



## TECHNICAL DATA SHEET

# KEIM AIRLESS TECHNIQUE

## 1. GENERAL INFORMATION

There are two fundamentally different airless pumping systems:

### Diaphragm pumps:

Pumping pressure generated by pulsating membrane

### Piston pumps:

Pumping pressure generated by moving pistons (as in a combustion engine)

While the diaphragm pump is known as being low in wear and maintenance, the piston pump is characterised by its high performance. It is generally extremely important to adhere to the minimum hose length stated by the manufacturer, as said length also serves as pulsation compensation.

## 2. DESCRIPTION OF TERMS

### Inch:

American length unit corresponding to 2.54 cm, used in airless technology as nozzle size statement (diameter of nozzle hole).

### Mesh:

Mesh width for screens, dimensions for particle or grain size – the following applies:  
the smaller the mesh size, the larger the screen.

### Back pressure:

The entire system (airless device, high pressure hose, spray gun) is subject to the pressure set at the pressure regulator when the spray gun has not been detached.

### Operating pressure:

As soon as the spray gun is activated, as low operating pressure (spraying pressure) is set at the pressure regulator.

### High pressure filter:

Filter insert in a filter housing, in the direct pressure range of the airless device, i.e. the filter is always under pressure when the machine is running.

### Gun filter:

Filter insert in the handle of the spray gun.

### Adjustable nozzle:

The nozzle diameter can be enlarged or reduced (optimised) by means of an adjustable pin located in the nozzle hole.

### Nozzle designation:

If the nozzle has a marking e.g. "525" or if such a marking is contained in the manufacturer's documentation, this means that the nozzles have a spraying angle of 50° (5) and a nozzle hole of 0.025 inch (25) (corresponds with 0.64mm).

## 3. NOTES

Attention must generally be paid that a nozzle with a wide spraying angle i.e. with 50° or 60° is used for optically flawless coating.

A spraying angle as narrow as possible (30° or 40°) is to be used for application methods in which the applied paints is rolled on using a paint roller.

Always test your device with water first, as it is frequently possible that the ball valves in the suction tube are jammed.

Lubricate the pump regularly with release oil (piston pump). Protect all system components coming into direct contact with paint material by using a cloth soaked in release oil to wipe down the components. Clean the system meticulously after airless spraying to rule out interruptions during the next use.

Use at least one filter in the system (usually high pressure filters) to avoid nozzle clogging and the resulting damage to the painting result.

If the device is not in use for a long period of time, it is advisable to wipe all moving pump components (ball valves) with a suitable oil, so that they do not seize upon the next use. Known device manufacturers now offer a sealing and valve fluid that keeps all pump components movable.



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## SPRAY PARAMETERS FOR KEIM PRODUCTS (VERSION 2021)

KEIM product	Filter	Nozzle	Back pressure	Recommended for tempered spraying
KEIM AquaRoyal-Color	30mesh Pi	≥ 435	> 70 bar	
KEIM Blockweiß*	30mesh Pi	≥ 525	> 170 bar	
KEIM Biosil	30mesh Pi	≥ 423	120 bar	40°C
KEIM Concretal-Base	50mesh Pi	≥ 512	170 bar	
KEIM Concretal-Black	30mesh Pi	≥ 435	95 bar	
KEIM Concretal-C*	30mesh Pi	≥ 423	110 bar	
KEIM Concretal-Lasur	50mesh Pi	≥ 512	> 170 bar	
KEIM Concretal-W*	30mesh Pi	≥ 435	95 bar	
KEIM Concretal-W-Grob*	without filter	> 443	> 110 bar	
KEIM Design-Lasur**	50mesh Pi	≥ 512	> 170 bar	
KEIM Ecosil-ME	50mesh Pi	≥ 423	120 bar	40°C
KEIM Granital*	30mesh Pi	≥ 435	70 bar	
KEIM Granital-Grob*	without filter	≥ 443	> 100 bar	
KEIM Grundierweiß	50mesh Pi	≥ 421	90 bar	
KEIM Intact*	without filter	≥ 443	> 100 bar	35°C
KEIM Innopro	50mesh Pi	≥ 421	80 bar	40°C
KEIM Innostar	50mesh Pi	≥ 421	80 bar	40°C
KEIM Innotop	50mesh Pi	≥ 423	100 bar	40°C
KEIM Innotop-Grob*	without filter	≥ 443	> 100 bar	40°C
KEIM Lignosil-Base/W	50mesh Pi	≥ 512	> 150 bar	
KEIM Lignosil-Color	50mesh Pi	≥ 417	100 bar	
KEIM Lignosil-Inco	50mesh Pi	≥ 417	80 bar	
KEIM Lignosil-Verano	50mesh Pi	≥ 417	80 bar	
KEIM LS-Pro*	without filter	≥ 525	> 150 bar	
KEIM Marano-Light	without filter	≥ 525	> 150 bar	
KEIM Marano-Pro*	without filter	≥ 545	> 120 bar	
KEIM Mycal-Top	50mesh Pi	≥ 423	120 bar	40°C
KEIM Novosil*	30mesh Pi	≥ 435	75 bar	
KEIM Novosil-Grob*	without filter	≥ 443	> 100 bar	
KEIM Optil	30mesh Pi	≥ 423	110 bar	
KEIM Optil-Grob*	without filter	≥ 443	> 100 bar	
KEIM Quarzil*	30mesh Pi	≥ 435	70 bar	35°C
KEIM Quarzil-Grob*	without filter	≥ 443	> 100 bar	
KEIM Romanit-Farbe*	30mesh Pi	≥ 425	> 90 bar	
KEIM Soldalit*	30mesh Pi	≥ 435	> 85 bar	
KEIM Soldalit-Grob	without filter	> 443	> 110 bar	
KEIM Unikristalat*	30mesh Pi	> 435	> 85 bar	
KEIM Veramin*	30mesh Pi	≥ 435	> 90 bar	

The values stated in the table refer to a certain device type and are only standard values. Note: Higher spray angles may require larger nozzle diameters. Pi=Gun filter. The respective pressure values refer to the concrete nozzle sizes stated in the table.

\*) Do not use diaphragm pumps      \*\*) Metallic colour shades with 50 mesh filter