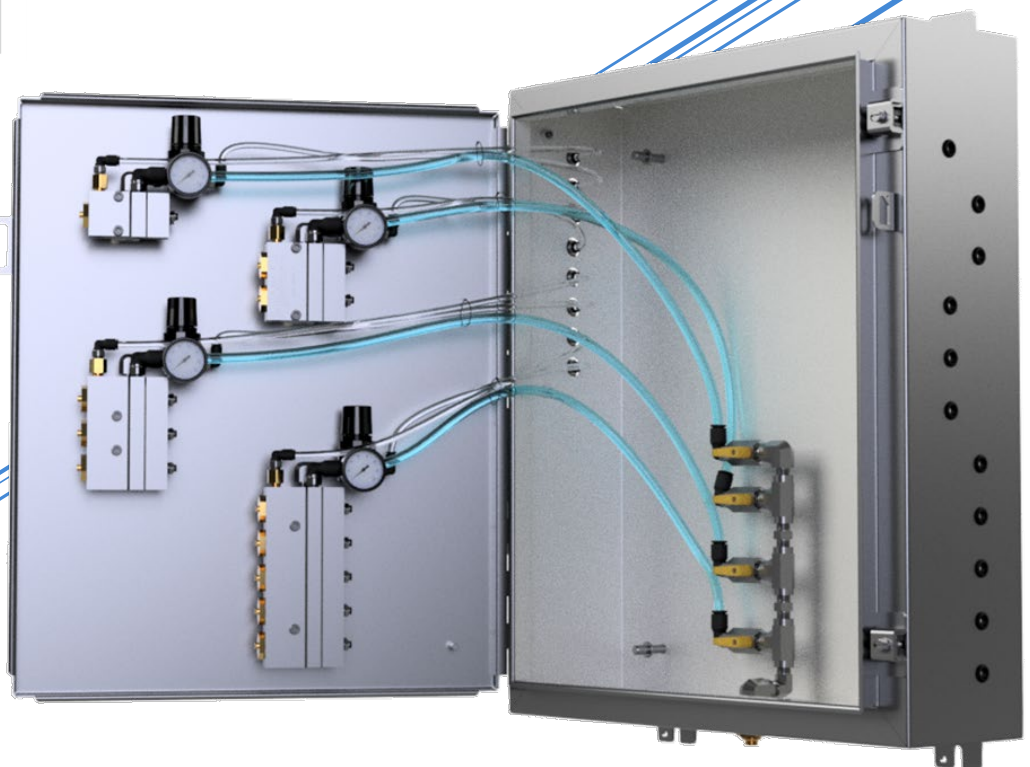
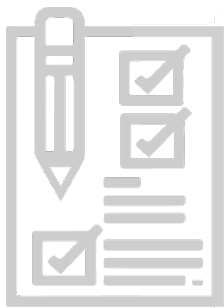


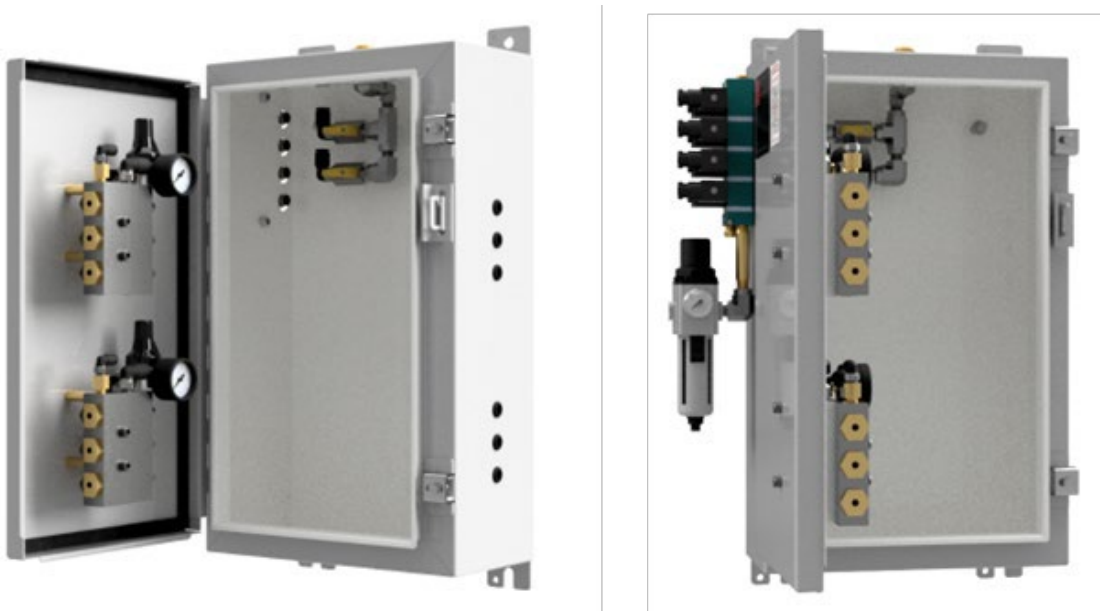


AMCOL CORPORATION
6000E-SP ADVANCED
PRECISION APPLICATORS
Technical Description



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6000E-SP Common Applications

The AMCOL **6000E-SP** Advanced Precision Spray Application Systems are an enhanced version of the standard 6000E Electronically Controlled Precision Lubrication System. The **6000E-SP** can be configured with up to 24 spray points within a single enclosure, making it ideal for complex, multi-injector systems. These systems are commonly used in automated work cells or stations that require advanced programming and operations. However, they are highly versatile and can be adapted for a wide range of applications.

While most facilities integrate their own PLCs for system actuation, the 6000-ETC Electronic Timing Controller offers a user-friendly, programmable alternative for those without a PLC or looking to simplify wiring and programming. For more details, please refer to the [AMCOL 6000-ETC Electronic Timing Controller - Technical Description](#).



Dedicated forming and fabrication cells



Robotic cells



Multi-head sawing machines



Roll formers



Punch presses and stamping dies



Tube and Profile Coating

Essential Documents

The **6000E-SP** is based off the AMCOL 6000E Precision Spray Application System. Please be sure to read and understand the documents listed below before specifying a **6000E-SP**. Please click the links or visit amcolcorp.com/documentation:



[The AMCOL 6000E Precision Applicators - Technical Description](#). This document provides a thorough explanation of the complete spray application system including the T60A Posi-pump, solenoid timing, system controls, SMART metering, and system options.



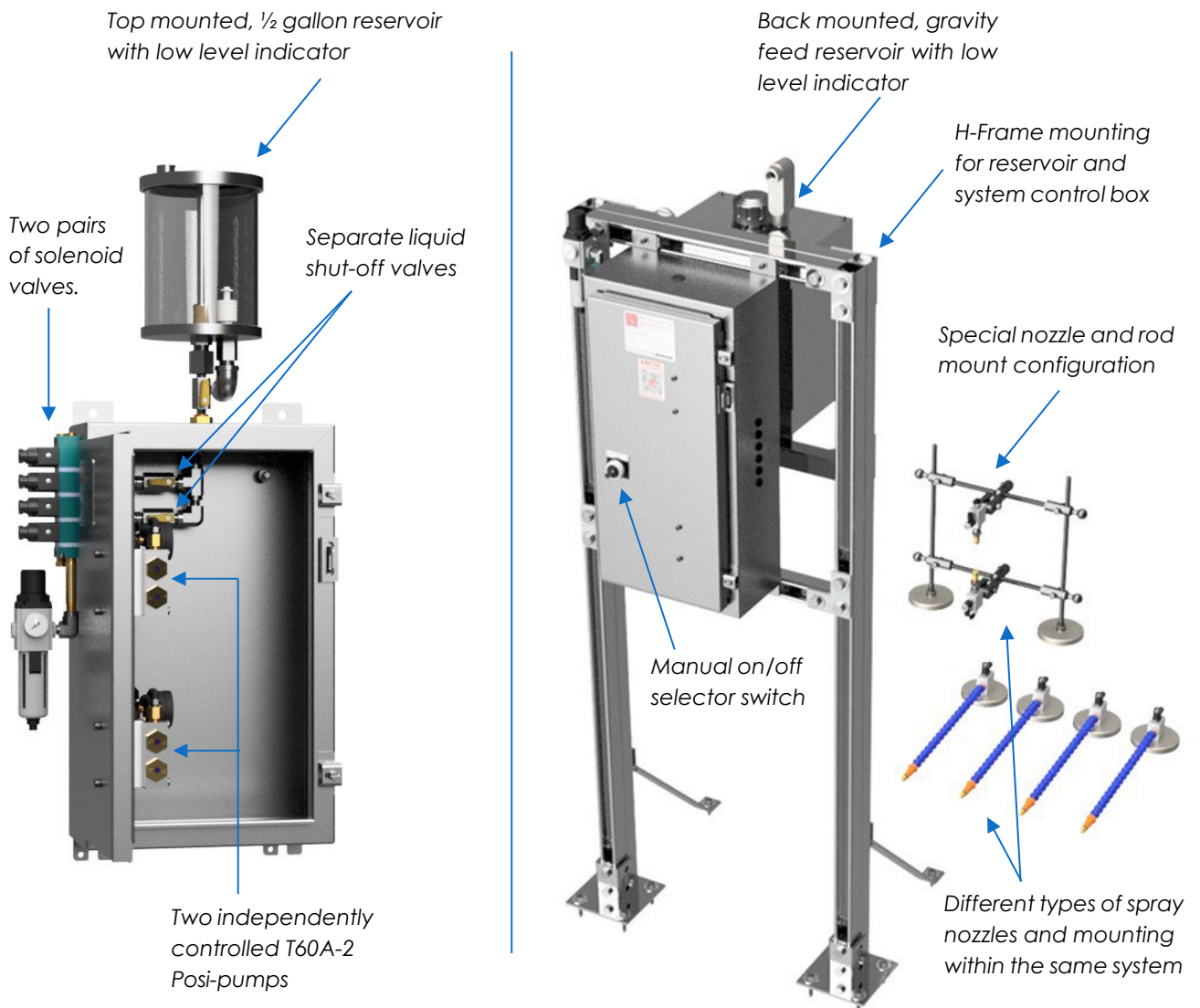
[The AMCOL 6000 Series Spray Assemblies – Technical Description](#). This document provides a general overview of spray assemblies, spray tips, single line connectors, extensions, hoses, and mounting options.

System Overview

6000E-SP is designed for specialized precision lubrication applications that go beyond the standard 6000E configuration or part numbering system. It is ideal for setups requiring:

- More than four spray points
- Separate and/or independent timing options to multiple spray points
- Customized spray nozzles
- Special reservoir configurations
- And many other customizations

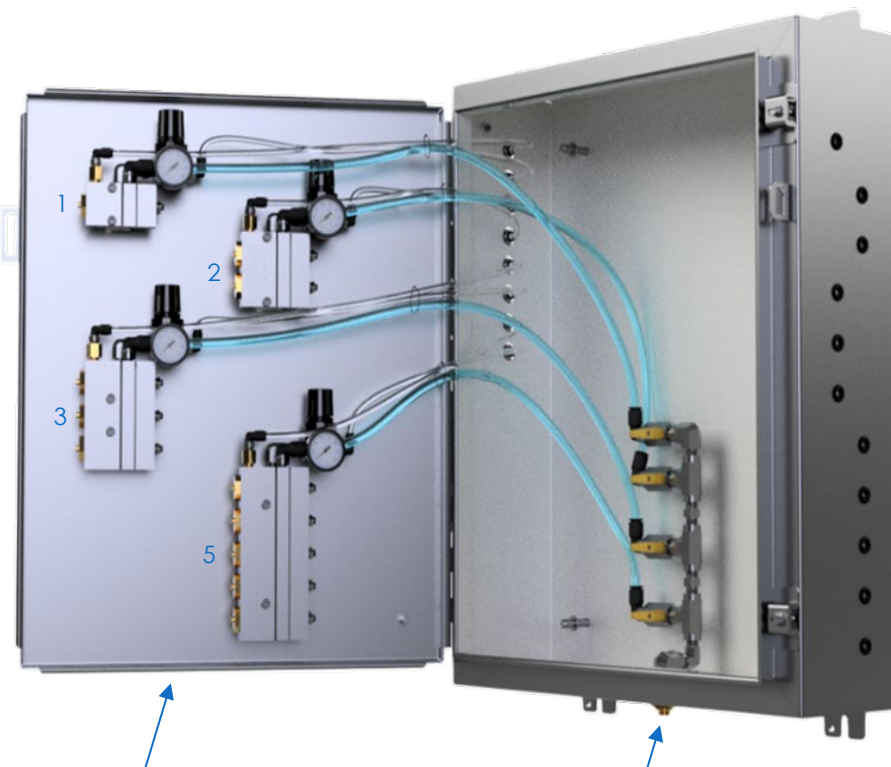
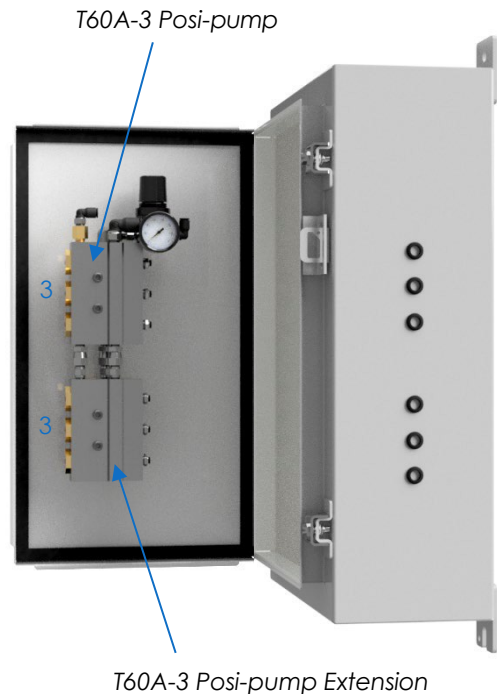
Two different versions of the **6000E-SP** Spray Application System highlighting some of the customizations and versatility of the **6000E-SP**.



T60A Posi-pumps

Standard 6000E Systems utilize a T60A Posi-pump with up to 4 injectors. The number of injectors is typically equal to the number of spray points. When more than 5 injectors are required, T60A Posi-pumps can be linked together and installed in a larger enclosure. This system would then be categorized as a **6000E-SP**, because of the extension and larger enclosure.

To the right is a **6000E-SP** with two T60A-3 Posi-pumps designed for 6 spray points. T60A Posi-pumps can be linked together for a total of 10 spray points (5+5).



Four (4) T60A Posi-pumps
- Eleven (11) total injectors -

Bottom fed liquid line for wall
mount, large capacity reservoirs

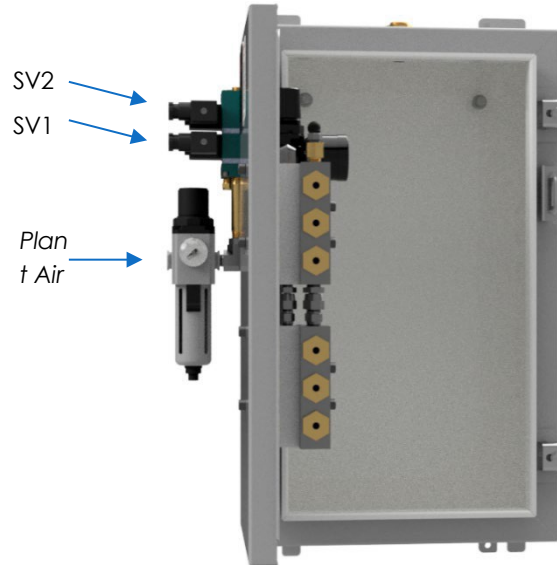
If more than 10 spray points are required, then additional banks of T60A Posi-pumps will be necessary. To the left is a **6000E-SP** designed for 11 spray points. This system utilizes four T60A's with 1, 2, 3, and 5 injectors to equal 11 total spray points.

Because there are 4 sets of T60A Posi-pumps, it requires 4 separate liquid supply lines with shut-off valves (shown in blue). This system is bottom fed and engineered for a wall-mount reservoir.

The individual T60A Posi-pumps may also be independently actuated. That will be detailed in the next section.

System Actuation

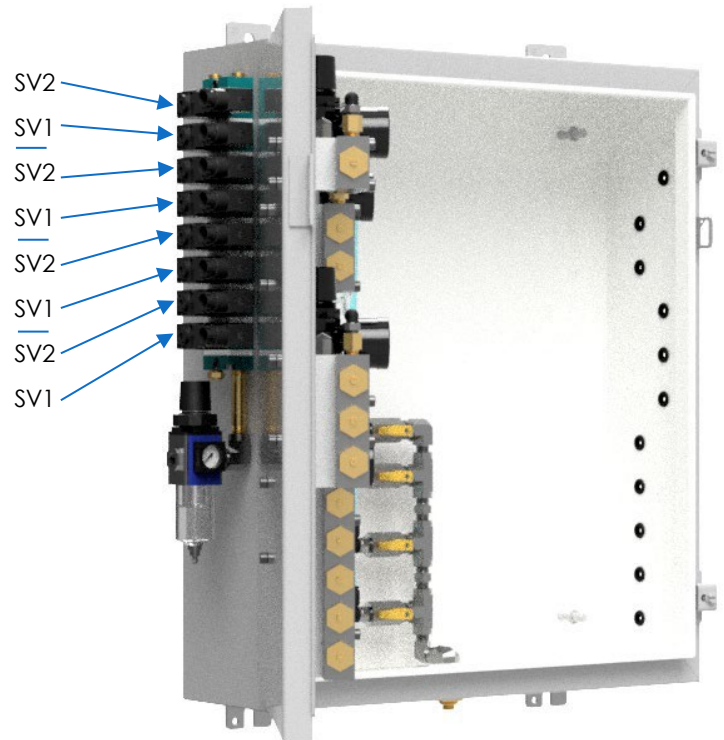
The **6000E-SP** is actuated using a pair of solenoid valves. Like the standard 6000E Precision Applicator, the injection rate (fluid output) is controlled by a three-way electric air solenoid valve (SV1). The injection cycle rate is set and adjusted via your machine's PLC or the AMCOL 6000-ETC, allowing for precise control. A second three-way electric air solenoid valve (SV2) regulates dispersing air pressure. Both solenoid valves are integrated into a stacked design, requiring only a single air input for the system.



*A 6-Injector
6000E-SP control
box with one pair
(SV1+SV2) of
solenoid valves.*

If separately timed fluid output is required, additional pairs of solenoid valves can be added to separate banks of T60A Posi-pumps. This is particularly beneficial for multi-stage processes or spray points that need to spray at different times or different fluid volumes.

The **6000E-SP** system to the right utilizes 4 pairs (8 total) of solenoid valves to actuate 4 banks of T60A Posi-pumps.



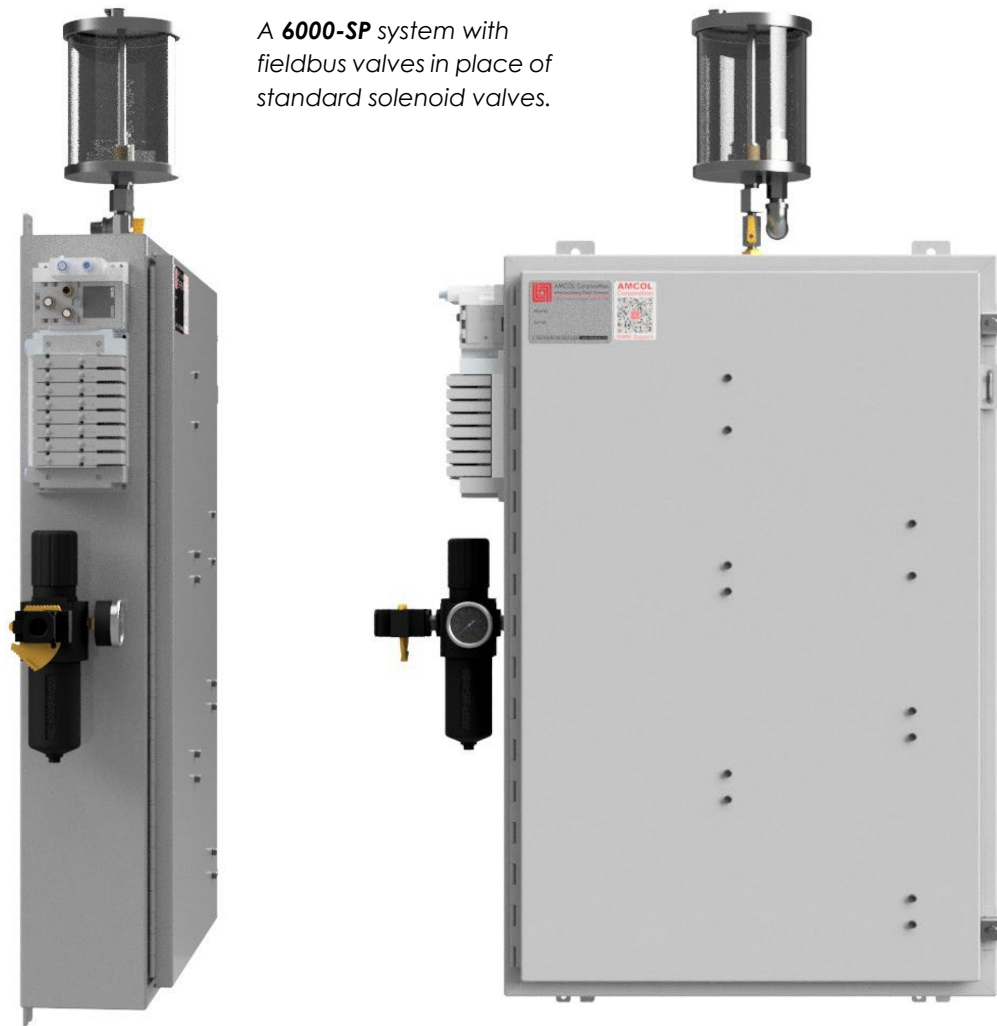
6000E-SP System Examples

A 24-injector **6000-SP** system for spraying a punch machine.



A **6000E-SP** with 4 separate T60A-1's (not shown) each with a pair of solenoids. Designed to spray two saw blades and two robotic cells.

System Examples: Fieldbus Actuation



A **6000-SP** system with fieldbus valves in place of standard solenoid valves.

For this specific **6000E-SP** system, the Fieldbus valve replaced 32 individual solenoid valves. This minimized many parts and labor associated with wiring, eliminated wasteful and messy lubricant consumption and allowed for remote monitoring and adjustments.

This System operates on 24V DC with a recommend 2A power supply. AMCOL supplies the power and communication cables. The power cable has a M12 connector on one end and leads on the other. The communication cable is M12 on both ends. Options for communication protocol are EtherNet/IP™, PROFINET, POWERLINK, Modbus TCP, CC-Link IE Field™, DeviceNet™ and CC-Link.

How to Specify Your 6000E-SP

6000E-SP systems are quoted based on customer specifications and requirements. Please see your AMCOL Sales Representative to properly specify and quote a **6000E-SP** system to meet the requirements of your operation. For a comprehensive explanation of the options listed below, please refer to the [6000E Electronically Controlled Precision Lubrication System - Technical Description](#).

The workspace below is designed to assist you and AMCOL in determining the best options for your system.

- Control voltage:**
(Required to operate the system)
- Total number of spray points:**
- Groups of injectors:**
(For instance, a 12-injector system may be grouped in 6 groups of 2, 4 groups of 3, or can even be 12 individual, 10 and 2, and so forth: this will also determine the number of solenoids)
- Pairs of solenoids:**
- T60A output control:** 1.5T 2T 2.5T 3T Adjustable
- Dispersing air pressure:** 5 psi 10 psi 15 psi Adjustable
- Reservoir capacity:** 10oz. 1/2-gal 2.5-gal 5-gal 10-gal Low Level Indicator
- Biaxial hose length:**
(10 feet per injector is standard)
- Air/liquid spray assemblies:**
(For more information about options for spray assemblies, hose extensions and mounting options, please see the [AMCOL 6000 Series Spray Assemblies- Technical Description](#).)
- Special requirements/Description of Application:**
(please include any attachments that may be helpful)

AMCOL CANMIST High Performance Lubricants

AMCOL offers a variety of CANMIST High Performance Lubricants to meet your specific needs. With your new **6000E-SP** electronically timed precision spray system, the properly matched fluid is critical. Only CANMIST fluids are recommended and fully compatible with all 6000 Spray Systems.

**AMCOL recommends
CANMIST lubricants
for optimal performance.**



**Proven technology
refined over decades.**

Please see your AMCOL Technical Sales Representative to match the CANMIST Lubricant to your operation.

For installation, operation, maintenance, recommended settings, and troubleshooting, please see the [6000E Electronically Controlled Precision Lubrication System Operator's Manual](#).

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Corporation**



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