	556	565	586
20''	**500**	152	460	440	594	618	625	629
24''	**600**	178	555	530	696	735	732	747
28''	**700**	229	650	610	811	805	834	852
32''	**800**	241	740	705	918	912	943	974
36''	**900**	275	835	795	1018	1012	1043	1084
40''	**1000**	300	940	900	1124	1128	1154	1194
48''	**1200**	350	1140	1060	1341	1342	1364	1398

RT Check valve with Counter-weight

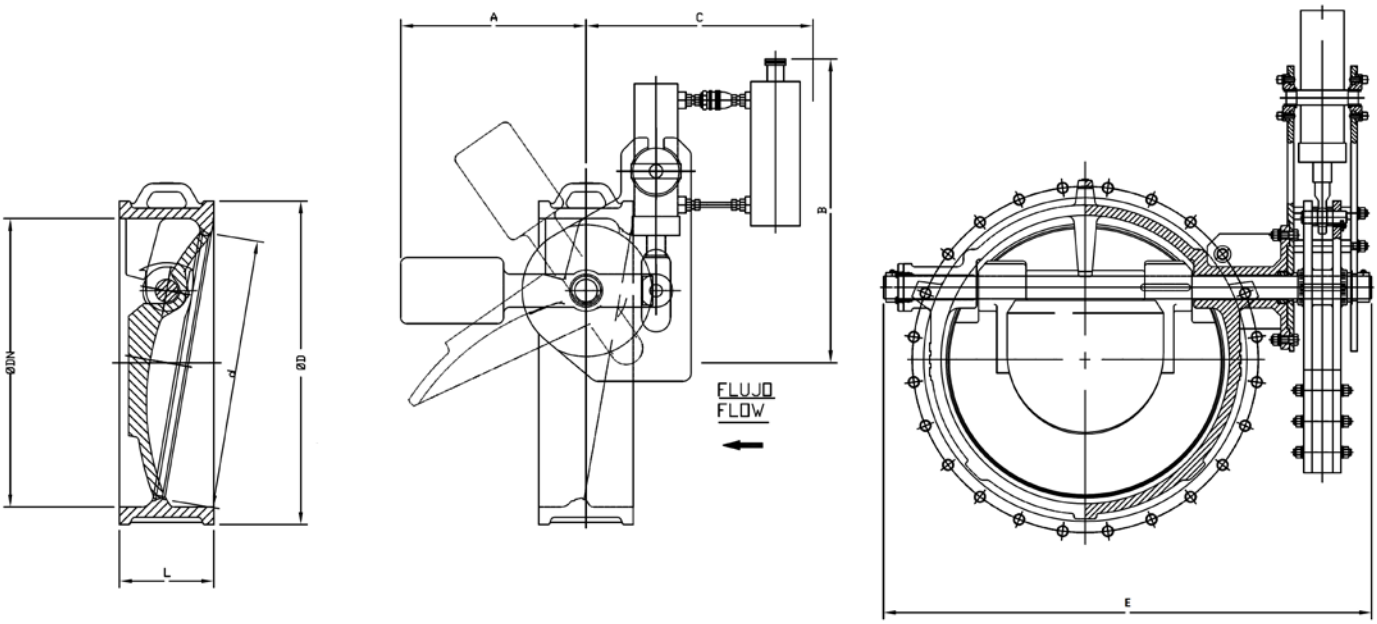
Standard version available form DN50/2''
to DN1200/48'', other sizes on request.



SIZE	DN	L	Ød	A	D			
					PN10	PN16	PN25	PN40
2''	**50**	43	44	57	107	107	107	107
3''	**80**	64	72	87	142	142	142	142
4''	**100**	64	90	100	162	162	162	168
6''	**150**	76	135	135	219	219	224	224
8''	**200**	89	180	178	273	273	284	291
10''	**250**	114	225	220	329	329	340	352
12''	**300**	114	270	262	378	384	401	418
14''	**350**	127	315	303	438	444	458	475
16''	**400**	140	365	355	490	496	515	547
18''	**450**	152	420	390	539	556	565	586
20''	**500**	152	460	440	594	618	625	629
24''	**600**	178	555	530	696	735	732	747
28''	**700**	229	650	610	811	805	834	852
32''	**800**	241	740	705	918	912	943	974
36''	**900**	275	835	795	1018	1012	1043	1084
40''	**1000**	300	940	900	1124	1128	1154	1194
48''	**1200**	350	1140	1060	1341	1342	1364	1398

RT Check valve with Counter-weight and hydraulic damper

Standard version available form DN50/2''
to DN1200/48'', other sizes on request.



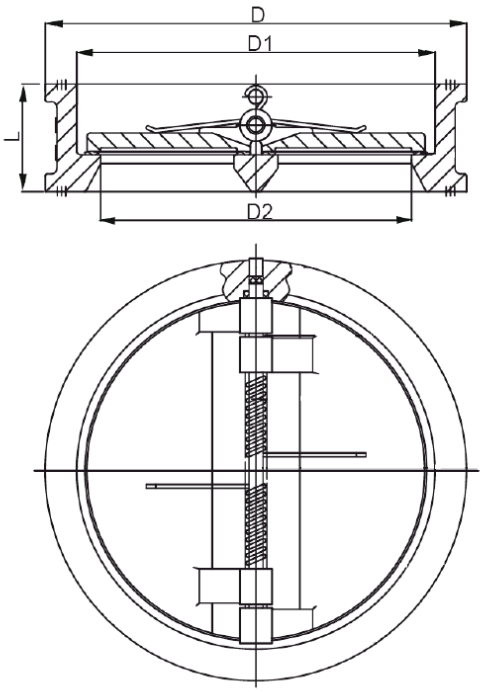
SIZE	DN	L	Ød	A	B	C	E	D			
								PN10	PN16	PN25	PN40
2''	**50**	43	44	147	70	220	269	107	107	107	107
3''	**80**	64	72	155	98	223	377	142	142	142	142
4''	**100**	64	90	176	114	252	343	162	162	162	168
6''	**150**	76	135	183	166	268	389	219	219	224	224
8''	**200**	89	180	205	215	280	443	273	273	284	291
10''	**250**	114	225	225	258	303	490	329	329	340	352
12''	**300**	114	270	230	306	315	545	378	384	401	418
14''	**350**	127	315	283	355	358	620	438	444	458	475
16''	**400**	140	365	305	392	390	695	490	496	515	547
18''	**450**	152	420	465	462	428	802	539	556	565	586
20''	**500**	152	460	500	550	459	923	594	618	625	629
24''	**600**	178	555	566	624	485	995	696	735	732	747
28''	**700**	229	650	630	708	550	1105	811	805	834	852
32''	**800**	241	740	712	770	468	1210	918	912	943	974
36''	**900**	275	835	730	790	500	1296	1018	1012	1043	1084
40''	**1000**	300	940	780	850	515	1360	1124	1128	1154	1194
48''	**1200**	350	1140	825	1040	562	1690	1341	1342	1364	1398

RD Dual plate Check valve

Standard version available form DN50/2'' to DN800/32'', other sizes on request.

ACCESORIES AND OPTIONS

· Different seat options.
· Superior sizes.
· Superior pressures.
· Different end connection types.



PRESSURE	SIZE (inch)	2	3	4	6	8	10	12	14	16	18	20	24	28	32
	PN (mm)	50	80	100	150	200	250	300	350	400	450	500	600	700	800
PN10	L	43	64	64	76	89	114	114	127	140	152	152	178	229	241
	D	107	142	162	218	273	328	378	438	489	539	594	695	810	917
	D1	65	94	117	170	224	265	310	360	410	450	505	624	720	825
	D2	46	70	88	134	184	220	260	298	350	385	438	538	640	734
PN16	L	43	64	64	76	89	114	114	127	140	152	152	178	229	241
	D	107	142	162	218	273	328	378	444	489	555	617	734	804	911
	D1	65	94	117	170	224	265	310	360	410	450	505	624	720	825
	D2	46	70	88	134	184	220	260	298	350	385	438	538	640	734

FLANGE DRILLING INFORMATION

FCA offers the possibility of valve adaptation to most common pipe fitting flanges. As standard DIN PN10 to PN40 will be supplied for RT and RD model disc check valves.

DIN

PN10

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DN mm	FLANGE DIAMETER mm	No. HOLES	HOLE DIAMETER mm	BOLT CIRCLE mm
50	165	4	18	125
80	200	4	18	160
100	220	4	18	180
150	285	8	22	240
200	340	8	23	295
250	395	12	23	350
300	445	12	23	400
350	505	16	23	460
400	565	16	28	515
450	615	20	28	565
500	670	20	28	620
600	780	35	31	725
700	895	24	31	840
800	1015	24	34	950
900	1115	28	34	1050

PN16

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DN mm	FLANGE DIAMETER mm	No. HOLES	HOLE DIAMETER mm	BOLT CIRCLE mm
50	165	4	19	125
80	200	8	19	160
100	220	8	19	180
150	285	8	23	240
200	340	12	23	295
250	405	12	28	355
300	560	12	28	410
350	520	16	28	470
400	580	16	31	525
450	640	20	31	585
500	715	20	34	650
600	840	20	37	770
700	910	24	37	840
800	1025	24	41	950
900	1125	28	41	1058

PN25

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DN mm	FLANGE DIAMETER mm	No. HOLES	HOLE DIAMETER mm	BOLT CIRCLE mm
50	165	4	19	125
80	200	8	19	160
100	235	8	23	190
150	300	8	28	250
200	360	12	28	310
250	425	12	31	370
300	485	16	31	430
350	555	16	34	490
400	620	16	37	550
450	670	20	37	600
500	730	20	37	660
600	845	20	41	770
700	980	24	44	875
800	1085	24	50	990
900	1185	28	50	1090

PN40

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DN mm	FLANGE DIAMETER mm	No. HOLES	HOLE DIAMETER mm	BOLT CIRCLE mm
50	165	4	19	125
80	200	8	19	160
100	235	8	23	190
150	300	8	28	250
200	375	12	31	320
250	450	12	34	385
300	515	16	34	450
350	580	16	37	510
400	660	16	41	585
450	685	20	41	610
500	755	20	44	670
600	890	20	50	795

NOTES

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