

# Waterjet Cutting Performance Optimization Full Process by APW WATERJET

**Start**  
Cutting performance abnormality Efficiency / Accuracy / Quality / Stability

## Step 1: Three Inspections

Equipment & Consumables  
Nozzle | Focusing Tube | Pressure  
| Abrasive | Water Quality

Machining Parameters  
Feed Rate | Stand-off Distance | Tilt  
Angle | Number of Passes

Workpiece Material  
Hardness | Homogeneity | Coatin  
g | Thickness Tolerance

Inspection Summary  
Inspection Completed, Optimization Direction Confirmed

## Step 2: Five Single-Variable Tests

Test Preparation: Lock All Baseline Parameters

### Test List

Test 1: Pressure Gradient Test Improve Basic Cutting Capability

Test 2: Feed Rate Test Balance Efficiency & Cutting Quality

Test 3: Abrasive Matching Test Optimize Roughness / Edge Chipping

Test 4: Stand-off Distance Test Improve Kerf Taper / Jet Divergence

Test 5: Tilt Angle + Multi-Pass High-Precision Sidewall Correction

Test Summary

## Step 3: Comprehensive Quantitative Inspection

Macro Performance  
Depth / Taper / Kerf Width / MRR

Micro Quality  
Roughness / Waviness / Surface De  
fects

Batch Stability  
10-Piece Continuous Consistenc  
y

Inspection Result

Pass

Fail

## Step 4: Process Parameter Documentation

Save to Enterprise Parameter Library, Form Mass Production SOP

**End**

Standardized Stable Production