

HD RAKSHAK INCABINET CO2 SYSTEM



TECHNICAL DATA

SUPPRESSION AGENT	CO2
CYLINDER SIZES	2 kg, 4.5 kg, 9 kg, 15 kg and 22 kg
OPERATING PRESSURE	60 bar
AUTOMATIC VALVE	Brass
FIRE DETECTION	Heat Sensitive Polymer Tubing, UL Listed
DIFFUSER NOZZLES	Brass / Stainless Steel
ORDERING INFORMATION	Size of Cylinder, Number of Nozzles, Length of Stainless Steel Tube & Detection Tube

DESCRIPTION

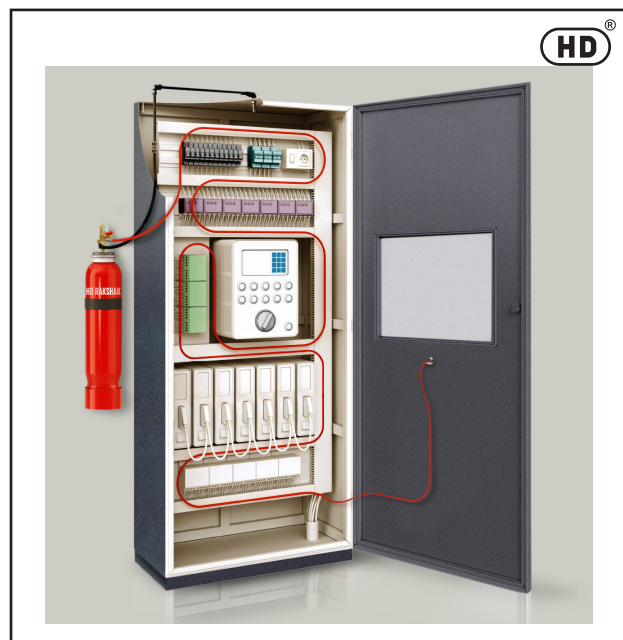
HD RAKSHAK is a specialized In-Cabinet Fire Suppression System, utilizing CO2 extinguishing agent.

RAKSHAK In-cabinet suppression system is a fire suppression system designed for specific application of protecting electrical cabinets and enclosures.

In-Cabinet fire suppression systems are used because these are efficient as well as economical in protection of Computer Server cabinets, Electrical cabinets, CNC machines, IT closets, UPS switchgear cabinets, and archive storage enclosures to name a few. Rather than a total flooding of the whole room with an agent, only the specific cabinet is protected.

RAKSHAK In-cabinet suppression system is a Stand-Alone Automatic Fire Suppression System. The effectiveness of a genuine HD RAKSHAK System, happens by utilizing the best Fire Detection Tubing, which detects a fire due to precise temperature sensitivity, allowing our systems to react quickly and effectively.

This unique detection can be run through the smallest or most complex enclosures to ensure detection is always close at hand. RAKSHAK System can be utilized anywhere that a fire poses a risk, and it is flexible enough for virtually any Industrial Equipment, Traditional as well as Emergency Vehicles, Storage Compartments, Control Cabinets or various types of Remote Installations From CNC Machines and Fume Hoods.



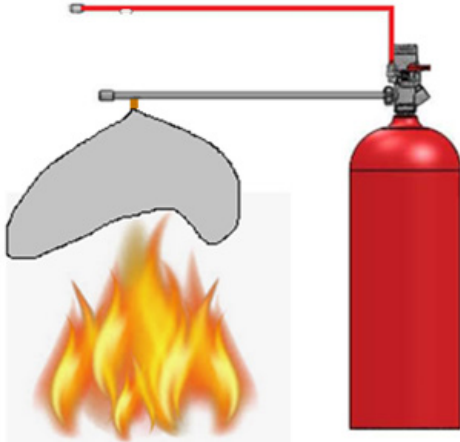
RAKSHAK direct system quickly detects and suppresses fire, directly at the source, efficiently and automatically by discharging CO2. It is a totally self-contained, requiring external electric power and remains active and operational 24x7. After use, naturally-occurring element, CO2 dissipates into the air allowing easy usage. The CO2 discharge also leaves no residue, eliminating the need for agent cleanup and helping reduce downtime. CO2 is discharged through an indirect IHP Valve, which is a differential pressure piston valve that engages immediately when a fire is detected.

The Flexible Detection Tubing (FDT) provides protection in little difficult and hard to reach areas where other detection methods cannot be used. While a Rugged Detection Tubing can be used in harsh environments where other types of detection quickly deteriorate, rendering the system inoperable. While the Detection Tubing is at the heart of the system. By routing the tubing throughout a special hazard, the system can detect a fire at its source. The detection tubing is provided with an end of the line plug. This plug comes with or without an indicative gauge – indicating the pressure of CO2.

The system has an optional integrated weighing to give an indication and control over the amount of CO2 in the cylinder and ample time to replace the cylinder.

The detection tubing on charged condition automatically fills CO2 from the cylinder itself. This is a special feature where one does not require additional Nitrogen cylinder to charge the detection tube.

WORKING PRINCIPLE

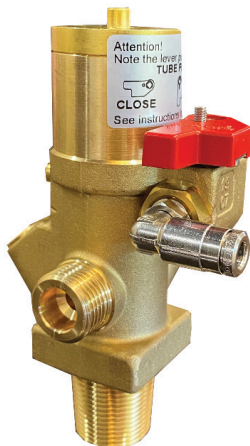


HD "RAKSHAK" Indirect Release System uses the Detection Tube as a "Fire Detection" and "System Activation" device, not as the discharge tube. Once the tubing senses the fire, it then ruptures - resulting in a drop of pressure causing the Indirect Valve to activate. This diverts flow from the detection tube to the larger outlet ports.

CO₂ agent is then discharged from the cylinder through the diffuser nozzles, flooding the area in a proprietary mix of fire extinguishing chemicals or for that matter any extinguishing medium, effectively suppressing the fire quickly and thoroughly.

This system is typically used in larger areas that require a high volume of Extinguishing Agents, to effectively suppress the fire. Multiple diffuser nozzles may be added to meet the specific application requirements.

- One of the advantages of using CO₂ as the suppression agent is its lack of adverse environmental impact. CO₂ has no impact on the ozone layer, and it does not contribute to the "Greenhouse" effect. As with other gaseous agents, it quickly and easily penetrates all areas within an enclosure.



IHP Valve with threaded connection for discharge hose and chuck connection for detection tube

INSTALLATION INSTRUCTIONS

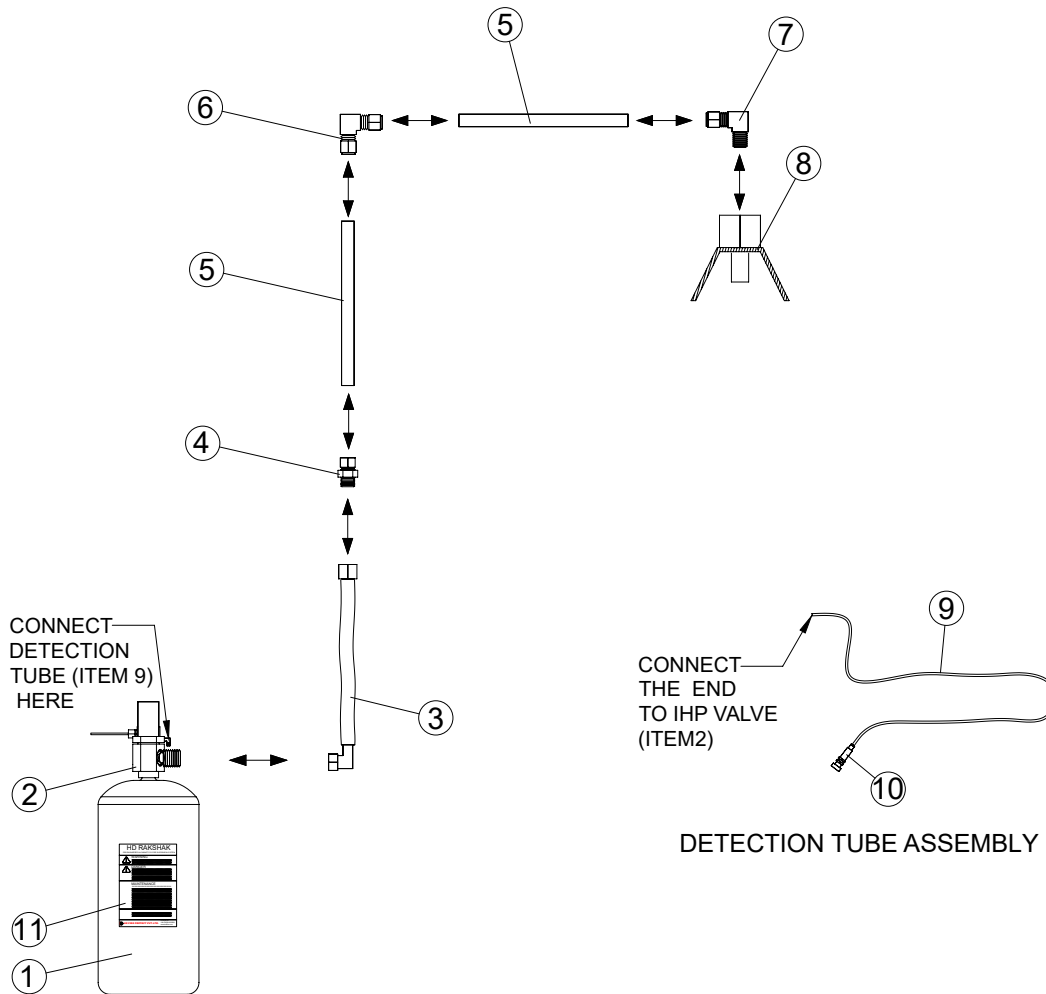
- Ensure that the Fire Detector tube length is chosen appropriately as per desired application. As standard practice 1m length is considered for each system.
- The detection tube needs to be gently assembled with appropriate port of Indirect Valve. The indirect valve port is provided with push-chuck connection so that the detection tube can be properly inserted.
- Discharge hose needs to be connected with the appropriate port of Indirect Valve. This port is threaded port having a protection cap.
- Volume of the panel needs to be calculated properly in order to determine the right quantity of CO₂ gas required.
- It is important to ensure that the flow of gas is properly distributed in an indirect system.
- Always install a monitoring system in order to maintain and monitor 24x7 the healthiness of system.
- HD "RAKSHAK" should always be kept adjacent to the cabinet to be protected in order to reduce the pressure drop.
- Always make sure that the system is non powered and non-energized for ease of maintenance.
- HD "RAKSHAK" In cabinet CO₂ system should always be installed as per IS-15528.2004 standard.

CAUTION

Always use caution plate and warning signs when considering a CO₂ system as the protected areas must never be occupied by a person or persons. Even small amounts of CO₂ can be harmful or fatal if inhaled.

Ensure that the normal temperature of the surrounding area does not go high to increase the surface temperature of pressurized cylinder.

SYSTEM SCHEMATIC



CO2 SYSTEM SCHMATIC

PART LIST

ITEM NO.	CODE NO.	DESCRIPTION	QTY
1	119001	CO2 CYLINDER - 2 KG	1
	119002	CO2 CYLINDER - 4.5 KG	1
	119003	CO2 CYLINDER - 9 KG	1
	119034	CO2 CYLINDER - 15 KG	1
	119004	CO2 CYLINDER - 18 KG	1
	119005	CO2 CYLINDER - 22.5 KG	1
2	119008	IHP-AUTOMATIC VALVE	1
3	119026	RUBBER HOSE PIPE	1
4	119021	MALE CONNECTOR (SS304)	1
5	119007	TUBE (SS304)	2
6	119009	ELBOW (SS304)	1
7	119022	ELBOW (SS 304)	1
8	119023	NOZZLE WITH HORN	1
9	119006	HEAT DETECTION TUBE	1
10	119028	END OF LINE ADAPTOR WITH PRESSURE GAUGE	1
11	CNPR5998	SELF ADHESIVE LABEL PVC, "HD-RAKSHAK "	1

LIMITED WARRANTY

HD FIRE PROTECT PVT. LTD. hereby referred to as HD FIRE warrants to the original purchaser of the fire protection products manufactured by HD FIRE and to any other person to whom such equipment is transferred, that such products will be free from defect in material and workmanship under normal use and care, for two (2) years from the date of shipment by HD FIRE. Products or Components supplied or used by HD FIRE, but manufactured by others, are warranted only to the extent of the manufacturer's warranty. No warranty is given for product or components which have been subject to misuse, improper installation, corrosion, unauthorized repair, alteration or un-maintained. HD FIRE shall not be responsible for system design errors or improper installation or inaccurate or incomplete information supplied by buyer or buyer's representatives. HD FIRE will repair or replace defective material free of charge, which is returned to our factory, transportation charge prepaid, provided after our inspection the material is found to have been defective at the time of initial shipment from our works. HD FIRE shall not be liable for any incidental or consequential loss, damage or expense arising directly or indirectly from the use of the product including damages for injury to person, damages to property and penalties resulting from any products and components manufactured by HD FIRE. HD FIRE shall not be liable for any damages or labour charges or expense in making repair or adjustment to the product. HD FIRE shall not be liable for any damages or charges sustained in the adaptation or use of its engineering data & services. In no event shall HD Fire's product liability exceed an amount equal to the sale price. The foregoing warranty is exclusive and in lieu of all other warranties and representation whether expressed, implied, oral or written, including but not limited to, any implied warranties or merchantability or fitness for a particular purpose. All such other warranties and representations are hereby cancelled.

NOTICE :

The equipment presented in this bulletin is to be installed in accordance with the latest publication standards of NFPA or other similar organisations and also with the provision of government codes or ordinances wherever applicable.

The information provided by us is to the best of our knowledge and belief, and consist of general guidelines only. Site handling and installation control is not in our scope. Hence we give no guarantee for result and take no liability for damages, loss or penalties whatsoever, resulting from our suggestion, information, recommendation or damages due to our product.

Product development is a continuous programme of HD FIRE PROTECT PVT. LTD. and hence the right to modify any specification without prior notice is reserved with the company.



HD FIRE PROTECT PVT. LTD.
Protecting What Matters Most to You

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