

# UPRIGHT, PENDENT AND RECESSED PENDENT SPRINKLER<sub>(STANDARD & QUICK RESPONSE)</sub>



## TECHNICAL DATA

STYLE	Upright, Pendent and Recessed Pendent
TEMPERATURE RESPONSE	Standard Response- 5mm glass bulb Quick Response- 3mm glass bulb
COVERAGE	Standard Coverage
K-FACTOR	5.6 US (80 metric)
NOMINAL THREAD SIZE	½" BSPT (NPT Optional)
MAXIMUM WORKING PRESSURE	12 kg/sq.cm
FACTORY HYDROSTATIC TEST PRESSURE	25 kg/sq.cm
MINIMUM OPERATING PRESSURE	0.5 kg/sq.cm
TEMPERATURE RATING	57°C (135° F), 68°C (155° F), 79°C (175° F), 93°C (200° F), 141°C (286°F), 182°C (360°F)
APPROVALS	Refer Table
FINISH	Brass, Chrome Plated, White Painted. White shade is RAL9010. For other shades, contact HD Sales. For SIN Nos. HD401/HD402/ HD501/HD502, chrome plating will not be done on the threaded portion.
ORDERING INFORMATION	Style, Temperature Rating & Response, Thread type, Finish, Approval required- UL or UL & FM
SIN NUMBER	<b>Pendent, SR:</b> HD401/ HD601/ HD101 <b>Upright, SR:</b> HD402/ HD602/ HD102 <b>Pendent, QR:</b> HD501/ HD701/ HD201 <b>Upright, QR:</b> HD502/ HD702/ HD202



## DESCRIPTION

HD Pendent and Upright sprinklers are designed for use in light and ordinary hazards. The temperature response is standard response (5mm glass bulb) and quick response (3mm glass bulb). The sprinklers come with compact design, glass bulb type, available in several different finishes and temperature ratings. The pendent sprinklers must be installed in pendent position, and upright sprinklers are to be installed in the upright position.

Pendent Recessed Sprinklers are installed with adjustable or non-adjustable Escutcheon plates (also termed as Rosette plates). These are intended to be installed with finished ceilings. Escutcheon plate adjustment provides convenience in Pendent Sprinkler installation in case of areas with finished ceilings or walls.

## SPRINKLER RATINGS

SPRINKLER TEMPERATURE CLASSIFICATION	NORMAL SPRINKLER TEMPERATURE RATING	NFPA MAXIMUM CEILING TEMPERATURE ALLOWED	GLASS BULB COLOUR
Ordinary	57°C (135°F)	38°C (100°F)	Orange
Ordinary	68°C (155°F)	38°C (100°F)	Red
Intermediate	79°C (175°F)	66°C (150°F)	Yellow
Intermediate	93°C (200°F)	66°C (150°F)	Green
High	141°C (286°F)	107°C (225°F)	Blue
Extra High	182°C (360°F)	149°C (300°F)	Purple

As per Table 6.2.5.1 NFPA 13

## APPROVALS

Response Type	Orientation Type / SIN No.	Temperature Rating	Approval		Code No
			UL	FM	
SR	PENDENT HD401	57°C (135°F)	✓	✓	T10021
		68°C (155°F)	✓	✓	T10022
		79°C (175°F)	✓	✓	T10023
		93°C (200°F)	✓	✓	T10024
SR	UPRIGHT HD402	57°C (135°F)	✓	✓	T10055
		68°C (155°F)	✓	✓	T10056
		79°C (175°F)	✓	✓	T10057
		93°C (200°F)	✓	✓	T10058
QR	PENDENT HD501	57°C (135°F)	✓	✓	T10050
		68°C (155°F)	✓	✓	T10002
		79°C (175°F)	✓	✓	T10003
		93°C (200°F)	✓	✓	T10004
QR	UPRIGHT HD502	57°C (135°F)	✓	✓	T10051
		68°C (155°F)	✓	✓	T10042
		79°C (175°F)	✓	✓	T10043
		93°C (200°F)	✓	✓	T10044
SR	PENDENT HD101	57°C (135°F)	✓	✓	T10021F
		68°C (155°F)	✓	✓	T10022F
		79°C (175°F)	✓	✓	T10023F
		93°C (200°F)	✓	✓	T10024F
		141°C (286°F)	✓	—	T10035
		182°C (360°F)	✓	—	T10037
SR	UPRIGHT HD102	57°C (135°F)	✓	✓	T10055F
		68°C (155°F)	✓	✓	T10056F
		79°C (175°F)	✓	✓	T10057F
		93°C (200°F)	✓	✓	T10058F
QR	PENDENT HD201	57°C (135°F)	✓	—	T10001
		68°C (155°F)	✓	✓	T10002F
		79°C (175°F)	✓	✓	T10003F
		93°C (200°F)	✓	✓	T10004F
		141°C (286°F)	✓	—	T10036
QR	UPRIGHT HD202	57°C (135°F)	✓	—	T10041
		68°C (155°F)	✓	✓	T10042F
		79°C (175°F)	✓	✓	T10043F
		93°C (200°F)	✓	✓	T10044F

Response Type	Orientation Type / SIN No.	Temperature Rating	Approval		Code No
			UL	FM	
SR	PENDENT HD601	57°C (135°F)	✓	—	T10021U
		68°C (155°F)	✓	—	T10022U
		79°C (175°F)	✓	—	T10023U
		93°C (200°F)	✓	—	T10024U
		141°C (286°F)	✓	—	T10025U
		57°C (135°F)	✓	✓	T10021UF
		68°C (155°F)	✓	✓	T10022UF
		79°C (175°F)	✓	✓	T10023UF
		93°C (200°F)	✓	✓	T10024UF
		141°C (286°F)	✓	✓	T10025UF
SR	UPRIGHT HD602	57°C (135°F)	✓	—	T10055U
		68°C (155°F)	✓	—	T10056U
		79°C (175°F)	✓	—	T10057U
		93°C (200°F)	✓	—	T10058U
		141°C (286°F)	✓	—	T10059U
		57°C (135°F)	✓	✓	T10055UF
		68°C (155°F)	✓	✓	T10056UF
		79°C (175°F)	✓	✓	T10057UF
		93°C (200°F)	✓	✓	T10058UF
		141°C (286°F)	✓	✓	T10059UF
QR	PENDENT HD701	57°C (135°F)	✓	—	T10001U
		68°C (155°F)	✓	—	T10002U
		79°C (175°F)	✓	—	T10003U
		93°C (200°F)	✓	—	T10004U
		141°C (286°F)	✓	—	T10005U
		57°C (135°F)	✓	✓	T10001UF
		68°C (155°F)	✓	✓	T10002UF
		79°C (175°F)	✓	✓	T10003UF
		93°C (200°F)	✓	✓	T10004UF
		141°C (286°F)	✓	✓	T10005UF
QR	UPRIGHT HD702	57°C (135°F)	✓	—	T10041U
		68°C (155°F)	✓	—	T10042U
		79°C (175°F)	✓	—	T10043U
		93°C (200°F)	✓	—	T10044U
		141°C (286°F)	✓	—	T10045U
		57°C (135°F)	✓	✓	T10041UF
		68°C (155°F)	✓	✓	T10042UF
		79°C (175°F)	✓	✓	T10043UF
		93°C (200°F)	✓	✓	T10044UF
		141°C (286°F)	✓	✓	T10045UF

MATERIAL SPECIFICATION	
Deflector	Brass
Bulb	Glass
Cap	Copper *
Frame	Brass
Seal	Teflon Coated Washer
Bulb Nominal Diameter	Standard Response 5.0mm Quick Response 3.0mm

\*Note: For SIN Nos. HD601/HD701/ HD602/ HD702 the Cap material is Brass.

## Sprinkler Operation

The Sprinkler operating device is state of the art heat responsive frangible glass bulb supplied by a world leader in this innovative technology. The glass bulb contains fluid which expands when exposed to heat. When rated temperature is reached, the bulb shatters and water flows through the sprinkler and strikes deflector, forming a uniform water spray pattern to control or extinguish fire.

## Care and Handling

Sprinklers must be handled with due care, they must be stored at ambient temperature for best results and in a separate space in order NOT to allow metal parts coming in contact with sprinkler or bulb. Storage as well as any onward shipment is to be made in original packaging only.

Always store the sprinklers with protective sprinkler caps. Do not remove the protective sprinkler caps until the sprinklers are installed in the system, in order to protect sprinklers from mechanical damage. Sprinklers caps must be removed carefully without touching / damaging the bulb element, before placing the system in service.

Sprinklers must be visually inspected carefully before installation. Sprinklers visibly damaged, dropped or exposed to temperature in excess of the maximum ambient temperature permitted, should never be installed.

Never install any glass blub sprinkler if the bulb is cracked or if there is a loss of liquid from the bulb. Sprinkler must be installed after the piping is in place to prevent mechanical damage.

Use Teflon Tape or soft thread sealent on male thread of the Sprinkler for the leak tight Sprinkler joint. Use proper wrench. The sprinkler must be hand tightened into the fitting. After hand tightening, use Sprinkler Wrench Model SP-M for wrench tightening into sprinkler fittings. A leak-tight 1/2 NPT/BSPT Sprinkler joint should be obtained by applying maximum torque of 19.0 N-m (14 lb-ft). Excessive tightening torque may distort the Sprinkler inlet and cause leakage.

Sprinkler must never be painted, plated or coated after they leave factory.

The HD Sprinkler described herein must be installed and maintained in accordance with the latest edition of HD technical data, the latest standard of National Fire protection Association (NFPA) and Factory Mutual (FM) or to the standard of any other authorities having jurisdiction.

The owner is solely responsible for maintaining their fire protection system and device in proper operating condition.

Exposure to ultraviolet or direct sunlight for extended period may cause the liquid dye in glass bulb to fade or lose colour. Colourless or faded coloured bulbs are not a problem, as long as the fluid level has not been affected. The loss of colour in the liquid will not effect sprinkler performance, as long as the bulb is intact and not damaged. The loss of colour may be an issue in identifying sprinkler temperature rating, but the temperature rating is still stamped on the sprinkler deflector.

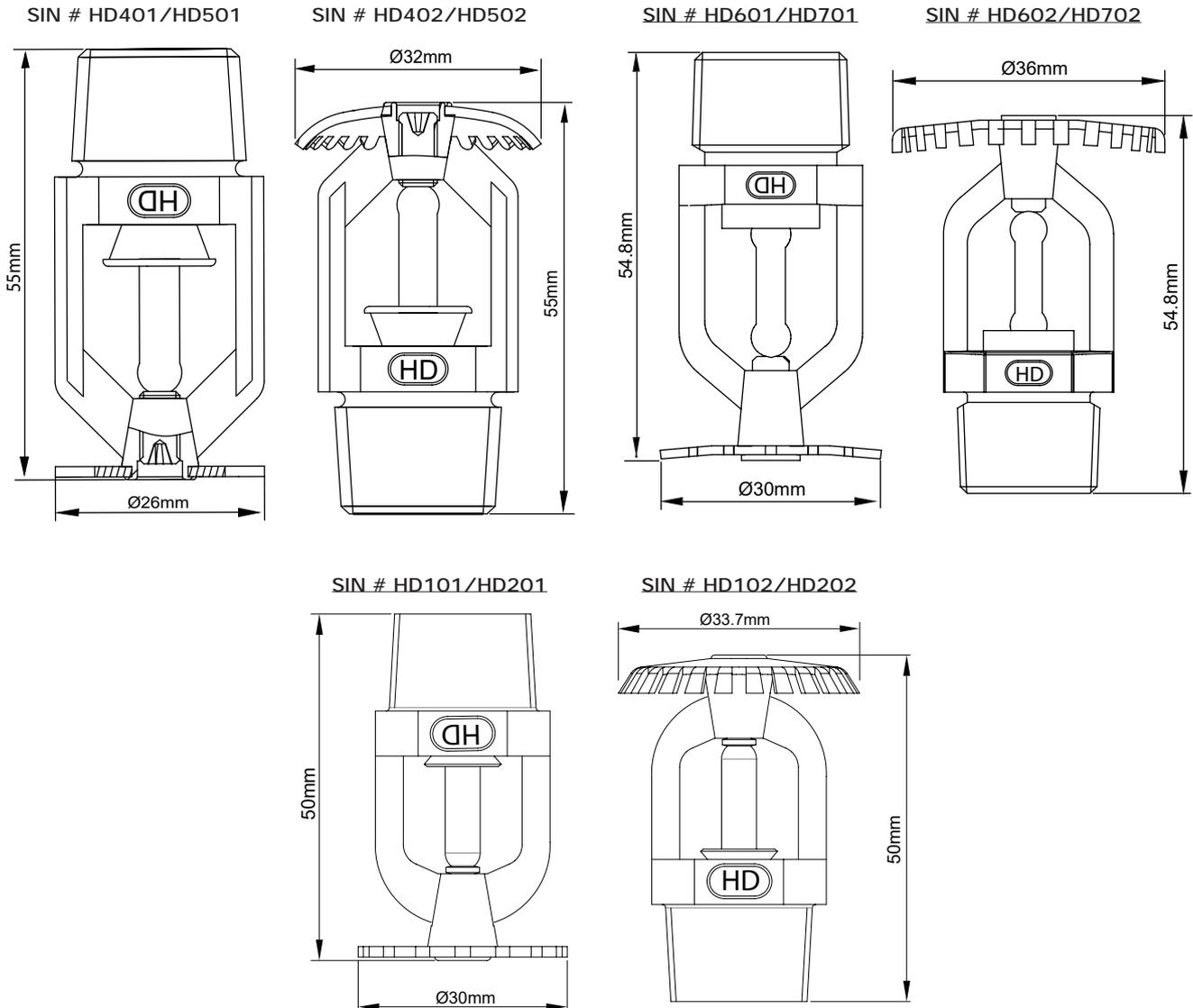
## Inspection Testing and Maintenance

Refer to NFPA 25 for inspection testing and maintenance requirement or to the authority having jurisdiction. For details of warranty, refer HD's current price list, conditions of sale or contact HD directly.

### Note:

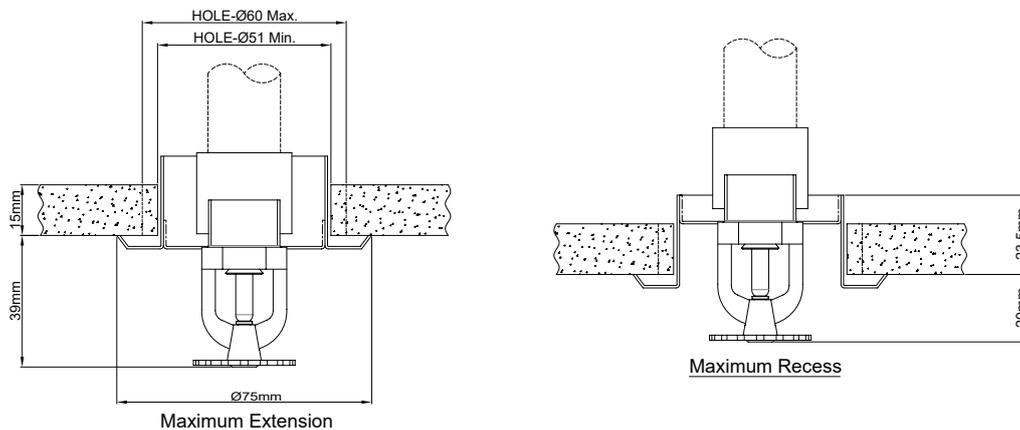
In case of using HD 101/102 & HD 201/202 sprinklers as part of FM Approved Low Expansion Foam Systems, the certification of the system is contingent upon piping designed and installed in accordance with NFPA 11 and/ or FM Global Property Loss Prevention Data Sheet 4-12, Foam-Water Sprinkler Systems.

## PENDENT & UPRIGHT SPRINKLER



Note: For T10002F/T10003F/T10004F Deflector diameter is 25 mm.

## RECESSED PENDENT



**REPRESENTATIVE IMAGES OF SPRINKLERS**

HD401/HD501



HD402/HD502



HD601/HD701



HD602/HD702



HD101/HD201



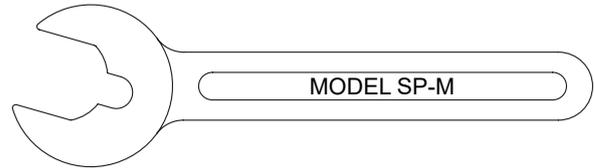
HD102/HD202



T10002F/T10003F/T10004F

**RECESSED PENDENT HD101 (WHITE)**

NOTE: These are representative images of sprinklers. Please contact HD Sales for any further details.

**SPRINKLER GUARD****SPRINKLER WRENCH****LIMITED WARRANTY**

HD FIRE PROTECT LIMITED (Formerly known as 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 LIMITED. and hence the right to modify any specification without prior notice is reserved with the company.