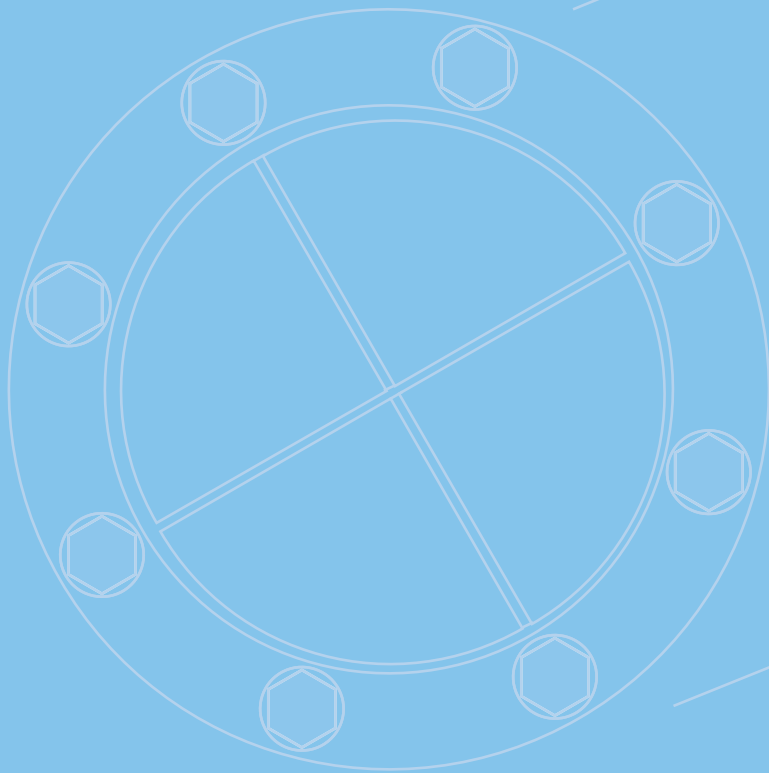


*Custom Engineered Solutions
to Meet Your Specific Industry Needs*

Static Mixers

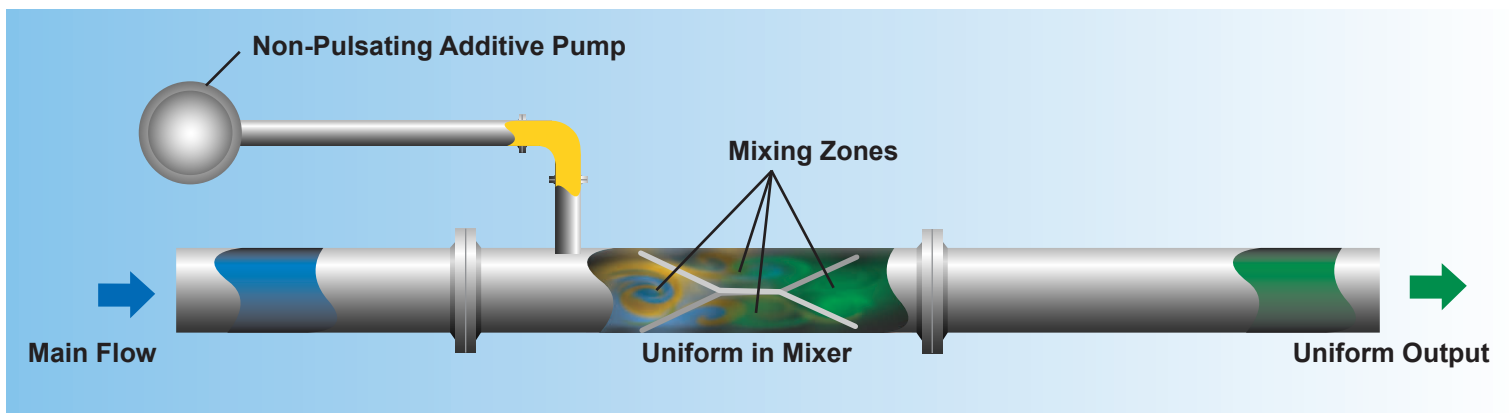
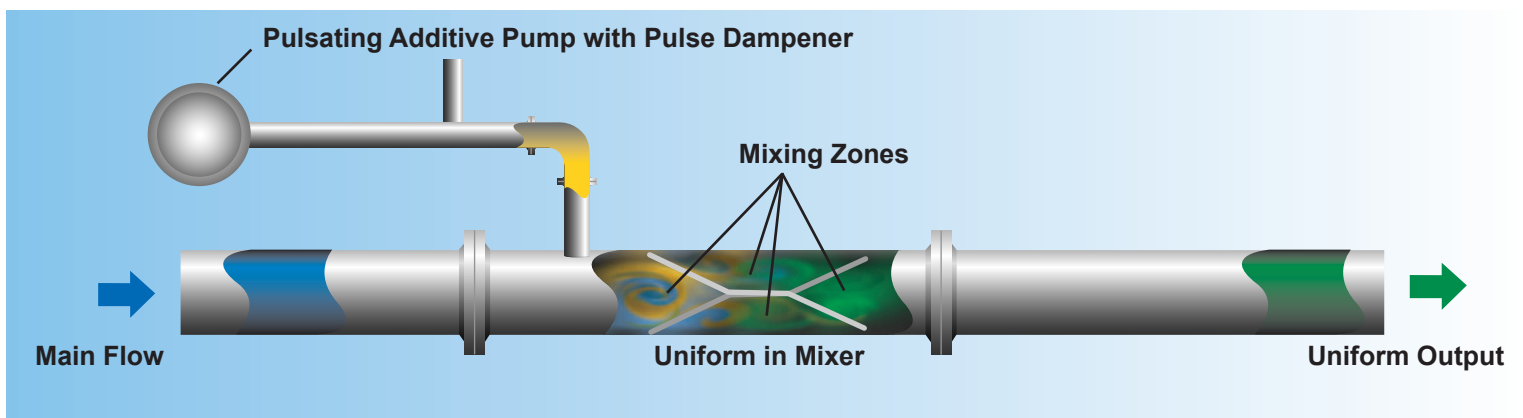
Operation, Installation and Maintenance Instructions



Theory of Operation

JDMIX static mixers uniformly blend two or more input streams by a series of specially shaped mixing elements. These unique inline mixers have four mixing zones between each element set. Inside each zone, the increased turbulence realized ensures that the chemical additives are dispersed throughout the circumference of the pipeline. The first section of the element redirects the flow from the top of the pipe wall, forcing it to the bottom. The second section reverses the process, forcing the flow back to the top. The same mixing action takes place from side-to-side of the pipe wall. Using between two and six mixing elements, with velocities ranging from 1 to 10 feet per second, mixing is completed. In addition, the angles of the elements can be changed to meet pressure drop restrictions in gravity feed applications, or where pump pressure is limited.

When installing your JDMIX unit, it is important to recognize that the input flow rates of materials must correspond to the output ratios required in the mixer. This must be kept in mind when selecting the material pumping system. Low viscosity materials may be handled by centrifugal pumps, while high viscosity materials require positive displacement pumps. Additives to the main product flow must be introduced in a non-pulsating manner. See the figures below for our guideline recommendations.



Mounting Orientation

Mixing elements may be fixed in place or removable as an assembly. When the elements are fixed, the unit may be mounted in any position. When the mixing elements are removable, the mixer must be mounted horizontally with the product flow in the direction marked on the nameplate. The unit may also be mounted vertically with the product flow down. This is to assure the product flow does not force element assemblies downstream.

Materials of Construction

JDMIX inline units are generally manufactured (but not limited to) out of metals such as carbon steel, stainless steel, titanium, monel, hastelloy, and plastics such as PVC, FRP, CPVC, kynar, and teflon. End configurations include flanged, threaded, weld prepped, and plain.

Ports and Injectors

JDMIX static mixers are often provided with inlet ports for introducing additives to the main flow. These ports may be connected with pipe spargers, which aid in mixing by injecting the additive across the full pipe diameter. The spargers can be fixed or removable for cleaning.

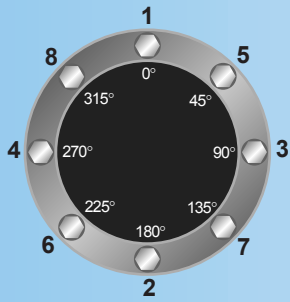
Maintenance

Once installed, a JDMIX unit requires no routine maintenance since there are no moving parts to repair or replace. If a mixer has been supplied with removable elements, the internals can be taken out periodically for easy cleaning.

Torque Procedure

Correct torquing procedures must be followed to assure uniform stress.

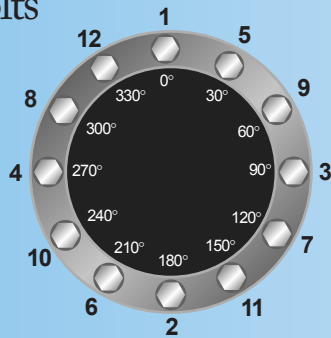
8-Bolts



Sequential Order: 1-2
3-4
5-6
7-8

Rotational Order: 1
5
3
7
2
6
4
8

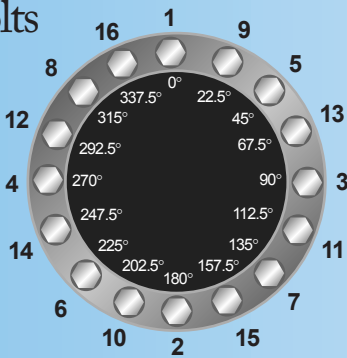
12-Bolts



Sequential Order: 1-2
3-4
5-6
7-8
9-10
11-12

Rotational Order: 1
5
9
3
7
11
2
6
10
4
8
12

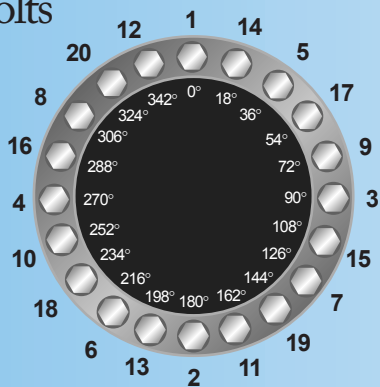
16-Bolts



Sequential Order: 1-2
3-4
5-6
7-8
9-10
11-12
13-14
15-16

Rotational Order: 1
9
5
13
3
11
7
15
2
10
6
14
4
8
16

20-Bolts



Sequential Order: 1-2
3-4
5-6
7-8
9-10
11-12
13-14
15-16
17-18
19-20

Rotational Order: 1
14
5
17
9
3
15
7
19
11
2
13
6
18
10
4
8
20
12

Torque Recommendations

The following torque recommendations are to be followed when installing lined pipe mixers:

Pipe Size	Torque ft. lb.
1"	8 - 9
1.5"	9 - 12
2"	18 - 24
2.5"	23 - 30
3"	23 - 30
4"	27 - 36
6"	35 - 50
8"	45 - 60
10"	75 - 85
12"	95 - 110

The following torque recommendations are to be followed when installing FRP flanges:

Pipe Size	Torque ft. lb.
2"	25
3"	30
4"	30
6"	30
8"	45
10"	50
12"	55
14"	55
16"	55
18"	55
20"	55
24"	55
30"	55
36"	55
42"	55

When installing FRP mixers, consideration must be given to the fact that the expansion coefficient for FRP is substantially higher than that of steel.

Steel expansion coefficient = 7×10^{-6} inch / inch / °F approximately
- FRP - expansion coefficient = 20×10^{-6}