

AUTOMATIC SPRINKLERS

New Supply – AUTOMATIC SPRINKLERS (2007)

CD25xx, Chang Der brand, model B Series Automatic Fire Sprinkler Heads Pendent Sprinkler SIN CD2511,CD2521; Upright Sprinkler SIN CD2512.CD2522 standard spray, standard and quick response, diameter 5 and 3 mm glass bulb K5.6 factor (80 metric) 1/2" PT or NPT connection threads

Product Description

With distinguish CD25xx from CD15xx, CD25xx is a newly compact design, appropriate for all purpose application, includes for use in the stainless steel flexible sprinkler hose for a clean room circumstance for modern high-building, high-quality technical factories and hospitals.

The pendent Sprinkler Identification Number (SIN) CD2511 CD2521 are available in pendent (SSP) and upright (SSU) spray patterns. These standard orifice spray sprinklers are incorporated with $\phi 5$ mm glass bulb for standard response, rated 68°C(155°F) or 79°C(175°F) supplied by Day-Impex, model DI-937; or $\phi 3$ mm glass bulb for quick response, rated 155°F or 175°F supplied by Day-Impex, model DI-941.

Specifications

Below CD2521 Chang Der brand automatic sprinkler bears UL listed since Dec. 2006

<u>Product No.</u>	<u>SIN</u>	<u>Thread</u>	<u>Bulb dia.</u>	<u>Spray</u>	<u>Temp</u>	<u>Rspone</u>
AHD 151O	CD2521	1/2"PT/NPT	$\phi 3$ mm	Pendent	68°C155°F	QR

Below sprinklers are under UL listed investigation, will be completed in May 2007

<u>Product No.</u>	<u>SIN</u>	<u>Thread</u>	<u>Bulb</u>	<u>Spray</u>	<u>Temp</u>	<u>Response</u>
AHD 152F	CD2511	1/2"PT/NPT	$\phi 5$ mm	Pendent	68°C155°F	SR
AHD 152U	CD2512	1/2"PT/NPT	$\phi 5$ mm	Upright	68°C155°F	SR
AHD 151D	CD2522	1/2"PT/NPT	$\phi 3$ mm	upright	68°C155°F	QR



SIN: Sprinkler Identification Number

SSP: Standard sprinkler pendent

SSU: Standard sprinkler upright

SR: Standard Response, adopts $\phi 5$ mm glass bulb designated Day-Impex DI937

QR: Quick Response, adopts $\phi 3$ mm glass bulb designated Day-Impex DI941

Product finish: Forged bronze frame with chrome electroplated

Concealed sprinkler may add an escutcheon for an optional extra accessory for clean attractive installation.

Connection thread: The PT and NPT threads are compatibility, also can specify the thread type during placing an order.

Maximum Working Pressure: 175 psig / 12.3 kgf/cm² / 1.2 MPa / 12 bar

Minimum Operation pressure: 7 psig / 0.5 kgf/cm² / 0.048 MPa / 0.48 bar

Factory hydrostatic pressure test: 100% at 500 psig (35 kgf/cm²)

Materials

Frame: Forged bronze conform to ASTM C87500

Deflector: Brass strip conform to ASTM C26800

Glass Bulb: Glass bulb capsule filled with colored glycerin liquid.

Seal (Bulb Retainer): Bronze rod conform to C83600

Set screw: Brass rod conform to C36000

Spring washer: stainless steel strip washer with PTFE coated

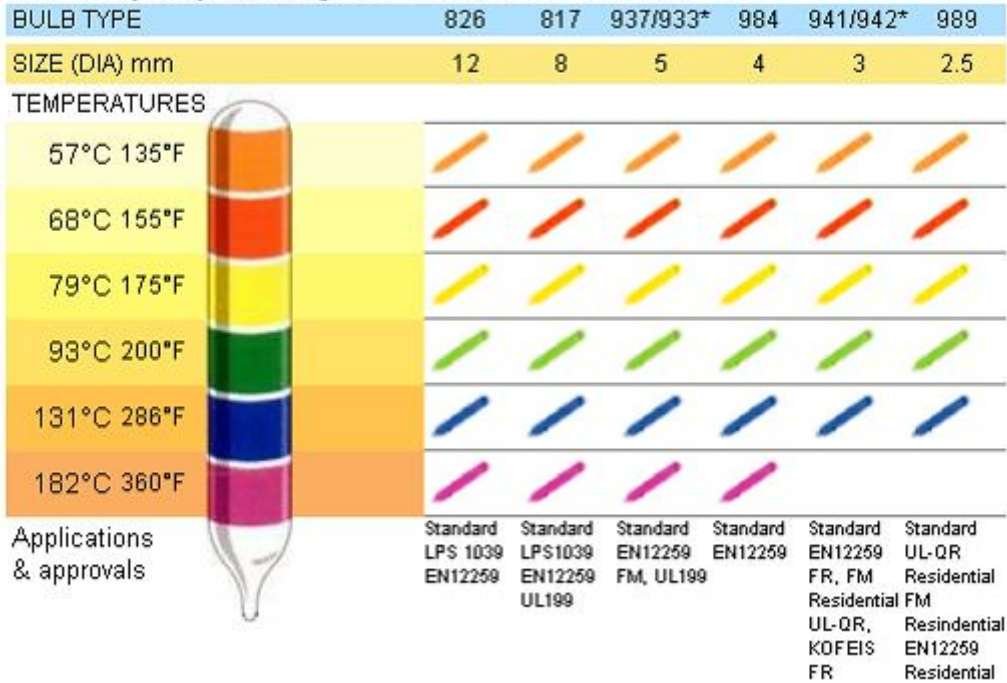
Operation

The glass bulb capsule operating mechanism contains heat-sensitive liquid that expands upon application of heat, during the circumstance temperature rising to the rated temperature, resulting the frangible capsule to shatter, thereby release the orifice seal (retainer) and spring washer, then the pressured water flowing through the sprinkler orifice strike the sprinkler deflector forming a pre-designed spray pattern to control or extinguish the fire, to protect human life and properties in many prestigious building.

Coverage

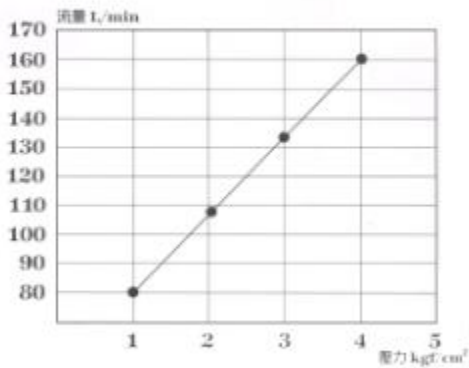
The design of protection area of coverage is according to NFPA 13 standard.

The Day-Impex range of Standard Glass Bulbs



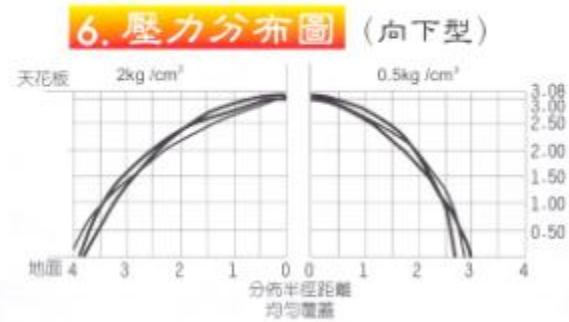
Pressure vs Flowrate Chart

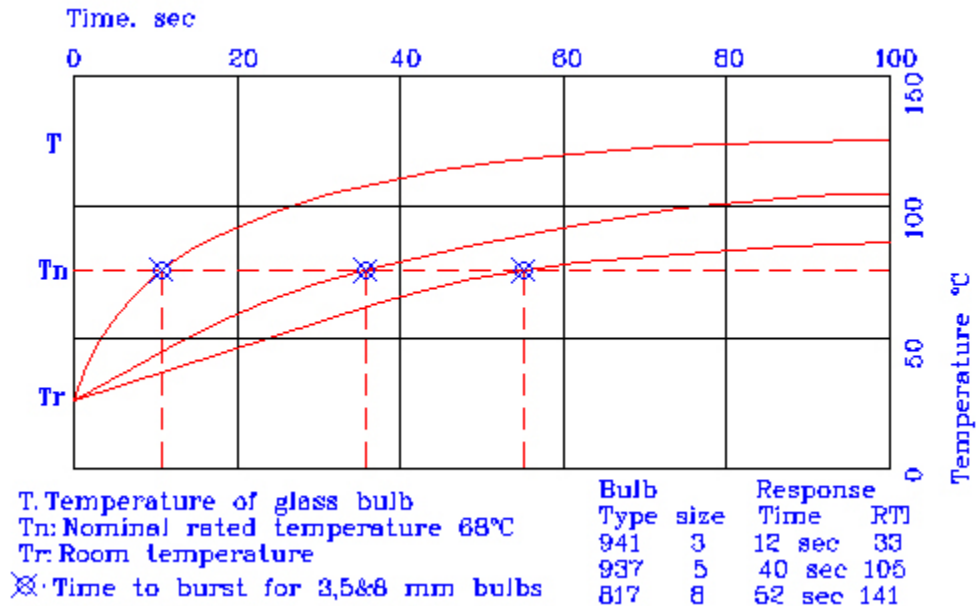
Flowrate l/min



Pressure kgf/cm^2

Pressure vs Distribution chart





RTI, Calculation Formula for Response Time Index

a. Standard Response type

$$\begin{aligned}
 RTI &= 250 \times \log\{1+[68-27]/[197-68]\} \\
 &= 250 \times \log\{1+[48/129]\} \\
 &= 79 \text{ sec.}
 \end{aligned}$$

Where, Nominal temperature 68°C of bulb
 If ordinary surrounding temperature 27

Installation

The CD25xx automatic sprinklers are manufactured and tested in accordance with the rigid requirements of the standard UL 199, also should be installed in accordance with the current NFPA 13 standard.

The system piping must be properly sized to insure the minimum required flow rate at the sprinkler, check for the model, style, orifice size, and temperature rating prior to installation, install sprinkler after the piping is in place to avoid mechanical damage, replace any damage units, wet pipe system must be protected from freezing.

Upon completion of the installation, the system must be tested per recognized standard, in case of leakage from the threads, remove the unit, apply new pipe joint compound or tape, and re-install.

Installation Method

- Hand tighten the sprinkler into the pipe system fitting, a recommended torque 7~14 ft-lbs is used to obtain a thread 1/2" NPT sprinkler joint, a radial force of 10~20 lbs.
- Use only a non-hardening pipe joint compound or PTFE tape apply to the male thread only.
- Hand tighten the sprinkler into the pipe system fitting, use a 22 mm open spanner or 8" (200 mm) adjustable wrench to tighten the unit into the fitting.

Remove Orange Cover

Be sure to remove the orange plastic protective cover after completed the installation, should not clamp on

the frame arms, otherwise will to prevent the heat response function.

A maximum of 21 ft-lbs of torque is to be used to install the sprinkler, higher levels of torque may distort the sprinkler orifice seat saddle with consequent leakage.

Care & Maintenance

The sprinklers must be handled carefully, the ambient temperature as reference in NFPA 13 standard, for the specified temperature rating of the sprinkler should not be exceeded while storing, transporting or installing, for example, a 155°F (68°C)

Sprinkler, may not be stored in temperature that exceed 100°F(38°C), for best results store them in a dry, cool place in the original shipping package.

Do not install sprinklers that have been dropped or visibly damaged, sprinklers must never be painted, coated plated or altered in any other way from manufactured condition or they may not function properly, any sprinklers altered in such manner must be replaced.

Do not attempt to re-assemble or otherwise re-use a sprinkler that has operated, replace any sprinkler exhibiting corrosion or damage, always use new sprinkler of the same type and temperature rating replacements.

Original Supply - AUTOMATIC SPRINKLERS (1999)



**AHD 204O
UL Listed**



**AHD 204D
UL Listed**

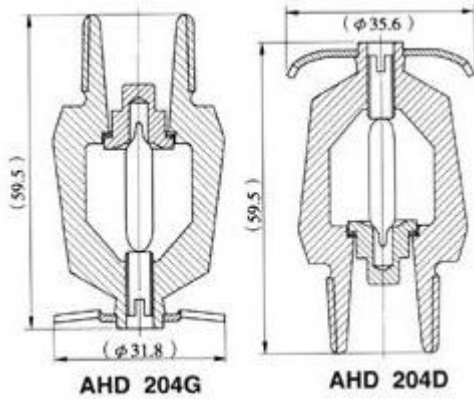
- The CD (Chang Der) brand automatic sprinklers are available in spray pendent (SPP), upright (SSU), conventional (CU/P) and horizontal installed sidewall (HSW). These sprinklers are incorporated with 5 mm glass bulb for standard response, or 3 mm glass bulb for quick response as a heat sensitive element rated temperature 68 deg C (155 deg F) or 79°C (175 F) and particularly 57°C (135F), 93°C (200F) 141°C (286F). The glassbulb capsule operating mechanism contains heat-sensitive liquid that expands upon application of heat, during the heat rising to the rated temperature, the frangible capsule ruptured, thereby release the orifice seal, the sprinkler then discharge water in a pre-designed spray pattern to control or extinguish the fire.



AHD 204M

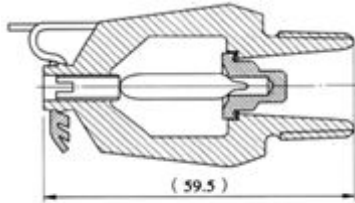
Chang Der (CD) brand`s automatic sprinklers with UL Listed

Product No.	Threads	Bulb	Position	Temp	SIN	Response
AHD 204O	1/2" PT (NPT)	5 mm	pendent	68°C	CD1511	SR*



AHD 204G

AHD 204D



AHD 204M

AHD 204T	1/2" PT (NPT)	5 mm	pendent	79°C	CD1511	SR*
AHD 154O	1/2" PT (NPT)	3 mm	pendent	68°C	CD1521	QR*
AHD 154T	1/2" PT (NPT)	3 mm	pendent	79°C	CD1521	QR*

SIN: Sprinkler Identification Number

SR: Standard Response adopted 5 mm glass bulb designated Day Impex DI 937

QR: Quick Response adopted 3 mm glass bulb designated Day Impex DI 941

Product finish :	bronze frame with rough (plain) finish or chrome plated finish which may specify during place order.
Material :	Frame made of bronze conform to ASTM B574 C83600 Deflector made of brass strip conform to ASTM B36 C26800
*Marks:	4 type pendent -- Flush, Recessed and Concealed Sprinklers -may add Parts No. 7 Escutcheon for an Optional Extra accessory for clean attractive installation.
Maximum working pressure 175 psi (12.3 kgf / cm ²)	
Factory hydrostatic pressure test 100% at 500 psi (35 kgf / cm ²)	

The above UL Listed Certificate you can download while the Listing Effective

Period from: www.ul.com / Certifications / UL File number / key in EX5134 / Search / VNIV.EX5134, then you get it.

Besides, our alarm valve File number is EX5120, angle hose valve is EX5121.