

RTC TAIWAN ATYCO
FLUID CONTROL

RTC
Lead the smart flow

Resilient Seated Butterfly Valve




Concentric type
Wafer/Lugged/Flanged ends
Series 111/112/113

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PED/CE

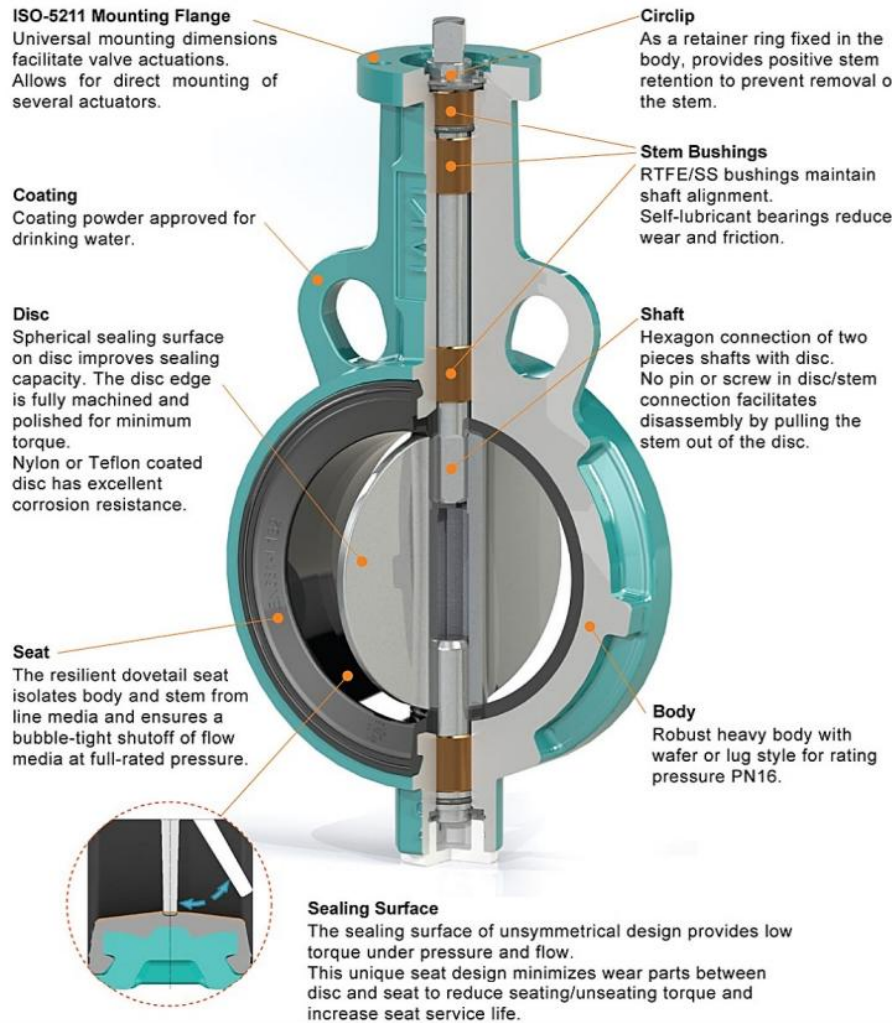


ISO-9001

Patents

Advanced Butterfly Valve

Features and Advantages



Series 112

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Standard Specifications
Valve Design: EN593, API 609
Face to Face: EN558 series 20
Flange: ANSI B16.5, EN1092, JIS B2220
Inspection & Testing: API 598, EN12266
Mounting Flange: ISO 5211

Product Range
Body Configurations: Wafer and Lug Valve
Size: DN40-600 (1-1/2-24") Rating: PN16

Operator Available
Lever Handle, Gear Operator, Pneumatic and Electric Actuators

Material Specification

Item	Parts	Material	Specification
1	Body	Cast Iron	GG25.A126-B
		Ductile Iron	GGG40.A536
		Carbon Steel	GS-C25.A216-WCB
		Stainless Steel	1.4404, 1.4408, A351-CF8, A351-CF8M
2	Disc	Ductile Iron	GGG40, A536 - Nylon/Teflon coating available
		Aluminum Bronze	C954
		Stainless Steel	SS304/316
		Duplex	Duplex 2205/2507
3	Shaft	Stainless Steel	AISI 420/431/304/316
		Duplex	Duplex 2205/2507
4	Seat	EPDM***	Ethylene Propylene Diene Monomer rubber
		BUNAN(NBR)	Nitrile Bautadiene Rubber
		FPM	Fluorocarbon Ruber
		CR (Neoprene)	Chloroprene Rubber
5	Circlip	Stainless Steel	
6	Washer	Stainless Steel	
7	Bushing	RTFE with Stainless Steel	
		Bronze	
8	O-ring	FPM	
9	End Cover	Nylon	

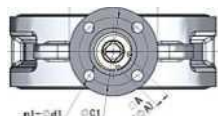
***Food grade upon request

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Series 112 Wafer & Lug Type

112W Wafer Body Style



112L Lugged Body Style



Dimensions - 112W / 112L

Size		L	H1	H2	H3	0A	ISO 5211	0N	0C1	N1-Φd1
mm	inch									
40	1-1/2"	33	52	126	14.5	9	F05	65	50	4-8
50	2"	43	67	143	14.5	9	F05	65	50	4-8
65	2-1/2"	46	74	155	14.5	9	F05	65	50	4-8
80	3"	46	82	160	16	9	F05	65	50	4-8
100	4"	52	100	181	16	11	F05	65	50	4-8
125	5"	56	112	194	20	14	F07	90	70	4-10
150	6"	56	126	202	20	14	F07	90	70	4-10
200	8"	60	162	242	28	17	F07	90	70	4-10
250	10"	68	193	272	28	17	F07	90	70	4-10
300	12"	78	236	318	28	22	F10	125	102	4-12
350	14"	78	267	368	45	22	F10	125	102	4-12
400	16"	102	298	400	51.2	27	F14	175	140	4-18
450	18"	114	318	422	51.2	36	F14	175	140	4-18
500	20"	127	355	480	64.2	36	F14	175	140	4-18
600	24"	154	444	562	80	50	F16	210	165	4-22

Valve Torque Data

Torque Chart for RTC Resilient Seated Butterfly Valve Series 112

(All torques in N-m.)

Figure No.		112W-112L		
Valve Size		Operating Pressure		
mm	inch	6 bar	10 bar	16 bar
40	1-1/2"	5	5	7
50	2"	5	6	9
65	2-1/2"	7	10	14
80	3"	12	14	19
100	4"	18	24	28
125	5"	26	32	46
150	6"	52	65	82
200	8"	84	92	115
250	10"	98	112	142
300	12"	125	158	186
350	14"	210	325	420
400	16"	435	520	760
450	18"	620	780	1120
500	20"	715	1080	1430
600	24"	1160	1670	2620

The above torque values are for normal liquid applications. For other service conditions, unusual fluids or slurries, please consult manufacturer.

Valve Flow Coefficient

Cv: the volume flow in US gallons per minute [gpm] at a temperature of 60°F with a pressure drop of 1 psi.

Kv: the volume flow in cubic meters per hour [m3/h] at a temperature of 16°C with a pressure drop of 1 bar (kg/cm2).

$$Cv = 1,156 \cdot Kv$$

$$Kv = 0,865 \cdot Cv$$

Cv Values

Size		Angle of Opening								
mm	inch	10°	20°	30°	40°	50°	60°	70°	80°	90°
50	2"	0.06	3	7	15	27	44	70	105	115
65	2-1/2"	0.10	6	12	25	45	75	119	178	196
80	3"	0.20	9	18	39	70	116	183	275	302
100	4"	0.30	17	36	78	139	230	364	546	600
125	5"	0.50	29	61	133	237	392	620	930	1022
150	6"	0.80	45	95	205	366	605	958	1437	1579
200	8"	2	89	188	408	727	1202	1903	2854	3136
250	10"	3	151	320	694	1237	2047	3240	4859	5340
300	12"	4	234	495	1072	1911	3162	5005	7507	8250
350	14"	6	338	715	1549	2761	4568	7230	10844	11917
400	16"	8	464	983	2130	3797	6282	9942	14913	16388
450	18"	11	615	1302	2822	5028	8320	13168	19752	21705
500	20"	14	791	1647	3628	6465	10698	16931	25396	27908
600	24"	22	1222	2587	5605	9989	16528	26157	39236	43116

Primary Butterfly Valve

Series 111

Standard Specifications

Valve Design: EN593, API 609
 Face to Face: EN558 series 20
 Flange: ANSI B16.5, EN1092, JIS B2220
 Inspection & Testing: API 598, EN12266
 Mounting Flange: ISO 5211

Product Range

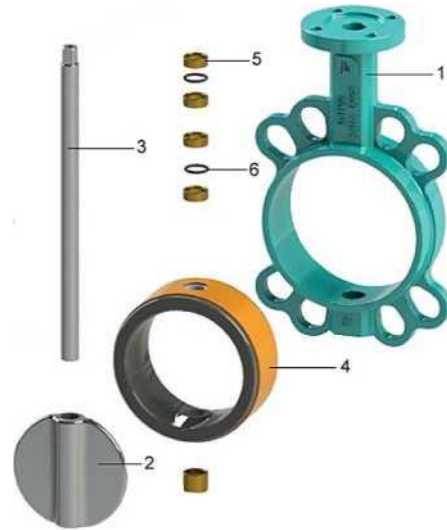
Body Configurations: Wafer, Lug and U type Flange
 Valve Size: 111W/111U DN40-1200 (1"1/2"-48")
 111L DN25-800(1"-32")
 Rating: PN16 DN40-300
 PN10 DN350-1200

Operator Available

Lever Handle, Gear Operator, Pneumatic and Electric Actuators

Disc/Stem Connection

P type: Pin connection
 S type: Splined connection
 T type: Two pieces shafts



Material Specification

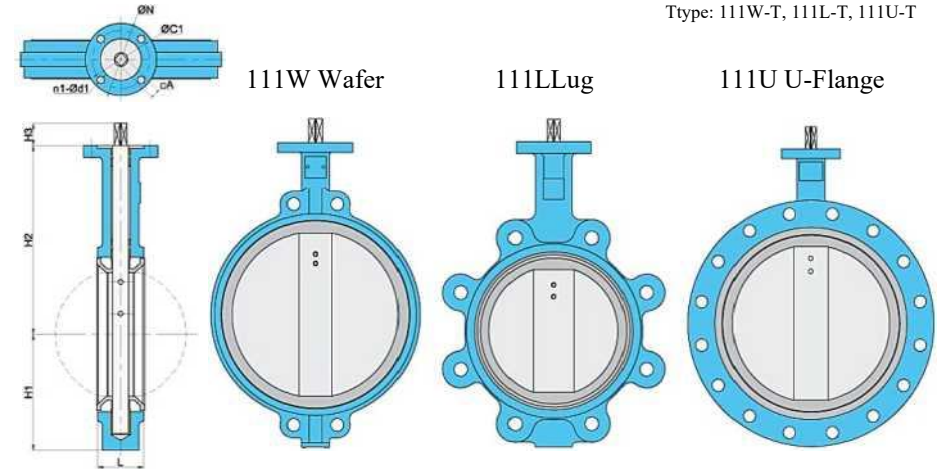
Item	Parts	Material	Specification
1	Body	Cast Iron	GG25.A126-B
		Ductile Iron	GGG40.A536
		Carbon Steel	GS-C25.A216-WCB
		Stainless Steel	1.4404,1.4408, A351-CF8, A351-CF8M
		Disc	Ductile Iron
2	Disc	Aluminum Bronze	C954
		Stainless Steel	SS304/316
		Duplex	Duplex 2205/2507
		Shaft	Stainless Steel
3	Shaft	Duplex	Duplex 2205/2507
		Seat	EPDM
4	Seat	BUNAN(NBR)	Nitrile Bautadiene Rubber
		FPM	Fluorocarbon Ruber
		CR (Neoprene)	Chloroprene Rubber
		PTFE	Polytetrafluoroethylene
		Bushing	PTFE
5	Bushing	Bronze	
		O-ring	EPDM

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Series 111 Wafer-Lug-U Flanged

Ptype: 111W-P, 111L-P, 111U-P
 S type: 111W-S, 111L-S, 111U-S

T type: 111W-T, 111L-T, 111U-T



Dimensions - 111W / 111L / 111U

Size	mm	inch	L	H1	H2	H3	ΦA	ISO 5211	ΦN	ΦC1	n1-Φd1
	40	1-1/2"	33	52	126	14.5	9	F05	65	50	4-8
50	2"	43	57	143	14.5	9	F05	65	50	4-8	
65	2-1/2"	46	68	155	14.5	9	F05	65	50	4-8	
80	3 -	46	82	160	14.5	9	F05	65	50	4-8	
100	4"	52	100	181	14.5	11	F07	90	70	4-10	
125	5"	56	112	194	20	14	F07	90	70	4-10	
150	6"	56	126	202	20	14	F07	90	70	4-10	
200	8"	60	162	240	28	17	F07	90	70	4-10	
250	10"	68	193	272	28	22	F10	125	102	4-12	
300	12"	78	236	318	28	22	F10	125	102	4-12	
350	14"	78	267	368	45	22	F10	125	102	4-12	
400	16"	102	299	400	51.2	27	F14	175	140	4-18	
450	18"	114	318	422	51.2	27	F14	175	140	4-18	
500	20"	127	355	480	64.2	36	F14	175	140	4-18	
600	24"	154	444	562	70.2	36	F16	210	165	4-22	
700	28"	165	505	624	66	55	F25	300	254	8-18	
750	30"	165	499	646	66	55	F25	300	254	8-18	
800	32"	190	576	672	66	55	F25	300	254	8-18	
900	36"	203	637	720	118	75	F25	300	254	8-18	
1000	40"	216	701	800	142	85	F25	300	254	8-18	
1200	48"	216	844	940	160	105	F30	350	298	8-22	

Primary Butterfly Valve

Lead the smart flow

Valve Torque Data

Torque Chart for RTC Resilient Seated Butterfly Valve Series 111

(All torques in N-m.)

Figure No. Valve Size		111W-111L-111U Operating Pressure		
mm	inch	6 bar	10 bar	16 bar
40	1-1/2"	9	9	11
50	2"	9	10	13
65	2-1/2"	13	14	19
80	3"	15	18	26
100	4"	29	33	45
125	5"	35	42	62
150	6"	58	86	115
200	8"	83	121	226
250	10"	119	204	319
300	12"	188	297	374
350	14"	297	629	906
400	16"	463	820	1180
450	18"	715	1223	1762
500	20"	960	1492	2148
600	24"	1573	2967	3917
700	28"	2235	5062	6063
750	30"	2589	5189	6105
800	32"	3200	5898	6480
900	36"	3980	6700	11800
1000	40"	6212	7680	14800
1200	48"	11000	13800	22800

The above torque values are for normal liquid applications. For other service conditions, unusual fluids or slurries, please consult manufacturer.

General Applications

Potable water
Water & wastewater treatment
Irrigation
HVAC system
Food & Beverage
Textile
Pumping station

Vacuum System
Shipbuilding
Chemical Processing
Desalination Industry
Transportation
Pulp & Paper
Automation

RTC's standard valve line has been specifically developed to meet most applications. For specific services, RTC offers appropriate valves and materials to meet these needs.

Fig. 111G

Standard Specifications

Valve Design: MSS SP-67
Ends: AWWA C606
Inspection & Testing: API 598
Working Pressure: Max. 300 psi
Mounting Flange: ISO 5211

Product Range

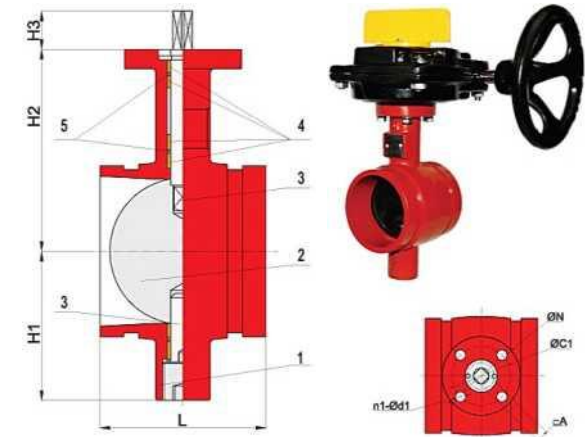
Body Configurations: Grooved type
Valve Size: 2" ~ 12"

Operator Available

Lever Handle, Gear Operator with Indicator Flag

Disc/Stem Connection

T type: Two pieces shafts



Material Specification

Item	Parts	Material	Specification
1	Body	Ductile Iron	A536
2	Disc	Ductile Iron	A536 with EPDM encapsulated
3	Shaft	Stainless Steel	AISI 420/431/304/316
4	Bushing	PTFE	
5	O-ring	BUNANorEPDM	

Dimensions - 111G

Size		L	H1	H2	H3	ΦA	ISO 5211	ΦN	ΦC1	N1-Φd1
mm	inch									
50	2"	86	70	102	29	9	F05	65	50	4-8
65	2-1/2"	97	75	106	29	9	F05	65	50	4-8
80	3"	97	82	113	29	9	F05	65	50	4-8
100	4"	116	100	135	29	11	F05	65	50	4-8
125	5"	133	100	138	29	14	F07	90	70	4-10
150	6"	134	115	163	29	14	F07	90	70	4-10
200	8"	148	150	204	35	17	F10	125	102	4-12
250	10"	159	200	250	35	22	F10	125	102	4-12
300	12"	163	230	275	35	22	F10	125	102	4-12

Primary Butterfly Valve

Series 113

Standard Specifications

Valve Design: API 609, EN 593 Face to Face:
 Double flange short pattern to
 API 609, EN558 series 13
 Flange: ANSI B16.5, EN1092
 Inspection & Testing: API 598, EN 12266
 Mounting Flange: ISO 5211

Product Range

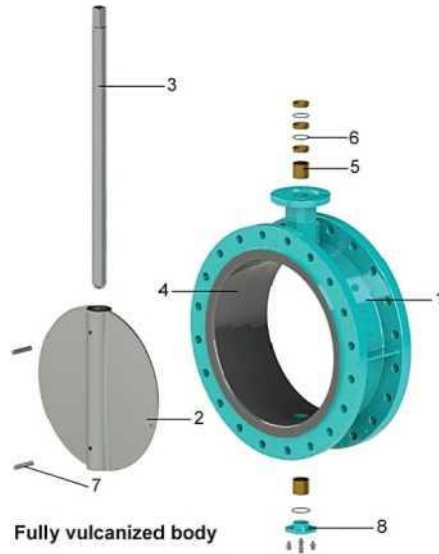
Body Configurations: Double Flanged Short Body
 Valve Size: DN50~2000 (2"-80")
 Rating: PN10

Operator Available

Lever Handle, Gear Operator, Pneumatic and Electric Actuators

Disc/Stem Connection

P type: Pin connection
 S type: Splined connection



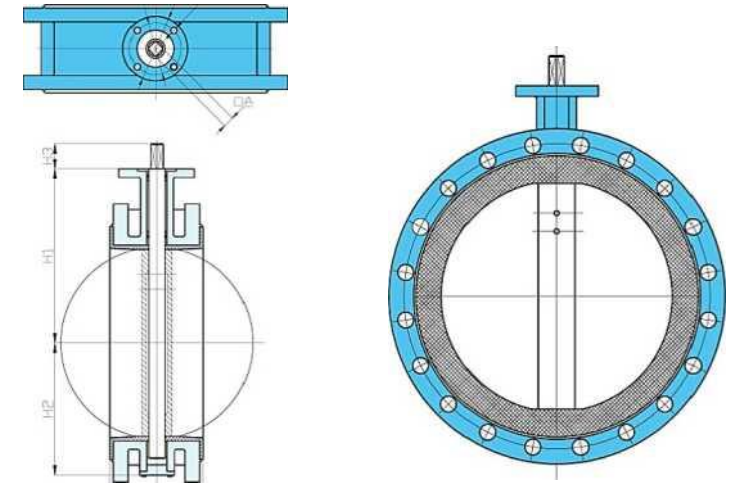
Material Specification

Item	Parts	Material	Specification
1	Body	Ductile Iron	GGG40, A536
2	Disc	Ductile Iron	GGG40, A536 - Nylon/Teflon coating available
		Aluminum Bronzel	C954
		Stainless Steel	SS304/316
		Duplex	Duplex 2205/2507
3	Shaft	Stainless Steel	AISI420/431/304/316
		Duplex	Duplex 2205/2507
4	Seat	EPDM	Ethylene Propylene Diene Monomer rubber
		BUNA N (NBR)	Nitrile Bautadiene Rubber
		FPM	Fluorocarbon Ruber
5	Bushing	PTFE	
		Bronze	
6	O-ring	EPDM	
7	Pin	Stainless Steel	
8	End Cover	Ductile Iron	For Sizes Above DN350

Lead the smart flow

Series 113 Double Flanged Type

Ptype: 113F-P
 S type: 113F-S



Dimensions - 113F

Size		L	H1	H2	H3	ΦA	ISO 5211	ΦN	ΦC1	n1-Φd1
mm	inch									
50	2"	108	120	80	29	9	F05	65	50	4-8
65	2-1/2"	112	145	75	29	9	F05	65	50	4-8
80	3"	114	130	90	29	9	F05	65	50	4-8
100	4"	127	165	115	29	11	F07	90	70	4-10
125	5"	140	180	110	29	14	F07	90	70	4-10
150	6"	140	190	150	29	14	F07	90	70	4-10
200	8"	152	240	160	35	17	F10	125	102	4-12
250	10"	165	260	195	35	22	F10	125	102	4-12
300	12"	178	300	220	35	22	F10	125	102	4-12
350	14"	190	303	261	45	22	F10	125	102	4-12
400	16"	216	349	282	51.2	27	F14	175	140	4-18
450	18"	222	380	320	51.2	27	F14	175	140	4-18
500	20"	229	432	332	64.2	36	F14	175	140	4-18
600	24"	267	509	419	70.2	36	F16	210	165	4-22
700	28"	292	561	481	66	55*	F25	300	254	8-18
800	32"	318	622	532	66	55*	F25	300	254	8-18
900	36"	330	691	556	118	75*	F25	300	254	8-18
1000	40"	410	735	674	142	85*	F25	300	254	8-18
1200	48"	470	929	774	160	105*	F30	350	298	8-22

For larger size, please consult manufacturer.
 *Valve shaft with round head

Primary Butterfly Valve

Valve Torque Data

Torque Chart for RTC Resilient Seated Butterfly Valve Series 113

(All torques in N-m.)

Figure No.		113F	
Valve Size		Operating Pressure	
mm	inch	10 bar	16 bar
50	2"	12	13
65	2-1/2"	16	19
80	3"	20	25
100	4"	43	55
125	5"	70	86
150	6"	88	105
200	8"	106	121
250	10"	248	314
300	12"	280	391
350	14"	630	893
400	16"	784	1298
450	18"	1088	1415
500	20"	1361	1769
600	24"	2720	3536
700	28"	5500	5940
750	30"	5610	6891
800	32"	5610	6891
900	36"	6939	10410
1000	40"	10800	14041
1200	48"	13811	17954

The above torque values are for normal liquid applications. For other service conditions, unusual fluids or slurries, please consult manufacturer.

Product Features

Ductile iron body material for high strength and impact resistance.

Spherical sealing surface on disc improves sealing performance. The disc edge is machined and polished for minimum torque.

Bonded vulcanized seat design for lower torque and isolation of flow media

Fully epoxy coated between seat and body

EPDM rubber approved for drinking water as option

Coating powder approved for use in contact with drinking water

Bronze or PTFE stem bushing for selection