



# INDUSTRIAL FIRE PROTECTION

## OEM MANUFACTURER

**AGNI CONTROLS CHENNAI** located at Chennai, Southern Part of India, one of the Metropolitan Cities.

Initial business during the 1985 involved in manufacturing Fire Alarm Control Panels & allied products.

As part of business expansion, **Agni Controls** specialized in Fire Protection Systems such as Gas Based Fire Extinguishing Systems, Fire Alarm Systems and water spray and Mist system.

**Agni Controls** has many reputed customers in India, Europe and Asia Pacific Region.

### **BALAWA AGNI CONTROLS PVT LTD**

Formed to expand business scope by gradually transferring technology, manufacturing and installation facilities of proprietorship company of Agni Controls.

## KEY PERSONS



**D. BALACHANDRAN**  
Proprietor & CEO

- ✓ Mechanical Graduate Engineer
- ✓ 30 years experience in Fire Protection System.
- ✓ Founder president of FSAI (Fire & Safety Association of India)
- ✓ Representing as manufacturer in BIS – CED 22 Fire Fighting Section committee.
- ✓ Key Responsibility -
  - ✓ Administration, R&D & QC



**ARUNKUMAR BALACHANDRAN,**  
DIRECTOR

- ✓ Instrumentation Graduate Engineer
- ✓ 15 years' experience in Specialised Fire protection system
- ✓ Member in NFPA (National Fire Protection & Association), FSAI (Fire & Security Association of India) and FPAI (Fire Protection Association of India), CII Panel member for MSME Panel.
- ✓ Key Responsibility –
  - ✓ Preliminary & Detailed Engineering, Tendering, Pricing & Commercial Terms



**SELVAKUMAR**  
**BALACHANDRAN,**  
DIRECTOR

- ✓ Instrumentation Graduate Engineer
- ✓ MIFireE(UK) Graduate member in IFE-UK (Institution of Fire Engineers)
- ✓ 9 years experience in specialised Fire protection system
- ✓ Member in NFPA (National Fire Protection & Association)
- ✓ Key Responsibility -
  - ✓ Detailed Engineering, Production, Installation, Testing, Commissioning & After Sales Support

## STATUTORY OBLIGATION

TYPE OF INDUSTRY	NSIC Reg. No: NSIC/GP/CHE/2014/0008723 Dt. 28.01.19  SSI Reg. No: 330021112221 Dt. 12.05.2008
PAN NUMBER	AAGPB9955M
GST	33AAGPB9955M1ZC
TIN NUMBER	33481422672
IEC CODE NUMBER	0497024667
PF NUMBER	TN52113
ESI NUMBER	51-78435-67





35 YEARS IN FIRE & SAFETY



## MESSAGE

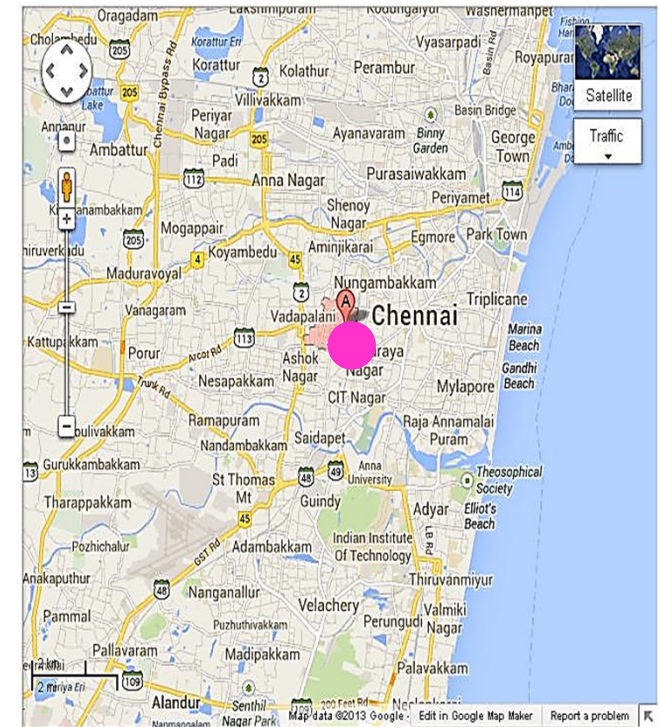
WITH OVER 35 YEARS OF EXPERIENCE,  
WE CAN PROUDLY SAY THAT,  
“WE ARE SOLUTION PROVIDER AND  
OEM SUPPLIER IN FIRE PROTECTION FIELD,  
WITH THE QUALITY, INNOVATION & SERVICE  
TO THE CUSTOMERS”.

OUR MAJOR STRENGTHS ARE R&D AND  
NON-COMPROMISING QUALITY STANDARDS.

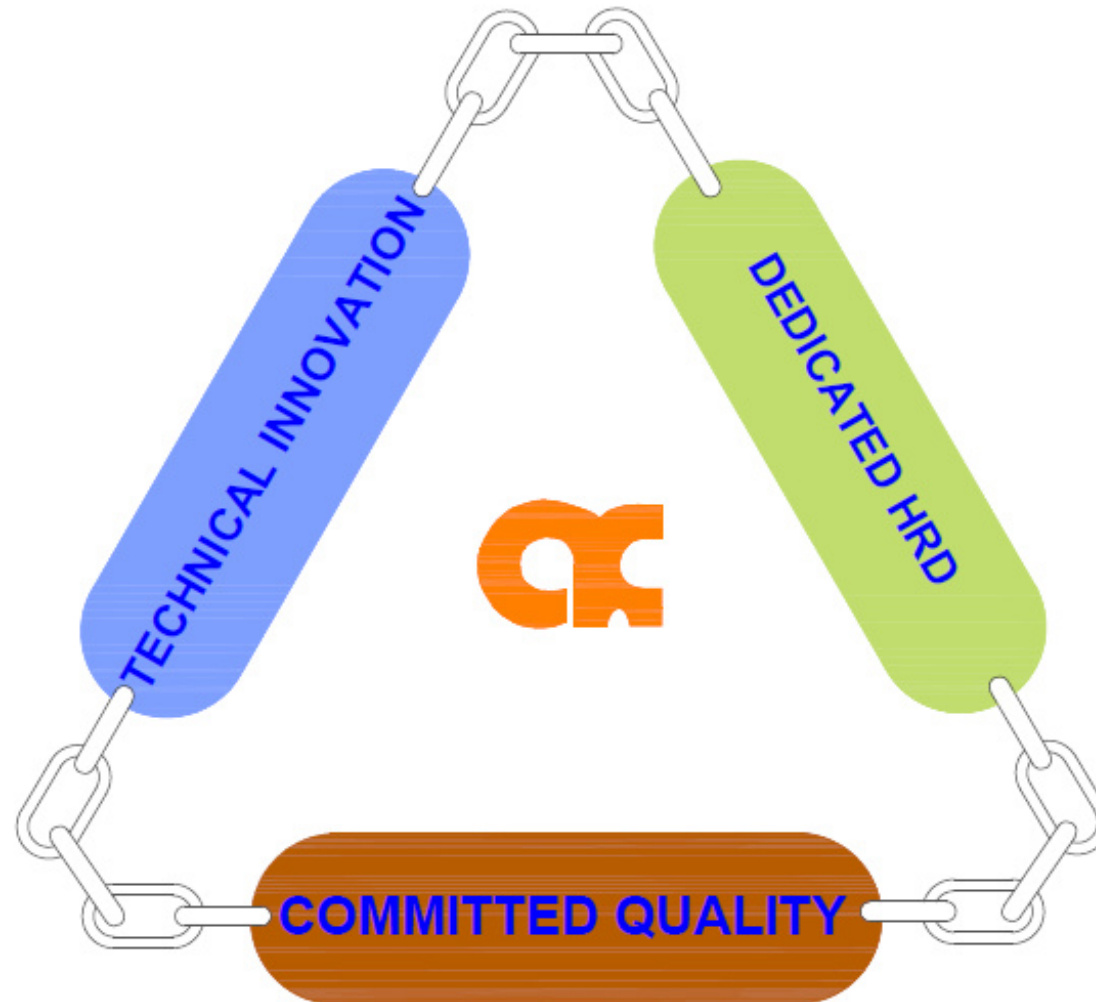
WE DESIGN, MANUFACTURER, TEST, ERECT &  
COMMISSION SYSTEM & PRODUCTS  
TO MEET OUR CUSTOMER SPECIFIC NEEDS IN  
FIRE DETECTION AND EXTINGUISHING FIELD.

**- D. BALACHANDRAN**

**HEAD OFFICE @  
Chennai and  
Production Unit @  
Near Porur**



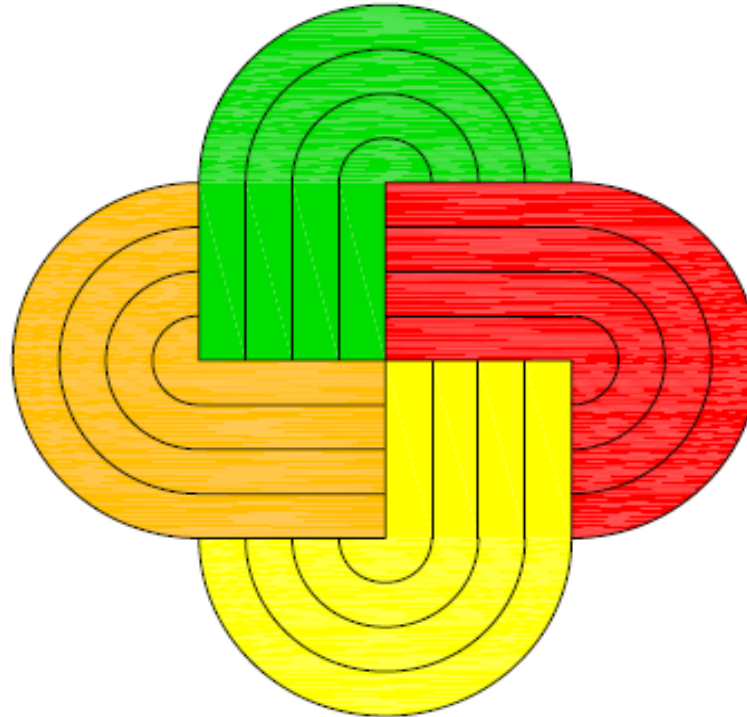
## COMPANY POLICY



# UNCOMPROMISED QUALITY PROCEDURES IS ENSURED IN ALL STAGES

**QC GROUP : G-I  
DOCUMENTATION & RECORDING**

**QC GROUP : G-IV  
FINAL QC**



**QC GROUP : G-II  
INWARD QC**

**QC GROUP : G-III  
IN-PROCESS QC**



# AN ISO 9001:2015 CERTIFIED MANUFACTURING COMPANY



**BUREAU VERITAS**  
Certification

**AGNI CONTROLS**

**AGNI CONTROLS CHENNAI**

HEAD OFFICE & UNIT 1: NO.1, 6<sup>TH</sup> STREET, DR. SUBBARAYAN NAGAR, KODAMBAKKAM, CHENNAI – 600 024, TAMIL NADU, INDIA.

This is a multi-site certificate, additional site details are listed in the appendix to this certificate

Bureau Veritas Certification Holding SAS – UK Branch certifies that the Management System of the above organization has been audited and found to be in accordance with the requirements of the Management System standard detailed below.

*Standard*

**ISO 9001:2015**

*Scope of certification*

**DESIGN, MANUFACTURE, SUPPLY, INSTALLATION AND SERVICING OF FIRE PROTECTION SYSTEMS - GAS BASED FIRE EXTINGUISHING SYSTEMS LIKE CO<sub>2</sub>, INERT, HFC227EA, OTHER CLEAN AGENT SYSTEM, WATER BASED EXTINGUISHING SYSTEMS INCLUDE WATER MIST SYSTEMS, FIRE DETECTION AND ALARM SYSTEMS**

Original cycle start date: **18 August 2006**  
 Expiry date of previous cycle: **17 August 2018**  
 Recertification Audit date: **21 May 2018**  
 Recertification cycle start date: **24 June 2018**

Subject to the continued satisfactory operation of the organization's Management System, this certificate expires on: **17 August 2021**

Certificate No. **IND18.7391U/Q** Version: **1** Revision date: **24 June 2018**

*Signed on behalf of BVCH SAS UK Branch*  
**Ramesh KOREGAVE**  
 Director, CERTIFICATION  
 South Asia Region

  
 0008

Certification body address: 5th Floor, 66 Prescott Street, London, E1 6HG, United Kingdom.  
 Local office: Bureau Veritas (India) Private Limited (Certification Business), 72 Business Park, Marol Industrial Area, MIDC Cross Road "C", Andheri (East), Mumbai – 400 093, India.

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**BUREAU VERITAS**  
Certification

*Appendix to the certification*

**AGNI CONTROLS**

**AGNI CONTROLS CHENNAI**

*Standard*

**ISO 9001:2015**

SITE	ADDRESS	SCOPE
AGNI CONTROLS (HO & UNIT1)	NO.1, 6 <sup>TH</sup> STREET, DR. SUBBARAYAN NAGAR, KODAMBAKKAM, CHENNAI – 600 024, TAMIL NADU, INDIA.	MARKETING & SALES, DESIGN & PLANNING, PURCHASE AND HUMAN RESOURCES
AGNI CONTROLS (UNIT2)	2/235, KUNDRATHUR HIGH ROAD, GERUAMBAKKAM, CHENNAI – 600 122, TAMIL NADU, INDIA.	DESIGN, MANUFACTURE, SUPPLY, INSTALLATION AND SERVICING OF FIRE PROTECTION SYSTEMS - GAS BASED FIRE EXTINGUISHING SYSTEMS LIKE CO <sub>2</sub> , INERT, HFC227EA, OTHER CLEAN AGENT SYSTEM, WATER BASED EXTINGUISHING SYSTEMS INCLUDE WATER MIST SYSTEMS, FIRE DETECTION AND ALARM SYSTEMS

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# Overview on Agni Controls



**Organization is supported with Dedicated R&D division, Discharge test facility, Batch-wise Production areas, In-house special design capabilities, advanced testing equipment, Stringent Quality Control Division.**



## BRANDS

**FULLY INTEGRATED & TESTED CO2 GAS  
EXTINGUISHING BANK ASSEMBLY**

**bala-wa**<sup>®</sup>

**FULLY INTEGRATED & TESTED FK-5-1-  
12 EXTINGUISHING BANK ASSEMBLY**

**bala-wa**<sup>®</sup> - 5112  
CLEAN AGENT SUPPRESSION SYSTEM

**SPECIAL APPLICATION  
SPARK/HEAT/ FLAME DETECTORS**

**fladet**<sup>®</sup> SERIES...

**DETECT EXTINGUISH FIRE AT  
ORIGIN SYSTEMS**

**Defao**<sup>®</sup> SERIES...

**FULLY INTEGRATED & TESTED INERT  
GAS EXTINGUISHING BANK ASSEMBLY**

**bala-wa**<sup>®</sup> - 100 / 541

**ENGINEERED HIGH / LOW PRESSURE  
WATER MIST FIRE SUPPRESSION SYSTEM**

**bala-wa-mist**<sup>®</sup>

## SYSTEMS WE OFFER (TURNKEY SOLUTIONS)

- FIRE DETECTION, ALARM SYSTEMS & COMPONENTS
- FIXED INSTALLATION GAS BASED FIRE SUPPRESSION / EXTINGUISHING SYSTEMS & COMPONENTS
- ENGINEERED HIGH PRESSURE WATER MIST FIRE SUPPRESSION SYSTEM



## PRODUCT/SYSTEM AWARENESS

### LIST OF PRODUCTS AND SYSTEM

#### FIRE DETECTION & ALARM SYSTEMS AND COMPONENTS

1. ADDRESSABLE & CONVENTIONAL SYSTEMS.
2. CUSTOM-BUILT FIRE DETECTION, ALARM AND EXTINGUISHING PANELS.
3. SPECIAL APPLICATION SPARK/HEAT/ FLAME/EMBER DETECTORS.

#### FIXED INSTALLATION FIRE SUPPRESSION/EXTINGUISHING SYSTEM AND COMPONENTS

#### 1. FULLY INTEGRATED & TESTED CO2 GAS EXTINGUISHING BANK ASSEMBLY.

##### Online Weighing Device for Co2 system

1. IH007R NI – Electronic Weighing Device.
2. IH006 R – Mechanical weighing Device.

#### 2. FULLY INTEGRATED & TESTED INERT GAS EXTINGUISHING BANK ASSEMBLY

#### 3. Balawa-5112 CLEAN AGENT FIRE SUPPRESSION SYSTEM

#### 3. IH950 ENGINEERED HIGH/LOW PRESSURE WATER MIST FIRE SUPPRESSION SYSTEM

#### 3. FIRE DETECTION & DIVERSION SYSTEM.

#### 4. DETECT&EXTINGUISH AT ORIGIN SYSTEM DEFAO SERIES

# NEW APPROACH IN FIRE DETECTION & EXTINGUISH SYSTEMS



**LOCALISE THE  
FIRE**

LOCALISE THE FIRE

LOCALISE THE FIRE USING Defao<sup>®</sup> SERIES... SYSTEMS

**D** → DETECT

**E** → EXTINGUISH

**F** → FIRE

**A** → AT

**O** → ORIGIN

# Electrical Fire!!!

## Prevent before it spreads...



## Electrical Fires

- 70-80% of the Fires are caused by Electrical equipment, Distribution panel, Cable galleries, Terminal Board, Cable joints, Power source like battery, Heater & Transformer.
- Fire starts as small but grow and spread faster depends on risk area using available flammable materials.
- There may be limitation to fight the fire manually with Portable Extinguisher. Suitable size of extinguishing cylinder with Fire Detection tube for automatic Fire Detection & Extinguishing will be one of the possible solution.

## ABOUT DEFAO SERIES..

- balawa-Defao series.. Products are installed to detect and extinguish the fire right at the source.
- Detection is achieved by Fire Detection tube which runs in the protected area continuously (Acting as liner heat detector). Extinguishing agent is discharged through Fire Detection Tube itself.
- Fire Detection tube extinguishing agent can be CO<sub>2</sub>. Depending on the application, N<sub>2</sub> gas can also be used. Refer Part No. IH602 LC series... Detection & Extinguishing N<sub>2</sub> system.



## DETECTION METHOD:

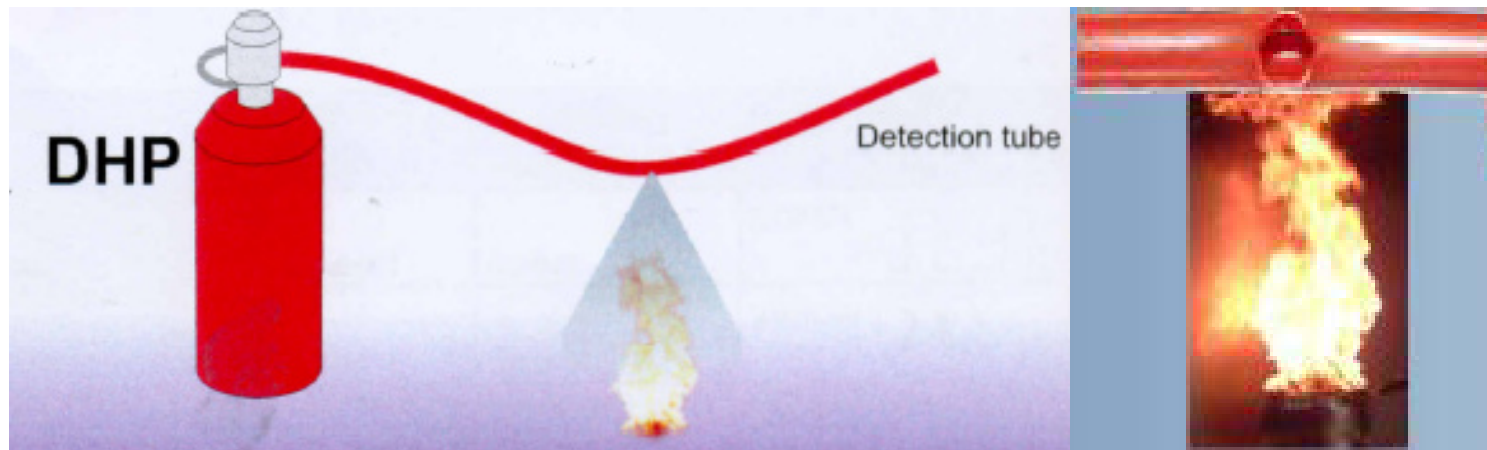
- Fire Detection Tube is made of a high tech polymer, which is temperature sensitive, bursting at the hottest spot.
- Fire Detection Tube is laid in the risk area continuously.
- The tube is pressurized by CO<sub>2</sub>. When temperature increases, the tube will burst at 100°C - 120°C. The detection tube itself act as nozzle and discharge CO<sub>2</sub> gas directly to the point of fire source.



## **FIRE EXTINGUISHING METHOD:**

### **DETECT AND DISCHARGE METHOD:**

- **Extinguishing agent (CO<sub>2</sub>) is directly discharged through burst tube which acts as nozzle.**



## SUGGESTED APPLICATIONS

- **Cable Gallery & Cable tray routes**
- **Electrical & Electronics panels**
- **Server Rooms & Server Racks**
- **UPS Cabinet**
- **Kitchen & Fume extraction hoods**
- **Generator cabinets**
- **Compressors**
- **Dust Collectors**
- **Air Handling Room**
- **Flammable materials storage rooms**
- **Vehicles**

## LIST OF PRODUCTS

SL. NO	PART NO	PART DESCRIPTION	SELECT
01	IH601LC/DD-CO2 /4	Defao series.. Fire Detection Tube and 4 KG CO2 Extinguishing system	
02	IH601LC/DD-CO2/9	Defao series.. Fire Detection Tube and 9 KG CO2 Extinguishing system	
03	IH601LC/DD-CO2 /22	Defao series.. Fire Detection Tube and 22 KG CO2 Extinguishing system	
04	IH601LC/DD-CO2 /33	Defao series.. Fire Detection Tube and 33 KG CO2 Extinguishing system	
05	IH601LC/DD-CO2 /45	Defao series.. Fire Detection Tube and 45 KG CO2 Extinguishing system	

## ADVANTAGES

- NO EXTERNAL POWER IS REQUIRED TO DETECT & EXTINGUISH
- COST EFFECTIVE SOLUTION
- EASY INSTALLATION & MAINTENANCE

# INSTALLATION & MAINTENANCE PROCEDURE

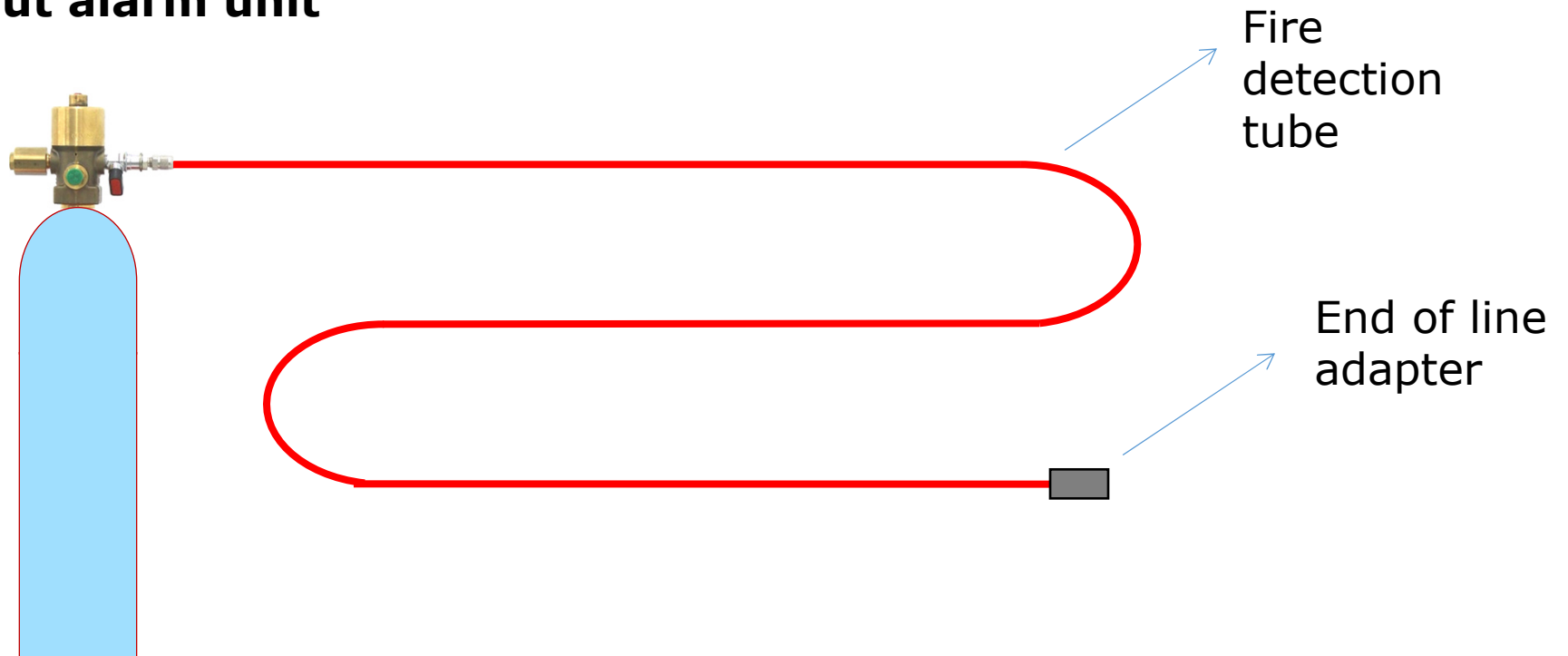
# I. INSTALLATION



- 1. Fill CO2 as per design requirement**
- 2. Close the valve outlet ball valve**
- 3. Fill CO2 using the filling port in the valve marked with a yellow band.**

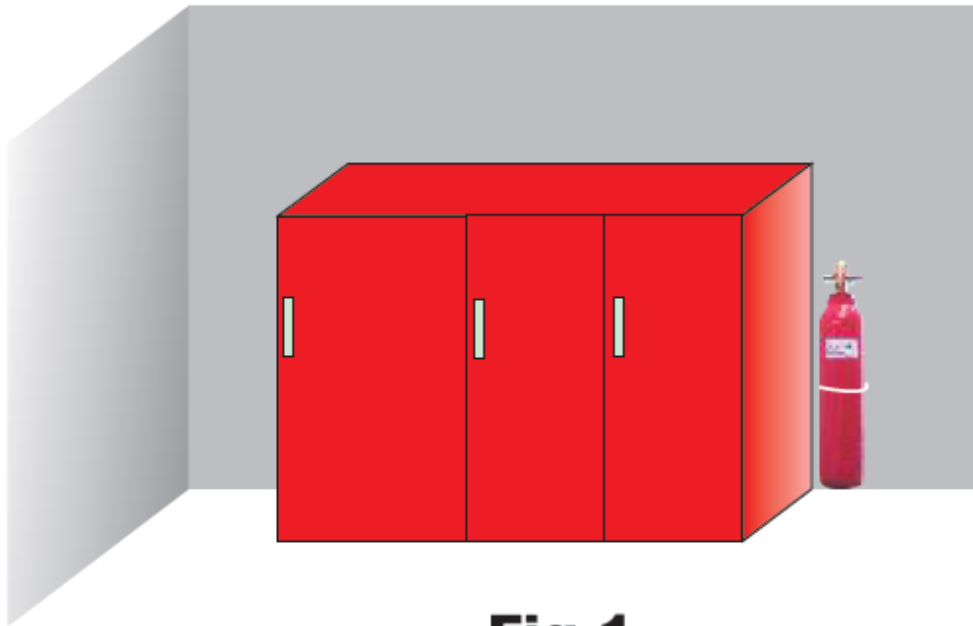
**(For 6.8 ltrs water capacity cylinder , fill with 4.5kg of CO2)**

## Type -1 : Standalone automatic fire suppression kit without alarm unit



No power is required





**Fig.1**

**STEP-1**

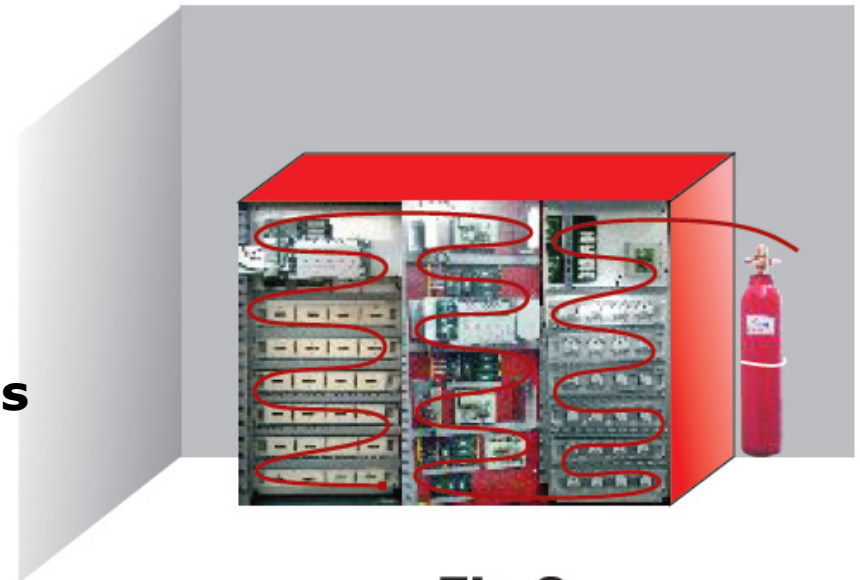
**Clamp CO2 cylinder near to panel to be protected.**

**Refer fig. 1**

**STEP-2**

**Run Fire Detection Tube in Zig-Zag manner and Connect End line fittings with the Fire Detection Tube.**

**Refer fig.2**



**Fig.2**

**STEP-3**

**Fix the Fire Detection tube to the cylinder valve. Refer fig.3**

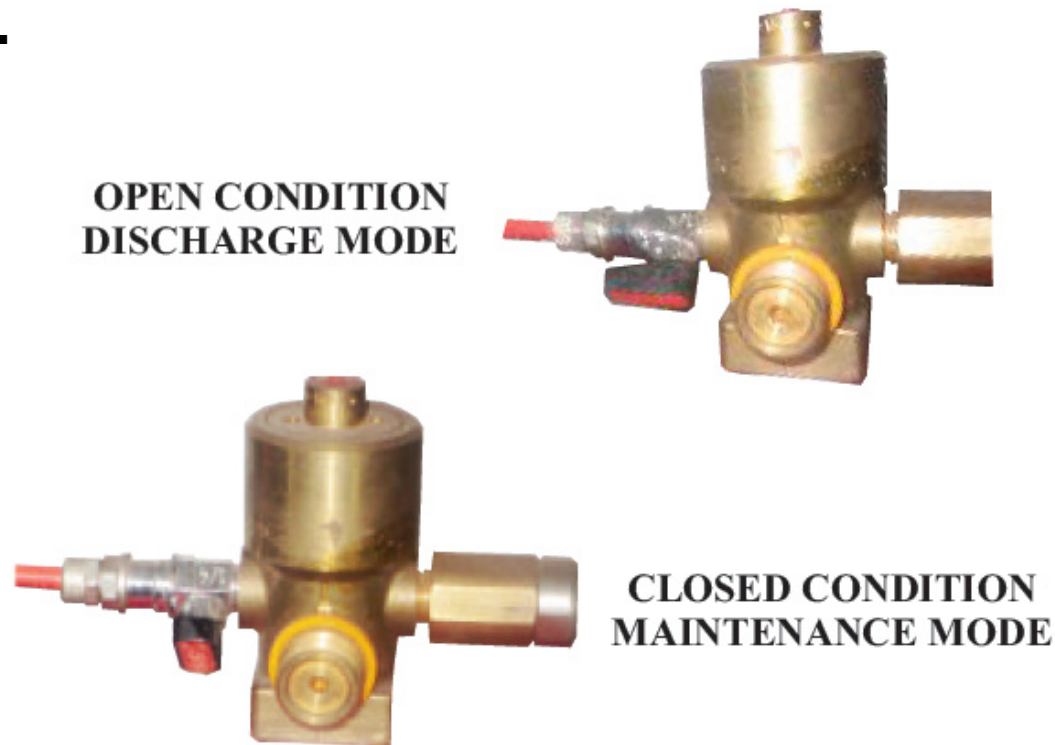


**Fig.3**

**STEP 4.**

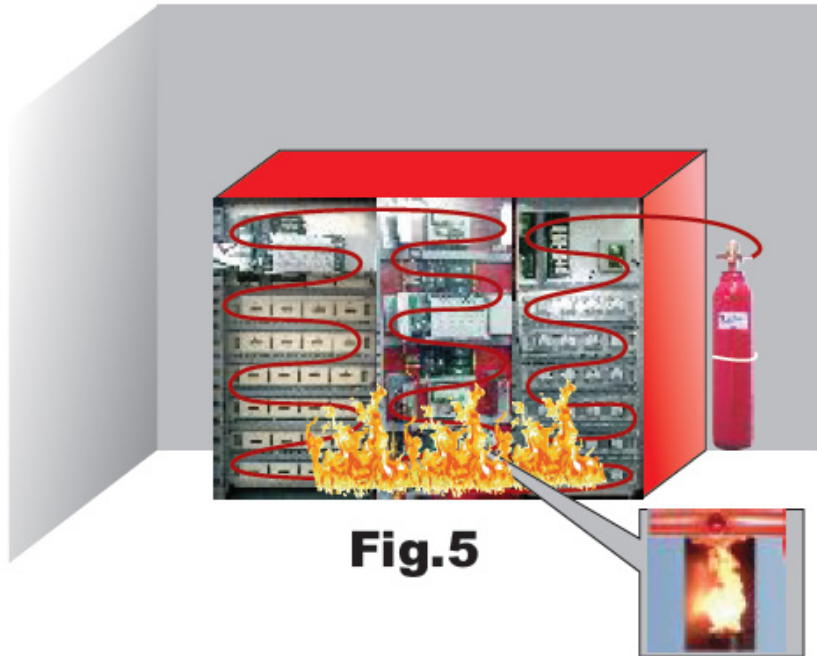
**Open the Ball valve slowly to fill CO<sub>2</sub> in the detection tube. The pressure gauge fitted in the valve will show pressure between 15-20 bar.**

**STEP 5. The Ball valve position should be kept in Open condition for Discharge Mode and Closed condition for Maintenance Mode. Refer Fig.4.**



**Fig.4**

## II. OPERATION

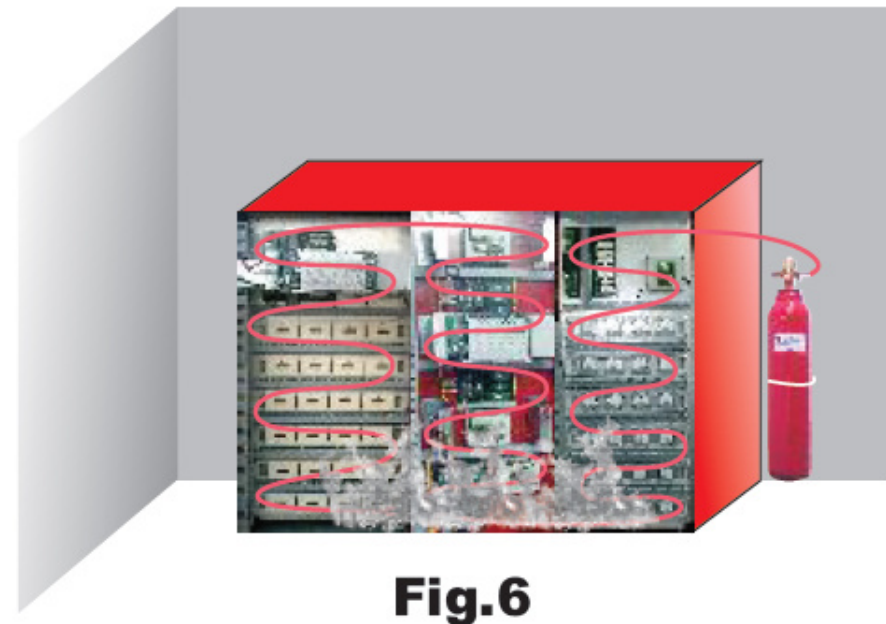


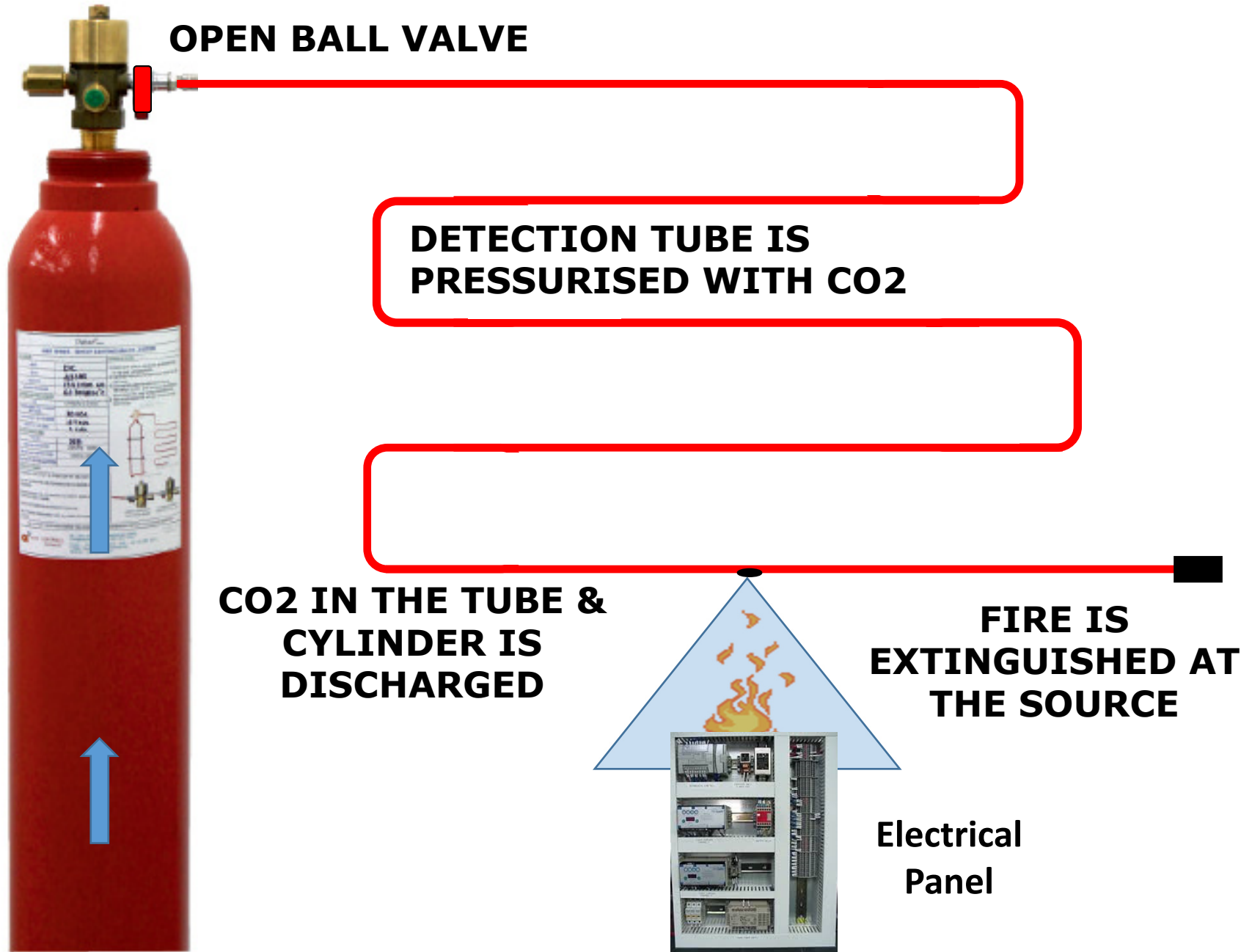
**1. If fire occurs, the detection tube will burst and it will act as nozzle and discharge CO<sub>2</sub> gas at the point of Fire source.**

**Refer Fig:5**

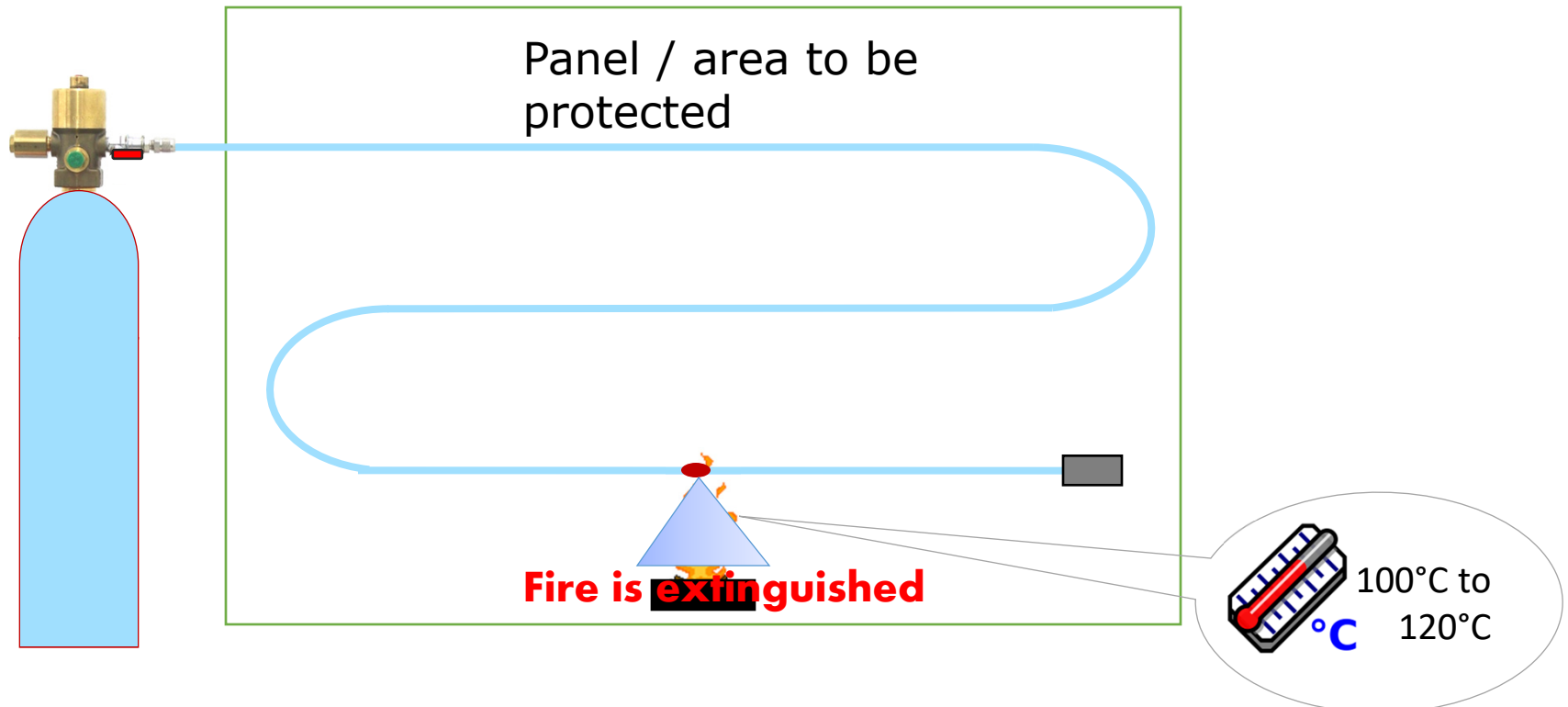
**2. After CO<sub>2</sub> discharge, the fire is suppressed.**

**Refer Fig: 6**





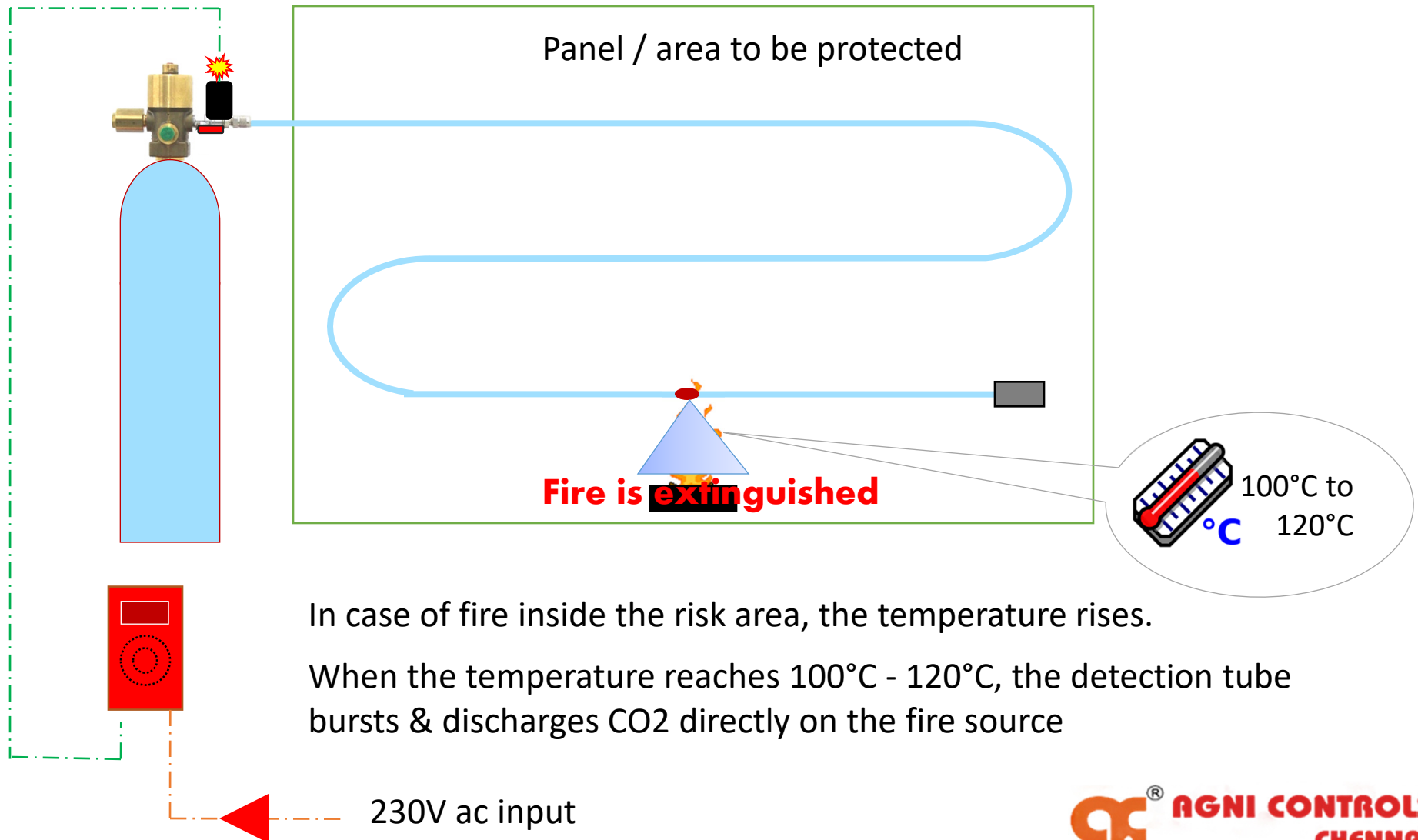
## Type -1 : Standalone automatic fire suppression kit without alarm unit



In case of fire inside the risk area, the temperature rises. When the temperature reaches 100°C - 120°C, the detection tube bursts & discharges CO2 directly on the fire source

# Defao<sup>®</sup> SERIES...<sup>®</sup> AUTOMATIC FIRE SUPPRESSION SYSTEM Defao<sup>®</sup> SERIES...

## Type - 2 : Standalone automatic fire suppression kit with alarm unit





## III. REFITTING OF FIRE DETECTION TUBE

- 1. Cut the busted part of Detection tube. Refer Fig.6***
- 2. Join the busted tube or damaged parts using fittings. Refer Fig.7 & 8***



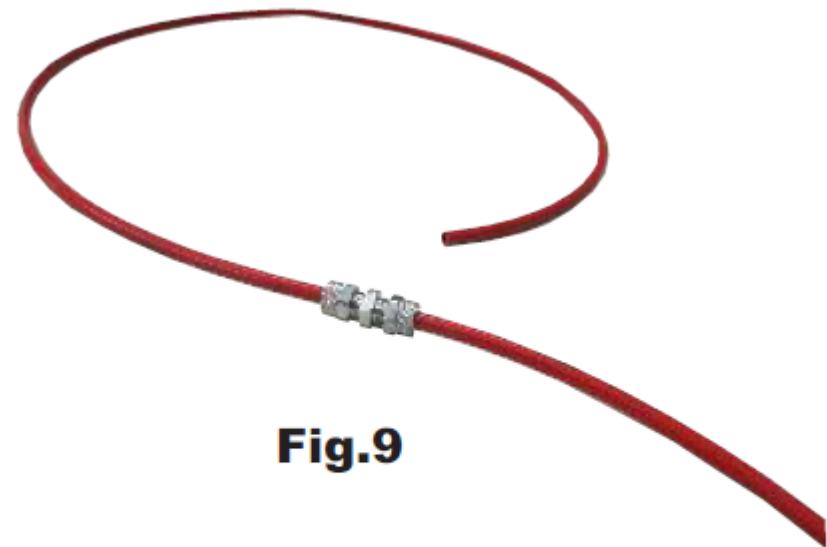
**Fig.7**

**FIRE DETECTION TUBE DETECTED FIRE**



**Fig.8**

**CUT BURST PART OF FIRE DETECTION TUBE**



**Fig.9**

**JOIN FIRE DETECTION TUBE WITH  
FITTINGS - NOW TUBE IS READY FOR  
DETECTION**



**Fig.8.1**

**Fig.8.2**

**FIRE DETECTION TUBE JOINING FITTINGS**

## IV. REFILLING

**Remove the Fire detection tube from Valve and send the cylinder to refill. Refer Fig.10**



**Fig.10**

## V. REINSTALLATION AFTER REFILLING

**Fix the Fire detection tube with cylinder valve.  
Refer Fig.11**



**Fig.11**

**Now OPEN the ball valve in the Valve to recharge the detection tube.**

**Now the system is ready to be put into use !!!**













**Fig.12**

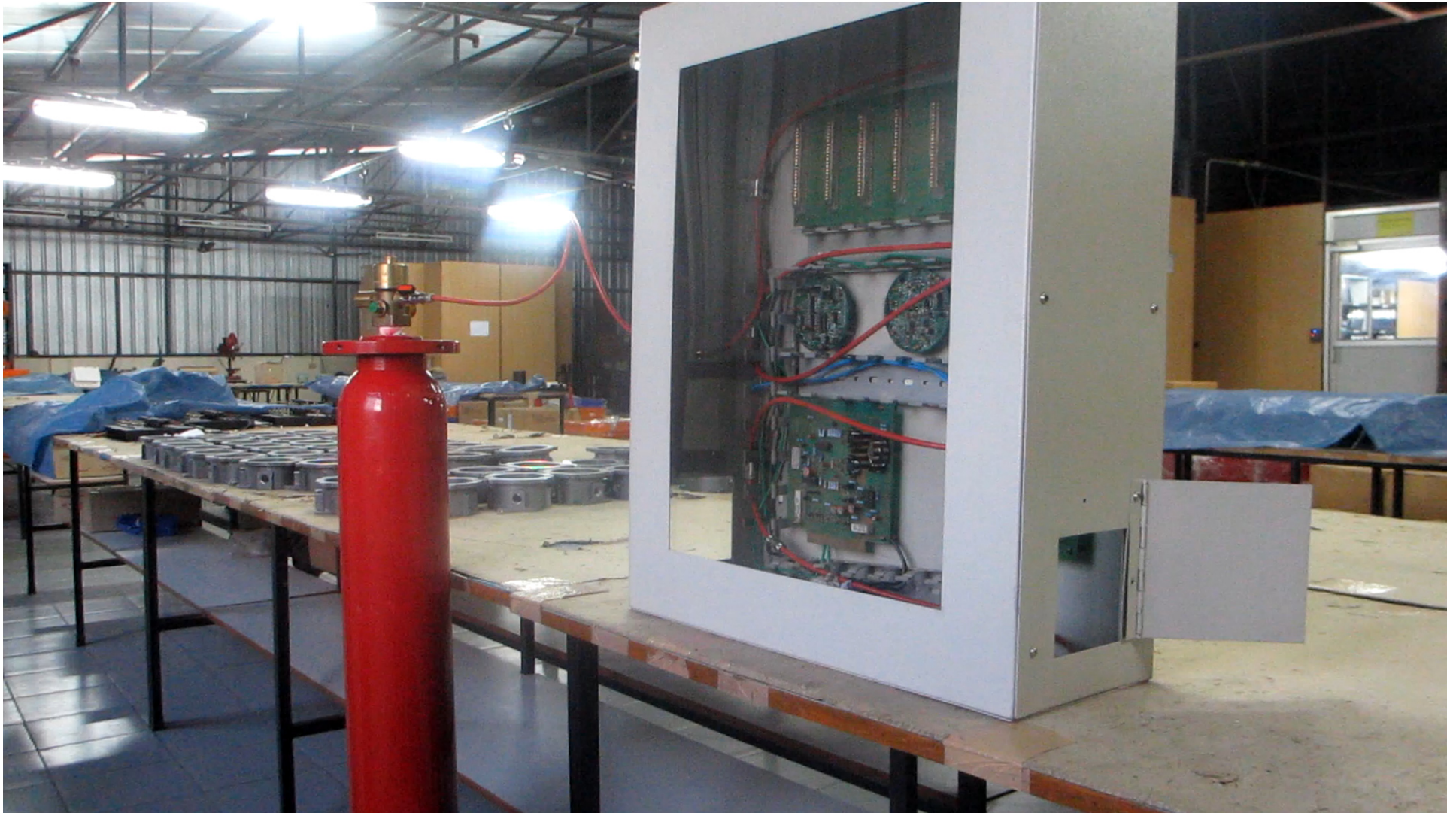


## **CAUTION**

**If lever is not opened during  
commissioning, the extinguishing  
agent will not be released during  
fire condition**

Agnicontrols IH601LC-DD – Direct discharge CO <sub>2</sub> system	Indirect / Direct discharge FM200/NOVEC/Chemical gases/Powder
 No External power is required	 No External power is required
 More quantity CO <sub>2</sub> gas can be used ie 4 to 45kg. ( To Cover 3m <sup>3</sup> to 33 m <sup>3</sup> )	 Only limited quantity of gas can be used 1kg to 15kg. ( To cover 2m <sup>3</sup> to 25m <sup>3</sup> )
 Because of high pressure system, detection tube can be pressurized through CO <sub>2</sub> gas in the cylinder. No external inert gas is required to pressurize the detection tube.	 Because of low pressure system, detection tube cannot be pressurized through gas in cylinder. If detection tube is pressurized through gas in cylinder which result in pressure reduction. Existing pressure of 15 bar may come to 10bar or below. Using external inert gas is essential to pressurize the detection tube especially for all chemical gases and powder.
 <b>Ease of Maintenance</b> 1. Just close the ball valve and change or rejoin the detection tube 2. Reopen the ball valve to pressurize the detection tube	 <b>Not easy to maintain</b> 1. Need N <sub>2</sub> cylinder with filling port for pressurize detection tube. End user may depend on supplier for this service. And it will be always chargeable.
 CO <sub>2</sub> is Not recommended for enclosed manned area. Alternatively N <sub>2</sub> gas system can be used.	 Recommended for manned area subject to not exceed NOVEL level.







**EXAMPLE TO IDENTIFYING  
FIRE PRONE AREA**

ABOVE FALSE CEILING  
CABLE TRAY ROOT  
ELECTRICAL PANEL

KITCHEN  
LPG STORAGE AREA

STORAGE AREA  
UPS ROOM

GENERATOR ROOM



**EXAMPLE: COMMERCIAL BUILDING**

## SOME OF THE TYPICAL INSTALLATIONS











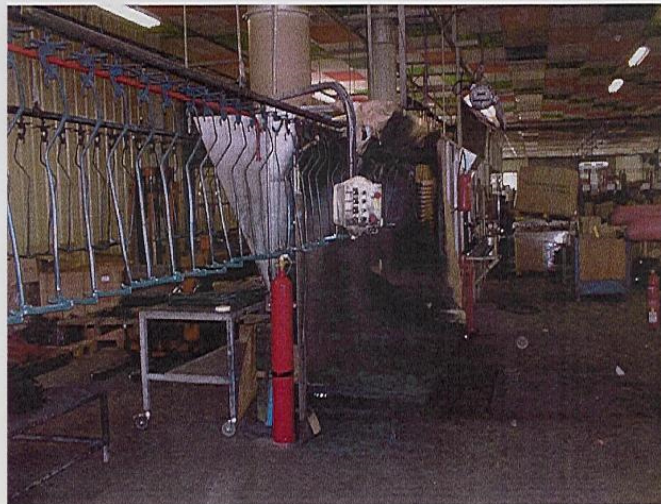












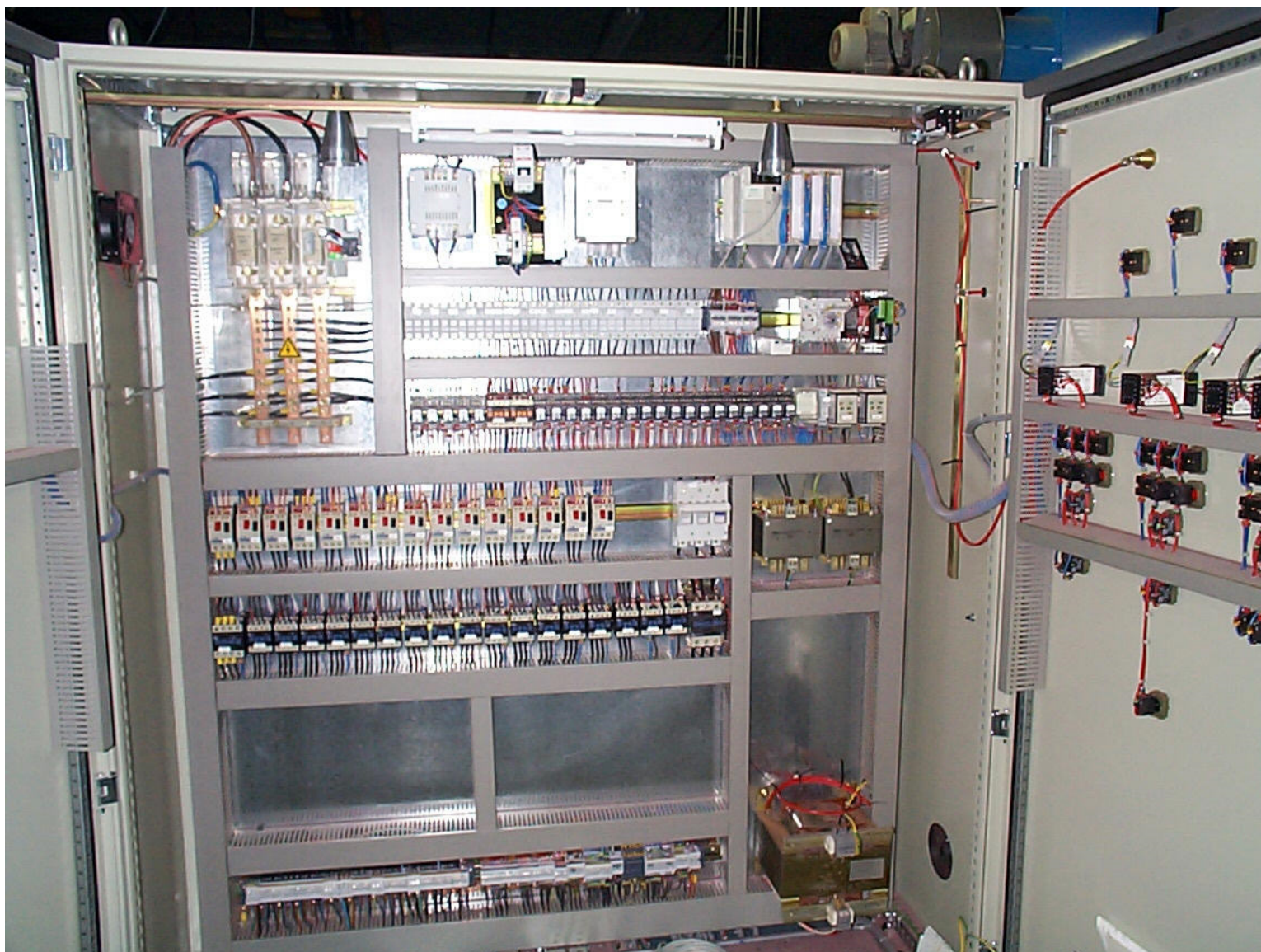










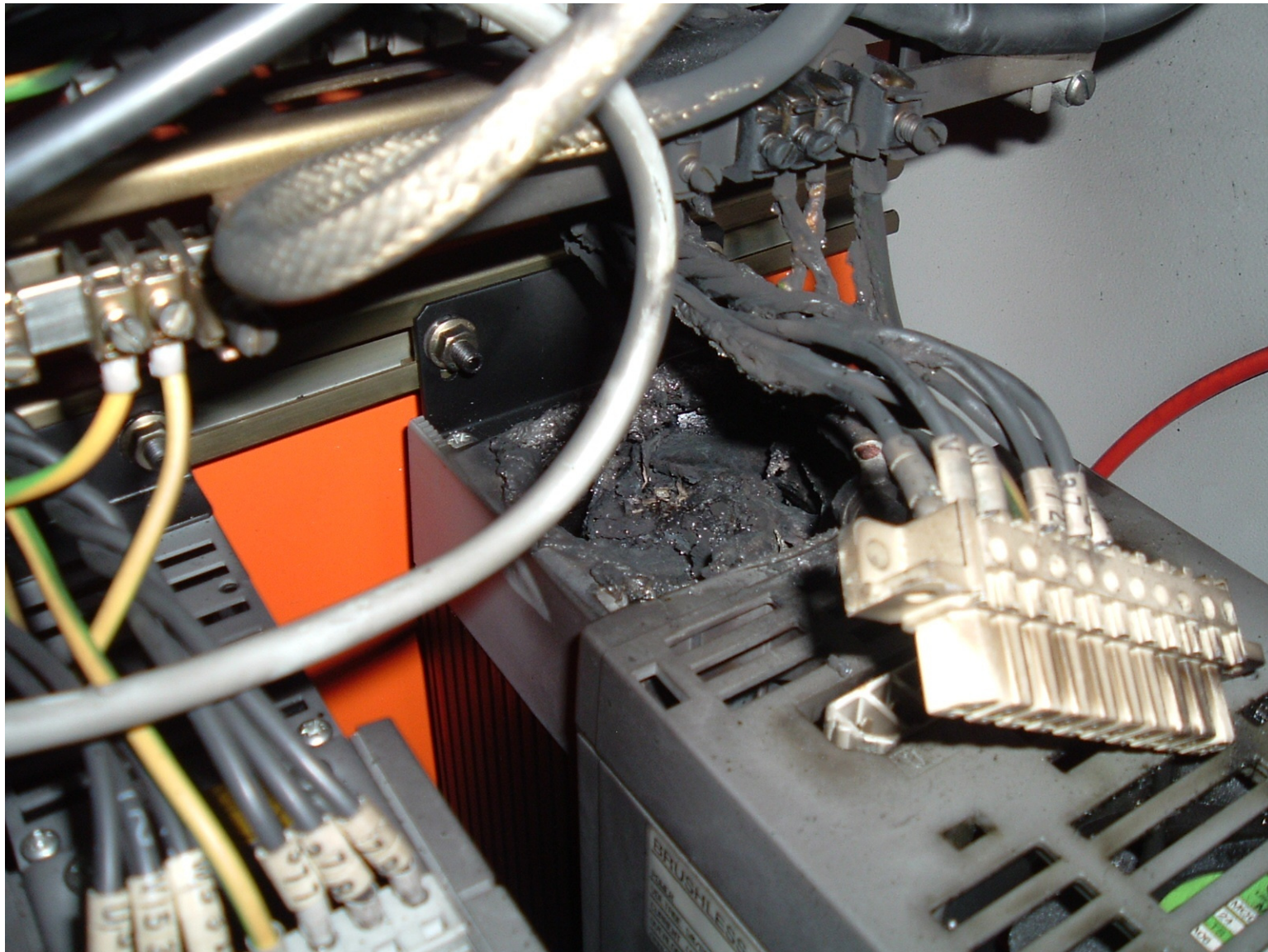




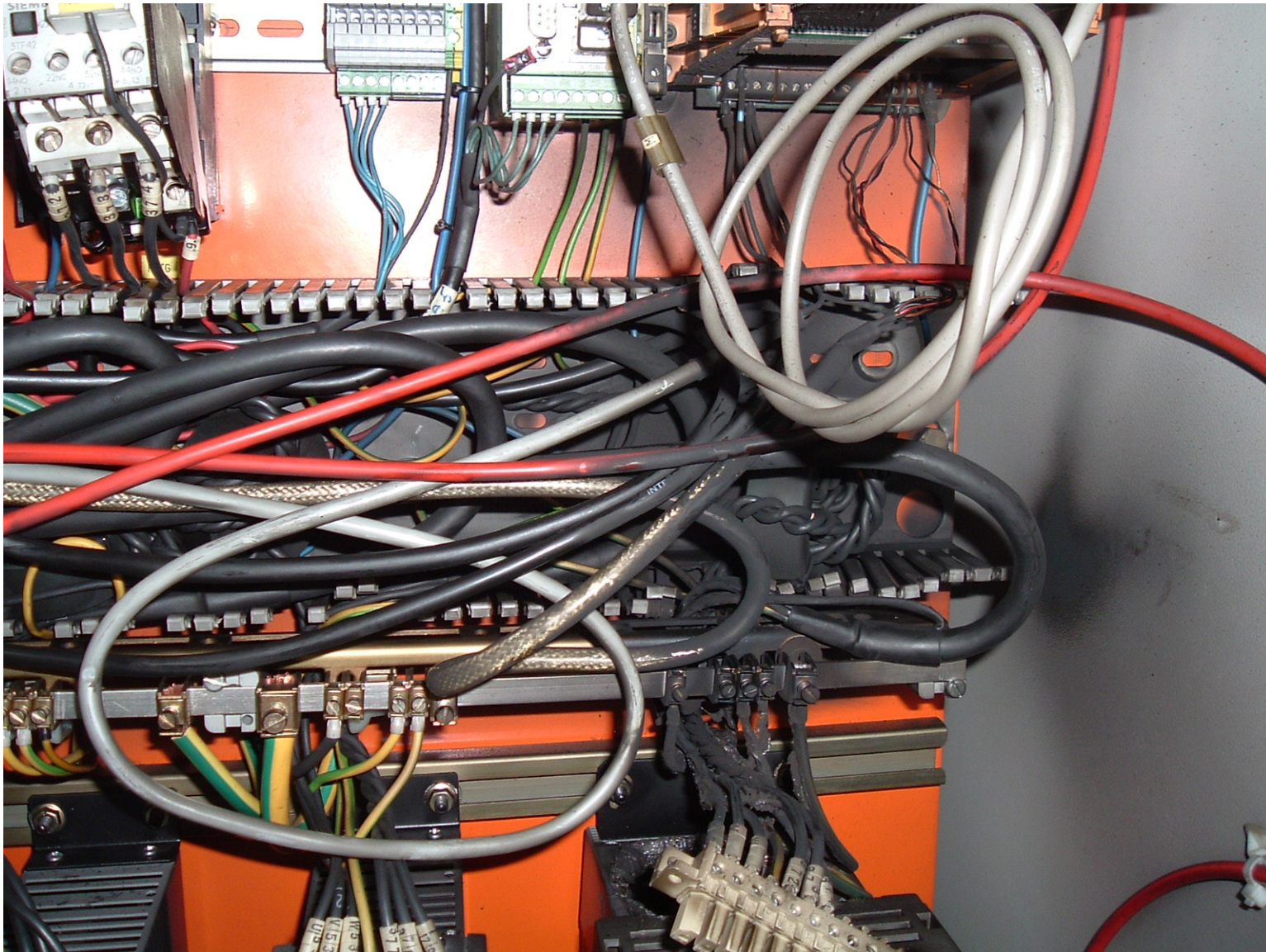




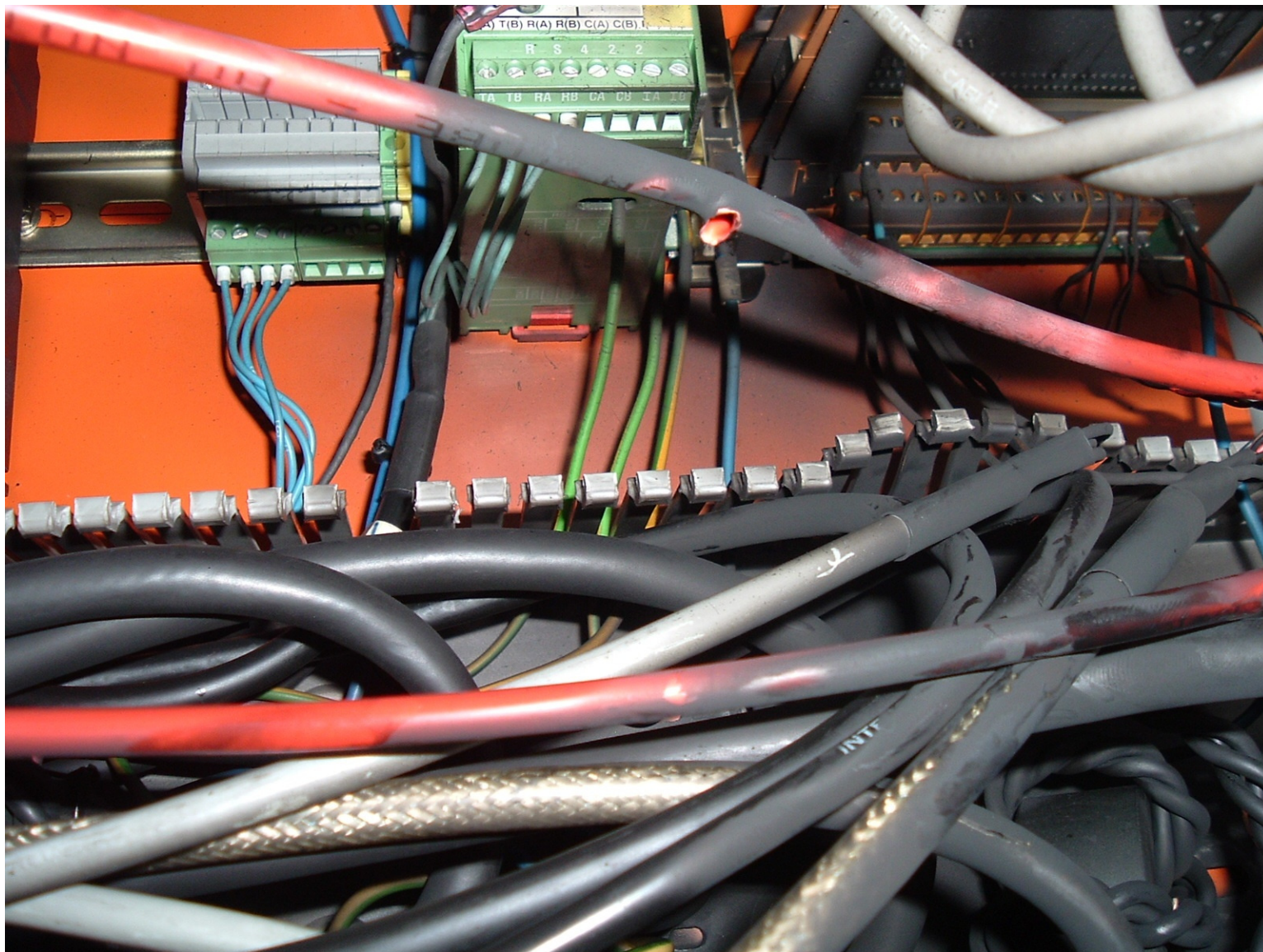






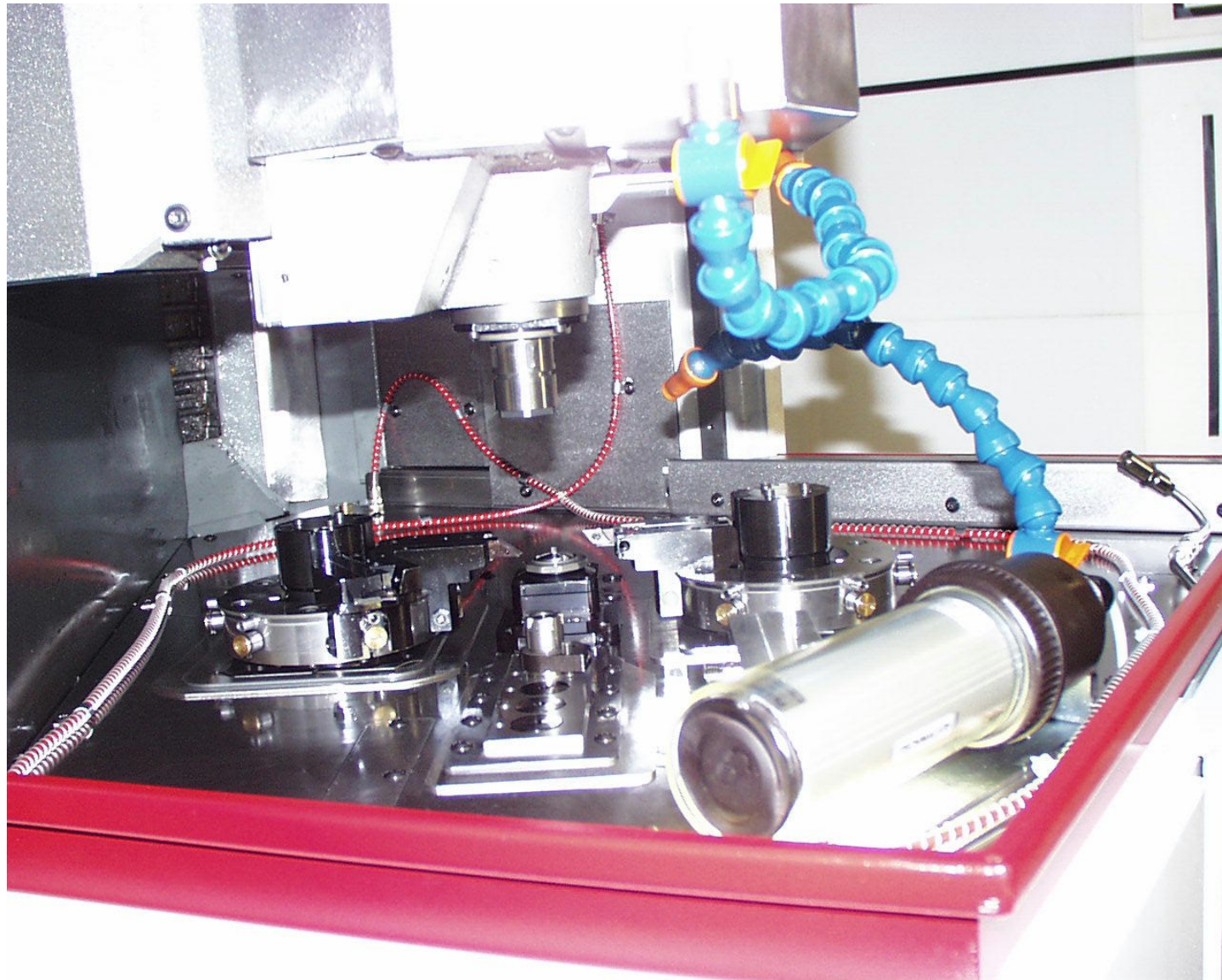
















## **AVAILABILITY**

**Defao**<sup>®</sup> SERIES..

This is the Brand name of M/s. Agni Controls Chennai, for Fire Detection and Discharge System.

Available from M/s. Agni Controls.

**M/s. Agni Controls,**

**No.1, 6th street, Dr. Subbarayan Nagar,  
Kodambakkam, Chennai-24.**

**Ph: 044-24812420**

**Email: [marketing@agnicontrols.com](mailto:marketing@agnicontrols.com), [engineering@agnicontrols.com](mailto:engineering@agnicontrols.com)**

**Website: [www.balafire.com](http://www.balafire.com)**

# SERVICE BACKUP

- ✚ Agni Controls Chennai Strongly believes in Customer Satisfaction.
- ✚ All our Products are covered by warranty periods
- ✚ Spares and Service reports are available continuously directly from us or through our authorized agents.
- ✚ We are pleased to inform you that, we are offering spares and service backup for Fire Detection & Gas based Extinguishing systems installed in 1988. (Even after 20 Years)
- ✚ We are available for last 35 years to support our Customers in the same address.

**M/s. Agni Controls,**

No.1, 6th street, Dr. Subbarayan Nagar,  
Kodambakkam, Chennai-24.

Ph: 044-24812420

Email: [marketing@agnicontrols.com](mailto:marketing@agnicontrols.com), [engineering@agnicontrols.com](mailto:engineering@agnicontrols.com)

Website: [www.balafire.com](http://www.balafire.com)



**MORE QUESTIONS FOR INFORMATION**