

Spacer Dampers Frame Style with Elastomer Bushed Clamps



Spacer dampers were originally developed to suppress bundle conductor subspan oscillations that could cause damage to multi-conductor bundle systems. Later, it was determined that they could be used to control aeolian vibration as well as wake-induced oscillation. The spacer damper is designed to maintain the original geometry of the bundle system against loads. It must also restore the bundle to normal posture after experiencing severe loads due to short-circuit currents, ice and wind.

The AFL Spacer Damper combines the function of a spacer in maintaining conductor separation and the function of a damper in controlling aeolian vibration and oscillation. The viscoelastic bushings firmly grip the conductor. AFL has developed spacer damper designs to meet various bundle configurations and installation requirements.

What is wake-induced oscillation?

Wake-Induced Oscillation is a swinging motion, like a pendulum, that is caused when wind blows across a bundle of conductors. As the conductors move back and forth, there is a potential of the conductors to touch, thus causing significant damage. AFL has been researching oscillation to understand it and has developed improved accessories to control it.

Features

High Temperature Application

The HiTemp Speed-Grip Spacer is specifically designed with elastomer bushed clamps that can withstand the rigors of increased temperatures (up to 250°C) of ACSS and ACSS/TW conductors. Two HiTemp bushings are available for 200°C and 250°C operation.

Controls Oscillation and Aeolian Vibration

The Spacer Damper is the most efficient way to extend the life span of the transmission line. It is designed to dissipate the damaging vibrations caused by wind.

No Special Tools Needed with Breakaway Bolt Option

With the breakaway bolt, no special tools or torque wrench is needed. Simply tighten the bolt until the head shears off, indicating proper torque has been achieved.

Customized Designs

AFL can engineer a line protection system for any particular project. The Spacer Dampers are available for 3 and 4 conductor bundles. Standard spacing is 18 inches. For alternate spacing and bundle design, contact AFL Technical Support Team.

Conductor Clamps

Clamps are constructed of high strength aluminum alloy with a hinged bolted rubber grommet configuration as the standard. Aluminum shear-head bolts are used to assure consistent torque is achieved during installation. A locking pin style is available on some sizes which requires a special tool for installation.

Corona and RIV

Spacer Dampers are designed to provide corona free performance on operating voltages up and including 500 kV. Special designs are available for 765 kV applications.

Vibrec™ Damper Recommendation Program

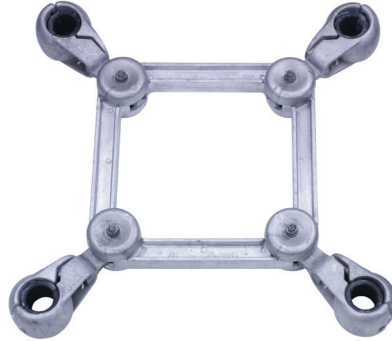
The Vibrec damper recommendation program assists in spacer damper requirements for transmission lines. For more information visit www.Vibrec.com or contact the AFL Technical Support Team at 1.800.866.7385.

Vibration Recommendation Form can be found on page 393.

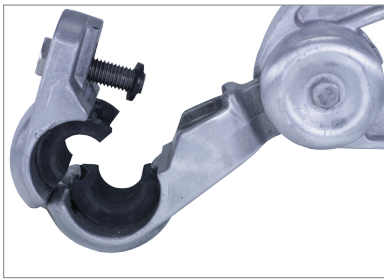
Spacer Dampers Frame Style with Elastomer Bushed Clamps (cont.)



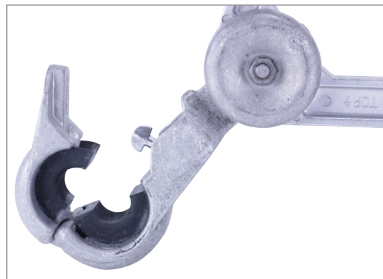
3-Conductor Bundle
Locking Pin Type Clamp



4-Conductor Bundle
Bolted Bushing Type Clamp



Bolted Bushing Type
SDBB Type Clamp



Locking Pin Style
SDL Type Clamp



Special Locking Pin Tool
Order AFL No. SDL-INS-TOOL

Ordering Instructions

Step 1: Select Clamp Type from above options.

Step 2: If high temperature bushings are required for rating up to 250°C conductor operation, add "HT." Otherwise, leave blank.

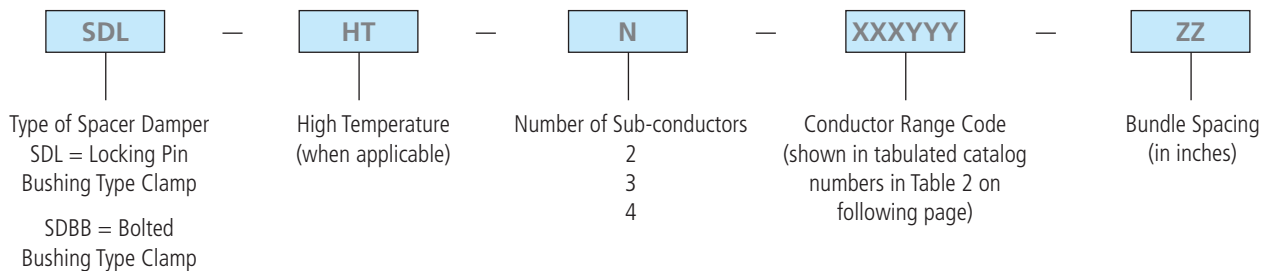
Step 3: Select number of sub-conductors in bundle. Bundle options are shown in Table 1 on the following page.

Step 4: Select Range Code. Range codes are shown in the tabulated catalog numbers in Table 2 on the following page.

Step 5: Select the conductor bundle spacing. Options are shown in Table 1 on the following page.

Example:

For a 3-conductor bundle spacer damper for use with ACSS Drake (diameter 1.108"), rated for use at 250°C conductor operation, with 18" conductor spacing and bolted bushed clamps, the catalog number would be **SDBBHT3-280290-18**.



Spacer Dampers Frame Style with Elastomer Bushed Clamps (cont.)

Table 1: Bundle and Clamp Type Selection

CONDUCTOR SPACING		NUMBER OF CONDUCTORS		
IN	MM			
16	400	2	3	4
18	457	2	3	4
20	500	2	3	4
25, 18, 18	635, 457, 457	—	3*	—

Table 2: Clamp Size Selection

ASSEMBLY CATALOG NUMBER *		CONDUCTOR DIAMETER RANGE				CLAMP WIDTH		WEIGHT FOR 18" CONDUCTOR SPACING			
LOCKING PIN CLAMP STYLE	BOLTED BUSHING CLAMP STYLE	IN		MM		IN	MM	3-CONDUCTOR BUNDLE		4-CONDUCTOR BUNDLE	
		MIN	MAX	MIN	MAX			LBS	KG	LBS	KG
SDLN-200210-ZZ	SDBBN-200210-ZZ	0.787	0.827	20.0	21.0	3	76	11.0	5.0	15.5	7.0
SDLN-210220-ZZ	SDBBN-210220-ZZ	0.827	0.866	21.0	22.0	3	76	11.0	5.0	15.5	7.0
SDLN-220230-ZZ	SDBBN-220230-ZZ	0.866	0.906	22.0	23.0	3	76	11.0	5.0	15.5	7.0
SDLN-230240-ZZ	SDBBN-230240-ZZ	0.906	0.945	23.0	24.0	3	76	11.0	5.0	15.5	7.0
SDLN-240250-ZZ	SDBBN-240250-ZZ	0.945	0.984	24.0	25.0	3	76	11.0	5.0	15.5	7.0
SDLN-250260-ZZ	SDBBN-250260-ZZ	0.984	1.024	25.0	26.0	3	76	11.0	5.0	15.5	7.0
SDLN-260270-ZZ	SDBBN-260270-ZZ	1.024	1.063	26.0	27.0	3	76	11.0	5.0	15.5	7.0
SDLN-270280-ZZ	SDBBN-270280-ZZ	1.063	1.102	27.0	28.0	3	76	11.0	5.0	15.5	7.0
SDLN-280290-ZZ	SDBBN-280290-ZZ	1.102	1.142	28.0	29.0	3	76	11.0	5.0	15.5	7.0
SDLN-290300-ZZ	SDBBN-290300-ZZ	1.142	1.181	29.0	30.0	3	76	11.0	5.0	15.5	7.0
SDLN-300310-ZZ	SDBBN-300310-ZZ	1.181	1.221	30.0	31.0	3	76	11.0	5.0	15.5	7.0
SDLN-310320-ZZ	SDBBN-310320-ZZ	1.221	1.260	31.0	32.0	3	76	11.0	5.0	15.5	7.0
SDLN-320330-ZZ	SDBBN-320330-ZZ	1.260	0.299	32.0	33.0	3	76	11.0	5.0	15.5	7.0
SDLN-330340-ZZ	SDBBN-330340-ZZ	1.299	1.339	33.0	34.0	3	76	11.0	5.0	15.5	7.0
SDLN-340350-ZZ	SDBBN-340350-ZZ	1.339	1.378	34.0	35.0	3	76	11.0	5.0	15.5	7.0
SDLN-350360-ZZ	SDBBN-350360-ZZ	1.378	1.417	35.0	36.0	3	76	11.0	5.0	15.5	7.0
SDLN-360370-ZZ	SDBBN-360370-ZZ	1.417	1.457	36.0	37.0	3	76	11.5	5.5	16.0	7.5
SDLN-370380-ZZ	SDBBN-370380-ZZ	1.457	1.496	37.0	38.0	3	76	11.5	5.5	16.0	7.5
SDLN-380390-ZZ	SDBBN-380390-ZZ	1.496	1.535	38.0	39.0	3	76	11.5	5.5	16.0	7.5
SDLN-390400-ZZ	SDBBN-390400-ZZ	1.535	1.575	39.0	40.0	3	76	11.5	5.5	16.0	7.5
SDLN-400410-ZZ	SDBBN-400410-ZZ	1.575	1.614	40.0	41.0	3	76	11.5	5.5	16.0	7.5
SDLN-410420-ZZ	SDBBN-410420-ZZ	1.614	1.654	41.0	42.0	3	76	11.5	5.5	16.0	7.5
SDLN-420430-ZZ	SDBBN-420430-ZZ	1.654	1.693	42.0	43.0	3	76	11.5	5.5	16.0	7.5
SDLN-430440-ZZ	SDBBN-430440-ZZ	1.693	1.732	43.0	44.0	3	76	11.5	5.5	16.0	7.5
SDLN-440450-ZZ	SDBBN-440450-ZZ	1.732	1.772	44.0	45.0	3	76	11.5	5.5	16.0	7.5
SDLN-450460-ZZ	SDBBN-450460-ZZ	1.772	1.811	45.0	46.0	3	76	11.5	5.5	16.0	7.5

*** Notes:**

1. The catalog numbers shown in Table 2 are applicable to equal subconductor spacings and 2-conductor spacer dampers. For unequal subconductor spacings, please contact AFL for ordering information.
2. For high temperature applications up to 250°C, add "HT" to the clamp portion of the catalog number. Example: SDBBHT2-200210-18.