



Paddle Screws for Mixing Bulk Materials

Question

I have several dry bulk materials that need to be mixed together that are very abrasive. We are currently using a mixing screw with paddles welded to the center pipe about every 90-degrees. The screw and paddles wear down about every 3 months and we must scrap the whole screw section. Replacing mixing screws is very costly. Is there a better option?

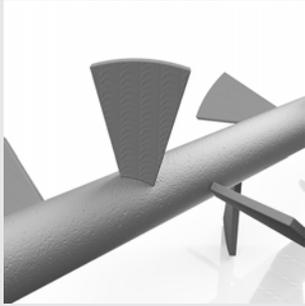
Answer

KWS offers screws with fixed and adjustable paddles for mixing applications. Fixed paddles weld directly to the center pipe of the screw. Adjustable paddles are welded to a threaded bolt that is fitted through the center pipe and tighten down with a lock nut on the opposite side.

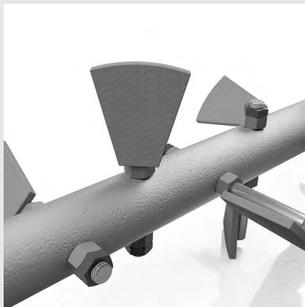
Paddles can be angled in the conveying direction or against the conveying direction. Paddles can be welded every 90, 120 or 180-degrees as required for the mixing application. More paddles mean more aggressive mixing. Angling the paddles in the conveying direction aids in conveying the bulk materials but provides less mixing action. Angling the paddles against the conveying direction provides much more aggressive mixing. Since fixed paddles are welded on to the screw, they are not adjustable. Adjustable paddles can be angled at any direction to increase or decrease the amount of desired mixing.

Both fixed and adjustable paddles help with mixing bulk materials but eventually wear out and need replacement. Fixed paddles require screw replacement. Adjustable paddles give you the option of replacing only the worn out paddles at any time.

Advantages/Disadvantages of Fixed Paddles - Initial purchase cost of a screw with fixed paddles is less when compared to adjustable paddles due to lower production costs. However, modifying the screw after manufacturing and installation is very difficult. Since the paddles are fixed and not adjustable, you are not able to "fine tune" your mixing process.



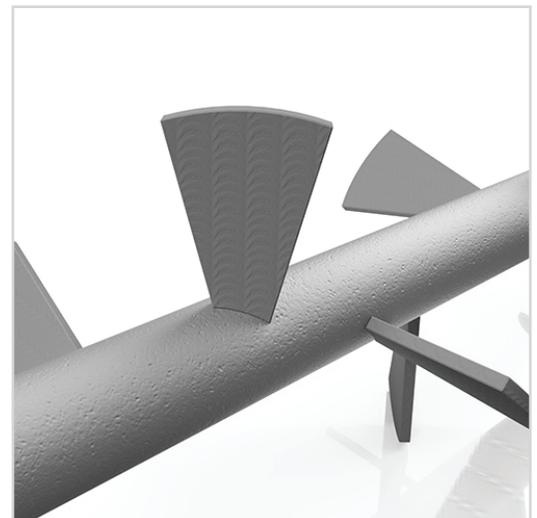
Fixed Paddles Weld to Center Pipe at a Fixed Angle



Adjustable Paddles Can Be Easily Replaced as Needed



Fixed Paddles are Located Permanently in One Position



Fixed Paddles Weld to Center Pipe at a Fixed Angle



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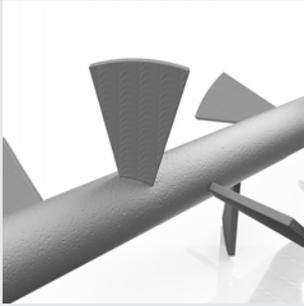


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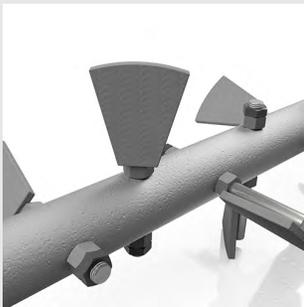
Advantages/Disadvantages of Adjustable Paddles – Adjustable paddles can be individually rotated to any desired angle for “fine tuning” your mixing process. However, initial production cost is higher when compared to the fixed paddle design. Replacing adjustable paddles is easy for any maintenance crew.

Both fixed and adjustable paddles can be provided in various materials of construction such as carbon steel, AR235, AR400 and any type of stainless steel.

The choice of paddle style depends on your application. Fixed paddles are cost effective for applications with known wear rates and mixture needs. Adjustable paddles provide the flexibility to adapt to different mixing processes with different bulk materials and properties.



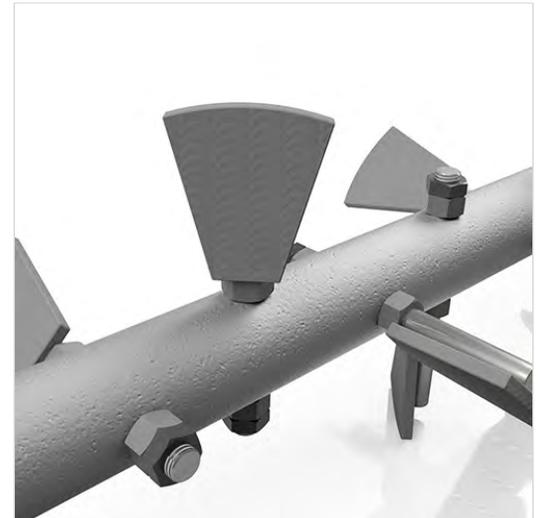
Fixed Paddles Weld to Center Pipe at a Fixed Angle



Adjustable Paddles Can Be Easily Replaced as Needed



Adjustable Paddles Can Be Angled in Any Direction



Adjustable Paddles Can Be Easily Replaced as Needed



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