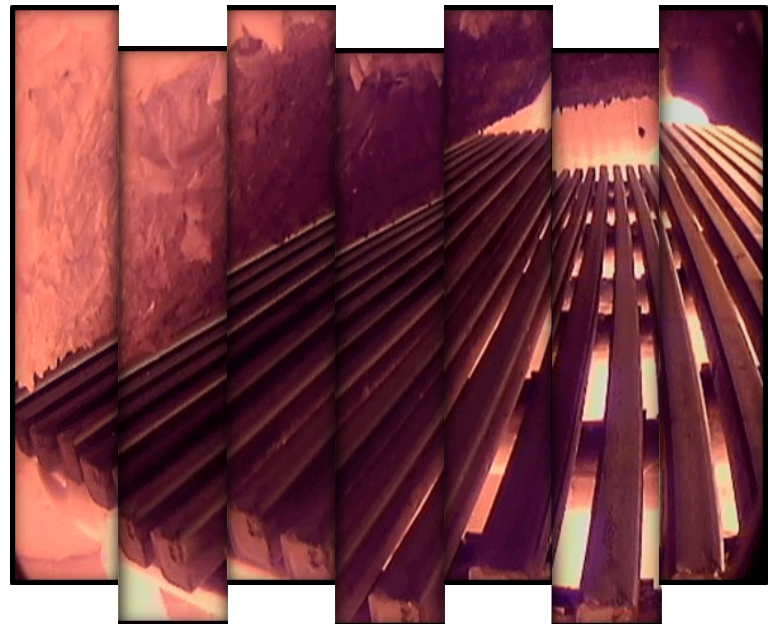


Ro Ne Vision[®]

Furnace Monitoring System for the Industry

(Steel · Cement · Glass · Thermal Plant)



FURNACE CCTV

▶ System

- High Temperature CCTV System for monitoring the inside of Chamber or Boiler
- The Lens and Camera iare integrated.
- Compact size and easy to install
- It can be endured to 2000 °C temprature
- Auto Retraction System
(Power Off / Insufficient Air Pressure)

▶ System Components

- Vision Tube
- Brackets
- Automatic Retract Device
- Local Control Panel

▶ System Classification

1. System Cooling

- Air Cooling Type
- Air & Water Cooling Type

2. Automatic Retract Device

- Pneumatic Type
- Air Chuck Type

3. Camera View Angle

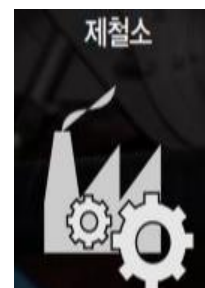
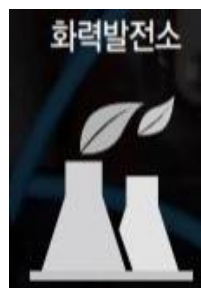
- Straight View Type
- Elbow View Type

▶ Compressed Air Unit

- From Instrument Air
(For Vision Tube Cooling)
 - Pressure : 3.0 ~ 7.0 kg/cm²
 - Volume : 300 L/min Over
 - 35°C Below Air
- From Service Air
(For System Purge)
 - Pressure : 3.0 ~ 5.0 kg/cm²
 - Volume : 300 L/min Over
 - 35°C Below Air

▶ Applicable Site

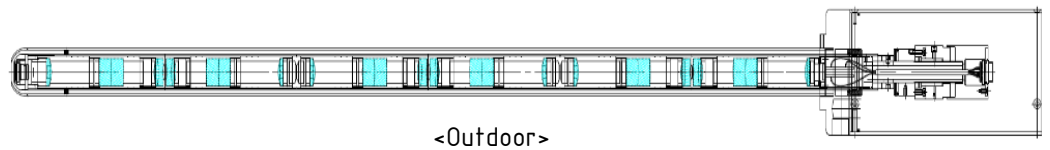
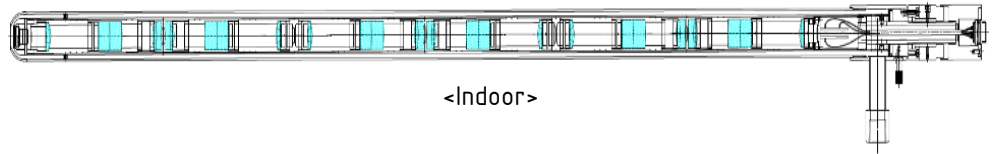
- Fire Plant
 - Initial ignition of the burner inside the boiler, monitoring of combustion conditions
- Steel Plant
 - Monitor all major processes, including furnaces, hot-rolled, cold-rolled, and thick-plate
- Glass Factory
 - Furnace burner flame, monitoring of solute condition
- Cement Factory
 - Monitoring the raw material status of Kiln and Cooler during the firing process



FURNACE CCTV

▶ Vision Tube

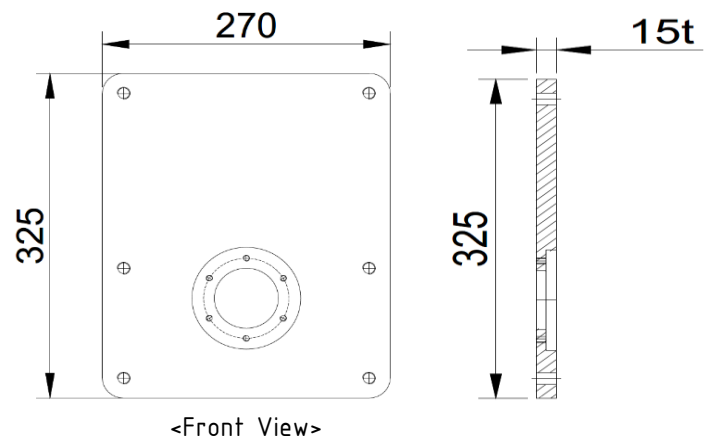
- Material : SUS310S / SUS 304
- Tube Length : M type - 1185mm
Production specification
- Tube Size(mm) : Ø38
- Cooling : Air Type
- Housing Type(mm) : Indoor(Ø42.7)
Outdoor(Ø100)



▶ Bracket

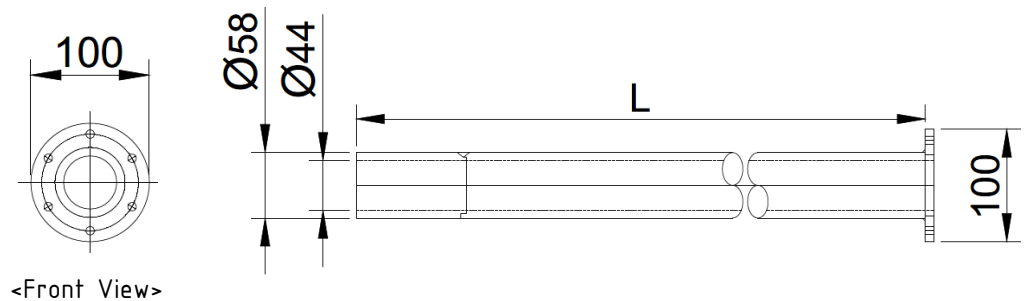
1. Wall Bracket

- Material : SUS304
- Size(mm) : 270(W) x 325(H)
- Thickness : 15t



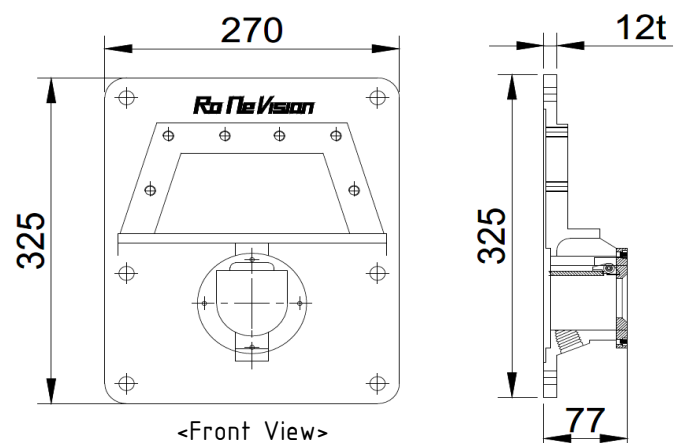
2. Wall Sleeve

- Material : Inconel (Front 98mm) / SUS304
- Length : Production specification
- Size(mm) : Ø58(O.D) / Ø44(I.D)



3. Frame Bracket

- Material : SUS304
- Size(mm) : 270(W) x 325(H)
- Thickness : 12t
- Air Inlet : 1/2 " (15A)

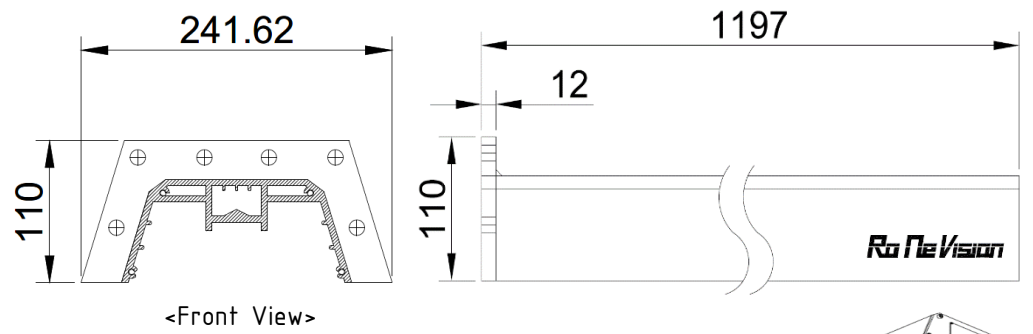


FURNACE CCTV

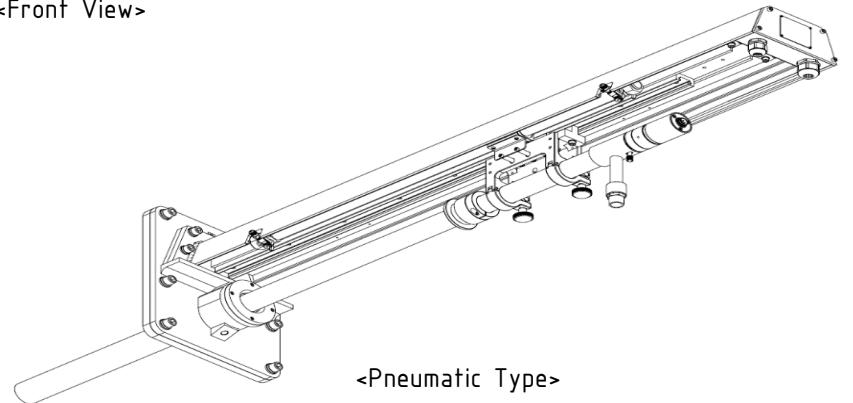
► Automatic Retract Device

- Material : AL6061
- Length : M Type (Cylinder 700mm)
- 1197mm (Max 2,000mm)

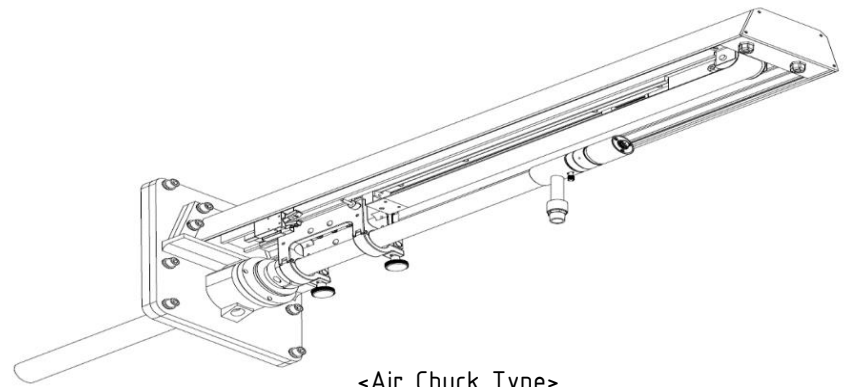
- Operation Type : Pneumatic Type
Air Chuck Type



<Front View>



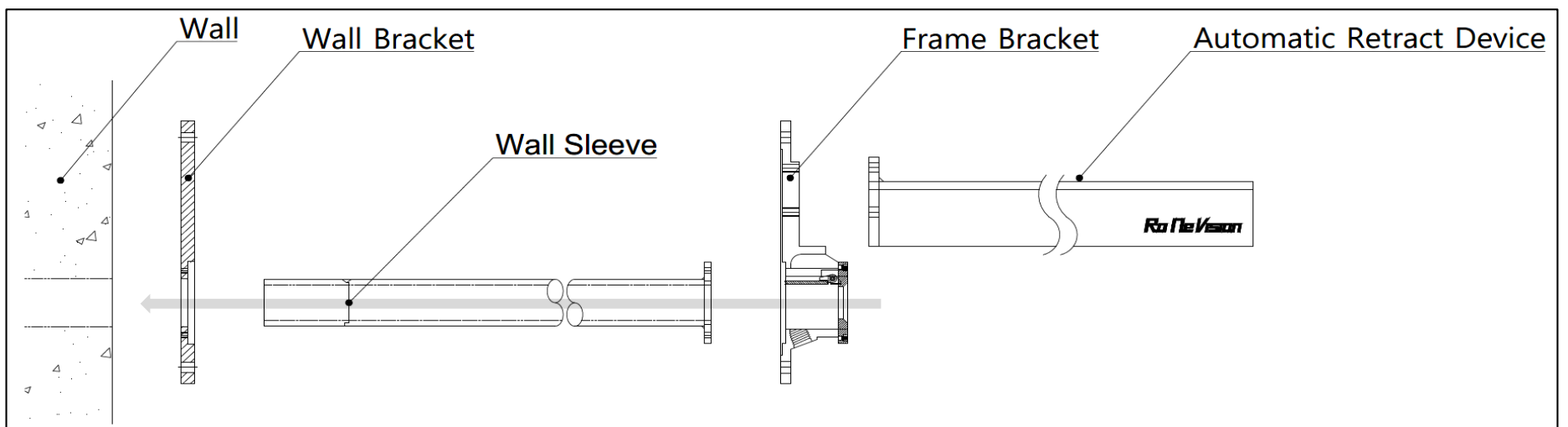
<Pneumatic Type>



<Air Chuck Type>

Operation Type		
Type	Pneumatic	Air Chuck
Operation Type	Pneumatic	Air Chuck Type
Distance	Max 2,000mm	
speed	Within 3 seconds	Up to 0,2 seconds
Conditions	Manual Operation, Main Power Off, Insufficient Air Pressure	

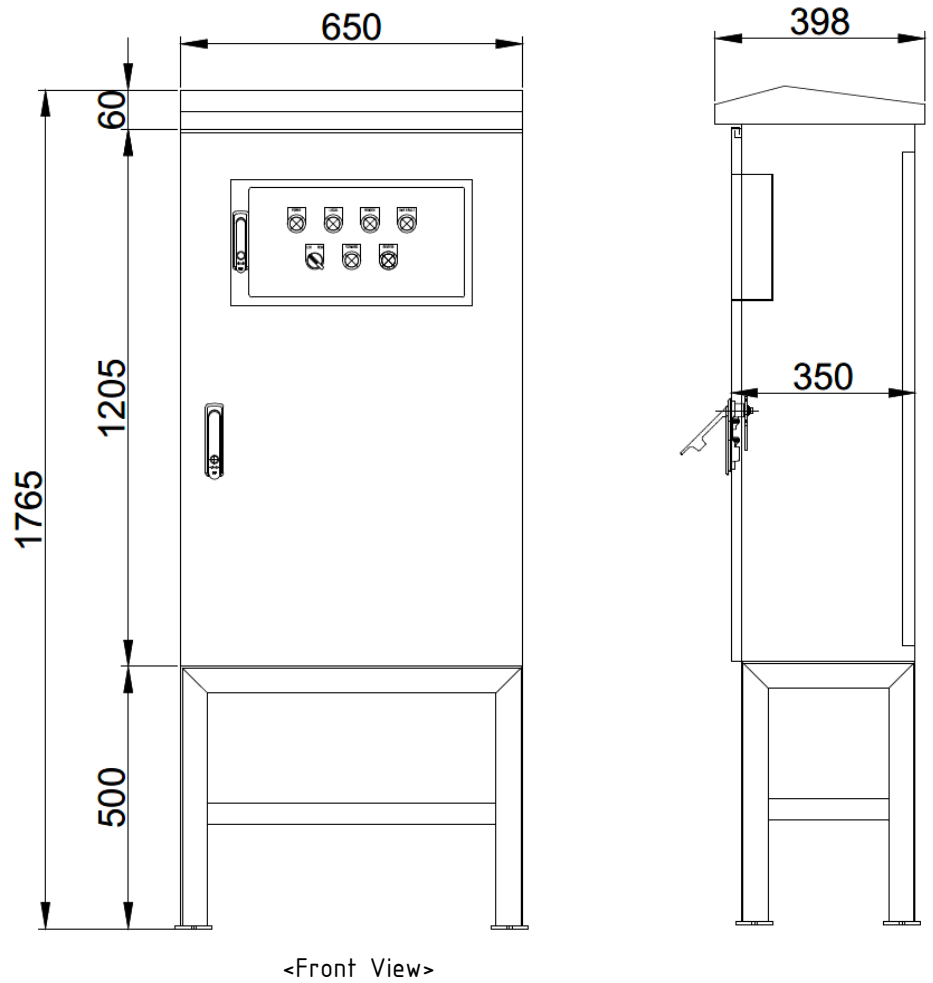
► Brackets assembly drawing



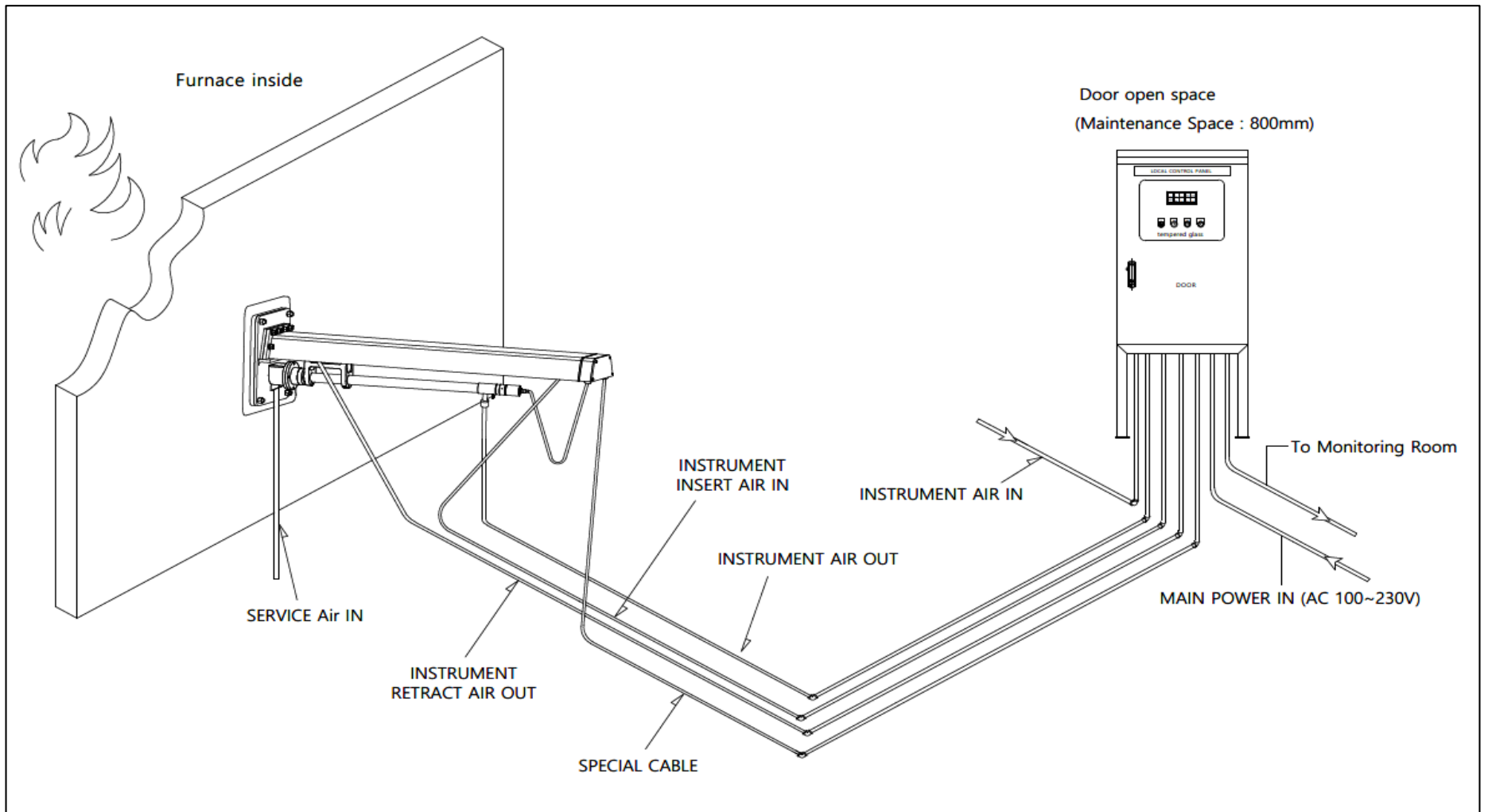
FURNACE CCTV

▶ Local Control Panel

- Material : SUS304
- Operation Power : AC 100 ~ 230V(50 / 60Hz)
- Out Power : DC 24V (Solenoid valve power)
DC 12V (Camera power)
- Size(mm) : 650(W) x 1765(H) x 350(D)
- Operation Type : PLC Type, Relay Type
- Accessories : Pressure switch
Solenoid valve
Air clean unit
Air tank
etc.
- Retract Conditions : Manual / Power Off
Insufficient Air
Pressure



▶ System configuration

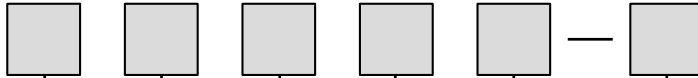


FURNACE CCTV

▶ System Series

· Model No.

RNV



ex)

RNV - VA103AS - C
 RNV - VC103AS - F
 RNV - NE103AS - A

Retract Type	
C	Cylinder
A	Air Chuck
F	Fixed

Straight / Elbow	
S	Straight
E	Elbow

Cooling Type	
A	Air Cooling
W	Air & Water Cooling

Vision Tube Length (Elbow Type : 101 - 90°, 102 - 120°)	
101	Relay Lens 1 단
102	Relay Lens 2 단
103	Relay Lens 3 단
104	Relay Lens 4 단
105	Relay Lens 5 단

Video Out Put	
A	AHD / CVBS (HD)
C	CVBS
S	HD - SDI (FHD)
E	Ethernet (FHD)

Model No. Explosion Proof

ex)

RNV - Ex VA103AS - C
 RNV - Ex VC103AS - F
 RNV - Ex NE103AS - A

Video Function	
V	Visual
N	NIR

FURNACE CCTV

▶ Straight Type VT



1. AHD/CVBS Type

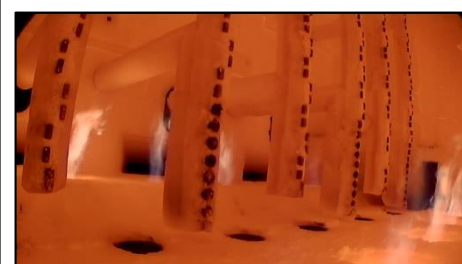
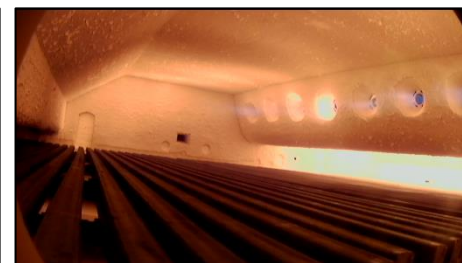
- Image Sensor : 1/3" Color CMOS
- Video output : AHD/CVBS
- Resolution : 1280 x 720p
- Camera Power : DC 12V 150mA
- Angle of view : Diagonal 31°, 49°, 66°, 83°, 101°, 112°, 124°
- Built in OSD function

2. HD-SDI Type

- Image Sensor : 1/3" Panasonic CMOS
- Video output : HD-SDI or EX-SDI / CVBS
- Resolution : 1080p 30/25fps
720p 60/50fps
- Camera Power : DC 12V 240mA
- Angle of view : Diagonal 31°, 49°, 66°, 83°, 101°, 112°, 124°

3. Ethernet Type

- Image Sensor : 1/2.9" 2MP CMOS
- Video output : RJ-45(10/100BASE-T)
- Resolution : 1080p 30/25fps
720p 60/50fps
- Camera Power : DC 12V / POE
- Angle of view : Diagonal 31°, 49°, 66°, 83°, 101°, 112°, 124°



FURNACE CCTV

▶ Elbow Type VT (90° / 120° View)



1. AHD/CVBS Type

- Image Sensor : 1/3" Color CMOS
- Video output : AHD/CVBS
- Resolution : 1280 x 720p
- Camera Power : DC 12V 150mA
- Angle of view : 90° View Diagonal 70°
120° View Diagonal 81°
- Built in OSD function

2. HD-SDI Type

- Image Sensor : 1/3" Panasonic CMOS
- Video output : HD-SDI or EX-SDI / CVBS
- Resolution : 1080p 30/25fps
720p 60/50fps
- Camera Power : DC 12V 240mA
- Angle of view : 90° View Diagonal 70°
120° View Diagonal 81°

3. Ethernet Type

- Image Sensor : 1/2.9" 2MP CMOS
- Video output : RJ-45(10/100BASE-T)
- Resolution : 1080p 30/25fps
720p 60/50fps
- Camera Power : DC 12V / POE
- Angle of view : 90° View Diagonal 70°
120° View Diagonal 81°



< 90° View >



< 120° View >

FURNACE CCTV



▶ Ex Type VT (Straight / Elbow)

- Only for Explosion proof site
- Image Sensor : 1/3" Color CMOS
- Video output : AHD/CVBS
- Resolution : 1280 x 720p
- Camera Power : DC 12V 150mA
- Angle of view : ST Type -
 Diagonal 31°, 49°, 66°, 83°, 101°, 112°, 124°
 EL Type -
 90° View Diagonal 70°
 120° View Diagonal 81°
- Built in OSD function



▶ NIR Type VT (Straight / Elbow)

- Detects the infrared region in the 9um~1.1um
- The purpose is to monitor thermal images, display images, and measure temperature.
- Image Sensor : 1/3" CMOS
- Video output : AHD/CVBS
- Resolution : 1280 x 720p
- Camera Power : DC 12V 150mA
- Angle of view : Diagonal 31°, 49°, 66°, 83°, 101°, 112°, 124°
- Measurable range : 600°C ~ 1,800°C
- Measurement accuracy : ± 5%
- Built in OSD function

