



自1989年迄今，鵬宇國際致力於延伸場域安全之消防軟管產品開發與製造，守護您安全的最後一碼防線。
Since 1989, PANEW do the best to design and manufacture Sprinkler hose products extending security. Protect your life safety with the last yard hose.

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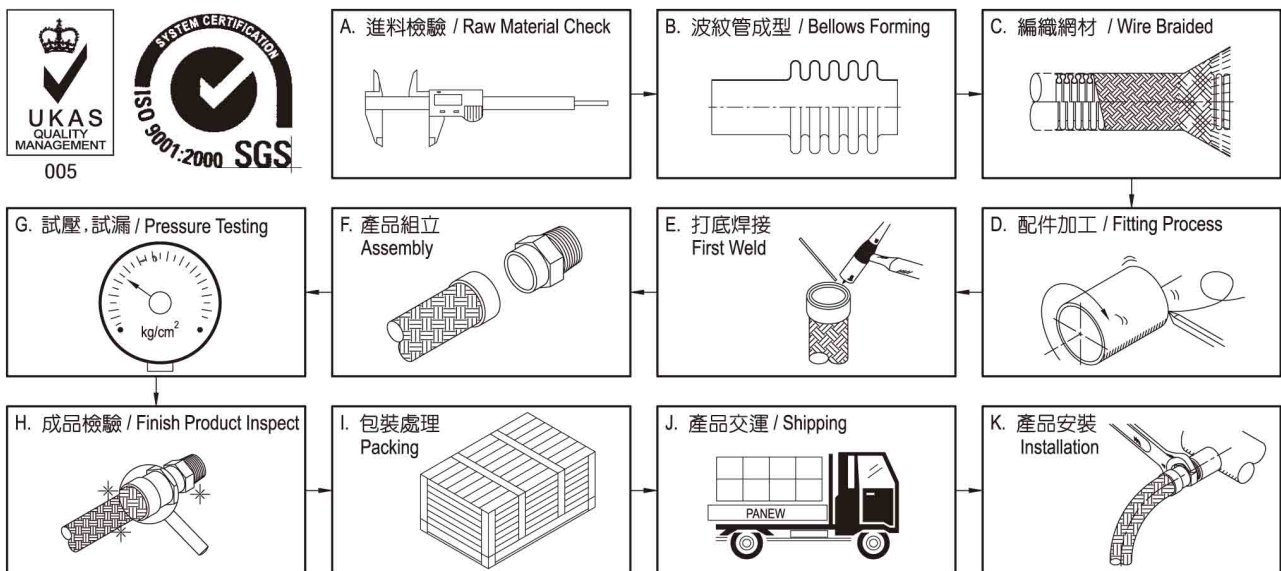
□ 製造與檢測能力 / Manufacturing & Testing Capability

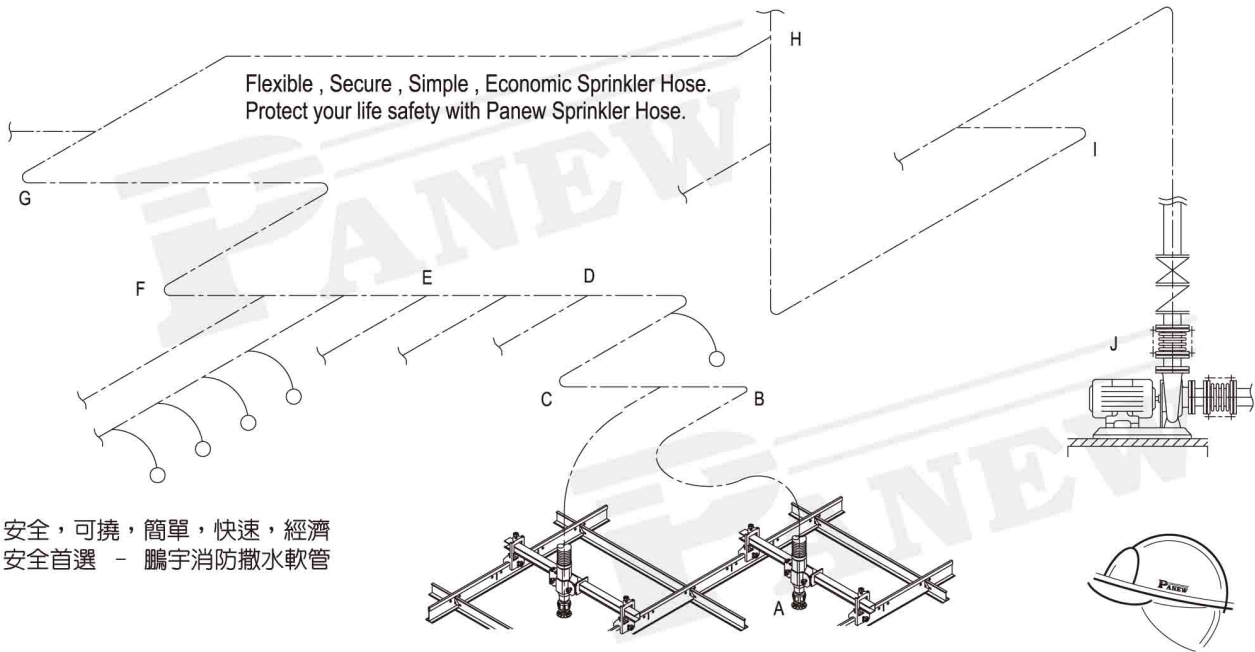
- | | | |
|---------|---|----------------------------------|
| P.1 | L 線自動焊接 / Automatic Welding of Bellows L-line : | 0.1 ~ 3 mm |
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□ 品質保證 / Quality Assurance

鵬宇國際股份有限公司之品質系統，已取得ISO 9001品質系統認證，每項產品於出廠前，均經100%壓力檢測。
Panew's Quality Assurance system has been certified to ISO 9001 and each product must be passed 100% pressure test before delivery.





安全，可撓，簡單，快速，經濟
 安全首選 - 鵬宇消防撒水軟管

□ 安裝簡單，重置快速

SIMPLIFIED INSTALLATION, EASY RELOCATION.

相較於傳統硬管配置之曠日費時，不鏽鋼消防軟管由於本身之可撓性，可於極短時間內完成撒水頭之定位配置，大量減少現場施工時程與人工成本。此外，它亦提供於樓層或空間重置規劃時，有更大的彈性空間重新規劃安裝消防撒水頭，可同時兼顧美觀、經濟與安全性。

The mounting of sprinklers in suspended ceiling system with conventional mounting method is very laborious and time consuming. The use of the stainless steel sprinkler hose significantly minimises the efforts and laborious costs required for installation purpose, because the flexibility of the hose enable you to change the sprinkler location during renovations or conversions. Beauty, economy, security can be preserved at the same time.

□ 擁有高耐壓性能與良好的可撓度

HIGH PRESSURE RESISTANCE AND GOOD FLEXIBILITY.

一體焊接結構設計，安裝簡易無需現場施作銲接、塗裝或封膠。出廠前均經氣壓 (20 kg/cm²) 100% 耐壓檢測，瞬間結構耐壓更可達4倍設計壓力。產品經疲勞壽命與結構震動檢測，撓性結構可有效吸收因地震或結構晃動所導致天花板與消防管線間之位移，並大大降低因配管誤差或地震所導致之管路應力與洩漏情形發生。

One piece style construction, require no welding, painting or epoxy coating on site. All Sprinkler Hoses are tested with high pressure air - 20 kg/cm² before delivery. The hydrostatic pressure resistance is 4 times the design pressure. All models of sprinkler hoses had been passed fatigue life and construction vibration test. Allow for independent motion between ceiling grids and main pipe system during seismic activity. The stresses and leaks caused by earthquake or misalignment can be avoided.

□ 國際認證 安心的保證

INTERNATIONAL LABORATORY APPROVED.

鵬宇全系列消防軟管固定系統 - 含商辦大樓，無塵室，風煙管撒水頭固定系統，均經過多項嚴格實驗測試，並通過國際知名實驗室產品認證，其品質與安全性均被有效控管與維持，符合各地消防與保險法規相關要求，是一高品質且讓您安心的消防產品。

Including Commercial, Clean Room, and Duct sprinkler mounting system. All models of Panew flexible sprinkler hoses had been conducted with severe tests and got the products approved by famous laboratories. The quality and security is controlled and kept all the time. Meet the local fire protection laws worldwide and the insurance requirements. You could have a peace mind all the time using Panew Flexible Sprinkler Hoses.

□ 維修簡單，無需停機或停工

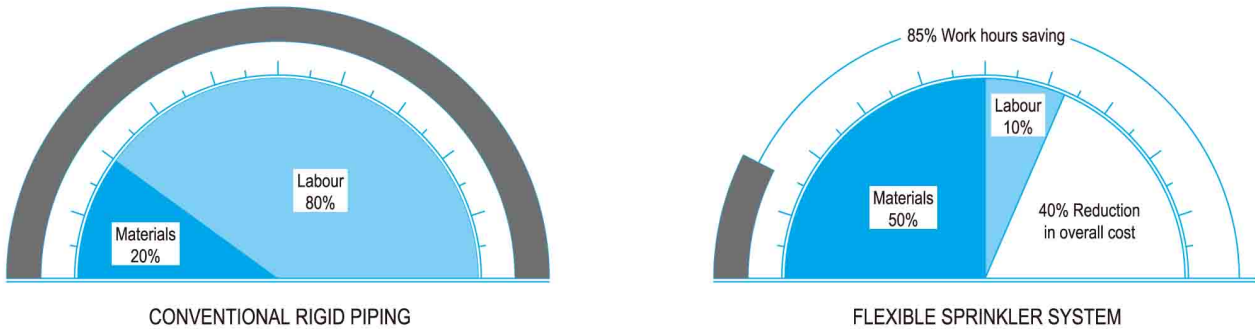
EASY REPAIR, KEEP RUNNING AND NO DOWNTIME.

針對商辦大樓消防撒水系統，撒水頭可視需求並依軟管本身之撓曲性能輕易位移與固定，不須大範圍施工與切焊管線。而無塵室與風煙管消防撒水系統，其撒水頭檢查與更換可在幾分鐘內完成，於維修保養期間，不僅可保持工作廠區的潔淨，更無需停工或停機。無形中大大的降低整廠的設備維護成本。

For Commercial system, the sprinkler could be relocated and mounted within the flexible area defined by the Sprinkler Hose length. It just needs a small constructed area, no pipes cutting and threading on site. For Clean Room and Duct system, the sprinkler can be inspected and replaced in a few minutes. The factory or working site can be kept clean and running during maintenance. Require no downtime for routine inspection and replacement. Eliminate the total cost for system repairment.

□ 傳統硬管配置與消防軟管配置系統之撒水頭安裝成本比較說明。

The sprinkler mounting costs comparison between conventional rigid piping and Flexible Sprinkler Hose system.



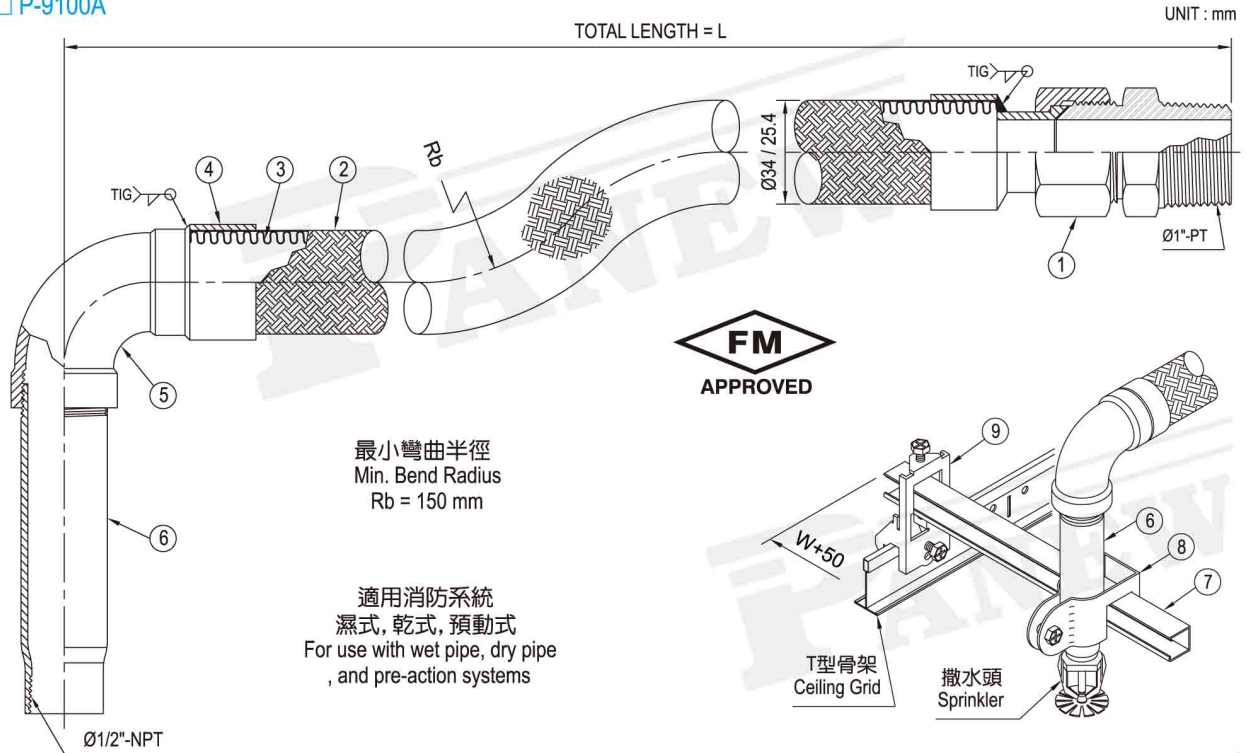
※以傳統硬管配置 材料成本：安裝成本 = 1：4 為基準（如左上圖），右圖為相對應之消防軟管配置對應成本。
Based on the conventional rigid piping costs. Materials : Labour = 1: 4 (As the figure above/left). The right figure shows the corresponding costs percentage using the Sprinkler Hose system.

□ 鵬宇消防軟管無論在 A.安裝 B.成本 C.品質與安全上，擁有比傳統硬管配置更優越的特性。

The Panew Sprinkler Hose System is superior in 3 aspects (A. Installation B. Costs C. Quality & Safety) compared to the Conventional Rigid Piping System.

鵬宇消防軟管 / Panew Sprinkler Hose	傳統硬管配置 / Conventional Rigid Piping
<p>A1. 直接進行安裝，可快速定位撒水頭。 Need no elaborate sprinkler locating process before sprinkler mounting.</p> <p>A2. 由於軟管之可撓性，安裝簡易，只須單一作業工程即可完成系統安裝。 Quick and easy installation due to hose flexibility and only one process required.</p> <p>A3. 可輕易繞過建築結構或配管障礙，克服狹隘空間安裝問題。 Easy to bypass the building components & piping assemblies. Making the work easier in tight area.</p> <p>A4. 配合日後裝修工程，撒水頭可輕易進行位移與重置，不須重新進行撒水系統配置。 During renovations or conversions, relocate the sprinklers without completely new installation of sprinkler system.</p> <p>B1. 常態人員工可在7分鐘內完成1口撒水頭安裝，可大幅度降低安裝成本。 A normal labour can finish one sprinkler system within 7 minutes. The labour costs could be decreased effectively.</p> <p>C1. 每口消防撒水頭安裝只需現場牙接 1~3 處，當安裝完成進行系統壓力檢測時，如發現接點洩漏，可於系統進壓狀態進行二次鎖固止漏，不須重新安裝與壓力重測。 Require only 1~3 sealing connections for each sprinkler system mounting. When the system is conducted with leakage test, the leaks could be sealed again without new system installation under the system pressurized.</p> <p>C2. 有效降低因地震或不當外力導致之管線變形或破裂情形發生。 Effectively reduce the risk of piping deformation and cracks due to the earthquake or improper forces applied.</p>	<p>a1. 安裝前必需進行精確撒水頭定點量測。 Required elaborate sprinkler locating process before sprinkler mounting.</p> <p>a2. 複雜安裝作業工程 - 包含切修管材、攻牙並與多段彎頭密封接合。 Complicated installing processes - including trimming, threading and sealing with threaded elbows.</p> <p>a3. 如遇建築結構或配管障礙，必需以複雜之彎管或多段彎頭銜接方式進行安裝。 Complicated pipe bends or elbows sealing have to be done to bypass the building components & piping assemblies.</p> <p>a4. 配合日後裝修工程，必需更改原有配管以完成撒水頭之位移或重置。 During renovations or conversions, require to replace the existing piping with new installation of sprinkler system.</p> <p>b1. 安裝作業複雜，需要多位高階有經驗專業員才可完成撒水頭安裝。 Require one more experienced manual labour to finish the elaborate installation of one sprinkler system.</p> <p>c1. 每口消防撒水頭安裝需現場牙接至少 6 處以上，當安裝完成進行系統壓力檢測時，如發現接點洩漏，系統有極大風險必需重新安裝並進行多次洩壓、洩水與壓力重測作業。 Require 6 or more sealing connections for each sprinkler system mounting. When the system is conducted with leakage test, the system has great risk of leaks which require one more rebuilding and pressure leakage tests.</p> <p>c2. 地震期間或不當外力作用時，存在極大管線變形與破裂風險。 Risk of piping deformation and cracks exists due to the earthquake and improper forces applied.</p>

□ P-9100A



壓損測試數據 / Friction Loss Data:

產品總長		流量 / Flow Rate : 115 l/min. (C=100)		
Total Length		等價管長 / EQL (Φ1"-sch40)		彎曲數
m	in.	m	ft	No.(90°)
0.9	36.0	8.0	26.3	1
※1.0	39.5	8.6	28.1	2
1.2	48.0	9.6	31.6	3
1.5	60.0	10.8	35.3	4
1.8	72.0	11.9	39.1	4

※ For more length data. Please contact our sales freely.

結構組合 / Construction:

項次 / Item	配件名稱 / Fitting	材質 / Material
1	由任接頭 / Union	SS-400
2	編織網 / Wire Braids	SUS-304
3	波紋管 / Bellows	SUS-304
4	束環 / Collar	SUS-304
5	90°彎頭 / Elbow	SS-400
6	轉接頭 / Adapter	SUS-304
7	C型管 / C-Beam	SPCC(Galv.)
8	轉接頭扣件 / Adapter Holder	SPCC(Galv.)
9	管扣件 / Pipe Clamp	SPCC(Galv.)

產品特性說明 / Features of the Sprinkler Hose.

1. 耐壓性能 / Pressure capabilities :

額定壓力 / Rated working pressure : 12.3 kg/cm², 175 psi
出廠測試壓力 / Testing pressure : 20 kg/cm², 285 psi
耐壓壓力 / Hydrostatic pressure : 49.3 kg/cm², 700 psi
爆破壓力 / Burst pressure : 98.5 kg/cm², 1400 psi

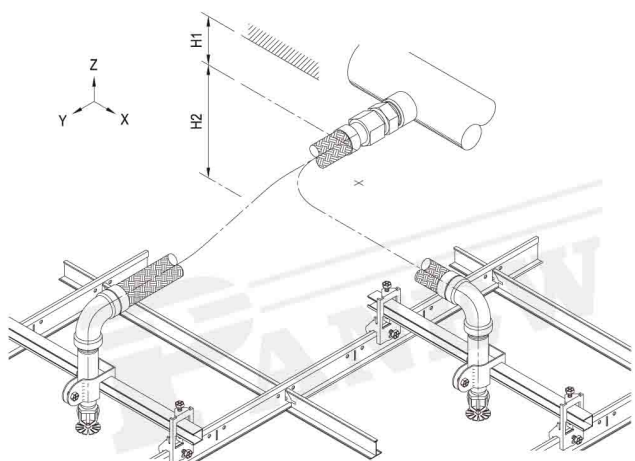
2. 優越可撓性能 / Advantages of high flexibility

- 可依安裝環境靈活調整撒水頭配置。
Flexible to adjust the sprinklers according to the environment.
- 可於結構晃動時，防止管線龜裂與天花板變形。
Prevent the pipe cracks and ceiling deformations during seismic sway.
- 安裝快速，大幅降低安裝成本。
Simple installation. Reduce the labor cost effectively.

3. 安全可靠的安裝方式 / Installation with security

- 螺絲件固定，結構簡單，施工方便且安全性高。
Construction with screws. Easy installation with security.
- 100%工廠預製、高壓試漏試壓，現場零洩漏。
All products are pre-assembled and tested with high pressure air 100% in the factory before delivery.

※專利字號 / Patent no. : M281654, M401449, M487749

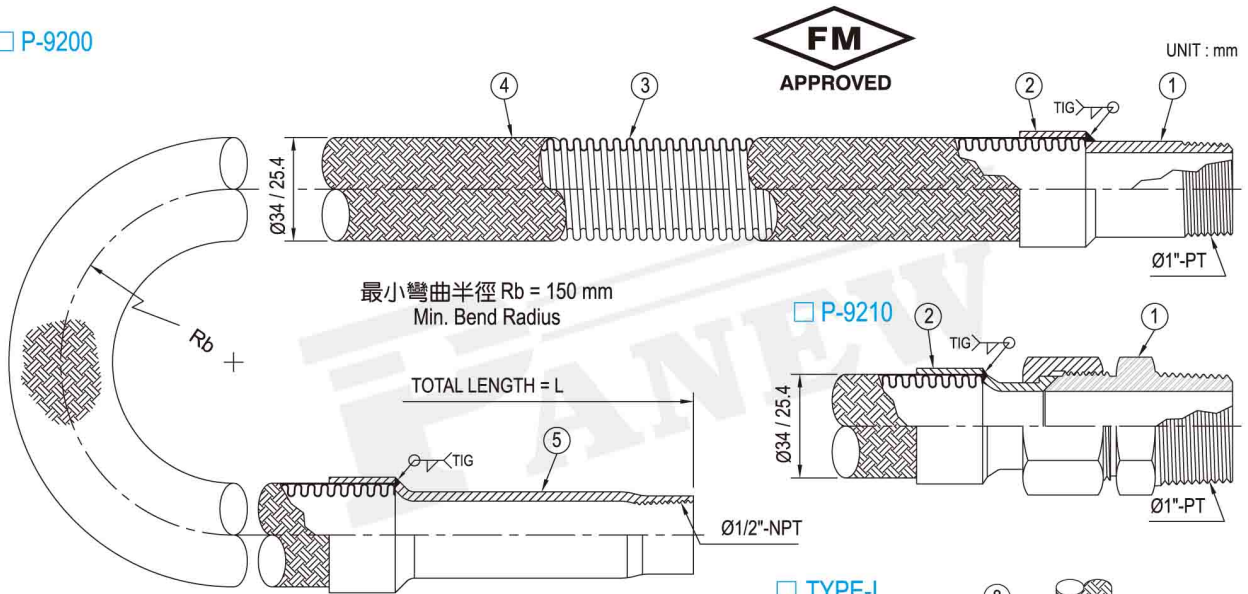


標準配件 / Std. Fittings :

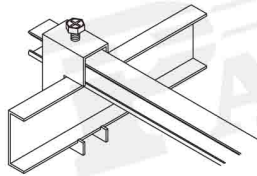
- C型管 / C-Beam - 650mm x 1 pc
- 管扣件 / Pipe Clamp x 2 sets
- 轉接頭扣件 / Adapter Holder x 1 set



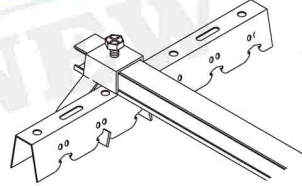
□ P-9200



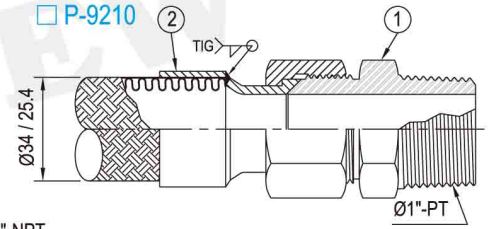
□ TYPE-III



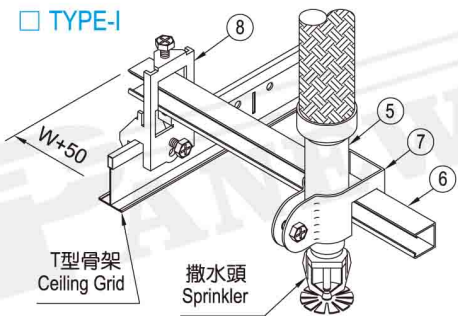
□ TYPE-II



□ P-9210



□ TYPE-I



壓損測試數據 / Friction Loss Data:

產品總長		流量 / Flow Rate : 115 l/min. (C=100)		
Total Length		等價管長 / EQL (Ø1"-sch40)		彎曲數
m	in.	m	ft	No.(90°)
0.9	36.0	8.0	26.3	1
※1.0	39.5	8.6	28.1	2
1.2	48.0	9.6	31.6	3
1.5	60.0	10.8	35.3	4
1.8	72.0	11.9	39.1	4

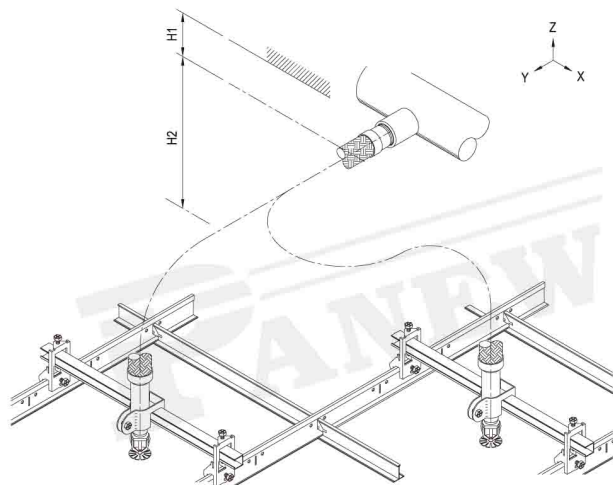
※ For more length data. Please contact our sales freely.

結構組合 / Construction:

項次 / Item	配件名稱 / Fitting	材質 / Material
1	圓立布 / Round Nipple	SUS-304
	由任接頭 / Union	SS-400
2	束環 / Collar	SUS-304
3	波紋管 / Bellows	SUS-304
4	編織網 / Wire Braids	SUS-304
5	轉接頭 / Adapter	SUS-304
6	C型管 / C-Beam	SPCC(Galv.)
7	轉接頭扣件 / Adapter Holder	SPCC(Galv.)
8	管扣件 / Pipe Clamp	SPCC(Galv.)

產品特性說明 / Features of the Sprinkler Hose.

- 耐壓性能 / Pressure capabilities :
 - 額定壓力 / Rated working pressure : 12.3 kg/cm², 175 psi
 - 出廠測試壓力 / Testing pressure : 20 kg/cm², 285 psi
 - 耐壓壓力 / Hydrostatic pressure : 49.3 kg/cm², 700 psi
 - 爆破壓力 / Burst pressure : 98.5 kg/cm², 1400 psi
 - 優越可撓性能 / Advantages of high flexibility
 - 可依安裝環境靈活調整撒水頭配置。
Flexible to adjust the sprinklers according to the environment.
 - 可於結構晃動時，防止管線龜裂與天花板變形。
Prevent the pipe cracks and ceiling deformations during seismic sway.
 - 安裝快速，大幅降低安裝成本。
Simple installation. Reduce the labor cost effectively.
 - 安全可靠的安裝方式 / Installation with security
 - 螺絲件固定，結構簡單，施工方便且安全性高。
Construction with screws. Easy installation with security.
 - 單一結構設計，100%工廠高壓檢測，現場零洩漏。
One piece style structure. Pre-assembled and tested with high pressure air 100% in the factory before delivery.
- ※專利字號 / Patent no. : M281654, M401449, M487749

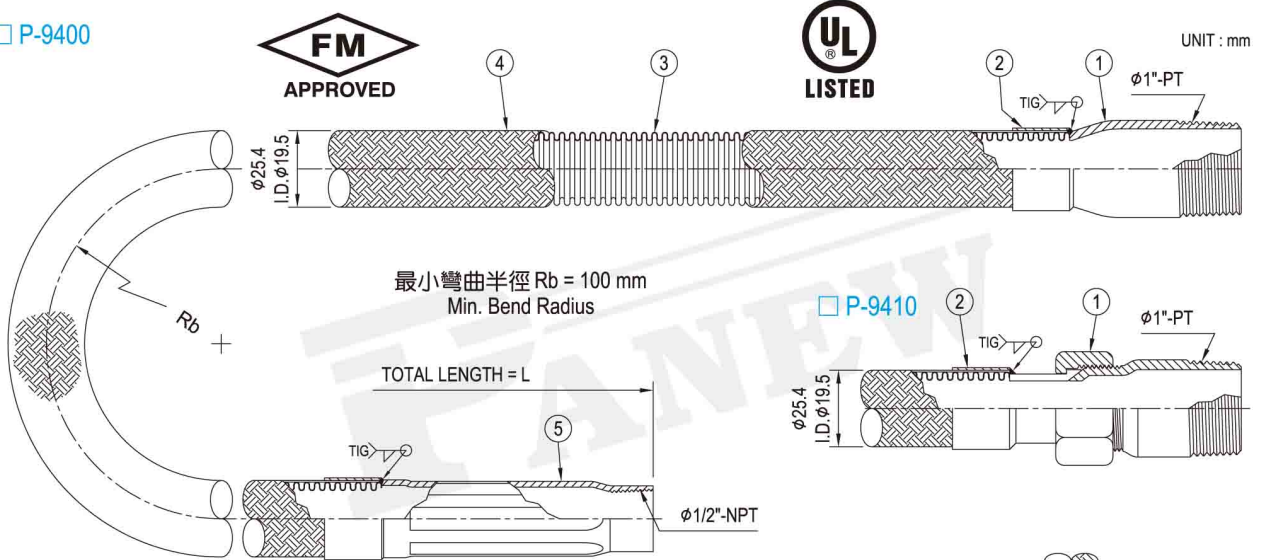


標準配件 / Std. Fittings :

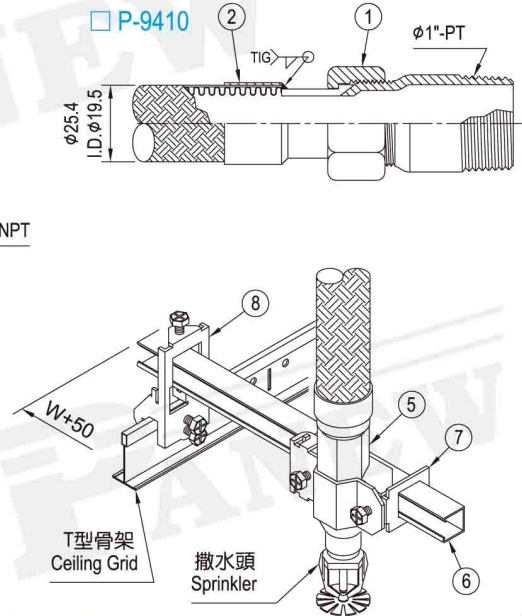
- C型管 / C-Beam - 650mm x 1 pc
- 管扣件 / Pipe Clamp x 2 sets
- 轉接頭扣件 / Adapter Holder x 1 set



□ P-9400



□ P-9410



壓損測試數據 / Friction Loss Data:

產品總長		Hazen-Williams coefficient of friction C=120		
Total Length		等價管長 / EQL (Φ1"-sch40)		彎曲數
m	in.	m	ft	No.(90°)
0.6	24	13.1	43	2
0.9	36	19.5	64	3
1.2	48	23.8	78	3
1.5	60	29.6	97	3
1.8	72	33.5	110	3

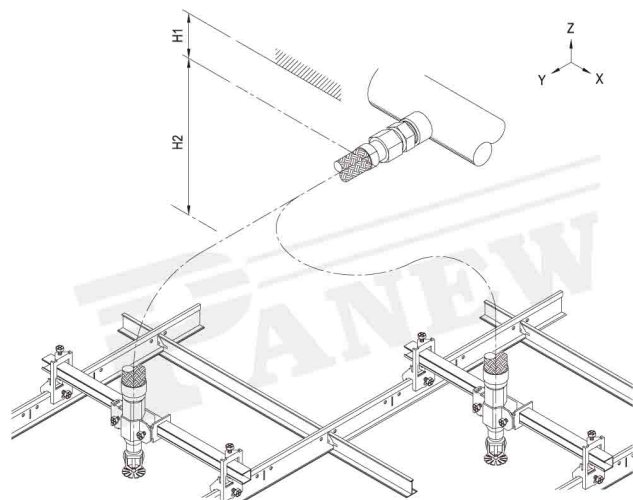
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結構組合 / Construction:

項次 / Item	配件名稱 / Fitting	材質 / Material
1	圓立布 / Round Nipple	SUS-304
	由任接頭 / Union	SS-400
2	束環 / Collar	SUS-304
3	波紋管 / Bellows	SUS-304
4	編織網 / Wire Braids	SUS-304
5	轉接頭 / Adapter	SUS-304
6	C型管 / C-Beam	SPCC(Galv.)
7	轉接頭扣件 / Adapter Holder	SPCC(Galv.)
8	管扣件 / Pipe Clamp	SPCC(Galv.)

產品特性說明 / Features of the Sprinkler Hose.

- 耐壓、耐溫性能 / Pressure & Temperature capabilities :
 - 額定壓力 / Rated working pressure : 14.1 kg/cm² , 200 psi
 - 出廠測試壓力 / Testing pressure : 21.1 kg/cm² , 300 psi
 - 耐壓壓力 / Hydrostatic pressure : 70.1 kg/cm² , 1000 psi
 - 額定溫度 / Rated working temperature : -40 ~ +149 °C
- 專利設計固定扣件 / Patent anchoring components
 - 專利字號 / Patent no. : M281654, M364521, M401449, M487749
 - a. 通用性扣件設計，適用於各式安裝場合。
All-purpose anchoring component is flexible to be mounted according to different installation conditions.
 - b. 開放式轉接頭扣件設計，系統安裝更靈活快速。
Opened type adapter holder is more flexible and easy to be mounted on the sprinkler system.
- 安全可靠的安裝方式 / Installation with security
 - a. 螺絲件固定，結構簡單，施工方便且安全性高。
Construction with screws. Easy installation with security.
 - b. 單一結構設計，100%工廠高壓檢測，現場零洩漏。
One piece style structure. Pre-assembled and tested with high pressure air 100% in the factory before delivery.

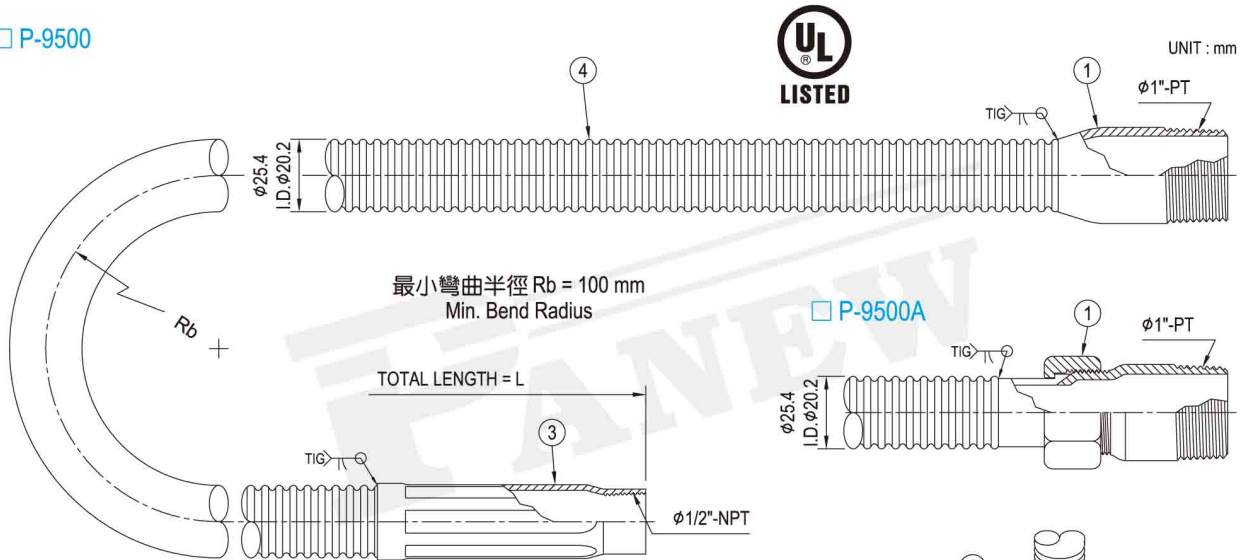


標準配件 / Std. Fittings :

- C型管 / C-Beam - 650mm x 1 pc
- 管扣件 / Pipe Clamp x 2 sets
- 轉接頭扣件 / Adapter Holder x 1 set

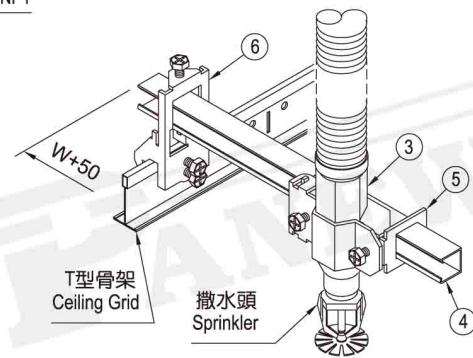


□ P-9500



高扭力固定結構設計
撒水頭拆裝更靈活
Flexible to install the sprinkler
with the high mechanical
strength mounting structure.

最大可承受扭力
Max. Allowable Torque
Tmax. = 8.3 kg-m



壓損測試數據 / Friction Loss Data:

產品總長		Hazen-Williams coefficient of friction C=120		
Total Length		等價管長 / EQL (Φ1"-sch40)		彎曲數
m	in.	m	ft	No.(90°)
0.6	24	11.6	38	2
0.9	36	17.4	57	3
1.2	48	22.8	75	3
1.5	60	23.8	78	3
1.8	72	31.4	103	3

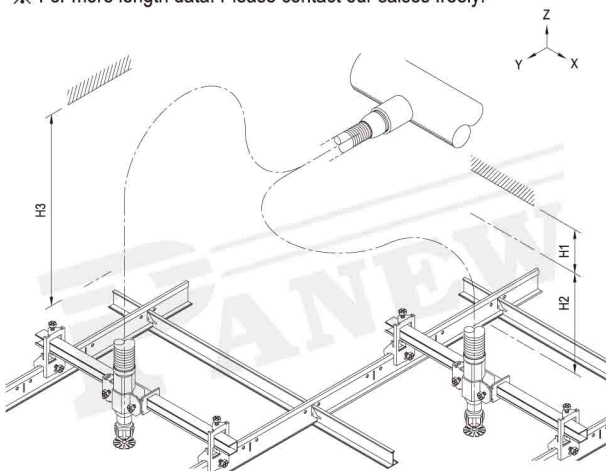
※ For more length data. Please contact our sales freely.

結構組合 / Construction:

項次 / Item	配件名稱 / Fitting	材質 / Material
1	圓立布 / Round Nipple	SUS-304
	由任接頭 / Union	SS-400
2	波紋管 / Bellows	SUS-304
3	轉接頭 / Adapter	SUS-304
4	C型管 / C-Beam	SPCC(Galv.)
5	轉接頭扣件 / Adapter Holder	SPCC(Galv.)
6	管扣件 / Pipe Clamp	SPCC(Galv.)

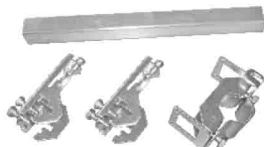
產品特性說明 / Features of the Sprinkler Hose.

- 耐壓、耐溫性能 / Pressure & Temperature capabilities :
 - 額定壓力 / Rated working pressure : 12.3 kg/cm², 175 psi
 - 出廠測試壓力 / Testing pressure : 20 kg/cm², 285 psi
 - 耐壓壓力 / Hydrostatic pressure : 61.6 kg/cm², 875 psi
 - 額定溫度 / Rated working temperature : -40 ~ +149 °C
- 品質安全性能 / Quality & Security of products.
 - 厚壁波紋管結構，不需外覆編織網，定位性佳，耐蝕性強。
The bellows is made with thick stainless steel. It has good corrosion resistance and good shaped feature.
 - 單一結構設計，100%工廠測壓，現場零洩漏。
One piece style structure. Pre-assembled and tested with high pressure air 100% in the factory before delivery.
- 專利設計固定扣件 / Patent anchoring components
專利字號 / Patent no. : M281654, M364521, M401449, M487749
 - 通用性扣件設計，適用於各式安裝場合。
All-purpose anchoring component is flexible to be mounted according to different installation conditions.
 - 開放式轉接頭扣件設計，系統安裝更靈活快速。
Opened type adapter holder is more flexible and easy to be mounted on the sprinkler system.

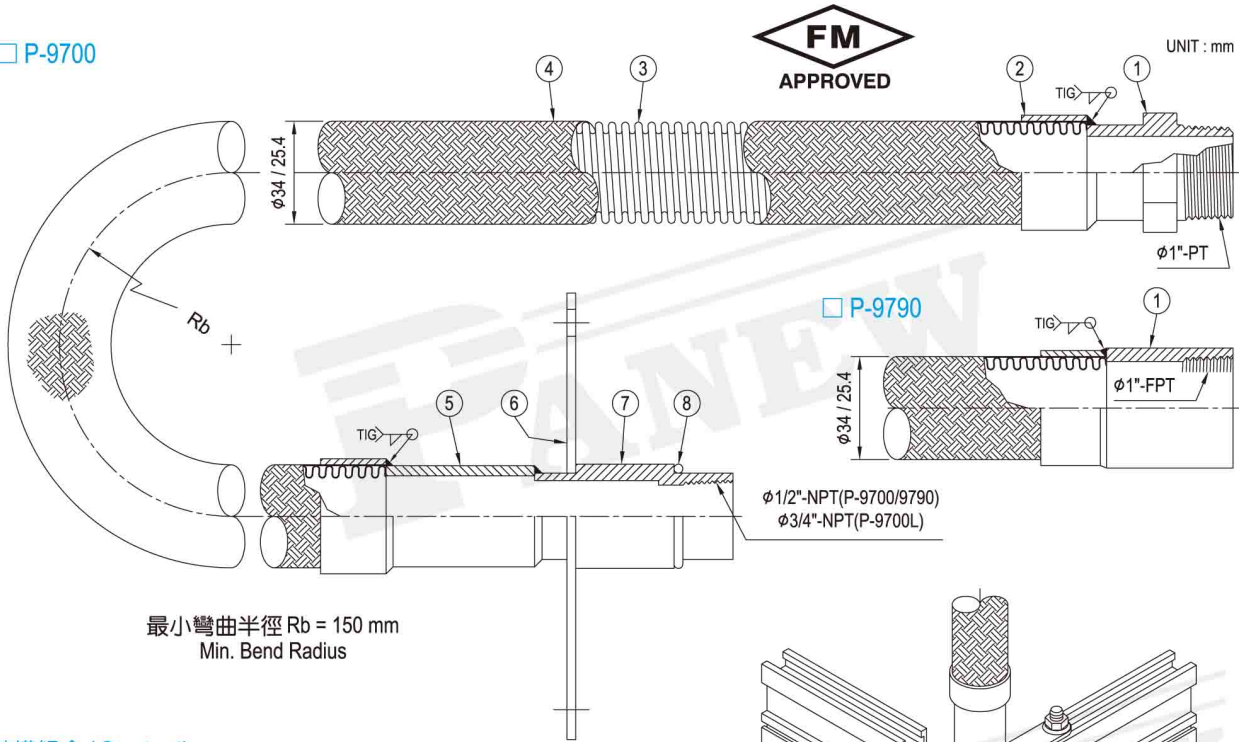


標準配件 / Std. Fittings :

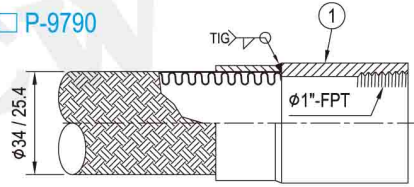
- 轉接頭扣件 / Adapter Holder x 1 set
- C型管 / C-Beam - 650mm x 1 pc
- 管扣件 / Pipe Clamp x 2 sets



□ P-9700

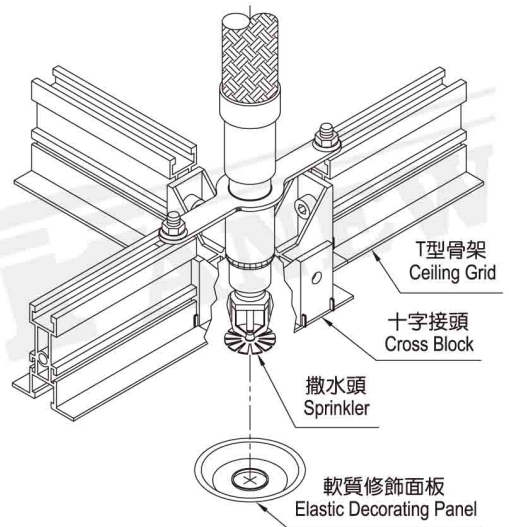


□ P-9790



結構組合 / Construction:

項次 / Item	配件名稱 / Fitting	材質 / Material
1	六角立布 / Hex. Nipple	SUS-304
	內牙接頭 / Coupling	SUS-304
2	束環 / Collar	SUS-304
3	波紋管 / Bellows	SUS-304
4	編織網 / Wire Braids	SUS-304
5	不鏽鋼管 / Steel Pipe	SUS-304
6	固定翅 / Fixing Plate	SPCC(Galv.) / SUS-304
7	轉接頭 / Adapter	SUS-304
8	O-形環 / O-Ring	Rubber



壓損測試數據 / Friction Loss Data:

P-9700/9790

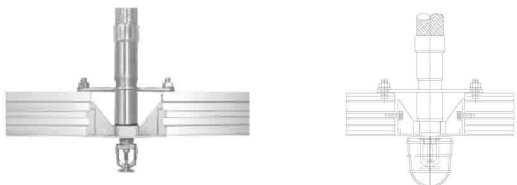
產品總長		流量 / Flow Rate : 115 l/min. (C=100)		
Total Length		等價管長 / EQL (φ1"-sch40)		彎曲數
m	in.	m	ft	No.(90°)
0.6	24.0	6.2	20.3	1
※1.0	39.5	7.2	23.7	2
1.2	48.0	7.7	25.4	3
※1.5	60.0	8.7	28.7	3
1.8	72.0	9.7	31.9	3

壓損測試數據 / Friction Loss Data:

P-9700L

產品總長		流量 / Flow Rate : 115 l/min. (C=100)		
Total Length		等價管長 / EQL (φ1"-sch40)		彎曲數
m	in.	m	ft	No.(90°)
0.6	24.0	2.5	8.2	1
※1.0	39.5	3.3	10.8	2
1.2	48.0	4.9	16.1	3
※1.5	60.0	6.1	20.0	3
1.8	72.0	7.3	24.0	3

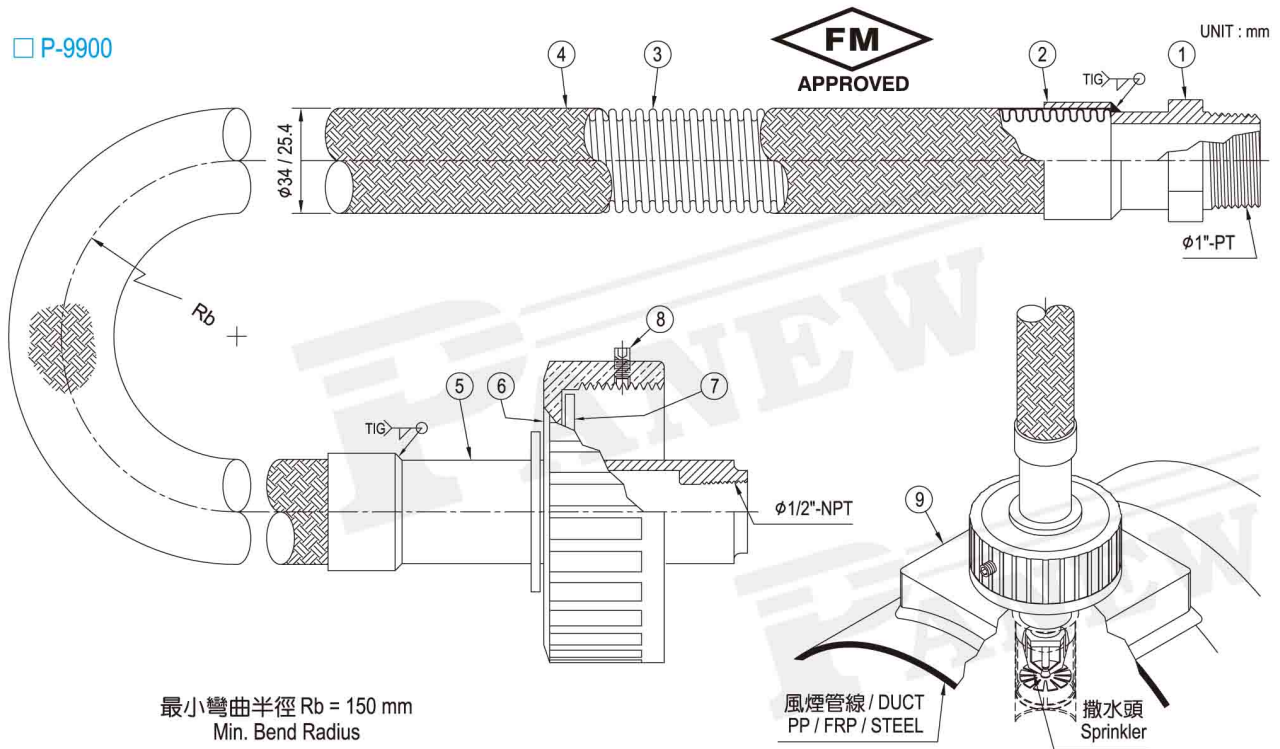
※ For more length data. Please contact our sales freely.



產品特性說明 / Features of the Sprinkler Hose.

- 耐壓性能 / Pressure capabilities :
 - 額定壓力 / Rated working pressure : 12.3 kg/cm², 175 psi
 - 出廠測試壓力 / Testing pressure : 20 kg/cm², 285 psi
 - 耐壓壓力 / Hydrostatic pressure : 49.3 kg/cm², 700 psi
 - 額定溫度 / Rated working temperature : -40 ~ +135 °C
- 品質安全性能 / Quality & Security of products
 - 單件式管體與不鏽鋼結構設計，100%工廠測壓，現場無塗裝或封膠需求。
One piece style and stainless steel structure. 100% leakage test in the shop. Require no painting or epoxy coating.
 - 良好可撓性與活動固定翅，有效降低因地震或結構位移所造成之骨架變形或管線龜裂。
Good flexibility and floating fixing plate structure. Reduce the risks of ceiling deformations and pipe cracks caused to the earthquake or structural offset effectively.
- 施工安全性 / Installation with security
 - 螺絲件固定，結構簡單，施工方便且安全性高。
Construction with screws. Easy installation with security.
 - 安裝或拆修保養期間，不緊可保持工作區潔淨，更不需停工或停機，有效加速無塵室之運作。
Keep the factory or working site clean during installation. Require no downtime for routine inspection and replacement. Accelerate the clean room running effectively.

□ P-9900



最小彎曲半徑 Rb = 150 mm
Min. Bend Radius

結構組合 / Construction:

項次 / Item	配件名稱 / Fitting	材質 / Material
1	六角立布 / Hex. Nipple	SUS-304
2	束環 / Collar	SUS-304
3	波紋管 / Bellows	SUS-304
4	編織網 / Wire Braids	SUS-304
5	轉接頭 / Adapter	SUS-304
6	由任接頭 / Union	PP / FRP (30%)
7	密封板 / Sealing Plate	SUS-304
8	固定栓 / Locking Screw	SS-400 (Galv.)
9	由任基座 / Mounting Block	PP / FRP (30%)

壓損測試數據 / Friction Loss Data:

P-9700/9790

產品總長		流量 / Flow Rate : 115 l/min. (C=100)		彎曲數
Total Length	等價管長 / EQL (φ1"-sch40)	m	ft	
m	in.	m	ft	No.(90°)
※0.6	24.0	6.4	21.0	1
0.9	36.0	8.0	26.3	1
※1.0	39.5	8.6	28.1	2
1.2	48.0	9.6	31.6	3
1.5	60.0	10.8	35.3	4
1.8	72.0	11.9	39.1	4

※ For more length data. Please contact our sales freely.

產品特性說明 / Features of the Sprinkler Hose.

1. 耐壓性能 / Pressure capabilities :

額定壓力 / Rated working pressure : 12.3 kg/cm² , 175 psi
耐壓壓力 / Hydrostatic pressure : 49.3 kg/cm² , 700 psi
出廠測試壓力 / Testing pressure : 20 kg/cm² , 285 psi

2. 施工安全性能 / Installation with security

- 結構簡單，安裝快速，施工安全性高。
Simple construction and fast installation. Provide builders with security.
- 維修保養期間，不緊可保持工作區潔淨，更不需停工或停機，有效加速廠區之運作。
Keep the factory or working site clean and require no downtime for routine inspection and replacement. Accelerate the system running effectively.

3. 品質安全性能 / Quality & Security of products

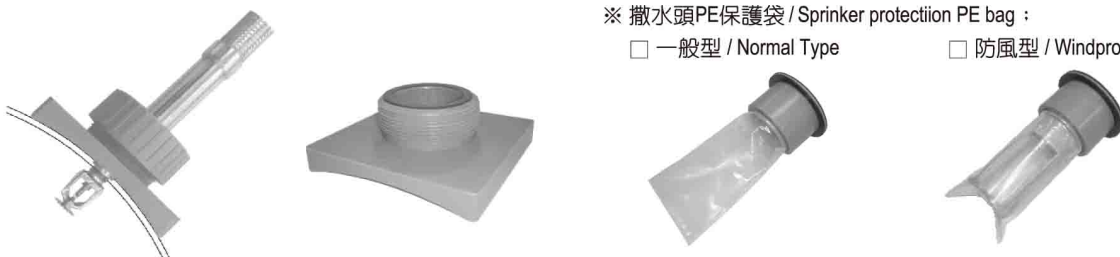
- 單件式管體與不鏽鋼結構設計，100%工廠測壓，現場無塗裝或封膠需求。
One piece style and stainless steel structure. 100% leakage test in the shop. Require no painting or epoxy coating.
- 良好可撓性與活動固定座，有效降低因地震或結構位移所造成之風管變形或管線龜裂。
Good flexibility and floating mounting block structure reduce the risks of duct deformations and pipe cracks caused to the earthquake or structural offset effectively.

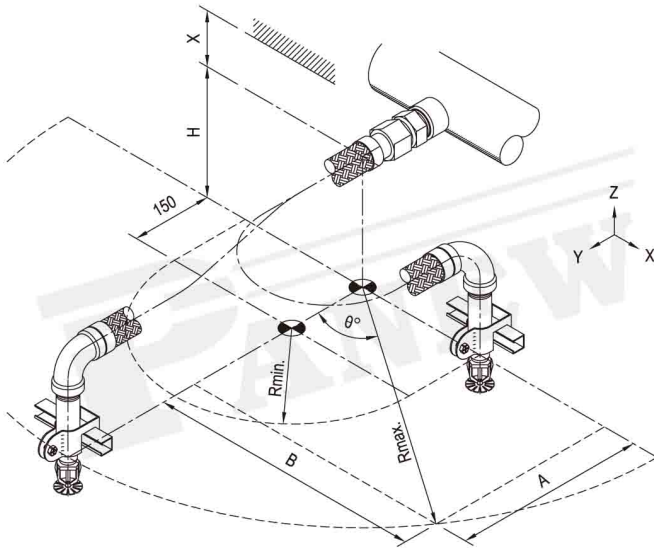
4. 專利固定結構設計，安裝簡易，低應力殘存。

Patent design for simple installation & low stresses.
專利字號 / Patent no. : M306116, M316082, M430292

※ 撒水頭PE保護袋 / Sprinkler protection PE bag :

- 一般型 / Normal Type 防風型 / Windproof Type





□ 請參閱上圖 (As figure above.) ↑

※建議軟管軸心與結構面最小安裝距離 $X = 100$ mm

The least distance "X" between the the concrete slab and the axis of the sprinkler hose inlet is recommended.

軟管長	H	Rmin.	Rmax.
N.L. (mm)	mm	mm	mm
1000	150	300	900K
	300	260	850K
	400	170	750K
	500	0	700K
	600	0	600K
	700	0	550K
	1400	150	300
300		260	1250K
400		170	1150K
500		0	1100K
600		0	1000K
700		0	950K
800		0	900K
1800	900	0	850K
	150	300	1700K
	300	260	1650K
	400	170	1550K
	500	0	1500K
	600	0	1400K
	700	0	1350K
	800	0	1300K
	900	0	1250K
	1000	0	1200K

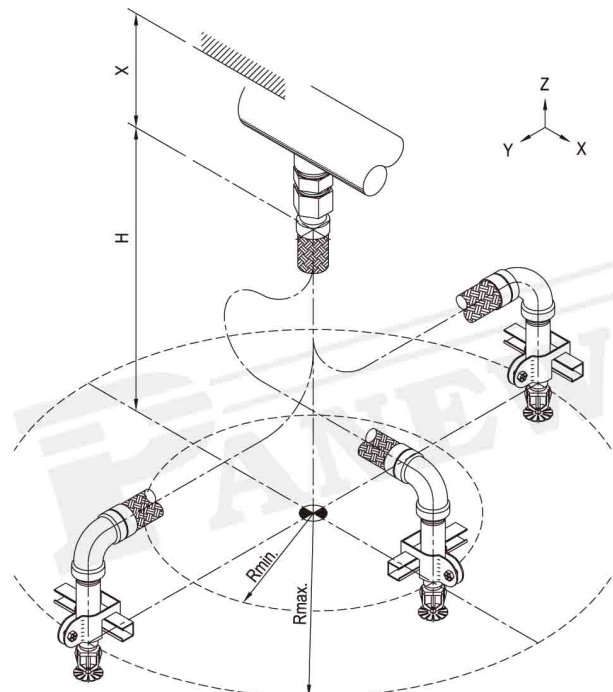
※ $K = 1 - \theta / 100$, θ (degree)

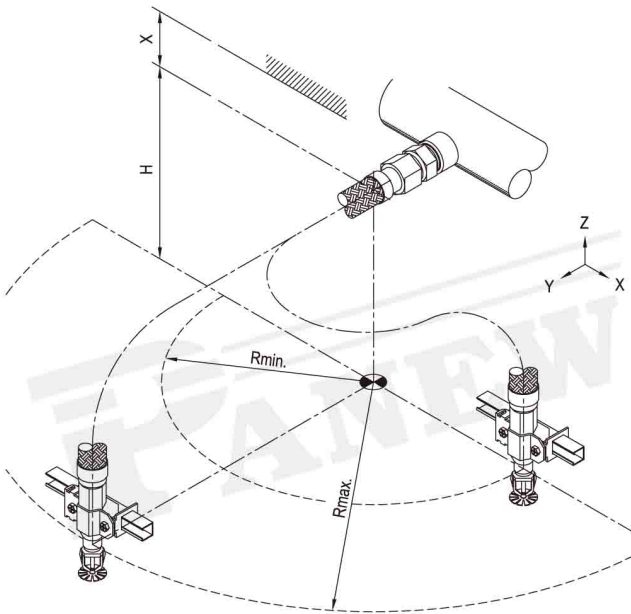
□ 請參閱下圖 (As figure below.) ↓

※建議軟管起點與結構面最小安裝距離 $X = 250$ mm

The least distance "X" between the the concrete slab and the starting point of the flexible hose section is recommended.

軟管長	H	Rmin.	Rmax.
N.L. (mm)	mm	mm	mm
1000	300	450	800
	400	400	750
	500	300	700
	600	0	600
	700	0	550
1400	300	450	1200
	400	400	1150
	500	300	1100
	600	0	1000
	700	0	950
	800	0	900
	900	0	850
1800	300	450	1600
	400	400	1550
	500	300	1500
	600	0	1400
	700	0	1350
	800	0	1300
	900	0	1250
	1000	0	1200





□ 請參閱左圖 (As figure left) ←

※建議軟管軸心與結構面最小安裝距離 $X = 100\text{ mm}$

The least distance "X" between the the concrete slab and the axis of the sprinkler hose inlet is recommended.

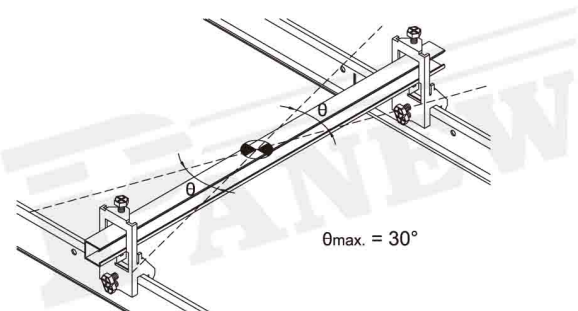
□ 下表適用 $\Phi 3/4"$ 軟管 (The table below is for $\Phi 3/4"$ hose)

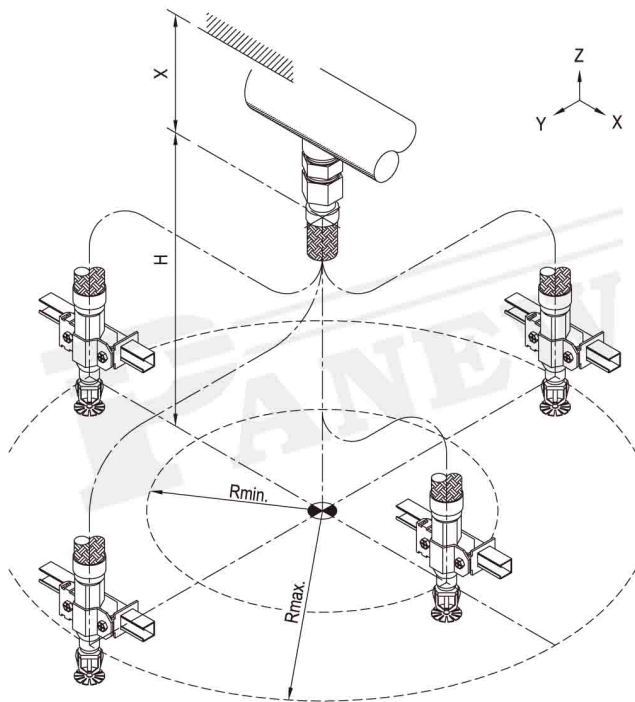
軟管長	H	Rmin.	Rmax.
N.L. (mm)	mm	mm	mm
1000	200	100	700
	300	0	650
	400	0	600
	500	0	550
	600	0	500
	700	0	400
1200	200	0	900
	300	0	850
	400	0	800
	500	0	750
	600	0	700
	700	0	600
1500	800	0	500
	300	0	1150
	400	0	1100
	500	0	1050
	600	0	1000
	700	0	950
1800	800	0	900
	900	0	800
	1000	0	700
	300	0	1450
	400	0	1400
	500	0	1350
1800	600	0	1300
	700	0	1250
	800	0	1200
	900	0	1100
	1000	0	1050

□ 下表適用 $\Phi 1"$ 軟管 (The table below is for $\Phi 1"$ hose)

軟管長	H	Rmin.	Rmax.
N.L. (mm)	mm	mm	mm
1000	300	300	650
	400	200	600
	500	100	550
	600	0	500
	700	0	400
1200	300	0	850
	400	0	800
	500	0	750
	600	0	700
	700	0	600
1500	800	0	500
	300	0	1150
	400	0	1100
	500	0	1050
	600	0	1000
1800	700	0	950
	800	0	900
	900	0	800
	1000	0	700
	300	0	1450
1800	400	0	1400
	500	0	1350
	600	0	1300
	700	0	1250
	800	0	1200
	900	0	1100
	1000	0	1050

※C型管最大安裝角度 (Max. Installed angle of C-Beam)





□ 請參閱左圖 (As figure left) ←

※建議軟管軸心與結構面最小安裝距離 $X = 100\text{ mm}$

The least distance "X" between the the concrete slab and the axis of the sprinkler hose inlet is recommended.

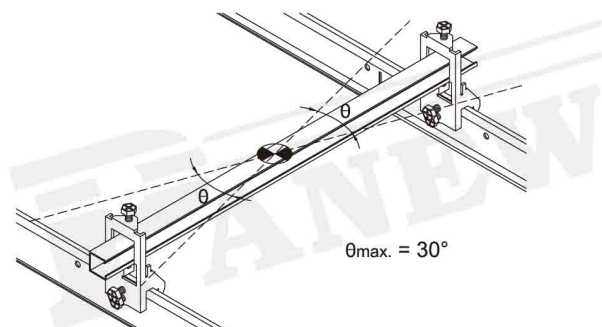
□ 下表適用 $\Phi 3/4"$ 軟管 (The table below is for $\Phi 3/4"$ hose)

軟管長 N.L. (mm)	H mm	Rmin. mm	Rmax. mm
1000	300	0	650
	400	0	600
	500	0	550
	600	0	500
1200	300	0	850
	400	0	800
	500	0	750
	600	0	700
	700	0	600
1500	300	0	1150
	400	0	1100
	500	0	1050
	600	0	1000
	700	0	950
1800	300	0	1450
	400	0	1400
	500	0	1350
	600	0	1300
	700	0	1250
1800	800	0	1200
	900	0	1100
	1000	0	1050

□ 下表適用 $\Phi 1"$ 軟管 (The table below is for $\Phi 1"$ hose)

軟管長 N.L. (mm)	H mm	Rmin. mm	Rmax. mm
1000	400	450	600
	500	450	550
	600	450	500
1200	400	450	800
	500	450	750
	600	450	700
	700	450	600
1500	400	450	1100
	500	450	1050
	600	450	1000
	700	450	950
	800	450	900
1800	400	450	1400
	500	450	1350
	600	450	1300
	700	450	1250
	800	450	1200
1800	900	450	1100
	1000	450	1050

※C型管最大安裝角度 (Max. Installed angle of C-Beam)



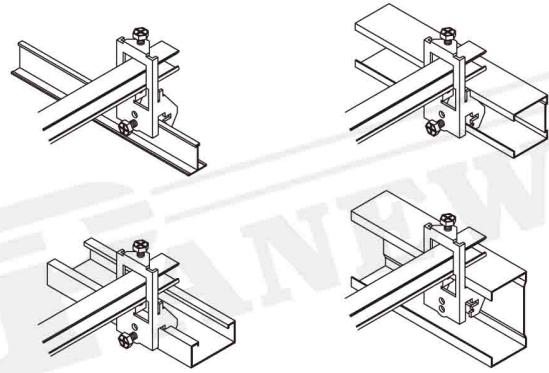
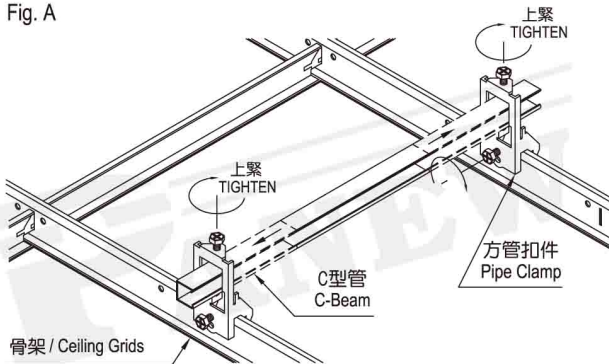
※如安裝情況特殊，並超出10~12頁所示之安裝範圍，可隨時與我們的業務聯繫以取得更多資訊。

If the installing conditions is special and beyond the tables on pages 10~12, please feel free to contact our sales for more information any time.

A. 將方管扣件扣鎖於欲安裝撒水頭位置之骨架上，並將C型管套穿於兩方管扣件之穿孔上。

Insert the Pipe Clamps to the ceiling grids of the desired location, and insert the C-Beam into the holes of the Pipe Clamps then.

Fig. A

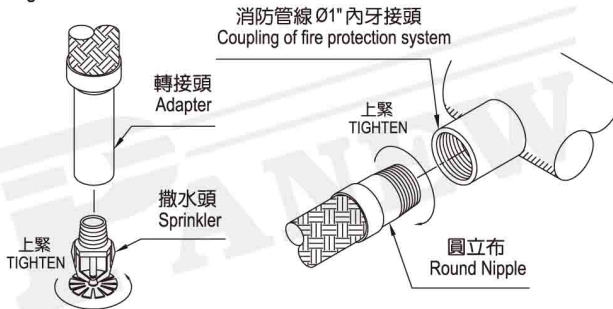


※方管扣件於其它骨架之安裝示意圖如上
The installation of the Pipe Clamps with other ceiling grids.

B. 塗覆牙膠於撒水頭外牙後鎖固於軟管之轉接頭端，軟管之立布端塗覆牙膠後鎖固於消防管線之Φ1"內牙接頭上。

Screw the sprinkler to the Adapter of the hose with resin, and screw the Nipple to the Φ1" Coupling of the fire protection system then.

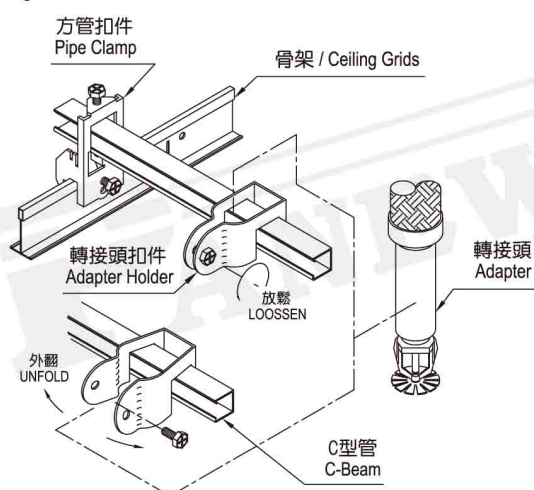
Fig. B



C. 將轉接頭扣件扣裝於C型管上，並將軟管組件之轉接頭端套穿於轉接頭扣件上。(可視需要外翻轉接頭扣件)

Insert the Adapter Holder to the C-Beam, and insert the Adapter of the hose assembly to the Adapter Holder then. (Unfold the Adapter Holder if required)

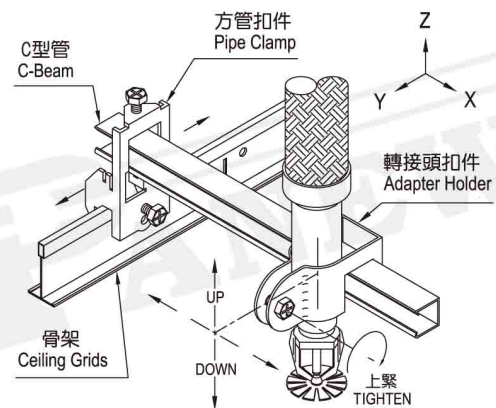
Fig. C



D. 可視需求調整方管扣件與轉接頭扣件，以使撒水頭準確固定於欲安裝之位置。

Adjust the Pipe Clamps and Adapter Holder to locate the sprinkler to the desired position precisely.

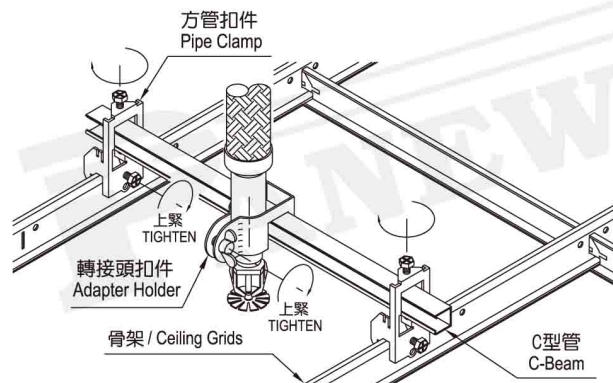
Fig. D



E. 依續確認上緊方管扣件與轉接頭扣件上之固定螺絲。

Make sure the screws of the Pipe Clamps and Adapter Holder are tighten one by one.

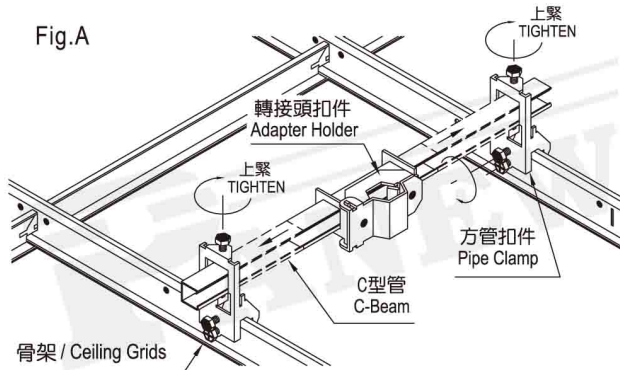
Fig. E



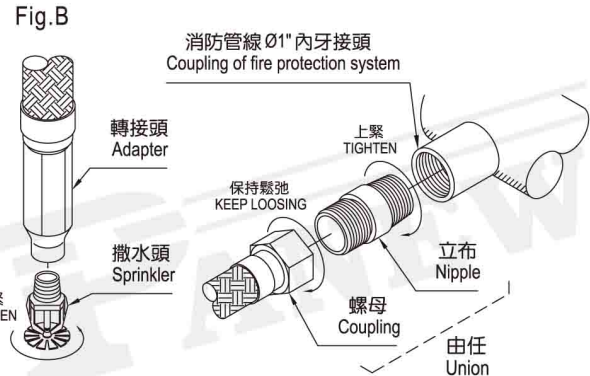
□ 商辦大樓消防軟管安裝步驟說明 (六角轉接頭)
Installing steps of the Commercial Sprinkler Hose with hex. adapter.



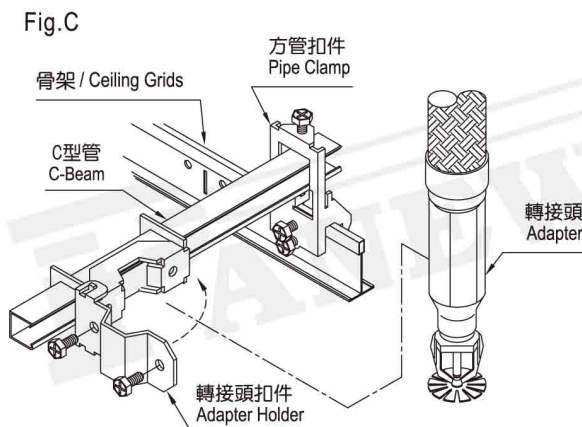
A. 將方管扣件扣鎖於欲安裝撒水頭位置之骨架上，並將C型管套穿轉接頭扣件後再套穿於兩方管扣件之穿孔上。
Insert the Pipe Clamps to the ceiling grids of the desired location. Insert the C-Beam into the holes of the Adapter Holder and the holes of the Pipe Clamps then.



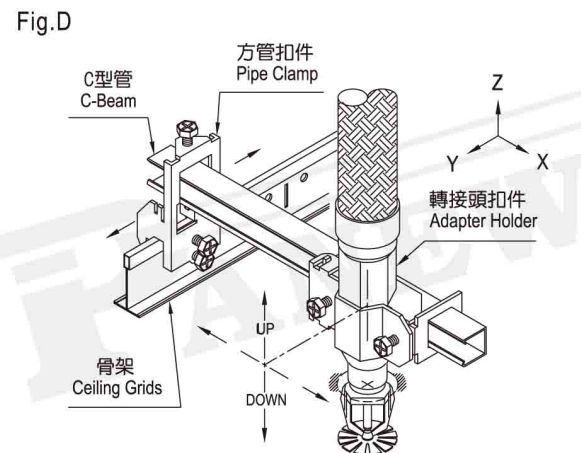
B. 塗覆牙膠於撒水頭外牙後鎖固於軟管之轉接頭端，由任之立布端塗覆牙膠後鎖固於消防管線之Φ1"內牙接頭上，而由任之螺母端套鎖於立布上但保持鬆弛。
Screw the sprinkler to the Adapter of the hose with resin. Screw the Nipple to the Φ1" Coupling of the fire protection system and insert the Coupling of the Union to the Nipple then but keep loosening.



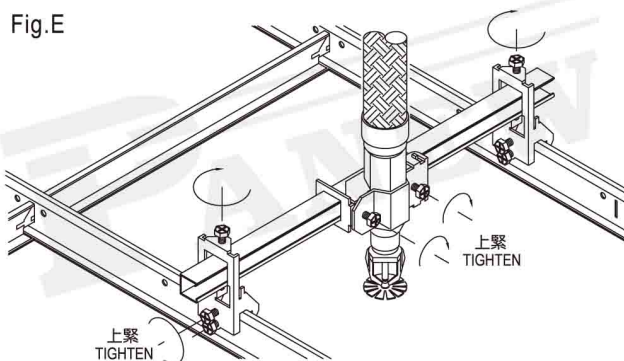
C. 將軟管組件之轉接頭移至轉接頭扣件之凹槽後，旋蓋轉接頭扣件並套鎖兩六角螺絲。
Insert the Adapter of the hose assembly to the Adapter Holder. Turn and cap the Adapter Holder then. Insert two Hex. screws but keep loosening.



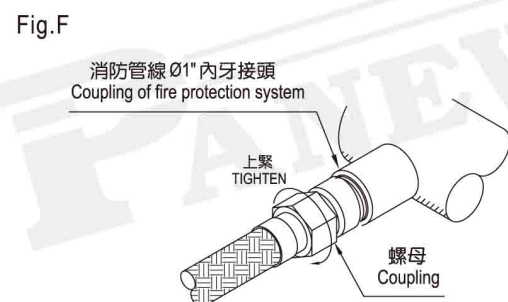
D. 可視需求調整方管扣件與轉接頭扣件，以使撒水頭準確固定於欲安裝之位置。
Adjust the Pipe Clamps and Adapter Holder to locate the sprinkler to the desired position precisely.



E. 依續確認上緊方管扣件與轉接頭扣件上之固定螺絲。
Make sure the screws of the Pipe Clamps and Adapter Holder are tighten one by one.



F. 上緊軟管組件入口端之螺母。
Screw and tighten the Coupling of the hose assembly inlet.



□ 無塵室消防軟管安裝步驟說明

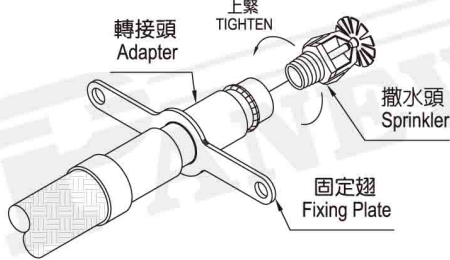
Installing steps of the Sprinkler Hose used for Clean-room system.



- A. 塗覆牙膠或密封膠布於撒水頭外牙後鎖固於軟管出口端之轉接頭。

Screw the sprinkler to the Adapter at the outlet end of the hose assembly with resin or tape seal.

Fig. A



- B. 於軟管入口端之立布塗覆牙膠或密封膠布後鎖固於消防管線之Φ1"內牙接頭上。

Screw the Nipple end to the Φ1" Coupling of the fire protection system with resin or tape seal.

Fig. B

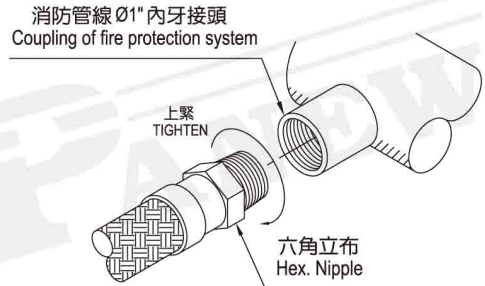
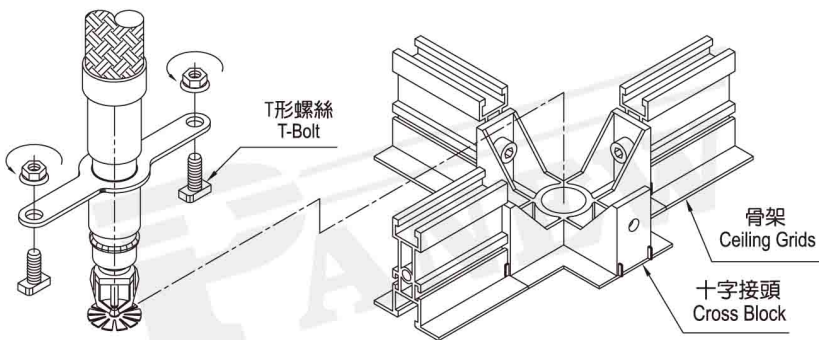


Fig. C

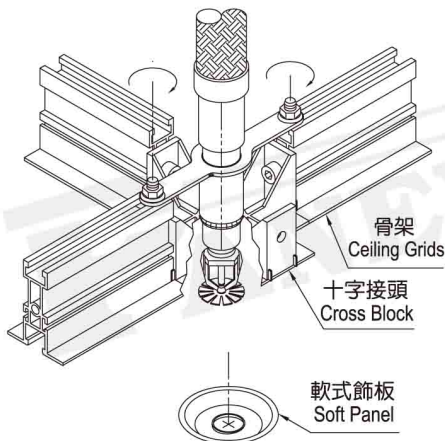


- C. 套穿兩組T型螺絲(帽)於固定翅之孔洞後，套穿軟管組之轉接頭於十字接頭孔洞中。

Insert two sets of T-bolt & nut into the holes of the Fixing Plate, and insert the Adapter of the hose assembly into the hole of the Cross Block then.

- D. 旋緊兩T形螺絲上之螺帽
Tighten the nuts on the T-Bolts.

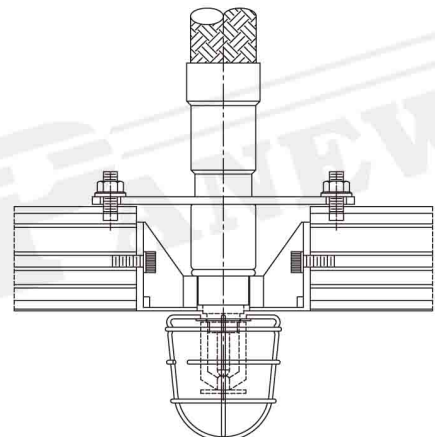
Fig. D



- E. 如有加裝軟式修飾面板或防撞籠需求，可直接套穿並卡固於撒水頭與轉接頭間。

Insert the Soft Panel or Anti-collision cage and fasten it between the Sprinkler and the Adapter of the hose assembly.

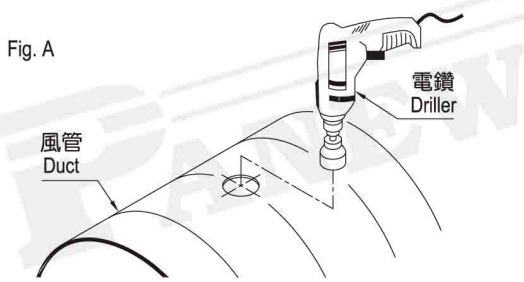
Fig. E



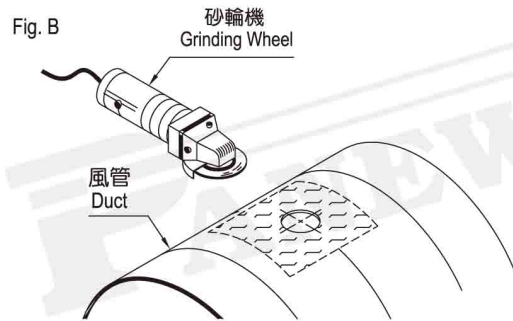
□ 風煙管消防軟管安裝步驟說明
Installing steps of the Sprinkler Hose used for Duct system.



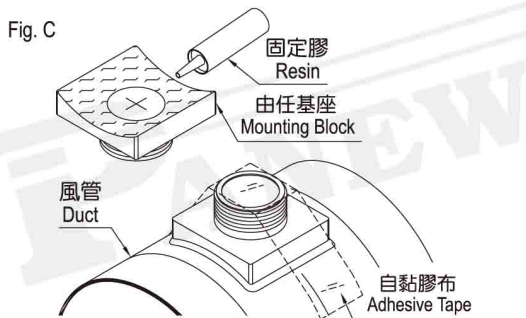
- A. 利用電鑽於欲開孔位置鑽出一直徑Φ 60mm之圓孔。
Drill a hole Φ60mm on desired location of the Duct.



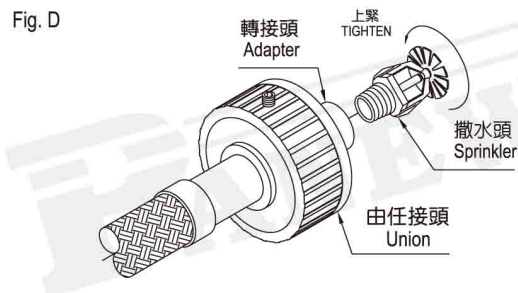
- B. 利用砂輪機延開孔周圍打磨一170mmx170mm區域，直到清除該區域表面塗層後，再利用乾布清除區域內之粉塵與油污。
Grind an square area 170mmx170mm around the hole with a Grinding Wheel, and clean the surface of the grinding area with dry cloth then.



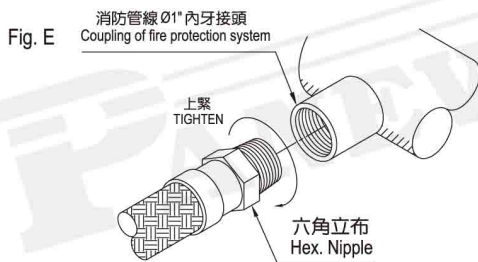
- C. 均勻塗覆固定膠於由任基座與前項之打磨區域上(厚度約3mm)，將由任基座按壓於風管上，刮除多餘固定膠後可利用一自粘膠布暫時固定由任基座。
(注意：由任基座之孔中心必須對準開孔中心)
Apply the resin (about 3mm thickness) on the surface of the Mounting Block and the grinding area above. Apply pressure to ensure tight bonding and scrub the unnecessary resin. Tape connection temporarily till resin dried.



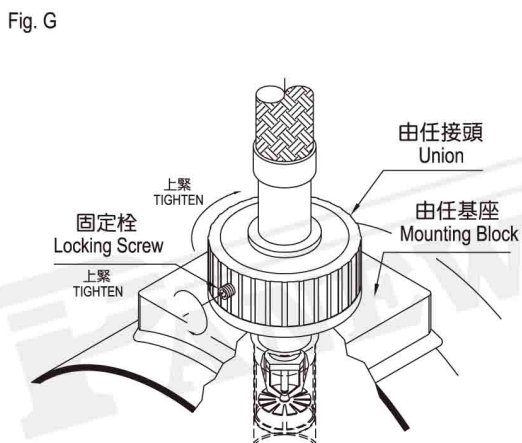
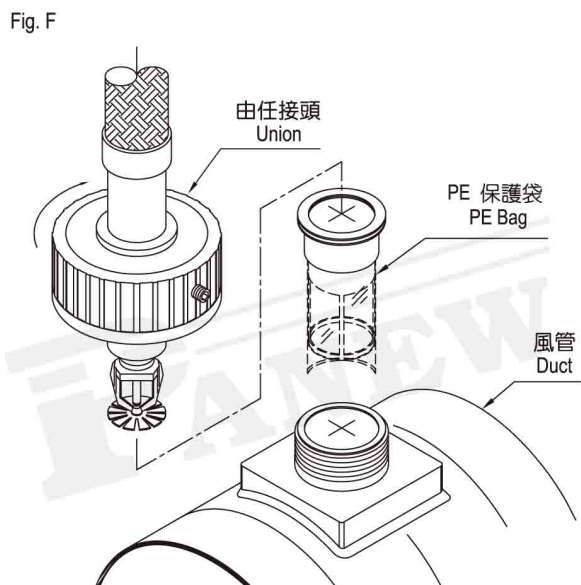
- D. 塗覆牙膠或密封膠布於撒水頭外牙後鎖固於軟管出口端之轉接頭。
Screw the sprinkler to the Adapter at the outlet end of the hose assembly with resin or tape seal.



- E. 於軟管入口端之立布塗覆牙膠或密封膠布後鎖固於消防管線之Φ1"內牙接頭上。
Screw the Nipple end to the Φ1" Coupling of the fire protection system with resin or tape seal.



- F. 將軟管組件之撒水頭與轉接頭端套穿PE保護袋後，再穿於由任基座孔洞，旋緊由任接頭於由任基座後，鎖緊固定栓。(圖F./G.)
Insert the Adapter/Sprinkler end of the hose to the PE Bag, and insert them into the hole of the Mounting Block. Screw and tighten the Union to the Mounting Block, and tighten the Locking Screw then. (Fig. F./G.)



A.

最小彎曲半徑
Min. bending radius

彎曲半徑太小
Bending radius is too small

不正常扭矩
Abnormal torque

**B. 嚴禁軸向壓縮或伸長
Forbid the axial and lateral Comp. & Ext.**

1. 額定壓力：12.3/175 kg/cm² (psi)
Max. working pressure
2. 90°彎角允許彎曲數：3
Allowable max. no. of 90° bend.
3. 最大彎曲角度：180°
Max. bending degree.
4. 90° 彎角數大於 2 時，需有適當支撐以避免內壓作用而晃動
In order to prevent the sway caused to the pressure, the intermediate hanger is required when the number of 90° bends is over 2.

C.

1個彎角且長度適中
Installation with 1 bend and proper length.

彎曲率太小且軟管太短
Length is too short and the bending radius is too acute.

完全垂直安裝
Completely Straight Installed

D.

2個彎角安裝且長度適中
Installation with 2 bends and the length is qualified.

彎角數太多且彎曲半徑太小
Too much bends installed and the bending radius is too small.

E.

當彎角數大於2且軟管太長時，需有適當支撐
When the no. of bends is over 2 or the length is too long, the intermediate hanger is needed.

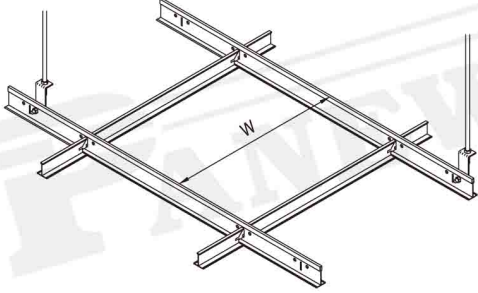
彎角大於180°且無其它支稱
The bending degree is over 180° and there is no intermediate hanger installed.

請勾選/填寫相關尺寸於下表 (Mark and fill the reference dimensions below)

Unit : mm

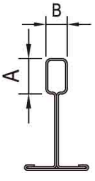
商辦大樓消防系統 (Commercial Sprinkler System)

1. 系統規格 / System Profile
 骨架間距 / Ceiling Grid Gap $W =$ _____
 軟管總長 / Req. Hose Length $L =$ _____

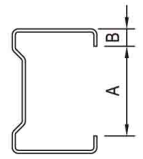


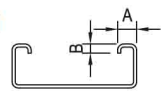
2. 骨架規格 / Ceiling Profile

明架 / Naked
 $A =$ _____
 $B =$ _____



暗架 / Clothed
 $A =$ _____
 $B =$ _____





無塵室消防系統 (Clean Room Sprinkler System)

1. 骨架尺寸 / Dimensions of Ceiling Grids
 骨架高度 / Grid Height $A =$ _____
 十字接頭高度 / Cross block Depth $B =$ _____
 十字接頭寬度 / Cross block Width $W =$ _____

2. 十字接頭型式 / Cross block Type

型式一 / Type I
 中心圓孔尺寸 / Inner Bore Diameter of Cross block
 $\phi C =$ _____ $\phi G =$ _____

型式二 / Type II
 中心圓孔尺寸 / Inner Bore Diameter of Cross block
 $\phi C =$ _____ $\phi G =$ _____
 內嵌O形環內徑 / Inner Bore Dia. of Inserted O-ring
 $\phi D =$ _____

其它型式說明 / Other Type Description

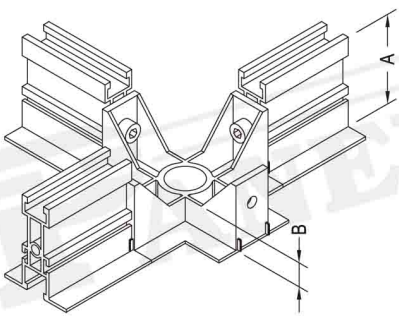
3. 修飾面板規格 / Ceiling Panel Dimensions

嵌入式 / Inserted Type
 嵌入孔徑 / Inserted Diameter $\phi E =$ _____

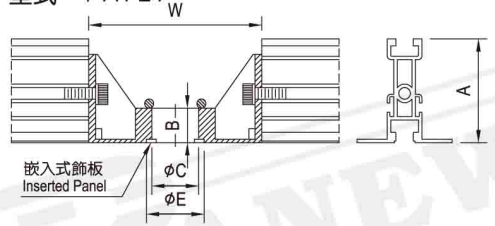
外蓋式 / Capped Type
 面板高度 / Panel Height $F =$ _____

4. 硬管長度 / Length of Steel Pipe
 0 100 200 300 400

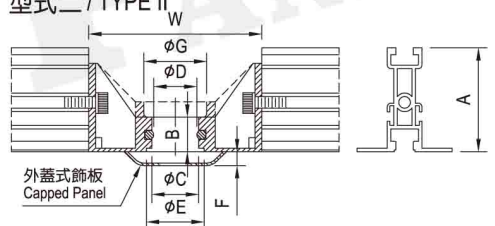
5. 軟管總長 / Req. Hose Length $L =$ _____



型式一 / TYPE I

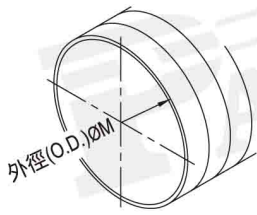


型式二 / TYPE II



風煙管線消防系統 (Duct Sprinkler System)

1. 圓形風管 / Circular Duct
 風管外徑 / Duct O.D.
 $\phi M =$ _____
 軟管總長
 Req. Hose Length
 $L =$ _____
 延伸 / Offset
 $H =$ _____



2. 方形風管 / Rectangular Duct
 軟管總長
 Req. Hose Length
 $L =$ _____
 延伸 / Offset
 $H =$ _____

