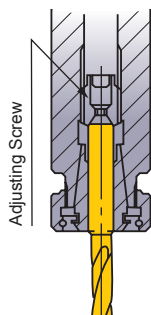


**MPS1**  
Double margin type

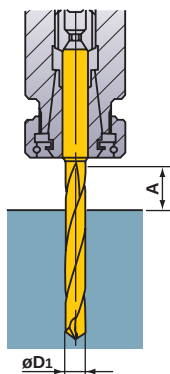
## ■ OPERATIONAL GUIDANCE

## Drill Holding



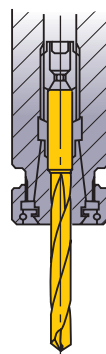
Thrust bearing type collet chuck holds the drill securely.

## Drill Length



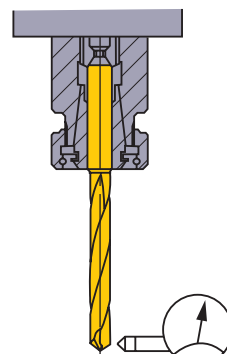
$$A \geq D1 \times 1.5$$

## Drill Installation



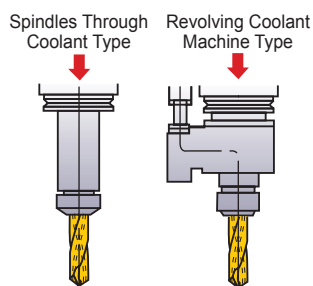
Do not clamp on the flutes.

## Installation Tolerance



Run-out  $\leq 0.03\text{mm}$

## Through Coolant Type

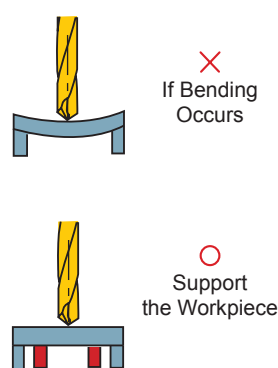


Coolant pressure is approx. 0.5—1MPa ( $< \phi 5: 2\text{—}3\text{MPa}$ ).  
Coolant volume is 1.5—4.0/min.

## Coolant Handling

- 1) Small particles of swarf will jam in the oil hole of small diameter drills. Always use a fine mesh filter as a preventative measure.
- 2) Dirt and dust particles adhere to the oil in old coolant and prevent an efficient flow. Regular coolant exchange is recommended.

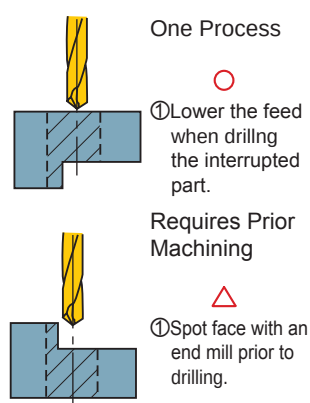
## Thin Workpiece



If Bending Occurs

Support the Workpiece

## Interrupted Cutting



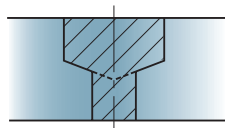
One Process

① Lower the feed when drilling the interrupted part.

Requires Prior Machining

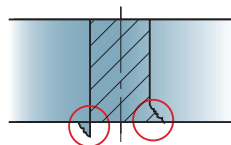
① Spot face with an end mill prior to drilling.

## Stepped Holes



- ① Divide the two processes.
  - ② Drill the larger hole first.
- \*A tool for machining both chamfer and spot face can be produced to order.

## Burring and Workpiece Chipping



- ① Lower the feed rate by 50% at the end of through cutting.
- ② Add a 45° chamfer.
- ③ Change the point angle.