

Dissipator High-Efficiency Stockbridge Damper

New Bell-shaped Weight Design

AFL's new Dissipator high-efficiency stockbridge damper 1700AA series provides a significant performance improvement over our traditional damper due to its unique offset bell-shaped weight configuration. The new offset weight design basically doubles the number of resonant frequencies, thereby providing a more consistent efficiency performance over the aeolian frequency span. AFL combined the proven performance of our unique bell-shaped weights and incorporated them in a design using two different size weights on unequal messenger lengths. The end result produced a damper with optimum performance that will eliminate damage caused by aeolian vibration thereby extending the life of a transmission line.

VIBREC® Damper Placement Software

AFL has the longest standing history in vibration analysis today. From the many years of testing and gathering of empirical data, AFL introduced Vibrec, an integrated Windows®-based vibration analysis program that is available as a "Free Download" on our website. This program allows users to perform analysis on transmission lines by inputting various mechanical and environmental parameters that can affect vibration. With this information, Vibrec determines how many AFL Stockbridge vibration dampers or Speed-Grip® Spacers will be required for each span and suggests the best location for these accessories. You can also contact our technical support team for a free analysis.

Features

- Four natural frequency response modes and the unique weight shape provide one of the widest frequency ranges of coverage in the industry.
- Damper's unique bell shaped weight with smooth contours throughout the entire damper design provides corona performance up to 500 kV.
- Optional break-a-way bolt available to ensure consistent torque requirements.
- Special 19-strand messenger cable provides highly efficient energy dissipation.



Unique conductor clamp design can be used on HiTemp® conductor applications up to 250°C without the need for armor rods

For more information, contact AFL's Technical Support at 1.800.866.7385.

Vibration Dampers for Aluminum Type Conductor (ACCC, ACSR, ACSR-TW, ACSS, ACSS-TW, AAC, AAAC, ACAR)

Table 1: Weight Selection

WEIGHT CATALOG NUMBER	BARE CONDUCTOR DIAMETER RANGE		WEIGHT ¹	
			STEEL	
	IN	MM	LBS	KG
ALUMINUM CONDUCTOR				
1703	0.361 - 0.570	9.2 - 14.4	2.9	1.32
1704	0.571 - 0.770	14.5 - 19.5	6.5	2.95
1705	0.771 - 0.970	19.6 - 24.6	9.9	4.49
1706AA	0.971 - 1.210	24.7 - 30.7	8.2	3.72
1707AA	1.211 - 1.382	30.8 - 35.1	8.4	3.81
1708AA	1.383 - 1.825	35.2 - 46.4	16.7	7.57

Table 2: Clamp Selection

CLAMP AFL NO.	OVERALL DIAMETER RANGE AT POINT OF INSTALLATION		CLAMP BOLT DIA ⁴	WEIGHT ²	
				ALUMINUM	
	IN	MM		LBS	KG
-2	0.270 - 0.360	6.9 - 9.1	7/16	0.3	0.15
-3	0.361 - 0.460	9.2 - 11.6	7/16	0.3	0.15
-4	0.461 - 0.570	11.7 - 14.4	7/16	0.3	0.15
-5	0.571 - 0.675	14.5 - 17.1	7/16	0.4	0.16
-6	0.676 - 0.770	17.2 - 19.8	7/16	0.4	0.15
-7	0.771 - 0.870	19.6 - 22.1	1/2	0.6	0.26
-8	0.871 - 0.970	22.2 - 24.6	1/2	0.6	0.26
-9 ³	0.971 - 1.090	24.7 - 27.6	1/2	1.1	0.50
-10 ³	1.091 - 1.210	27.7 - 30.7	1/2	1.1	0.50
-11 ³	1.211 - 1.330	30.8 - 33.7	1/2	1.1	0.50
-13 ³	1.331 - 1.486	33.8 - 37.7	5/8	1.6	0.73
-14 ³	1.487 - 1.643	37.8 - 41.7	5/8	1.5	0.68
-15 ³	1.644 - 1.780	41.8 - 45.2	5/8	1.5	0.68
-16 ³	1.781 - 1.960	45.3 - 49.7	5/8	2.2	1.00
-17 ³	1.961 - 2.157	49.8 - 54.7	5/8	2.2	1.00
-18 ³	2.158 - 2.375	54.8 - 60.3	5/8	2.4	1.09
-19 ³	2.376 - 2.614	60.4 - 66.4	5/8	2.4	1.09

Notes:

1. Steel weight shown in Table 1 includes both damper weights and other steel parts used. For complete weight of damper assembly, add partial weights shown in Tables 1 and 2.
2. Regular aluminum hexagon head bolts are standard on assemblies that have 1705 weights and smaller. Assemblies having 1706AA weights and larger have special Corona hexagon head bolts.
3. For conductor sizes not covered in the table, consult AFL Technical Support Team at 1.800.866.7385.
4. Installation instructions for dampers start on page 393 of AFL's Transmission and Distribution catalog.
5. Weight combination sizes for cables smaller than 0.971" (1700 series) have identical weights on both sides.
6. Weight size 1701 uses a 7-strand messenger cable.

Ordering Instructions

Step 1: Determine Conductor Diameter

All damper ordering is based on the diameter of the conductor being used.

Step 2: Select Weight Catalog Number

Use Table 1 to select the correct weight catalog number based on the diameter of the bare conductor being used.

Step 3: Select Clamp Catalog Number

Before selecting a Clamp, ask one question 'Does this application require placement of clamp over armor rods?'

If yes, select the correct clamp catalog number from Table 2 based on the total diameter of the conductor and the armor rods.

If no, select the correct clamp catalog number from Table 2 based on the diameter of the bare conductor being used.

Step 4: Select Bolts

For breakaway bolts, use 'BA'. For standard bolts, leave blank.

Step 5: Create Catalog Number

$$\boxed{\text{Weight Catalog Number}} + \boxed{\text{Clamp Catalog Number}} + \boxed{\text{Bolts}}$$

Example:

Without Armor Rods

Conductor Diameter: 1.108" (28.1 mm)

Weight Size from Table 1: 1706AA

Clamp Size from Table 2: -10

Bolts: Breakaway

Catalog Number: 1706AA-10BA

With Armor Rods

Conductor Diameter: 1.108" (28.1 mm)

Weight Size from Table 1: 1706AA

Diameter of Conductor and Armor Rods: 1.728" (43.9 mm)

Clamp Size from table 2: -15

Bolts: Standard

Catalog Number: 1706AA-15