



MIRATECH Product List

Q1 2016

Engineered to Perform™



MIRATECH (established 1992) is an industry leader that provides cost-effective, reliable, and mission critical emission and acoustical solutions for stationary natural gas and diesel reciprocating engines. Its reputation is associated with a customer centric consulting approach, advanced engineering expertise, extensive industry knowledge, project management, responsiveness, and quality products. These attributes have enabled MIRATECH to be highly adaptable, and thus, able to accommodate both small (HP < 300) and large stationary engine applications (up to 14,000 horsepower).

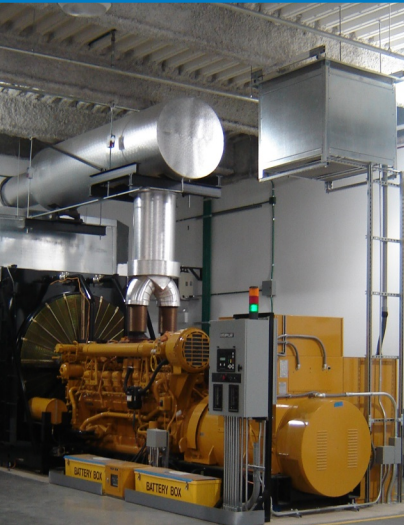
MIRATECH has a comprehensive customer offering that includes catalysts, housings, silencers, monitoring systems and related services that address and reduce engine exhaust pollutants such as NO_x CO, VOC, diesel particulate, HAPs, and noise. Along with its high quality products, MIRATECH's engineering team provides each customer technical customized solutions to their emission control requirements and installation configuration challenges.

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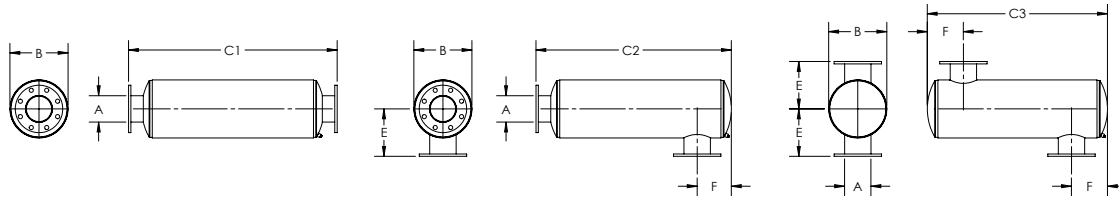
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Silencer Products

“JI” – CYLINDRICAL INDUSTRIAL GRADE SILENCER TYPICAL ATTENUATION 12–18 dB(A)

This sturdy, robust silencer works well for equipment operating in environments where noise levels are high. Applications include commercial, industrial, mining, etc.



		End Inlet / End Outlet		Side Inlet / End Outlet		Side Inlet / Side Outlet					
	A (Size)	B (Dia.)	Part Number	C1 (OAL)	Part Number	C2 (OAL)	Part Number	C3 (OAL)	E	F	WT
Aluminized Steel	2.0	6	JIE-02-300060	24.0	JIS-02-400090	22.0	JISS-02-310001	20.0	5.5	3.0	14
	2.5	8	JIE-25-300061	24.0	JIS-25-400091	22.0	JISS-25-310002	20.0	6.5	3.7	20
	3.0	8	JIE-03-300062	25.0	JIS-03-400092	22.0	JISS-03-310003	20.0	7.0	4.2	24
	3.5	10	JIE-35-300063	31.0	JIS-03-400093	29.0	JISS-35-310004	26.0	8.0	5.0	31
	4.0	10	JIE-04-300064	32.0	JIS-04-400094	29.5	JISS-04-310005	26.0	8.5	5.5	41
	5.0	12	JIE-05-300065	44.0	JIS-05-400095	41.6	JISS-05-310006	38.0	10.0	7.6	61
	6.0	12	JIE-06-300066	44.0	JIS-06-400096	41.6	JISS-06-310007	38.0	10.0	7.6	67
	8.0	18	JIE-08-300067	56.0	JIS-08-400097	54.5	JISS-08-310008	50.5	13.0	10.5	129
	10.0	22	JIE-10-300068	72.0	JIS-10-400098	69.0	JISS-10-310009	55.5	15.0	15.0	197
	12.0	26	JIE-12-300069	72.0	JIS-12-400099	69.5	JISS-12-310010	67.5	17.0	17.0	269
Carbon Steel	14.0	30	JIE-14-300070	84.0	JIS-14-400100	82.0	JISS-14-310011	77.5	19.0	20.0	477
	16.0	36	JIE-16-300071	100.0	JIS-16-400101	97.0	JISS-16-310012	93.5	22.0	23.0	724
	18.0	42	JIE-18-300072	104.0	JIS-18-400102	101.0	JISS-18-310013	97.0	25.0	26.5	1155
	20.0	48	JIE-20-300073	103.0	JIS-20-400103	101.5	JISS-20-310014	97.0	28.0	26.0	1380
	22.0	54	JIE-22-90009061	108.0	JIS-22-90009051	106.0	JISS-22-310015	103.5	31.0	27.0	1897
	24.0	60	JIE-24-90009062	120.0	JIS-24-90009052	117.0	JISS-24-310016	114.5	34.0	30.0	2321

Connections sizes are nominal. Dimensions are in inches. Weights are in pounds, depend on selected options, and are approximate.

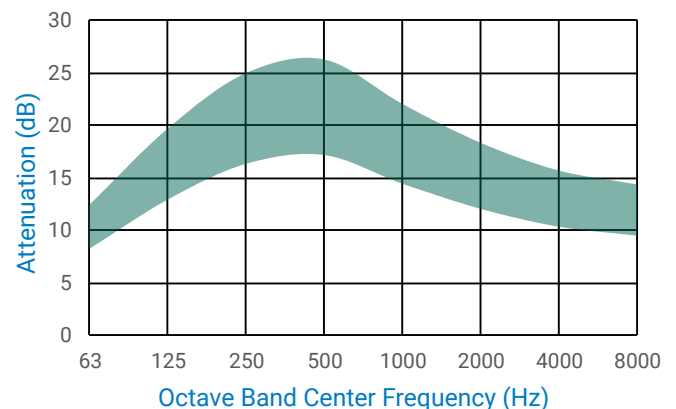
STANDARD CONSTRUCTION

- Dual shell construction to eliminate shell radiated noise and increase durability.
- Aluminized/carbon steel or 304 stainless steel construction (append -304 to part number for 304 stainless steel).
- Aluminized/carbon steel housings coated with satin black paint rated to 1200°F
- Connections:
 - Male NPT on 3.5" and smaller.
 - 125/150# ANSI bolt pattern flanges on 4" and larger.
- [View Sales Drawings.](#)

CUSTOMIZATION

- Chart refers to standard product offering.
- Custom configurations, materials, connections, overall dimensions, etc.
- Contact factory with your project's design requirements and specifications.

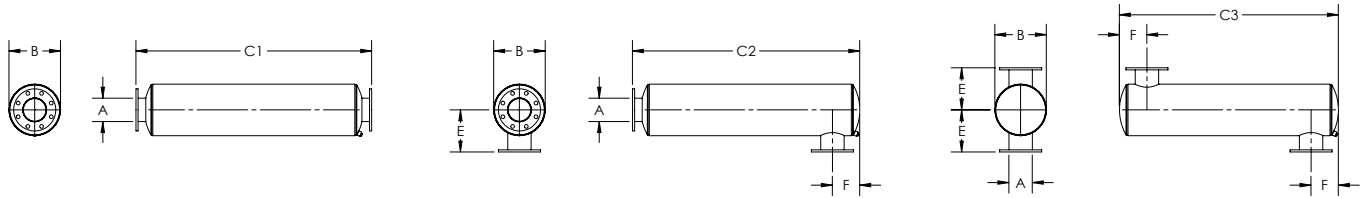
Typical Attenuation Curve



“JR” – CYLINDRICAL RESIDENTIAL GRADE SILENCER

TYPICAL ATTENUATION 18–25 dB(A)

This heavy-duty silencer offers practical attenuation for equipment operating in environments where noise levels are moderate. Applications include commercial, industrial, mining, etc.



	End Inlet / End Outlet				Side Inlet / End Outlet		Side Inlet / Side Outlet				WT
	A (Size)	B (Dia.)	Part Number	C1 (OAL)	Part Number	C2 (OAL)	Part Number	C3 (OAL)	E	F	
Aluminized Steel	2.0	6	JRE-02-500071	30.0	JRS-02-600181	28.0	JRSS-02-310017	26.5	5.5	3.0	18
	2.5	8	JRE-25-500072	30.0	JRS-25-600182	28.5	JRSS-25-310018	26.5	6.5	3.6	25
	3.0	8	JRE-03-500073	31.0	JRS-03-600183	29.0	JRSS-03-310019	27.0	7.0	4.1	29
	3.5	10	JRE-35-500074	43.0	JRS-35-600184	41.0	JRSS-35-310020	38.0	8.0	5.0	48
	4.0	10	JRE-04-500075	44.0	JRS-04-600185	41.5	JRSS-04-310021	38.0	8.5	5.5	55
	5.0	12	JRE-05-500076	56.0	JRS-05-600186	54.0	JRSS-05-310022	52.0	10.0	6.6	83
	6.0	12	JRE-06-500077	56.0	JRS-06-600187	54.0	JRSS-06-310023	52.0	10.0	7.6	89
	8.0	18	JRE-08-500078	68.0	JRS-08-600188	66.5	JRSS-08-310024	63.5	13.0	10.5	161
	10.0	22	JRE-10-500079	84.0	JRS-10-600189	81.0	JRSS-10-310025	77.5	15.0	15.0	258
	12.0	26	JRE-12-500080	96.0	JRS-12-600190	93.5	JRSS-12-310026	90.5	17.0	17.5	356
Carbon Steel	14.0	30	JRE-14-500081	120.0	JRS-14-600191	118.0	JRSS-14-310027	114.5	19.0	20.0	680
	16.0	36	JRE-16-500082	136.0	JRS-16-600192	133.0	JRSS-16-310028	130.5	22.0	23.0	987
	18.0	42	JRE-18-500083	138.0	JRS-18-600193	135.5	JRSS-18-310029	132.0	25.0	31.5	1190
	20.0	48	JRE-20-500084	143.0	JRS-20-600211	139.0	JRSS-20-310030	135.0	28.0	35.0	1828
	22.0	54	JRE-22-90009081	160.0	JRS-22-90009071	157.0	JRSS-22-310031	154.5	31.0	29.0	2738
	24.0	60	JRE-24-90009082	160.0	JRS-24-90009072	157.0	JRSS-24-310032	154.5	34.0	29.0	3060

Connections sizes are nominal. Dimensions are in inches. Weights are in pounds, depend on selected options, and are approximate.

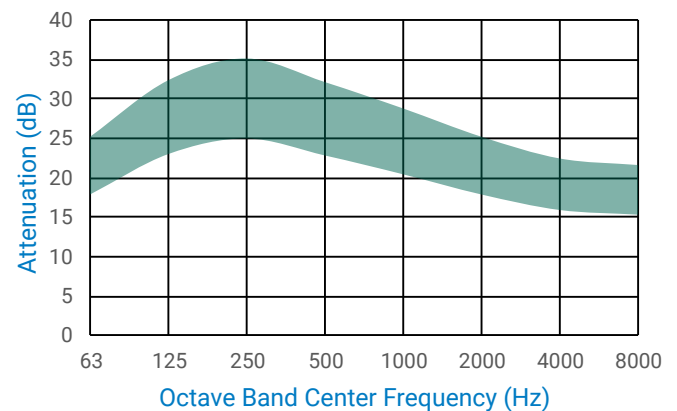
STANDARD CONSTRUCTION

- Dual shell construction to eliminate shell radiated noise and increase durability.
- Aluminized/carbon steel or 304 stainless steel construction (append -304 to part number for 304 stainless steel).
- Aluminized/carbon steel housings coated with satin black paint rated to 1200°F
- Connections:
 - Male NPT on 3.5" and smaller.
 - 125/150# ANSI bolt pattern flanges on 4" and larger.
- [View Sales Drawings.](#)

CUSTOMIZATION

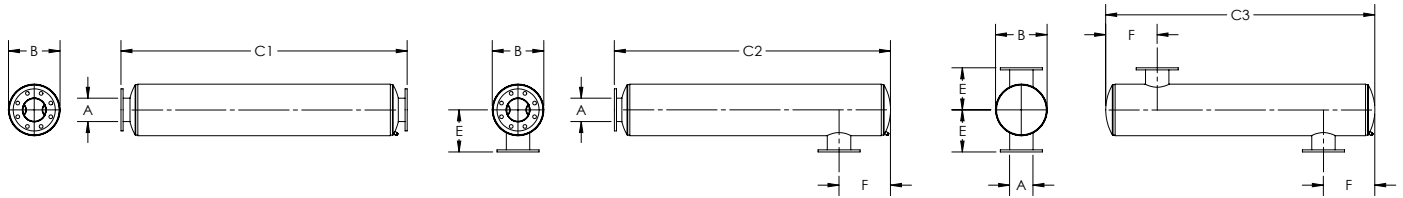
- Chart refers to standard product offering.
- Custom configurations, materials, connections, overall dimensions, etc.
- Contact factory with your project's design requirements and specifications.

Typical Attenuation Curve



“JC” – CYLINDRICAL CRITICAL GRADE SILENCER TYPICAL ATTENUATION 25–35 dB(A)

This silencer is designed for equipment operating in relatively quiet environments that require a high level of silencing. Applications include commercial, marine, stationary projects, etc.



			End Inlet / End Outlet		Side Inlet / End Outlet		Side Inlet / Side Outlet				
	A (Size)	B (Dia.)	Part Number	C1 (OAL)	Part Number	C2 (OAL)	Part Number	C3 (OAL)	E	F	WT
Aluminized Steel	2.0	6	JCE-02-100071	42.0	JCS-02-200381	39.8	JCSS-02-310033	38.5	5.5	7.3	28
	2.5	8	JCE-25-100072	42.0	JCS-25-200382	39.9	JCSS-25-310034	38.5	6.5	7.4	38
	3.0	8	JCE-03-100073	43.0	JCS-03-200383	40.6	JCSS-03-310035	39.0	7.0	7.4	41
	3.5	10	JCE-35-100074	55.0	JCS-35-200384	53.0	JCSS-35-310036	51.0	8.0	9.3	67
	4.0	10	JCE-04-100075	56.0	JCS-04-200385	53.5	JCSS-04-310037	51.0	8.5	9.3	75
	5.0	12	JCE-05-100076	68.0	JCS-05-200386	65.6	JCSS-05-310038	64.0	10.0	12.3	106
	6.0	12	JCE-06-100077	68.0	JCS-06-200387	65.6	JCSS-06-310039	64.0	10.0	12.3	119
	8.0	18	JCE-08-100078	92.0	JCS-08-200388	90.5	JCSS-08-310040	87.5	13.0	16.5	214
	10.0	22	JCE-10-100079	108.0	JCS-10-200389	105.0	JCSS-10-310041	102.5	15.0	20.0	311
	12.0	26	JCE-12-100080	120.0	JCS-12-200390	117.5	JCSS-12-310042	115.5	17.0	21.5	431
Carbon Steel	14.0	30	JCE-14-100081	132.0	JCS-14-200391	130.0	JCSS-14-310043	126.5	19.0	23.0	854
	16.0	36	JCE-16-100082	160.0	JCS-16-200392	157.0	JCSS-16-310044	152.5	22.0	29.0	1267
	18.0	42	JCE-18-100083	174.0	JCS-18-200393	171.5	JCSS-18-310045	166.0	25.0	33.0	1511
	20.0	48	JCE-20-100084	203.0	JCS-20-200467	199.0	JCSS-20-310046	195.0	27.0	36.0	2718
	22.0	54	JCE-22-90009101	230.0	JCS-22-90009091	226.0	JCSS-22-310047	221.0	30.0	40.0	3909
	24.0	60	JCE-24-90009102	226.0	JCS-24-90009092	223.0	JCSS-24-310048	219.5	34.0	41.0	4830

Connections sizes are nominal. Dimensions are in inches. Weights are in pounds, depend on selected options, and are approximate.

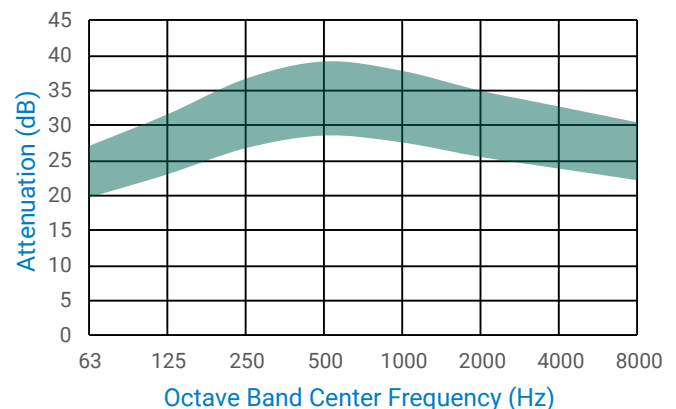
STANDARD CONSTRUCTION

- Dual shell construction to eliminate shell radiated noise and increase durability.
- Aluminized/carbon steel or 304 stainless steel construction (append -304 to part number for 304 stainless steel).
- Aluminized/carbon steel housings coated with satin black paint rated to 1200°F
- Connections:
 - Male NPT on 3.5" and smaller.
 - 125/150# ANSI bolt pattern flanges on 4" and larger.
- [View Sales Drawings.](#)

CUSTOMIZATION

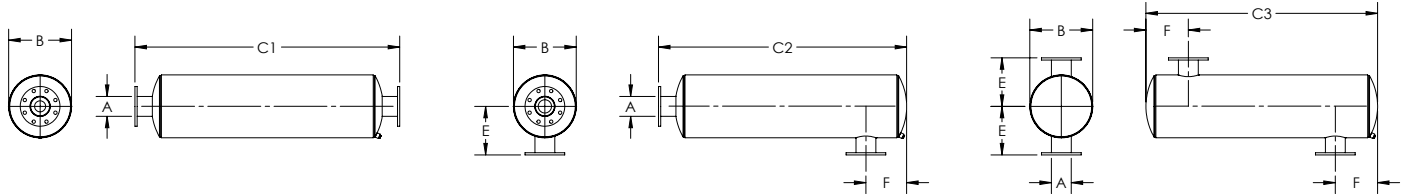
- Chart refers to standard product offering.
- Custom configurations, materials, connections, overall dimensions, etc.
- Contact factory with your project's design requirements and specifications.

Typical Attenuation Curve



“JH” – CYLINDRICAL HOSPITAL GRADE SILENCER TYPICAL ATTENUATION 35–40 dB(A)

For an exceptional level of performance, this silencer utilizes both absorptive and reactive designs to reach a high degree of attenuation. It is ideally suited for equipment operating in very quiet environments.



	End Inlet / End Outlet				Side Inlet / End Outlet		Side Inlet / Side Outlet				WT
	A (Size)	B (Dia.)	Part Number	C1 (OAL)	Part Number	C2 (OAL)	Part Number	C3 (OAL)	E	F	
Aluminized Steel	2.0	10	JHE-02-105030	44.0	JHS-02-205170	41.5	JHSS-02-310049	39.0	8.5	5.5	49
	2.5	12	JHE-25-105031	46.0	JHS-25-205171	42.5	JHSS-25-310050	40.0	10.0	7.8	63
	3.0	12	JHE-03-105032	46.0	JHS-03-205172	42.5	JHSS-03-310051	40.0	10.0	7.8	64
	3.5	14	JHE-35-105033	60.0	JHS-35-205173	56.5	JHSS-35-310052	52.3	11.0	9.5	92
	4.0	14	JHE-04-105034	60.0	JHS-04-205174	56.5	JHSS-04-310053	52.3	11.0	9.5	101
	5.0	18	JHE-05-105035	68.0	JHS-05-205175	66.5	JHSS-05-310054	63.0	13.0	10.5	160
	6.0	18	JHE-06-105036	68.0	JHS-06-205176	66.5	JHSS-06-310055	63.0	13.0	10.5	167
	8.0	26	JHE-08-105037	96.0	JHS-08-205177	93.5	JHSS-08-310056	89.5	17.0	17.5	358
Carbon Steel	10.0	30	JHE-10-105038	110.0	JHS-10-205178	108.0	JHSS-10-310057	102.5	19.0	20.0	633
	12.0	36	JHE-12-105039	126.0	JHS-12-205179	122.0	JHSS-12-310058	118.5	22.0	23.0	938
	14.0	42	JHE-14-105040	138.0	JHS-14-205180	135.0	JHSS-14-310059	127.5	25.0	24.0	1270
	16.0	42	JHE-16-105041	162.0	JHS-16-205181	159.0	JHSS-16-310060	154.0	25.0	28.0	1437
	18.0	48	JHE-18-105042	205.5	JHS-18-205182	201.5	JHSS-18-310061	195.0	28.0	38.0	2575
	20.0	60	JHE-20-105051	220.0	JHS-20-205219	216.0	JHSS-20-310062	210.5	34.0	40.0	4347
	22.0	60	JHE-22-90009121	230.0	JHS-22-90009111	227.0	JHSS-22-310063	224.5	33.0	42.0	4550
	24.0	66	JHE-24-90009122	250.0	JHS-24-90009112	247.0	JHSS-24-310064	240.0	38.0	55.0	6270

Connections sizes are nominal. Dimensions are in inches. Weights are in pounds, depend on selected options, and are approximate.

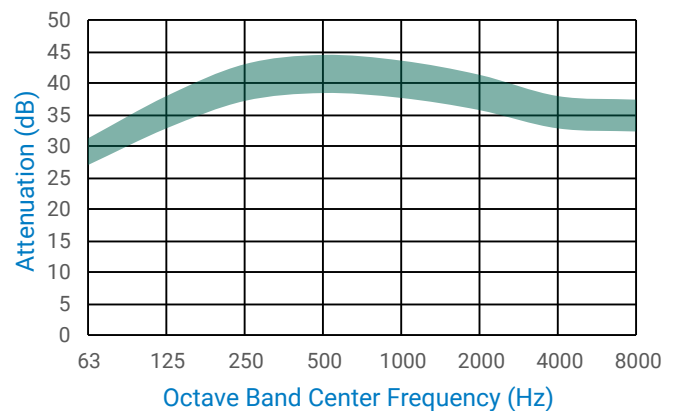
STANDARD CONSTRUCTION

- Dual shell construction to eliminate shell radiated noise and increase durability.
- Aluminized/carbon steel or 304 stainless steel construction (append -304 to part number for 304 stainless steel).
- Aluminized/carbon steel housings coated with satin black paint rated to 1200°F
- Connections:
 - Male NPT on 3.5" and smaller.
 - 125/150# ANSI bolt pattern flanges on 4" and larger.
- [View Sales Drawings.](#)

CUSTOMIZATION

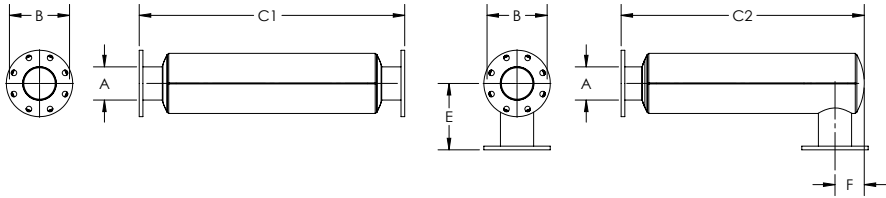
- Chart refers to standard product offering.
- Custom configurations, materials, connections, overall dimensions, etc.
- Contact factory with your project's design requirements and specifications.

Typical Attenuation Curve



“TAU” – LOW PRESSURE DROP RESIDENTIAL GRADE SILENCER
TYPICAL ATTENUATION 12–15 dB(A)

Designed for turbocharged engines, this heavy-duty silencer provides practical attenuation while keeping the backpressure to a minimum. It is ideally suited for equipment operating in environments where noise levels are moderate.



		End Inlet / End Outlet		Side Inlet / End Outlet					
	A (Size)	B (Dia.)	Part Number	C1 (OAL)	Part Number	C2 (OAL)	E	F	WT
Aluminized Steel	4.0	8	TAUE-04-980999	36.0	TAUS-04-980414	33.0	9.0	4.0	24
	5.0	10	TAUE-05-980400	51.0	TAUS-05-980415	48.0	9.0	4.0	49
	6.0	10	TAUE-06-980401	60.0	TAUS-06-980416	57.0	9.0	7.0	85
	8.0	14	TAUE-08-980265	66.0	TAUS-08-980009	63.0	11.0	8.0	115
	10.0	16	TAUE-10-980403	70.0	TAUS-10-980007	67.0	12.0	10.0	146
	12.0	18	TAUE-12-980404	70.0	TAUS-12-980188	67.0	13.0	11.0	174
	14.0	20	TAUE-14-980405	88.0	TAUS-14-980420	85.0	14.0	12.0	337
	16.0	24	TAUE-16-980406	108.0	TAUS-16-980016	105.0	16.0	14.0	487
Carbon Steel	18.0	26	TAUE-18-980407	108.0	TAUS-18-980422	105.0	17.0	15.0	523
	20.0	28	TAUE-20-980408	132.0	TAUS-20-981473	129.0	18.0	17.0	724
	22.0	36	TAUE-22-980409	136.0	TAUS-22-981474	133.0	22.0	19.0	1140
	24.0	36	TAUE-24-980410	196.0	TAUS-24-981475	193.0	22.0	20.0	1600

Connections sizes are nominal. Dimensions are in inches. Weights are in pounds, depend on selected options, and are approximate.

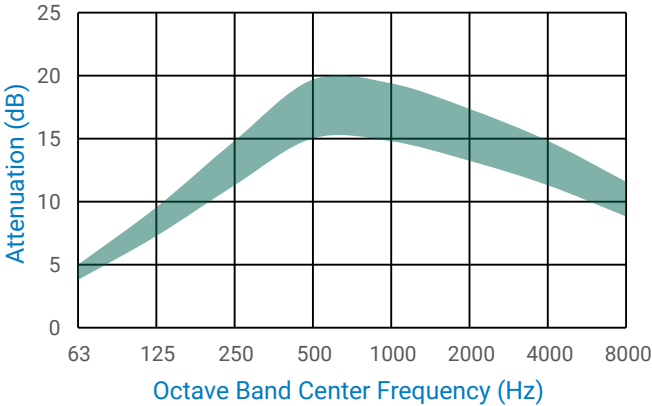
STANDARD CONSTRUCTION

- Aluminized/carbon steel construction.
- Absorption silencer internally packed with acoustical fiberglass.
- Coated with satin black paint rated to 1200°F
- Connections: 125/150# ANSI bolt pattern flanges.
- [View Sales Drawings.](#)

CUSTOMIZATION

- Chart refers to standard product offering.
- Custom configurations, materials, connections, overall dimensions, etc.
- Contact factory with your project's design requirements and specifications.

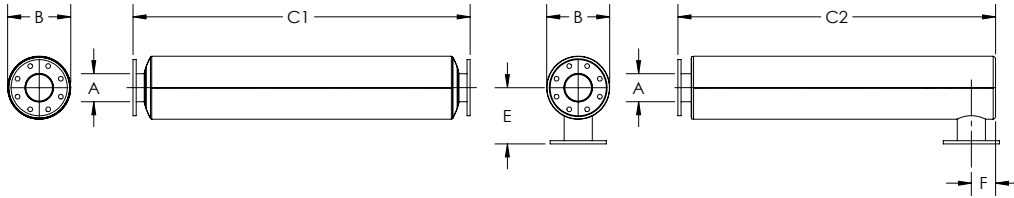
Typical Attenuation Curve



“TBU” – LOW PRESSURE DROP CRITICAL GRADE SILENCER

TYPICAL ATTENUATION 17–22 dB(A)

Designed for turbocharged engines, this silencer provides a high level of attenuation while keeping the backpressure to a minimum. It is ideally suited for equipment operating in relatively quiet environments.



		End Inlet / End Outlet		Side Inlet / End Outlet					
	A (Size)	B (Dia.)	Part Number	C1 (OAL)	Part Number	C2 (OAL)	E	F	WT
Aluminized Steel	4.0	10	TBUE-04-980849	54.0	TBUS-04-980445	51.0	9.0	4.0	50
	5.0	10	TBUE-05-980850	54.0	TBUS-05-980446	51.0	9.0	4.0	68
	6.0	12	TBUE-06-980851	66.0	TBUS-06-980447	63.0	10.0	5.0	98
	8.0	14	TBUE-08-980638	78.0	TBUS-08-980448	75.0	11.0	6.0	135
	10.0	16	TBUE-10-980260	82.0	TBUS-10-980449	79.0	12.0	10.0	179
	12.0	22	TBUE-12-980435	89.0	TBUS-12-980450	86.0	15.0	11.0	355
Carbon Steel	14.0	26	TBUE-14-980436	110.0	TBUS-14-980451	107.0	17.0	12.0	475
	16.0	26	TBUE-16-980437	132.0	TBUS-16-980452	129.0	17.0	14.0	575
	18.0	36	TBUE-18-980438	184.0	TBUS-18-980453	181.0	22.0	18.0	1500
	20.0	42	TBUE-20-980439	198.0	TBUS-20-980454	195.0	25.0	19.0	1855
	22.0	48	TBUE-22-980440	200.0	TBUS-22-980455	197.0	28.0	21.0	2577
	24.0	54	TBUE-24-980441	262.0	TBUS-24-980456	259.0	31.0	22.0	4000

Connections sizes are nominal. Dimensions are in inches. Weights are in pounds, depend on selected options, and are approximate.

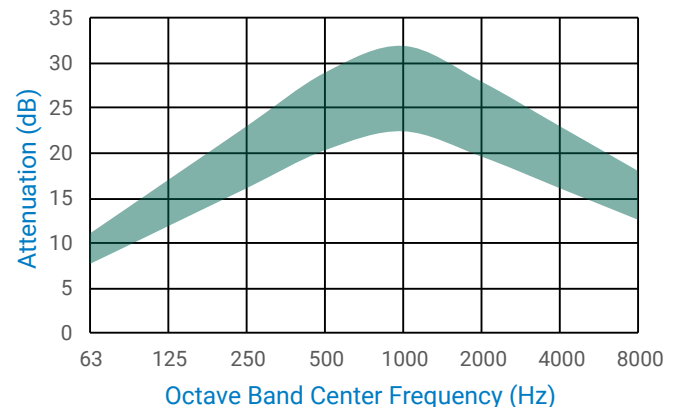
STANDARD CONSTRUCTION

- Aluminized/carbon steel construction.
- Absorption silencer internally packed with acoustical fiberglass.
- Coated with satin black paint rated to 1200°F
- Connections: 125/150# ANSI bolt pattern flanges.
- [View Sales Drawings.](#)

CUSTOMIZATION

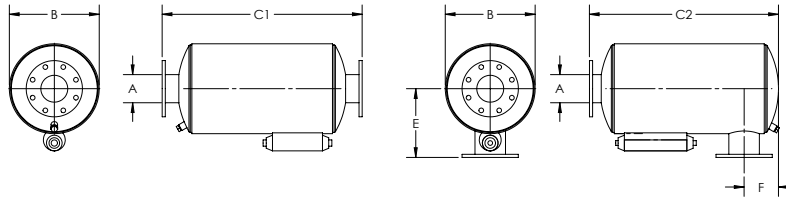
- Chart refers to standard product offering.
- Custom configurations, materials, connections, overall dimensions, etc.
- Contact factory with your project's design requirements and specifications.

Typical Attenuation Curve



“SSU” – SPARK ARRESTING INDUSTRIAL GRADE SILENCER TYPICAL ATTENUATION 12–18 dB(A)

DNV certified spark arresting silencer designed for equipment operating in environments containing potentially combustible materials. The silencer forces cyclonic action to separate particulates from exhaust. The collected particulates are removed via the spark cleanout. Providing a minimal level of attenuation, it is designed for environments where noise levels are high.



	End Inlet / End Outlet				Side Inlet / End Outlet				WT
	A (Size)	B (Dia.)	Part Number	C1 (OAL)	Part Number	C2 (OAL)	E	F	
Aluminized Steel	4.0	14	SSUE-04-980338	32.0	SSUS-04-981189	30.3	11.0	5.5	65
	5.0	14	SSUE-05-980218	42.0	SSUS-05-981190	39.8	11.0	7.0	76
	6.0	18	SSUE-06-980340	49.0	SSUS-06-981191	45.5	13.0	8.3	118
	8.0	22	SSUE-08-980341	50.0	SSUS-08-981192	46.5	17.0	9.8	170
	10.0	26	SSUE-10-980342	63.0	SSUS-10-981193	59.5	19.0	11.5	256
Carbon Steel	12.0	30	SSUE-12-980343	76.0	SSUS-12-981194	73.0	20.0	13.3	482
	14.0	36	SSUE-14-980344	78.0	SSUS-14-981195	75.5	24.0	15.0	633
	16.0	42	SSUE-16-980345	81.0	SSUS-16-981196	79.0	27.0	16.5	852
	18.0	48	SSUE-18-980346	100.0	SSUS-18-981197	97.0	33.0	19.0	1478
	20.0	48	SSUE-20-980347	118.0	SSUS-20-981198	115.0	33.0	20.0	1360
	22.0	54	SSUE-22-980348	120.0	SSUS-22-981199	116.5	36.0	22.0	1974
	24.0	60	SSUE-24-980349	132.0	SSUS-24-981200	129.5	39.0	23.5	2889

Connections sizes are nominal. Dimensions are in inches. Weights are in pounds, depend on selected options, and are approximate.

STANDARD CONSTRUCTION

- Dual shell construction to eliminate shell radiated noise and increase durability.
- Aluminized/carbon steel construction.
- Coated with satin black paint rated to 1200°F
- Connections: 125/150# ANSI bolt pattern flanges.
- [View Sales Drawings.](#)

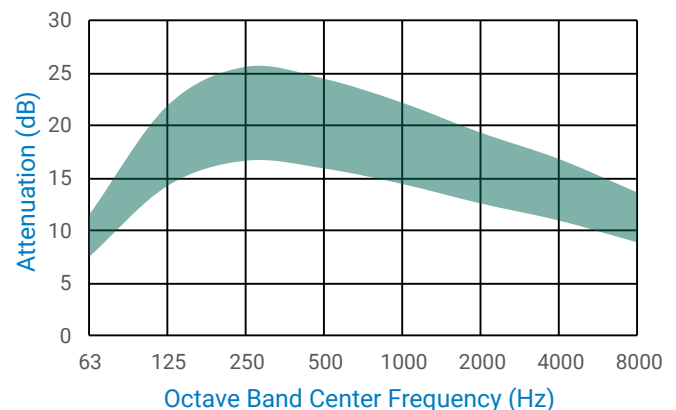
CUSTOMIZATION

- Chart refers to standard product offering.
- Custom configurations, materials, connections, overall dimensions, etc.
- Contact factory with your project's design requirements and specifications.

CERTIFICATIONS

Complies with Det Norske Veritas and Germanischer Lloyd's Rules for Classification of Ships DNV's Offshore Standard DNV-OS-D101 "Marine and Machinery Systems and Equipment" NS-EN 1834-1.

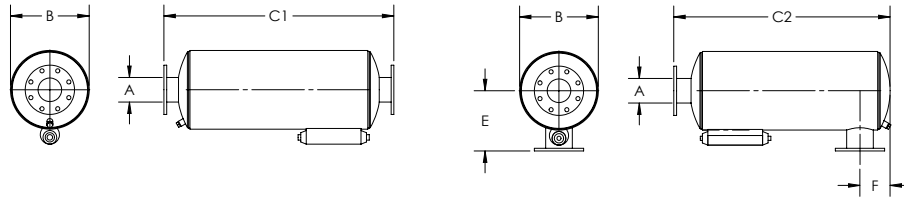
Typical Attenuation Curve



“SRU” – SPARK ARRESTING RESIDENTIAL GRADE SILENCER

TYPICAL ATTENUATION 18–25 dB(A)

DNV certified spark arresting silencer designed for equipment operating in environments containing potentially combustible materials. The silencer forces cyclonic action to separate particulates from exhaust. The collected particulates are removed via the spark cleanout. Providing a modest level of attenuation, it is designed for environments where noise levels are moderate.



	End Inlet / End Outlet				Side Inlet / End Outlet				WT
	A (Size)	B (Dia.)	Part Number	C1 (OAL)	Part Number	C2 (OAL)	E	F	
Aluminized Steel	4.0	14	SRUE-04-980353	42.0	SRUS-04-981304	39.5	11.0	5.5	76
	5.0	14	SRUE-05-980354	66.0	SRUS-05-981305	63.5	11.0	7.0	106
	6.0	18	SRUE-06-980355	61.0	SRUS-06-981306	57.5	13.0	8.3	140
	8.0	22	SRUE-08-980356	73.0	SRUS-08-981307	69.5	17.0	9.8	220
	10.0	26	SRUE-10-980357	93.0	SRUS-10-981308	89.5	19.0	11.5	348
Carbon Steel	12.0	30	SRUE-12-980358	112.0	SRUS-12-981309	109.0	20.0	13.3	588
	14.0	36	SRUE-14-980359	108.0	SRUS-14-981310	105.5	24.0	15.0	778
	16.0	42	SRUE-16-980360	111.0	SRUS-16-981311	109.0	27.0	16.5	1023
	18.0	48	SRUE-18-980361	118.0	SRUS-18-981406	115.0	33.0	19.0	1571
	20.0	48	SRUE-20-980362	142.0	SRUS-20-981312	139.0	33.0	20.0	1863
	22.0	54	SRUE-22-980363	144.0	SRUS-22-981313	140.5	36.0	22.0	2283
	24.0	60	SRUE-24-980364	144.0	SRUS-24-981314	142.5	39.0	23.5	2995

Connections sizes are nominal. Dimensions are in inches. Weights are in pounds, depend on selected options, and are approximate.

STANDARD CONSTRUCTION

- Dual shell construction to eliminate shell radiated noise and increase durability.
- Aluminized/carbon steel construction.
- Coated with satin black paint rated to 1200°F
- Connections: 125/150# ANSI bolt pattern flanges.
- [View Sales Drawings.](#)

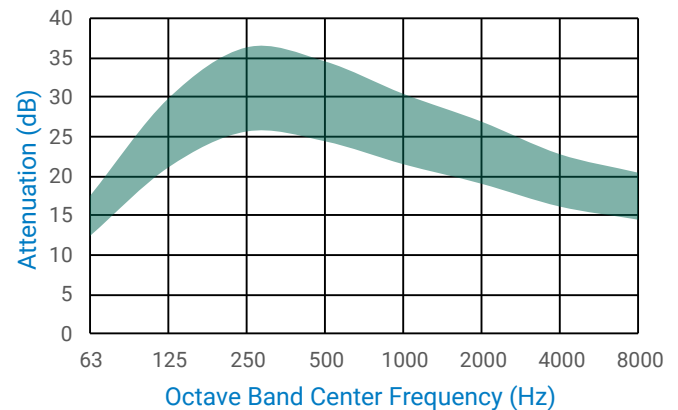
CUSTOMIZATION

- Chart refers to standard product offering.
- Custom configurations, materials, connections, overall dimensions, etc.
- Contact factory with your project's design requirements and specifications.

CERTIFICATIONS

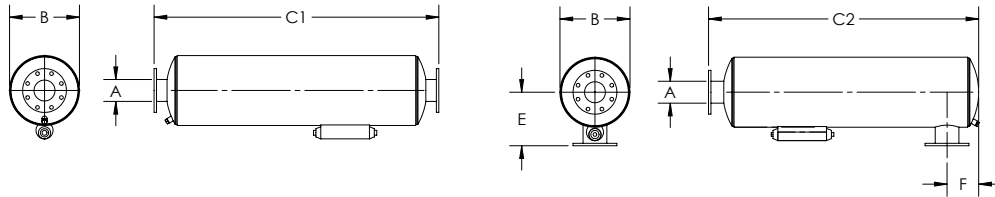
Complies with Det Norske Veritas and Germanischer Lloyd's Rules for Classification of Ships DNV's Offshore Standard DNV-OS-D101 "Marine and Machinery Systems and Equipment" NS-EN 1834-1.

Typical Attenuation Curve



“SCU” – SPARK ARRESTING CRITICAL GRADE SILENCER TYPICAL ATTENUATION 25–32 dB(A)

DNV certified spark arresting silencer designed for equipment operating in environments containing potentially combustible materials. The silencer forces cyclonic action to separate particulates from exhaust. The collected particulates are removed via the spark cleanout. Providing a high degree of attenuation, it is designed for relatively quiet environments.



			End Inlet / End Outlet		Side Inlet / End Outlet				
	A (Size)	B (Dia.)	Part Number	C1 (OAL)	Part Number	C2 (OAL)	E	F	WT
Aluminized Steel	4.0	14	SCUE-04-981416	58.5	SCUS-04-981431	55.5	11.0	6.5	99
	5.0	14	SCUE-05-981417	70.5	SCUS-05-981432	68.0	11.0	7.0	121
	6.0	18	SCUE-06-981418	72.0	SCUS-06-981433	68.5	13.0	8.3	167
	8.0	22	SCUE-08-981419	85.0	SCUS-08-981434	81.5	17.0	9.8	261
	10.0	26	SCUE-10-981420	110.0	SCUS-10-981435	106.5	19.0	11.5	420
Carbon Steel	12.0	30	SCUE-12-981421	123.0	SCUS-12-981436	120.0	20.0	13.3	712
	14.0	36	SCUE-14-981422	137.0	SCUS-14-981437	134.5	24.0	15.0	1028
	16.0	42	SCUE-16-981423	139.0	SCUS-16-981438	137.0	27.0	16.5	1245
	18.0	48	SCUE-18-981424	141.0	SCUS-18-981439	138.0	33.0	19.0	2027
	20.0	48	SCUE-20-981425	153.0	SCUS-20-981440	150.0	33.0	20.0	2151
	22.0	54	SCUE-22-981426	155.0	SCUS-22-981441	151.5	36.0	22.0	2457
	24.0	60	SCUE-24-981427	168.0	SCUS-24-981442	166.5	39.0	23.5	3621

Connections sizes are nominal. Dimensions are in inches. Weights are in pounds, depend on selected options, and are approximate.

STANDARD CONSTRUCTION

- Dual shell construction to eliminate shell radiated noise and increase durability.
- Aluminized/carbon steel construction.
- Coated with satin black paint rated to 1200°F
- Connections: 125/150# ANSI bolt pattern flanges.
- [View Sales Drawings.](#)

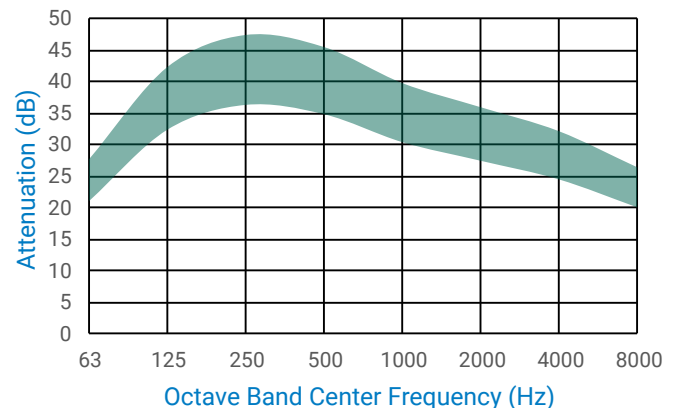
CUSTOMIZATION

- Chart refers to standard product offering.
- Custom configurations, materials, connections, overall dimensions, etc.
- Contact factory with your project's design requirements and specifications.

CERTIFICATIONS

Complies with Det Norske Veritas and Germanischer Lloyd's Rules for Classification of Ships DNV's Offshore Standard DNV-OS-D101 "Marine and Machinery Systems and Equipment" NS-EN 1834-1.

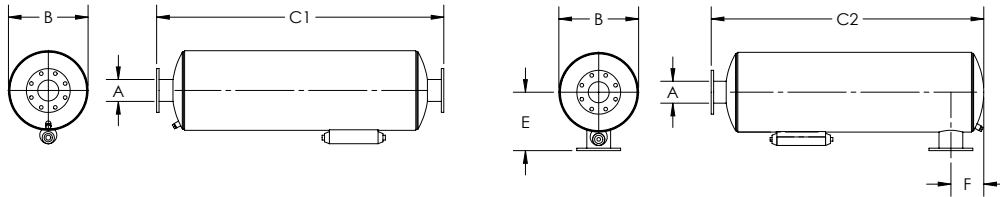
Typical Attenuation Curve



“SHU” – SPARK ARRESTING HOSPITAL GRADE SILENCER

TYPICAL ATTENUATION 32–38 dB(A)

DNV certified spark arresting silencer designed for equipment operating in environments containing potentially combustible materials. The silencer forces cyclonic action to separate particulates from exhaust. The collected particulates are removed via the spark cleanout. Providing an exceptional level of attenuation, it is designed for very quiet environments.



	End Inlet / End Outlet				Side Inlet / End Outlet				WT
	A (Size)	B (Dia.)	Part Number	C1 (OAL)	Part Number	C2 (OAL)	E	F	
Aluminized Steel	4.0	16	SHUE-04-981446	59.0	SHUS-04-981461	56.0	12.0	6.8	120
	5.0	18	SHUE-05-981447	72.0	SHUS-05-981462	69.0	13.0	7.8	163
	6.0	18	SHUE-06-981448	80.0	SHUS-06-981463	78.0	13.0	8.3	185
	8.0	26	SHUE-08-981449	96.0	SHUS-08-981464	93.5	19.0	10.5	325
Carbon Steel	10.0	30	SHUE-10-981450	110.0	SHUS-10-981465	108.0	20.0	12.3	619
	12.0	36	SHUE-12-981451	126.0	SHUS-12-981466	122.0	24.0	14.5	906
	14.0	42	SHUE-14-981452	138.0	SHUS-14-981467	135.0	27.0	15.5	1207
	16.0	42	SHUE-16-981453	163.0	SHUS-16-981468	159.0	27.0	16.5	1417
	18.0	48	SHUE-18-981454	205.5	SHUS-18-981469	201.5	33.0	19.0	2575
	20.0	60	SHUE-20-981455	220.0	SHUS-20-981470	216.0	39.0	21.5	4500
	22.0	60	SHUE-22-981456	220.0	SHUS-22-981471	216.0	39.0	22.5	4970
	24.0	66	SHUE-24-981457	244.0	SHUS-24-981472	241.0	42.0	24.0	6670

Connections sizes are nominal. Dimensions are in inches. Weights are in pounds, depend on selected options, and are approximate.

STANDARD CONSTRUCTION

- Dual shell construction to eliminate shell radiated noise and increase durability.
- Aluminized/carbon steel construction.
- Coated with satin black paint rated to 1200°F
- Connections: 125/150# ANSI bolt pattern flanges.
- [View Sales Drawings.](#)

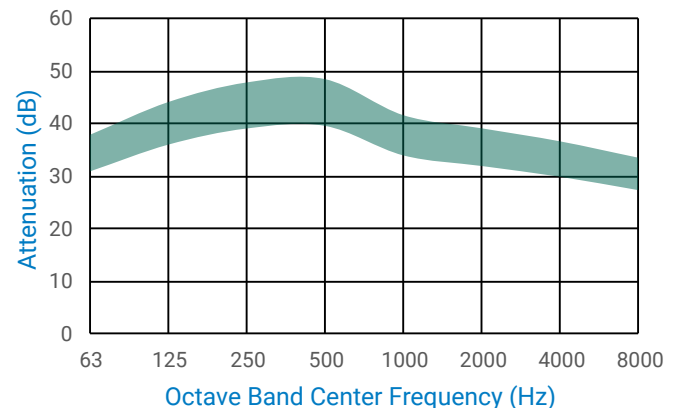
CUSTOMIZATION

- Chart refers to standard product offering.
- Custom configurations, materials, connections, overall dimensions, etc.
- Contact factory with your project's design requirements and specifications.

CERTIFICATIONS

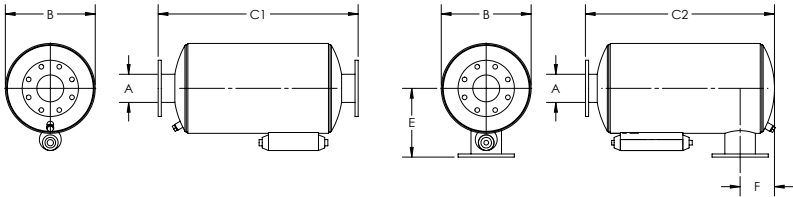
Complies with Det Norske Veritas and Germanischer Lloyd's Rules for Classification of Ships DNV's Offshore Standard DNV-OS-D101 "Marine and Machinery Systems and Equipment" NS-EN 1834-1.

Typical Attenuation Curve



“SSA” – ATEX SPARK ARRESTING INDUSTRIAL GRADE SILENCER
TYPICAL ATTENUATION 12–18 dB(A)

ATEX spark arresting silencer designed for equipment operating in environments containing potentially explosive and combustible materials. The silencer forces cyclonic action to separate particulates from exhaust. The collected particulates are removed via the spark cleanout. Providing a minimal level of attenuation, it is designed for environments where noise levels are high.



			End Inlet / End Outlet		Side Inlet / End Outlet				
	A (Size)	B (Dia.)	Part Number	C1 (OAL)	Part Number	C2 (OAL)	E	F	WT
316 Stainless Steel	4.0	14	SSAE-04-90008888	32.0	SSAS-04-90008904	30.3	11.0	5.5	82
	5.0	14	SSAE-05-90008889	42.0	SSAS-05-90008905	39.8	11.0	7.0	102
	6.0	18	SSAE-06-90008890	49.0	SSAS-06-90008906	45.5	13.0	8.3	162
	8.0	22	SSAE-08-90008891	50.0	SSAS-08-90008907	46.5	17.0	9.8	245
	10.0	26	SSAE-10-90008892	63.0	SSAS-10-90008908	59.5	19.0	11.5	330
	12.0	30	SSAE-12-90008893	76.0	SSAS-12-90008909	73.0	20.0	13.3	555
	14.0	36	SSAE-14-90008894	78.0	SSAS-14-90008910	75.5	24.0	15.0	825
	16.0	42	SSAE-16-90008895	81.0	SSAS-16-90008911	79.0	27.0	16.5	860
	18.0	48	SSAE-18-90008896	100.0	SSAS-18-90008912	97.0	33.0	19.0	1390
	20.0	48	SSAE-20-90008897	118.0	SSAS-20-90008913	115.0	33.0	20.0	1540
	22.0	54	SSAE-22-90008898	120.0	SSAS-22-90008914	116.5	36.0	22.0	1900
	24.0	60	SSAE-24-90008899	132.0	SSAS-24-90008915	129.5	39.0	23.5	2270

Connections sizes are nominal. Dimensions are in inches. Weights are in pounds, depend on selected options, and are approximate.

STANDARD CONSTRUCTION

- Dual shell construction to eliminate shell radiated noise and increase durability.
- 316 stainless steel construction.
- Connections: 125/150# ANSI bolt pattern flanges.
- [View Sales Drawings.](#)

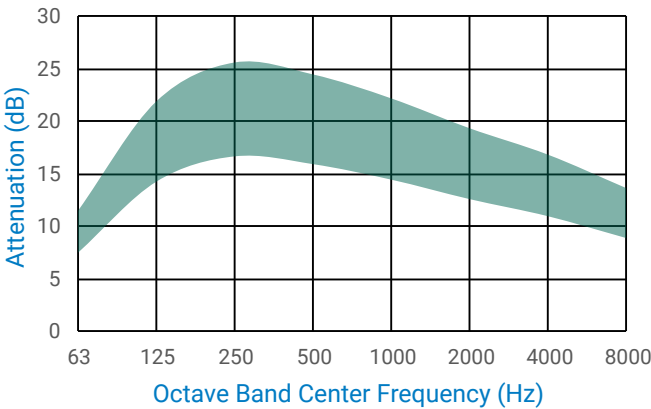
CUSTOMIZATION

- Chart refers to standard product offering.
- Contact factory with your project’s design requirements and specifications.

CERTIFICATIONS

Complies with ATEX Directive (European Directive 94/9/EC) EN1834-1:2000, EN1834-2:2000, EN1834-3:2000.

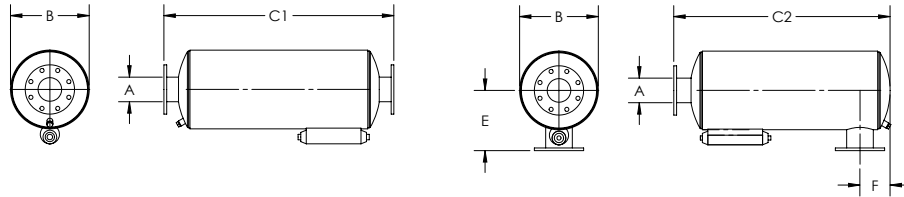
Typical Attenuation Curve



“SRA” – ATEX SPARK ARRESTING RESIDENTIAL GRADE SILENCER

TYPICAL ATTENUATION 18–25 dB(A)

ATEX spark arresting silencer designed for equipment operating in environments containing potentially explosive and combustible materials. The silencer forces cyclonic action to separate particulates from exhaust. The collected particulates are removed via the spark cleanout. Providing a modest level of attenuation, it is designed for environments where noise levels are moderate.



	End Inlet / End Outlet				Side Inlet / End Outlet				WT
	A (Size)	B (Dia.)	Part Number	C1 (OAL)	Part Number	C2 (OAL)	E	F	
316 Stainless Steel	4.0	14	SRAE-04-90008920	42.0	SRAS-04-90008936	39.5	11.0	5.5	102
	5.0	14	SRAE-05-90008921	66.0	SRAS-05-90008937	63.5	11.0	7.0	152
	6.0	18	SRAE-06-90008922	61.0	SRAS-06-90008938	57.5	13.0	8.3	202
	8.0	22	SRAE-08-90008923	73.0	SRAS-08-90008939	69.5	17.0	9.8	325
	10.0	26	SRAE-10-90008924	93.0	SRAS-10-90008940	89.5	19.0	11.5	505
	12.0	30	SRAE-12-90008925	112.0	SRAS-12-90008941	109.0	20.0	13.3	755
	14.0	36	SRAE-14-90008926	108.0	SRAS-14-90008942	105.5	24.0	15.0	1005
	16.0	42	SRAE-16-90008927	111.0	SRAS-16-90008943	109.0	27.0	16.5	1115
	18.0	48	SRAE-18-90008928	118.0	SRAS-18-90008944	115.0	33.0	19.0	1565
	20.0	48	SRAE-20-90008929	142.0	SRAS-20-90008945	139.0	33.0	20.0	1805
	22.0	54	SRAE-22-90008930	144.0	SRAS-22-90008946	140.5	36.0	22.0	2195
	24.0	60	SRAE-24-90008931	144.0	SRAS-24-90008947	142.5	39.0	23.5	2425

Connections sizes are nominal. Dimensions are in inches. Weights are in pounds, depend on selected options, and are approximate.

STANDARD CONSTRUCTION

- Dual shell construction to eliminate shell radiated noise and increase durability.
- 316 stainless steel construction.
- Connections: 125/150# ANSI bolt pattern flanges.
- [View Sales Drawings.](#)

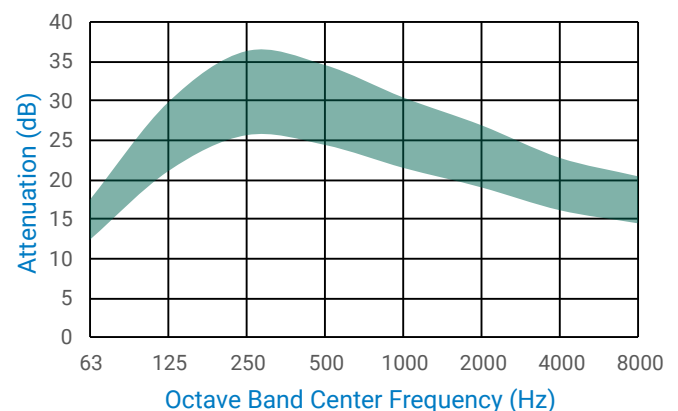
CUSTOMIZATION

- Chart refers to standard product offering.
- Contact factory with your project's design requirements and specifications.

CERTIFICATIONS

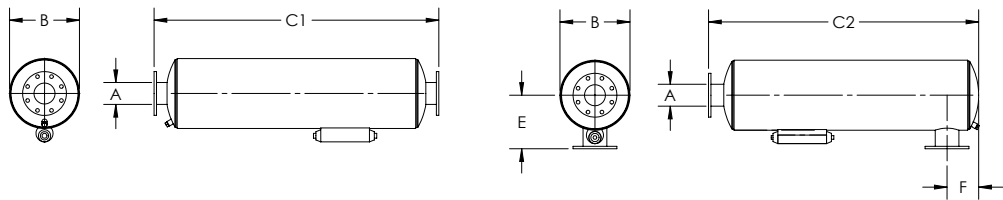
Complies with ATEX Directive (European Directive 94/9/EC) EN1834-1:2000, EN1834-2:2000, EN1834-3:2000.

Typical Attenuation Curve



“SCA” – ATEX SPARK ARRESTING CRITICAL GRADE SILENCER
TYPICAL ATTENUATION 25–32 dB(A)

ATEX spark arresting silencer designed for equipment operating in environments containing potentially explosive and combustible materials. The silencer forces cyclonic action to separate particulates from exhaust. The collected particulates are removed via the spark cleanout. Providing a high degree of attenuation, it is designed for relatively quiet environments.



			End Inlet / End Outlet		Side Inlet / End Outlet				
	A (Size)	B (Dia.)	Part Number	C1 (OAL)	Part Number	C2 (OAL)	E	F	WT
316 Stainless Steel	4.0	14	SCAE-04-90008952	58.5	SCAS-04-90008968	55.5	11.0	6.5	120
	5.0	14	SCAE-05-90008953	70.5	SCAS-05-90008969	68.0	11.0	7.0	150
	6.0	18	SCAE-06-90008954	72.0	SCAS-06-90008970	68.5	13.0	8.3	210
	8.0	22	SCAE-08-90008955	85.0	SCAS-08-90008971	81.5	17.0	9.8	295
	10.0	26	SCAE-10-90008956	110.0	SCAS-10-90008972	106.5	19.0	11.5	465
	12.0	30	SCAE-12-90008957	123.0	SCAS-12-90008973	120.0	20.0	13.3	700
	14.0	36	SCAE-14-90008958	137.0	SCAS-14-90008974	134.5	24.0	15.0	900
	16.0	42	SCAE-16-90008959	139.0	SCAS-16-90008975	137.0	27.0	16.5	1425
	18.0	48	SCAE-18-90008960	141.0	SCAS-18-90008976	138.0	33.0	19.0	1725
	20.0	48	SCAE-20-90008961	153.0	SCAS-20-90008977	150.0	33.0	20.0	1820
	22.0	54	SCAE-22-90008962	155.0	SCAS-22-90008978	151.5	36.0	22.0	1920
	24.0	60	SCAE-24-90008963	168.0	SCAS-24-90008979	166.5	39.0	23.5	2500

Connections sizes are nominal. Dimensions are in inches. Weights are in pounds, depend on selected options, and are approximate.

STANDARD CONSTRUCTION

- Dual shell construction to eliminate shell radiated noise and increase durability.
- 316 stainless steel construction.
- Connections: 125/150# ANSI bolt pattern flanges.
- [View Sales Drawings.](#)

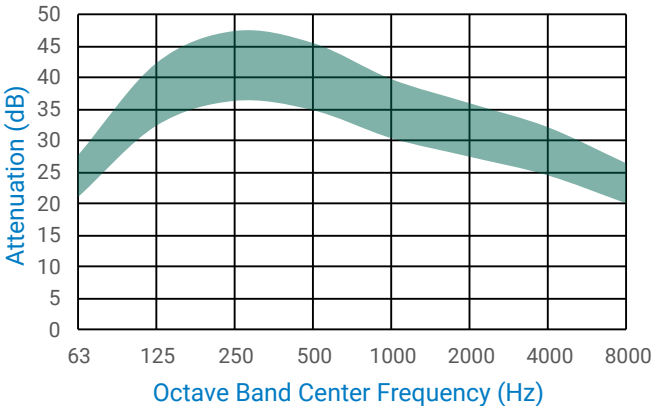
CUSTOMIZATION

- Chart refers to standard product offering.
- Contact factory with your project’s design requirements and specifications.

CERTIFICATIONS

Complies with ATEX Directive (European Directive 94/9/EC) EN1834-1:2000, EN1834-2:2000, EN1834-3:2000.

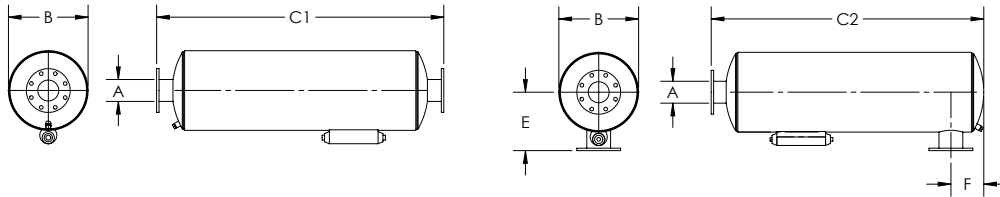
Typical Attenuation Curve



“SHA” – ATEX SPARK ARRESTING HOSPITAL GRADE SILENCER

TYPICAL ATTENUATION 32–38 dB(A)

ATEX spark arresting silencer designed for equipment operating in environments containing potentially explosive and combustible materials. The silencer forces cyclonic action to separate particulates from exhaust. The collected particulates are removed via the spark cleanout. Providing an exceptional degree of attenuation, it is designed for very quiet environments.



	End Inlet / End Outlet				Side Inlet / End Outlet				WT
	A (Size)	B (Dia.)	Part Number	C1 (OAL)	Part Number	C2 (OAL)	E	F	
316 Stainless Steel	4.0	16	SHAE-04-90008984	59.0	SHAS-04-90009000	56.0	12.0	6.8	150
	5.0	18	SHAE-05-90008985	72.0	SHAS-05-90009001	69.0	13.0	7.8	195
	6.0	18	SHAE-06-90008986	80.0	SHAS-06-90009002	78.0	13.0	8.3	212
	8.0	26	SHAE-08-90008987	96.0	SHAS-08-90009003	93.5	19.0	10.5	470
	10.0	30	SHAE-10-90008988	110.0	SHAS-10-90009004	108.0	20.0	12.3	700
	12.0	36	SHAE-12-90008989	126.0	SHAS-12-90009005	122.0	24.0	14.5	870
	14.0	42	SHAE-14-90008990	138.0	SHAS-14-90009006	135.0	27.0	15.5	1380
	16.0	42	SHAE-16-90008991	163.0	SHAS-16-90009007	159.0	27.0	16.5	1620
	18.0	48	SHAE-18-90008992	206.0	SHAS-18-90009008	201.5	33.0	19.0	2920
	20.0	60	SHAE-20-90008993	220.0	SHAS-20-90009009	216.0	39.0	21.5	4950
	22.0	60	SHAE-22-90008994	220.0	SHAS-22-90009010	216.0	39.0	22.5	4970
	24.0	66	SHAE-24-90008995	244.0	SHAS-24-90009011	241.0	42.0	24.0	6670

Connections sizes are nominal. Dimensions are in inches. Weights are in pounds, depend on selected options, and are approximate.

STANDARD CONSTRUCTION

- Dual shell construction to eliminate shell radiated noise and increase durability.
- 316 stainless steel construction.
- Connections: 125/150# ANSI bolt pattern flanges.
- [View Sales Drawings.](#)

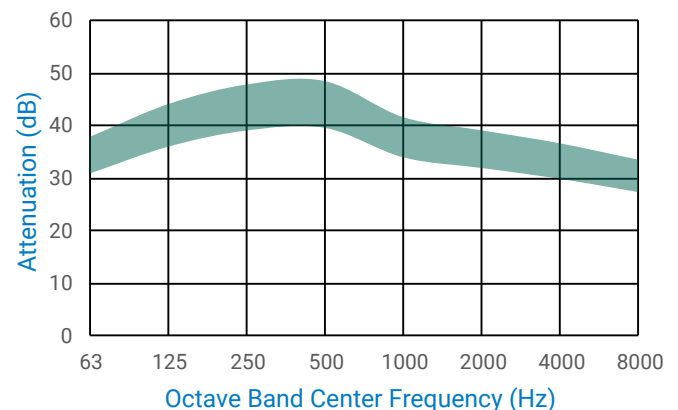
CUSTOMIZATION

- Chart refers to standard product offering.
- Contact factory with your project's design requirements and specifications.

CERTIFICATIONS

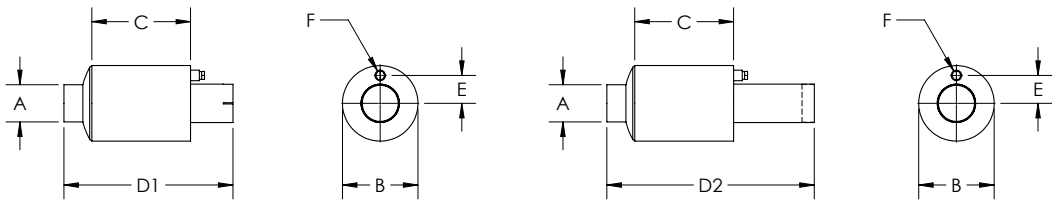
Complies with ATEX Directive (European Directive 94/9/EC) EN1834-1:2000, EN1834-2:2000, EN1834-3:2000.

Typical Attenuation Curve



“SAU” – SPARK ARRESTOR

Spark arrestor designed for equipment operating in environments with potentially combustible materials. It forces cyclonic action to separate particulates from exhaust. Collected particulates are removed via the spark cleanout.



				Slotted Inlet / Tube Outlet		Male NPT Inlet / Tube Stub Outlet				
	A (Size)	B (Dia.)	C	Part Number	D1 (OAL)	Part Number	D2 (OAL)	E	F	WT
Aluminized Steel	1.5	6.00	3.75	SAU-15X-981071	9.36	SAU-15-980330	10.38	1.90	0.38	5
	2.0	6.00	5.00	SAU-02X-981072	11.10	SAU-02-980331	13.72	2.00	0.38	6
	2.5	6.61	6.25	SAU-25X-981073	13.00	SAU-25-980332	15.47	2.30	0.38	8
	3.0	7.00	7.56	SAU-03X-981074	14.63	SAU-03-980333	18.00	2.50	0.38	10
	3.5	7.00	9.00	SAU-35X-981075	16.50	SAU-35-980334	20.52	2.60	0.50	12
	4.0	8.00	10.63	SAU-04X-981076	18.19	SAU-04-980335	22.31	3.00	0.50	15
	5.0	9.00	11.75	SAU-05X-981077	20.75	SAU-05-980336	24.87	3.50	0.50	21
	6.0	10.00	13.38	SAU-06X-981078	23.50	SAU-06-980337	26.72	4.00	0.50	25

Connections sizes are nominal. Dimensions are in inches. Weights are in pounds, depend on selected options, and are approximate.

STANDARD CONSTRUCTION

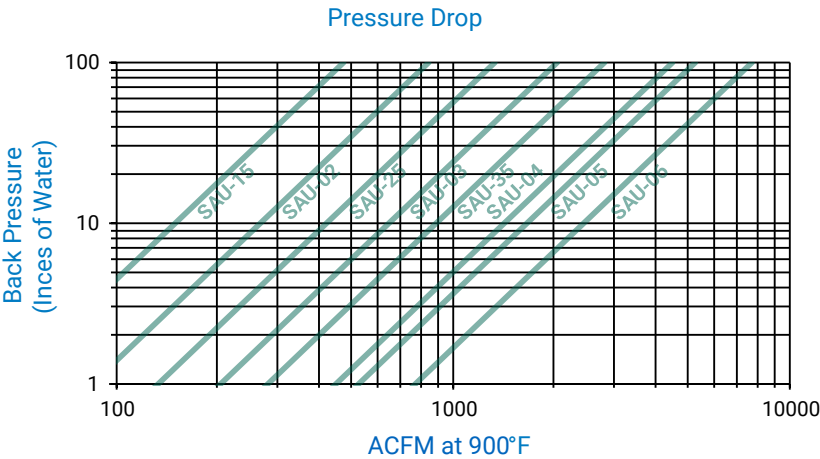
- Aluminized steel construction.
- Protective finish applied.

CUSTOMIZATION

- Chart refers to standard product offering.
- Custom configurations, materials, connections, overall dimensions, etc.
- Contact factory with your project’s design requirements and specifications.

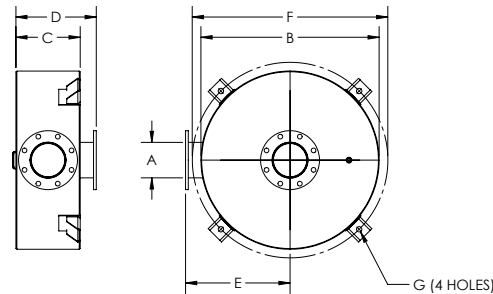
CERTIFICATIONS

- U.S. Department of Agriculture (Forest service) qualified.
- Efficiency rating of virtually 100% by the U.S. Forest Service.



“DCK2” – DISK CRITICAL GRADE SILENCER TYPICAL ATTENUATION 22–36 dB(A)

This disk silencer is designed for equipment operating in relatively quiet environments that require a high level of silencing. Its low profile lends itself towards projects with space limitations. Applications include stationary, marine, mobile, etc.



	Part Number	A (Size)	B (Dia.)	C	D	E	F	G	WT
Carbon Steel	DCK2-04-200751	4	27	8	11	16.5	30.5	1.00	147
	DCK2-05-200752	5	30	10	13	18.0	33.5	1.00	200
	DCK2-06-200753	6	33	12	15	19.5	36.5	1.00	252
	DCK2-08-200754	8	47	14	17	26.5	50.5	1.00	446
	DCK2-10-200755	10	53	16	19	29.5	56.5	1.00	687
	DCK2-12-200756	12	62	18	21	34.0	66.5	1.25	966
	DCK2-14-200757	14	66	24	27	36.0	70.5	1.25	1164
	DCK2-16-200758	16	74	26	29	40.0	78.5	1.25	1432
	DCK2-18-200759	18	85	28	31	45.5	89.5	1.25	1816
	DCK2-20-250000	20	87	30	33	48.0	91.5	1.25	2078

Connections sizes are nominal. Dimensions are in inches. Weights are in pounds and are approximate.

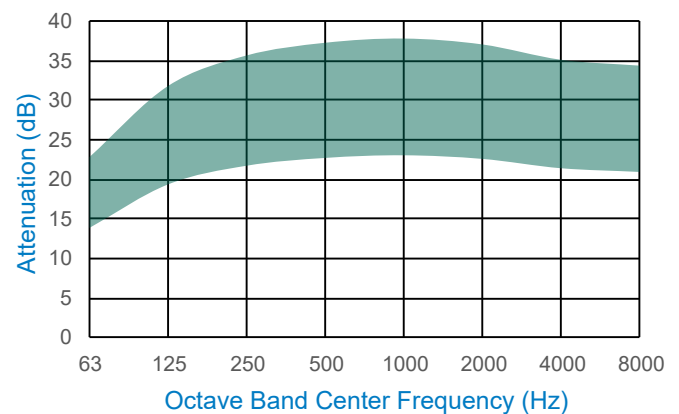
STANDARD CONSTRUCTION

- Shell packed with 2" of fiberglass insulation to absorb high frequency sound waves and reduce outer surface temperature.
- Carbon steel construction.
- Coated with satin black paint rated to 1200°F
- Connections: 125/150# ANSI bolt pattern flanges.
- Mounted with 4 bottom brackets.
- [View Sales Drawings.](#)

CUSTOMIZATION

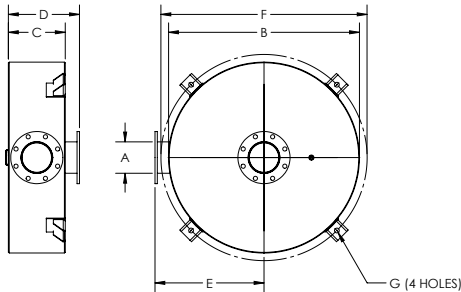
- Chart refers to standard product offering.
- Custom configurations, materials, connections, overall dimensions, etc.
- Contact factory with your project's design requirements and specifications.

Typical Attenuation Curve



“DHK” – DISK HOSPITAL GRADE SILENCER
TYPICAL ATTENUATION 26–43 dB(A)

This disk silencer is designed for equipment operating in very quiet environments that require an exceptional level of attenuation. Its low profile lends itself towards projects with space limitations. Applications include stationary, marine, mobile, etc.



	Part Number	A (Size)	B (Dia.)	C	D	E	F	G	WT
Carbon Steel	DHK-04-205349	4	35	8	11	20.5	38.5	1.00	231
	DHK-05-205350	5	37	12	15	21.5	40.5	1.00	275
	DHK-06-205351	6	40	12	15	23.0	43.5	1.00	328
	DHK-08-205352	8	53	14	17	29.5	56.5	1.00	535
	DHK-10-205353	10	59	16	19	32.5	62.5	1.00	880
	DHK-12-205354	12	71	20	23	28.5	75.5	1.25	1217
	DHK-14-205355	14	72	24	27	39.0	76.5	1.25	1331
	DHK-16-205356	16	76	28	31	41.0	80.5	1.25	1540
	DHK-18-205357	18	87	30	33	46.5	91.5	1.25	1932
	DHK-20-250001	20	90	32	35	48.0	94.5	1.25	2244

Connections sizes are nominal. Dimensions are in inches. Weights are in pounds and are approximate.

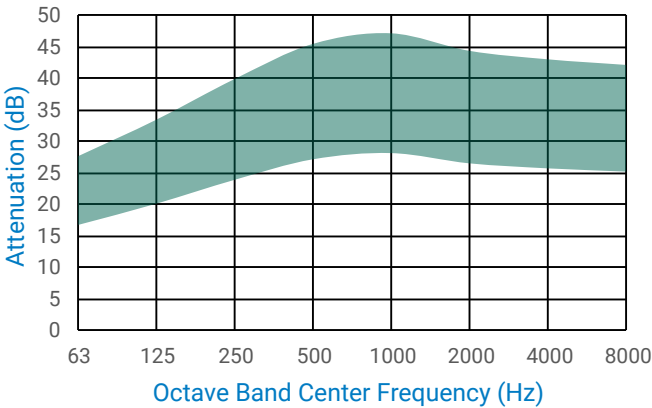
STANDARD CONSTRUCTION

- Shell packed with 2" of fiberglass insulation to absorb high frequency sound waves and reduce outer surface temperature.
- Carbon steel construction.
- Coated with satin black paint rated to 1200°F
- Connections: 125/150# ANSI bolt pattern flanges.
- Mounted with 4 bottom brackets.
- [View Sales Drawings.](#)

CUSTOMIZATION

- Chart refers to standard product offering.
- Custom configurations, materials, connections, overall dimensions, etc.
- Contact factory with your project's design requirements and specifications.

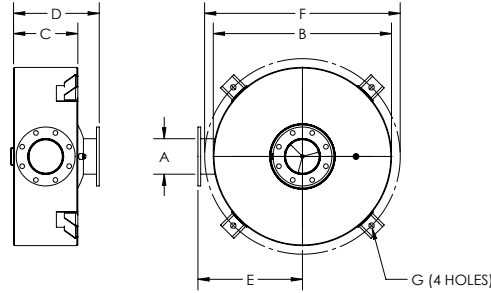
Typical Attenuation Curve



“DCS” – DISK SPARK ARRESTING CRITICAL GRADE SILENCER

TYPICAL ATTENUATION 22–36 dB(A)

Spark arresting, disk silencer designed for equipment operating in environments containing potentially combustible materials. The silencer forces cyclonic action to separate particulates from exhaust. The collected particulates are removed via the spark clean out. Providing a high degree of attenuation in a low profile design, it is ideally suited for space limited applications operating in relatively quiet environments.



	Part Number	A (Size)	B (Dia.)	C	D	E	F	G	WT
Carbon Steel	DCS-06-90012986	6	33	12	16	19.5	36.5	1.00	277
	DCS-08-90012987	8	47	14	20	26.5	50.5	1.00	516
	DCS-10-90012988	10	53	16	23	29.5	56.5	1.00	765
	DCS-12-90012989	12	62	18	26	34.0	66.5	1.25	1027

Connections sizes are nominal. Dimensions are in inches. Weights are in pounds and are approximate.

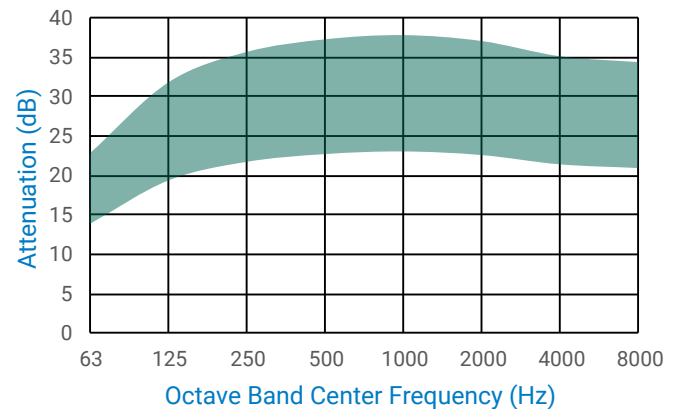
STANDARD CONSTRUCTION

- Shell packed with 2" of fiberglass insulation to absorb high frequency sound waves and reduce outer surface temperature.
- Carbon steel construction.
- Coated with satin black paint rated to 1200°F
- Connections: 125/150# ANSI bolt pattern flanges.
- Mounted with 4 bottom brackets.
- [View Sales Drawings.](#)

CUSTOMIZATION

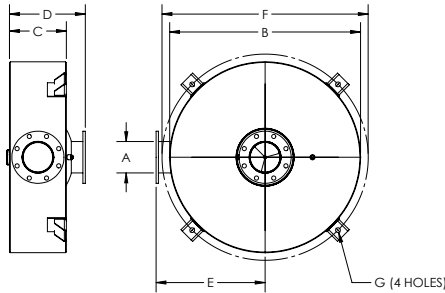
- Chart refers to standard product offering.
- Custom configurations, materials, connections, overall dimensions, etc.
- Contact factory with your project's design requirements and specifications.

Typical Attenuation Curve



“DHS” – DISK SPARK ARRESTING HOSPITAL GRADE SILENCER
TYPICAL ATTENUATION 26–43 dB(A)

Spark arresting, disk silencer designed for equipment operating in environments containing potentially combustible materials. The silencer forces cyclonic action to separate particulates from exhaust. The collected particulates are removed via the spark clean out. Providing an exceptional degree of attenuation in a low profile design, it is ideally suited for space limited applications operating in very quiet environments.



	Part Number	A (Size)	B (Dia.)	C	D	E	F	G	WT
Carbon Steel	DHS-06-90012993	6	40	12	16	23.0	43.5	1.00	353
	DHS-08-90012994	8	53	14	20	29.5	56.5	1.00	605
	DHS-10-90012995	10	59	16	23	32.5	62.5	1.00	958
	DHS-12-90012996	12	71	20	28	28.5	75.5	1.25	1278

Connections sizes are nominal. Dimensions are in inches. Weights are in pounds and are approximate.

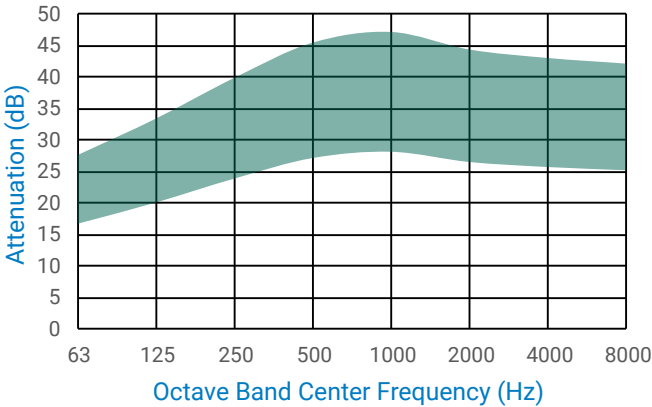
STANDARD CONSTRUCTION

- Shell packed with 2" of fiberglass insulation to absorb high frequency sound waves and reduce outer surface temperature.
- Carbon steel construction.
- Coated with satin black paint rated to 1200°F
- Connections: 125/150# ANSI bolt pattern flanges.
- Mounted with 4 bottom brackets.
- [View Sales Drawings.](#)

CUSTOMIZATION

- Chart refers to standard product offering.
- Custom configurations, materials, connections, overall dimensions, etc.
- Contact factory with your project's design requirements and specifications.

Typical Attenuation Curve

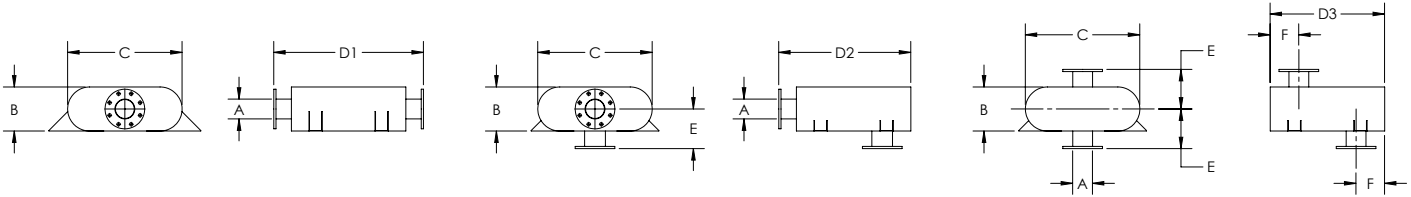


“OC” – OVAL CRITICAL GRADE SILENCER

TYPICAL ATTENUATION 28–36 dB(A)

NO INTERNAL INSULATION

This oval silencer is designed for equipment operating in relatively quiet environments. The unique oval design gives the silencer a low profile while maintaining the volume necessary for a high degree of attenuation. It is ideally suited for space limited applications: stationary, marine, mobile, etc.



End Inlet / End Outlet				Side Inlet / End Outlet		Side Inlet / Side Outlet					
A (Size)	B	C	Part Number	D1 (OAL)	Part Number	D2 (OAL)	Part Number	D3 (OAL)	E	F	WT
4	10	26	OCE-04-230001	34	OCS-04-230011	30	OCSS-04-230021	26	9	6.5	110
5	10	28	OCE-05-230002	36	OCS-05-230012	32	OCSS-05-230022	28	9	7.0	145
6	12	32	OCE-06-230003	40	OCS-06-230013	36	OCSS-06-230023	32	10	8.0	196
8	14	44	OCE-08-230004	52	OCS-08-230014	48	OCSS-08-230024	44	11	9.0	364
10	16	50	OCE-10-230005	58	OCS-10-230015	54	OCSS-10-230025	50	12	9.5	520
12	20	60	OCE-12-230006	68	OCS-12-230016	64	OCSS-12-230026	60	14	10.5	720
14	22	64	OCE-14-230007	72	OCS-14-230017	68	OCSS-14-230027	64	15	11.0	870
16	24	72	OCE-16-230008	80	OCS-16-230018	76	OCSS-16-230028	72	16	12.0	1195
18	26	84	OCE-18-230009	92	OCS-18-230019	88	OCSS-18-230029	84	17	13.0	1472
20	28	88	OCE-20-230010	96	OCS-20-230020	92	OCSS-20-230030	88	18	14.0	1784

Connections sizes are nominal. Dimensions are in inches. Weights are in pounds, depend on selected options, and are approximate.

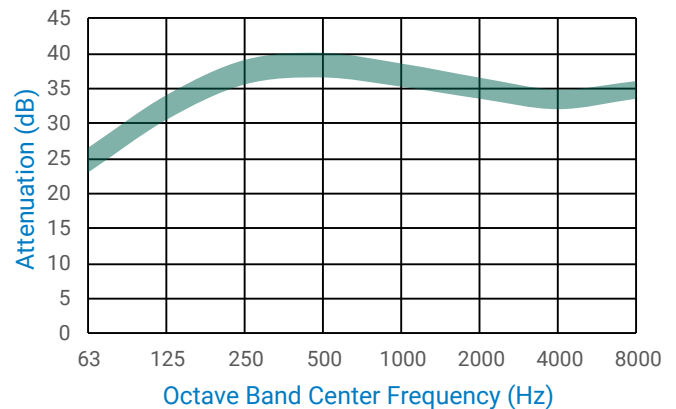
STANDARD CONSTRUCTION

- Carbon steel construction.
- Coated with satin black paint rated to 1200°F
- Connections: 125/150# ANSI bolt pattern flanges.
- Mounted with 4 bottom brackets.

CUSTOMIZATION

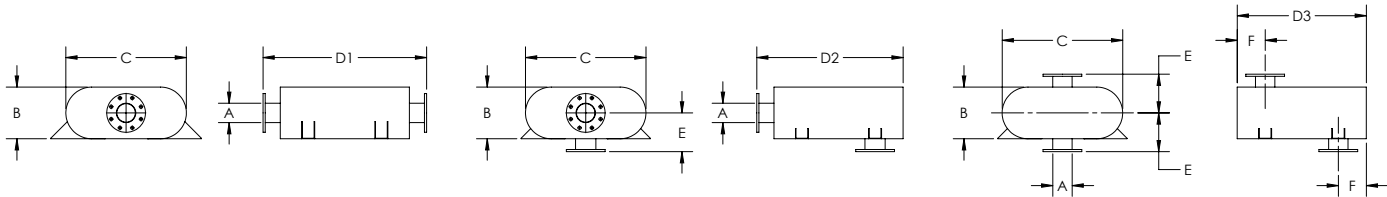
- Chart refers to standard product offering.
- Custom configurations, materials, connections, overall dimensions, etc.
- Contact factory with your project's design requirements and specifications.

Typical Attenuation Curve



“OH” – OVAL HOSPITAL GRADE SILENCER
TYPICAL ATTENUATION 34–42 dB(A)
2" INTERNAL INSULATION

This oval silencer is designed for equipment operating in very quiet environments. The unique oval design gives the silencer a low profile while maintaining the volume necessary for an outstanding level of attenuation. It is ideally suited for space limited applications: stationary, marine, mobile, etc.



				End Inlet / End Outlet		Side Inlet / End Outlet		Side Inlet / Side Outlet				
A (Size)	B	C	Part Number	D1 (OAL)	Part Number	D2 (OAL)	Part Number	D3 (OAL)	E	F	WT	
Carbon Steel	4	12	28	OHE-04-231001	38	OHS-04-231011	34	OHSS-04-231021	30	9	6.5	137
	5	12	30	OHE-05-231002	40	OHS-05-231012	36	OHSS-05-231022	32	10	7.0	172
	6	14	32	OHE-06-231003	48	OHS-06-231013	44	OHSS-06-231023	40	11	7.5	232
	8	16	44	OHE-08-231004	56	OHS-08-231014	52	OHSS-08-231024	48	12	8.5	423
	10	18	52	OHE-10-231005	60	OHS-10-231015	56	OHSS-10-231025	52	13	9.5	607
	12	22	62	OHE-12-231006	68	OHS-12-231016	64	OHSS-12-231026	60	15	10.5	823
	14	24	64	OHE-14-231007	74	OHS-14-231017	70	OHSS-14-231027	66	16	11.0	1002
	16	26	74	OHE-16-231008	80	OHS-16-231018	76	OHSS-16-231028	72	17	12.0	1339
	18	28	84	OHE-18-231009	92	OHS-18-231019	88	OHSS-18-231029	84	18	13.0	1698
	20	30	88	OHE-20-231010	104	OHS-20-231020	100	OHSS-20-231030	96	19	14.0	2062

Connections sizes are nominal. Dimensions are in inches. Weights are in pounds, depend on selected options, and are approximate.

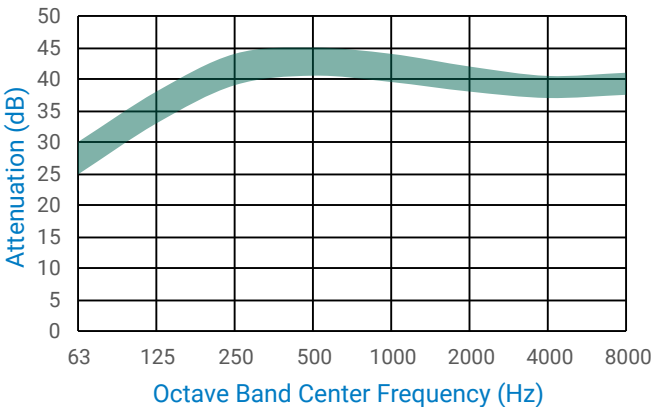
STANDARD CONSTRUCTION

- Shell packed with 2" of fiberglass insulation to absorb high frequency sound waves and reduce outer surface temperature.
- Carbon steel construction.
- Coated with satin black paint rated to 1200°F
- Connections: 125/150# ANSI bolt pattern flanges.
- Mounted with 4 bottom brackets.

CUSTOMIZATION

- Chart refers to standard product offering.
- Custom configurations, materials, connections, overall dimensions, etc.
- Contact factory with your project's design requirements and specifications.

Typical Attenuation Curve

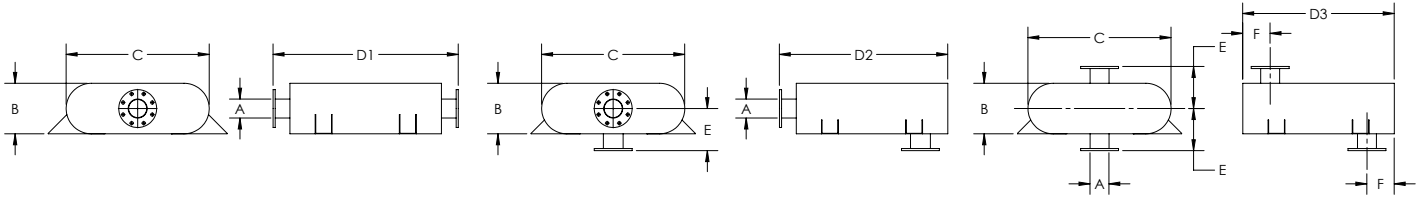


“OSH” – OVAL SUPER HOSPITAL GRADE SILENCER

TYPICAL ATTENUATION 38–46 dB(A)

2" INTERNAL INSULATION

This oval silencer is designed for equipment operating in extremely quiet environments. The unique oval design gives the silencer a low profile while maintaining the volume necessary for an exceptional level of attenuation. It is ideally suited for space limited applications: stationary, marine, mobile, etc.



				End Inlet / End Outlet		Side Inlet / End Outlet		Side Inlet / Side Outlet				
A (Size)	B	C	Part Number	D1 (OAL)	Part Number	D2 (OAL)	Part Number	D3 (OAL)	E	F	WT	
Carbon Steel	4	12	34	OSHE-04-232001	44	OSHS-04-232011	40	OSHSS-04-232021	36	10	6.5	319
	5	12	36	OSHE-05-232002	50	OSHS-05-232012	46	OSHSS-05-232022	42	10	7.0	366
	6	14	38	OSHE-06-232003	54	OSHS-06-232013	50	OSHSS-06-232023	46	11	8.0	450
	8	16	52	OSHE-08-232004	60	OSHS-08-232014	56	OSHSS-08-232024	52	12	9.0	710
	10	18	60	OSHE-10-232005	68	OSHS-10-232015	64	OSHSS-10-232025	60	13	9.5	946
	12	22	70	OSHE-12-232006	78	OSHS-12-232016	74	OSHSS-12-232026	70	15	10.5	1325
	14	24	72	OSHE-14-232007	80	OSHS-14-232017	76	OSHSS-14-232027	72	16	11.0	1553
	16	28	72	OSHE-16-232008	84	OSHS-16-232018	80	OSHSS-16-232028	76	18	12.0	1744
	18	30	84	OSHE-18-232009	96	OSHS-18-232019	92	OSHSS-18-232029	88	19	13.0	2217
	20	34	92	OSHE-20-232010	104	OSHS-20-232020	100	OSHSS-20-232030	96	21	14.0	2689

Connections sizes are nominal. Dimensions are in inches. Weights are in pounds, depend on selected options, and are approximate.

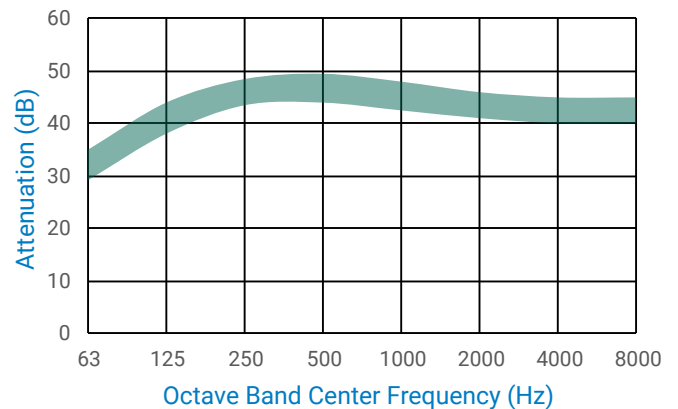
STANDARD CONSTRUCTION

- Shell packed with 2" of fiberglass insulation to absorb high frequency sound waves and reduce outer surface temperature.
- Carbon steel construction.
- Coated with satin black paint rated to 1200°F
- Connections: 125/150# ANSI bolt pattern flanges.
- Mounted with 4 bottom brackets.

CUSTOMIZATION

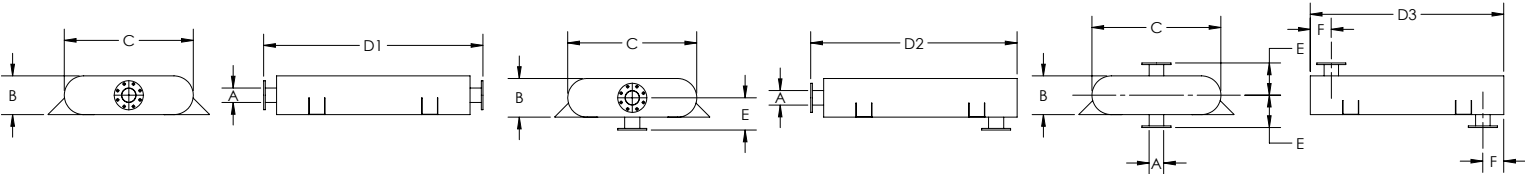
- Chart refers to standard product offering.
- Custom configurations, materials, connections, overall dimensions, etc.
- Contact factory with your project's design requirements and specifications.

Typical Attenuation Curve



“OX” – OVAL EXTREME GRADE SILENCER
TYPICAL ATTENUATION 44–52 dB(A)
2" INTERNAL INSULATION

This oval silencer is designed for equipment operating in ultra-quiet environments. The unique oval design gives the silencer a low profile while maintaining the volume necessary for an extreme level of attenuation. It is ideally suited for space limited applications: stationary, marine, mobile, etc.



				End Inlet / End Outlet		Side Inlet / End Outlet		Side Inlet / Side Outlet				
A (Size)	B	C	Part Number	D1 (OAL)	Part Number	D2 (OAL)	Part Number	D3 (OAL)	E	F	WT	
Carbon Steel	4	12	40	OXE-04-233001	68	OXS-04-233011	64	OXSS-04-233021	60	10	6.5	517
	5	14	40	OXE-05-233002	68	OXS-05-233012	64	OXSS-05-233022	60	11	7.0	562
	6	14	44	OXE-06-233003	80	OXS-06-233013	76	OXSS-06-233023	72	11	8.0	692
	8	16	62	OXE-08-233004	104	OXS-08-233014	100	OXSS-08-233024	96	12	9.0	1280
	10	18	68	OXE-10-233005	116	OXS-10-233015	112	OXSS-10-233025	108	13	9.5	1588
	12	22	70	OXE-12-233006	128	OXS-12-233016	124	OXSS-12-233026	120	15	10.5	1889
	14	28	76	OXE-14-233007	128	OXS-14-233017	124	OXSS-14-233027	120	18	11.0	2265
	16	32	86	OXE-16-233008	128	OXS-16-233018	124	OXSS-16-233028	120	20	12.0	2732
	18	34	94	OXE-18-233009	152	OXS-18-233019	148	OXSS-18-233029	144	21	13.0	3339
	20	36	98	OXE-20-233010	152	OXS-20-233020	148	OXSS-20-233030	144	22	14.0	3779

Connections sizes are nominal. Dimensions are in inches. Weights are in pounds, depend on selected options, and are approximate.

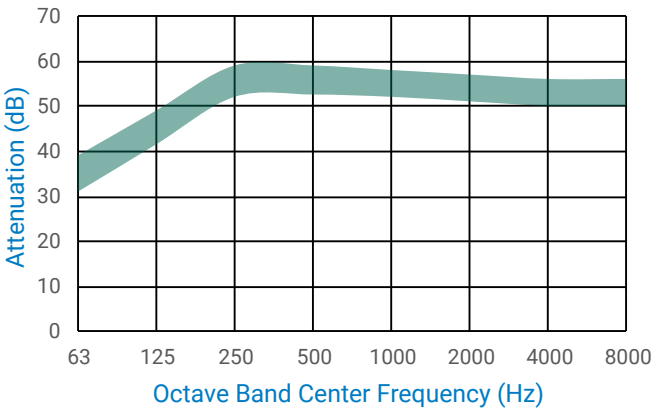
STANDARD CONSTRUCTION

- Shell packed with 2" of fiberglass insulation to absorb high frequency sound waves and reduce outer surface temperature.
- Carbon steel construction.
- Coated with satin black paint rated to 1200°F
- Connections: 125/150# ANSI bolt pattern flanges.
- Mounted with 4 bottom brackets.

CUSTOMIZATION

- Chart refers to standard product offering.
- Custom configurations, materials, connections, overall dimensions, etc.
- Contact factory with your project's design requirements and specifications.

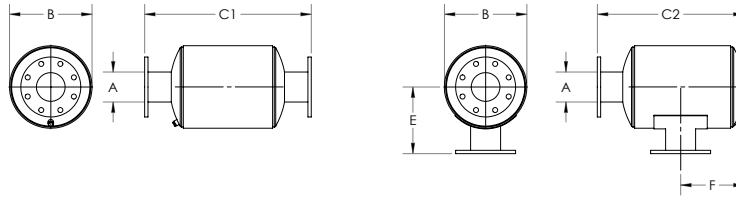
Typical Attenuation Curve



“CPJ” – COMPACT RESIDENTIAL GRADE SILENCER

TYPICAL ATTENUATION 19–25 dB(A)

This small, economical silencer provides a modest level of attenuation in a compressed design by utilizing both absorptive and reactive designs. It is ideally suited for equipment operating in environments where noise levels are moderate.



	End Inlet / End Outlet				Side Inlet / End Outlet				WT
	A (Size)	B (Dia.)	Part Number	C1 (OAL)	Part Number	C2 (OAL)	E	F	
Aluminized Steel	2.0	8	CPJE-02-90019720	15.50	CPJS-02-90019730	13.25	6.75	5.50	33
	2.5	8	CPJE-25-90019721	15.50	CPJS-25-90019731	13.25	6.75	5.50	34
	3.0	12	CPJE-03-90019722	17.00	CPJS-03-90019732	15.00	9.50	6.50	65
	3.5	12	CPJE-35-90019723	20.00	CPJS-35-90019733	18.00	10.00	7.75	86
	4.0	12	CPJE-04-90019724	25.00	CPJS-04-90019734	22.00	10.00	9.50	110
	5.0	16	CPJE-05-90019725	26.50	CPJS-05-90019735	23.50	12.00	10.25	161
	6.0	18	CPJE-06-90019726	38.50	CPJS-06-90019736	35.50	14.00	16.25	269
	8.0	22	CPJE-08-90019727	38.50	CPJS-08-90019737	35.50	15.00	16.25	343
	10.0	26	CPJE-10-90019728	46.00	CPJS-10-90019738	43.00	18.00	20.00	546

Connections sizes are nominal. Dimensions are in inches. Weights are in pounds, depend on selected options, and are approximate.

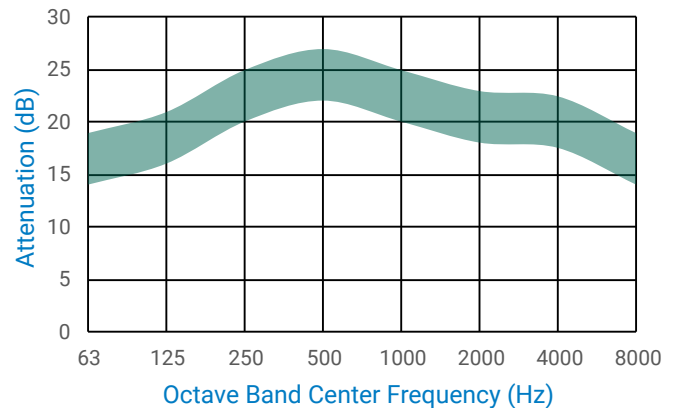
STANDARD CONSTRUCTION

- Shell packed with fiberglass insulation to absorb high frequency sound waves and reduce outer surface temperature.
- Aluminized steel construction.
- Coated with satin black paint rated to 1200°F
- Connections:
 - Male NPT on 3.5" and smaller.
 - 125/150# ANSI bolt pattern flanges on 4" and larger.
- [View Sales Drawings.](#)

CUSTOMIZATION

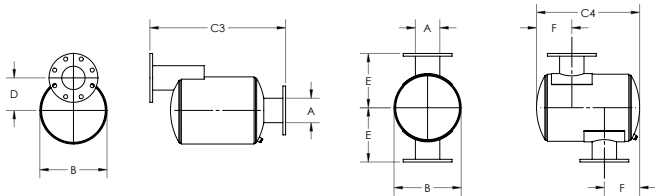
- Chart refers to standard product offering.
- Custom configurations, materials, connections, overall dimensions, etc.
- Contact factory with your project's design requirements and specifications.

Typical Attenuation Curve



“CPJ” – COMPACT RESIDENTIAL GRADE SILENCER
TYPICAL ATTENUATION 19–25 dB(A)

This small, economical silencer provides a modest level of attenuation in a compressed design by utilizing both absorptive and reactive designs. It is ideally suited for equipment operating in environments where noise levels are moderate.



End Inlet / End Outlet Parallel to Body				Side Inlet / Side Outlet						
	A (Size)	B (Dia.)	Part Number	C1 (OAL)	Part Number	C2 (OAL)	D	E	F	WT
Aluminized Steel	2.0	8	CPJP-02-90023422	15.50	CPJSS-02-90023345	11.00	4.00	6.75	4.25	33
	2.5	8	CPJP-25-90023423	15.50	CPJSS-25-90023346	11.00	4.00	6.75	5.38	34
	3.0	12	CPJP-03-90023424	17.00	CPJSS-03-90023347	13.00	6.00	9.50	4.50	65
	3.5	12	CPJP-35-90023425	20.00	CPJSS-35-90023348	15.50	6.00	10.00	5.63	86
	4.0	12	CPJP-04-90023426	25.00	CPJSS-04-90023349	19.00	6.00	10.00	6.50	110
	5.0	16	CPJP-05-90023427	26.50	CPJSS-05-90023350	20.50	8.00	12.00	8.00	161
	6.0	18	CPJP-06-90023428	38.50	CPJSS-06-90023351	32.50	9.00	14.00	10.00	269
	8.0	22	CPJP-08-90023429	38.50	CPJSS-08-90023352	32.50	11.00	15.00	11.50	343
	10.0	26	CPJP-10-90023430	46.00	CPJSS-10-90023353	40.00	13.00	18.00	12.50	546

Connections sizes are nominal. Dimensions are in inches. Weights are in pounds, depend on selected options, and are approximate.

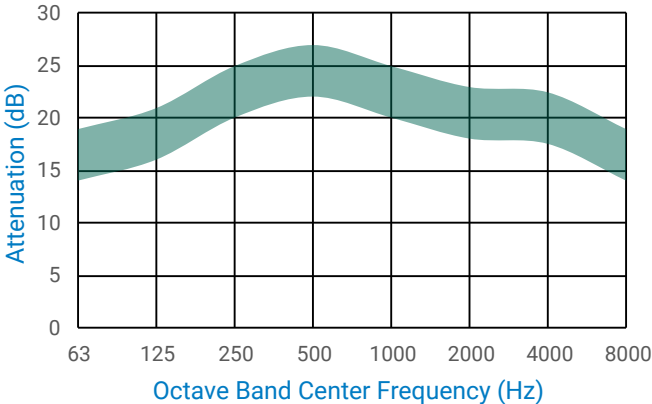
STANDARD CONSTRUCTION

- Shell packed with fiberglass insulation to absorb high frequency sound waves and reduce outer surface temperature.
- Aluminized steel construction.
- Coated with satin black paint rated to 1200°F
- Connections:
 - Male NPT on 3.5" and smaller.
 - 125/150# ANSI bolt pattern flanges on 4" and larger.
- [View Sales Drawings.](#)

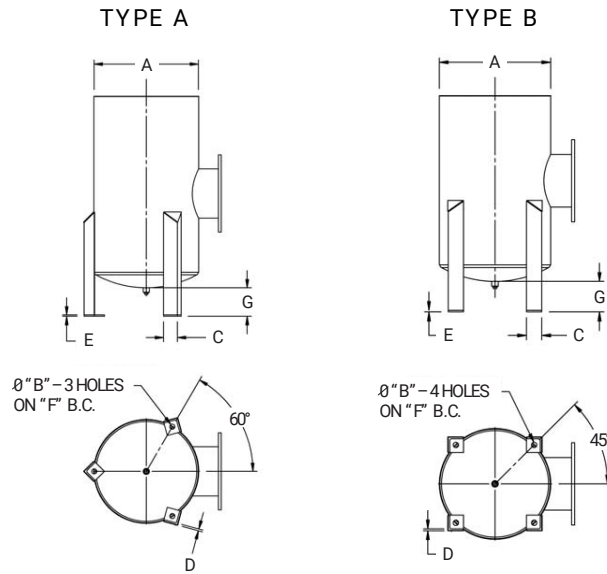
CUSTOMIZATION

- Chart refers to standard product offering.
- Custom configurations, materials, connections, overall dimensions, etc.
- Contact factory with your project's design requirements and specifications.

Typical Attenuation Curve



CYLINDRICAL SILENCER MOUNTING OPTIONS

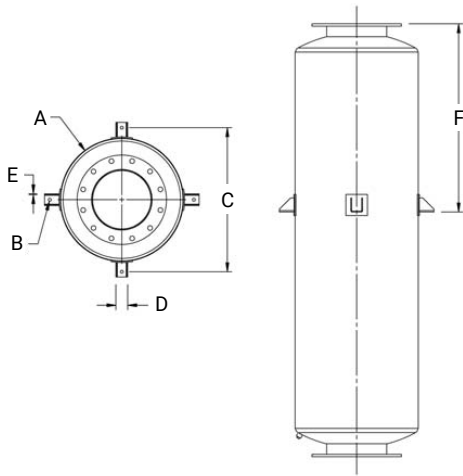


A (Body Dia.)	B	C	D	E	F
10	0.875	2	0.25	0.25	10
12	0.875	2	0.25	0.25	12
14	0.875	2	0.25	0.25	14
16	0.875	2	0.25	0.25	16
18	0.875	2	0.25	0.25	18
20	1.000	2	0.25	0.375	20
22	1.000	4	0.375	0.375	22
24	1.000	4	0.375	0.375	24
26	1.000	4	0.375	0.375	26
28	1.000	4	0.375	0.375	28
30	1.000	4	0.375	0.375	30
36	1.250	4	0.375	0.5	36
42	1.250	6	0.375	0.5	42
48	1.250	6	0.375	0.5	48
54	1.375	6	0.375	0.75	54
60	1.375	6	0.375	0.75	60

Standard G dimension = 6 inches or per customer specifications.

CYLINDRICAL SILENCER MOUNTING OPTIONS

TYPE D

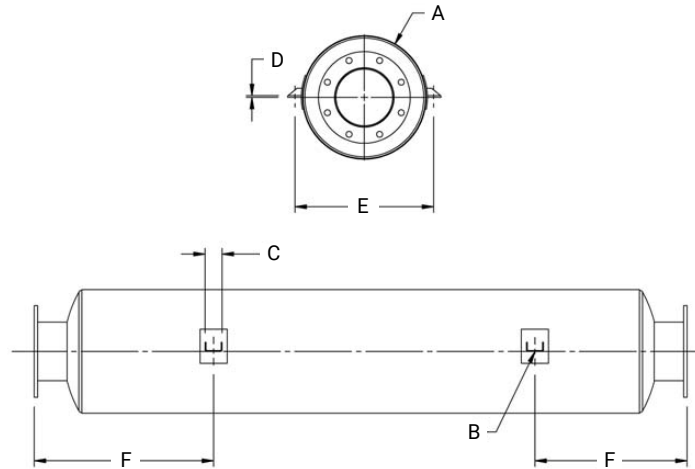


A (Body Dia.)	B	C	D	E
10	0.88	13.25	2	0.1345
12	0.88	15.25	2	0.1345
14	0.88	17.25	2	0.1345
16	0.88	19.375	2	0.1345
18	0.88	31.375	2	0.1345
20	1	22.375	2.5	0.1793
22	1	25.375	2.5	0.1793
24	1	27.375	2.5	0.1793
26	1	30.625	2.5	0.1793
28	1	32.625	2.5	0.1793
30	1	34.625	3.5	0.1793
36	1.25	40.625	3.5	0.1793
42	1.25	46.625	3.5	0.1793
48	1.25	52.875	3.5	0.1793
54	1.38	59.75	4	0.25
60	1.38	65.75	4	0.25

Standard F dimension is ¼ the overall length of the silencer or per customer specifications.

CYLINDRICAL SILENCER MOUNTING OPTIONS

TYPE E



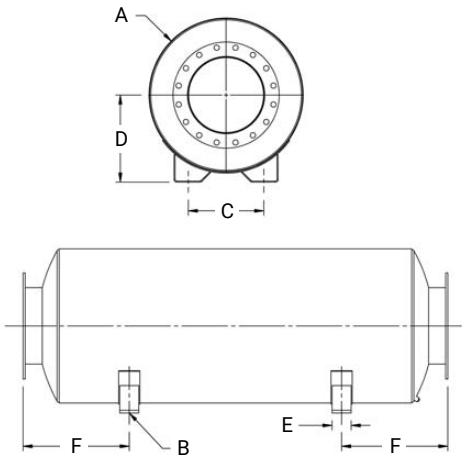
A (Body Dia.)	B	C	D	E
10	0.88	13.25	2	0.1345
12	0.88	15.25	2	0.1345
14	0.88	17.25	2	0.1345
16	0.88	19.375	2	0.1345
18	0.88	31.375	2	0.1345
20	1	22.375	2.5	0.1793
22	1	25.375	2.5	0.1793
24	1	27.375	2.5	0.1793
26	1	30.625	2.5	0.1793
28	1	32.625	2.5	0.1793
30	1	34.625	3.5	0.1793
36	1.25	40.625	3.5	0.1793
42	1.25	46.625	3.5	0.1793
48	1.25	52.875	3.5	0.1793
54	1.38	59.75	4	0.25
60	1.38	65.75	4	0.25

Standard F dimension is ¼ the overall length of the silencer or per customer specifications.

CYLINDRICAL SILENCER MOUNTING OPTIONS

Silencer Products

TYPE F

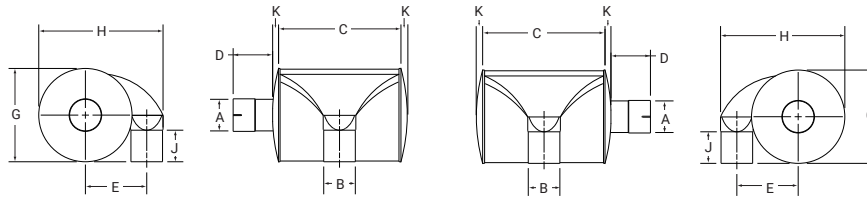


A (Body Dia.)	B	C	D	E
10	0.5	5	7	2.5
12	0.5	6	8	2.5
14	0.5	7	9	2.5
16	0.5	8	10	2.5
18	0.5	9	10.5	2.5
20	0.5	10	11.5	2.5
22	0.625	11	12.5	2.5
24	0.625	12	14.5	2.5
26	0.625	13	15.5	2.5
28	0.625	14	17	2.5
30	0.625	15	18	2.5
36	0.875	18	20.5	4
42	1.125	21	24	4
48	1.125	24	28	4
54	1.125	27	30.5	4
60	1.125	30	33	4

Standard F dimension is ¼ the overall length of the silencer or per customer specifications.

“TS” – SPIRAL PERIMETER DISCHARGE “PR”/“PL” RESIDENTIAL GRADE SILENCER TYPICAL ATTENUATION 22–28 dB(A)

Compact, spiral silencer designed to provide a modest level of attenuation for equipment operating in environments where noise levels are moderate. Applications include commercial, industrial, marine, etc.



Right Hand Flow

Left Hand Flow

	Part Number	Part Number	A (ID) (IN/MM)	B (OD) (IN/MM)	C (IN/MM)	D (IN/MM)	E (IN/MM)	G (IN/MM)	H (IN/MM)	J (IN/MM)	K (IN/MM)	WT (LB/KG)
Aluminized Steel	TS15PRa0c0	TS15PLa0c0	1.50/38	1.50/38	5.24/133	2.50/64	4.12/105	7.18/182	8.55/217	3.59/91	0.50/13	10/5
	TS20PRa0c0	TS20PLa0c0	2.00/51	2.00/51	7.24/184	3.50/89	4.37/111	7.18/182	9.05/230	3.59/91	0.50/13	14/7
	TS25PRa0c0	TS25PLa0c0	2.50/64	2.50/64	8.24/209	3.50/89	5.41/137	8.81/224	11.13/283	4.41/112	0.50/13	19/9
	TS30PRa0c0	TS30PLa0c0	3.00/76	3.00/76	9.24/235	5.25/133	7.05/179	11.81/300	14.52/369	5.91/150	0.75/19	31/14
	TS35PRa0c0	TS35PLa0c0	3.50/89	3.50/89	11.49/292	5.25/133	7.26/184	11.81/300	14.92/379	5.91/150	0.75/19	38/18
	TS40PRa0c0	TS40PLa0c0	4.00/102	4.00/102	15.49/393	5.25/133	7.76/197	11.81/300	15.73/400	5.91/150	0.75/19	46/21
	TS45PRa0c0	TS45PLa0c0	4.50/114	4.50/114	12.49/317	5.00/127	10.04/255	16.06/408	20.38/518	8.03/204	1.00/25	65/30
	TS50PRa0c0	TS50PLa0c0	5.00/127	5.00/127	16.49/419	5.00/127	10.27/261	16.06/408	20.84/529	8.03/204	1.00/25	71/33
	TS60PRa0c0	TS60PLa0c0	6.00/152	6.00/152	22.49/571	5.00/127	10.65/271	16.06/408	21.74/552	8.03/204	1.00/25	92/42
	TS70PRa0c0	TS70PLa0c0	8.00/203	8.00/203	15.35/390	6.55/166	14.58/370	22.00/559	29.72/755	11.00/279	1.45/37	100/46
	TS80PRa0c0	TS80PLa0c0	8.00/203	8.00/203	24.27/616	6.55/166	14.58/370	22.00/559	29.72/755	11.00/279	1.45/37	154/70
	TS100PRa0c0	TS100PLa0c0	10.00/254	10.00/254	30.08/764	6.25/159	18.14/461	28.00/711	37.15/944	14.00/358	1.75/44	250/114
	TS120PRa0c0	TS120PLa0c0	12.00/305	12.00/305	36.08/916	5.75/146	21.63/549	33.00/838	44.19/1122	16.50/419	2.25/57	365/166

Connections sizes are nominal. Dimensions are in inches/millimeters. Weights are in pounds/kilograms, depend on selected options, and are approximate.

STANDARD CONSTRUCTION

- Spiral chamber design allows for low back pressure as exhaust flows through a uniform cross-section to diffuse and progressively attenuate noise.
- ½ the size and ½ the weight compared to most reactive silencers.
- Aluminized steel construction.
- Coated with satin black paint rated to 1200°F

CUSTOMIZATION

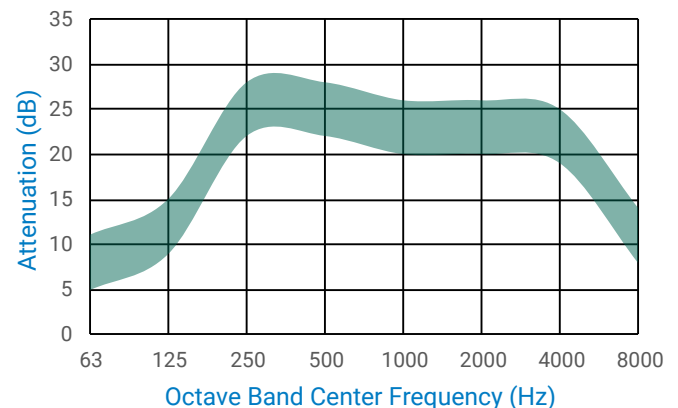
- Chart refers to standard product offering.
- Custom configurations, materials, connections, reversible flow, overall dimensions, etc.
- Contact factory with your project's design requirements and specifications.

Product Legend

a Flow
(S – Standard, R – Reversed)

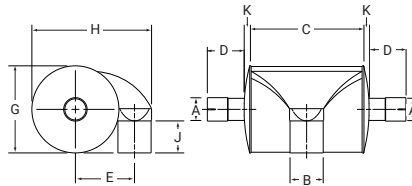
Inlet / Outlet Connections
(0 – Slip Fit Inlet/Tube Outlet, 1 – ANSI Flange Inlet & Outlet, 2 – ANSI Flange Inlet/Tube Outlet, 3 – Male NPT Inlet & Outlet, 4 – Female NPT Inlet & Outlet, 5 – Male NPT Inlet/Tube Outlet, 6 – Female NPT Inlet/Tube Outlet, 7 – Non-slotted OD Inlet/Tube Outlet, 8 – Slip Fit Inlet/Slotted ID Outlet)

Typical Attenuation Curve



“TS” – SPIRAL PERIMETER DISCHARGE “PV” RESIDENTIAL GRADE SILENCER
TYPICAL ATTENUATION 22–28 dB(A)

Compact, spiral silencer designed to provide a modest level of attenuation for equipment operating in environments where noise levels are moderate. Applications include commercial, industrial, marine, etc.



Dual Inlet											
Part Number	A (ID) (IN/MM)	B (OD) (IN/MM)	C (IN/MM)	D (IN/MM)	E (IN/MM)	G (IN/MM)	H (IN/MM)	J (IN/MM)	K (IN/MM)	WT (LB/KG)	
Aluminized Steel	TS20PV30a0c0	2.00/51	3.00/76	8.24/235	3.25/83	7.05/179	11.81/300	14.52/369	4.75/121	0.75/19	32/15
	TS25PV35a0c0	2.50/64	3.50/89	11.49/292	3.25/83	7.26/184	11.81/300	14.92/379	4.38/111	0.75/19	38/18
	TS30PV45a0c0	3.00/76	4.50/114	15.49/393	5.25/133	7.76/184	11.81/300	15.73/400	6.50/165	0.75/19	47/22
	TS35PV50a0c0	3.50/89	5.00/127	16.50/419	5.00/127	10.04/255	16.06/408	20.84/529	6.50/165	1.00/25	70/32
	TS40PV80a0c0	4.00/102	6.00/152	22.49/571	5.00/127	10.27/261	16.06/408	21.74/552	5.25/133	1.00/25	90/41
	TS45PV60a0c0	4.50/114	6.00/152	22.49/571	5.00/127	10.65/271	16.06/408	21.74/552	5.25/133	1.00/25	90/41
	TS50PV70a0c0	5.00/127	8.00/203	15.35/390	4.55/116	14.58/370	22.00/559	29.72/755	7.25/184	1.45/37	103/47
	TS50PV80a0c0	5.00/127	8.00/203	24.27/616	4.55/116	14.58/370	22.00/559	29.72/755	7.25/184	1.45/37	157/72
	TS60PV80a0c0	6.00/152	8.00/203	24.27/616	4.55/116	14.58/370	22.00/559	29.72/755	7.25/184	1.45/37	158/72
	TS80PV100a0c0	8.00/203	10.00/254	30.08/764	6.25/159	18.14/461	28.00/711	37.15/944	9.00/229	1.75/44	268/122
	TS80PV120a0c0	8.00/203	12.00/305	36.08/916	5.75/146	21.63/549	33.00/838	44.19/1122	10.38/264	2.25/57	380/173

Connections sizes are nominal. Dimensions are in inches/millimeters. Weights are in pounds/kilograms, depend on selected options, and are approximate.

STANDARD CONSTRUCTION

- Spiral chamber design allows for low back pressure as exhaust flows through a uniform cross-section to diffuse and progressively attenuate noise.
- ½ the size and ½ the weight compared to most reactive silencers.
- Aluminized steel construction.
- Coated with satin black paint rated to 1200°F

CUSTOMIZATION

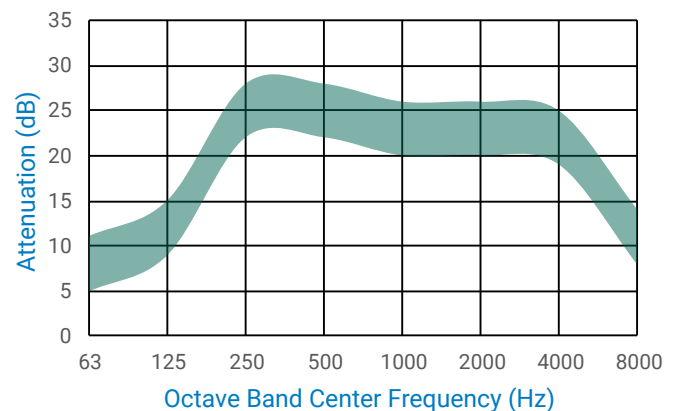
- Chart refers to standard product offering.
- Custom configurations, materials, connections, reversible flow, overall dimensions, etc.
- Contact factory with your project's design requirements and specifications.

Product Legend

a Flow
(S – Standard, R – Reversed)

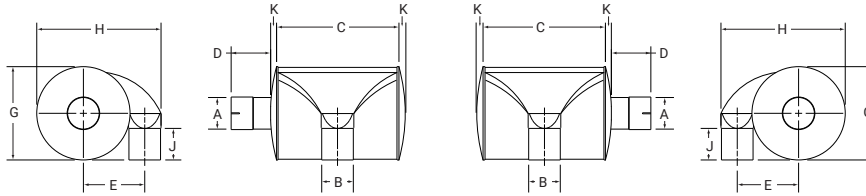
Inlet / Outlet Connections
(0 – Slip Fit Inlet/Tube Outlet, 1 – ANSI Flange Inlet & Outlet, 2 – ANSI Flange Inlet/Tube Outlet, 3 – Male NPT Inlet & Outlet, 4 – Female NPT Inlet & Outlet, 5 – Male NPT Inlet/Tube Outlet, 6 – Female NPT Inlet/Tube Outlet, 7 – Non-slotted OD Inlet/Tube Outlet, 8 – Slip Fit Inlet/Slotted ID Outlet)

Typical Attenuation Curve



“TXS” – SPIRAL PERIMETER DISCHARGE “PR”/“PL” CRITICAL GRADE SILENCER TYPICAL ATTENUATION 28–33 dB(A)

Compact, spiral silencer designed to provide a high level of attenuation for equipment operating in relatively quiet environments. Applications include commercial, industrial, marine, etc.



Right Hand Flow

Left Hand Flow

	Part Number	Part Number	A (ID) (IN/MM)	B (OD) (IN/MM)	C (IN/MM)	D (IN/MM)	E (IN/MM)	G (IN/MM)	H (IN/MM)	J (IN/MM)	K (IN/MM)	WT (LB/KG)
Aluminized Steel	TXS15PRa0c0	TXS15PLa0c0	1.50/38	1.50/38	5.24/133	2.50/64	4.85/123	8.81/224	10.03/255	4.41/112	0.50/13	12/6
	TXS20PRa0c0	TXS20PLa0c0	2.00/51	2.00/51	7.24/184	3.50/89	5.00/127	8.81/224	10.49/266	4.41/112	0.50/13	17/8
	TXS25PRa0c0	TXS25PLa0c0	2.50/64	2.50/64	8.24/209	3.25/83	6.45/164	11.81/300	13.67/347	5.91/150	0.75/19	31/14
	TXS30PRa0c0	TXS30PLa0c0	3.00/76	3.00/76	9.24/235	5.00/127	8.60/218	16.06/408	18.20/462	8.03/204	1.00/25	53/24
	TXS35PRa0c0	TXS35PLa0c0	3.50/89	3.50/89	11.49/292	5.00/127	8.82/224	16.06/408	18.61/473	8.03/204	1.00/25	61/28
	TXS40PRa0c0	TXS40PLa0c0	4.00/102	4.00/102	15.49/393	5.00/127	9.37/238	16.06/408	19.46/494	8.03/204	1.00/25	75/34
	TXS45PRa0c0	TXS45PLa0c0	4.50/114	4.50/114	12.49/317	4.55/116	11.32/288	19.38/492	23.32/592	9.69/246	1.45/37	80/37
	TXS50PRa0c0	TXS50PLa0c0	5.00/127	5.00/127	16.49/419	4.55/116	11.54/293	19.38/492	23.79/604	9.69/246	1.45/37	97/44
	TXS60PRa0c0	TXS60PLa0c0	6.00/152	6.00/152	22.49/571	4.55/116	11.98/304	19.38/492	24.73/628	9.69/246	1.45/37	124/57
	TXS70PRa0c0	TXS70PLa0c0	8.00/203	8.00/203	15.41/391	6.55/166	16.87/428	26.50/673	34.12/867	13.25/337	1.45/37	140/64
	TXS80PRa0c0	TXS80PLa0c0	8.00/203	8.00/203	24.33/618	6.55/166	16.87/428	26.50/673	34.12/867	13.25/337	1.45/37	216/98
	TXS100PRa0c0	TXS100PLa0c0	10.00/254	10.00/254	30.08/764	6.25/159	21.28/541	34.00/864	43.34/1101	17.00/432	1.75/44	350/159
	TXS120PRa0c0	TXS120PLa0c0	12.00/305	12.00/305	36.08/916	5.75/146	24.70/627	40.00/1016	50.76/1289	20.00/508	2.25/57	511/232

Connections sizes are nominal. Dimensions are in inches/millimeters. Weights are in pounds/kilograms, depend on selected options, and are approximate.

STANDARD CONSTRUCTION

- Spiral chamber design allows for low back pressure as exhaust flows through a uniform cross-section to diffuse and progressively attenuate noise.
- ½ the size and ½ the weight compared to most reactive silencers.
- Aluminized steel construction.
- Coated with satin black paint rated to 1200°F

CUSTOMIZATION

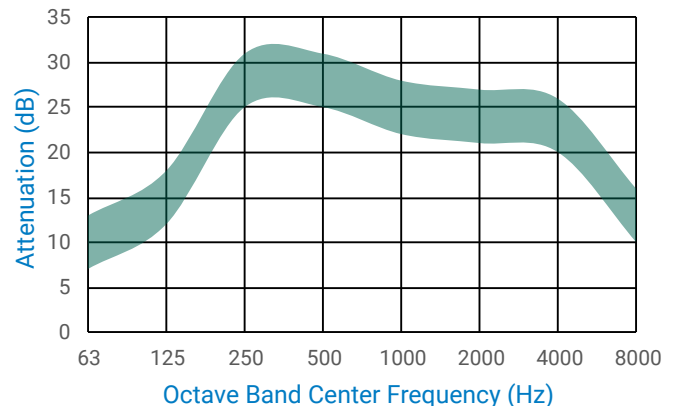
- Chart refers to standard product offering.
- Custom configurations, materials, connections, reversible flow, overall dimensions, etc.
- Contact factory with your project's design requirements and specifications.

Product Legend

a Flow
(S – Standard, R – Reversed)

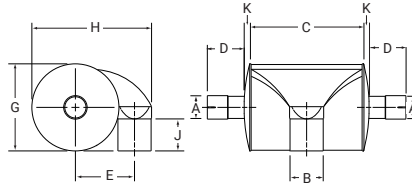
Inlet / Outlet Connections
(0 – Slip Fit Inlet/Tube Outlet, 1 – ANSI Flange Inlet & Outlet, 2 – ANSI Flange Inlet/Tube Outlet, 3 – Male NPT Inlet & Outlet, 4 – Female NPT Inlet & Outlet, 5 – Male NPT Inlet/Tube Outlet, 6 – Female NPT Inlet/Tube Outlet, 7 – Non-slotted OD Inlet/Tube Outlet, 8 – Slip Fit Inlet/Slotted ID Outlet)

Typical Attenuation Curve



“TXS” – SPIRAL PERIMETER DISCHARGE “PV” CRITICAL GRADE SILENCER TYPICAL ATTENUATION 28–33 dB(A)

Compact, spiral silencer designed to provide a high level of attenuation for equipment operating in relatively quiet environments. Applications include commercial, industrial, marine, etc.



Dual Inlet											
Aluminized Steel	Part Number	A (ID) (IN/MM)	B (OD) (IN/MM)	C (IN/MM)	D (IN/MM)	E (IN/MM)	G (IN/MM)	H (IN/MM)	J (IN/MM)	K (IN/MM)	WT (LB/KG)
	TXS20PV30a0c0	2.00/51	3.00/76	9.24/235	3.00/76	8.60/218	16.06/408	18.20/462	4.75/121	1.00/25	50/23
	TXS25PV35a0c0	2.50/64	3.50/89	11.49/292	3.50/76	8.82/224	16.06/408	18.61/473	4.38/111	1.00/25	62/29
	TXS30PV45a0c0	3.00/76	4.50/114	15.49/393	5.00/127	9.37/238	16.06/408	19.46/494	6.50/165	1.00/25	76/35
	TXS35PV50a0c0	3.50/89	5.00/127	16.50/419	4.55/116	11.32/288	19.38/492	23.79/604	6.50/165	1.45/37	97/44
	TXS40PV80a0c0	4.00/102	6.00/152	22.49/571	4.55/116	11.54/293	19.38/492	24.73/628	5.25/133	1.45/37	125/57
	TXS45PV60a0c0	4.50/114	6.00/152	22.49/571	4.55/116	11.98/304	19.38/492	24.73/628	5.25/133	1.45/37	126/58
	TXS50PV70a0c0	5.00/127	8.00/203	15.41/391	4.55/116	16.87/428	26.50/673	34.12/867	9.25/235	1.45/37	150/68
	TXS50PV80a0c0	5.00/127	8.00/203	24.33/618	4.55/116	16.87/428	26.50/673	34.12/867	9.25/235	1.45/37	230/105
	TXS60PV80a0c0	6.00/152	8.00/203	24.33/618	4.55/116	16.87/428	22.00/559	34.12/867	9.25/235	1.45/37	230/105
	TXS80PV100a0c0	8.00/203	10.00/254	30.08/764	6.25/159	21.28/541	34.00/864	43.34/1101	11.75/298	1.75/44	375/171
	TXS80PV120a0c0	8.00/203	12.00/305	36.08/916	5.75/148	24.70/627	40.00/1016	50.76/1289	13.62/346	2.25/57	532/242

Connections sizes are nominal. Dimensions are in inches/millimeters. Weights are in pounds/kilograms, depend on selected options, and are approximate.

STANDARD CONSTRUCTION

- Spiral chamber design allows for low back pressure as exhaust flows through a uniform cross-section to diffuse and progressively attenuate noise.
- ½ the size and ½ the weight compared to most reactive silencers.
- Aluminized steel construction.
- Coated with satin black paint rated to 1200°F

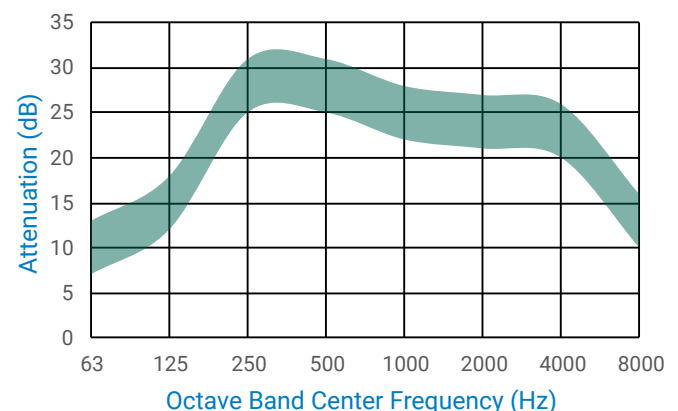
CUSTOMIZATION

- Chart refers to standard product offering.
- Custom configurations, materials, connections, reversible flow, overall dimensions, etc.
- Contact factory with your project's design requirements and specifications.

Product Legend

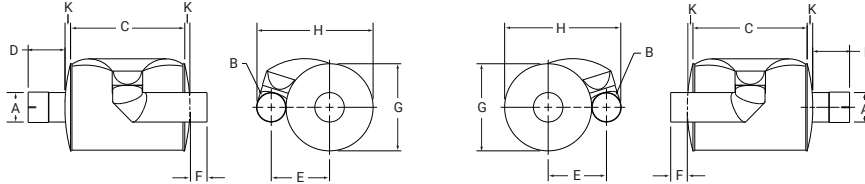
- a Flow
(S – Standard, R – Reversed)
- Inlet / Outlet Connections
(0 – Slip Fit Inlet/Tube Outlet, 1 – ANSI Flange Inlet & Outlet, 2 – ANSI Flange Inlet/Tube Outlet, 3 – Male NPT Inlet & Outlet, 4 – Female NPT Inlet & Outlet, 5 – Male NPT Inlet/Tube Outlet, 6 – Female NPT Inlet/Tube Outlet, 7 – Non-slotted OD Inlet/Tube Outlet, 8 – Slip Fit Inlet/Slotted ID Outlet)

Typical Attenuation Curve



“TS” – SPIRAL TURN DISCHARGE “TR”/“TL” RESIDENTIAL GRADE SILENCER TYPICAL ATTENUATION 22–28 dB(A)

Compact, spiral silencer designed to provide a modest level of attenuation for equipment operating in environments where noise levels are moderate. Applications include commercial, industrial, marine, etc.



Right Hand Flow Left Hand Flow

	Part Number	Part Number	A (ID) (IN/MM)	B (OD) (IN/MM)	C (IN/MM)	D (IN/MM)	E (IN/MM)	F (IN/MM)	G (IN/MM)	H (IN/MM)	K (IN/MM)	WT (LB/KG)
Aluminized Steel	TS15TRa0c0	TS15TLa0c0	1.50/38	1.50/38	5.24/133	2.50/64	4.34/110	2.07/53	7.18/182	8.68/220	0.50/13	11/5
	TS20TRa0c0	TS20TLa0c0	2.00/51	2.00/51	7.24/184	3.50/89	4.59/117	2.07/53	7.18/182	9.18/223	0.50/13	15/7
	TS25TRa0c0	TS25TLa0c0	2.50/64	2.50/64	8.24/209	3.50/89	5.66/144	2.07/53	8.81/224	11.31/287	0.50/13	20/9
	TS30TRa0c0	TS30TLa0c0	3.00/76	3.00/76	9.24/235	5.00/127	7.41/188	2.07/53	11.81/300	14.81/376	0.75/19	32/15
	TS35TRa0c0	TS35TLa0c0	3.50/89	3.50/89	11.49/292	5.00/127	7.66/195	2.26/57	11.81/300	15.31/389	0.75/19	38/18
	TS40TRa0c0	TS40TLa0c0	4.00/102	4.00/102	15.49/393	5.00/127	7.91/201	2.35/60	11.81/300	15.81/402	0.75/19	47/22
	TS45TRa0c0	TS45TLa0c0	4.50/114	4.50/114	12.49/317	4.55/116	10.28/261	2.57/65	16.06/408	20.56/522	1.00/25	66/30
	TS50TRa0c0	TS50TLa0c0	5.00/127	5.00/127	16.49/419	4.55/116	10.53/267	2.57/65	16.06/408	21.06/535	1.00/25	74/34
	TS60TRa0c0	TS60TLa0c0	6.00/152	6.00/152	22.49/571	4.55/116	11.03/280	2.57/65	16.06/408	22.06/580	1.00/25	94/43
	TS70TRa0c0	TS70TLa0c0	8.00/203	8.00/203	15.41/391	6.55/166	15.00/381	3.97/101	22.00/559	30.00/762	1.45/37	105/48
	TS80TRa0c0	TS80TLa0c0	8.00/203	8.00/203	24.33/618	6.55/166	15.00/381	3.97/101	22.00/559	30.00/762	1.45/37	162/74
	TS100TRa0c0	TS100TLa0c0	10.00/254	10.00/254	30.08/764	6.25/159	19.00/483	2.62/87	28.00/711	38.00/965	1.75/44	268/122
	TS120TRa0c0	TS120TLa0c0	12.00/305	12.00/305	36.08/916	5.75/146	22.50/572	3.71/94	33.00/838	45.00/1143	2.25/57	380/173

Connections sizes are nominal. Dimensions are in inches/millimeters. Weights are in pounds/kilograms, depend on selected options, and are approximate.

STANDARD CONSTRUCTION

- Spiral chamber design allows for low back pressure as exhaust flows through a uniform cross-section to diffuse and progressively attenuate noise.
- ½ the size and ½ the weight compared to most reactive silencers.
- Aluminized steel construction.
- Coated with satin black paint rated to 1200°F

CUSTOMIZATION

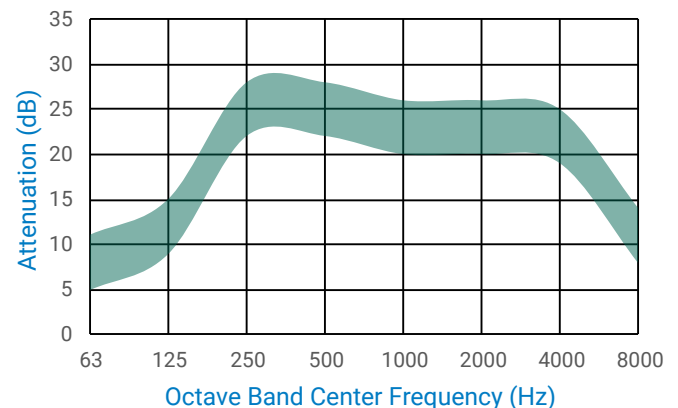
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Product Legend

a Flow
(S – Standard, R – Reversed)

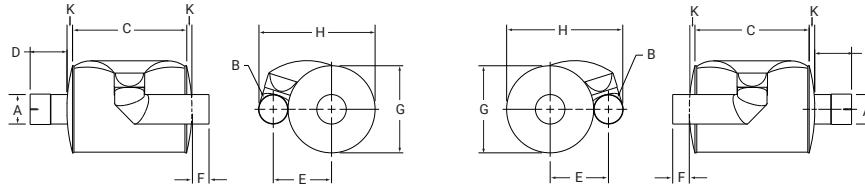
Inlet / Outlet Connections
(0 – Slip Fit Inlet/Tube Outlet, 1 – ANSI Flange Inlet & Outlet, 2 – ANSI Flange Inlet/Tube Outlet, 3 – Male NPT Inlet & Outlet, 4 – Female NPT Inlet & Outlet, 5 – Male NPT Inlet/Tube Outlet, 6 – Female NPT Inlet/Tube Outlet, 7 – Non-slotted OD Inlet/Tube Outlet, 8 – Slip Fit Inlet/Slotted ID Outlet)

Typical Attenuation Curve



“TXS” – SPIRAL TURN DISCHARGE “TR”/“TL” CRITICAL GRADE SILENCER TYPICAL ATTENUATION 28–33 dB(A)

Compact, spiral silencer designed to provide a high level of attenuation for equipment operating in relatively quiet environments. Applications include commercial, industrial, marine, etc.



Right Hand Flow		Left Hand Flow									
Part Number	Part Number	A (ID) (IN/MM)	B (OD) (IN/MM)	C (IN/MM)	D (IN/MM)	E (IN/MM)	F (IN/MM)	G (IN/MM)	H (IN/MM)	K (IN/MM)	WT (LB/KG)
TXS15TRa0c0	TXS15TLa0c0	1.50/38	1.50/38	5.24/133	2.50/64	5.19/132	2.07/53	8.81/224	10.38/264	0.50/13	14/7
TXS20TRa0c0	TXS20TLa0c0	2.00/51	2.00/51	7.24/184	3.50/89	5.41/137	2.07/53	8.81/224	10.81/275	0.50/13	19/9
TXS25TRa0c0	TXS25TLa0c0	2.50/64	2.50/64	8.24/209	3.50/89	7.16/182	1.82/46	11.81/300	14.31/363	0.75/19	32/15
TXS30TRa0c0	TXS30TLa0c0	3.00/76	3.00/76	9.24/235	5.00/127	9.53/242	2.07/53	16.06/408	19.06/484	1.00/25	52/24
TXS35TRa0c0	TXS35TLa0c0	3.50/89	3.50/89	11.49/292	5.00/127	9.78/248	2.07/53	16.06/408	19.56/497	1.00/25	63/29
TXS40TRa0c0	TXS40TLa0c0	4.00/102	4.00/102	15.49/393	5.00/127	10.03/255	2.07/53	16.06/408	20.06/510	1.00/25	77/35
TXS45TRa0c0	TXS45TLa0c0	4.50/114	4.50/114	12.49/317	4.55/116	11.94/303	1.46/37	19.38/492	23.88/607	1.45/37	81/37
TXS50TRa0c0	TXS50TLa0c0	5.00/127	5.00/127	16.49/419	4.55/116	12.19/310	2.12/54	19.38/492	24.38/619	1.45/37	98/45
TXS60TRa0c0	TXS60TLa0c0	6.00/152	6.00/152	22.49/571	4.55/116	12.69/322	2.05/52	19.38/492	25.38/645	1.45/37	137/63
TXS70TRa0c0	TXS70TLa0c0	8.00/203	8.00/203	15.41/391	6.55/166	17.25/438	3.97/101	26.50/673	34.50/876	1.45/37	147/67
TXS80TRa0c0	TXS80TLa0c0	8.00/203	8.00/203	24.33/618	6.55/166	17.25/438	3.97/101	26.50/673	34.50/876	1.45/37	227/103
TXS100TRa0c0	TXS100TLa0c0	10.00/254	10.00/254	30.08/764	6.25/159	22.00/559	2.62/87	34.00/864	44.00/1118	1.75/44	375/171
TXS120TRa0c0	TXS120TLa0c0	12.00/305	12.00/305	36.08/916	5.75/146	26.00/660	3.71/94	40.00/1016	52.00/1321	2.25/57	532/242

Connections sizes are nominal. Dimensions are in inches/millimeters. Weights are in pounds/kilograms, depend on selected options, and are approximate.

STANDARD CONSTRUCTION

- Spiral chamber design allows for low back pressure as exhaust flows through a uniform cross-section to diffuse and progressively attenuate noise.
- ½ the size and ½ the weight compared to most reactive silencers.
- Aluminized steel construction.
- Coated with satin black paint rated to 1200°F

CUSTOMIZATION

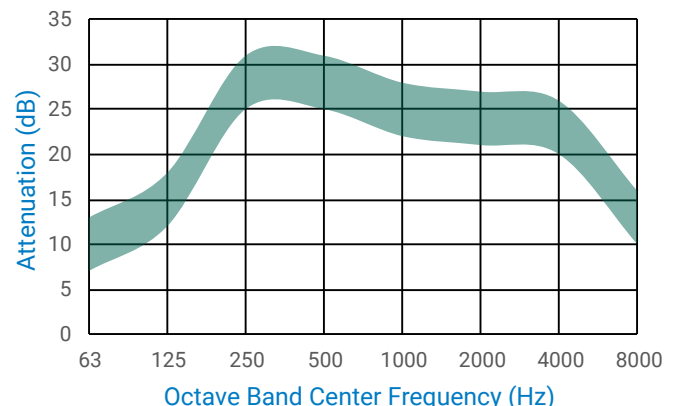
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- Custom configurations, materials, connections, reversible flow, overall dimensions, etc.
- Contact factory with your project's design requirements and specifications.

Product Legend

a Flow
(S – Standard, R – Reversed)

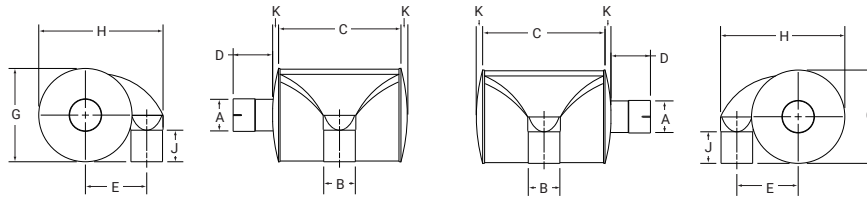
Inlet / Outlet Connections
(0 – Slip Fit Inlet/Tube Outlet, 1 – ANSI Flange Inlet & Outlet, 2 – ANSI Flange Inlet/Tube Outlet, 3 – Male NPT Inlet & Outlet, 4 – Female NPT Inlet & Outlet, 5 – Male NPT Inlet/Tube Outlet, 6 – Female NPT Inlet/Tube Outlet, 7 – Non-slotted OD Inlet/Tube Outlet, 8 – Slip Fit Inlet/Slotted ID Outlet)

Typical Attenuation Curve



“TS” – SPIRAL SLOT DISCHARGE “SR”/“SL” RESIDENTIAL GRADE SILENCER TYPICAL ATTENUATION 22–28 dB(A)

Compact, spiral silencer designed to provide a modest level of attenuation for equipment operating in environments where noise levels are moderate. Applications include commercial, industrial, marine, etc.



Right Hand Flow Left Hand Flow

	Part Number	Part Number	A (ID) (IN/MM)	C (IN/MM)	D (IN/MM)	G (IN/MM)	K (IN/MM)	WT (LB/KG)
Aluminized Steel	TS15SR0c0	TS15SL0c0	1.50/38	5.24/133	2.50/64	7.18/182	0.50/13	10/5
	TS20SR0c0	TS20SL0c0	2.00/51	7.24/184	3.50/89	7.18/182	0.50/13	14/7
	TS25SR0c0	TS25SL0c0	2.50/64	8.24/209	3.50/89	8.81/224	0.50/13	16/8
	TS30SR0c0	TS30SL0c0	3.00/76	9.24/235	5.25/133	11.81/300	0.75/19	32/15
	TS35SR0c0	TS35SL0c0	3.50/89	11.49/292	5.25/133	11.81/300	0.75/19	35/16
	TS40SR0c0	TS40SL0c0	4.00/102	15.49/393	5.25/133	11.81/300	0.75/19	46/21
	TS45SR0c0	TS45SL0c0	4.50/114	12.49/317	5.00/127	16.06/408	1.00/25	56/26
	TS50SR0c0	TS50SL0c0	5.00/127	16.49/419	5.00/127	16.06/408	1.00/25	70/32
	TS60SR0c0	TS60SL0c0	6.00/152	22.49/571	5.00/127	16.06/408	1.00/25	90/41
	TS70SR0c0	TS70SL0c0	8.00/203	15.35/390	6.55/166	22.00/559	1.45/37	100/46
	TS80SR0c0	TS80SL0c0	8.00/203	24.27/616	6.55/166	22.00/559	1.45/37	150/68
	TS100SR0c0	TS100SL0c0	10.00/254	30.08/764	6.25/159	28.00/711	1.75/44	230/105
	TS120SR0c0	TS120SL0c0	12.00/305	36.08/916	5.75/146	33.00/838	2.25/57	330/150

Connections sizes are nominal. Dimensions are in inches/millimeters. Weights are in pounds/kilograms, depend on selected options, and are approximate.

STANDARD CONSTRUCTION

- Spiral chamber design allows for low back pressure as exhaust flows through a uniform cross-section to diffuse and progressively attenuate noise.
- ½ the size and ½ the weight compared to most reactive silencers.
- Aluminized steel construction.
- Coated with satin black paint rated to 1200°F

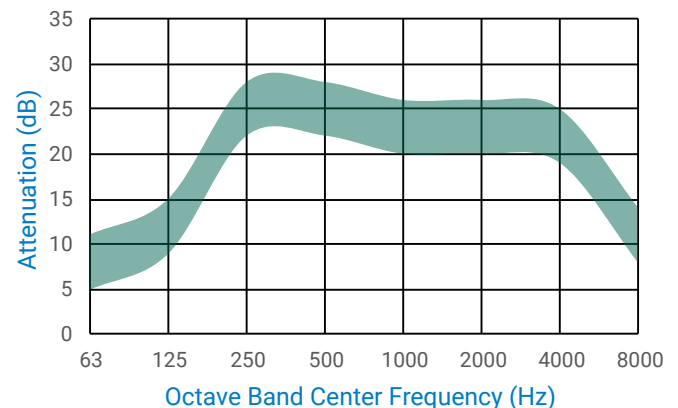
CUSTOMIZATION

- Chart refers to standard product offering.
- Custom configurations, materials, connections, reversible flow, overall dimensions, etc.
- Contact factory with your project's design requirements and specifications.

Product Legend

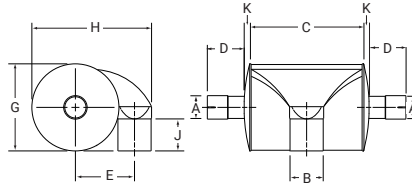
Inlet / Outlet Connections
 (0 – Slip Fit Inlet/Slot Discharge, 2 – ANSI Flange Inlet/Slot Discharge, 5 – Male NPT Inlet/Slot Discharge, 6 – Female NPT Inlet/Slot Discharge, 7 – Tube Inlet/Slot Discharge)

Typical Attenuation Curve



“TS” – SPIRAL SLOT DISCHARGE “SV” RESIDENTIAL GRADE SILENCER
TYPICAL ATTENUATION 22–28 dB(A)

Compact, spiral silencer designed to provide a modest level of attenuation for equipment operating in environments where noise levels are moderate. Applications include commercial, industrial, marine, etc.



Dual Inlet							
Part Number		A (ID) (IN/MM)	C (IN/MM)	D (IN/MM)	G (IN/MM)	K (IN/MM)	WT (LB/KG)
Aluminized Steel	TS20SV0c0	2.00/51	9.24/235	3.25/83	11.81/300	0.75/19	32/15
	TS25SV0c0	2.50/64	11.49/292	3.25/83	11.81/300	0.75/19	39/18
	TS30SV0c0	3.00/76	15.49/393	5.25/133	11.81/300	0.75/19	47/22
	TS35SV0c0	3.50/89	16.50/419	5.00/127	16.06/408	1.00/25	70/32
	TS40SV0c0	4.00/102	22.49/571	5.00/127	16.06/408	1.00/25	90/41
	TS45SV0c0	4.50/114	22.49/571	5.00/127	16.06/408	1.00/25	90/41
	TS50SV-70c0	5.00/127	15.35/390	4.55/116	22.00/559	1.45/37	103/47
	TS50SV-80c0	5.00/127	24.27/616	4.55/116	22.00/559	1.45/37	150/68
	TS60SV-80c0	6.00/152	24.27/616	4.55/116	22.00/559	1.45/37	155/71
	TS80SV-100c0	8.00/203	30.08/764	6.25/159	28.00/711	1.75/44	230/105
	TS80SV-120c0	8.00/203	36.08/916	5.75/146	33.00/838	2.25/57	330/150

Connections sizes are nominal. Dimensions are in inches/millimeters. Weights are in pounds/kilograms, depend on selected options, and are approximate.

STANDARD CONSTRUCTION

- Spiral chamber design allows for low back pressure as exhaust flows through a uniform cross-section to diffuse and progressively attenuate noise.
- ½ the size and ½ the weight compared to most reactive silencers.
- Aluminized steel construction.
- Coated with satin black paint rated to 1200°F

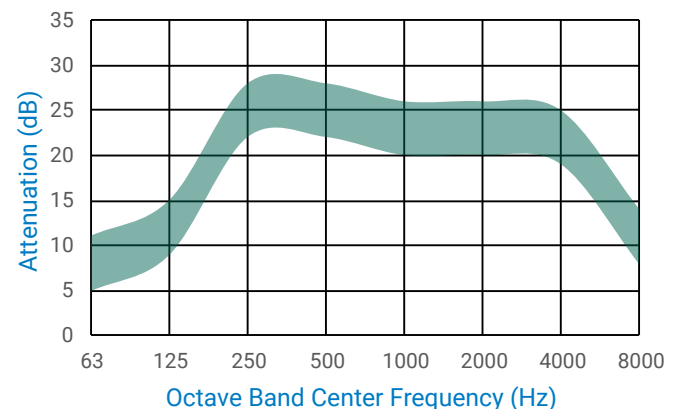
CUSTOMIZATION

- Chart refers to standard product offering.
- Custom configurations, materials, connections, reversible flow, overall dimensions, etc.
- Contact factory with your project's design requirements and specifications.

Product Legend

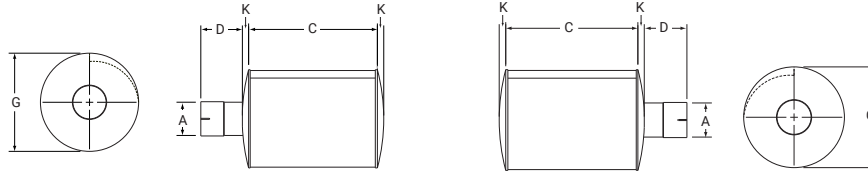
Inlet / Outlet Connections
C (0 – Slip Fit Inlet/Slot Discharge, 2 – ANSI Flange Inlet/Slot Discharge, 5 – Male NPT Inlet/Slot Discharge, 6 – Female NPT Inlet/Slot Discharge, 7 – Tube Inlet/Slot Discharge)

Typical Attenuation Curve



“TXS” – SPIRAL SLOT DISCHARGE “SR”/“SL” CRITICAL GRADE SILENCER TYPICAL ATTENUATION 28–33 dB(A)

Compact, spiral silencer designed to provide a high level of attenuation for equipment operating in relatively quiet environments. Applications include commercial, industrial, marine, etc.



Right Hand Flow Left Hand Flow

	Part Number	Part Number	A (ID) (IN/MM)	C (IN/MM)	D (IN/MM)	G (IN/MM)	K (IN/MM)	WT (LB/KG)
Aluminized Steel	TXS15SR0c0	TXS15SL0c0	1.50/38	5.24/133	2.50/64	8.81/224	0.50/13	11/5
	TXS20SR0c0	TXS20SL0c0	2.00/51	7.24/184	3.50/89	8.81/224	0.50/13	17/8
	TXS25SR0c0	TXS25SL0c0	2.50/64	8.24/209	3.25/83	11.81/300	0.75/19	28/13
	TXS30SR0c0	TXS30SL0c0	3.00/76	9.24/235	5.00/127	16.06/408	1.00/25	52/24
	TXS35SR0c0	TXS35SL0c0	3.50/89	11.49/292	5.00/127	16.06/408	1.00/25	61/28
	TXS40SR0c0	TXS40SL0c0	4.00/102	15.49/393	5.00/127	16.06/408	1.00/25	75/34
	TXS45SR0c0	TXS45SL0c0	4.50/114	12.49/317	4.55/116	19.38/492	1.45/37	71/33
	TXS50SR0c0	TXS50SL0c0	5.00/127	16.49/419	4.55/116	19.38/492	1.45/37	96/44
	TXS60SR0c0	TXS60SL0c0	6.00/152	22.49/571	4.55/116	19.38/492	1.45/37	120/55
	TXS70SR0c0	TXS70SL0c0	8.00/203	15.41/391	6.55/166	26.50/673	1.45/37	140/64
	TXS80SR0c0	TXS80SL0c0	8.00/203	24.33/618	6.55/166	26.50/673	1.45/37	220/100
	TXS100SR0c0	TXS100SL0c0	10.00/254	30.08/764	6.25/159	34.00/864	1.75/44	330/150
	TXS120SR0c0	TXS120SL0c0	12.00/305	36.08/916	5.75/146	40.00/1016	2.25/57	475/216

Connections sizes are nominal. Dimensions are in inches/millimeters. Weights are in pounds/kilograms, depend on selected options, and are approximate.

STANDARD CONSTRUCTION

- Spiral chamber design allows for low back pressure as exhaust flows through a uniform cross-section to diffuse and progressively attenuate noise.
- ½ the size and ½ the weight compared to most reactive silencers.
- Aluminized steel construction.
- Coated with satin black paint rated to 1200°F

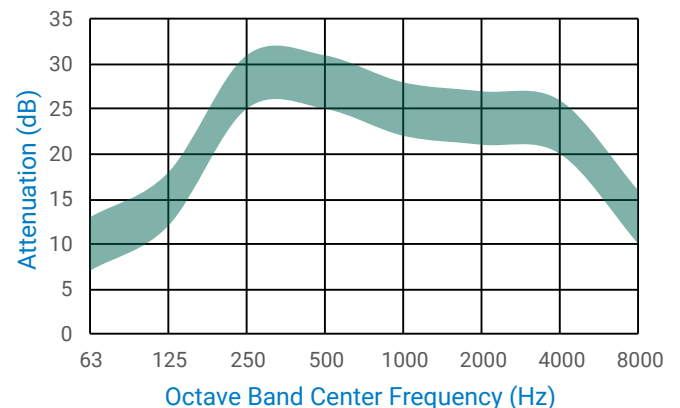
CUSTOMIZATION

- Chart refers to standard product offering.
- Custom configurations, materials, connections, reversible flow, overall dimensions, etc.
- Contact factory with your project's design requirements and specifications.

Product Legend

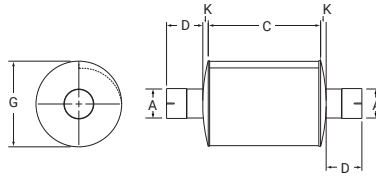
Inlet / Outlet Connections
 (0 – Slip Fit Inlet/Slot Discharge, 2 – ANSI Flange Inlet/Slot Discharge, 5 – Male NPT Inlet/Slot Discharge, 6 – Female NPT Inlet/Slot Discharge, 7 – Tube Inlet/Slot Discharge)

Typical Attenuation Curve



“TXS” – SPIRAL SLOT DISCHARGE “SV” CRITICAL GRADE SILENCER
TYPICAL ATTENUATION 28–33 dB(A)

Compact, spiral silencer designed to provide a high level of attenuation for equipment operating in relatively quiet environments. Applications include commercial, industrial, marine, etc.



Dual Inlet							
Part Number		A (ID) (IN/MM)	C (IN/MM)	D (IN/MM)	G (IN/MM)	K (IN/MM)	WT (LB/KG)
Aluminized Steel	TXS20SV0c0	2.00/51	9.24/235	3.00/76	16.06/408	1.00/25	50/23
	TXS25SV0c0	2.50/64	11.49/292	3.00/76	16.06/408	1.00/25	62/29
	TXS30SV0c0	3.00/76	15.49/393	5.00/127	16.06/408	1.00/25	76/35
	TXS35SV0c0	3.50/89	16.50/419	4.55/116	19.38/492	1.45/37	97/44
	TXS40SV0c0	4.00/102	22.49/571	4.55/116	19.38/492	1.45/37	125/57
	TXS45SV0c0	4.50/114	22.49/571	4.55/116	19.38/492	1.45/37	126/58
	TXS50SV-70c0	5.00/127	15.41/391	4.55/116	26.50/673	1.45/37	150/68
	TXS50SV-80c0	5.00/127	24.33/618	4.55/116	26.50/673	1.45/37	220/100
	TXS60SV-80c0	6.00/152	24.33/618	4.55/116	26.50/673	1.45/37	220/100
	TXS80SV-100c0	8.00/203	30.08/764	6.25/159	34.00/864	1.75/44	337/153
	TXS80SV-120c0	8.00/203	36.08/916	5.75/146	40.00/1016	2.25/57	500/227

Connections sizes are nominal. Dimensions are in inches/millimeters. Weights are in pounds/kilograms, depend on selected options, and are approximate.

STANDARD CONSTRUCTION

- Spiral chamber design allows for low back pressure as exhaust flows through a uniform cross-section to diffuse and progressively attenuate noise.
- ½ the size and ½ the weight compared to most reactive silencers.
- Aluminized steel construction.
- Coated with satin black paint rated to 1200°F

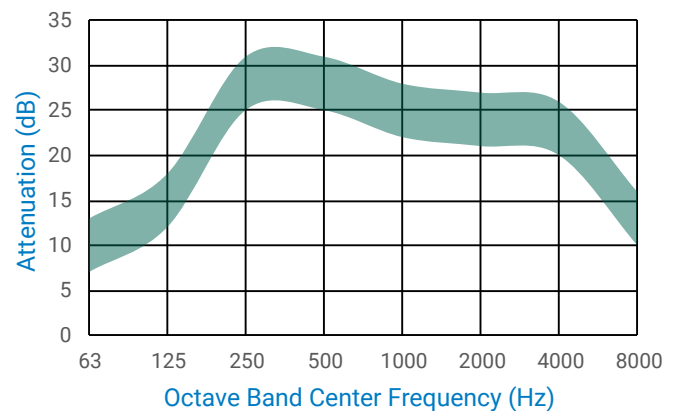
CUSTOMIZATION

- Chart refers to standard product offering.
- Custom configurations, materials, connections, reversible flow, overall dimensions, etc.
- Contact factory with your project's design requirements and specifications.

Product Legend

Inlet / Outlet Connections
 C (0 – Slip Fit Inlet/Slot Discharge, 2 – ANSI Flange Inlet/Slot Discharge, 5 – Male NPT Inlet/Slot Discharge, 6 – Female NPT Inlet/Slot Discharge, 7 – Tube Inlet/Slot Discharge)

Typical Attenuation Curve



“MS” – SPIRAL PERIMETER DISCHARGE “PR”/“PL” RESIDENTIAL GRADE SILENCER TYPICAL ATTENUATION 22–28 dB(A)

Compact, spiral silencer designed to provide a modest level of attenuation for equipment operating in environments where noise levels are moderate. Applications include commercial, industrial, marine, etc.



Right Hand Flow

Left Hand Flow

	Part Number	Part Number	A (ID) (IN/MM)	B (OD) (IN/MM)	C (IN/MM)	D (IN/MM)	E (IN/MM)	G (IN/MM)	H (IN/MM)	J (IN/MM)	K (IN/MM)	WT (LB/KG)
Aluminized Steel	MS20PRa0c0	MS20PLa0c0	2.00/51	2.00/51	7.28/185	4.00/102	4.37/111	7.25/184	9.68/246	2.50/4	5.50/140	14/6.4
	MS25PRa0c0	MS25PLa0c0	2.50/64	2.50/64	8.28/210	4.00/102	5.66/144	8.88/226	11.69/297	3.00/76	6.91/176	19/8.6
	MS30PRa0c0	MS30PLa0c0	3.00/76	3.00/76	9.28/236	6.00/152	7.41/188	11.89/302	15.35/390	4.00/102	9.12/232	31/14
	MS35PRa0c0	MS35PLa0c0	3.50/89	3.50/89	11.53/293	6.00/152	7.27/185	11.89/302	15.60/396	4.00/102	9.12/232	38/18
	MS40PRa0c0	MS40PLa0c0	4.00/102	4.00/102	15.53/394	6.00/152	7.76/197	11.89/302	16.08/408	3.75/95	9.12/232	46/21
	MS45PRa0c0	MS45PLa0c0	4.50/114	4.50/114	12.53/318	6.00/152	10.04/255	16.13/410	21.01/534	5.50/140	12.00/305	65/30
	MS50PRa0c0	MS50PLa0c0	5.00/127	5.00/127	16.53/420	6.00/152	10.27/261	16.13/410	21.83/543	5.50/140	12.00/305	71/33
	MS60PRa0c0	MS60PLa0c0	6.00/152	6.00/152	22.53/572	6.00/152	10.96/278	16.13/410	22.81/579	4.76/121	12.00/305	92/42

	Part Number	Part Number	L (IN/MM)
Aluminized Steel	MS20PRa0c0	MS20PLa0c0	0.44 x 1.12/11 x 28 SLOT
	MS25PRa0c0	MS25PLa0c0	0.44 x 1.12/11 x 28 SLOT
	MS30PRa0c0	MS30PLa0c0	0.44 x 1.12/11 x 28 SLOT
	MS35PRa0c0	MS35PLa0c0	0.44 x 1.12/11 x 28 SLOT
	MS40PRa0c0	MS40PLa0c0	0.44 x 1.12/11 x 28 SLOT
	MS45PRa0c0	MS45PLa0c0	0.44 x 1.12/11 x 28 SLOT
	MS50PRa0c0	MS50PLa0c0	0.44 x 1.12/11 x 28 SLOT
	MS60PRa0c0	MS60PLa0c0	0.44 x 1.12/11 x 28 SLOT

Product Legend

a Flow
(S – Standard, R – Reversed)

Inlet / Outlet Connections
(0 – Slip Fit Inlet/Tube Outlet, 1 – ANSI Flange Inlet & Outlet, 2 – ANSI Flange Inlet/Tube Outlet, 3 – Male NPT Inlet & Outlet, 4 – Female NPT Inlet & Outlet, 5 – Male NPT Inlet/Tube Outlet, 6 – Female NPT Inlet/Tube Outlet, 7 – Non-slotted OD Inlet/Tube Outlet, 8 – Slip Fit Inlet/Slotted ID Outlet)

Connections sizes are nominal. Dimensions are in inches/millimeters. Weights are in pounds/kilograms, depend on selected options, and are approximate.

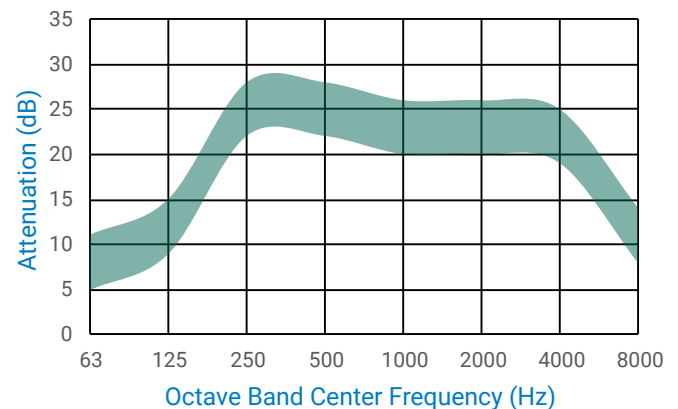
STANDARD CONSTRUCTION

- Spiral chamber design allows for low back pressure as exhaust flows through a uniform cross-section to diffuse and progressively attenuate noise.
- ½ the size and ½ the weight compared to most reactive silencers.
- Integral mounting system.
- Aluminized steel construction.
- Coated with satin black paint rated to 1200°F

CUSTOMIZATION

- Chart refers to standard product offering.
- Custom configurations, materials, connections, reversible flow, overall dimensions, etc.
- Contact factory with your project's design requirements and specifications.

Typical Attenuation Curve



“MS” – SPIRAL TURN DISCHARGE “TR”/“TL” RESIDENTIAL GRADE SILENCER
TYPICAL ATTENUATION 22–28 dB(A)

Compact, spiral silencer designed to provide a modest level of attenuation for equipment operating in environments where noise levels are moderate. Applications include commercial, industrial, marine, etc.



Right Hand Flow		Left Hand Flow											
Part Number	Part Number	A (ID) (IN/MM)	B (OD) (IN/MM)	C (IN/MM)	D (IN/MM)	E (IN/MM)	F (IN/MM)	G (IN/MM)	H (IN/MM)	K (IN/MM)	WT (LB/KG)		
MS20TRa0c0	MS20TLa0c0	2.00/51	2.00/51	7.28/185	4.00/102	4.37/111	2.00/51	7.25/184	9.68/246	5.50/140	14/6.4	Aluminized Steel	
MS25TRa0c0	MS25TLa0c0	2.50/64	2.50/64	8.28/210	4.00/102	5.66/144	2.50/64	8.88/226	11.69/297	6.91/176	19/8.6		
MS30TRa0c0	MS30TLa0c0	3.00/76	3.00/76	9.28/236	6.00/152	7.41/188	2.75/70	11.89/302	15.35/390	9.12/232	31/14		
MS35TRa0c0	MS35TLa0c0	3.50/89	3.50/89	11.53/293	6.00/152	7.66/195	3.00/76	11.89/302	15.60/396	9.12/232	38/18		
MS40TRa0c0	MS40TLa0c0	4.00/102	4.00/102	15.53/394	6.00/152	7.76/197	3.00/76	11.89/302	16.08/408	9.12/232	46/21		
MS45TRa0c0	MS45TLa0c0	4.50/114	4.50/114	12.53/318	6.00/152	10.04/255	3.50/89	16.13/410	21.01/534	12.00/305	65/30		
MS50TRa0c0	MS50TLa0c0	5.00/127	5.00/127	16.53/420	6.00/152	10.27/261	3.50/89	16.13/410	21.83/543	12.00/305	71/33		
MS60TRa0c0	MS60TLa0c0	6.00/152	6.00/152	22.53/572	6.00/152	10.96/278	3.50/89	16.13/410	22.81/579	12.00/305	92/42		

Part Number	Part Number	L (IN/MM)
MS20TRa0c0	MS20TLa0c0	0.44 x 1.12/11 x 28 SLOT
MS25TRa0c0	MS25TLa0c0	0.44 x 1.12/11 x 28 SLOT
MS30TRa0c0	MS30TLa0c0	0.44 x 1.12/11 x 28 SLOT
MS35TRa0c0	MS35TLa0c0	0.44 x 1.12/11 x 28 SLOT
MS40TRa0c0	MS40TLa0c0	0.44 x 1.12/11 x 28 SLOT
MS45TRa0c0	MS45TLa0c0	0.44 x 1.12/11 x 28 SLOT
MS50TRa0c0	MS50TLa0c0	0.44 x 1.12/11 x 28 SLOT
MS60TRa0c0	MS60TLa0c0	0.44 x 1.12/11 x 28 SLOT

Product Legend

a Flow
(S – Standard, R – Reversed)

Inlet / Outlet Connections
(0 – Slip Fit Inlet/Tube Outlet, 1 – ANSI Flange Inlet & Outlet, 2 – ANSI Flange Inlet/Tube Outlet, 3 – Male NPT Inlet & Outlet, 4 – Female NPT Inlet & Outlet, 5 – Male NPT Inlet/Tube Outlet, 6 – Female NPT Inlet/Tube Outlet, 7 – Non-slotted OD Inlet/Tube Outlet, 8 – Slip Fit Inlet/Slotted ID Outlet)

Connections sizes are nominal. Dimensions are in inches/millimeters. Weights are in pounds/kilograms, depend on selected options, and are approximate.

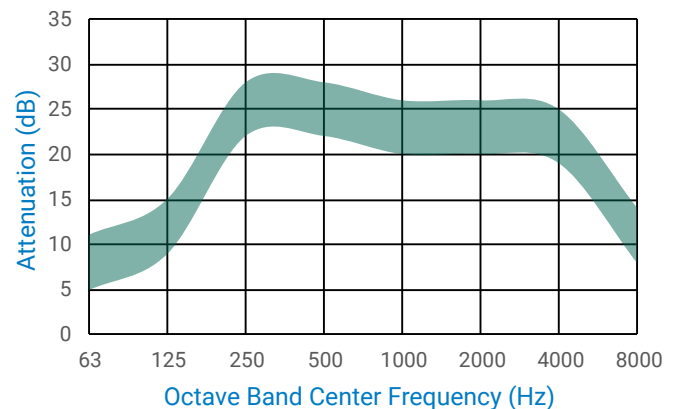
STANDARD CONSTRUCTION

- Spiral chamber design allows for low back pressure as exhaust flows through a uniform cross-section to diffuse and progressively attenuate noise.
- ½ the size and ½ the weight compared to most reactive silencers.
- Integral mounting system.
- Aluminized steel construction.
- Coated with satin black paint rated to 1200°F

CUSTOMIZATION

- Chart refers to standard product offering.
- Custom configurations, materials, connections, reversible flow, overall dimensions, etc.
- Contact factory with your project’s design requirements and specifications.

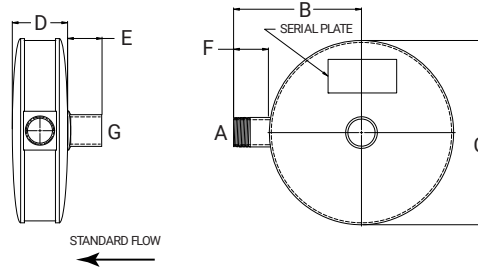
Typical Attenuation Curve



“MD” – MICRODISC SILENCER

TYPICAL ATTENUATION 12–18 dB(A)

Compact, spiral silencer designed to provide moderate attenuation for small engine projects operating in extreme dimensional constraints.



	Part Number	A (ID) (IN/MM)	B (OD) (IN/MM)	C (IN/MM)	D (IN/MM)	E (IN/MM)	F (IN/MM)	G (IN/MM)	WT (LB/KG)
Alu- minized Steel	MD125S000	1.25/32	7.44/189	11.88/302	3.56/90	1.44/37	1.5/38	1.25/32	12/5.4
	MD15S000	1.5/38	8.24/209	11.88/302	3.81/97	2.0/51	2.25/57	1.5/38	12/5.4
	MD20S000	2.0/51	8.24/209	11.88/302	4.06/103	2.28/58	2.25/57	2.0/51	14/6.4

Connections sizes are nominal. Dimensions are in inches/millimeters. Weights are in pounds/kilograms, depend on selected options, and are approximate.

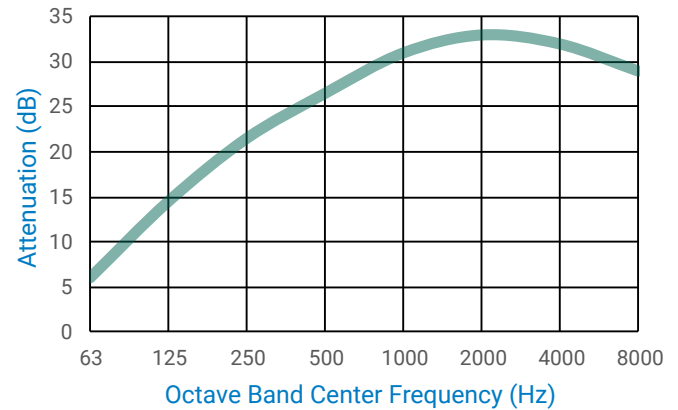
STANDARD CONSTRUCTION

- Spiral chamber design allows for low back pressure as exhaust flows through a uniform cross-section to diffuse and progressively attenuate noise.
- 1" of fiberglass insulation to absorb high frequency sound waves and reduce outer surface temperature.
- Aluminized steel construction.
- Coated with satin black paint rated to 1200°F
- Capable of direct mounting.

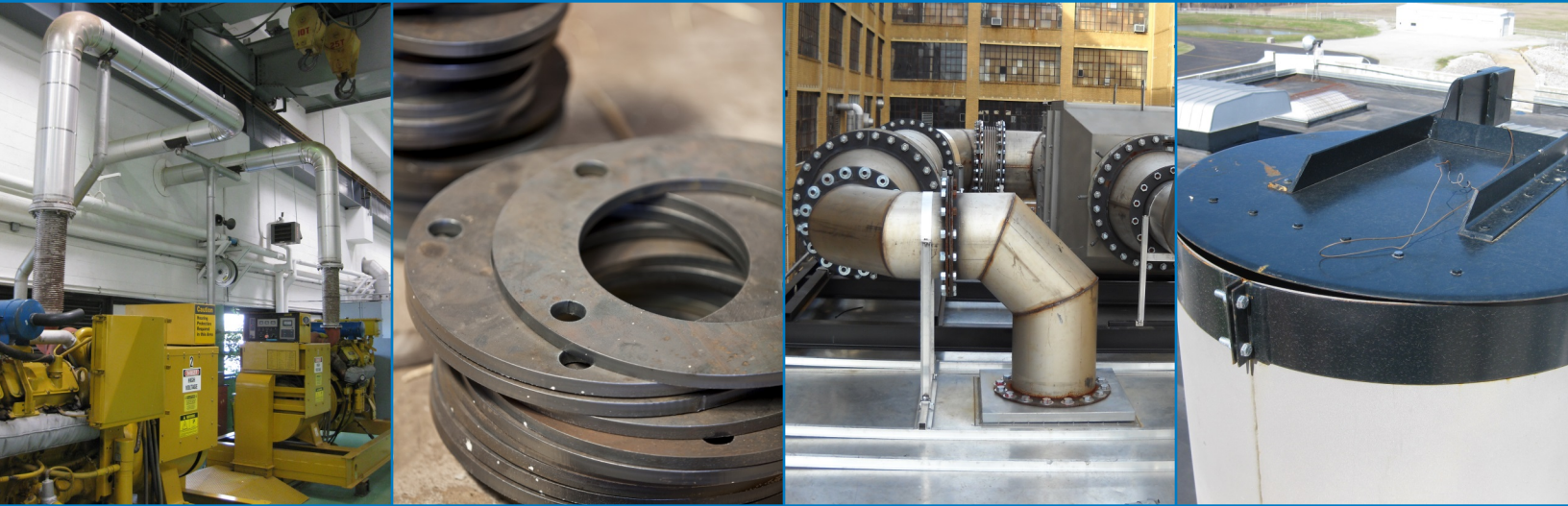
CUSTOMIZATION

- Chart refers to standard product offering.
- Custom configurations, materials, connections, reversible flow, overall dimensions, etc.
- Contact factory with your project's design requirements and specifications.

Typical Attenuation Curve



“Engineered to Perform” is a declaration of who we are, what we do, and what we stand for. We have engineered our own company to perform, so that we can do the same for our customers and their project’s requirements.

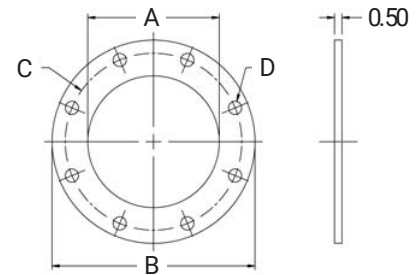


Accessories

ANSI FLANGES

TUBE & PIPE ANSI DRILLED FLANGES 125/150#

Part Number	Style	A (ID)	B (OD)	C (BC)	D (Hole Dia.)	No. of Holes	WT
TFL-02	TUBE	2.06	6.00	4.75	0.75	4	4
PFL-02	PIPE	2.44	6.00	4.75	0.75	4	4
TFL-25	TUBE	2.56	7.00	5.50	0.75	4	5
PFL-25	PIPE	2.94	7.00	5.50	0.75	4	5
TFL-03	TUBE	3.06	7.50	6.00	0.75	4	5
PFL-03	PIPE	3.56	7.50	6.00	0.75	4	5
TFL-35	TUBE	3.56	8.50	7.00	0.75	8	6
PFL-35	PIPE	4.06	8.50	7.00	0.75	8	6
TFL-04	TUBE	4.06	9.00	7.50	0.75	8	7
PFL-04	PIPE	4.56	9.00	7.50	0.75	8	6
TFL-05	TUBE	5.06	10.00	8.50	0.88	8	8
PFL-05	PIPE	5.66	10.00	8.50	0.88	8	7
TFL-06	TUBE	6.06	11.00	9.50	0.88	8	9
PFL-06	PIPE	6.72	11.00	9.50	0.88	8	8
TFL-08	TUBE	8.06	13.50	11.75	0.88	8	13
PFL-08	PIPE	8.72	13.50	11.75	0.88	8	11
TFL-10	TUBE	10.06	16.00	14.25	1.00	12	16
PFL-10	PIPE	10.88	16.00	14.25	1.00	12	15
TFL-12	TUBE	12.06	19.00	17.00	1.00	12	23
PFL-12	PIPE	12.88	19.00	17.00	1.00	12	22
PFL-14	PIPE	14.19	21.00	18.75	1.13	12	27
PFL-16	PIPE	16.19	23.50	21.25	1.13	16	31
PFL-18	PIPE	18.19	25.00	22.75	1.25	16	32
PFL-20	PIPE	20.19	27.50	25.00	1.25	20	38
PFL-22	PIPE	22.19	29.50	27.25	1.38	20	39
PFL-24	PIPE	24.19	32.00	29.50	1.38	20	51
PFL-26	PIPE	26.19	34.25	31.75	1.38	24	55
PFL-28	PIPE	28.19	36.50	34.00	1.38	28	60
PFL-30	PIPE	30.19	38.80	36.00	1.38	28	62

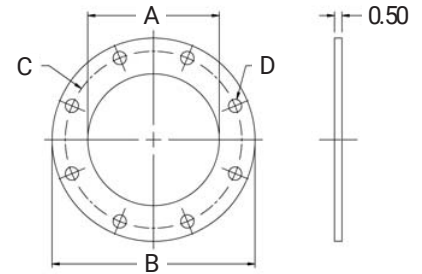


Dimensions are in inches. Weights are in pounds and are approximate. Standard material carbon steel, available in stainless steel. Custom applications available, contact factory.

ANSI REDUCING FLANGES

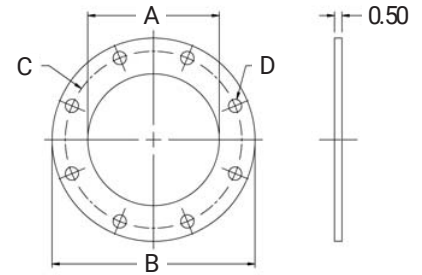
SINGLE REDUCING FLANGES

Part Number	A (ID)	B (OD)	C (BC)	D (Hole Dia.)	No. of Holes	WT
REFL-05X0400	4.06	10.00	8.50	0.88	8	9
REFL-05X0450	4.56	10.00	8.50	0.88	8	8
REFL-06X0500	5.06	11.00	9.50	0.88	8	11
REFL-06X0563	5.63	11.00	9.50	0.88	8	10
REFL-08X0600	6.06	13.50	11.75	0.88	8	16
REFL-08X0663	6.75	13.50	11.75	0.88	8	15
REFL-10X0800	8.06	16.00	14.25	1.00	12	20
REFL-10X0863	8.75	16.00	14.25	1.00	12	19
REFL-12X1000	10.06	19.00	17.00	1.00	12	29
REFL-12X1075	10.88	19.00	17.00	1.00	12	28
REFL-14X1200	12.06	21.00	18.75	1.13	12	32
REFL-14X1275	12.88	21.00	18.75	1.13	12	31
REFL-16X1400	14.13	23.50	21.25	1.13	16	37
REFL-18X1600	16.13	25.00	22.75	1.25	16	38



DOUBLE REDUCING FLANGES

Part Number	A (ID)	B (OD)	C (BC)	D (Hole Dia.)	No. of Holes	WT
DREFL-04X0300	3.06	9.00	7.50	0.75	8	8
DREFL-04X0350	3.56	9.00	7.50	0.75	8	7
DREFL-06X0400	4.06	11.00	9.50	0.88	8	12
DREFL-06X0450	4.56	11.00	9.50	0.88	8	11
DREFL-08X0500	5.06	13.50	11.75	0.88	8	17
DREFL-08X0556	5.63	13.50	11.75	0.88	8	16
DREFL-10X0600	6.06	16.00	14.25	1.00	12	27
DREFL-10X0663	6.75	16.00	14.25	1.00	12	26
DREFL-12X0800	8.06	19.00	17.00	1.00	12	32
DREFL-12X0875	8.75	19.00	17.00	1.00	12	30
DREFL-14X1000	10.06	21.00	18.75	1.13	12	36
DREFL-14X1075	10.88	21.00	18.75	1.13	12	34
DREFL-16X1200	12.06	23.50	21.25	1.13	16	41
DREFL-16X1275	12.88	23.50	21.25	1.13	16	39



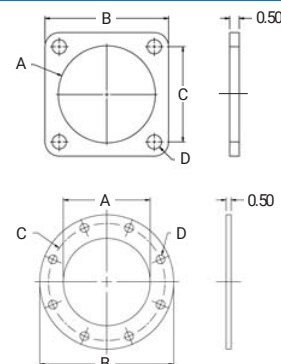
Dimensions are in inches. Weights are in pounds and are approximate. Standard material carbon steel, available in stainless steel. Custom applications available, contact factory.

ENGINE FLANGES

CATERPILLAR FLANGES

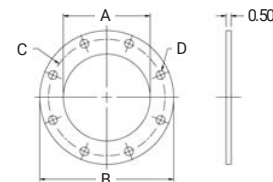
Part Number	A (ID)	B (OD)	C (BC)	D (Hole Dia.)	No. of Holes	WT
CAFL-04*	4.10	5.5 X 5.5	4.13	0.56	4	3
CAFL-05*	5.10	6.5 X 6.5	5.0	0.75	4	3
CAFL-06*	6.10	7.75 X 7.75	6.0	0.75	4	5
CAFL-08	8.10	11.00	9.88	0.56	8	6
CAFL-10	10.13	13.50	12.44	0.50	12	9
CAFL-12	12.10	16.00	14.80	0.56	12	7
CAFL-14	14.10	18.00	17.00	0.56	12	15
CAFL-16	16.10	23.50	21.25	0.84	16	31
CAFL-18	18.10	21.85	20.88	0.63	16	19

* Square CAT Flange



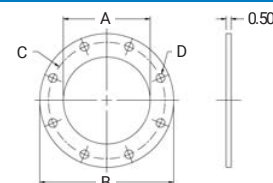
CUMMINS FLANGES

Part Number	A (ID)	B (OD)	C (BC)	D (Hole Dia.)	No. of Holes	WT
CUFL-05	5.13	8.00	7.19	0.56	8	3
CUFL-06	6.13	8.00	7.19	0.56	8	3



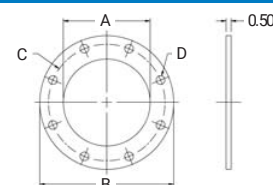
MITSUBISHI FLANGES

Part Number	A (ID)	B (OD)	C (BC)	D (Hole Dia.)	No. of Holes	WT
MIT-08	8.06	12.50	11.02	0.88	8	10
MIT-10	10.06	15.16	13.58	0.88	12	13
MIT-12	12.06	16.93	15.35	0.88	12	15



DETROIT DIESEL FLANGES

Part Number	A (ID)	B (OD)	C (BC)	D (Hole Dia.)	No. of Holes	WT
DFL-08	8.13	11.00	9.88	0.50	8	6
DFL-10	10.06	13.00	11.88	0.56	8	8
150138	6.06	9.50	8.19	0.43	6	6
150147	10.88	14.40	13.19	0.71	12	10

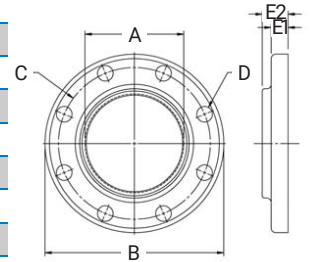


Dimensions are in inches. Weights are in pounds and are approximate. Standard material carbon steel, available in stainless steel. Custom applications available, contact factory.

THREADED RAISED, FLARED, & MACHINED TURBO FLANGES

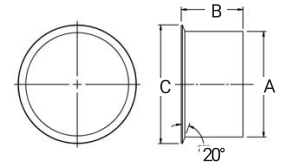
THREADED RAISED FLANGES

Part Number	A (ID)	B (OD)	C (BC)	D (Hole Dia.)	E1	E2	No. of Holes	WT
FLT-02	2.00	6.00	4.75	0.75	0.62	1.00	4	4
FLT-25	2.50	7.00	5.50	0.75	0.69	1.12	4	6
FLT-03	3.00	7.50	6.00	0.75	0.75	1.19	4	8
FLT-04	4.00	9.00	7.50	0.75	0.94	1.31	8	12
FLT-05	5.00	10.00	8.50	0.88	0.94	1.44	8	14
FLT-06	6.00	11.00	9.50	0.88	1.00	1.56	8	16
FLT-08	8.00	13.50	11.75	0.88	1.12	1.75	8	28
FLT-10	10.00	16.00	14.25	1.00	1.19	1.94	12	38



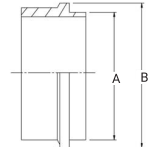
20° FLARED FLANGES

Part Number	A (ID)	B	C (Flare)
FL-03	3.00	1.50	3.63
FL-35	3.50	1.50	4.25
FL-04	4.00	1.50	4.63
FL-05	5.00	3.00	5.75
FL-06	6.00	3.00	6.75



MACHINED TURBO FLANGES

Part Number	A	B
MT-05	4.50	5.00
MT-06	5.30	6.20



Dimensions are in inches. Weights are in pounds and are approximate. Standard material carbon steel, available in stainless steel. Custom applications available, contact factory.

FLANGE GASKETS

ANSI FLANGE GASKETS

	Full Faced Gasket	Ring Gasket
Size	Part Number	Part Number
2.00	FFG-02	G-02
2.50	FFG-25	G-25
3.00	FFG-03	G-03
3.50	FFG-35	G-35
4.00	FFG-04	G-04
5.00	FFG-05	G-05
6.00	FFG-06	G-06
8.00	FFG-08	G-08
10.00	FFG-10	G-10
12.00	FFG-12	G-12
14.00	FFG-14	G-14
16.00	FFG-16	G-16
18.00	FFG-18	G-18
20.00	FFG-20	G-20
22.00	FFG-22	G-22
24.00	FFG-24	G-24
26.00	FFG-26	G-26
28.00	FFG-28	G-28
30.00	FFG-30	G-30
34.00	FFG-34	G-34
36.00	FFG-36	G-36

CATERPILLAR GASKETS

	Full Faced Gasket
Size	Part Number
4.00	CATG-04*
5.00	CATG-05*
6.00	CATG-06*
8.00	CATG-08
10.00	CATG-10
12.00	CATG-12
14.00	CATG-14
16.00	CATG-16
18.00	CATG-18

* Square CAT Flange

CUMMINS GASKETS

	Full Faced Gasket
Size	Part Number
5.00	CUMG-05
6.00	CUMG-06

DETROIT DIESEL GASKETS

	Full Faced Gasket
Size	Part Number
6.00	DDG-06
8.00	DDG-08
10.00	DDG-10

Gaskets rated up to 1800°F for continuous use. Consult factory for higher temperature requirement.
 Dimensions are in inches. Standard material carbon steel, available in stainless steel. Custom applications available, contact factory.

BOLTS, NUTS, GASKETS KITS

ANSI GASKETS BNG

	Full Faced Gasket BNG	Ring Gasket BNG
Size	Part Number	Part Number
2.00	BNFFG-02	BNG-02
2.50	BNFFG-25	BNG-25
3.00	BNFFG-03	BNG-03
3.50	BNFFG-35	BNG-35
4.00	BNFFG-04	BNG-04
5.00	BNFFG-05	BNG-05
6.00	BNFFG-06	BNG-06
8.00	BNFFG-08	BNG-08
10.00	BNFFG-10	BNG-10
12.00	BNFFG-12	BNG-12
14.00	BNFFG-14	BNG-14
16.00	BNFFG-16	BNG-16
18.00	BNFFG-18	BNG-18
20.00	BNFFG-20	BNG-20
22.00	BNFFG-22	BNG-22
24.00	BNFFG-24	BNG-24
26.00	BNFFG-26	BNG-26
28.00	BNFFG-28	BNG-28
30.00	BNFFG-30	BNG-30
34.00	BNFFG-34	BNG-34
36.00	BNFFG-36	BNG-36

CATERPILLAR GASKETS BNG

	Full Faced Gasket BNG
Size	Part Number
4.00	BNGCT-04*
5.00	BNGCT-05*
6.00	BNGCT-06*
8.00	BNGCT-08
10.00	BNGCT-10
12.00	BNGCT-12
14.00	BNGCT-14
16.00	BNGCT-16
18.00	BNGCT-18

* Square CAT Flange

CUMMINS GASKETS BNG

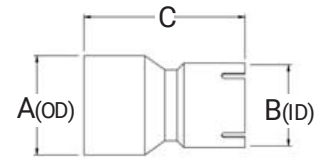
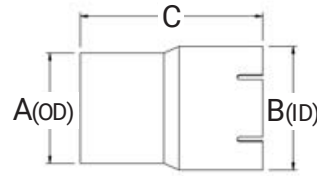
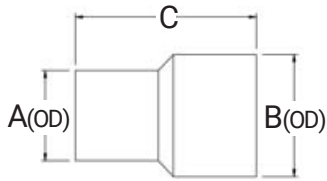
	Full Faced Gasket BNG
Size	Part Number
5.00	BNGCM-05
6.00	BNGCM-06

DETROIT DIESEL GASKETS BNG

	Full Faced Gasket BNG
Size	Part Number
6.00	BNGDD-06
8.00	BNGDD-08
10.00	BNGDD-10

Gaskets rated up to 1800°F for continuous use. Consult factory for higher temperature requirement. Dimensions are in inches. Custom applications available, contact factory.

TUBE CONNECTORS & SLOTTED CUFFS



TUBE CONNECTORS – STYLE 1

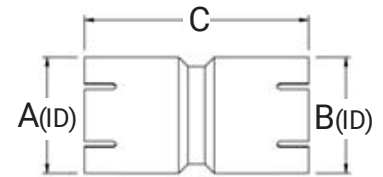
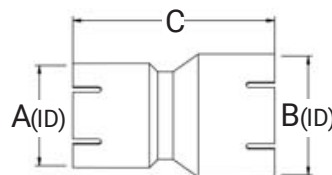
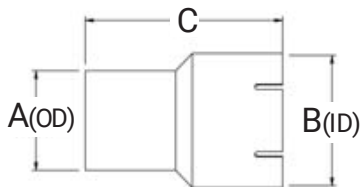
Part Number	A (OD)	B (OD)	C
TC-200-225-1	2.00	2.25	6.00
TC-200-250-1	2.00	2.50	6.00
TC-250-300-1	2.50	3.00	6.00
TC-300-350-1	3.00	3.50	6.00
TC-300-400-1	3.00	4.00	6.50
TC-350-400-1	3.50	4.00	6.00
TC-350-450-1	3.50	4.50	7.00
TC-350-500-1	3.50	5.00	8.00
TC-400-450-1	4.00	4.50	6.50
TC-400-500-1	4.00	5.00	8.00
TC-500-550-1	5.00	5.50	6.50
TC-500-600-1	5.00	6.00	8.00

SLOTTED CUFF – STYLE 1

Part Number	A (OD)	B (ID)	C
SC-200-200-1	2.00	2.00	4.50
SC-250-250-1	2.50	2.50	4.50
SC-300-300-1	3.00	3.00	5.00
SC-350-350-1	3.50	3.50	5.50
SC-400-400-1	4.00	4.00	6.00
SC-500-500-1	5.00	5.00	6.00
SC-550-550-1	5.50	5.50	6.00
SC-600-600-1	6.00	6.00	6.00
SC-800-800-1	8.00	8.00	8.00
SC-1000-1000-1	10.00	10.00	8.00
SC-1200-1200-1	12.00	12.00	10.00

SLOTTED CUFF – STYLE 2

Part Number	A (OD)	B (ID)	C
SC-225-200-2	2.25	2.00	6.00
SC-250-200-2	2.50	2.00	6.00
SC-300-250-2	3.00	2.50	6.00
SC-350-300-2	3.50	3.00	6.00
SC-400-300-2	4.00	3.00	6.50
SC-400-350-2	4.00	3.50	6.00
SC-450-350-2	4.50	3.50	7.00
SC-500-350-2	5.00	3.50	8.00
SC-450-400-2	4.50	4.00	6.50
SC-500-400-2	5.00	4.00	8.00
SC-500-450-2	5.00	4.50	8.00
SC-550-500-2	5.50	5.00	6.50
SC-600-500-2	6.00	5.00	8.00



SLOTTED CUFF – STYLE 3

Part Number	A (OD)	B (ID)	C
SC-200-225-3	2.00	2.25	6.00
SC-200-250-3	2.00	2.50	6.00
SC-250-300-3	2.50	3.00	6.00
SC-300-350-3	3.00	3.50	6.00
SC-300-400-3	3.00	4.00	6.50
SC-350-400-3	3.50	4.00	6.00
SC-350-450-3	3.50	4.50	7.00
SC-350-500-3	3.50	5.00	8.00
SC-400-450-3	4.00	4.50	6.50
SC-400-500-3	4.00	5.00	8.00
SC-450-500-3	4.50	5.00	8.00
SC-500-550-3	5.00	5.50	6.50
SC-500-600-3	5.00	6.00	8.00

SLOTTED CUFF – STYLE 4

Part Number	A (ID)	B (ID)	C
SC-200-225-4	2.00	2.25	6.00
SC-200-250-4	2.00	2.50	6.00
SC-250-300-4	2.50	3.00	6.00
SC-300-350-4	3.00	3.50	6.00
SC-300-400-4	3.00	4.00	6.50
SC-350-400-4	3.50	4.00	6.00
SC-350-450-4	3.50	4.50	7.00
SC-350-500-4	3.50	5.00	8.00
SC-400-450-4	4.00	4.50	6.50
SC-400-500-4	4.00	5.00	8.00
SC-500-550-4	5.00	5.50	6.50
SC-500-600-4	5.00	6.00	8.00

SLOTTED CUFF – STYLE 5

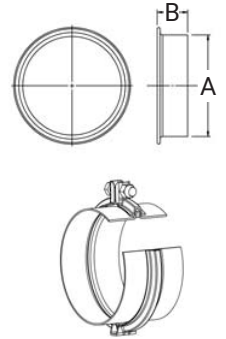
Part Number	A (ID)	B (ID)	C
SC-200-200-5	2.00	2.00	4.50
SC-250-250-5	2.50	2.50	4.50
SC-300-300-5	3.00	3.00	5.00
SC-350-350-5	3.50	3.50	5.50
SC-400-400-5	4.00	4.00	6.50
SC-450-450-5	4.50	4.50	6.50
SC-500-500-5	5.00	5.00	6.50
SC-550-550-5	5.50	5.50	6.50
SC-600-600-5	6.00	6.00	6.50
SC-800-800-5	8.00	8.00	8.50
SC-1000-1000-5	10.00	10.00	8.50
SC-1200-1200-5	12.00	12.00	8.50

Dimensions are in inches. Standard material carbon steel, available in aluminized and stainless steel. Contact factory for custom applications.

STACK BREAKERS & CLAMPS

STACK BREAKERS

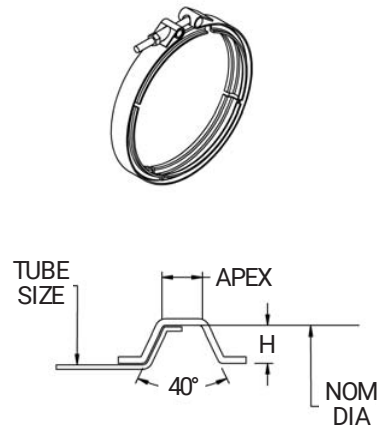
Stack Breaker				Clamp	
Part Number	A (OD)	B	WT	Part Number	WT
SB-200	2.00	2.50	0.23	VC-200	0.17
SB-250	2.50	2.50	0.29	VC-250	0.20
SB-300	3.00	2.50	0.34	VC-300	0.22
SB-350	3.50	2.50	0.40	VC-350	0.25
SB-400	4.00	2.50	0.45	VC-400	0.28
SB-450	4.50	1.50	0.51	VC-450	0.31
SB-500	5.00	1.50	0.56	VC-500	0.33
SB-600	6 (ID)	1.50	0.66	VC-600	0.39



Leak tight, no gasket required. Dimensions are in inches. Weight is in pounds and is approximate. Standard material aluminized steel, available in stainless steel. Contact factory for custom applications.

V-BAND MANIFOLD CLAMPS

Part Number	Tube Size	Apex	Nom Dia	H
VBC-220	2.20	0.207	2.88	0.27
VBC-300	3.00	0.425	3.87	0.31
VBC-301	3.00	0.207	3.82	0.28
VBC-302	3.00	0.400	3.88	0.28
VBC-303	3.00	0.400	3.88	0.28
VBC-338	3.38	0.239	4.06	0.29
VBC-350	3.50	0.207	4.50	0.28
VBC-351	3.50	0.400	4.19	0.28
VBC-352	3.50	0.400	4.25	0.28
VBC-353	3.50	0.262	4.12	0.14
VBC-400	4.00	0.406	4.75	0.28
VBC-401	4.00	0.207	4.81	0.28
VBC-402	4.00	0.181	4.94	0.28
VBC-403	4.00	0.156	4.61	0.10
VBC-404	4.00	0.158	4.75	0.31
VBC-450	4.50	0.262	5.25	0.14
VBC-500	5.00	0.400	5.88	0.28
VBC-501	5.00	0.262	5.65	0.14
VBC-502	5.00	0.280	5.92	0.30
VBC-503	5.00	0.262	5.30	0.14
VBC-600	6.00	0.400	6.88	0.30

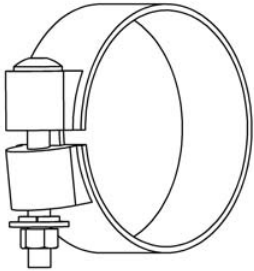


Dimensions are in inches. Standard material stainless steel.

STACK BREAKERS & CLAMPS

FULL CIRCLE CLAMPS

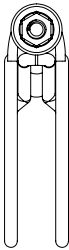
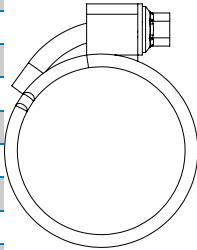
Part Number	Size
FCC-313	3.13
FCC-363	3.63
FCC-413	4.13
FCC-513	5.13
FCC-550	5.50
FCC-600	6.00
FCC-613	6.13
FCC-800	8.00
FCC-813	8.13



Dimensions are in inches. Standard material carbon steel, zinc plated.
Recommended for use over slotted connectors.

SURE-SEAL CLAMPS

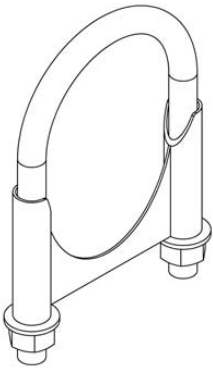
Part Number	Size
SSC175Z	1.75
SSC200Z	2.00
SSC225Z	2.25
SSC250Z	2.50
SSC275Z	2.75
SSC300Z	3.00
SSC325Z	3.25
SSC350Z	3.50
SSC400Z	4.00
SSC450Z	4.50
SSC500Z	5.00
SSC550Z	5.50
SSC600Z	6.00
SSC662Z	6.62
SSC800Z	8.00



Dimensions are in inches. Standard material plain steel finish. Custom applications available, contact factory.

HEAVY DUTY ROUND U-BOLTS

Part Number	Size	Bolt Size
UBC-150	1.50	0.31
UBC-163	1.63	0.31
UBC-175	1.75	0.31
UBC-200	2.00	0.31
UBC-225	2.25	0.31
UBC-250	2.50	0.31
UBC-300	3.00	0.38
UBC-350	3.50	0.38
UBC-400	4.00	0.38
UBC-450	4.50	0.38
UBC-500	5.00	0.38
UBC-550	5.50	0.38
UBC-600	6.00	0.38

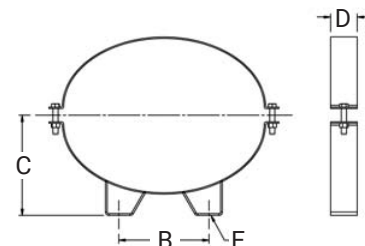


Dimensions are in inches. Standard material carbon steel. Custom applications available, contact factory.

MOUNTING BANDS

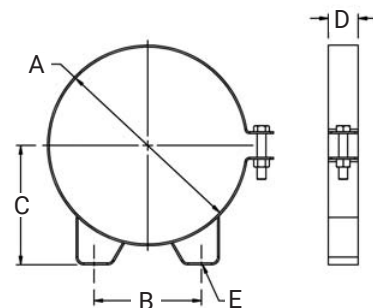
OVAL BANDS

Part Number	Size	B	C	D	E (Hole Dia.)	WT
OMB-10x15	10x15	6.75	7.50	2.00	0.50	4
OMB-12x18	12x18	6.75	8.50	2.00	0.50	4
OMB-14x21	14x21	6.75	9.50	2.00	0.50	5
OMB-16x24	16x24	6.75	10.75	2.00	0.50	6



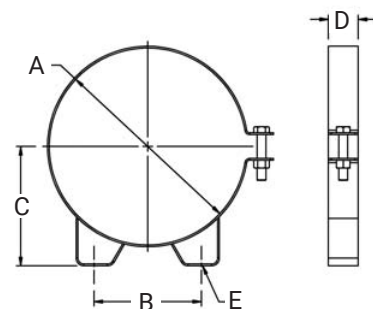
ROUND BANDS – 1 PIECE

Part Number	Size	B	C	D	E (Hole Dia.)	WT
RMB-45	4.38	3.25	2.06	0.75	0.31	1
RMB-06	6.38	3.25	3.56	0.75	0.31	1
RMB-07	7.00	4.50	4.13	0.75	0.31	1
RMB-85	8.25	4.50	5.00	1.25	0.44	1
RMB-105	10.19	5.00	6.00	1.25	0.44	1
RMB-12	12.19	5.00	6.88	1.25	0.44	2
RMB-14	14.19	7.00	8.00	1.25	0.44	3



ROUND BANDS – 2 PIECE

Part Number	Size	B	C	D	E (Hole Dia.)	WT
RMB2-16	16.19	8.00	9.00	2.00	0.50	5
RMB2-18	18.25	9.00	11.13	2.00	0.50	6
RMB2-20	20.25	10.00	12.06	2.50	0.50	9
RMB2-22	22.25	11.00	13.63	2.50	0.63	9
RMB2-24	24.50	12.00	14.56	2.50	0.63	10
RMB2-26	26.25	13.00	15.44	3.00	0.63	13
RMB2-28	28.25	14.00	16.31	3.00	0.63	14
RMB2-30	30.31	15.00	17.25	4.00	0.63	20
RMB2-36	36.31	18.00	20.13	4.00	0.63	22
RMB2-42	42.38	23.00	22.50	4.00	0.88	35
RMB2-48	48.50	24.00	26.50	4.00	0.88	46



Dimensions are in inches. Weight is in pounds and is approximate. Standard material carbon steel painted high temp black, available in stainless steel. Custom applications available, contact factory.

STRAIGHT PIPES & TUBES

STRAIGHT PIPES & TUBES

Carbon Steel		304 Stainless Steel			
Part Number	Part Number	Size (OD)	Schedule/ Gauge	Wall Thickness	Tube/Pipe WT per FT
TUBE-150	TUBE-150-304	1.50	16GA	0.065	0.9
TUBE-200	TUBE-200-304	2.00	16GA	0.065	1.3
TUBE-225	TUBE-225-304	2.25	16GA	0.065	1.5
TUBE-250	TUBE-250-304	2.50	16GA	0.065	1.7
TUBE-275	TUBE-275-304	2.75	16GA	0.065	1.9
TUBE-300	TUBE-300-304	3.00	16GA	0.065	2.0
TUBE-350	TUBE-350-304	3.50	16GA	0.065	2.4
TUBE-400	TUBE-400-304	4.00	16GA	0.065	2.7
TUBE-450	TUBE-450-304	4.50	16GA	0.065	3.1
TUBE-500	TUBE-500-304	5.00	16GA	0.065	3.4
TUBE-550	TUBE-550-304	5.50	16GA	0.065	3.8
TUBE-600	TUBE-600-304	6.00	14GA	0.083	4.7
PIPE-663	PIPE-663-304	6.63	SCH10	0.134	10.2
TUBE-700	TUBE-700-304	7.00	14GA	0.083	5.5
TUBE-800	TUBE-800-304	8.00	14GA	0.083	6.3
PIPE-863	PIPE-863-304	8.63	SCH10	0.148	13.3
TUBE-1000	TUBE-1000-304	10.00	14GA	0.083	14.9
PIPE-1075	PIPE-1075-304	10.75	SCH10	0.165	16.5
TUBE-1200	TUBE-1200-304	12.00	10GA	0.134	17.0
PIPE-1275	PIPE-1275-304	12.75	SCH10	0.180	19.8
PIPE-1400	PIPE-1400-304	14.00	SCH10	0.250	38.5
PIPE-1600	PIPE-1600-304	16.00	SCH10	0.250	43.0
PIPE-1800	PIPE-1800-304	18.00	SCH10	0.250	47.1
PIPE-2000	PIPE-2000-304	20.00	SCH10	0.250	52.5
PIPE-2200	PIPE-2200-304	22.00	SCH10	0.250	57.8

Dimensions are in inches. Weight is in pounds and is approximate. Custom materials, sizes and thicknesses available, contact factory.

CORRUGATED FLEX HOSE

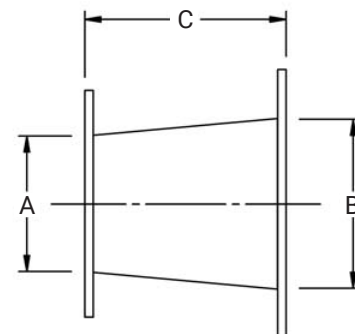
CORRUGATED FLEX HOSE			
Part Number	ID	OD	WT per FT
FLEX-150	1.50	2.19	0.8
FLEX-200	2.00	2.75	1.0
FLEX-250	2.50	3.17	1.2
FLEX-300	3.00	3.75	1.2
FLEX-350	3.50	4.38	1.4
FLEX-400	4.00	4.82	1.7
FLEX-500	5.00	5.87	2.5
FLEX-600	6.00	6.94	3.5
FLEX-800	8.00	9.00	5.6
FLEX-1000	10.00	11.00	6.8
FLEX-1200	12.00	13.00	9.0

Dimensions are in inches. Weight is in pounds and is approximate. Standard material 321 stainless steel, larger sizes available, contact factory.

CONES & EXTENSIONS

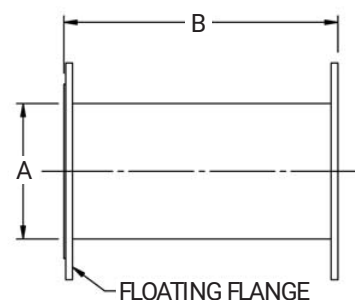
CONES

Part Number	A (OD)	B (OD)	C (Length)	WT
CNFF-0406	4.00	6.00	12.00	20
CNFF-0408	4.00	8.00	12.00	24
CNFF-0608	6.00	8.00	12.00	27
CNFF-0610	6.00	10.00	12.00	31
CNFF-0810	8.00	10.00	12.00	35
CNFF-0812	8.00	12.00	12.00	43
CNFF-1012	10.00	12.00	14.00	48
CNFF-1014	10.00	14.00	14.00	52
CNFF-1214	12.00	14.00	14.00	59
CNFF-1216	12.00	16.00	14.00	65
CNFF-1416	14.00	16.00	16.00	70
CNFF-1418	14.00	16.00	16.00	71
CNFF-1618	16.00	18.00	16.00	77
CNFF-1620	16.00	20.00	16.00	84
CNFF-1820	18.00	20.00	18.00	87
CNFF-1822	18.00	22.00	18.00	91
CNFF-2022	20.00	22.00	18.00	97
CNFF-2024	20.00	24.00	18.00	105



EXTENSIONS

Part Number	A (OD)	B (Length)	WT
EXT-04	4.00	12.00	16
EXT-45	4.50	12.00	17
EXT-05	5.00	16.00	20
EXT-06	6.00	18.00	26
EXT-08	8.00	18.00	34
EXT-10	10.00	20.00	50
EXT-12	12.00	24.00	80
EXT-14	14.00	28.00	135
EXT-16	16.00	32.00	172
EXT-18	18.00	36.00	201
EXT-20	20.00	40.00	215
EXT-22	22.00	48.00	241
EXT-24	24.00	48.00	271
EXT-26	26.00	48.00	344
EXT-28	28.00	48.00	380
EXT-30	30.00	48.00	405

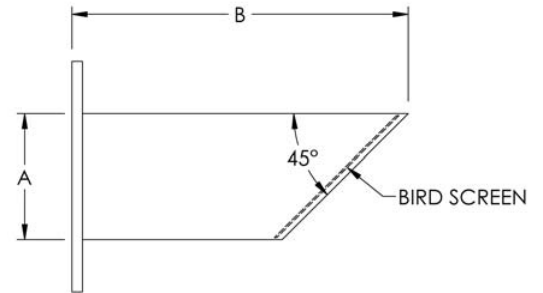


Dimensions are in inches. Weight is in pounds and is approximate. Standard material carbon steel painted high temp black, available in stainless steel. Custom applications available, contact factory.

45° MITERED W/ BIRD SCREEN & STACKS

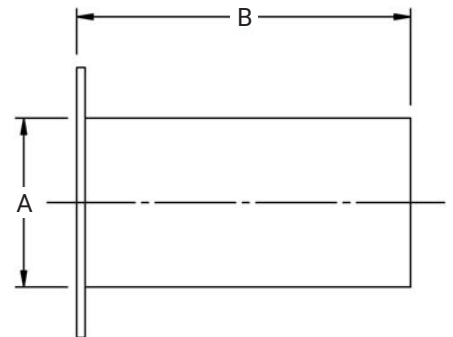
MITERED

Part Number	A (OD)	B (Length)	WT
ME-04	4.00	12.00	12
ME-45	4.50	12.00	13
ME-05	5.00	16.00	13
ME-06	6.00	18.00	20
ME-08	8.00	18.00	26
ME-10	10.00	20.00	35
ME-12	12.00	24.00	50
ME-14	14.00	28.00	90
ME-16	16.00	32.00	116
ME-18	18.00	36.00	138
ME-20	20.00	40.00	153
ME-22	22.00	48.00	185
ME-24	24.00	48.00	220
ME-26	26.00	48.00	289
ME-28	28.00	48.00	320
ME-30	30.00	48.00	343



STACKS

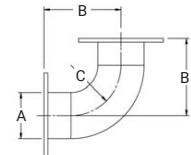
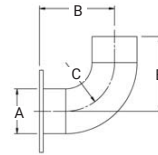
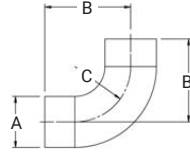
Part Number	A (OD)	B (Length)	WT
STK-04	4.00	12.00	10
STK-45	4.50	12.00	11
STK-05	5.00	16.00	13
STK-06	6.00	18.00	18
STK-08	8.00	18.00	18
STK-10	10.00	20.00	34
STK-12	12.00	24.00	57
STK-14	14.00	28.00	108
STK-16	16.00	32.00	141
STK-18	18.00	36.00	169
STK-20	20.00	40.00	177
STK-22	22.00	48.00	202
STK-24	24.00	48.00	220
STK-26	26.00	48.00	389
STK-28	28.00	48.00	320
STK-30	30.00	48.00	343



Dimensions are in inches. Weight is in pounds and is approximate. Standard material carbon steel painted high temp black, available in stainless steel. Custom applications available, contact factory.

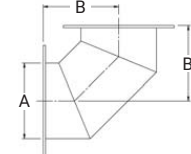
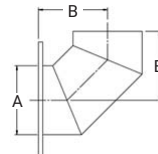
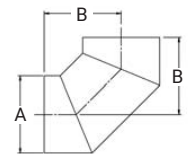
90° ELBOWS

90° SHORT RADIUS ELBOWS – SMOOTH



			No Flange		Flanged One End		Flanged Both Ends	
A (OD)	B	C	Part Number	WT	Part Number	WT	Part Number	WT
3.00	6.00	3.50	EL-03	2	ELF-03	7	ELFF-03	12
3.50	8.00	4.00	EL-35	3	ELF-35	8	ELFF-35	13
4.00	8.00	4.50	EL-04	4	ELF-04	10	ELFF-04	16
5.00	10.00	5.50	EL-05	5	ELF-05	13	ELFF-05	20
6.00	10.00	6.50	EL-06	6	ELF-06	15	ELFF-06	23

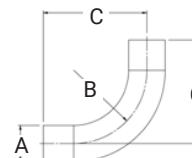
90° SHORT RADIUS ELBOWS – MITERED



			No Flange		Flanged One End		Flanged Both Ends	
A (OD)	B		Part Number	WT	Part Number	WT	Part Number	WT
8.00	8.00		EL-08	8	ELF-08	20	ELFF-08	32
10.00	10.00		EL-10	12	ELF-10	28	ELFF-10	44
12.00	12.00		EL-12	28	ELF-12	50	ELFF-12	73
14.00	14.00		EL-14	71	ELF-14	95	ELFF-14	120
16.00	16.00		EL-16	93	ELF-16	122	ELFF-16	151
18.00	18.00		EL-18	117	ELF-18	146	ELFF-18	175
20.00	20.00		EL-20	145	ELF-20	179	ELFF-20	213
22.00	22.00		EL-22	128	ELF-22	164	ELFF-22	201
24.00	24.00		EL-24	152	ELF-24	195	ELFF-24	240

90° LONG RADIUS ELBOWS – SMOOTH

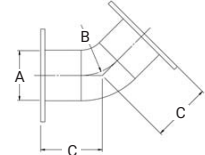
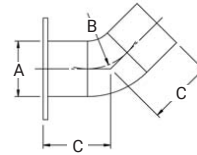
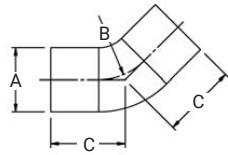
No Flange				
A (OD)	B	C	Part Number	WT
3.00	6.00	8.50	ELL-03	2
3.50	7.00	10.00	ELL-35	4
4.00	8.00	11.50	ELL-04	4
5.00	10.00	14.00	ELL-05	7
6.00	12.00	17.00	ELL-06	10



Dimensions are in inches. Weight is in pounds and is approximate. Standard material carbon steel. Flanged assemblies painted high temp black, available in stainless steel. Custom applications available, contact factory.

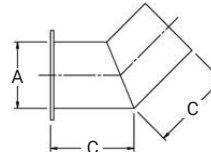
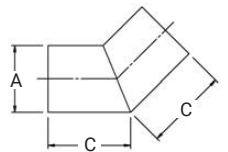
45° ELBOWS

45° SHORT RADIUS ELBOWS – SMOOTH



			No Flange		Flanged One End		Flanged Both Ends	
A (OD)	B	C	Part Number	WT	Part Number	WT	Part Number	WT
3.00	3.00	4.00	EB-03	1	EBF-03	6	EBFF-03	10
3.50	3.50	4.50	EB-35	2	EBF-35	8	EBFF-35	13
4.00	4.00	5.00	EB-04	2	EBF-04	8	EBFF-04	13
5.00	5.00	6.00	EB-05	3	EBF-05	10	EBFF-05	17
6.00	6.00	7.00	EB-06	5	EBF-06	13	EBFF-06	21

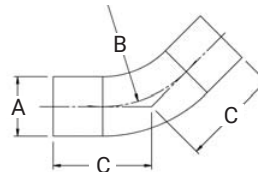
45° SHORT RADIUS ELBOWS – MITERED



			No Flange		Flanged One End		Flanged Both Ends	
A (OD)	B	C	Part Number	WT	Part Number	WT	Part Number	WT
8.00	8.00	8.00	EB-08	8	EBF-08	20	EBFF-08	32
10.00	10.00	10.00	EB-10	12	EBF-10	28	EBFF-10	44
12.00	12.00	12.00	EB-12	28	EBF-12	50	EBFF-12	73
14.00	14.00	14.00	EB-14	71	EBF-14	95	EBFF-14	120
16.00	16.00	16.00	EB-16	93	EBF-16	122	EBFF-16	151
18.00	18.00	18.00	EB-18	117	EBF-18	146	EBFF-18	175
20.00	20.00	20.00	EB-20	145	EBF-20	179	EBFF-20	213
22.00	22.00	22.00	EB-22	128	EBF-22	164	EBFF-22	201
24.00	24.00	24.00	EB-24	152	EBF-24	195	EBFF-24	240

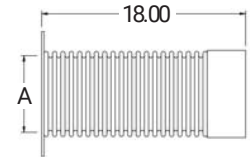
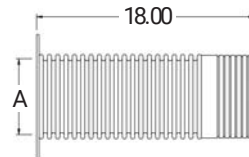
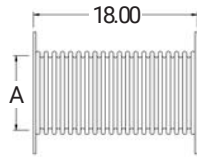
45° LONG RADIUS ELBOWS – SMOOTH

			No Flange	
A (OD)	B	C	Part Number	WT
3.00	6.00	5.50	EBL-03	2
3.50	7.00	6.50	EBL-35	2
4.00	8.00	7.00	EBL-04	3
5.00	10.00	8.00	EBL-05	4
6.00	12.00	10.00	EBL-06	7

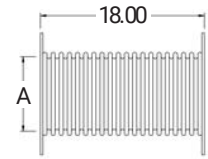
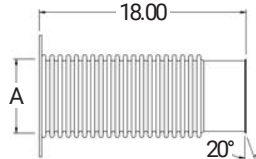
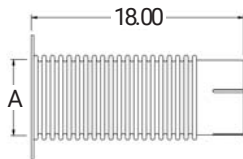


Dimensions are in inches. Weight is in pounds and is approximate. Standard material carbon steel. Flanged assemblies painted high temp black, available in stainless steel. Custom applications available, contact factory.

FLEX ASSEMBLIES



ANSI Floating Flange/ANSI Flange			Flange/Male NPT		Flange/Female NPT	
A (OD)	Part Number	WT	Part Number	WT	Part Number	WT
2.00	FL02-18FL	10	FL02-18M	6	FL02-18FC	6
2.50	FL25-18FL	12	FL25-18M	8	FL25-18FC	8
3.00	FL03-18FL	12	FL03-18M	8	FL03-18FC	8
3.50	FL35-18FL	14	FL35-18M	10	FL35-18FC	10
4.00	FL04-18FL	16	FL04-18M	11	FL04-18FC	11
5.00	FL05-18FL	21	FL05-18M	15	FL05-18FC	15
6.00	FL06-18FL	24	FL06-18M	19	FL06-18FC	19
8.00	FL08-18FL	33	FL08-18M	23	—	—
10.00	FL10-18FL	41	FL10-18M	29	—	—
12.00	FL12-18FL	58	FL12-18M	41	—	—
14.00	FL14-18FL	67	—	—	—	—
16.00	FL16-18FL	77	—	—	—	—

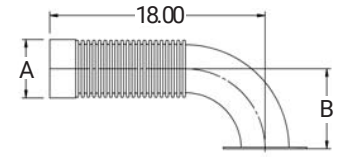
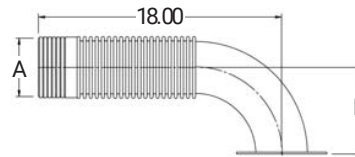
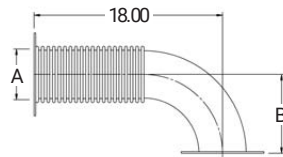


Flange/Slotted Cuff			Flange/20° Flare		ANSI Floating Flange/CAT Flange	
A (OD)	Part Number	WT	Part Number	WT	Part Number	WT
2.00	FL02-18SC	6	—	—	—	—
2.50	FL25-18SC	7	—	—	—	—
3.00	FL03-18SC	7	FL03-18FFL	8	—	—
3.50	FL35-18SC	8	FL35-18FFL	9	—	—
4.00	FL04-18SC	10	FL04-18FFL	10	FL04-18CAFL*	16
5.00	FL05-18SC	13	FL05-18FFL	13	FL05-18CAFL*	21
6.00	FL06-18SC	16	FL06-18FFL	16	FL06-18CAFL*	24
8.00	FL08-18SC	23	—	—	FL08-18CAFL	33
10.00	FL10-18SC	27	—	—	FL10-18CAFL	41
12.00	FL12-18SC	35	—	—	FL12-18CAFL	58
14.00	FL14-18SC	40	—	—	FL14-18CAFL	67
16.00	FL16-18SC	49	—	—	FL16-18CAFL	77

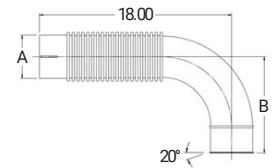
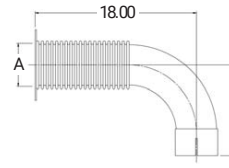
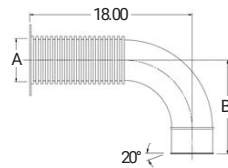
* Square CAT Flange

Dimensions are in inches. Weight is in pounds and is approximate. Standard material carbon steel painted high temp black, available in stainless steel. Custom applications available, contact factory.

FLEX ASSEMBLIES W/ 90° ELBOW



		Flanged/Flanged 90° Elbow		Male NPT/Flanged 90° Elbow		Female NPT/Flanged 90° Elbow	
A (OD)	B	Part Number	WT	Part Number	WT	Part Number	WT
3.00	6.00	FL03-18ELF	13	M03-18ELF	9	FC03-18ELF	9
3.50	8.00	FL35-18ELF	15	M35-18ELF	11	FC35-18ELF	11
4.00	8.00	FL04-18ELF	18	M04-18ELF	13	FC04-18ELF	13
5.00	10.00	FL05-18ELF	23	M05-18ELF	16	FC05-18ELF	16
6.00	10.00	FL06-18ELF	26	M06-18ELF	18	FC06-18ELF	18
8.00	8.00	FL08-18ELF	38	M08-18ELF	27	—	—
10.00	10.00	FL10-18ELF	48	M10-18ELF	34	—	—
12.00	12.00	FL12-18ELF	79	M12-18ELF	55	—	—
14.00	14.00	FL14-18ELF	127	—	—	—	—
16.00	16.00	FL16-18ELF	159	—	—	—	—



		Flanged/20° Flare 90° Elbow		Flanged/Slotted Cuff 90° Elbow		Slotted Cuff/20° Flare 90° Elbow	
A (OD)	B	Part Number	WT	Part Number	WT	Part Number	WT
3.00	6.00	FFL03-18ELF	9	SC03-18ELF	9	SC03-18ELFFL	4
3.50	8.00	FFL35-18ELF	11	SC35-18ELF	10	SC35-18ELFFL	5
4.00	8.00	FFL04-18ELF	12	SC04-18ELF	12	SC04-18ELFFL	8
5.00	10.00	FFL05-18ELF	16	SC05-18ELF	15	SC05-18ELFFL	12
6.00	10.00	FFL06-18ELF	18	SC06-18ELF	18	SC06-18ELFFL	15

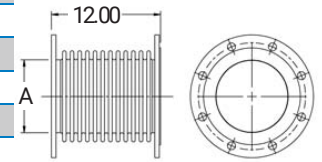
All ANSI flanges floating

Dimensions are in inches. weight is in pounds and is approximate. Standard material carbon steel painted high temp black, available in stainless steel. Custom applications available, contact factory.

BELLOWS EXPANSION JOINTS

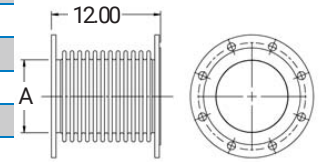
SINGLE PLY BELLOWS

Part Number	A (OD)	Non-Concurrent Allowable Movements		Spring Rates		Cycle Life		WT
		Axial (in)	Lateral (in)	Axial (lbs/in)	Lateral (lbs/in)	Axial	Lateral	
BEL-1-03	3.00	2	0.50	49	14	10,000	10,000	12
BEL-1-04	4.00	2	0.50	69	33	10,000	10,000	15
BEL-1-05	5.00	3	0.50	64	46	10,000	10,000	20
BEL-1-06	6.00	3	0.50	68	68	10,000	10,000	21
BEL-1-08	8.00	3	0.50	87	141	10,000	10,000	30
BEL-1-10	10.00	3	0.25	121	311	10,000	10,000	40
BEL-1-12	12.00	3	0.25	143	502	10,000	10,000	52
BEL-1-14	14.00	3	0.25	206	877	10,000	10,000	65
BEL-1-16	16.00	3	0.25	235	1,280	10,000	10,000	75
BEL-1-18	18.00	3	0.25	264	1,790	10,000	10,000	80
BEL-1-20	20.00	3	0.25	292	2,420	10,000	10,000	95
BEL-1-22	22.00	3	0.25	321	3,182	10,000	10,000	100
BEL-1-24	24.00	3	0.25	349	4,088	10,000	10,000	125



DUAL PLY BELLOWS

Part Number	A (OD)	Non-Concurrent Allowable Movements		Spring Rates		Cycle Life		WT
		Axial (in)	Lateral (in)	Axial (lbs/in)	Lateral (lbs/in)	Axial	Lateral	
BEL-2-03	3.00	2	0.50	98	28	10,000	10,000	13
BEL-2-04	4.00	3	0.50	60	29	10,000	10,000	17
BEL-2-05	5.00	3	0.50	57	42	10,000	10,000	22
BEL-2-06	6.00	3	0.50	66	66	10,000	10,000	23.5
BEL-2-08	8.00	3	0.50	84	135	10,000	10,000	24
BEL-2-10	10.00	3	0.25	130	330	10,000	10,000	44
BEL-2-12	12.00	3	0.25	152	529	10,000	10,000	57
BEL-2-14	14.00	3	0.25	162	671	10,000	10,000	68
BEL-2-16	16.00	3	0.25	184	979	10,000	10,000	79
BEL-2-18	18.00	3	0.25	206	1,371	10,000	10,000	84
BEL-2-20	20.00	3	0.25	174	1,285	10,000	10,000	100
BEL-2-22	22.00	3	0.25	191	1,689	10,000	10,000	109
BEL-2-24	24.00	3	0.25	208	2,170	10,000	10,000	132



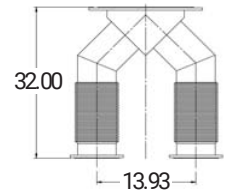
Maximum Working Pressure @ 1200°F is 5 PSIG. All tabulated movements are non-concurrent.

Dimensions are in inches. Weight is in pounds and is approximate. Flanges carbon steel painted high temp black, available in stainless steel. Bellows material standard stainless steel. Larger sizes and custom applications available, contact factory.

WYE CONNECTORS – CUMMINS

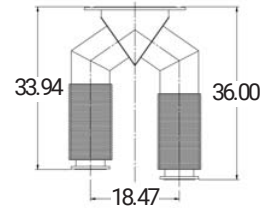
CUMMINS QST30

kW Rating	Part Number	Outlet	Inlets	WT
750, 800	Y-1006CU-1393-3200	10" ANSI	6" CUFL	57
900	Y-1206CU-1393-3200	12" ANSI	6" CUFL	69
1000	Y-1406CU-1393-3200	14" ANSI	6" CUFL	75



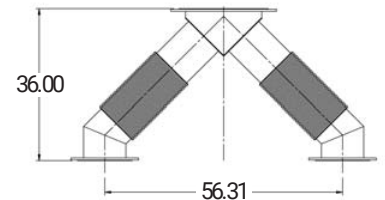
CUMMINS QSK50

kW Rating	Part Number	Outlet	Inlets	WT
1250	Y-1206CU-1847-3394-3600	12" ANSI	6" CUFL	72
1250, 1500	Y-1406CU-1847-3394-3600	14" ANSI	6" CUFL	78
1500	Y-1408PF-1847-3394-3600	14" ANSI	8" ANSI	91



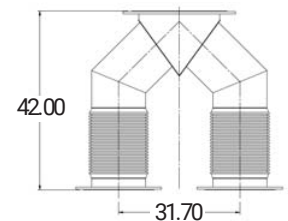
CUMMINS QSK60

kW Rating	Part Number	Outlet	Inlets	WT
1750	Y-1410PF-5631-3600	14" ANSI	10" ANSI	175
1750, 2000	Y-1610PF-5631-3600	16" ANSI	10" ANSI	162
2000, 2250	Y-1810PF-5631-3600	18" ANSI	10" ANSI	163
2000, 2250	Y-2010PF-5631-3600	20" ANSI	10" ANSI	176



CUMMINS QSK78

kW Rating	Part Number	Outlet	Inlets	WT
2500	Y-1812PF-3170-4200	18" ANSI	12" ANSI	187
2500	Y-2012PF-3170-4200	20" ANSI	12" ANSI	203
2500	Y-2212PF-3170-4200	22" ANSI	12" ANSI	212
2500	Y-2412PF-3170-4200	24" ANSI	12" ANSI	226



• Y-1810DF-3700-2600 = Y-OUTLET SIZE(18"), INLET SIZE(10"), INLET TYPE(DF)-SPREAD(3700)-HEIGHT(2600)
 • CU = CUMMINS FLANGE • CA = CATERPILLAR FLANGE • DF = DETROIT FLANGE • MT = MITSUBISHI FLANGE • PF = ANSI PIPE FLANGE • TF = ANSI TUBE FLANGE

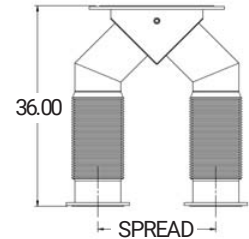
Dimensions are in inches. Weight is in pounds and is approximate. Standard material carbon steel painted high temp black, available in stainless steel. All flanges floating. Custom applications available, contact factory.

Graphics may not represent actual product, consult factory for product drawings.

WYE CONNECTORS – CATERPILLAR

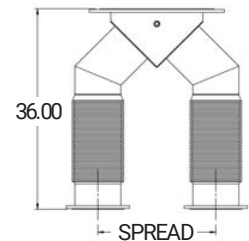
CATERPILLAR 3508B

kW Rating	Part Number	Outlet	Inlets	Spread	WT
910, 1000	Y-1208CA-2047-3600	12" ANSI	8" CAT	20.47	90



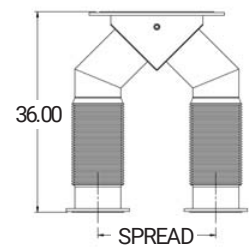
CATERPILLAR 3512B

kW Rating	Part Number	Outlet	Inlets	Spread	WT
1275, 1360, 1400	Y-1408CA-2065-3600	14" ANSI	8" CAT	20.65	102
1360, 1400	Y-1608CA-2065-3600	16" ANSI	8" CAT	20.65	113
1500	Y-1410CA-2065-3600	14" ANSI	10" CAT	20.65	117
1500	Y-1610CA-2065-3600	16" ANSI	10" CAT	20.65	126



CATERPILLAR 3512C

kW Rating	Part Number	Outlet	Inlets	Spread	WT
1275, 1360, 1400	Y-1408CA-2050-3600	14" ANSI	8" CAT	20.50	102
1360, 1400	Y-1608CA-2050-3600	16" ANSI	8" CAT	20.50	113
1500	Y-1410CA-2050-3600	14" ANSI	10" CAT	20.50	117
1500	Y-1610CA-2050-3600	16" ANSI	10" CAT	20.50	126



• Y-1810DF-3700-2600 = Y-OUTLET SIZE(18"), INLET SIZE(10"), INLET TYPE(DF)-SPREAD(3700)-HEIGHT(2600)
 • CU = CUMMINS FLANGE • CA = CATERPILLAR FLANGE • DF = DETROIT FLANGE • MT = MITSUBISHI FLANGE • PF = ANSI PIPE FLANGE • TF = ANSI TUBE FLANGE

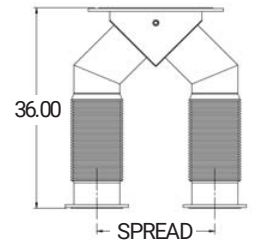
Dimensions are in inches. Weight is in pounds and is approximate. Standard material carbon steel painted high temp black, available in stainless steel. All flanges floating. Custom applications available, contact factory.

Graphics may not represent actual product, consult factory for product drawings.

WYE CONNECTORS – CATERPILLAR

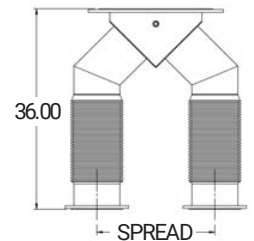
CATERPILLAR 3516B

kW Rating	Part Number	Outlet	Inlets	Spread	WT
1640	Y-1208CA-2050-3600	12" ANSI	8" CAT	20.50	90
1640	Y-1608CA-2050-3600	16" ANSI	8" CAT	20.50	113
1640	Y-1808CA-2050-3600	18" ANSI	8" CAT	20.50	121
1640, 1825, 2000	Y-1610CA-2050-3600	16" ANSI	10" CAT	20.50	126
1640, 1825, 2000	Y-1810CA-2050-3600	18" ANSI	10" CAT	20.50	128
2000	Y-1812CA-2050-3600	18" ANSI	12" CAT	20.50	156



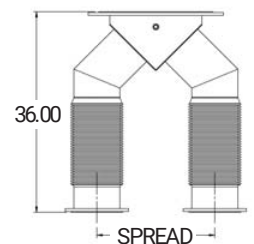
CATERPILLAR 3516C

kW Rating	Part Number	Outlet	Inlets	Spread	WT
1640, 1825, 2000	Y-1610CA-2050-3600	16" ANSI	10" CAT	20.50	126
1640, 1825, 2000	Y-1810CA-2050-3600	18" ANSI	10" CAT	20.50	128



CATERPILLAR 3516B QUAD TURBO

kW Rating	Part Number	Outlet	Inlets	Spread	WT
1400, 1640	Y-1408CA-2047-3600	14" ANSI	8" CAT	20.47	102
1400, 1640	Y-1608CA-2047-3600	16" ANSI	8" CAT	20.47	113
1500, 1640	Y-1410CA-2047-3600	14" ANSI	10" CAT	20.47	117
1500, 1640, 1750	Y-1610CA-2047-3600	16" ANSI	10" CAT	20.47	126
1750, 1825	Y-1810CA-2047-3600	18" ANSI	10" CAT	20.47	128



• Y-1810DF-3700-2600 = Y-OUTLET SIZE(18"), INLET SIZE(10"), INLET TYPE(DF)-SPREAD(3700)-HEIGHT(2600)
 • CU = CUMMINS FLANGE • CA = CATERPILLAR FLANGE • DF = DETROIT FLANGE • MT = MITSUBISHI FLANGE • PF = ANSI PIPE FLANGE • TF = ANSI TUBE FLANGE

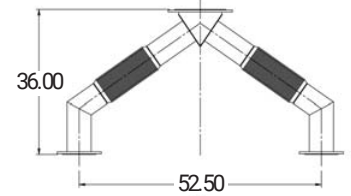
Dimensions are in inches. Weight is in pounds and is approximate. Standard material carbon steel painted high temp black, available in stainless steel. All flanges floating. Custom applications available, contact factory.

Graphics may not represent actual product, consult factory for product drawings.

WYE CONNECTORS – DETROIT DIESEL/MTU

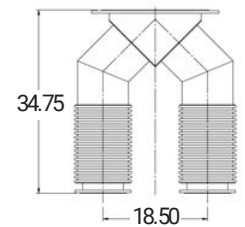
MTU 12V2000 & 16V2000

kW Rating	Part Number	Outlet	Inlets	WT
650, 750	Y-1006DF-5250-3600	10" ANSI	6" DFL	70
900, 1000	Y-1206DF-5250-3600	12" ANSI	6" DFL	82



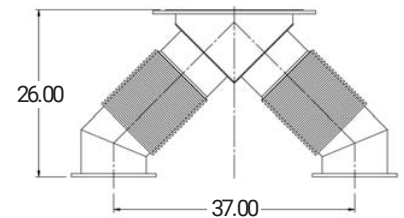
MTU 12V4000

kW Rating	Part Number	Outlet	Inlets	WT
1250, 1350, 1500	Y-1210DF-1850-3475	12" ANSI	10" DFL	105
1250, 1350, 1500, 1750	Y-1410DF-1850-3475	14" ANSI	10" DFL	118
1250, 1350, 1500, 1750	Y-1610DF-1850-3475	16" ANSI	10" DFL	127



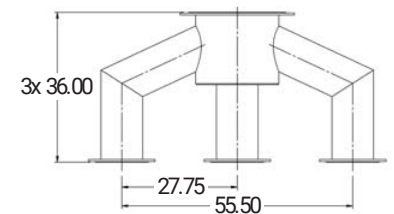
MTU 16V4000

kW Rating	Part Number	Outlet	Inlets	WT
2000	Y-1410DF-3700-2600	14" ANSI	10" DFL	115
2000	Y-1610DF-3700-2600	16" ANSI	10" DFL	117
2000	Y-1810DF-3700-2600	18" ANSI	10" DFL	132



MTU 20V4000

kW Rating	Part Number	Outlet	Inlets	WT
2500-3250	Y-2010PFx3-2775x2-3600	20" ANSI	10" ANSI	222
2500-3250	Y-2010DFx3-2775x2-3600	20" ANSI	10" DFL	222

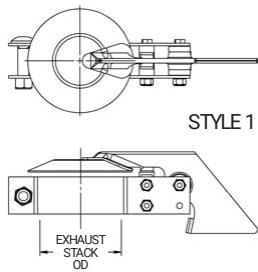


- Y-1810DF-3700-2600 = Y-OUTLET SIZE(18"), INLET SIZE(10"), INLET TYPE(DF)-SPREAD(3700)-HEIGHT(2600)
- CU = CUMMINS FLANGE • CA = CATERPILLAR FLANGE • DF = DETROIT FLANGE • MT = MITSUBISHI FLANGE • PF = ANSI PIPE FLANGE • TF = ANSI TUBE FLANGE

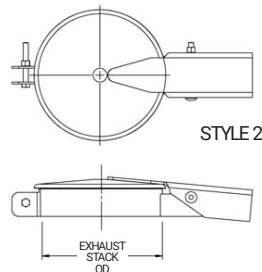
Dimensions are in inches. Weight is in pounds and is approximate. Standard material carbon steel painted high temp black, available in stainless steel. All flanges floating. Custom applications available, contact factory.

Graphics may not represent actual product, consult factory for product drawings.

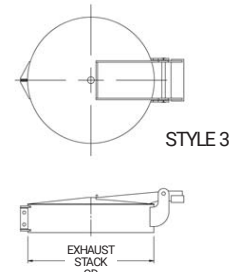
RAIN CAPS



STYLE 1



STYLE 2



STYLE 3

TUBE RAIN CAPS – STYLE 1

Part Number	Exhaust (OD)	Style
RCT-15	1.50	1
RCT-02	2.00	1
RCT-25	2.50	1
RCT-03	3.00	1
RCT-35	3.50	1
RCT-04	4.00	1
RCT-05	5.00	1
RCT-06	6.00	1

PIPE RAIN CAPS – STYLE 1

Part Number	Exhaust (OD)	Style
RCP-15	1.88	1
RCP-02	2.38	1
RCP-25	2.88	1
RCP-03	3.50	1
RCP-35	4.00	1
RCP-04	4.50	1
RCP-05	5.50	1
RCP-06	6.63	1

TUBE RAIN CAPS – STYLE 2

Part Number	Exhaust (OD)	Style
RCT-08	8.00	2
RCT-10	10.00	2
RCT-12	12.00	2

PIPE RAIN CAPS – STYLE 2

Part Number	Exhaust (OD)	Style
RCP-08	8.63	2
RCP-10	10.75	2
RCP-12	12.75	2
RCP-14	14.00	2
RCP-16	16.00	2
RCP-18	18.00	2
RCP-20	20.00	2

HEAVY DUTY RAIN CAPS – STYLE 3

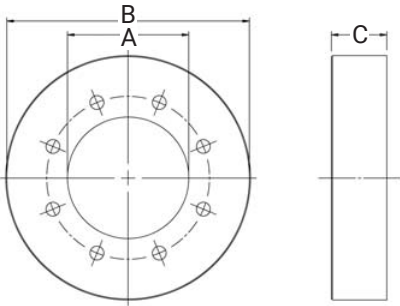
Part Number	Exhaust (OD)	Style
RCHD-10	10.00	3
RCHD-1075	10.75	3
RCHD-12	12.00	3
RCHD-1275	12.75	3
RCHD-14	14.00	3
RCHD-16	16.00	3
RCHD-18	18.00	3
RCHD-20	20.00	3
RCHD-22	22.00	3
RCHD-24	24.00	3
RCHD-26	26.00	3
RCHD-28	28.00	3
RCHD-30	30.00	3
RCHD-32	32.00	3

Dimensions are in inches. Standard material carbon steel painted high temp black, available in stainless steel. Custom applications available, contact factory.

RAIN GUARDS

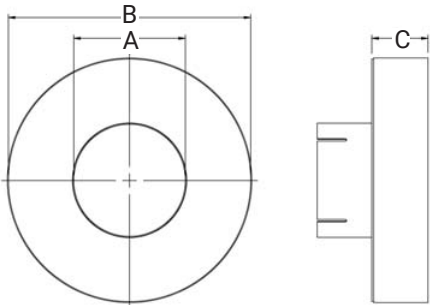
ANSI FLANGED RAIN GUARDS

Part Number	A (ID)	B (OD)	C
RGF-04	4.00	13.00	4.00
RGF-05	5.00	14.00	4.00
RGF-06	6.00	15.00	4.00
RGF-08	8.00	17.50	4.00
RGF-10	10.00	20.00	4.00
RGF-12	12.00	23.00	4.00
RGF-14	14.00	25.00	4.00
RGF-16	16.00	27.50	4.00



SLOTTED RAIN GUARDS FOR WALL AND ROOF THIMBLES

Part Number	A (ID)	B (OD)	C
RGS-04	4.00	13.00	4.00
RGS-45	4.50	13.00	4.00
RGS-05	5.00	14.00	4.00
RGS-556	5.56	14.00	4.00
RGS-06	6.00	15.00	4.00
RGS-663	6.63	15.00	4.00
RGS-08	8.00	17.50	4.00
RGS-863	8.63	17.50	4.00
RGS-10	10.00	20.00	4.00
RGS-1075	10.75	20.00	4.00
RGS-12	12.00	23.00	4.00
RGS-1275	12.75	23.00	4.00
RGS-14	14.00	25.00	4.00
RGS-16	16.00	27.50	4.00



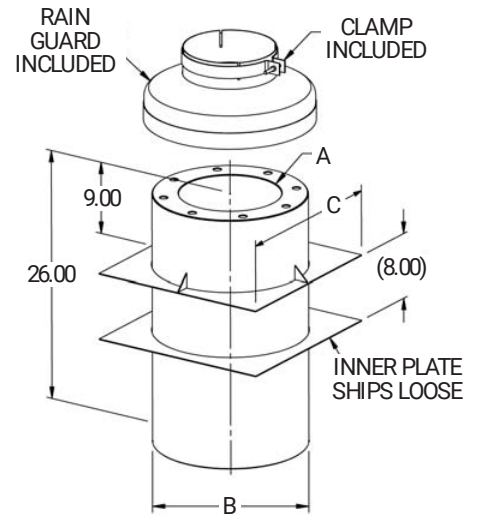
Slotted rain guards include pest screen.

Special flange patterns are available.

Dimensions are in inches. Standard material carbon steel painted high temp black, available in stainless steel. Custom applications available, contact factory.

ROOF & NON-COMBUSTIBLE WALLS THIMBLES

Carbon Steel					
Pipe/Tube OD	Part Number	A (ID)	B (OD)	C	WT
2.00	RFT-0200	3.50	10.00	14.00	52
2.38	RFT-0238	3.50	10.00	14.00	53
2.50	RFT-0250	3.50	10.00	14.00	53
2.88	RFT-0288	3.50	10.00	14.00	57
3.00	RFT-0300	4.50	10.00	14.00	57
3.50	RFT-0350	4.50	10.00	14.00	58
4.00	RFT-0400	6.00	12.00	16.00	66
4.50	RFT-0450	6.00	12.00	16.00	68
5.00	RFT-0500	7.00	12.00	16.00	88
5.50	RFT-0550	7.00	12.00	16.00	90
6.00	RFT-0600	8.00	14.00	18.00	98
6.63	RFT-0662	8.00	14.00	18.00	100
8.00	RFT-0800	10.00	16.00	20.00	114
8.63	RFT-0862	10.00	16.00	20.00	117
10.00	RFT-1000	12.00	18.00	22.00	130
10.75	RFT-1075	12.00	18.00	22.00	136
12.00	RFT-1200	14.00	20.00	24.00	146
12.75	RFT-1275	14.00	20.00	24.00	150
14.00	RFT-1400	16.00	22.00	26.00	159
16.00	RFT-1600	18.00	24.00	28.00	175
18.00	RFT-1800	20.00	26.00	30.00	218



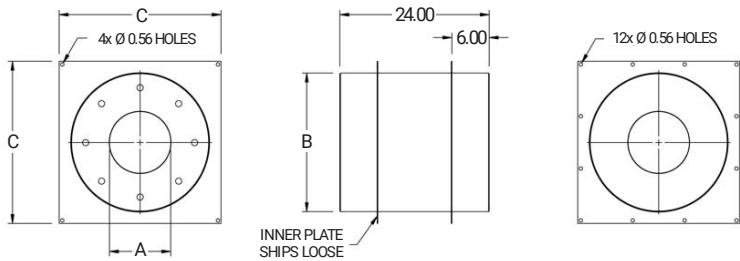
Roof thimbles have been designed for standard 8" thick roof applications.

Meets or exceeds NFPA37 & NFPA110. Pitched roof thimbles available, contact factory for more details.

Dimensions are in inches. Weight is in pounds and is approximate.

Standard material carbon steel painted high temp black, or 304 stainless steel. Custom applications available, contact factory.

WALL THIMBLES



Carbon Steel		304 Stainless Steel				
Pipe/Tube OD	Part Number	Part Number	A (ID)	B (OD)	C	WT
3.00	WTC-03	WTS-03	4.50	16.00	20.00	35
4.00	WTC-04	WTS-04	6.00	18.00	22.00	40
5.00	WTC-05	WTS-05	7.00	18.00	22.00	63
6.00	WTC-06	WTS-06	8.00	20.00	24.00	82
8.00	WTC-08	WTS-08	10.00	22.00	26.00	121
10.00	WTC-10	WTS-10	12.00	24.00	28.00	124
12.00	WTC-12	WTS-12	14.00	26.00	30.00	143
14.00	WTC-14	WTS-14	16.00	26.00	30.00	157
16.00	WTC-16	WTS-16	18.00	28.00	32.00	175
18.00	WTC-18	WTS-18	20.00	30.00	34.00	200
20.00	WTC-20	WTS-20	22.00	30.00	34.00	250

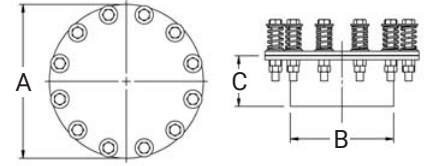
Meets or exceeds NFPA37 & NFPA110.

Dimensions are in inches. Weight is in pounds and is approximate. Standard material carbon steel painted high temp black, or 304 stainless steel. Custom applications available, contact factory.

EXPLOSION RELIEF COVERS & INSPECTION PORTS

EXPLOSION RELIEF COVERS

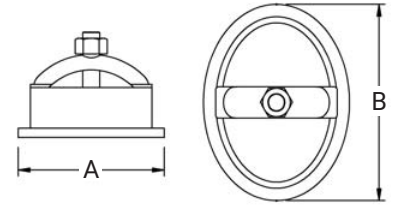
Silencer Body Size (Diameter)	Part Number	A	B	C
10-18	ERP-06	11.00	6.63	3.00
20-30	ERP-12	19.00	12.75	3.00
32-54	ERP-16	23.50	16.00	4.00
60 and Larger	ERP-20	27.50	20.00	4.00



Designed for 5-10psi. Must be located in silencers first chamber opposite the inlet.

INSPECTION PORTS

Silencer Body Size (Diameter)	Part Number	A	B
12-18	15701801	3.00	4.00
20-30	15701802	4.00	6.00
32-54	15701803	6.00	8.00
60 and Larger	15701804	11.00	15.00

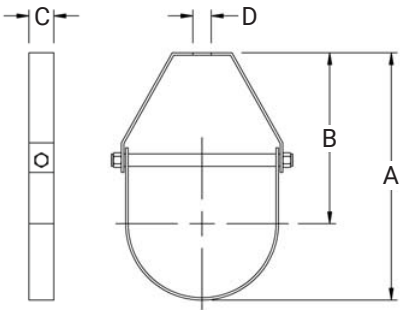


Includes the elliptical ring, cover, high temp gasket, yoke, bolt and nut.

Dimensions are in inches. Standard material carbon steel, available in stainless steel.

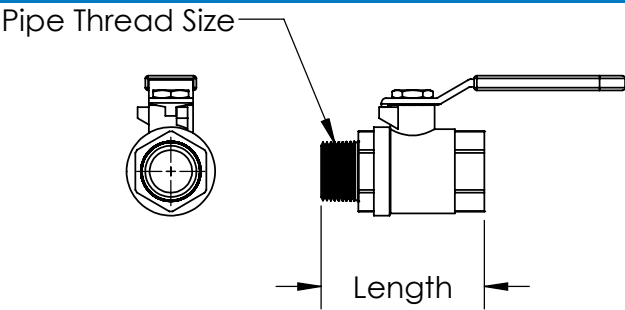
PIPE HANGERS & DRAIN VALVES

PIPE HANGERS						
Part Number	Pipe (OD)	A	B	C	C	Max Load (lbs.)
PH-15	1.50	3.81	2.81	1.00	0.375	730
PH-02	2.00	4.50	3.31	1.00	0.375	730
PH-25	2.50	5.50	4.06	1.00	0.500	1350
PH-03	3.00	6.50	4.75	1.00	0.500	1350
PH-35	3.50	7.06	5.06	1.25	0.500	1350
PH-04	4.00	7.81	5.56	1.25	0.625	1430
PH-05	5.50	8.94	6.65	1.19	0.625	1430
PH-06	6.63	10.25	6.93	1.44	0.750	1940
PH-08	8.63	12.69	8.38	1.44	0.750	2000
PH-10	10.75	15.25	9.88	1.75	0.875	3600
PH-12	12.75	17.94	11.56	2.00	0.875	3800
PH-14	14.00	19.56	12.56	2.00	1.000	4200
PH-16	16.00	22.00	14.00	2.50	1.000	4600
PH-18	18.00	24.94	15.94	2.50	1.000	4800
PH-20	20.00	27.56	17.56	3.00	1.250	4800



Sizes 5" and up have threaded rod and two nuts instead of bolt and nut. Dimensions are in inches. Standard material carbon steel, available in stainless steel.

DRAIN VALVES		
Part Number	Pipe Thread Size	Length (End to End)
DV-005	0.50	2.75
DV-0075	0.75	3.00
DV-01	1.00	3.63
DV-15	1.50	4.44



Dimensions are in inches. Standard material carbon steel, available in stainless steel.

PIPES, TUBES, FLEX, & BELLOWS THERMAL WRAPS

PIPES & TUBES THERMAL WRAPS

Part Number	Pipe/Tube (OD)
0150-Length-W	1.50
0200-Length-W	2.00
0225-Length-W	2.25
0250-Length-W	2.50
0275-Length-W	2.75
0300-Length-W	3.00
0350-Length-W	3.50
0400-Length-W	4.00
0450-Length-W	4.50
0500-Length-W	5.00
0550-Length-W	5.50
0600-Length-W	6.00
0663-Length-W	6.63
0700-Length-W	7.00
0800-Length-W	8.00
0863-Length-W	8.63
1000-Length-W	10.00
1075-Length-W	10.75
1200-Length-W	12.00
1275-Length-W	12.75
1400-Length-W	14.00
1600-Length-W	16.00
1800-Length-W	18.00
2000-Length-W	20.00
2200-Length-W	22.00

CORRUGATED FLEX HOSE THERMAL WRAPS

Part Number	Pipe/Tube (OD)
0150-Length-FW	2.19
0200-Length-FW	2.75
0250-Length-FW	3.17
0300-Length-FW	3.75
0350-Length-FW	4.38
0400-Length-FW	4.82
0500-Length-FW	5.87
0600-Length-FW	6.94
0800-Length-FW	9.00
1000-Length-FW	11.00
1200-Length-FW	13.00

BELLOWS THERMAL WRAPS

Part Number	Pipe/Tube (OD)
0300-Length-BW	3.00
0400-Length-BW	4.00
0500-Length-BW	5.00
0600-Length-BW	6.00
0800-Length-BW	8.00
1000-Length-BW	10.00
1200-Length-BW	12.00
1400-Length-BW	14.00
1600-Length-BW	16.00
1800-Length-BW	18.00
2000-Length-BW	20.00
2200-Length-BW	22.00
2400-Length-BW	24.00

Insulation Typical Properties		Thermal Conductivity "K" Factor	
Property	Temperature	Temperature	K [(BTU-in)/(hr-ft ² ·°F)]
Melting Point	1523°F	300°F	0.40
Max. Temp.	1200°F	500°F	0.50
Continuous Temp	1000°F	700°F	0.60

Standard blankets are made with 1" insulation composed of 100% type "E" glass fibers in mat form, 32oz Silicone impregnated fiberglass cloth, stainless steel wire mesh, lacing anchors and Kevlar thread.

Components meet military specifications MIL-24244 Type 11 & Coast Guard specifications for incombustible material #164.009.

Length is in inches. Custom applications available, contact factory.

FLANGE THERMAL WRAPS

ANSI FLANGE THERMAL WRAPS

Part Number

TFL-02-W

PFL-02-W

TFL-25-W

PFL-25-W

TFL-03-W

PFL-03-W

TFL-35-W

PFL-35-W

TFL-04-W

PFL-04-W

TFL-05-W

PFL-05-W

TFL-06-W

PFL-06-W

TFL-08-W

PFL-08-W

TFL-10-W

PFL-10-W

TFL-12-W

PFL-12-W

PFL-14-W

PFL-16-W

PFL-18-W

PFL-20-W

PFL-22-W

PFL-24-W

PFL-26-W

PFL-28-W

PFL-30-W

CAT ENGINE FLANGE THERMAL WRAPS

Part Number

CAFL-04S-W

CAFL-05S-W

CAFL-05-W

CAFL-06S-W

CAFL-08-W

CAFL-10-W

CAFL-12-W

CAFL-14-W

CAFL-16-W

CAFL-18-W

CUMMINS ENGINE FLANGE THERMAL WRAPS

Part Number

CUFL-05-W

CUFL-06-W

MITSUBISHI ENGINE FLANGE THERMAL WRAPS

Part Number

MIT-08-W

MIT-10-W

MIT-12-W

DETROIT DIESEL ENGINE FLANGE THERMAL WRAPS

Part Number

DFL-08-W

DFL-10-W

150138-W

150147-W

Insulation Typical Properties

Property

Temperature

Melting Point

1523°F

Max. Temp.

1200°F

Continuous Temp

1000°F

Thermal Conductivity "K" Factor

Temperature

K [(BTU-in)/(hr-ft²·°F)]

300°F

0.40

500°F

0.50

700°F

0.60

Standard blankets are made with 1" insulation composed of 100% type "E" glass fibers in mat form, 32oz Silicone impregnated fiberglass cloth, stainless steel wire mesh, lacing anchors and Kevlar thread.

Components meet military specifications MIL-24244 Type 11 & Coast Guard specifications for incombustible material #164.009.

Dimensions are in inches. Custom applications available, contact factory.

90° & 45° ELBOW THERMAL WRAPS

90° SHORT RADIUS ELBOW (SMOOTH) THERMAL WRAPS

Part Number	Size (OD)
EL-03-W	3.00
EL-35-W	3.50
EL-04-W	4.00
EL-05-W	5.00
EL-06-W	6.00

90° LONG RADIUS ELBOW (SMOOTH) THERMAL WRAPS

Part Number	Size (OD)
ELL-03-W	3.00
ELL-35-W	3.50
ELL-04-W	4.00
ELL-05-W	5.00
ELL-06-W	6.00

45° SHORT RADIUS ELBOW (SMOOTH) THERMAL WRAPS

Part Number	Size (OD)
EB-03-W	3.00
EB-35-W	3.50
EB-04-W	4.00
EB-05-W	5.00
EB-06-W	6.00

45° LONG RADIUS ELBOW (SMOOTH) THERMAL WRAPS

Part Number	Size (OD)
EBL-03-W	3.00
EBL-35-W	3.50
EBL-04-W	4.00
EBL-05-W	5.00
EBL-06-W	6.00

90° SHORT RADIUS ELBOW (MITERED) THERMAL WRAPS

Part Number	Size (OD)
EL-08-W	8.00
EL-10-W	10.00
EL-12-W	12.00
EL-14-W	14.00
EL-16-W	16.00
EL-18-W	18.00
EL-20-W	20.00
EL-22-W	22.00
EL-24-W	24.00

45° SHORT RADIUS ELBOW (MITERED) THERMAL WRAPS

Part Number	Size (OD)
EB-08-W	8.00
EB-10-W	10.00
EB-12-W	12.00
EB-14-W	14.00
EB-16-W	16.00
EB-18-W	18.00
EB-20-W	20.00
EB-22-W	22.00
EB-24-W	24.00

Insulation Typical Properties		Thermal Conductivity "K" Factor	
Property	Temperature	Temperature	K [(BTU-in)/(hr-ft ² ·°F)]
Melting Point	1523°F	300°F	0.40
Max. Temp.	1200°F	500°F	0.50
Continuous Temp	1000°F	700°F	0.60

Standard blankets are made with 1" insulation composed of 100% type "E" glass fibers in mat form, 32oz Silicone impregnated fiberglass cloth, stainless steel wire mesh, lacing anchors and Kevlar thread.

Components meet military specifications MIL-24244 Type 11 & Coast Guard specifications for incombustible material #164.009.

Length is in inches. Custom applications available, contact factory.

Our emphasis is on understanding customer needs, researching & developing new products, and tailoring customized solutions to exceed customer expectations.



Documents



GENERAL SILENCER INQUIRY APPLICATION DATA FORM

Project Name

Date

Required Fields

Contact Information

Contact Name

Company Name

Contact Location

RSM

Telephone Number

Fax Number

Email Address

Required Proposal Response Date

Engine Information

Engine Make

Engine Model

Engine Displacement

Number of Engines

Number of Exhaust Outlets

Exhaust Outlet Connection

Design Back Pressure*

Rated Power*

Exhaust Flow Rate (Wet)*

Exhaust Temperature*

Engine Exhaust Sound Output

Octave Band Center Frequency

31.5

63

125

250

500

1000

2000

4000

8000

dBa

Sound Power (dB)

Sound Pressure (dB @ _____ distance)

Exhaust sound power –OR– sound pressure at a known distance are needed

Silencer Information

Sound Requirement

Inlet Connection Size

Outlet Connection Size

Material of Construction

Paint Specification

Additional Specifications or Requirements

* Please include units

Documents

INTAKE SILENCER APPLICATION DATA FORM

Project Name		Required Fields
Date		

Contact Information

Contact Name	
Company Name	
Contact Location	
RSM	
Telephone Number	
Fax Number	
Email Address	
Required Proposal Response Date	

Engine Information

Engine Make	
Engine Model	
Engine Displacement	
Number of Intake Manifolds	
Intake Air Flow Rate*	
Intake Air Temperature*	

Intake Sound Level

Octave Band Center Frequency	31.5	63	125	250	500	1000	2000	4000	8000	dBA
Sound Power (dB)										
Sound Pressure (dB @ _____ distance)										

Intake sound power –OR– sound pressure at a known distance are needed

Silencer Information

Sound Requirement	
Inlet Connection Size	
Outlet Connection Size	
Material of Construction	
Paint Specification	

Additional Specifications or Requirements

--

* Please include units



BLOW DOWN SILENCER APPLICATION DATA FORM

Project Name		Required Fields
Date		

Contact Information

Contact Name	
Company Name	
Contact Location	
RSM	
Telephone Number	
Fax Number	
Email Address	
Required Proposal Response Date	

Site Information

Vessel Volume*	
Upstream Pressure*	
Upstream Temperature*	
Ambient Pressure*	
Ambient Air Temperature*	

Fluid Information

Type of Gas	
Molecular Weight	
Desired Blow Down Time*	

Silencer Information

Sound Target	
Inlet Connection Size	
Vertical or Horizontal Orientation	
Material of Construction	
Maximum Wind Loading	
Paint Specification	

Additional Specifications or Requirements	
---	--

* Please include units

Documents

CREDIT APPLICATION

This form must be completed and signed by authorized company representative. All fields are REQUIRED-trade references (only) may be attached.

COMPANY NAME: _____ Date: _____

Previously known as: _____ Business Type: ☐ Corporation ☐ LLC ☐ Sole Proprietor ☐ Partnership

Market Segment: ☐ Power Generation ☐ Gas Compression ☐ Industrial ☐ Rail ☐ Marine ☐ Other _____

D&B No:	FEI No:	
Tax ID/Exemption No:	State:	*Copy of Tax Empt. Cert. MUST be attached

BILLING ADDRESS: _____

City: _____ State: _____ Zip: _____ Phone: _____

Customer Attention: _____ Fax: _____

SHIPPING ADDRESS (If different than above) _____

City: _____ State: _____ Zip: _____ Phone: _____

BANK NAME: _____ Account Number: _____

Branch: _____ Phone: _____ Fax: _____ Bank Account Contact: _____

ACCOUNTS PAYABLE CONTACT: _____ Phone: _____ Ext: _____

Email: _____

TRADE REFERENCES (Minimum of 3)

Company Name:		Account Number:	
Street Address:			
City:	State:	Zip:	Phone:
Fax:	Contact:	Email:	

Company Name:		Account Number:	
Street Address:			
City:	State:	Zip:	Phone:
Fax:	Contact:	Email:	

Company Name:		Account Number:	
Street Address:			
City:	State:	Zip:	Phone:
Fax:	Contact:	Email:	

Requested Credit Limit: _____ Sales Order Value: _____

The undersigned hereby applies to Miratech Group for credit.

- ☐ It is understood and agreed that the undersigned consents to Miratech Group investigating the applicant's credit history for the purpose of extending credit.
- ☐ Our terms do not extend beyond 30 Days. Payments not received within our terms may cause restriction of credit.
- ☐ There will be a 1 ½% per month finance charge at an annual rate of 18% on all past due invoices

I have read and agree to the Terms and Conditions as listed above.

Customer Signature: _____ Title: _____

Printed Name: _____ Date: _____

GENERAL TERMS AND CONDITIONS OF SALE

1. **Integration** The General Terms and Conditions of Sale contained herein shall be deemed a material part of any sale or proposed sale by MIRATECH Group, LLC ("Seller") to _____ ("Purchaser") and, unless and only to the extent specifically excluded therein, shall be a material part of any subsequent letter of authorization, contract, purchase order, sale or other agreement between Seller and Purchaser, with respect to all products, equipment, services and/or parts relating thereto (hereinafter referred to as the "Product").
2. **Compliance** To Seller's knowledge, Seller has complied with all applicable laws and regulations including, but not limited to, the Fair Labor Standards Act, the Civil Rights Act of 1964, the Equal Employment Opportunity Act of 1972, as respectively amended, Executive Orders 11246, 11375 and 11141 (Title 41, Chapter 60, Code of Federal Regulations), the Vietnam Era Veterans Readjustment Act of 1974, and all amendments thereto and regulations, rules and orders there under, as amended or superseded and all of the foregoing are made a part hereof by reference and incorporated herein as though fully set forth herein. Purchaser understands and agrees that the foregoing sentence is for Purchaser's information stating that which Seller strives to achieve and is not made as a covenant, warranty or representation and is not meant to create or permit, nor shall it be construed as creating or permitting any enforceable rights hereunder for Purchaser or any other person or entity. All standards promulgated with respect to noise or air control are specifically excluded hereunder.
3. **Title, Risk of Loss, Security Interest** Title and risk of loss or damage to the Product shall pass to Purchaser under tender of delivery Ex-Works (Incoterms 2010) manufacturing facility unless expressly stipulated otherwise, regardless of when partial or final payment is to be made by Purchaser. Notwithstanding the foregoing, a purchase money security interest in the Product or any replacement thereof shall remain in Seller, regardless of mode of attachment to realty or other property, until full payment has been made therefore and collected by Seller.
4. **Inspection, Rejection, Remedy** Purchaser shall have the right to reasonable inspection of the Product after delivery to destination, which inspection shall be completed within ten (10) days of the date of delivery to such destination. Any rejection by Purchaser as to part or all of the Product shall be in writing, specifically stating the non-conformities thereof. In such event, Seller shall have a reasonable period of time to determine the validity of and, if necessary, to correct the non-conformities forming the basis of the Purchaser's rejection or, at Seller's option and if appropriate, to replace part or all of the Product. Purchaser's failure to make rejection as herein stated, or to allow Seller to cure Purchaser's objections, shall be deemed to conclusively establish acceptance by Purchaser of the Product.
5. **Time, Force Majeure** Seller may, from time to time, quote delivery dates to Purchaser. Such dates shall be interpreted as estimated and in no event shall such dates be construed as falling within the meaning of "time is of the essence." Seller shall not be liable for loss, damage, detention, or delay due to war, riots, civil insurrection or acts of the common enemy, fire, flood, severe weather conditions at Seller's premises or outside fabrication sites, strikes or other labor difficulties, acts of civil or military authority including governmental law, orders, priorities or regulations, acts of Purchaser, embargo, car shortage, wrecks or delay in transportation, inability to obtain necessary labor, materials or manufacturing facilities from usual sources, faulty forgings or castings, or other causes beyond the reasonable control of Seller. In the event of delay in performance due to any such cause, the date of delivery or time for completion shall be adjusted to reflect the actual length of time necessary to properly reflect the delay without change to the purchase price. In the event of such delay or default in delivery, Seller shall complete work in progress and/or make delivery as soon as reasonably practicable. Upon completion and delivery of the Product to Purchaser, after such delay in delivery, the obligation of Purchaser for payment shall be completely reinstated.
6. **Taxes** Prices quoted by Seller do not include any federal, state or local property, license, privilege, sales, use, excise, gross receipts or other like taxes which may now or hereafter be applicable to, measured by, or imposed upon this transaction, the Product, its sale, its value, its use or any services performed in connection therewith. Purchaser, by agreeing to purchase product from Seller, agrees to be responsible for payment of any and all taxes it may owe as a result of such purchase and to hold harmless and indemnify Seller from any such tax liability.
- 7.1 **Limited Warranty** Products have different warranty periods and are subject to the exclusions contained herein. Seller warrants that the:

Next and Vortex Substrates utilizing catalyst formulations other than "EU" and "XU" and "XJ" formulation designations shall be free of defects in material and workmanship for a period of twenty-four (24) months from the date the Product is complete and ready for shipment;

Next and Vortex Substrates utilizing "EU" or "XU" or "XJ" catalyst formulation designations shall be free of defects in material and workmanship for: gas fueled engine applications - for a period of twelve (12) months from the date the Product is complete and ready for shipment, or eighty eight hundred (8,800) hours of operation, whichever shall first occur; NESHAP applications - for a period of twenty-four (24) months from the date the Product is complete and ready for shipment, or eighteen hundred (1,800) hours of operation, whichever shall first occur;

SCR Products shall be free of defects in material and workmanship for a period of twenty-four (24) months from the date the Product is placed in operation or twenty-six (26) months from the date the Product is complete and ready for shipment, whichever shall first occur;

Passive Diesel Particulate Filter Products shall be free of defects in material and workmanship for a period of 8,000 hours of operation or twenty-four (24) months from the date the Product is ready for shipment, whichever shall first occur;

Active Diesel Particulate Filter Products included with AT-IV shall be free of defects in material and workmanship for a period of 2,600 hours of operation, twelve (12) months from the date the Product is commissioned by an authorized MIRATECH field service representative or eighteen (18) months from the date the Product is ready for shipment to Purchaser, whichever shall first occur;

Service shall be free of defects of workmanship for a period of ninety (90) days from the date the final Service is provided by Seller to Purchaser;

Silencer Only Products shall be free of defects in material and workmanship for a period of twelve (12) months from the date the Silencer Only Product is placed in operation or eighteen (18) months from the date the Silencer Only Product is complete and ready for shipment, whichever shall first occur;

Replacement Parts for use on previously installed Products, ("Spare Parts") shall be free of defects in material and workmanship for a period of twelve (12) months from the date the Spare Part is placed in operation or eighteen (18) months from the date the Spare Part is complete and ready for shipment, whichever shall first occur;

Exhaust Accessories shall be free of defects in material and workmanship for a period of twelve (12) months from the date the Exhaust Accessory Product is placed in operation;

All other Products shall be free of defects in material and workmanship for a period of twelve (12) months from the date the Product is placed in operation or eighteen (18) months from the date the Product is complete and ready for shipment, whichever shall first occur;

provided Purchaser shall, within such period, notify Seller in writing of such defect(s) and fully cooperate with Seller in pursuing the remedying thereof. Should any failure to conform to this warranty be reported to Seller within said period, Seller shall, upon Purchaser promptly notifying Seller in writing thereof, correct such nonconformity by suitable repair to the Product or, at Seller's option, furnish replacement parts F.C.A. Seller's point of shipment, provided Purchaser has restored the Product to the "as shipped" condition prior to installation and has installed, maintained and operated the Product in accordance with standard industry practices, article 7.2 of these Terms and Conditions of Sale and has complied with the specific recommendations of Seller respecting the Product. In the event Seller deems the Service to be defective, Seller's obligation shall be to correct non-conformities in the manner and for the remaining period of time of the Service warranty period.

Accessories or other parts of the Product furnished by Seller, but manufactured by others, shall carry whatever warranty, if any, the manufacturers thereof have given to Seller and which can be passed on to Purchaser. Purchaser agrees to look solely to such other manufacturers or suppliers of such accessories or parts for any warranty, repair or product liability claims arising out of the performance, condition or use of such accessories or parts. Seller agrees to cooperate in furnishing assignments of its rights thereto to Purchaser from such manufacturers and suppliers. Seller shall not be liable for any repairs, replacements or adjustments to the Product or any costs of labor performed by Purchaser without Seller's prior written approval. Seller's warranty shall expire in the event the Product is misused, neglected or operated other than for its intended purpose. Except as specifically stated herein, Seller makes no performance warranty of any kind respecting the Product except as contained in this document. The effects of corrosion, erosion and normal wear and tear are specifically excluded from Seller's warranty.

Seller's warranty shall expire in the event: an A-36 carbon steel housing provided by Seller is insulated, or has a heat shield or similar product adjustment installed, and operated with an inlet operating temperature to the housing greater than 900 deg F; or a component supplied by others that is upstream of the Seller's provided scope, damages the Seller provided scope.

Any damage or defects to the Products caused by the acts or omissions of others after receipt of the Product but prior to commissioning or during the warranty period are not warrantable events and are specifically excluded from this warranty.

Correction by Seller of non-conformities, whether patent or latent, in the manner and for the period of time provided above, shall constitute fulfillment of all liabilities of Seller for such non-conformities, whether based on contract, warranty, negligence, indemnity, strict liability or otherwise with respect to or arising out of the Product. Seller shall in no event be liable for consequential damages.

7.2 **Limited Warranty, Conditions** Throughout the Warranty Period, Seller warrants that the Product will achieve the emissions levels set forth in the Proposal referenced in and attached to the Contract between Seller and Purchaser, subject to the conditions that:

- the Product is operated and maintained at all times in accordance with MIRATECH's written instructions;
- the Purchaser's equipment is operated and maintained at all times in accordance with all manufacturer's instructions and guidelines;
- the Purchaser's equipment, during operation, shall never exceed the raw emission rate set forth in the Proposal;
- the Purchaser's equipment shall be operated within the temperature limits stated in the Proposal after startup;
- the Purchaser will operate the equipment so the engine emissions & temperature are as stated in the proposal and:
the NO_x, CO, VOC/NMNEHC, O₂, and PM_{2.5} will not fluctuate more than 2% from the Proposal value and,
the Exhaust flow rate will not fluctuate more than 2% from the Proposal value and,
the Exhaust temperature into the catalyst will not fluctuate more than 10°F from the Proposal value.

Additionally, the Diesel Particulate Filter Product shall be operated and maintained at all times in accordance with the Seller's written instructions including:

- for Passive Diesel Particulate Filter Product - the most recent version of the MIRATECH "Guidelines for the Successful Operation of Diesel Particulate Filters"; or
- for Active Diesel Particulate Filter Components included with AT-IV the most recent version of the AT-IV Operations and Maintenance Manual.

Emissions levels, temperature and flow rates from Purchaser's equipment and the Product discharge point shall be tested at the Purchaser's expense, in accordance with a mutually agreed test procedure and protocol consistent with accepted industry practices.

Purchaser will operate the engine, or cause the engine to be operated by others, other than the Seller, at no cost to and for the benefit of the Seller in order for the Seller to make adjustments and modifications to the Product.

If the above conditions are met and the Product fails to achieve the output performance stated in the Proposal within the Warranty Period, Seller will replace or modify and adjust its Product as needed to meet such output performance standards. Purchaser is required to notify the Seller in writing of the specific defect and provide Seller with complete documentation of the defect and satisfaction of all conditions, a – e, of this article.

7.3 **Warranty Disclaimer** SELLER MAKES NO OTHER WARRANTY OR REPRESENTATION OF ANY KIND WHATSOEVER, EXPRESSED OR IMPLIED, EXCEPT THAT OF GOOD TITLE TO THE PRODUCT, AND ALL IMPLIED WARRANTIES, INCLUDING ANY WARRANTY OF MERCHANTABILITY AND/OR FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY DISCLAIMED.

8. **Remedies Exclusive** The remedies of Purchaser set forth herein are exclusive. The total liability of Seller with respect to the performance and other matters related to the manufacture, sale, delivery, installation, repair or technical direction thereof, whether based on contract, warranty, negligence, indemnity, strict liability or otherwise, shall in no event exceed the purchase price of the particular Unit of Product upon which such liability is based, and not the aggregate of all Products covered by any agreement or document between Seller and Purchaser. Seller shall, in no event, be liable to Purchaser, any successors in interest or any beneficiary or assignee of Purchaser, for any consequential, incidental, indirect, special or punitive damages or any defect in, or failure or malfunction of, the Product, whether based upon lost goodwill, lost profits or revenue, interest, work stoppage, impairment of other goods, loss by reason of shutdown or non-operation, increased expenses of operation of Product, loss of use of power system, costs of purchase of replacement power or claims of Purchaser or customers of Purchaser for service interruption, whether or not such loss or damage is based on contract, warranty, negligence, indemnity, strict liability or otherwise. Purchaser warrants that the Product is purchased for, and will be used for, business purposes only by qualified and properly trained personnel.

9. **Set-off** Purchaser shall not have the right to retain, back charge, or set off against any amounts which may be or become payable by it to Seller or otherwise, for amounts which Seller may allegedly or in fact owe Purchaser whether arising hereunder or otherwise.

10. **Performance, Governing Law, Jurisdiction and Venue** The Purchaser and Seller agree that the purchase and sale of products under this Agreement shall be performed in the State of Oklahoma, and the rights and obligations of Purchaser and Seller shall be construed in accordance with and governed by the laws of Oklahoma, notwithstanding any conflict of law provisions which would have the effect of making the laws of another state applicable. The Purchaser and Seller agree that the sole and exclusive jurisdiction and venue respecting any and all disputes between Purchaser and Seller with regard to the purchase and sale of Product hereunder shall be in Tulsa County, Oklahoma.

11. **No Waiver** No waiver by Seller of any breach of any obligation of Purchaser set forth in the General Terms and Conditions herein shall be construed as a waiver of any succeeding breach of the same or of any covenant or condition, and in no event shall this provision itself be waived.

12. **Invoicing and Payment** Invoicing and payment terms shall be as stated in the purchase order or other agreement between Seller and Purchaser. Terms of payment are net thirty (30) days from date of invoice, unless otherwise agreed in writing.

13.1 **Cancellation of Contract before Delivery for other than SCR or Diesel Particulate Filter Products** For standard products, a cancellation charge equal to, in the sole discretion of the Seller, not more than 50% of the original purchase price may be made for any cancellation of the Contract by Purchaser prior to Seller's delivery of the Product to Purchaser. For custom products, a cancellation charge equal to, in the sole discretion of the Seller, not more than 100% of the original purchase price may be made for any cancellation of the Contract by Purchaser prior to Seller's delivery of the Product to Purchaser. The parties agree that such cancellation charges represent Seller's liquidated damages arising out of cancellation of the Contract in lieu of actual damages, it being understood and agreed between the parties that Seller's actual damages would be impractical or extremely difficult, time consuming and expensive to ascertain. Seller's failure to impose a cancellation charge with respect to one or more cancellations by



Purchaser and/or other customers shall not be deemed in any case a waiver of its right under the Contract to impose such a charge in connection with any other cancellation by Purchaser, and Purchaser may not rely on any representation of any person to the contrary.

- 13.2
- Cancellation of Contract Before Delivery for SCR or Diesel Particulate Filter Products**

In the event the Purchaser cancels the Contract after the date of such Contract, Purchaser agrees to pay the following charge as liquidated damages in lieu of actual damages, it being understood and agreed between the parties that actual damages to Seller would be impractical or extremely difficult, time consuming and expensive to ascertain:

% of Quoted Manufacturing Period Elapsed From Date of Contract to Time of Cancellation	% of Sales Price Not Including Shipping Costs
0 to 33⅓%	50%
33⅓ to 50%	75%
50 to 66⅔%	85%
66⅔ to 80%	95%
80% to 100%	100%

14.
- Returns**

Subject to Purchaser’s payment in advance of a restocking fee, plus any associated shipping and handling costs, Seller will accept return of a standard Product (other than SCR or Diesel Particulate Filter Products) within 90 days following delivery of the Product to Purchaser if the Product is returned to Seller complete and uninstalled in new condition. The amount of such restocking fee will be determined in accordance with Seller’s then current Return Material Authorization policy. Any return of a Product more than 90 days following delivery, including the terms thereof, shall be within the sole and absolute discretion of the Seller.
15.
- Conflicting Provisions**

In case of any conflict, the General Terms and Conditions contained herein shall supersede any and all specifications and/or other terms and conditions previously supplied by Purchaser in connection with or upon a letter of authorization, purchase order or any other agreement, as well as any custom, prior conduct or course of dealing. No agreement, oral representation or other understanding any way modifying or amending the General Terms and Conditions, or having the effect of enlarging the obligations of Seller hereunder, shall be binding upon the Seller unless such modification is clear, certain and in writing in the form of an amended letter of authorization, purchase order or other written agreement duly executed by Purchaser and an authorized representative of Seller.



