



ACCUOIL™ SYSTEM

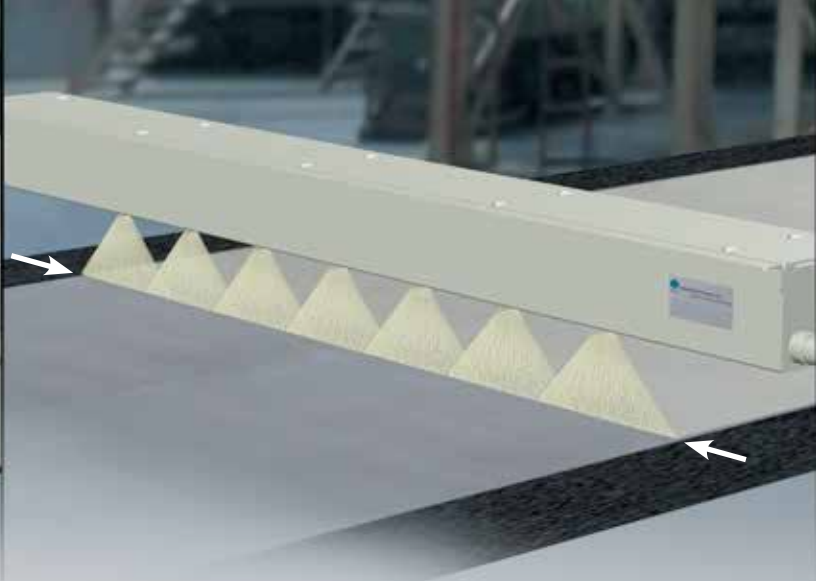
PRECISE, UNIFORM APPLICATION OF
OIL ON STRIP ELIMINATES REJECTS
& REDUCES OPERATING COSTS



Spraying Systems Co.®

Experts in Spray Technology





The AccuOil system uses zone control to accommodate different widths of strip. Zone 1 is shown above – all nozzles are spraying across the maximum strip width.

When zone 2 is activated, only the nozzles required to cover the narrower strip are used. In this example, the outer two nozzles are turned off.

ELIMINATE WASTEFUL, COSTLY AND HAZARDOUS OVER-APPLICATION OF OIL WITH UNIQUE NEW ACCUOIL™ SYSTEM

SYSTEM OVERVIEW

The application of oil on strip is a challenge for most producers. Uneven and over-application of oil are typical when using wringer rolls or open pipes. Misting, low transfer efficiency and a hazardous work environment are common problems when applying oil with costly-to-operate air atomizing spray systems. Our new AccuOil system solves all these problems through precision application. Waste, inconsistency and the need for compressed air are eliminated.

The AccuOil system uses Precision Spray Control (PSC) to ensure the proper volume of oil is applied consistently, even when line speed changes and sheet width varies. Electrically-actuated, hydraulic PulsaJet® spray nozzles mounted on spray headers provide uniform, consistent application of the oil. System control is provided by a PLC equipped with AutoJet® PSC drivers.

The AccuOil system easily accommodates different strip widths. Only the nozzles required to cover the width of the strip are activated to spray, eliminating waste. See example at the top of the page.

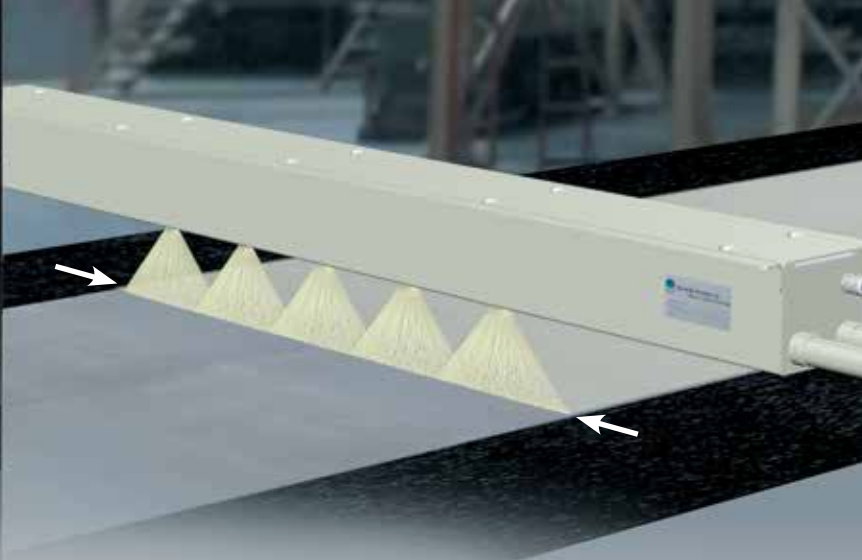
BENEFITS

- **Reduce scrap** – uniform coverage across the entire strip
- **Consistent application** – even when line speed changes
- **Lower operating costs** – reduce oil consumption through precision application; no compressed air required
- **Reduce maintenance time** – no misting or overspray improves worker safety and minimizes clean-up time and oil removal costs

IDEAL FOR:

- Aluminum
- Steel
- Copper
- Cold mills
- Processing lines
- Temper mills





When zone 3 is activated, additional nozzles are turned off to accommodate ever narrower strip. In this example, two more nozzles have been turned off. Up to four zones can be configured.

SPECIFICATIONS

Diaphragm metering pumps with VFDs and PLC-based controls

Operating pressure range of 40 to 200 psi (3 to 14 bar)

Run dry protection

LEARN MORE ABOUT PRECISION SPRAY CONTROL:
spray.com/PSC

A BIT ABOUT PRECISION SPRAY CONTROL

Precision Spray Control (PSC) ensures that oils are applied consistently, uniformly and with minimal waste even when strip width varies or line speed changes.

An AutoJet® spray controller turns electrically-actuated PulaJet® nozzles on and off very quickly to control flow rate. The cycling is so fast that the flow often appears to be constant.

PSC also enables nozzles to produce a wide range of flow rates without changing performance because pressure remains constant.

In addition, very low flow rates can be achieved with hydraulic nozzles, eliminating the need for compressed air.

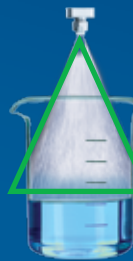
NOZZLES SPRAYING 90% OF THE TIME

Pressure: 80 psi (5.5 bar)
 360 ml/ft² (360 ml/m²)



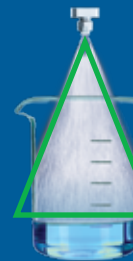
NOZZLES SPRAYING 50% OF THE TIME

Pressure: 80 psi (5.5 bar)
 260 ml/ft² (260 ml/m²)



NOZZLES SPRAYING 25% OF THE TIME

Pressure: 80 psi (5.5 bar)
 100 ml/ft² (100 ml/m²)



Note that the spray pattern remains unchanged when flow rate varies. This ensures consistent oil coverage on the strip.

Application rates shown are illustrative only and do not represent minimums and maximums.



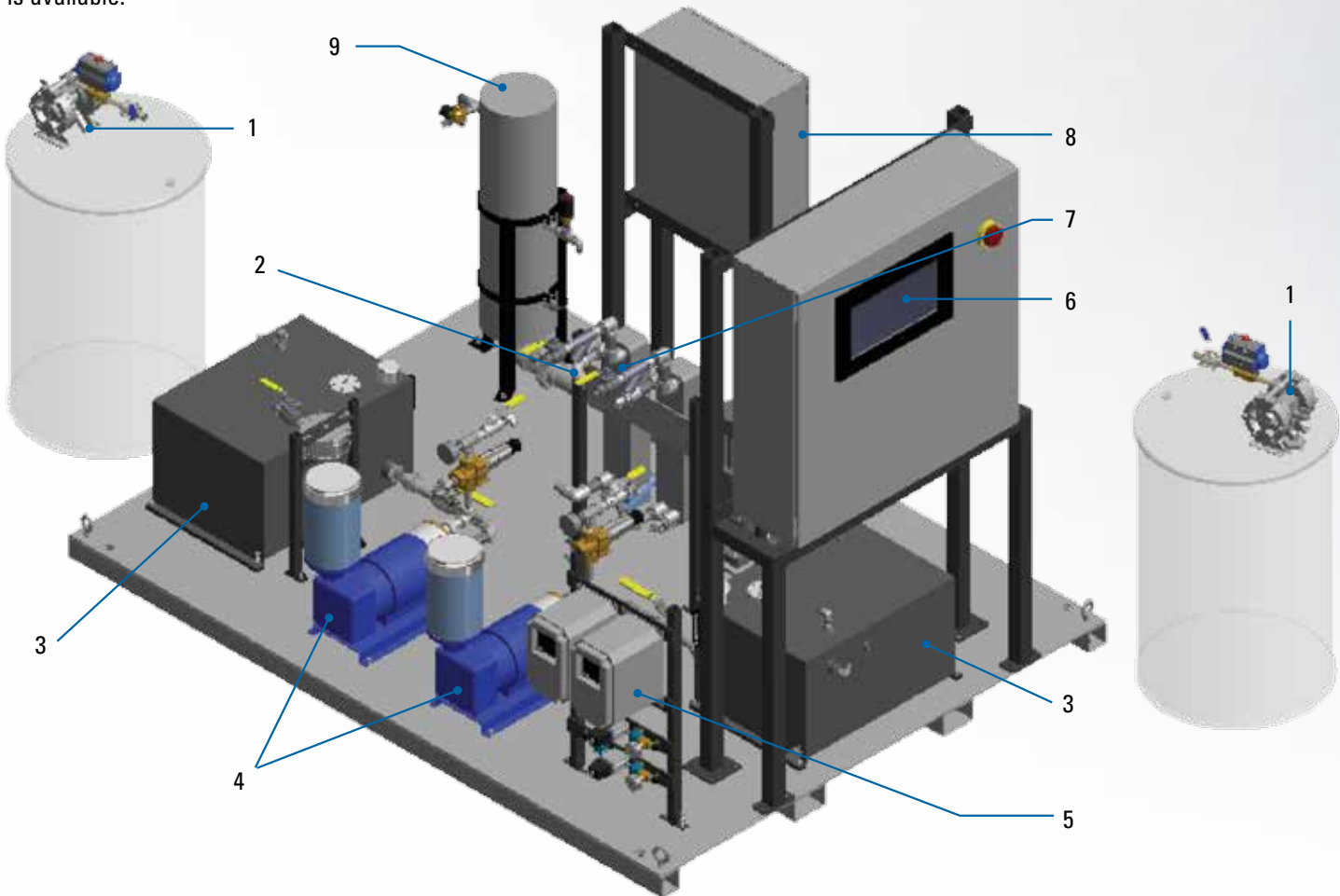
A CLOSER LOOK AT THE ACCUOIL™ SYSTEM

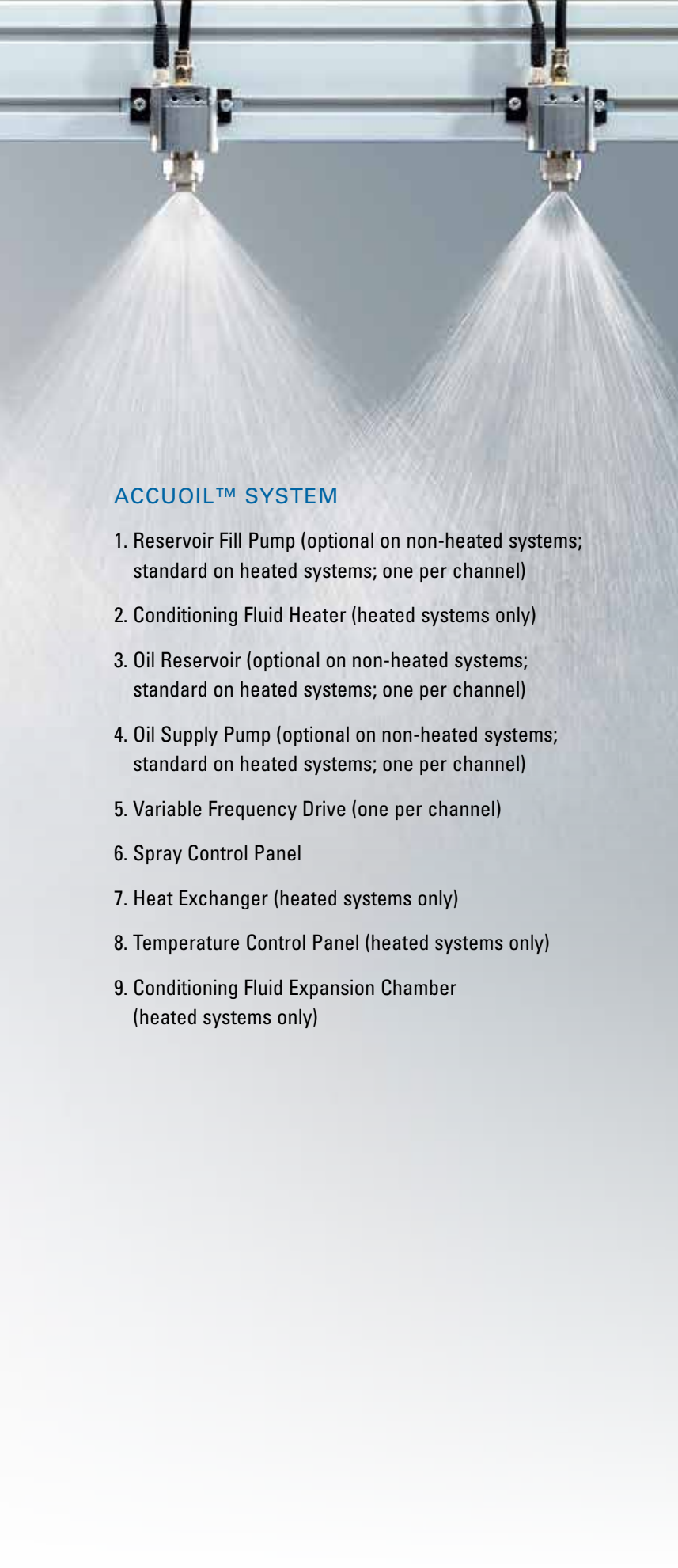
ACCUOIL SYSTEMS ARE AVAILABLE IN FOUR DIFFERENT CONFIGURATIONS TO MATCH A WIDE RANGE OF REQUIREMENTS: SINGLE-CHANNEL, TWO-CHANNEL, SINGLE-CHANNEL HEATED AND TWO-CHANNEL HEATED

If you're applying oils that can be applied at ambient temperature, use the standard AccuOil system. It is also available in single-channel and two-channel versions.

The standard AccuOil system is fed directly from storage tanks. Reservoirs are available if the storage tanks are located away from the system. An optional recirculating option is available.

If you're applying oils that don't spray well at room temperature or experience significant changes in ambient temperature throughout the year, use our AccuOil Heated system. It is available in a single-channel and a two-channel version if multiple oils are being used.





ACCUOIL™ SYSTEM

1. Reservoir Fill Pump (optional on non-heated systems; standard on heated systems; one per channel)
2. Conditioning Fluid Heater (heated systems only)
3. Oil Reservoir (optional on non-heated systems; standard on heated systems; one per channel)
4. Oil Supply Pump (optional on non-heated systems; standard on heated systems; one per channel)
5. Variable Frequency Drive (one per channel)
6. Spray Control Panel
7. Heat Exchanger (heated systems only)
8. Temperature Control Panel (heated systems only)
9. Conditioning Fluid Expansion Chamber (heated systems only)



ACHIEVING RESULTS WITH ACCUOIL SYSTEMS

STRIP PRODUCER SAVES US\$240,000 ANNUALLY

Problem: Challenged by dry spots and excessively oily spots on strip during coil finishing, this manufacturer knew it was time to replace the manual system currently in use. Operator adjustment of needle valves to control lubricant flow to individual nozzles was too inconsistent and coil reject rate was high.

Solution: An AccuOil system using Precision Spray Control now applies the lubricant uniformly. The system controller adjusts the application based on line speed which ranges from 400 to 900 ft/min (122 to 275 m/min). Zone control is used to turn nozzles on and off as needed based on strip width. Coil rejects are down and lubricant waste has been eliminated.

RESULTS:

SYSTEM PAYBACK: TWO WEEKS

SAVINGS: US\$20,000 TO US\$30,000
PER MONTH DUE TO REDUCED REJECT RATE
AND ELIMINATION OF LUBRICANT WASTE





ACCUOIL™ SYSTEM COMPONENTS

ACCUOIL HEATED SYSTEM

Heated versions of the AccuOil system use the recirculating header shown above to ensure consistent oil temperature. Heated oil is pumped into tubes in the spray header. The heated oil keeps the exterior of the Pulsajet® nozzles warm to help maintain the temperature of the oil as it passes through the nozzles. The oil recirculates through the header and is then returned to the reservoir for reheating.

Pulsajet nozzles are placed between tubes in the header and are easily accessible from the front of the spray header to facilitate maintenance. The nozzles feature a simple five-piece design. Assembly is quick and easy.

ACCUOIL SYSTEM

The 98250 Spray Manifold is used in non-heated AccuOil systems. Constructed of rigid aluminum, nozzles are easily accessed from the front of the header.





ACHIEVING RESULTS WITH ACCUOIL SYSTEMS

80,000 POUNDS OF MONTHLY REWORK ELIMINATED

Problem: An aluminum producer was using flat spray nozzles mounted on a header to apply oil to strip to facilitate forming and help prevent corrosion. Coil rejection rates were high. The flow rate of the nozzles was constant and when line speed slowed, oil was over-applied. When line speed increased, oil was under-applied. In addition, all the nozzles sprayed all the time. When narrower widths were run, excess oil ended up on the floor.

Solution: Oil coverage on the strip is now uniform and waste has been eliminated since the installation of the AccuOil system. Using the system controller, operators select the desired application rate and spray zones based on the product width and type. Precision Spray Control ensure the proper application rate based on line speed variations from 300 to 1200 ft/min (91 to 366 m/min).

RESULTS:

SYSTEM PAYBACK: FOUR MONTHS

COIL REJECT RATE DUE TO UNEVEN OIL APPLICATION: 0%

DECREASED OIL CONSUMPTION: 40%

REDUCED MAINTENANCE TIME: WORKERS ARE NO LONGER REQUIRED TO CLEAN EXCESS OIL



ACCUOIL™ SYSTEM SPECIFICATION SHEET

Name: _____
Title: _____
Company: _____
Address: _____
City: _____ State/province: _____
Zip/postal code: _____ Country: _____
Telephone: _____ Fax: _____
Email: _____

Strip width: _____ in or mm

Sheet speed: Normal _____ ft/min or m/sec Sheet speed: Max _____ ft/min or m/sec

Oil: _____ Oil: _____

(Please submit MSDS sheet for each oil type with specification sheet)

Strip width #1: _____ in or mm

Desired application rates:

Min _____ mg/ft² or mg/m² Max _____ mg/ft² or mg/m²

Strip width #2: _____ in or mm

Desired application rates:

Min _____ mg/ft² or mg/m² Max _____ mg/ft² or mg/m²

Strip width #3: _____ in or mm

Desired application rates:

Min _____ mg/ft² or mg/m² Max _____ mg/ft² or mg/m²

Strip width #4: _____ in or mm

Desired application rates:

Min _____ mg/ft² or mg/m² Max _____ mg/ft² or mg/m²

Space requirements: (describe): _____



Spraying Systems Co.
Experts in Spray Technology

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