



## MIRATECH Product List

*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<sub>x</sub> 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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## RELEASE NOTES

### Q3 2018

You will note we have replaced the NEXT™ & VORTEX™ catalyst elements with the new MeC™ catalyst elements. There is a new part number legend for this new product line.

### Q1 2017

You will note we have revised our part numbering system slightly from previous catalogs. We have done this to allow a configurable part number to be assembled from a set list of standard elements to create the higher level product part number that accurately captures the specific part detail.

### COWL SILENCERS PART NUMBER LEGEND

Silencer Products

**TS** **R** **15** **PR** **B** **X** -D04CF06TS-1-XXXXXXXX

a      b      c      d      f      g

Series	
TS	Compact Sprial

Part Number Type	
Blank	Standard
X	Configurable
Z	Custom

Grade	
R	Residential
C	Critical
H	Hospital

Mounting Type	
B	Standard Mount
T	Mounting Tabs
Blank	No Mounts

Silencer Size	
15	1.5
02	2
25	2.5
03	3
35	3.5
04	4
45	4.5
05	5
06	6
07	7
08	8
10	10
12	12

Orientation	
PR	Perimeter Discharge Right Side
PL	Perimeter Discharge Left side
TR	Turn Discharge Right Side
TL	Turn Discharge Left Side
SR	Slot Discharge Right Side
SL	Slot Discharge Left Side
PV	Perimeter Discharge Dual Inlets
SV	Slot Discharge Dual Inlets



### COWL SILENCERS PART NUMBER LEGEND (CONTINUED)

TSR15PR0BX - **D** **04** **CF** **06TS** - **1** - **XXXXXXXX**

Number of Inlets	
Blank	1 Inlet
D	2 Inlets

Inlet Size	
## (Ex. 04)	Nominal Diameter - Ex. 4"
## (Ex. 25)	Nominal Diameter - Ex. 2.5"
### (Ex. 050)	Nominal Diameter - Ex. 50 mm

Inlet Connection	
No Flange	PS Pipe Stub
	TS Tube Stub
	TI Tube Stub (ID)
Flange	TF Tube
	PF Pipe
	SR Single Reducing
	DR Double Reducing
	RF Raised/Threaded
	TG Tube Flange w/Gussets
	PG Pipe Flange w/ Gussets
	CT Custom
OEM Flange	CA CAT
	CU Cummins
	PK Perkins
	MI Mitsubishi
	DS Doosan
	DF Detroit
DIN Flange	A PN6 Rating
	B PN10 Rating
Other	CF Slotted Cuff
	MN Male NPT
	FN Female NPT
	SB Stack Breaker
	MT Machined Turbo
	FR 20° Flare
	MA Marman
	FM Flush Mount

8-Digit Code	
Standard and Configurable (X) Part Numbers	Blank (No Code)
Custom (Z) Part Numbers	Code Generated by Engineering

Material	
1	Aluminized
2	Carbon
3	304 Stainless
4	316 Stainless
5	321 Stainless
6	409 Stainless
A	No Finish Aluminized
N	No Finish Carbon

Outlet Size and Connection	
Blank	Outlet matches Inlet
Blank	Slot Discharge
Other	Same form as Inlet

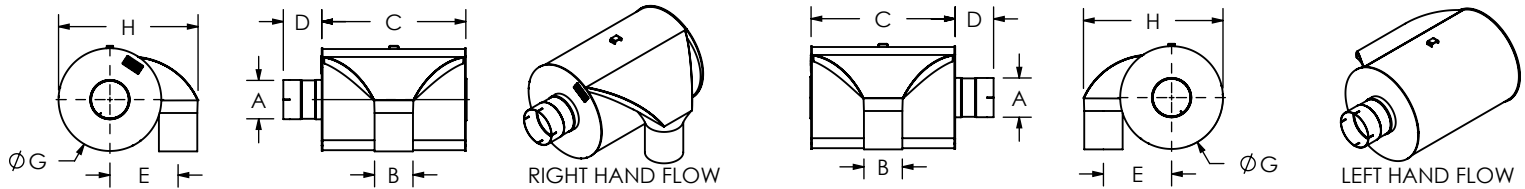
Silencer Products

\* For reverse flow housings, the inlet and outlet connections should be swapped in the part number and the model number becomes configurable. For example a TSR15TR-15CF15TS-1 would be a TSR15TRX-15TS15CF-1 in reverse flow to keep a Tube Stub inlet and a Slotted Cuff outlet.

## TSR – SPIRAL PERIMETER DISCHARGE PR/PL RESIDENTIAL GRADE SILENCER TYPICAL ATTENUATION 22–28 dB(A)

Silencer Products

As the originator of the Spiral Type silencer, the Cowl Spiral Residential Grade Silencer is designed to provide a Good Level of Attenuation for equipment operating where surrounding sound levels are moderate. 1/3 the comparable size and 1/2 comparable weight of most cylindrical reactive silencers, Cowl Spiral silencer applications include industrial engines used in a wide variety of off-road Equipment, Power Generation and Marine installations. Available in a Right-Hand Flow or a Left Hand Flow Direction.



Right Hand Flow		Left Hand Flow									
Part Number	Part Number	A (IN / MM)	B (IN / MM)	C (IN / MM)	D (IN / MM)	E (IN / MM)	G (IN / MM)	H (REF) (IN / MM)	WT (LB / KG)		
TSR15PR-15CF15TS-1	TSR15PL-15CF15TS-1	1.50 / 38	1.50 / 38	5.27 / 134	3.00 / 76	4.12 / 105	7.18 / 182	8.52 / 216	11 / 5		
TSR02PR-02CF02TS-1	TSR02PL-02CF02TS-1	2.00 / 51	2.00 / 51	7.27 / 185	4.00 / 102	4.37 / 111	7.18 / 182	9.02 / 229	14 / 6		
TSR25PR-25CF25TS-1	TSR25PL-25CF25TS-1	2.50 / 64	2.50 / 64	8.27 / 210	4.00 / 102	5.41 / 137	8.81 / 224	11.13 / 283	19 / 9		
TSR03PR-03CF03TS-1	TSR03PL-03CF03TS-1	3.00 / 76	3.00 / 76	9.27 / 235	6.00 / 152	7.05 / 179	11.81 / 300	14.52 / 369	32 / 15		
TSR35PR-35CF35TS-1	TSR35PL-35CF35TS-1	3.50 / 89	3.50 / 89	11.52 / 293	6.00 / 152	7.26 / 184	11.81 / 300	14.98 / 380	38 / 17		
TSR04PR-04CF04TS-1	TSR04PL-04CF04TS-1	4.00 / 102	4.00 / 102	15.52 / 394	6.00 / 152	7.76 / 197	11.81 / 300	15.73 / 399	48 / 22		
TSR45PR-45CF45TS-1	TSR45PL-45CF45TS-1	4.50 / 114	4.50 / 114	12.52 / 318	6.00 / 152	10.04 / 255	16.06 / 408	20.38 / 518	60 / 27		
TSR05PR-05CF05TS-1	TSR05PL-05CF05TS-1	5.00 / 127	5.00 / 127	16.52 / 420	6.00 / 152	10.27 / 261	16.06 / 408	20.86 / 530	73 / 33		
TSR06PR-06CF06TS-1	TSR06PL-06CF06TS-1	6.00 / 152	6.00 / 152	22.52 / 572	6.00 / 152	10.65 / 271	16.06 / 408	21.74 / 552	93 / 42		
TSR08PR-08TI08TS-1	TSR08PL-08TI08TS-1	8.00 / 203	8.00 / 203	24.36 / 619	8.00 / 203	14.58 / 370	22.00 / 559	29.64 / 753	157 / 71		
TSR10PR-10TI10TS-1	TSR10PL-10TI10TS-1	10.00 / 254	10.00 / 254	30.11 / 765	8.00 / 203	18.14 / 461	28.00 / 711	37.20 / 945	254 / 115		
TSR12PR-12TI12TS-1	TSR12PL-12TI12TS-1	12.00 / 305	12.00 / 305	36.11 / 917	8.00 / 203	21.63 / 549	33.00 / 838	44.19 / 1122	356 / 161		

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.
- 1/3 the size and 1/2 the weight compared to most reactive silencers.
- Aluminized steel construction.
- Coated with satin black paint rated to 1200°F
- No mounting or integrated mounting options (f); see [Spiral Silencer Mounting Options \(p. 50\)](#).
- Connections:
  - Slotted cuff inlet on 6" and smaller; Tube stub (ID) inlet on 8" and larger.
  - Tube stub (OD) outlet.

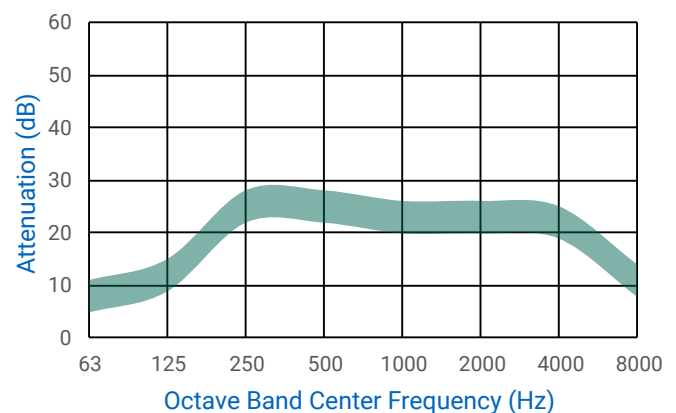
### CONFIGURABLE OPTIONS

- Inlet size and connection type (i/j) and outlet size and connection type (o/p).
- Material (m).

### CUSTOM OPTIONS

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

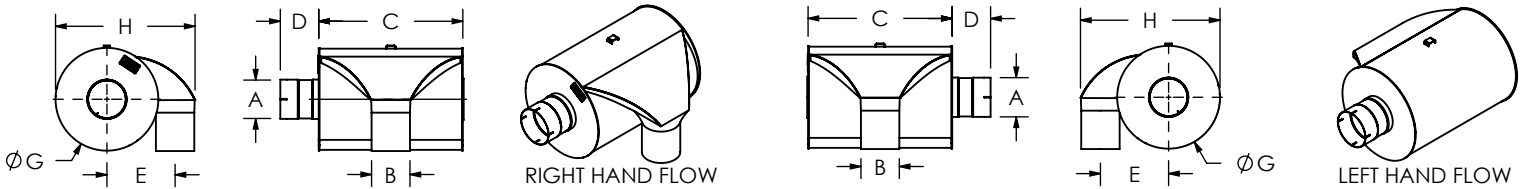
Typical Attenuation Curve





## TSC – SPIRAL PERIMETER DISCHARGE PR/PL CRITICAL GRADE SILENCER TYPICAL ATTENUATION 28–33 dB(A)

As the originator of the Spiral Type silencer, the Cowl Spiral Critical Grade Silencer is designed to provide a High Level of Attenuation for equipment operating where surrounding sound levels are relatively quiet. 1/3 the comparable size and 1/2 comparable weight of most cylindrical reactive silencers, Cowl Spiral silencer applications include industrial engines used in a wide variety of off-road Equipment, Power Generation and Marine installations. Available in a Right-Hand Flow or a Left Hand Flow Direction.



	Right Hand Flow	Left Hand Flow	A (IN/MM)	B (IN/MM)	C (IN/MM)	D (IN/MM)	E (IN/MM)	G (IN/MM)	H (REF) (IN/MM)	WT (LB/KG)
Aluminized Steel	TSC15PR-15CF15TS-1	TSC15PL-15CF15TS-1	1.50/38	1.50/38	5.27/134	3.00/76	4.85/123	8.81/224	10.07/256	15/7
	TSC02PR-02CF02TS-1	TSC02PL-02CF02TS-1	2.00/51	2.00/51	7.27/185	4.00/102	5.00/127	8.81/224	10.47/266	19/9
	TSC25PR-25CF25TS-1	TSC25PL-25CF25TS-1	2.50/64	2.50/64	8.27/210	4.00/102	6.45/164	11.81/300	13.67/347	33/15
	TSC03PR-03CF03TS-1	TSC03PL-03CF03TS-1	3.00/76	3.00/76	9.27/235	6.00/152	8.60/218	16.06/408	18.19/462	53/24
	TSC35PR-35CF35TS-1	TSC35PL-35CF35TS-1	3.50/89	3.50/89	11.52/293	6.00/152	8.82/224	16.06/408	18.66/474	62/28
	TSC04PR-04CF04TS-1	TSC04PL-04CF04TS-1	4.00/102	4.00/102	15.52/394	6.00/152	9.37/238	16.06/408	19.46/494	78/35
	TSC45PR-45CF45TS-1	TSC45PL-45CF45TS-1	4.50/114	4.50/114	12.52/318	6.00/152	11.32/288	19.38/492	23.32/592	82/37
	TSC05PR-05CF05TS-1	TSC05PL-05CF05TS-1	5.00/127	5.00/127	16.52/420	6.00/152	11.54/293	19.38/492	23.79/604	100/45
	TSC06PR-06CF06TS-1	TSC06PL-06CF06TS-1	6.00/152	6.00/152	22.52/572	6.00/152	11.98/304	19.38/492	24.73/628	128/58
	TSC08PR-08TI08TS-1	TSC08PL-08TI08TS-1	8.00/203	8.00/203	24.36/619	8.00/203	16.87/428	26.50/673	34.18/868	223/101
	TSC10PR-10TI10TS-1	TSC10PL-10TI10TS-1	10.00/254	10.00/254	30.11/765	8.00/203	21.28/541	34.00/864	43.34/1101	362/164
	TSC12PR-12TI12TS-1	TSC12PL-12TI12TS-1	12.00/305	12.00/305	36.11/917	8.00/203	24.70/627	40.00/1016	50.76/1289	507/230

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.
- 1/3 the size and 1/2 the weight compared to most reactive silencers.
- Aluminized steel construction.
- Coated with satin black paint rated to 1200°F
- No mounting or integrated mounting options (f); see [Spiral Silencer Mounting Options](#) (p. 50).
- Connections:
  - Slotted cuff inlet on 6" and smaller; Tube stub (ID) inlet on 8" and larger.
  - Tube stub (OD) outlet.

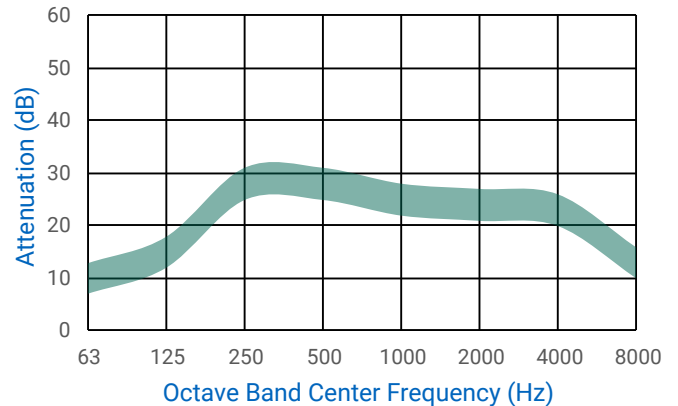
### CONFIGURABLE OPTIONS

- Inlet size and connection type (i/i) and outlet size and connection type (o/p).
- Material (m).

### CUSTOM OPTIONS

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

Typical Attenuation Curve

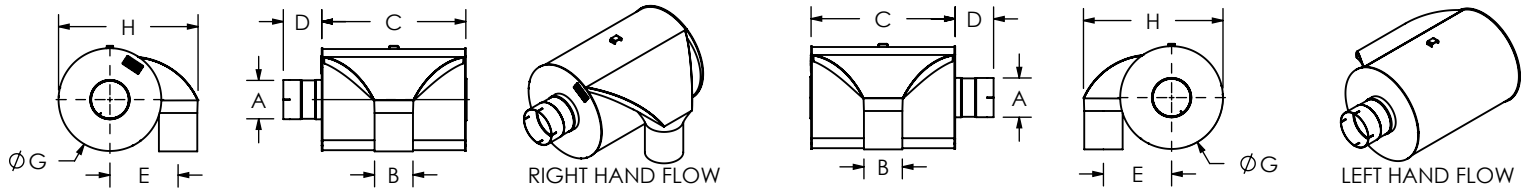




## TSH – SPIRAL PERIMETER DISCHARGE PR/PL HOSPITAL GRADE SILENCER TYPICAL ATTENUATION 33–38 dB(A)

Silencer Products

As the originator of the Spiral Type silencer, the Cowl Spiral Hospital Grade Silencer is designed to provide the Highest Level of Attenuation for equipment operating where surrounding sound levels are quiet. 1/3 the comparable size and 1/2 comparable weight of most cylindrical reactive silencers, Cowl Spiral silencer applications include industrial engines used in a wide variety of off-road Equipment, Power Generation and Marine installations. Available in a Right-Hand Flow or a Left Hand Flow Direction.



	Right Hand Flow	Left Hand Flow								
	Part Number	Part Number	A (IN / MM)	B (IN / MM)	C (IN / MM)	D (IN / MM)	E (IN / MM)	G (IN / MM)	H (REF) (IN / MM)	WT (LB / KG)
Aluminized Steel	TSH15PR-15CF15TS-1	TSH15PL-15CF15TS-1	1.50 / 38	1.50 / 38	5.27 / 134	3.00 / 76	5.38 / 137	9.94 / 252	11.16 / 283	19 / 9
	TSH02PR-02CF02TS-1	TSH02PL-02CF02TS-1	2.00 / 51	2.00 / 51	7.27 / 185	4.00 / 102	5.63 / 143	9.94 / 252	11.66 / 296	25 / 11
	TSH25PR-25CF25TS-1	TSH25PL-25CF25TS-1	2.50 / 64	2.50 / 64	8.27 / 210	4.00 / 102	7.38 / 187	13.44 / 341	15.41 / 391	39 / 18
	TSH03PR-03CF03TS-1	TSH03PL-03CF03TS-1	3.00 / 76	3.00 / 76	9.27 / 235	6.00 / 152	9.88 / 251	18.25 / 464	20.56 / 522	66 / 30
	TSH35PR-35CF35TS-1	TSH35PL-35CF35TS-1	3.50 / 89	3.50 / 89	11.52 / 293	6.00 / 152	10.13 / 257	18.25 / 464	21.06 / 535	76 / 34
	TSH04PR-04CF04TS-1	TSH04PL-04CF04TS-1	4.00 / 102	4.00 / 102	15.52 / 394	6.00 / 152	10.50 / 267	18.25 / 464	21.69 / 551	95 / 43
	TSH45PR-45CF45TS-1	TSH45PL-45CF45TS-1	4.50 / 114	4.50 / 114	12.52 / 318	6.00 / 152	12.50 / 318	21.81 / 554	25.72 / 653	104 / 47
	TSH05PR-05CF05TS-1	TSH05PL-05CF05TS-1	5.00 / 127	5.00 / 127	16.52 / 420	6.00 / 152	13.13 / 333	21.81 / 554	26.59 / 675	128 / 58
	TSH06PR-06CF06TS-1	TSH06PL-06CF06TS-1	6.00 / 152	6.00 / 152	22.52 / 572	6.00 / 152	13.19 / 335	21.81 / 554	27.16 / 690	163 / 74
	TSH08PR-08TI08TS-1	TSH08PL-08TI08TS-1	8.00 / 203	8.00 / 203	24.36 / 619	8.00 / 203	19.00 / 483	30.88 / 784	38.50 / 978	300 / 136
TSH10PR-10TI10TS-1	TSH10PL-10TI10TS-1	10.00 / 254	10.00 / 254	30.11 / 765	8.00 / 203	24.50 / 622	39.75 / 1010	49.44 / 1256	488 / 221	

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.
- 1/3 the size and 1/2 the weight compared to most reactive silencers.
- Aluminized steel construction.
- Coated with satin black paint rated to 1200°F
- No mounting or integrated mounting options (f); see [Spiral Silencer Mounting Options \(p. 50\)](#).
- Connections:
  - Slotted cuff inlet on 6" and smaller; Tube stub (ID) inlet on 8" and larger.
  - Tube stub (OD) outlet.

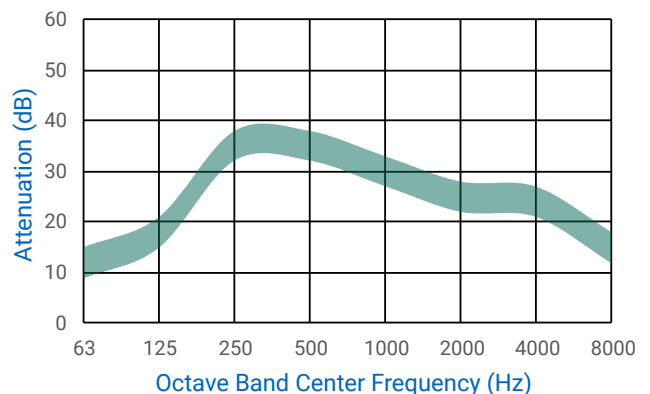
### CONFIGURABLE OPTIONS

- Inlet size and connection type (i/j) and outlet size and connection type (o/p).
- Material (m).

### CUSTOM OPTIONS

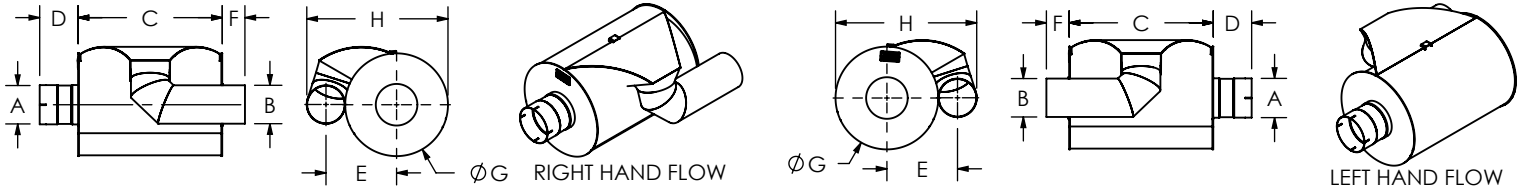
- Custom configurations, materials, connections, overall dimensions, mounting, etc.
- Contact factory with your project's design requirements and specifications.

Typical Attenuation Curve



## TSR – SPIRAL TURN DISCHARGE TR/TL RESIDENTIAL GRADE SILENCER TYPICAL ATTENUATION 22–28 dB(A)

As the originator of the Spiral Type silencer, the Cowl Spiral Residential Grade Silencer is designed to provide a Good Level of Attenuation for equipment operating where surrounding sound levels are moderate. 1/3 the comparable size and 1/2 comparable weight of most cylindrical reactive silencers, Cowl Spiral silencer applications include industrial engines used in a wide variety of off-road Equipment, Power Generation and Marine installations. Available in a Right-Hand Flow or a Left Hand Flow Direction.



	Right Hand Flow	Left Hand Flow	A	B	C	D	E	F	G	H (REF)	WT
	Part Number	Part Number	(IN / MM)	(IN / MM)	(IN / MM)	(IN / MM)	(IN / MM)	(IN / MM)	(IN / MM)	(IN / MM)	(LB / KG)
Aluminized Steel	TSR15TR-15CF15TS-1	TSR15TL-15CF15TS-1	1.50/38	1.50/38	5.27/134	3.00/76	4.34/110	2.55/65	7.18/182	8.74/222	12/5
	TSR02TR-02CF02TS-1	TSR02TL-02CF02TS-1	2.00/51	2.00/51	7.27/185	4.00/102	4.59/117	2.55/65	7.18/182	9.24/235	15/7
	TSR25TR-25CF25TS-1	TSR25TL-25CF25TS-1	2.50/64	2.50/64	8.27/210	4.00/102	5.66/144	2.55/65	8.81/224	11.38/289	20/9
	TSR03TR-03CF03TS-1	TSR03TL-03CF03TS-1	3.00/76	3.00/76	9.27/235	6.00/152	7.41/188	2.80/71	11.81/300	14.88/378	33/15
	TSR35TR-35CF35TS-1	TSR35TL-35CF35TS-1	3.50/89	3.50/89	11.52/293	6.00/152	7.66/195	2.99/76	11.81/300	15.38/391	39/18
	TSR04TR-04CF04TS-1	TSR04TL-04CF04TS-1	4.00/102	4.00/102	15.52/394	6.00/152	7.91/201	3.05/78	11.81/300	15.88/403	50/23
	TSR45TR-45CF45TS-1	TSR45TL-45CF45TS-1	4.50/114	4.50/114	12.52/318	6.00/152	10.28/261	3.55/90	16.06/408	20.62/524	61/28
	TSR05TR-05CF05TS-1	TSR05TL-05CF05TS-1	5.00/127	5.00/127	16.52/420	6.00/152	10.53/267	3.55/90	16.06/408	21.12/537	75/34
	TSR06TR-06CF06TS-1	TSR06TL-06CF06TS-1	6.00/152	6.00/152	22.52/572	6.00/152	11.03/280	3.55/90	16.06/408	22.12/562	97/44
	TSR08TR-08TI08TS-1	TSR08TL-08TI08TS-1	8.00/203	8.00/203	24.36/619	8.00/203	15.00/381	5.38/137	22.00/559	30.06/764	166/75
	TSR10TR-10TI10TS-1	TSR10TL-10TI10TS-1	10.00/254	10.00/254	30.11/765	8.00/203	19.00/483	4.38/111	28.00/711	38.06/967	270/122
	TSR12TR-12TI12TS-1	TSR12TL-12TI12TS-1	12.00/305	12.00/305	36.11/917	8.00/203	22.50/572	5.95/151	33.00/838	45.06/1145	382/173

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.
- 1/3 the size and 1/2 the weight compared to most reactive silencers.
- Aluminized steel construction.
- Coated with satin black paint rated to 1200°F
- No mounting or integrated mounting options (f); see [Spiral Silencer Mounting Options \(p. 50\)](#).
- Connections:
  - Slotted cuff inlet on 6" and smaller; Tube stub (ID) inlet on 8" and larger.
  - Tube stub (OD) outlet.

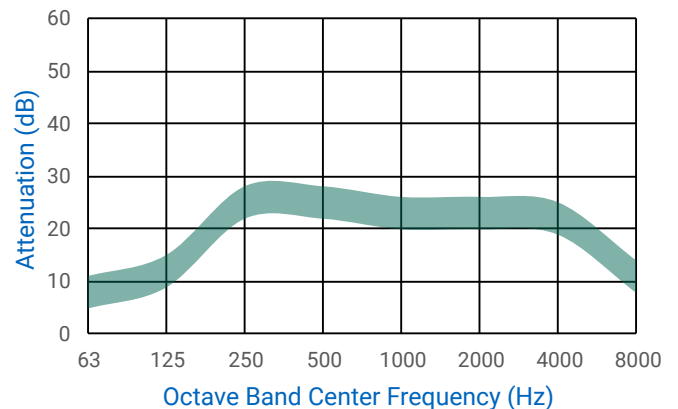
### CONFIGURABLE OPTIONS

- Inlet size and connection type (i/j) and outlet size and connection type (o/p).
- Material (m).

### CUSTOM OPTIONS

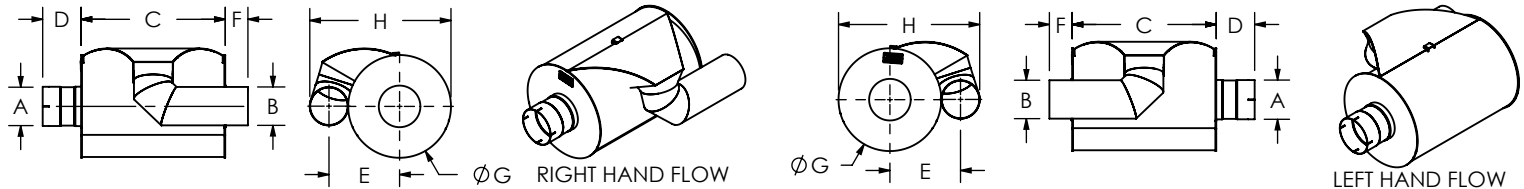
- Custom configurations, materials, connections, overall dimensions, mounting, etc.
- Contact factory with your project's design requirements and specifications.

Typical Attenuation Curve



## TSC – SPIRAL TURN DISCHARGE TR/TL CRITICAL GRADE SILENCER TYPICAL ATTENUATION 28–33 dB(A)

As the originator of the Spiral Type silencer, the Cowl Spiral Critical Grade Silencer is designed to provide a High Level of Attenuation for equipment operating where surrounding sound levels are relatively quiet. 1/3 the comparable size and 1/2 comparable weight of most cylindrical reactive silencers, Cowl Spiral silencer applications include industrial engines used in a wide variety of off-road Equipment, Power Generation and Marine installations. Available in a Right-Hand Flow or a Left Hand Flow Direction.



		Right Hand Flow	Left Hand Flow									
		Part Number	Part Number	A (IN/MM)	B (IN/MM)	C (IN/MM)	D (IN/MM)	E (IN/MM)	F (IN/MM)	G (IN/MM)	H (REF) (IN/MM)	WT (LB/KG)
Aluminized Steel	TSC15TR-15CF15TS-1	TSC15TL-15CF15TS-1	1.50/38	1.50/38	5.27/134	3.00/76	5.19/132	2.55/65	8.81/224	10.41/264	16/7	
	TSC02TR-02CF02TS-1	TSC02TL-02CF02TS-1	2.00/51	2.00/51	7.27/185	4.00/102	5.41/137	2.55/65	8.81/224	10.88/276	20/9	
	TSC25TR-25CF25TS-1	TSC25TL-25CF25TS-1	2.50/64	2.50/64	8.27/210	4.00/102	7.16/182	2.55/65	11.81/300	14.38/365	34/15	
	TSC03TR-03CF03TS-1	TSC03TL-03CF03TS-1	3.00/76	3.00/76	9.27/235	6.00/152	9.53/242	2.80/71	16.06/408	19.12/486	54/24	
	TSC35TR-35CF35TS-1	TSC35TL-35CF35TS-1	3.50/89	3.50/89	11.52/293	6.00/152	9.78/248	2.99/76	16.06/408	19.62/498	63/29	
	TSC04TR-04CF04TS-1	TSC04TL-04CF04TS-1	4.00/102	4.00/102	15.52/394	6.00/152	10.03/255	3.05/78	16.06/408	20.12/511	80/36	
	TSC45TR-45CF45TS-1	TSC45TL-45CF45TS-1	4.50/114	4.50/114	12.52/318	6.00/152	11.94/303	3.55/90	19.38/492	23.94/608	83/38	
	TSC05TR-05CF05TS-1	TSC05TL-05CF05TS-1	5.00/127	5.00/127	16.52/420	6.00/152	12.19/310	3.55/90	19.38/492	24.44/621	102/46	
	TSC06TR-06CF06TS-1	TSC06TL-06CF06TS-1	6.00/152	6.00/152	22.52/572	6.00/152	12.69/322	3.55/90	19.38/492	25.44/646	132/60	
	TSC08TR-08TI08TS-1	TSC08TL-08TI08TS-1	8.00/203	8.00/203	24.36/619	8.00/203	17.25/438	5.38/137	26.50/673	34.56/878	233/106	
	TSC10TR-10TI10TS-1	TSC10TL-10TI10TS-1	10.00/254	10.00/254	30.11/765	8.00/203	22.00/559	4.38/111	34.00/864	44.06/1119	378/171	
	TSC12TR-12TI12TS-1	TSC12TL-12TI12TS-1	12.00/305	12.00/305	36.11/917	8.00/203	26.00/660	5.95/151	40.00/1016	52.06/1322	532/241	

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.
- 1/3 the size and 1/2 the weight compared to most reactive silencers.
- Aluminized steel construction.
- Coated with satin black paint rated to 1200°F
- No mounting or integrated mounting options (f); see [Spiral Silencer Mounting Options \(p. 50\)](#).
- Connections:
  - Slotted cuff inlet on 6" and smaller; Tube stub (ID) inlet on 8" and larger.
  - Tube stub (OD) outlet.

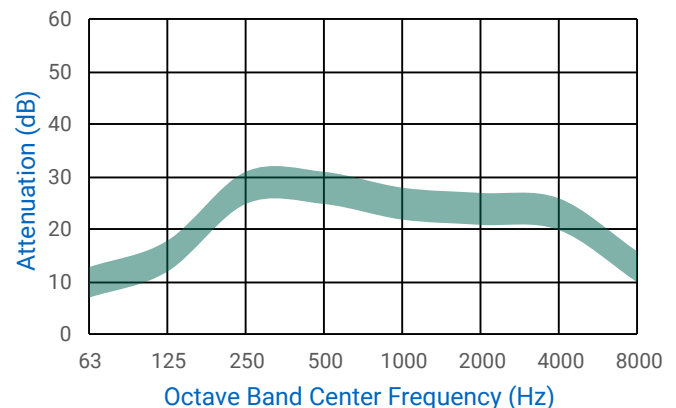
### CONFIGURABLE OPTIONS

- Inlet size and connection type (i/j) and outlet size and connection type (o/p).
- Material (m).

### CUSTOM OPTIONS

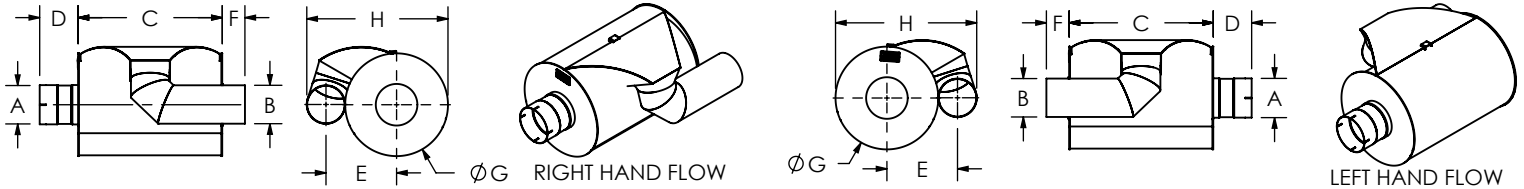
- Custom configurations, materials, connections, overall dimensions, mounting, etc.
- Contact factory with your project's design requirements and specifications.

Typical Attenuation Curve



## TSH – SPIRAL TURN DISCHARGE TR/TL HOSPITAL GRADE SILENCER TYPICAL ATTENUATION 33–38 dB(A)

As the originator of the Spiral Type silencer, the Cowl Spiral Hospital Grade Silencer is designed to provide the Highest Level of Attenuation for equipment operating where surrounding sound levels are quiet. 1/3 the comparable size and 1/2 comparable weight of most cylindrical reactive silencers, Cowl Spiral silencer applications include industrial engines used in a wide variety of off-road Equipment, Power Generation and Marine installations. Available in a Right-Hand Flow or a Left Hand Flow Direction.



	Right Hand Flow	Left Hand Flow	A	B	C	D	E	F	G	H (REF)	WT
	Part Number	Part Number	(IN / MM)	(IN / MM)	(IN / MM)	(IN / MM)	(IN / MM)	(IN / MM)	(IN / MM)	(IN / MM)	(LB / KG)
Aluminized Steel	TSH15TR-15CF15TS-1	TSH15TL-15CF15TS-1	1.50/38	1.50/38	5.27/134	3.00/76	5.81/148	2.55/65	9.94/252	11.59/294	20/9
	TSH02TR-02CF02TS-1	TSH02TL-02CF02TS-1	2.00/51	2.00/51	7.27/185	4.00/102	6.06/154	2.55/65	9.94/252	12.09/307	26/12
	TSH25TR-25CF25TS-1	TSH25TL-25CF25TS-1	2.50/64	2.50/64	8.27/210	4.00/102	8.06/205	2.55/65	13.44/341	16.09/409	40/18
	TSH03TR-03CF03TS-1	TSH03TL-03CF03TS-1	3.00/76	3.00/76	9.27/235	6.00/152	10.69/271	2.80/71	18.25/464	21.38/543	67/30
	TSH35TR-35CF35TS-1	TSH35TL-35CF35TS-1	3.50/89	3.50/89	11.52/293	6.00/152	10.94/278	2.99/76	18.25/464	21.88/556	77/35
	TSH04TR-04CF04TS-1	TSH04TL-04CF04TS-1	4.00/102	4.00/102	15.52/394	6.00/152	11.19/284	3.05/78	18.25/464	22.38/568	97/44
	TSH45TR-45CF45TS-1	TSH45TL-45CF45TS-1	4.50/114	4.50/114	12.52/318	6.00/152	13.25/337	3.55/90	21.81/554	26.47/672	105/48
	TSH05TR-05CF05TS-1	TSH05TL-05CF05TS-1	5.00/127	5.00/127	16.52/420	6.00/152	13.50/343	3.55/90	21.81/554	26.97/685	130/59
	TSH06TR-06CF06TS-1	TSH06TL-06CF06TS-1	6.00/152	6.00/152	22.52/572	6.00/152	14.00/356	3.55/90	21.81/554	27.97/710	167/76
	TSH08TR-08TI08TS-1	TSH08TL-08TI08TS-1	8.00/203	8.00/203	24.36/619	8.00/203	19.50/495	5.38/137	30.88/784	39.00/991	309/140
TSH10TR-10TI10TS-1	TSH10TL-10TI10TS-1	10.00/254	10.00/254	30.11/765	8.00/203	24.94/633	4.38/111	39.75/1010	49.88/1267	504/229	

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.
- 1/3 the size and 1/2 the weight compared to most reactive silencers.
- Aluminized steel construction.
- Coated with satin black paint rated to 1200°F
- No mounting or integrated mounting options (f); see [Spiral Silencer Mounting Options \(p. 50\)](#).
- Connections:
  - Slotted cuff inlet on 6" and smaller; Tube stub (ID) inlet on 8" and larger.
  - Tube stub (OD) outlet.

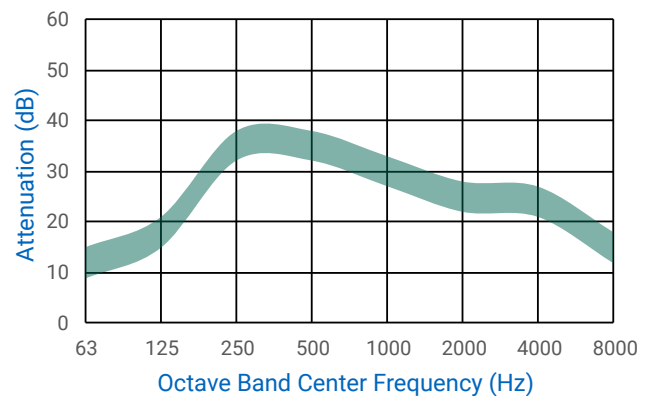
### CONFIGURABLE OPTIONS

- Inlet size and connection type (i/j) and outlet size and connection type (o/p).
- Material (m).

### CUSTOM OPTIONS

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

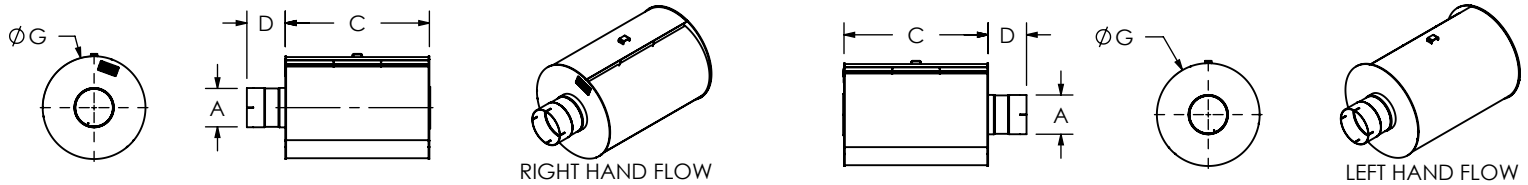
Typical Attenuation Curve



## TSR – SPIRAL SLOT DISCHARGE SR/SL RESIDENTIAL GRADE SILENCER TYPICAL ATTENUATION 22–28 dB(A)

Silencer Products

As the originator of the Spiral Type silencer, the Cowl Spiral Residential Grade Silencer is designed to provide a Good Level of Attenuation for equipment operating where surrounding sound levels are moderate. 1/3 the comparable size and 1/2 comparable weight of most cylindrical reactive silencers, Cowl Spiral silencer applications include industrial engines used in a wide variety of off-road Equipment, Power Generation and Marine installations. Available in a Right-Hand Flow or a Left Hand Flow Direction.



	Right Hand Flow	Left Hand Flow					
	Part Number	Part Number	A (IN / MM)	C (IN / MM)	D (IN / MM)	G (IN / MM)	WT (LB / KG)
Aluminized Steel	TSR15SR-15CF-1	TSR15SL-15CF-1	1.50 / 38	5.27 / 134	3.00 / 76	7.18 / 182	11 / 5
	TSR02SR-02CF-1	TSR02SL-02CF-1	2.00 / 51	7.27 / 185	4.00 / 102	7.18 / 182	13 / 6
	TSR25SR-25CF-1	TSR25SL-25CF-1	2.50 / 64	8.27 / 210	4.00 / 102	8.81 / 224	18 / 8
	TSR03SR-03CF-1	TSR03SL-03CF-1	3.00 / 76	9.27 / 235	6.00 / 152	11.81 / 300	30 / 14
	TSR35SR-35CF-1	TSR35SL-35CF-1	3.50 / 89	11.52 / 293	6.00 / 152	11.81 / 300	35 / 16
	TSR04SR-04CF-1	TSR04SL-04CF-1	4.00 / 102	15.52 / 394	6.00 / 152	11.81 / 300	45 / 20
	TSR45SR-45CF-1	TSR45SL-45CF-1	4.50 / 114	12.52 / 318	6.00 / 152	16.06 / 408	55 / 25
	TSR05SR-05CF-1	TSR05SL-05CF-1	5.00 / 127	16.52 / 420	6.00 / 152	16.06 / 408	68 / 31
	TSR06SR-06CF-1	TSR06SL-06CF-1	6.00 / 152	22.52 / 572	6.00 / 152	16.06 / 408	86 / 39
	TSR08SR-08TI-1	TSR08SL-08TI-1	8.00 / 203	24.36 / 619	8.00 / 203	22.00 / 559	141 / 64
	TSR10SR-10TI-1	TSR10SL-10TI-1	10.00 / 254	30.11 / 765	8.00 / 203	28.00 / 711	224 / 102
	TSR12SR-12TI-1	TSR12SL-12TI-1	12.00 / 305	36.11 / 917	8.00 / 203	33.00 / 838	315 / 143

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.
- 1/3 the size and 1/2 the weight compared to most reactive silencers.
- Aluminized steel construction.
- Coated with satin black paint rated to 1200°F
- No mounting or integrated mounting options (f); see [Spiral Silencer Mounting Options \(p. 50\)](#).
- Connections:
  - Slotted cuff inlet on 6" and smaller; Tube stub (ID) inlet on 8" and larger.

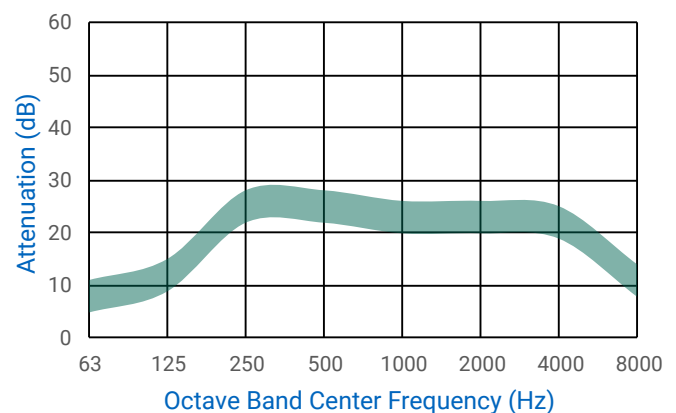
### CONFIGURABLE OPTIONS

- Inlet size and connection type (i/j).
- Material (m).

### CUSTOM OPTIONS

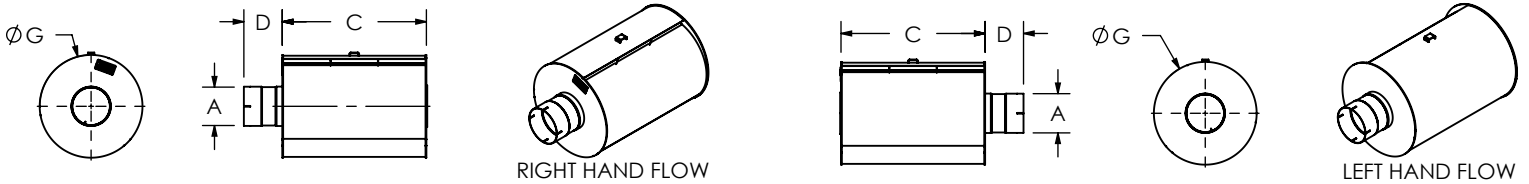
- Custom configurations, materials, connections, overall dimensions, mounting, etc.
- Contact factory with your project's design requirements and specifications.

Typical Attenuation Curve



## TSC – SPIRAL SLOT DISCHARGE SR/SL CRITICAL GRADE SILENCER TYPICAL ATTENUATION 28–33 dB(A)

As the originator of the Spiral Type silencer, the Cowl Spiral Critical Grade Silencer is designed to provide a High Level of Attenuation for equipment operating where surrounding sound levels are relatively quiet. 1/3 the comparable size and 1/2 comparable weight of most cylindrical reactive silencers, Cowl Spiral silencer applications include industrial engines used in a wide variety of off-road Equipment, Power Generation and Marine installations. Available in a Right-Hand Flow or a Left Hand Flow Direction.



	Right Hand Flow	Left Hand Flow					
	Part Number	Part Number	A (IN / MM)	C (IN / MM)	D (IN / MM)	G (IN / MM)	WT (LB / KG)
Aluminized Steel	TSC15SR-15CF-1	TSC15SL-15CF-1	1.50 / 38	5.27 / 134	3.00 / 76	8.81 / 224	15 / 7
	TSC25SR-25CF-1	TSC25SL-25CF-1	2.00 / 51	7.27 / 185	4.00 / 102	8.81 / 224	18 / 8
	TSC35SR-35CF-1	TSC35SL-35CF-1	2.50 / 64	8.27 / 210	4.00 / 102	11.81 / 300	32 / 15
	TSC03SR-03CF-1	TSC03SL-03CF-1	3.00 / 76	9.27 / 235	6.00 / 152	16.06 / 408	51 / 23
	TSC35SR-35CF-1	TSC35SL-35CF-1	3.50 / 89	11.52 / 293	6.00 / 152	16.06 / 408	59 / 27
	TSC04SR-04CF-1	TSC04SL-04CF-1	4.00 / 102	15.52 / 394	6.00 / 152	16.06 / 408	75 / 34
	TSC45SR-45CF-1	TSC45SL-45CF-1	4.50 / 114	12.52 / 318	6.00 / 152	19.38 / 492	77 / 35
	TSC05SR-05CF-1	TSC05SL-05CF-1	5.00 / 127	16.52 / 420	6.00 / 152	19.38 / 492	95 / 43
	TSC06SR-06CF-1	TSC06SL-06CF-1	6.00 / 152	22.52 / 572	6.00 / 152	19.38 / 492	120 / 54
	TSC08SR-08TI-1	TSC08SL-08TI-1	8.00 / 203	24.36 / 619	8.00 / 203	26.50 / 673	207 / 94
	TSC10SR-10TI-1	TSC10SL-10TI-1	10.00 / 254	30.11 / 765	8.00 / 203	34.00 / 864	332 / 151
	TSC12SR-12TI-1	TSC12SL-12TI-1	12.00 / 305	36.11 / 917	8.00 / 203	40.00 / 1016	466 / 211

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.
- 1/3 the size and 1/2 the weight compared to most reactive silencers.
- Aluminized steel construction.
- Coated with satin black paint rated to 1200°F
- No mounting or integrated mounting options (f); see [Spiral Silencer Mounting Options \(p. 50\)](#).
- Connections:
  - Slotted cuff inlet on 6" and smaller; Tube stub (ID) inlet on 8" and larger.

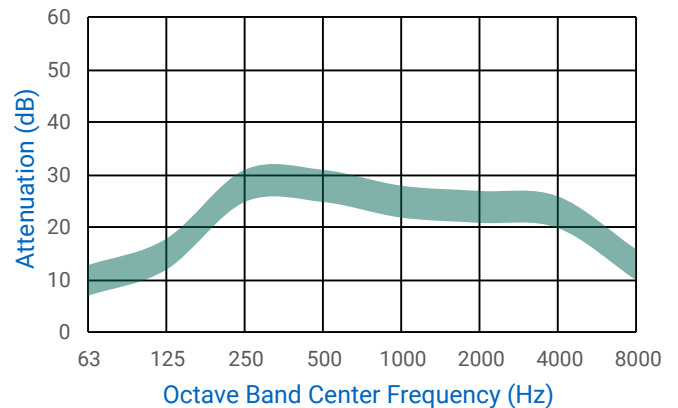
### CONFIGURABLE OPTIONS

- Inlet size and connection type (i/j).
- Material (m).

### CUSTOM OPTIONS

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

Typical Attenuation Curve

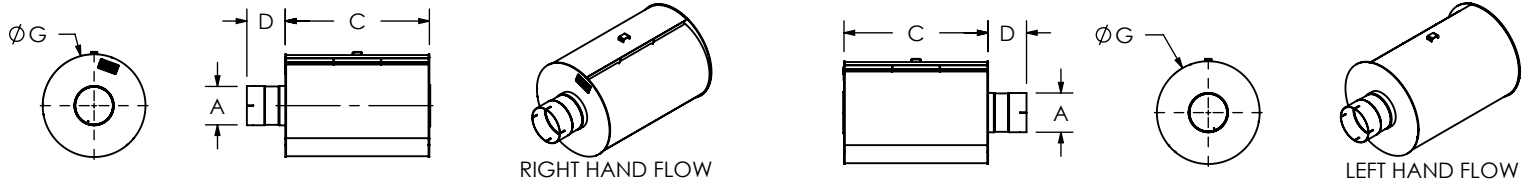




## TSH – SPIRAL SLOT DISCHARGE SR/SL HOSPITAL GRADE SILENCER TYPICAL ATTENUATION 33–38 dB(A)

Silencer Products

As the originator of the Spiral Type silencer, the Cowl Spiral Hospital Grade Silencer is designed to provide the Highest Level of Attenuation for equipment operating where surrounding sound levels are quiet. 1/3 the comparable size and 1/2 comparable weight of most cylindrical reactive silencers, Cowl Spiral silencer applications include industrial engines used in a wide variety of off-road Equipment, Power Generation and Marine installations. Available in a Right-Hand Flow or a Left Hand Flow Direction.



	Right Hand Flow	Left Hand Flow					
	Part Number	Part Number	A (IN / MM)	C (IN / MM)	D (IN / MM)	G (IN / MM)	WT (LB / KG)
Aluminized Steel	TSH15SR-15CF-1	TSH15SL-15CF-1	1.50 / 38	5.27 / 134	3.00 / 76	9.94 / 252	19 / 9
	TSH02SR-02CF-1	TSH02SL-02CF-1	2.00 / 51	7.27 / 185	4.00 / 102	9.94 / 252	24 / 11
	TSH25SR-25CF-1	TSH25SL-25CF-1	2.50 / 64	8.27 / 210	4.00 / 102	13.44 / 341	38 / 17
	TSH03SR-03CF-1	TSH03SL-03CF-1	3.00 / 76	9.27 / 235	6.00 / 152	18.25 / 464	63 / 29
	TSH35SR-35CF-1	TSH35SL-35CF-1	3.50 / 89	11.52 / 293	6.00 / 152	18.25 / 464	73 / 33
	TSH04SR-04CF-1	TSH04SL-04CF-1	4.00 / 102	15.52 / 394	6.00 / 152	18.25 / 464	92 / 42
	TSH45SR-45CF-1	TSH45SL-45CF-1	4.50 / 114	12.52 / 318	6.00 / 152	21.81 / 554	99 / 45
	TSH05SR-05CF-1	TSH05SL-05CF-1	5.00 / 127	16.52 / 420	6.00 / 152	21.81 / 554	122 / 55
	TSH06SR-06CF-1	TSH06SL-06CF-1	6.00 / 152	22.52 / 572	6.00 / 152	21.81 / 554	156 / 71
	TSH08SR-08TI-1	TSH08SL-08TI-1	8.00 / 203	24.36 / 619	8.00 / 203	30.88 / 784	284 / 129
	TSH10SR-10TI-1	TSH10SL-10TI-1	10.00 / 254	30.11 / 765	8.00 / 203	39.75 / 1010	458 / 208

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.
- 1/3 the size and 1/2 the weight compared to most reactive silencers.
- Aluminized steel construction.
- Coated with satin black paint rated to 1200°F
- No mounting or integrated mounting options (f); see [Spiral Silencer Mounting Options \(p. 50\)](#).
- Connections:
  - Slotted cuff inlet on 6" and smaller; Tube stub (ID) inlet on 8" and larger.

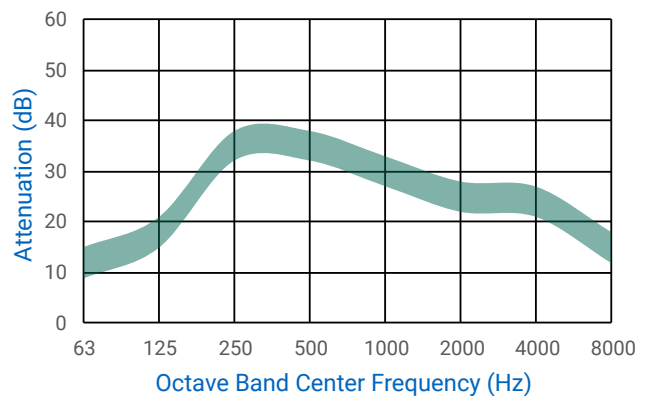
### CONFIGURABLE OPTIONS

- Inlet size and connection type (i/j).
- Material (m).

### CUSTOM OPTIONS

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

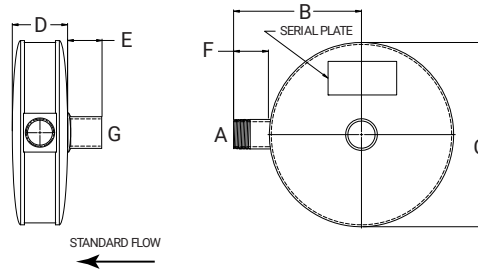
Typical Attenuation Curve





## 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
	MD30S000	3.0/77	8.50/216	11.88/302	5.12/130	2.50/64	3.0/77	3.0/77	17/7.7

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

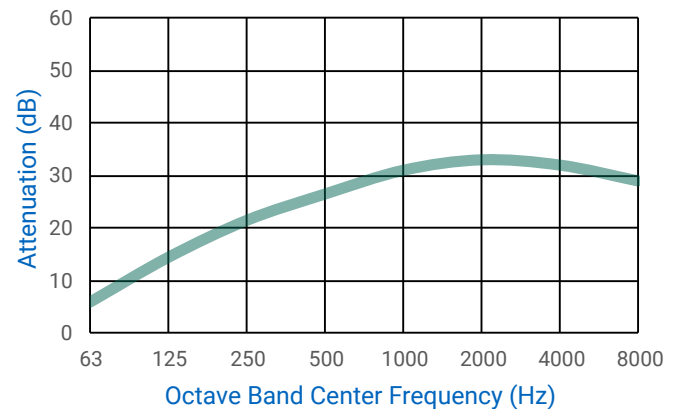
### STANDARD CONSTRUCTION

- 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

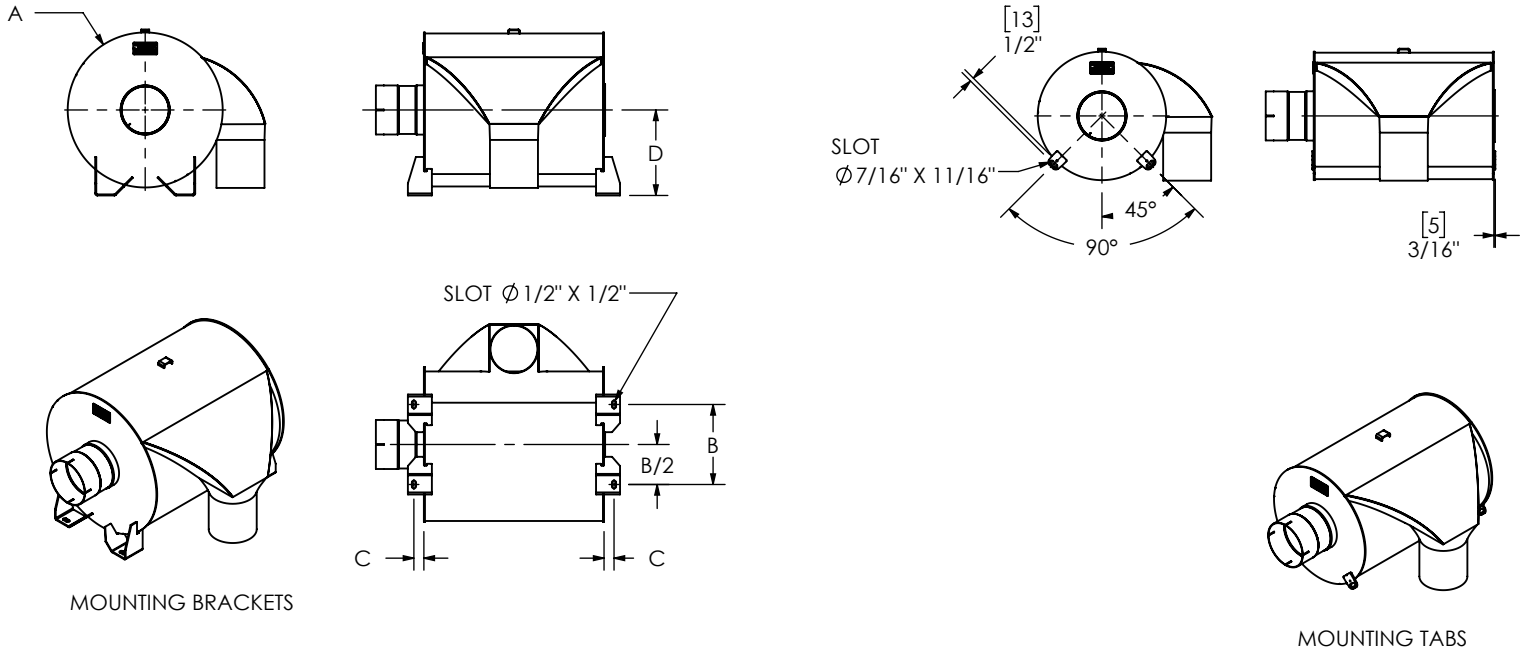
- Chart refers to standard product offering.
- Custom configurations, materials, connections, reversible flow, overall dimensions, etc.
- Contact factory with your project's design requirements and specifications.
- Thermal Insulation Blankets to suit all configurations.

Typical Attenuation Curve



## SPIRAL SILENCER MOUNTING OPTIONS STANDARD MOUNTING & MOUNTING TABS

Silencer Products

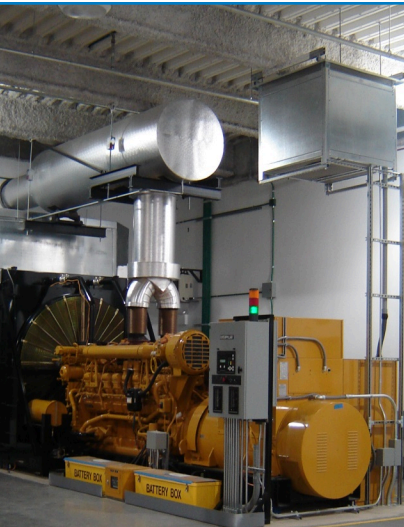


MOUNTING BRACKETS

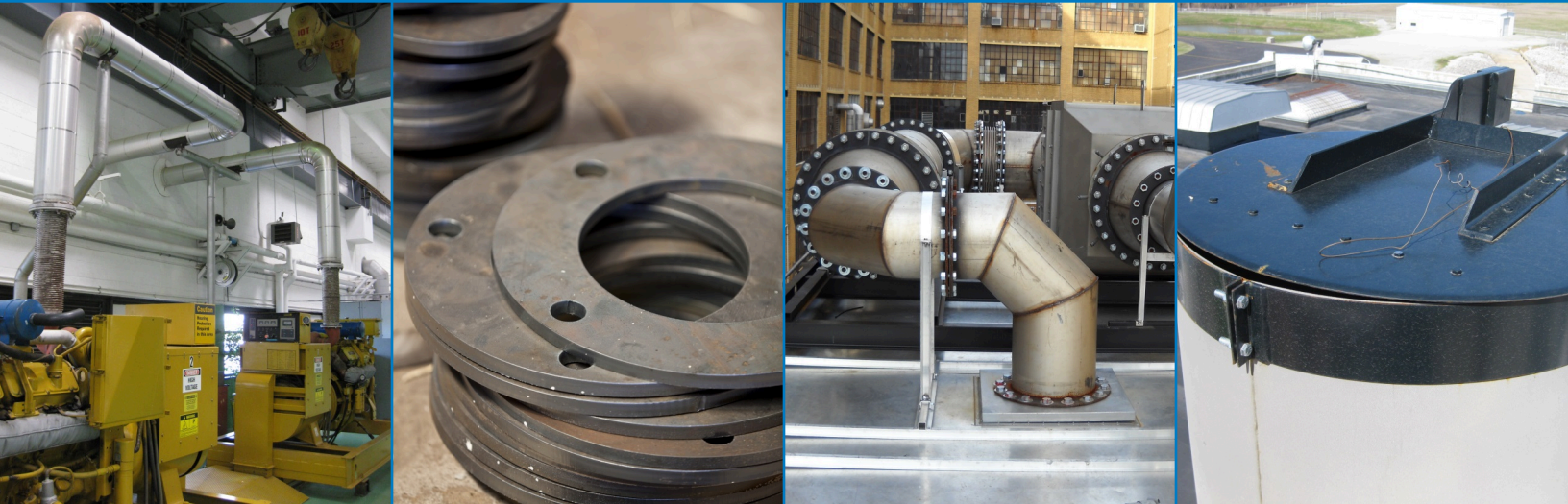
MOUNTING TABS

Bracket Kit		Mounting Tab Kit			
Part Number	Part Number	A (IN / MM)	B (IN / MM)	C (IN / MM)	D (IN / MM)
18n90-10	18n91-10	7.18 / 182	3.00 / 76	0.75 / 19	3.67 / 93
18n90-11	18n91-10	8.81 / 224	4.00 / 102	0.75 / 19	4.48 / 114
18n90-20	18n91-10	9.94 / 252	4.00 / 102	1.25 / 32	5.05 / 128
18n90-12	18n91-10	11.81 / 300	6.00 / 152	1.25 / 32	5.98 / 152
18n90-21	18n91-10	13.44 / 341	6.00 / 152	1.25 / 32	6.80 / 173
18n90-13	18n91-10	16.06 / 408	7.50 / 191	1.25 / 32	9.03 / 229
18n90-17	18n91-10	18.25 / 464	10.00 / 254	1.25 / 32	10.13 / 257
18n90-17	18n91-10	19.38 / 492	10.00 / 254	1.25 / 32	10.69 / 272
18n90-14	18n91-10	21.81 / 554	12.00 / 305	1.25 / 32	11.91 / 303
18n90-14	18n91-10	22.00 / 559	12.00 / 305	1.25 / 32	12.00 / 305
18n90-18	18n91-10	26.50 / 673	12.00 / 305	1.25 / 32	14.25 / 362
18n90-15	18n91-10	28.00 / 711	16.00 / 406	1.25 / 32	15.00 / 381
18n90-22	18n91-10	30.88 / 784	16.00 / 406	1.25 / 32	16.44 / 418
18n90-16	18n91-10	33.00 / 838	18.00 / 457	1.25 / 32	17.50 / 445
18n90-16	18n91-10	34.00 / 864	18.00 / 457	1.25 / 32	18.00 / 457
18n90-19	18n91-10	39.75 / 1010	18.00 / 457	1.25 / 32	20.88 / 530
18n90-19	18n91-10	40.00 / 1016	18.00 / 457	1.25 / 32	21.00 / 533

Dimensions are in inches / millimeters.



# Silencer Products



# Accessories

## ACCESSORIES TYPE 1 PART NUMBER LEGEND

RFT Z 0800 08 2 YYMMZZZZ  
 a g s t u m n

Accessory Type	
xxFL	Flange (See Prefix Table)
G	Ring Gasket
FFG	Full Faced Gasket
BNG	Bolt, Nut, Ring Gasket Kit
BNFFG	Bolt, Nut, Full Faced Gasket Kit
TC	Tube Connector
SB	Stack Breakers
VC	V-Clamp
VBC	V-Band Clamp
FCC	Full Circle Clamp
UBC	Heavy Duty U-Bolt Clamp
SSC	Sure Seal Clamp
TSC	True Seal Clamp
OMB	Oval Mounting Band
RMB	Round Mounting Band (1 pc.)
RMB2	Round Mounting Band (2 pc.)
PIPE	Pipe
TUBE	Tube
FLEX	Flex Hose
RC	Rain Cap
RCHD	Rain Cap (Heavy Duty)
RGF	Flanged Rain Guard
RGS	Slotted Cuff Rain Guard
RFT	Roof Thimble
WT	Wall Thimble
ERP	Explosion Relief Covers
PH	Pipe Hanger
DV	Drain Valve

Part Number Type	
Blank	Standard
X	Configurable (RFT & WT Only)
Z	Custom (All except PH & DV)

Dimensions	
##	Nominal Diameter - Ex. 4" (Ex. 04) Applies to FL, G/FFG/BNG/BNFFG (ANSI), RMB(2), RGF, WT,
##X###	Reducing Flange Nominal Diameter - Ex. 4" x 3.5" (Ex. 04X0350) Applies to REFL, DREFL
###	Nominal Diameter - Ex. 2.50" (Ex. 250) Applies to SB, VC, FCC, UBC, SSC, TSC
###	V-Band Nominal Diameter & Type - Ex. 3.0", Type 1 (Ex. 301) Applies to VBC
####	Nominal Diameter - Ex. 8.62" (Ex. 0862) Applies to PIPE, TUBE, FLEX, RC, RCHD, RGS, RFT, PH, DV
##X##	Oval I.D. Height x Width - Ex. 12" x 18" (Ex. 12X18) Applies to OMB
##xx	Nominal Diameter & Engine Make - Ex. 10", Caterpillar (Ex. 10CA) Applies to G/FFG/BNG/BNFFG (Engine Flange)
###x	Nominal Diameter & DIN Flange Rating - Ex. 50 mm PN6 (Ex. 050A) Applies to FL, G, FFG, BNG, BNFFG (See DIN Flange Rating
####xx	Nominal Diameter & Connection Type - Ex. 2.25" Slotted Cuff (Ex. 0225CF) Applies to TC (See Tube Connection Type table)

**8-Digit Code**  
 Applies to Custom Part Numbers Only  
 Code Generated by Engineering

Material	
Blank	Carbon - Applies to Standard Part Numbers Only
1	Aluminized
2	Carbon - Applies to Custom and Configurable Part Numbers Only
3	304 Stainless
4	316 Stainless
5	321 Stainless
6	409 Stainless

Second Dimension	
##	Wall Thickness - Ex. 8" (Ex. 08) Applies to RFT, WT (Blank if Custom)
####	Overall Length - Ex. 120.0" (Ex. 1200) Applies to PIPE, TUBE, FLEX
####xx	Nominal Diameter & Connection Type Ex. 2.25" Slotted Cuff - Applies to TC (See Tube Connection Type table) (Ex. 0225CF)
Blank	All other accessory types

Flange Prefixes (in format xxFL)		
Flange	T	Tube
	P	Pipe
	RE	Single Reducing
	DRE	Double Reducing
	R	Raised/Threaded
	CT	Custom
OEM Flange	DIN	DIN Flange
	CA	CAT
	CU	Cummins
	PK	Perkins
	MI	Mitsubishi
Other	DS	Doosan
	DF	Detroit
	MT	Machined Turbo
FR	20° Flare	

Tube Connection Type	
TS	Tube Stub (dimension refers to O.D.)
CF	Slotted Cuff (dimension refers to I.D.)

DIN Flange Rating	
A	PN6 Rating
B	PN10 Rating

Accessories

*At MIRATECH, everyone strives to give our customers an exceptional end-to-end experience – even if they never talk directly to the customer. We believe in Total Customer Experience management, because satisfaction is more than just a well-engineered, field-proven product.*

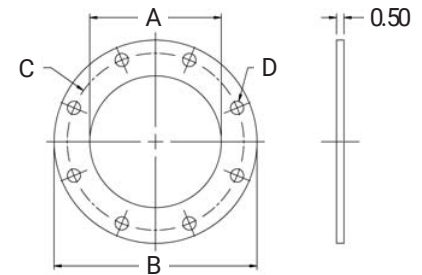


## ANSI FLANGES

MIRATECH loose flanges are manufactured to demanding industry standards. All flanges are drilled to suit ANSI 125/150# pattern, and are flat faced. Corresponding flange gasket and hardware kits are also available.

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-m	TUBE	2.06	6.00	4.75	0.75	4	4
PFL-02-m	PIPE	2.44	6.00	4.75	0.75	4	4
TFL-25-m	TUBE	2.56	7.00	5.50	0.75	4	5
PFL-25-m	PIPE	2.94	7.00	5.50	0.75	4	5
TFL-03-m	TUBE	3.06	7.50	6.00	0.75	4	5
PFL-03-m	PIPE	3.56	7.50	6.00	0.75	4	5
TFL-35-m	TUBE	3.56	8.50	7.00	0.75	8	6
PFL-35-m	PIPE	4.06	8.50	7.00	0.75	8	6
TFL-04-m	TUBE	4.06	9.00	7.50	0.75	8	7
PFL-04-m	PIPE	4.56	9.00	7.50	0.75	8	6
TFL-05-m	TUBE	5.06	10.00	8.50	0.88	8	8
PFL-05-m	PIPE	5.66	10.00	8.50	0.88	8	7
TFL-06-m	TUBE	6.06	11.00	9.50	0.88	8	9
PFL-06-m	PIPE	6.72	11.00	9.50	0.88	8	8
TFL-08-m	TUBE	8.06	13.50	11.75	0.88	8	13
PFL-08-m	PIPE	8.72	13.50	11.75	0.88	8	11
TFL-10-m	TUBE	10.06	16.00	14.25	1.00	12	16
PFL-10-m	PIPE	10.88	16.00	14.25	1.00	12	15
TFL-12-m	TUBE	12.06	19.00	17.00	1.00	12	23
PFL-12-m	PIPE	12.88	19.00	17.00	1.00	12	22
PFL-14-m	PIPE	14.19	21.00	18.75	1.13	12	27
PFL-16-m	PIPE	16.19	23.50	21.25	1.13	16	31
PFL-18-m	PIPE	18.19	25.00	22.75	1.25	16	32
PFL-20-m	PIPE	20.19	27.50	25.00	1.25	20	38
PFL-22-m	PIPE	22.19	29.50	27.25	1.38	20	39
PFL-24-m	PIPE	24.19	32.00	29.50	1.38	20	51
PFL-26-m	PIPE	26.19	34.25	31.75	1.38	24	55
PFL-28-m	PIPE	28.19	36.50	34.00	1.38	28	60
PFL-30-m	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 or 304 SS. Custom applications available, contact factory.

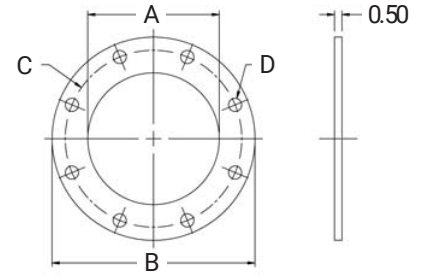


## ANSI REDUCING FLANGES

MIRATECH loose flanges are manufactured to demanding industry standards. All flanges are drilled to suit ANSI 125/150# pattern, are flat faced and manufactured from carbon steel. Corresponding flange gasket and hardware kits are also available.

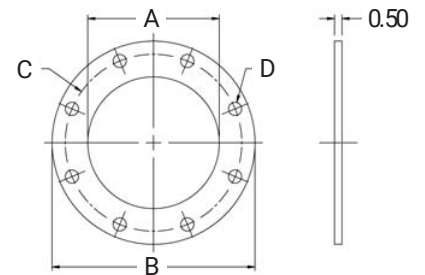
### Single Reducing Flanges

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



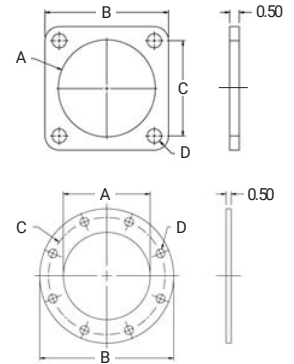
Dimensions are in inches. Weights are in pounds and are approximate. Standard material carbon steel, available in stainless steel. Custom applications available, contact factory.

## ENGINE FLANGES

MIRATECH loose flanges are manufactured to demanding industry standards. Corresponding flange gasket and hardware kits are also available.

### Caterpillar Flanges

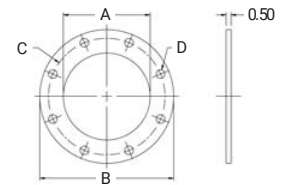
Part Number	A (ID)	B (OD)	C (BC)	D (Hole Dia.)	No. of Holes	WT
CAFL-04*	4.10	5.5 X 5.5	4.13	0.56	4	3
CAFL-05*	5.10	6.5 X 6.5	5.0	0.75	4	3
CAFL-06*	6.10	7.75 X 7.75	6.0	0.75	4	5
CAFL-08-m	8.10	11.00	9.88	0.56	8	6
CAFL-10-m	10.13	13.50	12.44	0.50	12	9
CAFL-12-m	12.10	16.00	14.80	0.56	12	7
CAFL-14-m	14.10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



\* Square CAT Flange

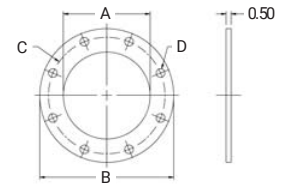
### Cummins Flanges

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



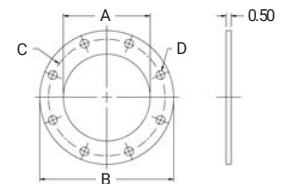
### Mitsubishi Flanges

Part Number	A (ID)	B (OD)	C (BC)	D (Hole Dia.)	No. of Holes	WT
MIFL-08-m	8.06	12.50	11.02	0.88	8	10
MIFL-10-m	10.06	15.16	13.58	0.88	12	13
MIFL-12-m	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
DFFL-06-m	6.06	9.50	8.19	0.43	6	6
DFFL-08-m	8.13	11.00	9.88	0.50	8	6
DFFL-10-m	10.06	13.00	11.88	0.56	8	8



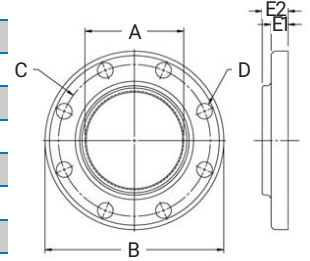
Dimensions are in inches. Weights are in pounds and are approximate. Standard material carbon steel or 304 SS. Custom applications available, contact factory.

Accessories

## THREADED RAISED, FLARED, & MACHINED TURBO FLANGES

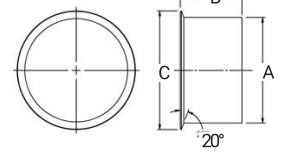
### Threaded Raised Flanges

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



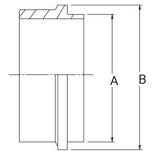
### 20° Flared Flanges

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



### Machined Turbo Flanges

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



## FLANGE GASKETS

MIRATECH offers gaskets in two high temperature formats for your convenience. Full Faced Gaskets are designed to cover the full flange face and include bolt holes. Ring Gaskets are designed to provide an inner flange face seal only and do not include bolt holes. Both high temperature gaskets are manufactured from carbon steel and offer excellent exhaust system sealability. Gaskets are shipped flat packed without hardware, available separately.

### 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	FFG-04CA*
5.00	FFG-05CA*
6.00	FFG-06CA*
8.00	FFG-08CA
10.00	FFG-10CA
12.00	FFG-12CA
14.00	FFG-14CA
16.00	FFG-16CA
18.00	FFG-18CA

\* Square CAT Flange

### Cummins Gaskets

	Full Faced Gasket
Size	Part Number
5.00	FFG-05CU
6.00	FFG-06CU

### Detroit Diesel Gaskets

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

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

MIRATECH packages a complete flange hardware kit consisting of the nuts, bolts, and gasket type of your choosing. BNG Kits are suitable for a single flanged connection. Gaskets (full faced or ring) included are of our standard high temperature specification.

### ANSI Gaskets BNG Kit

Size	Full Faced Gasket BNG		Ring Gasket BNG	
	Part Number	Part Number	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 Kit

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

\* Square CAT Flange

### Cummins Gaskets BNG Kit

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

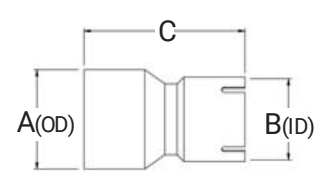
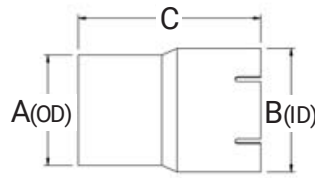
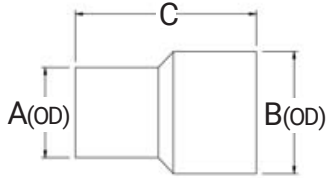
### Detroit Diesel Gaskets BNG Kit

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

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

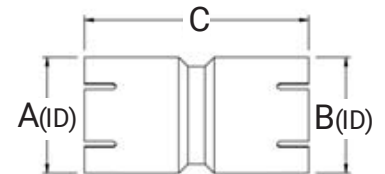
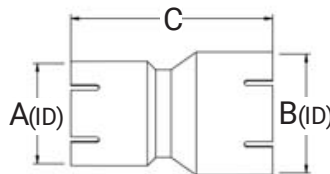
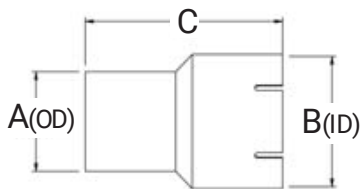
Tube Connectors are used to connect tubing of similar or different sizes. Fittings can be welded or clamped as required. MIRATECH also offers clamps separately for various tube fittings.



Tube Connectors – Style 1			
Part Number	A (OD)	B (OD)	C
TC-0200TS-0225TS	2.00	2.25	6.00
TC-0200TS-0250TS	2.00	2.50	6.00
TC-0250TS-0300TS	2.50	3.00	6.00
TC-0300TS-0350TS	3.00	3.50	6.00
TC-0300TS-0400TS	3.00	4.00	6.50
TC-0350TS-0400TS	3.50	4.00	6.00
TC-0350TS-0450TS	3.50	4.50	7.00
TC-0350TS-0500TS	3.50	5.00	8.00
TC-0400TS-0450TS	4.00	4.50	6.50
TC-0400TS-0500TS	4.00	5.00	8.00
TC-0500TS-0550TS	5.00	5.50	6.50
TC-0500TS-0600TS	5.00	6.00	8.00

Slotted Cuff – Style 1			
Part Number	A (OD)	B (ID)	C
TC-0200TS-0200CF	2.00	2.00	4.50
TC-0250TS-0250CF	2.50	2.50	4.50
TC-0300TS-0300CF	3.00	3.00	5.00
TC-0350TS-0350CF	3.50	3.50	5.50
TC-0400TS-0400CF	4.00	4.00	6.00
TC-0500TS-0500CF	5.00	5.00	6.00
TC-0550TS-0550CF	5.50	5.50	6.00
TC-0600TS-0600CF	6.00	6.00	6.00
TC-0800TS-0800CF	8.00	8.00	8.00
TC-1000TS-1000CF	10.00	10.00	8.00
TC-1200TS-1200CF	12.00	12.00	10.00

Slotted Cuff – Style 2			
Part Number	A (OD)	B (ID)	C
TC-0200CF-0225TS	2.25	2.00	6.00
TC-0200CF-0250TS	2.50	2.00	6.00
TC-0250CF-0300TS	3.00	2.50	6.00
TC-0300CF-0350TS	3.50	3.00	6.00
TC-0300CF-0400TS	4.00	3.00	6.50
TC-0350CF-0400TS	4.00	3.50	6.00
TC-0350CF-0450TS	4.50	3.50	7.00
TC-0350CF-0500TS	5.00	3.50	8.00
TC-0400CF-0450TS	4.50	4.00	6.50
TC-0400CF-0500TS	5.00	4.00	8.00
TC-0450CF-0500TS	5.00	4.50	8.00
TC-0500CF-0550TS	5.50	5.00	6.50
TC-0500CF-0600TS	6.00	5.00	8.00



Slotted Cuff – Style 3			
Part Number	A (OD)	B (ID)	C
TC-0200TS-0225CF	2.00	2.25	6.00
TC-0200TS-0250CF	2.00	2.50	6.00
TC-0250TS-0300CF	2.50	3.00	6.00
TC-0300TS-0350CF	3.00	3.50	6.00
TC-0300TS-0400CF	3.00	4.00	6.50
TC-0350TS-0400CF	3.50	4.00	6.00
TC-0350TS-0450CF	3.50	4.50	7.00
TC-0350TS-0500CF	3.50	5.00	8.00
TC-0400TS-0450CF	4.00	4.50	6.50
TC-0400TS-0500CF	4.00	5.00	8.00
TC-0450TS-0500CF	4.50	5.00	8.00
TC-0500TS-0550CF	5.00	5.50	6.50
TC-0500TS-0600CF	5.00	6.00	8.00

Slotted Cuff – Style 4			
Part Number	A (ID)	B (ID)	C
TC-0200CF-0225CF	2.00	2.25	6.00
TC-0200CF-0250CF	2.00	2.50	6.00
TC-0250CF-0300CF	2.50	3.00	6.00
TC-0300CF-0350CF	3.00	3.50	6.00
TC-0300CF-0400CF	3.00	4.00	6.50
TC-0350CF-0400CF	3.50	4.00	6.00
TC-0350CF-0450CF	3.50	4.50	7.00
TC-0350CF-0500CF	3.50	5.00	8.00
TC-0400CF-0450CF	4.00	4.50	6.50
TC-0400CF-0500CF	4.00	5.00	8.00
TC-0500CF-0550CF	5.00	5.50	6.50
TC-0500CF-0600CF	5.00	6.00	8.00

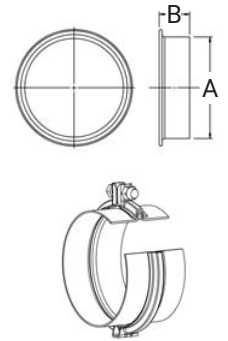
Slotted Cuff – Style 5			
Part Number	A (ID)	B (ID)	C
TC-0200CF-0200CF	2.00	2.00	4.50
TC-0250CF-0250CF	2.50	2.50	4.50
TC-0300CF-0300CF	3.00	3.00	5.00
TC-0350CF-0350CF	3.50	3.50	5.50
TC-0400CF-0400CF	4.00	4.00	6.50
TC-0450CF-0450CF	4.50	4.50	6.50
TC-0500CF-0500CF	5.00	5.00	6.50
TC-0550CF-0550CF	5.50	5.50	6.50
TC-0600CF-0600CF	6.00	6.00	6.50
TC-0800CF-0800CF	8.00	8.00	8.50
TC-1000CF-1000CF	10.00	10.00	8.50
TC-1200CF-1200CF	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

MIRATECH stack breakers are flared tube connections designed to be joined using standard V-Clamps, allowing for an exhaust system to be broken down or assembled easily. Mating flange and clamp sold separately.

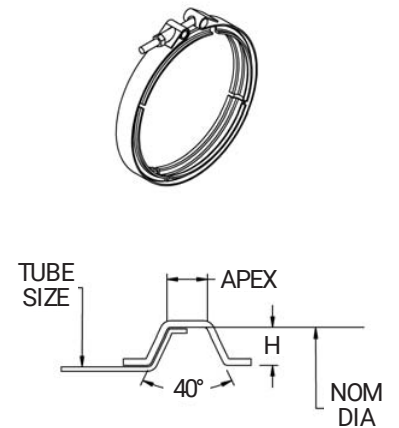
Stack Breakers					
Stack Breaker				Clamp	
Part Number	A (OD)	B	WT	Part Number	WT
SB-200-1	2.00	2.50	0.23	VC-200-1	0.17
SB-250-1	2.50	2.50	0.29	VC-250-1	0.20
SB-300-1	3.00	2.50	0.34	VC-300-1	0.22
SB-350-1	3.50	2.50	0.40	VC-350-1	0.25
SB-400-1	4.00	2.50	0.45	VC-400-1	0.28
SB-450-1	4.50	1.50	0.51	VC-450-1	0.31
SB-500-1	5.00	1.50	0.56	VC-500-1	0.33
SB-600-1	6 (ID)	1.50	0.66	VC-600-1	0.39



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

## CLAMPS

V-Band Manifold Clamps				
Part Number	Tube Size	Apex	Nom Dia	H
VBC-220-3	2.20	0.207	2.88	0.27
VBC-300-3	3.00	0.425	3.87	0.31
VBC-301-3	3.00	0.207	3.82	0.28
VBC-302-3	3.00	0.400	3.88	0.28
VBC-303-3	3.00	0.400	3.88	0.28
VBC-338-3	3.38	0.239	4.06	0.29
VBC-350-3	3.50	0.207	4.50	0.28
VBC-351-3	3.50	0.400	4.19	0.28
VBC-352-3	3.50	0.400	4.25	0.28
VBC-353-3	3.50	0.262	4.12	0.14
VBC-400-3	4.00	0.406	4.75	0.28
VBC-401-3	4.00	0.207	4.81	0.28
VBC-402-3	4.00	0.181	4.94	0.28
VBC-403-3	4.00	0.156	4.61	0.10
VBC-404-3	4.00	0.158	4.75	0.31
VBC-450-3	4.50	0.262	5.25	0.14
VBC-500-3	5.00	0.400	5.88	0.28
VBC-501-3	5.00	0.262	5.65	0.14
VBC-502-3	5.00	0.280	5.92	0.30
VBC-503-3	5.00	0.262	5.30	0.14
VBC-600-3	6.00	0.400	6.88	0.30



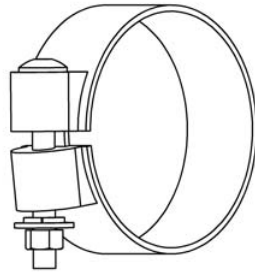
Dimensions are in inches. Standard material stainless steel.



## CLAMPS

### Full Circle Clamps

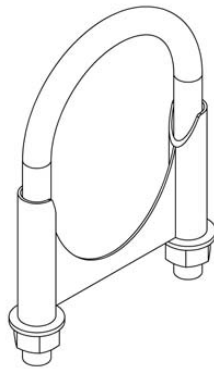
Part Number	Size
FCC-313	3.13
FCC-363	3.63
FCC-413	4.13
FCC-513	5.13
FCC-550	5.50
FCC-600	6.00
FCC-613	6.13
FCC-800	8.00
FCC-813	8.13



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

### Heavy Duty Round U-Bolts

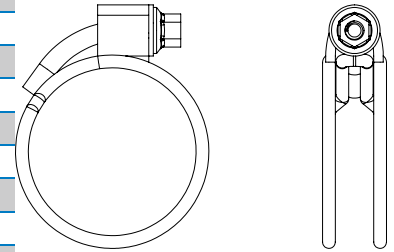
Part Number	Size	Bolt Size
UBC-150	1.50	0.31
UBC-163	1.63	0.31
UBC-175	1.75	0.31
UBC-200	2.00	0.31
UBC-225	2.25	0.31
UBC-250	2.50	0.31
UBC-300	3.00	0.38
UBC-350	3.50	0.38
UBC-400	4.00	0.38
UBC-450	4.50	0.38
UBC-500	5.00	0.38
UBC-550	5.50	0.38
UBC-600	6.00	0.38



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

### Sure-Seal Clamps

Part Number	Size
SSC-175	1.75
SSC-200	2.00
SSC-225	2.25
SSC-250	2.50
SSC-275	2.75
SSC-300	3.00
SSC-325	3.25
SSC-350	3.50
SSC-400	4.00
SSC-450	4.50
SSC-500	5.00
SSC-550	5.50
SSC-600	6.00
SSC-662	6.62
SSC-800	8.00

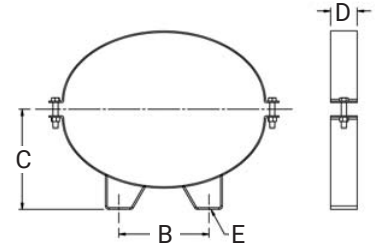


Dimensions are in inches. Standard material plain steel finish. Custom applications available, contact factory.

## OVAL MOUNTING BANDS

Mounting Bands are designed to support the silencer weight while mounted to a horizontal flat surface. For example, the roof of a genset enclosure.

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



Oval Bands are a two-piece design complete with hardware. Suitable for slight variation in silencer outside dimensions. Sold individually.

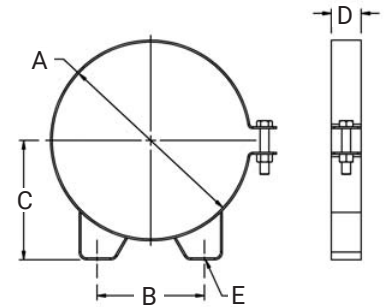
Dimensions are in inches. Weight is in pounds and is approximate. Standard material carbon steel painted high temp black or 304 SS. Custom applications available, contact factory.

## ROUND MOUNTING BANDS

Mounting Bands are designed to support the silencer weight while mounted to a horizontal flat surface. For example, the roof of a genset enclosure.

### Round Bands – 1 Piece

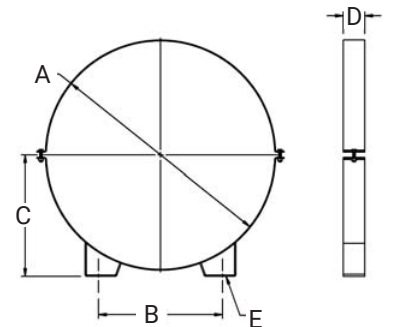
Part Number	Size	B	C	D	E (Hole Dia.)	WT
RMB-45	4.38	3.25	2.06	0.75	0.31	1
RMB-06	6.38	3.25	3.56	0.75	0.31	1
RMB-07	7.00	4.50	4.13	0.75	0.31	1
RMB-85	8.25	4.50	5.00	1.25	0.44	1
RMB-105	10.19	5.00	6.00	1.25	0.44	1
RMB-12	12.19	5.00	6.88	1.25	0.44	2
RMB-14	14.19	7.00	8.00	1.25	0.44	3
RMB-18	18.25	9.00	11.13	2.00	0.50	6
RMB-20	20.25	10.00	12.06	2.00	0.50	7
RMB-22	22.25	11.00	13.63	2.00	0.63	8
RMB-24	24.25	12.00	14.56	2.00	0.63	8
RMB-26	26.25	13.00	15.44	3.00	0.63	14
RMB-28	28.25	14.00	16.31	3.00	0.63	15
RMB-30	30.31	15.00	17.25	4.00	0.63	19
RMB-36	36.31	18.00	20.13	4.00	0.63	23
RMB-42	42.38	28.00	22.50	4.00	0.88	36
RMB-48	48.50	24.00	26.50	3.00	0.69	32



Round one-piece bands are complete with hardware. Suitable for smaller silencers with slight variation in silencer outside dimensions. Sold individually.

### 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
RMB2-34	34.31	16.00	18.50	4.00	0.63	22
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
RMB2-50-m	50.00	25.00	29.00	4.00	1.00	42
RMB2-54-m	54.00	27.00	30.50	4.00	1.00	50
RMB2-60-m	60.00	30.00	34.50	6.00	1.00	78
RMB2-62-m	62.00	32.00	35.00	6.00	1.00	104



Round two-piece bands are complete with hardware and suitable for larger diameter silencers. Suitable for slight variation in silencer outside dimensions. Sold individually.

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

Accessories

## 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-0150-xxxx	TUBE-0150-xxxx-3	1.50	16GA	0.065	0.9
TUBE-0200-xxxx	TUBE-0200-xxxx-3	2.00	16GA	0.065	1.3
TUBE-0225-xxxx	TUBE-0225-xxxx-3	2.25	16GA	0.065	1.5
TUBE-0250-xxxx	TUBE-0250-xxxx-3	2.50	16GA	0.065	1.7
TUBE-0275-xxxx	TUBE-0275-xxxx-3	2.75	16GA	0.065	1.9
TUBE-0300-xxxx	TUBE-0300-xxxx-3	3.00	16GA	0.065	2.0
TUBE-0350-xxxx	TUBE-0350-xxxx-3	3.50	16GA	0.065	2.4
TUBE-0400-xxxx	TUBE-0400-xxxx-3	4.00	16GA	0.065	2.7
TUBE-0450-xxxx	TUBE-0450-xxxx-3	4.50	16GA	0.065	3.1
TUBE-0500-xxxx	TUBE-0500-xxxx-3	5.00	16GA	0.065	3.4
TUBE-0550-xxxx	TUBE-0550-xxxx-3	5.50	16GA	0.065	3.8
TUBE-0600-xxxx	TUBE-0600-xxxx-3	6.00	14GA	0.083	4.7
PIPE-0663-xxxx	PIPE-0663-xxxx-3	6.63	SCH10	0.134	10.2
TUBE-0700-xxxx	TUBE-0700-xxxx-3	7.00	14GA	0.083	5.5
TUBE-0800-xxxx	TUBE-0800-xxxx-3	8.00	14GA	0.083	6.3
PIPE-0863-xxxx	PIPE-0863-xxxx-3	8.63	SCH10	0.148	13.3
TUBE-1000-xxxx	TUBE-1000-xxxx-3	10.00	14GA	0.083	14.9
PIPE-1075-xxxx	PIPE-1075-xxxx-3	10.75	SCH10	0.165	16.5
TUBE-1200-xxxx	TUBE-1200-xxxx-3	12.00	10GA	0.134	17.0
PIPE-1275-xxxx	PIPE-1275-xxxx-3	12.75	SCH10	0.180	19.8
PIPE-1400-xxxx	PIPE-1400-xxxx-3	14.00	SCH10	0.250	38.5
PIPE-1600-xxxx	PIPE-1600-xxxx-3	16.00	SCH10	0.250	43.0
PIPE-1800-xxxx	PIPE-1800-xxxx-3	18.00	SCH10	0.250	47.1
PIPE-2000-xxxx	PIPE-2000-xxxx-3	20.00	SCH10	0.250	52.5
PIPE-2200-xxxx	PIPE-2200-xxxx-3	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. Exhaust tube/ducting available up to 36 inch diameter as rolled/seam welded in various material and thickness options.

## CORRUGATED FLEX HOSE

Single Ply Corrugated 321 Stainless Steel Hose suitable for exhaust applications and pressures. Available in cut-to-suit lengths for customer specific project requirements. Larger sizes available upon request.

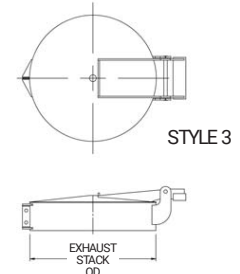
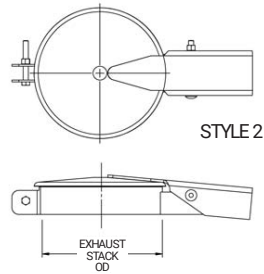
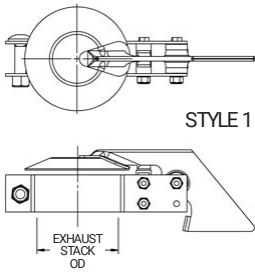
## Corrugated Flex Hose

Part Number	ID	OD	WT per FT
FLEX-0150-xxxx-5	1.50	2.19	0.8
FLEX-0200-xxxx-5	2.00	2.75	1.0
FLEX-0250-xxxx-5	2.50	3.17	1.2
FLEX-0300-xxxx-5	3.00	3.75	1.2
FLEX-0350-xxxx-5	3.50	4.38	1.4
FLEX-0400-xxxx-5	4.00	4.82	1.7
FLEX-0500-xxxx-5	5.00	5.87	2.5
FLEX-0600-xxxx-5	6.00	6.94	3.5
FLEX-0800-xxxx-5	8.00	9.00	5.6
FLEX-1000-xxxx-5	10.00	11.00	6.8
FLEX-1200-xxxx-5	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.

## RAIN CAPS

Exhaust Rain Caps are intended for vertical orientation discharge and are balanced for lower backpressure.



### Tube Rain Caps – Style 1

Part Number	Exhaust (OD)	Style
RC-0150-m	1.50	1
RC-0200-m	2.00	1
RC-0250-m	2.50	1
RC-0300-m	3.00	1
RC-0350-m	3.50	1
RC-0400-m	4.00	1
RC-0500-m	5.00	1
RC-0600-m	6.00	1

### Tube Rain Caps – Style 2

Part Number	Exhaust (OD)	Style
RC-0800-m	8.00	2
RC-1000-m	10.00	2
RC-1200-m	12.00	2

### Heavy Duty Rain Caps – Style 3

Part Number	Exhaust (OD)	Style
RCHD-1000-m	10.00	3
RCHD-1075-m	10.75	3
RCHD-1200-m	12.00	3
RCHD-1275-m	12.75	3
RCHD-1400-m	14.00	3
RCHD-1600-m	16.00	3
RCHD-1800-m	18.00	3
RCHD-2000-m	20.00	3
RCHD-2200-m	22.00	3
RCHD-2400-m	24.00	3
RCHD-2600-m	26.00	3
RCHD-2800-m	28.00	3
RCHD-3000-m	30.00	3
RCHD-3200-m	32.00	3

### Pipe Rain Caps – Style 1

Part Number	Exhaust (OD)	Style
RC-0188-m	1.88	1
RC-0238-m	2.38	1
RC-0288-m	2.88	1
RC-0350-m	3.50	1
RC-0400-m	4.00	1
RC-0450-m	4.50	1
RC-0550-m	5.50	1
RC-0663-m	6.63	1

### Pipe Rain Caps – Style 2

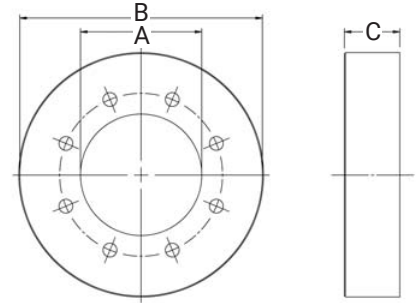
Part Number	Exhaust (OD)	Style
RC-0863-m	8.63	2
RC-1075-m	10.75	2
RC-1275-m	12.75	2
RC-1400-m	14.00	2
RC-1600-m	16.00	2
RC-1800-m	18.00	2
RC-2000-m	20.00	2

Dimensions are in inches. Standard material carbon steel painted high temp black or 304 SS. Custom applications available, contact factory.

## RAIN GUARDS

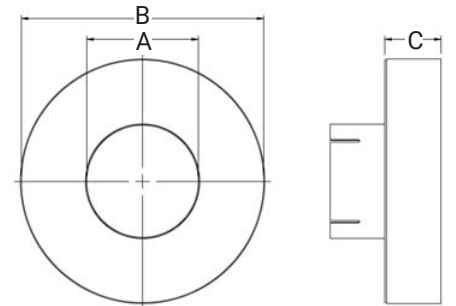
### ANSI Flanged Rain Guards

Part Number	A (ID)	B (OD)	C
RGF-0200	2.00	10.00	4.00
RGF-0300	3.00	11.65	4.00
RGF-0400	4.00	13.00	4.00
RGF-0500	5.00	14.00	4.00
RGF-0600	6.00	15.00	4.00
RGF-0800	8.00	17.50	4.00
RGF-1000	10.00	20.00	4.00
RGF-1200	12.00	23.00	4.00
RGF-1400	14.00	25.00	4.00
RGF-1600	16.00	27.50	4.00



### Slotted Rain Guards for Wall and Roof Thimbles

Part Number	A (ID)	B (OD)	C
RGS-0200	2.00	10.00	4.00
RGS-0250	2.50	10.00	4.00
RGS-0300	3.00	11.65	4.00
RGS-0400	4.00	13.00	4.00
RGS-0450	4.50	13.00	4.00
RGS-0500	5.00	14.00	4.00
RGS-0556	5.56	14.00	4.00
RGS-0600	6.00	15.00	4.00
RGS-0663	6.63	15.00	4.00
RGS-0800	8.00	17.50	4.00
RGS-0863	8.63	17.50	4.00
RGS-1000	10.00	20.00	4.00
RGS-1075	10.75	20.00	4.00
RGS-1200	12.00	23.00	4.00
RGS-1275	12.75	23.00	4.00
RGS-1400	14.00	25.00	4.00
RGS-1600	16.00	27.50	4.00



Accessories

Slotted rain guards include pest screen.

Special flange patterns are available.

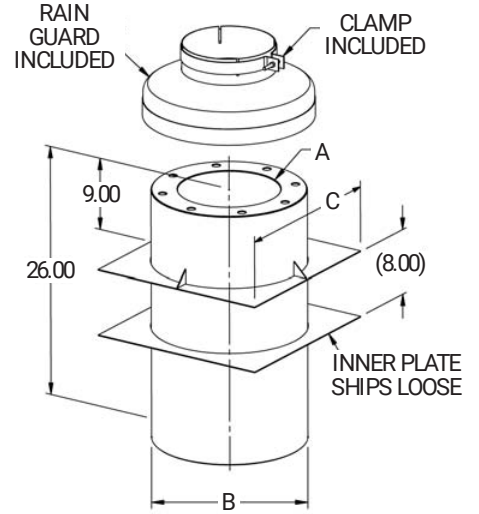
Dimensions are in inches. Standard material carbon steel painted high temp black, available in stainless steel. Custom applications available, contact factory.



### ROOF & NON-COMBUSTIBLE WALL THIMBLES

**Carbon Steel**

Pipe/Tube OD	Part Number	A (ID)	B (OD)	C	WT
2.00	RFT-0200-08	3.50	10.00	14.00	52
2.38	RFT-0238-08	3.50	10.00	14.00	53
2.50	RFT-0250-08	3.50	10.00	14.00	53
2.88	RFT-0288-08	3.50	10.00	14.00	57
3.00	RFT-0300-08	4.50	10.00	14.00	57
3.50	RFT-0350-08	4.50	10.00	14.00	58
4.00	RFT-0400-08	6.00	12.00	16.00	66
4.50	RFT-0450-08	6.00	12.00	16.00	68
5.00	RFT-0500-08	7.00	12.00	16.00	88
5.50	RFT-0550-08	7.00	12.00	16.00	90
6.00	RFT-0600-08	8.00	14.00	18.00	98
6.63	RFT-0662-08	8.00	14.00	18.00	100
8.00	RFT-0800-08	10.00	16.00	20.00	114
8.63	RFT-0862-08	10.00	16.00	20.00	117
10.00	RFT-1000-08	12.00	18.00	22.00	130
10.75	RFT-1075-08	12.00	18.00	22.00	136
12.00	RFT-1200-08	14.00	20.00	24.00	146
12.75	RFT-1275-08	14.00	20.00	24.00	150
14.00	RFT-1400-08	16.00	22.00	26.00	159
16.00	RFT-1600-08	18.00	24.00	28.00	175
18.00	RFT-1800-08	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.

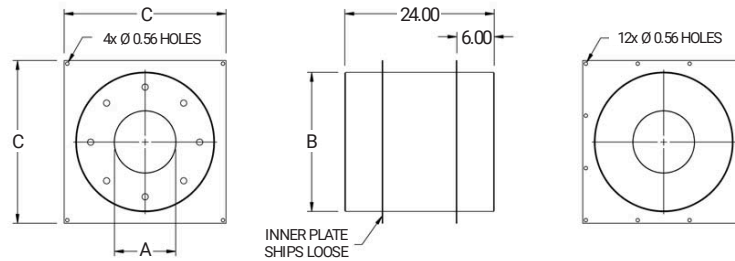
Dimensions are in inches. Weight is in pounds and is approximate.

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

Custom roof thimble lengths are available upon request.

## INSULATED WALL THIMBLES

Insulated thimbles are designed per NFPA Standard 37 and 110. Standard thimbles are 24 inches long and are designed for thick walls. Thimbles are shipped with one plate shipped loose. Exterior wall plate welded. Thimble rain guard available separately. See Thimble user guide for additional instructions.



Accessories

Pipe/Tube OD	Carbon Steel	304 Stainless Steel	A (ID)	B (OD)	C	WT
	Part Number	Part Number				
3.00	WT-03-12	WT-03-12-3	4.50	16.00	20.00	35
4.00	WT-04-12	WT-04-12-3	6.00	18.00	22.00	40
5.00	WT-05-12	WT-05-12-3	7.00	18.00	22.00	63
6.00	WT-06-12	WT-06-12-3	8.00	20.00	24.00	82
8.00	WT-08-12	WT-08-12-3	10.00	22.00	26.00	121
10.00	WT-10-12	WT-10-12-3	12.00	24.00	28.00	124
12.00	WT-12-12	WT-12-12-3	14.00	26.00	30.00	143
14.00	WT-14-12	WT-14-12-3	16.00	26.00	30.00	157
16.00	WT-16-12	WT-16-12-3	18.00	28.00	32.00	175
18.00	WT-18-12	WT-18-12-3	20.00	30.00	34.00	200
20.00	WT-20-12	WT-20-12-3	22.00	30.00	34.00	250

Meets or exceeds NFPA37 & NFPA110.

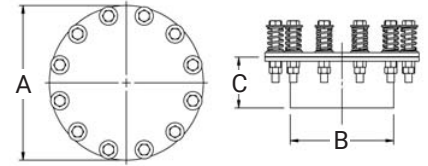
Dimensions are in inches. Weight is in pounds and is approximate. Standard material carbon steel painted high temp black, or 304 stainless steel. Custom applications available, contact factory.

## EXPLOSION RELIEF COVERS & INSPECTION PORTS

Explosion Relief Covers and Inspection Ports are available as options for appropriate silencer sizes. Explosion Relief Covers are intended to assist in protecting downstream exhaust systems in the event of system backfire. Inspection Ports are designed for limited visibility to silencers' internals as part of a preventative maintenance program.

### Explosion Relief Covers

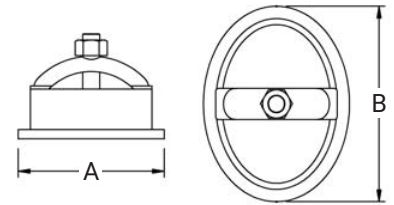
Silencer Body Size (Diameter)	Part Number	A	B	C
10-18	ERP-06	11.00	6.63	3.00
20-30	ERP-12	19.00	12.75	3.00
32-54	ERP-16	23.50	16.00	4.00
60 and Larger	ERP-20	27.50	20.00	4.00



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

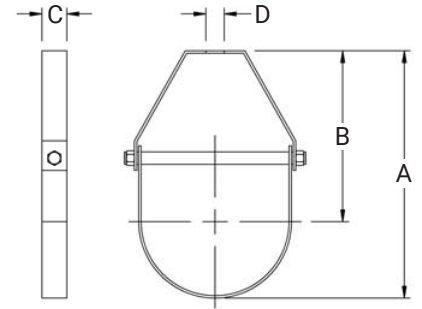


Includes the elliptical ring, cover, high temp gasket, yoke, bolt and nut.

## PIPE HANGERS & DRAIN VALVES

### Pipe Hangers

Part Number	Pipe (OD)	A	B	C	C	Max Load (lbs.)
PH-0150	1.50	3.81	2.81	1.00	0.375	730
PH-0200	2.00	4.50	3.31	1.00	0.375	730
PH-0250	2.50	5.50	4.06	1.00	0.500	1350
PH-0300	3.00	6.50	4.75	1.00	0.500	1350
PH-0350	3.50	7.06	5.06	1.25	0.500	1350
PH-0400	4.00	7.81	5.56	1.25	0.625	1430
PH-0550	5.50	8.94	6.65	1.19	0.625	1430
PH-0663	6.63	10.25	6.93	1.44	0.750	1940
PH-0863	8.63	12.69	8.38	1.44	0.750	2000
PH-1075	10.75	15.25	9.88	1.75	0.875	3600
PH-1275	12.75	17.94	11.56	2.00	0.875	3800
PH-1400	14.00	19.56	12.56	2.00	1.000	4200
PH-1600	16.00	22.00	14.00	2.50	1.000	4600
PH-1800	18.00	24.94	15.94	2.50	1.000	4800
PH-2000	20.00	27.56	17.56	3.00	1.250	4800

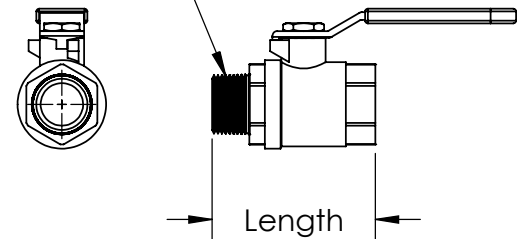


Sizes 5" and up have threaded rod and two nuts instead of bolt and nut. Dimensions are in inches. Standard material carbon steel, available in stainless steel.

### Drain Valves

Part Number	Pipe Thread Size	Length (End to End)
DV-0050	0.50	2.75
DV-0075	0.75	3.00
DV-0100	1.00	3.63
DV-0150	1.50	4.44

Pipe Thread Size



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

*Our team is dedicated to solving problems, based on one-of-a-kind needs. No project or challenge is too large or too small. Because we know that being highly engaged with the customer means keeping their engine, job site, and company running at its best.*

### ACCESSORIES TYPE 2 PART NUMBER LEGEND

**Y** **08** **X** - **D** **08** **CA** **1** - 14PF1 - EL080x180 - 2 - YMMZZZZ  
 a f g h i j k

#### Accessory Type

CN	Cone
EXT	Extension
ME	Mitered Exhaust
STK	Stack
EL	Short Radius 90° Elbow
ELL	Long Radius 90° Elbow
EB	Short Radius 45° Elbow
EBL	Long Radius 45° Elbow
FL	Flex
BL1	Bellow (Single Ply)
BL2	Bellow (Dual Ply)
Y	Wye

#### Flex Diameter Applies to FL, BL, & Y Only

## (Ex. 02)	Nominal Whole Diameter - Ex. 2"
## (Ex. 25)	Nominal Half Diameter - Ex. 2.5"

#### Part Number Type

Blank	Standard
X	Configurable
Z	Custom

#### Number of Inlets Applies to Y Only

D	2 Inlets
T	3 Inlets

#### Inlet Size

## (Ex. 02)	Nominal Whole Diameter - Ex. 2"
## (Ex. 25)	Nominal Half Diameter - Ex. 2.5"
### (Ex. 100)	Nominal Diameter - Ex. 100 mm

#### Flange Mounting Type

1	Fixed
2	Floating
3	Shipped Loose
Blank	Non-Flange Connection

#### Inlet Connection

No Flange	PS	Pipe Stub
	TS	Tube Stub
Flange	TF	Tube
	PF	Pipe
	SR	Single Reducing
	DR	Double Reducing
	RF	Raised/Threaded
	CT	Custom
OEM Flange	CA	CAT
	CU	Cummins
	PK	Perkins
	MI	Mitsubishi
	DS	Doosan
	DF	Detroit
DIN Flange	A	PN6 Rating
	B	PN10 Rating
Other	CF	Slotted Cuff
	MN	Male NPT
	FN	Female NPT
	SB	Stack Breaker
	MT	Machined Turbo
	FR	20° Flare
MA	Marman	

Accessories

**ACCESSORIES TYPE 2 PART NUMBER LEGEND (CONTINUED)**

Y08X - D08CA1 - 14PF1 - EL 080x180 - 2 - YYMMZZZZ  
o p q r s t u m n

Outlet Connection	
Blank	No Outlet Connection (ME & STK)
Other	Same form as Inlet

Elbow Type <i>Applies to Flex with Elbow Only</i>	
xx (Ex. EL)	Radius Definition Ex. Short Radius 90° Elbow
Blank	Custom Part Number

Dimensions	
### (Ex. 120)	Overall Length* - Ex. 12.0" Applies to CN, ME, FL, BL1, BL2
#### (Ex. 0120)	Overall Length - Ex. 12.0" Applies to EXT, STK
##X### (Ex. 080X180)	Leg Lengths* - Ex. 8.0" x 18.0" Applies to Flex with Elbow
##X#### (Ex. 080X0100)	Leg Lengths - Ex. 8.0" x 10.0" Applies to EL, ELL, EB, EBL
###-###-## (Ex. 207-360-10)	Spread, Length, and Length Offset* Ex. 20.7" - 36.0" - 1.0" - Applies to Y
Blank	Custom Part Number

\* Accessories over 99.9" will need to be Engineer Sized

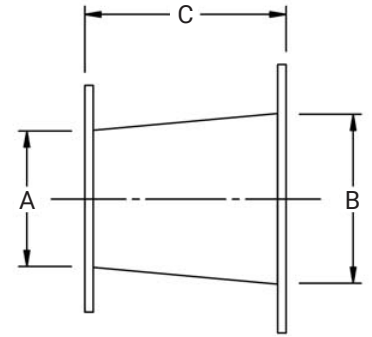
Material	
1	Aluminized
2	Carbon
3	304 Stainless
4	316 Stainless
5	321 Stainless
6	409 Stainless

**8-Digit Code**  
*Applies to Custom Part Numbers Only*  
 Code Generated by Engineering

### CONES & EXTENSIONS

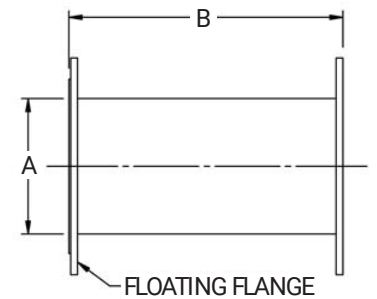
#### Reducing Cones - Flanged

Part Number	A (OD)	B (OD)	C (Length)	WT
CN-04TF1-06TF1-120-m	4.00	6.00	12.00	20
CN-04TF1-08TF1-120-m	4.00	8.00	12.00	24
CN-06TF1-08TF1-120-m	6.00	8.00	12.00	27
CN-06TF1-10TF1-120-m	6.00	10.00	12.00	31
CN-08TF1-10TF1-120-m	8.00	10.00	12.00	35
CN-08TF1-12TF1-120-m	8.00	12.00	12.00	43
CN-10TF1-12TF1-140-m	10.00	12.00	14.00	48
CN-10TF1-14PF1-140-m	10.00	14.00	14.00	52
CN-12TF1-14PF1-140-m	12.00	14.00	14.00	59
CN-12TF1-16PF1-140-m	12.00	16.00	14.00	65
CN-14PF1-16PF1-160-m	14.00	16.00	16.00	70
CN-14PF1-18PF1-160-m	14.00	16.00	16.00	71
CN-16PF1-18PF1-160-m	16.00	18.00	16.00	77
CN-16PF1-20PF1-160-m	16.00	20.00	16.00	84
CN-18PF1-20PF1-180-m	18.00	20.00	18.00	87
CN-18PF1-22PF1-180-m	18.00	22.00	18.00	91
CN-20PF1-22PF1-180-m	20.00	22.00	18.00	97
CN-20PF1-24PF1-180-m	20.00	24.00	18.00	105



#### Exhaust Extensions - Flanged

Part Number	A (OD)	B (Length)	WT
EXT-04TF1-04TF2-0120-m	4.00	12.00	16
EXT-45TF1-45TF2-0120-m	4.50	12.00	17
EXT-05TF1-05TF2-0160-m	5.00	16.00	20
EXT-06TF1-06TF2-0180-m	6.00	18.00	26
EXT-08TF1-08TF2-0180-m	8.00	18.00	34
EXT-10TF1-10TF2-0200-m	10.00	20.00	50
EXT-12TF1-12TF2-0240-m	12.00	24.00	80
EXT-14PF1-14PF2-0280-m	14.00	28.00	135
EXT-16PF1-16PF2-0320-m	16.00	32.00	172
EXT-18PF1-18PF2-0360-m	18.00	36.00	201
EXT-20PF1-20PF2-0400-m	20.00	40.00	215
EXT-22PF1-22PF2-0480-m	22.00	48.00	241
EXT-24PF1-24PF2-0480-m	24.00	48.00	271
EXT-26PF1-26PF2-0480-m	26.00	48.00	344
EXT-28PF1-28PF2-0480-m	28.00	48.00	380
EXT-30PF1-30PF2-0480-m	30.00	48.00	405



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

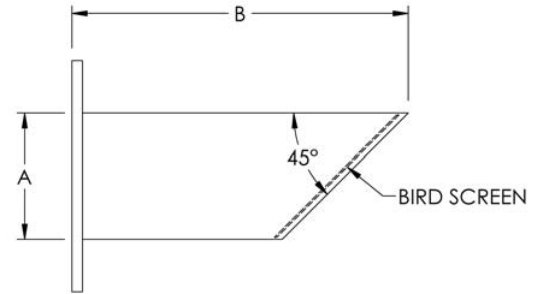


## 45° MITERED W/ BIRD SCREEN

Mitered outlets are intended to provide protection from unwanted debris from entering the exhaust system.

### Mitered Outlet

Part Number	A (OD)	B (Length)	WT
ME-04TF1-120-m	4.00	12.00	12
ME-45TF1-120-m	4.50	12.00	13
ME-05TF1-160-m	5.00	16.00	13
ME-06TF1-180-m	6.00	18.00	20
ME-08TF1-180-m	8.00	18.00	26
ME-10TF1-200-m	10.00	20.00	35
ME-12TF1-240-m	12.00	24.00	50
ME-14PF1-280-m	14.00	28.00	90
ME-16PF1-320-m	16.00	32.00	116
ME-18PF1-360-m	18.00	36.00	138
ME-20PF1-400-m	20.00	40.00	153
ME-22PF1-480-m	22.00	48.00	185
ME-24PF1-480-m	24.00	48.00	220
ME-26PF1-480-m	26.00	48.00	289
ME-28PF1-480-m	28.00	48.00	320
ME-30PF1-480-m	30.00	48.00	343

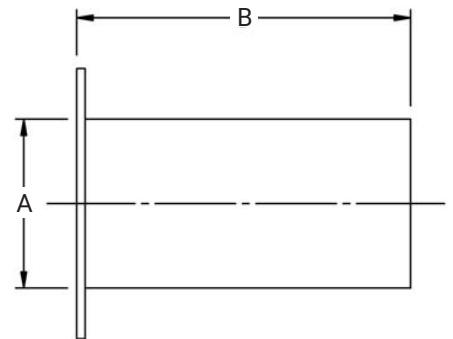


## STACKS

Flanged Exhaust Stacks are intended to connect tubing or other exhaust components and can also be used to discharge.

### Exhaust Stacks

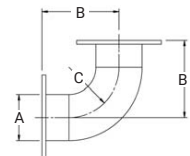
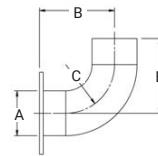
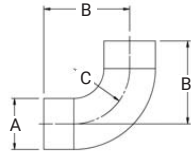
Part Number	A (OD)	B (Length)	WT
STK-04TF1-0120-m	4.00	12.00	10
STK-45TF1-0120-m	4.50	12.00	11
STK-05TF1-0160-m	5.00	16.00	13
STK-06TF1-0180-m	6.00	18.00	18
STK-08TF1-0180-m	8.00	18.00	18
STK-10TF1-0200-m	10.00	20.00	34
STK-12TF1-0240-m	12.00	24.00	57
STK-14PF1-0280-m	14.00	28.00	108
STK-16PF1-0320-m	16.00	32.00	141
STK-18PF1-0360-m	18.00	36.00	169
STK-20PF1-0400-m	20.00	40.00	177
STK-22PF1-0480-m	22.00	48.00	202
STK-24PF1-0480-m	24.00	48.00	220
STK-26PF1-0480-m	26.00	48.00	389
STK-28PF1-0480-m	28.00	48.00	320
STK-30PF1-0480-m	30.00	48.00	343



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

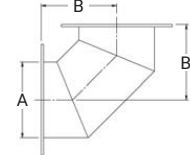
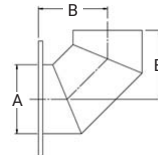
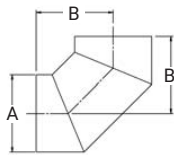
### 90° SHORT RADIUS ELBOWS

#### 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	4.00	EL-03TS-03TS-060X0060-m	2	EL-03TF1-03TS-060X0060-m	7	EL-03TF1-03TF1-060X0060-m	12
3.50	8.00	4.00	EL-35TS-35TS-080X0080-m	3	EL-35TF1-35TS-080X0080-m	8	EL-35TF1-35TF1-080X0080-m	13
4.00	8.00	4.00	EL-04TS-04TS-080X0080-m	4	EL-04TF1-04TS-080X0080-m	10	EL-04TF1-04TF1-080X0080-m	16
5.00	10.00	5.50	EL-05TS-05TS-100X0100-m	5	EL-05TF1-05TS-100X0100-m	13	EL-05TF1-05TF1-100X0100-m	20
6.00	10.00	6.00	EL-06TS-06TS-100X0100-m	6	EL-06TF1-06TS-100X0100-m	15	EL-06TF1-06TF1-100X0100-m	23

#### 90° Short Radius Elbows – Mitered

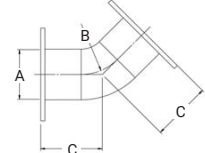
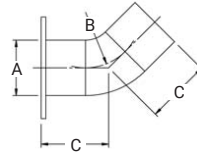
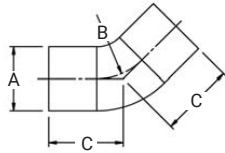


			No Flange		Flanged One End		Flanged Both Ends	
A (OD)	B		Part Number	WT	Part Number	WT	Part Number	WT
8.00	8.00		EL-08TS-08TS-080X0080-m	8	EL-08TF1-08TS-080X0080-m	20	EL-08TF1-08TF1-080X0080-m	32
10.00	10.00		EL-10TS-10TS-100X0100-m	12	EL-10TF1-10TS-100X0100-m	28	EL-10TF1-10TF1-100X0100-m	44
12.00	12.00		EL-12TS-12TS-120X0120-m	28	EL-12TF1-12TS-120X0120-m	50	EL-12TF1-12TF1-120X0120-m	73
14.00	14.00		EL-14PS-14PS-140X0140-m	71	EL-14PF1-14PS-140X0140-m	95	EL-14PF1-14PF1-140X0140-m	120
16.00	16.00		EL-16PS-16PS-160X0160-m	93	EL-16PF1-16PS-160X0160-m	122	EL-16PF1-16PF1-160X0160-m	151
18.00	18.00		EL-18PS-18PS-180X0180-m	117	EL-18PF1-18PS-180X0180-m	146	EL-18PF1-18PF1-180X0180-m	175
20.00	20.00		EL-20PS-20PS-200X0200-m	145	EL-20PF1-20PS-200X0200-m	179	EL-20PF1-20PF1-200X0200-m	213
22.00	22.00		EL-22PS-22PS-220X0220-m	128	EL-22PF1-22PS-220X0220-m	164	EL-22PF1-22PF1-220X0220-m	201
24.00	24.00		EL-24PS-24PS-240X0240-m	152	EL-24PF1-24PS-240X0240-m	195	EL-24PF1-24PF1-240X0240-m	240

Dimensions are in inches. Weight is in pounds and is approximate. Standard material aluminized steel for smooth and carbon steel for mitered or 304 SS for either. Flanged assemblies in aluminized or carbon steel are painted high temp black. Custom applications available, contact factory.

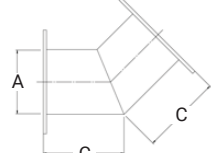
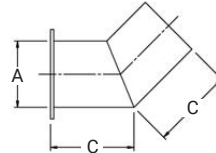
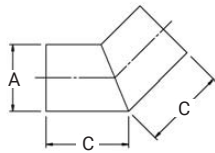
### 45° SHORT RADIUS ELBOWS

#### 45° Short Radius Elbows – Smooth



A (OD)	B	C	No Flange		Flanged One End		Flanged Both Ends	
			Part Number	WT	Part Number	WT	Part Number	WT
3.00	3.00	4.00	EB-03TS-03TS-040X0040-m	1	EB-03TF1-03TS-040X0040-m	6	EB-03TF1-03TF1-040X0040-m	10
3.50	3.50	4.50	EB-35TS-35TS-045X0045-m	2	EB-35TF1-35TS-045X0045-m	8	EB-35TF1-35TF1-045X0045-m	13
4.00	4.00	5.00	EB-04TS-04TS-050X0050-m	2	EB-04TF1-04TS-050X0050-m	8	EB-04TF1-04TF1-050X0050-m	13
5.00	5.00	6.00	EB-05TS-05TS-060X0060-m	3	EB-05TF1-05TS-060X0060-m	10	EB-05TF1-05TF1-060X0060-m	17
6.00	6.00	7.00	EB-06TS-06TS-070X0070-m	5	EB-06TF1-06TS-070X0070-m	13	EB-06TF1-06TF1-070X0070-m	21

#### 45° Short Radius Elbows – Mitered



A (OD)	C	No Flange		Flanged One End		Flanged Both Ends	
		Part Number	WT	Part Number	WT	Part Number	WT
8.00	8.00	EB-08TS-08TS-080X0080-m	8	EB-08TF1-08TS-080X0080-m	20	EB-08TF1-08TF1-080X0080-m	32
10.00	10.00	EB-10TS-10TS-100X0100-m	12	EB-10TF1-10TS-100X0100-m	28	EB-10TF1-10TF1-100X0100-m	44
12.00	12.00	EB-12TS-12TS-120X0120-m	28	EB-12TF1-12TS-120X0120-m	50	EB-12TF1-12TF1-120X0120-m	73
14.00	14.00	EB-14PS-14PS-140X0140-m	71	EB-14PF1-14PS-140X0140-m	95	EB-14PF1-14PF1-140X0140-m	120
16.00	16.00	EB-16PS-16PS-160X0160-m	93	EB-16PF1-16PS-160X0160-m	122	EB-16PF1-16PF1-160X0160-m	151
18.00	18.00	EB-18PS-18PS-180X0180-m	117	EB-18PF1-18PS-180X0180-m	146	EB-18PF1-18PF1-180X0180-m	175
20.00	20.00	EB-20PS-20PS-200X0200-m	145	EB-20PF1-20PS-200X0200-m	179	EB-20PF1-20PF1-200X0200-m	213
22.00	22.00	EB-22PS-22PS-220X0220-m	128	EB-22PF1-22PS-220X0220-m	164	EB-22PF1-22PF1-220X0220-m	201
24.00	24.00	EB-24PS-24PS-240X0240-m	152	EB-24PF1-24PS-240X0240-m	195	EB-24PF1-24PF1-240X0240-m	240

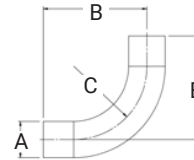
Dimensions are in inches. Weight is in pounds and is approximate. Standard material aluminized steel for smooth and carbon steel for mitered or 304 SS for either. Flanged assemblies in aluminized or carbon steel are painted high temp black. Custom applications available, contact factory.

### 90° & 45° LONG RADIUS ELBOWS

#### 90° Long Radius Elbows – Smooth

##### No Flange

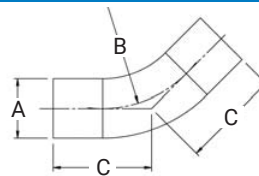
A (OD)	B	C	Part Number	WT
3.00	8.50	6.00	ELL-03TS-03TS-085X0085-m	2
3.50	10.00	7.00	ELL-35TS-35TS-100X0100-m	4
4.00	11.50	8.00	ELL-04TS-04TS-115X0115-m	4
5.00	14.00	10.00	ELL-05TS-05TS-140X0140-m	7
6.00	17.00	12.00	ELL-06TS-06TS-170X0170-m	10



#### 45° Long Radius Elbows – Smooth

##### No Flange

A (OD)	B	C	Part Number	WT
3.00	6.00	5.50	EBL-03TS-03TS-055X0055-m	2
3.50	7.00	6.50	EBL-35TS-35TS-065X0065-m	2
4.00	8.00	7.00	EBL-04TS-04TS-070X0070-m	3
5.00	10.00	8.00	EBL-05TS-05TS-080X0080-m	4
6.00	12.00	10.00	EBL-06TS-06TS-100X0100-m	7

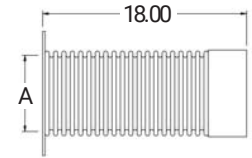
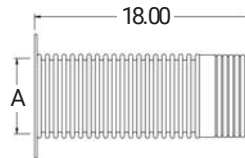
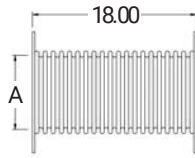


Accessories

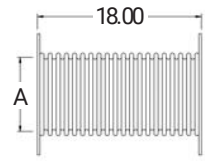
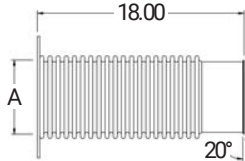
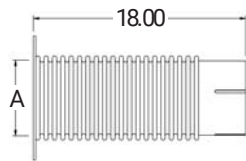
Dimensions are in inches. Weight is in pounds and is approximate. Standard material aluminized steel or 304 SS. Flanged assemblies in aluminized or carbon steel are painted high temp black. Custom applications available, contact factory.

## FLEX ASSEMBLIES

Flex Connections are designed to isolate engine vibration from the remaining exhaust system but are not designed for pipe growth or connection misalignment. Flex hose sections are manufactured from 321SS while connections are mild steel. MIRATECH offers a wide variety of flex connections including OEM engine specific flange types.



A (OD)	ANSI Floating Flange/ANSI Flange		Flange/Male NPT		Flange/Female NPT	
	Part Number	WT	Part Number	WT	Part Number	WT
2.00	FL02-02TF1-02TF2-180-m	10	FL02-02MN-02TF1-180-m	6	FL02-02FN-02TF1-180-m	6
2.50	FL25-25TF1-25TF2-180-m	12	FL25-25MN-25TF1-180-m	8	FL25-25FN-25TF1-180-m	8
3.00	FL03-03TF1-03TF2-180-m	12	FL03-03MN-03TF1-180-m	8	FL03-03FN-03TF1-180-m	8
3.50	FL35-35TF1-35TF2-180-m	14	FL35-35MN-35TF1-180-m	10	FL35-35FN-35TF1-180-m	10
4.00	FL04-04TF1-04TF2-180-m	16	FL04-04MN-04TF1-180-m	11	FL04-04FN-04TF1-180-m	11
5.00	FL05-05TF1-05TF2-180-m	21	FL05-05MN-05TF1-180-m	15	FL05-05FN-05TF1-180-m	15
6.00	FL06-06TF1-06TF2-180-m	24	FL06-06MN-06TF1-180-m	19	FL06-06FN-06TF1-180-m	19
8.00	FL08-08TF1-08TF2-180-m	33	FL08-08MN-08TF1-180-m	23		—
10.00	FL10-10TF1-10TF2-180-m	41	FL10-10MN-10TF1-180-m	29		—
12.00	FL12-12TF1-12TF2-180-m	58	FL12-12MN-12TF1-180-m	41		—
14.00	FL14-14PF1-14PF2-180-m	67		—		—
16.00	FL16-16PF1-16PF2-180-m	77		—		—



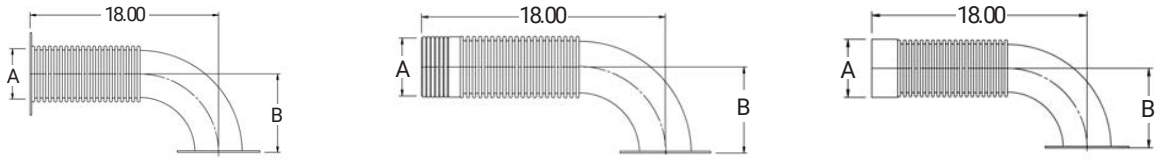
A (OD)	Flange/Slotted Cuff		Flange/20° Flare		ANSI Floating Flange/CAT Flange	
	Part Number	WT	Part Number	WT	Part Number	WT
2.00	FL02-02CF-02TF1-180-m	6		—		—
2.50	FL25-25CF-25TF1-180-m	7		—		—
3.00	FL03-03CF-03TF1-180-m	7	FL03-03FR-03TF1-180-m	8		—
3.50	FL35-35CF-35TF1-180-m	8	FL35-35FR-35TF1-180-m	9		—
4.00	FL04-04CF-04TF1-180-m	10	FL04-04FR-04TF1-180-m	10	FL04-04CA1-04TF2-180-m*	16
5.00	FL05-05CF-05TF1-180-m	13	FL05-05FR-05TF1-180-m	13	FL05-05CA1-05TF2-180-m*	21
6.00	FL06-06CF-06TF1-180-m	16	FL06-06FR-06TF1-180-m	16	FL06-06CA1-06TF2-180-m*	24
8.00	FL08-08CF-08TF1-180-m	23		—	FL08-08CA1-08TF2-180-m	33
10.00	FL10-10CF-10TF1-180-m	27		—	FL10-10CA1-10TF2-180-m	41
12.00	FL12-12CF-12TF1-180-m	35		—	FL12-12CA1-12TF2-180-m	58
14.00	FL14-14CF-14PF1-180-m	40		—	FL14-14CA1-14PF2-180-m	67
16.00	FL16-16CF-16PF1-180-m	49		—	FL16-16CA1-16PF2-180-m	77

\* Square CAT Flange

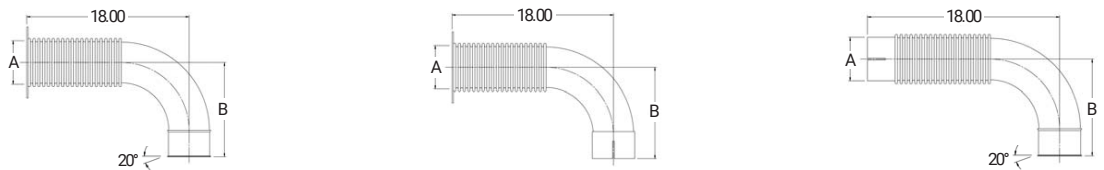
Dimensions are in inches. Weight is in pounds and is approximate. Standard material carbon steel painted high temp black, available in stainless steel. Custom applications available, contact factory.

### FLEX ASSEMBLIES W/ 90° ELBOW

Flex Connections are designed to isolate engine vibration from the remaining exhaust system but are not designed for pipe growth or connection misalignment. Flex hose sections are manufactured from 321SS while connections are mild steel. MIRATECH offers a wide variety of flex connections including OEM engine specific flange types.



		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	FL03-03TF2-03TF2-EL060X180-m	13	FL03-03MN-03TF2-EL060X180-m	9	FL03-03FN-03TF2-EL060X180-m	9
3.50	8.00	FL35-35TF2-35TF2-EL080X180-m	15	FL35-35MN-35TF2-EL080X180-m	11	FL35-35FN-35TF2-EL080X180-m	11
4.00	8.00	FL04-04TF2-04TF2-EL080X180-m	18	FL04-04MN-04TF2-EL080X180-m	13	FL04-04FN-04TF2-EL080X180-m	13
5.00	10.00	FL05-05TF2-05TF2-EL100X180-m	23	FL05-05MN-05TF2-EL100X180-m	16	FL05-05FN-05TF2-EL100X180-m	16
6.00	10.00	FL06-06TF2-06TF2-EL100X180-m	26	FL06-06MN-06TF2-EL100X180-m	18	FL06-06FN-06TF2-EL100X180-m	18
8.00	8.00	FL08-08TF2-08TF2-EL080X180-m	38	FL08-08MN-08TF2-EL080X180-m	27		—
10.00	10.00	FL10-10TF2-10TF2-EL100X180-m	48	FL10-10MN-10TF2-EL100X180-m	34		—
12.00	12.00	FL12-12TF2-12TF2-EL120X180-m	79	FL12-12MN-12TF2-EL120X180-m	55		—
14.00	14.00	FL14-14PF2-14PF2-EL140X180-m	127		—		—
16.00	16.00	FL16-16PF2-16PF2-EL160X180-m	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	FL03-03TF2-03FR-EL060X180-m	9	FL03-03TF2-03CF-EL060X180-m	9	FL03-03CF-03FR-EL060X180-m	4
3.50	8.00	FL35-35TF2-35FR-EL080X180-m	11	FL35-35TF2-35CF-EL080X180-m	10	FL35-35CF-35FR-EL080X180-m	5
4.00	8.00	FL04-04TF2-04FR-EL080X180-m	12	FL04-04TF2-04CF-EL080X180-m	12	FL04-04CF-04FR-EL080X180-m	8
5.00	10.00	FL05-05TF2-05FR-EL100X180-m	16	FL05-05TF2-05CF-EL100X180-m	15	FL05-05CF-05FR-EL100X180-m	12
6.00	10.00	FL06-06TF2-06FR-EL100X180-m	18	FL06-06TF2-06CF-EL100X180-m	18	FL06-06CF-06FR-EL100X180-m	15

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. All ANSI flanges floating.

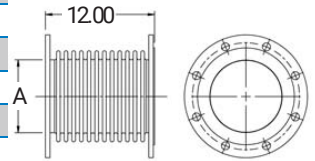
Accessories

## BELLOWS EXPANSION JOINTS

Expansion Joints are intended to reduce stress on exhaust pipe systems due to thermal growth as well as vibration or misalignment. MIRATECH bellows are available as single or dual ply with ANSI pattern or OEM Engine Flanges on each end.

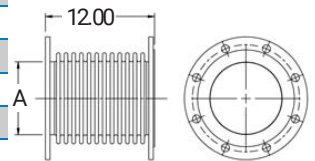
### Single Ply Bellows

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	
BL103-03TF1-03TF2-120-m	3.00	2	0.50	49	14	10,000	10,000	12
BL104-04TF1-04TF2-120-m	4.00	2	0.50	69	33	10,000	10,000	15
BL105-05TF1-05TF2-120-m	5.00	3	0.50	64	46	10,000	10,000	20
BL106-06TF1-06TF2-120-m	6.00	3	0.50	68	68	10,000	10,000	21
BL108-08TF1-08TF2-120-m	8.00	3	0.50	87	141	10,000	10,000	30
BL110-10TF1-10TF2-120-m	10.00	3	0.25	121	311	10,000	10,000	40
BL112-12TF1-12TF2-120-m	12.00	3	0.25	143	502	10,000	10,000	52
BL114-14PF1-14PF2-120-m	14.00	3	0.25	206	877	10,000	10,000	65
BL116-16PF1-16PF2-120-m	16.00	3	0.25	235	1,280	10,000	10,000	75
BL118-18PF1-18PF2-120-m	18.00	3	0.25	264	1,790	10,000	10,000	80
BL120-20PF1-20PF2-120-m	20.00	3	0.25	292	2,420	10,000	10,000	95
BL122-22PF1-22PF2-120-m	22.00	3	0.25	321	3,182	10,000	10,000	100
BL124-24PF1-24PF2-120-m	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	
BL203-03TF1-03TF2-120-m	3.00	2	0.50	98	28	10,000	10,000	13
BL204-04TF1-04TF2-120-m	4.00	3	0.50	60	29	10,000	10,000	17
BL205-05TF1-05TF2-120-m	5.00	3	0.50	57	42	10,000	10,000	22
BL206-06TF1-06TF2-120-m	6.00	3	0.50	66	66	10,000	10,000	23.5
BL208-08TF1-08TF2-120-m	8.00	3	0.50	84	135	10,000	10,000	24
BL210-10TF1-10TF2-120-m	10.00	3	0.25	130	330	10,000	10,000	44
BL212-12TF1-12TF2-120-m	12.00	3	0.25	152	529	10,000	10,000	57
BL214-14PF1-14PF2-120-m	14.00	3	0.25	162	671	10,000	10,000	68
BL216-16PF1-16PF2-120-m	16.00	3	0.25	184	979	10,000	10,000	79
BL218-18PF1-18PF2-120-m	18.00	3	0.25	206	1,371	10,000	10,000	84
BL220-20PF1-20PF2-120-m	20.00	3	0.25	174	1,285	10,000	10,000	100
BL222-22PF1-22PF2-120-m	22.00	3	0.25	191	1,689	10,000	10,000	109
BL224-24PF1-24PF2-120-m	24.00	3	0.25	208	2,170	10,000	10,000	132



Maximum Working Pressure @ 1000°F is 5 PSIG. All tabulated movements are non-concurrent.

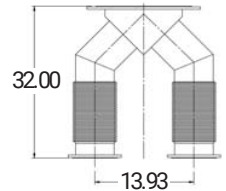
Dimensions are in inches. Weight is in pounds and is approximate. Flanges carbon steel painted high temp black, available in stainless steel. Bellows material standard stainless steel. Larger sizes and custom applications available, contact factory.

## EXHAUST WYE CONNECTION CUMMINS ENGINE MODELS

Designed for OEM dual outlet engines, wye connectors are intended to combine dual outlets into a single connection point. Wye connectors reduce vibration and noise transmission to the remainder of the exhaust system. Flex sections are 321 stainless steel while the remainder is carbon steel. Inlet flanges are matched to engine outlet flanges as noted. Outlet flanges are drilled to ANSI 150#. Both inlet and outlet flanges are floating for ease of bolt hole alignment.

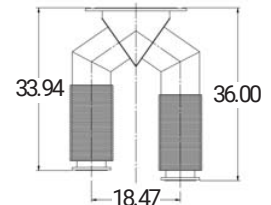
### Cummins QST30

kW Rating	Part Number	Outlet	Inlets	WT
750, 800	Y06-D06CU2-10PF2-139-320-00-m	10" ANSI	6" CUFL	57
900	Y06-D06CU2-12PF2-139-320-00-m	12" ANSI	6" CUFL	69
1000	Y06-D06CU2-14PF2-139-320-00-m	14" ANSI	6" CUFL	75



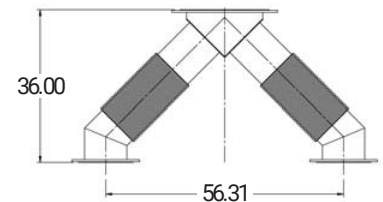
### Cummins QSK50

kW Rating	Part Number	Outlet	Inlets	WT
1250	Y06-D06CU2-12PF2-184-360-21-m	12" ANSI	6" CUFL	72
1250, 1500	Y06-D06CU2-14PF2-184-360-21-m	14" ANSI	6" CUFL	78
1500	Y08-D08TF2-14PF2-184-360-21-m	14" ANSI	8" ANSI	91



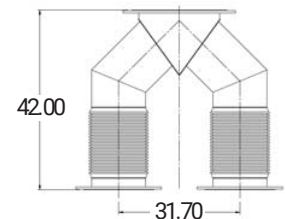
### Cummins QSK60

kW Rating	Part Number	Outlet	Inlets	WT
1750, 2000	Y10-D10TF2-16PF2-563-360-00-m	16" ANSI	10" ANSI	162
2000, 2250	Y10-D10TF2-18PF2-563-360-00-m	18" ANSI	10" ANSI	163
2000, 2250	Y10-D10TF2-20PF2-563-360-00-m	20" ANSI	10" ANSI	176



### Cummins QSK78

kW Rating	Part Number	Outlet	Inlets	WT
2500	Y12-D12TF2-18PF2-317-420-00-m	18" ANSI	12" ANSI	187
2500	Y12-D12TF2-20PF2-317-420-00-m	20" ANSI	12" ANSI	203
2500	Y12-D12TF2-22PF2-317-420-00-m	22" ANSI	12" ANSI	212
2500	Y12-D12TF2-24PF2-317-420-00-m	24" ANSI	12" ANSI	226



Accessories

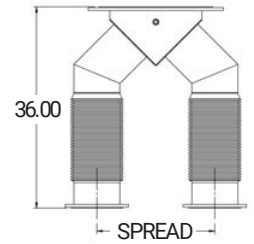


## EXHAUST WYE CONNECTION CATERPILLAR ENGINE MODELS

Designed for OEM dual outlet engines, wye connectors are intended to combine dual outlets into a single connection point. Wye connectors reduce vibration and noise transmission to the remainder of the exhaust system. Flex sections are 321 stainless steel while the remainder is carbon steel. Inlet flanges are matched to engine outlet flanges as noted. Outlet flanges are drilled to ANSI 150#. Both inlet and outlet flanges are floating for ease of bolt hole alignment.

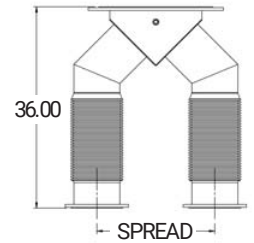
### Caterpillar 3508B

kW Rating	Part Number	Outlet	Inlets	Spread	WT
910, 1000	Y08-D08CA2-12PF2-205-360-00-m	12" ANSI	8" CAT	20.47	90



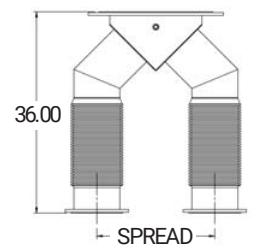
### Caterpillar 3512B

kW Rating	Part Number	Outlet	Inlets	Spread	WT
1275, 1360, 1400	Y08-D08CA2-14PF2-207-360-00-m	14" ANSI	8" CAT	20.65	102
1360, 1400	Y08-D08CA2-16PF2-207-360-00-m	16" ANSI	8" CAT	20.65	113
1500	Y10-D10CA2-16PF2-207-360-00-m	16" ANSI	10" CAT	20.65	126



### Caterpillar 3512C

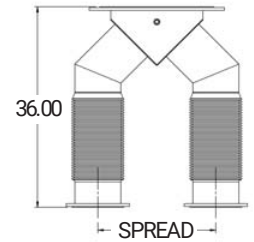
kW Rating	Part Number	Outlet	Inlets	Spread	WT
1275, 1360, 1400	Y08-D08CA2-14PF2-205-360-00-m	14" ANSI	8" CAT	20.50	102
1360, 1400	Y08-D08CA2-16PF2-205-360-00-m	16" ANSI	8" CAT	20.50	113
1500	Y10-D10CA2-16PF2-205-360-00-m	16" ANSI	10" CAT	20.50	126



## WYE CONNECTORS CATERPILLAR ENGINE MODELS

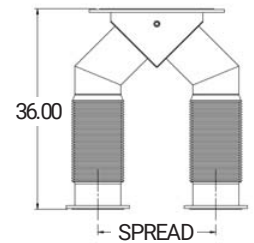
### Caterpillar 3516B

kW Rating	Part Number	Outlet	Inlets	Spread	WT
1640	Y08-D08CA2-12PF2-205-360-00-m	12" ANSI	8" CAT	20.50	90
1640	Y08-D08CA2-16PF2-205-360-00-m	16" ANSI	8" CAT	20.50	113
1640	Y08-D08CA2-18PF2-205-360-00-m	18" ANSI	8" CAT	20.50	121
1640, 1825, 2000	Y10-D10CA2-16PF2-205-360-00-m	16" ANSI	10" CAT	20.50	126
1640, 1825, 2000	Y10-D10CA2-18PF2-205-360-00-m	18" ANSI	10" CAT	20.50	128
2000	Y12-D12CA2-18PF2-205-360-00-m	18" ANSI	12" CAT	20.50	156



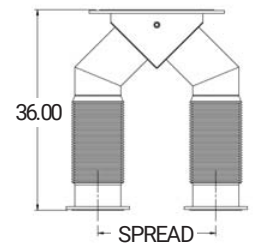
### Caterpillar 3516C

kW Rating	Part Number	Outlet	Inlets	Spread	WT
1640, 1825, 2000	Y10-D10CA2-16PF2-205-360-00-m	16" ANSI	10" CAT	20.50	126
1640, 1825, 2000	Y10-D10CA2-18PF2-205-360-00-m	18" ANSI	10" CAT	20.50	128



### Caterpillar 3516B Quad Turbo

kW Rating	Part Number	Outlet	Inlets	Spread	WT
1400, 1640	Y08-D08CA2-14PF2-205-360-00-m	14" ANSI	8" CAT	20.47	102
1400, 1640	Y08-D08CA2-16PF2-205-360-00-m	16" ANSI	8" CAT	20.47	113
1500, 1640, 1750	Y10-D10CA2-16PF2-205-360-00-m	16" ANSI	10" CAT	20.47	126
1750, 1825	Y10-D10CA2-18PF2-205-360-00-m	18" ANSI	10" CAT	20.47	128



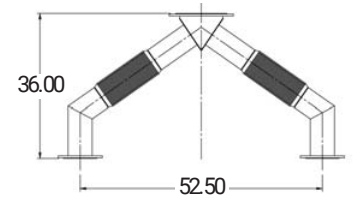
Accessories

## EXHAUST WYE CONNECTION DETROIT DIESEL/MTU ENGINE MODELS

Designed for OEM multi outlet engines, wye connectors are intended to combine dual outlets into a single connection point. Wye connectors reduce vibration and noise transmission to the remainder of the exhaust system. Flex sections are 321 stainless steel while the remainder is carbon steel. Inlet flanges are matched to engine outlet flanges as noted. Outlet flanges are drilled to ANSI 150#. Both inlet and outlet flanges are floating for ease of bolt hole alignment.

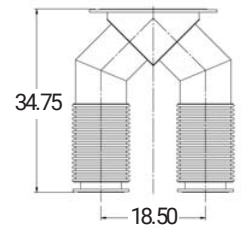
### MTU 12V2000 & 16V2000

kW Rating	Part Number	Outlet	Inlets	WT
650, 750	Y06-D06DF2-10PF2-525-360-00-m	10" ANSI	6" DFL	70
900, 1000	Y06-D06DF2-12PF2-525-360-00-m	12" ANSI	6" DFL	82



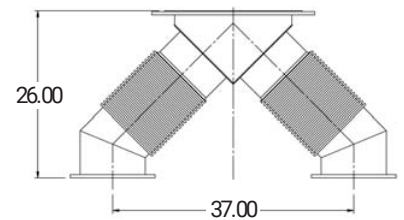
### MTU 12V4000

kW Rating	Part Number	Outlet	Inlets	WT
1250, 1350, 1500, 1750	Y10-D10DF2-14PF2-185-348-00-m	14" ANSI	10" DFL	118
1250, 1350, 1500, 1750	Y10-D10DF2-16PF2-185-348-00-m	16" ANSI	10" DFL	127



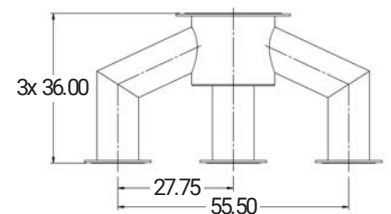
### MTU 16V4000

kW Rating	Part Number	Outlet	Inlets	WT
2000	Y10-D10DF2-14PF2-370-260-00-m	14" ANSI	10" DFL	115
2000	Y10-D10DF2-16PF2-370-260-00-m	16" ANSI	10" DFL	117
2000	Y10-D10DF2-18PF2-370-260-00-m	18" ANSI	10" DFL	132



### MTU 20V4000

kW Rating	Part Number	Outlet	Inlets	WT
2500-3250	Y10-T10TF2-20PF2-278-360-00-m	20" ANSI	10" ANSI	222
2500-3250	Y10-T10DF2-20PF2-278-360-00-m	20" ANSI	10" DFL	222



## THERMAL WRAP PART NUMBER DEFINITION

The part numbers for silencer and accessory thermal wraps are defined as follows:

### EM Silencers

The silencer thermal wrap part numbers will be the same as defined in the *EM Silencer Part Number Legend* but with the following changes:

#### Standard and Configurable Part Numbers

- Remove the number and associated hyphen defining the material
- Remove the “X” on configurable part numbers
- Add the following to the beginning of the part number:
  - For wire tied connection blankets add “W-” (standard)
  - For spring clip connection blankets add “WS-”

#### Example Thermal Wrap Part Numbers

- Silencer Part Number: JHFA0**A**X-D08PF14PF-**2**-XXXXXXXXX
- Thermal Wrap w/ Wire: **W**-JHFA0A-D08PF14PF-XXXXXXXXX
- Thermal Wrap w/ Springs: **WS**-JHFA0A-D08PF14PF-XXXXXXXXX

#### Custom Part Numbers

- Remove the number and associated hyphen defining the material
- Remove the mounting type designation
- Add the following to the beginning of the part number:
  - For wire tied connection blankets add “W-” (standard)
  - For spring clip connection blankets add “WS-”

#### Example Part Numbers

- Silencer Part Number: JHFA0**A**Z-D08PF14PF-**2**-YYMMZZZZ
- Thermal Wrap w/ Wire: **W**-JHFA0Z-D08PF14PF-YYMMZZZZ
- Thermal Wrap w/ Springs: **WS**-JHFA0Z-D08PF14PF-YYMMZZZZ

### Accessories Group 1 & 2

- Remove the number and associated hyphen defining the material
- Remove the number associated with each connection defining the mounting type
- For Bellows, remove the number defining single or dual ply
- Add the following to the beginning of the part number:
  - For wire tied connection blankets add “W-” (standard)
  - For spring clip connection blankets add “WS-”

#### Example Part Numbers

- Accessory Part Number: Y08X-D08CA**1**-14PF**1**-207-360-00-**2**
- Thermal Wrap w/ Wire: **W**-Y08X-D08CA-14PF-207-360-00
- Thermal Wrap w/ Springs: **WS**-Y08X-D08CA-14PF-207-360-00

*We deliver results. We have a strong commitment to do everything necessary to solve a customer's problem. We have a passion for excellence, performance, and quality in everything we do.*

### SILENCERS THERMAL WRAPS

Accessories

JI – Cylindrical Industrial Grade Thermal Wraps	
Part Number	Silencer Part Number
W-JIEE0f-02MN-0000000	JIEE0f-02MN-m-0000000
W-JIEE0f-25MN-0000000	JIEE0f-25MN-m-0000000
W-JIEE0f-03MN-0000000	JIEE0f-03MN-m-0000000
W-JIEE0f-35MN-0000000	JIEE0f-35MN-m-0000000
W-JIEE0f-04PF-0000000	JIEE0f-04PF-m-0000000
W-JIEE0f-05PF-0000000	JIEE0f-05PF-m-0000000
W-JIEE0f-06PF-0000000	JIEE0f-06PF-m-0000000
W-JIEE0f-08PF-0000000	JIEE0f-08PF-m-0000000
W-JIEE0f-10PF-0000000	JIEE0f-10PF-m-0000000
W-JIEE0f-12PF-0000000	JIEE0f-12PF-m-0000000
W-JIEE0f-14PF-0000000	JIEE0f-14PF-m-0000000
W-JIEE0f-16PF-0000000	JIEE0f-16PF-m-0000000
W-JIEE0f-18PF-0000000	JIEE0f-18PF-m-0000000
W-JIEE0f-20PF-0000000	JIEE0f-20PF-m-0000000
W-JIEE0f-22PF-0000000	JIEE0f-22PF-m-0000000
W-JIEE0f-24PF-0000000	JIEE0f-24PF-m-0000000
W-JIGE0f-02MN-000000V	JIGE0f-02MN-m-000000V
W-JIGE0f-25MN-0000012	JIGE0f-25MN-m-0000012
W-JIGE0f-03MN-0000017	JIGE0f-03MN-m-0000017
W-JIGE0f-35MN-000001F	JIGE0f-35MN-m-000001F
W-JIGE0f-04PF-000001K	JIGE0f-04PF-m-000001K
W-JIGE0f-05PF-0000026	JIGE0f-05PF-m-0000026
W-JIGE0f-06PF-0000026	JIGE0f-06PF-m-0000026
W-JIGE0f-08PF-0000030	JIGE0f-08PF-m-0000030
W-JIGE0f-10PF-000004A	JIGE0f-10PF-m-000004A
W-JIGE0f-12PF-000004V	JIGE0f-12PF-m-000004V
W-JIGE0f-14PF-000005Q	JIGE0f-14PF-m-000005Q
W-JIGE0f-16PF-000006K	JIGE0f-16PF-m-000006K
W-JIGE0f-18PF-000007K	JIGE0f-18PF-m-000007K
W-JIGE0f-20PF-000007F	JIGE0f-20PF-m-000007F
W-JIGE0f-22PF-000007Q	JIGE0f-22PF-m-000007Q
W-JIGE0f-24PF-000008K	JIGE0f-24PF-m-000008K
W-JIGA0f-02MN-00000Q3K	JIGA0f-02MN-m-00000Q3K
W-JIGA0f-25MN-00000VYK	JIGA0f-25MN-m-00000VYK
W-JIGA0f-03MN-0001050	JIGA0f-03MN-m-0001050
W-JIGA0f-35MN-00016UA	JIGA0f-35MN-m-00016UA
W-JIGA0f-04PF-0001B0Q	JIGA0f-04PF-m-0001B0Q
W-JIGA0f-05PF-0001TKQ	JIGA0f-05PF-m-0001TKQ
W-JIGA0f-06PF-0001TKQ	JIGA0f-06PF-m-0001TKQ
W-JIGA0f-08PF-0002HV0	JIGA0f-08PF-m-0002HV0
W-JIGA0f-10PF-0003KHV	JIGA0f-10PF-m-0003KHV
W-JIGA0f-12PF-000428K	JIGA0f-12PF-m-000428K
W-JIGA0f-14PF-0004SC5	JIGA0f-14PF-m-0004SC5
W-JIGA0f-16PF-0005HFQ	JIGA0f-16PF-m-0005HFQ
W-JIGA0f-18PF-0006BQQ	JIGA0f-18PF-m-0006BQQ
W-JIGA0f-20PF-00067JA	JIGA0f-20PF-m-00067JA
W-JIGA0f-22PF-0006FX5	JIGA0f-22PF-m-0006FX5
W-JIGA0f-24PF-000760Q	JIGA0f-24PF-m-000760Q

JR – Cylindrical Residential Grade Thermal Wraps	
Part Number	Silencer Part Number
W-JREE0f-02MN-0000000	JREE0f-02MN-m-0000000
W-JREE0f-25MN-0000000	JREE0f-25MN-m-0000000
W-JREE0f-03MN-0000000	JREE0f-03MN-m-0000000
W-JREE0f-35MN-0000000	JREE0f-35MN-m-0000000
W-JREE0f-04PF-0000000	JREE0f-04PF-m-0000000
W-JREE0f-05PF-0000000	JREE0f-05PF-m-0000000
W-JREE0f-06PF-0000000	JREE0f-06PF-m-0000000
W-JREE0f-08PF-0000000	JREE0f-08PF-m-0000000
W-JREE0f-10PF-0000000	JREE0f-10PF-m-0000000
W-JREE0f-12PF-0000000	JREE0f-12PF-m-0000000
W-JREE0f-14PF-0000000	JREE0f-14PF-m-0000000
W-JREE0f-16PF-0000000	JREE0f-16PF-m-0000000
W-JREE0f-18PF-0000000	JREE0f-18PF-m-0000000
W-JREE0f-20PF-0000000	JREE0f-20PF-m-0000000
W-JREE0f-22PF-0000000	JREE0f-22PF-m-0000000
W-JREE0f-24PF-0000000	JREE0f-24PF-m-0000000
W-JRGE0f-02MN-000000V	JRGE0f-02MN-m-000000V
W-JRGE0f-25MN-0000011	JRGE0f-25MN-m-0000011
W-JRGE0f-03MN-0000016	JRGE0f-03MN-m-0000016
W-JRGE0f-35MN-000001F	JRGE0f-35MN-m-000001F
W-JRGE0f-04PF-000001K	JRGE0f-04PF-m-000001K
W-JRGE0f-05PF-000001W	JRGE0f-05PF-m-000001W
W-JRGE0f-06PF-0000026	JRGE0f-06PF-m-0000026
W-JRGE0f-08PF-0000030	JRGE0f-08PF-m-0000030
W-JRGE0f-10PF-000004A	JRGE0f-10PF-m-000004A
W-JRGE0f-12PF-0000050	JRGE0f-12PF-m-0000050
W-JRGE0f-14PF-000005Q	JRGE0f-14PF-m-000005Q
W-JRGE0f-16PF-000006K	JRGE0f-16PF-m-000006K
W-JRGE0f-18PF-0000090	JRGE0f-18PF-m-0000090
W-JRGE0f-20PF-00000A0	JRGE0f-20PF-m-00000A0
W-JRGE0f-22PF-000008A	JRGE0f-22PF-m-000008A
W-JRGE0f-24PF-000008A	JRGE0f-24PF-m-000008A
W-JRGA0f-02MN-00000Q3K	JRGA0f-02MN-m-00000Q3K
W-JRGA0f-25MN-00000V4A	JRGA0f-25MN-m-00000V4A
W-JRGA0f-03MN-00000ZAQ	JRGA0f-03MN-m-00000ZAQ
W-JRGA0f-35MN-00016UA	JRGA0f-35MN-m-00016UA
W-JRGA0f-04PF-0001B0Q	JRGA0f-04PF-m-0001B0Q
W-JRGA0f-05PF-0001K7V	JRGA0f-05PF-m-0001K7V
W-JRGA0f-06PF-0001TKQ	JRGA0f-06PF-m-0001TKQ
W-JRGA0f-08PF-0002HV0	JRGA0f-08PF-m-0002HV0
W-JRGA0f-10PF-0003KHV	JRGA0f-10PF-m-0003KHV
W-JRGA0f-12PF-00046F0	JRGA0f-12PF-m-00046F0
W-JRGA0f-14PF-0004SC5	JRGA0f-14PF-m-0004SC5
W-JRGA0f-16PF-0005HFQ	JRGA0f-16PF-m-0005HFQ
W-JRGA0f-18PF-0007IK0	JRGA0f-18PF-m-0007IK0
W-JRGA0f-20PF-0008CV0	JRGA0f-20PF-m-0008CV0
W-JRGA0f-22PF-0006XMV	JRGA0f-22PF-m-0006XMV
W-JRGA0f-24PF-0006XMV	JRGA0f-24PF-m-0006XMV

### SILENCERS THERMAL WRAPS

JC – Cylindrical Critical Grade Thermal Wraps	
Part Number	Silencer Part Number
W-JCEE0f-02MN-0000000	JCEE0f-02MN-m-0000000
W-JCEE0f-25MN-0000000	JCEE0f-25MN-m-0000000
W-JCEE0f-03MN-0000000	JCEE0f-03MN-m-0000000
W-JCEE0f-35MN-0000000	JCEE0f-35MN-m-0000000
W-JCEE0f-04PF-0000000	JCEE0f-04PF-m-0000000
W-JCEE0f-05PF-0000000	JCEE0f-05PF-m-0000000
W-JCEE0f-06PF-0000000	JCEE0f-06PF-m-0000000
W-JCEE0f-08PF-0000000	JCEE0f-08PF-m-0000000
W-JCEE0f-10PF-0000000	JCEE0f-10PF-m-0000000
W-JCEE0f-12PF-0000000	JCEE0f-12PF-m-0000000
W-JCEE0f-14PF-0000000	JCEE0f-14PF-m-0000000
W-JCEE0f-16PF-0000000	JCEE0f-16PF-m-0000000
W-JCEE0f-18PF-0000000	JCEE0f-18PF-m-0000000
W-JCEE0f-20PF-0000000	JCEE0f-20PF-m-0000000
W-JCEE0f-22PF-0000000	JCEE0f-22PF-m-0000000
W-JCEE0f-24PF-0000000	JCEE0f-24PF-m-0000000
W-JCGE0f-02MN-0000023	JCGE0f-02MN-m-0000023
W-JCGE0f-25MN-0000024	JCGE0f-25MN-m-0000024
W-JCGE0f-03MN-0000024	JCGE0f-03MN-m-0000024
W-JCGE0f-35MN-000002N	JCGE0f-35MN-m-000002N
W-JCGE0f-04PF-000002N	JCGE0f-04PF-m-000002N
W-JCGE0f-05PF-000003I	JCGE0f-05PF-m-000003I
W-JCGE0f-06PF-000003I	JCGE0f-06PF-m-000003I
W-JCGE0f-08PF-000004Q	JCGE0f-08PF-m-000004Q
W-JCGE0f-10PF-000005Q	JCGE0f-10PF-m-000005Q
W-JCGE0f-12PF-0000065	JCGE0f-12PF-m-0000065
W-JCGE0f-14PF-000006K	JCGE0f-14PF-m-000006K
W-JCGE0f-16PF-000008A	JCGE0f-16PF-m-000008A
W-JCGE0f-18PF-000009F	JCGE0f-18PF-m-000009F
W-JCGE0f-20PF-00000AA	JCGE0f-20PF-m-00000AA
W-JCGE0f-22PF-00000BF	JCGE0f-22PF-m-00000BF
W-JCGE0f-24PF-00000BQ	JCGE0f-24PF-m-00000BQ
W-JCGA0f-02MN-00001R2V	JCGA0f-02MN-m-00001R2V
W-JCGA0f-25MN-00001RX5	JCGA0f-25MN-m-00001RX5
W-JCGA0f-03MN-00001RX5	JCGA0f-03MN-m-00001RX5
W-JCGA0f-35MN-000027TK	JCGA0f-35MN-m-000027TK
W-JCGA0f-04PF-000027TK	JCGA0f-04PF-m-000027TK
W-JCGA0f-05PF-00002XX5	JCGA0f-05PF-m-00002XX5
W-JCGA0f-06PF-00002XX5	JCGA0f-06PF-m-00002XX5
W-JCGA0f-08PF-00003Y25	JCGA0f-08PF-m-00003Y25
W-JCGA0f-10PF-00004SC5	JCGA0f-10PF-m-00004SC5
W-JCGA0f-12PF-000054WF	JCGA0f-12PF-m-000054WF
W-JCGA0f-14PF-00005HFQ	JCGA0f-14PF-m-00005HFQ
W-JCGA0f-16PF-00006XMV	JCGA0f-16PF-m-00006XMV
W-JCGA0f-18PF-00007W4A	JCGA0f-18PF-m-00007W4A
W-JCGA0f-20PF-00008L7V	JCGA0f-20PF-m-00008L7V
W-JCGA0f-22PF-00009JPA	JCGA0f-22PF-m-00009JPA
W-JCGA0f-24PF-00009T25	JCGA0f-24PF-m-00009T25

JH – Cylindrical Hospital Grade Thermal Wraps	
Part Number	Silencer Part Number
W-JHEE0f-02MN-0000000	JHEE0f-02MN-m-0000000
W-JHEE0f-25MN-0000000	JHEE0f-25MN-m-0000000
W-JHEE0f-03MN-0000000	JHEE0f-03MN-m-0000000
W-JHEE0f-35MN-0000000	JHEE0f-35MN-m-0000000
W-JHEE0f-04PF-0000000	JHEE0f-04PF-m-0000000
W-JHEE0f-05PF-0000000	JHEE0f-05PF-m-0000000
W-JHEE0f-06PF-0000000	JHEE0f-06PF-m-0000000
W-JHEE0f-08PF-0000000	JHEE0f-08PF-m-0000000
W-JHEE0f-10PF-0000000	JHEE0f-10PF-m-0000000
W-JHEE0f-12PF-0000000	JHEE0f-12PF-m-0000000
W-JHEE0f-14PF-0000000	JHEE0f-14PF-m-0000000
W-JHEE0f-16PF-0000000	JHEE0f-16PF-m-0000000
W-JHEE0f-18PF-0000000	JHEE0f-18PF-m-0000000
W-JHEE0f-20PF-0000000	JHEE0f-20PF-m-0000000
W-JHEE0f-22PF-0000000	JHEE0f-22PF-m-0000000
W-JHEE0f-24PF-0000000	JHEE0f-24PF-m-0000000
W-JHGE0f-02MN-000001K	JHGE0f-02MN-m-000001K
W-JHGE0f-25MN-0000028	JHGE0f-25MN-m-0000028
W-JHGE0f-03MN-0000028	JHGE0f-03MN-m-0000028
W-JHGE0f-35MN-000002Q	JHGE0f-35MN-m-000002Q
W-JHGE0f-04PF-000002Q	JHGE0f-04PF-m-000002Q
W-JHGE0f-05PF-0000030	JHGE0f-05PF-m-0000030
W-JHGE0f-06PF-0000030	JHGE0f-06PF-m-0000030
W-JHGE0f-08PF-0000050	JHGE0f-08PF-m-0000050
W-JHGE0f-10PF-000005Q	JHGE0f-10PF-m-000005Q
W-JHGE0f-12PF-000006K	JHGE0f-12PF-m-000006K
W-JHGE0f-14PF-000006V	JHGE0f-14PF-m-000006V
W-JHGE0f-16PF-0000080	JHGE0f-16PF-m-0000080
W-JHGE0f-18PF-00000AV	JHGE0f-18PF-m-00000AV
W-JHGE0f-20PF-00000BF	JHGE0f-20PF-m-00000BF
W-JHGE0f-22PF-00000C0	JHGE0f-22PF-m-00000C0
W-JHGE0f-24PF-00000FQ	JHGE0f-24PF-m-00000FQ
W-JHGA0f-02MN-00001B0Q	JHGA0f-02MN-m-00001B0Q
W-JHGA0f-25MN-00001V9A	JHGA0f-25MN-m-00001V9A
W-JHGA0f-03MN-00001V9A	JHGA0f-03MN-m-00001V9A
W-JHGA0f-35MN-000029H5	JHGA0f-35MN-m-000029H5
W-JHGA0f-04PF-000029H5	JHGA0f-04PF-m-000029H5
W-JHGA0f-05PF-00002HV0	JHGA0f-05PF-m-00002HV0
W-JHGA0f-06PF-00002HV0	JHGA0f-06PF-m-00002HV0
W-JHGA0f-08PF-000046F0	JHGA0f-08PF-m-000046F0
W-JHGA0f-10PF-00004SC5	JHGA0f-10PF-m-00004SC5
W-JHGA0f-12PF-00005HFQ	JHGA0f-12PF-m-00005HFQ
W-JHGA0f-14PF-00005QTK	JHGA0f-14PF-m-00005QTK
W-JHGA0f-16PF-00006PA0	JHGA0f-16PF-m-00006PA0
W-JHGA0f-18PF-000092YK	JHGA0f-18PF-m-000092YK
W-JHGA0f-20PF-00009JPA	JHGA0f-20PF-m-00009JPA
W-JHGA0f-22PF-0000A1F0	JHGA0f-22PF-m-0000A1F0
W-JHGA0f-24PF-0000D575	JHGA0f-24PF-m-0000D575

### SILENCERS THERMAL WRAPS

TR – Low Pressure Drop Residential Grade Thermal Wraps	
Part Number	Silencer Part Number
W-TREEPf-04PF-0000000	TREEPf-04PF-1-0000000
W-TREEPf-05PF-0000000	TREEPf-05PF-1-0000000
W-TREEPf-06PF-0000000	TREEPf-06PF-1-0000000
W-TREEPf-08PF-0000000	TREEPf-08PF-1-0000000
W-TREEPf-10PF-0000000	TREEPf-10PF-1-0000000
W-TREEPf-12PF-0000000	TREEPf-12PF-1-0000000
W-TREEPf-14PF-0000000	TREEPf-14PF-1-0000000
W-TREEPf-16PF-0000000	TREEPf-16PF-1-0000000
W-TREEPf-18PF-0000000	TREEPf-18PF-1-0000000
W-TREEPf-20PF-0000000	TREEPf-20PF-2-0000000
W-TREEPf-22PF-0000000	TREEPf-22PF-2-0000000
W-TREEPf-24PF-0000000	TREEPf-24PF-2-0000000
W-TRGEPf-04PF-000001F	TRGEPf-04PF-1-000001F
W-TRGEPf-05PF-000001Q	TRGEPf-05PF-1-000001Q
W-TRGEPf-06PF-0000020	TRGEPf-06PF-1-0000020
W-TRGEPf-08PF-000002A	TRGEPf-08PF-1-000002A
W-TRGEPf-10PF-000002V	TRGEPf-10PF-1-000002V
W-TRGEPf-12PF-0000035	TRGEPf-12PF-1-0000035
W-TRGEPf-14PF-000003F	TRGEPf-14PF-1-000003F
W-TRGEPf-16PF-0000040	TRGEPf-16PF-1-0000040
W-TRGEPf-18PF-000004A	TRGEPf-18PF-1-000004A
W-TRGEPf-20PF-000004V	TRGEPf-20PF-2-000004V
W-TRGEPf-22PF-000005F	TRGEPf-22PF-2-000005F
W-TRGEPf-24PF-000005Q	TRGEPf-24PF-2-000005Q

TC – Low Pressure Drop Critical Grade Thermal Wraps	
Part Number	Silencer Part Number
W-TCEEPf-04PF-0000000	TCEEPf-04PF-1-0000000
W-TCEEPf-05PF-0000000	TCEEPf-05PF-1-0000000
W-TCEEPf-06PF-0000000	TCEEPf-06PF-1-0000000
W-TCEEPf-08PF-0000000	TCEEPf-08PF-1-0000000
W-TCEEPf-10PF-0000000	TCEEPf-10PF-1-0000000
W-TCEEPf-12PF-0000000	TCEEPf-12PF-1-0000000
W-TCEEPf-14PF-0000000	TCEEPf-14PF-1-0000000
W-TCEEPf-16PF-0000000	TCEEPf-16PF-2-0000000
W-TCEEPf-18PF-0000000	TCEEPf-18PF-2-0000000
W-TCEEPf-20PF-0000000	TCEEPf-20PF-2-0000000
W-TCEEPf-22PF-0000000	TCEEPf-22PF-2-0000000
W-TCEEPf-24PF-0000000	TCEEPf-24PF-2-0000000
W-TCGEPf-04PF-000001Q	TCGEPf-04PF-1-000001Q
W-TCGEPf-05PF-000001Q	TCGEPf-05PF-1-000001Q
W-TCGEPf-06PF-0000020	TCGEPf-06PF-1-0000020
W-TCGEPf-08PF-000002A	TCGEPf-08PF-1-000002A
W-TCGEPf-10PF-000002V	TCGEPf-10PF-1-000002V
W-TCGEPf-12PF-0000035	TCGEPf-12PF-1-0000035
W-TCGEPf-14PF-000003F	TCGEPf-14PF-1-000003F
W-TCGEPf-16PF-0000040	TCGEPf-16PF-2-0000040
W-TCGEPf-18PF-0000055	TCGEPf-18PF-2-0000055
W-TCGEPf-20PF-000005F	TCGEPf-20PF-2-000005F
W-TCGEPf-22PF-0000060	TCGEPf-22PF-2-0000060
W-TCGEPf-24PF-000006A	TCGEPf-24PF-2-000006A

Accessories



### SILENCERS THERMAL WRAPS

#### DKC – Disk Critical Grade Thermal Wraps

Part Number	Silencer Part Number
W-DKCB2f-04PF-0000C7K0	DKCB2f-04PF-m-0000C7K0
W-DKCB2f-05PF-0000C7K0	DKCB2f-05PF-m-0000C7K0
W-DKCB2f-06PF-0000C7K0	DKCB2f-06PF-m-0000C7K0
W-DKCB2f-08PF-0000C7K0	DKCB2f-08PF-m-0000C7K0
W-DKCB2f-10PF-0000C7K0	DKCB2f-10PF-m-0000C7K0
W-DKCB2f-12PF-0000C7K0	DKCB2f-12PF-m-0000C7K0
W-DKCB2f-14PF-0000C7K0	DKCB2f-14PF-m-0000C7K0
W-DKCB2f-16PF-0000C7K0	DKCB2f-16PF-m-0000C7K0
W-DKCB2f-18PF-0000C7K0	DKCB2f-18PF-m-0000C7K0
W-DKCB2f-20PF-0000C7K0	DKCB2f-20PF-m-0000C7K0
W-DKCB2f-22PF-0000C7K0	DKCB2f-22PF-m-0000C7K0
W-DKCB2f-24PF-0000C7K0	DKCB2f-24PF-m-0000C7K0

#### DKSC – Disk Super Critical Grade Thermal Wraps

Part Number	Silencer Part Number
W-DKSCBA2f-04PF-0000C7K0	DKSCBA2f-04PF-m-0000C7K0
W-DKSCBA2f-05PF-0000C7K0	DKSCBA2f-05PF-m-0000C7K0
W-DKSCBA2f-06PF-0000C7K0	DKSCBA2f-06PF-m-0000C7K0
W-DKSCBA2f-08PF-0000C7K0	DKSCBA2f-08PF-m-0000C7K0
W-DKSCBA2f-10PF-0000C7K0	DKSCBA2f-10PF-m-0000C7K0
W-DKSCBA2f-12PF-0000C7K0	DKSCBA2f-12PF-m-0000C7K0
W-DKSCBA2f-14PF-0000C7K0	DKSCBA2f-14PF-m-0000C7K0
W-DKSCBA2f-16PF-0000C7K0	DKSCBA2f-16PF-m-0000C7K0
W-DKSCBA2f-18PF-0000C7K0	DKSCBA2f-18PF-m-0000C7K0
W-DKSCBA2f-20PF-0000C7K0	DKSCBA2f-20PF-m-0000C7K0
W-DKSCBA2f-22PF-0000C7K0	DKSCBA2f-22PF-m-0000C7K0
W-DKSCBA2f-24PF-0000C7K0	DKSCBA2f-24PF-m-0000C7K0

#### DKH – Disk Hospital Grade Thermal Wraps

Part Number	Silencer Part Number
W-DKHBA2f-04PF-0000C7K0	DKHBA2f-04PF-m-0000C7K0
W-DKHBA2f-05PF-0000C7K0	DKHBA2f-05PF-m-0000C7K0
W-DKHBA2f-06PF-0000C7K0	DKHBA2f-06PF-m-0000C7K0
W-DKHBA2f-08PF-0000C7K0	DKHBA2f-08PF-m-0000C7K0
W-DKHBA2f-10PF-0000C7K0	DKHBA2f-10PF-m-0000C7K0
W-DKHBA2f-12PF-0000C7K0	DKHBA2f-12PF-m-0000C7K0
W-DKHBA2f-14PF-0000C7K0	DKHBA2f-14PF-m-0000C7K0
W-DKHBA2f-16PF-0000C7K0	DKHBA2f-16PF-m-0000C7K0
W-DKHBA2f-18PF-0000C7K0	DKHBA2f-18PF-m-0000C7K0
W-DKHBA2f-20PF-0000C7K0	DKHBA2f-20PF-m-0000C7K0
W-DKHBA2f-22PF-0000C7K0	DKHBA2f-22PF-m-0000C7K0
W-DKHBA2f-24PF-0000C7K0	DKHBA2f-24PF-m-0000C7K0

#### DSC – Disk Spark Arresting Critical Grade Thermal Wraps

Part Number	Silencer Part Number
W-DSCBA2f-06PF-0000C7K0	DSCBA2f-06PF-m-0000C7K0
W-DSCBA2f-08PF-0000C7K0	DSCBA2f-08PF-m-0000C7K0
W-DSCBA2f-10PF-0000C7K0	DSCBA2f-10PF-m-0000C7K0
W-DSCBA2f-12PF-0000C7K0	DSCBA2f-12PF-m-0000C7K0

#### DSH – Disk Spark Arresting Hospital Grade Thermal Wraps

Part Number	Silencer Part Number
W-DSHBA2f-06PF-0000C7K0	DSHBA2f-06PF-m-0000C7K0
W-DSHBA2f-08PF-0000C7K0	DSHBA2f-08PF-m-0000C7K0
W-DSHBA2f-10PF-0000C7K0	DSHBA2f-10PF-m-0000C7K0
W-DSHBA2f-12PF-0000C7K0	DSHBA2f-12PF-m-0000C7K0

### SILENCERS THERMAL WRAPS

CPJ – Compact Residential Grade Thermal Wraps	
Part Number	Silencer Part Number
W-CPJEE1f-02MN-0000000	CPJEE1f-02MN-m-0000000
W-CPJEE1f-25MN-0000000	CPJEE1f-25MN-m-0000000
W-CPJEE1f-03MN-0000000	CPJEE1f-03MN-m-0000000
W-CPJEE1f-35MN-0000000	CPJEE1f-35MN-m-0000000
W-CPJEE1f-04PF-0000000	CPJEE1f-04PF-m-0000000
W-CPJEE1f-05PF-0000000	CPJEE1f-05PF-m-0000000
W-CPJEE1f-06PF-0000000	CPJEE1f-06PF-m-0000000
W-CPJEE1f-08PF-0000000	CPJEE1f-08PF-m-0000000
W-CPJEE1f-10PF-0000000	CPJEE1f-10PF-m-0000000
W-CPJGE1f-02MN-000001K	CPJGE1f-02MN-m-000001K
W-CPJGE1f-25MN-000001K	CPJGE1f-25MN-m-000001K
W-CPJGE1f-03MN-000001V	CPJGE1f-03MN-m-000001V
W-CPJGE1f-35MN-0000028	CPJGE1f-35MN-m-0000028
W-CPJGE1f-04PF-000002Q	CPJGE1f-04PF-m-000002Q
W-CPJGE1f-05PF-000002X	CPJGE1f-05PF-m-000002X
W-CPJGE1f-06PF-000004M	CPJGE1f-06PF-m-000004M
W-CPJGE1f-08PF-000004M	CPJGE1f-08PF-m-000004M
W-CPJGE1f-10PF-000005Q	CPJGE1f-10PF-m-000005Q
W-CPJEP1f-02MN-0000000	CPJEP1f-02MN-m-0000000
W-CPJEP1f-25MN-0000000	CPJEP1f-25MN-m-0000000
W-CPJEP1f-03MN-0000000	CPJEP1f-03MN-m-0000000
W-CPJEP1f-35MN-0000000	CPJEP1f-35MN-m-0000000
W-CPJEP1f-04PF-0000000	CPJEP1f-04PF-m-0000000
W-CPJEP1f-05PF-0000000	CPJEP1f-05PF-m-0000000
W-CPJEP1f-06PF-0000000	CPJEP1f-06PF-m-0000000
W-CPJEP1f-08PF-0000000	CPJEP1f-08PF-m-0000000
W-CPJEP1f-10PF-0000000	CPJEP1f-10PF-m-0000000
W-CPJGA1f-02MN-00001050	CPJGA1f-02MN-m-00001050
W-CPJGA1f-25MN-00001A6F	CPJGA1f-25MN-m-00001A6F
W-CPJGA1f-03MN-000012MV	CPJGA1f-03MN-m-000012MV
W-CPJGA1f-35MN-00001BV0	CPJGA1f-35MN-m-00001BV0
W-CPJGA1f-04PF-00001JDK	CPJGA1f-04PF-m-00001JDK
W-CPJGA1f-05PF-00001WXV	CPJGA1f-05PF-m-00001WXV
W-CPJGA1f-06PF-00002DNK	CPJGA1f-06PF-m-00002DNK
W-CPJGA1f-08PF-00002R7V	CPJGA1f-08PF-m-00002R7V
W-CPJGA1f-10PF-00002ZKQ	CPJGA1f-10PF-m-00002ZKQ

Accessories

### SILENCERS THERMAL WRAPS

OC – Oval Critical Grade Thermal Wraps	
Part Number	Silencer Part Number
W-OC EE0f-04PF-0000000	OC EE0f-04PF-m-0000000
W-OC EE0f-05PF-0000000	OC EE0f-05PF-m-0000000
W-OC EE0f-06PF-0000000	OC EE0f-06PF-m-0000000
W-OC EE0f-08PF-0000000	OC EE0f-08PF-m-0000000
W-OC EE0f-10PF-0000000	OC EE0f-10PF-m-0000000
W-OC EE0f-12PF-0000000	OC EE0f-12PF-m-0000000
W-OC EE0f-14PF-0000000	OC EE0f-14PF-m-0000000
W-OC EE0f-16PF-0000000	OC EE0f-16PF-m-0000000
W-OC EE0f-18PF-0000000	OC EE0f-18PF-m-0000000
W-OC EE0f-20PF-0000000	OC EE0f-20PF-m-0000000
W-OC EE0f-22PF-0000000	OC EE0f-22PF-m-0000000
W-OC EE0f-24PF-0000000	OC EE0f-24PF-m-0000000
W-OC BE0f-04PF-000001V	OC BE0f-04PF-m-000001V
W-OC BE0f-05PF-0000020	OC BE0f-05PF-m-0000020
W-OC BE0f-06PF-000002A	OC BE0f-06PF-m-000002A
W-OC BE0f-08PF-000002K	OC BE0f-08PF-m-000002K
W-OC BE0f-10PF-000002Q	OC BE0f-10PF-m-000002Q
W-OC BE0f-12PF-0000030	OC BE0f-12PF-m-0000030
W-OC BE0f-14PF-0000035	OC BE0f-14PF-m-0000035
W-OC BE0f-16PF-000003F	OC BE0f-16PF-m-000003F
W-OC BE0f-18PF-000003Q	OC BE0f-18PF-m-000003Q
W-OC BE0f-20PF-0000040	OC BE0f-20PF-m-0000040
W-OC BE0f-22PF-000004A	OC BE0f-22PF-m-000004A
W-OC BE0f-24PF-000004K	OC BE0f-24PF-m-000004K
W-OC BT0f-04PF-00001JDK	OC BT0f-04PF-m-00001JDK
W-OC BT0f-05PF-00001NK0	OC BT0f-05PF-m-00001NK0
W-OC BT0f-06PF-00001WXV	OC BT0f-06PF-m-00001WXV
W-OC BT0f-08PF-000025AQ	OC BT0f-08PF-m-000025AQ
W-OC BT0f-10PF-000029H5	OC BT0f-10PF-m-000029H5
W-OC BT0f-12PF-00002HV0	OC BT0f-12PF-m-00002HV0
W-OC BT0f-14PF-00002M1F	OC BT0f-14PF-m-00002M1F
W-OC BT0f-16PF-00002VEA	OC BT0f-16PF-m-00002VEA
W-OC BT0f-18PF-000033S5	OC BT0f-18PF-m-000033S5
W-OC BT0f-20PF-00003C50	OC BT0f-20PF-m-00003C50
W-OC BT0f-22PF-00003KHV	OC BT0f-22PF-m-00003KHV
W-OC BT0f-24PF-00003TVQ	OC BT0f-24PF-m-00003TVQ

OSC – Oval Super Critical Grade Thermal Wraps	
Part Number	Silencer Part Number
W-OSCEE2f-04PF-0000000	OSCEE2f-04PF-m-0000000
W-OSCEE2f-05PF-0000000	OSCEE2f-05PF-m-0000000
W-OSCEE2f-06PF-0000000	OSCEE2f-06PF-m-0000000
W-OSCEE2f-08PF-0000000	OSCEE2f-08PF-m-0000000
W-OSCEE2f-10PF-0000000	OSCEE2f-10PF-m-0000000
W-OSCEE2f-12PF-0000000	OSCEE2f-12PF-m-0000000
W-OSCEE2f-14PF-0000000	OSCEE2f-14PF-m-0000000
W-OSCEE2f-16PF-0000000	OSCEE2f-16PF-m-0000000
W-OSCEE2f-18PF-0000000	OSCEE2f-18PF-m-0000000
W-OSCEE2f-20PF-0000000	OSCEE2f-20PF-m-0000000
W-OSCEE2f-22PF-0000000	OSCEE2f-22PF-m-0000000
W-OSCEE2f-24PF-0000000	OSCEE2f-24PF-m-0000000
W-OSCB E2f-04PF-000001V	OSCB E2f-04PF-m-000001V
W-OSCB E2f-05PF-0000020	OSCB E2f-05PF-m-0000020
W-OSCB E2f-06PF-0000025	OSCB E2f-06PF-m-0000025
W-OSCB E2f-08PF-000002F	OSCB E2f-08PF-m-000002F
W-OSCB E2f-10PF-000002Q	OSCB E2f-10PF-m-000002Q
W-OSCB E2f-12PF-0000030	OSCB E2f-12PF-m-0000030
W-OSCB E2f-14PF-0000035	OSCB E2f-14PF-m-0000035
W-OSCB E2f-16PF-000003F	OSCB E2f-16PF-m-000003F
W-OSCB E2f-18PF-000003Q	OSCB E2f-18PF-m-000003Q
W-OSCB E2f-20PF-0000040	OSCB E2f-20PF-m-0000040
W-OSCB E2f-22PF-000004A	OSCB E2f-22PF-m-000004A
W-OSCB E2f-24PF-000004K	OSCB E2f-24PF-m-000004K
W-OSCB T2f-04PF-00001JDK	OSCB T2f-04PF-m-00001JDK
W-OSCB T2f-05PF-00001NK0	OSCB T2f-05PF-m-00001NK0
W-OSCB T2f-06PF-00001SRF	OSCB T2f-06PF-m-00001SRF
W-OSCB T2f-08PF-0000214A	OSCB T2f-08PF-m-0000214A
W-OSCB T2f-10PF-000029H5	OSCB T2f-10PF-m-000029H5
W-OSCB T2f-12PF-00002HV0	OSCB T2f-12PF-m-00002HV0
W-OSCB T2f-14PF-00002M1F	OSCB T2f-14PF-m-00002M1F
W-OSCB T2f-16PF-00002VEA	OSCB T2f-16PF-m-00002VEA
W-OSCB T2f-18PF-000033S5	OSCB T2f-18PF-m-000033S5
W-OSCB T2f-20PF-00003C50	OSCB T2f-20PF-m-00003C50
W-OSCB T2f-22PF-00003KHV	OSCB T2f-22PF-m-00003KHV
W-OSCB T2f-24PF-00003TVQ	OSCB T2f-24PF-m-00003TVQ

### SILENCERS THERMAL WRAPS

Accessories

OH – Oval Hospital Grade Thermal Wraps	
Part Number	Silencer Part Number
W-OHEE2f-04PF-0000000	OHEE2f-04PF-m-0000000
W-OHEE2f-05PF-0000000	OHEE2f-05PF-m-0000000
W-OHEE2f-06PF-0000000	OHEE2f-06PF-m-0000000
W-OHEE2f-08PF-0000000	OHEE2f-08PF-m-0000000
W-OHEE2f-10PF-0000000	OHEE2f-10PF-m-0000000
W-OHEE2f-12PF-0000000	OHEE2f-12PF-m-0000000
W-OHEE2f-14PF-0000000	OHEE2f-14PF-m-0000000
W-OHEE2f-16PF-0000000	OHEE2f-16PF-m-0000000
W-OHEE2f-18PF-0000000	OHEE2f-18PF-m-0000000
W-OHEE2f-20PF-0000000	OHEE2f-20PF-m-0000000
W-OHEE2f-22PF-0000000	OHEE2f-22PF-m-0000000
W-OHEE2f-24PF-0000000	OHEE2f-24PF-m-0000000
W-OHBE2f-04PF-000001V	OHBE2f-04PF-m-000001V
W-OHBE2f-05PF-0000020	OHBE2f-05PF-m-0000020
W-OHBE2f-06PF-000002A	OHBE2f-06PF-m-000002A
W-OHBE2f-08PF-000002K	OHBE2f-08PF-m-000002K
W-OHBE2f-10PF-000002Q	OHBE2f-10PF-m-000002Q
W-OHBE2f-12PF-0000030	OHBE2f-12PF-m-0000030
W-OHBE2f-14PF-0000035	OHBE2f-14PF-m-0000035
W-OHBE2f-16PF-000003F	OHBE2f-16PF-m-000003F
W-OHBE2f-18PF-000003Q	OHBE2f-18PF-m-000003Q
W-OHBE2f-20PF-0000040	OHBE2f-20PF-m-0000040
W-OHBE2f-22PF-000004A	OHBE2f-22PF-m-000004A
W-OHBE2f-24PF-000004K	OHBE2f-24PF-m-000004K
W-OHBT2f-04PF-00001JDK	OHBT2f-04PF-m-00001JDK
W-OHBT2f-05PF-00001NK0	OHBT2f-05PF-m-00001NK0
W-OHBT2f-06PF-00001WXV	OHBT2f-06PF-m-00001WXV
W-OHBT2f-08PF-000025AQ	OHBT2f-08PF-m-000025AQ
W-OHBT2f-10PF-000029H5	OHBT2f-10PF-m-000029H5
W-OHBT2f-12PF-00002HV0	OHBT2f-12PF-m-00002HV0
W-OHBT2f-14PF-00002M1F	OHBT2f-14PF-m-00002M1F
W-OHBT2f-16PF-00002VEA	OHBT2f-16PF-m-00002VEA
W-OHBT2f-18PF-000033S5	OHBT2f-18PF-m-000033S5
W-OHBT2f-20PF-00003C50	OHBT2f-20PF-m-00003C50
W-OHBT2f-22PF-00003KHV	OHBT2f-22PF-m-00003KHV
W-OHBT2f-24PF-00003TVQ	OHBT2f-24PF-m-00003TVQ

OX – Oval Extreme Grade Thermal Wraps	
Part Number	Silencer Part Number
W-OXEE2f-04PF-0000000	OXEE2f-04PF-m-0000000
W-OXEE2f-05PF-0000000	OXEE2f-05PF-m-0000000
W-OXEE2f-06PF-0000000	OXEE2f-06PF-m-0000000
W-OXEE2f-08PF-0000000	OXEE2f-08PF-m-0000000
W-OXEE2f-10PF-0000000	OXEE2f-10PF-m-0000000
W-OXEE2f-12PF-0000000	OXEE2f-12PF-m-0000000
W-OXEE2f-14PF-0000000	OXEE2f-14PF-m-0000000
W-OXEE2f-16PF-0000000	OXEE2f-16PF-m-0000000
W-OXEE2f-18PF-0000000	OXEE2f-18PF-m-0000000
W-OXEE2f-20PF-0000000	OXEE2f-20PF-m-0000000
W-OXEE2f-22PF-0000000	OXEE2f-22PF-m-0000000
W-OXEE2f-24PF-0000000	OXEE2f-24PF-m-0000000
W-OXBE2f-04PF-000001V	OXBE2f-04PF-m-000001V
W-OXBE2f-05PF-0000020	OXBE2f-05PF-m-0000020
W-OXBE2f-06PF-000002A	OXBE2f-06PF-m-000002A
W-OXBE2f-08PF-000002K	OXBE2f-08PF-m-000002K
W-OXBE2f-10PF-000002Q	OXBE2f-10PF-m-000002Q
W-OXBE2f-12PF-0000030	OXBE2f-12PF-m-0000030
W-OXBE2f-14PF-0000035	OXBE2f-14PF-m-0000035
W-OXBE2f-16PF-000003F	OXBE2f-16PF-m-000003F
W-OXBE2f-18PF-000003Q	OXBE2f-18PF-m-000003Q
W-OXBE2f-20PF-0000040	OXBE2f-20PF-m-0000040
W-OXBE2f-22PF-000004A	OXBE2f-22PF-m-000004A
W-OXBE2f-24PF-000004K	OXBE2f-24PF-m-000004K
W-OXBT2f-04PF-00001JDK	OXBT2f-04PF-m-00001JDK
W-OXBT2f-05PF-00001NK0	OXBT2f-05PF-m-00001NK0
W-OXBT2f-06PF-00001WXV	OXBT2f-06PF-m-00001WXV
W-OXBT2f-08PF-000025AQ	OXBT2f-08PF-m-000025AQ
W-OXBT2f-10PF-000029H5	OXBT2f-10PF-m-000029H5
W-OXBT2f-12PF-00002HV0	OXBT2f-12PF-m-00002HV0
W-OXBT2f-14PF-00002M1F	OXBT2f-14PF-m-00002M1F
W-OXBT2f-16PF-00002VEA	OXBT2f-16PF-m-00002VEA
W-OXBT2f-18PF-000033S5	OXBT2f-18PF-m-000033S5
W-OXBT2f-20PF-00003C50	OXBT2f-20PF-m-00003C50
W-OXBT2f-22PF-00003KHV	OXBT2f-22PF-m-00003KHV
W-OXBT2f-24PF-00003TVQ	OXBT2f-24PF-m-00003TVQ

Insulation Typical Properties		Thermal Conductivity "K" Factor	
Property	Temperature	Temperature	K [(BTU·in)/(hr·ft <sup>2</sup> ·°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 MILF-24244 Type 11 & Coast Guard specifications for incombustible material #164.009.

Custom applications available, contact factory.

Spring Clips available in lieu of lacing wire.

## PIPES, TUBES, FLEX, & BELLOWS THERMAL WRAPS

### Pipes & Tubes Thermal Wraps

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

### Corrugated Flex Hose Thermal Wraps

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

### Bellows Thermal Wraps

Part Number	Pipe/Tube (OD)
W-BL03-03TF-03TF-120	3.00
W-BL04-04TF-04TF-120	4.00
W-BL05-05TF-05TF-120	5.00
W-BL06-06TF-06TF-120	6.00
W-BL08-08TF-08TF-120	8.00
W-BL10-10TF-10TF-120	10.00
W-BL12-12TF-12TF-120	12.00
W-BL14-14PF-14PF-120	14.00
W-BL16-16PF-16PF-120	16.00
W-BL18-18PF-18PF-120	18.00
W-BL20-20PF-20PF-120	20.00
W-BL22-22PF-22PF-120	22.00
W-BL24-24PF-24PF-120	24.00

Insulation Typical Properties		Thermal Conductivity "K" Factor	
Property	Temperature	Temperature	K [(BTU-in)/(hr-ft <sup>2</sup> ·°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.

Spring Clips available in lieu of lacing wire.

## FLANGE THERMAL WRAPS

### ANSI Flange Thermal Wraps

Part Number
W-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

### CAT Engine Flange Thermal Wraps

Part Number
W-CAFL-04
W-CAFL-05
W-CAFL-05
W-CAFL-06
W-CAFL-08
W-CAFL-10
W-CAFL-12
W-CAFL-14
W-CAFL-16
W-CAFL-18

### Cummins Engine Flange Thermal Wraps

Part Number
W-CUFL-05
W-CUFL-06

### Mitsubishi Engine Flange Thermal Wraps

Part Number
W-MIFL-08
W-MIFL-10
W-MIFL-12

### Detroit Diesel Engine Flange Thermal Wraps

Part Number
W-DFFL-08
W-DFFL-06
W-DFFL-10

Insulation Typical Properties		Thermal Conductivity "K" Factor	
Property	Temperature	Temperature	K [(BTU-in)/(hr-ft <sup>2</sup> ·°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.

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

Spring Clips available in lieu of lacing wire.

## 90° & 45° ELBOW THERMAL WRAPS

### 90° Short Radius Elbow (Smooth) Thermal Wraps

Part Number	Size (OD)
W-EL-03TS-03TS-060X0060	3.00
W-EL-35TS-35TS-080X0080	3.50
W-EL-04TS-04TS-080X0080	4.00
W-EL-05TS-05TS-100X0100	5.00
W-EL-06TS-06TS-100X0100	6.00

### 90° Long Radius Elbow (Smooth) Thermal Wraps

Part Number	Size (OD)
W-ELL-03TS-03TS-060X0060	3.00
W-ELL-35TS-35TS-070X0070	3.50
W-ELL-04TS-04TS-080X0080	4.00
W-ELL-05TS-05TS-100X0100	5.00
W-ELL-06TS-06TS-120X0120	6.00

### 45° Short Radius Elbow (Smooth) Thermal Wraps

Part Number	Size (OD)
W-EB-03TS-03TS-040X0040	3.00
W-EB-35TS-35TS-045X0045	3.50
W-EB-04TS-04TS-050X0050	4.00
W-EB-05TS-05TS-060X0060	5.00
W-EB-06TS-06TS-070X0070	6.00

### 45° Long Radius Elbow (Smooth) Thermal Wraps

Part Number	Size (OD)
W-EBL-03TS-03TS-055X0055	3.00
W-EBL-35TS-35TS-065X0065	3.50
W-EBL-04TS-04TS-070X0070	4.00
W-EBL-05TS-05TS-080X0080	5.00
W-EBL-06TS-06TS-100X0100	6.00

### 90° Short Radius Elbow (Mitered) Thermal Wraps

Part Number	Size (OD)
W-EL-08TS-08TS-080X0080	8.00
W-EL-10TS-10TS-100X0100	10.00
W-EL-12TS-12TS-120X0120	12.00
W-EL-14PS-14PS-140X0140	14.00
W-EL-16PS-16PS-160X0160	16.00
W-EL-18PS-18PS-180X0180	18.00
W-EL-20PS-20PS-200X0200	20.00
W-EL-22PS-22PS-220X0220	22.00
W-EL-24PS-24PS-240X0240	24.00

### 45° Short Radius Elbow (Mitered) Thermal Wraps

Part Number	Size (OD)
W-EB-08TS-08TS-080X0080	8.00
W-EB-10TS-10TS-100X0100	10.00
W-EB-12TS-12TS-120X0120	12.00
W-EB-14PS-14PS-140X0140	14.00
W-EB-16PS-16PS-160X0160	16.00
W-EB-18PS-18PS-180X0180	18.00
W-EB-20PS-20PS-200X0200	20.00
W-EB-22PS-22PS-220X0220	22.00
W-EB-24PS-24PS-240X0240	24.00

Insulation Typical Properties		Thermal Conductivity "K" Factor	
Property	Temperature	Temperature	K [(BTU-in)/(hr-ft <sup>2</sup> ·°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.

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

Spring Clips available in lieu of lacing wire.

Accessories





# Documents

## TEMPERATURE LIMITS OF VARIOUS MATERIALS USED IN CATALYST HOUSINGS, SILENCERS, PIPING, AND EXHAUST ACCESSORIES

MIRATECH manufactures equipment from various materials (e.g., carbon steel, aluminized steel, stainless, etc.). These materials have different temperature limits depending on the application.

In general, carbon steel and aluminized steel are suitable for typical engine exhaust temperatures (< 1250° F / 675° C) where the product is not covered with insulation or a heat shield, allowing heat to radiate from the material. When continuous operating temperatures exceed 1250° F / 675° C or where corrosion is a concern, stainless steel (generally 304SS) should be considered. Note that in emission control exhaust systems, the operating temperature limits of the catalyst may be lower than that of the housing material; please see the application-specific data sheet for details.

Often, exhaust components are covered with insulation or a heat shield for personnel protection, to prevent radiated heat into the engine room or enclosure, or to preserve temperature for waste heat recovery. In those cases the material temperature limits vary by application.

### [Silencers, piping, and exhaust accessories](#)

Carbon steel is suitable for temperatures up to 1100° F / 593° C in intermittent use, i.e., less than 500 hours per year, when covered with external insulation or a heat shield.

Aluminized steel is suitable for temperatures up to 1100° F / 593° C continuously when covered with insulation or a heat shield.

Silencers (plain carbon steel or aluminized) with internal insulation, and without external insulation or heat shield, are suitable for temperatures up to 1100° F / 593° C continuously. Stainless steel should be used when the exhaust temperature will exceed 1100° F / 593° C continuously and product is internally or externally insulated.

### [Emission control products \(catalyst housings, combination catalyst/silencers, etc.\)](#)

Carbon steel is suitable for temperatures up to 900° F / 482° C continuously, when covered with external insulation or a heat shield. For continuous operation above 900° F / 482° C, where the equipment is externally insulated or has a heat shield, stainless steel should be used.

## REMOVABLE INSULATION BLANKETS FOR EXHAUST SYSTEMS

Pre-fabricated removable thermal insulation (blankets) is a cost effective way to reduce surface temperatures of exhaust components and limit the heat radiated into an engine room or enclosure. Standard blankets are available for most emissions products, silencers, piping, and accessories.

Standard blankets are composed of 1" thick fiberglass insulation with a stainless steel mesh liner facing the hot surface, and a silicone impregnated outer jacket. The blanket has good UV resistance as well as being resistant to oil and fuels. Blankets are secured using stainless steel lacing hooks with either stainless tie wire and/or spring clips. See the "Thermal Wrap" section of the catalog for more details on temperature ratings, agency approvals, etc.

Custom blankets are available in a variety of thicknesses and jacketing material. If you need to limit the maximum surface temperature (e.g., for personnel protection), let us know and we can specify a blanket based on your application conditions. Personnel protection may require very thick blankets, which may not be available in some cases due to space constraints (e.g., flange covers), difficulty of installation (thicker blankets are less flexible), etc.

## FLEXIBLE CONNECTORS AND BELLOWS EXPANSION JOINTS

Sometimes the term “flexible connector” or “flex” is used interchangeably with “expansion joint” or “bellows”. They are different devices meant to perform specific functions.

Flex Connectors are intended to absorb or isolate high frequency, low amplitude engine vibration from the rest of the exhaust piping. They are not designed to compensate for or absorb pipe expansion, nor are they designed to “make up” for mis-aligned piping. Flex hose is typically constructed of a single ply of relatively small corrugations that allow the material to move with vibration. The corrugations aren’t designed to compress; over time the flex will fail if it is operated under compression. Likewise the inlet and outlet must be aligned. If a flex is installed in misaligned piping, it will fail after a short period of time. Custom flexes can be made with offset inlet/outlet to make up for misalignment. In general the optimum length of a flex connector is 18”. In some cases shorter flex connectors can be built but their performance and life will be compromised. Standard flex connectors are available from 2” to 16” diameter. Bellows are required above 16”.

Bellows Expansion Joints are more flexible than Flex Connectors and are designed to absorb pipe expansion. The corrugations are larger and therefore able to compress more. They are generally better able to handle lateral movement as well, so can better tolerate pipe misalignment. Because they are more flexible, they can provide expansion absorption and vibration isolation in a shorter length than a Flex Connector.

Bellows Expansion Joints come in single-ply and dual-ply versions, referring to the number of layers of steel forming the bellows. Dual ply bellows (constructed of two thinner layers of steel) are more flexible than single-ply, can absorb more expansion and vibration, and will have better durability than a single-ply bellow. However the cost is higher than single-ply so the cost/benefit must be evaluated. For prime power or mission critical applications dual-ply bellows are preferred.

The corrugations in the flexible section of a Flex Connector or a Bellows create turbulence which increases the pressure drop through the device. Bellows can be built with flow liners which smooth out the flow and make the pressure drop closer to smooth pipe. The liner is welded on one end, with the other floating so that the bellows can still compress. Flow liners restrict lateral movement, so a bellows with a liner will not be able to tolerate misalignment or lateral deflection to the same degree as an unlined bellows.

Standard Flex Connectors and Bellows are manufactured from 321SS in the flexible section, with the connectors (flange, pipe, etc.) of carbon steel or stainless. We offer custom Flex Connectors and Bellows Expansion Joints tailored to your application. Contact us with your application criteria and we will help you arrive at the best solution.

## 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			<b>Required Fields</b>
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	
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\* Please include units

## BLOW DOWN SILENCER 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

**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

## EXHAUST WASTE HEAT RECOVERY – HOT WATER (WHRs) APPLICATION DATA FORM

Project Name		<b>Required Fields</b>
Date		

### Contact Information

Contact Name		
Company Name		
Contact Location		
RSM		
Telephone Number		
Fax Number		
Email Address		
Required Proposal Response Date		
Identify any other proposals for project		(catalyst, silencers, accessories, etc.)

### Engine Information

Engine Make		
Engine Model		
RPM		
Fuel Type		(natural gas, diesel, biogas, etc.)
Max Allowable Back Pressure*		
Number of Engines		
Engine Exhaust Noise (dBA)		
Rated Power*		
Exhaust Flow Rate (Wet)*		
Exhaust Temperature*		
Engine Type		(Rich burn, lean burn, dual fuel)
Water Flow*		
Water Inlet Temperature		
Percent Glycol (if any)		

### Product Requirements

Unit Orientation	<input type="checkbox"/> Vertical <input type="checkbox"/> Horizontal	
Max Exhaust Pressure Drop for WHRS*		(if unknown use 6 inches wc)
Maximum Water Side Pressure Drop*		(if unknown use 3 psig)

Attach all specifications pertaining to the exhaust waste heat recovery silencer including specification on insulation, drawings showing installations of exhaust waste heat recovery silencer.

Additional Specifications or Requirements	
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\* Please include units

## EXHAUST WASTE HEAT RECOVERY – STEAM (WHRs) APPLICATION DATA FORM

Project Name		<b>Required Fields</b>
Date		

### Contact Information

Contact Name	
Company Name	
Contact Location	
RSM	
Telephone Number	
Fax Number	
Email Address	
Required Proposal Response Date	
Identify any other proposals for project	

### Engine Information

Engine Make	
Engine Model	
RPM	
Fuel Type	
Max Allowable Back Pressure*	
Number of Engines	
Engine Exhaust Noise (dBA)	
Rated Power*	
Exhaust Flow Rate (Wet)*	
Exhaust Temperature*	
Engine Type	

### Product Requirements

Unit Orientation	<input type="checkbox"/> Vertical <input type="checkbox"/> Horizontal	
Max Exhaust Pressure Drop for WHRS*		(if unknown use 6 inches wc)
Actual Operating Steam Pressure*		
Feed Water Temperature*		(min 180F, use 200F if unknown)
Required Design Pressure		(15 / 150 / 250 psig standard)

Design pressure is the pressure at which the safety valves are set and is about 10-15% above the operating pressure:

- 15 PSIG units can only operate at about 12 PSIG and below.
- 150 PSIG units can only operate at about 135 PSIG and below.
- 250 PSIG units can only operate at about 225 PSIG and below.

Attach all specifications pertaining to the exhaust waste heat recovery silencer including specification on insulation, drawings showing installations of exhaust waste heat recovery silencer.

Additional Specifications or Requirements	
---	--

\* Please include units



## PLATFORM APPLICATION DATA FORM

Project Name

Date

Required Fields

**Contact Information**

Contact Name

Company Name

Contact Location

RSM

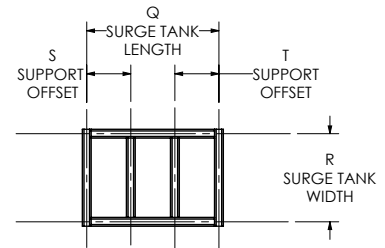
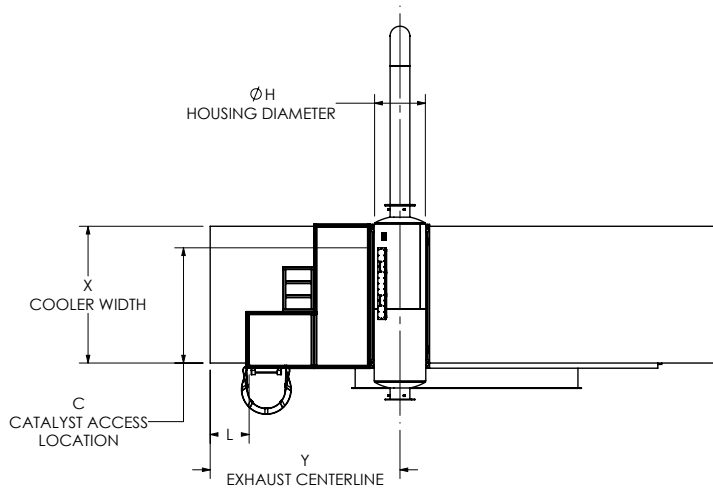
Telephone Number

Fax Number

Email Address

Required Proposal Response Date

**Platform Dimensions**



Cooler Width, X\*

Exhaust Centerline, Y\*

Catalyst Access Location, C\*

Housing Diameter, H\*

Ladder Offset, L\*

Surge Tank Supports  Yes  No

Surge Tank Length, Q\*

Surge Tank Width, R\*

Support Offset, S\*

Support Offset, T\*

Q, R, S, and T are required when this is Yes

Additional Specifications or Requirements

\* Please include units