

bala-wa®

fladet®



**INDUSTRIAL FIRE PROTECTION**

**OEM MANUFACTURER**



**AGNI CONTROLS**  
**CHENNAI**

**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**



# bala-wa®



**35 YEARS IN FIRE & SAFETY**



# fladet®

## 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**

**bala-wa®** SERIES...

**fladet®** SERIES...

**Defao®** SERIES...

**α® AGNI CONTROLS  
CHENNAI**

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

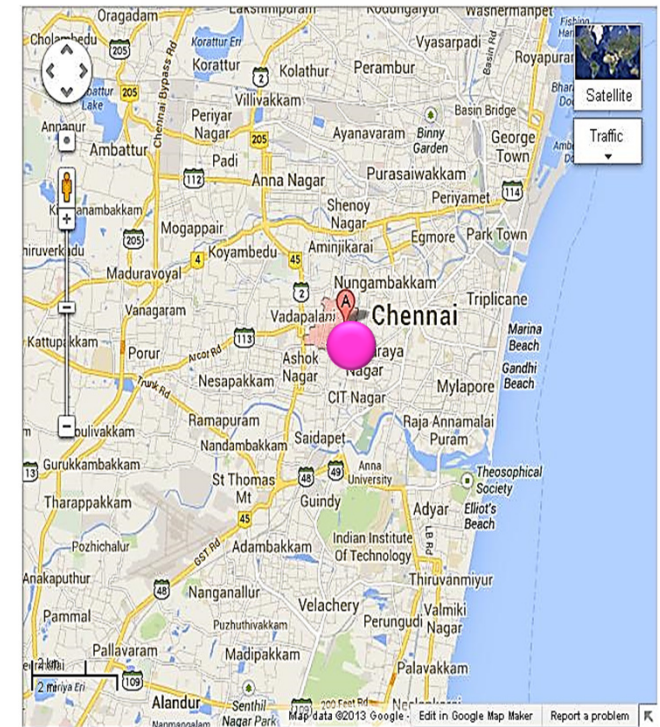
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# COMPANY LOCATION

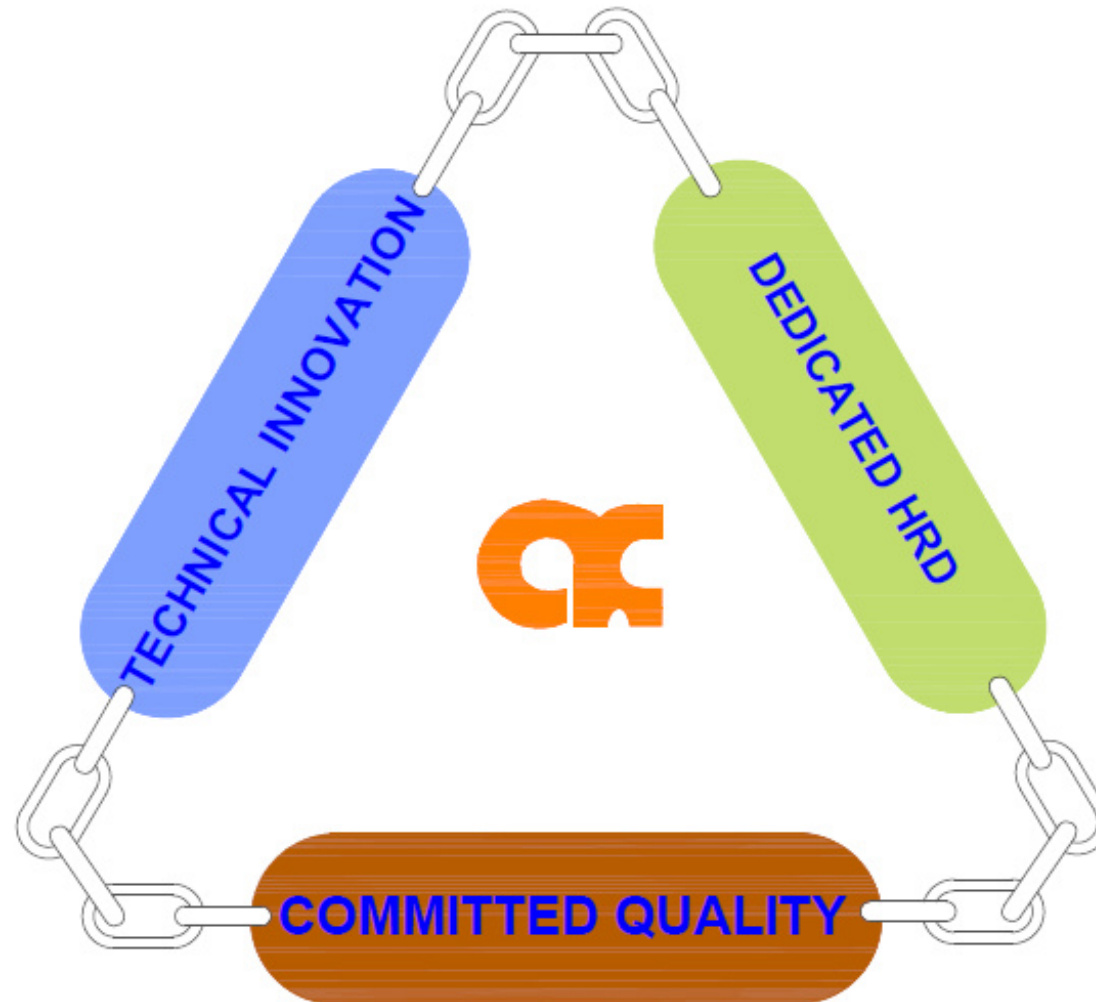
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**HEAD OFFICE @  
Chennai and  
Production Unit @  
Near Porur**



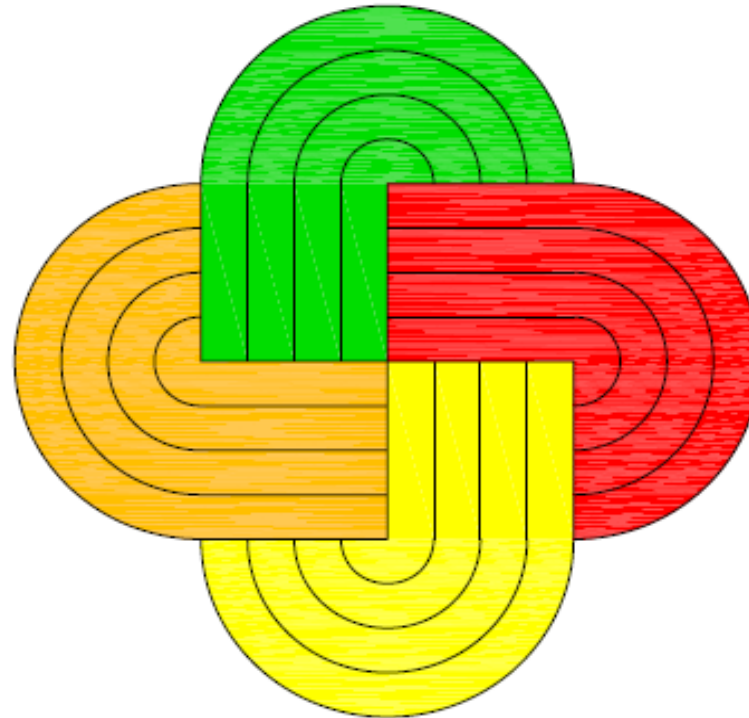
**COMPANY POLICY**



# 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**



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## AN ISO 9001:2015 CERTIFIED MANUFACTURING COMPANY

**BUREAU VERITAS**  
Certification

**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

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.

Further clarifications regarding the scope of this certificate and the applicability of the management system requirements may be obtained by consulting the organization. To check this certificate validity please call +91 22 6274 2000.

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**BUREAU VERITAS**  
Certification

Appendix to the certification

**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.**



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**fladet<sup>®</sup>**

**BRANDS**

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

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

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

***DETECT EXTINGUISH FIRE AT  
ORIGIN SYSTEMS***

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

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

**bala-wa<sup>®</sup>**

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

**fladet<sup>®</sup> SERIES...**

**Defao<sup>®</sup> SERIES...**

**bala-wa<sup>®</sup> - 100 / 541**

**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.

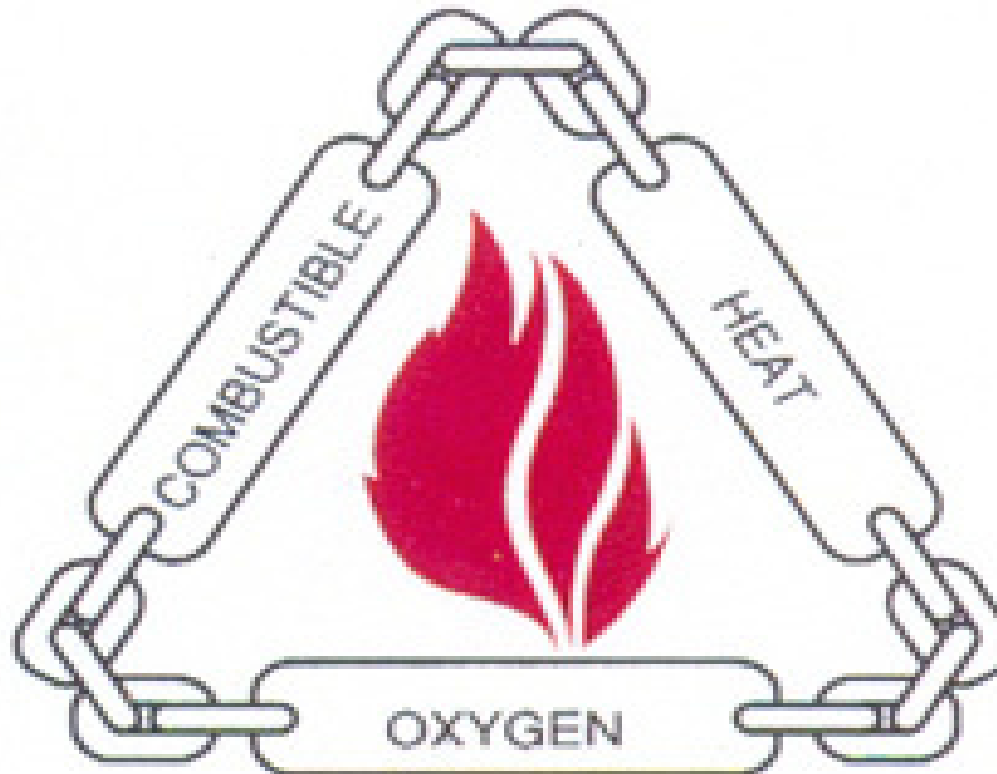
**2. FULLY INTEGRATED & TESTED INERT GAS EXTINGUISHING  
BANK ASSEMBLY****3. Balawa-5112 CLEAN AGENT FIRE SUPPRESSION SYSTEM****3. IH950 ENGINEERED HIGH/LOW PRESSURE WATER MIST  
FIRE SUPPRESSION SYSTEM****3. FIRE DETECTION & DIVERSION SYSTEM.****4. DETECT&EXTINGUISH AT ORIGIN SYSTEM DEFAO SERIES**

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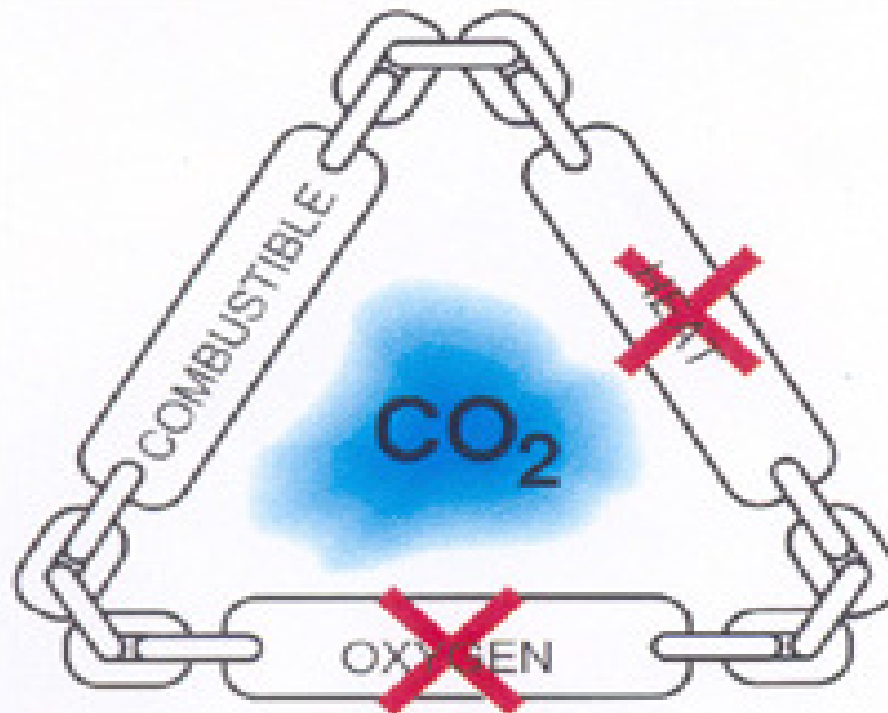
**CARBON DI-OXIDE  
GAS  
FIRE SUPPRESSION SYSTEM**

## Fire Needs



# INTRODUCTION (cont.)

## CO<sub>2</sub> Extinguishes Fire



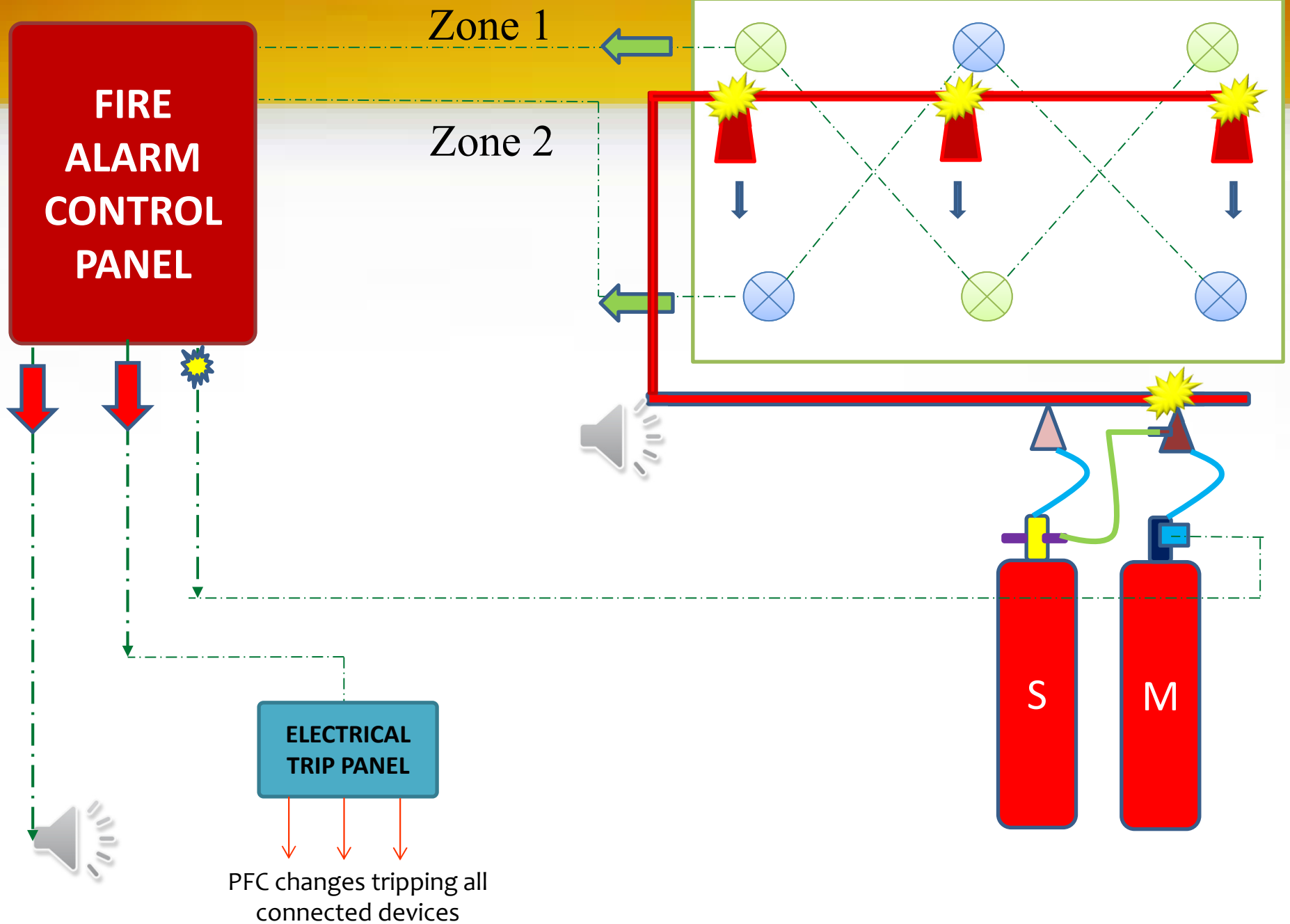
# INTRODUCTION (cont.)

- **CO<sub>2</sub> can be used to extinguish most type of fires, including flammable liquid hazards, deep-seated fires and electrical equipment fires.**
- **CO<sub>2</sub> extinguishes fire by reducing the oxygen content of the atmosphere to a point where it will not support combustion. By reducing the oxygen content from the normal 20.9% in air to about 15% will extinguish the majority of surface fires.**
- **It is stored as a liquid under pressure and when expanded to atmospheric pressure 1 Kg of CO<sub>2</sub> will occupy 0.56m<sup>3</sup> at 30°C**
- **Carbon dioxide(CO<sub>2</sub>) at atmospheric pressure is a colorless, odorless and electrically non-conducting inert gas which is 1.5 times as dense as air.**

**FIXED INSTALLATION  
HIGH PRESSURE  
CARBON-DI-OXIDE  
FIRE SUPPRESSION  
SYSTEMS**

## AUTOMATIC OPERATION USING DETECTORS

## GENERATOR



## **IH401 Series...**

**bala-wa Fixed High Pressure  
Master Slave operation principle  
45 Kg CO2 Cylinder Bank Assembly**



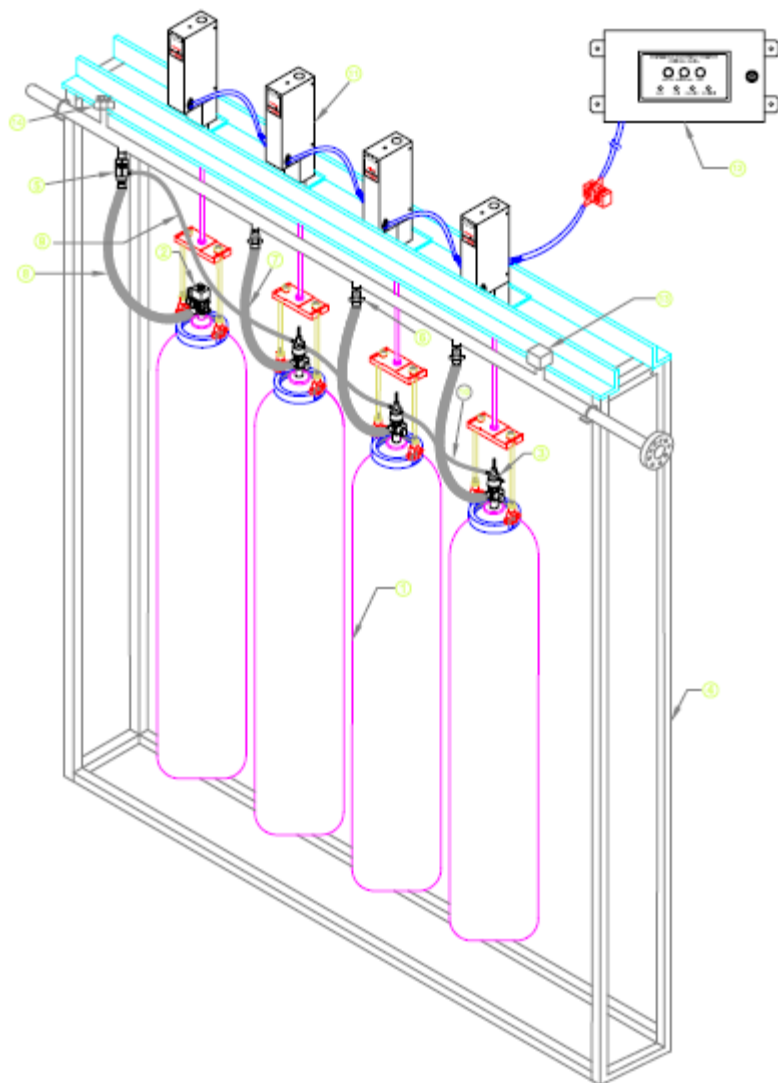




**AGNI CONTROLS  
CHENNAI**

## **FIXED HIGH PRESSURE CO2 CYLINDER BANK ASSEMBLY - MASTER & SLAVE CYLINDER OPERATION PRINCIPLE**

### **CO<sub>2</sub> FLOODING SYSTEM**



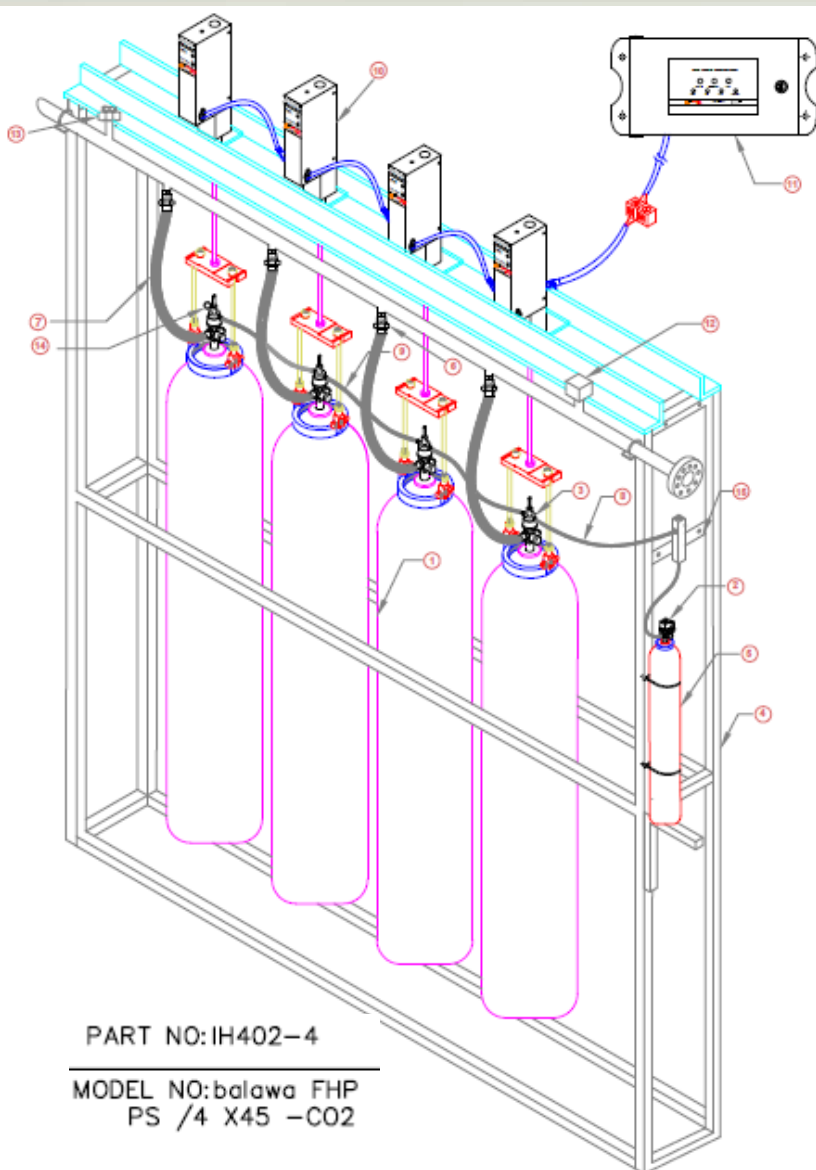
PART NO: IH401-4

MODEL NO: balawa FHP  
MS /4 X45 -CO2

SL NO	PART NO	DESCRIPTION	QTY
1	B048-68	68 LITRES WATER CAPACITY CO2 CYLINDER WITH ISI MARKED & CCE APPROVAL TO FILL 45 KG CO2 GAS	4
2	B001/DIN	CO2 MASTER VALVE WITH DIN477 THREADING STANDARD COMPLETE WITH 24 V DC SOLENOID & MANUAL RELEASE LEVER	1
3	B004/DIN	CO2 SLAVE VALVE WITH PNEUMATIC ACTUATOR & MANUAL LEVER WITH DIN477 THREADING STANDARD	3
4	IH030-4 WD	CO2 CYLINDER BANK FRAME & ACCESSORIES (SUITABLE TO FIX 04 NOS. OF 45 KG CAPACITY CO2 CYLINDER)	1 SET
5	IH018	NON-RETURN VALVE SUITABLE FOR CO2 MASTER CYLINDER	1
6	IH019	NON-RETURN VALVE SUITABLE FOR CO2 SLAVE CYLINDER	3
7	B020	HIGH PRESSURE DISCHARGE HOSE - 400 MM	3
8	B021	HIGH PRESSURE DISCHARGE HOSE - 350 MM	1
9	B022	HIGH PRESSURE ACTUATION HOSE - 550 MM	1
10	B023	HIGH PRESSURE ACTUATION HOSE - 300 MM	2
11	IH007	CONTINUOUS GAS WEIGHT MONITOR - ANALOGUE LED TYPE	4
12	IH009	CONTINUOUS GAS WEIGHT MONITOR CONTROL PANEL	1
13	B143	WEATHER PROOF PRESSURE SWITCH	1
14	IH138	MANIFOLD SAFETY VALVE	1

## **IH402 Series...**

**bala-wa Fixed High Pressure  
N2 / CO2 Pilot and Slave Cylinders  
principle using 45 Kg CO2  
Cylinder Bank Assembly**



### FIXED HIGH PRESSURE CO2 CYLINDER BANK ASSEMBLY- N2/CO2 PILOT & SLAVE CYLINDER OPERATION PRINCIPLE

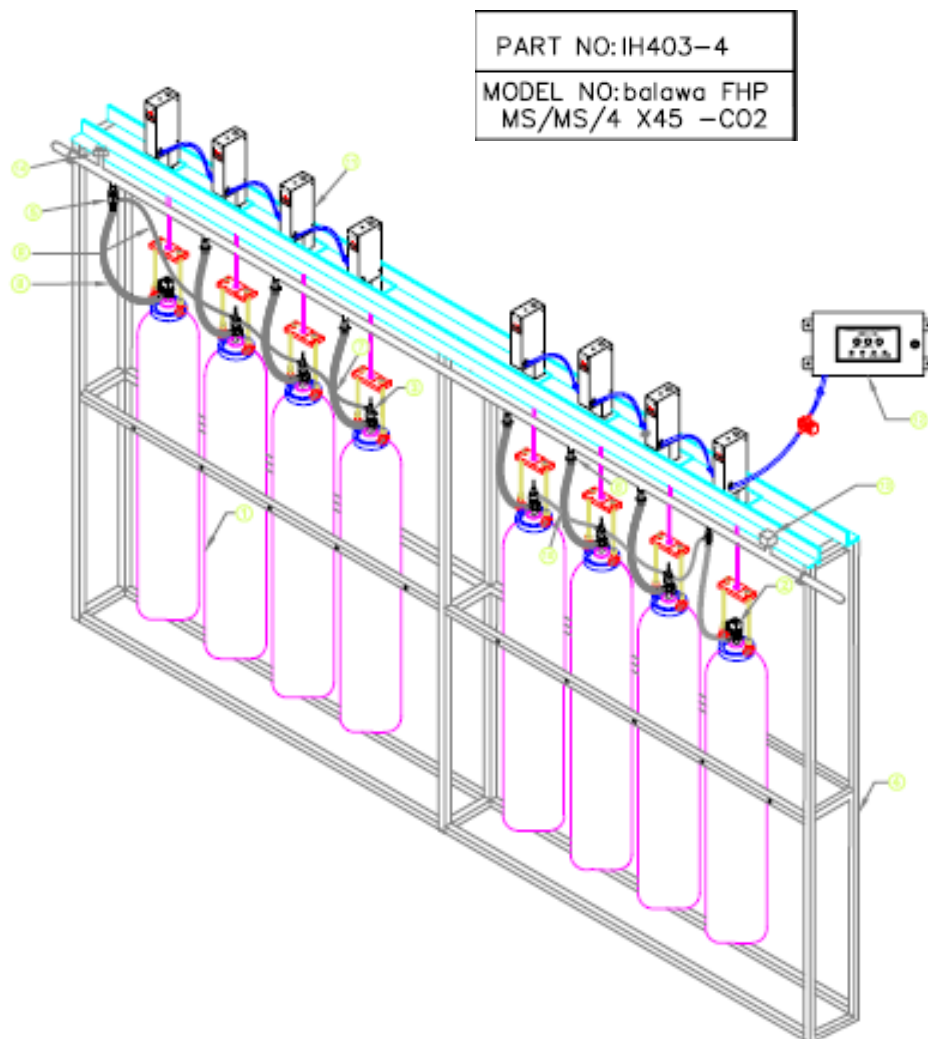
SL NO.	PART NO	DESCRIPTION	QTY
1	B048-68	68 LITRES WATER CAPACITY CO2 CYLINDER WITH ISI MARKED & CCE APPROVAL TO FILL 45 KG CO2 GAS	4
2	B001/DIN	CO2 MASTER VALVE WITH DIN477 THREADING STANDARD COMPLETE WITH 24 V DC SOLENOID & MANUAL RELEASE LEVER	1
3	B004/DIN	CO2 SLAVE VALVE WITH PNEUMATIC ACTUATOR & MANUAL LEVER WITH DIN477 THREADING STANDARD	3
4	IH030-4 WD	CO2 CYLINDER BANK FRAME & ACCESSORIES (SUITABLE TO FIX 04 NOS. OF 45 KG CAPACITY CO2 CYLINDER)	1 SET
5	BIH302/BIH027	6.8 LITRES WATER CAPACITY CO2 CYLINDER , FILLED WITH 4.5KG CO2 GAS OR 1 CU METERS N2 GAS.	1
6	IH019	NON-RETURN VALVE SUITABLE FOR CO2 SLAVE CYLINDER	4
7	B020	HIGH PRESSURE DISCHARGE HOSE - 400 MM	4
8	B022	HIGH PRESSURE ACTUATION HOSE - 550 MM	1
9	B023	HIGH PRESSURE ACTUATION HOSE - 300 MM	3
10	IH007	CONTINUOUS GAS WEIGHT MONITOR - ANALOGUE LED TYPE	4
11	IH009	CONTINUOUS GAS WEIGHT MONITOR CONTROL PANEL	1
12	B143	WEATHER PROOF PRESSURE SWITCH	1
13	IH138	MANIFOLD SAFETY VALVE	1

## **IH403 Series...**

**bala-wa Fixed High Pressure  
Main & Standby,  
Master Slave Operation principle  
using 45 Kg CO<sub>2</sub>  
Cylinder Bank Assembly**



## FIXED HIGH PRESSURE CO2 CYLINDER BANK ASSEMBLY - MAIN & STANDBY MASTER SLAVE OPERATION PRINCIPLE



SL NO	PART NO	DESCRIPTION	QTY
1	B048-68	68 LITRES WATER CAPACITY CO2 CYLINDER WITH ISI MARKED & CCE APPROVAL TO FILL 45 KG CO2 GAS	8
2	B001/DIN	CO2 MASTER VALVE WITH DIN477 THREADING STANDARD COMPLETE WITH 24 V DC SOLENOID & MANUAL RELEASE LEVER	2
3	B004/DIN	CO2 SLAVE VALVE WITH PNEUMATIC ACTUATOR & MANUAL LEVER WITH DIN477 THREADING STANDARD	6
4	IH030-4 WD	CO2 CYLINDER BANK FRAME & ACCESSORIES (SUITABLE TO FIX 04 NOS. OF 45 KG CAPACITY CO2 CYLINDER)	2 SET
5	IH018	NON-RETURN VALVE SUITABLE FOR CO2 MASTER CYLINDER	2
6	IH019	NON-RETURN VALVE SUITABLE FOR CO2 SLAVE CYLINDER	6
7	B020	HIGH PRESSURE DISCHARGE HOSE - 400 MM	6
8	B021	HIGH PRESSURE DISCHARGE HOSE - 350 MM	2
9	B022	HIGH PRESSURE ACTUATION HOSE - 550 MM	2
10	B023	HIGH PRESSURE ACTUATION HOSE - 300 MM	4
11	IH007	CONTINUOUS GAS WEIGHT MONITOR - ANALOGUE LED TYPE	8
12	IH009	CONTINUOUS GAS WEIGHT MONITOR CONTROL PANEL	1
13	B143	WEATHER PROOF PRESSURE SWITCH	1
14	IH138	MANIFOLD SAFETY VALVE	1

## **IH404 Series...**

**bala-wa Fixed High Pressure**

**Main & Standby,**

**Master Slave Operation principle**

**using common bank with**

**directional valves**

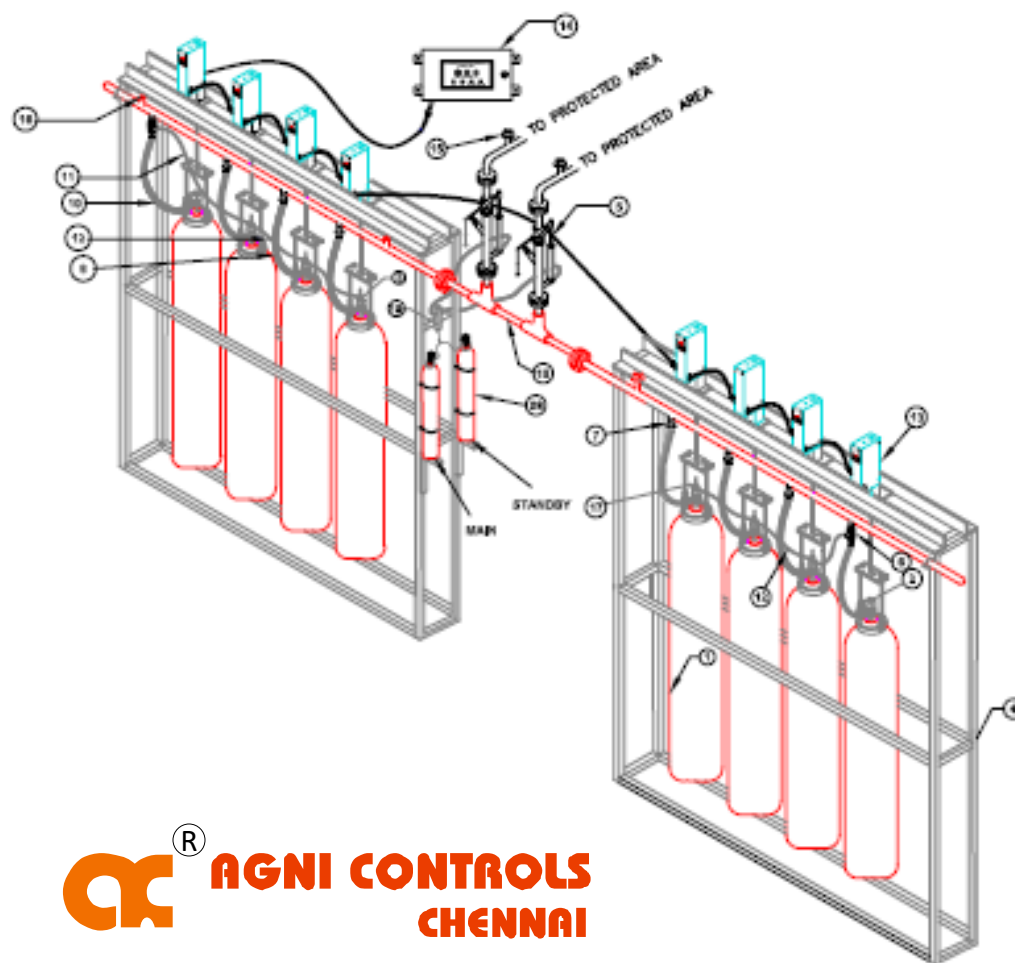
**45 Kg CO2 Cylinder Bank Assembly**



Sl.No	Part No.	Description	Qty
01	B048-68	68 Ltrs water capacity CO2 cylinder to fill 45kg CO2 gas	8
02	B001/DIN	CO2 master valve with 24 V DC solenoid & Manual release lever	2
03	B004/DIN	CO2 slave valve with pneumatic actuator & manual lever	6
04	IH030-4 WD	CO2 cylinder bank frame assembly & accessories (Suitable to fix 4 nos. of 45kg capacity CO2 cylinder)	2
05	IH015	Directional valve	2
06	IH018	Non-Return valve suitable for CO2 Master cylinder	2
07	IH019	Non-Return valve suitable for CO2 Slave cylinder	6
08	BIH302	6.8 ltr water capacity CO2 cylinder filled with 4.5kg CO2 gas or 1cu.m N2 gas	2
09	B020	High Pressure Discharge Hose-400mm	6
10	B021	High Pressure Discharge Hose-350mm	2
11	B022	High Pressure Actuation Hose-550mm	2
12	B023	High Pressure Actuation Hose-300mm	4
13	IH007	Continuous gas weight monitor – Analog LED type	8
14	IH009	Continuous gas weight monitor control panel	1
15	B143	Weather proof pressure switch	2
16	IH138	Manifold safety valve	1
17	IH138/1	Bleeder valve	2
18	IH024/1-2SV	Distributor assembly with 2 no. 24 v dc operated solenoid valve and electrical terminal box ( to be used with BIH302 - N2 & BIH302-N2-PS	1
19	IH136-2	Joining manifold for 2 nos. Of directional valve	1

## AGNI CONTROLS Vs OTHERS

### CO<sub>2</sub> FLOODING SYSTEM





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## CO2 CYLINDER BANK FRAME ASSEMBLY





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## CO2 CYLINDER BANK – CABINET TYPE



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# SYSTEM COMPONENTS

**BIH048-68 MV**  
**CO<sub>2</sub> Master Cylinder**



**BIH048-68 SV**  
**CO<sub>2</sub> Slave Cylinder**

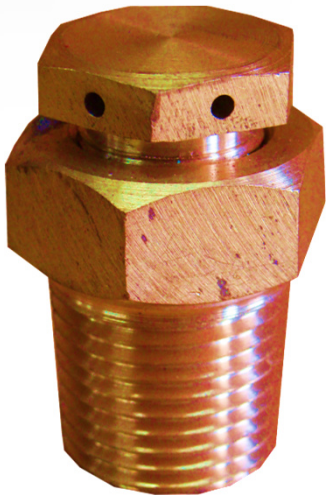


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# SYSTEM COMPONENTS

**IH388**  
**Manifold Safety Valve**



**IH018**  
**Master NRV**



**IH019**  
**Slave NRV**



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# SYSTEM COMPONENTS

**IH030-WD**

**CO2 Frame Assembly with Manifold Header**



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# **SYSTEM COMPONENTS**

**IH012**  
**CO2 Cone Nozzle**



**IH011**  
**Machinery Nozzle**





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**fladet<sup>®</sup>**

# SYSTEM COMPONENTS

**IH029**

**Manual Gas Discharge Station  
(Indoor Application)**



**IH028**

**Gas Inhibit Switch  
(Indoor Application)**



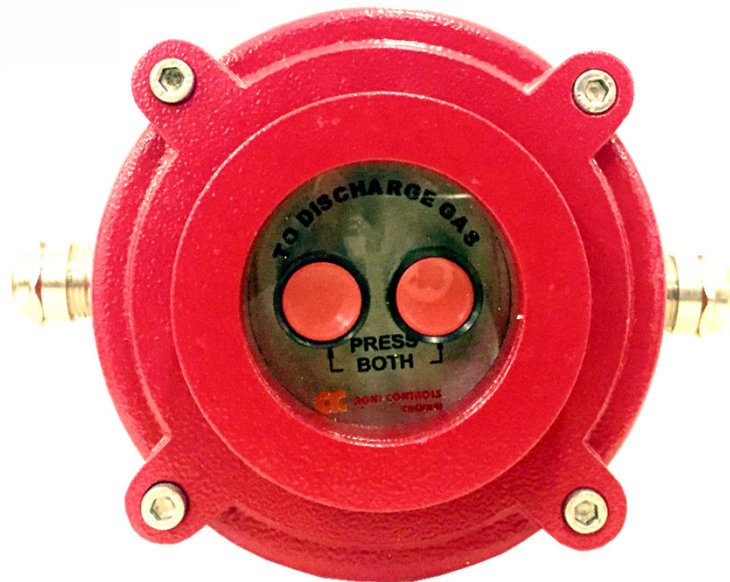
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# SYSTEM COMPONENTS

**IH029/1**

**Manual Gas Discharge Station  
(Outdoor Application)**



**IH028/1**

**Gas Inhibit Switch  
(Outdoor Application)**

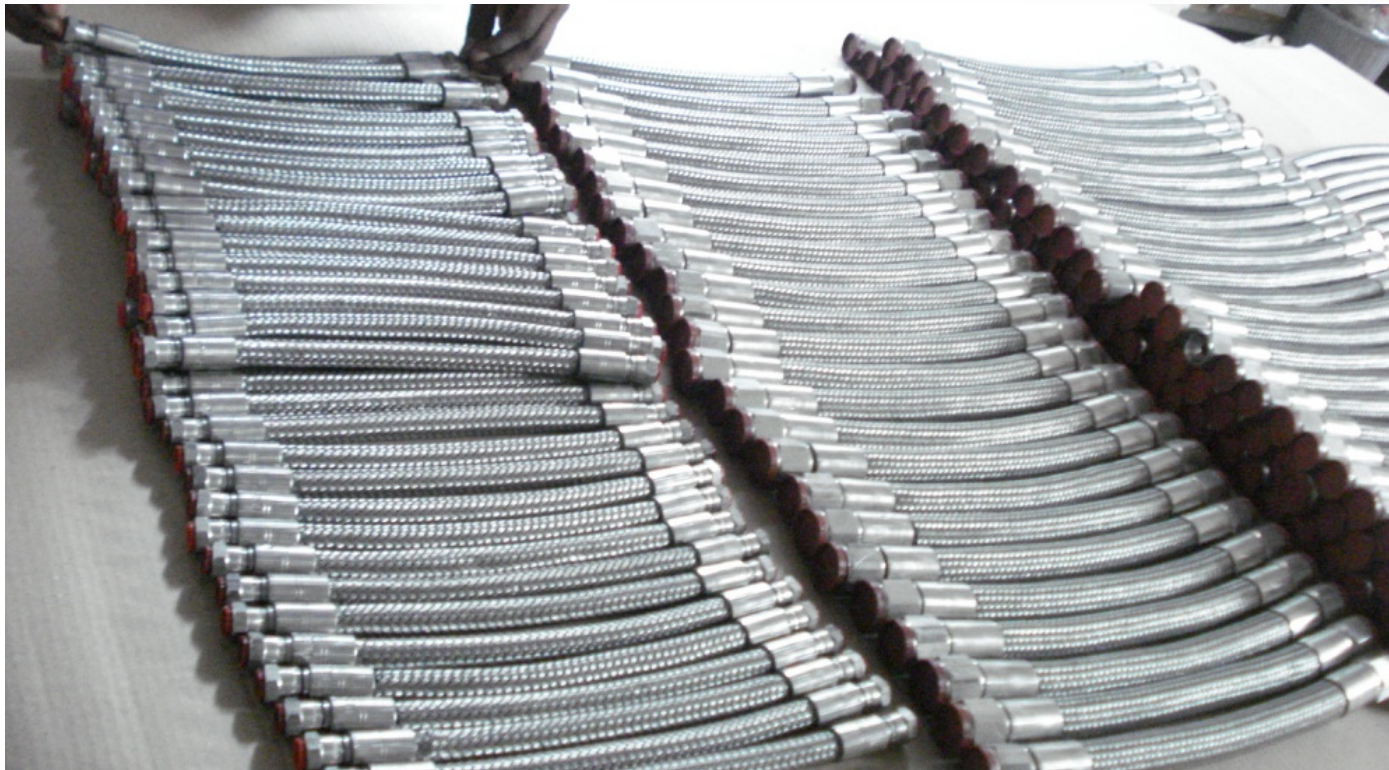


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# **SYSTEM COMPONENTS**

**IH020 – 23**  
**High Pressure Actuation & Discharge Hoses**





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# SYSTEM COMPONENTS

**IH324**  
**Wintergreen Odorizer**



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# SYSTEM COMPONENTS

**IH015**  
**Directional Valve**



**IH237**  
**Manual Lock-out Valve**



**bala-wa<sup>®</sup>**

**FIXED INSTALLATION HIGH PRESSURE CO2 SYSTEM  
FULLY ASSEMBLED INTEGRATED & TESTED  
CYLINDER BANK IN AIR CONDITIONED CONTAINER**

**fladet<sup>®</sup>**



**MANUFACTURER : M/S. AGNI CONTROLS, CHENNAI**

**CUSTOMER : M/S. BHEL, HYDERABAD - INDIA.**

**END USER : M/S. BPCL, COCHIN - INDIA.**

**PROJECT : GAS TURBINE PROTECTION - CO2 FIRE EXTINGUISHING SYSTEM**

**DETAILS:**

- 1. CONTAINER -** Size 6.0 X 1.4 X 2.8 Mtr  
Installed 24 X 45 Kgs CO<sub>2</sub> GAS CYLINDER  
QTY - 3 NOS.
- 2. CONTAINER -** Size 4.0 X 1.4 X 2.8 Mtr  
Installed 18 X 45 Kgs CO<sub>2</sub> GAS CYLINDER  
QTY - 3 NOS.

**SPECIAL REMARKS: FULLY INTEGRATED, WIRED, INSULATED, AIR CONDITIONED  
CONTAINER SUITABLE FOR SEMI OUTDOOR AND HIGH  
AMBIENT TEMPERATURE PLACES.**

**TRADE NAME : bala-wa<sup>®</sup>**

# **TECHNICAL REVIEW ON CO2 SYSTEM**

# High Pressure & Low Pressure System

- The ability of CO2 system to extinguish fire depends upon the way in which the CO2 is discharged into the fire area and the quantity of CO2 discharged.
- Other than the application of CO2 (discussed above) the other variable is the method of storage. CO2 can be stored as a “High Pressure” system or a “Low Pressure” system. The design of the system is influenced by the method of storage.
  - High Pressure Systems
    - The CO2 is stored in cylinders at 350 psi at 21°C.
  - Low Pressure Systems
    - The CO2 is stored in an insulated pressure vessel and maintained at a pressure of 300 psi at -18°C.
- For small or medium volume spaces the “high pressure” system would normally be used. The advantage with “low pressure” systems is that large quantities of CO2 can be stored, from 3 tone systems up to 20 tone or more, therefore the protection of large volume spaces or multi-directional control valve systems offers an economic and practical solution to system selection when using “low pressure” bulk storage techniques.

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fladet<sup>®</sup>

# **HIGH PRESSURE SYSTEM**

**bala-wa<sup>®</sup>**

**fladet<sup>®</sup>**

# **HIGH PRESSURE SYSTEM**

**There are two type of applications :**

- Total Flooding**
- Local Application**

**Total flooding with CO<sub>2</sub> is a method of fire extinguishing whereby the air in the enclosed protected area is diluted to a point where burning cannot continue i.e. in general cases a 34% by volume of CO<sub>2</sub> will extinguish a fire (15% by volume of oxygen).**

**Extinguishing of surface fires involving flammable liquids, gases and solids is the most common application of total flooding, but deep-seated fires involving solids subject to smoldering can also be controlled by this method.**

**Total flood extinguishing depends upon filling an enclosure with a predetermined concentration of CO<sub>2</sub> and maintaining that concentration for as long as possible. It is therefore important that leakage of CO<sub>2</sub> from the enclosure is kept to a minimum, however calculations can be made to compensate for CO<sub>2</sub> losses through unclosable openings. Ventilation fans and dampers should be shut down and closed prior to the CO<sub>2</sub> discharge.**



**Local application systems extinguish fires by discharging CO<sub>2</sub> directly into the fire. In this method, air necessary for combustion is starved from the immediate vicinity of the fire and replaced by an inert atmosphere until the fire is extinguished.**

**The basic principle with local application is the prompt discharge of the CO<sub>2</sub> so that the fire can be extinguished before excessive heat can be absorbed by materials within the protected area.**

**bala-wa<sup>®</sup>**

**EXTENDED DISCHARGE**

**fladet<sup>®</sup>**

## **FOR TOTAL FLOODING AND LOCAL APPLICATION**

**An extended discharge system discharges CO<sub>2</sub> at a high initial rate followed by the release of additional CO<sub>2</sub> to maintain the designed concentration for a predetermined period of time.**

**Extended discharge may be used on total flood or local application systems and is used where re-ignition of the fire is possible should the initially created inerted atmosphere be lost.**

**Typical extended discharge systems are those for rotating electrical equipment, motors and gas turbines where the inerting effect of the CO<sub>2</sub> would be dissipated.**

**An extended discharge system is designed to compensate for CO<sub>2</sub> leakage and to maintain the design CO<sub>2</sub> concentration for such a period of time where the temperatures of the equipment have been reduced to below their auto-ignition temperature.**

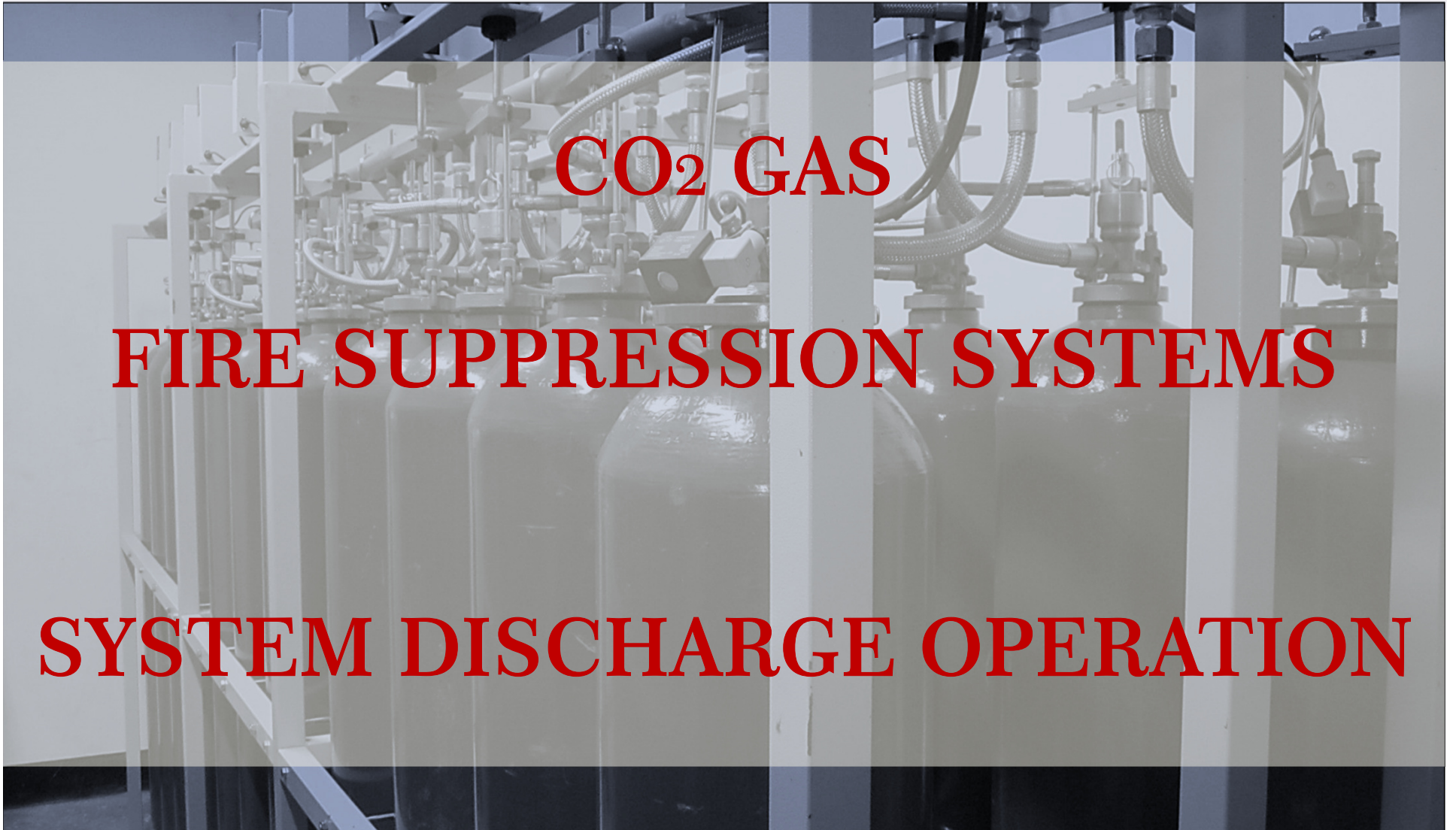
**bala-wa<sup>®</sup>**

**fladet<sup>®</sup>**

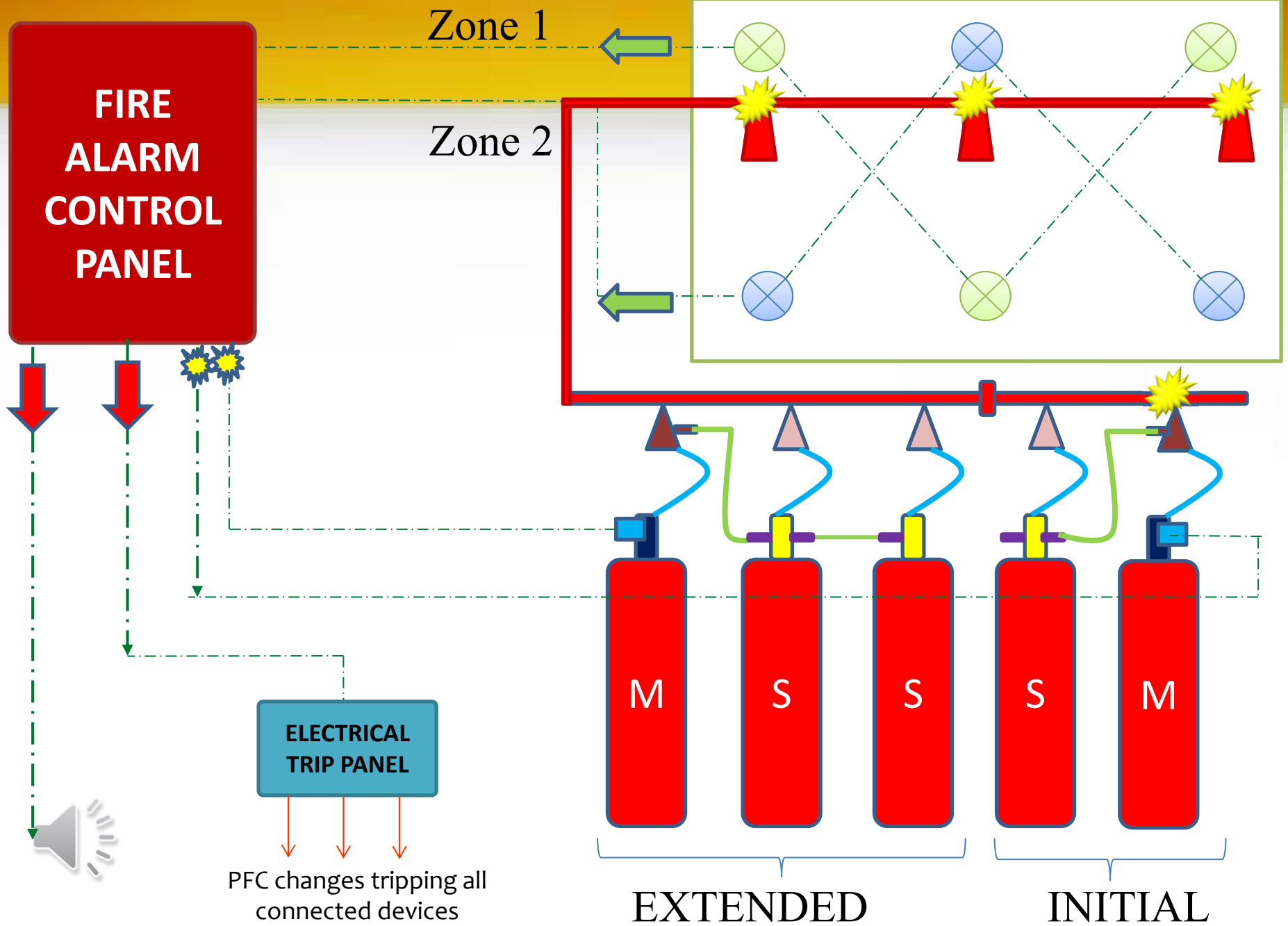
**CO<sub>2</sub> GAS**

**FIRE SUPPRESSION SYSTEMS**

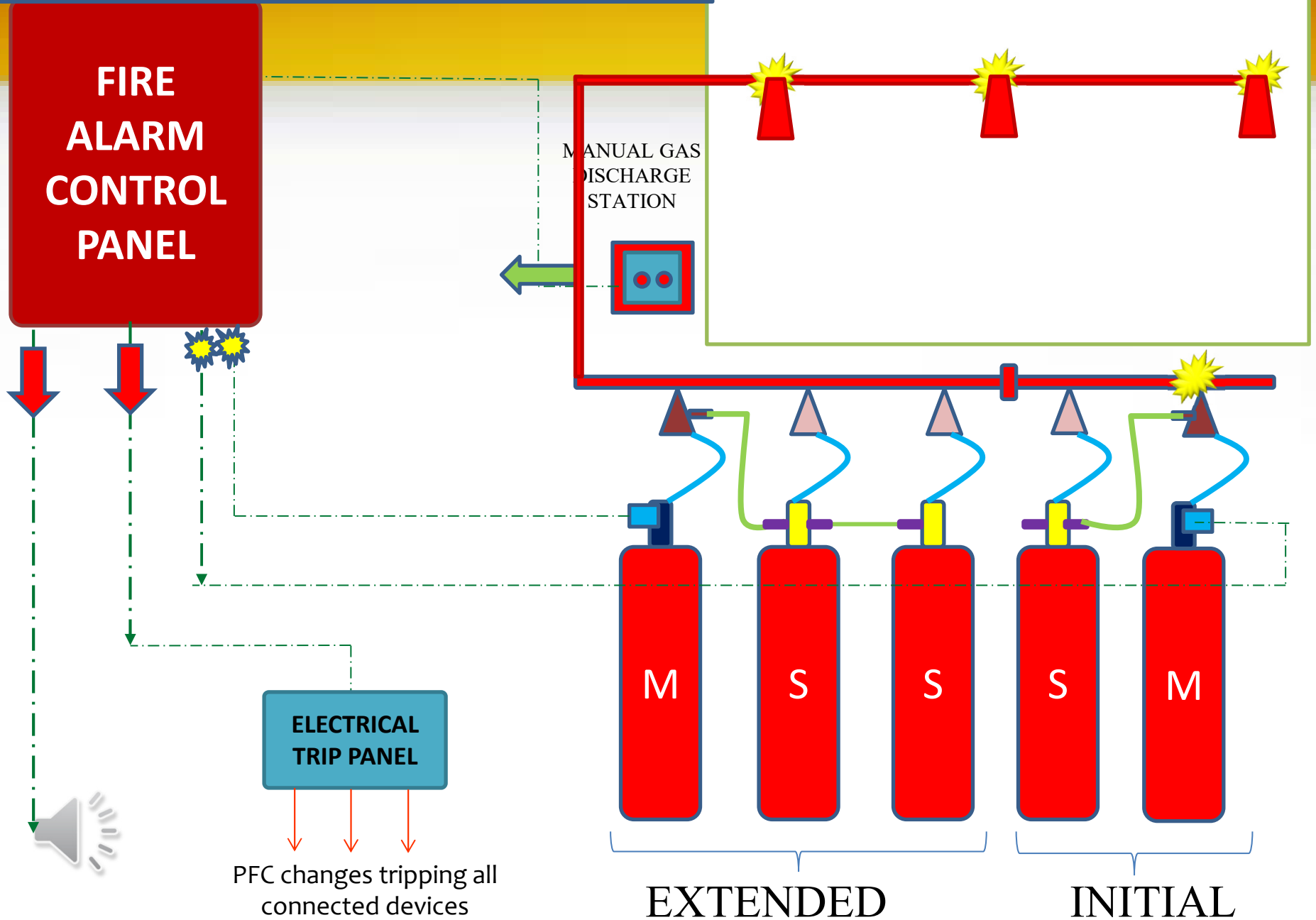
**SYSTEM DISCHARGE OPERATION**



# AUTOMATIC OPERATION USING DETECTORS



# AUTOMATIC CUM MANUAL OPERATION USING MGDS

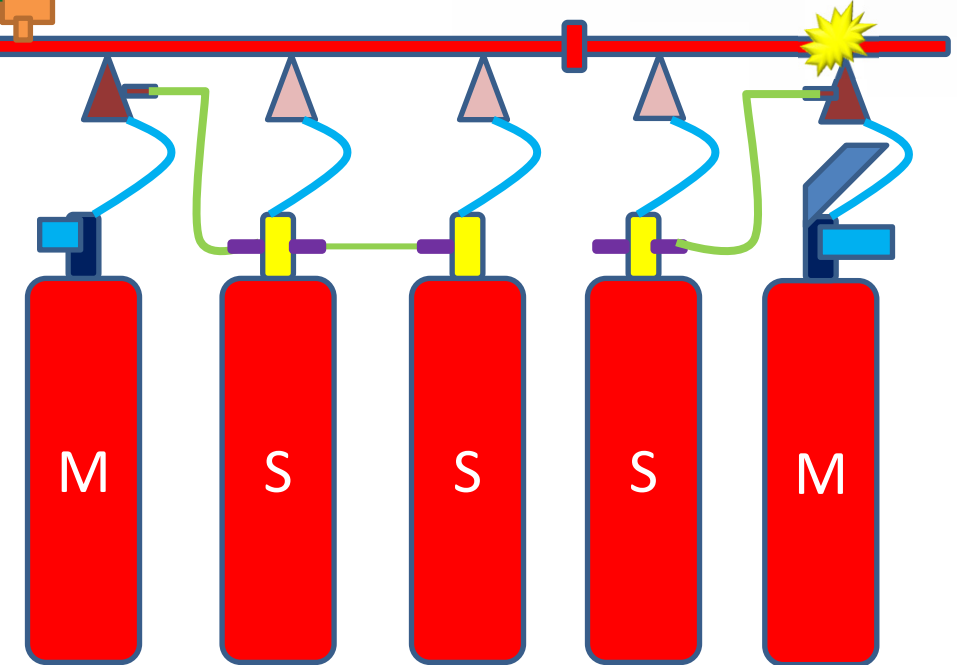


MANUAL OPERATION BY PRESSING MASTER VALVE  
MANUAL LEVER

FIRE  
ALARM  
CONTROL  
PANEL

ELECTRICAL  
TRIP PANEL

PFC changes tripping all  
connected devices



EXTENDED

INITIAL

## DISCHARGE SEQUENCE OF CYLINDER BANK

Extended discharge within

20 min

EXTENDED  
PIPELINE

Initial discharge within

60 sec

GENERATOR  
ENCLOSURE

FIRE  
ALARM  
CONTROL  
PANEL

M

S

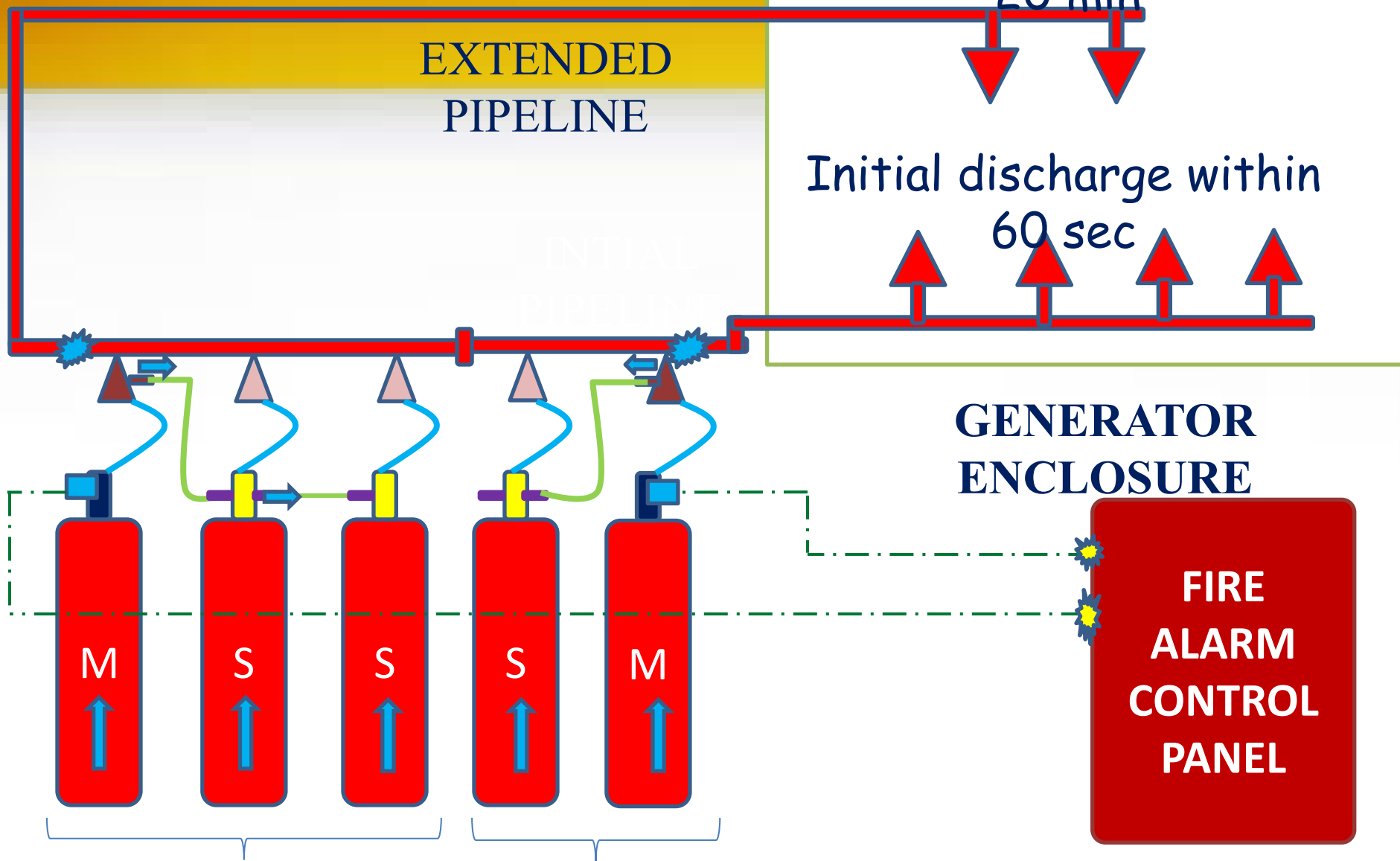
S

S

M

EXTENDED  
DISCHARGE

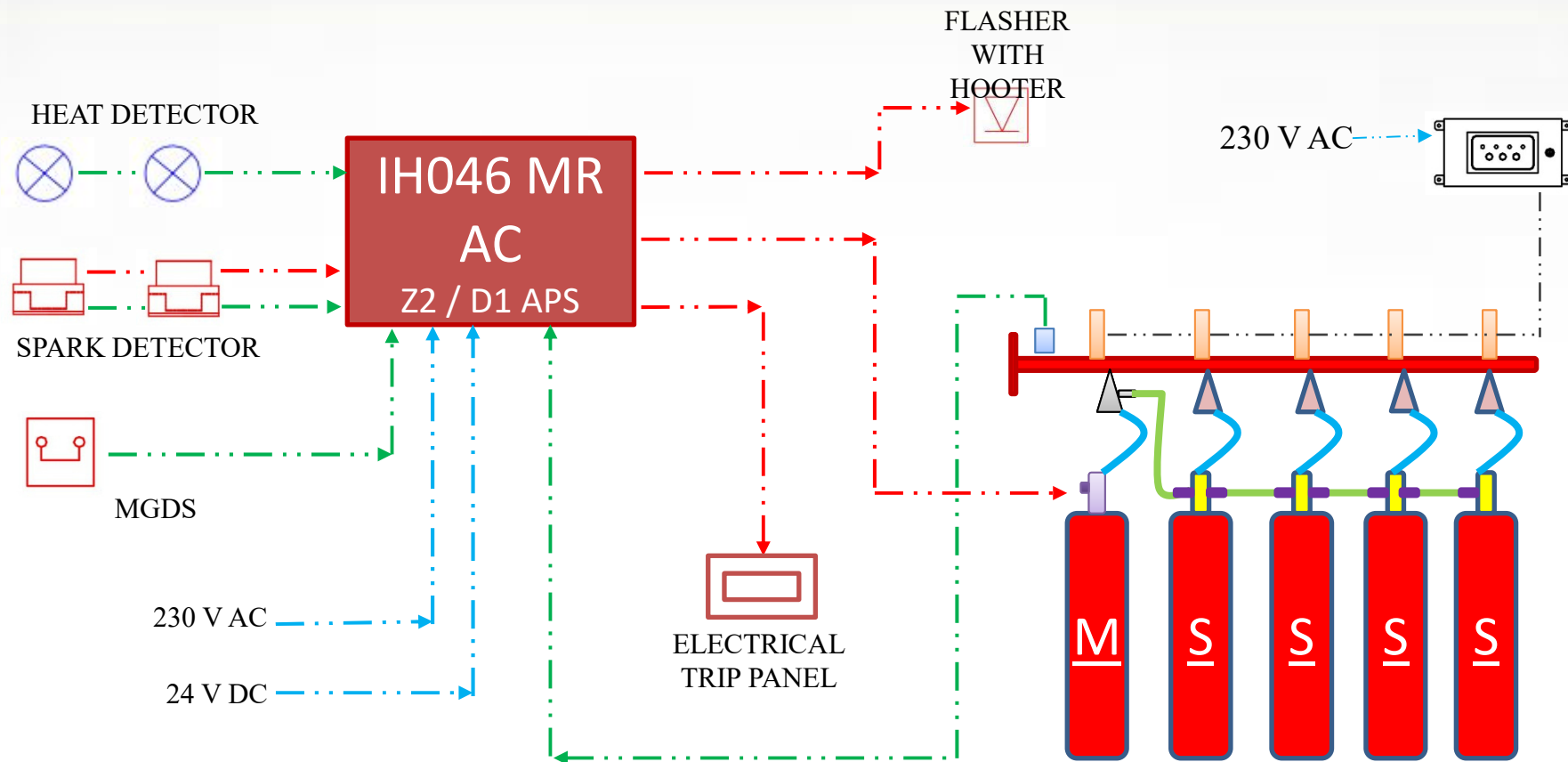
INITIAL  
DISCHARGE



**bala-wa®**

**fladet®**

# FIRE SUPPRESSION SYSTEM - SCHEME





## ■ Dimensioning of gas extinguishing systems

Basis for an optimised dimensioning of gas extinguishing systems are fluid-mechanical equations specifying the connection between the technical data of system components (e.g. pipe diameters, resistance coefficients of fittings), the specific characteristics of the extinguishing medium and the physical conditions prevailing during the flooding (e.g. flow velocity, pressure in pipes and at nozzles). Furthermore, the balance equations must, of course, be fulfilled. All this results in the data required for designing the system, such as discharge time, pipe diameters, nozzle diameters and pressures.

## ■ Features of the VdS calculation software

The programs provide:

- > indication of required design quantities
- > dimensioning of pipe work (including nozzles and, if required, restrictors)
- > calculation of discharge time upon design of entire gas extinguishing system
- > determination of required pressure relief opening (recommended values)
- > calculation of expected values for oxygen and gas concentration
- > graphic display of pipe work

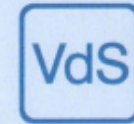


VdS Schadenverhütung GmbH

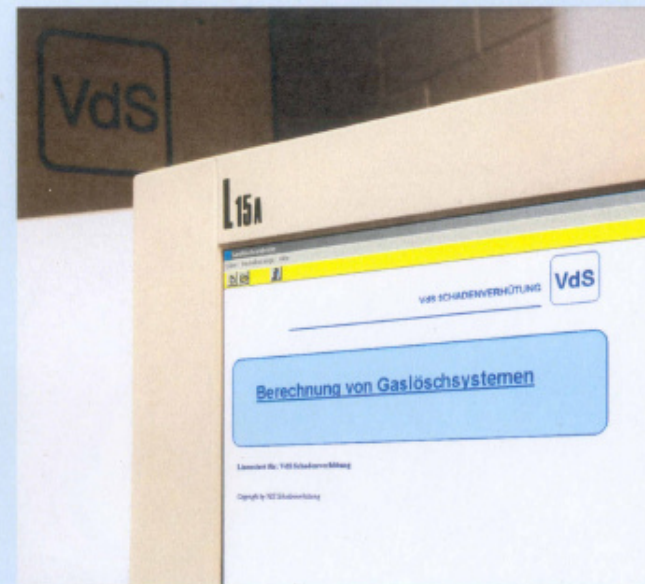
A company of the German Insurance Association  
GDV (Gesamtverband der Deutschen  
Versicherungswirtschaft e.V.)

Amsterdamer Str. 172 - 174 • 50735 Köln  
Tel.: +49 221 77 66 - 0 • Fax +49 221 77 66 - 341

VdS Calculation Software for CO<sub>2</sub> Gas Extinguishing Systems



CONFIDENCE THROUGH SAFETY AND SECURITY



VdS Calculation Software  
for the Dimensioning of  
CO<sub>2</sub> Gas Extinguishing Systems

bala-wa<sup>®</sup>

## USING LICENSED VDS SOFTWARE CALCULATION

fladet<sup>®</sup>

CO2 Systeme

Files Catalogues Help



VdS SCHADENVERHÜTUNG



### Calculation of CO<sub>2</sub> - Systems

Version 8.5

Serial number:[dongle]

Licensed to: AGNI CONTROLS, CHENNAI

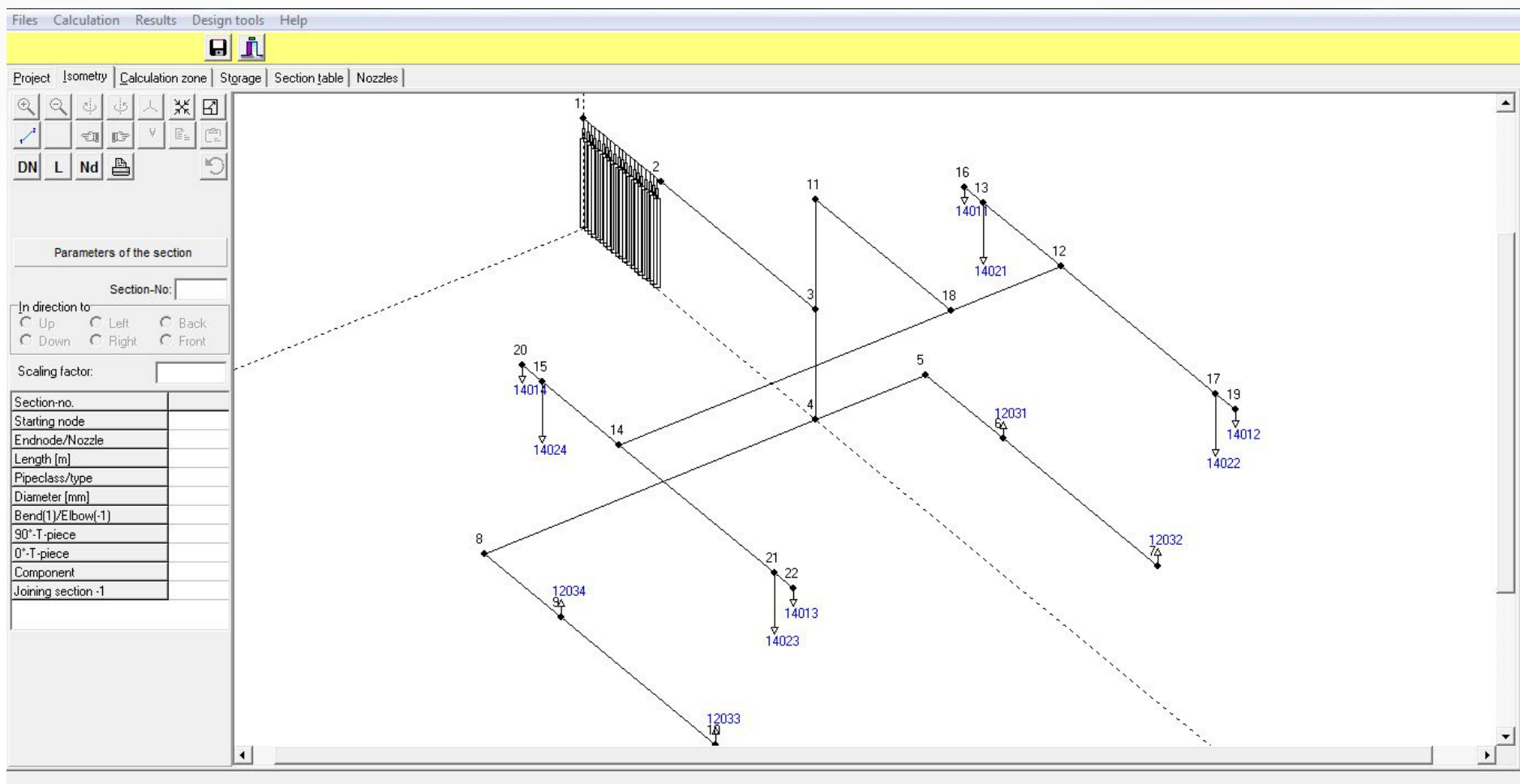
Copyright by VdS Schadenverhütung

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**fladet®**

# **FIRE SUPPRESSION SYSTEM – DESIGN BASIS**

**CO2 Design Calculations are validated using VdS Approved software**



**bala-wa<sup>®</sup>**

**fladet<sup>®</sup>**

# **ONLINE MONITORING SYSTEM**

## **How effective is your CO<sub>2</sub> Fire Extinguishing System ?**

- Your system may look Normal.**
- The loss of gas could affect fire extinguishing efficiency.**
- What is the method to monitor gas loss ?**

***The Solution is :***

**“ONLINE MONITORING SYSTEM”**



# INTRODUCTION

- Online Monitoring System is used in Gas based Fire Extinguishing system like CO<sub>2</sub> & FE-13 systems to monitor weight of the agent in the cylinder to meet NFPA & OISD standards.



## Necessity of the Online Monitoring Systems

- As per the OISD standards 142 – 1996 (Ref. Clause 7.2.2), Fixed Carbon di-oxide Fire Extinguishing system. e. Refilling:
- Loss in weight of cylinders shall be checked once in 3 months. Refilling should be done if loss in weight is more than 10%.
- As per NFPA-12, quantity of gas should be checked at least once in 6 months.

## Advantage of the Online Monitoring System

- Fire extinguishing efficiency depends on the correct design concentration of extinguishing gas. If the gas loss due to leakage or any other reason, cylinder has to be refilled for designed quantity. It is very obvious, continuous monitoring of the gas weight is required.
- This requirement is simply fulfilled by **Online Monitoring System**.
- Without this system, once in 3 months / 6 months each cylinder is to be removed from the cylinder bank and weight is to be measured. After measuring the weight, again cylinders are to be re fixed and re commissioned for proper function.
- This is time-consuming process for maintenance department with highly skilled manpower.

# SYSTEM DESCRIPTION

– The system consists of:

- Online Monitor
- Online Monitor Control Panel

Online Monitor Panel

Online Monitor



## WORKING PRINCIPLE

- Each cylinder requires one Online Monitor. The cylinder should be fixed in hanging condition through Online Monitor.
- Depends on type of Online monitor Low weight is indicated. When the gas in the cylinder reduced below 10% or 5% (according to the requirement of standard and type of gas system - For CO<sub>2</sub> gas 10%)
- The Low weight is indicated, by means of counter weight position or LED indication or Digital display of weight and LED indication.



## WORKING PRINCIPLE (CONT.)

- Online monitor Control Panel provides required supply for Online monitoring unit. This panel also supervises the wire connection for open and short condition.
- On receipt of Low weight Indication from the cylinder bank, the panel gives Audio and Visual Indication. 2 set of potential free NO and NC contacts are available for remote indication or any other relevant signaling.
- The panel works on 230 V AC or 24 V DC from Fire alarm panel. Maximum 20 Nos.of Online monitor can be connected with the Control Panel.

## TYPES OF DEVICES

**There are following type of Online monitors are available**

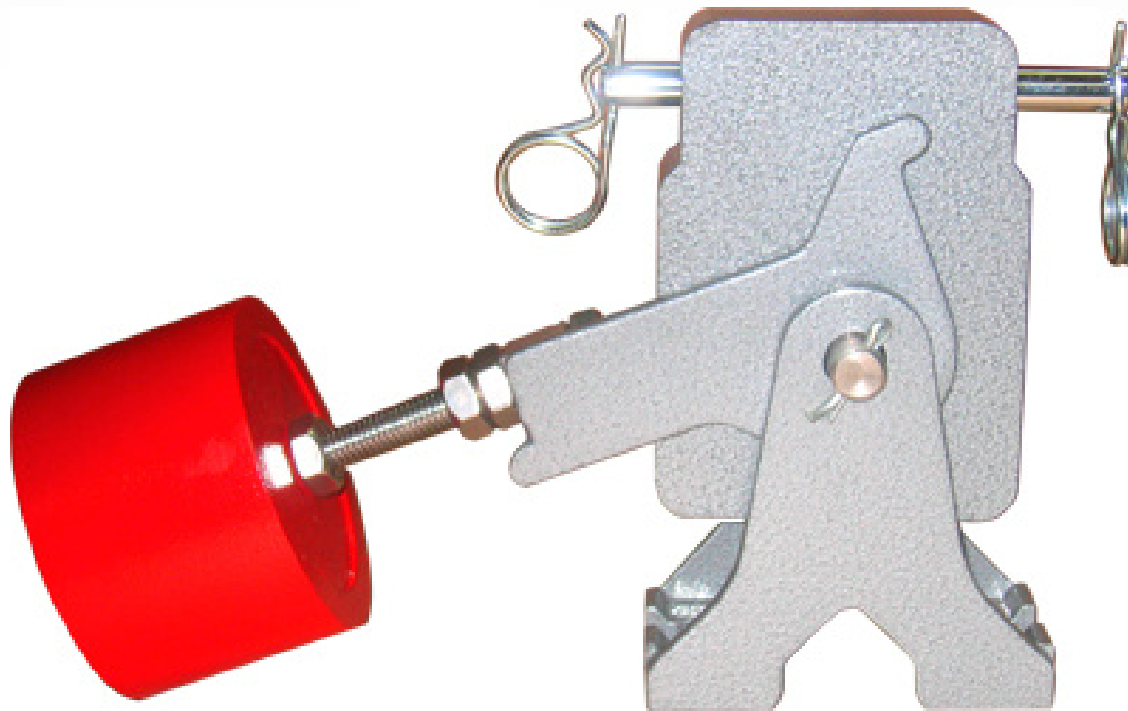
- **Online Monitor – Mechanical indicator type (Part No. IH006R)**
- **SS Online Monitor – Mechanical indicator type (Part No. IH006-SS)**
- **Online Monitor with exproof limit switch – Mechanical indicator type (Part No. IH006E R)**
- **Online Monitor with Normal Indication– Analog LED Type (Part No.IH007R NI)**
- **Online Monitor Control Panel (Part No.IH009R)**
- **Online Monitor Control Panel - 2 Area (Part No. IH009R-2A)**

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**fladet<sup>®</sup>**

## **ONLINE MONITORING SYSTEM**

### **IH006 Online Monitor (Mechanical type)**



## **ONLINE MONITORING SYSTEM**

### **SS Online Monitor (Mechanical type)**



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## **ONLINE MONITORING SYSTEM**

**IH007R-NI Online Monitor (Electronic type with Normal Indications)**



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## **ONLINE MONITORING SYSTEM**

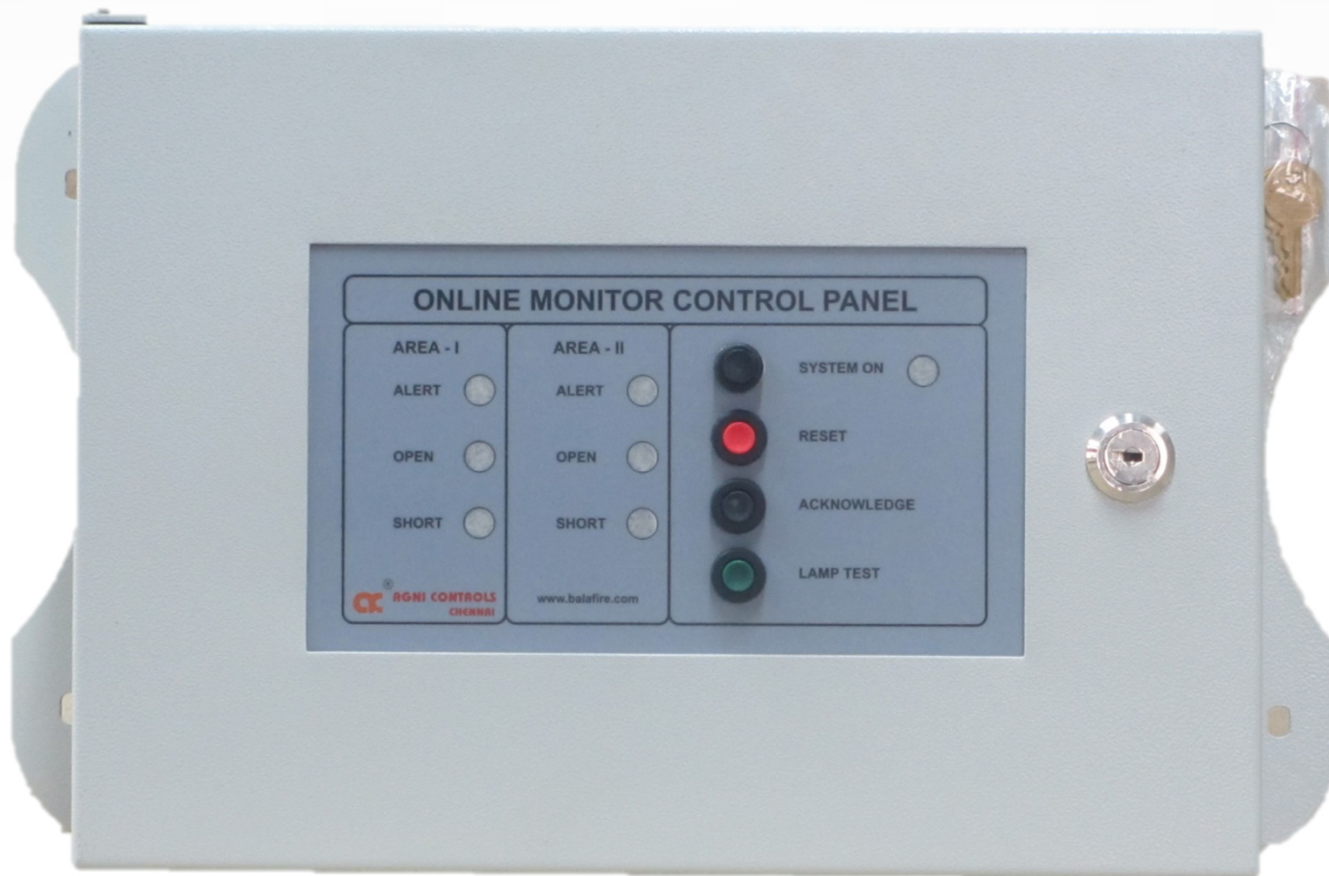
### **IH009R - Online Monitor Control Panel**





## ONLINE MONITORING SYSTEM

### IH009R-2A - Two Area Online Monitor Control Panel



# Why CO<sub>2</sub> System

# Why CO<sub>2</sub> System

Some of the salient features of CO<sub>2</sub> Fire Extinguishing System:

- The value of CO<sub>2</sub> as a fire extinguishant was recognized in the USA, the concept developed, and the first six page standard for the systems was published by the *NFPA in 1928.*
- *Before halon* or halon alternative was *even conceived* CO<sub>2</sub> system had already extinguished thousands of fires.
- All the gaseous systems have their own positive points as well as negative points.
- All the gaseous systems are have their own limitations.
- Halocarbon extinguishing system such as FM 200 / FE 227 / NAF SIII are not safe in occupied area, if discharge concentration exceeds NOAEL (No Observed Adverse Effect Level).
- CO<sub>2</sub> system are finding more use both land based and marine application.

## Why CO<sub>2</sub> System (cont.)

- CO<sub>2</sub> on discharge it leaves no residue.
- CO<sub>2</sub> electrically non conductive.
- CO<sub>2</sub> ideally suites to:
  - Permanently unoccupied areas;
  - Areas where evacuation of personnel can be assured before discharge of agent (manual discharging method is recommended);
  - 'Local' application to plant or flammable liquid hazards in larger enclosures.
- Some of the important limitation of Inert Gas system while comparing to CO<sub>2</sub> system:
  - Inert Gas System is very high pressure system, presently the filling pressure is 160 bar & 200 bar;
  - Quick operated valves are used with bigger discharge port.
  - Number of cylinders required are more.
  - This high pressure system require periodically routine maintenance with highly skilled technical group.

## Why CO<sub>2</sub> System (cont.)

- Some of the important limitation of Halocarbon Gas system (FM 200 / FE 227 / NAF SIII) while comparing to CO<sub>2</sub> system:
  - Halocarbon extinguishing agent cost is very high (approx. 120 times costlier than CO<sub>2</sub>).
  - Maintenance and Re-filling cost is also equally very high.
  - Dump test is not recommended and feasible.
  - Cylinder bank should be located within 35 meters of the protected area.
  - All of the present Halocarbon contains fluorine which produce Hydrogen Fluoride (HF) and it creates corrosive atmosphere.
  - Purity of the Halocarbon is to be established with lengthy and expensive procedures.

# Why CO<sub>2</sub> System (cont.)

- **Typical applications:**
  - **The following four main techniques are adopted:**
    - Total flooding for surface fires and deep seated fires;
    - Local application for surface application;
    - Local application for volume or object protection;
    - Continuous discharge for rotating machinery and turbines.
  - **Recommended hazard areas:**
    - Switch rooms, control cabinets, floor voids, electrical and electronic equipment rooms, engine test bays, ships engine and cargo holds;
    - Drying ovens, large electrical and electronic cabinets;
    - Paint spray booths, dip varnishing units, vapour exhaust systems;
    - Transformers, generators, turbines;
    - Flammable liquids and chemical products, foam materials;
    - Rolling mills, test stands, dust filters, silos, textile and printing machinery; and
    - stores, archives, objects d'art.



# bala-wa<sup>®</sup> Overview on M/s Agni Controls fladet<sup>®</sup>

## SOME IMPORTANT CLIENTS



HAZIRA



PATALGAGA



DAHEJ



VADODRA



NAGAOTHANE



# Overview on M/s Agni Controls

## SOME IMPORTANT CLIENTS



DULAIJAN



MANALI



**IndianOil**

BARAUNI



**IndianOil**

PARADEEP



**IndianOil**

DIGBOI



# bala-wa<sup>®</sup> Overview on M/s Agni Controls fladet<sup>®</sup>

## SOME IMPORTANT CLIENTS

**ROYAL  
ENFIELD**

CHENNAI



**HYUNDAI**

CHENNAI



**Hindustan Motors**

CHENNAI

**RENAULT NISSAN**

CHENNAI

### AUTOMOBILE SECTOR



**Mercedes-Benz**

PUNE



**Hero**

HARIDHWAR



**ASHOK LEYLAND**

HOSUR



**Motherson Sumi Systems Limited**

BANGALORE

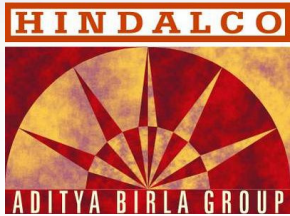


Samvardhana Motherson Reflectec

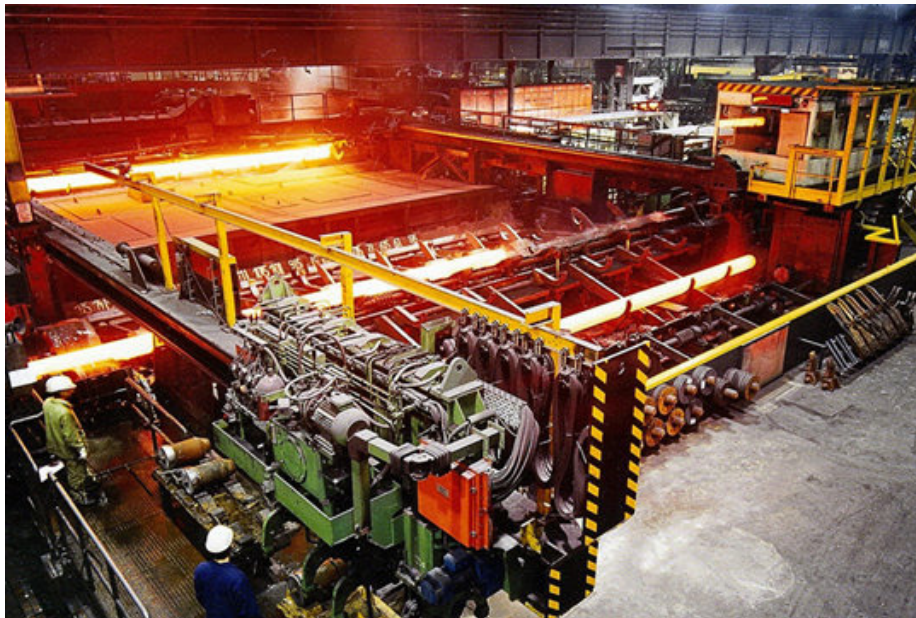
CHENNAI

# bala-wa<sup>®</sup> Overview on M/s Agni Controls fladet<sup>®</sup>

## SOME IMPORTANT CLIENTS



### ENGINEERING INDUSTRIES SECTOR



**BOSCH**



*L&T Special Steels and Heavy Forgings*



# bala-wa<sup>®</sup> Overview on M/s Agni Controls fladet<sup>®</sup>

## SOME IMPORTANT CLIENTS



### TEXTILE & SPINNING MILLS SECTOR



PROUD TO BE INDIAN  
PRIVILEGED TO BE GLOBAL





# bala-wa<sup>®</sup> Overview on M/s Agni Controls fladet<sup>®</sup>

## SOME IMPORTANT CLIENTS

### EXPORT & GLOBAL MARKET



USA



ITALY



UAE



SINGAPORE



MALAYSIA



UAE



SPAIN



UK & CYPRUS



THAILAND



ITALY



UAE



## **STANDARDS FOLLOWED**

- **Indian Standard (IS – 15528)**
- **American Standard (NFPA – 12)**
- **European Standard (CEA – 4007)**
- **International Standard ( ISO 6183)**
- **German Standard (VdS 2093)**

**HOW DOES AGNI CONTROLS DIFFER  
FROM OTHER SUPPLIERS OF CO<sub>2</sub>  
FLOODING FIRE EXTINGUISHING  
SYSTEM ?**

**AGNI CONTROLS**  
**IN GAS SUPPRESSION SYSTEM**  
**FOR THE PAST 25 YEARS**



***DURING 1985 - 1990***



***DURING 2005 - 2010***

**AGNI CONTROLS** is the only company, which manufactures most of the electronic and mechanical components required for fire detection & CO<sub>2</sub> fire extinguishing system




**Others** are mostly Contractors; They outsource all the components, and fabricate at site, as required.

**bala-wa®** AGNI CONTROLS Vs OTHERS

**fladet®**

**AGNI CONTROLS – directly  
import Vds, LPCB approved  
wide range of valves &  
accessories from Ceodux  
(Luxemburg, EU), on long  
term understanding.**

**Others, mostly outsource from different  
traders, where the components are  
available at the low cost.**



**Attestation de conformité à la commande suivant EN 10204-2.1**  
*Werksbescheinigung nach EN 10204-2.1*  
*Certificate of compliance with the order to EN 10204-2.1*

N° de l'attestation: Zertifikat-Nr.: Certificate no.:	021030748	Page: Seite: Page:	1/1
Client: Kunde: Customer:	AGNI CONTROLS CHENNAI 4102614		
N° et date du bordereau de Nummer und Datum des Lieferscheins: Number and date of delivery note:	021030748 14/04/2010		
N° commande: Auftragsnummer: Order number:	Désignation / N° du lot Bezeichnung / Nummer des gelieferten Loses Designation / Batch number	N° article Artikel-Nr. Article no.	Référence client Kundenspezifikation Customer reference
* CDE02100593 / AC/9.3.2/051/03	AUSLÖSER/B0480/LT/PNEU/MAN	B04420065	350


Lot / Los / Batch: FA02002328 / 350,00

Nous certifions que la fourniture citée a été fabriquée et contrôlée conformément aux spécifications technique de la commande du client aux plans et spécifications techniques internes en vigueur  
*Wir bescheinigen dass die vorliegende Lieferung hergestellt und geprüft wurde entsprechend den technischen Forderungen des Kundenantrages den aktuellen Zeichnungen und internen technischen Spezifikationen*  
*We certify that the supplies detailed here were manufactured and checked in accordance with the technical specifications of the customer's order the relevant drawings and internal specifications in force*

Renseignements particuliers aux fournitures livrées: *HEIN 14.04.2010*  
*Spezielle Angaben zu den Lieferungen:*  
Particular information to the delivered supplies:

Date: 14/04/2010 **VISA - BEGLAUBIGUNG - SIGNATURE**

**CEODEUX - Extinguisher - Valves - Technology S.A.**

 28, route de Drexel - B.P. 19  
L-7505 LUTZEM  
O.G. de Luxembourg - Europe

Capital: 750.000 €  
TVA: LU 15 69 27 20  
R.C. Luxembourg B. 43592

Tel.: +352 32 78 32 389  
Fax: +352 32 78 32 326  
info@rotarex.com  
www.rotarex.com



**AGNI CONTROLS** directly  
procures cylinder from the  
manufacturer with all test  
certificates & CCEO  
approvals.

There are occasion, re-  
conditioned cylinders are  
offered for new system

Ref.. No. EKC/T/1172/08-09

Date : March 28, 2009

**EVEREST  
KANTO  
CYLINDER  
LIMITED**

Manufacturers  
of high pressure  
Seamless  
Gas Cylinders

Registered Office  
204, Raheja Centre,  
Free Press Journal Marg,  
214, Narman Point,  
Mumbai 400 021.

Tel : 0991-22-3026 8300 / 81

Fax : 022-2287 8718 / 20

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

Email : [everestkanto@gmail.com](mailto:everestkanto@gmail.com)



CERTIFICATE FOR GRIT BLASTING

REFERENCE: OUR INVOICE NO. 01172 DT. 28.03.2009

It is hereby confirmed that the outer surface of the cylinders duly  
grit blasted to SA 2 1/2 cylinders supplied to **M/s. Agni Controls,**  
**No.1, 6th Street, Dr. Subbarayan Nagar, Kodambakkam Chennai**  
600 024 against their Invoice No. 01172 dated 28.03.2009, P.O.  
No. AC/9.3.1/402/08-09 dated 21.03.2009 for 68.0 ltrs. water  
capacity – 100 Nos. Carbon-Di-Oxide Gas Cylinders.

Grit used for blasting - SA -2 1/2

Cylinder Serial Nos.:

268671- 2255, 2256, 2259-2261, 2266, 2279, 2287, 2293, 2296,  
2299, 2304 2308, 2311, 2317, 2321, 2322, 2345, 2350, 2356, 2357,  
2359, 2399, 2412, 2421, 2425, 2432, 2442, 2452, 2453, 2457, 2474,  
2479, 2480, 2482, 2484, 2485, 2490, 2492, 2498, 2499, 2501,  
2502, 2511, 2414-2516, 2519, 2525, 2526, 2527, 2541, 2546,  
2550, 2559, 2567-2569, 2576, 2580, 2585, 2588, 2590, 2592,  
2594, 2595, 2599, 2600, 2601, 2611, 2620-2622, 2629, 2630,  
2633, 2638, 2643, 2653, 2656, 2658, 2659, 2665, 2666, 2870,  
2871, 2877, 2880, 2882, 2890, 2916, 2931, 2939, 2941, & 2952-  
2957

Quantity - 100 Nos.,

FOR EVEREST KANTO CYLINDER LTD.

A. RAJNEESH  
GENERAL MANAGER





**AGNI CONTROLS** directly  
procures cylinder from the  
manufacturer with all test  
certificates & CCEO  
approvals.

There are occasion, re-  
conditioned cylinders are  
offered for new system



**RAMA CYLINDERS PRIVATE LIMITED.**

Survey No. 334-P2 & 335, Vill : Bhimasar, Tal : Anjar, Dist : Kutch, State : Gujarat, India.

**ACCEPTANCE CERTIFICATE**

Certificate No. : AEG / 014/ 13

Acceptance certificate for seamless steel cylinders Batch No. 014 (Dia 267.x 6.3mm x 68.0 Ltr. W.C.).

A consignment of 202 cylinders consisting of One test batch has been inspected and tested according to IS 7285 (Part 2):2004.

Designation or type of gas	Sr.No.of Cylinders	Qty.
CARBON DIOXIDE (CO <sub>2</sub> )	AEG 1927 to AEG 2128 (Ex.Sr.No. AEG 2013 & AEG 2079)	200

Manufacturer's No. : AEG 1927 to AEG 2128 (Inclusive)  
(Excluding Sr No. : AEG 2013 & AEG 2079)

Quantity Passed : 200 Nos.

**TECHNICAL DATA**

Water capacity, V : Minimum 68.0 litre

Nominal length : 1510 mm (Approx)

Necking : Fitted

(without cap and without valve)

Test pressure, P<sub>b</sub> : 334 Bar

Outside diameter, D<sub>o</sub> : 267.0 mm

Working pressure at 15° C, P<sub>w</sub> : 200 Bar

Minimum wall thickness, a : 6.3 mm  
Neck Thread (Spec.) : Type 4, Size 2  
(as per IS 3224)

Maximum filling charge : 45.36 kg

Drawing No. : R-SC-IND-267-200-6.3/H

Approved vide CCOE's letter No. :G.3(42)515/V dated :24.09.2008

Colour of Body : Black with Aluminium Band

Material : M/s. Tianjin Pipe Corporation Ltd., China/ JIS-G-3429 / 34CrMo4

Suppliers Certificate No. : 11062213 Date 30.06.2011

Specified analysis :

	C.	Si.	Mn.	P.	S.	Cr.	Mo.
Percent, Max :	0.38	0.40	1.00	0.020	0.010	1.20	0.25
Percent, Min :	0.32	0.10	0.40	-	-	0.80	0.15

Heat treatment : Quenched & Tempered

Stamp markings : IS 7285



Part-2  
CM/L-7617783

RAMA CO2 34 Cr-MO4 Re 735 03/13 Q & T TW....KG  
AEG.....IS:7285-2 TP 334 FR 0.667 WC 68.0 LTR GW

**AGNI CONTROLS**, as a manufacturer, all the parts  
of co2 system are identified by

**PART Numbers & CODE Numbers**

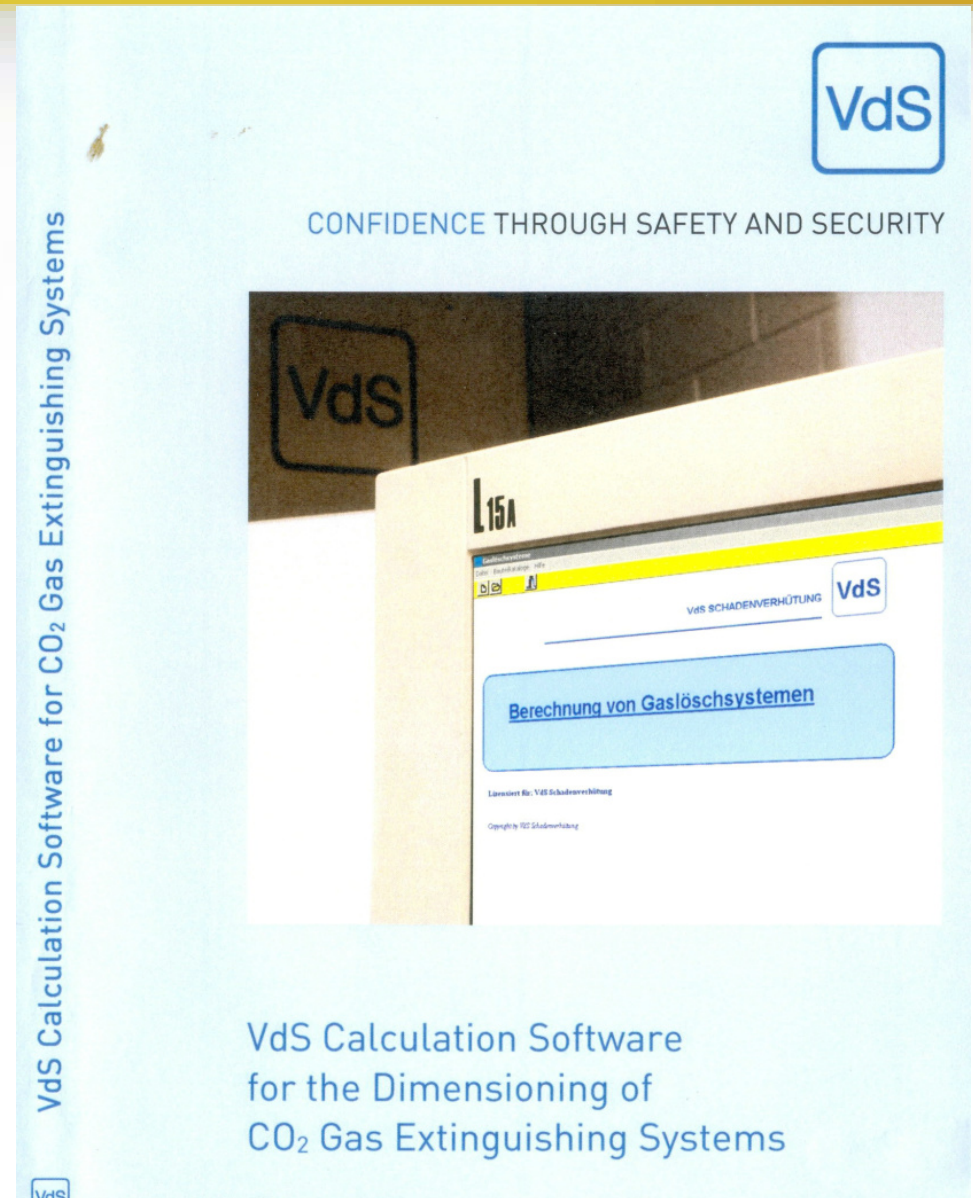
Which helps in Quality Assurance, Spares  
Supply & Maintenance Support.

Most of the Contractors do not have concept of Part &  
Code Numbers

**AGNI CONTROLS** is the only manufacturer in India, providing branded CO<sub>2</sub> system as a **single product** i.e., Totally assembled, Integrated, Tested & Site Fabricated CO<sub>2</sub> cylinder bank assembly, which can be readily installed.

**AGNI CONTROLS** uses  
licensed Vds approved  
CO<sub>2</sub> Calculation software.

Many Contractors do not use  
any type of software. They  
calculate manually and  
approximately.



**AGNI CONTROLS Vs OTHERS**

Other suppliers execute the CO<sub>2</sub> system as **site-fabricated product.**

They supply the cylinder, hoses, pressure switches, etc. separately,

They fabricate the frame, fabricate the header, fabricate the other required parts at the site, mostly by using locally available technical team.

## AGNI CONTROLS Vs OTHERS

In many countries, where fire safety is given importance, CO<sub>2</sub> system is not allowed to fabricate at the site.

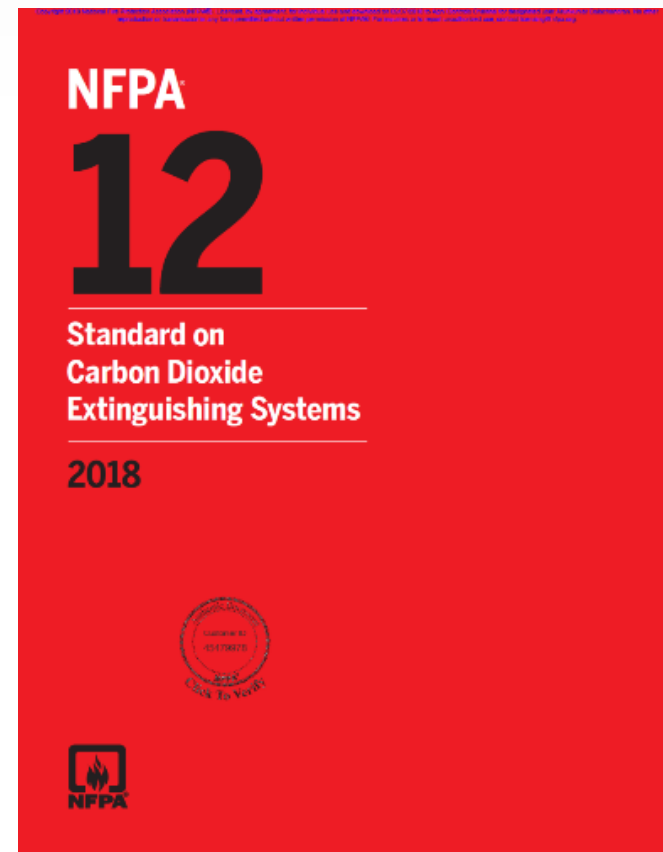


## AGNI CONTROLS Vs OTHERS

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In India, **AGNI CONTROLS** is the  
only company, as a  
manufacturer, having and  
implementing well established  
installation procedures &  
commissioning procedures, AS  
PER IS-15528 Standards and  
NFPA-12



## **AGNI CONTROLS Vs OTHERS**

### **AGNI CONTROLS technical Man-Power strength**

**Graduates Engineers - 20**

**Diploma Engineers - 28**

**( As on April 2019 )**

**48 Graduate and Diploma Engineers are  
exclusively dedicated to GAS SUPPRESSION  
SYSTEM & PRODUCTS**

## AGNI CONTROLS Vs OTHERS

**AGNI CONTROLS** is the only company Which provides display of complete scheme, elaborately explaining the entire CO<sub>2</sub> system operation.

## bala-wa® CARBON DIOXIDE FIRE SUPPRESSION SYSTEM

STANDARD OPERATING PROCEDURE - COMMON CO<sub>2</sub> SYSTEM

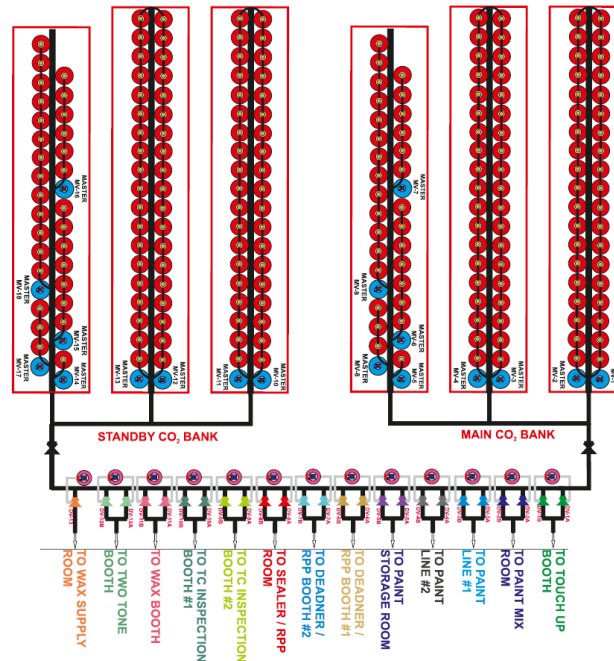
## CAUTION

CO<sub>2</sub> GAS AT ITS VICINITY REDUCES OXYGEN LEVEL, WHEN OXYGEN LEVEL GOES BELOW 18%, IT LEADS TO ASPHYXIATION / SUFFOCATION

DURING DISCHARGE MAINTAIN A SAFE DISTANCE FROM THE PROTECTED AREA

## IN CASE OF FIRE

- DO NOT PANIC
- VACATE THE AREA IMMEDIATELY THROUGH THE NEAREST EXIT
- PROCEED IN AN ORDERLY MANNER
- SOUND THE ALARM
- DIAL \_\_\_\_\_ TO CALL THE LOCAL AUTHORITY



SL.NO	AREAS	NO. OF CYLINDERS		MASTER VALVE TO OPEN		DV TO OPEN
		MAIN	STANDBY	MAIN BANK	STANDBY BANK	
01	PAINTING LINE-1	115 NOS	115 NOS	MV1, MV2, MV3, MV4, MV5, MV6, MV7, MV8, MV9	MV10, MV11, MV12, MV13, MV14, MV15, MV16, MV17, MV18	DV3 3A, 3B
02	PAINTING LINE-2	115 NOS	115 NOS	MV1, MV2, MV3, MV4, MV5, MV6, MV7, MV8, MV9	MV10, MV11, MV12, MV13, MV14, MV15, MV16, MV17, MV18	DV4 4A, 4B
03	TWO TONE BOOTH	29 NOS	29 NOS	MV6, MV7, MV9	MV15, MV16, MV18	DV12 12A, 12B
04	DEADNER/RPP BOOTH-1	48 NOS	48 NOS	MV3, MV4, MV6	MV12, MV13, MV15	DV6 6A, 6B
05	DEADNER/RPP BOOTH-2	48 NOS	48 NOS	MV3, MV4, MV6	MV12, MV13, MV15	DV7 7A, 7B
06	TOP COAT INSPECTION BOOTH-1	31 NOS	31 NOS	MV5, MV6, MV7, MV9	MV14, MV15, MV16, MV18	DV9 9A, 9B
07	TOP COAT INSPECTION BOOTH-2	31 NOS	31 NOS	MV5, MV6, MV7, MV9	MV14, MV15, MV16, MV18	DV10 10A, 10B
08	WAX BOOTH	31 NOS	31 NOS	MV5, MV6, MV7, MV9	MV14, MV15, MV16, MV18	DV11 11A, 11B
09	WAX SUPPLY ROOM	02 NOS	02 NOS	MV5	MV14	DV 13
10	TOUCH UP BOOTH	67 NOS	67 NOS	MV1, MV2, MV5, MV7, MV8, MV9	MV10, MV11, MV14, MV16, MV17, MV18	DV 01 1A, 1B
11	PAINT STORAGE ROOM	44 NOS	44 NOS	MV1, MV2, MV8	MV10, MV11, MV17	DV5 5A, 5B
12	MIXING ROOM	88 NOS	88 NOS	MV1, MV2, MV3, MV4, MV6	MV10, MV11, MV12, MV13, MV15	DV2 2A, 2B
13	SEALER/RPP ROOM	44 NOS	44 NOS	MV3, MV4, MV8	MV12, MV13, MV17	DV8 8A, 8B

## METHOD - 1 MANUAL GAS DISCHARGE STATION(MGDS) OPERATION

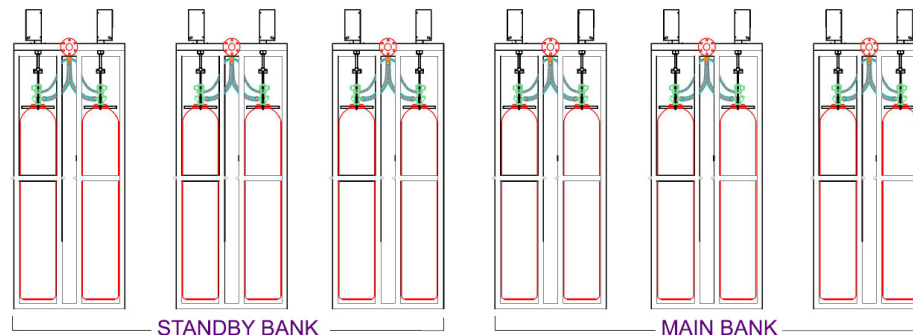
LOCATE THE CORRECT MGDS & OPERATE THE MGDS AS PER BELOW INSTRUCTION



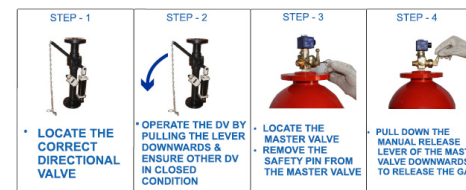
**IMPORTANT NOTE :** IDENTIFY THE CORRECT MGDS BEFORE OPERATING. OPERATING THE WRONG MGDS WILL DIVERT THE GAS TO DIFFERENT LOCATION OTHER THAN THE INTENDED AREA.

**IMPORTANT NOTE :** ALWAYS ENSURE THAT THE INHIBIT SWITCH IS KEPT IN **DISCHARGE MODE** ONLY. IF INHIBIT SWITCH IS KEPT IN INHIBIT MODE, THERE WILL BE NO GAS RELEASE OPERATION IN **AUTOMODE** AND **METHOD-1**.

## CYLINDER BANK ARRANGEMENT – FRONT VIEW



## METHOD - 2 : MASTER VALVE MANUAL RELEASE LEVER ACTUATION



**IMPORTANT NOTE :** IDENTIFY THE CORRECT DIRECTIONAL VALVE & CYLINDER BANK BEFORE OPERATING. OPERATING THE WRONG DV & CYLINDER BANK WILL DIVERT THE GAS TO DIFFERENT LOCATION OTHER THAN THE INTENDED AREA.

[illegible]

**bala-wa<sup>®</sup>**

## **AGNI CONTROLS Vs OTHERS**

**fladet<sup>®</sup>**

**AGNI CONTROLS** is ISO Certified Company for manufacturing gas suppression system, and our QAP (Quality Assurance Plan) ensure proper quality of the system in all the stages.

Many Contractors do not have ISO certification for manufacturing & installing gas suppression system. QAP concept is not existing with many of the contractors.



**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 CO2, 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.

Further clarifications regarding the scope of this certificate and the applicability of the management system requirements may be obtained by consulting the organization. To check this certificate validity please call +91 22 6274 2000.

Pg 1 of 2

**AGNI CONTROLS Vs OTHERS**

**As a customer, you need not accept / permit to execute the CO<sub>2</sub> system as site fabricated, because:**

**When execution depends on local skill, it is very difficult to ensure proper integration of the system.**

**There are many critical instruments like solenoid connection, pneumatic actuators to ensure the proper function of the entire CO<sub>2</sub> system.**



**bala-wa<sup>®</sup>**

series.. High pressure fixed installation CO<sub>2</sub> cylinder banks are fully pre-assembled integrated and tested for its proper operation at the factory itself.

Presently, Many Customers and consultants are strongly recommending to use factory pre-assembled and tested CO<sub>2</sub> cylinder bank assembly

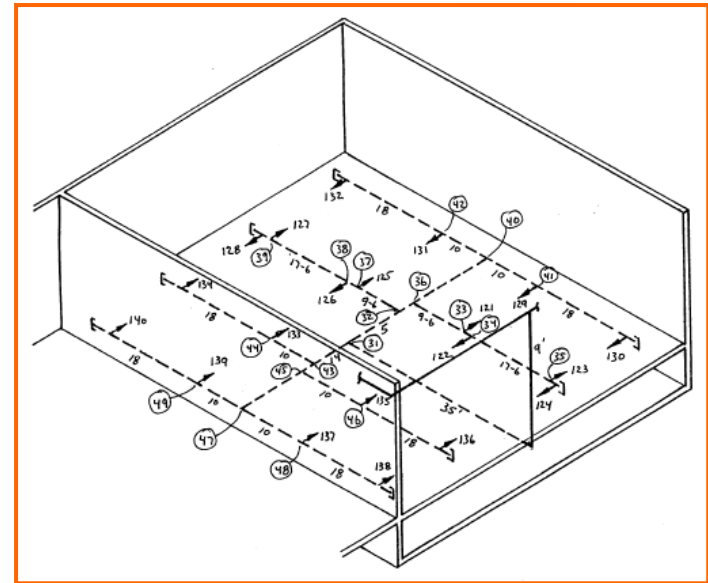
## AGNI CONTROLS Vs OTHERS

**fladet®**

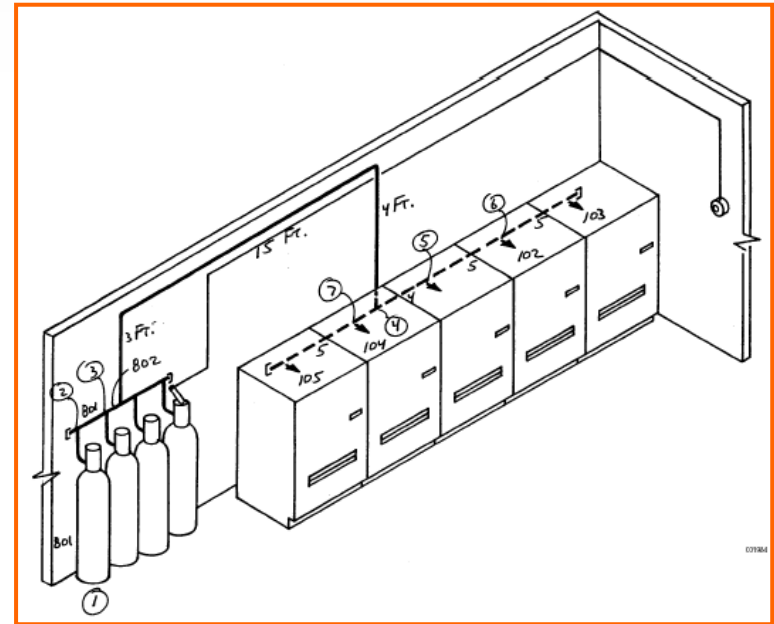
**THAT IS WHY, WE ARE OEM  
SUPPLIER FOR MANY REPUTED  
COMPANIES.**

BHARAT HEAVY ELECTRICALS LIMITED (A Government of India Undertaking) Rameshchandra Prasad, 99/90/91st, 500 032, A.P., India www.bhelhydresbhel.com Fax:040-23261916, 1924 MAIL:RANRMA166P CST:INR8/07/02/3016/1916-77 TIN:28160131178 ECC:RANRMA1418TNDL8		PURCHASE ORDER PO No: RY10A00122 Amendment No: (NONE)		Date: 18.02.2011 Date: 18.02.2011 Print Date: 18.02.2011 Page No: 1 of 2
TO <b>AGRI CONTROLS</b> NO.1, 6TH STREET, DR. SUBBASAYAN NAGAR, RODANAKKAM, CHENNAI Pincode: 600024	Supcode <b>T10081</b> PAN <b>ECC</b> TIN/CST Reg <b>768266</b> Fax <b>044-24812475</b>	Enquiry Ref <b>RTAJ325925</b> Quotation Ref <b>6100023287</b> Type <b>X5N032</b> Terms Of Delivery <b>Free on Road IOCL PARADIP</b> SITE <b>Payment Code</b> <b>E025</b>	Date <b>18.02.2011</b> Date <b>18.02.2011</b> Exgr. Opened on <b>20.10.2010</b> Budget Code	
Local/Indian Agent	Phone No <b>044-248124720</b>	Payment Terms <b>S08-RDR WITHIN 90 DAYS, 10% MNC/ SITE A</b>		
Email id <a href="mailto:marketing@agnicontrols.com">marketing@agnicontrols.com</a>				
Please supply the material listed in continuation sheet subject to the general terms and conditions unless stated otherwise. Order acceptance confirming technical and commercial terms including delivery schedule, shall be sent within 15 days from the date of the order, failing which it shall be deemed to have accepted in toto.				
Inspection Charges By	<b>BHEL</b>	Currency	<b>INR</b>	
Inspection By	<b>INTERTEK INDIA PVT LTD</b>	Total No of Items		<b>3</b>
Insurance By	<b>Vendor</b>	Value of Items		<b>25,947,000.00</b>
Dispatching from Place/State	<b>CHENNAI</b>	Applicability of PVC clause		
Receiving at Place/State	<b>PARADIP (ORISSA)</b>	Tooling & Pattern Charges		<b>0.00</b>
CEMAT Credit Available (Y/N)	<b>NO</b>	Inspection Charges		<b>0.00</b>
VAT Credit Available (Y/N)	<b>NO</b>	Testing Charges		<b>0.00</b>
Forms Required from Vendor		Packgs/Fwdg/FAS Charges		<b>0.00</b>
Differential Sales Tax amount is payable by Vendor to BHEL in the event of non production of E1/E2 forms by Vendor, wherever required. Along with the consignment		Other Charges		<b>0.00</b>
1. EXCISE INVOICE (DUPLICATE) TO CLAIM CEMAT.		Total PO Value		<b>25,947,000.00</b>
2. DELIVERY CHALLAN.		Rs TWO CRORE FIFTY NINE LAKH FORTY SEVEN THOUSAND only		
For the purpose of Payment		Excise Duty 10.00 % , Educess 2.00 %		
1. EXCISE INVOICE (ORIGINAL).		SEcess 1.00 %		
2. COMMERCIAL INVOICE/TAX INVOICE IN FOUR COPIES.		EXTRA AGAINST PROOF		
3. COPY OF LR/ LR ACKBY SITE OFFICE/ MATERIAL RECEIPT CERTIFICATE / CNOTE COPY.		Sales TAX/VAT/CST 2.00 % EXTRA		
4. ALL INSPECTION & TEST CERTIFICATES AND WARRANTY CERTIFICATES AS PER PO TERMS.		Octroi/Entry Tax		<b>0.00</b>
5. E1 & E2 FORMS AFTER RECEIPT OF INFORMATION ABOUT C FORM NO FROM BHEL.		Freight Charges		<b>0.00</b>
Additional Forms Required:		Penalty of 0.50 % per week or part thereof subject to maximum of 10.00% of Total order value		
Test Certificate		Grace Period in days 0		
Inspection Certificate		Reckoning Date 18.02.2011		
Warranty Certificate		Subject to		
Performance Bank Guarantee				
Destination: DD99 STORES				
Project Name: <b>IOCL PARADIP 3 X FR SE GTG</b>				
Phone No:040-2318 2574 Email: <a href="mailto:TYEJAY@BHELIND.CO.IN">TYEJAY@BHELIND.CO.IN</a>		Purchase Executive: <b>CH. SURESH KUMAR</b> Designation: <b>PURCHASING ENGINEER (GEN)</b> <b>CH. SURESH KUMAR</b> <b>CH. SURESH KUMAR</b>		
Pl quote PO No in all your correspondence/Invoice for prompt action. Purchase order value Rs 25.947,000.00 to be quoted.				

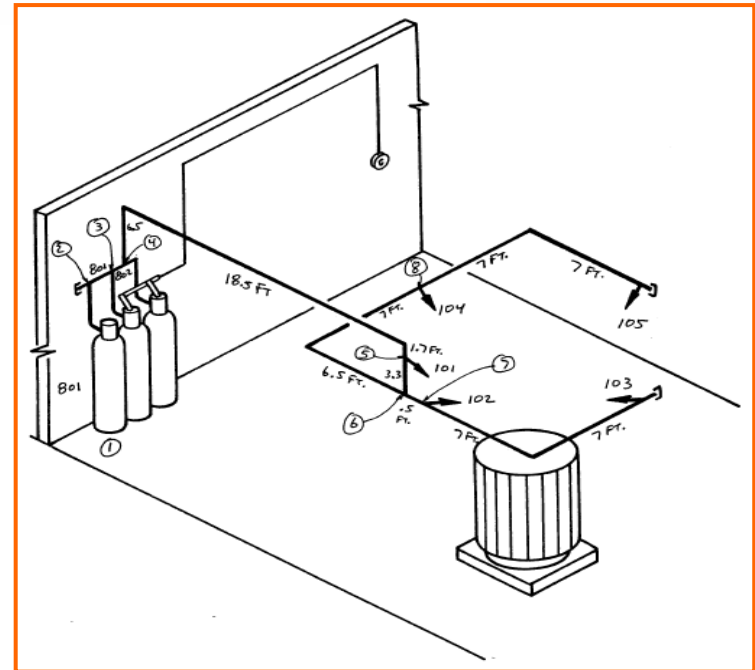
# Computer Room and Subfloor



# Electrical Cabinets



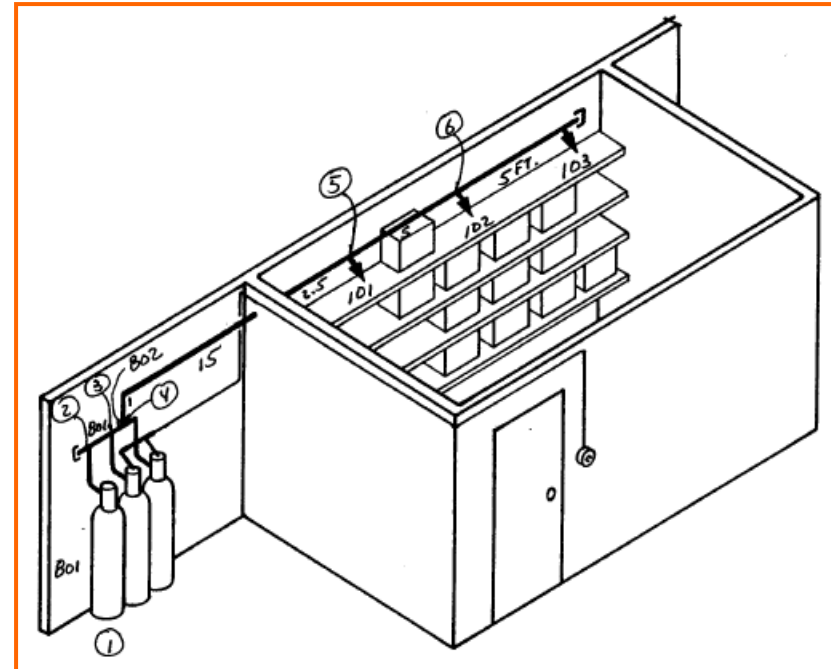
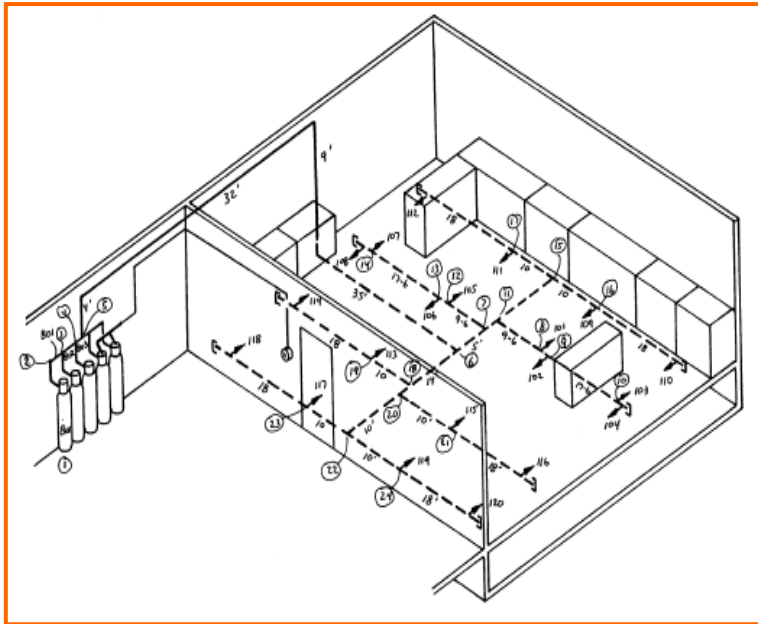
# Transformers



## TYPICAL APPLICATION (CONT.)

Subfloor

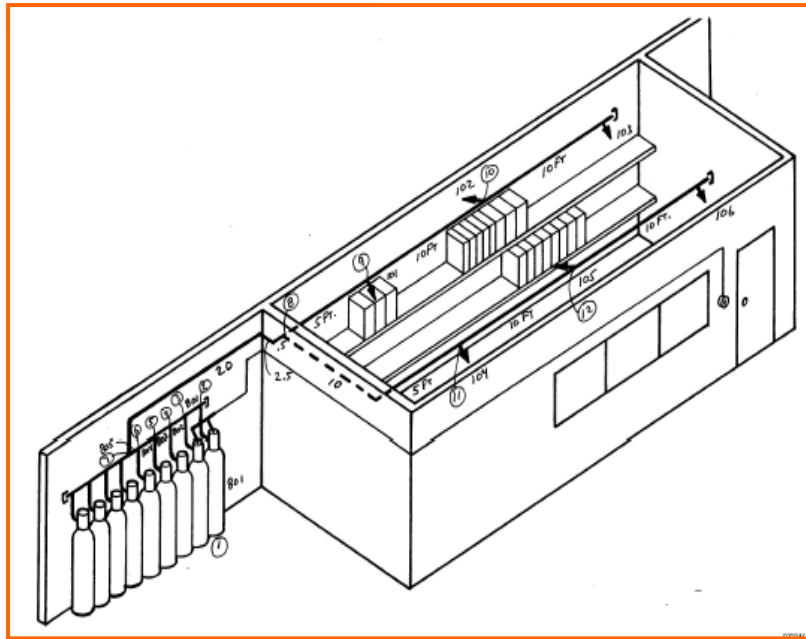
Battery Storage Vaults



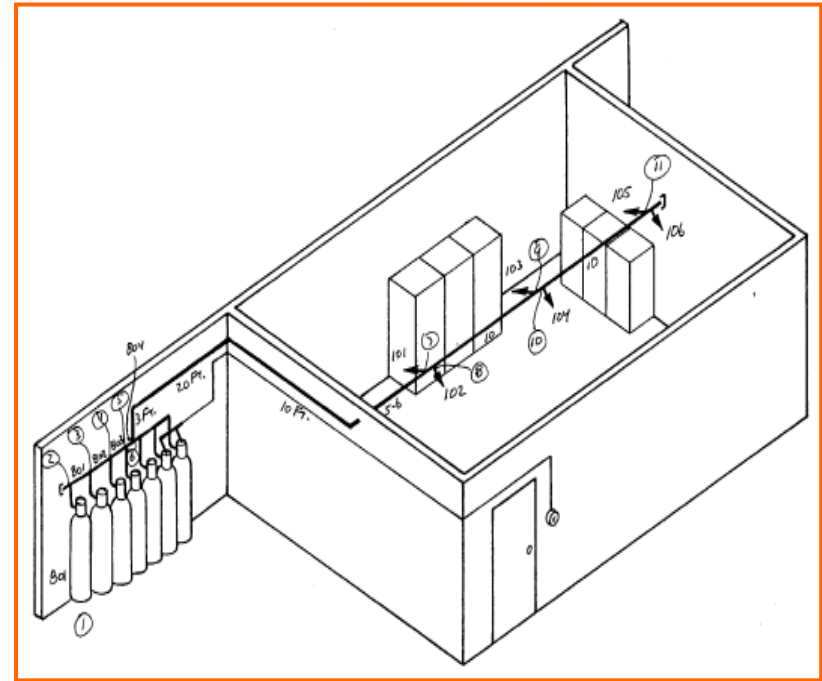


## TYPICAL APPLICATION (CONT.)

### Document Storage

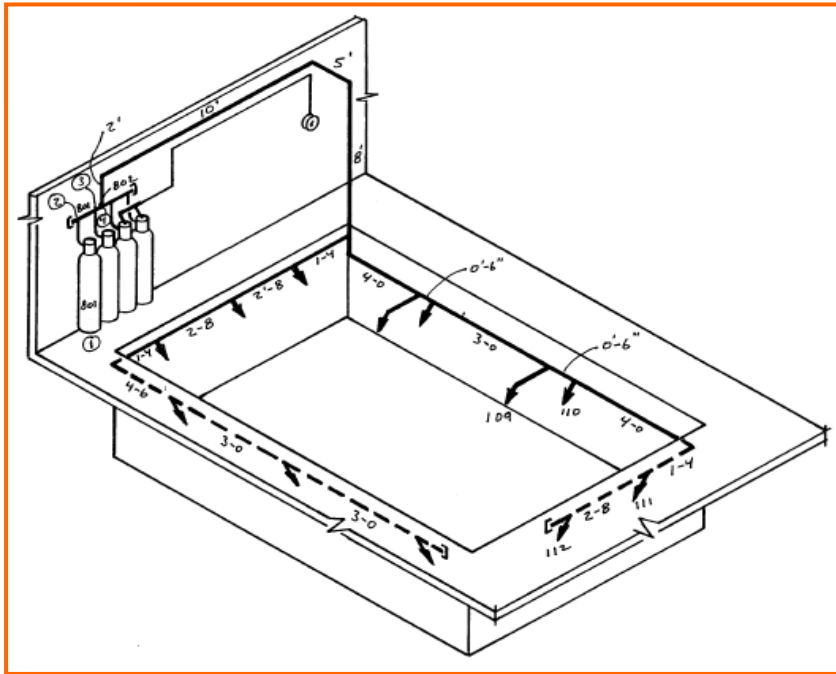


### Control Rooms

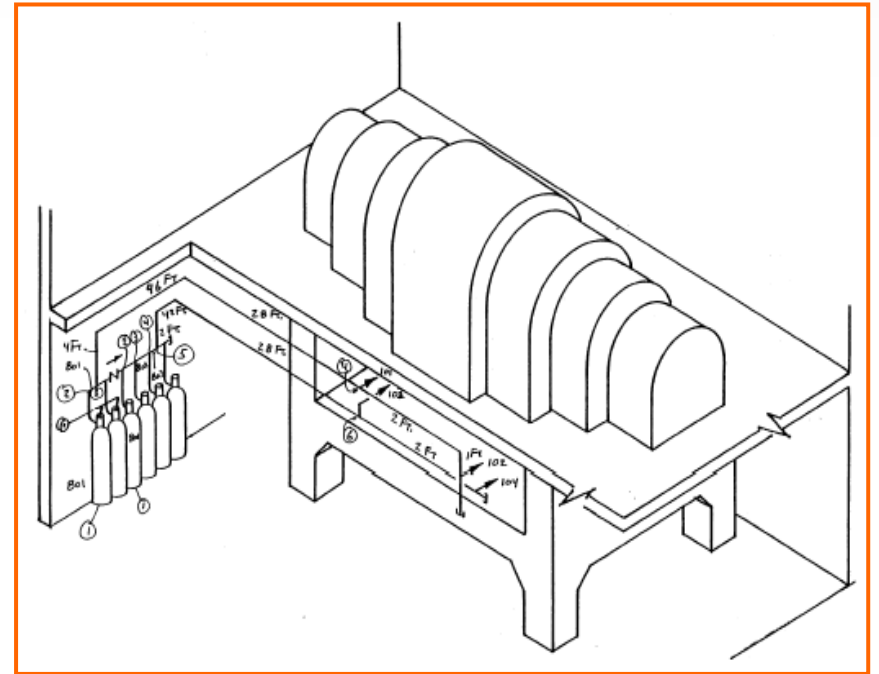


## TYPICAL APPLICATION (CONT.)

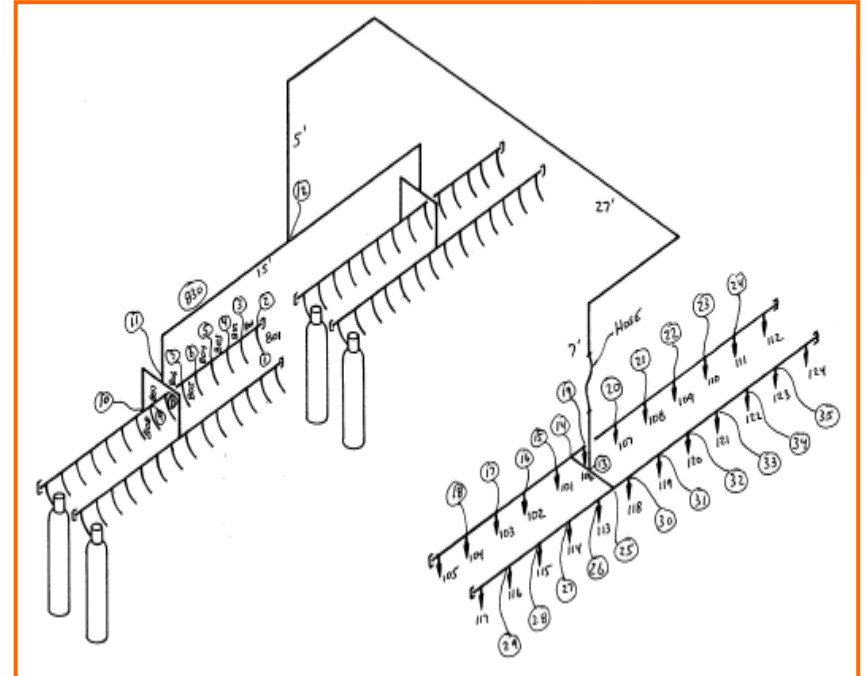
# Lube Oil Pits



# Generators (Recirculating and Non-recirculating Type)



# Industrial Fryer



# PRODUCT LIST

SL.NO	PART NO.	MODEL NO.	DESCRIPTION
I	IH401	AA-BB-CC-DD	IH401-bala-wa Fixed High Pressure Master Slave operation principle 45 Kg CO2 Cylinder Bank Assembly
		<b>MODEL SELECTION:</b>  AA - CYLINDER CAPACITY - 45/22.5/33 BB - NO. OF CYLINDER - ( 2 to 24 nos.) CC - SR for Single row and DR for Dual row DD - EW for Electronic Weighing unit and MW for Mechanical weighing unit	
01	IH401	45 / 2 / SR / EW	bala-wa Fixed High Pressure Master Slave operation principle 2 x 45 Kg CO2 Cylinder Bank Assembly <u>Fully Integrated &amp; Tested</u>
			a. 1 No. 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever
			b. 1 No. 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuation and Manual Lever
			c. 2 Nos. of Online Monitor
			d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 2 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, and Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories

# PRODUCT LIST

02	IH401	45 / 3 / SR / EW	<p><b>bala-wa Fixed High Pressure Master Slave operation principle</b></p> <p><b>3 x 45 Kg CO2 Cylinder Bank Assembly</b></p> <p><b><u>Fully Integrated &amp; Tested</u></b></p>
			<p><b>a. 1 No. 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever</b></p>
			<p><b>b. 2 Nos. 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuation and Manual Lever</b></p>
			<p><b>c. 3 Nos. of Online Monitor</b></p>
			<p><b>d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 3 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, &amp; Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.</b></p>

# PRODUCT LIST

03	IH401	45 / 4 / SR / EW	<p><b>bala-wa Fixed High Pressure Master Slave operation principle</b></p> <p><b>4 x 45 Kg CO2 Cylinder Bank Assembly</b></p> <p><b><u>Fully Integrated &amp; Tested</u></b></p>
			<p><b>a. 1 No. 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever</b></p>
			<p><b>b. 3 Nos. 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuation and Manual Lever</b></p>
			<p><b>c. 4 Nos. of Online Monitor</b></p>
			<p><b>d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 4 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, &amp; Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.</b></p>



# PRODUCT LIST

04	IH401	45 / 5 / SR / EW	<p><b>bala-wa Fixed High Pressure Master Slave operation principle</b></p> <p><b>5 x 45 Kg CO2 Cylinder Bank Assembly</b></p> <p><b><u>Fully Integrated &amp; Tested</u></b></p>
			<p><b>a. 1 No. 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever</b></p>
			<p><b>b. 4 Nos. 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever</b></p>
			<p><b>c. 5 Nos. of Online Monitor</b></p> <p><b>d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 5 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, &amp; Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.</b></p>

# PRODUCT LIST

05	IH401	45 / 6 / SR / EW	<b>bala-wa Fixed High Pressure Master Slave operation principle 6 x 45 Kg CO2 Cylinder Bank Assembly <u>Fully Integrated &amp; Tested</u></b>
			<b>a. 1 No. 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever</b>
			<b>b. 5 Nos. 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever</b>
			<b>c. 6 Nos. of Online Monitor</b>
			<b>d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 6 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, &amp; Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.</b>

# PRODUCT LIST

06	IH401	45 / 7 / SR / EW	<p><b>bala-wa Fixed High Pressure Master Slave operation principle</b>  <b>3 x 45 Kg CO2 Cylinder Bank Assembly</b>  <b><u>Fully Integrated &amp; Tested</u></b></p>
			<p>a. 1 No. 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever</p>
			<p>b. 6 Nos. 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever</p>
			<p>c. 7 Nos. of Online Monitor</p> <p>d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 7 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, &amp; Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.</p>

# PRODUCT LIST

07	IH401	45 / 8 / SR / EW	<p><b>bala-wa Fixed High Pressure Master Slave operation principle</b></p> <p><b>8 x 45 Kg CO2 Cylinder Bank Assembly</b></p> <p><b><u>Fully Integrated &amp; Tested</u></b></p>
			<p><b>a. 1 No. 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever</b></p>
			<p><b>b. 7 Nos. 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever</b></p>
			<p><b>c. 8 Nos. of Online Monitor</b></p> <p><b>d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 8 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, &amp; Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.</b></p>

# PRODUCT LIST

08	IH401	45 / 9 / SR / EW	<p><b>bala-wa Fixed High Pressure Master Slave operation principle</b></p> <p><b>9 x 45 Kg CO2 Cylinder Bank Assembly</b></p> <p><b><u>Fully Integrated &amp; Tested</u></b></p>
			<p><b>a. 1 No. 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever</b></p>
			<p><b>b. 8 Nos. 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever</b></p>
			<p><b>c. 9 Nos. of Online Monitor</b></p> <p><b>d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 9 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, &amp; Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.</b></p>

# PRODUCT LIST

09	IH401	45 / 10 / SR / EW	<p><b>bala-wa Fixed High Pressure Master Slave operation principle</b>  <b>10 x 45 Kg CO2 Cylinder Bank Assembly</b>  <b><u>Fully Integrated &amp; Tested</u></b></p>
			<p>a. 1 No. 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever</p>
			<p>b. 9 Nos. 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever</p>
			<p>c. 10 Nos. of Online Monitor</p>
			<p>d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 10 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, &amp; Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.</p>



# PRODUCT LIST

10	IH401	45 / 11 / SR / EW	<p>bala-wa Fixed High Pressure Master Slave operation principle 11 x 45 Kg CO2 Cylinder Bank Assembly <u>Fully Integrated &amp; Tested</u></p>
			<p>a. 1 No. 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever</p>
			<p>b. 10 Nos. 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever</p>
			<p>c. 11 Nos. of Online Monitor</p>
			<p>d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 11 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, &amp; Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.</p>

# PRODUCT LIST

11	IH401	45 / 12 / SR / EW	<p>bala-wa Fixed High Pressure Master Slave operation principle 12 x 45 Kg CO2 Cylinder Bank Assembly <u>Fully Integrated &amp; Tested</u></p>
			<p>a. 1 No. 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever</p>
			<p>b. 11 Nos. 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever</p>
			<p>c. 12 Nos. of Online Monitor</p>
			<p>d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 12 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, &amp; Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.</p>

# PRODUCT LIST

12	IH401	45 / 13 / SR / EW	<p><b>bala-wa Fixed High Pressure Master Slave operation principle</b></p> <p><b>13 x 45 Kg CO2 Cylinder Bank Assembly</b></p> <p><b>Fully Integrated &amp; Tested</b></p>
			<p><b>a. 2 No. 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever</b></p>
			<p><b>b. 11 Nos. 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever</b></p>
			<p><b>c. 13 Nos. of Online Monitor</b></p>
			<p><b>d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 13 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, &amp; Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.</b></p>

# PRODUCT LIST

13	IH401	45 / 14 / SR / EW	<b>bala-wa Fixed High Pressure Master Slave operation principle 14 x 45 Kg CO2 Cylinder Bank Assembly Fully Integrated &amp; Tested</b>
			<b>a. 2 No. 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever</b>
			<b>b. 12 Nos. 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever</b>
			<b>c. 14 Nos. of Online Monitor</b>
			<b>d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 14 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, &amp; Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.</b>

# PRODUCT LIST

14	IH401	45 / 15 / SR / EW	<b>bala-wa Fixed High Pressure Master Slave operation principle 15 x 45 Kg CO2 Cylinder Bank Assembly Fully Integrated &amp; Tested</b>
			<b>a. 2 No. 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever</b>
			<b>b. 13 Nos. 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever</b>
			<b>c. 15 Nos. of Online Monitor</b>
			<b>d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 15 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, &amp; Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.</b>

# PRODUCT LIST

15	IH401	45 / 16 / SR / EW	bala-wa Fixed High Pressure Master Slave operation principle 16 x 45 Kg CO2 Cylinder Bank Assembly Fully Integrated & Tested
			a. 2 No. 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever
			b. 14 Nos. 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 16 Nos. of Online Monitor
			d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 16 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.



# PRODUCT LIST

16	IH401	45 / 17 / SR / EW	bala-wa Fixed High Pressure Master Slave operation principle 17 x 45 Kg CO2 Cylinder Bank Assembly Fully Integrated & Tested
			a. 2 No. 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever
			b. 15 Nos. 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 17 Nos. of Online Monitor
			d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 17 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.

# PRODUCT LIST

17	IH401	45 / 18 / SR / EW	<b>bala-wa Fixed High Pressure Master Slave operation principle 18 x 45 Kg CO2 Cylinder Bank Assembly Fully Integrated &amp; Tested</b>
			<b>a. 2 No. 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever</b>
			<b>b. 16 Nos. 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever</b>
			<b>c. 18 Nos. of Online Monitor</b>
			<b>d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 18 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, &amp; Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.</b>

# PRODUCT LIST

18	IH401	45 / 19 / SR / EW	<b>bala-wa Fixed High Pressure Master Slave operation principle 19 x 45 Kg CO2 Cylinder Bank Assembly Fully Integrated &amp; Tested</b>
			<b>a. 2 No. 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever</b>
			<b>b. 17 Nos. 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever</b>
			<b>c. 19 Nos. of Online Monitor</b>
			<b>d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 19 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, &amp; Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.</b>

# PRODUCT LIST

19	IH401	45 / 20 / SR / EW	<p>bala-wa Fixed High Pressure Master Slave operation principle 20 x 45 Kg CO2 Cylinder Bank Assembly Fully Integrated &amp; Tested</p>
			<p>a. 2 No. 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever</p>
			<p>b. 18 Nos. 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever</p>
			<p>c. 20 Nos. of Online Monitor</p>
			<p>d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 20 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, &amp; Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.</p>

# PRODUCT LIST

20	IH401	45 / 21 / SR / EW	<p>bala-wa Fixed High Pressure Master Slave operation principle 21 x 45 Kg CO2 Cylinder Bank Assembly Fully Integrated &amp; Tested</p>
			<p>a. 2 No. 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever</p>
			<p>b. 19 Nos. 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever</p>
			<p>c. 21 Nos. of Online Monitor</p>
			<p>d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 21 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, &amp; Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.</p>

# PRODUCT LIST

21	IH401	45 / 22 / SR / EW	<p>bala-wa Fixed High Pressure Master Slave operation principle 22 x 45 Kg CO2 Cylinder Bank Assembly Fully Integrated &amp; Tested</p>
			<p>a. 2 No. 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever</p>
			<p>b. 20 Nos. 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever</p>
			<p>c. 22 Nos. of Online Monitor</p>
			<p>d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 22 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, &amp; Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.</p>

# PRODUCT LIST

22	IH401	45 / 23 / SR / EW	<p><b>bala-wa Fixed High Pressure Master Slave operation principle</b>  <b>23 x 45 Kg CO2 Cylinder Bank Assembly</b>  <b>Fully Integrated &amp; Tested</b></p>
			<p><b>a. 2 No. 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever</b></p>
			<p><b>b. 21 Nos. 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever</b></p>
			<p><b>c. 23 Nos. of Online Monitor</b></p>
			<p><b>d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 23 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, &amp; Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.</b></p>



# PRODUCT LIST

23	IH401	45 / 24 / SR / EW	<b>bala-wa Fixed High Pressure Master Slave operation principle 24 x 45 Kg CO2 Cylinder Bank Assembly Fully Integrated &amp; Tested</b>
			<b>a. 2 No. 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever</b>
			<b>b. 22 Nos. 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever</b>
			<b>c. 24 Nos. of Online Monitor</b>
			<b>d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 24 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, &amp; Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.</b>

# PRODUCT LIST

II	IH402	AA-BB-CC-DD-EE	IH402-bala-wa Fixed High Pressure N2 / CO2 Pilot and Slave Cylinders principle 45 Kg CO2 Cylinder Bank Assembly
		<p>MODEL SELECTION:</p> <p>AA - CYLINDER CAPACITY - 45/22.5/33  BB - NO. OF CYLINDER - ( 2 to 24 nos.)  CC - SR for Single row and DR for Dual row  DD - EW for Electronic Weighing unit and MW for Mechanical weighing unit  EE - N2 pilot cylinder or CO2 pilot cylinder</p>	
01	IH402	45 / 4 / SR / EW / N2	bala-wa Fixed High Pressure N2 / CO2 Pilot and Slave Cylinders principle 4 x 45 Kg CO2 Cylinder Bank Assembly <u>Fully Integrated &amp; Tested</u>
			a. 1 No. 6.8 Ltr. water capacity brand new seamless cylinder and filled with 4.5 Kg. CO2 Gas or 1 cu.mtr. N2 Gas fitted with valve and 24 V DC Solenoid and Manual Lever
			b. 4 Nos 68 Ltr. water capacity brand new seamless Cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 4 Nos. of Online Monitor
			d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 4 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing assemembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.

# PRODUCT LIST

02	IH402	45 / 2 / SR / EW / N2	bala-wa Fixed High Pressure N2 / CO2 Pilot and Slave Cylinders principle 2 x 45 Kg CO2 Cylinder Bank Assembly <u>Fully Integrated &amp; Tested</u>
			a. 1 No. 6.8 Ltr. water capacity brand new seamless cylinder and filled with 4.5 Kg. CO2 Gas or 1 cu.mtr. N2 Gas fitted with valve and 24 V DC Solenoid and Manual Lever
			b. 2 Nos. 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 2 Nos. of Online Monitor
			d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 2 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.

# PRODUCT LIST

03	IH402	45 / 3 / SR / EW / N2	bala-wa Fixed High Pressure N2 / CO2 Pilot and Slave Cylinders principle 3 x 45 Kg CO2 Cylinder Bank Assembly <u>Fully Integrated &amp; Tested</u>
			a. 1 No. 6.8 Ltr. water capacity brand new seamless cylinder and filled with 4.5 Kg. CO2 Gas or 1 cu.mtr. N2 Gas fitted with valve and 24 V DC Solenoid and Manual Lever
			b. 3 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 3 Nos. of Online Monitor
			d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 3 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing assemembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.

# PRODUCT LIST

04	IH402	45 / 5 / SR / EW / N2	bala-wa Fixed High Pressure N2 / CO2 Pilot and Slave Cylinders principle 5 x 45 Kg CO2 Cylinder Bank Assembly <u>Fully Integrated &amp; Tested</u>
			a. 1 No. 6.8 Ltr. water capacity brand new seamless cylinder and filled with 4.5 Kg. CO2 Gas or 1 cu.mtr. N2 Gas fitted with valve and 24 V DC Solenoid and Manual Lever
			b. 5 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 5 Nos. of Online Monitor
			d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 5 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing assemembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.

# PRODUCT LIST

05	IH402	45 / 6 / SR / EW / N2	bala-wa Fixed High Pressure N2 / CO2 Pilot and Slave Cylinders principle 6 x 45 Kg CO2 Cylinder Bank Assembly <u>Fully Integrated &amp; Tested</u>
			a. 1 No. 6.8 Ltr. water capacity brand new seamless cylinder and filled with 4.5 Kg. CO2 Gas or 1 cu.mtr. N2 Gas fitted with valve and 24 V DC Solenoid and Manual
			b. 6 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 6 Nos. of Online Monitor
			d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 6 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing assemembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.

# PRODUCT LIST

06	IH402	45 / 7 / SR / EW / N2	bala-wa Fixed High Pressure N2 / CO2 Pilot and Slave Cylinders principle 7 x 45 Kg CO2 Cylinder Bank Assembly <u>Fully Integrated &amp; Tested</u>
			a. 1 No. 6.8 Ltr. water capacity brand new seamless cylinder and filled with 4.5 Kg. CO2 Gas or 1 cu.mtr. N2 Gas fitted with valve and 24 V DC Solenoid and Manual Lever
			b. 7 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 7 Nos. of Online Monitor
			d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 7 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing assemembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.



# PRODUCT LIST

07	IH402	45 / 8 / SR / EW / N2	bala-wa Fixed High Pressure N2 / CO2 Pilot and Slave Cylinders principle 8 x 45 Kg CO2 Cylinder Bank Assembly <u>Fully Integrated &amp; Tested</u>
			a. 1 No. 6.8 Ltr. water capacity brand new seamless cylinder and filled with 4.5 Kg. CO2 Gas or 1 cu.mtr. N2 Gas fitted with valve and 24 V DC Solenoid and Manual Lever
			b. 8 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 8 Nos. of Online Monitor
			d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 8 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing assemembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.

# PRODUCT LIST

08	IH402	45 / 9 / SR / EW / N2	bala-wa Fixed High Pressure N2 / CO2 Pilot and Slave Cylinders principle 9 x 45 Kg CO2 Cylinder Bank Assembly <u>Fully Integrated &amp; Tested</u>
			a. 1 No. 6.8 Ltr. water capacity brand new seamless cylinder and filled with 4.5 Kg. CO2 Gas or 1 cu.mtr. N2 Gas fitted with valve and 24 V DC Solenoid and Manual
			b. 9 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 9 Nos. of Online Monitor
			d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 9 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing assemembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.

# PRODUCT LIST

09	IH402	45 / 10 / SR / EW / N2	bala-wa Fixed High Pressure N2 / CO2 Pilot and Slave Cylinders principle 10 x 45 Kg CO2 Cylinder Bank Assembly <u>Fully Integrated &amp; Tested</u>
			a. 1 No. 6.8 Ltr. water capacity brand new seamless cylinder and filled with 4.5 Kg. CO2 Gas or 1 cu.mtr. N2 Gas fitted with valve and 24 V DC Solenoid and Manual
			b. 10 Nos. 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 10 Nos. of Online Monitor
			d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 10 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing asseembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.

# PRODUCT LIST

10	IH402	45 / 11 / SR / EW / N2	<b>bala-wa Fixed High Pressure N2 / CO2 Pilot and Slave Cylinders principle 11 x 45 Kg CO2 Cylinder Bank Assembly <u>Fully Integrated &amp; Tested</u></b>
			<b>a. 1 No. 6.8 Ltr. water capacity brand new seamless cylinder and filled with 4.5 Kg. CO2 Gas or 1 cu.mtr. N2 Gas fitted with valve and 24 V DC Solenoid and Manual Lever</b>
			<b>b. 11 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever</b>
			<b>c. 11 Nos. of Online Monitor</b>
			<b>d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 11 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, &amp; Online monitoring fixing asseembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.</b>

# PRODUCT LIST

11	IH402	45 / 12 / SR / EW / N2	<b>bala-wa Fixed High Pressure N2 / CO2 Pilot and Slave Cylinders principle 12 x 45 Kg CO2 Cylinder Bank Assembly <u>Fully Integrated &amp; Tested</u></b>
			<b>a. 1 No. 6.8 Ltr. water capacity brand new seamless cylinder and filled with 4.5 Kg. CO2 Gas or 1 cu.mtr. N2 Gas fitted with valve and 24 V DC Solenoid and Manual Lever</b>
			<b>b. 12 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever</b>
			<b>c. 12 Nos. of Online Monitor</b>
			<b>d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 12 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, &amp; Online monitoring fixing asseembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.</b>

# PRODUCT LIST

12	IH4 02	45 / 13 / SR / EW / N2	bala-wa Fixed High Pressure N2 / CO2 Pilot and Slave Cylinders principle 13 x 45 Kg CO2 Cylinder Bank Assembly Fully Integrated & Tested
			a. 1 No. 6.8 Ltr. water capacity brand new seamless cylinder and filled with 4.5 Kg. CO2 Gas or 1 cu.mtr. N2 Gas fitted with valve and 24 V DC Solenoid and Manual Lever
			b. 13 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 13 Nos. of Online Monitor
			d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 13 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing asseembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.

# PRODUCT LIST

13	IH402	45 / 14 / SR / EW / N2	bala-wa Fixed High Pressure N2 / CO2 Pilot and Slave Cylinders principle 14 x 45 Kg CO2 Cylinder Bank Assembly Fully Integrated & Tested
			a. 1 No. 6.8 Ltr. water capacity brand new seamless cylinder and filled with 4.5 Kg. CO2 Gas or 1 cu.mtr. N2 Gas fitted with valve and 24 V DC Solenoid and Manual Lever
			b. 14 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 14 Nos. of Online Monitor
			d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 14 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing asseembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.



# PRODUCT LIST

14	IH402	45 / 15 / SR / EW / N2	bala-wa Fixed High Pressure N2 / CO2 Pilot and Slave Cylinders principle 15 x 45 Kg CO2 Cylinder Bank Assembly Fully Integrated & Tested
			a. 1 No. 6.8 Ltr. water capacity brand new seamless cylinder and filled with 4.5 Kg. CO2 Gas or 1 cu.mtr. N2 Gas fitted with valve and 24 V DC Solenoid and Manual Lever
			b. 15 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 15 Nos. of Online Monitor
			d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 15 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing asseembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.

# PRODUCT LIST

15	IH402	45 / 16 / SR / EW / N2	bala-wa Fixed High Pressure N2 / CO2 Pilot and Slave Cylinders principle 16 x 45 Kg CO2 Cylinder Bank Assembly Fully Integrated & Tested
			a. 1 No. 6.8 Ltr. water capacity brand new seamless cylinder and filled with 4.5 Kg. CO2 Gas or 1 cu.mtr. N2 Gas fitted with valve and 24 V DC Solenoid and Manual Lever
			b. 16 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 16 Nos. of Online Monitor
			d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 16 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing asseembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.

# PRODUCT LIST

16	IH402	45 / 17 / SR / EW / N2	bala-wa Fixed High Pressure N2 / CO2 Pilot and Slave Cylinders principle 17 x 45 Kg CO2 Cylinder Bank Assembly Fully Integrated & Tested
			a. 1 No. 6.8 Ltr. water capacity brand new seamless cylinder and filled with 4.5 Kg. CO2 Gas or 1 cu.mtr. N2 Gas fitted with valve and 24 V DC Solenoid and Manual Lever
			b. 17 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 17 Nos. of Online Monitor
			d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 17 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing asseembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.

# PRODUCT LIST

17	IH402	45 / 18 / SR / EW / N2	<b>bala-wa Fixed High Pressure N2 / CO2 Pilot and Slave Cylinders principle 18 x 45 Kg CO2 Cylinder Bank Assembly Fully Integrated &amp; Tested</b>
			<b>a. 1 No. 6.8 Ltr. water capacity brand new seamless cylinder and filled with 4.5 Kg. CO2 Gas or 1 cu.mtr. N2 Gas fitted with valve and 24 V DC Solenoid and Manual Lever</b>
			<b>b. 18 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever</b>
			<b>c. 18 Nos. of Online Monitor</b>
			<b>d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 18 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, &amp; Online monitoring fixing asseembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.</b>

# PRODUCT LIST

18	IH402	45 / 19 / SR / EW / N2	bala-wa Fixed High Pressure N2 / CO2 Pilot and Slave Cylinders principle 19 x 45 Kg CO2 Cylinder Bank Assembly Fully Integrated & Tested
			a. 1 No. 6.8 Ltr. water capacity brand new seamless cylinder and filled with 4.5 Kg. CO2 Gas or 1 cu.mtr. N2 Gas fitted with valve and 24 V DC Solenoid and Manual Lever
			b. 19 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 19 Nos. of Online Monitor
			d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 19 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing asseembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.

# PRODUCT LIST

19	IH402	45 / 20 / SR / EW / N2	bala-wa Fixed High Pressure N2 / CO2 Pilot and Slave Cylinders principle 20 x 45 Kg CO2 Cylinder Bank Assembly Fully Integrated & Tested
			a. 1 No. 6.8 Ltr. water capacity brand new seamless cylinder and filled with 4.5 Kg. CO2 Gas or 1 cu.mtr. N2 Gas fitted with valve and 24 V DC Solenoid and Manual Lever
			b. 20 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 20 Nos. of Online Monitor
			d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 20 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing asseembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.

# PRODUCT LIST

20	IH402	45 / 21 / SR / EW / N2	<b>bala-wa Fixed High Pressure N2 / CO2 Pilot and Slave Cylinders principle 21 x 45 Kg CO2 Cylinder Bank Assembly Fully Integrated &amp; Tested</b>
			<b>a. 1 No. 6.8 Ltr. water capacity brand new seamless cylinder and filled with 4.5 Kg. CO2 Gas or 1 cu.mtr. N2 Gas fitted with valve and 24 V DC Solenoid and Manual Lever</b>
			<b>b. 21 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever</b>
			<b>c. 21 Nos. of Online Monitor</b>
			<b>d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 21 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, &amp; Online monitoring fixing asseembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.</b>



# PRODUCT LIST

21	IH402	45 / 22 / SR / EW / N2	bala-wa Fixed High Pressure N2 / CO2 Pilot and Slave Cylinders principle 22 x 45 Kg CO2 Cylinder Bank Assembly Fully Integrated & Tested
			a. 1 No. 6.8 Ltr. water capacity brand new seamless cylinder and filled with 4.5 Kg. CO2 Gas or 1 cu.mtr. N2 Gas fitted with valve and 24 V DC Solenoid and Manual Lever
			b. 22 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 22 Nos. of Online Monitor
			d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 22 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing asseembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.

# PRODUCT LIST

22	IH402	45 / 23 / SR / EW / N2	bala-wa Fixed High Pressure N2 / CO2 Pilot and Slave Cylinders principle 23 x 45 Kg CO2 Cylinder Bank Assembly Fully Integrated & Tested
			a. 1 No. 6.8 Ltr. water capacity brand new seamless cylinder and filled with 4.5 Kg. CO2 Gas or 1 cu.mtr. N2 Gas fitted with valve and 24 V DC Solenoid and Manual Lever
			b. 23 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 23 Nos. of Online Monitor
			d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 23 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing asseembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.

# PRODUCT LIST

23	IH402	45 / 24 / SR / EW / N2	bala-wa Fixed High Pressure N2 / CO2 Pilot and Slave Cylinders principle 24 x 45 Kg CO2 Cylinder Bank Assembly Fully Integrated & Tested
			a. 1 No. 6.8 Ltr. water capacity brand new seamless cylinder and filled with 4.5 Kg. CO2 Gas or 1 cu.mtr. N2 Gas fitted with valve and 24 V DC Solenoid and Manual Lever
			b. 24 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 24 Nos. of Online Monitor
			d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 24 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing asseembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.

# PRODUCT LIST

III	IH403	AA-BB-CC-DD	IH403-bala-wa Fixed High Pressure Main & Standby, Master Slave Operation principle 45 Kg CO2 Cylinder Bank Assembly
		<b>MODEL SELECTION:</b>  AA - CYLINDER CAPACITY - 45/22.5/33 BB - NO. OF CYLINDER - ( 2 to 24 nos.) CC - SR for Single row and DR for Dual row DD - EW for Electronic Weighing unit and MW for Mechanical weighing unit	
01	IH403	45 / (2+2) / SR / EW	bala-wa Fixed High Pressure Main & Standby, Master Slave Operation principle (2+2) x 45 Kg CO2 Cylinder Bank Assembly <u>Fully Integrated &amp; Tested</u>
			a. 2 No. 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever
			b. 2 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 4 Nos. of Online Monitor
			d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 4 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.

# PRODUCT LIST

02	IH403	45 / (3+3) / SR / EW	bala-wa Fixed High Pressure Main & Standby, Master Slave Operation principle (3+3) x 45 Kg CO2 Cylinder Bank Assembly <u>Fully Integrated &amp; Tested</u>
			a. 2 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever
			b. 4 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 6 Nos. of Online Monitor
			d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 6 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.

# PRODUCT LIST

03	IH403	45 / (4+4) / SR / EW	bala-wa Fixed High Pressure Main & Standby, Master Slave Operation principle (4+4) x 45 Kg CO2 Cylinder Bank Assembly <u>Fully Integrated &amp; Tested</u>
			a. 2 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever
			b. 6 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 8 Nos. of Online Monitor
			d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 8 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing asseembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.

# PRODUCT LIST

04	IH403	45 / (5+5) / SR / EW	bala-wa Fixed High Pressure Main & Standby, Master Slave Operation principle (5+5) x 45 Kg CO2 Cylinder Bank Assembly <u>Fully Integrated &amp; Tested</u>
			a. 2 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever
			b. 8 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 10 Nos. of Online Monitor
			d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 10 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.



# PRODUCT LIST

05	IH403	45 / (6+6) / SR / EW	bala-wa Fixed High Pressure Main & Standby, Master Slave Operation principle (6+6) x 45 Kg CO2 Cylinder Bank Assembly <u>Fully Integrated &amp; Tested</u>
			a. 2 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever
			b. 10 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 12 Nos. of Online Monitor
			d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 12 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.

# PRODUCT LIST

06	IH403	45 / (7+7) / SR / EW	bala-wa Fixed High Pressure Main & Standby, Master Slave Operation principle (7+7) x 45 Kg CO2 Cylinder Bank Assembly <u>Fully Integrated &amp; Tested</u>
			a. 2 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever
			b. 12 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 14 Nos. of Online Monitor
			d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 14 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.

# PRODUCT LIST

07	IH403	45 / (8+8) / SR / EW	bala-wa Fixed High Pressure Main & Standby, Master Slave Operation principle (8+8) x 45 Kg CO2 Cylinder Bank Assembly <u>Fully Integrated &amp; Tested</u>
			a. 2 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever
			b. 14 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 16 Nos. of Online Monitor
			d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 16 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.

# PRODUCT LIST

08	IH403	45 / (9+9) / SR / EW	bala-wa Fixed High Pressure Main & Standby, Master Slave Operation principle (9+9) x 45 Kg CO2 Cylinder Bank Assembly <u>Fully Integrated &amp; Tested</u>
			a. 2 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever
			b. 16 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 18 Nos. of Online Monitor
			d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 18 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.

# PRODUCT LIST

09	IH403	45 / (10+10) / SR / EW	bala-wa Fixed High Pressure Main & Standby, Master Slave Operation principle (10+10) x 45 Kg CO2 Cylinder Bank Assembly <u>Fully Integrated &amp; Tested</u>
			a. 2 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever
			b. 18 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 20 Nos. of Online Monitor
			d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 20 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.

# PRODUCT LIST

10	IH403	45 / (11+11) / SR / EW	bala-wa Fixed High Pressure Main & Standby, Master Slave Operation principle (11+11) x 45 Kg CO2 Cylinder Bank Assembly <u>Fully Integrated &amp; Tested</u>
			a. 2 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever
			b. 20 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 22 Nos. of Online Monitor
			d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 22 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.

# PRODUCT LIST

11	IH403	45 / (12+12) / SR / EW	bala-wa Fixed High Pressure Main & Standby, Master Slave Operation principle (12+12) x 45 Kg CO2 Cylinder Bank Assembly <u>Fully Integrated &amp; Tested</u>
			a. 2 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever
			b. 22 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 24 Nos. of Online Monitor
			d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 24 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.



# PRODUCT LIST

12	IH403	45 / (13+13) / SR / EW	bala-wa Fixed High Pressure Main & Standby, Master Slave Operation principle (13+13) x 45 Kg CO2 Cylinder Bank Assembly Fully Integrated & Tested
			a. 4 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever
			b. 22 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 26 Nos. of Online Monitor
			d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 26 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.

# PRODUCT LIST

13	IH403	45 / (14+14) / SR / EW	bala-wa Fixed High Pressure Main & Standby, Master Slave Operation principle (14+14) x 45 Kg CO2 Cylinder Bank Assembly Fully Integrated & Tested
			a. 4 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever
			b. 24 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 28 Nos. of Online Monitor
			d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 28 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.

# PRODUCT LIST

14	IH403	45 / (15+15) / SR / EW	bala-wa Fixed High Pressure Main & Standby, Master Slave Operation principle (15+15) x 45 Kg CO2 Cylinder Bank Assembly Fully Integrated & Tested
			a. 4 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever
			b. 26 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 30 Nos. of Online Monitor
			d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 30 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.

# PRODUCT LIST

15	IH403	45 / (16+16) / SR / EW	bala-wa Fixed High Pressure Main & Standby, Master Slave Operation principle (16+16) x 45 Kg CO2 Cylinder Bank Assembly Fully Integrated & Tested
			a. 4 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever
			b. 28 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 32 Nos. of Online Monitor
			d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 32 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.

# PRODUCT LIST

16	IH403	45 / (17+17) / SR / EW	bala-wa Fixed High Pressure Main & Standby, Master Slave Operation principle (17+17) x 45 Kg CO2 Cylinder Bank Assembly Fully Integrated & Tested
			a. 4 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever
			b. 30 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 34 Nos. of Online Monitor
			d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 34 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.

# PRODUCT LIST

17	IH403	45 / (18+18) / SR / EW	bala-wa Fixed High Pressure Main & Standby, Master Slave Operation principle (18+18) x 45 Kg CO2 Cylinder Bank Assembly Fully Integrated & Tested
			a. 4 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever
			b. 32 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 36 Nos. of Online Monitor
			d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 36 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.

# PRODUCT LIST

18	IH403	45 / (19+19) / SR / EW	bala-wa Fixed High Pressure Main & Standby, Master Slave Operation principle (19+19) x 45 Kg CO2 Cylinder Bank Assembly Fully Integrated & Tested
			a. 4 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever
			b. 34 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 38 Nos. of Online Monitor
			d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 38 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.



# PRODUCT LIST

19	IH403	45 / (20+20) / SR / EW	<b>bala-wa Fixed High Pressure Main &amp; Standby, Master Slave Operation principle (20+20) x 45 Kg CO2 Cylinder Bank Assembly Fully Integrated &amp; Tested</b>
			<b>a. 4 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever</b>
			<b>b. 36 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever</b>
			<b>c. 40 Nos. of Online Monitor</b>
			<b>d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 40 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, &amp; Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.</b>

# PRODUCT LIST

20	IH403	45 / (21+21) / SR / EW	bala-wa Fixed High Pressure Main & Standby, Master Slave Operation principle (21+21) x 45 Kg CO2 Cylinder Bank Assembly Fully Integrated & Tested
			a. 4 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever
			b. 38 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 42 Nos. of Online Monitor
			d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 42 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.

# PRODUCT LIST

21	IH403	45 / (22+22) / SR / EW	bala-wa Fixed High Pressure Main & Standby, Master Slave Operation principle (22+22) x 45 Kg CO2 Cylinder Bank Assembly Fully Integrated & Tested
			a. 4 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever
			b. 40 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 44 Nos. of Online Monitor
			d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 44 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.

# PRODUCT LIST

22	IH403	45 / (23+23) / SR / EW	bala-wa Fixed High Pressure Main & Standby, Master Slave Operation principle (23+23) x 45 Kg CO2 Cylinder Bank Assembly Fully Integrated & Tested
			a. 4 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever
			b. 42 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 46 Nos. of Online Monitor
			d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 46 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.

# PRODUCT LIST

23	IH403	45 / (24+24) / SR / EW	bala-wa Fixed High Pressure Main & Standby, Master Slave Operation principle (24+24) x 45 Kg CO2 Cylinder Bank Assembly Fully Integrated & Tested
			a. 4 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever
			b. 44 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 48 Nos. of Online Monitor
			d. 1 Set. Tubular Frame Assembly with powder coating finishing to support 48 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.

IV	IH404	AA-BB-CC-DD-EE	IH404-bala-wa Fixed High Pressure Main & Standby, Master Slave Operation principle using common bank with directional valves 45 Kg CO2 Cylinder Bank Assembly
		<p>MODEL SELECTION:</p> <p>AA - CYLINDER CAPACITY - 45/22.5/33</p> <p>BB - NO. OF CYLINDER - ( 2 to 24 nos.)</p> <p>CC - SR for Single row and DR for Dual row</p> <p>DD - EW for Electronic Weighing unit and MW for Mechanical weighing unit</p> <p>EE - NO. OF DIRECTIONAL VALVES</p>	
01	IH404	45 / (2+2) / SR / EW / 02	bala-wa Fixed High Pressure Main & Standby, Master Slave Operation principle using common bank with directional valves (2+2) x 45 Kg CO2 Cylinder Bank Assembly <u>Fully Integrated &amp; Tested</u>
			a. 2 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever
			b. 2 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 1 Set Pilot N2 Cylinder Kit Assembly consisting of main & standby pilot Cylinders complete with Cylinder valve, Solenoid Distributor assembly suitable to operate 2 nos of directional valves.
			d. 2Nos of 25NB Directional Valves with Joining Manifold for 2 Nos. of Directional Valve upto 50 NB Size
			e. 4 Nos. of Online Monitor
			f ) 1 Set. Tubular Frame Assembly with powder coating finishing to support 4 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing asseembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes,

# PRODUCT LIST

02	IH404	45 / (3+3) / SR / EW / 02	bala-wa Fixed High Pressure Main & Standby, Master Slave Operation principle using common bank with directional valves (3+3) x 45 Kg CO2 Cylinder Bank Assembly <u>Fully Integrated &amp; Tested</u>
			a. 2 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever
			b. 4 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 1 Set Pilot N2 Cylinder Kit Assembly consisting of main & standby pilot  Cylinders complete with Cylinder valve, Solenoid Distributor assembly suitable to operate 2 nos of directional valves.
			d. 2Nos of 25NB Directional Valves with Joining Manifold for 2 Nos. of  Directional Valve upto 50 NB Size
			e. 6 Nos. of Online Monitor
			f. 1 Set. Tubular Frame Assembly with powder coating finishing to support 6 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing asseembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.

# PRODUCT LIST

03	IH404	45 / (4+4) / SR / EW / 02	bala-wa Fixed High Pressure Main & Standby, Master Slave Operation principle using common bank with directional valves (4+4) x 45 Kg CO2 Cylinder Bank Assembly <u>Fully Integrated &amp; Tested</u>
			a. 2 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever
			b. 6 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 1 Set Pilot N2 Cylinder Kit Assembly consisting of main & standby pilot Cylinders complete with Cylinder valve, Solenoid Distributor assembly suitable to operate 2 nos of directional valves.
			d. 2Nos of 32NB Directional Valves with Joining Manifold for 2 Nos. of Directional Valve upto 50 NB Size
			e. 8 Nos. of Online Monitor
			f. 1 Set. Tubular Frame Assembly with powder coating finishing to support 8 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing asseembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.



# PRODUCT LIST

04	IH404	45 / (5+5) / SR / EW / 02	bala-wa Fixed High Pressure Main & Standby, Master Slave Operation principle using common bank with directional valves (5+5) x 45 Kg CO2 Cylinder Bank Assembly <u>Fully Integrated &amp; Tested</u>
			a. 2 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever
			b. 8 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 1 Set Pilot N2 Cylinder Kit Assembly consisting of main & standby pilot Cylinders complete with Cylinder valve, Solenoid Distributor assembly suitable to operate 2 nos of directional valves.
			d. 2Nos of 32NB Directional Valves with Joining Manifold for 2 Nos. of Directional Valve upto 50 NB Size
			e 10 Nos. of Online Monitor
			f. 1 Set. Tubular Frame Assembly with powder coating finishing to support 10 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.

# PRODUCT LIST

05	IH404	45 / (6+6) / SR / EW / 02	bala-wa Fixed High Pressure Main & Standby, Master Slave Operation principle using common bank with directional valves (6+6) x 45 Kg CO2 Cylinder Bank Assembly <u>Fully Integrated &amp; Tested</u>
			a. 2 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever
			b. 10 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 1 Set Pilot N2 Cylinder Kit Assembly consisting of main & standby pilot Cylinders complete with Cylinder valve, Solenoid Distributor assembly suitable to operate 2 nos of directional valves.
			d. 2Nos of 32NB Directional Valves with Joining Manifold for 2 Nos. of Directional Valve upto 50 NB Size
			e. 12 Nos. of Online Monitor
			f. 1 Set. Tubular Frame Assembly with powder coating finishing to support 12 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.

# PRODUCT LIST

06	IH404	45 / (7+7) / SR / EW / 02	bala-wa Fixed High Pressure Main & Standby, Master Slave Operation principle using common bank with directional valves (7+7) x 45 Kg CO2 Cylinder Bank Assembly <u>Fully Integrated &amp; Tested</u>
			a. 2 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever
			b. 12 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 1 Set Pilot N2 Cylinder Kit Assembly consisting of main & standby pilot Cylinders complete with Cylinder valve, Solenoid Distributor assembly suitable to operate 2 nos of directional valves.
			d. 2Nos of 40NB Directional Valves with Joining Manifold for 2 Nos. of Directional Valve upto 50 NB Size
			e. 14 Nos. of Online Monitor
			f. 1 Set. Tubular Frame Assembly with powder coating finishing to support 14 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.

# PRODUCT LIST

07	IH404	45 / (8+8) / SR / EW / 02	bala-wa Fixed High Pressure Main & Standby, Master Slave Operation principle using common bank with directional valves (8+8) x 45 Kg CO2 Cylinder Bank Assembly <u>Fully Integrated &amp; Tested</u>
			a. 2 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever
			b. 14 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 1 Set Pilot N2 Cylinder Kit Assembly consisting of main & standby pilot  Cylinders complete with Cylinder valve, Solenoid Distributor assembly suitable to operate 2 nos of directional valves.
			d. 2Nos of 40NB Directional Valves with Joining Manifold for 2 Nos. of Directional Valve upto 50 NB Size
			e. 16 Nos. of Online Monitor
			f. 1 Set. Tubular Frame Assembly with powder coating finishing to support 16 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.

# PRODUCT LIST

08	IH404	45 / (9+9) / SR / EW / 02	bala-wa Fixed High Pressure Main & Standby, Master Slave Operation principle using common bank with directional valves (9+9) x 45 Kg CO2 Cylinder Bank Assembly <u>Fully Integrated &amp; Tested</u>
			a. 2 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever
			b. 16 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 1 Set Pilot N2 Cylinder Kit Assembly consisting of main & standby pilot  Cylinders complete with Cylinder valve, Solenoid Distributor assembly suitable to operate 2 nos of directional valves.
			d. 2Nos of 40NB Directional Valves with Joining Manifold for 2 Nos. of Directional Valve upto 50 NB Size
			e. 18 Nos. of Online Monitor
			f. 1 Set. Tubular Frame Assembly with powder coating finishing to support 18 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.

# PRODUCT LIST

09	IH404	45 / (10+10) / SR / EW / 02	<b>bala-wa Fixed High Pressure Main &amp; Standby, Master Slave Operation principle using common bank with directional valves (10+10) x 45 Kg CO2 Cylinder Bank Assembly <u>Fully Integrated &amp; Tested</u></b>
			<b>a. 2 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever</b>
			<b>b. 18 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever</b>
			<b>c. 1 Set Pilot N2 Cylinder Kit Assembly consisting of main &amp; standby pilot Cylinders complete with Cylinder valve, Solenoid Distributor assembly suitable to operate 2 nos of directional valves.</b>
			<b>d. 2Nos of 50NB Directional Valves with Joining Manifold for 2 Nos. of Directional Valve upto 50 NB Size</b>
			<b>e. 20 Nos. of Online Monitor</b>
			<b>f. 1 Set. Tubular Frame Assembly with powder coating finishing to support 20 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, &amp; Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.</b>

# PRODUCT LIST

10	IH404	45 / (11+11) / SR / EW / 02	bala-wa Fixed High Pressure Main & Standby, Master Slave Operation principle using common bank with directional valves (11+11) x 45 Kg CO2 Cylinder Bank Assembly <u>Fully Integrated &amp; Tested</u>
			a. 2 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever
			b. 20 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 1 Set Pilot N2 Cylinder Kit Assembly consisting of main & standby pilot Cylinders complete with Cylinder valve, Solenoid Distributor assembly suitable to operate 2 nos of directional valves.
			d. 2Nos of 50NB Directional Valves with Joining Manifold for 2 Nos. of Directional Valve upto 50 NB Size
			e. 22 Nos. of Online Monitor
			f. 1 Set. Tubular Frame Assembly with powder coating finishing to support 22 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.

# PRODUCT LIST

11	IH404	45 / (12+12) / SR / EW / 02	bala-wa Fixed High Pressure Main & Standby, Master Slave Operation principle using common bank with directional valves (12+12) x 45 Kg CO2 Cylinder Bank Assembly <u>Fully Integrated &amp; Tested</u>
			a. 2 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever
			b. 22 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 1 Set Pilot N2 Cylinder Kit Assembly consisting of main & standby pilot Cylinders complete with Cylinder valve, Solenoid Distributor assembly suitable to operate 2 nos of directional valves.
			d. 2Nos of 50NB Directional Valves with Joining Manifold for 2 Nos. of Directional Valve upto 50 NB Size
			e. 24 Nos. of Online Monitor
			f. 1 Set. Tubular Frame Assembly with powder coating finishing to support 24 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.



# PRODUCT LIST

12	IH404	45 / (13+13) / SR / EW / 02	bala-wa Fixed High Pressure Main & Standby, Master Slave Operation principle using common bank with directional valves (13+13) x 45 Kg CO2 Cylinder Bank Assembly <u>Fully Integrated &amp; Tested</u>
			a. 4 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever
			b. 22 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 1 Set Pilot N2 Cylinder Kit Assembly consisting of main & standby pilot Cylinders complete with Cylinder valve, Solenoid Distributor assembly suitable to operate 2 nos of directional valves.
			d. 2Nos of 50NB Directional Valves with Joining Manifold for 2 Nos. of Directional Valve upto 50 NB Size
			e. 26 Nos. of Online Monitor
			f. 1 Set. Tubular Frame Assembly with powder coating finishing to support 26 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.

# PRODUCT LIST

13	IH404	45 / (14+14) / SR / EW / 02	bala-wa Fixed High Pressure Main & Standby, Master Slave Operation principle using common bank with directional valves (14+14) x 45 Kg CO2 Cylinder Bank Assembly <u>Fully Integrated &amp; Tested</u>
			a. 4 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever
			b. 24 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 1 Set Pilot N2 Cylinder Kit Assembly consisting of main & standby pilot Cylinders complete with Cylinder valve, Solenoid Distributor assembly suitable to operate 2 nos of directional valves.
			d. 2Nos of 50NB Directional Valves with Joining Manifold for 2 Nos. of Directional Valve upto 50 NB Size
			e. 28 Nos. of Online Monitor
			f. 1 Set. Tubular Frame Assembly with powder coating finishing to support 28 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.

# PRODUCT LIST

14	IH404	45 / (15+15) / SR / EW / 02	bala-wa Fixed High Pressure Main & Standby, Master Slave Operation principle using common bank with directional valves (15+15) x 45 Kg CO2 Cylinder Bank Assembly <u>Fully Integrated &amp; Tested</u>
			a. 4 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever
			b. 26 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 1 Set Pilot N2 Cylinder Kit Assembly consisting of main & standby pilot Cylinders complete with Cylinder valve, Solenoid Distributor assembly suitable to operate 2 nos of directional valves.
			d. 2Nos of 50NB Directional Valves with Joining Manifold for 2 Nos. of Directional Valve upto 50 NB Size
			e. 30 Nos. of Online Monitor
			f. 1 Set. Tubular Frame Assembly with powder coating finishing to support 30 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.

# PRODUCT LIST

15	IH404	45 / (16+16) / SR / EW / 02	bala-wa Fixed High Pressure Main & Standby, Master Slave Operation principle using common bank with directional valves (16+16) x 45 Kg CO2 Cylinder Bank Assembly <u>Fully Integrated &amp; Tested</u>
			a. 4 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever
			b. 28 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 1 Set Pilot N2 Cylinder Kit Assembly consisting of main & standby pilot Cylinders complete with Cylinder valve, Solenoid Distributor assembly suitable to operate 2 nos of directional valves.
			d. 2Nos of 50NB Directional Valves with Joining Manifold for 2 Nos. of Directional Valve upto 50 NB Size
			e. 32 Nos. of Online Monitor
			f. 1 Set. Tubular Frame Assembly with powder coating finishing to support 32 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.

# PRODUCT LIST

16	IH404	45 / (17+17) / SR / EW / 02	bala-wa Fixed High Pressure Main & Standby, Master Slave Operation principle using common bank with directional valves (17+17) x 45 Kg CO2 Cylinder Bank Assembly <u>Fully Integrated &amp; Tested</u>
			a. 4 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever
			b. 30 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 1 Set Pilot N2 Cylinder Kit Assembly consisting of main & standby pilot Cylinders complete with Cylinder valve, Solenoid Distributor assembly suitable to operate 2 nos of directional valves.
			d. 2Nos of 50NB Directional Valves with Joining Manifold for 2 Nos. of Directional Valve upto 50 NB Size
			e. 34 Nos. of Online Monitor
			f. 1 Set. Tubular Frame Assembly with powder coating finishing to support 34 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.

# PRODUCT LIST

17	IH404	45 / (18+18) / SR / EW / 02	bala-wa Fixed High Pressure Main & Standby, Master Slave Operation principle using common bank with directional valves (18+18) x 45 Kg CO2 Cylinder Bank Assembly <u>Fully Integrated &amp; Tested</u>
			a. 4 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever
			b. 32 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 1 Set Pilot N2 Cylinder Kit Assembly consisting of main & standby pilot Cylinders complete with Cylinder valve, Solenoid Distributor assembly suitable to operate 2 nos of directional valves.
			d. 2Nos of 50NB Directional Valves with Joining Manifold for 2 Nos. of Directional Valve upto 50 NB Size
			e. 36 Nos. of Online Monitor
			f. 1 Set. Tubular Frame Assembly with powder coating finishing to support 36 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.

# PRODUCT LIST

18	IH404	45 / (19+19) / SR / EW / 02	bala-wa Fixed High Pressure Main & Standby, Master Slave Operation principle using common bank with directional valves (19+19) x 45 Kg CO2 Cylinder Bank Assembly <u>Fully Integrated &amp; Tested</u>
			a. 4 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever
			b. 34 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 1 Set Pilot N2 Cylinder Kit Assembly consisting of main & standby pilot Cylinders complete with Cylinder valve, Solenoid Distributor assembly suitable to operate 2 nos of directional valves.
			d. 2Nos of 50NB Directional Valves with Joining Manifold for 2 Nos. of Directional Valve upto 50 NB Size
			e. 38 Nos. of Online Monitor
			f. 1 Set. Tubular Frame Assembly with powder coating finishing to support 38 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.

# PRODUCT LIST

19	IH404	45 / (20+20) / SR / EW / 02	bala-wa Fixed High Pressure Main & Standby, Master Slave Operation principle using common bank with directional valves (20+20) x 45 Kg CO2 Cylinder Bank Assembly <u>Fully Integrated &amp; Tested</u>
			a. 4 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever
			b. 36 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 1 Set Pilot N2 Cylinder Kit Assembly consisting of main & standby pilot Cylinders complete with Cylinder valve, Solenoid Distributor assembly suitable to operate 2 nos of directional valves.
			d. 2Nos of 50NB Directional Valves with Joining Manifold for 2 Nos. of Directional Valve upto 50 NB Size
			e. 40 Nos. of Online Monitor
			f. 1 Set. Tubular Frame Assembly with powder coating finishing to support 40 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.



# PRODUCT LIST

20	IH404	45 / (21+21) / SR / EW / 02	bala-wa Fixed High Pressure Main & Standby, Master Slave Operation principle using common bank with directional valves (21+21) x 45 Kg CO2 Cylinder Bank Assembly <u>Fully Integrated &amp; Tested</u>
			a. 4 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever
			b. 38 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 1 Set Pilot N2 Cylinder Kit Assembly consisting of main & standby pilot Cylinders complete with Cylinder valve, Solenoid Distributor assembly suitable to operate 2 nos of directional valves.
			d. 2Nos of 50NB Directional Valves with Joining Manifold for 2 Nos. of Directional Valve upto 50 NB Size
			e. 42 Nos. of Online Monitor
			f. 1 Set. Tubular Frame Assembly with powder coating finishing to support 42 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.

# PRODUCT LIST

21	IH404	45 / (22+22) / SR / EW / 02	bala-wa Fixed High Pressure Main & Standby, Master Slave Operation principle using common bank with directional valves (22+22) x 45 Kg CO2 Cylinder Bank Assembly <u>Fully Integrated &amp; Tested</u>
			a. 4 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever
			b. 40 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 1 Set Pilot N2 Cylinder Kit Assembly consisting of main & standby pilot Cylinders complete with Cylinder valve, Solenoid Distributor assembly suitable to operate 2 nos of directional valves.
			d. 2Nos of 50NB Directional Valves with Joining Manifold for 2 Nos. of Directional Valve upto 50 NB Size
			e. 44 Nos. of Online Monitor
			f. 1 Set. Tubular Frame Assembly with powder coating finishing to support 44 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.

# PRODUCT LIST

22	IH404	45 / (23+23) / SR / EW / 02	bala-wa Fixed High Pressure Main & Standby, Master Slave Operation principle using common bank with directional valves (23+23) x 45 Kg CO2 Cylinder Bank Assembly <u>Fully Integrated &amp; Tested</u>
			a. 4 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever
			b. 42 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 1 Set Pilot N2 Cylinder Kit Assembly consisting of main & standby pilot Cylinders complete with Cylinder valve, Solenoid Distributor assembly suitable to operate 2 nos of directional valves.
			d. 2Nos of 50NB Directional Valves with Joining Manifold for 2 Nos. of Directional Valve upto 50 NB Size
			e. 46 Nos. of Online Monitor
			f. 1 Set. Tubular Frame Assembly with powder coating finishing to support 46 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.

# PRODUCT LIST

23	IH404	45 / (24+24) / SR / EW / 02	bala-wa Fixed High Pressure Main & Standby, Master Slave Operation principle using common bank with directional valves (24+24) x 45 Kg CO2 Cylinder Bank Assembly <u>Fully Integrated &amp; Tested</u>
			a. 4 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Master valve with 24 V DC Solenoid and Manual Lever
			b. 44 Nos 68 Ltr. water capacity brand new seamless cylinder and filled with 45 Kg. CO2 Gas fitted with Slave valve with Pneumatic Actuator and Manual Lever
			c. 1 Set Pilot N2 Cylinder Kit Assembly consisting of main & standby pilot Cylinders complete with Cylinder valve, Solenoid Distributor assembly suitable to operate 2 nos of directional valves.
			d. 2Nos of 50NB Directional Valves with Joining Manifold for 2 Nos. of Directional Valve upto 50 NB Size
			e. 48 Nos. of Online Monitor
			f. 1 Set. Tubular Frame Assembly with powder coating finishing to support 48 x 45 Kg. CO2 Cylinders with seamless schedule 80 manifold (header) matching flange, & Online monitoring fixing assembly fully integrated pressure switch, safety valve, non return valve, SS braided discharge hose, actuation hose, terminal boxes, non ferrous fastners and other required accessories.



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