Fluid Valve

Valve Solutions & Automation Systems

Catalogue of fluid valve for CF8M disc and EPDM seat valves.

Fluid Valve Company

Fluid Valve

Introduction of the valve

The valve body shall be one-piece wafer or lug design with extended neck and a con centric disc and seat configurationto allow for 2"-12" of piping insulation, have flange hole drilling per international flange standards and be provided with a non-corrosive hushing and self-adjusting stem seal. Flange locating holes shall be provided on wafer bodies to allow for quick and precise alignment during valve installation. The valve disc edge and hub on metal discs shall be spherically machined and hand polished for minimum torque and maximum sealing capability. The disc-to-stem connection shall be an internal Square design with no possible leak paths in the disc-to-stem connection. External disc-to-stern connections such as screws or pins are not allowed.

The valve seal shall be a tongue-and groove design with a primary hub seal and a molded flange O-ring suitable for weld-neck and slip-on flanges. The seat shall totally encapsulate the body isolating the body from the line media and no flange gaskets shall be required. The wafer or lug valve shall be rated for bubble-tight shut-off for bidirectional service to 16 Bar)on sizes 2”-12” (50mm-300mm). The lug valve shall be rated for bubble-tight shut-off for dean end service to 16 Bar on sizes 2”- 12” (50mm-300mm). The valve shall be tested for tight shut-off to 110% of the rated pressure. The Valve shall have the following approvals and certifications. CE.ISO9001,WRAS.

Applicable scope

The products are used in a wide range of industries worldwide including:

- Chemical
- Beverage
- Brewing/Wine Making
- Pharmaceutical
- Food Processing
- Petroleum Refining & Oilfield
- Transportation
- Ultrapure Water
- Marine
- Pulp & Paper
- Mining
- Power/FGD
- Nuclear Power
- Irrigation
- Water & Wastewater Treatment
- Textile
- Desalination
- Steel Production

Introduction of the valve

Valve Type:

CBF03-TA03

Body:

Shall be one-piece wafer or lug design with Extended neck to allow for 2”-12“ of piping insulation.

Flange locating holes shall be provided on wafer bodies to allow for quick and precise alignment during valve installation.

Flange hole drilling per international flange standard as specified.

A non-corrosive bushing and a self-adjusting stem seal shall be provided. No field adjustment shall be necessary to maintain optimum field performance.

Disc:

Disc edge and hub on metal discs shall be spherically machined and hand polished for torque and maximum sealing capability.

Stem:

Shall be one-piece design.

Disc to stem connection shall be square shaft design with no possible leak paths in the disc-to-stem connection. External disc to stem connections such as disc screws or pins are not allowed.

Stem shall be mechanically retained in the body neck and no part of the stem shall be exposed to the line media.

Seat:

Shall be tongue-and-groove seat with a primary hub seal and a molded flange O-ring for weld neck and slip-on flanges.

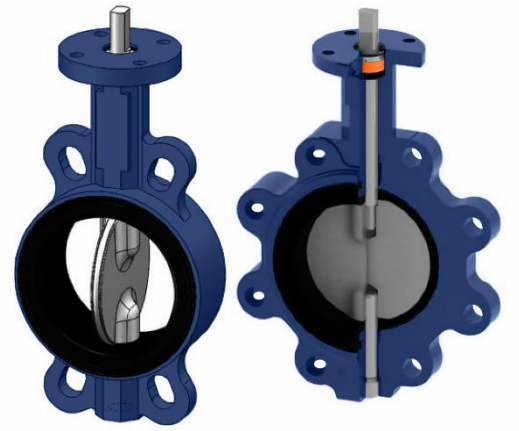
The seat shall totally encapsulate the body isolating it from the line media and no flange gaskets shall be required.

Features

1. Small in size and light in weight. Easy installation and maintenance. It can be mounted wherever needed.
2. Simple and compact construction, quick 90degrees on-off operation.
3. Minimized operating torque, energy saving.
4. Bubbles-tight sealing with no leakage under the pressure test
5. Wide selection of materials, applicable for various medium.
6. Long service life. Standing the test of tens of thousands opening/closing operations.
7. Flow curve tending to straight line. Excellent regulation performance.

Fluid Valve

Max working pressure	
DN50-DN300	16Bar
Flange PN6 PN10 PN16 150LB AS D AS E 5K / 10K	
Design	
EN593 API609 BS5155 EN1092 ISO5211	
Face to Face	
DIN558-1 API609 DIN3202 ISO5752 BS5155	
Testing	
EN 12266-1 ISO5208 API598	



Body

Material	Referencesstandard	Coating
Cast iron	GG20 GG25 A126	Epoxy Ral 5005
Ductile iron	GGG40 GGG45 GGG50 A536 A395	Epoxy Ral 5005
Carbon steel	WCB WCC LCC LCB	
Stainless steel	CF8 CF8M CF3 CF3M SAF2507 SAF2205	
Aluminuim-bronze	C95400 C95500 C95800	

Disc

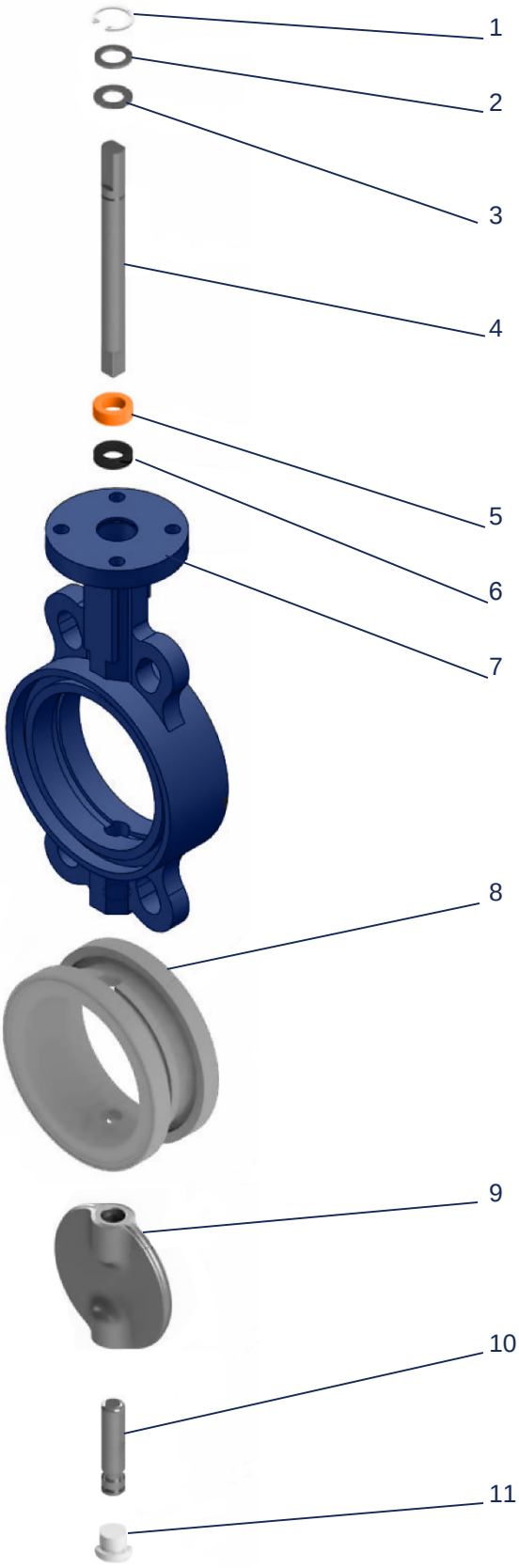
Material	References	Standard coating
Ductile iron	GGG4O GGG45 GGG50 A536	Nickel Brass-Nikle
Carbon steel	WCB WCC LCC LCB	
Stainless steel	CF8 CF8M CF3 CF3M SAF2507 SAF2205	
Aluminuim-bronze	C95400 C95500 C95800	

Body Rubber Seat

References	Desigation	Trade Name	Working Temp	Applications
NBR	Nitrile Rubber	BUNA-N	-25/+100	Oils, Hydrocarbons, Gas, Air ,Water
EPDM	Copolymer	EPDM	-35/+130	Water, Sea Water, Steam, Diluted Acids
FKM	Fluoroelastomer	VITON	-20/+200	Oils, Hydrocarbons, Acids
CR	Polychloroprene	NEOPRENE	-20/+100	Alkail, Bases, Water
NR	Natural Rubber	NR	-40/+80	Glycols, Abrasive media
MVQ	Sillicon Rubber	SR	-60/+190	Water, food, Drinks
CSM	Chlorosulfonafe Polych loroprene	HYPALON	-20/+125	Acids, mineral Bases, Alcohols, Hydrocarbons

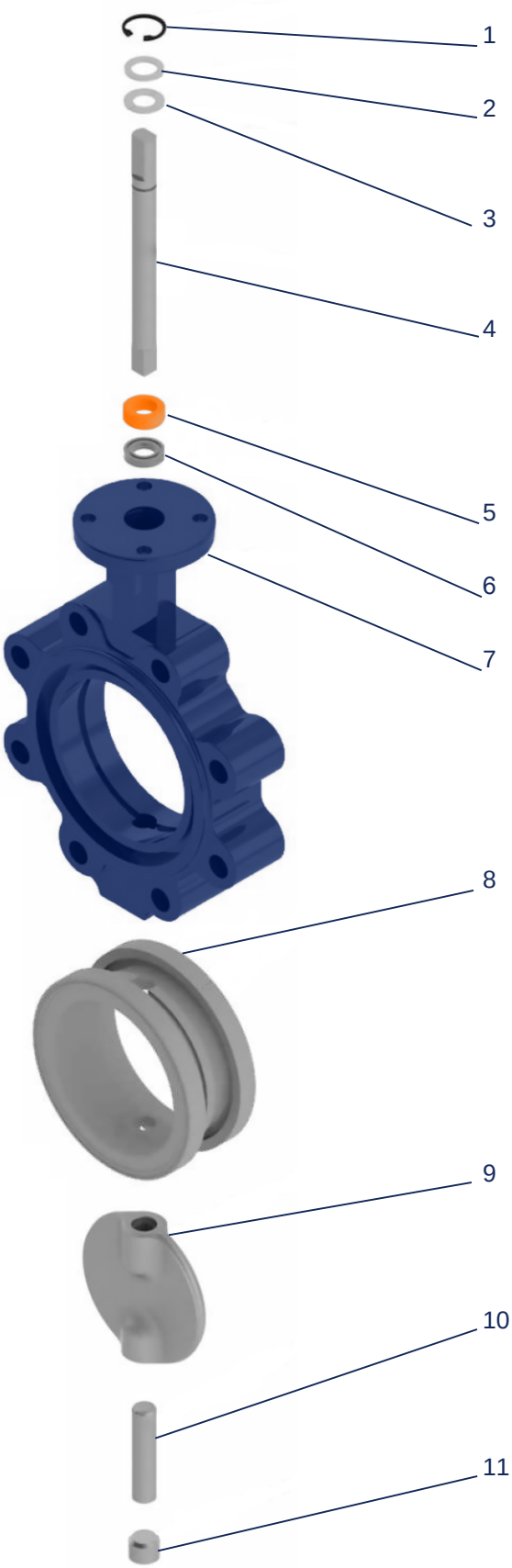
Fluid Valve

Main Spare Part Material Quality (DN50-DN300)



1	Retaining Ring	SK7
2	Thrust Washer	Stainless Steel Carbon Steel
3	Shaft Retainer	Stainess Steel Carbon Steel
4	Up Shaft	SS410 SS304 SS431 SS316 MONEL K500 17-4PH C63000 C92200 2507 2205
5	Bushing	FRP
6	"O"Ring	NBR VITON
7	Body	GG20 GG25 GGG40 GGG45 GGG50 WCB WCC LCC LCB CF8 CF8M CF3 CF3M C95800 C95400 C95500
8	Body seat	NBR(BUNA-N) EPDM HEPDM FKM(VITON) Polychloroprene Natural Rubber Sillicon Rubber
9	Disc	GGG40 GGG45 GGG50 WCB WCC LCC LCB CF8 CF8M CF3 CF3M C95800 C95400 C95500
10	Down Shaft	SS410 SS304 SS431 SS316 MONEL K500 17-4PH C63000 C92200 2507 2205
11	Plug	Stainess Steel

Main Spare Part Material Quality (DN50-DN300)



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11	Plug	Stainess Steel

Fluid Valve

Main Spare Part Material Quality (CBF02-TA04-DN400-DN600)

1	Screw	Stainless Steel
2	Half Ring	Q235
3	Packing Gasket	Q235
4	Packing	NBR / EPDM
5	Bushing	Bronze
6	Up Shaft	SS410 SS304 SS431 SS316 C63000 Monel
7	Bushing	Bronze
8	Body	GGG40 GGG45 GGG50 WCB WCC LCC LCB CF8 CF8M CF3 CF3M C95800 C95400 C95500
9	Body seat	NBR(BUNA-N) EPDM FKM(VITON) Polychloroprene Natural Rubber Sillicon Rubber
10	Disc	GGG40 GGG45 GGG50 CF8 CF8M CF3 CF3M C95800 C95400 C95500 WCB WCC LCC LCB
11	Stop Ring	Carbon Steel
12	Down Shaft	SS410 SS304 SS316 SS431 C63000 Monel
13	Bushing	Bronze
14	"O"Ring	NBR
15	End Cover	GGG40 GGG45 GGG50 WCB WCC LCC LCB CF8 CF8M CF3 CF3M C95800 C95400 C95500
16	Gasket	Stainless Steel
17	Spring Washer	Stainless Steel
18	Screw	Stainless Steel

Fluid Valve

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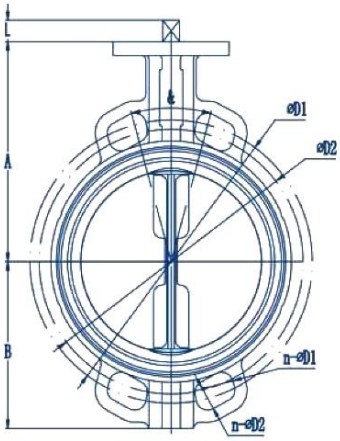
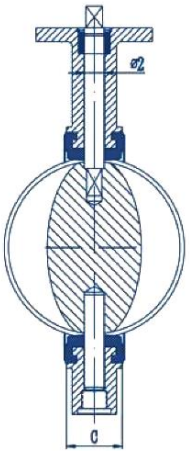
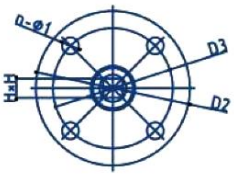
1	Screw	Stainless Steel
2	Half Ring	Q235
3	Packing Gasket	Q235
4	Packing	NBR / EPDM
5	Bushing	Bronze
6	Up Shaft	SS410 SS304 SS431 SS316 C63000 Monel
7	Bushing	Bronze
8	Body	GGG40 GGG45 GGG50 WCB WCC LCC LCB CF8 CF8M CF3 CF3M C95800 C95400 C95500
9	Body seat	NBR(BUNA-N) EPDM FKM(VITON) Polychloroprene Natural Rubber Sillicon Rubber
10	Disc	GGG40 GGG45 GGG50 CF8 CF8M CF3 CF3M C95800 C95400 C95500 WCB WCC LCC LCB
11	Stop Ring	Carbon Steel
12	Down Shaft	SS410 SS304 SS316 SS431 C63000 Monel
13	Bushing	Bronze
14	"O"Ring	NBR
15	End Cover	GGG40 GGG45 GGG50 WCB WCC LCC LCB CF8 CF8M CF3 CF3M C95800 C95400 C95500
16	Gasket	Stainless Steel
17	Spring Washer	Stainless Steel
18	Screw	Stainless Steel

Fluid Valve

Drawing (50-600)







Outline Dimensions

SIZE	A	B	C	ø2	ISO5211	D2	D3	n-Ø1	HxH		L
50	140	70	43	12.6	F07/F05	90/65	70/50	4-10/7	9x9	11x11	14
65	150	80	46	12.6	F07/F05	90/65	70/50	4-10/7	9x9	11x11	14
80	158	100	46	12.6	F07/F05	90/65	70/50	4-10/7	9x9	11x11	14
100	176	108	52	15.77	F07/F05	90/65	70/50	4-10/7	11x11		14
125	190	135	56	18.92	F07	90	70	4-10	14x14		17
150	212	147	56	18.92	F07	90	70	4-10	14x14		17
200	236	179	60	22.1	F10	125	102	4-12	17x17		22
250	265	208	68	28.45	F10	125	102	4-12	22x22		22
300	305	242	78	31.6	F10	125	102	4-12	22x22		22

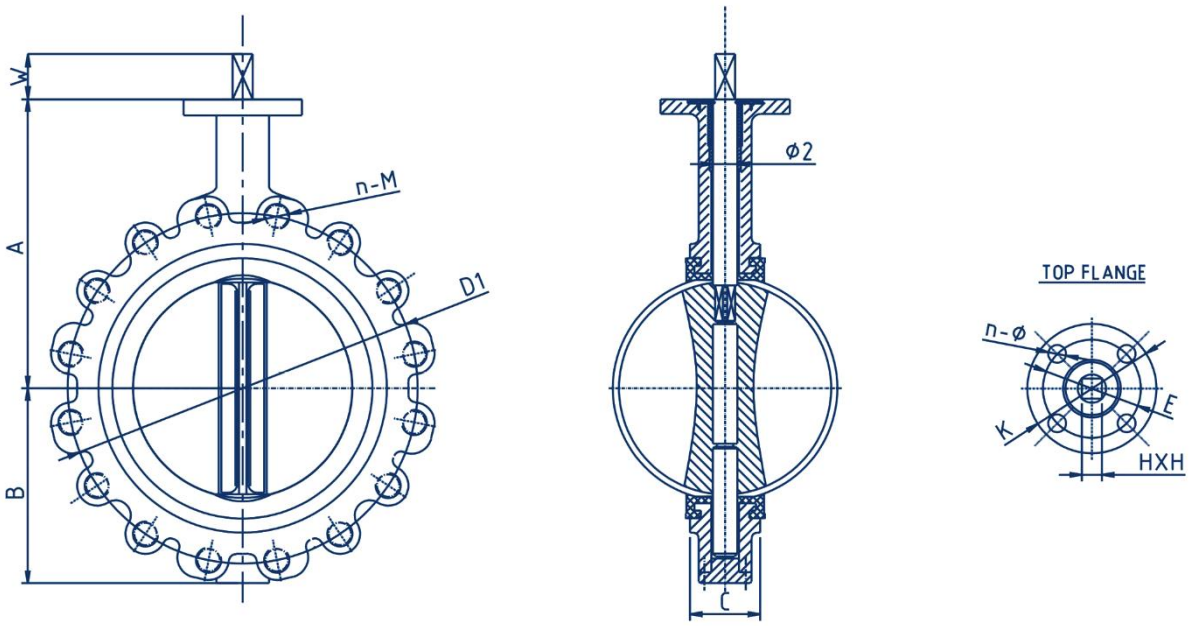
Connection Dimensis

	Outer Diameter Of Flange			Diameter Of Center Circle			Number And Diameter Of Bolt Holes		
DN	150LB	PN10	PN16	150LB	PN10	PN16	150LB	PN10	PN16
50	150	165	165	120.7	125	125	4-19	4-19	4-19
65	180	185	185	139.7	145	145	4-19	4-19	4-19
80	190	200	200	152.4	160	160	4-19	8-19	8-19
100	230	220	220	190.5	180	180	8-19	8-19	8-19
125	255	250	250	215.9	210	210	8-22	8-19	8-19
150	280	285	285	241.3	240	240	8-22	8-23	8-23
200	345	340	340	298.5	295	295	8-22	8-23	12-23
250	405	395	405	362	350	355	12-26	12-23	12-28
300	485	445	460	431.8	400	410	12-26	12-23	12-28

Outline Dimensions

SIZE	A	B	C	ø2	ISO5211	K	E	n-Ø	HxH	W
DN400	400	310	102	37.95	F14	175	140	4-18	27x27	36
DN450	422	340	114	37.95	F14	175	140	4-18	27x27	36
DN500	442	365	127	45.72	F14	175	140	4-18	36x36	36
DN600	565	452	154	50.62	F16	210	165	4-22	36x36	46

Drawing (CBF02-TL04-DN400-DN600)



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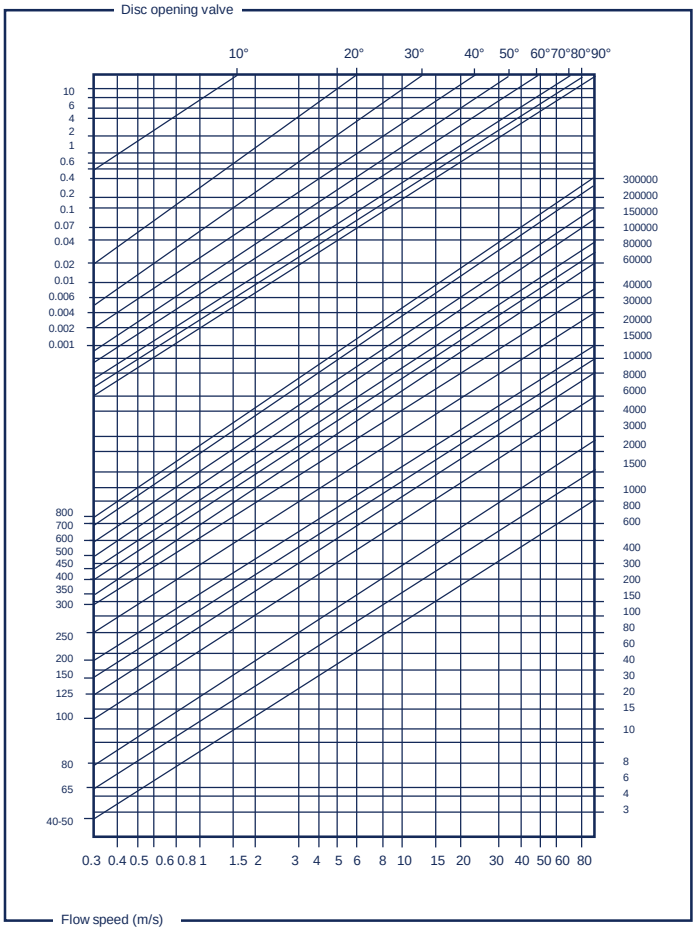
DN400	400	309	102	37.95	F14	175	140	4-18	27x27	36
DN450	422	340	114	37.95	F14	175	140	4-18	27x27	36
DN500	455	365	127	45.72	F14	175	140	4-18	36x36	36
DN600	565	452	154	50.62	F16	210	165	4-22	36x36	46

Head losses

Notes: Values indicated in this page is only for information



Liquids: $Q = \frac{KV}{\sqrt{\frac{PS}{\Delta P}}}$

Q rate of flow (m3/h)
PS specific gravity (water=1)
ΔP pressure drop (bar)

Gas: $Q = 28.5 \frac{KV}{\sqrt{\frac{PS}{P_2 . \Delta P}}}$

Q rate of flow (m3/h)
PS specific gravity (air=1)
ΔP pressure drop (bar)
(less than 1/2 inlet pressure)
P2 outlet pressure

Steam: $Q = 22.5 . KV . \sqrt{P_2 . \Delta P}$

Q rate of flow (Kg/h)
ΔP pressure drop (bar)
(less than 1/2 inlet pressure)
P2 outlet pressure

Calculation of the rate of flow equivalent to H2O:
For different liquid, gas or steam head lasses are determined by equivalent water of flow, as follows:

Qe equivalent water flow (mc/l o l/s)
Q fluid flaw (mc/l o l/s)
d fluid specific gravity (Kg/mc}

Values CV (CV=1.16KV)

Size	Flow in Gpm@1 PSI P@ Various Disc Angles								
(mm)	10°	20°	30°	40°	50°	60°	70°	80°	90°
50	0.1	5	12	24	45	64	90	125	135
65	0.2	8	20	37	65	98	144	204	220
80	0.3	12	22	39	70	116	183	275	302
100	0.5	17	36	78	139	230	364	546	600
125	0.8	29	61	133	237	392	620	930	1022
150	2	45	95	205	366	605	958	1437	1579
200	3	89	188	408	727	1202	1903	2854	3136
250	4	151	320	694	1237	2047	3240	4859	5340
300	5	234	495	1072	1911	3162	5005	7507	8250
350	6	338	715	1549	2761	4568	7230	10844	11917
400	8	464	983	2130	3797	6282	9942	14913	16388
450	11	615	1302	2822	5028	8320	13168	19752	21705
500	14	971	1674	3628	6465	10698	16931	25396	27908
600	22	1222	2587	5605	9989	16528	26157	39236	43116