



2KS Waterborne Urethane

Graco Plural-Component Solutions



Application Overview

Graco's two- and three-component proportioners offer precise and reliable electronic plural component proportioning for a broad range of solventborne, waterborne, and acid catalyzed materials.

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2KS Waterborne Urethane

Application Material Overview

Two-component (2K) waterborne urethane materials offer the advantage of generally being HAPS free with very low VOC (usually less than 1.0 lb/gal) - making meeting environmental regulations easier.

These materials do have their challenges. The waterborne resin (A) component is usually mixed with moisture sensitive isocyanate catalyst (B) components. The combination of moisture rich material with moisture sensitive material means the 2K material must be quickly mixed in order to avoid locally hardened particles. Because of the short potlife,

the material needs to be managed so idle material does not harden in a spray system.

Care also needs to be taken when flushing the A and B side components with compatible solvents. Side A, the waterborne material, needs to be flushed with water. The moisture sensitive isocyanate catalyst, side B, needs a compatible solvent recommended by the material supplier. It cannot be flushed with water because of its moisture sensitivity.

ProMix[®] 2KS Solution

The ProMix 2KS plural component proportioning platform can adapt to the challenges of waterborne 2K material. Its modular design allows it to be configured in the following manner:

1. Use a dynamic dosing kit to quickly inject the isocyanate catalyst directly into the stream of resin as it enters the static mixing chamber
2. Install a 3rd flush valve to allow the A-side to be flushed with water (and air) while the B-side can be flushed with a compatible solvent
3. Track the potlife in 2 spray guns and alert the user when the material has sat too long. When equipped with a gun flush box, the system will automatically flush if the operator is not around to trigger the gun.



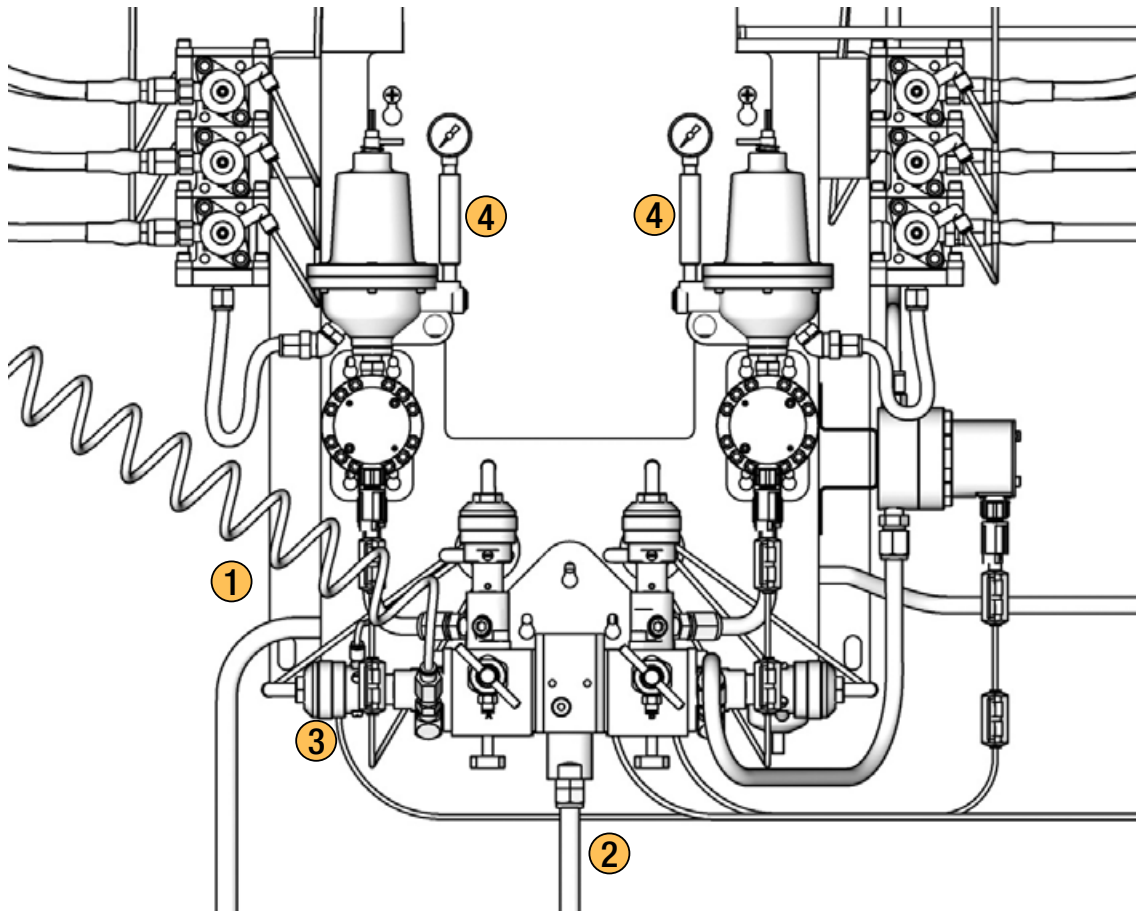
Configuration notes

ProMix 2KS

- Uses a standard G3000 flow meter for both the resin and catalyst measurement (MD1XXX, AD1XXX, and RD1XXX systems). The Coriolis mass flow meter can be used on the resin side to provide higher performance with less frequent flushing and in cases where the resin may pack out a traditional gear meter (MD3XXX, AD3XXX, and RD3XXX systems).
- Dosing will need to be done using the Dynamic Dosing Kit (15U955).
- Dynamic dosing also requires fluid regulators that are positioned on the inbound side of the flow meters. These are used to create a pressure difference on the injection of the B component to the A.
- Flushing should be managed so that air and water flush the A side and a compatible solvent flushes the B side. This requires the use of the 3rd flush valve kits (15V354 for wall panel units, 15V22 for RoboMix units).
- Use the “Exit Fill” function to fill the mix chamber with the most compatible of water or solvent so that the next time the machine is loaded it has fluid that will not cause crystallization and tip plugging.

Summary of components to proportion 2K Waterborne Urethane:

Item #	Product	Part Number	Quantity
①	ProMix 2KS		1
	Standard Meter	MD1XXX, AD1XXX, RD1XXX	
	Coriolis Meter	MD3XXX, AD3XXX, RD3XXX	
②	Dynamic Dosing	15U955	1
③	3rd Flush Valve		
	Wall Panel	15V354	1
	RoboMix	15V202	1
④	Fluid Regulator		2



All written and visual data contained in this document are based on the latest product information available at the time of publication. Graco reserves the right to make changes at any time without notice.

Call today for product information or to request a demonstration.
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