

# ZMBE Injector

## Junction Mounting, Positive Displacement Injector, Oil

### General

ZMBE Injectors deliver a fixed pre-measured quantity of lubricant at the outlet connection during each discharge cycle. ZMBE Injectors are available in seven discharge rates and are supplied in two body sizes. System distribution connections utilizing Bijur Delimon standard junctions and fittings for various tube diameters can be used with these units.

### Application

ZMBE Injectors can only be used in cyclic operation oil systems and feed in one direction only. ZMBE Injectors are designed for mounting single or double outlet junctions (see *Datasheet #35469: Junctions, Junction Bars and Junction Headers*).

### System Requirements

The lubricating pump in a PDI oil system must build up line pressure to 200 psi (14 bar) minimum to actuate injector discharge. Recommended operating pressure is 300 psi (21 bar). A pressure relief device must be used in the system to permit pressure to drop quickly to approximately 5-10 psi (0.3-0.7 bar) between lubrication cycles to allow injectors to fully reset, ready for next lubrication cycle.

### Technical Data

Oil Viscosity	150-6000 SSU (20-1500 cSt) at operating temperature
Mounting	Mounted in junction
Discharge	Preset (non-adjustable) in seven various rates
Maximum Operating Pressure	500 psi (34 bar)
Minimum Operating Pressure	200 psi (14 bar)
Maximum Relieving Pressure	10 psi (0.7 bar)
Maximum Operating Temperature	100°F (38°C)
Seals	Nitrile (Buna N)
Leaktight Junction Connection	4.5 Newton-Meter (40 pound inch maximum)
Body Material	Commercial brass

### Typical Tubing Connections

Injector inlet male configuration is suitable for establishing oil-tight connections in Bijur Delimon junctions (see *Datasheet #35469: Junctions, Junction Bars and Junction Headers*). To close junction outlet use closure plug, part #15322.

### Secondary Line Outlets

4mm (5/32") tubing connections at ZMBE outlet utilize: compression sleeve, 4mm #B1061 (for metal tubing); part #B8272 (for nylon tubing) and compression bushing, part #B1371 or B3783.



For larger tubing diameter connections, consult Bijur Delimon.

#### BIJUR DELIMON INTERNATIONAL

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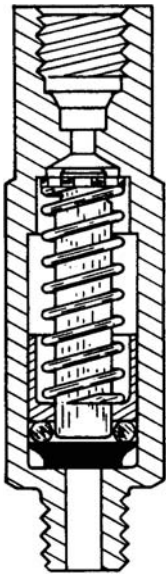
## Operation

Operation of the ZMBE is achieved during a pressurizing and relief cycle operation. Constant delivery output is assured, regardless of system discharge pressure or operating temperature.

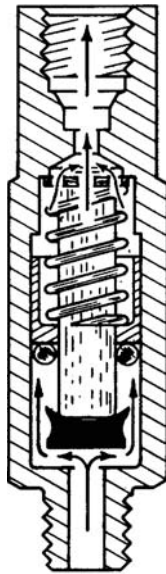
*Illustrations and specifications are not binding in detail.*

*Designs are subject to modification and improvement without notice.*

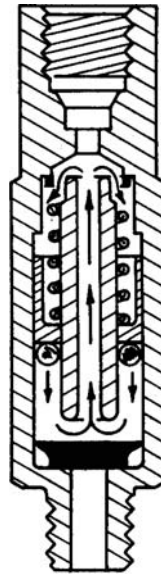
### Rest Position



### Discharge Cycle



### Return Cycle



### Rest Position

1. No system pressure.
2. Oil from previous cycle fills spring chamber.
3. Disc seal covers inlet.

### Discharge Cycle

1. System pressure builds up and forces oil into inlet.
2. Disc "collapses," oil is forced into inlet chamber around disc seal.
3. Disc transfers seal to hollow piston rod.
4. Disc and piston assembly (piston, spring and hollow transfer tube) are compressed.
5. Oil in outlet chamber is displaced "positively" to the lube point by the advancing pin.
6. Piston assembly continues travel towards outlet until piston reaches shoulder of outlet chamber.

### Return Cycle (Refill)

1. Pump stops as cycle ends to remove system pressure.
2. Disc seal relaxes and seals injector inlet as piston is forced downward by spring.
3. Piston forces oil in intake chamber up through hollow transfer tube into spring chamber.
4. Injector is ready for

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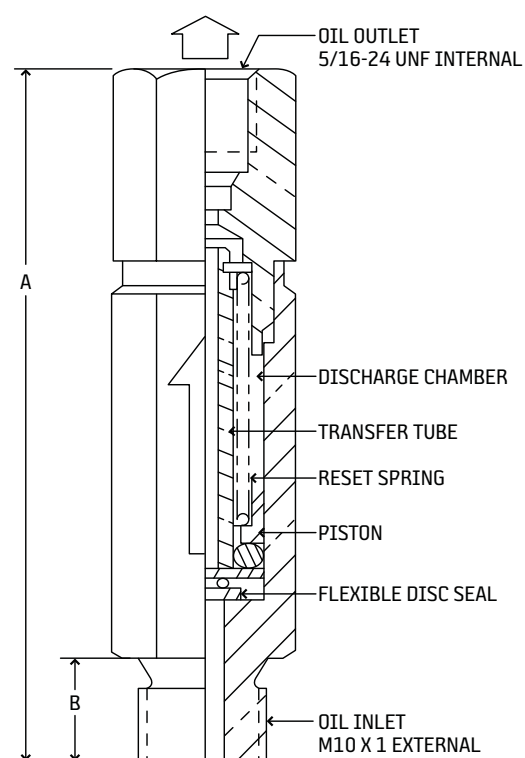
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## How to Order

Model	Discharge	Part #
ZMBE-01	0.01cc	18301-01
ZMBE-025	0.025cc	18301-025
ZMBE-06	0.06cc	18301-06
ZMBE-10	0.10cc	18301-10
ZMBE-20	0.20cc	18301-20
ZMBE-30	0.30cc	18301-30
ZMBE-40	0.40cc	18301-40

When ordering, specify by model, discharge and part number, e.g. ZMBE-10 Injector, 0.10cc Discharge, Part #18301-10.

## Dimensional Schematics



Model	A	B	Hex Width (across flats)
ZMBE-01	41mm (1.60")	8mm (0.31")	12mm (0.47")
ZMBE-025	41mm (1.60")	8mm (0.31")	12mm (0.47")
ZMBE-06	41mm (1.60")	8mm (0.31")	12mm (0.47")
ZMBE-10	46mm (1.81")	8mm (0.31")	12mm (0.47")
ZMBE-20	51mm (2.01")	8mm (0.31")	12mm (0.47")
ZMBE-30	56mm (2.20")	8mm (0.31")	12mm (0.47")
ZMBE-40	56mm (2.20")	8mm (0.31")	12mm (0.47")

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