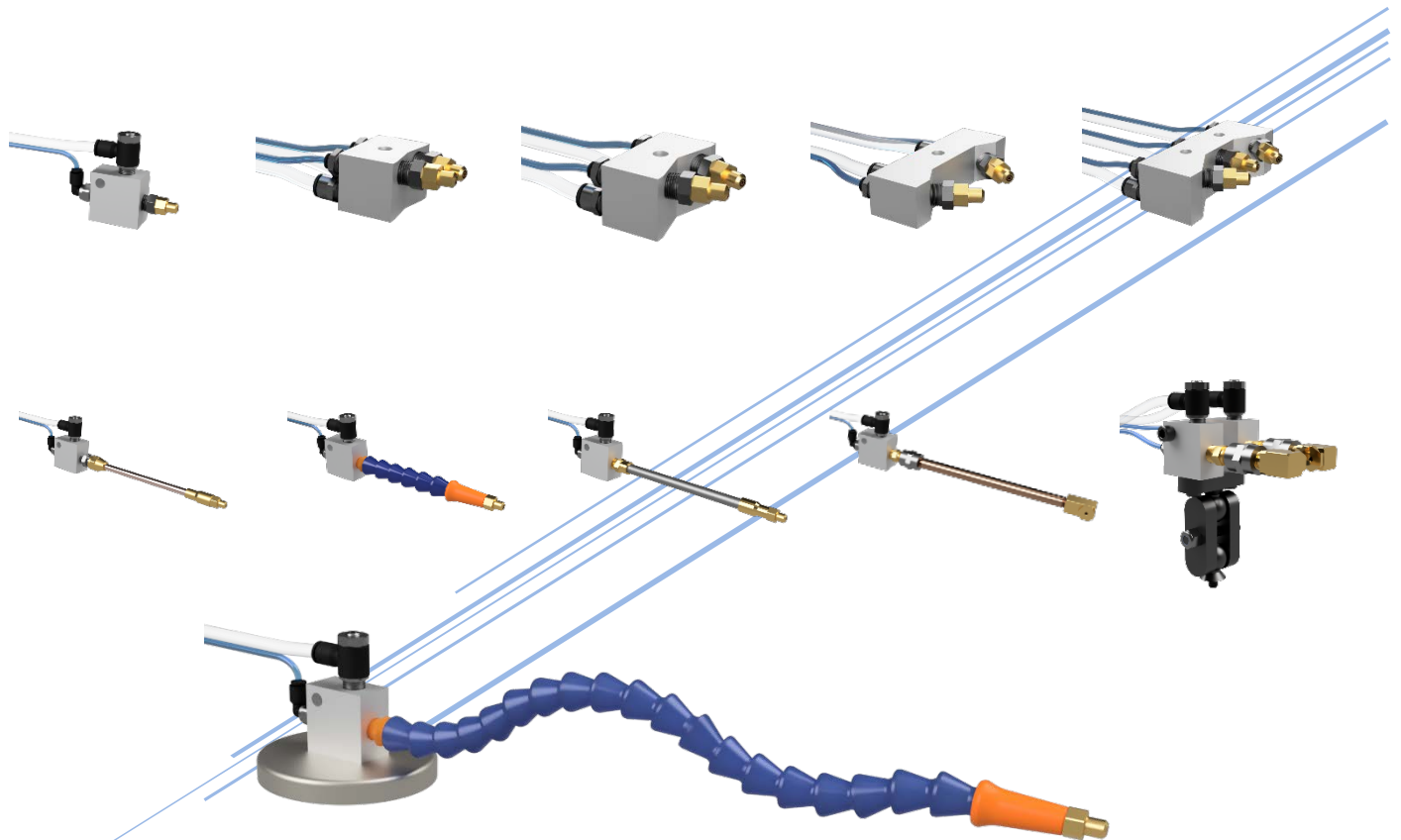




AMCOL CORPORATION
AMCOL 6000 SERIES
SPRAY ASSEMBLIES
Technical Description



Contents

Introduction to Precision Lubrication	3
General Overview of Spray Assemblies.....	4
Single-Point Spray Assemblies	6
Transition Blocks.....	6
Spray Tips.....	7
Spray Tip Connectors	9
Single Line Connectors.....	11
Multi-Point Spray Assemblies for Saws	13
B Manifolds for Circular Saws.....	13
Spray Assembly for Band Saws.....	15
Mounting Options	16
Biaxial Hose.....	19
Biaxial Intermediary Blocks	20
How to Specify Spray Assemblies	21
Single Point.....	21
B Manifolds.....	22

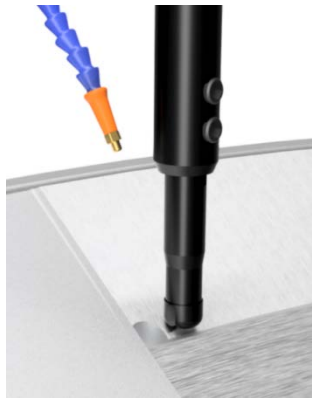


AMCOL Corporation

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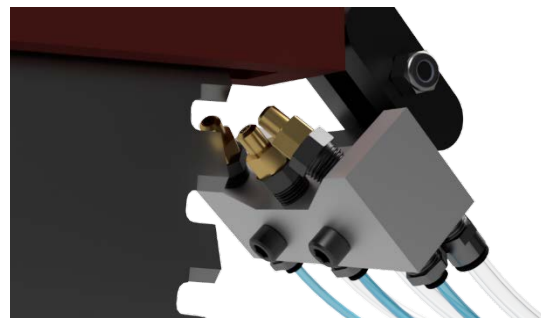
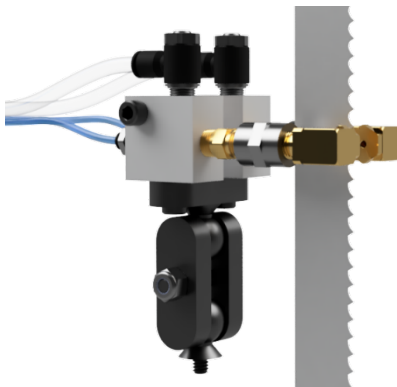
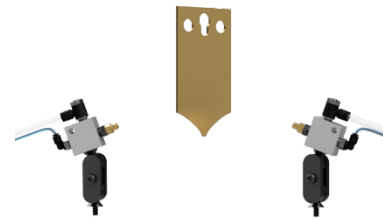
Introduction to Precision Lubrication

AMCOL 6000 Series Precision Lubrication Systems are designed to apply CANMIST High-Performance Lubricants in a variety of metal cutting and forming operations. Applications include circular and band sawing, stamping, punching, shearing, and complex machining cells. A complete spray system includes a reservoir, control box to regulate liquid and air, biaxial liquid/air transport hoses, spray manifold or transition block to a nozzle extension, and spray tips.



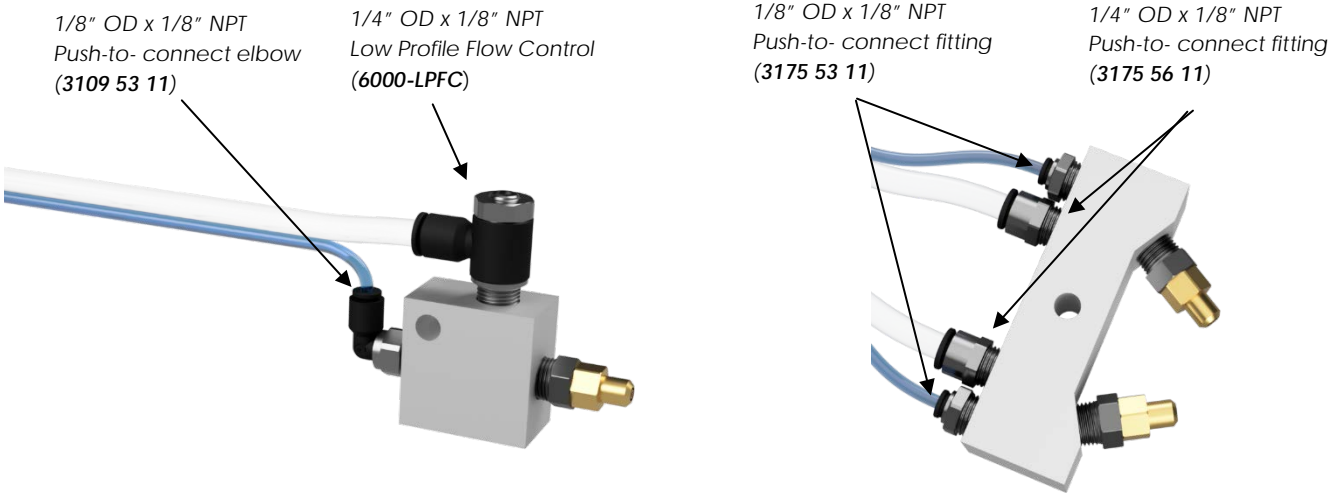
Standard systems can be specified with up to 5 injectors operating in unison for applications such as sawing, punching, tube shearing, and roll forming. Advanced control and injector design allows for 15 or more injectors cycling independently for unique applications. Many machine builders as well as end users specify 6000 Precision Applicators for their simple design, advanced control, easy clean installation, and flexibility of integration.

The entire 6000 Precision Applicator Series is described in detail in other AMCOL documents. This document is used to understand and specify which combination of nozzle components will best fit your particular operation.

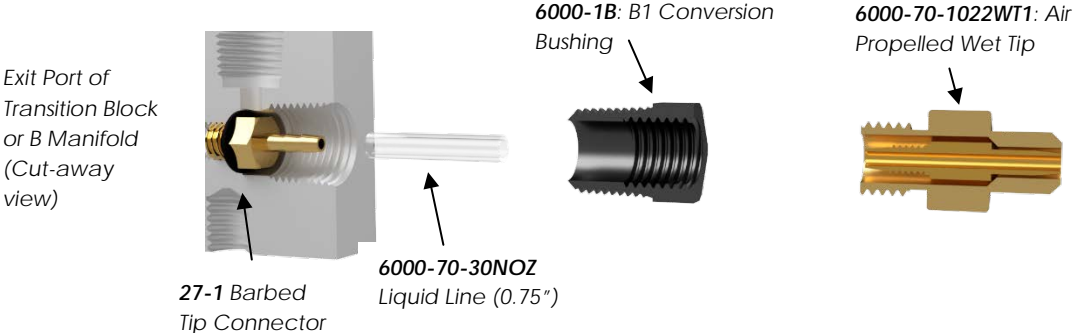


General Overview of Spray Assemblies

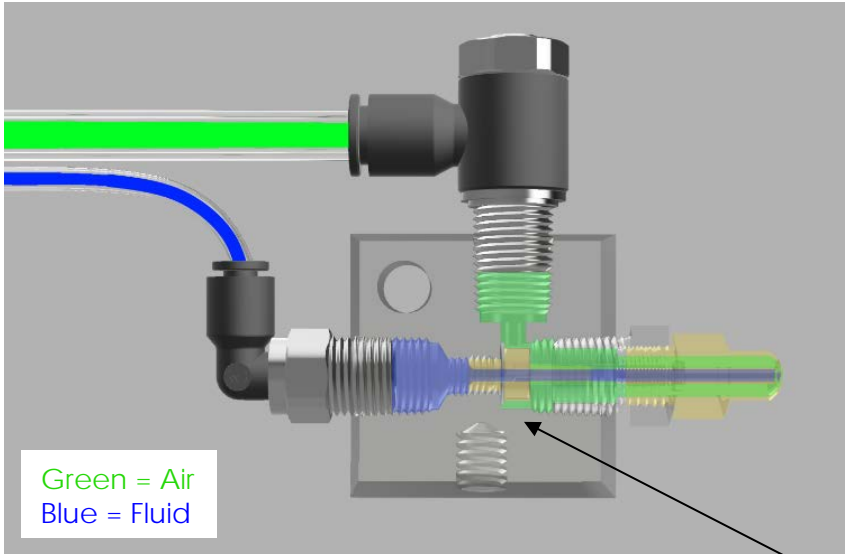
All biaxial hoses terminate at the entrance side of either a Transition Block (single point) or a B Manifold (multi point). Push-to-connect fittings allow for easy installation and removal of hoses to blocks. Liquid lines use 1/8" OD hose, and air lines use 1/4" OD hose. These fittings can be straight, elbows, or elbows with flow control (transition block only).



The exit port contains a barbed tip connector (27-1) that allows the air and liquid to go from Biaxial (side by side) to Coaxial (air surrounds and propels the liquid). All of the tip assemblies utilize a capillary hose that fits onto this connector. This allows liquid to be delivered through the nozzle extension to one of the various spray tips featured in this document.

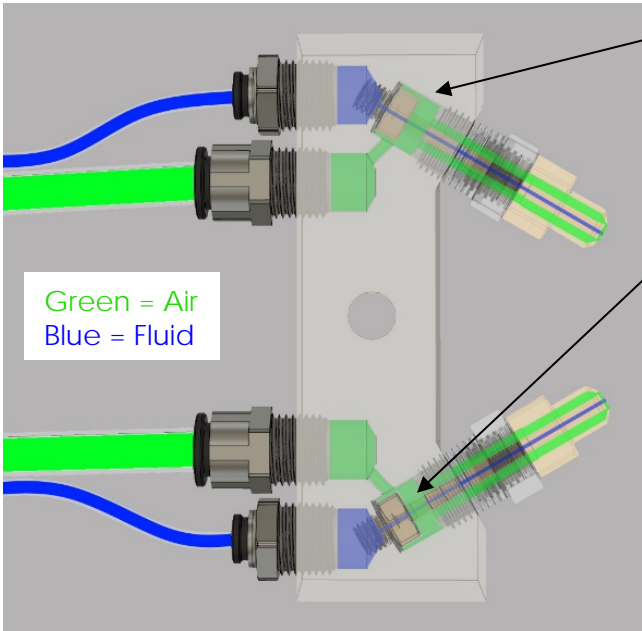


Cross Section of a Transition Block & B Manifold



Transition Block with Low Profile Flow Control and Air Propelled Wet Tip
(6000-B-BLP-1022WT1)

27-1: Barbed Tip Connector



B2 Manifold and Air Propelled Wet Tips
(6000-B-B2-1022WT1)

All B Manifolds require the B1 Conversion Bushing and can utilize either Wet Tips (recommended in most cases) or Jet Tips; however, Transition Blocks may instead use one of several varieties of Nozzle Extensions and any of the spray tips detailed further in this document.

Single-Point Spray Assemblies

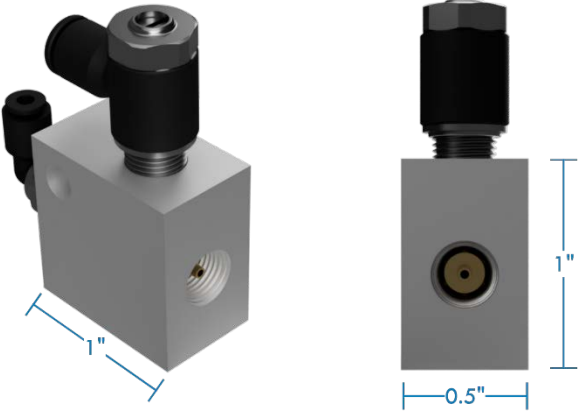
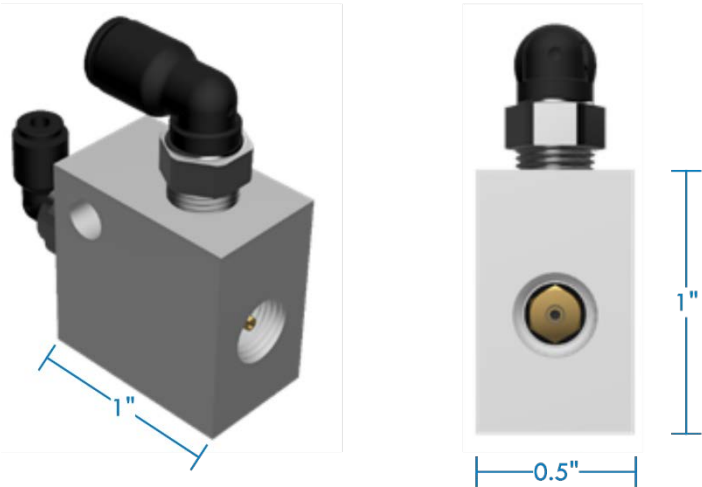
Transition Blocks

Single point Transition Blocks are available with or without a flow control. A flow control is recommended for applications that require a variety of settings for individual spray points.

TRANSITION BLOCK

6000-B-BP

Standard transition block with 1/8" push-to-connect elbow for liquid and 1/4" push-to-connect elbow for air.



TRANSITION BLOCK WITH LOW PROFILE FLOW CONTROL

6000-B-BLP

The Low Profile Flow Control located on the air inlet allows for fine air adjustments at the spray point to reduce mist and fog.

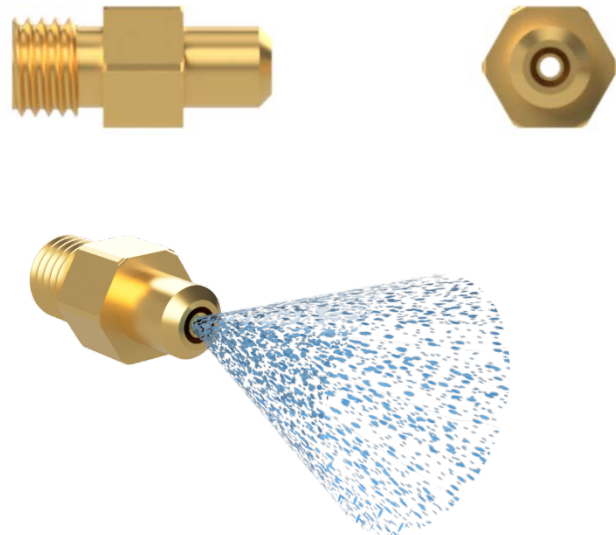
Spray Tips

Spray tips mix the liquid and air at the point of dispensing. All tips have an internal hose barb for connecting the internal 1/8" liquid line.

AIR PROPELLED WET TIP

6000-70-1022WT1

The Air Propelled Wet Tip has a full cone spray pattern. This is the most common and preferred tip. It has evolved from the Jet Tip to provide better spray, less fog, and less dripping. The Air Propelled Wet Tip is also excellent at thrusting fluid through wind turbulence produced by high-speed circular saw blades.



JET TIP

6000-70-1018RA

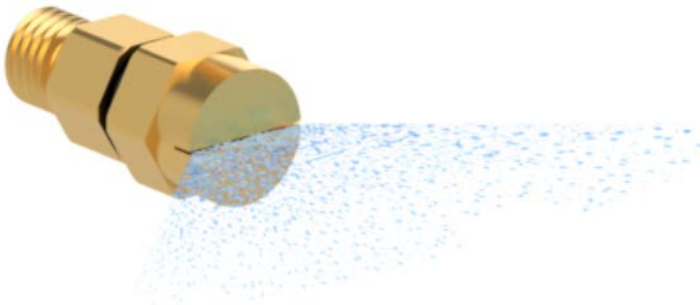
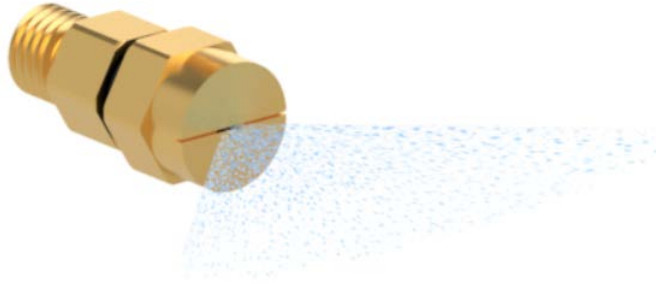
The Jet Tip has a solid cone spray pattern. The Jet Tip is only recommended for situations where there is limited air capacity, such as where small air compressors are used to operate the system. (The Jet Tip has been primarily replaced by the Air Propelled Wet Tip)



FAN WET TIP

6000-70-1023FW

The Fan Wet Tip provides a flat fan spray pattern (approx. 120 degrees). Removal of the fan cap will convert this tip into an Air Propelled Wet Tip.



WIDE FAN WET TIP

6000-70-1024WW

The Wide Fan Wet Tip provides a wider flat fan spray pattern than the fan wet tip (approx. 170 degrees). Removal of the fan cap will convert this tip into an Air Propelled Wet Tip.

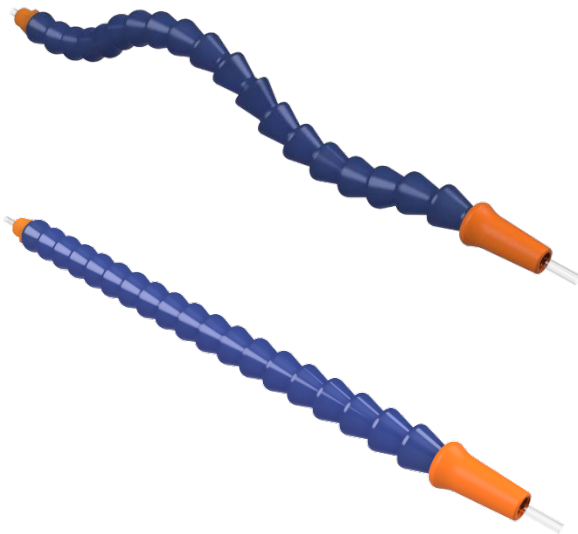
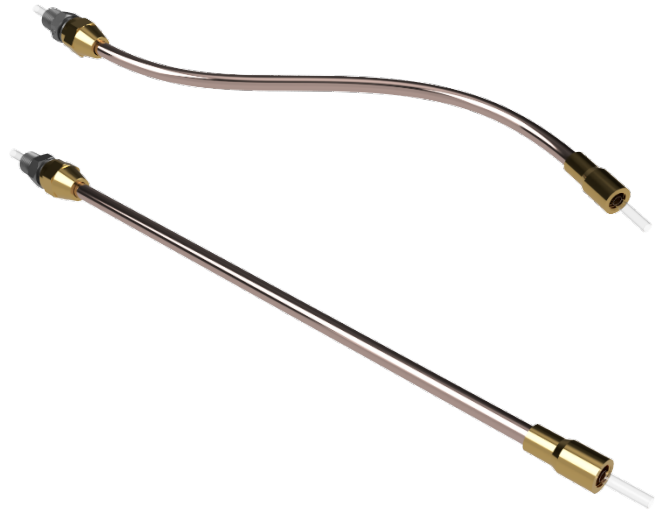
Spray Tip Connectors

Nozzle extensions are used where there is some distance between the transition block and the spray point. They all include a 1/8" OD internal liquid line and are threaded on both sides to connect the transition block to the spray tip.

COPPER

6000-70-12C: 12" Copper Nozzle Extension

Copper can be easily bent and shaped by hand to fit specific requirements but is not meant to be repeatedly redirected. Available in lengths of 3", 6", 9", 12", and 18".



PLASTIC

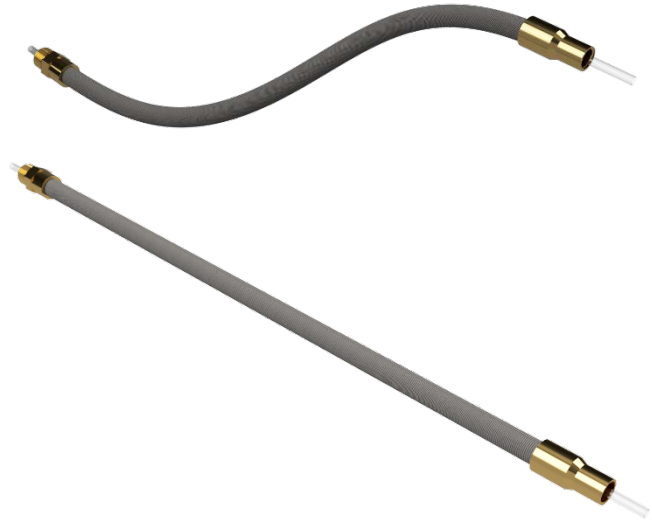
6000-70-12P: 12" Plastic Nozzle Extension

Bendable plastic nozzle extensions allow for easily repositioning a spray point. Unlike copper, plastic extensions can be maneuvered whenever necessary. Available in lengths of 3", 6", 9", 12", and 18".

FLEXIBLE STEEL

6000-70-12F: 12" Flexible Steel Nozzle Extension

Bend and stay, spring steel nozzle extensions allows for direct positioning onto a spray point. Flexible steel is often supported at the spray point to ensure repeatable spray direction. Available in lengths of 6", 9", 12", and 18".



RIGID STEEL

6000-70-12CC: 12" Copper-Clad Steel Nozzle Extension

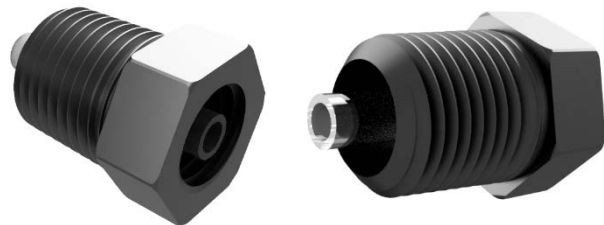
Rigid copper coated steel requires tools to bend into position. Extremely durable. Best used for straight extensions where the spray point will not change. Available in lengths of 3", 6", 9", 12", and 18".



B1 SPRAY TIP CONNECTOR

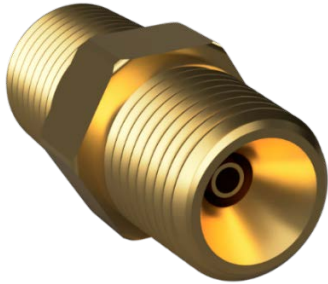
6000-B1-STC

Gets the spray tip as close to the Transition Block as possible (no nozzle extension). Also used on B Manifolds.



Single Line Connectors

6000-70-1025WTP: SINGLE LINE CONNECTOR



The Single Line Connector is a special type of spray assembly used to connect the Transition Block to a variety of pipe and hose fittings. With this assembly, air and liquid are mixed as they exit. This air-liquid mix can be transported and split to remote locations as is the case with through the tool dies and bushings. This same fitting can be connected to a variety of off the shelf 1/8" NPT spray tips. An assortment of connectors is available.

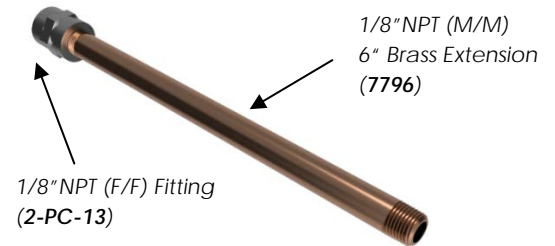
PIPE ADAPTERS FOR SINGLE LINE CONNECTOR



1/8" NPT M/F Straight Union
(0107-2-2)



1/8" NPT M/F Elbow Union
(2107-2-2)



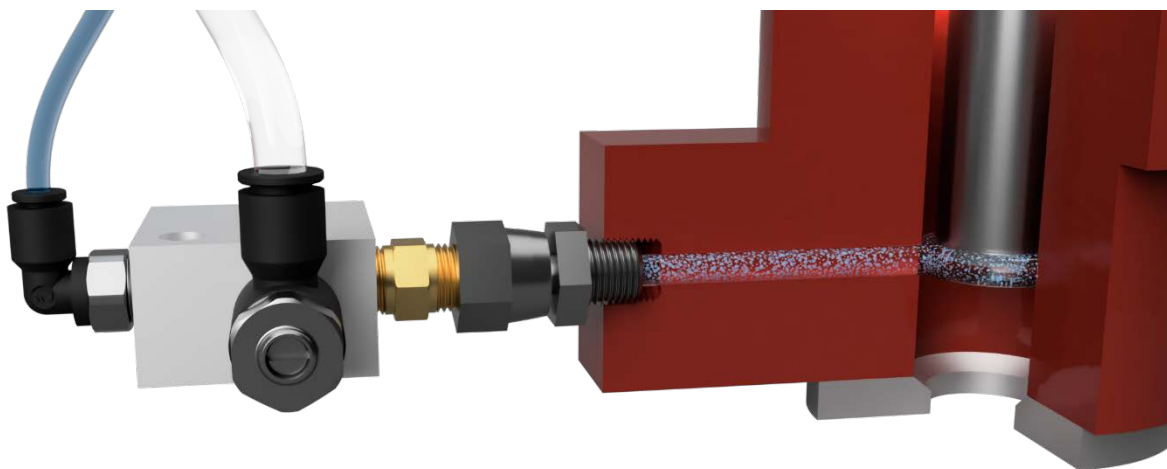
1/8" NPT (M/M)
6" Brass Extension
(7796)

1/8" NPT (F/F) Fitting
(2-PC-13)

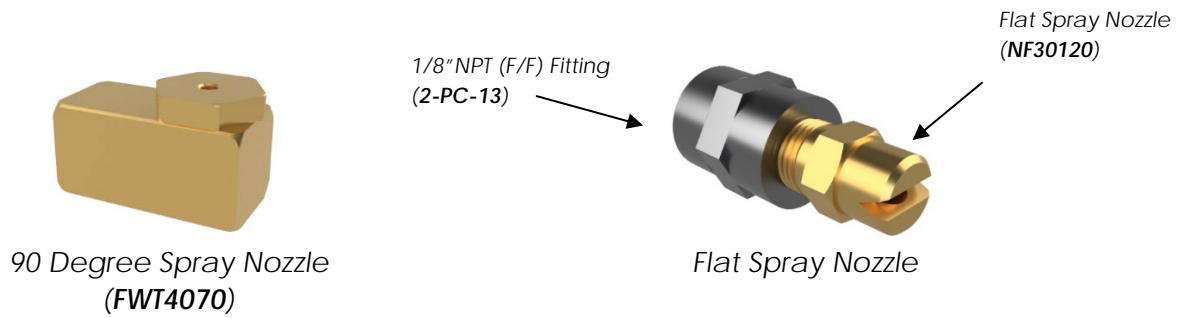
Brass Spray Pipe Extension

Used for through-the-tool applications for quick positioning, installation, and removal of transition blocks

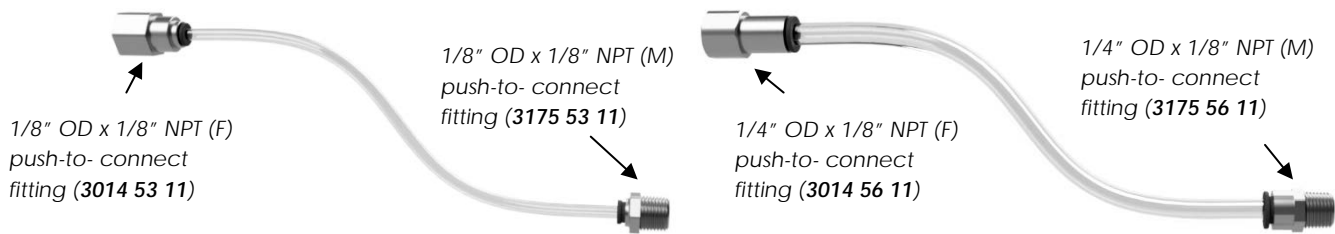
Used to extend remote spray to a specialty nozzle



SPECIALTY NOZZLES



LIQUID LINE EXTENSIONS FROM SINGLE LINE CONNECTOR



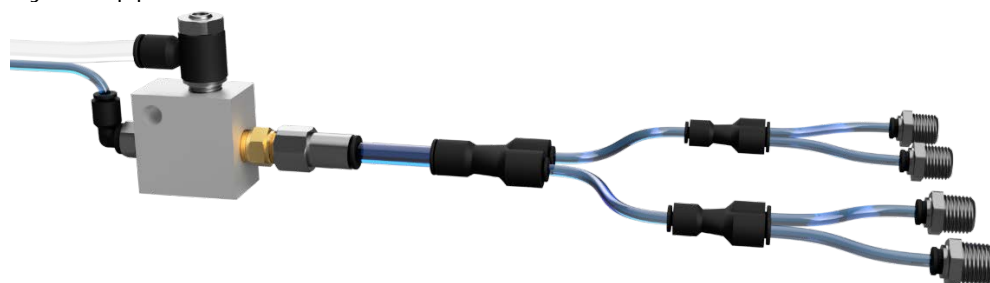
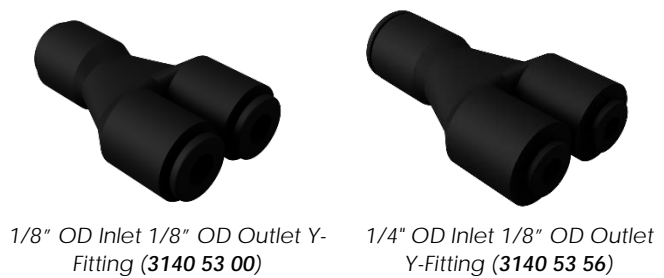
Liquid Line Extension (1/8" Hose)

Liquid Line Extension (1/4" Hose)

Note: 1/4" OD (M) push-to-connect fitting can be 1/8" or 1/4" NPT. Please specify desired hose length when ordering.

SPLITTERS

Used to operate 2 or 4 spray points with a single injector. Spray points should be identical, equidistant, and no more than 4" from the split point. Consult your AMCOL representative to find out if this applies to your application.



SPECIAL NOZZLE EXTENSIONS FROM SINGLE LINE CONNECTOR



Copper Extension with Wet Tip

Plastic Extension with Flat Spray Nozzle

Multi-Point Spray Assemblies for Saws

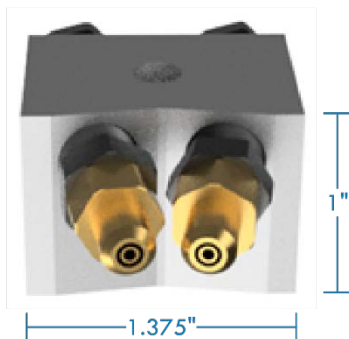
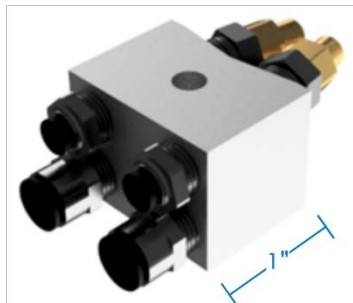
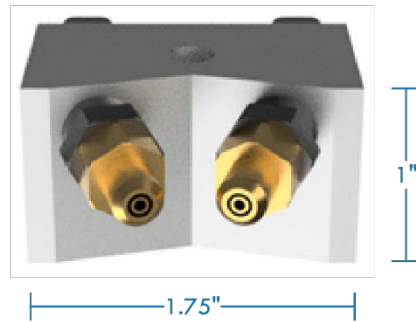
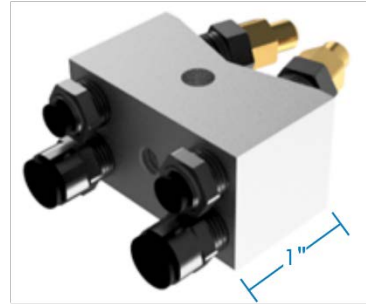
B Manifolds for Circular Saws

Multipoint B Manifolds are primarily for circular saws. They are available with two or three tips located at pre-determined angles.

B21 MANIFOLD WITH AIR PROPELLED WET TIPS

6000-B-B21-1022WT1

This manifold has a compact design for tight clearances between the blade and safety guard. Recommended for 24" diameter blade and under.



B22 MANIFOLD WITH AIR PROPELLED WET TIPS

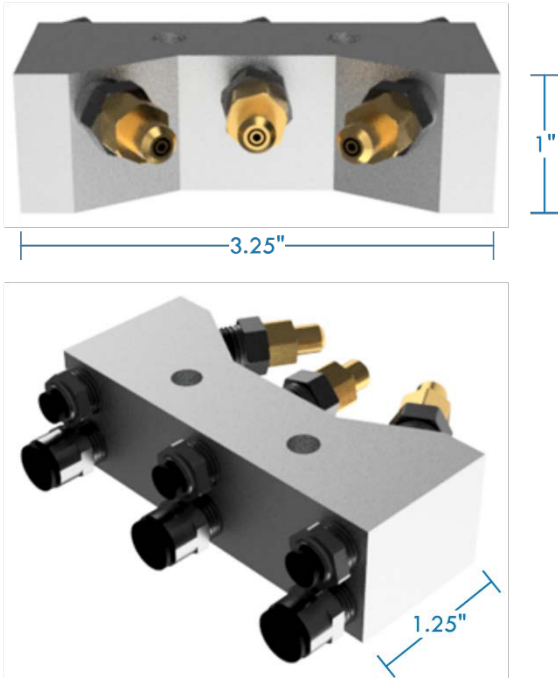
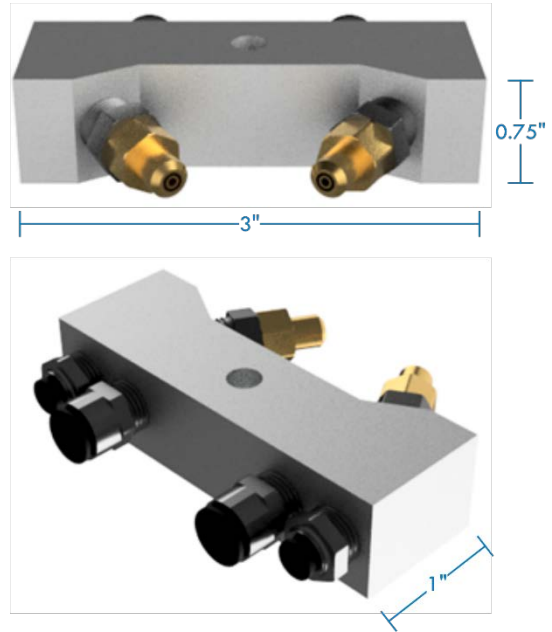
6000-B-B22-1022WT1

This manifold is ultra-compact for use in extremely confined spaces. Cannot be used with Jet Tip.

B2 MANIFOLD WITH AIR PROPELLED WET TIPS

6000-B-B2-1022WT1

The largest 2-point spray manifold. Recommended for circular saw blades up to 24" diameter.

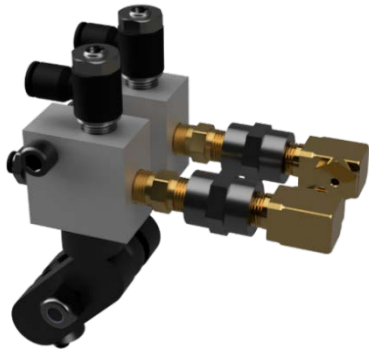


B3 MANIFOLD WITH AIR PROPELLED WET TIPS

6000-B-B3-1022WT1

The largest manifold includes 3 spray points for circular saw blades 24" diameter and above.

Spray Assembly for Band Saws



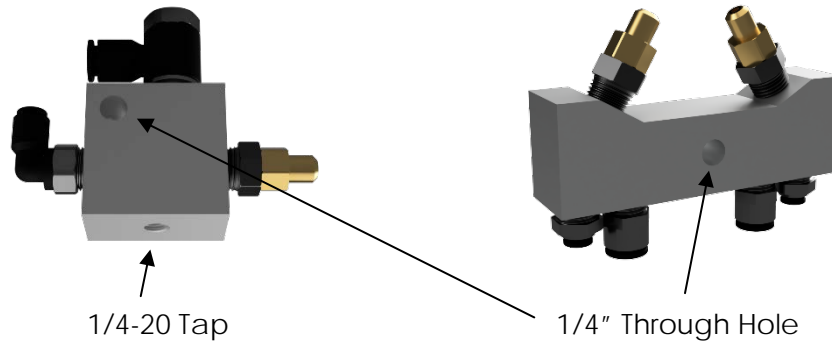
6000-B-BSSNA-EXT

Special Spray Assembly for Band Saws coat both sides of the blade with little or no overspray. Open end allows for blade replacements without moving the spray assembly. Also includes mounting as shown.

Mounting Options

Overview of Mounting Design

Transition Blocks have a 1/4"-20 tapped hole on the bottom face and a 1/4" through hole in the corner to aid in mounting. B Manifolds also include a 1/4" through hole. The 1/4-20 tap and 1/4" through holes allow customers to mount the Transition Blocks and B Manifolds many ways.



Mounting Brackets

AMCOL offers mounting brackets with a unique design that allows for a multitude of positions and mounting angles.

MULTIFUNCTIONAL MOUNTING BRACKET

6000-MMB

This mounting bracket includes a 6" extension rod, which allows for vertical or horizontal mounting of the bracket base.



MULTIFUNCTIONAL MOUNTING BRACKET- COMPACT MOUNT

6000-MMB-CM

The compact multifunctional mounting bracket is our most popular mounting bracket. Screws and nuts are provided based on the type of Transition Block or B Manifold.



MULTIFUNCTIONAL MOUNTING BRACKET COMPACT MOUNT- FOR B3 MANIFOLD

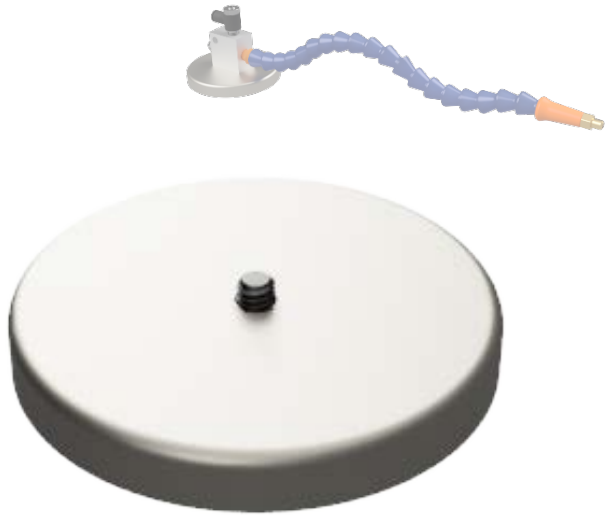
6000-MMB-C3

This compact version of our Multifunctional Mounting Bracket is specifically for the B3 Manifold. It includes the bottom adapter plate for two-hole mount.

MAGNET MOUNT

6000-70-212

The Magnetic Base Assembly can be installed directly onto Transition Blocks or can be incorporated with one of the multifunctional mounting brackets (shown below).



MULTIFUNCTIONAL MOUNTING BRACKET-COMPACT MOUNT WITH MAGNET

6000-MMB-CM-MM

Screws and nuts are provided for all Transition Blocks and B Manifolds.



MULTIFUNCTIONAL MOUNTING BRACKET WITH MAGNET

6000-MMB-MM

Screws and nuts are provided for all Transition Blocks and B Manifolds.



Biaxial Hose

Biaxial hose is designed to carry liquid and air side by side to the spray point. The air hose is 1/4" OD and liquid hose is 1/8" OD. Three types are available:

URETHANE BONDED BIAXIAL HOSE

- 6000-B-BH1** (Clear hose, black lettering)
- 6000-B-BH1A** (Clear hose, white lettering)
- 6000-B-BH1B** (Blue hose, black lettering)
- 6000-B-BH1C** (Blue hose, white lettering)

This is the standard recommended option as the hoses are flexible, quickly cut-to-length, and available in a variety of colors to match spray points with injectors.



BONDED RECOILING HOSE

6000-B-BHR

Hoses are form coiled. This hose should be used where the spray point is moving so the coil can be stretched back and forth. Hose is supplied in 10-foot segments, but can be joined with a splicer kit for applications requiring longer coiled hoses.



HIGH TEMP PTFE HOSE

6000-B-BTH

This hose is recommended for applications involving high temperature (up to 500° F) and high wear. Air and liquid hoses are connected using clamps. Hose is relatively rigid and is not recommended where flexibility is required. Hose length is also limited, but can be coupled using a splicer kit.

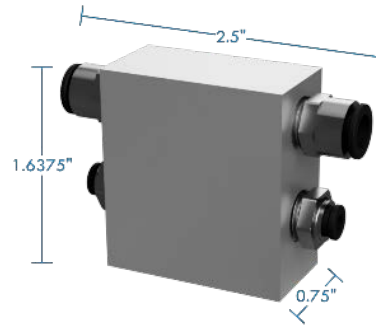


Biaxial Intermediary Blocks

BIAXIAL INTERMEDIARY BLOCK

6000-B-BIB

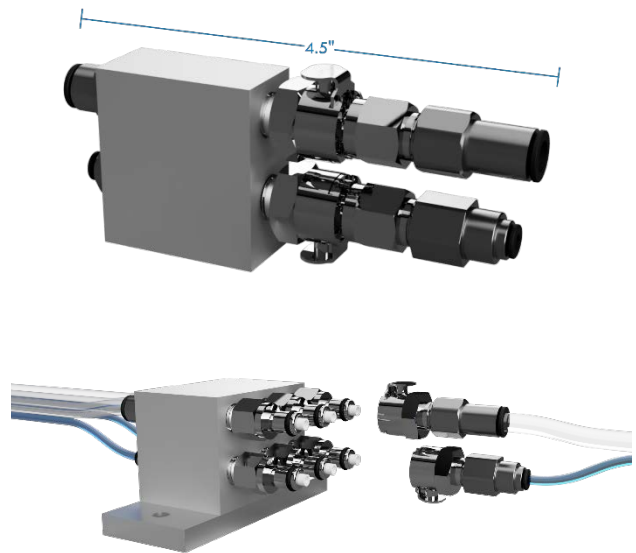
Provide a fixed mounting point to splice hoses. Useful for extending standard biaxial hose and transitioning to recoiling hose. These intermediary blocks should be used in cases where the hose could be easily damaged and must be replaced often.



INTERMEDIARY BLOCK WITH QUICK CONNECTS

6000-B-BIB-QC

Provide a fixed mounting point to splice hoses. Quick connects allow for quick hose and spray point replacement. Intermediary blocks with quick connects should be mounted to fixtures that move or are regularly swapped out, such as die sets.

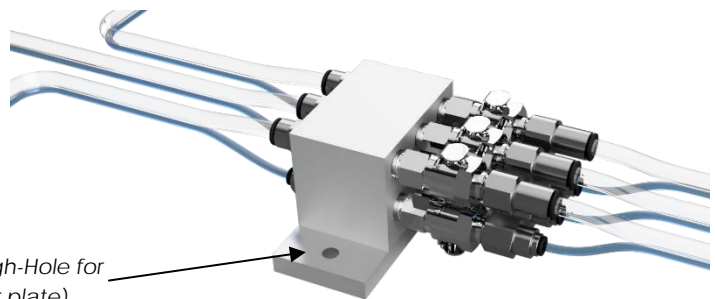


INTERMEDIARY BLOCK MOUNTING

6000-IMP-# (# specifies number of blocks)

Blocks can be mounted to an aluminum mounting plate. The plate has two 1/4" OD Through Holes for attaching the plate at the desired location.

0.25" OD Through-Hole for Mounting (2 per plate)

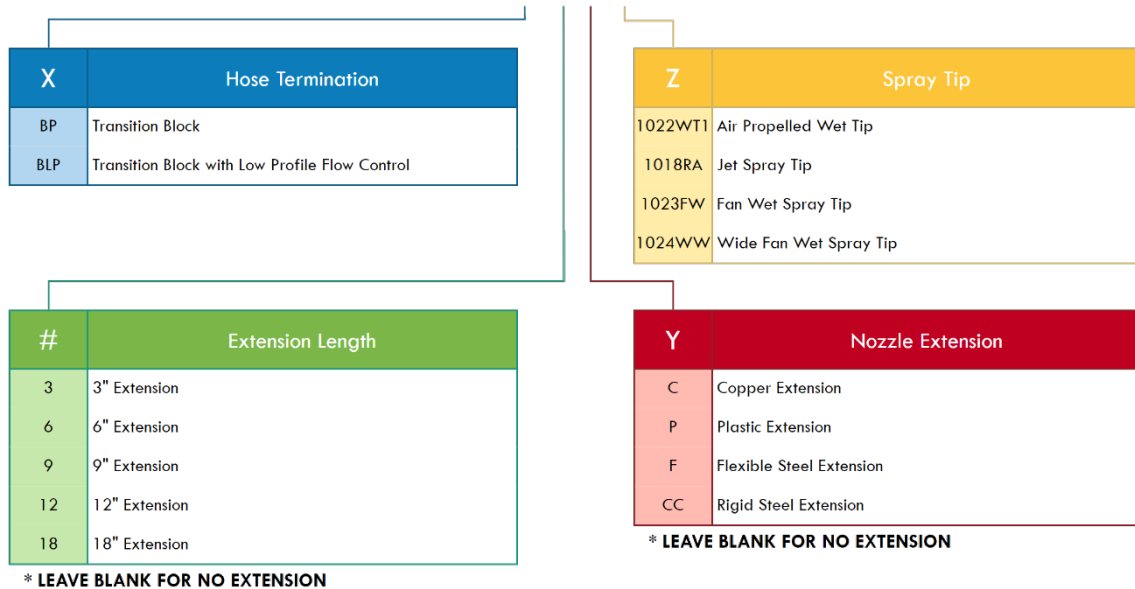


How to Specify Spray Assemblies

Items may be purchased as individual components as identified throughout this document. These assemblies are often incorporated into a complete 6000 Series Spray Application System. The specific spray assemblies for 6000 Spray Applicators can be found within the 6000E Technical Description. You may also assemble these components using the following part numbering system:

Single Point

6000-B-X-#Y-Z



6000-B-BP-1022WT1 with 6000-MMB-CM



6000-B-BLP-1025WTP



6000-B-BLP-6C-1022WT1 with
6000-MMB-MM



6000-B-BLP-12P-1024WW with
6000-70-212



B Manifolds

6000-B-X-Z

X	Hose Termination
B2	B2 Biaxial Transition Manifold for Saws
B21	B21 Biaxial Transition Manifold (Compact) for Saws
B22	B22 Biaxial Transition Manifold (Compact) for Saws
B3	B3 Biaxial Transition Manifold, 3 Spray Points for Saws

Z	Spray Tip
1022WT1	Air Propelled Wet Tip
1018RA	Jet Spray Tip*

* Not available with B22 Manifolds

6000-B-B2-1018RA with 6000-MMB



6000-B-B3-1022WT1 with 6000-MMB-C3



For installation, operation, maintenance, recommended settings and troubleshooting, please see the 6000 Spray Assembly Operators Manual.



AMCOL Corporation

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