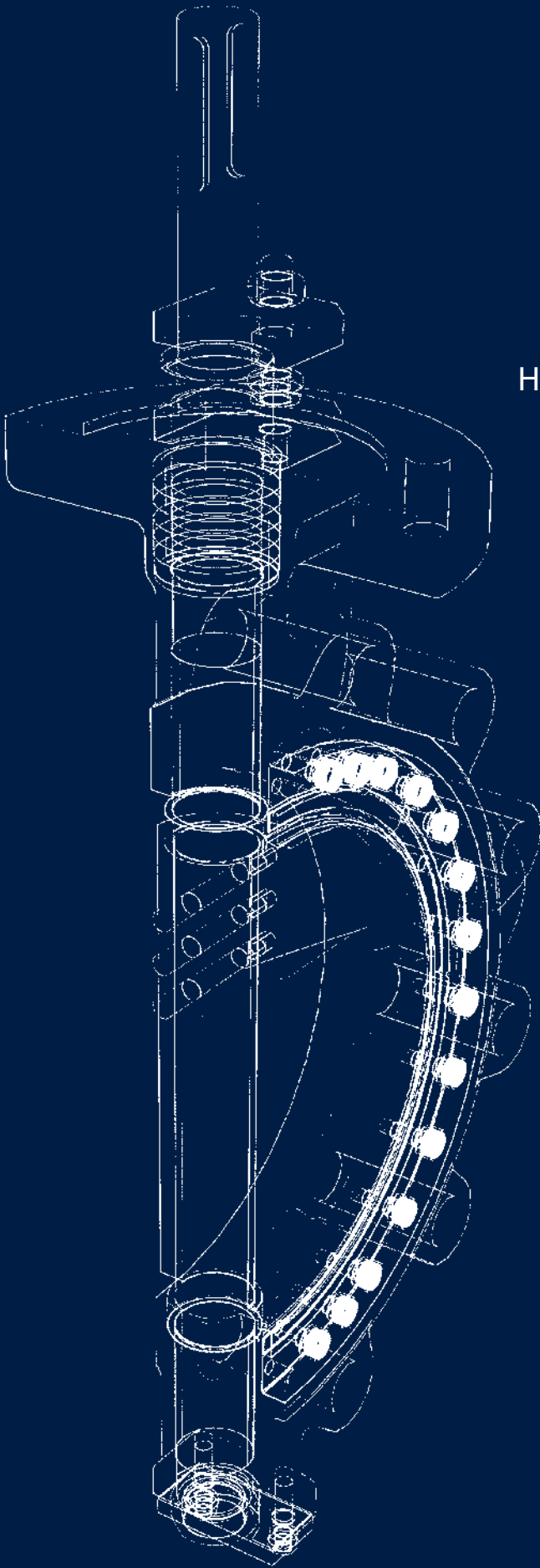
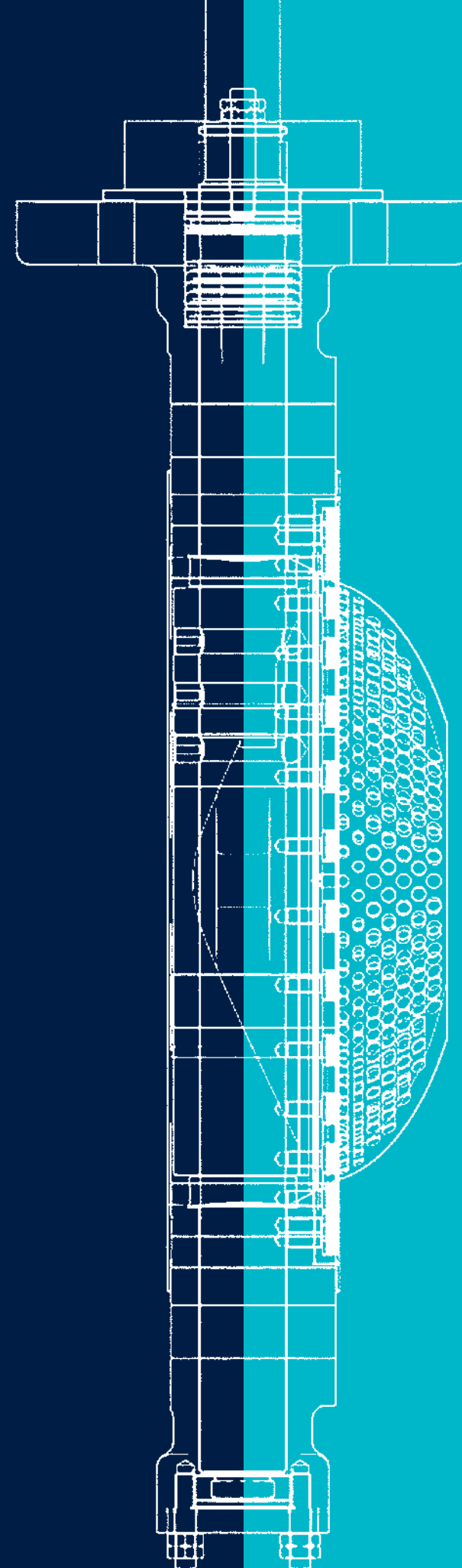


8300 Series

High Performance Butterfly Valves



It all flows from expertise.



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8300 SERIES

Severn's 8300 Double Offset High Performance Butterfly Valve Series enables the disc to achieve a uniform 360° seal contact and to move into and break out from the seat with the minimum of wear.

The seat design ensures low seating and breakout torque, resulting in smaller actuators and improved economy when selection from the various forms of actuation available.

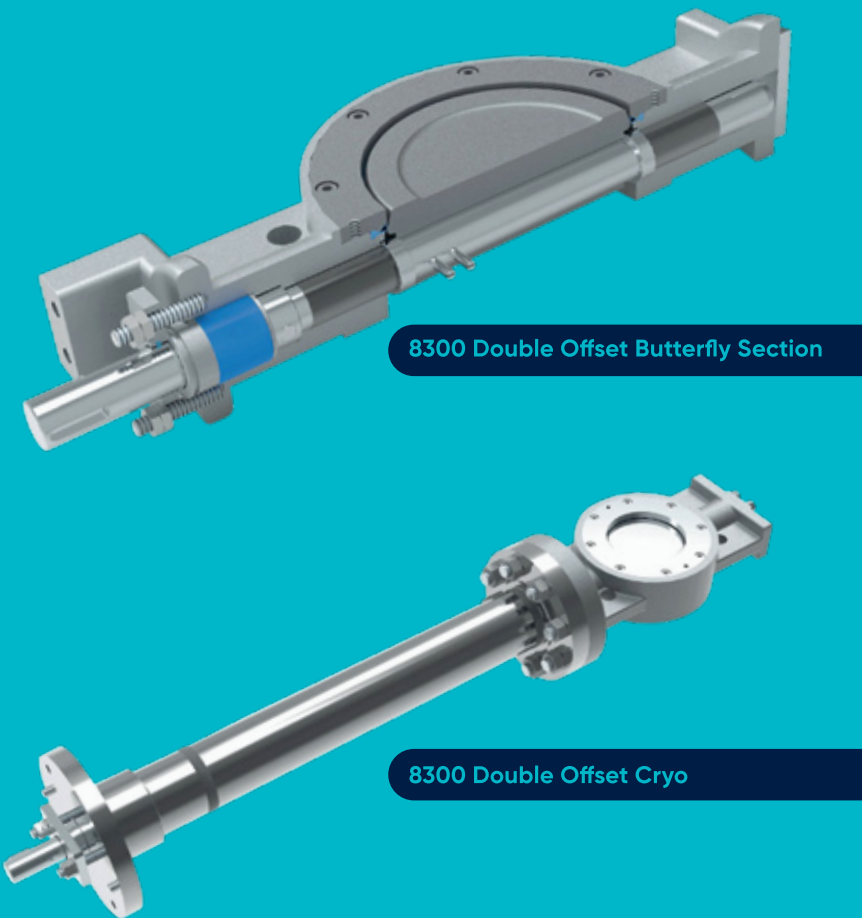
Across the size range, the 8300 Series has a variety of distinct features, all designed to reduce wear and control effectively to support durable performance, ensuring you meet your core imperatives of safe operations and minimum downtime.



Engineering data

High performance – Design features

- ✓ Self-energising seat at low pressure
- ✓ Pressure energized at high pressure compensating for wear and temperature
- ✓ Seat energizer fully isolated by PTFE envelope
- ✓ Cavities minimised to avoid ingress of particulates
- ✓ Temperature ratings from -196°C to +230°C
- ✓ Shut off pressures up to 100 Bar
- ✓ The quarter turn design ensures ease of actuation for both control and on/off duties
- ✓ Standard face to face dimensions to API 609 /ISO 5752 and B16.10 with non-standard dimensions available on request.
- ✓ Valve size range – 2in (50mm) - 48in (1200mm) with larger sizes available on request
- ✓ Body pressure ratings up to 2500lb
- ✓ Can be manufactured in all commercially available metals in cast, forged or plate form.
- ✓ Non-graphite options available for seawater service
- ✓ Anti-blowout stem as standard on #300 ratings and above



Performance benefits

- ✓ The double eccentric action enables the disc to achieve a uniform 360° seal contact and to move into and break out from the seat with the minimum of wear
- ✓ The seat design ensures low seating and breakout torque
- ✓ Anti cavitation trims and baffle plates available to reduce cavitation and noise issues
- ✓ Reliable leakage performance bubble tight shutoff

Engineering data (continued)

End connection sizes/types
2in (50mm) - 48in (1200mm), larger sizes available on request. Wafer, Lugged, Flanged or Butt Weld Ends. For other styles please contact us.

Valve body ratings
ASME 150 – ASME 2500
EN 1092 PN 10 to PN 400

Body configurations
Wafer, Lugged, Double Flanged and Butt Weld End

Body face to face dimensions
API 609/ISO 5752 and B16.10 with non-standard dimensions available on request.

Bonnet styles
Standard and cryogenic

Standard valve packing
Teflon and graphite

Trim options
Anti cavitation, baffles, half baffles and hard faced

Seat leakage class
Up to ANSI/FCI 70.2.
Class IV to VI, API 598
Zero available on request

Construction materials
A wide range of standard materials are available for both the valve pressure containing parts and trim, including carbon and stainless steel, duplex/ super duplex, aluminum bronze, titanium and high nickel alloys. Stellite, and other hard facings/coatings are available. For further details on materials please contact us.

Paint
A wide range of paint finishes are available including enamel, alkyd gloss and various epoxy finishes.

Clean build
Severn maintains high clean build standards-utilising clean build areas including Oxygen clean and a Ultra High Purity clean room.

Actuation
We offer a wide range of actuators including – pneumatic scotch yoke and rack and pinion, electric, hydraulic, electro hydraulic and manually operated.

Instruments
A wide range of control instruments are available from Severn including positioners, air-filter regulators, volume boosters, solenoid valves, and lock-up valves.

Applications

- Offshore Platform and FPSO**
- ✓ Seawater lift pump back pressure control
 - ✓ Ballast water flow control
 - ✓ Hydrocarbon gas flow control
 - ✓ Fire main bypass control
- Refinery**
- ✓ Flare gas control
 - ✓ Flow Balancing for Fiscal Metering
- Power Generation**
- ✓ LP and MP Steam control
 - ✓ Cooling water flow and back pressure control
 - ✓ Cooling Tower de-icing
- LNG Storage and Transportation**
- ✓ Loading and unloading flow control
 - ✓ LNG Recirculation control
 - ✓ LNG Tank flow control
- Urea, Ammonia and Fertilizer Production**
- ✓ Synthesis gas flow control
 - ✓ Urea flow control
 - ✓ HP steam pressure reduction
- Desalination**
- ✓ Seawater make up level control
 - ✓ Brine Recycle
 - ✓ Brine blow down
 - ✓ Condensate back pressure control
 - ✓ Distillate back pressure and flow control

Valve body style options

The 8300 series valve is available in 3 basic body styles, Wafer, Lugged and Double Flanged (long and short pattern) special face to face and BWE options are available on request.



Wafer



Lugged



Double Flanged

Seat options available

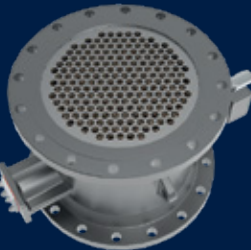


High Performance Seal

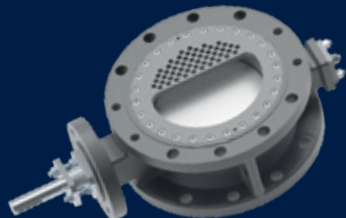


HP Cryo Seal

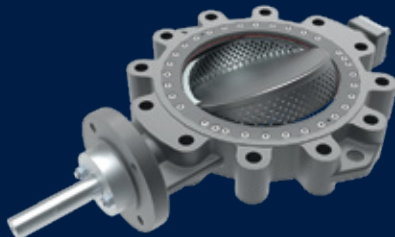
Trim options available



Full Baffle



Half Baffle



Anti-Cavitation

Flow Coefficients Cv

SIZE	TOV 150# STANDARD TRIM	DEGREES OPEN								
		10	20	30	40	50	60	70	80	90
	50mm (2")	1.4	5.5	13.0	23.0	36.0	55.0	75.0	97.0	101.0
	65mm (2.5")	2.0	8.0	20.0	34.0	52.0	78.0	108.0	140.0	145.0
	80mm (3")	3.0	13.0	30.0	53.0	81.0	123.0	168.0	217.0	225.0
	100mm (4")	6.0	24.0	59.0	106.0	159.0	243.0	331.0	428.0	446.0
	150mm (6")	16.0	64.0	149.0	267.0	402.0	595.0	802.0	1049.0	1092.0
	200mm (8")	27.0	120.0	280.0	499.0	753.0	1112.0	1536.0	1962.0	2043.0
	250mm (10")	51.0	205.0	477.0	851.0	1283.0	1895.0	2559.0	3343.0	3482.0
	300mm (12")	70.0	281.0	657.0	1170.0	1764.0	2606.0	3519.0	4596.0	4789.0
	350mm (14")	81.0	353.0	850.0	1530.0	2307.0	3520.0	4800.0	6390.0	6788.0
	400mm (16")	119.0	478.0	1144.0	2073.0	3126.0	4759.0	6501.0	8668.0	9194.0

SIZE	TOV 150# ANTI-CAV TRIM	DEGREES OPEN								
		10	20	30	40	50	60	70	80	90
	50mm (2")	0.9	3.6	8.5	15.0	23.4	35.8	48.8	63.1	65.7
	65mm (2.5")	1.3	5.2	13.0	22.1	33.8	50.7	70.2	91.0	94.3
	80mm (3")	2.0	8.5	19.5	34.5	52.7	80.0	109.2	141.1	146.3
	100mm (4")	3.9	15.6	38.4	68.9	103.4	158.0	215.2	278.2	289.9
	150mm (6")	10.4	41.6	96.9	173.6	261.3	386.8	521.3	681.9	709.8
	200mm (8")	17.6	78.0	182.0	324.4	489.5	722.8	998.4	1275.3	1328.0
	250mm (10")	33.2	133.3	310.1	553.2	834.0	1231.8	1663.4	2173.0	2263.3
	300mm (12")	45.5	182.7	427.1	760.5	1146.6	1693.9	2287.4	2987.4	3112.9
	350mm (14")	52.7	229.5	552.5	994.5	1499.6	2288.0	3120.0	4159.4	4412.2
	400mm (16")	77.4	310.7	743.6	1347.5	2031.9	3093.4	4225.7	5634.2	5976.1

SIZE	TOV 300# STANDARD TRIM	DEGREES OPEN								
		10	20	30	40	50	60	70	80	90
	50mm (2")	1.3	5.5	12.0	22.0	33.0	51.0	70.0	93.0	99.0
	65mm (2.5")	2.0	7.0	18.0	32.0	48.0	74.0	100.0	133.0	142.0
	80mm (3")	3.0	12.0	28.0	50.0	75.0	115.0	156.0	208.0	221.0
	100mm (4")	6.0	23.0	54.0	97.0	146.0	223.0	304.0	406.0	430.0
	150mm (6")	14.0	58.0	135.0	240.0	362.0	535.0	722.0	972.0	1031.0
	200mm (8")	26.0	106.0	247.0	441.0	664.0	981.0	1324.0	1784.0	1891.0
	250mm (10")	44.0	178.0	413.0	736.0	1110.0	1640.0	2214.0	2981.0	3162.0
	300mm (12")	61.0	245.0	572.0	1020.0	1538.0	2273.0	3073.0	4133.0	4384.0
	350mm (14")	73.0	293.0	707.0	1272.0	1918.0	2926.0	3991.0	5321.0	5644.0
	400mm (16")	98.0	392.0	944.0	1699.0	2562.0	3908.0	5329.0	7693.0	8160.0

Flow Coefficients Cv (continued)

SIZE	TOV 300# ANTI-CAV TRIM	DEGREES OPEN								
		10	20	30	40	50	60	70	80	90
	50mm (2")	0.8	3.6	7.8	14.3	21.5	33.2	45.5	60.5	64.4
	65mm (2.5")	1.3	4.55	11.7	20.8	31.2	48.1	65	86.45	92.3
	80mm (3")	2.0	7.8	18.2	32.5	48.8	74.8	101.4	135.2	143.7
	100mm (4")	3.9	15.0	35.1	63.1	94.9	145.0	197.6	263.9	279.5
	150mm (6")	9.1	37.7	87.8	156.0	235.3	347.8	469.3	631.8	670.2
	200mm (8")	16.9	68.9	160.6	286.7	431.6	637.7	860.6	1159.6	1229.2
	250mm (10")	28.6	115.7	268.5	478.4	721.5	1066.0	1439.1	1937.7	2055.3
	300mm (12")	39.7	159.3	371.8	663.0	999.7	1477.5	1997.5	2686.5	2849.6
	350mm (14")	47.5	190.5	459.6	826.8	1246.7	1901.9	2594.2	3458.7	3668.6
	400mm (16")	63.7	254.8	613.6	1104.4	1665.3	2540.2	3463.9	5000.5	5304.0

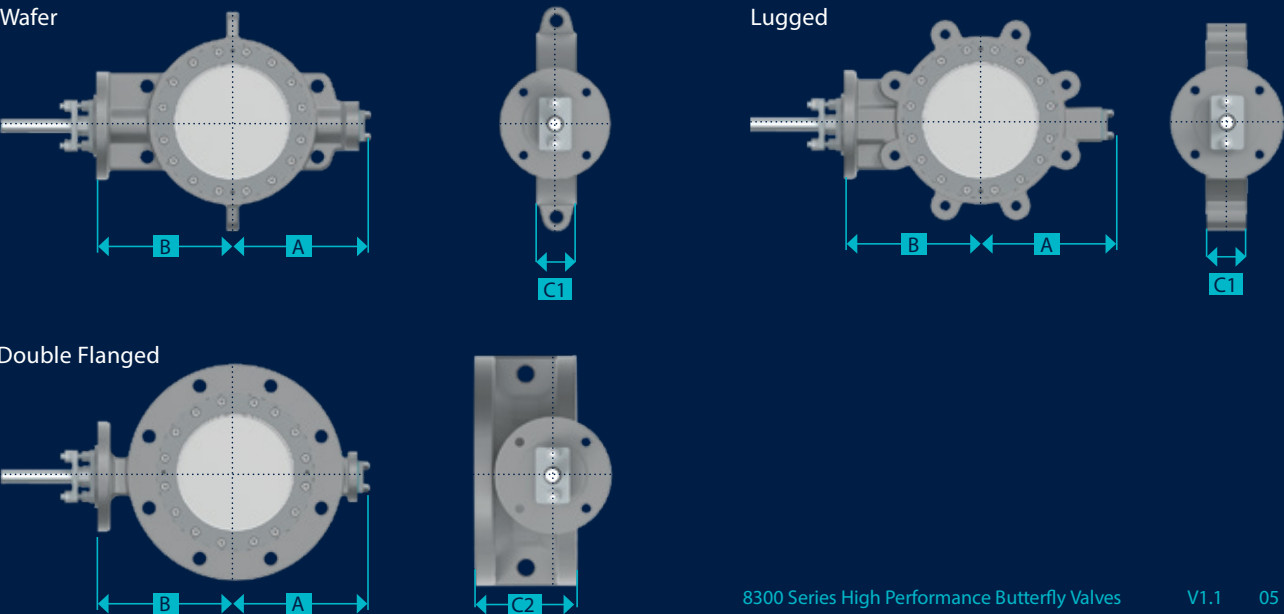
SIZE	TOV 600# STANDARD TRIM	DEGREES OPEN								
		10	20	30	40	50	60	70	80	90
	50mm (2")	1.4	5.0	13.0	23.0	35.0	51.0	70.0	90.0	93.0
	65mm (2.5")	2.0	8.0	19.0	33.0	51.0	73.0	100.0	130.0	133.0
	80mm (3")	3.1	12.0	29.0	52.0	79.0	114.0	156.0	202.0	208.0
	100mm (4")	5.8	23.0	54.0	98.0	147.0	213.0	290.0	375.0	387.0
	150mm (6")	14.7	59.0	137.0	247.0	372.0	538.0	734.0	950.0	979.0
	200mm (8")	26.8	107.0	250.0	451.0	679.0	983.0	1341.0	1734.0	1788.0
	250mm (10")	41.2	165.0	384.0	692.0	1044.0	1411.0	2060.0	2665.0	2747.0
	300mm (12")	58.4	233.0	545.0	981.0	1479.0	2140.0	2918.0	3774.0	3891.0
	350mm (14")	73.0	292.0	682.0	1100.0	1838.0	2680.0	3655.0	4727.0	4873.0
	400mm (16")	94.2	376.9	880.3	1419.9	2372.5	3459.3	4717.8	6101.5	6290.0

SIZE	TOV 600# ANTI-CAV TRIM	DEGREES OPEN								
		10	20	30	40	50	60	70	80	90
	50mm (2")	0.9	3.3	8.5	15.0	22.8	33.2	45.5	58.5	60.5
	65mm (2.5")	1.3	5.2	12.4	21.5	33.2	47.5	65.0	84.5	86.5
	80mm (3")	2.0	7.8	18.9	33.8	51.4	74.1	101.4	131.3	135.2
	100mm (4")	3.8	15.0	35.1	63.7	95.6	138.5	188.5	243.8	251.6
	150mm (6")	9.6	38.4	89.1	160.6	241.8	349.7	477.1	617.5	636.4
	200mm (8")	17.4	69.6	162.5	293.2	441.4	639.0	871.7	1127.1	1162.2
	250mm (10")	26.8	107.3	249.6	449.8	678.6	917.2	1339.0	1732.3	1785.6
	300mm (12")	38.0	151.5	354.3	637.7	961.4	1391.0	1896.7	2453.1	2529.2
	350mm (14")	47.5	189.8	443.3	715.0	1194.7	1742.0	2375.8	3072.6	3167.5
	400mm (16")	61.2	245.0	572.2	922.9	1542.1	2248.5	3066.6	3966.0	4088.5

Dimensions

SIZE	TOV 150#	A	B	C1	C2
	50mm (2")	125	108	43	108
	80mm (3")	142	125	46	114
	100mm (4")	162	145	54	127
	150mm (6")	186	185	56	140
	200mm (8")	217	265	64	152
	250mm (10")	265	270	71	165
	300mm (12")	320	315	80	178
	350mm (14")	335	340	92	190
	400mm (16")	372	350	102	216
	450mm (18")	405	385	114	222
	500mm (20")	420	445	127	229

SIZE	TOV 300#	A	B	C1	C2
	50mm (2")	130	113	43	108
	80mm (3")	152	135	48	114
	100mm (4")	198	190	54	127
	150mm (6")	215	215	59	140
	200mm (8")	315	245	71	152
	250mm (10")	270	253	83	165
	300mm (12")	308	291	92	178
	350mm (14")	342	325	117	190
	400mm (16")	372	355	133	216
	450mm (18")	408	390	149	222
	500mm (20")	442	421	159	229





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