

841T/842T (843T/845T)

Standard specification for 841T/842T

Model	841T				842T			
Size	50 to 200 mm		250 to 600 mm (Old name 843T)		50 to 200 mm		250 to 600 mm (Old name 845T)	
Applicable flange standards	JIS 5K, 10K ANSI 125Lb, 150Lb DIN PN 10, BS 4504 NP 10 BS 10 Table E		JIS 10K ANSI 125Lb, 150Lb		JIS 5K, 10K ANSI 125Lb, 150Lb DIN PN 10, BS 4504 NP 10 BS 10 Table E		JIS 10K ANSI 125Lb, 150Lb	
Max. working pressure	0.98 MPa (10 kgf/cm ² G)		0.69 MPa (7 kgf/cm ² G)		0.98 MPa (10 kgf/cm ² G)		0.69 MPa (7 kgf/cm ² G)	
Body test pressure	1.47 MPa (15 kgf/cm ² G)		1.03 MPa (10.5 kgf/cm ² G)		1.47 MPa (15 kgf/cm ² G)		1.03 MPa (10.5 kgf/cm ² G)	
Seat leakage test pressure	1.08 MPa (11 kgf/cm ² G)		0.69 MPa (7 kgf/cm ² G)		1.08 MPa (11 kgf/cm ² G)		0.69 MPa (7 kgf/cm ² G)	
Working temperature range	-10 to 100°C							
Working temperature range for continuous use	0 to 90°C							
Standard materials	Body	FCD-S / A395	Body	FCD-S / A395	Body	FCD-S / A395	Body	FCD-S / A395
	Disc/ stem	<ul style="list-style-type: none"> 50 to 125 mm: One piece disc and stem SCS 14 (CF8M) / SUS 316 150 mm, 200 mm: Two piece shaft design Disc: SCS 14 / CF8M Stem: SUS 316 	Disc	SCS 14 / CF8M	Disc/ stem	<ul style="list-style-type: none"> 50 to 150 mm: One piece disc and stem SCS 13 /SUS 304 + PFA lining 200 mm: Two piece shaft design Disc: SF 590A + PTFE lining Stem: S45C + FEP coating 	Disc	FCD-S + TFE lining
			Stem	SUS 316			Stem	S45C + FEP with coating
Seat	PFA	Seat	PTFE	Seat	PFA	Seat	PTFE	
Coating	50 to 300 mm: Epoxy primer (Grey N7)				350 mm and over: Lacquer primer (Grey N7)			

Note: "Teflon" is a registered trademark for a fluoride resin produced by Du Pont Inc. and Mitsui Fluorochemical Co., Ltd.

841T/842T Actuator selection chart

Valve nominal size		3I		3Q · 3R		3Y · 3A	
mm	inch	Standard	Heavy duty	Standard	Heavy duty	Standard	Heavy duty
		Double Acting	Double Acting	Single Acting	Single Acting		
50	2	Type 1	Type 1	Type 2	Type 2	Z-06	
65	2 1/2		Type 2		Type 3	Z-08	
80	3						
100	4	Type 2	Type 3	Type 4	Z-11		
125	5						
150	6	Type 3	Type 3	Type 4	Z-11	Z-13	
200	8	Type 4	/		Z-13	TGA-100	
250	10	TGA-100			TGA-125		
300	12	TGA-125			TGA-140		
350	14	TGA-140			TGA-160		
400	16	TGA-160			TGA-180		
450	18	TGA-180					
500	20	TGA-200					
600	24	TGA-200					

Valve nominal size		3X · 3W · 3T · 3S		4I		4E · 4L	
mm	inch	Standard	Heavy duty	Standard	Heavy duty	Standard	Heavy duty
50	2	Z-08S		Type 1		SRE-010	
65	2 1/2						
80	3	Z-11S					
100	4		Z-12S	Type 2		SRE-020	
125	5	Z-12S	Z-13S				
150	6	Z-13S	AW-13S	Type 3		SRE-060	
200	8	AW-17S					
250	10	AW-20S					
300	12	AW-28S		/		LTRH-01 0.2KW MGH2	
350	14					LTRH-01 0.4KW MGH3	
400	16					LTKD-01 0.4KW MGH3	
450	18					LTKD-02 0.75KW MGH3	
500	20					LTKD-05 0.75KW MGH4	
600	24						

* The selection of pneumatic cylinder is based on 0.39 MPa air supply.

841T/842T Basic torque chart

(Unit: N·m)

Type		PFA/TFE
Size		841T · 842T (843T · 845T)
mm	inch	
50	2	16.7
65	2 ½	23.5
80	3	27.5
100	4	39.2 (13.7)
125	5	53.9 (21.6)
150	6	73.5 (32.3)
200	8	113.7 (58.8)
250	10	343.0 (117.6)
300	12	470.4 (196.0)
350	14	637.0 (274.4)
400	16	793.8 (401.8)
450	18	950.6 (578.2)
500	20	1078.0 (774.2)
600	24	1352.4 (1342.6)

* Note

- The data shows seating torque of butterfly valves. It can be used for basic torque for actuator sizing.
- () figures represent dynamic torque for concentric design butterfly valves (700 series & 800 series) based on the followings
 Valve opening degree : 30 degree
 ΔP : 0.2 MPa

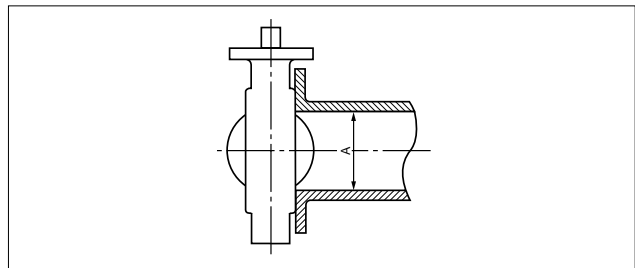
* Special note for "Basic torque"

The seating torques, especially for concentric rubber seated butterfly valves, are subject to working conditions, such as type of fluid, temperature, duration at closed position, frequency of operation, material of rubber, combinations of materials etc. Therefore, various considerations should be given when using butterfly valves.

Minimum internal piping diameter for 841T/842T

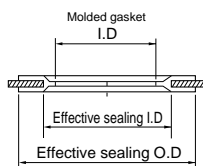
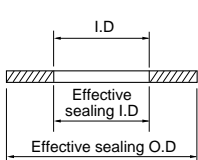
(Unit: mm)

Size		Minimum diameter
mm	inch	A
50	2	37
65	2 ½	59
80	3	67
100	4	91
125	5	118
150	6	143
200	8	188
250	10	236
300	12	286
350	14	322
400	16	372
450	18	421
500	20	463
600	24	566



- Use gaskets with those inner effective area smaller than those listed below.
Do not use any soft gaskets such as rubber gasket.

Size		841T, 842T				843T, 845T			
mm	inch	Recommended effective sealing I.D (mm)	Max. effective sealing I.D (mm)	Minimum I.D (mm)	Min. effective sealing I.D (mm)	Recommended effective sealing I.D (mm)	Max. effective sealing I.D (mm)	Minimum I.D (mm)	Min. effective sealing I.D (mm)
50	2	61	67	56	88	—	—	—	—
65	2 ½	77	82	71	105	—	—	—	—
80	3	90	94	80	123	90	94	80	127
100	4	115	117	100	146	115	115	103	155
125	5	141	145	126	181	141	141	128	186
150	6	167	170	151	209	167	167	154	215
200	8	218	220	192	257	212	212	194	263
250	10	270	270	248	326	—	—	—	—
300	12	321	321	295	371	—	—	—	—
350	14	359	359	332	416	—	—	—	—
400	16	410	410	383	479	—	—	—	—
450	18	457	457	435	533	—	—	—	—
500	20	508	508	482	590	—	—	—	—
600	24	610	610	581	693	—	—	—	—



841T/842T (843T/845T)

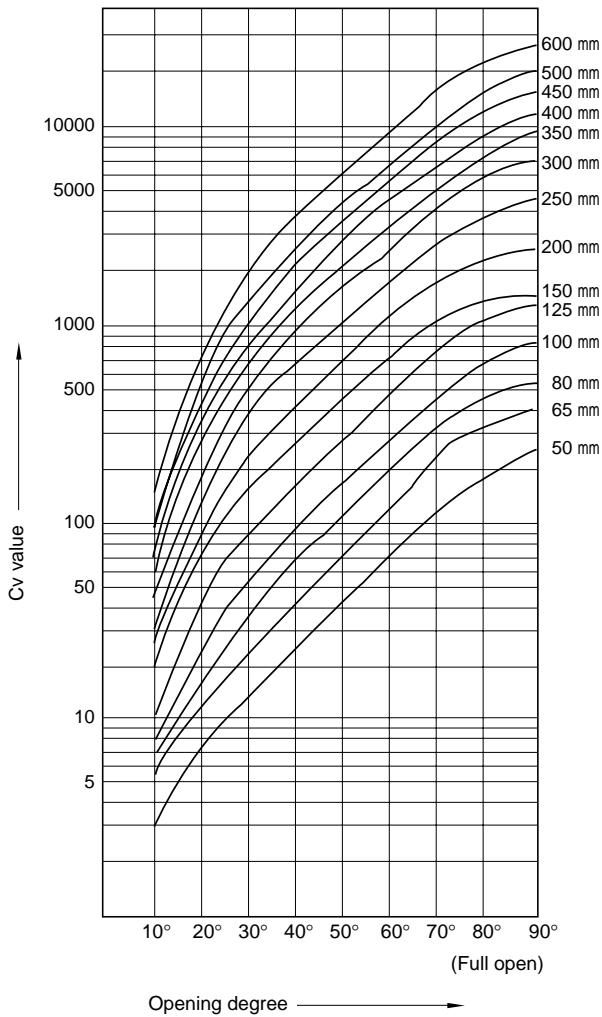
841T/842T Cv value

Cv value is defined as follows:

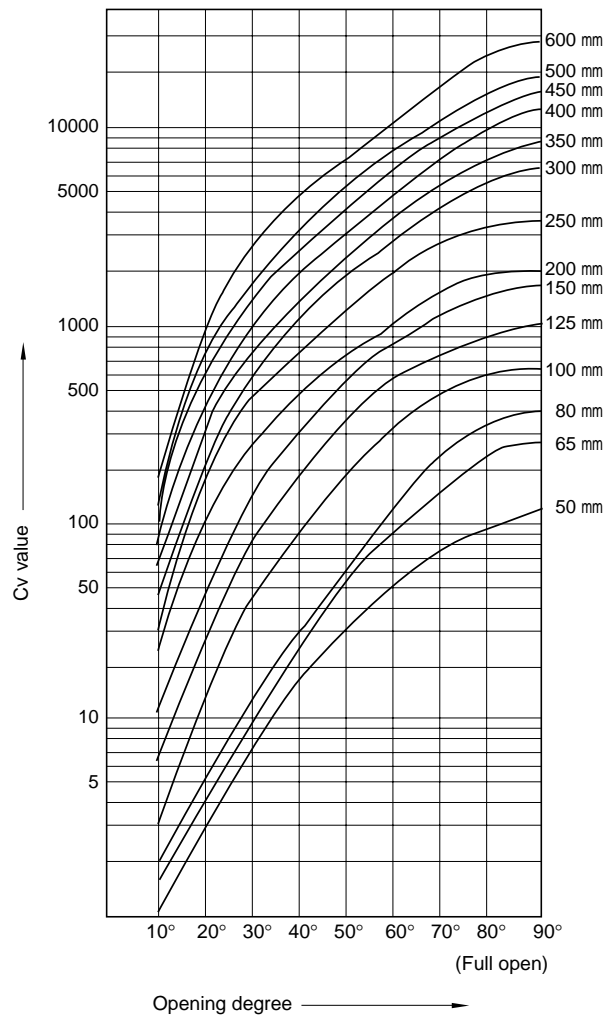
The flow rate expressed as US gal./min. at which a fresh water of 60°F flows when the pressure difference across the valve is maintained at 1 psi.

Cv value · Pressure
loss coefficient

(841T)



(842T)



841T Cv value chart

Size		Opening degree							
mm	inch	20°	30°	40°	50°	60°	70°	80°	90°
50	2	8	15	25	41	70	114	179	215
65	2½	12	24	41	69	123	203	321	382
80	3	18	37	63	110	194	340	470	500
100	4	28	59	100	162	271	446	660	781
125	5	45	93	158	258	427	698	1050	1240
150	6	58	153	268	431	707	1098	1497	1630
200	8	93	237	419	684	1119	1735	2187	2350
250	10	129	376	675	1086	1774	2827	4094	4500
300	12	181	527	961	1567	2550	4007	5651	6900
350	14	218	646	1224	2074	3373	5223	7784	9200
400	16	287	869	1632	2703	4306	6766	10289	12000
450	18	364	1150	2122	3437	5510	8993	13081	15500
500	20	450	1401	2589	4210	6753	10966	15993	19000
600	24	656	2060	3795	6141	9835	15952	23001	27600

842T Cv value chart

Size		Opening degree							
mm	inch	20°	30°	40°	50°	60°	70°	80°	90°
50	2	4	9	16	32	50	74	96	107
65	2½	5	10	23	49	93	149	209	231
80	3	6	13	27	68	131	227	327	363
100	4	15	40	97	178	308	451	539	573
125	5	29	76	179	334	575	782	908	980
150	6	45	124	291	520	840	1248	1481	1556
200	8	82	253	447	673	1013	1488	1811	1900
250	10	143	426	764	1209	1904	2918	3167	3200
300	12	233	572	1102	1802	2812	4161	5572	6200
350	14	284	766	1465	2264	3675	5349	7378	8800
400	16	384	1060	1993	3015	4845	7209	9860	12000
450	18	558	1298	2339	3888	6060	8917	12455	15000
500	20	586	1608	3078	4738	7473	11002	15154	18000
600	24	878	2414	4476	6871	11346	16828	22464	26000

841T Pressure loss coefficient

Size		Opening degree							
mm	inch	20°	30°	40°	50°	60°	70°	80°	90°
50	2	258	73.3	26.4	9.81	3.37	1.27	0.515	0.357
65	2½	280	70.0	24.0	8.47	2.67	0.978	0.391	0.276
80	3	246	58.1	20.0	6.57	2.11	0.688	0.360	0.318
100	4	299	67.3	23.4	8.92	3.19	1.18	0.538	0.384
125	5	271	63.5	22.0	8.25	3.01	1.13	0.498	0.357
150	6	330	47.5	15.5	5.98	2.22	0.922	0.496	0.418
200	8	395	60.8	19.4	7.30	2.73	1.13	0.714	0.618
250	10	492	57.9	18.0	6.95	2.60	1.03	0.489	0.405
300	12	514	60.6	18.2	6.86	2.59	1.05	0.527	0.354
350	14	556	63.3	17.6	6.14	2.32	0.968	0.436	0.312
400	16	547	59.7	16.9	6.17	2.43	0.984	0.426	0.313
450	18	545	54.6	16.0	6.11	2.38	0.892	0.422	0.300
500	20	550	56.8	16.6	6.29	2.44	0.927	0.436	0.309
600	24	542	54.9	16.2	6.18	2.41	0.916	0.441	0.306

Cv value · Pressure loss coefficient

842T Pressure loss coefficient

Size		Opening degree							
mm	inch	20°	30°	40°	50°	60°	70°	80°	90°
50	2	1031	204	64.4	16.1	6.60	3.01	1.79	1.44
65	2½	1613	403	76.2	16.8	4.66	1.82	0.923	0.756
80	3	2210	471	109	17.2	4.64	1.54	0.744	0.604
100	4	1041	146	24.9	7.39	2.47	1.15	0.806	0.713
125	5	653	95.1	17.1	4.92	1.66	0.898	0.666	0.572
150	6	549	72.3	13.1	4.11	1.58	0.714	0.507	0.459
200	8	508	53.3	17.1	7.54	3.33	1.54	1.04	0.946
250	10	401	45.1	14.0	5.60	2.26	0.962	0.817	0.800
300	12	310	51.5	13.9	5.19	2.13	0.973	0.542	0.438
350	14	328	45.0	12.3	5.15	1.96	0.923	0.485	0.341
400	16	306	40.1	11.3	4.96	1.92	0.867	0.463	0.313
450	18	232	42.8	13.2	4.77	1.96	0.907	0.465	0.321
500	20	324	43.1	11.8	4.96	2.00	0.921	0.485	0.344
600	24	302	40.0	11.6	4.94	1.81	0.823	0.462	0.345

