

STAINLESS STEEL SPRINKLER HOSE

Fittings for Automatic Sprinkler System



IMPROVED THE INSTALLATION SPEED BY 10 TIMES

- 10 times time saving against traditional installation
- Easy to bend to avoid obstacles and quickly installed in tight spaces
- Sprinkler system installation can achieve a multi-process construction simultaneously
- One time pressurization is successful without rework
- Low installation difficulty and easy operation

FIVE STRONG CERTIFICATION ENSURE WELL SELL ALL OVER THE WORLD

- FM, UL, VdS, LPCB, 3C certification
- Can achieve 65000 fatigue tests, which is far higher than the standard of 50000 times of FM certification
- Minimum bending radius of 175mm can be achieved, which is the minimum value of FM certified products in the world at present
- Can bear a maximum pressure of 120 kg without damage within 5 minutes
- Can withstand a temperature of up to 107°C /225°F

100% SAFE WITHOUT LEAKAGE

- Tube embryo, semi-finished products and finished products are 100% air tight to ensure quality
- No electric tools are required during installation to ensure construction safety
- No leakage in design, safe to use

175 MM, THE SMALLEST BENDING RADIUS IN THE WORLD

- The minimum bending radius of 175 mm can be achieved, which is the minimum value of FM certification at present
- Germany Micro beam plasma welding machine is used for production
- Advanced four mode box pressure wave technology
- Four times progressive forming technology is adopted to make the ripple of the whole bellows deeper and the stress distribution more uniform
- With flexibility, more convenient to install under narrow working conditions

FATIGUE TEST 65000 TIMES

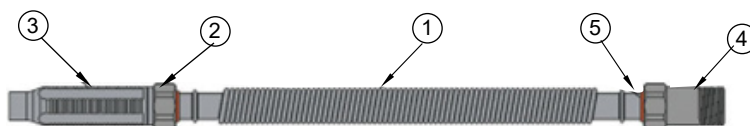
- Stainless steel material ensures excellent durability
- Integrated with the ceiling to ensure that the height of the sprinkler is consistent with the ceiling
- Can reach 65,000 fatigue tests, much higher than FM certification standard (50000)

EUROPEAN TECHNOLOGY

- 100% European technology and standards: technical specifications, operating procedures, quality standards
- Work with Turkish engineers: craftsmanship and quality are same with Europe
- Overseas communication: sharing technology and optimizing quality



FUC1-THREE-PIECE UNBRAIDED FLEXIBLE HOSE FOR FIRE PROTECTION (DN20)



Maximum working pressure: 1.2MPa/175psi
Maximum ambient temperature: 107°C /225°F



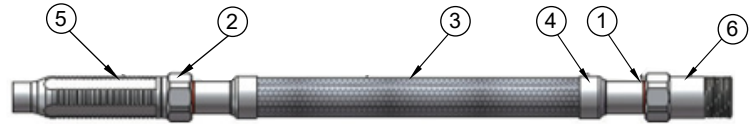
MATERIAL DETAIL:

Part No.	Description	Material	Quantity
1	Corrugated Pipe	Stainless Steel 304	1
2	Hexagon Nut	Carbon Steel (Galvanizing)	2
3	Outlet Nipple	Carbon Steel (Galvanizing)	1
4	Inlet Nipple	Carbon Steel (Galvanizing)	1
5	Nylon Ring	Nylon	2

SPECIFICATIONS:

Model No.	Hose Assembly Length		Dimensions of inlet and outlet connections			
	IN	MM	Inlet Nipple		Outlet Nipple	
			DN	IN	DN	IN
FUC1-700	27.5	700	25	1"	15 20	1/2" 3/4"
FUC1-790	31.1	790	25	1"	15 20	1/2" 3/4"
FUC1-1000	39.4	1000	25	1"	15 20	1/2" 3/4"
FUC1-1200	47.2	1200	25	1"	15 20	1/2" 3/4"
FUC1-1500	59.1	1500	25	1"	15 20	1/2" 3/4"
FUC1-1800	70.9	1800	25	1"	15 20	1/2" 3/4"

FBC1-THREE-PIECE BRAIDED FLEXIBLE HOSE FOR FIRE PROTECTION (DN20)



Rated working pressure: 1.6MPa/232psi
Maximum ambient temperature: 107°C /225°F



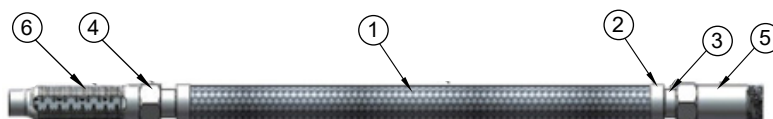
MATERIAL DETAIL:

Part No.	Description	Material	Quantity
1	Nylon Ring	Nylon	2
2	Hexagon Nut	Carbon Steel (Galvanizing)	2
3	Corrugated Pipe	Stainless Steel 304	1
4	Outer Shackle	Stainless Steel 304	2
5	Outlet Nipple	Carbon Steel (Galvanizing)	1
6	Inlet Nipple	Carbon Steel (Galvanizing)	1

SPECIFICATIONS:

Model No.	Hose Assembly Length		Dimensions of inlet and outlet connections			
	IN	MM	Inlet Nipple		Outlet Nipple	
			DN	IN	DN	IN
FBC1-700	27.5	700	25	1"	15 20	1/2" 3/4"
FBC1-790	31.1	790	25	1"	15 20	1/2" 3/4"
FBC1-915	36	915	25	1"	15 20	1/2" 3/4"
FBC1-1000	39.4	1000	25	1"	15 20	1/2" 3/4"
FBC1-1200	47.2	1200	25	1"	15 20	1/2" 3/4"
FBC1-1500	59.1	1500	25	1"	15 20	1/2" 3/4"
FBC1-1800	70.9	1800	25	1"	15 20	1/2" 3/4"

FBC2-THREE-PIECE BRAIDED FLEXIBLE HOSE FOR FIRE PROTECTION (DN25)



Maximum working pressure: 1.6MPa/232psi
Maximum ambient temperature: 149°C /300°F



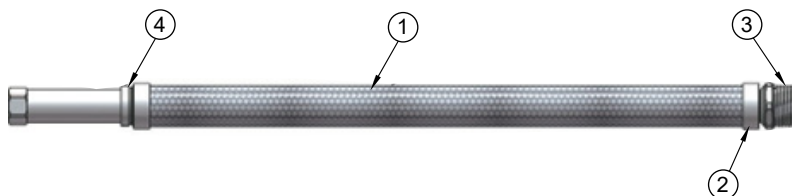
MATERIAL DETAIL :

Part No.	Description	Material	Quantity
1	Corrugated Pipe	Stainless Steel 304	1
2	Outer Shackle	Stainless Steel 304	2
3	Welding Ring	Stainless Steel 304	2
4	Hexagon Nut	Carbon Steel (Galvanizing)	2
5	Inlet Nipple	Carbon Steel (Galvanizing)	1
6	Outlet Nipple	Carbon Steel (Galvanizing)	1

SPECIFICATIONS :

Model No.	Hose Assembly Length		Dimensions of inlet and outlet connections			
	IN	MM	Inlet Nipple		Outlet Nipple	
			DN	IN	DN	IN
FBC2-700	27.5	700	25 32	1" 1-1/4"	15 20	1/2" 3/4"
FBC2-790	31.1	790	25 32	1" 1-1/4"	15 20	1/2" 3/4"
FBC2-915	36	915	25 32	1" 1-1/4"	15 20	1/2" 3/4"
FBC2-1000	39.4	1000	25 32	1" 1-1/4"	15 20	1/2" 3/4"
FBC2-1200	47.2	1200	25 32	1" 1-1/4"	15 20	1/2" 3/4"
FBC2-1500	59.1	1500	25 32	1" 1-1/4"	15 20	1/2" 3/4"
FBC2-1800	70.9	1800	25 32	1" 1-1/4"	15 20	1/2" 3/4"

FBC3/C4-INTEGRATED BRAIDED FLEXIBLE HOSE FOR FIRE PROTECTION



Rated working pressure: 1.6MPa/232psi
Maximum ambient temperature: 107°C /225°F



Straight Round Nozzle
(FBC3)



90° Bend Round Nozzle
(FBC3)



Straight Square Nozzle
(FBC4)

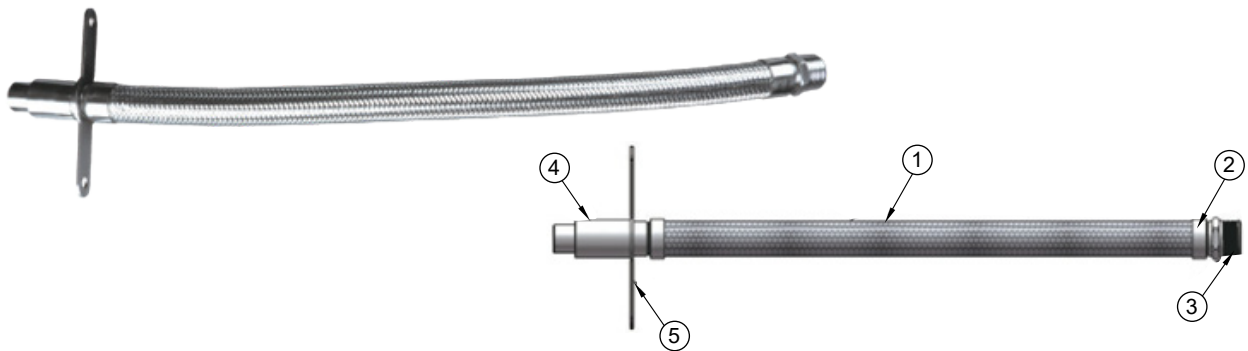
MATERIAL DETAIL:

Part No.	Description	Material	Quantity
1	Corrugated Pipe	Stainless Steel 304	1
2	Outer Shackle	Stainless Steel 304	2
3	Inlet Nipple	Stainless Steel 304	1
4	Outlet Nipple	Stainless Steel 304	1

SPECIFICATIONS:

Name	Outlet Shape	Hose Diameter	Inlet Nipple		Outlet Nipple		Length
		DN	DN	IN	DN	IN	MM
FBC3	Straigh Round Nozzle (FBC3)	20	20	3/4"	15	1/2"	500 700 1000 1200 1500 1800
			25	1"	15	1/2"	
		25	20	3/4"	15	1/2"	
			25	1"	15	1/2"	
	90° Bend Round Nozzle (FBC3)	20	20	3/4"	15	1/2"	
			25	1"	15	1/2"	
		25	20	3/4"	15	1/2"	
			25	1"	15	1/2"	
FBC4	Straight Square Nozzle (FBC4)	20	20	3/4"	15	1/2"	
			25	1"	15	1/2"	

FBC5-BRAIDED FLEXIBLE HOSE FOR CLEANROOM



Maximum working pressure: 1.6MPa/232psi
Maximum ambient temperature: 107°C /225°F



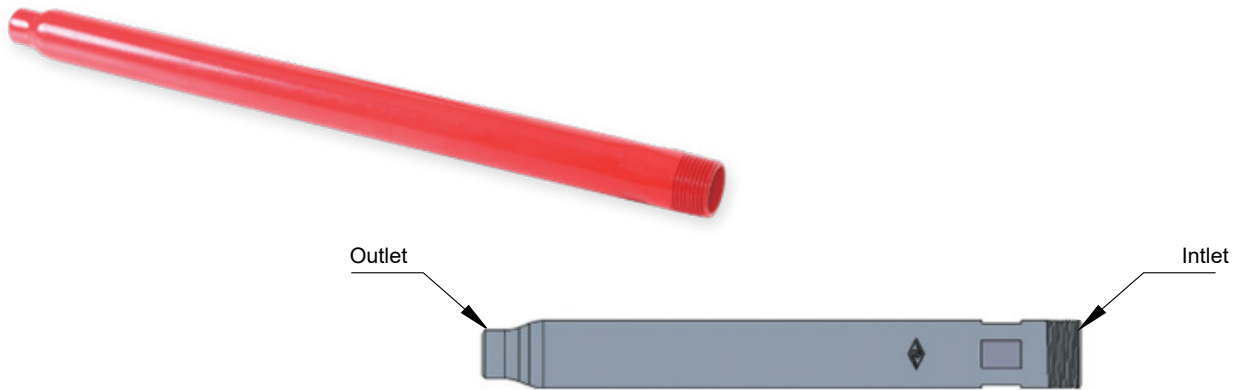
MATERIAL DETAIL:

Part No.	Description	Material	Quantity
1	Corrugated Pipe	Stainless Steel 304	1
2	Outer Shackle	Stainless Steel 304	2
3	Inlet Nipple	Stainless Steel 304	1
4	Outlet Nipple	Stainless Steel 304	1
5	Hose retainer	Stainless Steel 304	1

SPECIFICATIONS:

Model No.	Effective length of outlet nipple MM	Hose Assembly Length		Dimensions of inlet and outlet connections			
		IN	MM	Inlet Nipple		Outlet Nipple	
				DN	IN	DN	IN
FBC5-600	55 61 70 80	23.7	600	25	1"	15 20	1/2" 3/4"
FBC5-700		27.5	700	25	1"	15 20	1/2" 3/4"
FBC5-800		31.5	800	25	1"	15 20	1/2" 3/4"
FBC5-1000		39.3	1000	25	1"	15 20	1/2" 3/4"
FBC5-1200		47.3	1200	25	1"	15 20	1/2" 3/4"
FBC5-1500		59.1	1500	25	1"	15 20	1/2" 3/4"
FBC5-1800		70.8	1800	25	1"	15 20	1/2" 3/4"

UNDERGROUND GARAGE SPRINKLER JOINT



Maximum working pressure: 1.6MPa/232psi

MATERIAL DETAIL:

Inlet Nipple	Wall thickness	G" thread	Length	Tolerance	Material
1"	3.2	1/2"	100,150,200,250,300, 350,400,450,500,550, 600,650,700,750,800, 850,900,1000,1050, 1100,1150,1200	±0.2	Carbon Steel
		3/4"			
		1/2"		±0.2	
		3/4"			

PRODUCT CHARACTERISTICS

1. Accuracy of thread

CNC machining has high thread accuracy. Threads are machined to a standard.
The tooth angle can meet the requirement of 55 °.

2. Multiple choices

Galvanized, spray paint, electrophoretic paint, plastic spraying and other surface treatment methods can be selected.

3. Low risk

Each less thread can eliminate a leakage point and reduce the risk of water leakage by 30%.

4. Fast installation

Using a special wrench can improve the installation efficiency and reduce the installation cost by 50%

INLET NIPPLE



Material	Description
① Carbon Steel	Length : 48mm, Upper : 1" Welded connection Male (lower) : M34X1.5
② Ductile Iron	Length : 64mm, Male (upper) : 1" NPT/BSPT Male (lower) : M33X1.5
③ Carbon Steel	Length : 64mm, Male (upper) : 1" NPT/BSPT Male (lower) : M33X1.5
④ Carbon Steel	Length : 76mm, Male (upper) : 1" NPT/BSPT Male (lower) : M34X1.5
⑤ Carbon Steel	Length : 76mm, Upper : 1" Grooved connection Male (lower) : M34X1.5
⑥ Carbon Steel	Length : 70mm, Male (upper) : 1-1/4" NPT/BSPT Male (lower) : M34X1.5

OUTLET NIPPLE



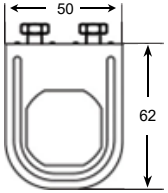


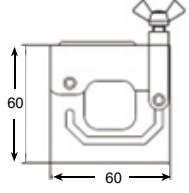


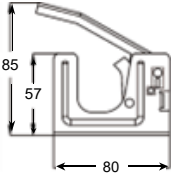


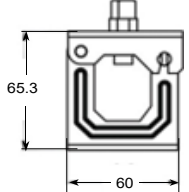


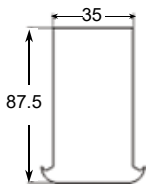


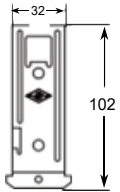


Material	Description
① Carbon Steel	Length : 110mm, Male : M33X1.5/M34X1.5 Female : 1/2" or 3/4" NPT/BSPT
② Carbon Steel	Length : 140mm, Male : M33X1.5/M34X1.5 Female : 1/2" or 3/4" NPT/BSPT
③ Carbon Steel	Length : 155mm, Male : M33X1.5 Female : 1/2" or 3/4" NPT/BSPT
④ Carbon Steel	Length : 184mm, Male : M34X1.5 Female : 1/2" or 3/4" NPT
⑤ Carbon Steel	Length : 300mm, Male : M33X1.5 Female : 1/2" or 3/4" NPT/BSPT
⑥ Carbon Steel	Length : 330mm, Male : M34X1.5 Female : 1/2" or 3/4" NPT



Material	Description
① Carbon Steel	Length : 155mm, Male : M33X1.5 Female : 1/2" or 3/4" NPT/BSPT
② Carbon Steel	Length : 110mm, Male : M33X1.5 Female : 1/2" or 3/4" NPT/BSPT
③ Ductile Iron	Length : 115mm, Male : M33X1.5/M34X1.5 Female : 1/2" or 3/4" NPT/BSPT
④ Ductile Iron	Length : 85mm, Male : M33X1.5/M34X1.5 Female : 1/2" or 3/4" NPT/BSPT

BRACKETS

Name	Picture	Material Quality	Application Description	Dimensions (mm)
Regular Bracket		ASTM A283 Gr.D		
Quick Bracket		ASTM A283 Gr.D		
Long Handle Type Quick Bracket		ASTM A283 Gr.D		
Self-locking Bracket		ASTM A283 Gr.D		
Keel Fitting		ASTM A283 Gr.D		
Long Side Bracket		ASTM A283 Gr.D		

BRACKETS

Name	Picture	Material Quality	Application Description	Dimensions (mm)
Short Side Bracket		ASTM A283 Gr.D		
E-Side Bracket-62		ASTM A283 Gr.D		
E-Side Bracket-102		ASTM A283 Gr.D		
J-Side Bracket		ASTM A283 Gr.D		
C-Side-Bracket (38mm)		ASTM A283 Gr.D		
C-Side-Bracket (55mm)		ASTM A283 Gr.D		
Wood Beam Clamp		ASTM A283 Gr.D		

HOW TO INSTALL



Fig.1: Install the fire sprinkler into the short outlet pipe, sealing with Teflon tape or pipe glue, etc.



Fig.2: Connect Inlet Nipple to the water supply pipeline, sealing with Teflon tape or pipe glue, etc. Tightening torque would be around 50 N·m(35ft-lbs).



Fig.3: Tightening the hexagon nut and inlet pipe to a maximum of 20N·m(15ft-lbs), and check that the sealing ring is in right condition. Do not over tighten the nut. Excessive torque may damage the sealing ring.

- Do not use pipe adhesive, hemp wire or raw material belt when connecting here. The sealing ring of the product can effectively seal.



Fig.1



Fig.2



Fig.3

Fig.4: Install the PT bracket on the T-type square bar, cannot violate standard of QB CNCEC J030402 2004. Tightening all the bolts on brackets with torque 4 N·m (3ft-lbs)



Fig.5: Insert the square tube into the reserved hole of the bracket, insert the center bracket into the square tube, and place it in the middle of two brackets. And tightening all the bolts on brackets with torque 4 N·m (3ft-lbs).



Fig.1



Fig.2

Fig.6: Move the center bracket to the desired location. Bend the hose and place the outlet of the hose in the center bracket. Adjust the height of the outlet to make sure the nozzle is in the correct position. Close the outlet and center bracket as shown and tighten the bolts with torque 4 N·m(3ft-lbs).



TOZEN INDUSTRIAL CO., LTD.

3388/62 18TH FLOOR, SIRINRAT BLDG.,
RAMA IV RD., BANGKOK 10110 THAILAND
TEL : (66) 0-2029-0100
FAX : (66) 0-2029-0111
URL : www.tozen.co.th

TOZEN CORPORATION

8-4, ASAHI YOSHIKAWA
SAITAMA 342-008 JAPAN
TEL : 048-993-1030
FAX : 048-993-1038