



Product brochure

**ES-51**

Swing Check Valve



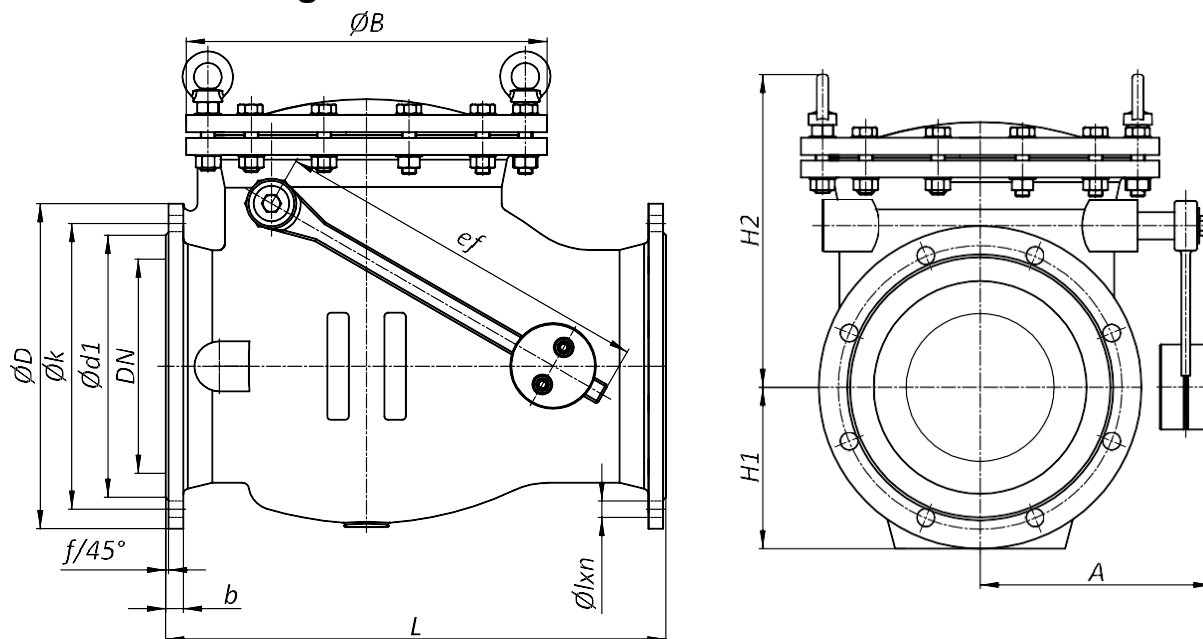
**RAPHAEL RANGE**

- High quality robust design with full bore and minimum pressure drops.
- Top cover design allows easy maintenance and cleaning without dismantling from the pipe line.
- Optional sealing materials include soft, bronze and stainless steel sealing alternatives
- High Quality anticorrosion coating.
- Optional counterweight for fast closing with possibility for limit switch installation.
- Installation in either horizontal or vertical position.
- Optional hydraulic damper for soft and silent closing.



Nominal Diameter	DN50 ~ 1000mm
Nominal Pressure	PN10/16/25/40
Working Temperature	-10°C ~ 120°C
Seat Test	1.1×PN(Nominal Pressure)
Shell Test	1.5×PN (Nominal Pressure)

## Dimensional Drawing

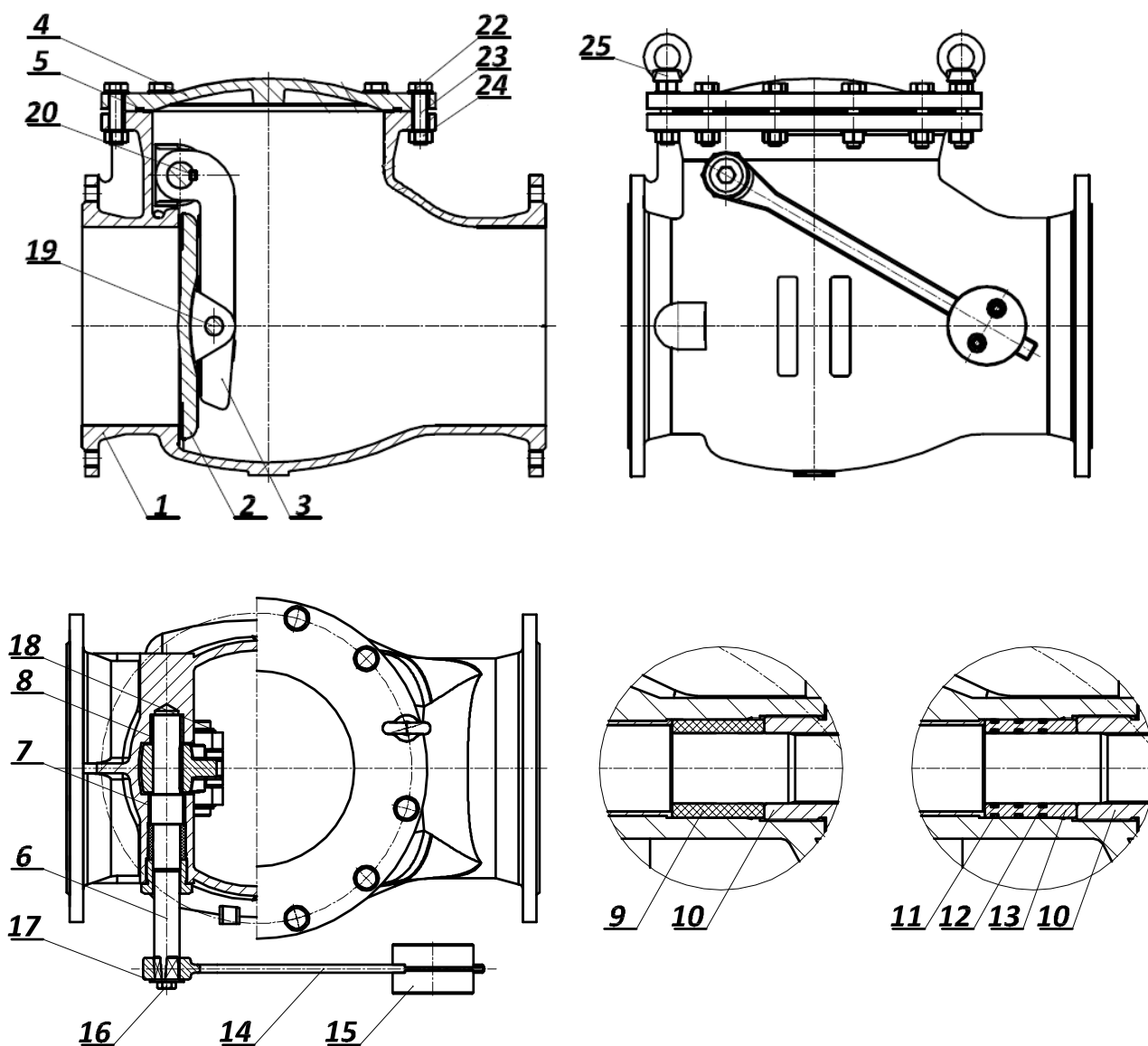


DN	L	H1		H <sub>2</sub>	e <sub>f</sub>	A	B	PN 10						PN 16						f	m (kg)
		PN10	PN16					D	k	d <sub>1</sub>	l	n	b	D	k	d <sub>1</sub>	l	n	b		
50	200	87,5	87,5	172	116	132	158	165	125	99	19	4	19	165	125	99	19	4	19	3	17
80	260	105	105	216	160	152	212	200	160	132	19	8	19	200	160	132	19	8	19	3	30
100	300	115	115	242	190	157	235	220	180	156	19	8	19	220	180	156	19	8	19	3	38
125	350	130	130	260	226	185	265	250	210	184	19	8	19	250	210	184	19	8	19	3	54
150	400	147,5	147,5	279	266	216	302	285	240	211	23	8	19	285	240	211	23	8	19	3	71
200	500	180	180	367	343	265	395	340	295	266	23	8	20	340	295	266	23	12	20	3	125
250	600	207,5	212,5	400	440	272	421	395	350	319	23	12	22	405	355	319	28	12	22	3	160
300	700	232	240	441	535	334	505	445	400	370	23	12	24,5	460	410	370	28	12	24,5	4	210
350	800	262,5	270	514	585	412	560	505	460	429	23	16	24,5	520	470	429	28	16	26,5	4	355
400	900	292,5	300	560	660	465	622	565	515	480	28	16	24,5	580	525	480	31	16	28	4	470
450	1000	320	325	585	750	470	670	615	565	530	28	20	24,5	630	585	530	31	20	28	4	660
500	1100	345	367,5	675	800	485	730	670	620	582	28	20	26,5	715	650	609	34	20	31,5	4	720
600	1300	400	430	781	900	585	910	780	725	682	31	20	30	840	770	720	37	20	36	5	1000
700	1500	457,5	465	928	1000	610	1025	895	840	794	31	24	32,5	910	840	794	37	24	39,5	5	1720
800	1700	517,5	522,5	1005	1000	742	1115	1015	950	901	34	24	35	1025	950	901	41	24	43	5	2230
900	1900	567,5	572,5	1149	1000	850	1255	1115	1050	1001	34	28	37,5	1125	1050	1001	41	28	46,5	5	3130
1000	2100	625	637,5	1276	1500	869	1355	1230	1160	1112	37	28	40	1255	1170	1112	44	28	50	5	4150
1200	2500	750	760	1480	1500	869	1570	1455	1380	1328	41	32	45	1328	1290	1328	50	32	57	5	6350

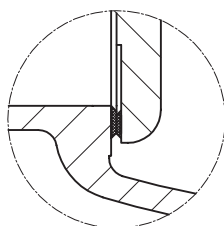
DN	L	H <sub>1</sub>		H <sub>2</sub>	e <sub>f</sub>	A	B	PN 25						PN 40						f	m (kg)
		PN25	PN40					D	k	d <sub>1</sub>	l	n	b	D	k	d <sub>1</sub>	l	n	b		
50	200	87,5	87,5	172	116	132	158	165	125	99	19	4	19	165	125	99	19	4	19	3	19
65	240	97,5	97,5	203	145	150	193	185	145	118	19	8	19	185	145	118	19	8	19	3	30
80	260	105	105	216	160	152	212	200	160	132	19	8	19	200	160	132	19	8	19	3	33
100	300	122,5	122,5	242	190	157	235	235	190	156	23	8	19	235	190	156	23	8	19	3	41
125	350	140	140	260	226	185	265	270	220	184	28	8	19	270	220	184	28	8	23,5	3	59
150	400	155	155	279	266	216	302	300	250	211	28	8	20	300	250	211	28	8	26	3	78
200	500	190	197,5	367	343	265	395	360	310	274	28	12	22	375	320	284	31	12	30	3	137

\* other nominal sizes on request

**Parts and Construction**



*SEALING*



DN50 - DN400 FULLY RUBBERED FLAP WITH METAL BODY SEAT PER **CC480K** or SS316

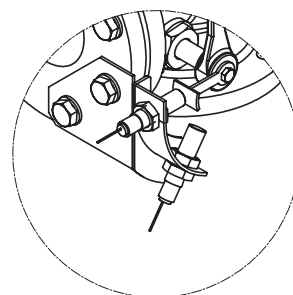
DN450 AND BIGGER FLAP SEAL AND BODY SEAT **CC480K** or SS316

## Construction Materials

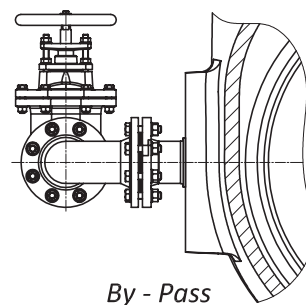
POSITION	PART	MATERIAL
1	Body	EN-GJS-400-15*
2	Flap	EN-GJS-400-15*
3	Flap Lever	EN-GJS-400-15
4	Cover	EN-GJS-400-15*
5	"O" Ring	EPDM
6	Shaft	X20Cr13 or SS316Ti
7	Bearing Bush I	CC493K
8	Bearing Bush II	CC493K
9	Packing optional	PTFE
10	Cover	Ms
11	"O" ring	EPDM
12	"O" ring	EPDM
13	Sealing Bush	CC493K
14	Lever	EN-GJS-400-15
15	Weight	EN-GJS-400-15
16	Screw	8.8 galv.
17	Washer	galv.
18	Circlip	A4
19	Pin	X20Cr13
20	Parallel Key	X20Cr13
22	Washer	galv.
23	Screw	8.8 galv.
24	Nut	A4
25	Lifting Eye Nut	8 galv.
27	Washer	C15
28	Nut	A4

\*SS316 or AlBz possible on request

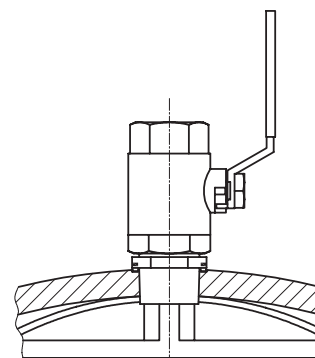
## Optional Features



Limit Switches

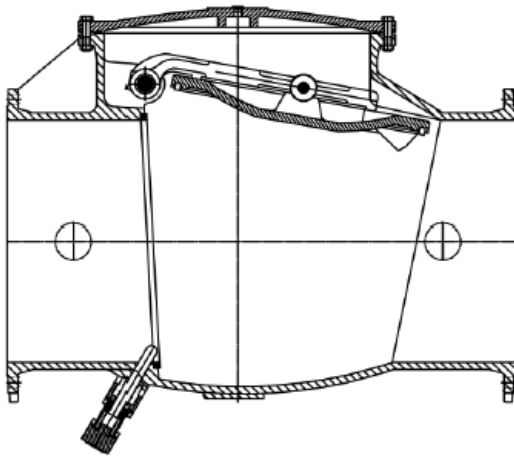


By - Pass

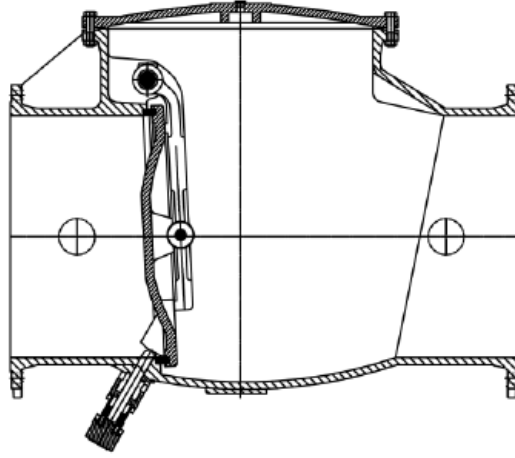


Ball Valve

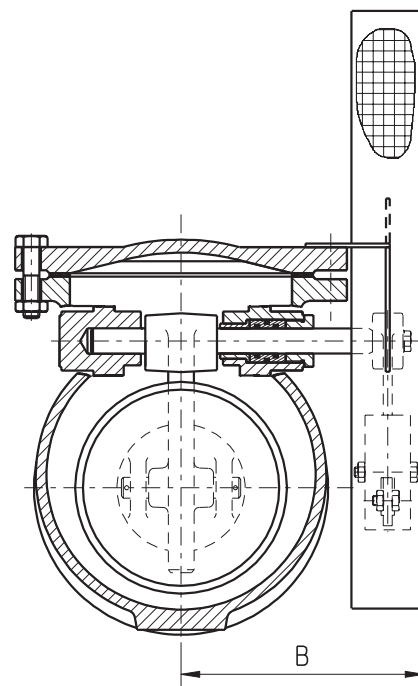
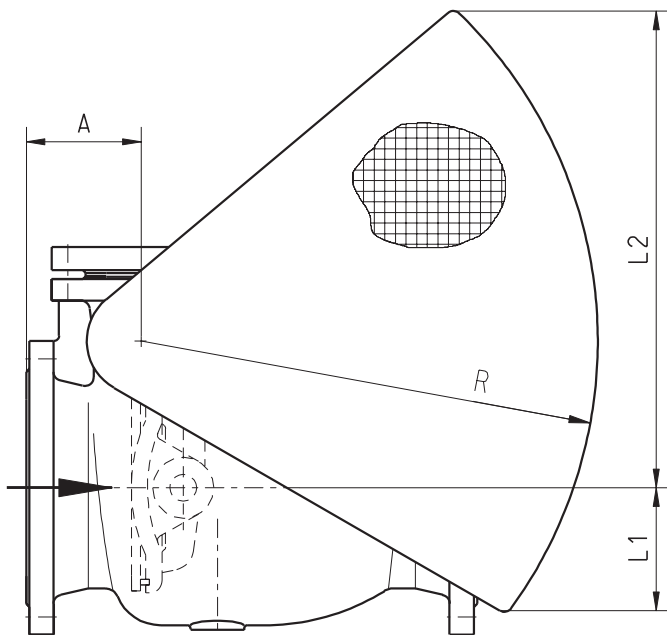
**Optional Features - Hydraulic Damper**



Valve Opened



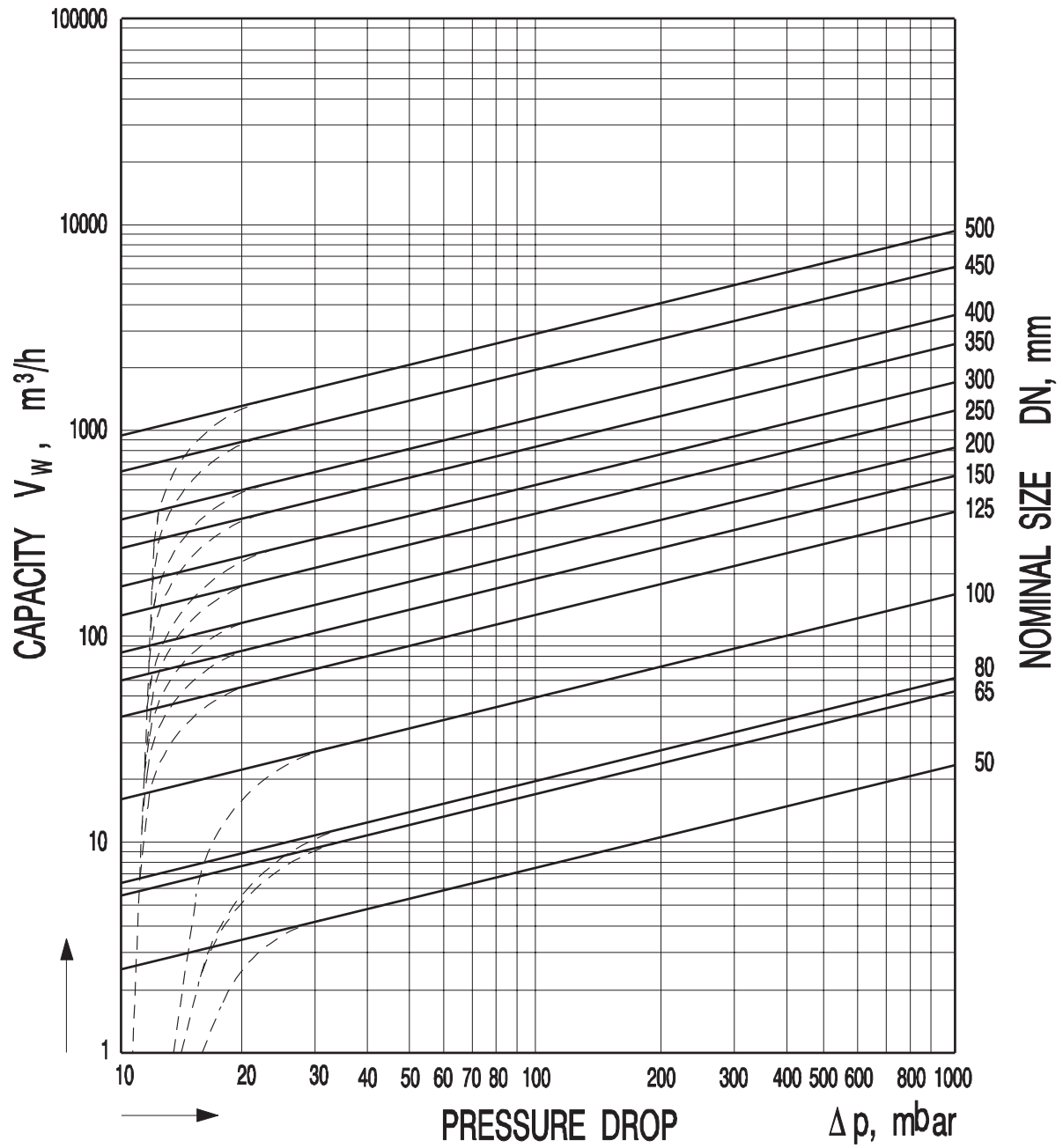
Valve Closed



## Optional Features - Protection Basket

<i>DN</i>	<i>R</i>	<i>L<sub>1</sub></i>	<i>L<sub>2</sub></i>	<i>A</i>	<i>B</i>
50	125	20	170	75	150
65	155	15	220	85	185
80	175	20	240	90	195
100	205	0	280	95	220
125	240	0	330	110	235
150	280	0	400	115	270
200	365	0	500	130	295
250	455	0	585	145	330
300	545	0	750	145	375
350	600	0	830	190	405
400	680	0	955	210	495
500	820	0	970	220	520
600	950	357	1231	260	620
700	1260	465	1330	365	697
800	On request				
900					
1000					

### Pressure Drop Diagram



The diagram is valid for swing-check valve, version without lever and weight, horizontal installation.