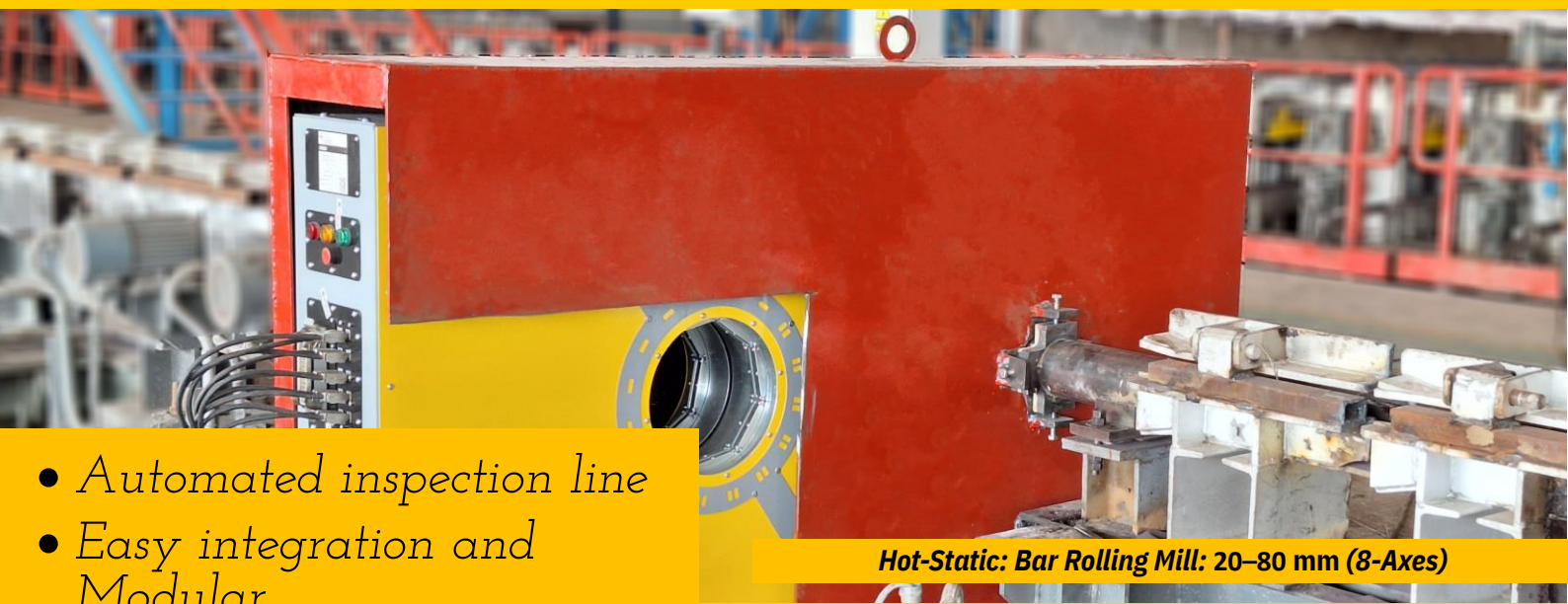




Hot-Static: Wire/Rod Rolling Mill: 5 – 40 mm (4-Axes)



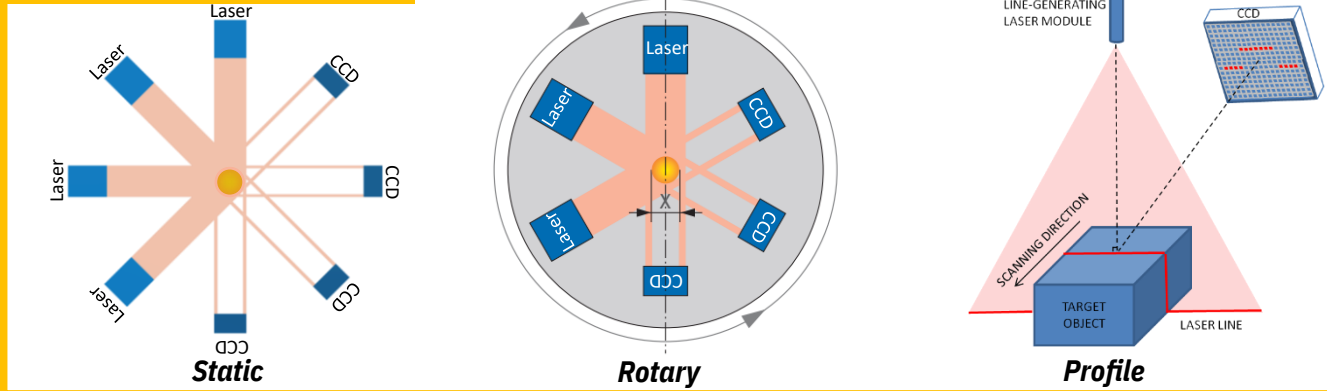
Hot-Static: Bar Rolling Mill: 20–80 mm (8-Axes)

- Automated inspection line
- Easy integration and Modular
- Sharing data with MES
- Reporting
- Versatile application
- High-speed operation
- Data-driven quality control

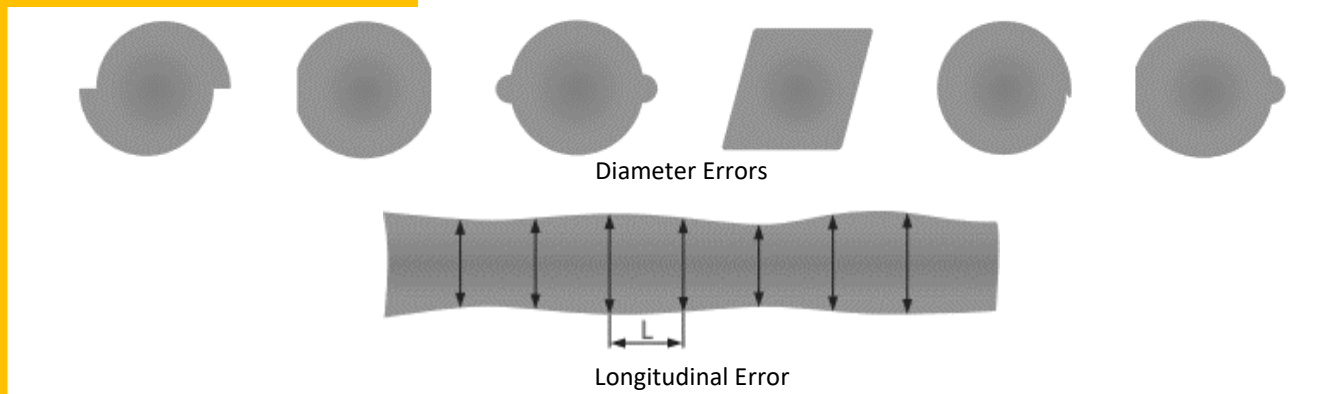
Noncontact Dimension Solutions
*Precision Without Limits – Empowering
Quality in Every Roll*

In the demanding environment of rolling processes, ensuring dimensional accuracy is a persistent challenge for manufacturers producing high-quality wire, rods, tubes, and profiles. Variations in roller performance, material behavior under extreme temperatures, or mechanical wear can introduce defects like Ovality, Inconsistent Diameters, Roll Cross, Under Fill, Over Fill, and Over Lap, compromising product conformity, downstream processes, and equipment longevity. EddyWise addresses these challenges with a comprehensive range of Industry 4.0-ready, non-contact dimensional measurement solutions—Hot-Static, Cold-Static, Hot-Rotary, Cold-Rotary, Hot-Profile, and Cold-Profile—delivering precision, reliability, and real-time insights.

Solutions Principle



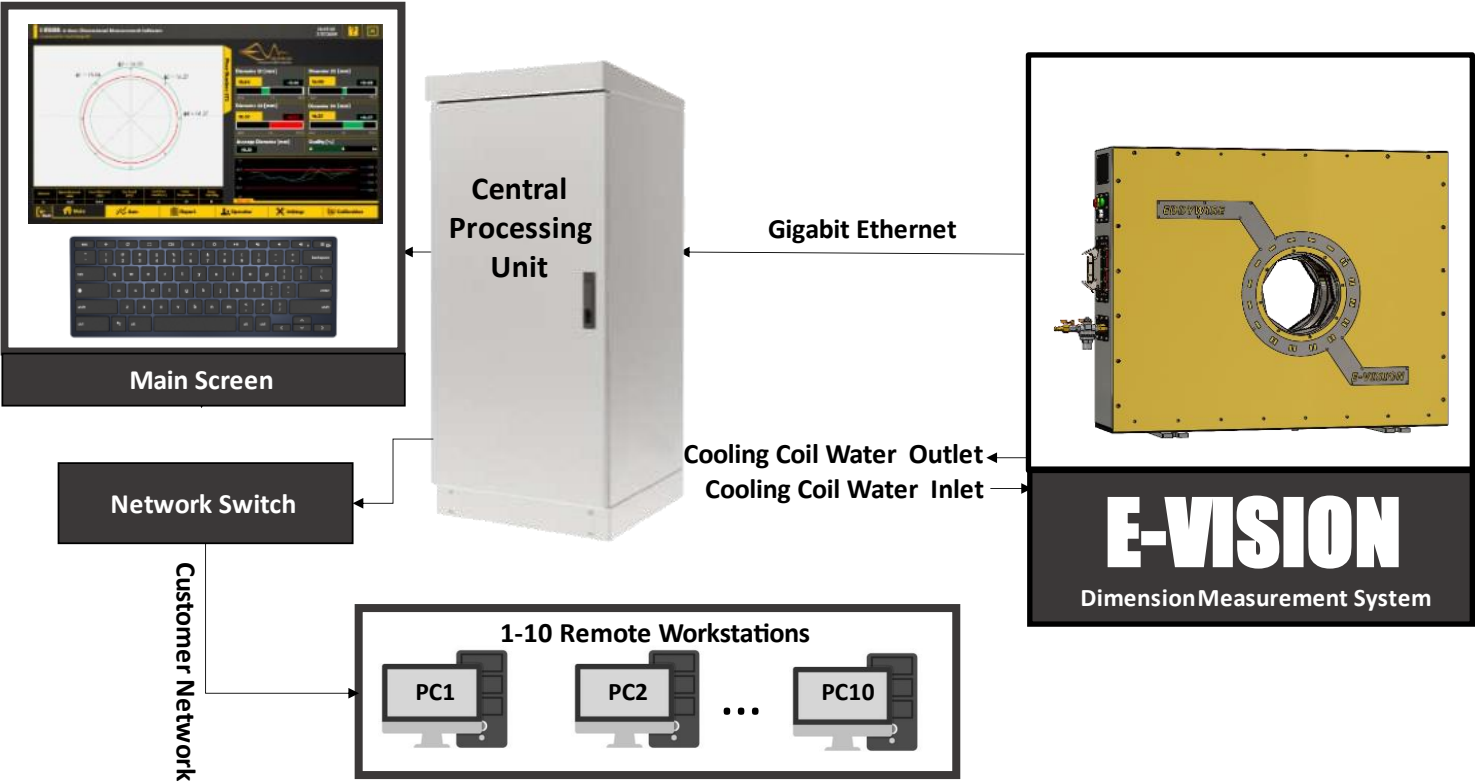
Solutions Principle



- **General Key Features**
 - Robust and durable design
 - Protection: IP64-rated for dust and water resistance, built for industrial durability.
 - Maximum precision thanks to the laser scan method
 - Withstand harsh industrial conditions
 - Adjustable Table: Enables online/offline operation, easy mounting, and adjustment.
 - Diagnostic Sensor: Monitors device functionality for consistent performance.
 - Low Maintenance: Cost-effective with minimal repair needs.
 - MES Integration & Remote Access: Industry 4.0-ready connectivity streams real-time data to MES for predictive maintenance and proactive quality adjustments, with secure remote access from any location.
 - Alerts: Alerts for threshold exceedance to maintain quality standards through network or logic outputs.
 - Data-Driven Dashboards: Visualize key performance indicators (KPIs) and production trends in real time for data-driven decision-making
- **Software Features**
 - Real-Time Monitoring: Provides instant display of measurements and profiles, tailored to each system's capabilities (e.g., 4 or 8 diameters for Hot-Static with one or two devices, 1 to 8 diameters for Cold-Static in one device, continuous diameter for rotary, cross-section for profile).
 - Ovality Analysis: Quantifies and visualizes ovality for immediate feedback (available for Static solutions only).
 - Profile Approximation: Approximates circular profiles using multi-axis data, enabling roundness visualization (Profile solutions only).
 - Data logging Reporting: Records time-based logs, convertible to location data using production speed, with comprehensive inspection and summary reports exportable in multiple formats (e.g., txt, CSV, PDF) for quality control and process optimization.
 - Calibration Management: Stores settings for various product configurations, ensuring flexibility across production runs.
 - Acceptance Ranges: Customizable thresholds for key parameters, with automated quality alerts.
 - User-Friendly Interface: Fully automated with multi-level access control for secure, efficient operation.
 - Statistical Process Control (SPC): stores detailed statistical data calculated for various production periods (Piece, Lot, SPC). Users can retrieve and visualize past production data, facilitating quality control and process optimization
 - Open Platform Communication (OPC): processors support the OPC UA communication protocol, a standard in process control areas like SCADA or HMI. This ensures seamless integration with other systems and facilitates efficient data exchange.

System Parts

This system utilizes advanced non-contact dimensional measurement technology to provide real-time monitoring, improving production efficiency and product quality. The E-Vision device, using laser scan technology, measures dimensions without physical contact, while the central processing unit (CPU) processes the data for seamless management. Through a network switch, remote access allows operators to monitor measurements from any location. Aligned with Industry 4.0, it integrates with Manufacturing Execution Systems (MES), enabling remote access, predictive maintenance, and data-driven decisions. MES integration ensures proactive adjustments, improving performance, reducing errors, and boosting productivity.



EddyLine II – Rack Features

USL, Diameter, LSL

Health Condition



Industry 4.0 - Connected Inspection System



MES Integration:

Stream real-time data to MES for predictive maintenance, proactive quality adjustments, and improved overall equipment effectiveness.



Remote Access:

Securely access and control the system from any location with internet connectivity.



Data Storage:

Utilize robust data storage solutions to ensure data security, facilitate centralized management, and enable efficient data access and retrieval.



Data-driven Dashboards:

Visualize key performance indicators (KPIs), identify root causes of defects, and optimize production processes based on real-time and historical data.



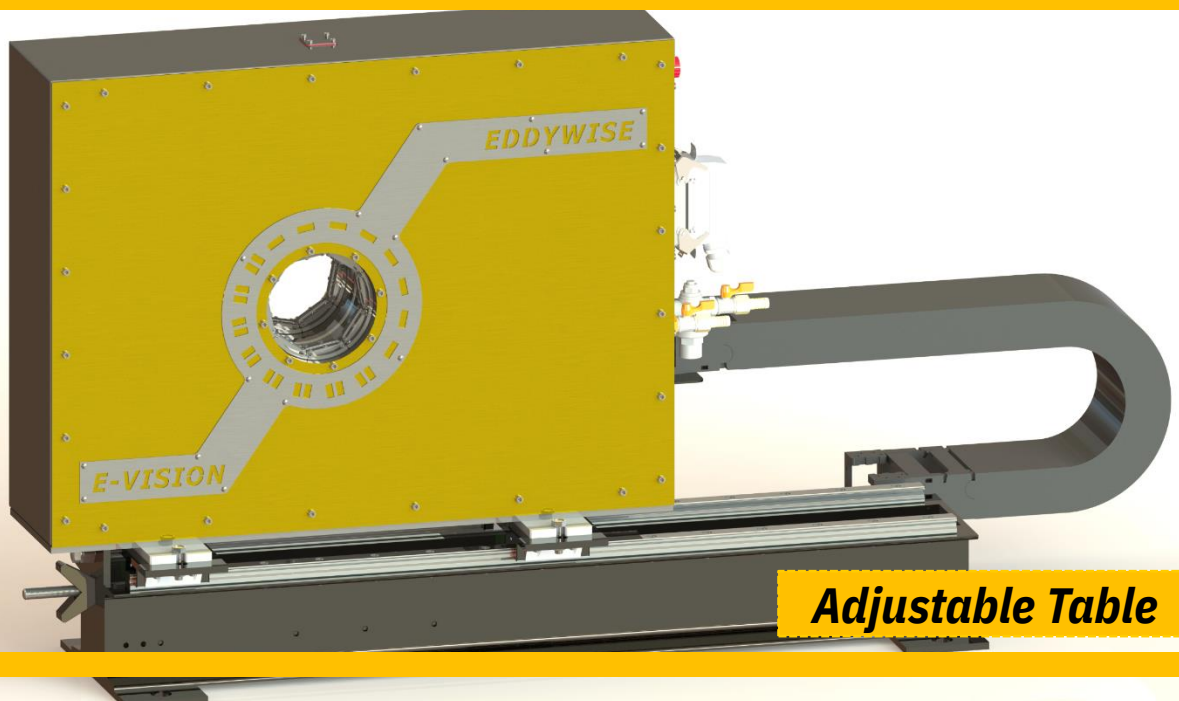
Open API:

Integrate seamlessly with smart sensors, robotics, and other Industry 4.0 technologies through an open API.



Predictive Maintenance:

Leverage data analytics to predict potential equipment failures, allowing for proactive maintenance scheduling and minimizing downtime.



Adjustable Table

Hot-Static Solutions

High-Speed Control for Hot Rolling

Engineered for hot-static applications, the Hot-Static system delivers high-speed, non-contact measurement—up to 1000 samples per second—using advanced laser profilometry for unmatched precision in harsh industrial environments. Available in two models, DM-HSX-050 (5–40 mm) and DM-HSX-100 (20–80 mm), it ensures reliable quality control across a wide range of hot wire and Bar diameters with cutting-edge optics and a high temperature-resistant with water-cooled design.

Monitors ovality and approximates roundness through cross-section profiles in real time, with X=4 axes per device or up to X=8 axes using two parallel devices or in one device, enhancing process reliability and material savings.



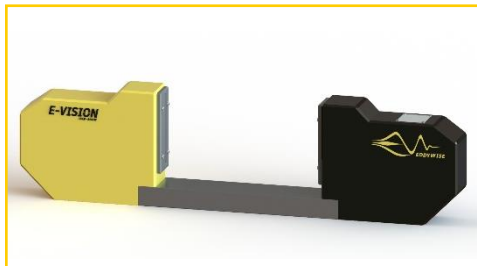
8 Axes: DM-HS8-100

Cold Static Solutions

Precision for Cold Rolling

The Cold-Static system is designed for cold-static applications and provides high-speed measurement, capable of up to 1000 samples per second. Its compact and durable design is resistant to dirt, making it ideal for cold rolling environments. Two models are available: the DM-CS8-050 (5–40 mm) and the DM-CS8-100 (20–80 mm).

This system ensures precise quality control across various wire and rod diameters, requiring minimal operator effort. It monitors diameter and ovality and approximates roundness by analyzing cross-section profiles in real time. Additionally, the system can be configured with 1 to 8 axes in a single device, based on customer requirements



1 Axes: DM-CS1-100



8-Axes: DM-CS8-050



Rotary Solutions

Engineered for precision in both hot and cold rolling applications, the EddyWise E-VISION-R Rotary system leverages slow-speed rotary laser scanning to ensure accurate dimensional monitoring across diverse production environments. With dual-axis rotation and a full 360-degree scan around the workpiece, this solution minimizes blind spots while assessing cross-sectional dimensions. Wireless connectivity enhances operational efficiency, enabling seamless integration with production systems for comprehensive quality control of round profiles with minimal operator involvement. The system is tailored into two specialized configurations: Hot-Rotary and Cold-Rotary.

Hot-Rotary

Designed specifically for hot rolling conditions, the Hot-Rotary variant features a robust, water-cooled construction to withstand extreme temperatures. It delivers precise dimensional measurements, scanning continuously around the workpiece to ensure thorough monitoring. This configuration is optimized for challenging environments, providing reliable performance and consistent quality control with minimal operator input.

Cold-Rotary

Tailored for cold rolling processes, the Cold-Rotary variant offers a durable, no-cooling-needed design that maintains accuracy without additional thermal management. It performs detailed scans to measure cross-sectional dimensions, ensuring high-quality output for round profiles. With its wireless transmission capabilities, this solution supports efficient and dependable quality control, requiring little operator effort.



4 Axes: DM-HR8-050

Profile Solutions

Designed for precision profiling in both hot and cold rolling applications, the EddyWise Profile system utilizes high-speed laser triangulation—up to 1000 samples per second—with 4 to 8 integrated sensors arranged in an octagonal layout. This configuration delivers accurate in-line measurement of complex profiles, capturing full cross-sections of round and non-round shapes with exceptional precision. Wireless connectivity supports real-time monitoring of dimensional attributes such as ovality and diameters, ensuring comprehensive quality control with minimal operator intervention. The system is offered in two specialized variants: Hot-Profile and Cold-Profile, tailored to their respective rolling environments.

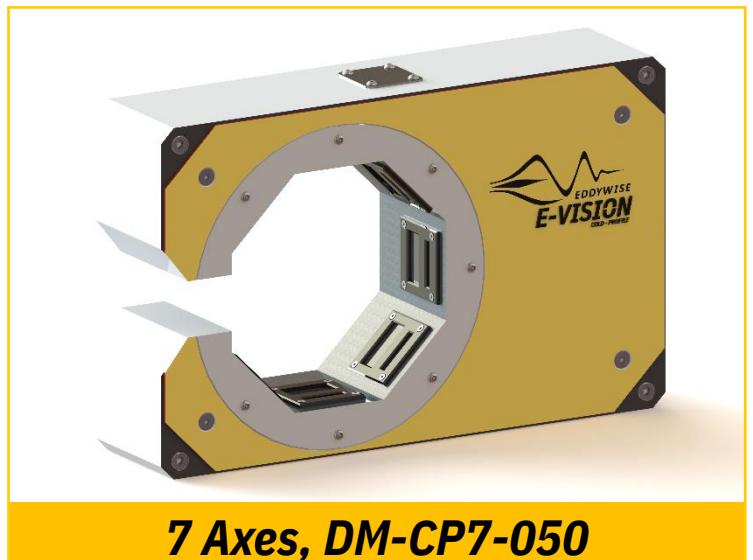
Hot-Profile Application

Engineered for hot rolling conditions up to 1200°C, the Hot-Profile variant features a robust, water-cooled design to maintain reliability in extreme temperatures. It provides precise dimensional measurements of complex profiles, scanning full cross-sections of both round and non-round shapes in real time.

This solution enhances process stability and product consistency, delivering accurate data for quality control with minimal operator effort in demanding hot mill environments.

Cold-Profile Application

Crafted for cold rolling precision, the Cold-Profile variant features a streamlined, no-cooling-required design optimized for efficiency. Equipped with up to 8 CMOS sensors in an octagonal array, it measures full cross-section profiles of round and non-round shapes with high accuracy. Supporting real-time dimensional analysis, such as roundness and polygonality for round products, this system ensures data-driven quality assurance under challenging cold mill conditions, requiring minimal operator involvement for seamless production control.



7 Axes, DM-CP7-050

Comparison

Solutions	Process	Speed up to	Detectable Parameters	Number of Axes	Profile Support	Cooling	Rolling Adjustment	Application
Hot-Static	Hot	High (1000/s)	Ovality, Diameter	4 or 8	Round	Water-Cooled	Yes	Hot rolling of steel wire and rods
Cold-Static	Cold	High (1000/s)	Ovality, Diameter	Up to 8	Round	-	No	Cold rolling of steel wire and rods
Hot-Rotary	Hot	Slow	Roll Cross, Under Fill, Over Fill, Over Lap	Up to 4	Round	Water-Cooled	Yes	Hot rolling of steel bars and tubes
Cold-Rotary	Cold	Slow	Roll Cross, Under Fill, Over Fill, Over Lap	Up to 4	Round	-	No	Cold rolling of steel bars and tubes
Hot-Profile	Hot	High (1000/s)	Ovality, Diameter, Roll Cross, Under Fill, Over Fill, Over Lap	Up to 8	Round + Profile	Water-Cooled	Yes	Hot rolling of steel profiles and rebar
Profile	Cold	High (1000/s)	Ovality, Diameter, Roll Cross, Under Fill, Over Fill, Over Lap	Up to 8	Round + Profile	-	No	Cold rolling of steel profiles and rebar

Smart Testing Sections – Automating the Entire QC Process

- ✓ **Multi-Axis Non-Contact Dimension Solutions**
- ✓ **Grade Sorting Solutions**
- ✓ **Crack Detection Solutions**
- ✓ **Integration with MES & Industry 4.0**
- ✓ **Predictive Maintenance & Remote Monitoring**

For more Information, Contact EDDYWISE NDT



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