

SHICO.

PORTABLE FURNACE CLINKER MONITORING SYSTEM

MODEL : SHP2000 PT Series



■ INTRODUCTION

SH2000-PT can be used in the condition of extremely high temperature inside furnace. It is possible to be installed and operated manually to observe the ignition condition and upper part of wall. Because sensor is installed at the end of lens tube, warning function of BUZZER sound is performed when internal temperature of furnace exceeds beyond the limit. SHP2000 is designed for air hose and cables to be easily detachable, and air cooling systems and image storage devices can be connected, light weight and easily portable.

■ SPECIFICATIONS

1) FURNACE CCTV CAMERA ASSEMBLY

- CAMERA TYPE
1/2" INTERLINE TRANSFER CCD
- POWER SUPPLY
AC 100V~230V. 50Hz / 60Hz
DC 24V, DC 125V
- SYSTEM
NTSC / PAL
- COOLING TYPE
DOUBLE AIR COOLING SYSTEM
- MINIMUM LIGHT OF ILLUMINATION
0.1 LUX 0.4 MEGA PIXEL

- AUTO IRIS / MANUAL CONTROL FUNCTION
- MAXIMUM USABLE TEMPERATURE
MAX. TEMP. 2000°C
- LENS MOUNT
FIXED FOCUS LENS

2) TRUNK ASSEMBLY

- POWER SUPPLY
AC 110V~240V, 50 Hz / 60 Hz
- TEMPERATURE OF USE
-20°C~60°C
- MONITOR
LCD COLOR MONITOR(7", 9", 10.2", 14")
PAL / NTSC

3) COOLING AIR UNIT

- SET PRESSURE RANGE
3.5 bar ~ 7 bar
- MAX. OPERATING PRESSURE
10 bar
- NOMINAL FILTRATION RATING
5µm
- TEMPERATURE OF USE
-10°C~60°C
- COMPRESSED AIR UNIT TYPE
F.R COMBINATION



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■ TECHNICAL SPECIFICATIONS AND SPECIAL REQUIREMENTS

The contractor shall supply the whole equipment of the contracted quality or features, which shall meet the below specifications or be equivalent.

No	Item	Specifications	Unit	Qt'y	Remarks
1	Mini Trunk Assembly		set	1	
	- Air Filtration System	F74G-4AN-QD1	ea	1	
		F74H-4AD-AD0	ea	1	
	- Pressure Regulator	R74G-4AK-RMG	ea	1	
	- 9" LCD Color Monitor		ea	1	
	- 5Port Multi Tap		ea	1	
	- Umbilical Cord	3~5m	ea	1	
2	Furnace Camera Assembly		set	1	
	- Furnace Lens	47",90,55-Degree	ea	2	Each
	- Light Volume Control	220V, 50/60Hz, SPDT	ea	1	
	- CCTV Housing Assembly	BNC, 220V, 50/60Hz	ea	1	
	- CCTV Camera	NTSC, 0.35Lux, 60Hz	ea	1	
	- Diagnostic Assembly		ea	1	
3	Video Record 7" LCD SCR		set	1	
	- AC Power Adapter		ea	1	
	- Audio/Visual Connection Cable		ea	1	
	- USB Cable		ea	1	
	- Remote Control		ea	1	
	- CD-ROM USB Drive		ea	1	
4	Accessory		set	1	
	- Air Tube	25m	ea	1	
	- Supply Connection	1/2" NPT	ea	1	



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1) Engineering Requirements

No.	Item	Specifications	Remarks
1	Cooling Type	Air Cooling Only	
2	Max. Temperature	1,900℃	
3	Cooling Air Pressure	40 ~ 50PSI	
4	Air Consumption	40 ~ 55 SCFM	
5	Compressed Air Inlet Size	1/4" NPT	
6	Lens Tube Diameter	1 + 3/8"	

2) CCD Color Camera of Ultra-mini, high quality picture

No.	Item	Specifications	Remarks
1	Standard Type	NTSC / 60Hz	
2	Active Pixels	768 × 492	Unit : Pixels
3	Min. Illumination	0.18Lux, 0.08Lux With Night Sense	
4	Resolution	540 TVL	
5	SNR	> 50dB	
6	Image Processing	15Bit DSP Image Processing	
7	Video Output	1 Vpp, 75Ω, BNC	
8	Shutter Mode	AES : 1/60~1/50,000, Fixed : 1/60~1/10,000	Auto / Manual Mode
9	Synchronization	LL / X-tal Gen, Code	LL : Line-Lock
10	Sensor Size	1/2"	
11	Lens Mount	C/CS	
12	Sensitivity	0.35 Lux	F1.2 Lens
13	Night Sense Mode	0.14 Lux	Reflectance: 89%
14	Power	230VAC, 50/60Hz, 4Watt	12VDC, 24VAC
15	Camera Mount	1/4 inch-20 UNC	
16	Dimensions	122(L) x 67(W) x 59(H)	Unit : mm
17	Operating Temperature	-20℃ ~ +50℃	-4°F ~ +122°F
18	Operating Humidity	20% ~ 93%	Non-condensing
19	Weight	450g	
20	EMC Emission	FCC Class B Part 15, EN55022 Class B.	
21	Controls	OSD With Soft key Operation	

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3) Light Volume Control

- The brightness of image shall be adjusted from outside through Volume Switch switch rear to CCTV Housing Assy'.
 - Power : 220VAC, 50/60Hz
 - Switch Type : Potential Meter (CCTV Housing Assembly)
 - Max. Gain : 0~28

4) Furnace Lens

- Viewing Angle : 55-Degree, 90-Degree
- Length : 47”(1200L)
- Cooling Type : Air Cooling by Vortex Tube

5) CCTV Housing Assembly

- Power : 220VAC, 50/60Hz
- Interface : BNC
- Control Switch : SPDT Momentary Switch
- Air Cooling : 1/4" NPT Pipe Fitting

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6) Air Filtration System

6-1) SHAF-01 (General Purpose Filter)

- Fluid : Compressed air
- Maximum Pressure :
 - Transparent Bowl : 10 bar (150 psig)
 - Metal Bowl : 17 bar (250 psig)
- Operating Temperature
 - Transparent Bowl : -20° ~ 50°C (0° ~ 125°F)
 - Metal Bowl : -20° ~ 80°C (0° ~ 175°F)

※ Air supply must be dry enough to avoid ice formation at temperatures below +2°C(+35°F).

- Particle Removal : 5, 25, or 40µm filter element
- Air Quality : ISO 8573-1, Class 3 & Class 5(Particulates)
- Manual Drain Connection : 1/8 "
- Automatic Drain Connection : 1/8 "
- Nominal Bowl Size : 0.2 liter (7 Fluid Ounce)
- Materials
 - Body : Aluminum
 - Bowl : Transparent Polycarbonate With Steel Bowl Guard Metal
Aluminum
 - Metal Bowl liquid level Indicator lens : Transparent Nylon
 - Element : Sintered Plastic
 - Elastomers : Neoprene and Nitrile

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6-2)SHOF-01 (Oil Removal Filter)

- Fluid : Compressed Air
- Maximum pressure
 - Transparent Bowl : 150 psig (10 bar)
 - Metal Bowl : 250 psig (17 bar)
- Operating Temperature
 - Transparent Bowl : -30° ~ 125°F (-34° ~ 50°C)
 - Metal Bowl : -30° ~ 150°F (-34° ~ 65°C)
- Particle Removal : Down to 0.01µm
- Air Quality
 - ISO 8573-1, Class 1(Particulates) & Class 2(Oil content)
- Manual Drain Connection : 1/8-27 and 1/8-28 pipe thread.
- Automatic Drain Operating Conditions(float operated)
 - Bowl Pressure Required to close Drain : greater than 5 psi(0.3 bar)
 - Bowl Pressure Required to open Drain : less than 3 psi(0.2 bar)
 - Minimum air Flow Required to close Drain : 2 SCFM(1 dm³/s)
 - Manual Operation : depress pin inside drain outlet to drain Bowl
- Nominal Bowl Size : 7 fluid ounce (0.2 liter)
- Materials
 - Body : Aluminum
 - Bowl : Transparent Polycarbonate With Steel Bowl Guard Metal
Aluminum
 - Metal Bowl liquid level Indicator lens : Transparent Nylon
- Service Indicator
 - Body : Transparent Nylon
 - Internal parts : Acetal
 - Spring : Stainless Steel
 - Elastomers : Nitrile



6-3) Pressure Regulator (SHPR-01)

- Fluid : Compressed air
- Maximum Pressure : 300 psig (20bar)
- Operating Temperature : -30°F ~ 175°F (-34°C ~ 80°C)
- Gauge ports
 - 1/4 PTF with PTF main ports
 - Rc1/4 with ISO Rc main ports
 - Rc1/8 with ISO G main ports
- Materials
 - Body : Aluminum
 - Bonnet : Aluminum
 - Valve : Brass
 - Elastomers : Nitrile
 - Bottom plug : Acetal



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7) Video Record

No.	Items	Specifications
1	Recording Media	Digital Video(Mini DV) / Standard(sold separately)
2	Recording Times	SP: up to 1 hour, LP: up to 1.5 hours
3	Video Actual	Up to 530 Horizontal Lines of Resolution
4	Video Recording System	2 Rotary Heads, Helical Scanning System
5	Video Signal System	NTSC Standard
6	Channel Selection	181 MTS
7	Sampling Frequency	13.5 MHz
8	Recording Format	Rotary Heads, 12 and 16 bit PCM System
9	LCD	4"
10	Still Image Mode(s)	JPEG
11	Movie Mode(s)	MPEG
12	Power Consumption	5.0W (LCD on), 3.3W (LCD off)
13	Weight (Approx.)	2 lbs (907g)
14	Dimensions (Approx.)	5 7/8" x 2 5/8" x 5 3/8"(14 x 65 x 133mm)
15	Supplied Software	PIXELA Image Mixer 1.0
16	Power Requirements	7.2V (battery pack); 8.4V (AC Adaptor)
17	S-Video Input/Output	Yes
18	Battery Type	Info Lithium® Battery

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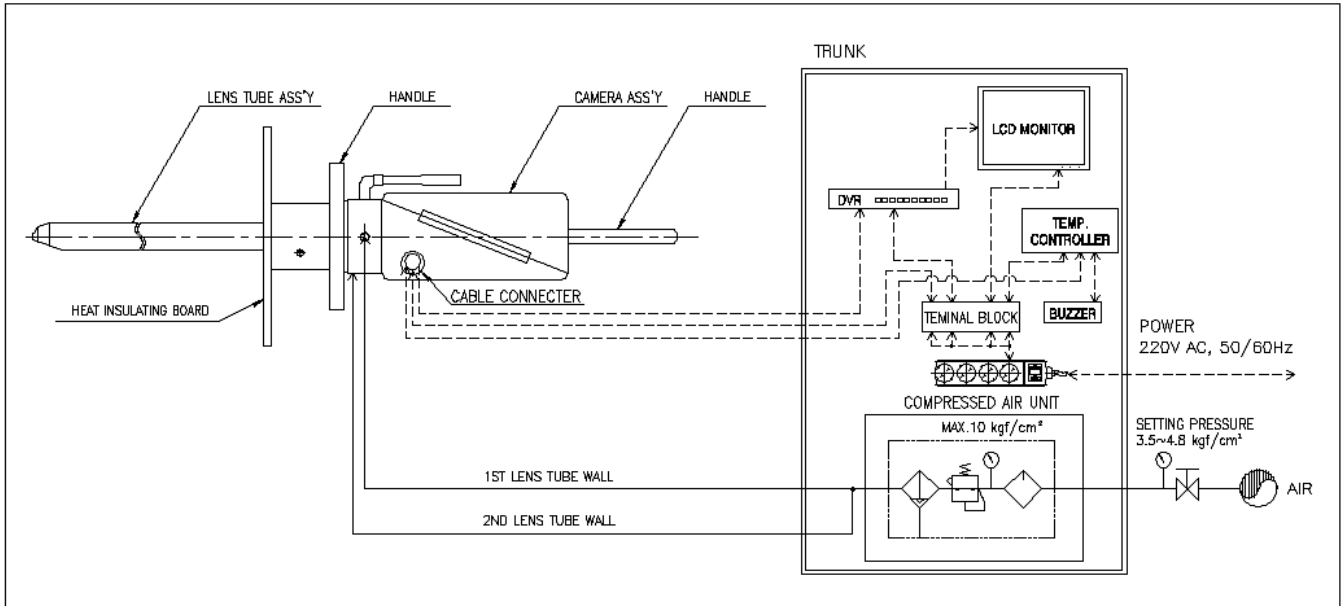
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PORTABLE FURNACE CLINKER MONITORING SYSTEM

■ PORTABLE FURNACE CCTV CAMERA CONFIGURATION



■ SYSTEM COMPOSITION

- FURNACE CCTV CAMERA ASSEMBLY
- HANDLE & HEAT INSULATING BOARD
- COOLING AIR UNIT
- LCD MONITOR
- DVR
- TEMPERATURE SENSOR & CONTROLLER
- BUZZER

■ PART NUMBER

CODE	VIEWING TYPE
ST1	STRAIGHT VIEWING Diagonal : 70°, Horizontal : 54°, Vertical : 45°
ST2	STRAIGHT VIEWING Diagonal : 90°, Horizontal : 70°, Vertical : 58°
ST3	STRAIGHT VIEWING Diagonal : 110°, Horizontal : 85°, Vertical : 70°
ST4	STRAIGHT VIEWING etc
DW1	DOWN VIEWING 70° ELBOWED TYPE
DW2	DOWN VIEWING 55° ELBOWED TYPE

CODE	PROBE LENS LENGTH
1	500mm
2	600mm
3	700mm
4	800mm
5	900mm
6	1000mm
7	1100mm
8	etc

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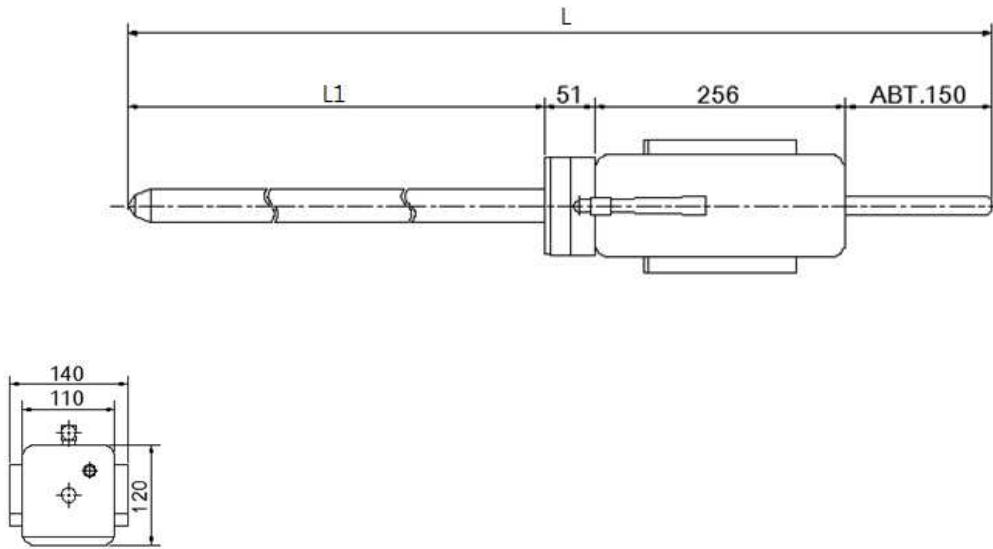
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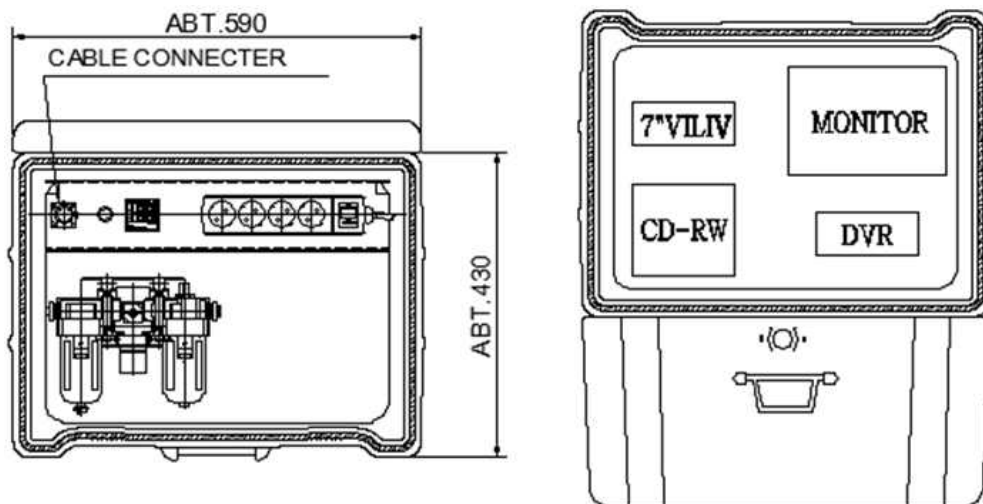
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■ DIMENSION

■ LENS TUBE



■ TRUNK



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