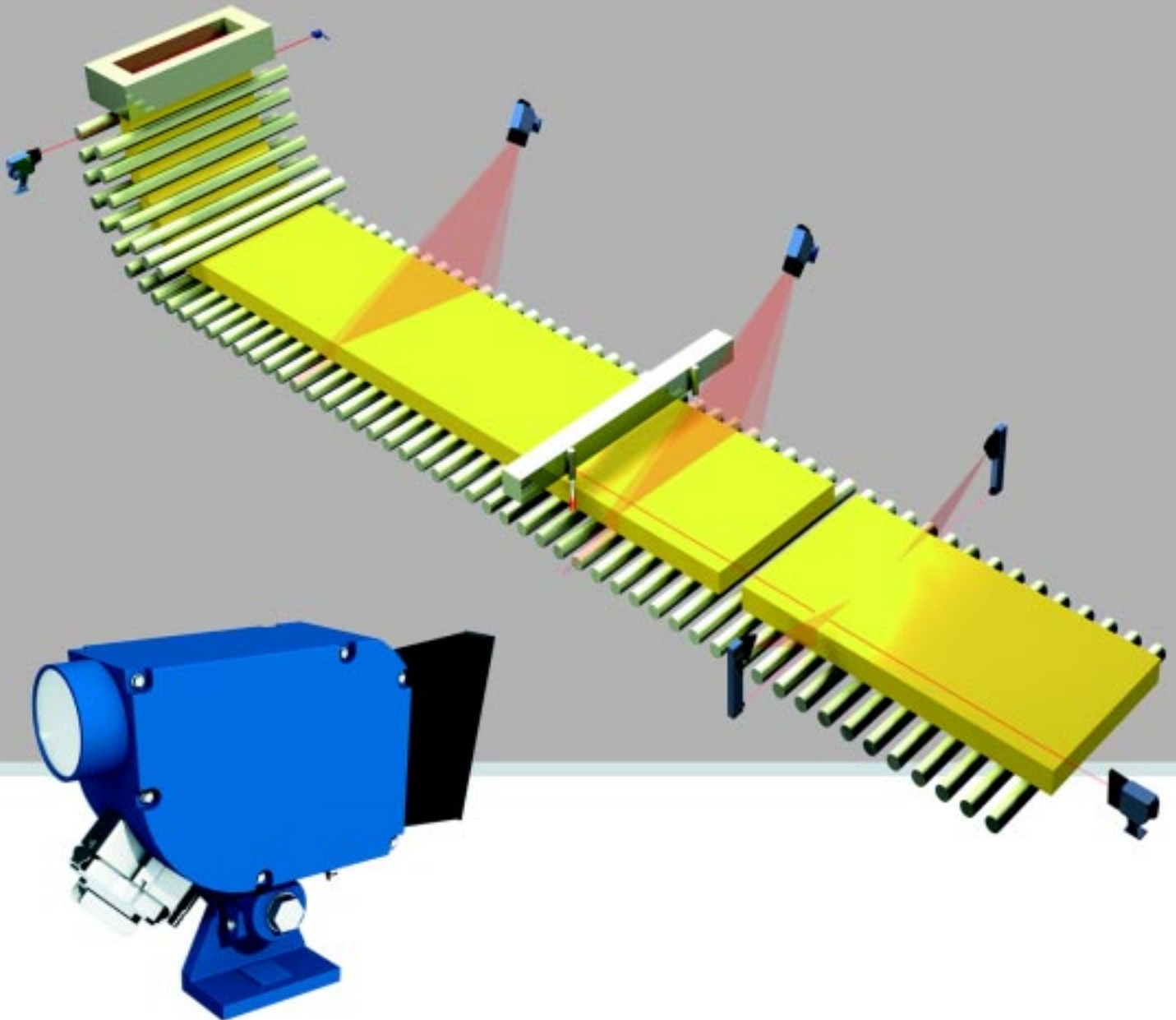


# Measurement and Sensor Specialists for Metal Producers



**LOGIKA**  
Technologies

Address: 2857 Sherwood Heights Dr. Unit 2, Oakville, ON, Canada. L6J 7J9

Toll free: 1-8888-LOGIKA

## WHY CHOOSE LOGIKA ?

**VALUE:** Logika's state of the art sensor technologies are the ideal alternative to more complicated and expensive mill sensors and systems, reducing initial costs and ongoing maintenance expenses. Additionally the sensors are simple to install.

**RUGGED:** Logika's sensors with rugged mill duty housings that feature air purge and water cooling jackets are perfectly suited for the harshest industrial environments including excessive heat, water vapor and steam, dust and scale.

**RELIABILITY:** Logika's advanced sensor technology provides continuous, accurate and reliable position and dimensional measurements of process targets to greatly reduce manufacturing waste and increase yield and mill throughput. Designed for years of trouble free operation.

**SIMPLICITY OF OPERATION:** Logika's sensors are installed using our simple 3-axis mounting bracket as well as our complete wiring harness. Our intuitive operator interface reduces installation time, commissioning and maintenance costs. The sensor targeting mechanism remains in place during sensor removal, maintenance and replacement.

## LOGIKA SENSOR FAMILIES

### HOT METAL DETECTORS

- Advanced infrared detection technology.
- Uses a superior PbS infrared detector.
- High signal-to-noise ratio.
- Low temperature detection threshold.
- Precise wavelength discrimination.
- Scanning mode includes detection across user selected scanning angle.
- Automatic Gain Control eliminates the need for operator intervention as the target's temperature changes.

### LOOP SCANNERS

- Do not require optical adjustments.
- Scans the entire area to detect the location of a loop of bar or wire rod.
- Excellent for detecting location of various ferrous and non-ferrous metals.
- Used for accurate loop control, centering of hot steel, speed control and other applications where the location of rolled metals changes.

### OPTICAL BARRIERS

- Used to detect the presence of hot and cold product in various harsh environments, e.g. slab in reheat furnaces.
- Applied in reheat furnaces to withstand extremely high temperatures.

### LASER METERS AND SYSTEMS

- Logika Laser Meters adapt to high or low temperature targets.
- Target can be moving or still and up to 100m from laser meter.
- Logika can combine several laser meters and other sensors to create a system to detect width/length/diameter/positioning and location.
  - Length Gauge
  - Width Gauge
  - Thickness Gauge
  - Coil diameter and loop control
  - Reheat furnace position detection system

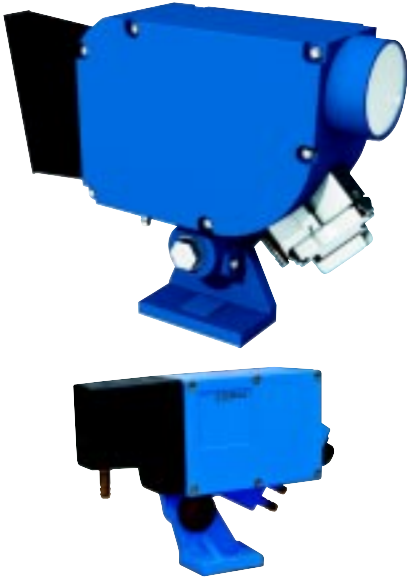
### TWO-COLOR PYROMETERS

- Available in fixed and portable models.
- Low maintenance, extended life due to rugged design.
- Special optics provide high accuracy.
- Available with fiber-optics ensuring electronics enclosure operates safely away from extreme heat.

### FURNACE CAMERA SYSTEM

- Gives the operator a greater window into the furnace environment. Allows the operator to see and correct problems within the furnace. The complete system includes pan/tilt lens and camera, auto-withdraw system, air filtration system for air purging and water cooling. Industrial and turnkey site service available.

## Hot Metal Detector HMD Series



### Applications:

Hot metal position detection  
Slab/billet/bar/profiles line/wire/rod  
Cut-to-length during Rolling

### Specifications:

Power input: 24 VDC, 110VAC, 220VAC, 50-60Hz  
Output: PNP 0/24VDC or 24/0VDC response<1ms  
Relay open/close response<7.5ms

Detecting range: 0.2-8 m (7.87" - 26.3')  
Target temperature range: 250-1400°C (480-2550°F)

**Features:** Sensitivity adjustment, IP66 mill-duty enclosures with cooling jacket and air purging, self test, aiming laser.

## Loop Scanner LS Series



### Applications:

Loop monitoring and control of bar/wire/strip  
Centering of hot steel, bar tension control

### Specifications:

Power input: 24 VDC, 110VAC, 220VAC, 50-60Hz  
Output: 0-10V/4-20mA  
Target temperature range: 250-1400°C (480-2550°F)

**Features:** High accuracy, automatic gain control, IP66 mill-duty enclosures with water cooling jacket and air purging, self test, aiming laser

## Optical Barrier OB Series



### Applications:

Cold and hot metal position detection  
Tracking of materials or products on transfer lines or in-furnace

### Specifications:

Power input: 24 VDC, 110VAC, 220VAC, 50-60Hz  
Output: PNP 0/24VDC or 24/0VDC, response <2ms;  
Relay open/close response<20ms

**Features:** Infrared/visible laser models, laser positioning, optic fiber cable, IP66 mill-duty enclosures with cooling jacket and air purging.

## Laser Meter LM Series

**Applications:**

Distance/length measurement, crane/ladle position/track, slab width gauge, cut-to-length, coil diameter measurement.

**Specifications:**

Measuring range: 0.2-100m (7.8"-328')

Accuracy:  $\pm 2$ mm

Power input: 24VDC, 110VAC, 220VAC, 50-60Hz

**Output:** Digital, analog and relay outputs

**Features:** IP66 mill-duty enclosures with water cooling and air purging, aiming laser.

## Two-Color Pyrometer PM Series

**Applications:**

Temperature measurement during casting and rolling

**Specifications:**

Measuring range: 600-1600°C (1100-2900°F)

Accuracy:  $\pm 0.3\%$  full scale

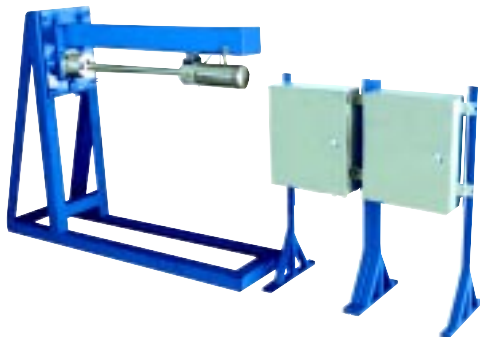
Output: digital and analog output, and LED readout  
programmable high and low alarm outputs

Sampling rate: 20ms

Option: fiber optics, fixed or handheld, LED display.

**Features:** IP65 mill-duty enclosures with water cooling jacket and air purging, aiming laser, adjustable integration rate.

## High Temperature Furnace Camera System FCS Series

**Applications:**

Monitoring inside of blast, reheat and melting furnaces.

**Features:**

The complete system includes pan/tilt lens and camera, auto-withdraw device, air filtration system for air purging, water cooling, industrial color monitor and turnkey on-site service.

### Contact Logika Technologies Inc.

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## Sensor Reference Number, Model and Description

### Continuous Casting

1	OB-VR	Emitter-Reflector model Optical Barrier	Dummy bar detection
2,3	HMD-SM	Scan Mode Hot Metal Detector	Hot work target position detection
4	TLM-HP	Triangulation Laser Sensor	Slab width measurement
5	LM-SD	Laser Distance Meter	Cut-to-length

### Furnace Entrance

6	OB-ITF	Laser Optical Barrier	Slab entry position detection
7	TLM-HP	Triangulation Laser Sensor	Slab width measurement
8	OB-VR	Emitter-Reflector model Optical Barrier	Anti-collision protection
9	OB-VR	Emitter-Reflector model Optical Barrier	Slab position detection
10	OB-VR	Emitter-Reflector model Optical Barrier	Anti-collision protection
11	LM-SD	Laser Distance Meter	Slab length measurement
12	OB-ITPF	Large Power Optical Barrier	Slab furnace entry detection

### Furnace Exit

13	OB-ITPF	Large Power Optical Barrier	Furnace exit slab detection
14,15	HMD-SM	Scan Mode Hot Metal Detector	Hot slab detection
16	FCS	Furnace Camera System	In-furnace hot slab observation
17	PM-616	Two-color Pyrometer	Furnace exit slab temperature measurement
18	HMD-SM	Scan Mode Hot Metal Detector	Hot slab position detection before descaler

### Slab Rolling

19,21	HMD-SM	Scan Mode Hot Metal Detector	Hot slab on roller table detection
20,22	PM-616	Two-color Pyrometer	Hot slab temperature measurement during rolling

### Steel strip coiling

23,25, 26,27	OB-ITMF	Large Power Optical Barrier	Steel sheet position detection
24	HMD-SM	Scan Mode Hot Metal Detector	Steel sheet position detection

### Billet continuous casting

28, 29,30	HMD-FOC	Optical Fiber HMD	Continuous casting billet detection in high-temperature environment .
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### Billet reheat furnace

31	LM-SD	Laser Distance Meter	Billet length detection before furnace
32	FCS	Furnace Camera System	In-furnace steel billet observation
33	OB-VR	Emitter-Reflector Optical Barrier	Billet position detection before furnace door
34,35,36	LM-SD	Laser Distance Meter	Reheat furnace steel position detection
37	HMD-SM	Scan Mode Hot Metal Detector	Furnace exit billet position detection
38	PM-616	Two-color Pyrometer	Furnace exit billet temperature measurement

### Bar/wire/special steel Rolling

39,41, 42,47	HMD-SM	Scan Mode Hot Metal Detector	Billet position detection
40, 43,46	PM-616	Two-color Pyrometer	Billet temperature measurement
44	LS	Scan Mode Loop Scanner	Vertical loop location
45	LS	Scan Mode Loop Scanner	Horizontal loop location

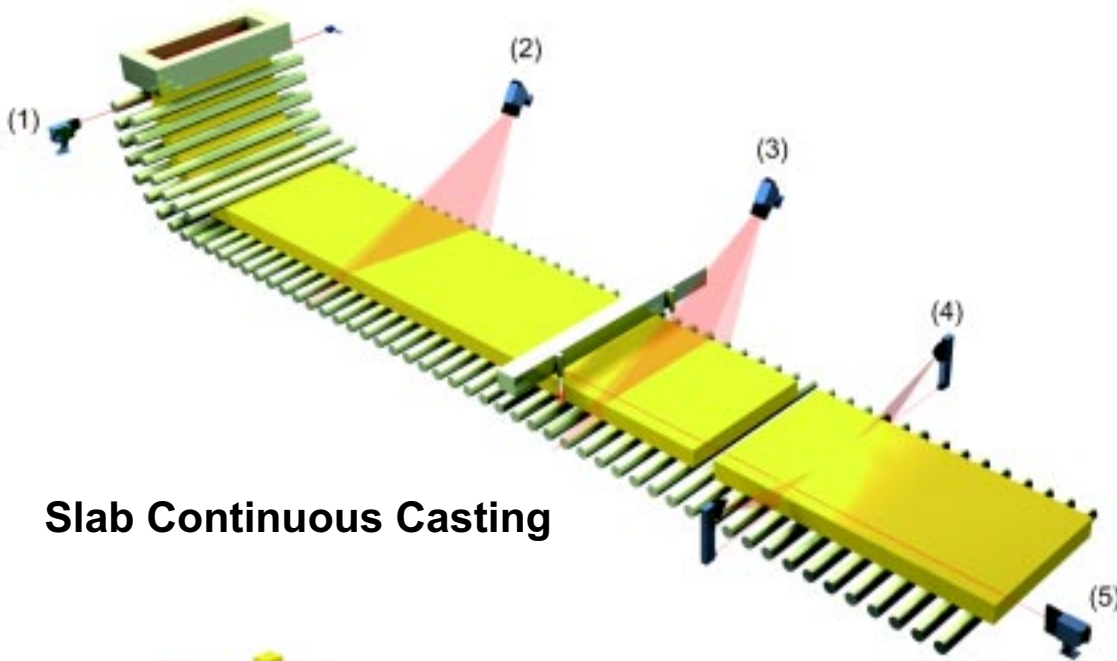
### Cold Rolling

48	WHD	Weld Hole Detector	Single/double weld hole detection
49	LM-SD	Laser Distance Meter	Coil diameter measurement

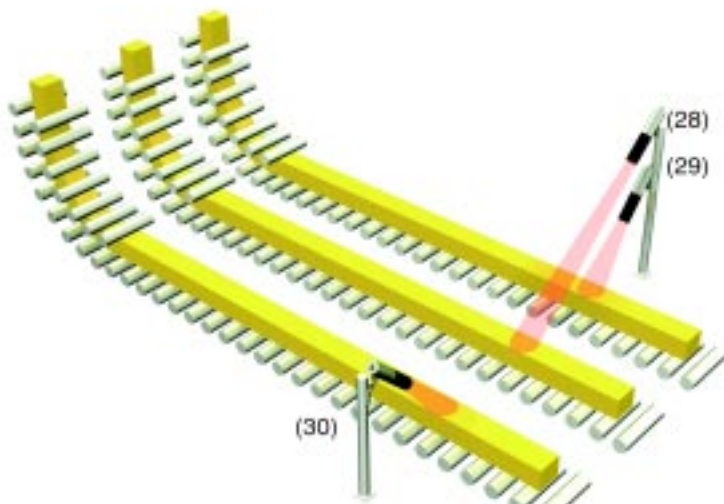
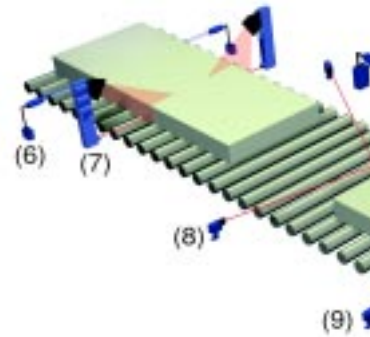
### Annealing Furnace

50	OB-VR	Optical Barrier	Slab position detection
51,52,53	OB-AS	Optical Barrier	In-furnace slab detection
54	OB-VR	Optical Barrier	Slab position detection
55	PM-616	Two-color Pyrometer	Slab temperature measurement

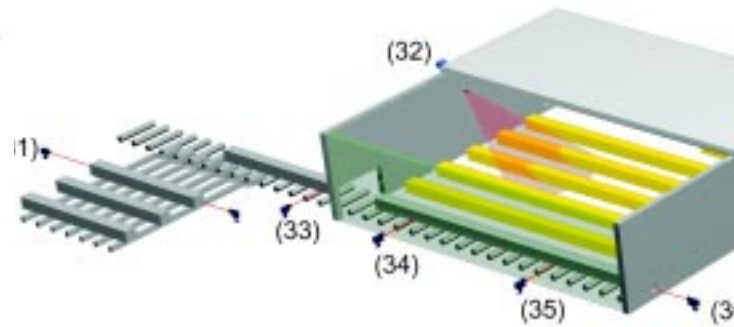
Please see sensor reference numbers



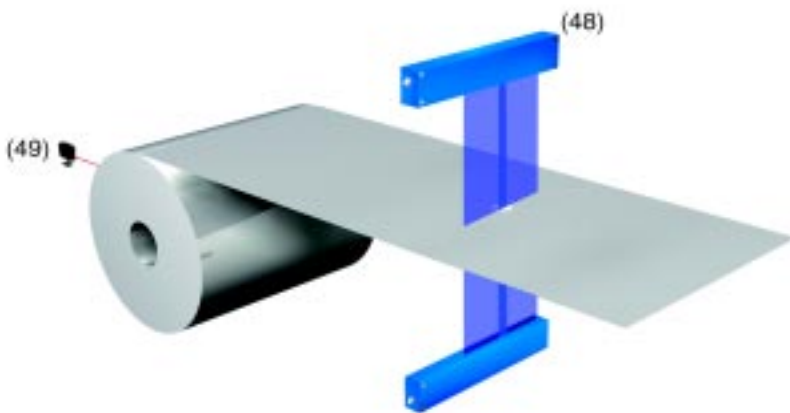
**Slab Continuous Casting**



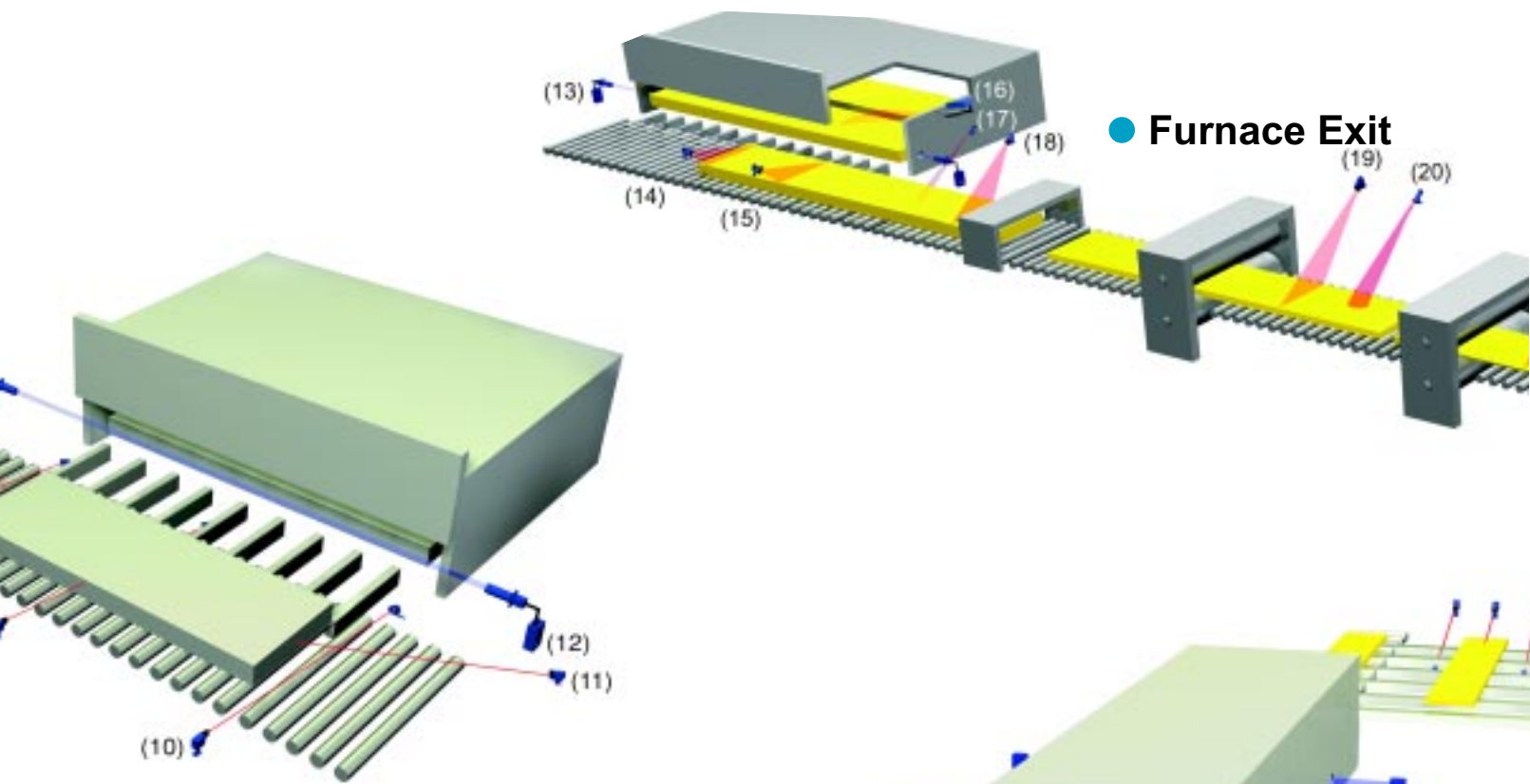
**Billet Continuous Casting**



● **Billet Reheat Furnace**

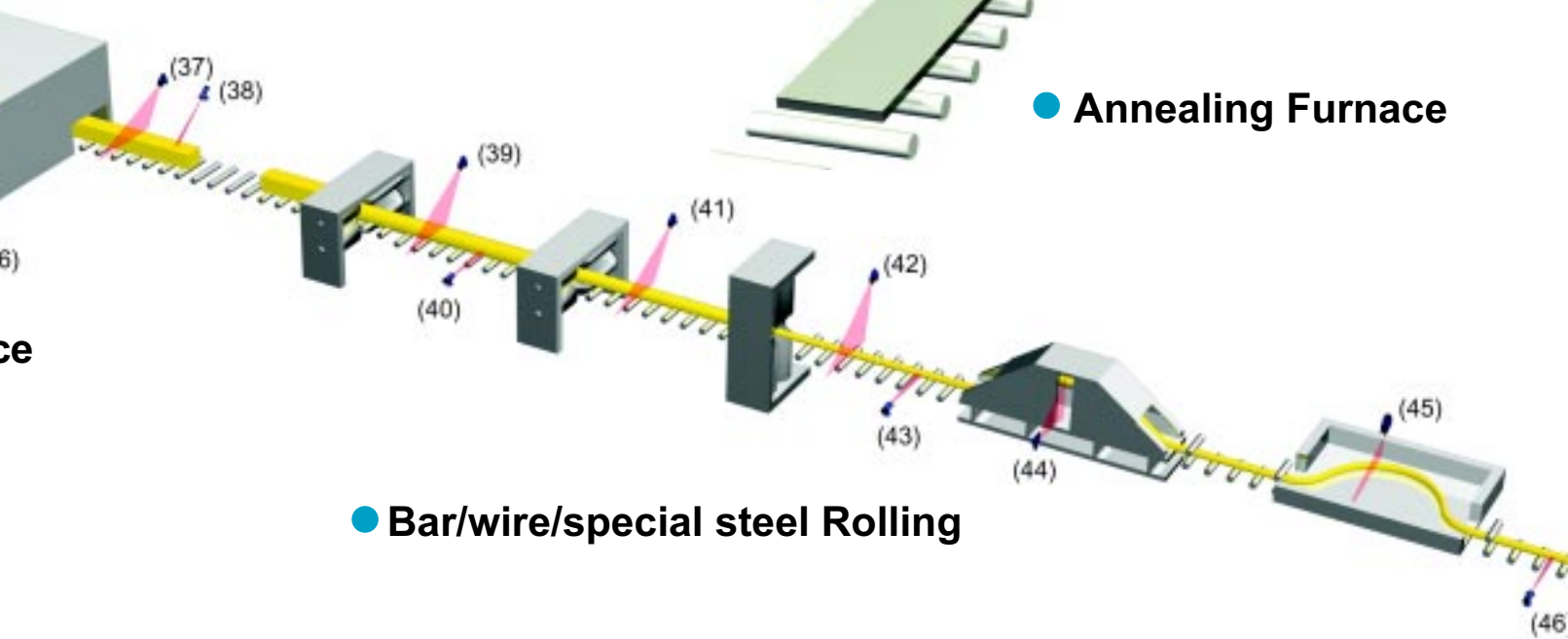


● **Cold Rolling**



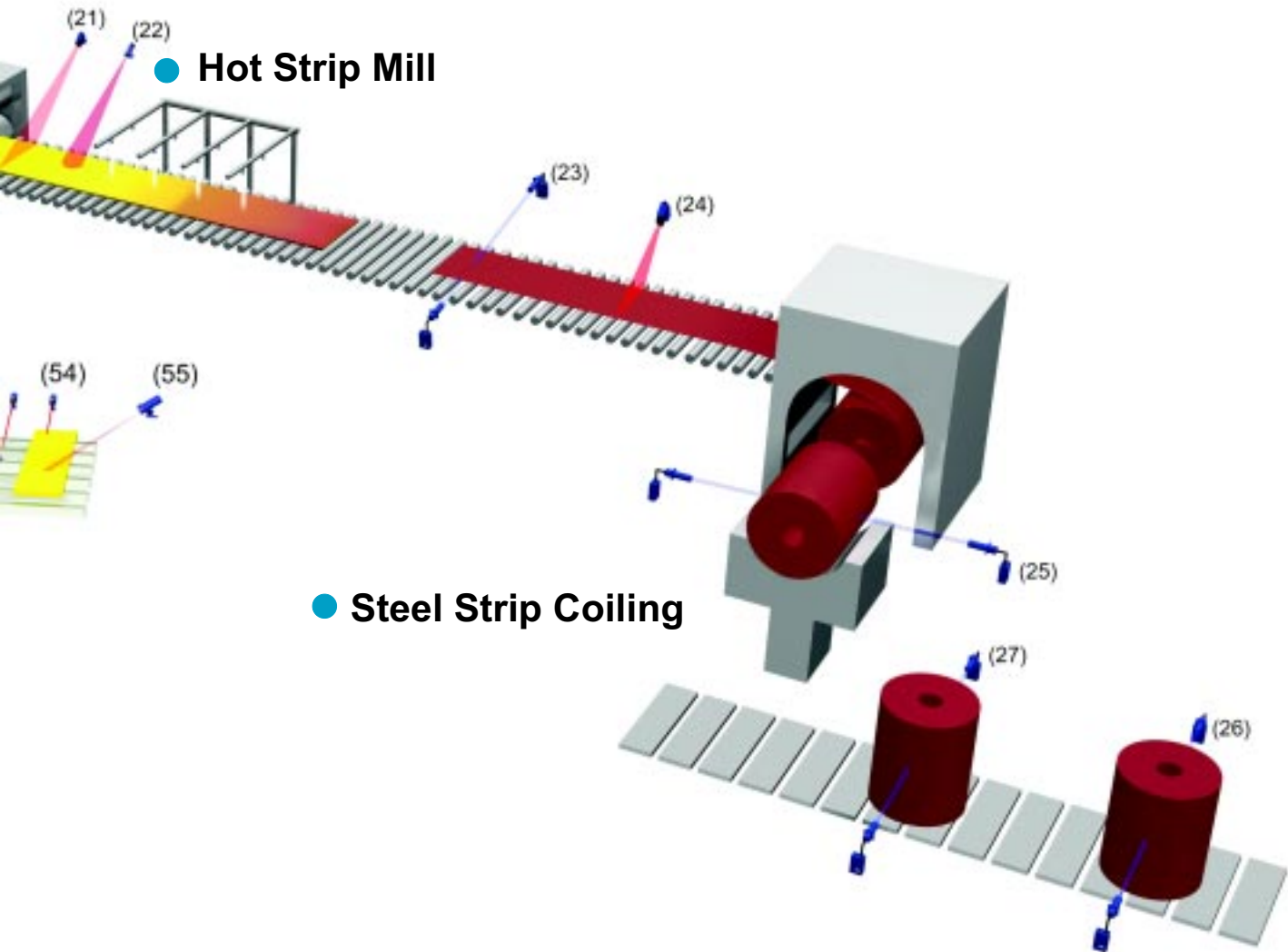
● Reheat Furnace Entrance

● Furnace Exit



● Annealing Furnace

● Bar/wire/special steel Rolling



● **Hot Strip Mill**

● **Steel Strip Coiling**

- ◆ **Width and Length Gauge**
- ◆ **Furnace Door and Furnace Camera System**
- ◆ **Temperature Measurement**
- ◆ **Loop Control**
- ◆ **Weld Hole Detection**

