

# CR-TEC Engineering

Automated Valve Solutions

## Centric Butterfly Valves

*CRV67 Series*

*Resilient Seated*

ALLOWABLE PRESSURE

1.5" - 12.0": 230psig

14.0" - 40.0":

150psig



# CRV67 SERIES Centric Butterfly Valves



## PRODUCT CHARACTERISTICS

- Boot Seat Design with Cartridge Seat Features and Benefits Allowing Easy Disassembly and Seat Change
- Wafer Body , Full Lug Body, Double Flanged Body In Cast Iron, Ductile Iron, Cast Steel, 304 and 316SS
- Working Pressures to 250 psig
- Undercut Disc for Low Torque, Low Pressure Applications
- Full Dead End Service
- Full Shaft Bearings, Top, Bottom, and Above the Seat for Disc Stability and Higher Working Pressures
- Investment Cast Low Profile Disc for Low Pressure Drops
- Vacuum Service to 760 torr (29.9" Hg) Without Seat Vulcanizing
- Spline Attachment Shaft to Disc Without Pins in Flow Stream
- Full Material /Pressure Certs on Request
- ISO-5211 Compliant to Fit All ISO-5211 Actuators (short, square shaft)
- Available in Double D Design Shaft

## APPLICATIONS



WAFER TYPE ■



■ WAFER TYPE

- HVAC
- Ship Building
- Petrochemical
- Fire Control
- Seawater
- Flue Gas
- Desulphurization

## PRODUCT CHARACTERISTICS

End Connection	Wafer	Lug	Double Flanged
Flange Drilling	ANSI 125/150	ANSI 125/150	ANSI 150
	JIS 10K, PN10, PN16	JIS 10K, PN10, PN16	JIS 10K, PN10, PN16
Size	1 1/2"-40"	1 1/2"-24"	14"-72"
Seat	Resilient		
Temperature Range	-4 °F ~400 °F (-20°C ~204°C )		

**Remark:**

1. Wafer valve comes with positioning holes for ease of installation
2. Dimensions of Stainless steel valves are different from Iron Valves, see Page 13 for details

▶ **PRESSURE RATINGS:** Bi-Directional Bubble Tight Shutoff  
 230 psig ---- 1 1/2" -12" (Opt to 24")  
 150 psig ---- 14" -72"

▶ **SEAT TEST PRESSURE:** (PER ISO 5208)  
 260 psig ---- 1 1/2" -12" (Opt to 24")  
 160 psig ---- 14" -72"

▶ **SHELL TEST PRESSURE:** (PER ISO 5208)  
 260 psig ---- 1 1/2" -12" (Opt to 24")  
 160 psig ---- 14" -72"

▶ **Optional Material/ Pressure on request**



# DESIGN DETAILS

**DISC INDICATION**  
 Disc indication marked at the shaft end to clearly identify the disc opening degree at any time.

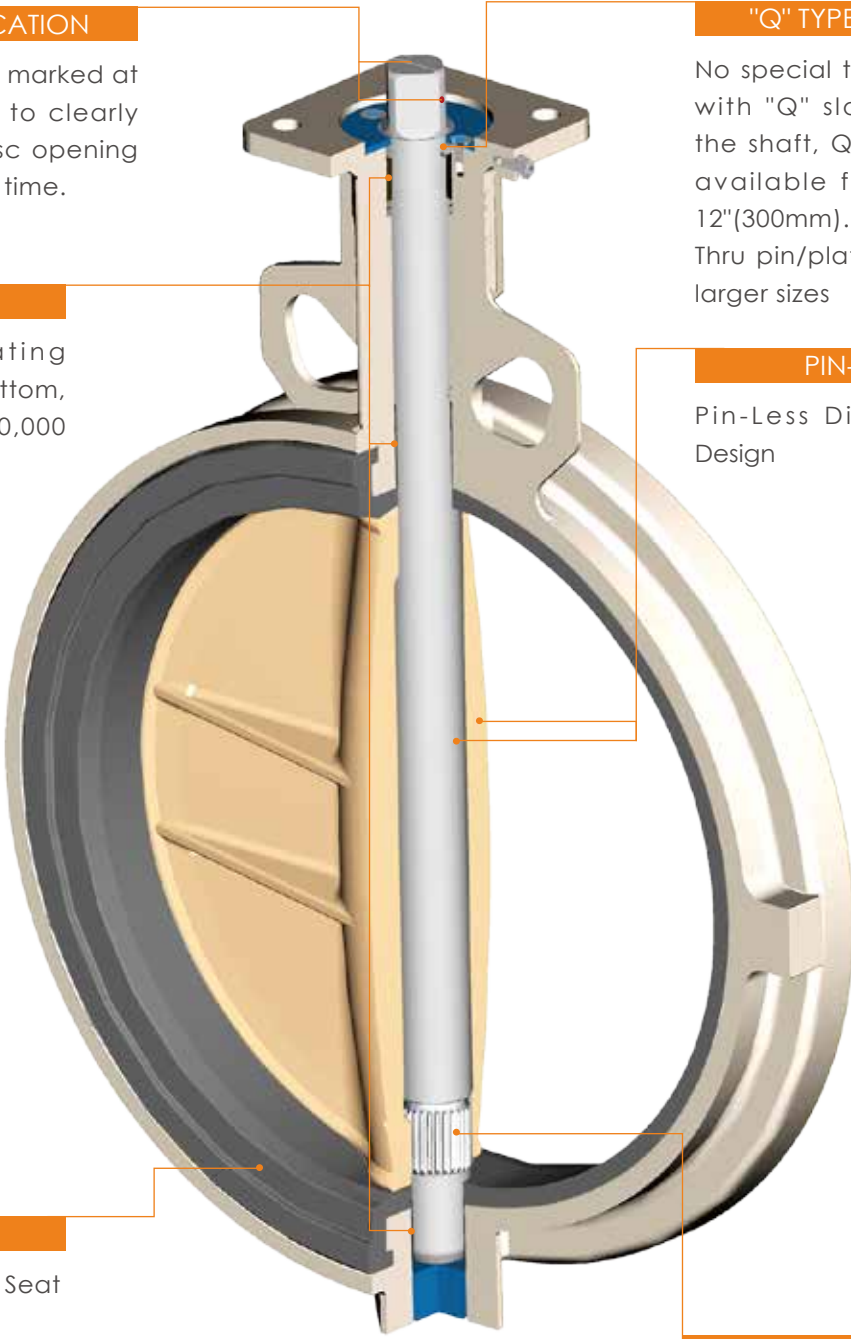
**BUSHING**  
 With Self-Lubricating Bushings Top and Bottom, Life Cycles up to 50,000 Cycles.

**"Q" TYPE DESIGN**  
 No special tools required with "Q" slot design to the shaft, Q type design available for sizes thru 12"(300mm). Thru pin/plate(shown) on larger sizes

**PIN-LESS**  
 Pin-Less Disc to Shaft Design

**SEAT**  
 Features Resilient Seat in Many Materials

**SHAFT STRENGTH UPGRADED**  
 Shaft Strength is Increased with Spline Drive, with No pins in Flow Stream





## DESIGN STANDARDS

End Connection: Wafer, Lugged, Flanged  
Wall Thickness: AWWA C504, ASME B 16.34  
Mounting Flange: ISO 5211  
Design: ISO 5208, AWWA C504 , ASME B16.34,  
Face to Face: API 609, ISO 5752, AWWA C504(54"~72")  
Pressure Test: ISO 5208, AWWA C504(54"~72")  
Marketing System: MSS-SP-25  
EX Certificate: ATEX 94/9/EG Group II Category 2 GD  
ABS Certificate: ABS Steel Vessel Rules 1-1-7/7,4-6-2/5.11



## CERTIFICATE

- ▶ American Bureau of Ships  
Design Assessment  
Manufacturing Assessment  
Ship Side
- ▶ SGS Food Grade(FDA)- EPDM, EPT
- ▶ CRN- All Provinces
- ▶ GOST Certificate
- ▶ ATEX- EX Certificate



## CV FLOW COEFFICIENT

Size Inches	CV's								
	Disc Angle (Degree Open)								
	10°	20°	30°	40°	50°	60°	70°	80°	90°
1 1/2"	1	3	8	16	25	42	69	94	132
2	1	4	11	25	44	70	117	154	225
2 1/2"	2	9	21	41	71	111	218	280	368
3	3	12	30	56	97	147	250	395	497
4	4	17	45	84	139	258	422	709	845
5	8	28	72	138	253	461	700	1214	1454
6	12	48	111	204	381	634	1021	1474	2175
8	22	75	193	358	670	1164	1833	2702	3655
10	33	118	286	627	978	1710	2636	3809	5565
12	40	151	365	719	1330	2486	3800	5939	8257
14	55	191	456	930	1757	3010	4656	6726	9733
16	73	270	594	1260	2308	3955	6300	9475	13405
18	88	300	726	1413	2708	4592	7407	11084	15926
20	121	405	1005	1979	3610	6257	9960	15337	21935
22	146	489	1215	2395	4368	7571	12051	18557	26541
24	163	578	1349	2795	5225	8846	13975	21163	29503
26	191	677	1583	3280	6132	10381	16401	24836	34626
28	224	771	1958	3772	7008	12471	20407	29477	43080
30	238	819	2079	4001	7434	13229	21648	31270	45702
32	301	1138	2693	5303	9635	16523	26934	36987	53814
36	385	1466	3451	6858	12647	21275	34814	50184	71421
38	538	2024	4703	8400	14238	23166	38013	57704	72715
40	597	2245	5213	9308	15788	25668	42120	63939	80582
42	658	2475	5748	10262	17406	28300	46437	70493	88842
44	722	2716	3308	11263	19103	21058	50962	77366	97505
48	859	3232	7507	13404	22734	36962	60652	92073	116039

## TORQUE CHART

Including 30% Safety Factor

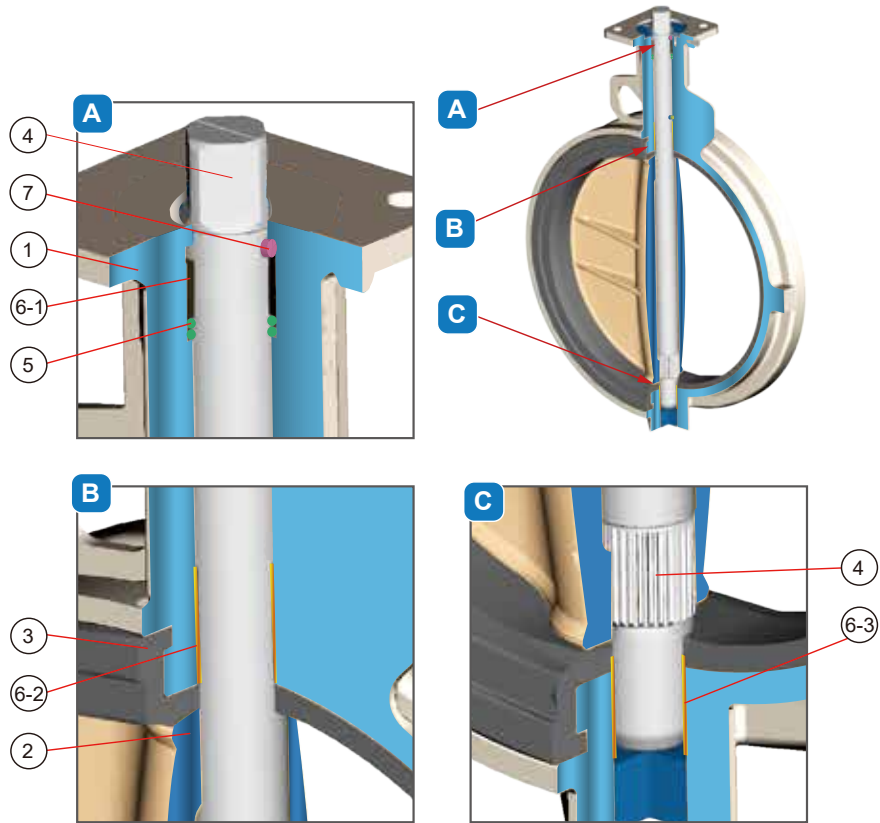
Size inches	INCLUDING 30% SAFETY FACTOR							UNDERCUT DISC		UNITS: IN LBS	
	LUBRICATING (NON-CORROSIVE)				DRY (NON-LUBRICATING)			LUBR	DRY	WHITE	VITON
	45	90	150	230	45	90	150	100 psig		100 psig	
1 1/2"	133	150	168	204	168	186	204	93	118	168	168
2	133	150	168	204	168	186	204	93	118	168	168
2 1/2"	159	177	195	230	195	212	239	112	136	195	195
3	248	274	301	363	301	336	372	174	211	230	230
4	327	363	398	478	398	443	496	229	279	398	398
5	540	602	673	805	673	743	823	378	471	673	673
6	1027	1124	1239	1363	1115	1221	1345	719	781	752	752
8	1513	1682	1867	2239	1867	2071	2301	1060	1308	1549	1549
10	2434	2708	3009	3611	3009	3345	3717	1705	2108	2213	2213
12	3372	3744	4160	4991	4160	4620	5133	2362	2914	3186	3186
14	4823	5354	5947		5947	6611	7346	3379	4166	5753	5753
16	6443	7160	7956		7956	8841	9824	4514	5574	8842	8842
18	8071	8965	9965		9965	11071	12302	5654	6981	11072	11072
20	10045	11160	12399		12399	13779	15311	7037	8686	13780	13780
22	12151	13496	15001		15001	16673	18523	8215	10143	16090	16090
24	11726	13027	12063		14479	16089	17877				
26	13762	15284	16992		16992	18877	20975				
28	20700	23001	25559		25559	28400	31559				
30	23081	25647	28497		28497	31665	35179				
32	26621	29577	32860		32860	36506	40560				
36	33878	37639	41825		41825	46471	51631				
38	39073	43542	58552		48233	53543	62835				
40	45047	23718	67437		55578	62039	83279				
42	49657	55419	74349		61277	68393	91810				
44	54498	60817	81969		67251	75057	100757				
48	64853	72375	97545		80031	89323	119900				

To use torque chart, note the following:

1. Seating / unseating torque valves above included friction bearing torque for stated Δp.
2. Do not apply a safety factor to above torque valves when determining actuator end put torque requirement.
3. Other dimensions please consult CR-TEC. 4. Test medium: water / room temperature

# PARTS AND MATERIALS

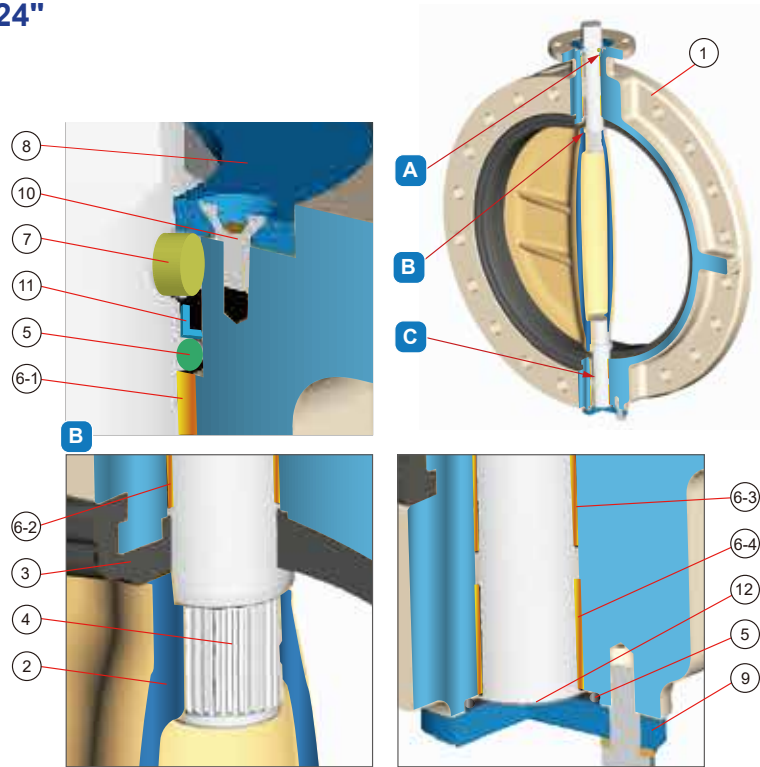
## IRON Body - 1.5" to 12"



No.	NAME	MATERIAL	SPECIFICATION		REMARK
			JIS	ASTM	
1	BODY	CAST IRON	FC 200	A 126 Cl. B	(opt) Nylon 11 coated
		DUCTILE IRON	FCD 450	A536-65-45-12	(opt) Nylon 11 coated
2	DISC	DUCTILE IRON	FCD 450	A536-65-45-12	Nylon 11 coated, Kynar(opt)
		STAINLESS STEEL	SCS 13A	A351 Gr. CF8	
			SCS 14A	A351 Gr. CF8M	(opt) Nylon 11
	ALU-BRONZE	ALBC 2	B 148 C95400		
3	SEAT	NBR (NITRILE)			-10°C ~ 80°C (14 °F ~176 °F )
		EPDM			-20°C ~120°C (-4 °F ~248 °F )
		EPT(WHITE)			-20°C ~140°C (-4 °F ~284 °F )
		NEOPRENE(CR)			0°C ~ 80°C (32 °F ~176 °F )
		SILICON			-20°C ~180°C (-4 °F ~356 °F )
		HYPALON(CSM)			-20°C ~135°C (-4 °F ~275 °F )
		VITON			-18°C ~204°C (-0.4 °F ~400 °F )
4	SHAFT	STAINLESS STEEL	SUS 410	A 182 Gr. F6A	
			SUS 304	A 182 Gr. F304	
			SUS 316	A 182 Gr. F316	
			SUS 630	A 564 Gr. 630	
5	O-RING	NBR(NITRILE)			*
6-1	BUSHING	DELTRIN			*
6-2		RPTFE+STAINLESS STEEL	RPTFE+SUS 304	RPTFE+A240 Gr. 304	*
6-3		BRONZE	BC 6	B62	*For cast iron and ductile iron body, SS(opt)
7	PIN	STAINLESS STEEL	SUS 304	A 182 Gr. F304	*

# PARTS AND MATERIALS

## IRON Body - 14" to 24"

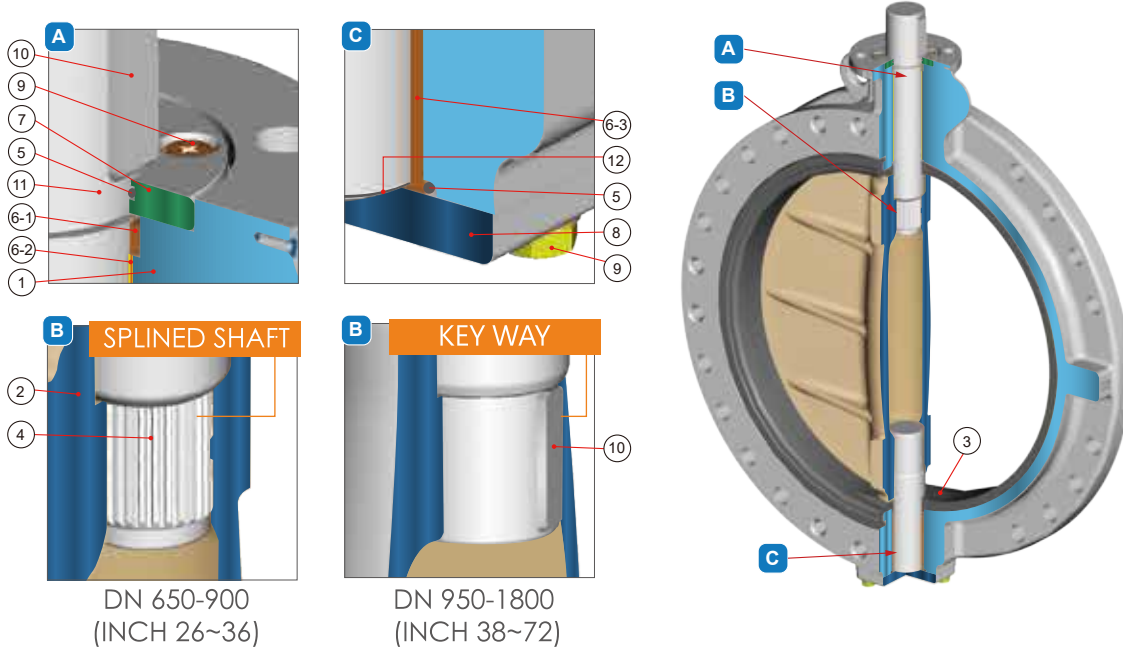


No.	NAME	MATERIAL	SPECIFICATION		REMARK
			JIS	ASTM	
1	BODY	CAST IRON	FC 200	A126 Cl. B	(opt) Nylon 11 coated
		DUCTILE IRON	FCD 450	A536-65-45-12	(opt) Nylon 11 coated
		STAINLESS STEEL	SCS 13A	A351 Gr.CF8	
			SCS 14A	A351 Gr.CF8M	
	CARBON STEEL	SC 480	A216 Gr. WCB		
2	DISC	DUCTILE IRON	FCD 450	A536-65-45-12	Nylon 11 coated , Kynar(opt)
		STAINLESS STEEL	SCS 13A	A351 Gr. CF8	
			SCS 14A	A351 Gr. CF8M	Nylon 11 coated (opt)
	ALU-BRONZE	ALBC 2	B148 C95400		
3	SEAT	NBR (NITRILE)			-10°C ~ 80°C (14 °F ~176 °F )
		EPDM			-20°C ~120°C (-4 °F ~248 °F )
		EPT(WHITE)			-20°C ~140°C (-4 °F ~284 °F )
		NEOPRENE(CR)			0°C ~ 80°C (32 °F ~176 °F )
		SILICON			-20°C ~180°C (-4 °F ~356 °F )
		HYPALON(CSM)			-20°C ~135°C (-4 °F ~275 °F )
	VITON			-18°C ~204°C (-0.4 °F ~400 °F )	
4	SHAFT	STAINLESS STEEL	SUS 410	A182 Gr. F6A	
			SUS 304	A182 Gr. F304	
			SUS 316	A182 Gr. F316	
			SUS 630	A 564 Gr. 630	
5	O-RING	NBR(NITRILE)			*
6-1	BUSHING	RPTFE+STAINLESS STEEL	RPTFE+SUS 304	RPTFE+A240 Gr. 304	
6-2					
6-3					
6-4					
7	PIN	STAINLESS STEEL	SUS 304	A182 Gr. F304	*
8	UPPER COVER	CAST IRON	FC 200	A126 Cl. B	For cast iron and ductile iron body
		STAINLESS STEEL	SUS 304	A240 304	For stainless steel body
9	BOTTOM COVER	CAST IRON	FC 200	A126-B	For cast iron and ductile iron body
		STAINLESS STEEL	SUS 13A	A351 Gr.CF8	For stainless steel body
10	BOLT	STEEL			
11	THRUST RING	STAINLESS STEEL	SUS 304	A240 Gr. 304	*
12	PACKING	PTFE			



# PARTS AND MATERIALS

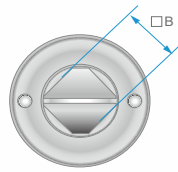
## IRON Body - 26" to 72"



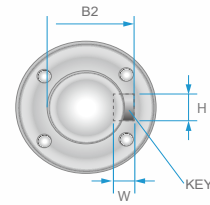
No.	NAME	MATERIAL	SPECIFICATION		REMARK
			JIS	ASTM	
1	BODY	DUCTILE IRON	FCD450	A536-65-45-12	
		STAINLESS STEEL	SCS 13A	A351 Gr.CF8	
		CARBON STEEL	SC 480	A216 Gr. WCB	
2	DISC	DUCTILE IRON	FCD 450	A536-65-45-12	Nylon 11 coated
		STAINLESS STEEL	SCS 13A	A351 Gr. CF8	
		STAINLESS STEEL	SCS 14A	A351 Gr. CF8M	
		ALU-BRONZE	ALBC 2	B148 C95400	
3	SEAT	NBR (NITRILE)			-10°C ~ 80°C (14 °F ~176 °F )
		EPDM			-20°C ~120°C (-4 °F ~248 °F )
		EPT			-20°C ~140°C (-4 °F ~284 °F )
		NEOPRENE(CR)			0°C ~ 80°C (32 °F ~176 °F )
		SILICON			-20°C ~180°C (-4 °F ~356 °F )
		HYPALON(CSM)			-20°C ~135°C (-4 °F ~275 °F )
4	SHAFT	STAINLESS STEEL	SUS 410	A 182 Gr. F6A	
			SUS 304	A182 Gr. F304	
			SUS 316	A182 Gr. F316	
			SUS 630	A 564 Gr. 630	
5	O-RING	NBR(NITRILE)			*
6-1	BUSHING	BRONZE	BC 6	B62	
6-2					
6-3					PTFE+316 SS
7	UPPER COVER	STEEL	SS 400	A36	For cast iron and ductile iron body
		STAINLESS STEEL	SUS 304	A240 Gr. 304	For stainless steel body
8	BOTTOM COVER	CAST IRON	FC 200	A 126 Cl. B	For cast iron and ductile iron body
		STAINLESS STEEL	SUS 13A	A351 Gr.CF8	For stainless steel body
			SUS 14A	A351 Gr.CF8M	
9	BOLT	STEEL			
10	KEY	STEEL			
11	THRUST RING	STAINLESS STEEL	SUS 304	A240 Gr. 304	
12	PACKING	PTFE			

# DIMENSIONS

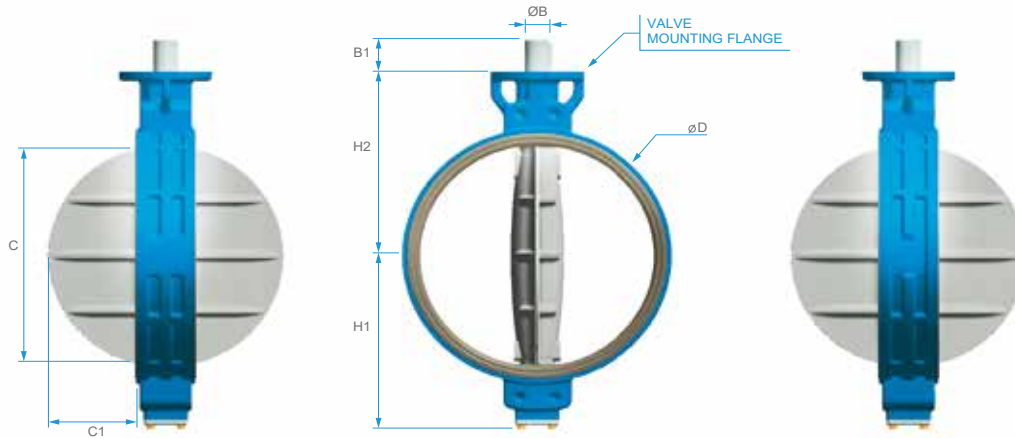
## Wafer Type - 1.5" to 40"



DN 40~ 600  
INCH 1 1/2"~24"



DN 650~1000  
INCH 26"~40"

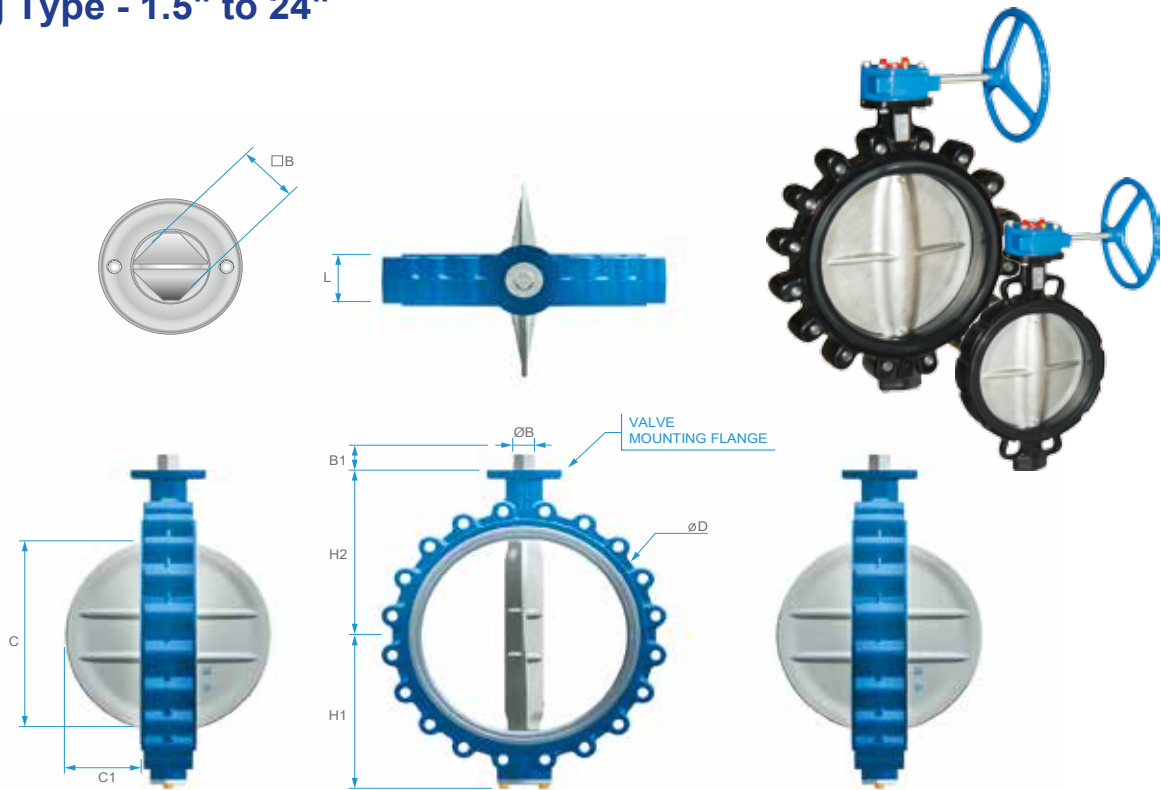


UNIT : INCHES

Size	Face to Face	Dimensions					Mounting flange (ISO 5211)		Shaft end				Weight	
		Inch	L	H1	H2	φD	C	C1	VALVE		φB	B1		B2
ISO(Std)/OPT	PCD(Std)/OPT													
1 1/2"	1.30	2.36	4.72	3.19	1.34	0.28	FO7	2.76	0.55	0.75	--	--	0.43	4
2	1.69	2.56	5.63	3.78	1.54	0.31	FO7	2.76	0.55	0.75	--	--	0.43	7
2 1/2"	1.81	2.80	6.10	4.33	2.17	0.51	FO7	2.76	0.55	0.75	--	--	0.43	9
3	1.81	3.03	6.38	4.88	2.72	0.75	FO7	2.76	0.55	0.75	--	--	0.43	9
4	2.05	4.21	7.13	5.83	3.58	1.06	FO7	2.76	0.55	0.75	--	--	0.43	13
5	2.20	4.80	7.76	7.09	4.53	1.42	FO7	2.76	0.71	0.75	--	--	0.55	18
6	2.20	5.91	8.27	8.11	5.51	1.85	FO7	2.76	0.71	0.75	--	--	0.55	20
8	2.36	6.50	9.45	10.20	7.32	2.68	F10/F12	4.02/4.92	0.87	0.94	--	--	0.67	31
10	2.68	7.91	11.26	12.60	9.41	3.54	F10/F12	4.02/4.92	0.98	0.94	--	--	0.75	48
12	3.07	9.21	12.17	14.57	11.38	4.37	F10/F12	4.02/4.92	1.10	0.94	--	--	0.87	73
14	3.07	11.93	12.95	16.22	12.80	5.04	F12/F14	4.92/5.51	1.38	1.14	--	--	1.06	106
16	4.02	13.19	14.21	18.70	14.76	5.63	F12/F14	4.92/5.51	1.38	1.14	--	--	1.06	132
18	4.49	14.29	15.47	20.87	16.65	6.38	F14/F16	5.51/6.50	1.89	1.50	--	--	1.42	176
20	5.00	15.63	16.81	23.03	18.62	7.17	F14/F16	5.51/6.50	1.89	1.50	--	--	1.42	275
22	6.06	16.77	18.70	25.00	19.96	7.32	F14/F16	5.51/6.50	1.89	1.50	--	--	1.42	286
24	6.06	18.07	19.37	27.05	22.05	8.43	F16	6.50	2.36	1.89	--	--	1.81	440
26	6.50	19.25	20.28	28.03	23.90	9.13	F16	6.50	2.56	3.54	2.74	.71X.47	-	427
28	6.50	20.12	22.17	3.11	25.79	10.04	F16	6.50	2.95	3.54	3.08	.79X.47	-	548
30	7.48	21.42	23.03	33.31	27.24	10.39	F25	10.00	2.95	4.33	3.12	.79X.47	-	695
32	7.48	23.31	24.80	34.25	28.98	11.22	F25	10.00	3.15	4.33	3.44	.94X.63	-	803
36	7.99	24.88	25.98	38.27	33.11	13.03	F25	10.00	3.35	4.33	3.64	.94X.63	-	933
40	8.50	27.48	29.49	42.91	37.05	14.76	F30	11.73	3.94	6.10	4.15	1.10X.63	-	1426

# DIMENSIONS

## Lug Type - 1.5" to 24"



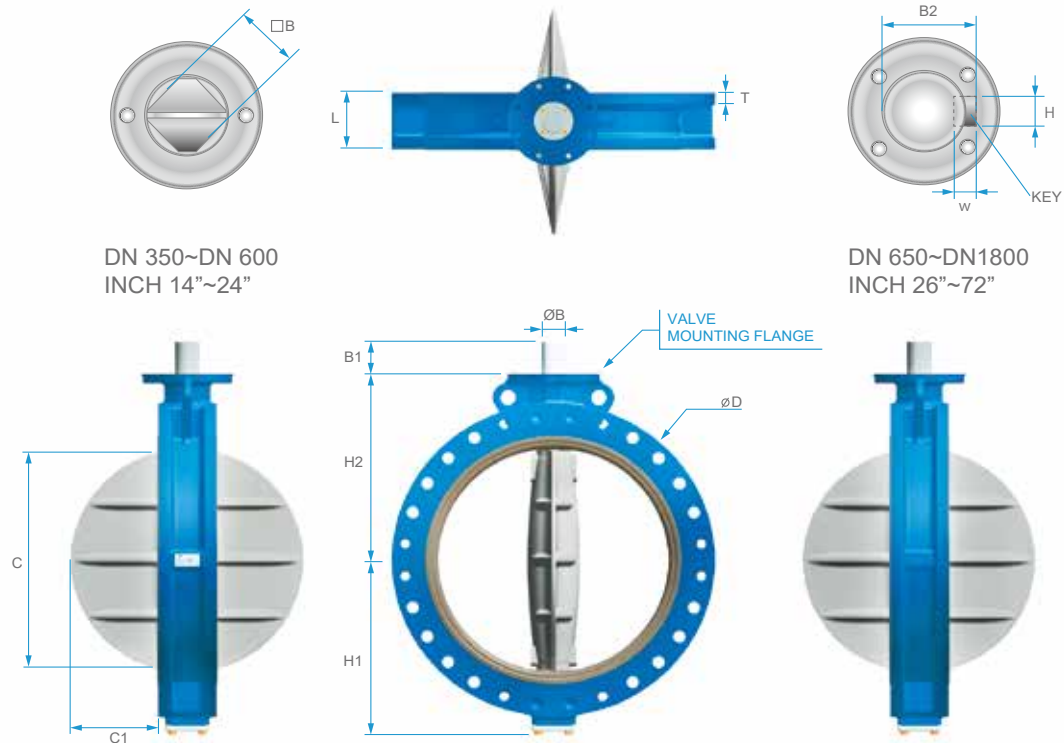
UNIT : INCHES

Size	Face to Face	Dimensions					Mounting flange (ISO 5211)		Shaft end			Weight
		L	H1	H2	φD	C	C1	VALVE		φB	B1	
ISO(Std)/OPT	PCD(Std)/OPT							Lbs				
1 1/2"	1.30	2.36	4.72	3.19	1.34	0.28	FO7	2.76	0.55	0.75	0.43	7
2	1.69	2.56	5.63	3.78	1.54	0.31	FO7	2.76	0.55	0.75	0.43	9
2 1/2"	1.81	2.80	6.10	4.33	2.17	0.51	FO7	2.76	0.55	0.75	0.43	9
3	1.81	3.50	6.38	4.88	2.72	0.75	FO7	2.76	0.55	0.75	0.43	11
4	2.05	4.41	7.13	5.83	3.58	1.06	FO7	2.76	0.55	0.75	0.43	18
5	2.20	4.84	7.76	7.09	4.53	1.42	FO7	2.76	0.71	0.75	0.55	22
6	2.20	5.91	8.27	8.11	5.51	1.85	FO7	2.76	0.71	0.75	0.55	24
8	2.36	7.05	9.45	10.20	7.32	2.68	F10/F12	4.02/4.92	0.87	0.94	0.67	40
10	2.68	8.50	11.26	12.60	9.41	3.54	F10/F12	4.02/4.92	0.98	0.94	0.75	59
12	3.07	11.93	12.17	14.57	11.38	4.37	F10/F12	4.02/4.92	1.10	0.94	0.87	97
14	3.07	13.19	12.95	16.22	12.80	5.04	F12/F14	4.92/5.51	1.38	1.14	1.06	128
16	4.02	14.29	14.21	18.70	14.76	5.63	F12/F14	4.92/5.51	1.38	1.14	1.06	178
18	4.49	15.63	15.47	20.87	16.65	6.38	F14/F16	5.51/6.50	1.89	1.50	1.42	242
20	5.00	15.63	16.81	23.03	18.62	7.17	F14/F16	5.51/6.50	1.89	1.50	1.42	341
24	6.06	16.77	19.37	27.05	22.05	8.43	F16	6.50	2.36	1.89	1.81	700

1. Size of Stainless Steel is 12" and below, please see page 13.
2. Inside Pipe Diameter > C

# DIMENSIONS

## Flange Type - 14" to 72"



DN 350~DN 600  
INCH 14"~24"

DN 650~DN1800  
INCH 26"~72"

UNIT : INCHES

Size	Face to Face	Dimensions					Mounting flange (ISO 5211)		Shaft end				Thickness of Flange	Weight		
		L	H1	H2	φD	C	C1	VALVE		φB	B1	B2			Key (H*W)	□B
Inch							ISO(Std)/ OPT	PCD(Std)/ OPT								
14	3.07	11.93	12.95	21.06	12.80	0.28	F12/F14	4.92/6.50	1.38	1.14	--		1.06	46.20	152	
16	4.02	13.19	14.21	23.62	14.76	0.31	F12/F14	4.92/6.50	1.38	1.14	--		1.06	48.40	209	
18	4.49	14.29	15.47	25.51	16.65	0.51	F14/F16	6.50/6.61	1.89	1.50	--		1.42	59.40	284	
20	5.00	15.63	16.81	28.15	18.62	0.75	F14/F16	6.50/6.61	1.89	1.50	--		1.42	66.00	354	
22	6.06	16.77	18.70	30.00	19.96	1.06	F14/F16	6.50/6.61	1.89	1.50	--		1.42	68.20	420	
24	6.06	18.07	19.37	33.07	22.05	1.42	F16	6.61	2.36	1.89	--		1.81	79.20	546	
26	6.50	19.25	20.28	34.25	23.90	1.85	F16	6.61	2.56	3.54	2.74	.70X.47	-	88.00	647	
28	6.50	20.12	22.17	36.50	25.79	2.68	F16	6.61	2.95	3.54	3.12	.79X.47	-	88.00	724	
30	7.48	2.13	23.03	39.25	27.24	3.54	F25	10.00	2.95	4.33	3.12	.79X.47	-	88.00	948	
32	7.48	23.31	24.80	41.73	28.98	4.37	F25	10.00	3.15	4.33	3.44	.94X.63	-	96.80	1115	
36	7.99	24.88	25.98	46.06	33.11	5.04	F25	10.00	3.35	4.33	3.64	.94X.63	-	101.20	1366	
38	8.50	26.85	28.70	48.74	35.00	5.63	F25	10.00	3.74	4.33	3.95	1.10X.63	-	110.00	1650	
40	8.50	27.48	29.49	50.75	37.05	6.38	F30	11.73	3.94	6.10	4.15	1.10X.63	-	110.00	1782	
42	8.50	29.96	32.01	52.99	38.54	7.17	F30	11.73	3.94	6.10	4.15	1.10X.63	-	110.00	1890	
44	8.50	30.24	32.05	55.24	40.39	7.32	F30	11.73	4.33	7.09	4.58	1.26X.71	-	110.00	2048	
48	10.00	32.05	34.25	59.49	44.57	8.43	F30	11.73	4.33	7.09	4.58	1.26X.71	-	123.20	2554	

1. Inside Pipe Diameter > C

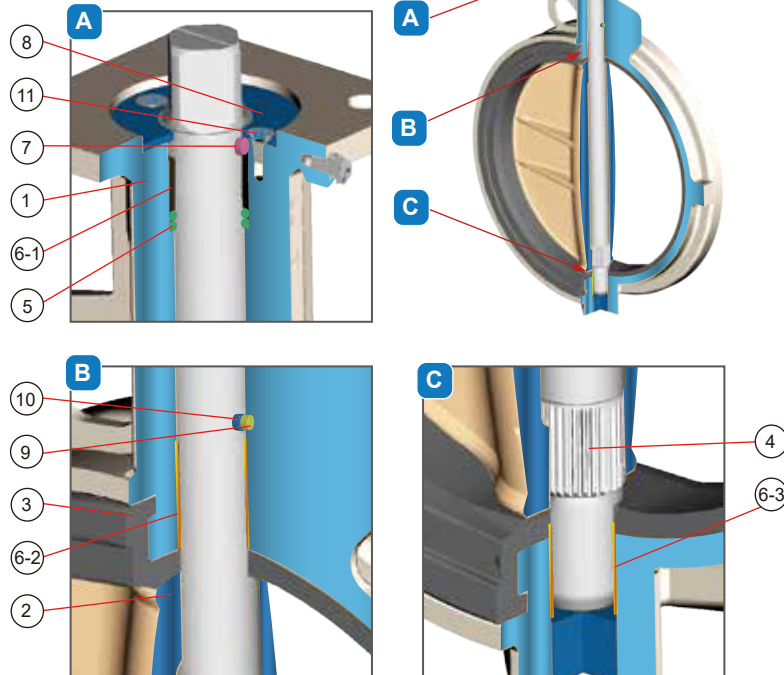


## PARTS AND MATERIALS

### STAINLESS STEEL Body - 1.5" to 24"

CR-TEC offers a line of butterfly valves in 304 and 316 Stainless Steel, featuring Investment Cast Bodies (1) and Disc (2) from 1.5" to 24" in both Wafer and Lug style

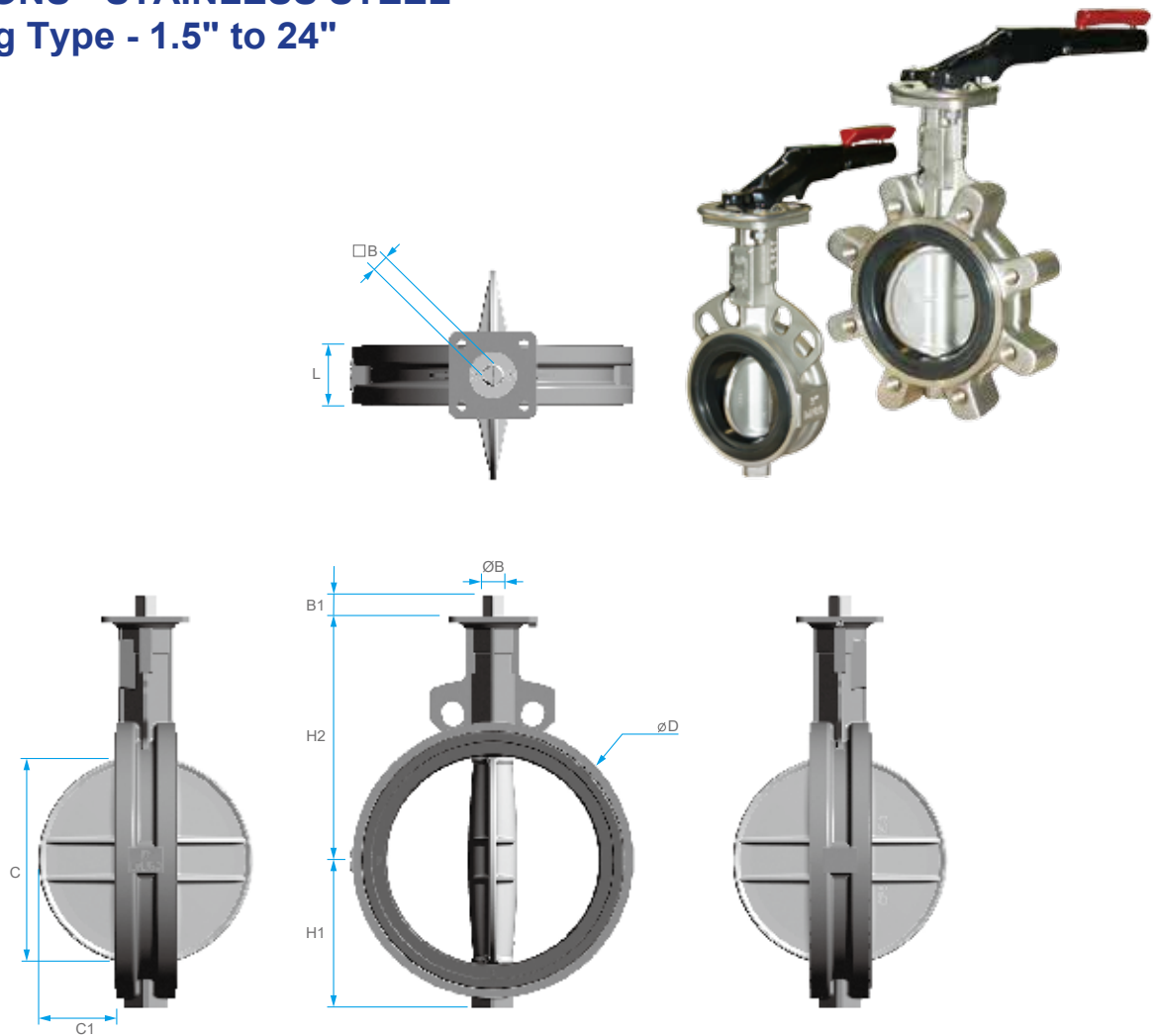
This design has the same features as the IRON body valves plus parts like RTFE +SS 304 bushings(6-2,6- 3) and a upper cover for Q-Pin retention(8).



Above part #'s 9 and 10 show a required anti-static pin to eliminate any static that may develop between fluids and disc. Polished disc, to various finishes is available as well as White EPT Food Grade seat.

No.	NAME	MATERIAL	SPECIFICATION		REMARK
			JIS	ASTM	
1	BODY	STAINLESS STEEL	SCS 13A	A351 Gr.CF8	
		CARBON STEEL	SC 480	A216 Gr. WCB	
2	DISC	STAINLESS STEEL	SCS 13A	A351 Gr. CF8	
			SCS 14A	A351 Gr. CF8M	(opt) Polished
3	SEAT	NBR (NITRILE)			-10°C ~ 80°C (14 °F ~176 °F)
		EPDM			-20°C ~120°C (-4 °F ~248 °F)
		EPT(WHITE)			-20°C ~140°C (-4 °F ~284 °F)
		NEOPRENE(CR)			0°C ~ 80°C (32 °F ~176 °F)
		SILICON			-20°C ~180°C (-4 °F ~356 °F)
		HYPALON(CSM)			-20°C ~135°C (-4 °F ~275 °F)
		VITON			-18°C ~204°C (-0.4 °F ~400 °F)
4	SHAFT	STAINLESS STEEL	SUS 410	A182 Gr. F6A	
			SUS 304	A182 Gr. F304	
			SUS 316	A182 Gr. F316	
			SUS 630	A564 Gr. 630	
5	O-RING	NBR(NITRILE)			*
6-1	BUSHING	DELTRIN			*
6-2		PRTFE+STAINLESS STEEL	RPTFE+SUS 304	RPTFE+A240 Gr. 304	*
6-3					
7	PIN	STAINLESS STEEL	SUS 304	A182 Gr. F304	*
8	UPPER COVER	STAINLESS STEEL	SUS 304	A240 Gr. F304	
9	PIN(ANTI-STATIC)	STAINLESS STEEL	SUS 304	A182 Gr. F304	*
10	SPRING	STAINLESS STEEL	SUS 304	A182 Gr. F304	*
11	BOLT	STAINLESS STEEL	SUS 304	A193 Gr. B8	

## DIMENSIONS - STAINLESS STEEL Wafer/Lug Type - 1.5" to 24"



UNIT : INCHES

Size		Face to Face	Dimensions					Mounting flange (ISO 5211)		Flat shaft end			Conter Weight	Lbs
mm	Inch		L	H1	H2	φD	C	C1	ISO(Std)/ OPT	PCD(Std)/ OPT	φB	B1	□B	Water
40	1 1/2"	1.30	2.36	4.72	3.19	1.34	0.28	FO7	2.76	0.55	0.75	0.43	7	8
50	2	1.69	2.56	5.63	3.78	1.54	0.31	FO7	2.76	0.55	0.75	0.43	9	10
65	2 1/2"	1.81	2.80	6.10	4.33	2.17	0.51	FO7	2.76	0.55	0.75	0.43	11	12
80	3	1.81	3.03	6.38	4.88	2.72	0.75	FO7	2.76	0.55	0.75	0.43	11	12
100	4	2.05	4.21	7.13	5.83	3.58	1.06	FO7	2.76	0.55	0.75	0.43	13	20
125	5	2.20	4.80	7.76	7.09	4.53	1.42	FO7	2.76	0.71	0.75	0.55	18	25
150	6	2.20	5.91	8.27	8.11	5.51	1.85	FO7	2.76	0.71	0.75	0.55	20	27
200	8	2.36	6.50	9.45	10.20	7.32	2.68	F10/F12	4.02/4.92	0.87	0.94	0.67	31	42
250	10	2.68	7.91	11.26	12.60	9.41	3.54	F10/F12	4.02/4.92	0.98	0.94	0.75	48	44
300	12	3.07	9.21	12.17	14.57	11.38	4.37	F10/F12	4.02/4.92	1.10	0.94	0.87	73	104

14"~24" Dimensions are same as iron body



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