

# Diamond Power® SmeltCam® AT IV

## Advanced Technology Infrared Camera for Recovery Boilers

The Diamond Power® SmeltCam® AT IV solid-state infrared camera system from Babcock & Wilcox (B&W) produces 640 x 480 line resolution to deliver powerful images of the smelt bed, superheater area or the liquor guns. Our state-of-the-art camera system provides a wide field-of-view, allowing greater bed coverage with fewer cameras, which can lead to improved monitoring and reduced capital costs.

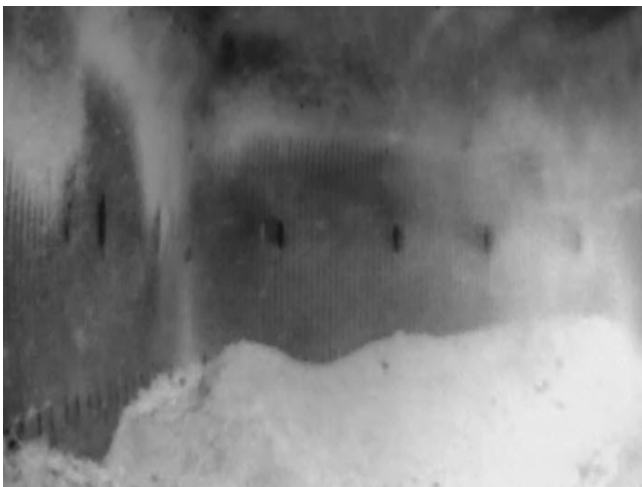
### Benefits

#### Improved bed monitoring

In addition to the large coverage area, the SmeltCam AT IV infrared camera system uses an optimum wavelength to penetrate fume for better, more accurate monitoring of the recovery bed. Using the superior images delivered by the SmeltCam AT IV system, you can identify potential problems, control the bed and optimize lower furnace operation quickly and easily.

#### Reduced operating and maintenance costs over conventional older style lens tube camera systems

The SmeltCam AT IV infrared camera system reduces maintenance hours as compared to conventional older style lens tube camera systems. The redesigned optical probe has encased optics that are keyed for correct position internal to probes and has no loose components which could fall out and break during cleaning. There are minimal parts to handle, and each optical probe is environmentally sealed for maximum protection and shock resistance.



View of the lower furnace of a recovery boiler from the Diamond Power SmeltCam AT IV camera system.



*B&W's Diamond Power SmeltCam AT IV camera system is completely solid state. The system can include an optional pneumatic or electric retraction device to protect the camera against high temperatures in the event of low cooling air pressure.*

### System Contents

The SmeltCam AT IV infrared camera system includes a solid-state infrared camera, a monitor, an air system for cooling the camera assembly and optical probe, an optional pneumatic or electric retract and control unit.

### Features

- Retract system option protects the air-cooled camera assembly from air system failure
- 103° diagonal field-of-view
- 1.5 in. (3.81 cm) outer optical probe diameter
- Easily retrofits to existing SmeltCam AT III camera systems
- Color options to further improve monitoring capabilities
- Produces 640 x 480 line resolution
- Dual-walled constructed housing
- Uses air cooling
- Networking capabilities available
- Improved front objective lens and outer stainless steel shroud nozzle for better air flow and reduced buildup

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## Specifications

Air requirements	Camera housing assembly	30 to 80 psi (207 to 551 kPa) @ 20 scfm (0.009 m <sup>3</sup> /s) max.; instrument or filtered plant air
	Optical probe	15 to 20 psi (103 to 138 kPa) @ 38 to 43 scfm (0.017 to 0.020 m <sup>3</sup> /s); based on instrument or filtered plant air at 90 to 100F (32.2 to 37.8C) ambient
Air connections	Filtered air system	0.5 in. (1.27 cm) NPT pipe
Camera assembly	Available lengths	24 in. (60.9 cm), 36 in. (91.4 cm), 48 in. (121.9 cm) or 60 in. (152.4 cm)
	Optical probe outer diameter	1.5 in. (3.81 cm) material 316L SS
	Weight (including lens tube)	24 in. (60.96 cm) unit: 23.5 lb (10.6 kg) 36 in. (91.44 cm) unit: 26 lb (11.8 kg) 48 in. (121.9 cm) unit: 28.5 lb (12.9 kg) 60 in. (152.4 cm) unit: 31 lb (14.0 kg)
Retract control unit	Material	NEMA-rated enclosure. Weight: 12 lb (5.4 kg)
Operating temperatures	Camera assembly ambient	200F (93.3C)
	Maximum internal furnace temperature	3000F (1648C)
Electric retract assembly	Activated by low-pressure switch on air supply.	
	Weight	Approx. 85 lb (38.6 kg)
Power requirements	Camera housing	95 to 130 Vac, 47 to 63 Hz, 0.5A max. 240 Vac, 47 to 63 Hz, with stepdown transformer
	Electric retract	102 to 130 Vac, 50/60 Hz

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