



**Spraying Systems Co.®**  
Experts in Spray Technology



U.S. PATENT 8,820,663

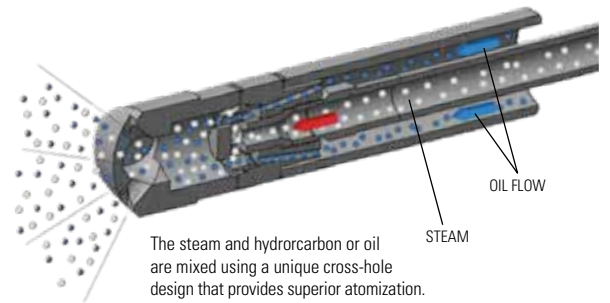
# NEW OPTIMAX™ INJECTOR

## SUPERIOR MIXING, SUPERIOR ATOMIZATION

Now there is a better option for torch oil, slurry backflush, quench, and other similar injection operations – the OptiMax injector from Spraying Systems Co. The OptiMax injector is specially designed to produce a uniform spray pattern for quick vaporization. The OptiMax injector mixes steam with the oil, hydrocarbons or chemicals using a unique, patented atomization process. This process ensures thorough mixing of the steam and fluid prior to injection. The mixed fluid that exits the injector consists of small drops in a uniform spray pattern.

## BENEFITS

- Thoroughly mixed fluid and uniform spray coverage optimize the effectiveness of the chemical reaction
- Fast vaporization of the hydrocarbon for quicker reaction in the process stream
- Better control of drop size over a wide flow rate range provides more operating flexibility
- Durable, dependable design for long wear life
- Uses available plant steam instead of costly compressed air – better for the environment and the bottom line



The steam and hydrocarbon or oil are mixed using a unique cross-hole design that provides superior atomization. All mixing is done prior to exiting the nozzle orifice.

## SPECIFICATIONS

Flow rate range: Wide range to accommodate any amount of barrels per day

Steam utilization rate: 2% to 5% by weight depending on hydrocarbon density

Spray angle: 90° standard; others available upon request

Materials: 316 stainless steel standard; others available upon request. Special alloying process available for components subject to erosive wear

Customized dimensions for all installations

Can be manufactured to ASME® B31.3

## IDEAL FOR

- Additive injection
- Torch oil injection
- Hydrocarbon atomization
- Slurry backflush
- Quench



**PAWIN Engineering Co., Ltd.**

168 อาคาร Axiom 1 น. 7 ถ. กิ่งแก้ว ต. บางพลีใหญ่  
อ. บางพลี จ. สมุทรปราการ 10540

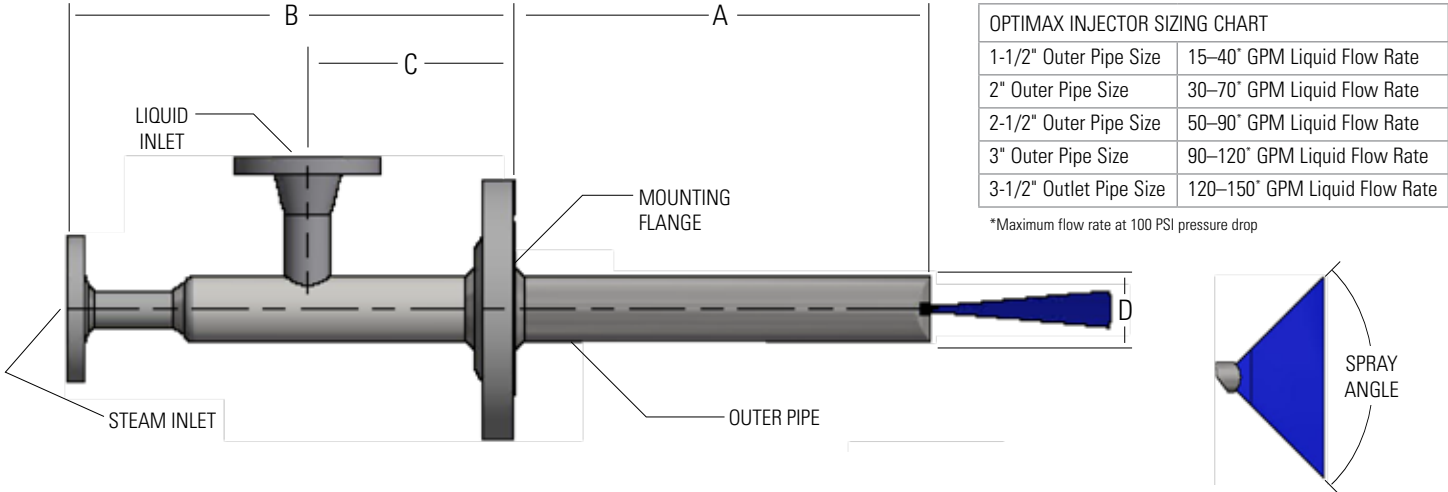


0-2911-4761-5, 095-365-8530-1

pawin@pawin.co.th

www.pawin.co.th

# OPTIMAX™ INJECTOR SPECIFICATIONS



## CUSTOMER SPECIFICATIONS:

Process Line Size/Sch: \_\_\_\_\_  
 A: \_\_\_\_\_ (in. or mm)  
 B: \_\_\_\_\_ (in. or mm)  
 C: \_\_\_\_\_ (in. or mm)  
 Mounting Flange size: \_\_\_\_\_  
 Liquid Inlet Flange size: \_\_\_\_\_  
 Steam Inlet Flange size: \_\_\_\_\_  
 Max. Liquid Flow Rate: \_\_\_\_\_ (PSIG or BARG)  
 Min. Liquid Flow Rate: \_\_\_\_\_ (PSIG or BARG)  
 Liquid Density (@ operating temp): \_\_\_\_\_  
 Spray Angle: \_\_\_\_\_  
 Injected Liquid Flow Rate: \_\_\_\_\_ (gph or lph)

## PROCESS FLUID INFO:

Temperature: \_\_\_\_\_ (°F or °C)  
 Pressure: \_\_\_\_\_ (PSIG or BARG)  
 Dynamic Viscosity: \_\_\_\_\_ (cP)  
 Velocity: \_\_\_\_\_ (ft/s or m/s)  
 Process Fluid Density (@ operating temp.): \_\_\_\_\_ (lb/ft³ or kg/m³)  
 Process Fluid Flow Rate: \_\_\_\_\_ (ft³/min or m³/min)

## MATERIAL OF CONSTRUCTION:

Spray Nozzle: \_\_\_\_\_  
 Inlet Flanges: \_\_\_\_\_  
 Injector Mounting Flange: \_\_\_\_\_  
 Pipe: \_\_\_\_\_

## ASME® B31.3-2016 CODE REQUIRED?

Yes  No (Includes VT, PT, 10% RT, LT, MTR)

## PROVIDE DESIGN CONDITIONS:

Injector Design Temp: \_\_\_\_\_ (°F or °C)  
 Injector Design Pressure: \_\_\_\_\_ (PSIG or BARG)  
 Vessel Design Temp: \_\_\_\_\_ (°F or °C)  
 Vessel Design Pressure: \_\_\_\_\_ (PSIG or BARG)  
 Corrosion Allowance: \_\_\_\_\_ (in. or mm)

## OPTIONAL NON-DESTRUCTIVE EXAMINATIONS:

100% Radiographic Examination (RT)  PMI  
 Certified Material Test Reports (CMTRs)  NACE MR0175  
 MR0103



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North Avenue and Schmale Road, P.O. Box 7900, Wheaton, IL 60187-7901 USA

Tel: 1.800.95.SPRAY Intl. Tel: 1.630.665.5000  
 Fax: 1.888.95.SPRAY Intl. Fax: 1.630.260.0842  
 www.spray.com



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168 อาคาร Axiom 1 น. 7 ถ. ทิพนนท์ อ. บางพลีใหญ่  
 อ. บางพลี จ. สมุทรปราการ 10540



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✉ pawin@pawin.co.th

🌐 www.pawin.co.th

