

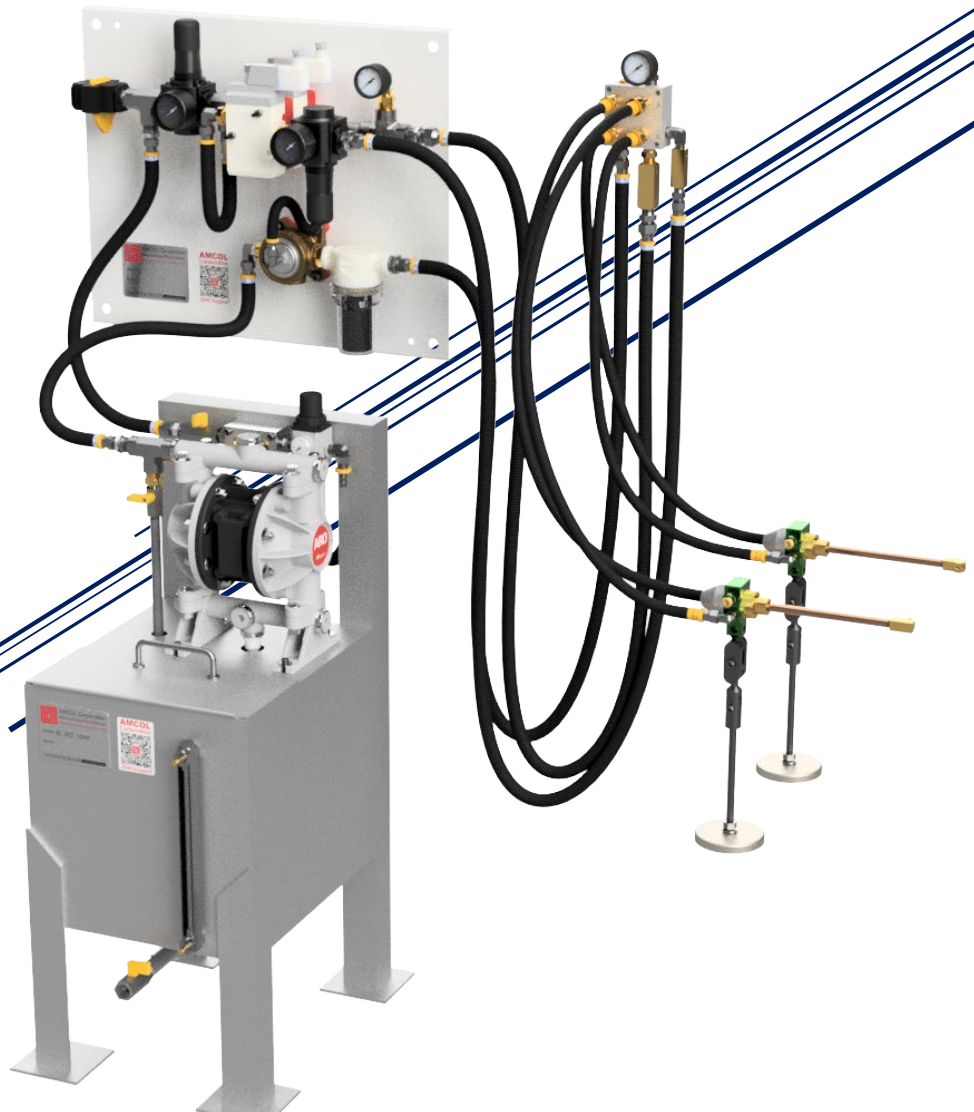
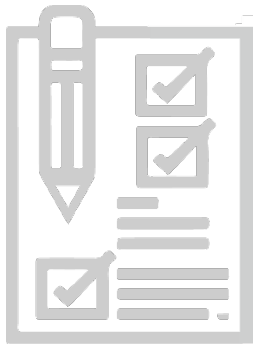


AMCOL CORPORATION

3049B AUTOMATIC BUTT

DISCARD LUBRICATION SYSTEM

Technical Description



Contents

1. Introduction	2
2. System Overview	3
3. Description of Components	4
204 Spray Nozzle	4
204 Nozzle Options.....	4
Spray Mounting	5
Liquid Reservoir.....	6
Valve Package	6
Hose and Manifold Assemblies	7
4. Recommended Fluid	7
BL 463 2S EJECTEZE	7
5. Purchasing Information.....	8



AMCOL Corporation

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1. Introduction

AMCOL has been providing innovative solutions for aluminum extrusion process lubrication since the late 1980s. The AMCOL 3049B Spray System used in combination with BL 463 2S EJECTEZE is our recognized and proven solution for automatic butt shear and log shear lubrication.

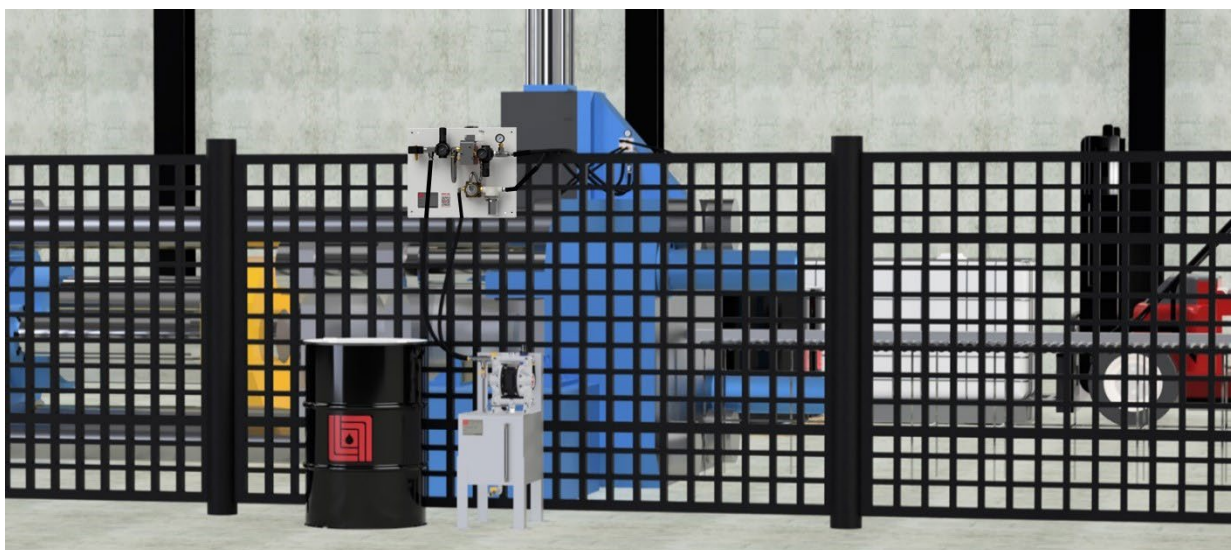
3049B is designed to automatically lubricate tools with press guard and other safety equipment actively in place. Burns, slip and fall, repetitive strains, and other more serious injuries can occur with manual lubrication. 3049B eliminates the need for direct operator intervention at the shear. Nozzles are placed near the shear blade, while the reservoir and system controls are installed outside of safety fencing for safe, easy filling, and maintenance. This system is timed and actuated through the press PLC and runs in harmony with the production process. For simple installation and control, an electronic controller is also available (see PS04.3049-ETC.PB).

BL 463 2S EJECTEZE is a water diluted lubricant concentrate. As the water evaporates, the tool is cooled, and a liquid lubricant is left behind. It is formulated with rust inhibitors to protect exposed steel surfaces. Used as recommended, it can help to eliminate blisters and streaking.

The combination of these products leads to more consistent shearing and reduced operator intervention. When used properly, it will eliminate manual lubrication that is often associated with streaks and blisters on the profiles. Automatic lubrication is also designed to eliminate stuck butts to keep your press up and running.

AMCOL has made refinements to nozzle and mount design, reservoir components, control valves, and an optional electronic controller to make 3049B more reliable and easier to use. This system is purpose built for the extrusion environment with sturdy components and fireproof hoses. Installation is straight forward, and the system will give you years of dependable service.

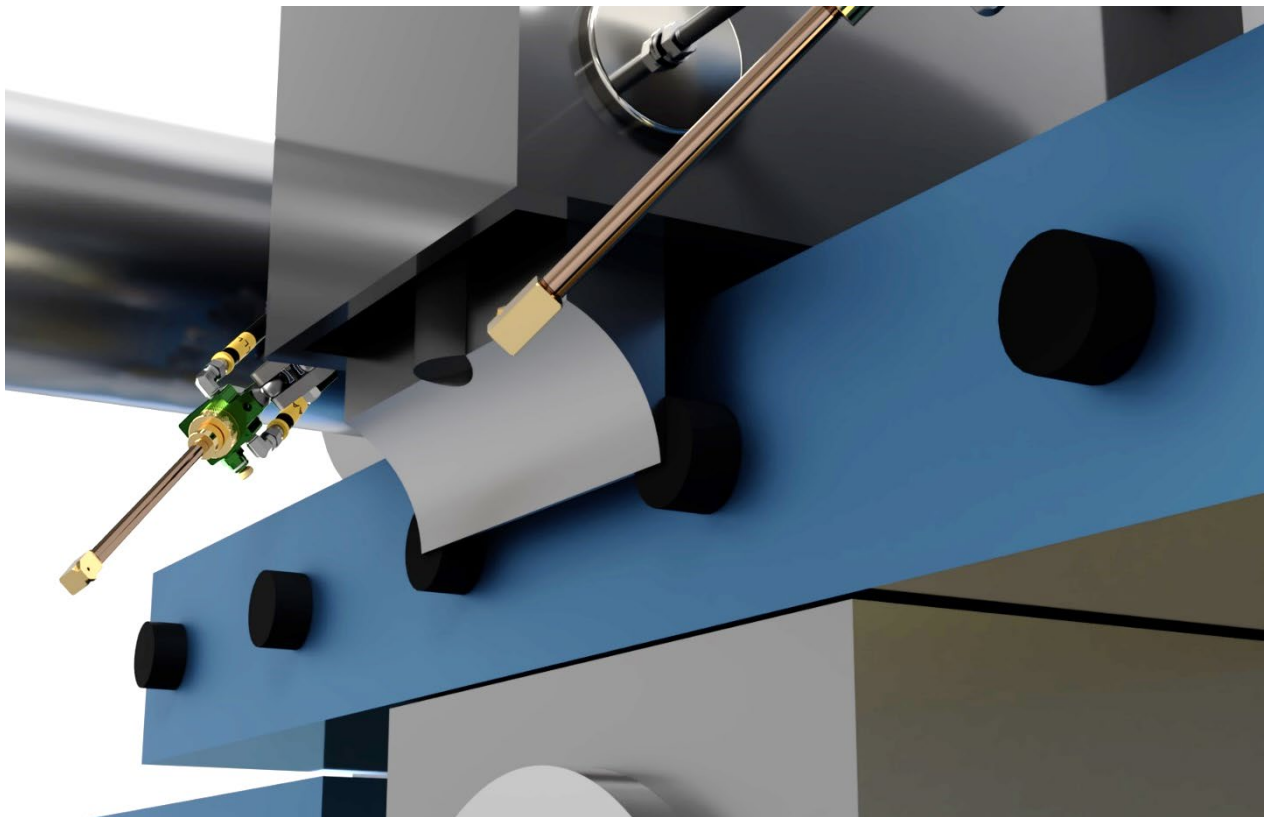
In today's extrusion press lines, automation and safety are a must. The modern 3049B in combination with BL 463 2S EJECTEZE is a proven part of reaching these goals. When your valued production personnel reach into the press to remove a stuck butt or apply lubricant, they are put in harm's way. This system gives you peace of mind through reliable, safe, quality lubrication practices.



2. System Overview

The **AMCOL Model 3049B Spray System** is designed to automatically dispense AMCOL BL 463 2S EJECTEZE onto tooling for butt discard and/or log shear used in the hot aluminum extrusion process eliminating the need for manual lubrication. With this system, liquid is pumped from a reservoir using a double diaphragm pump and transferred through the valve package to remotely mounted fluid-atomizing spray nozzles. To keep the spray nozzles out of the “hot zone”, spray is directed using brass pipe extensions with spray tips to consistently coat hard to reach tooling. Multi-Functional Mounting Brackets can be fixed to the machine or magnetically mounted so as not to be harmed by flare outs.

3049B is easy to install, place the reservoir, mount the valve package, mount the nozzles, and make all the hose connections. One air line is connected to the valve pack, there is an on/off switch with a lock and tag at this point. Two PLC inputs are required to the solenoids that control the air valves. The system is now installed and ready for your programmed signal. The 3049-ETC Controller allows for a single wire installation and eliminates the need for programming of the press PLC.

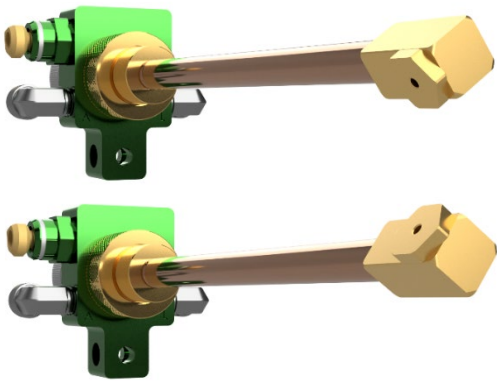


3. Description of Components

204 Spray Nozzle

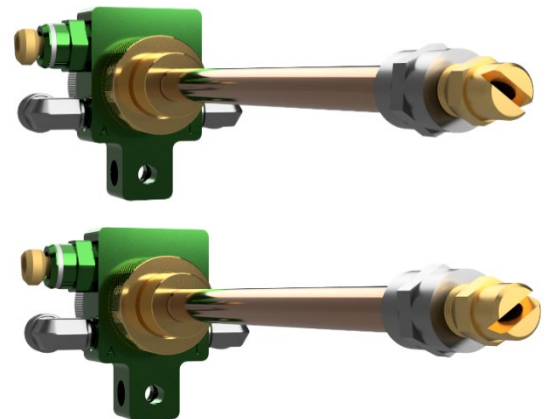
The 204 atomizing spray nozzle is an updated replacement for the 202 nozzle. A single adjustment knob is built into the spray body, liquid volume is adjusted by rotating the knob which clicks into place. A pair of nozzles with the required mounting hardware is supplied with a standard system. Specific spray tips and mounting systems are available to address space and angle requirements specific to each individual press. The standard option is the 6" brass pipe extension with a 90° conical spray tip. A magnetically mounted multifunctional bracket is used to attach the spray nozzle to the press platen or shear housing; this same bracket can be permanently mounted for more secure positioning.

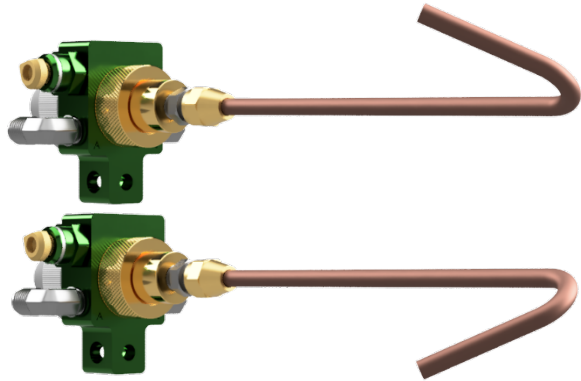
204 Nozzle Options



204-0690 – This is the standard and most common nozzle option offered with the 3049B Spray System. This includes 6" brass extension to a 90° conical brass spray tip. The extension can be rotated for precise fluid application. The 90° conical spray tip may also be purchased in a stainless-steel option.

204-06F – This option includes a 6" brass extension to a fan spray tip. The extension can be rotated to provide precise and accurate lubrication.





204-135 - 6" copper clad nozzle assembly with 135° bend. The extension can be rotated to provide precise and accurate lubrication.

Note: Longer and customized extensions are available to suit various needs. If you require the spray to be closer to the shear blade, copper clad tubing is an option. It's important that all tubing pieces are of uniform length and bent identically, and the blowout timing will need to be adjusted accordingly. Additionally, the fan spray tip offers a smaller spray pattern from a distance, but the 90-degree tip might provide a more optimal angle to the shear blade

Spray Mounting



MMBM-202 - This is the standard mounting option, it includes a magnet for flexible installation, a 6" extension rod, and a multi-functional bracket (multi-directional). As shown this bracket can be mounted two ways on the extension rod allowing multiple degrees of freedom.

Liquid Reservoir

The non-pressurized vessel has a double diaphragm pump with a liquid bypass back to the reservoir, and an air pressure regulator which assures consistent flow. This 10-gallon reservoir is made from 14-gauge 304 stainless steel and includes a sight gauge. A sight gauge is built into the front of the reservoir. An optional low-level reed switch is also available.



Valve Package

The valve package controls the air and liquid spray cycle as well as a nozzle blow out cycle for the pipe extensions and spray tips. Two electric solenoids are wired to the press PLC, the first operates an air valve which controls the liquid spray cycle, the second controls the air blow-out cycle. A manual override is also included. Air gauges are used to observe system pressures and assess valve performance. A clear bowl with a mesh strainer removes unwanted contaminants that could clog the spray tips and allows for inspection of the lubricant travelling to the nozzles.

Hose and Manifold Assemblies

The air-liquid manifold equipped with a gauge guarantees that both air and liquid are delivered to the nozzles. Fire resistant hoses are used to transfer the liquid and air from the valve package to the spray nozzle. A standard system includes 5' of hose from the reservoir to valve package, 15' from the valve package to manifold, and 7' from the liquid/air manifold to the nozzles. Hose connections are a combination of JIC unions and quick connect style fittings, allowing for fast and easy inspection, replacement, and repair. Check valves are incorporated in the design to direct air flow as the system transitions from the spray cycle to blow out.



4. Recommended Fluid

BL 463 2S EJECTEZE

BL 463 2S EJECTEZE is an organic, high-temperature lubricating fluid for shearing hot aluminum which is diluted with water. This lubricant coating travels by capillary action to completely cover the tool steel leaving a light, oily residue. There is no smoke or flame and no known effects on the extrudate. BL 463 2S EJECTEZE, in combination with the AMCOL 3049B Spray System, will reduce aluminum build-up and sticking, as well as maximizing shear life. BL 463 2S EJECTEZE is available for purchase in 5-gallon pails or 55-gallon drums.



5. Purchasing Information

Purchasing a 3049B System requires the following selections to be made to best fit the system to your extrusion operation. Press control voltage should match the ① valve package selection. Spray configurations ② (nozzles/mounting) should be chosen based on press design and space requirements. Nozzles should be as close to the shear blade as possible.

① Valve Package

- 24vDC
- 110vAC
- 220vAC

② Spray Configurations

- 204-0690 (Standard Nozzle, 6" Pipe w/90° Cone Spray Tip)
- 204-06F (6" Pipe w/Fan Spray Tip)
- 204-135 (6" copper clad nozzle assembly with 135° bend)
(see pages 4-5 for nozzles)

3049B2 with 204-0690	3049B2 with 204-06F	3049B2 with 204-135
3049B2-24	3049B2-06F-24	3049B2-135-24
3049B2 (standard 110vAC)	3049B2-06F (standard 110vAC)	3049B2-135 (Standard 110vAC)
3049B2-220	3049B2-06F-220	3049B2-135-220

Add on Items:

- Add -ETC to the end of any system to include an ETC controller, please see the document [PS04.3049-ETC.PB](#).
- Add -L to the end of any system to include the Low-Level Indicator. To purchase separately use item ID: LLI-622-10NP.
- Alternative nozzles and extensions are also available, including Bundy tubing and custom bent options. Customization will require specific dimensions, pairs sized and bent identically, and longer blowout cycle time.

To place an order or if you have any further questions, please contact your AMCOL sales representative, or email us at orders@amcolcorp.com.



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