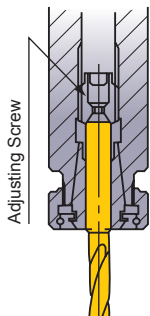
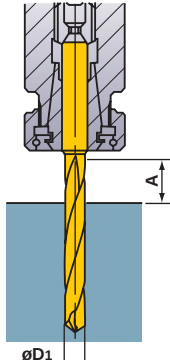
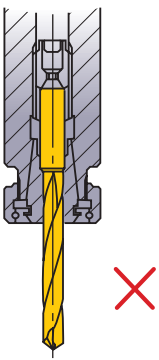
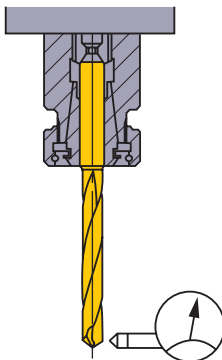
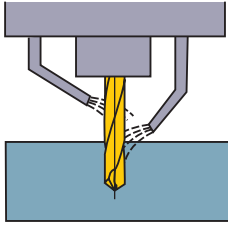
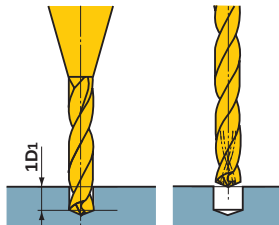
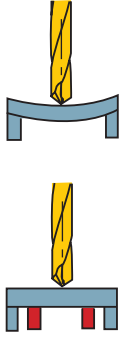
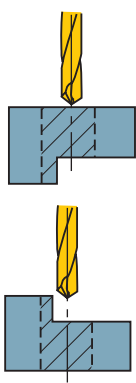
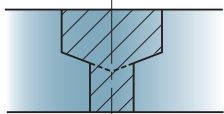
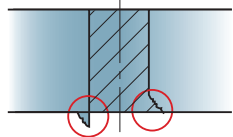


## OPERATIONAL GUIDANCE

|                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                    |                                                                                                                                                                                                                                                                                   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Drill Holding</b></p>  <p>Thrust bearing type collet chuck holds the drill securely.</p>                                                                                    | <p><b>Drill Length</b></p>  <p><math>A \geq D_1 \times 1.5</math></p>                                                                                                                                                                                                                       | <p><b>Drill Installation</b></p>  <p>Do not clamp on the flutes.</p>             | <p><b>Installation Tolerance</b></p>  <p>Run-out <math>\leq 0.03\text{mm}</math></p>                                                                                                           |
| <p><b>Coolant Method</b></p>  <p>Two coolant positions, at the end and at the center are ideal.</p>                                                                              | <p><b>Drill Installation</b></p>  <p>①When machining a prepared hole with the stub type drill please set the depth to 1D (D=drill diameter).<br/>②Use the prepared hole as a guide when using a drill with an oil hole. Depending on the cutting conditions, peck feed is recommended.</p> | <p><b>Thin Workpiece</b></p>  <p>If Bending Occurs<br/>Support the Workpiece</p> | <p><b>Interrupted Cutting</b></p>  <p>One Process<br/>①Lower the feed when drilling the interrupted part.<br/>Requires Prior Machining<br/>①Spot face with an end mill prior to drilling.</p> |
| <p><b>Stepped Holes</b></p>  <p>①Divide the two processes.<br/>②Drill the larger hole first.<br/>*A tool for machining both chamfer and spot face can be produced to order.</p> | <p><b>Burring and Workpiece Chipping</b></p>  <p>①Lower the feed rate by 50% at the end of through cutting.<br/>②Add a 45° chamfer.<br/>③Change the point angle.</p>                                                                                                                      |                                                                                                                                                                    |                                                                                                                                                                                                                                                                                   |