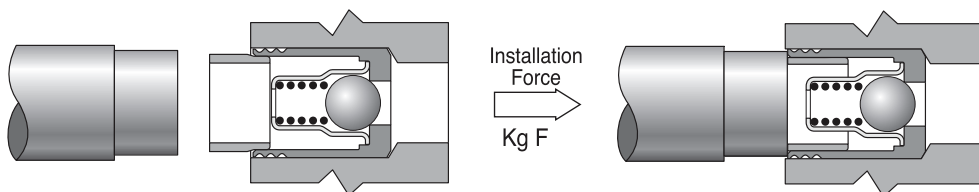


The first section of the Handbook contains products intended for installation into metals (Section Two products are to be installed into plastic). The inserts are designed using the insert principle, which uses a pin to expand a grooved section of the insert's body into the housing wall to effect a seal and retain the component. The pin, which has been pre-installed, is driven into the body. Using friction and penetration, the lands bite into the housing material.



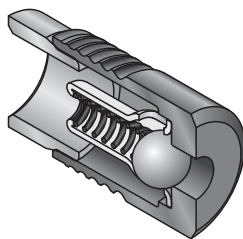
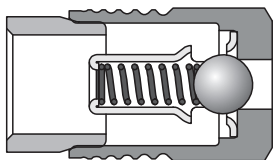
The insert principle eliminates the need for threads and o-rings. Simply insert the component into a drilled hole and drive the expander pin flush to within 0.25mm (0.010") above flush of the insert. The installation tool can bottom on the insert body. Lee Installation Tools are available for each product and part numbers are listed on each page.

Since inserts can only be installed in one direction, most come in forward and reverse flow versions to provide design flexibility.

## REVERSE FLOW VALVE

DIRECTION OF  
INSTALLATION  
→

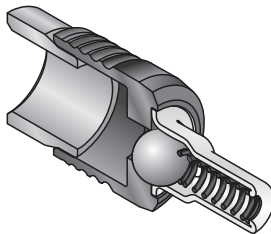
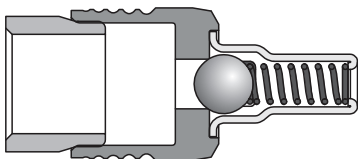
←  
REVERSE FLOW  
DIRECTION



## FORWARD FLOW VALVE

DIRECTION OF  
INSTALLATION  
→

←  
FORWARD FLOW  
DIRECTION



Installation forces required to install inserts vary for different model parts and are listed on each page. The force specification may be a maximum or a range.